



Does globalization affect perceptions about entrepreneurship? The role of economic development

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Abstract Drawing on the World Economic Forum’s goals of inclusive growth, we analyze whether globalization imbues confidence to engage in entrepreneurship in countries at different stages of economic development. We focus on the association between globalization and three core perceptions about entrepreneurship—the perceived presence of good opportunities to start a business in the local area, perceived skills and abilities to start a business, and fear of failure prevents one from starting a business. Using a combination of individual-level data from the Global Entrepreneurship Monitor (1,752,636 individuals) and country-level data from the KOF Swiss Economic Institute and World Bank (103 countries) from the years 2001 to 2016, we find that globalization negatively impacts the perceived opportunities for entrepreneurship. However, globalization does not meaningfully change perceived entrepreneurial skills or fear of failure. Interaction analyses further show that the economic development of a country moderates the effect of globalization on perceived opportunities. The findings

highlight that the role of globalization in improving perceptions towards entrepreneurship is partly conditional on the stage of economic development of a country.

Keywords Entrepreneurship · Globalization · Economic development · Perceptions

JEL classifications F60 · O1 · L26

1 Introduction

Globalization influences economic, political, and social elements of lives throughout the world and primes entrepreneurial activity in a variety of domains. Several studies have demonstrated the positive effects of globalization on innovation (Narula 2014) and economic development (Coulibaly et al. 2018), as well as on internationalization and transnational entrepreneurship (Matlay et al. 2006; Mathew et al. 2019) and social entrepreneurship (Prashantham et al. 2018). Globalization expands the market place for firms but also leads to greater competition from foreign multinational firms and potentially fewer opportunities for start-ups. As such, there is also evidence about the (shorter-term) negative effects of globalization, especially in lower-income countries (Kentor 2001; Manda and Sen 2004; Adesina 2012).

In this study, we ask whether the association between globalization and perceived efficacy towards entrepreneurship is conditional on the stage of economic

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development of a country. On the one hand, as economies develop, the generation of new technologies, as opposed to the absorption and implementation of existing technologies, becomes increasingly important (Ács and Naudé 2013). Globalization may improve the access to technology, knowledge, and networks that may increase the loci of entrepreneurial opportunities. Economic development and economic globalization, characterized by long-distance flows of goods, capital, and services, often go together, and at times, entrepreneurs respond to globalization by adopting internationalization strategies (Oviatt and McDougall 2005; Dreher et al. 2008). On the other hand, growing inequalities despite globalization (Antràs et al. 2017; Bourguignon 2017; Forster et al. 2019) and the rising cost of living (Milanovic 2005; Wade 2004) may lead to a preference for more stable employment jobs over uncertain entrepreneurial returns in lower-income countries. Moreover, crowding out of entrepreneurial opportunities by more established local (or, foreign) incumbents (Auer 2006; Kalleberg 2018; Standing 2010) could lead to less favorable perceptions about entrepreneurship. As such, globalization may also hamper inclusive growth and proliferate income inequalities.

Following the World Economic Forum's call for inclusive growth, the stage of the economic development of a country could be pivotal in explaining the impact of globalization on perceptions and inclinations towards entrepreneurship. Entrepreneurship is commonly believed to foster the economic development of countries (Van Praag and Versloot 2007; Carree and Thurik 2010) through job creation and innovation (Audretsch 2007; De Wit and De Kok 2014), and therefore entrepreneurship is potentially one of the most important channels for inclusive growth. However, the nature of entrepreneurship differs across factor-driven, efficiency-driven, and innovation-driven economies (Wennekers, van Stel, Thurik & Reynolds, 2005; Carree & Thurik, 2010) and the equilibrium rate of entrepreneurship varies across these stages (Carree, van Stel, Thurik & Wennekers, 2002, 2007; Carree & Thurik, 2010). Therefore, it is important to take the stage of economic development of a country into account when analyzing the impact of globalization on perceptions about entrepreneurship.

In our study, we analyze individual-level data for the years 2001 to 2016 from the Adult Population Surveys (APSs) of the Global Entrepreneurship Monitor (GEM). Following the Global Entrepreneurship Monitor, we

investigate three core perceptions about entrepreneurship, namely the perceived presence of good opportunities to start a business in the area where you live, the perceived skills to start a business, and whether fear of failure prevents the start of business (Arenius and Minniti 2005). We supplement the GEM data with country-level information about globalization and economic development from the KOF Swiss Economic Institute (SEI) and the World Bank. KOF SEI's Globalization Index is used widely as a measure of globalization (Potrafke 2015). Next to analyzing the main Globalization Index, we follow KOF SEI in making a distinction between *de jure* and *de facto* globalization (Gygli et al. 2019; Dreher et al. 2008). The *de jure* dimension focuses on the analysis of national policies allowing for the flow of goods and activities, whereas the *de facto* dimension focuses on the actual presence of these flows and activities. In total, our analysis sample comprises 1,752,636 individuals from 103 countries from the years 2001 to 2016. We find that globalization negatively impacts the perceived opportunities for entrepreneurship, however, globalization does not meaningfully change perceived entrepreneurial skills nor fear of failure. Interaction analyses show that the economic development of a country positively moderates the effect of globalization on perceived opportunities such that it is positive in higher-income countries. The effects are stronger for *de facto* globalization than for *de jure* globalization. Interestingly, we find that globalization or its interaction with economic development does not meaningfully impact perceived skills and abilities nor fear of failure.

These findings are informative for both theory and practice. Theoretically, addressing this research question is important because critics and skeptics of globalization have highlighted the uneven distribution of gains from globalization across countries and the wide-ranging negative impact on the environment and labor force (Stiglitz, 2017). The growing cost of living and desynchronized institutional development are some factors that limit individuals in lower-income countries to gain from globalization through entrepreneurship. We assess this critique by analyzing the impact of globalization on perceptions about entrepreneurship. Based on the theory of planned behavior (Ajzen 1991; Kautonen et al. 2015; Lortie and Castogiovanni 2015), perceptions influence the choice for entrepreneurship through opportunity identification, the acquisition of the skills and abilities necessary to start a business, and confidence in

the face of fear of failure (Arenius and Minniti 2005). The effects of globalization on these perceptions in countries with higher and lower economic development may, however, vary systematically. As such, our findings may contribute towards a more nuanced picture of the impact of globalization on entrepreneurship.

