

THE IMPACT OF GLOBALIZATION ON THE ECONOMIC DEVELOPMENT OF DEVELOPING COUNTRIES

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Globalization is a defining feature of the contemporary world, and its impact on economic growth has been extensively researched. However, the relationship between globalization and economic development, particularly for developing countries, is still heatedly debated. Empirical studies are scarce, and some of them are based on outdated data or have a limited geographical scope. Therefore, the aim of this study was to analyze the impact of globalization on the economic development of 134 developing countries from 2000 to 2019. The results obtained through a fixed effects model confirm that regardless of the proxy used, such as the KOF Globalization Index and its three subdimensions, globalization has a positive relationship with economic development measured by the Human Development Index (HDI). Results also highlight other factors that affect HDI, such as GDP and infant mortality rate. These findings provide valuable insights into the impact of globalization on economic development in developing countries.

Keywords: Globalization, Economic Development, Developing Countries, Economic Growth, KOF Globalization Index, Human Development Index

JEL Classification: O1, P5, Z1

1. INTRODUCTION

While not necessarily a new phenomenon, having been historically present to varying degrees, globalization has become a defining feature of modern economies and societies (Caselli, 2008). However, while it is increasingly being subject to study and frequently used as an explanation for multiple facets of the modern world, there is still debate on its exact nature and definition (Akinlo, 2003; Radulović and Kostić, 2020).

Nonetheless, the rising connection and interdependence of national economies and the increased international flows of goods, services, capital, and people opened the door for new opportunities for developing countries, allowing increased access to foreign investment and know-how (Fatima, 2017; Santiago et al., 2020), and also to new consumer markets with higher levels of disposable income, helping them catching-up to more developed economies. However, globalization also involves intense pressures for change and adaptation, which must be considered in each specific country's case (Radulović and Kostić, 2020).

Numerous studies have explored the link between globalization and economic growth (e.g. Kilic, 2015; Radulović and Kostić, 2020; Santiago et al., 2020), given that it has long been considered as a crucial goal of economic policy (Hasan, 2019). Studies consistently demonstrate that globalization has played a pivotal role in global economic growth in recent decades (Dreher, 2006; Potrafke, 2015; Gygli et al., 2019). Other studies have approached this reality from the lenses of economic development, a broader concept encompassing other dimensions related to populations' quality of life (Gani, 2019; Diaconu and Bayar, 2020), such as education and health. However, most studies focus primarily on economic growth. Nonetheless, the growing emphasis on economic development makes it an interesting subject, particularly in the context of developing countries, where understanding development is even more crucial.

The development itself is also a very relevant topic to study, not only academically but also given its relevance for public policy, which is reflected, for example, in the United Nations Sustainable Development Goals (SDGs). These goals, adopted in the framework of the *2030 Agenda for Sustainable Development*, reflect this importance, including in developing countries, involving themes such as poverty, health, education, and infrastructure, among others (United Nations, 2015).

Globalization and integration in global value chains (GVCs) have contributed to the rapid economic growth and to the increasing development of emerging economies such as China (Sun et al., 2021) and many Eastern European countries (Gurgul and Lach, 2014; Diaconu and Bayar, 2020), and have the potential to impact other nations as well. It is important to understand these forces, as well as trends that may impact global economic growth and development, such as increasing protectionism (e.g. the relationship USA-China, Brexit) and concerns with national autonomy in strategically important sectors or products.

Although most empirical studies indicate a positive relationship between globalization and countries' economic development (e.g. Sapkota, 2011; Shafeeq et al., 2019; Diaconu and Bayar, 2020), other studies highlight some ambiguity on this relationship and on whether it is developed or developing countries who benefit more (Tsai, 2007; Ulucak and Danish, 2020). Also, the number of studies analyzing this relationship is small, with some of them being limited in their geographic scope and focusing on specific regions like Asia (Shafeeq et al., 2019; Ulucak and Danish, 2020) or post-communist transition EU countries (Diaconu and Bayar, 2020). Therefore, an updated and geographically broad analysis of the impact of globalization on the

economic development of 134 developing countries, during the period between 2000 and 2019, would be a valuable contribution to the literature. Using the KOF Globalization Index and its three subdimensions to measure globalization, and the Human Development Index as a proxy for economic development, this study aims to shed light on the effects of globalization, their relevance, and whether it contributes to the countries' convergence with wealthier economies. Besides their academic value, the results of this study can inform policymakers in their decision-making process both on a national and international level, particularly in such a pivotal time for the evolution of globalization.

2. THE RELATIONSHIP BETWEEN GLOBALIZATION AND ECONOMIC DEVELOPMENT

2.1. The Main Theoretical Arguments

Although the phenomenon of globalization has been the subject of increased study over the past decades (Caselli, 2008), there is no consensus on its exact definition (Akinlo, 2003; Radulović and Kostić, 2020). Earlier definitions of globalization tended to focus more on economic aspects, focusing on elements such as international trade, foreign direct investment (FDI), barriers or taxes on international trade (Gurgul and Lach, 2014; Radulović and Kostić, 2020; Santiago et al., 2020). However, more recent studies have highlighted globalization's multi-dimensional nature, which involves economic, social, cultural, political, technological, and many other aspects (Caselli, 2008; Hasan, 2019; Radulović and Kostić, 2020). Notwithstanding the differences mentioned, some of the elements more commonly present in definitional approaches to globalization are the intensification of global integration in the capital, investment, and labor markets (Rothenberg, 2003; WTO, 2008) and the growing linkages and interdependence between national economies, societies, and populations (Hasan, 2019; Radulović and Kostić, 2020).

The broad scope and difficulty in defining globalization also translate into attempts to create workable measures (Martens et al., 2015; Olivie and Gracia, 2020). One of the most frequently used globalization measures is the KOF Globalization Index, which considers three dimensions: economic, political, and social globalization (Dreher, 2006; Potrafke, 2015; Gygli et al., 2019). In this index, economic globalization "characterizes long-distance flows of goods, capital and services as well as information and perceptions that accompany market exchanges" (Gygli et al., 2019, p. 546) and includes elements such as international trade in goods and services and FDI. Political globalization "characterizes the diffusion of government policies" (Gygli et al., 2019, p. 546) and is proxied by indicators such as, for example, the number of international non-governmental organizations (NGO) in a country, the number of international treaties,

number of memberships in international organizations or the number of embassies. Finally, social globalization “expresses the spread of ideas, information, images and people” (Gygli et al., 2019, p. 546) and includes interpersonal, informational and cultural globalization, making it also an important factor to consider when it comes to the international knowledge and know-how spillovers (Gygli et al., 2019), which could be particularly relevant for developing countries.

Globalization, especially economic globalization, has increased significantly since the mid-20th century (Olivie and Gracia, 2020). This phenomenon was driven by factors such as decreasing transportation, information and communications costs, and the liberalization of international trade through measures like tariff reductions and multilateral trade agreements. These and other factors (e.g., increasing global political support) led to the growth of international trade and FDI, and enabled the expansion of GVCs, particularly during the 1990s and early 2000s (World Bank, 2020; UNCTAD, 2020). Economic globalization has recently experienced a slowdown, particularly in terms of FDI and international trade (see Figures A1 and A2 in the Appendix). However, some authors report this does not signify a trend toward de-globalization but a shift in its nature, with different forms of globalization (e.g., information, culture, education) gaining prominence (Olivie and Gracia, 2020).

