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PROGRAMA INTERNACIONAL DEL GRADO EN ADMINISTRACIÓN Y  
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THE ROLE OF INSTITUTIONS IN FOREIGN DIRECT INVESTMENT ATTRACTION

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## **ABSTRACT**

This research studies the impact of institutional quality on the attraction of inward Foreign Direct Investment (FDI). To this end, a review of the most important explanatory models of FDI and institutional theories has been carried out. By applying the theory to a panel data of 163 countries for the time period 1990-2020, we observe how institutions and FDI are related under three assumptions: in aggregate, as a function of a country's level of development, and based on FDI receiving sector. The empirical result confirms that institutions play an important role in the aggregate, although this becomes more relevant the higher the level of development. Moreover, institutions condition FDI differently, depending on the economic sector to which the investment is directed.

**Key words:** *FDI (Foreign Direct Investment) Institutions Development Sectorial*

Esta investigación estudia el impacto de la calidad institucional en la atracción de entradas de Inversión Extranjera Directa (IED). Para ello, se ha realizado una revisión de los modelos explicativos más importantes de la IED y de las teorías institucionales. Aplicando la teoría a un panel de datos de 163 países para el periodo temporal 1990-2020, se observa cómo las instituciones y la IED se relacionan bajo tres supuestos: de forma agregada, en función del nivel de desarrollo de un país y en base a los sectores receptores de la IED. El resultado empírico confirma que las instituciones juegan un papel importante en el conjunto, aunque éste se hace más relevante cuanto mayor es el nivel de desarrollo. Por otra parte, las instituciones condicionan la IED de forma diferente, dependiendo del sector económico al que se dirige la inversión.

**Palabras clave:** *IED (Inversión Extranjera Directa) Instituciones Desarrollo Sectorial*

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## 1. INTRODUCTION

Foreign Direct Investment (FDI) inflows have been steadily increasing since the early 1980s. The key role FDI plays in the process of economic integration, along with its capacity to create long-lasting relationships between economies, has turned it into a broad object of study and resulted in the development of several explanatory models, among which we highlight Dunning's eclectic paradigm. The latter explains a foreign firm's investment decisions through the localisation, internationalisation and ownership advantages it possesses. Besides being a key driver for globalisation, FDI contributes to economic growth and development, provided it takes place under the right policy environment. (OECD, 2008)

However, empirical evidence suggests that the factors described by Dunning are not the only ones that explain disparities in FDI inflows between nations, but that the institutional factor plays a part too. Institutions structure society and set the rules of the game for the economic transactions that take place in it. By nature, human beings, and consequently the firms they lead, are attracted to environments that present stable institutional frameworks and encourage cooperation and transparency between parties. On the contrary, they avoid areas where institutions exhibit voids and hence risks. Therefore, a stable and strong institutional environment, free of corruption, with an efficient government and predictable laws, favourably boosts FDI inflows. Conversely, those institutional environments that are volatile may act as a burden in attracting FDI.

The potential correlation between both fields of knowledge has drawn the attention of several academics, leading to their joint study, especially since the rise of North's institutional theory, which emphasizes the importance of institutional quality. However, despite the rise of this tendency, conclusions regarding the relevance of institutions in attracting FDI remain contradictory. This is due, among others, to measurement problems and institutional indicators and country selection issues.

The aim of this paper, therefore, is to contribute to the study of the impact of institutions on foreign investment attraction, and to try, where possible, to fill the literature gap and find answers to the inconsistencies. To do so, we will conduct an empirical study, using panel data from 163 countries over the time period 1990-2020. We will first study the

whole sample, then classify the countries according to their degree of development and finally by the sectoral relevance of the countries. The institutional indicators chosen for the study are: control of corruption, government effectiveness, political stability, rule of law and voice and accountability.

The remainder of the paper is distributed as follows: Section 2 presents a theoretical framework of the most relevant theories of FDI. Section 3 reviews the institutional concept, and relates it to the attraction of FDI. Section 4 analyses institutions in different country groups, and looks at the impact they have on economic development. These three sections provide a theoretical background for the empirical modelling in Section 5. Finally, Section 6 concludes the study.

## **2. THEORETICAL EXPLANATORY MODELS OF FDI**

In accordance with the OECD (2008), foreign direct investment (FDI) is “a category of cross-border investment made by a resident entity in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor.”

Since the early 1980s, FDI inflows have shown an upward trend. The main trigger for this situation is globalisation: As exchange restrictions and market access have become more liberalized, financial markets have developed toward a more internationally integrated market structure (OECD, 2008).

Studies to date have found evidence that FDI has a positive impact on economic growth in the recipient country due to capital accumulation, the introduction of new goods and foreign technology (Exogenous Growth-theory view) and by the transfer of knowledge (Endogenous growth theory) (Mahembe, 2014). Furthermore, the OECD (2008) considers FDI to be a potential source of long-term development.

The increase in the volume of FDI, accompanied by its positive correlation with development, has made it a widespread field of research. There are many empirical studies and theories on this topic. In this section we will review some of the most important theoretical explanatory models of FDI.

## 2.1 Neoclassical model and FDI

The earliest theoretical attempts to explain FDI can be traced to the neoclassical models of trade. They all have the assumption of perfect competition as a common feature.

Among the first neoclassical models we find the MacDougall-Kemp model, which was originally developed by MacDougall (1960) and later improved by Kemp (1964). This theory, apart from perfect competition, assumes a two-country framework, one being the investor country and the other the host country. Both scholars claim that, in a situation of free capital movement, it will move from the well-endowed in capital country (investing country) to the capital-scarce country (host country), leading to an equalization of the marginal productivity of capital between the two countries (copied from MacDougall (1960) and Kemp (1964), cited by Faeth,2009). This generates a more efficient use of resources, and hence an increase in welfare in both economies: On the one hand, even if the output of the investing country decreases as a consequence of the rising FDI flows, national income does not. This is explained by the returns on capital invested abroad. On the other hand, the host country increases its national income as a consequence of direct investment, and the capital inflows that this implies.

A further theoretical model in the neoclassical school is the Heckscher-Ohlin model.

It explains how competitive advantage is influenced by the interaction of national resources and production technology. This means that competitive advantage will be conditioned by the relative abundance of factors of production in each country and the relative intensity with which these factors of production are used to produce different goods (Feth,2009).

To this end, he sets up a 2x2x2 general equilibrium framework, with two countries (home and foreign), two goods and two factors of production (capital and labour).

The underlying idea of this model is that both goods differ in the relative factor intensities needed for their production and the countries in their relative factor endowment. Therefore, a capital-abundant economy (say home), will have comparative advantage in producing, and thus will export to foreign, the capital-intensive good. When there is not commodity trade, home country will move capital abroad, where returns on capital are higher and returns on labour lower, until factor price convergence is reached (Feth,2009).

Other theories that explain foreign investment in a similar way to those already reviewed can be found in the work of Frankel and Simpson (Nayak, 2014). However, as with the neoclassical models discussed above, they present limitations.

The main problem with these theories is the assumption of perfect competition. Hymer and Kindleberger were the first to criticise this neoclassical principle in the explanation of FDI flows. From their perspective, FDI would not exist in a world characterised by pure competition, since there must be some sort of market disruption for direct investment to take place (copied from Hymer (1976) and Kindleberger (1969), cited by Nayak, 2014). This will be reviewed in depth in the next section.

## **2.2 Models of FDI based on imperfect markets**

### *2.2.1 Monopolistic Advantage theory of FDI*

As mentioned in the previous section, Hymer (1976) and Kindleberger (1969) made one of the first criticisms of the predominant explanatory model. They criticised the neoclassical system for the incompatibility between one of its assumptions (perfect competition) and the existence of FDI.

The Hymer-Kindleberger hypothesis takes as its starting point an imperfect market situation. This is because firms operating in foreign markets do not start from a 'level playing field' compared to domestic firms. They have to deal with foreign liability (e.g. unfamiliarity, discrimination and relational hazards). Firms will therefore only enter foreign markets if they have certain advantages that allow them to overcome the disadvantageous starting position. These are called 'monopolistic advantages' (Feth,2009). These sources of market power include technological superiority and patents protecting it, managerial expertise, product differentiation, economies of scale and cheaper sources of finance among others. Because the market is imperfect, companies can use their market dominance to earn large profits through direct investment.

Other intellectuals supported this hypothesis. However, there were also detractors, such as Robock and Simmond, who argued that having firm-specific advantages was not synonymous with FDI, since companies could decide to exploit them in other ways, for example through licensing or exporting (Nayak, 2014).



Although there are factors<sup>1</sup> that condition the choice between FDI or export/licensing, it is the former which enables for greater exploitation of competitive advantages. In an external market the degree of control would be lower and could lead to knowledge spill overs in favour to competitors (Nayak, 2014). Therefore, it is through FDI that all rents are received. According to Kindleberger (1969), firms would have stronger incentives to invest directly, the greater the likelihood of monopolistic profits.

### *2.2.3 Internalization theory of FDI*

Continuing with the theories that explore FDI in the context of an imperfect market, we find the Internalization theory of FDI, devised by Buckley and Casson.

The concept of multinational (MNE) and its study began to be given real consideration in the early 1960s. Until then, the predominant theory was the H-O model, in which no space was left for the presence of MNEs (Buckley & Casson, 2009).

Thus, the emergence of the Internalization theory of FDI marked a change in the approach to foreign investment, shifting the spotlight from country-specific factors as determinants of FDI to industry- and firm-level factors (Buckley & Casson, 2009).

Both economists studied the concept of multinationals, basing themselves on the framework established by Coase<sup>2</sup>: in order to avoid transaction costs, which can be very high in an imperfect market, companies might opt for partnerships, multinationals, etc., and, therefore, produce internally (copied from Coase (1973), cited by Nayak 2014). From this starting point, Buckley and Casson (1976) established three premises, which shaped the theory of internalisation (Nayak, 2014):

- 1) Internalisation assumes that firms maximise profits in a market that is imperfect. This statement implies assuming that managers do not make irrational decisions that harm the firms' interests (Buckley & Casson, 1976).

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<sup>1</sup> - Conditions and size of the foreign market.  
- Competitors behaviour  
- The level of risk associated with the investment.  
- Governmental policies

<sup>2</sup> Coase establishes that, subject to locational considerations, MNEs occur when the advantages of internalisation outweigh the costs. This is, when monitoring costs are lower than transaction costs.

- 2) The presence of external imperfect markets provides an incentive to replace them with more perfect internal ones. Casson (1976) considered market imperfections to be anything that distorted prices (e.g. tariffs and taxes, government regulations, asymmetric information between parties...)
- 3) MNCs are formed as a result of the worldwide internalization of markets.

This theory focused on the significance of MNEs in the development and dissemination of knowledge. This is due to the following: the transfer of intellectual property involves large costs (e.g. Patents or property rights might be weak or not-existent. Knowledge is intangible, and therefore difficult to be measured and sold. Licensing implies risk of proprietary technology loss.) As observed in the postulates of this theory, it can be avoided through internalisation. Therefore, multinationals will become increasingly prevalent in R&D-intensive industries (Faeth, 2009). When internalization entails activities in many nations, FDI will happen (Nayak, 2014). This can be of two types, either horizontal, where the affiliate replicates the production process in another part of the world, or vertical, where the production chain is broken-up, and internalisation can happen through forward or backward integration.

Rugman added that another reason that could lead to internalisation was the company's reputation and the desire to protect it. Another consideration was given by Maggie: he thought the appropriability dilemma caused by the public good character of technology was another reason to internalize transactions (e.g. technology or information transference) (Faeth, 2009).

However, in all situations, the authors considered that the inefficiency of the market approach could be avoided with an MNE hierarchy, thereby increasing efficiency and reducing transaction costs (Faeth, 2009).

### 2.3 The eclectic paradigm (OLI)

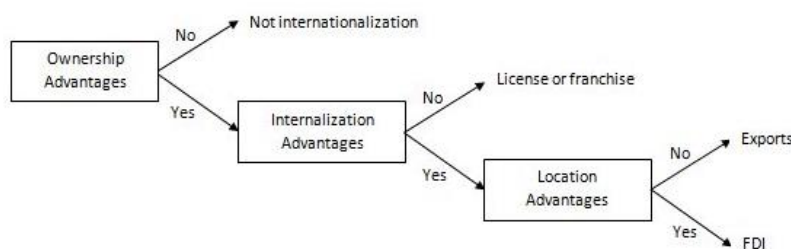
In the 1990s Dunning drew on internationalisation theory and traditional trade economics to create one of the most comprehensive explanatory models of FDI to date, the eclectic paradigm or OLI paradigm<sup>3</sup> (copied from Dunning (1971), cited by Nayak, 2014)

It has been the main model used to explain the growth of multinational activities by integrating the reasons that lead a firm to operate internationally (advantages), together with the chosen mode of entry (FDI, export and licensing) (Faeth, 2009).

As Dunning expounds, in the OLI paradigm the FDI is explained by the simultaneous presence of three special advantages in a firm (Nayak, 2014):

- 1) Ownership advantage over foreign firms in serving a particular national market (O)
- 2) Internalization advantages. (The firm finds more beneficial to harness the previous advantages through FDI and internalize them rather than transfer them to foreign firms) (I)
- 3) Location advantages (The firm finds it beneficial to combine ownership advantages with some host-country location advantages) (L)

**Figure 1.** *Decision on the entry method based on the firm's advantage*



Reprinted from “A critical review of the eclectic paradigm” by D. De Matias, 2014, ResearchGate.

<sup>3</sup> It is considered a paradigm rather than a theory because it is a compilation of mainstream theories, rather than establish a new one.

A more exhaustive analysis of these advantages that underpin the eclectic paradigm reveals the following:

Ownership advantages are valuable assets related to a firm's production process, as well as the company's ability to lower costs and make it more competitive than the one of competitors (both domestic and foreign). Their use result in higher marginal profitability or lower marginal cost than those of the contenders (Nayak, 2014).

They can be divided in 3 subgroups (UKEssays, 2018):

- a) Monopoly benefits which involve privileged market access due to control of natural limiting resources, trademarks and patents.
- b) Technology, understood as any form of innovative activity
- c) Economies of scale (e.g. economies of learning or economies of scope)

Location advantages relate to foreign countries and are crucial in selecting which country will host multinational firms' operations.

The specific advantages of each country can be grouped as following (UKEssays, 2018):

- a) Political advantages: government policies that trigger FDI flows
- b) Social advantages: includes low distance (CAGE)<sup>4</sup>, low foreign liability, open attitude towards foreigners...
- c) Economic benefits: consisting of qualitative and quantitative inputs of production, availability of natural resources, lower transportation costs etc.

Internalization advantages enable to minimize the effect of market imperfections<sup>5</sup> by making the intrafirm transactions and their consequent monitoring costs more profitable than relying on market transactions and, therefore, incurring transaction costs (Nayak, 2014).

According to Dunning, these three conditions are interrelated and mutually supportive, making their simultaneity necessary for the firm to decide to invest in FDI instead of opting for other methods such as licensing, exports or not internationalising at all (Nayak, 2014).

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<sup>4</sup> Cultural, administrative, geographic and economic distance

<sup>5</sup> Market imperfections include uncertainty, opportunistic behaviours, problems of control, lack of desirability of giving full information to potential buyers etc.

## **2.4 Recap**

From the foregoing section, it is evident that several researchers have come up with different theories attempting an explanation of the movement of international capital. Some theories took perfect markets as a base for their analysis, while others took an imperfect market set up as a starting point. However, despite the different approaches, there is a consensus that firms move abroad in order to capture benefits, whether in the form of internationalisation, localisation or firm-specific advantages.

## **3. INSTITUTIONS AND THEIR INFLUENCE ON DEVELOPMENT. THE ATTRACTION OF FDI.**

### **3.1 Definition, history, types and role.**

#### *3.1.1 Definition*

Institutions are commonly understood as the rules of the game in a society (North, 1990). However, several scholars have contributed to the literature with their own definitions. In line with North's (1990) pioneering perspective, they are humanly devised constraints which shape human interaction, and, consequently, structure social, political and economic relations. Scott (1955) and later Peng (2011), describe them as regulative, normative, and cognitive elements that provide stability and meaning to social behaviour.

#### *3.1.2 History*

The study of such institutions, and institutionalism as an approach have a long tradition, going back to the 19th century. It was during this century and the beginning of the following that the so-called "Old Institutionalism" emerged, due to a dissatisfaction with the almost complete disregard for institutions in conventional neoclassical economics (Rutherford, 1995). This approach mainly relied on the study of formal institutions in a prescriptive way, with small focus on comparative analysis. Max Weber, who explored how contextual factors such as religion impact economic progress, was one of the most distinguished intellectuals of this approach (Peng et al, 2011).

However, it was not until 1970 that Neoinstitutionalism claimed to fame, abandoning the descriptive, normative and legalistic perspective of Old Institutionalism (Rhodes, 2011). This new approach traditionally comprises three academic streams, each of which is founded in one of the major social scientific fields (Rhodes,2011).

On the one hand economics led to rational choice institutionalism (Rhodes, 2011). This perspective mainly revolves around transaction costs. Both Williamson and Coase argue that using market processes to conduct transactions is costly, and that, as a result, economic players organize themselves in less costly ways, incurring transaction costs (Peng et al, 2011). These transaction costs, nevertheless, are heavily determined by the institutions that control the markets.

The area of sociology derived in sociological institutionalism and seeks to explain why organisations are similar to each other (Rhodes, 2011). The concept of isomorphism gains strength in the answer (Garrido, 2014). Firms acting within the same institutional environment tend to adopt common structures and approaches, due to isomorphic pressures (mimetic, coercive and normative) to gain legitimacy. This means that institutions condition the way in which an entity's actions are perceived as desirable, proper and appropriate or not.

Finally, political science led to historical institutionalism (Rhodes,2011). This approach explicitly tries to understand the historical context of events, as it considers that time, order and sequence affect institutions, and have direct consequences on social, political and economic behaviours.

### *3.1.3 Types*

Having understood the concept of institution and the role that different theories/approaches have given them, it is interesting to know their typology. To do so, we will base ourselves on the work of Douglas North (1990), who distinguishes between two main types of institution: formal and informal, although he emphasises their complementary and sometimes interdependent role. Moreover, this division is in line with the three pillars established by the sociologist Scott: regulatory pillar (corresponding to formal institutions), and normative and cognitive pillars (in consistency with informal institutions) (Peng et al, 2011).