For policymakers and practitioners, positive perceptions about entrepreneurship represent the stock of potential entrepreneurs and, drawing parallels from evolutionary theory, they constitute the starting point of providing the necessary entrepreneurial variation in the economy (Breslin 2008). Therefore, positive proclivities in the population towards entrepreneurship could be central to priming economic growth and lowering poverty (Prashantham et al. 2018). Hence, insights resulting from the theory of planned behavior may help to improve perceptions towards entrepreneurship as a viable career option in the face of emerging opportunities and threats from globalization (Ajzen 1991). Relatedly, with numerous policy and resource initiatives to stimulate entrepreneurship implemented at the national level, the possibly heterogeneous effect of globalization by the level of economic development of a country is essential to investigate as past studies have challenged researchers to study entrepreneurial intentions across different institutional contexts (Engle et al. 2011; Ghosh 2017; Iakovleva et al. 2014).

The remainder of the paper is structured as follows. In section 2, we use the theory of planned behavior to hypothesize how globalization affects perceptions about entrepreneurship as well as how the economic development in a country moderates these relationships. Thereafter, we describe the data and methodology in section 3. In section 4, we present the empirical results. The empirical findings are discussed in section 5. In the latter section, we also provide a conclusion and directions for future research.

2 Theoretical development and hypotheses

In this section, we use the existing literature to link the economic development of a country with its level of entrepreneurship (section 2.1) and to motivate why, according to the theory of planned behavior, perceptions about entrepreneurship are important to analyze (section 2.2.). Thereafter, we discuss how globalization influences perceptions about entrepreneurship

(section 2.3) and how the economic development of a country may act as a moderator of the relationship between globalization and perceptions about entrepreneurship (section 2.4).

2.1 Economic development and entrepreneurship

Based on a country's Gross Domestic Product (GDP) per capita, the World Economic Forum classifies countries into three stages of economic development (World Economic Forum, 2017). Countries and their economies are considered factor-driven, efficiency-driven, or innovation-driven, with each stage reflecting a higher degree of complexity in the operation of the economy. Businesses compete for different reasons throughout these stages, and therefore the nature of entrepreneurship differs across economies in different stages of economic development (Wennekers, van Stel, Thurik & Reynolds, 2005; Carree & Thurik, 2010). In the factor-driven countries, entrepreneurs primarily compete based on their factor endowments. Unskilled labor and the extraction of natural resources are central in these economies. Businesses compete on the basis of prices and sell basic products or commodities. In these countries, the level of new business formation is relatively high but remains mostly sustenance based. In the efficiency-driven stage of development, businesses need to make their production processes more efficient and increase product quality to achieve economies of scale and to maintain higher wages. Therefore, the level of new business formation is lower than in factor-driven economies. Finally, in the innovation-driven stage, businesses primarily compete by providing new or unique products. An increasing knowledge intensity in the industrial sector and an expanding services sector are characteristics of innovation-driven economies. As a result, new business formation increases compared to the efficiency-driven stage. The changing nature of entrepreneurship across the three stages of economic development makes that the equilibrium rate of entrepreneurship varies across these stages (Carree, van Stel, Thurik & Wennekers, 2002, 2007; Carree & Thurik, 2010). In their review of the literature, Hessels and Naudé (2019) also note that the contribution of entrepreneurship to economic development may depend on the development stage of a country.

2.2 The theory of planned behavior and perceptions about entrepreneurship

Most entrepreneurship studies focus on the actual undertaking and the outcomes of entrepreneurship, but the pre-nascent affinity for entrepreneurship is considered to be important as well as an indicator of the stock of entrepreneurial proclivity in an economy (Engle et al. 2010). The notion of entrepreneurial intentions was put forward by Shapero (1975), who focused on factors driving the occurrence of venture creation. According to Shapero (1975), the entrepreneurial events occur based on interactions between situational and socio-cultural factors, where situational conditions may prime and impel the social, cultural, and economic conditions to bring entrepreneurial events to fruition. Krueger and Carsrud (1993) build upon this model and propose a model of entrepreneurial intentions in which perceived feasibility and perceived desirability are driven by perceived self-efficacy and social norms. Krueger (2017) notes that the intention may evolve in a complex dynamic fashion that may evolve through reinforcing or attenuating loops and in which individuals with strong intentions may not engage in entrepreneurship and those with weaker intentions may nevertheless become entrepreneurs. Focusing on differences in entrepreneurial intentions in developed and developing countries, Nabi et al. (2011) find that in developing countries institutions that support entrepreneurial efforts are the driver of entrepreneurial intentions whereas in developed countries economic dynamism is among the factors influencing entrepreneurial intentions. Nevertheless, as reviewed in the study by Fayolle and Liñán (2014), the entrepreneurship literature broadly supports that intentions may lead to actual choice outcomes (Carsrud and Brännback 2011; Krueger Jr et al. 2000).

The three central indicators in this study — the perceived presence of good opportunities to start a business in the area where you live, the perceived skills to start a business, and fear of failure to start a business — are core elements in the theory of planned behavior, as developed by Ajzen. This theory is widely used to explain the intentions of individuals planning entry into entrepreneurship (Ajzen 1991; Kautonen et al. 2015; Lortie and Castogiovanni 2015). According to this theory, individual attitudes, norms, and perceived behavioral control, together shape an individual's behavioral intentions and actual behaviors. The three perceptions about entrepreneurship are associated with the three

main core elements of the theory of planned behavior—availability of an opportunity, skills and abilities to succeed, and lower fear of failure from operating a firm. Importantly, due to amplified risk-taking and uncertainty, coupled with the prospects of failure, fear of failure is an inhibitor for entrepreneurship, representing an ex-ante hurdle to develop an interest in and engagement with entrepreneurship (Cacciotti et al. 2016; Wennberg et al. 2013). Networks may play an important role in recognizing opportunities and helping mobilize resources (Bhagavatula et al. 2010; Ozgen and Baron 2007). Globalization may influence risk-taking that in turn may influence entrepreneurial perceptions (Barbosa et al. 2007). Feasibility refers to whether an individual considers entrepreneurship a viable choice based on the available opportunities and skills to succeed (Fitzsimmons and Douglas 2011). Desirability concerns whether the feasible choice of entrepreneurship is desirable to the individual. Both feasibility and desirability may be influenced by globalization.