The relationship between globalization and economic growth or globalization and economic development has been heatedly debated (Dreher, 2006; Diaconu and Bayar, 2020; Radulović and Kostić, 2020). Economic growth relates to the increase in the production of goods and services in an economy and is generally measured through the Gross Domestic Product (GDP) or GDP per capita (Ranis, 2004; Kilic, 2015; Radulović and Kostić, 2020; Santiago et al., 2020). Notwithstanding the relevance of these or similar measures to analyze a country’s performance, some authors (e.g., Sen, 1998; Ranis, 2004; Gani, 2019) have noted that such indicators are one-dimensional and not sufficient to fully assess the development of a country and its performance on improving human well-being, which is a “multi-faceted phenomenon” (Gani, 2019, p. 2237). As stated by Sen (1983, p.754), “Ultimately, the process of economic development has to be concerned with what people can or cannot do, e.g. whether they can live long, escape avoidable morbidity, be well nourished, be able to read and write and communicate, take part in literary and scientific pursuits, and so forth.” In the same line, Feldman et al. (2016) define economic development as the expansion of a society’s capacities that contribute to the “improvement in its quality of life and prosperity” (p.10), emphasizing that economic development should not be confused with economic growth.

Therefore, more recent studies have been adopting a broader and more encompassing view based on economic development (Gani, 2019; Diaconu and Bayar, 2020). One of the measures being used in these studies is the Human Development Index (HDI), launched by the United Nations Development Programme in 1990, which is a widely used index that aims to reflect a population’s well-being more accurately than GDP - as measured by three dimensions of human well-being: education, health, and income - while remaining an easily usable measure of development (UNDP, 2020).

The index was created to emphasize that people and their capabilities are the “ultimate end of development” (UNDP, 2020, p.22), as opposed to economic growth per se, and aims to contribute to policy choices and understanding why countries with similar levels of income display different levels of human development.

Proponents of multiple trade theories have long argued that phenomena related to globalization, such as free trade and increasing market integration, promote economic growth (Dreher, 2006; Potrafke, 2015) and a more efficient global economy. Increased competition between countries, better worldwide use of resources (including division of labor), and more extensive use of comparative advantages lead to more efficient economic actors, create employment opportunities, facilitate investment, drive prices down and income up, and allow access to a broader range of goods and services, as well as more choices for all participants (Gani, 2019). These factors, in turn, lead to an overall higher standard of living (Gani, 2019; Shafeeq et al., 2019) and improved quality of life (Levy, 2012).

Higher participation in and access to foreign markets with more disposable income offer opportunities for firms in developing countries to increase their revenues and to learn by participating in more established and competitive markets (Qiang et al., 2021). Also, domestic firms can improve their competitiveness by participating in GVCs and interacting with multinational corporations, which may enable some of them to become multinationals (Qiang et al., 2021) by engaging in outward activities such as FDI.

FDI, a crucial component of economic globalization, can be an important source of economic activity and wealth creation, thanks to access to foreign capital and investment. Additionally, FDI is an important vehicle for access to information, technology, know-how, and new ideas (Fatima, 2017), factors that are becoming increasingly important in modern, knowledge-based economies. These benefits of FDI play a pivotal role for developing countries, making it easier for them to catch up to more developed economies without having to go through an otherwise lengthier process of internal savings and capital accumulation, while also benefiting from existing know-how and technologies from other countries.

Easier access to information and know-how through international trade and FDI has positive implications for the labor market because they promote economic activity and job creation. Additionally, they also expose workers to valuable know-how, which enhances labor productivity and individual skills development but also generates spillover effects in the economy (Arnal and Hijzen, 2008; Fatima, 2017). Also, according to various empirical studies, MNEs in host countries tend to pay higher wages than local firms, leading to higher income for residents (Arnal and Hijzen, 2008; Javorcik, 2015). Labor mobility is another relevant aspect, promoting better matching between employers and employees, thereby contributing to economic efficiency (Arnal and Hijzen, 2008; Javorcik, 2015). This, in turn, also relates to education, which is another central topic of human development (UNDP, 2020). Globalization and the growing importance of skills as a distinctive competitive factor may pressure developing countries to invest more in education (Becker et al., 2020).

Proponents of globalization argue that it can lead to more open and tolerant societies by promoting cultural exchange and intermingling, which helps to reduce social and cultural barriers between nations (Potrafke, 2015; Movsesian, 2018). It may also bring about political and social changes in developing countries, such as pressure for stability, democracy, and openness to new ideas, as well as a reduction in traditional stratification (Badooei, 2014). According to Potrafke, (2015), globalization may also foster gender equality and women's rights.

Conversely, some authors are not as optimistic about the relationship between globalization and economic development, noting that it may lead to some countries benefiting while others do not (Stiglitz, 2003). Several authors adopt a mixed view on globalization, highlighting that it does create opportunities for some, but it also has the potential to generate negative consequences for others (Bhattacharya, 2004; Kilic, 2015; Radulović and Kostić, 2020).

While recognizing the potential of globalization to foster economic development, some authors point to its asymmetrical nature and the unequal distribution of its benefits, not only between developed and developing countries but also inside each country, noting the belief that many nations and populations also remain excluded from the benefits of globalization (Bhattacharya, 2004; United Nations, 2004).

Some of the negative consequences of globalization on economic development pointed out are increased wealth inequality and a growing gap between some countries (Stiglitz, 2003; Kilic, 2015; Radulović and Kostić, 2020), or even negative economic growth in some cases (Kilic, 2015). Some authors also claim that globalization's pressure for increased international competitiveness plays a role in weakening national social security systems, in reducing the scope of governments, and contributing to poverty and social injustice (Wood, 1998; Stiglitz, 2003; Heine and Thakur, 2011).

Another relevant point highlighted by several authors is the importance of the institutional framework and local governance for maximizing globalization's potential, especially in developing countries (Caporaso and Madeira, 2012; Chiu et al., 2020). The success of globalization depends on favorable institutional frameworks in each country, which are less common in developing countries (Xu et al., 2021).

In short, there is no consensus about the effects of globalization on economic development insofar as globalization can generate both positive and negative effects.

2.2. Results from Previous Empirical Studies

Existing studies focus predominantly on the impact of globalization or its key elements, such as global trade or FDI, on economic growth. However, a few empirical studies investigate the relationship between globalization and economic development, using the KOF Globalization Index and HDI as their proxies, respectively. These studies were found via searches in Scopus and Web of Science databases during December 2021 and January 2022, using keywords like "KOF Globalization Index", "KOF Index", "Human Development Index", and "HDI". Only six articles were found, and Table 1

summarizes their results. The studies are organized in chronological order. Checking the references included in the articles being analyzed led to identifying one additional relevant article to include, namely the one by Tsai (2007).