Formal institutions refer to a society's explicit and defined systems of rules and norms, such as laws, policies, and constitutions (North, 1990). They are formed by authoritative entities and help to maintain order and stability by delivering authoritative behavioural directives and allowing for the creation of standards of conduct (Holmes, 2013).

Formal institutions are formed as a result of collective action to solve societal problems (Holmes, 2013). After a period of diffusion, the solutions are eventually accepted as formal institutions, and rules and legislations are established. While formal institutions are relatively stable, they are more malleable than informal institutions, as they are humanly devised constructs (Holmes, 2013).

Formal institutions are highly dependent on informal institutions, as the latter dictate how the solutions provided by formal institutions are perceived. To persist, formal institutions must be perceived by a critical part of society as effective solutions to their problems (Holmes, 2013). When formal institutions no longer provide acceptable answers, individuals seek alternative solutions that match the changing social environment of society (Holmes, 2013).

Informal institutions are defined as non-formalised but existing constraints that individuals in a community place on themselves in order to regulate and give coherence to their interactions with others (North, 1990). They are long-lasting systems of shared meanings and understandings that get internalized and taken for granted as they are passed down from generation to generation. Because they reflect societal values, they are more immovable than official institutions (Holmes et al, 2013).

An example of a country's informal institutions is culture, defined as " the shared knowledge and schemes created by a set of people for perceiving, interpreting, expressing, and responding to the social realities around them" (Lederach, 1995, p.9), which encompasses such important aspects as tradition, customs, language and values (Garrido, 2014). These determine what activities are acceptable and legitimate, influencing how individuals and businesses behave in society (Peng, 2011).

#### *3.1.4 Role of institutions*

The analysis of both definitions leads to the idea that institutions are a source of constraints. They restrict both legally and socially what actions a firm or individual can take, or under what conditions these will be allowed.

Nevertheless, while this stipulates the way in which firms behave, it also leads to a reduction of uncertainty, since, as North (1990) explains, they provide a structure to everyday life. In other words, the establishment of an acceptable range of actions allows the building of expectations, therefore reducing uncertainty and setting order.

But what makes the reduction of uncertainty necessary? The answer may simply be the nature of human beings and their rejection to embrace the unknown.

The absence of institutions leads to a lack of information, or to an asymmetric distribution of it. Operating in such an environment implies greater risk, and therefore makes people reluctant to engage in commitments. Cooperation between parties is hampered when there are institutional voids, as transaction and production costs become prohibitively high, because of the potential risk of opportunistic behaviour (Peng, 2011).

On the other hand, when there is an adequate institutional framework, the benefits of cooperation raise (North, 1991). Transaction, defection and production costs decrease, allowing for gains of trade (North,1991).

To sum up, “institutions define the choice set and therefore determine transaction and production costs, and hence the profitability and feasibility of engaging in economic activity” (North, 1991, p. 97). Institutions constitute an economy's incentive structure; as that structure changes, it affects the direction of economic transformation, whether it is toward growth, stagnation, or decline (North,1991).

### **3.2 How different models assess the importance of institutions in attracting FDI.**

So far, we have reviewed the different FDI explanatory models and the role of institutions as independent variables. However, data suggests that institutions are inextricably related to FDI, with the former being a strong predictor of the latter.

The increased interest in the link between these two variables has been fuelled by three major sources (Ali,2010). (1) On the one hand, the aforementioned North research on the importance of institutions in reducing uncertainty and transaction costs, hence stimulating economic activity. (2) On the other hand, the fact that, since 1990, FDI flows have expanded dramatically. (3) Finally, the increasing emphasis that investors are placing on institutional quality when selecting an investment destination.

Therefore, in this section we will analyse how different models assess the importance of institutions in attracting FDI. To do so, we will establish a theoretical framework which links these two currents, combining Dunning's eclectic paradigm with North's understanding of institutions on economic activity.



As we have seen, institutions, according to North, determine the spectrum of acceptable behaviours and so diminish uncertainty. This is important because, uncertainty, whether political (e.g., the possibility of expropriation), economic (e.g., high inflation), or behavioural (e.g., fear of the other party failing to meet obligations), decreases individuals'/firms' willingness to undertake long-term commitments, or commitments in general (Peng,2011). The cost of doing business can be prohibitively high in the absence of good quality institutions, as a result of excessive utilization of resources and time. This is reflected in the attitude of investors, who may be hesitant to invest in areas with a weak institutional framework since it entails a higher risk (Ali, 2010). A low-risk environment, on the other hand, is a favourable site for the source nation, and solid institutions also contribute to higher FDI use (Ali, 2010).

Dunning's paradigm, which initially answered the question: why do firms own foreign production facilities? has subsequently been used to analyse the causal factors of FDI inflows.

The following are the preconditions identified by Dunning (previously described in chapter 2) that a corporation must meet in order to successfully engage in worldwide activity: (1) Ownership advantage (2) Internalization advantage (3) Locational advantage. To explain FDI, Dunning broadens the concept of locational advantage, adding, along with economic factors, institutions as a determining factor. Therefore, investors' decisions as to which location to choose would be conditioned by economic and institutional elements, favouring those locations that excel in both aspects (Ali, 2010).

“Based Dunning’s eclectic paradigm theory and North’s institutional theory, inward FDI depends on market size, natural and human resources, efficiency seeking and the institutional quality of the host country” (Sabir,2019).

This theoretical framework is reinforced by empirical data, which reveals a positive correlation between a country/economy's institutional quality and its potential to attract FDI (World Bank Group, 2019). Studies show that when institutions are not developed, the benefits of FDI are diluted and squandered (World Bank Group, 2019).

**Figure 2.** *Summary of recent studies of the impact of institutions on FDI.*

<b>Author(s)</b>	<b>Sample</b>	<b>Institutions aspects considered</b>	<b>Main results</b>
(Addison and Hesmati 2003)	110 countries	Democracy, Freedom House	Democracy has a positive impact on FDI
(Campos and Kinoshita 2003)	25 transitions economies 1990-1998	Rule of Law, Quality of Bureaucracy.	Institutional aspects are positive and significant determinants of FDI.
(Gastanaga et al 1998)	22 less developed countries	Nationalization Risk, Contract Enforcement, Bureaucratic Delay; Business Environmental Risk Intelligence.	Different institutional characteristics have significant impact on FDI.
(World Bank 2018)	150 countries	World Economic Forum's 2018 Global Competitiveness Report (Pillar 1) <sup>6</sup>	Positive correlation between the quality score for public institutions and the number of FDI projects attracted. (1 point-score increase in the former implies a 23% increase in the former.)
(Bénassy-Quéré et al. 2007)	83 developing countries	Rule of law, Property Rights Enforcement, Control of Corruption, Voice and Accountability and Government effectiveness	Weak institutions are negatively associated with FDI
(Kurul and Yalta, 2017)	113 developing countries	Control of Corruption, Government Effectiveness, Political Stability and Absence of Violence, Regulatory Quality, Rule of Law, and Voice and Accountability.	Institutional quality affects FDI positively

Own elaboration based on “Do Institutions Matter for Foreign Direct Investment?”, by A.Fathi, 2010, Springer Link. “Establishing a High-Performing Institutional Framework for Foreign Direct Investment (FDI).” by The World Bank Group, 2019.

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<sup>6</sup> Pillar 1 scores different aspects of institutions including: organized crime, homicide rate, terrorism incidence, reliability of police services, social capital, Budget transparency, judicial interdependence, efficiency of legal framework in challenging regulations, freedom of the press, burden of government regulation, efficiency of legal framework in setting disputes, E-Participation Index, future orientation of government, incidence of corruption, property rights, intellectual property protection, quality of land administration, strength of auditing and reporting standards, conflict of interest regulation and shareholder governance (World Economic Forum, 2018).

As the empirical evidence indicates, institutions, and their quality, play a critical role in terms of FDI. This importance stems from the fact that institutions represent the largest immovable factors in a globalized market, making it critical for enterprises to understand and use them competently (Ali, 2010).

It is therefore not surprising that, because of their importance, investors have decided to abandon traditional locational advantages in favour of what are known as "creative locations advantages", which include knowledge based assets and institutions (Ali, 2010).

### **3.3 Empirical results: which institutions may be relevant for attracting FDI?**

As we have seen, there is a growing body of literature on the relationship between institutional factors and inward FDI. Due to this growing interest, it has been observed that, roughly, both evidence and theory support the positive correlation between institutional quality and FDI attraction.

However, we observe that there is no universal agreement on the definition of institutional quality, nor on which aspects of institutional quality condition FDI the most.

When reviewing the existing literature, incongruences on the previous arise. The fact that the multiple studies conducted (in several countries, and with various indicators) have reached contrary conclusions calls for more research on the field, to fill the literature gap, and to eliminate inconsistencies.

On the one hand, institutional quality is a broad concept consisting of a variety of factors, some of which are difficult to measure. These include individual rights, the law, high quality government regulation and services.

Because of its extensive nature, various indicators have emerged over time to try to measure it. Especially in the 2000s there has been a great proliferation of them, which has made it possible to analyse institutional quality more comprehensively. However, different indicators often correspond to disparate ways of grading institutional quality.

Among them we find the following: The *International Country Risk Guide (ICRG)*, which comprises 22 variables in three sub-categories of risk: political, financial and economic.

The *World Bank Worldwide Governance Indicators (WBWGI)*, which include Control of

Corruption<sup>7</sup>, Government Effectiveness<sup>8</sup>, Political Stability and Absence of Violence<sup>9</sup>, Regulatory Quality<sup>10</sup>, Rule of Law<sup>11</sup> and Voice and Accountability<sup>12</sup>. The *Index of Economic Freedom (ILE)*, which assesses the level of government support for an individual's control over his or her work and initiative.

Having examined some of the most frequent indicators, we proceed to a review of several studies that attempt to find out which institutional characteristics have the greatest impact on attracting FDI.

The first study to be analysed was conducted by Ali, Fiess and MacDonald (2010), from the University of Glasgow, Department of Economics. Using a panel of 69 countries between 1981 and 2005, they investigated the role of institutions in determining FDI.

To develop the model, they explained institutional quality on the basis of the aforementioned indicator, ICRG. Specifically, based on two of the ICRG's components, *Investment Profile* and *Law and Order Index*. These indicators measure institutional quality directly related to property rights (e.g. expropriation rights, strength and impartiality of the legal system).

The conclusion of this first phase of the study was that countries or economies with strong institutions and secure property rights attract FDI (Ali, 2010).

To determine whether property rights security is in fact the most conditioning institutional aspect of FDI, they investigated the impact of other institutional factors such as: democracy, corruption, political instability and social tension. The resulting conclusions

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<sup>7</sup> Control of corruption captures perceptions of the extent to which public power is exercised for private gain.

<sup>8</sup> Government Effectiveness captures the ability of government to produce and implement good policies.

<sup>9</sup> Political Stability and Absence of Violence captures the likelihood of disturbing changes in government. The higher the stability, the lower the disturbance.

<sup>10</sup> Regulatory Quality captures the ability of governments to implement policies and regulations that promote the development of the private sector.

<sup>11</sup> Rule of Law measures the success of a society in developing an environment in which fair and predictable rules form the basis for economic and social interactions (e.g. property rights, contract enforcement, rules of society.)

<sup>12</sup> Voice and Accountability captures the extent and to which a country's citizens are able to participate in the selection of governments, limiting executive power.  
(World Bank, n.d)

**\*institutional variables\***

were that, once property rights security is secured, the other institutional aspects have little influence on FDI choices (Ali, 2010).

Their findings indicate that property rights security is the most significant institutional element for FDI; consequently, other institutional characteristics are likely to effect FDI solely through their impact on property rights (Ali, 2010).

There have been alternative studies that sought to answer the same question, but they yielded contradictory results with what we have just observed. This is the case of the research conducted by Kurul and Yalta (2017) in 113 developing countries between 2002 and 2012. In this study, institutional quality was measured using the WBWGI, and its 6 dimensions, through a dynamic panel data methodology. The results revealed that not all indicators of institutional quality had the same weight in the decision-making of foreign investors in developing countries (Kurul and Yalta,2017). Only 3 of the indicators were found to be relevant: corruption, government effectiveness and the voice and accountability positively stimulate FDI (Kurul and Yalta, 2017). In other words, firms are more attracted to invest capital in those developing countries where there is transparency, low levels of corruption, accountable bureaucracy and trust in the political system among others (Kurul and Yalta, 2017).

A third study by Sabir, Rafique and Abbas (2019) on the same dilemma yielded again different results. The study used panel data for low, lower-middle and upper-middle and high-income countries over a 20-year period (1996-2016). In addition, the WBWGI index was used again to measure institutional quality. To draw conclusions, the researchers divided the countries into developed and developing. Results were as following:

On the one hand, it was discovered that indicators of institutional quality, such as corruption control, government effectiveness, and political stability, had a positive and substantial influence on FDI inflows in developing countries (Sabir, 2019). However, while positive, the coefficients of rule of law, regulatory quality and voice and accountability were insignificant in conditioning FDI inflows (Sabir, 2019).

In contrast, when looking at developed nations, it was discovered that all institutional variables had a favourable and significant impact on FDI (Sabir, 2019). In other words, in developed countries, institutional quality had a higher influence than in underdeveloped countries.

As can be witnessed in the analysed studies, scholars have not reached a consensus on which aspects of institutional quality have the greatest influence on attracting FDI. This implies that establishing an appropriate institutional framework can be an arduous task. Furthermore, the question arises as to whether a country's level of development determines which indicators of institutional quality have more weight in attracting FDI, or if, on the contrary, this is a stable factor. There is also the question of whether, depending on the sector in which investments are made, institutions will have more or less impact. These are matters that require further research.

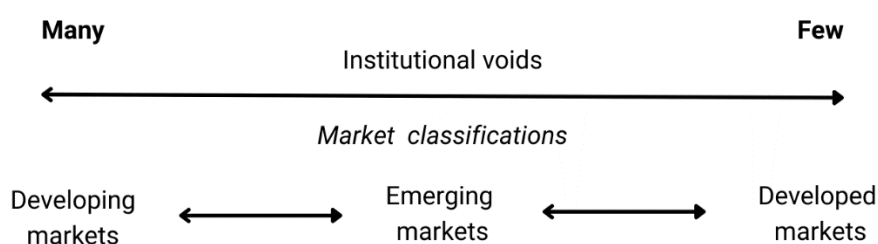
## **4 INSTITUTIONS IN DEVELOPING COUNTRIES**

As we have seen in the previous section, there is a disparity among the empirical results regarding which institutions have a greater positive impact on attracting FDI. One of the causes of these inconsistencies seems to be driven by the level of development of the countries. Therefore, in this section we will look at how institutions in developed countries differ from those in developing countries, with particular focus on the latter.

### **4.1 Differences between developing and developed countries**

The main difference between the institutions of developed countries and those of developing ones is their degree of strength. Developing countries generally have a significantly weaker institutional framework, characterised by institutional voids. According to Khanna and Palepu, who coined the term, institutional voids are defined as “absent or inefficient market-supporting institutions required to consummate transactions in an economy” (copied from Khanna and Palepu 1997 cited by Azaaviele, 2018, p.1). They are, therefore, the result of an inconsistent or non-existent institutional system, where unstable political environments, inefficient laws, lack of legal protection and a shortage of clear regulatory frameworks stand out (Azzaviele, 2020). When a country institutional framework presents voids, economic inefficiency increases and firms' commitment of resources is reduced. While this can occur in any type of country, it is much more frequent in developing and emerging countries (Heeks, 2021).

**Figure 3.** *Continuum of institutional voids and market definitions.*



Own elaboration based on “Why do institutional voids occur in emerging markets? How can multinational enterprises (MNEs) overcome these voids and why may this enhance their performance?” by P. Danviboon, 2018, ResearchGate.

To test the veracity of this assertion, we have looked at empirical evidence, using data from the Development Assistance Committee (DAC), the United Nations (UN) and the Global Competitiveness Report (GCR). The latest analyses the strength of the institutional framework of 140 countries, using 7 components<sup>13</sup>: security, social capital, checks and balances, public-sector performance, transparency, property rights and corporate governance. These six components encompass a total of 20 indicators.

The data collected supports the above. For the [table A1](#) in the appendix we ranked the countries from the highest to the lowest institutional quality and classified them according to their degree of development (for the latter we rely on “List of developing countries 2022” by the Development Assistance Committee (DAC of the OECD) and, “Country classification” by the Development Policy and Analysis Division of the UN.). To find a

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- 1) Security: Business costs and organize crime. Homicide rate. Terrorism incidence. Reliability of police services.
- 2) Social capital: Social capital
- 3) Checks and balances: Budget transparency. Judicial independence. Efficiency of legal framework in challenging regulations. Freedom of the press.
- 4) Public-sector performance: Burden of government regulation. Efficiency of legal framework in settling disputes. E-Participation. Future orientation of government.
- 5) Transparency: Incidence of corruption.
- 6) Property rights: Property rights. Intellectual property protection. Quality of land administration.
- 7) Corporate Governance. Strength of auditing and accounting standards. Conflict of interest regulation. Shareholder governance.

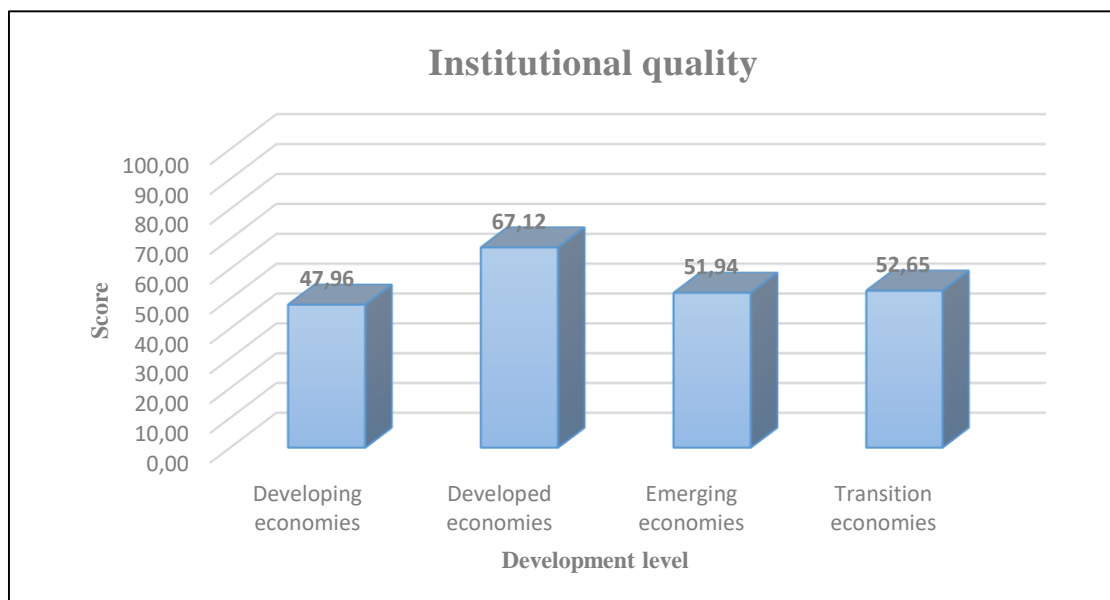
developing nation it must drop all the way down to the 24th position, implying that the 23 countries with the highest institutional quality are developed. Not only that, but of the 70 countries with the best institutional framework (50% of the total), 63% are developed countries. The remaining 37% is divided between developing, emerging and transition economies. Only four developed countries are below the 50th percentile (Turkey, Greece, Croatia and Tunisia).