2.3 Globalization and perceptions about entrepreneurship

The term globalization, coined by Levitt (1983), refers to the integration of national economies by lowering trade barriers. Although globalization is generally studied from an economic perspective, its effects are manifested in both economic and non-economic dimensions (Gygli et al. 2019). Dreher et al. (2008) proposed a composite indicator of globalization based on its economic, political, and social dimensions. The economic dimension refers to the typical characterization of globalization as the flows of goods and services and market exchanges. The political dimension includes diffusion and expansion of government policies, and finally, the social dimension includes the diffusion of people, information, and ideas. These three dimensions of globalization could influence entrepreneurship, not only through improvements in the economic infrastructure and flows of goods and services but also by promoting the necessary transparency and ease of doing business in a country. For example, political globalization may provide the necessary transparency and ease of launching a business and foster the necessary safety nets (e.g., third party guarantee loans or favorable bankruptcy laws). Relatedly, social globalization may provide the psychological aspirations to improve personal and human conditions

in general and pursuing autonomy and self-realization in particular.

The KOF Index proposed by (Dreher 2006) and further refined by Gygli et al. (2019) comes with two additional dimensions of globalization: *de jure* and *de facto* globalization. The *de jure* dimension focuses on the analysis of national policies allowing for the flow of goods and activities, whereas the *de facto* dimension focuses on the actual analysis of flows and activities. In other words, the *de jure* dimension focuses on policies, and the *de facto* dimension focuses on outcomes. The need for assessment of both *de jure* and *de facto* globalization is essential even though these measures are highly correlated and move in tandem. First, the *de jure* globalization measure is of key interest and is less subject to reverse causality bias than the *de facto* measure when studying perceptions about entrepreneurship. The *de facto* measure could be driven by a complex chain of economic mechanisms and is more difficult to measure due to the leading and lagging effects of economic factors. Second, *de facto* globalization may not be fully observable by citizens. Globalization flows are sector-specific and those without direct exposure to trade and flows may not fully grasp the level of globalization. Even those directly exposed to an aspect of globalization in a sector within a country may not be able to fully assess the actual level of globalization. *De jure* globalization may be more visible to citizens as being diffused through media and public discourse in a country. Therefore, in addition to the general composite index, we also need to test whether *de jure* and *de facto* globalization impact the three perceptions about entrepreneurship differently.

2.4 Economic development as a moderator of the relationship between globalization and perceptions about entrepreneurship

The effect of globalization on perceptions about entrepreneurship may not be inherently positive or negative. Related to the economic dimension of globalization, in many low-income countries the effect of globalization has been quite asymmetric. Ranging from labor violations and exploitation by multinationals from higher-income countries (Goldberg and Pavcnik 2007; Prasad et al. 2005; Smith 2016), economic globalization may not necessarily prime sufficient economic growth to prime the drive for entrepreneurship. Evident of the case in point is that several developing countries, including

the so-called BRICS countries (Brazil, Russia, India, China, and South Africa), have not witnessed a vibrant growth in entrepreneurial activity in recent decades. Concentrated in specific sectors in respective countries (e.g., manufacturing in China, services in India and the Philippines), the effect of economic globalization may not be sufficiently diffuse to prime the growth necessary to improve perceptions about entrepreneurship (Lang and Tavares 2018; Ravallion 2018). Furthermore, economic globalization also has come with its consequences in terms of rising costs of living and downward pressure on wages (Singh and Zammit 2019; van der Hoeven 2019). With the free flow of goods and services, the variations in purchasing power parity have increased over the decades (Gaies et al. 2020; Bourguignon 2017). Greater wage competition from globalization and lower synchronization of internal growth across sectors have further put pressure on the cost of living. The rise in the costs of living and the slightly higher wage growth may not provide the financial buffers necessary to consider entrepreneurship as a viable career option.

Related to the effects of political globalization, governments across the world have started more transparency initiatives and have increased the ease of doing business (Corcoran and Gillanders 2015; Jayasuriya 2011). The increased denouncing of corruption and relaxation of regulation to promote foreign direct investments and trade have further primed both *de jure* and *de facto* political globalization. In addition to the direct benefits of political globalization in terms of policies benefitting business, greater diffusion of democratic values and accountability can further prime individuals to consider entrepreneurship as a viable career path. Lacking political globalization, rent-seeking, and wealth transfer may deter individuals to consider entrepreneurial activities. Although the diffusion of political values from globalization is unquestionable, studies have also found that the level of trust in governments or the degree of corruption has not changed at the ground level in many developing countries (Reinsberg et al. 2019). The level of inequality has grown significantly in these countries, indirectly suggesting that wealth redistribution through equality of opportunity has remained elusive. In a tangential body of work related to the effects of political globalization, firms in the informal sector are not more likely to transition to the formal sector (Ulyseya 2018) and at times their transition is temporary. If economic and political globalization would impact economic opportunities and transparency from the

government, one would have expected much higher flux into the formal sector and lower wealth concentration.

Lastly, the social globalization of values and ideas may promote the greater need for autonomy and self-actualization through entrepreneurship. Social globalization has helped the transition of females into the workforce in developing countries, and greater access to knowledge, ideas, and networks could prime individuals to pursue entrepreneurial opportunities. However, globalization has led to an asymmetric spread of values and ideas from developed to developing countries (Arnett 2002; Husted 2003). The combination of lower incomes in developing countries but higher social aspirations from developed countries could lead to substantial expectation gaps that may not be fulfilled in the high-risk context of entrepreneurship. Instead, individuals may acquire more education and seek better employment positions to improve their economic outcomes.