Table 1. Summary of Empirical Studies about HDI - Globalization Relationship

Authors (Year)	Time span	Geographical area	Econometric method	Results			
				KOF Index	Subdimension		
				Economic	Social	Political	
Tsai (2007)	1980-2000	122 countries	GLS random effect model with panel data	+ (0)	0	0	+ (0)
Sapkota (2011)	1997-2005	124 developing countries	GLS random effect model with panel data	+	+	+	+
Badooei (2014)	1980-2010	74 developing countries and 30 developed countries	Fixed effect regression model with panel data	+	+	+	+
Shafeeq et al. (2019)	1995-2015	17 Asian countries	Fully Modified OLS with panel data	+	+	+	+
Ulucak and Danish (2020)	1990-2015	30 Asian developing countries	Panel data estimations (augmented mean group estimator)	n.d.	0	n.d.	n.d.
Tang et al. (2020)	2015	179 countries	Linear regression with cross-section data	+	n.d.	n.d.	n.d.
Diaconu and Bayar (2020)	1993-2016	11 EU post-communist transition economies	OLS regression with panel data	n.d.	+	+(a)	0

Legend: +, - and 0 refer to a positive, negative, and a non-statistically significant relationship, respectively; n.d. refers to cases where the study did not perform such analysis

Notes: (a) instead of social globalization the authors used one of its subsets (cultural globalization)

As can be seen in Table 1, most empirical studies point towards a positive impact of globalization on economic development. However, three of these studies (Tsai, 2007; Sapkota, 2011; Badooei, 2014) use outdated datasets or have other shortcomings such as a long interval between data points (10 years) (Tsai, 2007) or a smaller timespan of only eight years, between 1997 and 2005 (Sapkota, 2011). More recent studies focus on a more limited geographical coverage, with Shafeeq et al. (2019) covering 17 Asian countries or Diaconu and Bayar (2020) covering 11 EU post-communist transition countries. Ulucak and Danish (2020) covered a broader sample of 30 Asian developing

countries but only studied the economic dimension of globalization. Therefore, the current work aims to address these gaps by analyzing a comprehensive dataset spanning 134 developing countries from 2000 to 2019. Moreover, it will examine not only the overall relationship between globalization and economic development but also the individual subdimensions of economic, social, and political globalization.

3. METHODOLOGY

3.1. Specification of the Model and Its Variables

This study aims to analyze the relationship between globalization and economic development in developing countries, based on an econometric model with panel data. The model to be estimated is represented by the following equation:¹

$$ED_{it} = \beta_0 + \beta_1 GLOB_{it} + \beta_2 GDP_{it} + \beta_3 SPEC_{it} + \beta_4 POPG_{it} + \beta_5 MOR_{it} + \beta_6 CCI_{it} + \beta_7 PSI_{it} + u_i + \epsilon_{it} . \quad (1)$$

Economic development (*ED*) is the dependent variable and similar to Sapkota (2011), Badooei (2014) or Shafeeq et al. (2019), it will be proxied by the Human Development Index (*HDI_{it}*), which ranges from 0 to 1. HDI is the geometric mean of normalized indices for three dimensions: (i) health – “Long and healthy life”, assessed by life expectancy at birth; (ii) education – “Knowledge”, assessed by two indicators: mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age; (iii) standard of living – “A decent standard of living”, measured by the logarithm of gross national income per capita (PPP \$) (UNDP, 2020).

Concerning the independent variables (see Table 2), globalization (*GLOB_{it}*) will be proxied by the KOF Globalization Index (KOF) and its three subdimensions – economic (EG), social (SG) and political (PG), either individually and together.

These variables can be found as the proxies for globalization in some studies (see Table 1). The KOF index is a composite indicator and “has become the most often used globalization index” (Potrafke, 2015, p. 510). Also of note, it also distinguishes between de facto and de jure globalization. While the former measures actual international flows and activities, the latter measures “policies and conditions that, in principle, enable, facilitate and foster flows and activities” (Gygli et al., 2019, p. 544). Its most recent revision includes 43 variables and was formulated by Gygli et al. (2019), building on the original by Dreher (2006) and the subsequent update by Dreher et al. (2008).² A positive relationship is expected between globalization and the HDI, as was found by

¹ The subscripts *i* and *t* stands for country and year, respectively.

² The complete structure, variables and weights of the KOF Globalization index is available upon request.

Sapkota (2011), Shafeeq et al. (2019), or Diaconu and Bayar (2020).

Table 2. Independent Variables of the Model – Description and Data Source

	Variable	Description (from data source)	Expected effect on HDI	Source
KOF	Overall Globalization Index	Measures the economic, social and political dimensions of globalization using equal weights for the three subdimensions - index ranges from one to one hundred.	+	
EG	Economic Globalization	Composed of trade globalization and financial globalization, of which each gets a weight of 50 percent	+	KOF Swiss Economic Institute
PG	Political Globalization	Characterizes the diffusion of government policies.	+	
SG	Social Globalization	Consists of personal contact, information flows and cultural proximity, where each contributes one-third.	+	
GDP	GDP per capita (constant 2015 US\$)	Gross domestic product divided by midyear population. Data are in constant 2015 U.S. dollars.	+	
SPEC	Manufactures exports (%)	Manufactures exports (% of merchandise exports).	+	
POPG	Population growth (annual rate) (%)	Annual population growth rate.	-	
MOR	Infant mortality rate	It is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year.	-	
CCI	Control of Corruption Index	Captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, which ranges from approximately -2.5 to 2.5.	+	World Development Indicators, World Bank
PSI	Index of Political Stability and Absence of Violence/Terrorism	Measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, which ranges from approximately -2.5 to 2.5.	+	

Legend: + and - designate, respectively, a positive and a negative relationship.

Also within the independent variables, it is important to mention the control variables. Given its broader scope one can find diverse variables in the literature on the overall factors capable of influencing HDI (e.g. Amate-Fortes et al., 2017; Arisman, 2018). Therefore, a comprehensive selection of variables was made aimed at capturing a representative list of factors that could influence HDI, grouped into three main categories: economic, demographic, institutional, and geographic, similar to Amate-Fortes et al. (2017). *GDP* and *SPEC* correspond to the economic variables, meaning, respectively, the GDP per capita and specialization. *POPG* and *MOR* are the demographic variables, namely population growth and infant mortality rate. *CCI* and *PSI* correspond to the institutional variables, namely the Control of Corruption Index and the Index of Political Stability and Absence of Violence/Terrorism. Finally, u_i is the unobserved time-invariant fixed effect and ϵ_{it} is the unobserved random coefficient.

The GDP per capita is commonly found in the literature on the HDI and in the overall macroeconomic literature, given its role as an important measure of a country's economic performance. The same is true for studies addressing globalization and/or the HDI, as can be seen in Sapkota (2011), Badooei (2014) or Bhowmik (2019). In this study, just like in Sangaji (2016), the choice is for the GDP per capita in real terms, more specifically at constant 2015 US\$. A positive relationship is expected between the GDP per capita and the HDI, due to the relevance of economic growth towards human development and due to the fact that income, more specifically the indicator GNI per capita (in PPP \$), is one of the dimensions present in the HDI calculations (UNDP, 2020).