On the other hand, from the 88th position of the ranking, only developing countries appear (with the exception of positions 110-Ukraine, 111-Bosnia and Herzegovina and 131-Brazil). This means that practically the last 50 positions in terms of institutional quality are occupied by developing countries.

After calculating the average institutional quality score for each level of development we found out that is 67.12 out of 100 for developed countries. In contrast, developing countries are far from this figure, scoring 47.96. Transition economies receive a rating of 52.65, and emerging economies (BRICS) score 51.94.

There is therefore a predominance of developed countries among the highest institutional quality scores, as predicted by theory.

**Figure 4.** *Institutional quality mean scores of 140 countries classified by their level of development.*



Own elaborated figure based on data from [Figure A1](#) of the Appendix.

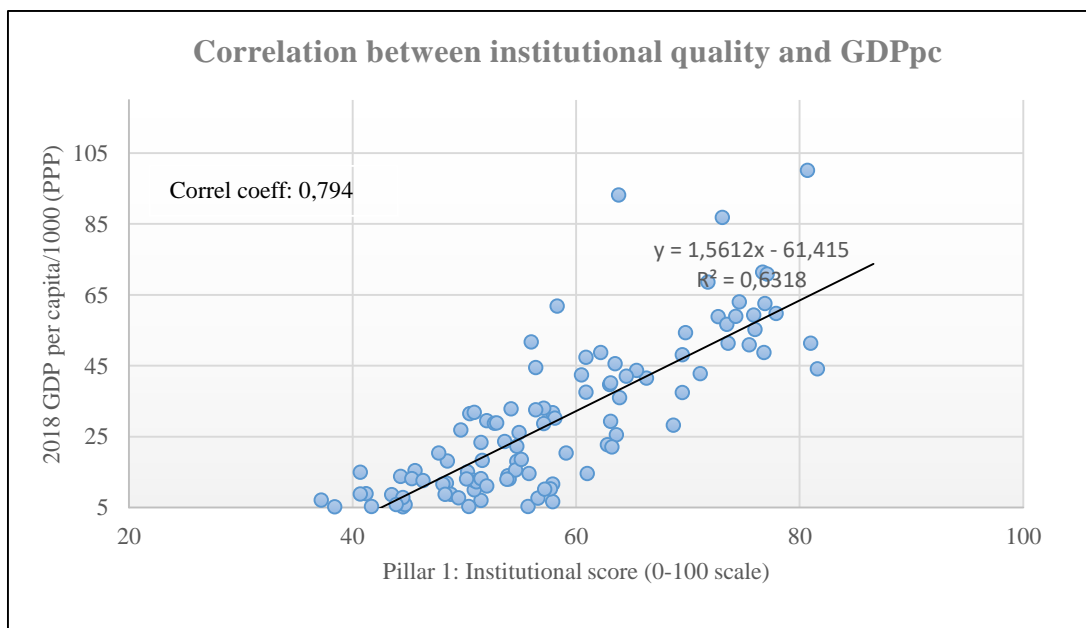


#### 4.1.1 How do these differences impact on the development of developing countries?

Having observed how institutional quality varies depending on the country's level of development, it is worth asking whether the cause-effect is in both directions. As we have seen throughout the previous sections, institutions are one of the factors that dictate the direction of economic transformation, as they condition the feasibility of engaging in economic activities. This is because strong institutions are a key driver of efficiency and long-term development. On the other hand, weak institutions impede competitiveness, growth, and well-being (World Economic Forum, 2018).

This is evidenced in figure 5. The scatter plot shows the relationship between a country's institutional quality (scored from 1 to 100, according to GCR2018 data) and the GDP per capita that a country achieved in 2018. The tendency is clear: the higher the institutional quality, the higher the GDP per capita figures. GDP, or gross domestic product, is widely used as an indicator of the size of an economy and of how that economy is performing. We use GDP per capita instead of GDP to account for the size of the country. It is therefore deducible that institutional differences explain an important part of the cross-country differences in economic development. Indeed, this is shown by the high correlation between the two variables, with a correlation coefficient of 0.79.

**Figure 5.** Correlation between institutional quality and GDP per capita/1000.



Own elaborated figure based on data from [Figure A2](#) of the Appendix.

If we recall, the vast majority of countries with a weak institutional framework were developing countries, which are also the ones with the lowest GDP per capita. This conditions the type of FDI they attract. To understand the latter, it is necessary to distinguish between two types of FDI: market-seeking FDI and non-market seeking FDI. In the former, the firm seeks new markets for its finished products. Therefore, factors such as large markets and high income in the country will matter for this type of FDI (Asiedu, 2022). Typically, it occurs between developed countries. However, developing countries do not attract as much market-seeking FDI, as they generally have small and poor economies, with low GDP per capita (Asiedu, 2022). Therefore, demand factors in developing countries are less relevant, as the FDI they attract is of a different type, such as resource-seeking or efficiency seeking FDI. This will be further examined in the empirical model in section five.

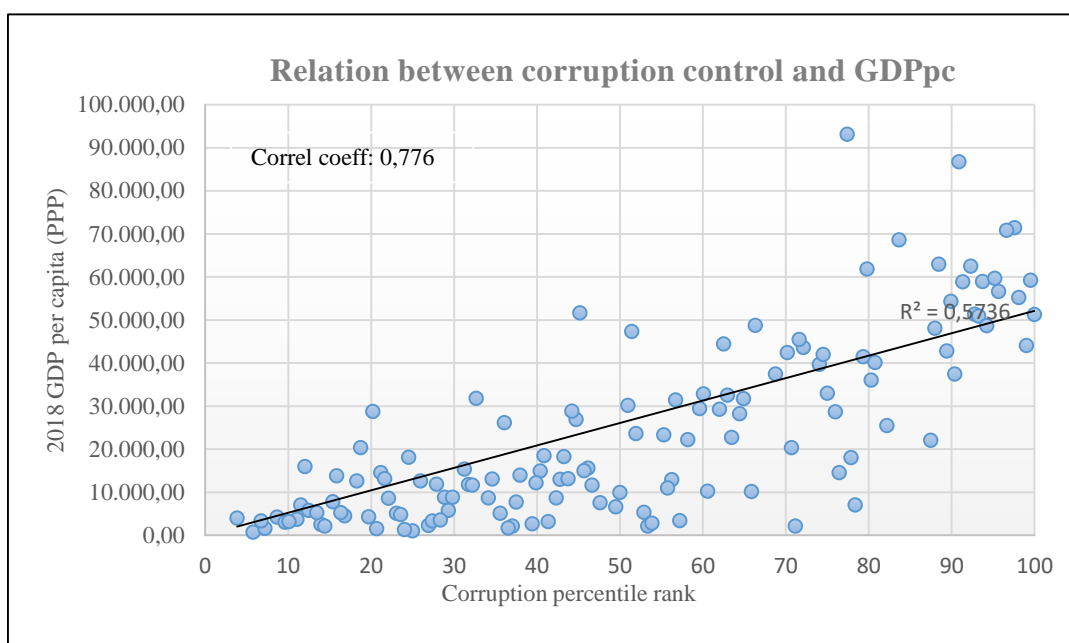
On the other hand, it is important to mention that the literature points to the fact that for non-marketing seeking FDI, real GDP per capita is inversely related to FDI performance. This implies that, all else being equal, investment in countries with a lower per capita income should yield a higher return, and therefore attract more FDI (Asiedu 2022).

In the graph above we have observed that economic performance is exponentially dependent on institutional quality as a whole. To be more precise we have looked at indicators of governance and political institutions, to see whether they separately still affect economic development. The indicators chosen were corruption level and government efficiency (as an indicator of good governance). As theory supports, a lower level of corruption and good governance, have a positive impact on a country's economic development.

Davoodi and Tanzi (1990) (cited by Quang, 2011) concluded in their corruption research that high and escalating corruption reduced economic development, social expenditure efficacy, the progressivity of the tax system, and reinforced an inequitable distribution of asset ownership. Furthermore, Wei (2000) (cited by Quang 2011) demonstrated that corruption decreases not just economic growth but also the attraction of FDI. In his analysis, he discovered that increasing the amount of corruption from the one of Singapore to that of Mexico had the same negative effect on inward FDI as raising the tax rate by fifty percentage points. According to Cuervo-Cazurra (2008), this occurs because corruption demands companies to spend human and financial resources to

manage bribes, despite the fact that these resources could be invested more efficiently. As figure 6 shows, the above is consistent with our results. After relating the percentile of the level of corruption that each country occupied in 2018 (with the 100th percentile being the highest level of corruption control and 0th being the lowest), to the GDP per capita of that same year in each country, we could observe the following: There is a positive trend in which the lower the level of corruption control the lower the level of GDP per capita. It is worth mentioning that the correlation among those two variables is high and positive, as can be traced from the correlation coefficient: 0.776. On the other hand, the countries with the highest levels of corruption are developing countries, with the top 50 corruption level ranks dominated by developing countries. This is also indicative of the aforementioned relationship.

**Figure 6.** *Correlation between corruption and GDP per capita.*

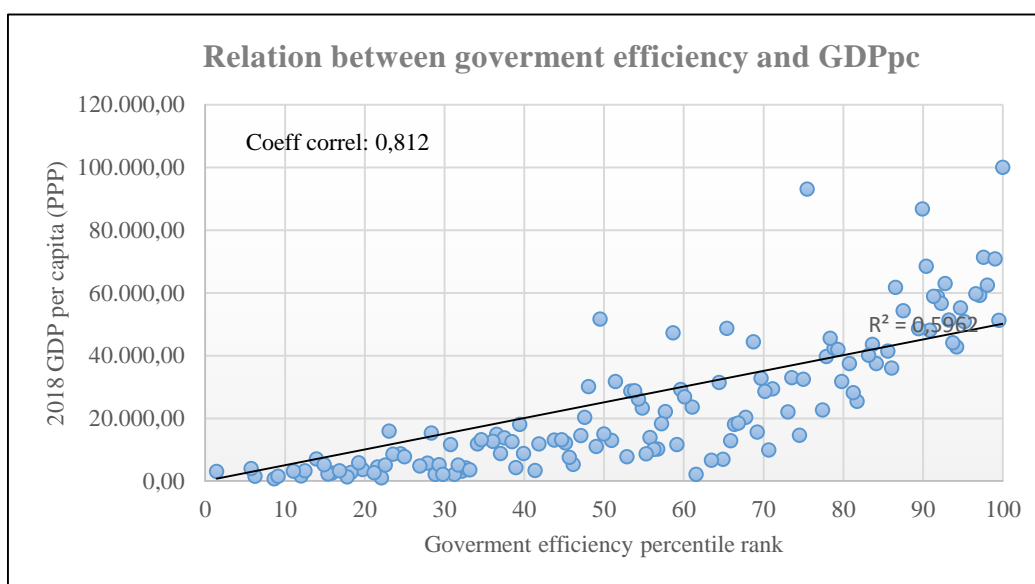


Own elaborated figure based on data from [Figure A2](#) of the Appendix.

The literature has also reviewed how good governance impacts on the level of development. For example, in a study of more than 150 countries, Kaufmann, Kraay, and Zoido-Lobaton (1999) (cited by Quang, 2011), established a strong causal relationship between better governance and better development outcomes. To test this, we have taken government efficiency percentile rank as an indicator of good governance, with 100th percentile being the most efficient government and 0th the least. The results again confirm

the theory: countries with a more efficient government system are the ones that obtained higher GDP per capita figures in 2018. This can also be observed in the correlation coefficient (0,812), which shows a high and positive correlation between these variables. Again, it is developing countries that score worst in terms of government efficiency, with South Sudan (least developed country) at the 0th percentile and Singapore (developed country) at the 100th percentile.

**Figure 7.** *Correlation between government efficiency and GDP per capita.*



Own elaborated figure based on data from [figure A2](#) of the Appendix.

Several conclusions can be drawn from this section. **Firstly**, that both institutional quality as a whole, summarizing many aspects, and these aspects individually seem to impact the level of a country's economic development, as well as the type of FDI it attracts. However, not all the institutional quality indicators have the same impact, with, for example, government efficiency having a greater weight than corruption control, as can be deduced from their correlation coefficients.

**Secondly**, that it is likely that this lack of institutional quality is one of the reasons why developing countries continue to lag behind in terms of economic development, and consequently, one of the reasons why these countries attract non-market seeking FDI. We will investigate further the determinants of FDI attraction and the impact of the institutional variable on it and in which degree in section 5.

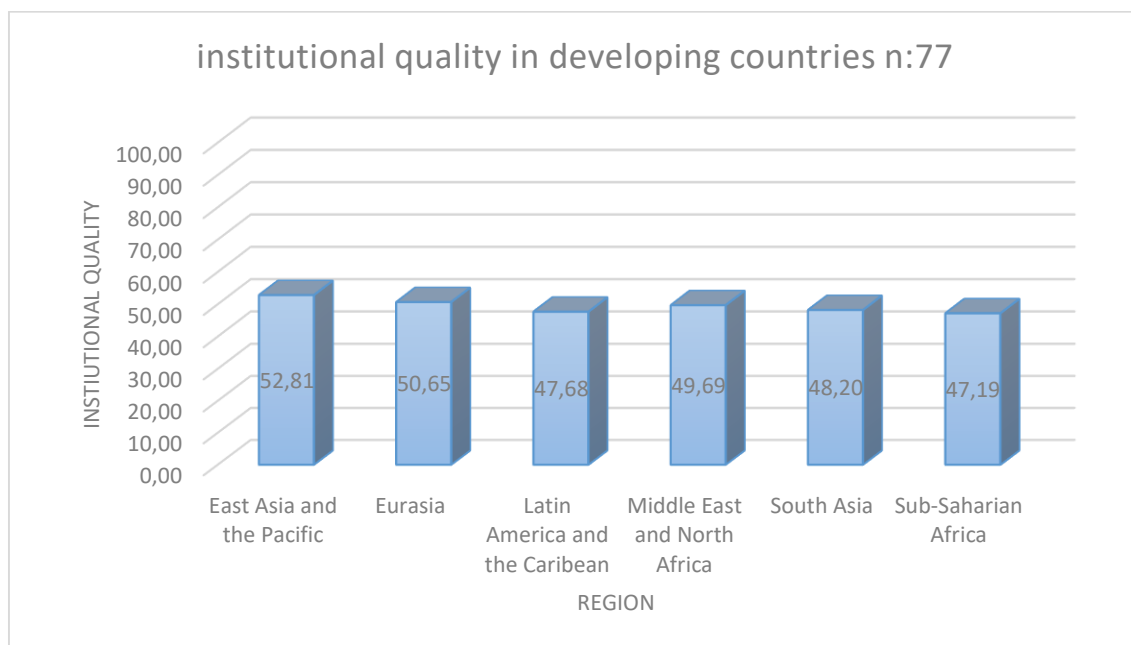
## 4.2 Differences between developing countries by continent.

Having observed how the institutional frameworks of developing countries are configured differently from those of developed countries (with all the consequences that this implies), the question of whether there are differences between the institutions of developing countries themselves arises.

For an answer we took a sample of 76 developing countries and classified them according to the region they occupied geographically<sup>14</sup>. We then calculated the average institutional quality that these regions had, according to the GCR 2018. While there are differences in quality between the groups, these never exceed 6 points. These are minimal compared to the differences observed between the developing and developed groups (figure 4), where they reached approximately 20 points.

It could therefore be said that institutional quality is similar among developing countries. This statement could lead us to expect similar numbers in terms of GDP per capita, due to the absence of large differences in institutional quality, since in section 4,1 we could observe a positive relationship between institutional quality and GDP per capita. However, this is far from being the case.

**Figure 8.** *Institutional quality mean scores of 76 developing countries classified by their geographical region.*



<sup>14</sup>The countries were divided in 6 areas: East Asia and the Pacific. Eurasia. Latin America and the Caribbean. Middle East and North America. South Asia. Sub-Saharan Asia.

Own elaborated figure based on data from [figure A3](#) of the Appendix.