Taking all three dimensions (the economic, political, and social dimension) into account, we may expect the level of economic development of a country to moderate the impact of globalization on perceptions about entrepreneurship.

3 Data and methodology

3.1 Data sources

Our individual-level sample is taken from the publicly available Adult Population Surveys (APSs) of the Global Entrepreneurship Monitor (GEM). The APS is administered to a representative sample of at least 2000 adults in each participating country. For this study, we merged data from the survey years 2001–2016 (2016 is the most recent publicly available dataset). The number of participating countries varies per year and ranges between 20 (2001) and 66 (2013). We add country-level information to the GEM data from two sources, namely the (i) KOF Globalization Index provided by the KOF Swiss Economic Institute (SEI) and (ii) GDP per capita from the World Bank. The KOF Globalization Index was introduced in 2002 by Dreher (2006) and was built further by Gygli et al. (2019) and measures globalization from 1970 to 2017 in 207 countries. GDP per capita is reported in 2011 international dollars. After merging the data and casewise deletion of observations with missing data,

our final sample includes 1,752,636 respondents from 103 countries in the years 2001 to 2016.

3.2 Measures

3.2.1 Outcome variables

The three outcome variables are all binary variables. The three measures are (i) whether the respondent perceives good opportunities to start a business in the area where he or she lives [1 = Yes; 0 = No], (ii) whether the respondent perceives to have the required knowledge and skills to start a business [1 = Yes; 0 = No], and (iii) whether fear of failure would prevent the respondent from starting a business [1 = Yes; 0 = No].

3.2.2 Main explanatory variables

Our main explanatory variable is the Globalization Index, on which each country scores a value between 1 and 100 with higher values indicating a higher level of globalization. The measure is based on indicators of economic, social, and political globalization and has been used in a variety of studies (Potrafke 2015). Economic globalization is a composite measure of trade (percent of GDP), FDI stocks (percent of GDP), portfolio investment (percent of GDP), income payments to foreign nationals (percent of GDP), hidden import barriers, mean tariff rate, taxes on international trade (percent of current revenue), and capital account restriction. Social globalization includes telephone traffic transfers (percent of GDP), international tourism foreign population (percent of the total population), international letters (per capita), internet users (per 1000 people), TVs (per 1000 people), trade-in newspapers (percent of GDP), number of McDonald's restaurants (per capita), number of Ikea stores (per capita), and trade in books (percent of GDP). Finally, political globalization is a composite measure of the number of foreign embassies in a given country, membership in international organizations, participation in U.N. Security Council missions, and the number of signed international treaties (Dreher et al., 2008). The three dimensions are averaged to derive the total score ranging from 1 to 100.

Besides the main Globalization Index (total score), the KOF Swiss Economic Institute also provides information about *de facto* and *de jure* globalization. The *de facto* measure focuses on actual international flows and activities, whereas the *de jure* measure focuses on

Table 1 Descriptive statistics analysis sample ($N_{individuals} = 1,752,636$; $N_{countries} = 103$; Years 2001–2016)

	Variable operationalization	Source	Mean	S.D.	Min.	Max.
<i>Outcome variables</i>						
Perceived presence of good opportunities to start a business	1=Yes; 0=No	GEM	0.414	0.493	0.000	1.000
Perceived skills to start a business	1=Yes; 0=No	GEM	0.537	0.499	0.000	1.000
Fear of failure to start a business	1=Yes; 0=No	GEM	0.390	0.488	0.000	1.000
<i>Main explanatory variables</i>						
Globalization Index	1–100	SEI	73.740	11.188	34.545	91.313
Globalization Index (<i>de facto</i>)	1–100	SEI	70.443	11.518	34.023	91.894
Globalization Index (<i>de jure</i>)	1–100	SEI	77.054	11.770	30.782	93.720
<i>Moderator variable</i>						
Logarithm of GDP per capita	2011 international dollars	WB	9.933	0.763	6.991	11.667
<i>Control variables</i>						
Female	1=Female; 0=Male	GEM	0.485	0.500	1.000	2.000
Age	Years	GEM	39.416	12.809	18.000	64.000
Household income: Lowest tercile	1=Lowest tercile; 0=Middle/Highest tercile	GEM	0.322	0.467	0.000	1.000
Household income: Middle tercile	1=Middle tercile; 0=Lowest/Highest tercile	GEM	0.333	0.471	0.000	1.000
Household income: Highest tercile	1=Highest tercile; 0=Lowest/Middle tercile	GEM	0.345	0.475	0.000	1.000
Education: None	None=1; Other=0	GEM	0.099	0.298	0.000	1.000
Education: Some secondary	Some secondary=1; Other=0	GEM	0.206	0.404	0.000	1.000
Education: Secondary degree	Secondary degree=1; Other=0	GEM	0.344	0.475	0.000	1.000
Education: Post-secondary	Post-secondary=1; Other=0	GEM	0.281	0.449	0.000	1.000
Education: Graduate	Graduate=1; Other=0	GEM	0.071	0.257	0.000	1.000

Notes: GDP = Gross Domestic Product; GEM = Global Entrepreneurship Monitor; SEI = Swiss Economic Institute; WB = World Bank; S.D. = Standard deviation; Min. = Minimum; Max. = Maximum

policies and conditions that enable and foster globalization (Dreher 2006; Dreher et al. 2008; Gygli et al. 2019). A full exposition of all the components constituting *de facto* and *de jure* globalization, and their respective weights are available in Gygli et al. (2019). In our analyses, we use the total score, the *de facto* score, and the *de jure* score as our main explanatory variables.

3.2.3 Moderator variable

GDP per capita is reported in 2011 international dollars. Because of its skewness, we logarithmically transform this variable.

3.2.4 Control variables

In our analyses, we include all the available socio-demographic variables in the GEM dataset. That is, we control for gender (1 = Female; 0 = Male), age in years (as well as age in years squared to account for possible

non-linearities), household income categories (first, second, or third tercile), and level of education (none; some secondary, secondary degree, post-secondary, and graduate). We also control for the year of survey and country dummies.

