

## REVISITING POVERTY AND ENTREPRENEURSHIP IN DEVELOPING COUNTRIES

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Currently, the economic effect of entrepreneurship research has been highly associated with opportunity entrepreneurship, while necessity entrepreneurship has a lower effect. This manuscript revisits the relationship between poverty and entrepreneurial activity, mainly necessity-driven, analyzed by Amorós and Cristi (2011). We hypothesize that countries with a high pursuit of entrepreneurial activities reduce poverty, even if necessity-motivated entrepreneurship is developed. We test our hypothesis using Global Entrepreneurship Monitor data and the UN-UNDP, Human Development Index from 2010–2019. Our results reconfirm that total and necessity-motivated early-stage entrepreneurship both, have a positive effect on countries' poverty reduction trends, especially in developing countries. We discuss the relevance of entrepreneurship activities on development beyond pure economic effects and highlight the importance of entrepreneurship in the pandemic situation caused by COVID-19, which is pushing more people into poverty situations.

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## **1. Introduction**

For almost 25 years, the reduction of extreme poverty, which is the first of the World's UN Sustainable Development Goals,<sup>a</sup> has been achieved progressively. From 1.4 billion people living in poverty in 2007 to 689 million in 2017, it is a very significant reduction (World Bank, 2008; 2020). However, poverty continues to be a big problem for social and economic development. According to World Bank data, 24.1 percent of the world lived on less than \$3.20 USD a day and 43.6 percent on less than \$5.50 USD a day in 2017. Furthermore, humanity is living one of the most extreme events from the last 100 years: the disruption caused by the COVID-19 pandemic. For the first time in twenty years, according to several international organizations (UN, OECD, World Bank, as a few examples), the global extreme poverty is expected to rise. Not only is COVID-19 dramatically affecting the lives of millions of people, the multiple conflicts around the world and the more frequent and extreme events related with climate change are returning between 88 to 115 million people to extreme poverty (World Bank, 2020).

However, poverty is not an exclusive issue of developing nations. In many developed countries the effects of the late 2000s financial crisis caused several income inequalities in twenty of the 29 advanced economies, and the rates of poverty increased in seventeen countries (WEF, 2018). Another example is related to childhood: on average across OECD countries, 13.1 percent of children live in relative income poverty and the share has been rising in many countries (OECD, 2018).

One manifestation related with poverty situations is the entrepreneurship dynamics, basically the one driven by the lack of formal opportunities in the labour market. In poor economies, the necessity-based entrepreneurship activities are not linked just to the absence of alternative employment sources, but also to the need to compensate with earnings the suboptimal access to basic public goods (Naudé, 2011; World Bank, 2008). As the Nobel Memorial Prize in Economic Sciences winners in 2019 Abhijit Banerjee and Esther Duflo state: "All over the world, a substantial fraction of the poor act as entrepreneurs in the sense of raising capital, carrying out investment and being the full residual claimants for the resulting earnings" (Banerjee and Duflo, 2007, p. 151).

In this research, we revisit the original empirical approach made by Amorós and Cristi (2011), and replicate and update the data to obtain additional insights from the relationship between entrepreneurship dynamics and poverty indicators at the country level. To investigate the relation between poverty and entrepreneurial activity, we also use data from the Global Entrepreneurship Monitor (GEM) project while poverty indicators are obtained from UN-UNDP. Following the original hypothesis that states poverty and income inequality are positively associated with the number of people who pursue entrepreneurial activities, we

<sup>a</sup>For more information, see: <https://sdgs.un.org/goals/goal1>.

corroborate that country entrepreneurial dynamics is associated with reduction of poverty over the 2010–2019 period. Our goal with this empirical exercise is to contribute with a better understanding of the relation between entrepreneurship activity and poverty reduction, putting special focus on developing economies and to make a reflection considering the beginning of COVID 19 crisis.