The countries' specialization pattern (*SPEC*) is another economic variable considered. According to Marshall et al. (1988), recent theories of economic development defend that specialization in primary products retards economic growth and development. Santos-Paulino and Thornquist (2015) note that countries specialized in manufacturing present lower poverty incidence than countries specialized in food and agriculture. According to the authors (p.3), "manufacturing activities are more likely to be conducive to specialization and the division of labor, and offer greater potential for innovation and increasing returns to scale". It is likely that the corresponding productivity growth benefits a large share of the population, leading to welfare gains (Santos-Paulino and Thornquist 2015). Similar to Santos-Paulino and Thornquist (2015), *SPEC* is measured by the share of manufacturing exports on total merchandise exports, and it is expected a positive relationship with economic development.

As for the demographic variables, population growth (*POPG*) is commonly found in the overall literature related to the HDI (e.g. Amate-Fortes et al., 2017; Tripathi, 2021) and in studies specifically analyzing the impact of globalization (e.g. Tsai, 2007; Shafeeq et al., 2019). The inclusion of this variable has to do with the negative impacts of high population growth against limited resources, especially in developing countries affected by factors such as lower health and education expenditures, insufficient quality housing or sanitary water (Goldthrope, 1996). Most of the studies analyzed confirm a negative relationship between the two variables (e.g. Tsai, 2007; Amate-Fortes et al.,

2017; Tripathi, 2021). In this study population growth is analyzed using the annual population growth rate, the same as in other studies (e.g. Tsai, 2007; Amate-Fortes et al., 2017; Paliova et al., 2019). Another demographic variable included is the infant (under-five) mortality rate (MOR), defined as the probability per 1,000 that a newborn baby will die before reaching age five, serving as a proxy for the healthcare quality, as in Amate-Fortes et al. (2017). It is expected that MOR has a negative relationship with the HDI, as was found in Amate-Fortes et al. (2017).

Institutional factors are often overlooked in studies on this matter, however they are crucial. The quality of local institutions has been identified as a relevant factor for a country's overall development (Amate-Fortes et al., 2017) and for its ability to absorb the potential benefits of globalization (Dreher, 2006; Chiu et al., 2020; Diaconu and Bayar, 2020). One of the institutional factors to consider is corruption, namely how successful a country is at controlling it, measured by the Control of Corruption Index (CCI). Corruption may affect economic development by decreasing the effectiveness of public investments (Del Monte and Pagagni, 2001, as cited in Amate-Fortes et al., 2017) or discouraging private (including foreign) investment. The other institutional factor to analyze is political stability and absence of violence, given its role in reducing uncertainty and, subsequently, promoting investment and economic growth (Amate-Fortes et al., 2017). Similarly to Amate-Fortes et al. (2017), in this study, this is proxied via the Political Stability and Absence of Violence/Terrorism indicator, and it is expected to have a positive relationship with the HDI.

3.2. Characterization of the Sample and Descriptive Statistics

The sample comprises 134 developing countries, spanning a 20-year period from 2000 to 2019. The start year was chosen because it marks the turn of the century and allows for a 20-year period with significant trends in global FDI and trade (see Figure A1 and Figure A2 in Appendix). This period ensures the study encompasses recent developments in the international integration of developing countries and prevents potential bias from the impact of the Covid-19 pandemic.

The country sample was selected following two steps. Starting from a list of 193 countries present in the three databases consulted, 32 countries were excluded for missing data. Secondly, 27 other countries were excluded for being considered developed countries for most or all of the study's timespan, placing them out of scope for the analysis.

It is worth noting that the classification of countries according to their level of development is not a consensual matter, with some entities opting to either not do it or to abandon it in recent years as is the case, for example, of United Nations (UN) publications such as the sustainable development goals reports since 2017 (UNSD, 2022). The selection of countries for the sample according to their development level was inspired by the International Monetary Fund (IMF, 2022). It is also worth noting that the sample includes countries that are considered developed countries in 2019 but

that were not so during at least the first half of the period in the study. However, given the strong increase in both globalization and human development in these countries over the period under study, and the fact they were initially developing countries, they are particularly relevant study cases on the impact of globalization on the economic development of developing countries. These include, for example, former Eastern Bloc countries such as Estonia, Poland, or Hungary.³

Analyzing the descriptive statistics of the variables is an important step toward understanding their behavior in the models. In Table 3, one can find the number of observations, the mean, minimum, maximum, and standard deviation of all variables used in the models.

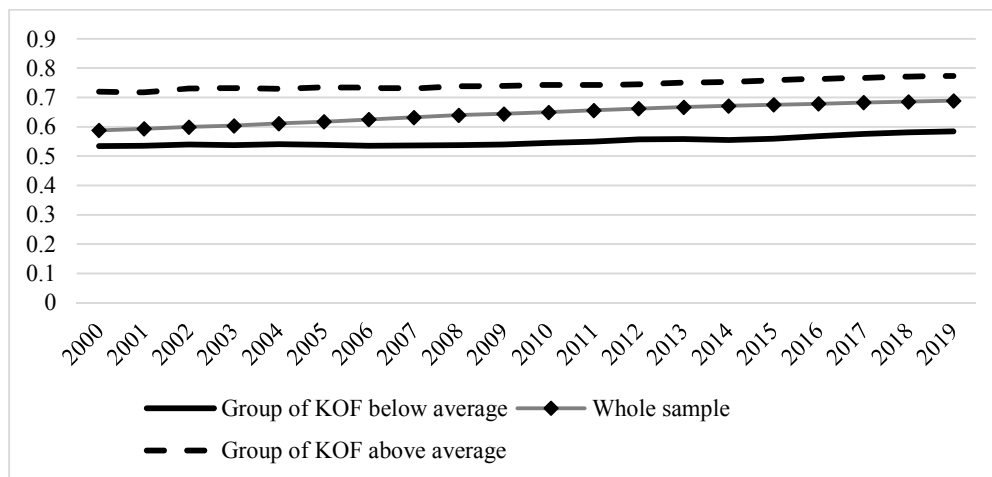
Table 3. Descriptive Statistics of the Variables

Variable	Abbrev.	Obs.	Mean	Std. Dev.	Min.	Max.
Human Development Index	HDI	2,668	0.644	0.143	0.262	0.917
KOF Globalization Index	KOF	2,678	56.107	12.425	23.420	85.207
Economic Globalization	EG	2,678	52.962	13.955	19.884	86.610
Social Globalization	SG	2,678	53.375	16.881	11.022	86.148
Political Globalization	PG	2,678	62.107	18.397	12.941	93.266
GDP per capita (constant 2015 US\$)	GDP	2,677	6372.553	8829.303	258.629	65129.380
Specialization (Manufactures exports, % of merchandise exports)	SPEC	2,488	36.555	29.980	0.00007	97.272
Mortality rate, under-5 (per 1,000 live births)	MOR	2,680	44.961	41.521	2.3	224.9
Population growth (annual %)	POPG	2,680	1.582	1.603	-4.533	17.512
Control of Corruption	CCI	2,679	-0.369	0.694	-1.722	1.725
Political Stability and Absence of Violence/Terrorism	PSI	2,677	-0.308	0.903	-3.181	1.389

Table 3 shows that some of the variables have missing values. However, the proportion of missing values is small compared to the sample size, suggesting minimal impact on the results from the econometric estimation (Wooldridge, 2002). Notably the dataset presents missing values for 2001 for two indicators - (i) control of corruption; (ii) political stability and absence of violence - in all countries. To address this issue, the average value between the ones observed in 2000 and 2002 was adopted for each country. Table 3 also shows a significant disparity between countries in almost all the variables considered, as visible via the standard deviation. This is due to the large

³ The list of the countries included in the analysis is available upon request.

coverage of countries (134) in the sample, which ranges from very poor developing countries to fairly developed and wealthy countries (as of 2019), and to the very significant economic, geographic, social, and cultural differences, among others, between them. Some countries have also been affected by extreme events such as, for example, armed conflicts (in the case of Syria).