Methodology Because of the binary nature of our dependent variables, we employ logit regressions in which we cluster the standard errors by country-year combinations. To check for specification bias, we constructed models with and without control variables. These two types of models provide generally consistent results, but because of space limitations, we only report the results of the models with control variables. For each dependent variable, we run three models. In the first model, the explanatory variables are one of the globalization measures and the set of control variables. In the second model, we additionally include the logarithm of GDP per capita. Finally, in the third model, we additionally

Table 2 Results of the logit regressions explaining whether an individual perceives good opportunities to start a business in the area where he or she lives (Yes = 1; 0 = No)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Globalization Index	-0.014 (0.013)	-0.031** (0.014)	-0.274*** (0.092)						
Logarithm of GDP per capita		1.302*** (0.277)	-0.322 (0.635)		1.201*** (0.264)	0.457 (0.462)		1.256*** (0.278)	-1.425* (0.731)
Globalization Index \times Logarithm of GDP per capita			0.026*** (0.010)						
Globalization Index (<i>de facto</i>)				-0.023** (0.011)	-0.024** (0.011)	-0.154** (0.071)			
Globalization Index (<i>de facto</i>) \times Logarithm of GDP per capita						0.014* (0.007)			
Globalization Index (<i>de jure</i>)							0.010 (0.011)	-0.011 (0.011)	-0.389*** (0.102)
Globalization Index (<i>de jure</i>) \times Logarithm of GDP per capita									0.039*** (0.011)
Female	-0.212*** (0.009)	-0.213*** (0.009)	-0.213*** (0.009)	-0.212*** (0.009)	-0.213*** (0.009)	-0.213*** (0.009)	-0.212*** (0.009)	-0.213*** (0.009)	-0.213*** (0.009)
Age	0.005* (0.003)	0.006* (0.003)	0.006* (0.003)	0.005* (0.003)	0.006* (0.003)	0.006* (0.003)	0.005* (0.003)	0.006* (0.003)	0.006* (0.003)
Age squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Household income: Middle tercile	0.143*** (0.014)	0.139*** (0.014)	0.141*** (0.014)	0.143*** (0.014)	0.139*** (0.014)	0.141*** (0.014)	0.142*** (0.014)	0.139*** (0.014)	0.141*** (0.014)
Household income: Highest tercile	0.325*** (0.017)	0.320*** (0.017)	0.321*** (0.017)	0.326*** (0.017)	0.320*** (0.017)	0.321*** (0.017)	0.323*** (0.017)	0.318*** (0.017)	0.320*** (0.017)
Education: Some secondary	-0.038* (0.020)	-0.022 (0.019)	-0.029 (0.019)	-0.038* (0.020)	-0.022 (0.019)	-0.027 (0.020)	-0.036* (0.020)	-0.022 (0.019)	-0.029 (0.019)
Education: Secondary degree	0.005 (0.022)	0.017 (0.021)	0.014 (0.021)	0.005 (0.022)	0.016 (0.021)	0.014 (0.021)	0.007 (0.021)	0.018 (0.021)	0.015 (0.021)
Education: Post-secondary	0.123*** (0.025)	0.134*** (0.025)	0.128*** (0.025)	0.121*** (0.025)	0.133*** (0.025)	0.129*** (0.025)	0.125*** (0.025)	0.136*** (0.025)	0.129*** (0.025)
Education: Graduate	0.242*** (0.035)	0.249*** (0.034)	0.243*** (0.034)	0.241*** (0.035)	0.249*** (0.034)	0.245*** (0.034)	0.244*** (0.035)	0.250*** (0.034)	0.245*** (0.034)

Table 2 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Country dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Constant	0.896 (0.679)	-10.308*** (2.401)	4.947 (5.979)	1.210** (0.522)	-9.887*** (2.383)	-2.733 (4.422)	-0.418 (0.621)	-10.921*** (2.479)	14.847** (6.993)
Pseudo R ²	0.083	0.083	0.084	0.083	0.083	0.084	0.083	0.083	0.084
Individuals	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636
Countries	103	103	103	103	103	103	103	103	103

Notes: Standard errors in parentheses (clustered by country-year combination); *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

include the interaction between globalization and the logarithm of GDP per capita.

4 Results

Table 1 presents the operationalization of variables, the data source for each variable, and descriptive statistics. Approximately 41% of the respondent in our sample perceives that there are good opportunities to start a business in the area where they live. Roughly more than half of the respondents (54%) believe they possess the skills required to start a business and 39% of the respondent indicates that fear of failure would withhold them from starting a business. The mean score on the Globalization Index is 73.74,¹ and the mean score for de facto globalization (70.44) is lower than the mean score for *de jure* globalization (77.05). The correlation between de facto globalization and *de jure* globalization is 0.84 ($p < 0.001$). The average GDP per capita in the sample is \$20,592 (2011 international dollars).² The proportion of males and females in the same is approximately the same, and the average age of the respondents is 39.42 years. The distribution of household income is following its categorization into three terciles. Regarding educational attainment, most respondents in the sample (34%) hold a secondary degree.

In Tables 2–4, we present the results of the logit regression explaining the three main perceptions about entrepreneurship. Table 2 focuses on perceptions about the presence of good opportunities to start a business in the nearby area. In Model 1, we find an insignificant relationship between globalization (total score) and the dependent variable. When adding GDP per capita as explanatory variables (Model 2), the coefficient for globalization becomes more negative and significant. In this model, an increase in the Globalization Index of 1 is associated with a 0.6% decrease in the likelihood of perceiving good opportunities for business start-ups. In Model 3, the interaction term between globalization and GDP per capita is significantly positive. Figure 1a visualizes the interaction effect. The evaluation points reflect the minimum, mean, and maximum of the Globalization

¹ Countries in the sample scoring between 73 and 74 on the Globalization Index in at least one of the years 2001–2016 are Chile, Croatia, Iceland, Japan, Jordan, Latvia, Panama, and Uruguay.