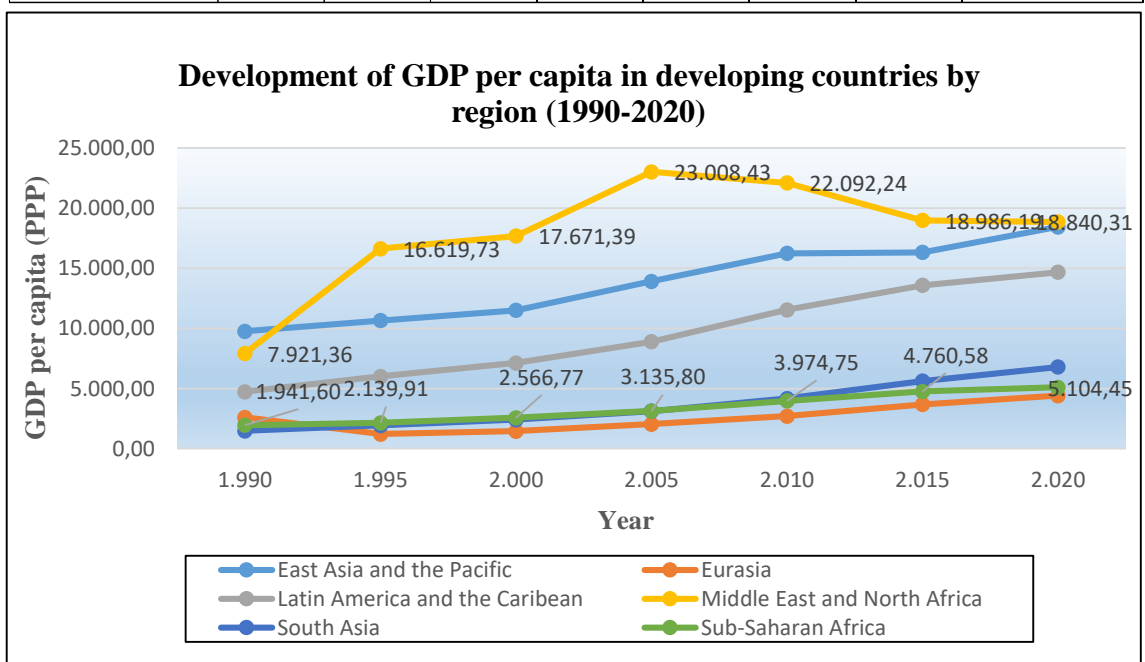
In the regions of East Asia and the Pacific, Latin America and the Caribbean and Middle East and North Africa GDP per capita takes on considerably larger values than in the Sub-Saharan Asia, Eurasia and South Asia regions since the 1990s. The differences in cumulative GDP per capita from the 1990s to the 2020s are certainly larger between the three leading and three trailing areas than their respective differences in institutional quality (Figure 9).

It is therefore extractable that the explanation for these differences in economic development cannot be given by institutional quality. What is then the reason?

Analysing the sample of countries, we observe that both the Eurasia and South Asia regions do not have a sufficient sample of countries (2 and 4 respectively) for the results to be representative. We will therefore focus on Sub-Saharan Asia to try to answer the above question.

**Figure 9.** *Development of GDP per capita in developing countries by region (1990-2020).*

Region	1990 average	1995 average	2000 average	2005 average	2010 average	2015 average	2020 average	Acumulated GDP pc 90-20s
East Asia and the Pacific	9.752,33	10.645,82	11.495,85	13.914,16	16.240,10	16.323,00	18.434,39	96.805,65
Eurasia	2.592,31	1.219,88	1.456,17	2.044,62	2.707,05	3.682,63	4.411,47	18.114,13
Latin America and the Caribbean	4.734,40	6.000,53	7.128,89	8.892,97	11.538,67	13.578,41	14.665,47	66.539,34
Middle East and North Africa	7.921,36	16.619,73	17.671,39	23.008,43	22.092,24	18.986,19	18.840,31	125.139,64
South Asia	1.484,13	1.936,56	2.412,75	3.112,11	4.173,29	5.620,56	6.796,17	25.535,55
Sub-Saharan Africa	1.941,60	2.139,91	2.566,77	3.135,80	3.974,75	4.760,58	5.104,45	23.623,86



Own elaborated figure based on data from “GDP per capita, PPP (current international \$)” by The World Bank, 2022, “Global Competitiveness Report 2018”, by the World Economic Forum, “List of developing countries 2022” by the Development Assistance Committee (DAC of the OECD), “Country classification” by the Development Policy and Analysis Division of the UN.

One of the main reasons for the stagnation of economic development, and therefore GDP per capita growth, in the Sub-Saharan region seems to be the difficulty it has in attracting FDI, a key tool for achieving economic growth (Figure 10). According to Elizabeth Asiedu's (2022) study, the Sub-Saharan region functions differently from other developing countries. FDI plays a key role in Sub-Saharan Africa. It is the main source of capital in the region, which, in general, does not have access to capital markets. However, despite the importance of this source of financing in the area, it seems to be unable to attract it effectively, missing the FDI boom that began in the early 1980s (between 1980-2000 the annual average of FDI to developing countries increased by 1630% while only 496% in sub-Saharan Africa) (Asiedu, 2022).

According to the study, there are three reasons why countries in SSA receive, on average, less FDI than other developing countries (Asiedu, 2022): 1) because of the geographical location of these countries, and the negative connotation of being an African country (the continent is perceived as risky, and lack of knowledge about these countries is damaging to investment decisions). 2) Higher returns on capital encourage FDI to non-SSA nations but have little effect on FDI flows to SSA countries (in a risky environment, with uncertain government policies, higher returns may not induce to investment.). 3) Trade liberalization boosts FDI to both SSA and non-SSA nations; however, the marginal benefit of greater openness is lower for SSA, implying that trade liberalization would create more FDI to non-SSA countries than SSA countries.

Most of these reasons, with the exception of risk perception and uncertainty about government policies, are not institutional reasons.

**Figure 10.** “Annual average of net FDI inflows to developing countries and selected regions (millions of dollars). 1970-99”.

FDI flows	1970–74	1975–79	1980–84	1985–89	1990–94	1995–99
All developing countries	2,058	5,967	8,896	15,222	25,347	153,805
East Asia & Pacific	464	1,034	2,346	5,588	26,352	60,342
Europe & Central Asia	58	65	87	341	4,469	20,784
Latin America & Caribbean	1,500	3,496	5,467	5,960	15,629	59,332
South Asia	50	71	163	350	863	3,693
Sub-Saharan Africa (SSA)	741	803	866	1,337	1,847	5,170
SSA’s share (%)	36	13	10	9	4	3

Reprinted from “On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different”, by E.Asiedu, 2002, ScienceDirect.

This small review is an open door to chapter 5, where we will review in more depth whether institutions affect the attraction of FDI to developing countries differently, or whether it is due to other reasons (as Elizabeth's study pointed out).

## **5 INSTITUTIONS AND FDI: EMPIRICAL EVIDENCE FROM DEVELOPED AND DEVELOPING COUNTRIES.**

In order to study what has been analysed throughout this paper, we will carry out an empirical study in which we will first analyse the total sample of countries as a whole, then segment it according to countries level of development and finally, according to the predominant sector of the economy in each country.

### **5.1 Full sample of countries.**

In this first part of the empirical model we will work with the complete sample of countries (**N: 163**) (including developed, developing and least developed countries), in order to analyse the impact of institutions on the attraction of FDI. The choice of these countries has been conditioned by the availability of data. Both the countries used in the study and the data source for the regression variables can be found in [Figure A4](#) and [Figure A5](#) of the Appendix.

For the study we have used a panel data (in order to account for time and country differences), over a period of 30 years (from 1990 to 2020). The data have been concentrated in 5-year intervals: 1986-1990<sup>15</sup>, 1991-1995, 1996-2000, 2001-2005, 2006-

<sup>15</sup> For all the variables the absence of data prior to the 1990s has meant that the interval is only a single year, 1990.



2010, 2011-2020. We consider that clustering the data in five years' groups is beneficial for the following reasons 1) It helps to reduce missing data, which is especially advantageous for dataset from developing countries prior to the 2000s. 2) It offers greater stability in the FDI variable. This is a very volatile variable and otherwise it may distort the effect of other more constant ones (e.g., OLI and institutional variables) on FDI. 3) It is consistent with the availability of data for certain variables (e.g. the educational level of workers is only reported on a five year by five-year basis).

#### 5.1.1 *Model and data description.*

Based on the background theory reviewed so far, we use the following econometric model for our purpose:

$$1) FDI_{it} = \alpha_i + \beta Inst_{it} + OLI_{it} \delta + \varepsilon_{it}$$

where FDI is the dependent variable. We have used FDI inflows instead of FDI stock, to avoid variations due to changes in the stock market valuation of listed companies. FDI has been divided by population for each country and period, in order to calculate FDI per capita and to take into account the size of a country in the study.

#### Control variables

The empirical literature establishes multiple factors as determinants of FDI attraction to a country. This makes the choice of independent variables difficult, which in our case has been accentuated by data availability (data on decisive factors on FDI is not fully available for many developing countries).

In line with Dunning's theory, having OLI advantages will determine whether a firm decides on FDI as an entry mode or chooses another alternative. Therefore, we have included several control variables, mainly reflecting the locational advantages of the eclectic paradigm, to contrast the aforementioned paradigm.

On the other hand, a country's level of development is commonly recognised as an important determinant of inward FDI. Market size, in fact, has been pinpointed as one of the strongest conditions for FDI (Ali, 2010). We have therefore included these factors as independent variables.

The latter is naturally together with the institutional variables, which, as seen throughout the thesis, both the literature and the empirical results point to their impact on FDI inflows.

## 1) OLI variables

**Geographical location (landlocked):** This concept is captured by the dummy variable "landlocked country or not". The importance of having access to maritime connections to participate in global economic relations and the advantages in terms of specialisation that this provides has held long recognised. In addition, access to the sea reduces transportation costs for both imports and exports. This makes it more attractive for FDI (location advantage), especially for efficiency-seeking FDI. (UNCTAD, 2003).

**Skilled workers (secondary\_studi):** The percentage of the population over 15 years of age with secondary schooling, is used to capture the effect of an educated labour force on FDI attraction. Multiple studies have shown how secondary education in current years and in the long-run have a positive and substantial impact on FDI attraction (Seref Akin & Vlad, 2011).

**Tax (profit\_tax):** The total tax rate payable by business is used to reflect the impact of mandatory contributions payable by businesses on FDI attraction. Higher tax rates are expected to reduce FDI inflows.

**Natural resources (total\_natural\_r):** The variable total natural resources rent as a percentage of the GDP is used to proxy the natural resources endowment of a country. The literature records that the availability of natural resources in a given country increases the inflows of FDI it receives, especially in the case of resource-seeking FDI.

## 2) Economic development variable

**Market size (GDP\_millions):** The variable GDP is used to reflect the effect of the host country's market size on FDI. This variable is useful for attracting market-seeking FDI, since, according to the literature, this type of FDI is driven by large demand. Usually, a large market is indicative of greater demand. However, this is not applicable to non-marketing seeking FDI.

### Institutional variables

We consider six indicators of institutional quality: **control of corruption (Control\_of\_Corr)**, **political stability (Political\_Stabi)**, **rule of law (Rule\_of\_Law)**, **regulatory quality (Reagulatory\_Qual)**, **voice and accountability**

(Voice\_and\_Accou) and government effectiveness (Government\_Effe). These indicators have already been described in page 20. We have chosen the percentile rank data to measure institutional quality for each indicator (values from 1-100). Countries in the highest percentile ranks are those with the best institutional quality scores. A positive relationship between institutional quality and FDI attraction is expected.

After examining these six variables, we discover that they are highly correlated with one another (table A6), due to the fact that they are all indicators of institutional quality. If they were used in the same regression, this would imply significance problems. To overcome this, we construct a new variable, called **Inst**, which is the standardised average of the initial variables.

$$2) \quad FDI_{it} = \alpha_i + \beta Inst_{it} + \delta_1 GDP\_million_{it} + \delta_2 Secondary\_studi_{it} + \delta_3 Profit\_tax_{it} + \delta_4 STotal\_natural\_r_{it} + \delta_5 Landlocked_{it} + \varepsilon_{it}$$

**Figure 11.** Main statistics for the variables of the model.

Variable	Obs	Mean	Std. dev.	Min	Max
FDI_per_capita	1141	508,6	2390	-1166	33721
GDP_millions	1141	2,9139e+005	1,2457e+006	36,953	2,0257e+007
Secondary_studi	1141	24,27	17,12	0,55	93,66
Profit_tax	1141	17,49	9,10	0,00	58,9
Total_natural_r	1141	7,71	10,78	0,01	66,30
Control_of_Corr	1141	46,50	29,12	0,00	100,00
Government_Effe	1141	47,85	28,81	0,00	100,00
Political_Stabi	1141	45,18	27,82	0,00	100,00
Regulatory_Qual	1141	48,37	28,58	0,00	100,00
Rule_of_Law	1141	46,13	28,85	0,19	100,00
Voice_and_Accou	1141	46,28	28,29	0,49	100,00
Inst	1141	-1.471e-016	0.9284	-1.594	1.854
Landlocked	1141	0,76	0,43	0,00	1,00
GDPpc	1141	9349,2	15361,00	49,265	1,1607e+005

Own elaboration using Gretl.

### 5.1.2 Empirical evidence

After initial analysis, the model used will be a random-effects panel, as it seems to be suggested by the Hausman test (p-value: 0.325161), although this is indicative.

In a first phase we analyse whether the control variables in our model are significant and impact on FDI attraction in the expected way, but without taking institutional variables into account yet. As can be seen in Figure 12, some of the regressors have a significant impact on FDI attraction, so they seem to be well chosen as control variables.

The results show that labour's secondary education has a positive and significant impact on the attraction of FDI. Therefore, countries with higher educational attainment rates will attract more FDI. As other studies have previously observed, the taxes paid by firms significantly reduce FDI inflows. Natural resources also have a negative (albeit insignificant) impact in determining FDI. This is an unforeseen result and the coefficient is expected to take on a positive value when countries are sub-grouped. Countries with sea access, as expected, have an advantage in terms of attracting FDI. A landlocked country therefore has a negative impact on FDI inflows, but this is not significant. On the other hand, a country's GDP has a positive and non-significant effect on the dependent variable. Although the non-significance contradicts other studies, it is not an unusual result.

**Figure 12.** *Random effect regressions without Institutional variables.*

Control variable	Coefficient	Standard deviation	P-value
Const	537.922	407.168	0.1865
Secondary_studi	17.5008	5.66706	0.0020 ***
GDP_Millions	3.16933e-05	7.12143e-05	0.6563
Total_natural_r	-7.02087	9.92427	0.4793
Landlocked	-22.6474	338.697	0.9467
Profit_tax	-22.4058	11.8025	0.0576 *

Own elaboration using Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

Having seen how the chosen control variables relate to FDI, we introduce the variable we want to study: Institutional variable. As we have already mentioned, the institutional variables are highly correlated with each other, so it is incorrect to introduce them simultaneously. Therefore, we use Inst, which compresses information from the other six. (Figure 13). As our research predicted, institutions have a positive and significant impact on FDI attraction. Indeed, institutions have the most significant impact on it out of all the control variables. That is, countries with stable institutional frameworks, without

institutional voids, and with good scores on different indicators of institutional quality will attract larger FDI inflows.

**Figure 13.** *Random effect regressions with Institutional variable.*

Control variable	Coefficient	Standard deviation	P-value
Const	755.855	393.368	0.0547 *
Secondary_studi	12.2911	5.71417	0.0315 **
GDP_Millions	1.33466e-05	7.02516e-05	0.8493
Total_natural_r	1.68296	10.0054	0.8664
Landlocked	-228.125	323.300	0.4804
Profit_tax	-22.2323	11.4829	0.0529 *
Inst	514.674	140.158	0.0002 ***

Own elaboration using Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

Although the regression in Figure 13 gives us an insight into the relevant role played by institutions, it does not indicate which institutional factors are significant in conditioning foreign investment. This is an issue that has generated controversy in previous studies, so we consider it necessary to analyse it. To do so, we introduce the different indicators of institutional quality one by one.<sup>16</sup>

**Figure 14.** *Random effects regression with the different institutional indicators variable*

Control variable	Coefficient	Standard deviation	P-value
Const	41.7183	421.218	0.9211
Secondary_studi	14.1237	5.64625	0.0124 **
GDP_Million	1.30991e-05	7.04300e-05	0.8525
Total_natural_r	-0.225029	9.94020	0.9819
Profit_tax	-22.4529	11.5240	0.0514 *
Landlocked	-190.838	324.713	0.5567
Control_of_Corr	14.1932	4.13199	0.0006 ***

Control variable	Coefficient	Standard deviation	P-value
Const	-67.9250	422.143	0.8722
Secondary_studi	12.0230	5.70903	0.0352 **
GDP_Million	5.08319e-06	7.04073e-05	0.9424
Total_natural_r	2.37118	9.99664	0.8125
Profit_tax	-21.7356	11.5049	0.0589 *
Landlocked	-225.646	324.253	0.4865
Rule_of_Law	17.7084	4.39165	5.52e-05 ***

Control variable	Coefficient	Standard deviation	P-value
Const	67.4224	418.570	0.8720
Secondary_studi	12.2812	5.74937	0.0327 **
GDP_Million	3.90315e-06	7.06003e-05	0.9559
Total_natural_r	0.153699	9.96213	0.9877
Profit_tax	-22.0825	11.4980	0.0548 *
Landlocked	-218.398	324.148	0.5005
Government_Effe	14.4867	4.31159	0.0008 ***

Control variable	Coefficient	Standard deviation	P-value
Const	101.835	421.586	0.8091
Secondary_studi	12.4411	5.78606	0.0315 **
GDP_Million	1.54527e-05	7.04073e-05	0.8263
Total_natural_r	-1.33112	9.92546	0.8933
Profit_tax	-21.3006	11.5213	0.0645 *
Landlocked	-191.888	323.975	0.5537
Regulatory_Qual	13.0060	4.36227	0.0029 ***

<sup>16</sup> Although according to the Hausman test we should have estimated some of the institutional factors by fixed effect, we consider it more appropriate to study all variables in the same way. Moreover, in this way it is possible to observe how the landlocked variable impacts, which otherwise would not be possible.

Control variable	Coefficient	Standar deviation	P-value	Control variable	Coefficient	Standar deviation	P-value
Const	207.467	426.385	0.6266	Const	128.428	426.314	0.7632
Secondary_studi	16.0016	5.63570	0.0045 ***	Secondary_studi	14.0943	5.72255	0.0138 **
GDP_Million	3.39367e-05	7.06372e-05	0.6309	GDP_Million	2.58067e-05	7.06099e-05	0.7148
Total_natural_r	-4.82483	9.84313	0.6240	Total_natural_r	0.987077	10.2458	0.9233
Profit_tax	-21.9871	11.6198	0.0585 *	Profit_tax	-24.8209	11.6344	0.0329 **
Landlocked	-73.6470	326.477	0.8215	Landlocked	-182.573	331.734	0.5821
Political_Stabi	8.42718	3.73807	0.0242 **	Voice_and_Accou	12.8793	4.64375	0.0055 ***

Own elaboration usin Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

In the tables in figure 14, we can observe that all institutional aspects are relevant in attracting FDI. However, even if they all have a positive and significant impact, some have more weight than others. We can observe that regulatory quality, government efficiency, rule of law, voice and accountability and control of corruption are the most significant institutional aspects in terms of attracting FDI inflows. This means that companies will be more attracted to countries where the government has the capacity to implement good policies that foster economic development and countries where the rules are predictable and protect future returns. Companies will also value those countries in where there are high levels of voice and accountability, since it contributes to a risk-free atmosphere. Investments tend to go to low-risk areas, with good policies and no risk of policy reversal. Furthermore, nations with low levels of corruption will also attract more FDI inflows. This is because, according to Cuervo-Cazurra 2008, corruption can be perceived as sand, since it increases business costs and uncertainty. To a lesser extent, investors would value locations in where there are not disturbing changes in the government.