In the next section, we review some conceptualizations about the relation between poverty and entrepreneurship. In Section 3 we discuss our methodology, data and provide descriptive statistics. We present our empirical approach and discuss our results in Section 4. Finally, in Section 5, we conclude by discussing implications and future research.

## **2. The Relation between Poverty and Entrepreneurship**

Poverty is a complex and multidimensional phenomenon (Atkinson, 2019; Morris *et al.*, 2020), encircling individual, social, economic and geographical issues, as well as political and institutional settings (Misturelli and Heffernan, 2008; Silva-Laya *et al.*, 2019; Morris *et al.*, 2020). At the individual level, poverty is reflected into severe financial constraints (Omar and Inaba, 2020), inadequate housing conditions (Rodríguez-Aceves *et al.*, 2021), substandard literacy and school drop-out (Hernandez, 2011), lack of work or underemployment (Morris, Santos and Neumeyer, 2018), unhealthy diet, unaffordable health care, chronic medical conditions (Acharya, 2020; Morland *et al.*, 2002), lack of transportation (Chetty and Hendren, 2016), limited social connections that derive in social exclusion (Piwowar and Dzikuć, 2020; Wilson, 2012) and constant fatigue (Tirado, 2015).

The complex and multidimensional nature of poverty makes its definition and operationalization difficult. Poverty typically refers to a “lack of resources” and historically has been defined in monetary terms, by using income or consumption levels (Madanipour *et al.*, 2015). Moreover, in an extensive review of 578 documents, Misturelli and Heffernan (2008) identified and analyzed 159 different definitions of poverty. As a result, they categorized seven main topics, which reaffirms the multifaceted nature of poverty that involves not only the material, physical and economic factors, but at the same time other social and psychological components (Amorós and Cristi, 2011).

To dismiss poverty, scholars and practitioners widely argue that entrepreneurship is an important option (Bruton *et al.*, 2013; Chliova *et al.*, 2015; London and Hart, 2011). For instance, using the World Bank’s panel data for 189 countries from 2005 to 2013, Djankov *et al.* (2018) found that entrepreneurship has a positive effect on poverty alleviation through the creation of more job opportunities. Moreover, Furlough-Morris (2017) demonstrated for nine South African provinces that those with an increase in new business registrations are more market oriented, show faster economic growth, and have fewer people living in poverty.

The relevance of entrepreneurship is a developing topic while multi factors and multi effects are considered. When countries face extreme poverty, most of the policies focus on cash transfers, provision of food, medicines and basic services (ECLAC, 2020). Currently, humanity witnesses one of the most devastating worldwide crises caused by COVID-19. Among the economic effects of COVID-19 are the increase of poverty and unemployment

(World Bank, 2020). In such conditions the public policies must respond to prevent detrimental life conditions of the population, poor economic growth, inadequate job creation and continuous increase of poverty. Even some of these negative factors could be addressed through increasing entrepreneurial activity (Kimmit *et al.*, 2020, Musara *et al.*, 2020); some authors have warned of indirect effect, which could be observed through informal economy (Narula, 2020; Webb and McQuaid, 2020).

In a literature review (Sutter *et al.*, 2019), authors highlighted three perspectives regarding the role of entrepreneurship in poverty alleviation: remediation (addressing resource scarcity), reform (a dramatic reshaping of the institutional or social context) and revolution (alternative economic systems, other than individualistic self-interest, are explored and introduced). Entrepreneurship, as a solution to poverty, consists of efforts to introduce changes that seek to positively influence the lives of those in poverty by improving the economic and non-economic welfare of individuals or communities (Sutter *et al.*, 2019). In a more rigorous sense, entrepreneurship can be defined as the process by which new enterprises are founded and become feasible (Szirmai *et al.*, 2011; Acs *et al.*, 2016).