² Countries in the sample with a GDP per capita between \$20,000 and \$21,000 (in 2011 international dollars) in at least one of the year 2001–2016 are Chile, Croatia, Latvia, Panama, Turkey, and Uruguay.

Table 3 Results of the logit regressions explaining whether an individual perceives himself or herself to have the required knowledge and skills to start a business (Yes = 1; 0 = No)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Globalization Index	0.015* (0.008)	0.019** (0.008)	0.024 (0.046)						
Logarithm of GDP per capita		-0.311** (0.146)	-0.279 (0.335)		-0.245* (0.142)	-0.072 (0.245)		-0.306** (0.155)	-0.344 (0.402)
Globalization Index × Logarithm of GDP per capita			-0.001 (0.005)	0.013* (0.007)	0.013* (0.007)	0.043 (0.035)			
Globalization Index (<i>de facto</i>)						-0.003 (0.004)			
Globalization Index (<i>de facto</i>) × Logarithm of GDP per capita							0.005 (0.006)	0.010 (0.007)	0.004 (0.054)
Globalization Index (<i>de jure</i>)									0.001 (0.006)
Globalization Index (<i>de jure</i>) × Logarithm of GDP per capita									
Female	-0.535*** (0.015)	-0.535*** (0.015)	-0.535*** (0.015)	-0.535*** (0.015)	-0.535*** (0.015)	-0.535*** (0.015)	-0.535*** (0.015)	-0.535*** (0.015)	-0.535*** (0.015)
Age	0.103*** (0.003)	0.102*** (0.003)	0.102*** (0.003)	0.102*** (0.003)	0.102*** (0.003)	0.102*** (0.003)	0.103*** (0.003)	0.102*** (0.003)	0.102*** (0.003)
Age squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Household income: Middle tertile	0.126*** (0.012)	0.127*** (0.012)	0.127*** (0.012)	0.126*** (0.012)	0.127*** (0.012)	0.127*** (0.012)	0.126*** (0.012)	0.127*** (0.012)	0.127*** (0.012)
Household income: Highest tertile	0.327*** (0.017)	0.328*** (0.017)	0.328*** (0.017)	0.327*** (0.017)	0.328*** (0.017)	0.328*** (0.017)	0.328*** (0.017)	0.329*** (0.017)	0.329*** (0.017)
Education: Some secondary	0.230*** (0.017)	0.226*** (0.017)	0.226*** (0.017)	0.229*** (0.017)	0.226*** (0.017)	0.227*** (0.017)	0.229*** (0.017)	0.226*** (0.017)	0.226*** (0.017)
Education: Secondary degree	0.403*** (0.020)	0.400*** (0.020)	0.400*** (0.020)	0.403*** (0.020)	0.400*** (0.020)	0.401*** (0.020)	0.402*** (0.020)	0.400*** (0.020)	0.400*** (0.020)
Education: Post-secondary	0.623*** (0.022)	0.621*** (0.022)	0.621*** (0.022)	0.623*** (0.022)	0.621*** (0.022)	0.622*** (0.022)	0.622*** (0.022)	0.620*** (0.022)	0.620*** (0.022)
Education: Graduate	0.762*** (0.030)	0.760*** (0.030)	0.760*** (0.030)	0.761*** (0.030)	0.760*** (0.030)	0.761*** (0.030)	0.761*** (0.030)	0.760*** (0.030)	0.759*** (0.030)

Table 3 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Country dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Constant	-2.007*** (0.455)	0.657 (1.347)	0.354 (3.098)	-1.823*** (0.356)	0.437 (1.386)	-1.226 (2.379)	-1.497*** (0.400)	1.046 (1.353)	1.419 (3.779)
Pseudo R^2	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
Individuals	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636
Countries	103	103	103	103	103	103	103	103	103

Notes: Standard errors in parentheses (clustered by country-year combination); *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Index and the logarithm of GDP per capita in the sample. Figure 1a makes clear that the effect of globalization on the perceived presence of business opportunities is only positive for countries with an above-average GDP per capita.

Models 4–6 repeat the analyses for *de facto* globalization, and Model 7–9 for *de jure* globalization. When focusing on the most complete models (Models 6 and 9), we see that the effect of *de facto* globalization on the perception of good opportunities is smaller than the effect of *de jure* globalization. Moreover, the interaction term between globalization and GDP per capita is only significant for *de jure* globalization. Figure 1b and Fig. 1c visualize the interactions. In line with the results in Table 2, we see that the predicted probabilities given the level of economic development in Fig. 1b follow approximately the same trend whereas they have different slopes in Fig. 1c.

Table 3 and Table 4 focus on the perceived skills to start a business and fear of failure, respectively. In none of the models with the total score for globalization (Models 1–3), we find a significant relationship between globalization and the dependent variable. Neither the interaction between globalization and GDP per capita is significant. We find the same results in the analyses exploiting the differences between *de facto* (Models 3–6) and *de jure* globalization (Models 7–9). Overall, globalization does not seem to meaningfully affect these two core perceptions about entrepreneurship.

Perceptions about entrepreneurship are strongly associated with actual involvement in entrepreneurship (Koellinger et al. 2007; Arenius and Minniti 2005), possibly because those engaged in entrepreneurship know better what it is to run a business and to self-justify occupational behavior. Therefore, we repeated our analyses while excluding those individuals currently owning and running a business. The results of this robustness check are presented in Table 5. For reasons of brevity, we only present the results of the models including the interaction terms (Models 3, 6, and 9 in Tables 2–4). The results of the robustness check are similar in size and significance as compared with the main results. Again, we only find significant effects on the perceived presence of good business opportunities. For this outcome variable, the effect sizes are again largest for *de jure* globalization. Hence, we conclude that our main results are not driven by more favorable