Several conclusions can be drawn from this first study of the whole sample of countries. **First**, that, as Dunning predicted, FDI flows are conditioned by a country's locational advantages: human capital available in a country (e.g. educational preparation of the labour force) and the level of taxes payable in the country. Also in line with North's theory, institutions condition FDI inflows. **Second**, that, although institutions as a whole play a significant and positive role in attracting FDI, individually there are institutional aspects that are relevant and have weight in relation to FDI and others that are less. Third, the fact that only some institutional aspects have a high significant impact on FDI attraction may lead to contradictory results, depending on which institutional indicator is chosen.

## 5.2 Countries by development level

While our previous study is revealing about the role of institutions at the global level, in section 3.3 we noted that a country's level of development may condition which institutions affect FDI inflows and which ones do not. To date, studies that observe the impact of institutions in developing countries have found different institutional aspects to be relevant in attracting FDI than those studied in developed countries. Moreover, in studies where the sample is divided by level of development, different results are obtained for each level of development.

This suggests that we should analyse our sample of countries once it is segmented by level of development, in order to draw our own conclusions. As an innovative aspect with respect to other studies, we considered it necessary to add a new category to the classification: the least developed countries (LDCs). LDCs are usually included in the category of developing countries, but we believe that they have common characteristics that are distinct from those of developing countries. This is because countries that are still considered developing countries have evolved a lot in recent decades and are far from being comparable to the world's least developed economies.

Therefore, in this section we will analyse how the institutional role in attracting FDI fluctuates depending on the type of economy in the country. To do so, we divide the 163 countries into three groups: LDCs (N:41), developing countries (N:80) and developed countries (N: 42), according to the Country classification” by the Development Policy and “Analysis Division and the least developed country list”, both from the UN. The other aspects of the study remain the same as in the previous section.

### 5.2.1 *Least Developed Countries*

Starting with the LCDs category, we carry out the study. The Hausman test indicate that this should be done through fixed effects ( $p=0.03$ ). However, since for the other two groups of countries (developing and developed) the test indicates us to use random effects, we have considered using the same effect for the three models, for a cross-countries comparison.

First, we analyse the impact of the control variables and the institutional variable on the attraction of FDI in LDCs in the world. (Figure 15). As we can see, several things happen

for this group of countries. On the one hand, the tax payable by companies and the country's natural resources are the factors that most condition FDI attraction. The former condition it in a negative way and the latter in a positive one. This means that companies, when they want to invest in less developed countries, will opt for those that stand out for their well endowment in natural resources and have lower taxes rates, compared to the other LDCs. This is more consistent with expectations regarding the natural resources variable. The level of education of the population, while still maintaining their positive impact, lose some of it significance for these types of nations, however is still significant in a lower degree. GDP has a non-significant and positive impact<sup>17</sup>. On the other hand, the dummy variable "landlocked" shows a positive but insignificant coefficient. We did not find a consistent answer to this result, but considered that it may be due to the use of random effects. Finally, we can observe that our variable of interest, the institutional variable, has a positive, although not significant, impact on FDI attraction. We consider that this could be due to the fact that these types of countries attract efficiency-seeking or resources-seeking FDI, so that companies will value aspects such as the availability of resources, cheap labour, strategic geographical positioning, etc., more highly than institutional quality. These, linked with the weak structure of institutional indicators in these type of countries, make institutions lose their relevant role.

**Figure 15.** *Random effects regression with the Institutional variable.*

Control variable	Coefficient	Standard deviation	P-value
Const	10.8648	8.99680	0.2272
Secondary_studi	0.903500	0.837440	0.0820 *
GDP_Millions	1.21745e-05	0.000113369	0.9145
Total_natural_r	0.767239	0.359481	0.0328 **
Profit_tax	-0.576563	0.282458	0.0412 **
Landlocked	10.4444	6.84252	0.1269
Inst	3.59629	3.82760	0.3474

<sup>17</sup> When we analyse the model in the right way, through fixed effects, we find however that the GDP-million has a negative impact. This would make more sense since the type of FDI received by these countries is generally non-market seeking. The literature indicates that for non-marketing seeking FDI, GDP is negatively related to FDI, as investment in countries with lower GDP yields a higher return. However, due to the lack of significance of this variable in both models, we will not pursue this issue further.



Own elaboration using Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

Although this first phase suggested that none of the indicators of institutional quality would be individually relevant, we wanted to check this for our sample. Indeed, only political stability out of the six institutional variables studied (Figure 16) shows significance. This means that when companies have to select the investment location among LDCs they will choose those countries where there are no disturbing changes in the government, because they are less risky areas.

**Figure 16.** Random effects regression with the different institutional indicators variables

Control variable	Coefficient	Standard deviation	P-value
Const	7,05224	10,6286	0.5070
Secondary_studi	0.897580	0.519693	0.9041
GDP_Millions	1,37E+00	0.000113527	0.9670
Total_natural_r	0.742829	0.351924	0.0348 **
Profit_tax	-0.570461	0.282872	0.0437 **
Landlocked	10,1794	6,87689	0.1238
Control_of_Corr	0.142086	0.154872	0.3589

Control variable	Coefficient	Standard deviation	P-value
Const	6,43767	11,0815	0.5613
Secondary_studi	0.909447	0.520464	0.0806 *
GDP_Millions	5,93E-01	0.000113308	0.9583
Total_natural_r	0.772106	0.362566	0.0332 **
Profit_tax	-0.570859	0.283122	0.0438 **
Landlocked	10,8195	1,562	0.1182
Rule_of_law	0.160151	0.177975	0.3682

Control variable	Coefficient	Standard deviation	P-value
Const	10,8324	10,3387	0.2948
Secondary_studi	0.890682	0.522271	0.0881 *
GDP_Millions	6,41E-01	0.000113258	0.9548
Total_natural_r	0.681932	0.353183	0.0535 *
Profit_tax	-0.583930	0.284306	0.0400 **
Landlocked	10,179400	6,865830	0.1382
Government_Effe	0.0591451	0.178794	0.7408

Control variable	Coefficient	Standard deviation	P-value
Const	7,05224	10,6286	0.5070
Secondary_studi	0.897580	0.519693	0.9041
GDP_Millions	1,37E+00	0.000113527	0.9670
Total_natural_r	0.742829	0.351924	0.0348 **
Profit_tax	-0.570461	0.282872	0.0437 **
Landlocked	10,91360	6,885360	0.1238
Regulatory_Qual	0.223596	0.204268	0.2737

Control variable	Coefficient	Standard deviation	P-value
Const	3,81633	10,0137	0.7031
Secondary_studi	0.877279	0.515351	0.0887 *
GDP_Millions	3,03E+00	0.000113386	0.7895
Total_natural_r	0.848184	0.353698	0.0165 **
Profit_tax	-0.573402	0.280213	0.0407 **
Landlocked	9,121920	6,757450	0.1770
Political_Stabi	0.231404	0.127860	0.0703 *

Control variable	Coefficient	Standard deviation	P-value
Const	15,3355	10,2259	0.1337
Secondary_studi	0.922082	0.523459	0.0782 *
GDP_Millions	3,17E-03	0.000114068	0.9998
Total_natural_r	0.610039	0.350216	0.0815 *
Profit_tax	-0.570295	0.284228	0.0448 **
Landlocked	10,0572	6,882570	0.1439
Voice_and_Accou	-0.102356	0.173457	0.5551

Own elaboration using Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

### 5.2.2 Developing countries

In this subsection we analyse the impact of institutional quality in developing countries. The Hausman test indicates that this should be done through random effects ( $p=0.058$ ), so we proceed accordingly.

As we can see, in developing countries the variables that have a significant impact on FDI attraction are secondary studies and profit, also in a positive way. Taxes act in the same

way as in LCDs, however they are no longer significant. GDP has a positive (albeit insignificant) impact on developing countries. This is probably because the two groups of countries attract different types of FDI. Being landlocked is again detrimental to FDI attraction, but insignificant. Finally, the institutional variable impacts positively but not significantly on FDI attraction. This might also be explained by the same reasons as for LCDs.

**Figure 17.** *Random effects regression with the different institutional indicators variables*

Control variable	Coefficient	Standard deviation	P-value
Const	-58.8341	87.7597	0.5026
Secunday_studi	5.74313	1.12972	3.70e-07 ***
GDP_Millions	6.93174e-06	1.67514e-05	0.6790
Total_natural_r	3.90244	1.64485	0.0177 **
Profit_tax	-3.27904	2.46835	0.1840
Landlocked	-92.8188	69.9522	0.1038
Inst	39.7943	24.4646	0.1845

Own elaboration using Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

Although when introducing the institutional variable into the study we observe that it is not significant in attracting FDI, we proceed to analyse whether there are institutional factors that are sufficient on their own to meaningfully impact the attraction of FDI inflows.

To do so, we introduce the different indicators of institutional quality one by one. After including them, we see that the variables Control of Corruption, Rule of Law and Regulatory Quality are significant. This means that companies look for developing countries where rules are predictable and promote development when locating their investments. Furthermore, control of corruption plays a significant role, which may be motivated by the interest of companies in increasing transparency, in order to reduce their transaction costs.

**Figure 18.** *Random effects regression with the different institutional indicators variables*

Control variable	Coefficient	Standar deviation	P-value
Const	-51.5900	66.3245	0.4367
Secondary_studi	5.27439	1.08910	1.87e-06***
GDP_Million	4.69354e-05	1.63994e-05	0.7747
Total_natural_r	3.59005	1.36246	0.034***
Profit_tax	-3.44413	2.09057	0.244
Control_of_Corr	2.65086	0.930675	0.0005***

Control variable	Coefficient	Standar deviation	P-value
Const	-57.1048	78.0601	0.4644
Secondary_studi	5.17113	1.08144	1.74e-06***
GDP_Million	8.7999-e06	1.68345e-05	0.5983
Total_natural_r	4.19094	1.61872	0.0096***
Profit_tax	-2.71040	2.44559	0.2677
Regulatory_Qual	1.77979	0.889247	0.0453**

Control variable	Coefficient	Standar deviation	P-value
Const	-57.1048	78.0601	0.6598
Secondary_studi	5.27439	1.08910	1.28e-06***
GDP_Million	6.83838e-06	1.7845e-05	0.6846
Total_natural_r	4.08538	1.61872	0.0126**
Profit_tax	-2.80978	2.47484	0.2562
Government_Effe	1.26116	0.930675	0.1754

Control variable	Coefficient	Standar deviation	P-value
Const	49.0497	57.1539	0.3908
Secondary_studi	4.49885	0.978408	4.26e-06***
GDP_Million	3.23667e-06	1.63690e-05	0.88433
Total_natural_r	3.71287	1.35421	0.0061***
Profit_tax	-3.36964	2.07476	0.1044
Rule_of_Law	3.09970	0.822811	0.0002***

Control variable	Coefficient	Standar deviation	P-value
Const	-0.964303	74.6665	0.9897
Secondary_studi	5.42152	1.09297	7.04e-07***
GDP_Million	9.87763e-06	1.67872e-05	0.5563
Total_natural_r	3.77238	1.64341	0.0217**
Profit_tax	-3.03176	2.48823	0.2231
Political_Stab	0.566507	0.816676	0.4879

Control variable	Coefficient	Standar deviation	P-value
Const	3.4258	109.816	0.7575
Secondary_studi	6.97841	1.6489	6.19E-05***
GDP_Million	1,0391-E05	6,56273E-06	0.11173
Total_natural_r	5.96829	3.16686	0.0632*
Profit_tax	-1.25232	4.20566	0.7667
Voice_and Accou	-2.85574	1.76905	0.1105

Own elaboration usin Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

### 5.2.3 Developed countries

Finally, we proceed to observe how our model performs in developed countries. The Hausman test indicates that the estimations should be done through random effects (0.0524475).

For this type of country, the tax variable is the only OLI variable that has a significant impact on FDI, being negative. This means that, when it comes to investing, multinationals will choose those countries with the lowest corporate tax rate among developed countries. We note that GDP again has a positive coefficient, which was predictable, since in north-north investment marketing-seeking FDI is predominant, so that companies are attracted by large markets and high levels of GDP. However, it is not significant. Workers' secondary studies have a positive but insignificant impact. Both the availability of natural resources in the country and being landlocked have a negative but insignificant impact on FDI attraction. Finally, our variable of interest (Inst) has a positive and significant impact on FDI attraction in developed countries. This may be because the

institutions do not have institutional voids and are of high quality in such countries, so they are actually able to attract FDI.

**Figure 19.** *Random effects regression with the Institutional variable.*

Control variable	Coefficient	Standard deviation	P-value
Const	3684.98	1621.25	0.0230 **
Secondary_studi	14.3806	19.8666	0.4692
GDP_Millions	1.67820e-05	0.000167289	0.9201
Total_natural_r	-60.8446	173.499	0.7258
Profit_tax	-115.437	50.6846	0.0228 **
Landlocked	-723.503	1326.86	0.5856
Inst	810.445	387.346	0.0364 **

Own elaboration using Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

When we look at the weight of each institutional variable, we observe that they all have a positive impact, but only, rule of law, government effectiveness, control of corruption, and in a lesser extent, regulatory quality, have a significant one. Political stability, which was the least significant variable in the total sample of countries (section 4.1.1), is no longer significant in this subgroup. On the other hand, voice and accountability, which was previously relevant, is no more significant. It is also important to mention that the magnitude of the coefficients of the institutional indicators are larger than for non-developed countries. This implies that high-quality institutions in developed countries may attract large FDI inflows.

**Figure 20.** *Random effects regression with the different institutional indicators variables*

Control variable	Coefficient	Standard deviation	P-value
Const	-554.309	2474.79	0.8228
Secondary_studi	15.8834	19.8379	0.4233
GDP_Million	8.26201e-06	0.000166719	0.9605
Total_natural_r	-64.2621	172.881	0.7101
Profit_tax	-119.059	50.5782	0.0186 **
Landlocked	-921.889	1311.91	0.4822
Control_off_Corr	54.2161	24.1686	0.0249 **

Control variable	Coefficient	Standard deviation	P-value
Const	-1406.15	2511.72	0.5756
Secondary_studi	10.6168	19.8856	0.5934
GDP_Million	2.83322e-06	0.000167159	0.9865
Total_natural_r	-30.2562	173.764	0.8618
Profit_tax	-120.671	50.7933	0.0175 **
Landlocked	-722.419	1331.69	0.5875
Rule_of_Law	64.2649	24.5880	0.0090 ***

Control variable	Coefficient	Standard deviation	P-value
Const	-2588.77	2928.85	0.3768
Secondary_studi	14.1572	19.7822	0.4742
GDP_Million	-1.27137e-05	0.000166570	0.9392
Total_natural_r	-45.8413	172.532	0.7905
Profit_tax	-117.717	50.2621	0.0192 **
Landlocked	-741.848	1307.89	0.5706
Government_Effe	75.6982	29.6491	0.0107 **

Control variable	Coefficient	Standard deviation	P-value
Const	-895.073	3056.40	0.7696
Secondary_studi	10.5986	19.9716	0.5956
GDP_Million	6.38588e-06	0.000166446	0.9694
Total_natural_r	-70.0789	172.633	0.6848
Profit_tax	-110.178	50.0586	0.0277 **
Landlocked	-867.953	1295.67	0.5029
Regulatory_Qual	56.2706	31.7889	0.0767 *

Control variable	Coefficient	Standar deviation	P-value
Const	2231.04	2306.82	0.3335
Secondary_studi	181.944	201.083	0.3656
GDP_Million	3,68E+00	0.000171078	0.8297
Total_natural_r	-71.7171	175.701	0.6831
Profit_tax	-103.340	511.770	0.0435 **
Landlocked	-736.993	1311.91	0.5922
Political_Stab	152.726	184.283	0.4072

Control variable	Coefficient	Standar deviation	P-value
Const	1406.21	2803.42	0.6159
Secondary_studi	17.0203	20.0249	0.3953
GDP_Million	2.02943e-05	0.000170561	0.9053
Total_natural_r	-70.0996	176.582	0.6914
Profit_tax	-108.649	52.1198	0.0371 **
Landlocked	-813.013	1390.96	0.5589
Voice_and_Account	26.4618	28.4109	0.3516

Own elaboration usin Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

#### 5.2.4 Conclusions of the section

After an exhaustive analysis we have been able to draw our own conclusions about the impact of institutions at different levels of development, some of which have confirmed our expectations and some of which have not.

**First**, institutions do indeed have a different impact on FDI attraction depending on the level of development. The more developed a nation is, the greater the impact of its institutions. Overall, however, it is rule of law that is the most relevant factor. **Second**, where the institutional framework is stronger and more stable, institutions are more significant. **Third**, although institutional quality is generally positively related to FDI attraction, certain institutional aspects may have the opposite effect in undeveloped countries. **Fourth**, the higher the level of development, the higher the coefficient of the institutional variables, which implies that in developed countries any increase in institutional quality attracts more FDI than if this institutional improvement were made in developing countries. Developed countries can attract massive amounts of FDI with their institutions. **Finally**, that the problem of attracting FDI and the economic stagnation that this implies for many LDCs is not due to institutional causes, as they are not significant. A plausible alternative is that it is due to OLI variables such as poor infrastructure or low levels of education. Institutions, as we already explained, might be irrelevant because of the type of FDI that these countries attract, which is generally resource-seeking. It values factors such as cheap labour or the availability of natural resources, and might make institutions a less relevant factor. This is a matter that requires further analysis.

### 5.3 Countries by sectorial weight

Once the countries have been analysed together and classified according to their level of development, we proceed to the last part of the study, where nations are categorised according to the most relevant sector in their exports<sup>18</sup>. The literature in this area of research is scarce, but indicates that institutions impact FDI differently depending on the receiving sector (Ali, 2010). Furthermore, depending on the predominant sector, economies attract different types of FDI. The objective is to investigate whether institutions impact primary, manufacturing and services FDI in the same way or not. We considered this revision necessary, since in the previous section, where countries were classified by level of development, those receiving different types of FDI had different impacts of institutional quality.