The fact entrepreneurship can help alleviate poverty is not new (Alvarez and Barney, 2014) and reflects the assumption that entrepreneurial activity leads to economic growth (Schumpeter, 1934). Furthermore, a partial consensus that entrepreneurial activity is related to economic growth exists (Almodovar-Gonzalez *et al.*, 2019; García-Rodríguez *et al.*, 2017). Entrepreneurship promotes economic growth and development by enabling the introduction of innovations, creating new jobs, fostering competition and change, besides increasing rivalry (Vivarelli, 2013).

Scholars agree that there is a higher percentage of the population involved in entrepreneurial activities in developing economies in contrast to advanced ones (Acs and Amorós, 2008; Bosma and Kelley, 2018; Larroulet and Couyoumdjian, 2009). Moreover, the characteristics of entrepreneurship vary depending on the level of development. Opportunity-driven entrepreneurs prevail in high-income countries, while those based on necessity predominate in low-income countries (Amorós, Fernández *et al.*, 2012; Minniti and Levesque, 2010). Opportunity entrepreneurship occurs when individuals want to take advantage of a unique market opportunity and is related to innovative entrepreneurship. In contrast, necessity entrepreneurship results from market friction and generally is related to non-innovative firms (Reynolds *et al.*, 2005; Urbano and Aparicio, 2016).

The motivation to start a business is important because it explains the relationship between entrepreneurship and poverty and thus, economic development under diverse circumstances. Anokhin and Wincent (2012) suggested that opportunities differ between developing and developed countries, and for the latter, the initiatives are of higher quality (Shane, 2009). In the same vein, Mrozewski and Kratzer (2017) and Rodrigues and Teixeira (2020) found that necessity-entrepreneurship has a negative effect on economic development because it is negatively related to innovation. Urbano and Aparicio (2016) found that necessity-entrepreneurship tends to reflect lower value creation and thus, produces a smaller effect on economic growth and poverty reduction when compared to opportunity-entrepreneurship. The point of greatest consensus is that progress toward

development is not expected to be related to entrepreneurship based on necessity (Sautet, 2013; Valliere and Peterson, 2009; Zali *et al.*, 2013).

Overall, we agree that higher rates of opportunity-based entrepreneurship are preferable to higher rates of necessity-based entrepreneurship in any economy (Acs and Varga, 2005; Aparicio *et al.*, 2016; Amorós and Cristi, 2011). However, we argue that necessity entrepreneurs are also important and in the long-term, may contribute to social and anti-poverty interests and could have a substantial effect on economic growth (Amorós and Cristi, 2011; Kimmitt *et al.*, 2020). From an individual's perspective, this is because with a limited set of resources, the assumed knock-on effect of income generation is that entrepreneurship increases individual prosperity and of those who rely on him or her (Sutter *et al.*, 2019). Consequently, entrepreneurship can improve present and future individuals' circumstances (Chliova *et al.*, 2015) by expanding the number of choices they may have, by increasing their relative consumption (Robeyns, 2005), life satisfaction and the possibility of future social mobility (Kautonen *et al.*, 2017). From an economic perspective, an increase in consumption causes markets to be more likely to flourish (Kimmitt *et al.*, 2020). Furthermore, even though necessity-entrepreneurship is mostly related to self-employment, in the long term it can evolve in entrepreneurial activities with more important growth implications that may have an effect on employment (Alvarez and Barney, 2014; Rodrigues and Teixeira, 2020). In this sense, Thurik *et al.* (2008) demonstrated that high unemployment may lead to increased entrepreneurial practices (the "refugee" effect). As new businesses grow, subsequent hiring will contribute to a fall in the unemployment rate (the 'entrepreneurial' effect). For self-employed entrepreneurship, the entrepreneurial effect will outweigh the refugee effect in the long run, which will ultimately help alleviate poverty (Lin *et al.*, 2020).

Thus, we hypothesize that total and necessity-based entrepreneurial activity are associated with poverty alleviation over time.