Note: Figure reports the annual average of countries' HDI, for the whole sample and two subgroups, according to the KOF index. Time span is the period from 2000 to 2019.

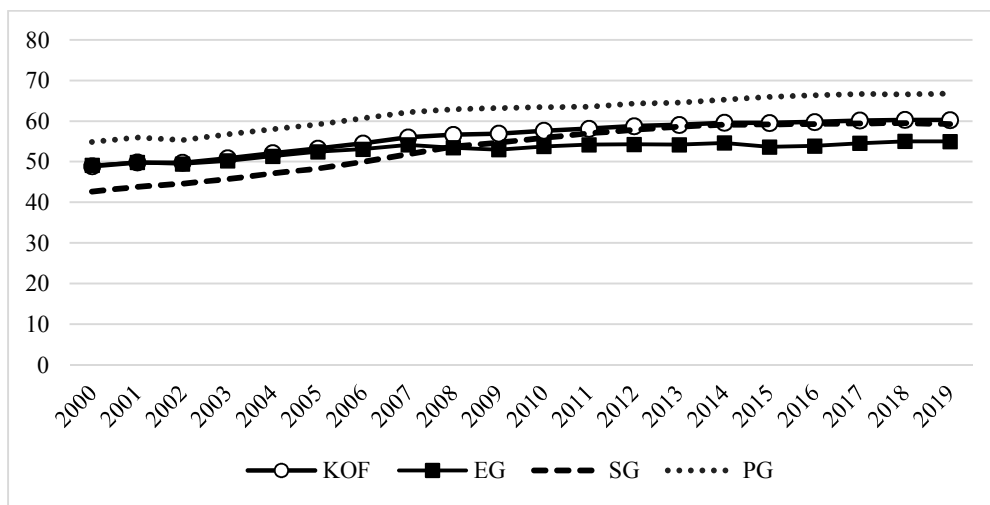
Figure 1. Evolution of the HDI in the Countries Analyzed (2000-2019)

Analyzing the evolution of the independent variable (see Figure 1), the trend has been one of steady increase for the countries in the sample as a whole, with the mean going from a value of 0.588 in 2000 to 0.689 in 2019. Moreover, the data also shows that the group of countries with high values for the KOF index (below average) presents higher levels of economic development than the group of countries with low values for the KOF index (below average).

The KOF Globalization Index has also shown an overall rising trend but with different characteristics and nuances. As can be seen in Figure , the mean of the overall index has shown an increasing trend in the first eight years of the period followed by slowdown during the second half, similar to what occurred with FDI and Trade (see Figure A1 and Figure A2 in Appendix).

The trends also differ between the different subdimensions of globalization. Although the mean score for economic globalization started roughly on par with the overall index, it virtually stagnated from 2007 onwards, facing two notable declines in 2008 and 2015. Social globalization had a contrasting evolution – having started with the lowest mean score it reached the value for the overall index in the second half of the

period, having also passed the score for economic globalization in 2008. Finally, political globalization displayed a fairly stable growth trajectory, with a score above the overall index for the whole period. This graphical analysis indicates a possible relationship between globalization as a whole and HDI, as the growth trends have been similar, although with some differences in scale and intensity in some periods. The most notable exception seems to be the difference between the evolution of HDI and the mean of economic globalization between 2005 and 2014, with the HDI rising with higher intensity while the economic globalization's mean score did not follow suit.



Note: Figure reports the annual average of countries' KOF Index and its three subdimensions: economic, social and political globalization. Time span is the period from 2000 to 2019.

Figure 2. Evolution of the Mean Values for the KOF Index and Its Subdimensions (2000-2019)

4. EMPIRICAL ANALYSIS

4.1. Correlation Analysis

An important step before estimating the model is analyzing the correlations between variables. As can be seen in Table 4, almost all explanatory variables exhibit statistically significant correlation coefficients although most of them are small. The exception occurs particularly when the explanatory variables KOF and KOF subdimensions (EG, SG and PG) are involved. However, this situation is not problematic as the KOF index and its subdimensions will not be included simultaneously in the model. Moreover, the correlation coefficients are also high between the variables: EC and SG, MOR and KOF,

MOR and EC, MOR and SG, CCI and SG, CCI and GDP and PSI and CCI. These results indicate the need to conduct an analysis on the possibility of existence of multicollinearity within the model to estimate.

4.2. Model Estimation

This study, like most presented in Section 2.2.2., uses panel data analysis, organized as follows: one cross-sectional dimension (134 countries) and a time-series dimension (20 years, from 2000 to 2019). This type of broad sampling makes it possible for more complete and efficient econometric modeling and results (Wooldridge, 2002).

In econometric literature, three models are considered appropriate to conduct estimations for panel data: pooled Ordinary Least Squares (OLS), fixed effects (FE), and random effects (RE) models. The pooled OLS assumes homogeneity of the countries selected (Wooldridge, 2010) and considers the same constant term for all observations (Wooldridge, 2002), which means that the exclusive effects of each individual are included in the disturbance term (ϵ_{it}). However, it is important to consider the existence of other determinants that may influence HDI that are not included in the model and could represent the countries' heterogeneity. Some of these are, for example, the quality of the education system or R&D investment (Amate-Fortes, 2017). Therefore, the Hausman test was conducted for all models to determine the appropriate model. The results reject the null hypothesis that the difference in coefficients is not systematic and that the random effects model is preferred, therefore, fixed effects were used in all models.⁴

Given the possibility of multicollinearity identified during the correlation analysis, which was confirmed through the Variance Inflation Factor (VIF) test,⁵ the originally proposed models were adjusted. Multicollinearity occurs when one or more independent variables are highly correlated with other independent variables and its existence can lead to drawbacks in the model estimated. To address this issue, the explanatory variable GDP was centered in all models, and the three subdimensions of globalization were centered in the model where these dimensions are included together. Centering a variable consists of subtracting its mean from all observations on that variable, which helps to alleviate multicollinearity (Iacobucci et al., 2016). This process does not affect the interpretation of the β coefficients. Moreover, we also estimate the model considering each of the three subdimensions of globalization (variables EG, SG PG) in their own separate, individual, models. Table 5 presents the estimation results, using Stata 17.0.