#### 5.3.1 Primary FDI

For this section we have chosen a sample of 67 countries out of the total. These are the resource-rich countries, which are those where the highest percentage of exports corresponds to goods from the primary sector (e.g. oil, mining products). The FDI of these countries has been used as a proxy for natural-resource seeking/primary FDI.

According to Dunning 1971, natural resource seeking FDI is mainly conditioned by the availability of inputs in a country (such as natural resources or labour), and also, to a certain extent, by the taxation rate that enterprises have to face. Other aspects such as the size of the economy do not play such an important role. Therefore, in this part of the study, our dependent variable, primary FDI, will be dependent on the control variables: Total\_natural\_r (indicating the availability of natural resources in the country),

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<sup>18</sup> In order to classify the countries according to the sector that has the most relevance in their exports, we have used the following WTO tables:

"Service exports: reported values (Million U\$ dollar)" and chosen the index BOP6-S: Memo item: Total services as a proxy of the relevance of the service sector in the exports of a country.

"Merchandise exports by product group" and chosen the indices "SI3\_AGG - AG - Agricultural products" and "SI3\_AGG - MI - Fuels and mining products" as a proxy of the relevance of the primary sector in a country's exports. (Both variables have been added together)

"Merchandise export by product group" and chosen the index "SI3\_AGG - MA – Manufactures" as a proxy of the relevance of the secondary sector in the exports of a country.

After choosing the indicators of each sector, these are added up and their percentage over the total is calculated.

Secondary\_studi (proxy of qualified labour force) and Profit\_tax (proxy of the tax payable by companies in a certain economy).

$$3) FDI\_primary_{it} = \alpha_i + \beta Inst_{it} + \delta_1 Total\_natural\_r_{it} + \delta_2 Secondary\_studi_{it} + \delta_3 Profit\_tax_{it} + \epsilon_{it}$$

We estimate this model through fixed effects, following the Hausman test recommendations (p=0.0261182), and we observe that the results corroborate most of Dunning's assumptions.<sup>19</sup> The availability of natural resources and a well-educated labour force in a country are the most conditioning factor in the attraction of natural-resources seeking FDI, having a significant and positive impact. However, the level of taxes faced by a company has a negative but irrelevant relationship with primary FDI.

Institutions have an insignificant and positive effect. The former confirms the results of other empirical studies, and is explained by the high immobility of resource-seeking investment. “Resource seeking FDI refers to firms willing to reduce production costs by relocating production to foreign countries abundant in necessary inputs, such as labor or natural resources” (Jaeck & Jim, 2016; p.1205) therefore, firms are constrained to those countries that possess the natural resources, so that other aspects, such as institutions, are no longer considered. Primary FDI is therefore not sensitive to institutional quality.

**Figure 21.** Random effects regression with the Institutional variable.

Control variable	Coefficient	Standard deviation	P-value
Const	-79.6849	72.8810	0.2749
Total_natural_r	7.02818	2.10707	2.98e-05 ***
Secondary_studi	7.63783	1.80818	0.0009 ***
Profit_tax	-2.24998	2.98276	0.4511
Inst	11.8886	42.0742	0.7777

<sup>19</sup> Although we are aware of the importance of estimating all subgroups (e.g. primary) of a classification (e.g. by sector) through the same effects in order to make a better cross-country comparison, this has not been possible in this last section. If we try to estimate primary sector countries by random effects, which is inappropriate for these countries but is the method used for manufacturing and services, we arrive at inconsistent results according to theory. Therefore, we have decided to continue studying the primary sector through the effects indicated by Hasuman's test (fixed effects) in order to be more coherent.

Own elaboration usin Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

When looking at the effect that each institutional variable has on its own, all indicators insignificant coefficients, except voice and accountability, which is negative and significant. One hypothesis to explain this is the fact that FDI allocated for natural resources can be considered unhealthy for the host economy due to resource curse<sup>20</sup>. If diverse groups in society have the power to lobby against FDI because it is seeming as detrimental, it could be prejudicial to its attraction.

**Figure 22.** Random effects regression with the different institutional indicators variables

Control variable	Coefficient	Standar deviation	P-value
Const	-153.069	86.1395	0.0763 *
Secondary_studi	8.01782	1.81353	1.27e-05 ***
Total_natural_r	7.26909	2.10619	0.0006 ***
Profit_tax	-2.37623	2.96524	0.4234
Control_of_Corr	2.03196	1.28612	0.1149

Control variable	Coefficient	Standar deviation	P-value
Const	-92.4236	86.3504	0.2851
Secondary_studi	7.63558	1.80832	3.00e-05 ***
Total_natural_r	6.95398	2.12543	0.0012 ***
Profit_tax	-2.22115	2.97610	0.4559
Regulatory_Qual	0.409660	1.52228	0.7880

Control variable	Coefficient	Standar deviation	P-value
Const	-61.3043	84.1545	0.4668
Secondary_studi	7.58197	1.79777	3.06e-05 ***
Total_natural_r	6.99612	2.10807	0.0010 ***
Profit_tax	-2.06404	2.98200	0.4892
Government_Effe	-0.643437	1.45234	0.6580

Control variable	Coefficient	Standar deviation	P-value
Const	-147.345	86.5636	0.0895 *
Secondary_studi	7.66935	1.79458	2.41e-05 ***
Total_natural_r	7.19042	2.10487	0.0007 ***
Profit_tax	-2.41177	2.96870	0.4170
Rule_of_Law	2.25982	1.57607	0.1524

Control variable	Coefficient	Standar deviation	P-value
Const	-84.0734	80.5551	0.2973
Secondary_studi	7.60345	1.80565	3.15e-05 ***
Total_natural_r	7.02475	2.10754	0.0009 ***
Profit_tax	-2.19165	2.97431	0.4616
Political_Stabi	0.118384	0.987193	0.9046

Control variable	Coefficient	Standar deviation	P-value
Const	0.581913	86.1100	0.9946
Secondary_studi	7.37159	1.79556	4.90e-05 ***
Total_natural_r	7.10384	2.09975	0.0008 ***
Profit_tax	-1.60606	2.97872	0.5901
Voice_and_Accou	-2.78562	1.60121	0.0827 *

Own elaboration usin Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

### 5.3.2 Manufacturing FDI

For this section we have chosen a sample of 43 countries out of the total. These are those countries in which the largest share of exports corresponds to manufactured products. The FDI of these countries has been used as a proxy for manufacturing FDI.

<sup>20</sup> The “natural curse” is a phenomenon by which natural resources does not necessarily confer economic success for countries that base their development on them. To the contrary, it can slow economic growth. People on most of those countries continue to experience low per capita income and a low quality of life. (Badeeb, 206)



We have excluded the natural resources variable, and considered the other variables used for the aggregate FDI.

$$4) FDI_{manufacturing}_{it} = \alpha_i + \beta Inst_{it} + \delta_1 Secondary\_studies_{it} + \delta_2 GDP\_Millions_{it} + \delta_3 Profit\_tax_{it} + \varepsilon_{it}$$

We estimate this model through random effects, following the Hausman test recommendations ( $p = 0.270499$ ) and find the following: Both the educational attainment of the population and the size of a country's market have a positive and relevant impact on the attraction of manufacturing FDI. However, the taxes borne by firms were not significant. Given this unexpected outcome, we decided to investigate it further by lowering the number of control variables (so we eliminated the secondary education variable). We see that the profit tax variable becomes significant at this point (Figure A7). This indicates that the tax to be paid by companies has weight in attracting manufacturing FDI as long as other more important variables for its attraction are not guaranteed.

Furthermore, we observe that institutional quality plays a relevant role in the attraction of FDI in the secondary sector. All institutional aspects are relevant except political stability.

**Figure 23.** Random effects regression with the Institutional variable.

Control variable	Coefficient	Standard deviation	P-value
Const	103.494	134.762	0.4425
Secondary_studi	7.43519	2.50540	0.0030 ***
GDP_Millions	0.000383172	0.000117808	0.0011 ***
Profit_tax	-5.29776	3.93687	0.1784
Inst	161.670	70.0411	0.0210 **

Own elaboration using Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

**Figure 24.** Random effects regression with the different institutional indicators variables

Control variable	Coefficient	Standard deviation	P-value	Control variable	Coefficient	Standard deviation	P-value
Const	-203.115	171.354	0.2359	Const	-198.720	168.084	0.2371
Secondary_studi	7.93444	2.44290	0.0012 ***	Secondary_studi	7.04726	2.54486	0.0056 ***
GDP_Million	0.000386761	0.000117936	0.0010 ***	GDP_Million	0.000381366	0.000117811	0.0012 ***
Profit_tax	-5.61382	3.96524	0.1568	Profit_tax	-5.16646	3.94802	0.1907
Control_of_Corr	5.63412	2.37136	0.0175 **	Rule_of_Law	5.94844	2.44402	0.0149 **

Control variable	Coefficient	Standar deviation	P-value	Control variable	Coefficient	Standar deviation	P-value
Const	-148.279	168.413	0.3786	Const	-164.340	181.242	0.3645
Secondary_studi	7.73880	2.51025	0.0021 ***	Secondary_studi	7.61111	2.56593	0.0030 ***
GDP_Million	0.000373796	0.000118803	0.0017 ***	GDP_Million	0.000371131	0.000119335	0.0019 ***
Profit_tax	-5.82091	3.99058	0.1447	Profit_tax	-4.67834	4.05232	0.2483
Government_Effe	4.57202	2.31783	0.0485 **	Regulatory_Qual	4.49085	2.50545	0.0731 *

Control variable	Coefficient	Standar deviation	P-value	Control variable	Coefficient	Standar deviation	P-value
Const	-15.2032	167.992	0.9279	Const	-177.038	164.928	0.2831
Secondary_studi	9.07677	2.51025	0.0002 ***	Secondary_studi	8.02410	2.43202	0.0010 ***
GDP_Million	0.000404059	0.000120479	0.0008 ***	GDP_Million	0.000382477	0.000117477	0.0011 ***
Profit_tax	-5.74691	4.12985	0.1641	Profit_tax	-5.60105	3.88732	0.1496
Political_Stabi	1.46905	2.01614	0.4662	Voice_and_Accou	5.07240	2.22128	0.0224 **

Own elaboration usin Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

### 5.3.3 Services FDI

For the third sector, we have chosen a sample of 44 countries out of the total. These are those countries in which the largest share of exports corresponds to services (e.g. business services, goods-related services). FDI from these countries has been used as a proxy for services FDI.

The intangible character of services implies that factors such as a country's natural resources are not as relevant, so this control variable has been excluded from the study. On the other hand, because providing services often necessitates physical presence in a host nation, market size ought to be important (Ali, 2010). The variables profit\_tax and secondary\_studies have also been included in the study.

$$5) FDI\_services_{it} = \alpha_i + \beta Inst_{it} + \delta_1 Secondary\_studies_{it} + \delta_2 GDP\_Millions_{it} + \delta_3 Profit\_tax_{it} + \varepsilon_{it}$$

The model has been analysed through random effects (p= 0.672834). As can be seen in figure 24, the size of the economy is highly significant in attracting inward FDI. This is a restatement from the previous literature. The OLI profit\_tax variable has a negative and significant impact, implying that MNEs will prioritise investments in low-tax countries. A nation's level of education shows a negative relationship with FDI. This is an unanticipated result, however, as it insignificantly affects the variable of interest we do not proceed to investigate further. Finally, as for manufacturing FDI, services FDI is heavy and positively influenced by institutional quality in the host nation.

**Figure 25.** *Random effects regression with the Institutional variable.*

Control variable	Coefficient	Standard deviation	P-value
Const	3885.44	926.095	2.72e-05 ***
Secondary_studi	-2.16550	9.91927	0.8272
GDP_Millions	0.000126923	4.88998e-05	0.0094 ***
Profit_tax	-125.738	33.2894	0.0002 ***
Inst	1269.00	201.611	3.09e-010 ***

Own elaboration usin Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

When looking at the institutional indicators individually, we find that they are all highly significant, indicating that the entire institutional framework is relevant in terms of the dependent variable.

**Figure 26.** *Random effects regression with the different institutional indicators variables*

Control variable	Coefficient	Standard deviation	P-value
Const	1248.23	755.172	0.0983 *
Secondary_studi	0.923834	9.24451	0.9204
GDP_Million	0.000112370	4.98135e-05	0.0241 **
Profit_tax	-128.825	33.8292	0.0001 ***
Control_of_Corr	41.2658	6.13889	1.79e-011 ***

Control variable	Coefficient	Standard deviation	P-value
Const	1003.43	745.324	0.1782
Secondary_studi	2.00922	9.35262	0.8299
GDP_Million	0.000110230	4.89564e-05	0.0243 **
Profit_tax	-124.786	33.5287	0.0002 ***
Rule_of_Law	42.3677	6.79252	4.45e-010 ***

Control variable	Coefficient	Standard deviation	P-value
Const	559.927	753.999	0.4577
Secondary_studi	-1.98107	9.30081	0.8313
GDP_Million	8.89169e-05	5.17010e-05	0.0855 *
Profit_tax	-115.927	32.9098	0.0004 ***
Government_Effe	47.6880	7.12259	2.15e-011 ***

Control variable	Coefficient	Standard deviation	P-value
Const	745.496	734.183	0.3099
Secondary_studi	-5.01256	9.84485	0.6106
GDP_Million	0.000118623	5.19822e-05	0.0225 **
Profit_tax	-117.458	33.4156	0.0004 ***
Regulatory_Qual	46.3688	7.00671	3.65e-011 ***

Control variable	Coefficient	Standard deviation	P-value
Const	1668.16	755.085	0.0272 **
Secondary_studi	-0.245991	10.7441	0.9817
GDP_Million	0.000190298	4.80349e-05	7.44e-05 ***
Profit_tax	-127.449	33.9262	0.0002 ***
Political_Stabi	37.6298	6.59379	1.15e-08 ***

Control variable	Coefficient	Standard deviation	P-value
Const	2041.32	47.962	0.0063 ***
Secondary_studi	5.29681	11.8542	0.6550
GDP_Million	0.000174970	4.89079e-05	0.0003 ***
Profit_tax	-141.613	35.4532	6.49e-05 ***
Voice_and_Accou	30.0458	8.01717	0.0002 ***

Own elaboration usin Gretl. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

### 5.3.4 Conclusions of the section

After reviewing this model, we can draw several conclusions. **First**, that institutions weigh differently depending on the sector receiving FDI. **Second**, that in secondary and tertiary sector oriented investments, institutional quality significantly affects the attraction of FDI. However, they do not have a robust impact on investments in the primary sector. **Third**, that one of the reasons why studies come to different conclusions

regarding the weight of institutions may be explained by the country sample chosen. For example, those studies that take samples where most of the countries have a stronger primary sector, where primary FDI represents a higher percentage of aggregate FDI will more likely conclude that institutions are irrelevant, as opposed to if the sample includes mainly service and manufacturing FDI.

## **6 CONCLUSION**

Throughout this thesis we have studied the impact that institutions have on the attraction of inward FDI, trying, whenever possible, to find an answer to the inconsistencies that the literature has presented in this area to date. On the basis of empirical data obtained from a sample of 163 countries over a period of 30 years (1990-2020), the following conclusions are drawn:

Institutional quality is a significant factor in determining FDI inflows when studied for a representative and diverse sample of countries. That is, at the aggregate level, institutions are highly relevant, being the most significant variable among those studied. However, for certain groups of countries, which we will discuss below, it loses its importance.

Following on the previous idea, at the aggregate level, it is those countries with a more stable institutional framework, without institutional voids and with good scores in different institutional indicators, that will attract higher FDI figures.

Nevertheless, institutional quality will have a greater or lesser influence on firms' investments decisions, depending on a country's level of development. In the case of the world's less developed economies, institutions lack significance in attracting FDI in general, with political stability being the only relevant institutional indicator. This is explained by the weak structure of institutions in these types of countries, as well as the type of FDI they attract, resource-seeking FDI, which values other factors, such as natural resource endowment, over institutional quality. Therefore, MNCs will not prioritise institutional quality when deciding a geographic location for investment among LDCs. On the other hand, in developing countries, institutions as a whole remain irrelevant, but a greater number of institutional aspects are significant: control of corruption, rule of law and regulatory quality. Finally, in the developed economies, institutions play a significant role in attracting FDI, with all indicators except political stability and voice and

accountability being significant. It can therefore be argued that the more developed a nation is, and therefore the stronger and more stable institutional framework it has, the greater the impact of institutions on FDI attraction. Moreover, the coefficients of the institutional variables are bigger the higher the level of development. This indicates that in developed countries any increase in institutional quality attracts more FDI than if this institutional improvement were made in developing countries. Developed countries can attract massive amounts of FDI with their institutions.

The fact that we have studied LDCs in a separate category from developing countries has also allowed us to contribute to the literature with disruptive findings. To date, most studies have included LCDs in the developing countries category, which has been considered inappropriate in this research. The world's least developed economies have common characteristics that are distinct from those of developing countries. This is because countries that are still considered developing countries have evolved a lot in recent decades and are far from being comparable to the world's least developed economies. By studying it separately, we have been able to conclude that institutions do not have exactly the same relevance in both types of economy. While economic stagnation in developing countries may be explained, to a certain degree, by institutional aspects (e.g. absence of good and predictable policies that foster development, or absence of transparency), this is not the case for LCDs. In the case of the latter, institutions are almost meaningless, so they cannot be the driver of the difficulties these countries suffer in attracting FDI and the consequent economic stagnation that this entails. A plausible alternative is that it is due to OLI variables such as poor infrastructure or low levels of education. Institutions, as we already explained, might be irrelevant because of the type of FDI that these countries attract, which is generally resource-seeking.

In the same way that institutions condition to a greater or lesser degree the amount of inward FDI that a country receives depending on its level of development, it also varies depending on the economic sector that is attracting the FDI.

In secondary and tertiary sector oriented investments, institutional quality significantly affects the attraction of FDI. However, they do not have a robust impact on investments in the primary sector. This is explained by the degree of FDI mobility: Generally, the service and manufacturing sectors attract market-seeking FDI, which is much less geographically constrained and more mobile than the resource-seeking FDI attracted by

the primary sector (Schulz, 2009). This implies that firms investing in the former sectors can vary the location of their investments more easily. Therefore, they will be able to take into account other factors, such as the institutional aspect, when choosing locations for their investment, while resource-seeking FDI is constrained to those places where natural resources are available, so the institutional variable loses its relevance

It is worth note it that, among the scarce research on the relevance of institutional quality depending on the sector, we have not found any study using the same indicators as ours, but rather property rights indicators. Therefore, our paper provides a basis on the significance of the chosen political institutions, which reflect different dimensions of institutional quality than the usual ones (e.g. political stability, democratic accountability, administrative quality,), and may be helpful for future research.