### **3. Methodology**

#### **3.1. Data description**

In this work, we settle the hypothesis that countries with a high pursuit of entrepreneurial activities reduce poverty, even if necessity-motivated entrepreneurship is prevalent. To test this, we used data on entrepreneurial activity from the GEM project. GEM provides harmonized and internationally comparable data that permit us to measure entrepreneurial activity at the country level. GEM data provide information on early-stage entrepreneurial activity, that is, the percentage of the adult population (people between 18–64 years old) actively involved in starting a new venture. The data also include measures of entrepreneurial activity according to motivation, namely whether individuals are opportunity-based or necessity-based entrepreneurs. Opportunity entrepreneurs are people who take actions to create a new venture following a perceived business opportunity; necessity entrepreneurs are people who become involved in entrepreneurial activities because they have no other way to earn a living. More specific details about GEM data and methodology can be found in Reynolds *et al.* (2005), Minniti *et al.* (2007), and the GEM website.<sup>b</sup>

<sup>b</sup> [www.gemconsortium.org](http://www.gemconsortium.org)

Data for our proxy of poverty were obtained through the United Nations Development Program (UNDP) (United Nations, 2020), specifically the Human Development Index (HDI). HDI is a composite index that captures the average achievement of a country by evaluating three dimensions of human development: life expectancy at birth, adult literacy rate, and GDP per capita in purchasing power parities. HDI also includes most of the major themes and topics related to poverty definitions described by Misturelli and Heffernan (2008). In addition, HDI is one of the measures available over the period 2010–2019 for which GEM data are also available. The HDI takes values from 0 to 1, where 1 stands for the highest attainment.

Figures 1 and 2 show the relation between HDI and early stage and necessity entrepreneurship, respectively. Similar to previous research (Amorós and Cristi, 2011; Amorós et al., 2019) less developed countries exhibit higher entrepreneurship rates.

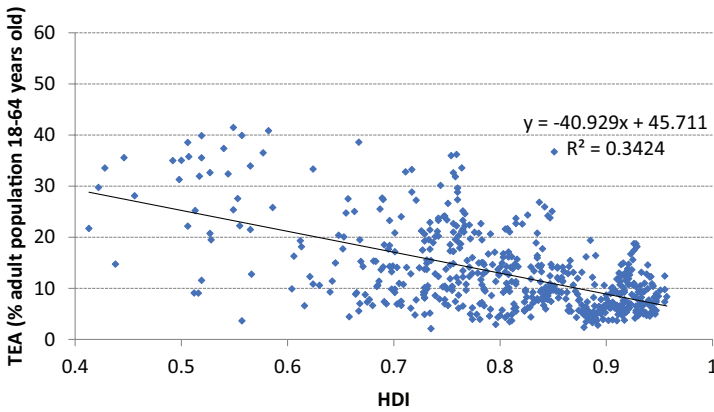


Fig. 1. Early stage entrepreneurial activity versus HDI 2010–2019.

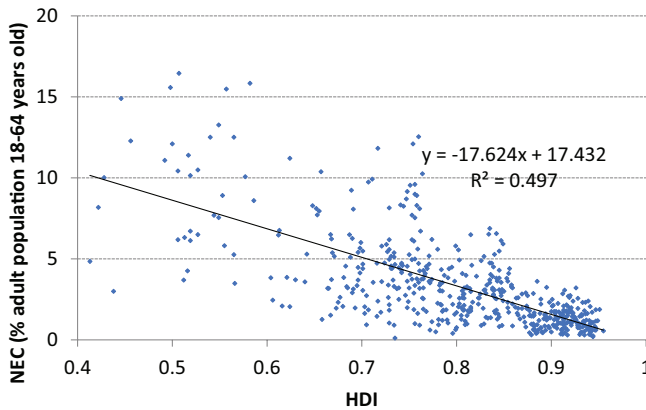


Fig. 2. Necessity entrepreneurial activity versus HDI 2010–2019.

Sources: GEM database and UNDP.