We estimated the model given by equation (1) considering different alternative proxies to measure globalization: KOF, its three subdimensions individually – EG, SG and PG, and its subdimensions altogether – models I, II, III, IV and V, respectively.

⁴ Results of the Hausman test are available upon request.

⁵ Results of the VIF test are available upon request.

Additionally, it is important to take into account specific events occurring during the period under analysis such as, for example: (i) the global financial crisis of 2008 and its impact on globalization trends; (ii) the growing hostility towards globalization and multilateralism (e.g. USA-China or Brexit); (iii) the possibility that globalization might be changing in nature, with different forms of globalization (e.g. information, culture or education) gaining more prominence when compared to the traditional economic globalization of past centuries (Olivié and Gracia, 2020). For this purpose, two different approaches were considered. The first pertains to introducing a dummy variable (CRISE) that takes the value of 1 for the years 2008 and 2009 and 0 otherwise (models IA, IIA, IIIA, IVA and VA of Table 5). The second approach has to do with the estimation of the models for two distinct periods: before and after the financial crisis of 2008. The rationale for this comes from the observation of the data gathered on net FDI inflows, the Trade-to-GDP ratio and the mean values for the KOF Index and its three subdimensions over time (see Figure A1, Figure A2 and Figure 2, respectively), which all point towards a possible tipping point for globalization in 2008. The results of this approach are in Table 6.

Table 4. Correlation Matrix

	HDI	KOF	EG	SG	PG	GDP	SPEC	MOR	POPG	CCI	PSI
HDI	1.0000										
KOF	0.8071	1.0000									
	0.0000										
EG	0.7093	0.7887	1.0000								
	0.0000	0.0000									
SG	0.8994	0.8250	0.7350	1.0000							
	0.0000	0.0000	0.0000								
PG	0.2858	0.6684	0.1755	0.2137	1.0000						
	0.0000	0.0000	0.0000	0.0000							
GDP	0.6100	0.4625	0.5241	0.5876	0.0120	1.0000					
	0.0000	0.0000	0.0000	0.0000	0.5360						
SPEC	0.2728	0.4067	0.2666	0.2908	0.3404	-0.0099	1.0000				
	0.0000	0.0000	0.0000	0.0000	0.0000	0.6207					
MOR	-0.9000	-0.6943	-0.6180	-0.8105	-0.2112	-0.4485	-0.2769	1.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				
POPG	-0.3599	-0.3338	-0.2071	-0.3539	-0.1943	0.2047	-0.4231	0.3649	1.0000		
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
CCI	0.5633	0.5280	0.5462	0.6667	0.0614	0.6070	0.2290	-0.4614	-0.1172	1.0000	
	0.0000	0.0000	0.0000	0.0000	0.0015	0.0000	0.0000	0.0000	0.0000		
PSI	0.4919	0.3999	0.5188	0.5993	-0.1135	0.4664	0.1377	-0.4072	-0.1233	0.7104	1.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Notes: p-value below the correlation coefficients.

Table 5. Estimation Results – Base Models

Variable	I	II	III	IV	V	IA	IIA	IIIA	IVA	VA
KOF	0.0026***					0.0026***				
EG		0.0007***			-0.0000		0.0007***			-0.0000
SG			0.0024***		0.0022***			0.0025***		0.0023***
PG				0.0012***	0.0004**				0.0012***	0.0004**
GDP	0.0733***	0.1035***	0.0584***	0.0946***	0.0614***	0.0727***	0.1035***	0.0576***	0.0944***	0.0606***
SPEC	0.0000	0.0001	-0.0000	0.0000	-0.0000	0.0000	0.0001	-0.0000	0.0000	-0.0000
MOR	-0.0009***	-0.0011***	-0.0008***	-0.0010***	-0.0008***	-0.0009***	-0.0011***	-0.0008***	-0.0010***	-0.0008***
POPG	-0.0002	-0.0010	0.0001	-0.0006	0.0003	-0.0001	-0.0010	0.0002	-0.0004	0.0005
PSI	0.0016	-0.0013	0.0043*	-0.0015	0.0039	0.0016	-0.0013	0.0043*	-0.0015	0.0038
CCI	-0.0076**	-0.0077*	-0.0042	-0.0080**	-0.0050	-0.0075*	-0.0077*	-0.0040	-0.0079**	-0.0049
CRISE						-0.0042***	-0.0023***	-0.0046***	-0.0036***	-0.0049***
N	2476	2476	2476	2476	2476	2476	2476	2476	2476	2476
r2_a	0.8641	0.8315	0.8786	0.8414	0.8802	0.8653	0.8318	0.8801	0.8422	0.8819

Legend: *P<0.1; **P<0.05; ***P<0.01

Notes: GDP was centered in all models; EG, SG and PG were centered in models V and VA; the values in parenthesis denote the robust standard error of the respective coefficient above; models include country-level cluster-robust standard errors to account for heteroskedasticity and autocorrelation.

Table 6. Estimation Results – Before and After 2008

Variable	Period 2000-2007						Period 2008-2019					
	IB	IIB	IIIB	IVB	VB		IC	IIC	IIIC	IVC	VC	
KOF	0.0019***						0.0018***					
EG		0.0007***			-0.0000			0.0001			0.0000	
SG			0.0020***		0.0018***				0.0018***		0.0017***	
PG				0.0006***	0.0004***					0.0008***	0.0005**	
GDP	0.0652***	0.0845***	0.0587***	0.0862***	0.0596***		0.0945***	0.1074***	0.0883***	0.1014***	0.0796***	
SPEC	-0.0000	0.0000	-0.0000	-0.0000	-0.0001		0.0001**	0.0001**	0.0001	0.0001**	0.0001	
MOR	-0.0007***	-0.0009***	-0.0006***	-0.0008***	-0.0006***		-0.0010***	-0.0011***	-0.0010***	-0.0011***	-0.0010***	
POPG	0.0009	0.0017**	0.0012	0.0016	0.0009		-0.0010	-0.0016*	-0.0007	-0.0011	-0.0005	
PSI	-0.0049***	-0.0058***	-0.0037**	-0.0070***	-0.0039**		0.0042	0.0033	0.0048	0.0034	0.0050	
CCI	0.0012	0.0000	0.0025	-0.0001	0.0021		-0.0077*	-0.0067*	-0.0067*	-0.0074*	-0.0071*	
N	952	952	952	952	952		1524	1524	1524	1524	1524	
r2_a	0.8568	0.8320	0.8640	0.8246	0.8680		0.7512	0.7348	0.7615	0.7442	0.7659	

Legend: *P<0.1; **P<0.05; ***P<0.01

Notes: GDP was centered in all models; EG, SG and PG were centered in models VB and VC; the values in parenthesis denote the robust standard error of the respective coefficient above; models include country-level cluster-robust standard errors to account for heteroskedasticity and autocorrelation.