Table 4 Results of the logit regressions explaining whether fear of failure would prevent an individual from starting a business (Yes = 1; 0 = No)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Globalization Index	-0.005 (0.008)	0.002 (0.009)	-0.021 (0.059)						
Logarithm of GDP per capita		-0.524*** (0.171)	-0.678 (0.464)		-0.516*** (0.161)	-0.590* (0.343)		-0.536*** (0.179)	-0.725 (0.470)
Globalization Index × Logarithm of GDP per capita			0.002 (0.006)						
Globalization Index (<i>de facto</i>)				-0.000 (0.006)	0.000 (0.006)	-0.012 (0.047)			
Globalization Index (<i>de facto</i>) × Logarithm of GDP per capita						0.001 (0.005)			
Globalization Index (<i>de jure</i>)							-0.006 (0.007)	0.003 (0.008)	-0.024 (0.059)
Globalization Index (<i>de jure</i>) × Logarithm of GDP per capita									0.003 (0.006)
Female	0.277*** (0.010)	0.277*** (0.010)	0.277*** (0.010)	0.277*** (0.010)	0.277*** (0.010)	0.277*** (0.010)	0.277*** (0.010)	0.277*** (0.010)	0.277*** (0.010)
Age	0.034*** (0.003)	0.033*** (0.003)	0.033*** (0.003)	0.034*** (0.003)	0.033*** (0.003)	0.033*** (0.003)	0.034*** (0.003)	0.033*** (0.003)	0.033*** (0.003)
Age squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Household income: Middle tercile	-0.042*** (0.011)	-0.041*** (0.011)	-0.040*** (0.011)	-0.042*** (0.011)	-0.041*** (0.011)	-0.041*** (0.011)	-0.042*** (0.011)	-0.041*** (0.011)	-0.040*** (0.011)
Household income: Highest tercile	-0.162*** (0.013)	-0.160*** (0.013)	-0.160*** (0.013)	-0.162*** (0.013)	-0.160*** (0.013)	-0.160*** (0.013)	-0.162*** (0.013)	-0.160*** (0.013)	-0.160*** (0.013)
Education: Some secondary	-0.013 (0.021)	-0.020 (0.020)	-0.020 (0.020)	-0.013 (0.021)	-0.020 (0.020)	-0.020 (0.020)	-0.014 (0.021)	-0.020 (0.020)	-0.020 (0.020)
Education: Secondary degree	-0.113*** (0.023)	-0.118*** (0.022)	-0.118*** (0.022)	-0.113*** (0.023)	-0.118*** (0.022)	-0.118*** (0.022)	-0.113*** (0.023)	-0.118*** (0.022)	-0.118*** (0.022)
Education: Post-secondary	-0.146*** (0.025)	-0.151*** (0.025)	-0.151*** (0.025)	-0.146*** (0.025)	-0.151*** (0.025)	-0.151*** (0.025)	-0.146*** (0.025)	-0.151*** (0.025)	-0.151*** (0.025)
Education: Graduate	-0.161*** (0.027)	-0.164*** (0.027)	-0.164*** (0.027)	-0.161*** (0.027)	-0.164*** (0.027)	-0.164*** (0.027)	-0.161*** (0.027)	-0.164*** (0.027)	-0.164*** (0.027)

Table 4 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Country dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Constant	-1.409*** (0.450)	3.096** (1.454)	4.557 (4.285)	-1.662*** (0.308)	3.121** (1.462)	3.835 (3.255)	-1.309*** (0.411)	3.154** (1.494)	4.988 (4.435)
Pseudo R ²	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.034
Individuals	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636	1,752,636
Countries	103	103	103	103	103	103	103	103	103

Notes: Standard errors in parentheses (clustered by country-year combination); *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

perceptions about entrepreneurship by actual entrepreneurs.

5 Discussion and conclusion

Our results show that globalization is negatively associated with perceived opportunities for entrepreneurship and that globalization has no statistically significant effect on perceived entrepreneurial skills and fear of failure. The contingency of these associations with regard to the economic development of a country indicates that globalization moderates the effect of globalization on perceived opportunities such that it is positive in higher-income countries. However, economic development does not affect the association between globalization and perceived entrepreneurial skills or fear of failure. Taking into account the effect sizes, the analyses demonstrate that globalization has a limited influence on perceptions about entrepreneurship in general. Positive effects of (total and de facto) globalization are only observed for individuals in higher-income countries. These cross-country inferences contribute to a nuanced picture of the impact of globalization on entrepreneurship and point to the need to adequately address entrepreneurial challenges in low-income countries.

5.1 Theoretical implications

These somewhat tepid findings are in line with the controversy surrounding the benefits of globalization. Globalization is having an increasing impact on the economic, social, and cultural aspects of humans across the globe. Though in theory globalization was expected to increase economic growth and welfare (Grossman and Helpman 2015; Bhagwati 2004), in practice globalization has faced significant backlash in both high and low-income countries. Rising tides of economic nationalism (Colantone and Stanig 2018, 2019), the inability of governments in developed countries to retrain displaced workers (Blanchard and Olney 2017), mounting income inequalities, and the exploitation of workers point to the negative externalities of globalization (Walby 2009). The present findings contribute to a nuanced picture of the effect of globalization on entrepreneurship. Globalization, though beneficial in many ways, has intensified competition among businesses and has posed a great threat to the survival odds of small firms. With influential large (foreign) corporations