The UNDP also publishes the short-term annual growth rate in HDI (%) calculated based on the HDI values for 2010 and 2019. This is the so-called HDI short-term trends and it is a single indicator per country that captures the improvements in human development in that period. HDI short-term trends take values from  $-1$  to  $1$ , where a negative value represents a worsening trend in the country's poverty as measured by the HDI. Similar to Amorós and Cristi (2011), we also use updated HDI short-term trends to analyze the lagged effects of entrepreneurial activity on poverty reduction.

Figures 3 and 4 show the relationship between the HDI short-term trends and the country's average rates of early stage and necessity entrepreneurship, respectively, along time.<sup>c</sup> These visualizations suggest higher mean levels of early stage and necessity-driven

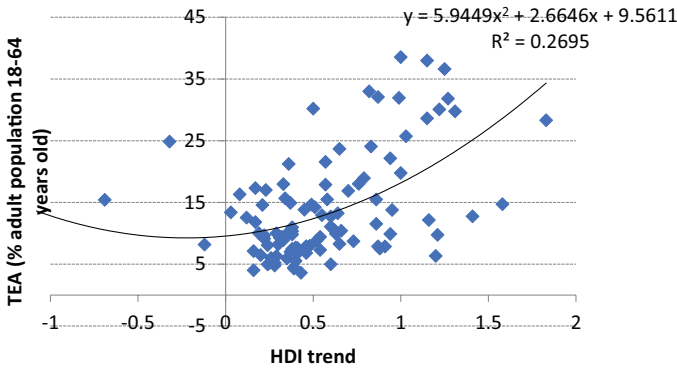


Fig. 3. Early stage entrepreneurial activity versus HDI trend (average 2010–2019).  
Sources: GEM database and UNDP.

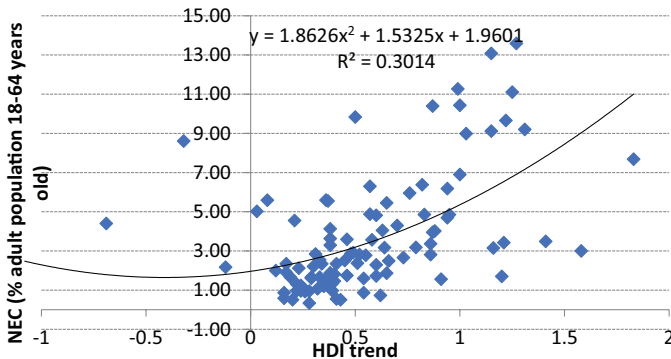


Fig. 4. Necessity entrepreneurial activity versus HDI trend (average 2010–2019).  
Sources: GEM database and UNDP.

<sup>c</sup>Entrepreneurship indicators are 2010–2019 average.

Table 1. Variable description.

Variable	Description	Source	Mean	Max.	Min.	SD.
TEA	Early-stage entrepreneurship activity; percentage of 18–64 population involved in setting up a business they will own or own and manage up to 3.5 years old.	GEM	12.71	41.46	2.01	7.88
NEC	Percentage of 18–64 population who are involved in TEA (as defined above) and manifest necessity-based motivations to be entrepreneurs (no other ways of earning incomes).	GEM	4.29	19.55	0.34	3.59
SUNEC	Percentage of 18–64 population who are involved in NEC (as defined above) and manifest starting a new business for no longer than three months.	GEM	1.95	10.61	0.12	1.805
HDI	Human Development Index.	UNDP	0.772	0.946	0.421	0.131
HDI short-term	Progress (or decrease) of a specific country's HDI trend over 2010–2019.	UNDP	0.542	1.83	–1.08	0.421
GINI	Gini coefficients of countries' equality (inequality) income distribution.	UNDP	37.82	68.1	24.20	8.52

entrepreneurship improve human development trends, that means are positively related to higher HDI short-term trends.