Table 7. Estimation Results – Landlocked vs Non-Landlocked Countries

Variable	Landlocked countries					Non-landlocked countries				
	ID	IID	IID	IVD	VD	IE	IIE	IIIIE	IVE	VE
KOF	0.0019***					0.0028***				
EG		0.0006			0.0000**		0.0007***			-0.0000
SG			0.0026***		0.0023***			0.0024***		0.0020***
PG				0.0005*	-0.0001				0.0016***	0.0007***
GDP	0.0648***	0.0843***	0.0507***	0.0799***	0.0356**	0.0748***	0.1077***	0.0603***	0.0968***	0.0720***
SPEC	-0.0000	-0.0000	0.0000	-0.0000	-0.0001	-0.0000	0.0001	-0.0000	-0.0000	-0.0001
MOR	-0.0010***	-0.0012***	-0.0008***	-0.0011***	-0.0009***	-0.0010***	-0.0012***	-0.0008***	-0.0011***	-0.0007***
POPG	0.0037	0.0042	0.0037	0.0037	0.0030	-0.0001	-0.0010	0.0001	-0.0002	0.0005
PSI	0.0047	0.0060	0.0050	0.0057	0.0065	0.0010	-0.0039	0.0038	-0.0033	0.0026
CCI	-0.0214***	-0.0191**	-0.0146**	-0.0185**	-0.0133**	-0.0026	-0.0034	-0.0010	-0.0032	-0.0023
CRISE	-0.0048***	-0.0031*	-0.0064***	-0.0047***	-0.0062***	-0.0041***	-0.0024**	-0.0041***	-0.0034***	-0.0045***
N	578	578	578	578	578	1898	1898	1898	1898	1898
r2_a	0.8833	0.8729	0.8976	0.8723	0.9026	0.8645	0.8208	0.8730	0.8442	0.8799

Legend: *P<0.1; **P<0.05; ***P<0.01

Notes: GDP was centered in all models; EG, SG and PG were centered in models VD and VE; the values in parenthesis denote the robust standard error of the respective coefficient above; models include country-level cluster-robust standard errors to account for heteroskedasticity and autocorrelation.

As a preliminary analysis of Tables 5, one can see that regardless of the proxy used to measure globalization, this variable has statistical significance and present the expected positive sign in all models. However, when the three subdimensions of globalization are included simultaneously in the model, results indicate that only social globalization (SG) and political globalization (PG) positively impact economic development (ED).

Regarding the control variables, results identify GDP and infant mortality rate (MOR) as having, respectively, a positive and negative impact on ED. These two variables are statistically significant in all models and present the expected sign. Furthermore, the Control of Corruption Index is statistically significant in several models but the results are against expectations. Moreover, the variable PSI is also statistically significant in two models, presenting the expected sign. Finally, the variables SPEC and POPG do not present statistical significance in any model.

Also of note are the results of the dummy variable CRISE, which was introduced to account for the macroeconomic effects of the 2008 global financial crisis. As the coefficients for this variable are negative one can see that, *ceteris paribus*, HDI was lower during the years 2008 and 2009 when compared to the rest of the period analyzed.

Considering the results of Table 6, in general, the model's estimates are in line with those presented in Table 5. The findings show that globalization, measured by the KOF index or its subdimensions individually, has a positive impact on economic development. Furthermore, GDP positively influences economic development, while MOR has an adverse effect. Regarding the variables PSI and CCI, the former is only statistically significant in the period 2000-2007 while the latter is only statistically significant in the period 2008-2019.

To test the robustness of the results, we also estimated the model by dividing the sample into two subsamples, considering the countries' geography. As stated by Sachs (2012, p. 145), "Not only can unfavorable geography cripple states; it can also slow the development and diffusion of technology". In this way, we separate the landlocked countries (i.e. countries entirely surrounded by land, having no navigable route to the sea) from non-landlocked countries. The estimation results for these two subsamples are in Table 7.

Most of the results of Table 7 corroborate those of previous tables. Concerning the main explanatory variable, globalization, measured through the KOF index, SG or PG has a positive relationship with ED. However, when measured through economic globalization, the variable is only statistically significant for the group of non-landlocked countries. Results also confirm the positive impact of GDP on ED and the negative effect of infant mortality rate on ED. The variable CCI is only statistically significant for the sample of landlocked countries and the other control variables (SPEC, POPG, and PSI) are not statistically significant in any model.

4.3. Discussion

The estimations presented in Tables 5, 6, and 7 show a positive and statistically

significant relationship between three measures of globalization – the comprehensive measure of globalization (KOF), social globalization, and political globalization - and ED, which is consistent with the findings by Sapkota (2011), Badooei (2014) and Shafeeq et al. (2019). As was seen in section 2.2.1., some of the mechanisms related to globalization contributing to a higher standard of living (in this case proxied by the HDI) could be higher economic growth, more investment, better use of resources, and increased economic efficiency from exposure to international competition (Gani, 2019; Shafeeq et al., 2019). These are also complemented by increased access to technology and know-how, with spillover effects (Arnal and Hijzen, 2008; Fatima, 2017), exposure to new ideas and institutions (Potrafke, 2015), and stronger incentives towards international peace and pluralism (Movsesian, 2018).

Concerning economic globalization, some models show a positive impact on ED, while in others this variable has no statistical significance. This occurs, for instance, for the period 2008-2019 and for landlocked countries. These findings align with Ulucak and Danish (2020) research, which found that economic globalization does not significantly affect human development. The authors speculate that such results may be due to lower globalization levels in the countries analyzed (30 Asian developing countries), trade barriers, slow flow of capital and labor, low exports, and to lower levels of FDI (Ulucak and Danish, 2020), which could mean these countries are not as well positioned to take advantage of economic globalization from an institutional standpoint. Indeed, non-landlocked countries have advantages over landlocked countries with regard to development because countries with lengthy coastline and deep-water ports have easier access to global markets making them preferred locations for foreign technologies to enter through foreign investments or outsourcing (Sachs, 2012).

Regarding the control variables, the findings are in line with most of the studies synthesized in Table 1, confirming the positive impact of GDP per capita on ED. Additionally, MOR shows a negative relationship with ED, as suggested by Amate-Fortes et al. (2017). The Control of Corruption Index and PSI present mixed results: in several models they lack statistical significance, and in others the variable CCI exhibits a negative coefficient, contrary to expectations. This result indicates that corruption has a positive impact on ED. Considering that our sample focuses on developing countries, this result may be explained by the “grease the wheels” hypothesis. According to Sharma and Mitra (2019), this hypothesis advocates that corruption can have positive effects in countries characterized by ill-functioning institutions. When bureaucratic and regulatory systems are inefficient, they may hinder investment, and providing some “grease money” may facilitate the circumvention of such obstacles to achieve more favorable outcomes.

Finally, the variables SPEC and POPG are not statistically significant at any level and for any of the models. Indeed, regarding the specialization pattern, results does not support the arguments of recent theories of economic development defend that specialization in primary products retards economic growth and development (Marshall et al., 1988). Concerning the results for the variable population growth, they do not

confirm the findings in most literature on the determinants of HDI, where population growth tends to appear as a relevant negative determinant (e.g. Sapkota, 2011; Amate-Fortes et al., 2017; Tripathi, 2021).