After analysing all the country classifications, we would like to comment as follows: Although when varying country sample, institutions become more or less relevant, it has been observed that the rule of law is the most important institutional factor for all classifications (with the exception of the LCDs and primary sector subgroups). This implies that multinationals prioritise those countries where social interactions are marked by predictable laws in virtually all situations. This is important as it allows the formation of expectations and lowers risk. Political stability, on the other hand, is the least important variable.

Finally, although all institutional indicators have a positive impact on FDI inflows (whether this is significant or not), there are two circumstances in which this is not the case. The institutional voice and accountability variable has a negative coefficient for LDCs and those countries where the primary sector is the most relevant one. This can be explained by the negative perception that certain groups in society have towards multinationals, especially where they seek cheap manpower. These groups, if given a greater voice, will be able to lobby against FDI inflows, making foreign investment more difficult. This can be especially noticeable in the case of resource-seeking FDI, as it is often associated with the resource curse explained above, which gives it a particularly negative association.

The fact that we have chosen a large sample (N:163), compared to previous studies, has increased the sample's representativeness and has helped us to identify two of the reasons

why the results may have been inconsistent to date: On the one hand, as we have reviewed, not all indicators have a significant impact, and may even have a negative one. Depending on the institutional aspect that is chosen as a variable, different conclusions will be reached and it may be erroneously concluded that institutions are irrelevant. On the other hand, the country sample can also give rise to biased conclusion, since, as we have observed, the institutional weight is relative to the level of development of a country and the relevance of its sectors.

We hope that the contributions generated in the study will be of value to this field of research, and we leave the doors open to future studies on the subject.

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## APENDIX

**Figure A1.**

*Ranking of institutional quality by country (+ country level of development and region. N: 140). Own elaboration based on the “Global Competitiveness Report 2018”, by the World Economic Forum, “List of developing countries 2022” by the Development Assistance Committee (DAC of the OECD), “Country classification” by the Development Policy and Analysis Division of the UN.*

Economy	Institutions		Development/ income level	Region
	Rank	Score		
New Zealand	1	81,6	Developed economy	East Asia and the Pacific
Finland	2	81	Developed economy	Europe
Singapore	3	80,7	Developed economy	East Asia and the Pacific
Netherlands	4	77,9	Developed economy	Europe
Switzerland	5	77,1	Developed economy	Europe
Hong Kong SAR	6	76,9	Developed economy	East Asia and the Pacific
United Kingdom	7	76,8	Developed economy	Europe
Norway	8	76,7	Developed economy	Europe
Sweden	9	76	Developed economy	Europe
Denmark	10	75,9	Developed economy	Europe
Canada	11	75,5	Developed economy	North America
Luxembourg	12	75,2	Developed economy	Europe
United States	13	74,6	Developed economy	North America
Iceland	14	74,3	Developed economy	Europe
Australia	15	73,6	Developed economy	East Asia and the Pacific
Germany	16	73,5	Developed economy	Europe
Ireland	17	73,1	Developed economy	Europe
Austria	18	72,7	Developed economy	Europe
United Arab Emirates	19	71,8	Developed economy	Middle East and North Africa
Japan	20	71,1	Developed economy	East Asia and the Pacific
Belgium	21	69,8	Developed economy	Europe
Estonia	22	69,5	Developed economy	Europe
France	23	69,5	Developed economy	Europe
Malaysia	24	68,7	Developing economy	East Asia and the Pacific
Taiwan, China	25	68,5	Developed economy	East Asia and the Pacific
Israel	26	66,3	Developed economy	Middle East and North Africa
Korea, Rep.	27	65,4	Developed economy	East Asia and the Pacific
Spain	28	64,5	Developed economy	Europe
Rwanda	29	64,4	Developing economy	Sub-Saharan Africa
Portugal	30	63,9	Developed economy	Europe
Qatar	31	63,8	Developed economy	Middle East and North Africa
Chile	32	63,6	Developing economy	Latin America and the Caribbean
Malta	33	63,5	Developed economy	Europe
Uruguay	34	63,2	Developing economy	Latin America and the Caribbean
Slovenia	35	63,1	Developed economy	Europe
Oman	36	63,1	Developed economy	Middle East and North Africa
Cyprus	37	63	Developed economy	Europe
Mauritius	38	62,8	Developing economy	Sub-Saharan Africa
Saudi Arabia	39	62,2	Developed economy	Middle East and North Africa
Georgia	40	61	Transition economy	Eurasia
Lithuania	41	60,9	Developed economy	Europe
Bahrain	42	60,9	Developing economy	Middle East and North Africa
Czech Republic	43	60,5	Developed economy	Europe
Costa Rica	44	59,1	Developing economy	Latin America and the Caribbean
Brunei Darussalam	45	58,3	Developing economy	East Asia and the Pacific
Romania	46	58,1	Developed economy	Europe
India	47	57,9	Emerging economy	South Asia
Indonesia	48	57,9	Developing economy	East Asia and the Pacific
Latvia	49	57,9	Developed economy	Europe
Jordan	50	57,7	Developing economy	Middle East and North Africa

Namibia	51	57,2	Developing economy	Sub-Saharan Africa
Seychelles	52	57,1	Developing economy	Sub-Saharan Africa
Poland	53	57,1	Developed economy	Europe
Morocco	54	56,6	Developing economy	Middle East and North Africa
Slovak Republic	55	56,4	Developed economy	Europe
Italy	56	56,4	Developed economy	Europe
Kuwait	57	56	Developing economy	Middle East and North Africa
Azerbaijan	58	55,8	Transition economy	Eurasia
Ghana	59	55,7	Developing economy	Sub-Saharan Africa
Thailand	60	55,1	Developing economy	East Asia and the Pacific
Kazakhstan	61	54,9	Transition economy	Eurasia
Botswana	62	54,7	Developing economy	Sub-Saharan Africa
Montenegro	63	54,7	Transition economy	Europe
Kenya	64	51,6	Developing economy	Sub-Saharan Africa
China	65	54,6	Emerging economy	East Asia and the Pacific
Armenia	67	54	Transition economy	Eurasia
Albania	68	53,9	Transition economy	Europe
South Africa	69	53,8	Emerging economy	Sub-Saharan Africa
Bulgaria	70	53,6	Developed economy	Europe
Turkey	71	52,9	Developed economy	Europe
Russian Federation	72	52,7	Emerging economy	Eurasia
Senegal	73	52,5	Developing economy	Sub-Saharan Africa
Croatia	74	52	Developed economy	Europe
Tunisia	75	52	Developed economy	Middle East and North Africa
Serbia	76	51,6	Transition economy	Europe
Argentina	77	51,5	Developing economy	Latin America and the Caribbean
Sri Lanka	78	51,5	Developing economy	South Asia
Cape Verde	79	51,5	Developing economy	Sub-Saharan Africa
Mongolia	80	51,1	Developing economy	East Asia and the Pacific
Tajikistan	81	50,9	Developing economy	Eurasia
Jamaica	82	50,9	Developing economy	Latin America and the Caribbean
Panama	83	50,9	Developing economy	Latin America and the Caribbean
Moldova	84	50,8	Transition economy	Eurasia
Macedonia	85	50,6	Transition economy	Europe
Burkina Faso	86	50,6	Developing economy	Sub-Saharan Africa
Greece	87	50,5	Developed economy	Europe
Hungary	88	54,2	Developed economy	Europe
Kyrgyz Republic	88	50,4	Developing economy	Eurasia
Colombia	89	50,3	Developing economy	Latin America and the Caribbean
Peru	90	50,2	Developing economy	Latin America and the Caribbean
Tanzania	91	50	Developing economy	Sub-Saharan Africa
Trinidad and Tobago	92	49,7	Developing economy	Latin America and the Caribbean
Brazil	93	40,7	Emerging economy	Latin America and the Caribbean
Vietnam	94	49,5	Developing economy	East Asia and the Pacific
Gambia	95	49,3	Developing economy	Sub-Saharan Africa
Zambia	96	48,8	Developing economy	Sub-Saharan Africa
Eswatini	97	48,8	Developing economy	Sub-Saharan Africa
Nepal	98	48,5	Developing economy	South Asia
Dominican Republic	99	48,5	Developing economy	Latin America and the Caribbean
Ecuador	100	48,4	Developing economy	Latin America and the Caribbean
Philippines	101	48,3	Developing economy	East Asia and the Pacific
Egypt	102	48,1	Developing economy	Middle East and North Africa
Malawi	103	48	Developing economy	Sub-Saharan Africa
Uganda	104	47,9	Developing economy	Sub-Saharan Africa
Mexico	105	47,7	Developing economy	Latin America and the Caribbean
Sierra Leone	106	46,9	Developing economy	Sub-Saharan Africa
Lesotho	107	46,5	Developing economy	Sub-Saharan Africa
Bangladesh	108	46,5	Developing economy	South Asia
Pakistan	109	46,3	Developing economy	South Asia
Ukraine	110	46,3	Transition economy	Eurasia
Bosnia and Herzegovina	111	45,6	Transition economy	Europe
Paraguay	112	45,3	Developing economy	Latin America and the Caribbean
Lebanon	113	15,2	Developing economy	Middle East and North Africa
Benin	114	45,1	Developing economy	Sub-Saharan Africa
Liberia	115	45,1	Developing economy	Sub-Saharan Africa
Ethiopia	116	44,9	Developing economy	Sub-Saharan Africa
Honduras	117	44,7	Developing economy	Latin America and the Caribbean
Côte d'Ivoire	118	44,5	Developing economy	Sub-Saharan Africa



Lao PDR	119	44,5	Developing economy	East Asia and the Pacific
Algeria	120	44,4	Developing economy	Middle East and North Africa
Iran, Islamic Rep	121	44,3	Developing economy	Middle East and North Africa
Nicaragua	122	43,9	Developing economy	Latin America and the Caribbean
Guatemala	123	43,5	Developing economy	Latin America and the Caribbean
Zimbawe	124	43	Developing economy	Sub-Saharan Africa
Cameroon	125	43	Developing economy	Sub-Saharan Africa
Cambodia	126	41,9	Developing economy	East Asia and the Pacific
Nigeria	127	41,7	Developing economy	Sub-Saharan Africa
Guinea	128	41,6	Developing economy	Sub-Saharan Africa
Bolivia	129	41,2	Developing economy	Latin America and the Caribbean
Mozambique	130	41,2	Developing economy	Sub-Saharan Africa
El Salvador	131	40,7	Developing economy	Latin America and the Caribbean
Mali	132	40,3	Developing economy	Sub-Saharan Africa
Mauritania	133	38,4	Developing economy	Sub-Saharan Africa
Angola	134	37,2	Developing economy	Sub-Saharan Africa
Burundi	135	36,3	Developing economy	Sub-Saharan Africa
Congo, Dem Rep	136	36	Developing economy	Sub-Saharan Africa
Chad	137	34,6	Developing economy	Sub-Saharan Africa
Haiti	138	32,9	Developing economy	Latin America and the Caribbean
Yemen	139	29,5	Developing economy	Middle East and North Africa
Venezuela	140	27,3	Developing economy	Latin America and the Caribbean

**Figure A2.**

*Different institutional quality indexes and GDP per capita by country (+ country level of development.).* Own elaboration based on the “Global Competiveness Report 2018”, by the World Economic Forum, “List of developing countries 2022” by the Development Assistance Committee (DAC of the OECD), “Country classification” by the Development Policy and Analysis Division of the UN, “Indicators | Data.” by the World Bank, 2022, “Worldwide Governance Indicators” by the World Bank, 2022.

Development level	Country	GDP pc 2018	GDP pc 2018/1000	2018		
				Institutional quality	Corruption percentile	Government efficiency percentile
Transition economy	Albania	13.974,01	13,97401161	53,9	37,98077	55,76923
Developing economy	Algeria	11.925,80	11,92579856	44,4	27,88461	34,13462
Developing economy	Angola	7.102,41	7,102405887	37,2	11,53846	13,94231
Developing economy	Argentina	23.313,82	23,31381794	51,5	55,28846	54,80769
Transition economy	Armenia	13.024,69	13,02469481	54	42,78846	50,96154
Developed economy	Australia	51.390,50	51,39050285	73,6	92,78846	93,26923
Developed economy	Austria	58.850,76	58,85076011	72,7	91,34615	91,82692
Transition economy	Azerbaijan	14.555,80	14,55579673	55,8	21,15385	47,11538
Developing economy	Bahrain	47.353,12	47,35311838	60,9	51,44231	58,65385
Developing economy	Bangladesh	4.549,62	4,549617646	46,5	16,82692	21,63461
Developed economy	Belgium	54.330,29	54,33028719	69,8	89,90385	87,5
Developing economy	Benin	3.237,77	3,237773682	45,1	41,34615	32,21154
Developing economy	Bolivia	8.866,38	8,866378834	41,2	28,84615	39,90385
Transition economy	Bosnia and Herzegovina	15.387,58	15,38758428	45,6	31,25	28,36539
Developing economy	Botswana	18.063,76	18,06376393	54,7	77,88461	66,34615
Emerging economy	Brazil	14.951,81	14,951811	40,7	40,38462	36,53846
Developing economy	Brunei Darussalam	61.859,98	61,85997791	58,3	79,80769	86,53846
Developed economy	Bulgaria	23.634,17	23,6341734	53,6	51,92308	61,05769
Developing economy	Burkina Faso	2.171,97	2,171973966	50,6	53,36538	31,25
Developing economy	Burundi	780,07	0,780074937	36,3	5,769231	8,653846
Developing economy	Cabo Verde	7.031,36	7,031358188	41,9	78,36539	64,90385
Developing economy	Cambodia	4.260,66	4,260658965	43	8,653846	32,69231
Developing economy	Cameroon	3.691,33	3,691334293	75,5	11,05769	19,71154
Developed economy	Canada	50.929,20	50,92920476	51,5	93,26923	95,19231
Developing economy	Chad	1.614,72	1,614717823	34,6	7,211538	6,25
Developing economy	Chile	25.512,77	25,51276843	63,6	82,21154	81,73077
Emerging economy	China	15.614,31	15,61430528	54,6	46,15385	69,23077
Developing economy	Colombia	15.055,69	15,0556853	50,3	45,67308	50
Developing economy	Congo, Dem. Rep.	4.002,11	4,002113076	36	3,846154	5,769231
Developing economy	Costa Rica	20.374,59	20,37459029	59,1	70,67308	67,78846
Developing economy	Côte d'Ivoire	5.156,09	5,156093849	44,5	35,57692	31,73077
Developed economy	Croatia	29.455,58	29,45558326	52	59,61538	71,15385
Developed economy	Cyprus	39.737,33	39,73732519	63	74,03846	77,88461
Developed economy	Czech Republic	42.425,17	42,42516695	60,5	70,19231	78,84615
Developed economy	Denmark	59.276,21	59,27621251	75,9	99,51923	97,11539
Developing economy	Dominican Republic	18.143,22	18,14322448	48,5	24,51923	39,42308
Developing economy	Ecuador	11.843,39	11,84339364	48,4	31,73077	41,82692
Developing economy	Egypt	11.643,22	11,6432205	48,1	32,21154	30,76923
Developing economy	El Salvador	8.825,45	8,825451749	40,7	29,80769	37,01923
Developed economy	Estonia	37.473,25	37,47325478	69,5	90,38461	84,13461
Developing economy	Eswatini	8.728,79	8,72879178	48,8	42,30769	24,51923
Developing economy	Ethiopia	2.154,75	2,154754605	44,9	37,01923	28,84615
Developed economy	Finland	51.318,34	51,31834184	81	100	99,51923
Developed economy	France	48.136,21	48,13620687	69,5	87,98077	90,86539
Transition economy	Georgia	14.604,38	14,60438444	61	76,44231	74,51923
Developed economy	Germany	56.689,10	56,68909573	73,5	95,67308	92,30769
Developing economy	Ghana	5.320,98	5,320975634	55,7	52,88462	46,15385
Developed economy	Greece	31.467,07	31,46707296	50,5	56,73077	64,42308
Developing economy	Guatemala	8.654,27	8,654268548	43,5	22,11539	23,55769
Developing economy	Guinea	2.556,77	2,556773681	41,6	13,94231	15,86539
Developing economy	Haiti	3.065,21	3,065205078	32,9	9,615385	1,442308
Developing economy	Honduras	5.810,43	5,810429508	44,7	29,32692	27,88461
Developed economy	Hong Kong SAR	62.551,06	62,55105859	76,9	92,30769	98,07692
Developed economy	Hungary	32.834,04	32,8340394	54,2	60,09615	69,71154
Developed economy	Iceland	58.945,23	58,94523419	74,3	93,75	91,34615
Emerging economy	India	6.655,07	6,65506986	57,9	49,51923	63,46154
Developing economy	Indonesia	11.648,54	11,64854267	57,9	46,63462	59,13462
Developing economy	Iran, Islamic Rep.	13.800,02	13,80002347	44,3	15,86539	37,5
Developed economy	Ireland	86.800,58	86,80057742	73,1	90,86539	89,90385
Developed economy	Israel	41.469,55	41,46955077	66,3	79,32692	85,57692
Developed economy	Italy	44.471,87	44,47187067	56,4	62,5	68,75
Developing economy	Jamaica	9.975,20	9,975199073	50,9	50	70,67308
Developed economy	Japan	42.811,04	42,81103637	71,1	89,42308	94,23077
Developing economy	Jordan	10.266,92	10,266917	57,7	60,57692	56,73077
Transition economy	Kazakhstan	26.166,61	26,16660548	54,9	36,05769	54,32692
Developing economy	Kenya	4.306,21	4,306206985	51,6	19,71154	38,94231
Developed economy	Korea, Rep.	43.678,50	43,67850118	65,4	72,11539	83,65385
Developing economy	Kuwait	51.708,25	51,70825361	56	45,19231	49,51923