As a measure of inequality, we use the GINI coefficient because it can be used to compare income distributions across different countries. This coefficient takes values from 0 (absolute equality) to 100 (absolute inequality).<sup>d</sup> In this chapter, GINI coefficient data were also taken from UNDP. Descriptive statistics are presented in Table 1.

### 3.2. Model specifications

Our main goal in this manuscript is to review if the relation of total and necessity-motivated early-stage entrepreneurship is positively associated with poverty reduction trends. We decide not to follow the relation of higher levels of poverty and income inequality associated with higher levels of entrepreneurial activity. Amorós and Cristi (2011) demonstrated that lower levels of human development and more income inequality are associated with more people starting new businesses. As some previous studies state (i.e., Bosma *et al.*, 2009; Shane, 2009), more entrepreneurs are found in developing countries characterized by greater income inequality. This relation is well known and established in recent empirical literature (Nurul *et al.*, 2021). For example, Amorós *et al.* (2019), in a cross-country

<sup>d</sup>Specifically, Gini coefficients measure the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. In turn, the Lorenz curve shows the cumulative distribution of total households' income going to the lowest percentiles of families (Sharp *et al.*, 2003). About the Gini and Lorenz curve calculation see also Gastwirth (1972).



empirical exercise using GEM data, confirm that in less developed economies, individuals engage more in necessity-based entrepreneurship, and suggest that weak institutions (one of the systemic causes of poverty) has effects on this type of entrepreneurship efforts (Patel *et al.*, 2021). Many other empirical investigations demonstrate that the individual probability of starting an entrepreneurial new venture is explained by the effect of institutional context. (McMullen *et al.*, 2008; Cullen *et al.*, 2014; Estrin *et al.*, 2013; Stephan *et al.*, 2015 among others).

We replicate and update the data used by Amorós and Cristi (2011). We perform the same model whether total early-stage entrepreneurship (TEA) and necessity-motivated early-stage entrepreneurship (NEC) are positively associated to poverty reduction trends. We retest whether lagged effects of early-stage entrepreneurship (and early-stage necessity entrepreneurship) on HDI and add a model related only with the start-ups (SUNEC), which is the proportion of NEC referring to individuals that are starting a new venture with less than three months of operation. HDI trends for the period 2010–2019 capture short-term improvements in human development in each country. We consider that these trends continue to be good proxies for the above-mentioned lagged effects. To formally analyze the effect of mean TEA, mean NEC, and on HDI short-term trends, we propose the following two models for HDI short-term (HDIS):

$$HDIS_i = \beta_0 + \beta_1 TEA_i + \beta_2 TEADUMMY_i + \beta_3 NECPART_i + \beta_4 GINI_i + v_i \quad (1)$$

$$HDIS_i = \gamma_0 + \gamma_1 NEC_i + \gamma_2 NECDUMMY_i + \gamma_3 NECPART_i + \gamma_4 GINI_i + v_i \quad (2)$$

$$HDIS_i = \delta_0 + \delta_1 SUNEC_i + \delta_2 SUNECDUMMY_i + \delta_3 SUNECPART_i + \delta_4 GINI_i + v_i \quad (3)$$

In Eq. (1), *TEADUMMY* is obtained by multiplying early-stage entrepreneurship by a dummy variable taking a value of 1 for developed countries and 0 otherwise.<sup>e</sup> *NECPART* is the ratio between NEC and TEA, and *v* is a random error with 0 mean and constant variance. *i* represent the observation of each country.

Equation (1) presupposes that higher country average levels of early-stage entrepreneurship result in more pronounced poverty reduction with some lags and that this effect is relatively stronger in developing countries. This effect is captured by *TEADUMMY*. The variable *NECPART* can capture the possible effect resulting from the distribution of early stage-entrepreneurship between necessity and opportunity motives. The strong link between poverty and NEC, the higher a country's value of *NECPART* is, the greater the effect of TEA will be on poverty reduction. GINI coefficient is included to capture the effect on countries with lower income inequality perform better on poverty reduction.