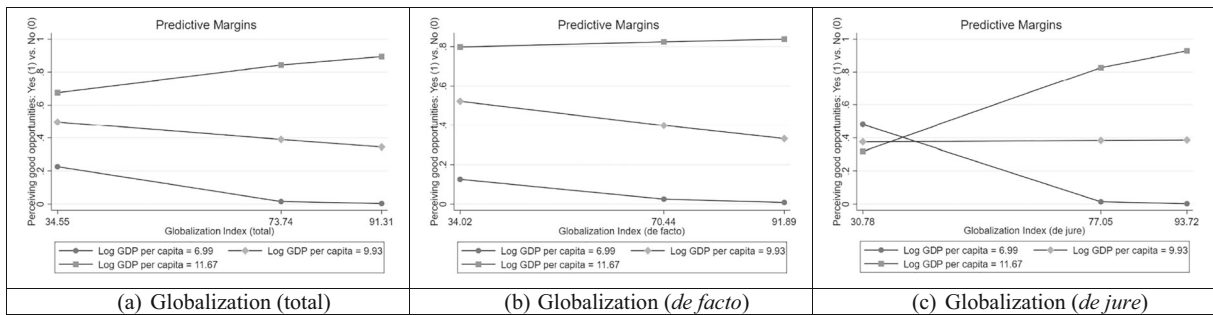


Fig. 1 Moderation plots visualizing the heterogeneous impact of globalization by the economic development of a country (as proxied by the logarithm of GDP per capita) on whether an

individual perceives good opportunities to start a business in the area where he or she lives (Yes = 1; 0 = No). Plots are based on the results of Model 3, 6, and 9 in Table 2

playing an important role in negotiations, venturing may be perceived as less desirable in low-income countries. In more developed markets where smaller firms have easier access to economic opportunities, small firms may exploit globalization opportunities and contribute to the economy through job generation. Nevertheless, according to the World Bank Indicators, the density of new business entry has remained remarkably stable over the last decade.³ If globalization primes new business entry, one would have expected an increasing trend in the pace of new business entry.

5.2 Practical implications

The findings in this paper do not categorically discount the value of globalization. However, our findings are salient in the context of the recent critique by Joseph Stiglitz (Stiglitz 2017) that protectionism may not be the answer to combat the negative effect of globalization. He says “Globalization was oversold. Politicians and some economists wrongly argued for trade agreements based on job creation. The gains to GDP or growth were overestimated, and the costs, including adverse distributional effects, were underestimated [and points to] the folly of ignoring the distributional consequences of economic forces just because they may lead to growth ... What is needed is a comprehensive system of social protection” (p. 129). These statements, along with our findings, point to an important consideration of the possible safety net necessities for the poor in low-income countries. We also propose that the components of the entrepreneurial ecosystems such as accelerators, third-party credit guarantee programs, training, and

education related to entrepreneurship may create the necessary situational and social conditions to foster entrepreneurial intentions. Countries that leverage globalization as a model for economic development could consider the implications of globalization for individuals who are considering entrepreneurship as a viable career choice. Often, government policy focuses on improving start-up conditions. However, globalization may crowd out positive start-up perceptions. It may, therefore, be considered by governments to help smaller firms and start-ups to compete effectively with larger local and foreign counterparts.

5.3 Limitations and suggestions for future research

Our study is not without limitations. While we use various measures of perceptions towards entrepreneurship from the GEM dataset, these variables are relatively coarse-grained. Due to the scope of the data collection, a finer-grained set of variables may not be feasible to collect in the GEM. However, responses on a dichotomous scale may, for example, depend somewhat on cultural factors and language barriers. While we controlled for such variation across countries using dummy variables, future studies could draw on richer (in terms of response categories) or additional perceptual measures. Second, although the GEM data have been used extensively in research, entrepreneurship is also highly contextual. Even at a coarser level, regional differences in the experience of globalization can have marked effects on perceptions about entrepreneurship. The local context, individual networks, and the general support for entrepreneurship could further influence the reporting of perceptions. Hence, future studies may want to draw on multi-level data to further assess richer interactions across macro-, meso-, and micro-level

³ Source: <https://www.doingbusiness.org/en/data/exploretopics/entrepreneurship>.

Table 5 Results of the logit regressions explaining whether (1–3) an individual perceives good opportunities to start a business in the area where he or she lives (Yes = 1; 0 = No), (4–6) an individual perceives himself or herself to have the required knowledge and skills to start a business (Yes = 1; 0 = No), and (7–9) fear of failure would prevent an individual from starting a business (Yes = 1; 0 = No). Individuals currently owning and running a business are excluded from the analysis sample

	Perceived opportunities			Perceived skills			Fear of failure		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Globalization Index	-0.283*** (0.090)			0.036 (0.046)			-0.021 (0.046)		
Logarithm of GDP per capita	-0.258 (0.620)	0.518 (0.464)	-1.319* (0.738)	-0.287 (0.327)	-0.118 (0.235)	-0.107 (0.408)	-0.663* (0.388)	-0.495* (0.298)	-0.901*** (0.392)
Globalization Index × Logarithm of GDP per capita	0.027*** (0.009)			-0.001 (0.005)			0.002 (0.005)		
Globalization Index (<i>de facto</i>)		-0.161** (0.070)			0.044 (0.035)			-0.001 (0.039)	
Globalization Index (<i>de facto</i>) × Logarithm of GDP per capita		0.014** (0.007)			-0.002 (0.004)			-0.000 (0.004)	
Globalization Index (<i>de jure</i>)			-0.402*** (0.103)			0.043 (0.055)			-0.043 (0.048)
Globalization Index (<i>de jure</i>) × Logarithm of GDP per capita			0.040*** (0.011)			-0.003 (0.006)			0.005 (0.005)
Control variables	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Country dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Constant	4.704 (5.811)	-3.120 (4.440)	14.479** (7.047)	0.369 (3.008)	-0.777 (2.261)	-0.615 (3.817)	4.184 (3.480)	2.793 (2.781)	6.229* (3.620)
Pseudo R ²	0.079	0.079	0.079	0.076	0.076	0.076	0.033	0.033	0.033
Individuals	1,401,012	1,401,012	1,401,012	1,401,012	1,401,012	1,401,012	1,401,012	1,401,012	1,401,012
Countries	103	103	103	103	103	103	103	103	103

Notes: Standard errors in parentheses (clustered by country-year combination); *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

factors driving entrepreneurship. Relatedly, the distinction we make in our analyses between *de facto* globalization and *de jure* globalization reveals that the main results are driven by *de facto* globalization. We discussed earlier that *de jure* globalization, although not fully reflecting the underlying dynamics of globalization, is likely to be more visible for citizens than *de facto* globalization. Our results seem to be at odds with this presumption. In that sense, it would be interesting in future studies to analyze the relationship between *de facto* and *de jure* globalization at the country level in conjunction with an individual-level measure about experienced or perceived globalization.

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