Developing economy	Kyrgyz Republic	5.258,20	5,258195592	50,4	16,34615	29,32692
Developing economy	Lao PDR	7.777,78	7,777781032	44,5	15,38461	25
Developed economy	Latvia	31.771,44	31,77144117	57,9	64,90385	79,80769
Developing economy	Lebanon	15.992,32	15,99232109	15,2	12,01923	23,07692
Developing economy	Lesotho	2.815,50	2,815498324	46,5	53,84615	18,26923
Developing economy	Liberia	1.533,47	1,533471534	45,1	20,67308	9,134615
Developed economy	Lithuania	37.493,48	37,49347619	60,9	68,75	80,76923
Developed economy	Luxembourg	120.325,92	120,3259212	75,2	97,11539	96,15385
Developing economy	Malawi	1.067,92	1,06792233	48	25	22,11539
Developing economy	Malaysia	28.228,96	28,22895945	68,7	64,42308	81,25
Developing economy	Mali	2.339,34	2,339341417	40,3	26,92308	15,38461
Developed economy	Malta	45.534,44	45,53444132	63,5	71,63461	78,36539
Developing economy	Mauritania	5.165,26	5,165256707	38,4	23,07692	22,59615
Developing economy	Mauritius	22.749,13	22,74912878	62,8	63,46154	77,40385
Developing economy	Mexico	20.348,79	20,34878991	47,7	18,75	47,59615
Transition economy	Moldova	12.664,31	12,66431333	50,8	25,96154	36,05769
Developing economy	Mongolia	12.205,84	12,20584304	51,1	39,90385	45,19231
Transition economy	Montenegro	22.227,31	22,22730792	54,7	58,17308	57,69231
Developing economy	Morocco	7.613,14	7,613142868	56,6	47,59615	45,67308
Developing economy	Mozambique	1.321,16	1,321156045	41,2	24,03846	17,78846
Developing economy	Namibia	10.173,92	10,17391596	57,2	65,86539	56,25
Developing economy	Nepal	3.331,98	3,331980217	48,5	27,40385	16,82692
Developed economy	Netherlands	59.728,33	59,72833052	77,9	95,19231	96,63461
Developed economy	New Zealand	44.117,37	44,11736806	81,6	99,03846	93,75
Developing economy	Nicaragua	5.833,65	5,833652948	43,9	12,5	19,23077
Developing economy	Nigeria	5.280,65	5,28065226	41,7	13,46154	14,90385
Developed economy	Norway	71.444,24	71,44423761	76,7	97,59615	97,59615
Developed economy	Oman	29.289,61	29,28960764	63,1	62,01923	59,61538
Developing economy	Pakistan	4.855,23	4,855229666	46,3	23,55769	26,92308
Developing economy	Panama	31.805,54	31,8055379	50,9	32,69231	51,44231
Developing economy	Paraguay	13.163,50	13,16350253	45,3	21,63461	34,61538
Developing economy	Peru	13.093,76	13,09375526	50,2	34,61538	43,75
Developing economy	Philippines	8.723,55	8,723546609	48,3	34,13462	55,28846
Developed economy	Poland	32.987,73	32,98772558	57,1	75	73,55769
Developed economy	Portugal	36.034,18	36,03418302	63,9	80,28846	86,05769
Developed economy	Qatar	93.186,26	93,18626081	63,8	77,40385	75,48077
Developed economy	Romania	30.174,14	30,17413526	58,1	50,96154	48,07692
Emerging economy	Russian Federation	28.763,52	28,76351663	52,7	20,19231	53,36538
Developing economy	Rwanda	2.139,64	2,139636413	64,4	71,15385	61,53846
Developed economy	Saudi Arabia	48.756,19	48,75619295	62,2	66,34615	65,38461
Developing economy	Senegal	3.395,53	3,395533931	52,5	57,21154	41,34615
Transition economy	Serbia	18.295,75	18,29574818	51,6	43,26923	57,21154
Developing economy	Seychelles	28.678,77	28,67877243	57,1	75,96154	70,19231
Developing economy	Sierra Leone	1.703,81	1,703810228	46,9	36,53846	12,01923
Developed economy	Singapore	100.126,02	100,1260236	80,7	98,55769	100
Developed economy	Slovak Republic	32.553,41	32,55340725	56,4	62,98077	75
Developed economy	Slovenia	40.143,77	40,14377394	63,1	80,76923	83,17308
Emerging economy	South Africa	12.935,55	12,93554516	53,8	56,25	65,86539
Developed economy	Spain	42.005,25	42,00525335	64,5	74,51923	79,32692
Developing economy	Sri Lanka	13.177,99	13,1779884	51,5	43,75	44,71154
Developed economy	Sweden	55.243,37	55,24337015	76	98,07692	94,71154
Developed economy	Switzerland	70.877,79	70,87778683	77,1	96,63461	99,03846
Developing economy	Tajikistan	3.313,52	3,313519458	50,9	6,730769	12,5
Developing economy	Tanzania	2.651,09	2,651091047	50	39,42308	21,15385
Developing economy	Thailand	18.527,10	18,52709538	55,1	40,86538	66,82692
Developing economy	Trinidad and Tobago	26.912,92	26,91291695	49,7	44,71154	60,09615
Developed economy	Tunisia	11.025,99	11,02599161	52	55,76923	49,03846
Developed economy	Turkey	28.831,93	28,83193193	52,9	44,23077	53,84615
Developing economy	Uganda	2.173,96	2,173958819	47,9	14,42308	29,80769
Transition economy	Ukraine	12.629,14	12,62914166	46,3	18,26923	38,46154
Developed economy	United Arab Emirates	68.599,62	68,59961818	71,8	83,65385	90,38461
Developed economy	United Kingdom	48.690,79	48,69078517	76,8	94,23077	89,42308
Developed economy	United States	62.996,47	62,99647129	74,6	88,46154	92,78846
Developing economy	Uruguay	22.116,79	22,1167866	63,2	87,5	73,07692
Developing economy	Vietnam	7.771,19	7,77118942	49,5	37,5	52,88462
Developing economy	Zambia	3.607,30	3,607304442	48,8	28,36539	33,17308
Developing economy	Zimbabwe	3.206,28	3,206277079	43	10,09615	11,05769

**Figure A3.**

*Institutional quality in developing countries (+countries geographical region. N: 76).*  
Own elaboration based on the “Global Competitiveness Report 2018”, by the World Economic Forum, “List of developing countries 2022” by the Development Assistance Committee (DAC of the OECD), “Country classification” by the Development Policy and Analysis Division of the UN.

Country	Rank	Score	Development level	Region
Brunei Darussa	45	58,3	Developing economy	East Asia and the Pacific
Cambodia	126	41,9	Developing economy	East Asia and the Pacific
Indonesia	48	57,9	Developing economy	East Asia and the Pacific
Lao PDR	119	44,5	Developing economy	East Asia and the Pacific
Malaysia	24	68,7	Developing economy	East Asia and the Pacific
Mongolia	80	51,1	Developing economy	East Asia and the Pacific
Philippines	101	48,3	Developing economy	East Asia and the Pacific
Thailand	60	55,1	Developing economy	East Asia and the Pacific
Vietnam	94	49,5	Developing economy	East Asia and the Pacific
Kyrgyz Republic	88	50,4	Developing economy	Eurasia
Tajikistan	81	50,9	Developing economy	Eurasia
Argentina	77	51,5	Developing economy	Latin America and the Caribbean
Bolivia	129	41,2	Developing economy	Latin America and the Caribbean
Chile	32	63,6	Developing economy	Latin America and the Caribbean
Colombia	89	50,3	Developing economy	Latin America and the Caribbean
Costa Rica	44	59,1	Developing economy	Latin America and the Caribbean
Dominican Republic	99	48,5	Developing economy	Latin America and the Caribbean
Ecuador	100	48,4	Developing economy	Latin America and the Caribbean
El Salvador	131	40,7	Developing economy	Latin America and the Caribbean
Guatemala	123	43,5	Developing economy	Latin America and the Caribbean
Haiti	138	32,9	Developing economy	Latin America and the Caribbean
Honduras	117	44,7	Developing economy	Latin America and the Caribbean
Jamaica	82	50,9	Developing economy	Latin America and the Caribbean
Mexico	105	47,7	Developing economy	Latin America and the Caribbean
Nicaragua	122	43,9	Developing economy	Latin America and the Caribbean
Panama	83	50,9	Developing economy	Latin America and the Caribbean
Paraguay	112	45,3	Developing economy	Latin America and the Caribbean
Peru	90	50,2	Developing economy	Latin America and the Caribbean
Trinidad and Tobago	92	49,7	Developing economy	Latin America and the Caribbean
Uruguay	34	63,2	Developing economy	Latin America and the Caribbean
Venezuela	140	27,3	Developing economy	Latin America and the Caribbean
Bahrain	42	60,9	Developing economy	Middle East and North Africa
Algeria	120	44,4	Developing economy	Middle East and North Africa
Egypt	102	48,1	Developing economy	Middle East and North Africa
Iran, Islamic Republic of	121	44,3	Developing economy	Middle East and North Africa
Jordan	50	57,7	Developing economy	Middle East and North Africa
Kuwait	57	56	Developing economy	Middle East and North Africa
Morocco	54	56,6	Developing economy	Middle East and North Africa
Yemen	139	29,5	Developing economy	Middle East and North Africa

Bangladesh	108	46,5	Developing economy	South Asia
Nepal	98	48,5	Developing economy	South Asia
Pakistan	109	46,3	Developing economy	South Asia
Sri Lanka	78	51,5	Developing economy	South Asia
Angola	134	37,2	Developing economy	Sub-Saharan Africa
Benin	114	45,1	Developing economy	Sub-Saharan Africa
Botswana	62	54,7	Developing economy	Sub-Saharan Africa
Burkina Faso	86	50,6	Developing economy	Sub-Saharan Africa
Burundi	135	36,3	Developing economy	Sub-Saharan Africa
Cameroon	125	43	Developing economy	Sub-Saharan Africa
Cape Verde	79	51,5	Developing economy	Sub-Saharan Africa
Chad	137	34,6	Developing economy	Sub-Saharan Africa
Congo, Dem Re	136	36	Developing economy	Sub-Saharan Africa
Côte d'Ivoire	118	44,5	Developing economy	Sub-Saharan Africa
Eswatini	97	48,8	Developing economy	Sub-Saharan Africa
Ethiopia	116	44,9	Developing economy	Sub-Saharan Africa
Gambia	95	49,3	Developing economy	Sub-Saharan Africa
Ghana	59	55,7	Developing economy	Sub-Saharan Africa
Guinea	128	41,6	Developing economy	Sub-Saharan Africa
Kenya	64	51,6	Developing economy	Sub-Saharan Africa
Lesotho	107	46,5	Developing economy	Sub-Saharan Africa
Liberia	115	45,1	Developing economy	Sub-Saharan Africa
Malawi	103	48	Developing economy	Sub-Saharan Africa
Mali	132	40,3	Developing economy	Sub-Saharan Africa
Mauritania	133	38,4	Developing economy	Sub-Saharan Africa
Mauritius	38	62,8	Developing economy	Sub-Saharan Africa
Mozambique	130	41,2	Developing economy	Sub-Saharan Africa
Namibia	51	57,2	Developing economy	Sub-Saharan Africa
Nigeria	127	41,7	Developing economy	Sub-Saharan Africa
Rwanda	29	64,4	Developing economy	Sub-Saharan Africa
Senegal	73	52,5	Developing economy	Sub-Saharan Africa
Seychelles	52	57,1	Developing economy	Sub-Saharan Africa
Sierra Leone	106	46,9	Developing economy	Sub-Saharan Africa
Tanzania	91	50	Developing economy	Sub-Saharan Africa
Uganda	104	47,9	Developing economy	Sub-Saharan Africa
Zambia	96	48,8	Developing economy	Sub-Saharan Africa
Zimbabwe	124	43	Developing economy	Sub-Saharan Africa

**Figure A4.***Description of the variables. Own elaboration.*

<b>VARIABLE</b>	<b>DEFINITION</b>	<b>SOURCE</b>
FDI per capita	FDI inflows, divided by the countries' population in five years averages.	United Nations, UNCTAD, World Investment Report, Annex Tables.
GDP_Millions	GDP US dollars \$ in millions.	World Bank, World Indicators. Economy & Growth.
Landlocked	Dummy variable in which if the country is landlocked (does not have access to the sea) = 0 and if it is not landlocked= 1	Own elaboration based on UNCTAD, Landlocked countries.
Secondary_studi	Combination of: Percentage of population age 15+ with secondary schooling and Percentage of completed secondary data to overcome data unavailability. (The period for 2015-2020 is an own elaborated progression). Missing values are replaced by data from countries with similar geographical location and level of development.	Own elaboration based on Barro.R and J.W Lee 2000. World Bank, World Indicators.
Profit_tax	Total tax rate payable by businesses as % of commercial profit. Missing figures have been taken as the value of the nearest year in that country, as this is a fairly consistent variable over time.	World Bank, World Indicators. Private Sector
Total_natural_r	Total natural resources rent as a percentage of GDP.	World Bank, World Indicators. Environment.
Government_Effe	Percentile rank. The percentile a country ranks in terms of government efficiency. Range 1-100. Values are taken as a score. The year 1990 is an own elaborated prognostic, based on the available data.	World Bank, Worldwide Governance Indicators, (WBWGI).
Voice_and_Accou	Percentile rank: The percentile a country ranks in terms of voice and accountability. Range 1-100. Values are taken as a score. The year 1990 is an own elaborated prognostic, based on the available data.	World Bank, Worldwide Governance Indicators, (WBWGI).
Rule_of_Law	Percentile rank: The percentile a country ranks in terms of rule of law. Range 1-100. Values are taken	World Bank, Worldwide Governance Indicators, (WBWGI).

as a score. The year 1990 is a prognostic, based on the available data.

Control_of_Corr	Percentile rank. The percentile a country ranks in terms of corruption control. Range 1-100. Values are taken as a score. The year 1990 is an own elaborated prognostic, based on the available data.	World Bank, Worldwide Governance Indicators, (WBWGI).
Political_Stabi	Percentile rank. The percentile a country ranks in terms of political stability and absence of violence. Range 1-100. Values are taken as a score. The year 1990 is an own elaborated prognostic, based on the available data.	World Bank, Worldwide Governance Indicators, (WBWGI).
Regulatory_Quality	Percentile rank. The percentile a country ranks in terms of regulatory quality. Range 1-100. Values are taken as a score. The year 1990 is an own elaborated prognostic, based on the available data.	World Bank, Worldwide Governance Indicators, (WBWGI).
Inst	Standardized average of the institutional variables.	Own elaboration based on World Bank, Worldwide Governance Indicators. (WBWGI)

### Figure A5.

*List of countries used in the study (N: 163). Own elaboration.*

Developed countries (n:42)		Developing countries (n:80)				LDCs (n:41)	
Australia	Japan	Albania	El Salvador	Libya	Serbia	Afghanistan	Lesotho
Austria	Korea, Rep.	Algeria	Equatorial Guinea	Malaysia	South Africa	Angola	Liberia
Belgium	Latvia	Argentina	Eswatini	Maldives	Sri Lanka	Bangladesh	Madagascar
Bulgaria	Lithuania	Armenia	Fiji	Mauritius	Suriname	Benin	Malawi
Canada	Luxembourg	Azerbaijan	Gabon	Moldova	Syrian Arab Republic	Bhutan	Mali
Chile	Mexico	Bahrain	Georgia	Mongolia	Tajikistan	Burkina Faso	Mauritania
Croatia	Netherlands	Belarus	Ghana	Morocco	Thailand	Burundi	Mozambique
Cyprus	New Zealand	Belize	Guatemala	Namibia	Tonga	Cambodia	Myanmar
Czech Republic	Norway	Bolivia	Guyana	Nicaragua	Trinidad and Tobago	Central African Republ	Nepal
Denmark	Poland	Bos. and Herz.	Honduras	Nigeria	Tunisia	Chad	Niger
Estonia	Portugal	Botswana	India	North Macedonia	Ukraine	Comoros	Rwanda
Finland	Romania	Brazil	Indonesia	Oman	United Arab Emirates	Congo, Dem. Rep.	Senegal
France	Singapore	Cameroon	(Islamic Republic)	Pakistan	Uruguay	Djibouti	Sierra Leone
Germany	Slovak Republic	China	Iraq	Panama	Uzbekistan	Eritrea	Solomon Islands
Greece	Slovenia	Colombia	Jamaica	Pap. New Guinea	Venezuela	Ethiopia	Sudan
Hong Kong S.A.R.	Spain	Congo, Rep.	Jordan	Paraguay	Viet Nam	Gambia	Tanzania
Hungary	Sweden	Costa Rica	Kazakhstan	Peru	Zimbabwe	Guinea	Togo
Iceland	Switzerland	Côte d'Ivoire	Kenya	Philippines		Guinea-Bissau	Uganda
Ireland	Turkey	Dominican Republic	Kuwait	Qatar		Haiti	Yemen
Israel	United Kingdom	Ecuador	Kyrgyz Republic	Russia		Kiribati	Zambia
Italy	USA	Egypt, Arab Rep.	Lebanon	Saudi Arabia		Lao PDR	

**Figure A6**

*Correlation Matrix between Institutional Quality variables.* Reprinted from Gretl.

Control_of_Corr	Government_Effe	Political_Stabi	Regulatory_Qual	
1,0000	0,9207	0,7848	0,8727	Control_of_Corr
	1,0000	0,7544	0,9378	Government_Effe
		1,0000	0,7189	Political_Stabi
			1,0000	Regulatory_Qual
Rule_of_Law	Voice_and_Accou			
0,9422	0,7896	Control_of_Corr		
0,9382	0,7880	Government_Effe		
0,8102	0,6937	Political_Stabi		
0,9044	0,8027	Regulatory_Qual		
1,0000	0,8328	Rule_of_Law		
	1,0000	Voice_and_Accou		

**Figure A7**

*Manufacturing FDI model after subtracting the secondary\_studi variable.* Reprinted from Gretl.

Modelo 11: Efectos aleatorios (MCG), utilizando 301 observaciones					
Se han incluido 43 unidades de sección cruzada					
Largura de la serie temporal = 7					
Variable dependiente: fdipercapita					
	coeficiente	Desv. típica	z	valor p	
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const	352.068	104.533	3.368	0.0008	***
GDPMillions	0.000454129	0.000116110	3.911	9.18e-05	***
Profittax	-7.18785	3.86076	-1.862	0.0626	*
Inst	228.818	66.2018	3.456	0.0005	***