Equations (2) and (3), *NECDUMMY* and *SUNECDUMMY* are obtained by multiplying NEC and SUNEC by a dummy variable similar to *TEADUMMY*. *SUNECPART* is the

<sup>e</sup>Countries were assigned a value of 0 or 1 following Bosma *et al.* (2009) and consistently with the World Economic Forum's Global Competitiveness Report 2019 (WEF, 2019).

proportion of startups by necessity and TEA. In these models, as in the equation, we sustain the hypothesis that higher average levels of NEC and SUNECA are associated with stronger poverty reduction over time.

#### **4. Empirical Results**

On Eqs. (1), (2), and (3) we postulate that TEA, NEC, and SUNECA may affect the level of short-term HDI. However, it is also true that HDI, in turn, can affect TEA, NEC or SUNECA causing an endogeneity problem. We test for endogeneity by running a modified Hausmann test as proposed by Wooldridge (2009).<sup>f</sup> The test indicates that we must reject the exogeneity of TEA, NEC, and SUNECA. Following Amorós and Cristi (2011) we estimate these models using two-stage least squares (2SLS), where the mean value of TEA, NEC and also SUNECA for each country are instrumented using the exogenous variables of the models and a proxy for political stability. Data on political stability are obtained from the World Bank's Worldwide Governance Indicators (WGI).

Table 2 shows estimated parameters for equations (1), (2), and (3). Results support the hypothesis that higher values of TEA, NEC, and SUNECA have a positive effect on countries' poverty reduction trend. These new results compared with Amorós and Cristi (2011) suggest that in the period 2010–2019, a reduction of poverty measured by the HDI trend is presented on our models. The dummy variables, TEADUMMY and SUNECDUMMY are negative and significant, which means that the effect is more representative for developing economies. We don't find a significant effect for NECDUMMY. The proportion of necessity-based entrepreneurship into TEA (NEC part) is not significant for TEA model and negative to NEC model. Besides, there is no significant effect of the proportion of NEC startups on TEA (SUNEPART). As is expected, high values of GINI coefficients (more inequality countries) have negative effect on the improvement of HDI trend over time.

#### **5. Discussion and Conclusion**

In this research, we established the aim of identifying the relation between entrepreneurial activity and poverty alleviation by providing some evidence of the relevance of entrepreneurship putting focus on developing economies. We review if the relation of total and necessity-motivated early-stage entrepreneurship is positively associated with poverty reduction trends. Following the previous empirical exercise of Amorós and Cristi (2011), our results indicate that country entrepreneurial dynamics is associated with reduction of poverty over the 2010–2019 period. We reinforce the relevance of understanding the accurate role of entrepreneurship activities in the development process (Naudé, 2009) beyond initial motivations of the individuals to undertake new business endeavors. Gries and Naude (2011), who formalized Amartya Sen's Capability Approach for the case of

<sup>f</sup>In this case, we estimate auxiliary reduced-form regressions for NEC and TEA. The linear regressions are performed over NECPART, (SUNEPART), GINI, a constant term, and a variable measuring political stability (PS). Boettke and Coyne (2007), Minniti (2008), and Amorós *et al.* (2019) provide theoretical and empirical support for the use of political stability as an instrumental variable.

Table 2. Estimates of the parameters of the regression models for HDI using 2SLS. Dependent variable: HDI short-term (all the variables correspond to the mean value of each country).