5. CONCLUSION

Globalization is seen as an opportunity and a driver for developing countries to catch up to stronger economies, being an important source of access to investment, technology and know-how, higher efficiency, and consumer markets with higher disposable income, especially as these countries integrate themselves in global value chains (Fatima, 2017; Santiago et al., 2020; Qiang et al., 2021). However, the relationship between globalization and economic development, especially in developing countries, is still heatedly debated by scholars and the public, as it involves intense pressures for change and adaptation (Radulović and Kostić, 2020) and the need for adequate institutional frameworks for its benefits to be realized and widespread (Dreher, 2006; Caporaso and Madeira, 2012; Xu et al., 2021). Therefore, it is useful to understand the relationship between globalization and the economic development of developing countries.

Even though there are multiple studies on the relationship between globalization and economic growth, including for developing countries, empirical studies focusing on economic development are scarcer. Also, some of these studies are based on data that is fairly dated (Tsai, 2007; Sapkota, 2011; Badooei, 2014) or have a narrower geographical scope (Shafeeq et al., 2019; Ulucak and Danish, 2020; Diaconu and Bayar, 2020). Consequentially, this study resorts to panel data for a broad sample of 134 developing countries for the period between 2000 and 2019.

Economic development was measured by the Human Development Index while globalization was measured by the KOF Globalization Index as well as its three subdimensions' scores (economic, social, and political), as the explanatory variables. The models included six control variables, organized in the following categories: Economic (GDP per capita and specialization pattern), Demographic (annual population growth rate and infant mortality rate), and Institutional (control of corruption index and political stability and absence of violence/terrorism index).

The overall results from the fixed effects estimations point to the existence of a positive relationship between globalization and economic development, confirming what was found by authors such as Sapkota (2011), Badooei (2014) and Shafeeq et al. (2019). More specifically, this is always the case for globalization measured by the overall KOF Index score, and for the social and political globalization subdimensions. When it comes to the economic subdimension, the base model using the full sample also confirms the same findings, although the results for some subsamples do not confirm the existence of a statistically significant relationship. This is the case of the subsample that considers data only for the period 2008-20019 and the subsample of landlocked countries. The former case may be explained by the possible tipping point for economic globalization

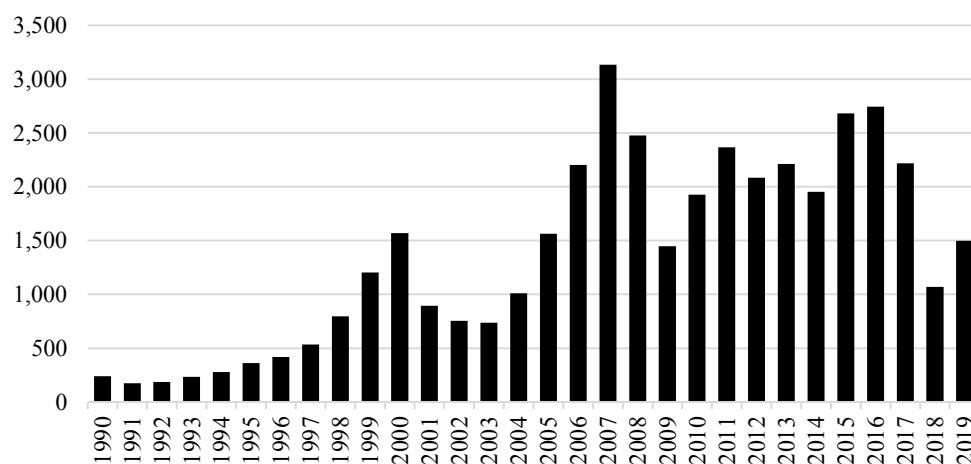
in 2008, as evidenced by the evolution of FDI and international trade after this year (see Figures A1 and A2). The latter case suggests that non-landlocked countries have advantages over landlocked countries since, due to their geographic characteristics, they have easier access to global markets and are preferred locations for foreign technologies to enter through foreign investments or outsourcing (Sachs, 2012), thus benefitting from economic globalization.

As for the control variables, the results confirm the findings by previous authors on the statistical significance of GDP (Sapkota, 2011; Badooei, 2014) and infant mortality rate (Amate-Fortes et al., 2017). In contrast, the results for population growth are not statistically significant at any level and for any of the models, not confirming the findings by Tsai (2007), Amate-Fortes et al. (2017), or Tripathi (2021). Finally, as for corruption, this was found not to be statistically significant in most models, which is mostly inconsistent with the findings by Amate-Fortes et al. (2017), Khan et al. (2019), and Tripathi (2021).

Moreover, this study has some limitations, such as data availability, which led to the exclusion of several countries, and to the exclusion of variables such as, for example, R&D expenditures (as % of GDP) or poverty (% of the population with less than 2 dollars per day), both identified by Amate-Fortes et al. (2017) as potential determinants of the HDI.

A possible avenue for further research could be a more in-depth investigation of the relationship between national and local institutional frameworks and countries' ability to capitalize on the opportunities of globalization. One possible way to approach this could be, for example, to introduce interaction terms between the KOF Index and institutional variables such as the CCI, PSI, or others.

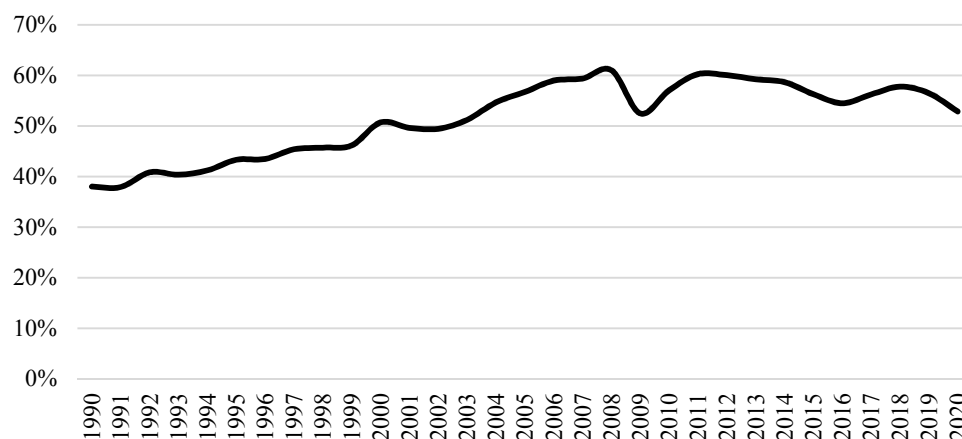
APPENDIX



Source: World Bank

Note: Figure reports the annual evolution of global net FDI inflows. The time span is the period from 1990 to 2019.

Figure A1. Foreign Direct Investment, Global Net Inflows (Billion US\$) (1990-2019)



Source: World Bank, "World Development Indicators"

Note: Figure reports the annual evolution of the global trade-to-GDP ratio. The time span is the period from 1990 to 2020.

Figure A2. Global Trade-to-GDP Ratio (1990-2020)

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