	Model of Equation (1)	Model of Equation (2)	Model of Equation (3)
TEA	0.038*** (0.008)		
TEADUMMY	-0.014** (0.005)		
NEC		0.139*** (0.036)	
NECDUMMY		-0.037 (0.019)	
NECPART	0.0009 (0.002)	-0.014* (0.007)	
SUNEC			0.241 *** (0.063)
SUNECDUMMY			-0.089 ** (0.042)
SUNECPART			-0.004 (0.005)
GINI	-0.012* (0.007)	-0.015** (0.008)	-0.015* (0.008)
Constant	0.548** (0.235)	1.095*** (0.356)	0.854** (0.314)
	Values		
<i>F</i>	3.11***	7.18**	6.99**
<i>N</i>	104	104	99

Notes: (Standard Errors), \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$ .

entrepreneurship, state that the value of entrepreneurship would be reflected in whether people have the choice of not to be an entrepreneur. Necessity entrepreneurs could have resource constraints when this condition is associated with job loss or lack of satisfactory work options (Ryff, 2019). But many necessity-based entrepreneurs have growth aspirations and visualize opportunities beyond only “scape of poverty” (Langevan *et al.*, 2012; Calderon *et al.*, 2016). This is relevant in terms of the function of entrepreneurship activities, even sub-optimal, because necessity-based entrepreneurship is not necessarily negative, it is a mechanism through which individuals adapt to institutional voids in entrepreneurial ways (De Soto, 1989).

The current discussion among the economic effect of total, opportunity or necessity entrepreneurship is generally settled under macroeconomic perspectives like GDP. This perspective involves that only high impact entrepreneurship is important for the economy, with this orientation entrepreneurship based on innovation is desirable

(Martinez *et al.*, 2021). However, we also may consider less fortunate scenarios such as the present COVID-19 issue. In crisis periods we should consider criteria that go further than economic growth, like the maintenance of health, freedom, environment, and life for individuals around the world. In this sense, we consider that entrepreneurship has a “refugee effect” (Aubry *et al.*, 2015).

Our findings are aligned with those of Thurik *et al.* (2008), who demonstrated that within self-employed entrepreneurship, the “entrepreneurial effect” will outweigh the “refugee effect” in the long run, which will ultimately help alleviate poverty. Total and necessity-motivated early-stage entrepreneurship matter to reduce poverty, and for such reasons, it is relevant to identify which kind of policies are more suitable for them. For instance, in periods of crisis and at the start of recovery (2009–2016), expansive fiscal policies that do not create undue tax burdens for entrepreneurs who have no choice but to start a business because of the lack of alternative employment and low income should be implemented (Martínez-Rodríguez *et al.*, 2020).

The crisis caused by COVID-19 has decreased employment, global trade interchange, income for personal remittances and has negatively affected some industries (ECLAC, 2020; World Bank, 2020). Although most of the economies around the world have no growth during the pandemic, it is important to consider that, to face income decrease in a microeconomic level — having as a macroeconomic result an increase on poverty — to strength entrepreneurial activity through public policies has been an option for some countries (Martinez *et al.*, 2021). By considering the results of opportunity and necessity entrepreneurship it has been found that necessity entrepreneurship is an alleviator of poverty (Amorós *et al.*, 2019). Because of this fact, public policies like micro credits and sustainable incentives (Patel *et al.*, 2021; UNDP, 2020) should be considered to foster the HDI.

This exploratory study contributes by pointing out that necessity entrepreneurship in developing countries requires attention. Even if this is not the path for economic growth, it at least permits people to maintain the HDI while facing devastating situations like COVID-19. Some preliminary data also from GEM (2020) and other sources (Facebook/OECD/WB, 2020) allow us to identify that, at the beginning of COVID 19 crisis, people in developing countries were pushed into necessity entrepreneurship, having this a positive effect where if countries do not have a perceived growth through GDP, they maintain freedom and the opportunity to leave, factors considered by the HDI.

We acknowledge that entrepreneurship public policies have different effects according to the context (Boettke and Coyne, 2009), some authors have well recognized that entrepreneurship is a way to alleviate poverty (Si *et al.*, 2020, Musara *et al.*, 2020, Nurul, 2021); nevertheless, others have rejected it (Wennekers *et al.*, 2005; Shane, 2009). Because of this, we invite scholars to strengthen the research with special cases, for example, making a selection of countries and specific industries and determining the results of the entrepreneurship initiatives in the context of human development and poverty reduction.

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