Article

Who Becomes a Business Owner in High-inequality Regimes? The Conditioning Effect of Economic Inequality on the Impact of Individual Educational and Financial Endowment on Entrepreneurship

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Abstract

Research has shown that individual educational and financial endowments are key indicators of their potential for entrepreneurial entry and success. At the same time, scholars have shown that economic inequality undermines educational development while increasing financial precarity. Yet, we know little about the extent to which economic inequality may condition how education and income affect an individual's entrepreneurial experience. In this article, we present a mixed-effect analysis using data from 50 countries that shows that economic inequality diminishes the importance of an individual's education and income on entrepreneurial entry. This effect is larger for higher education and income individuals than those in the bottom of the educational and income strata. In addition, inequality increases the likelihood that an individual would undertake entrepreneurial activities as a last resort, particularly individuals in low-education strata. These results suggest that under high-inequality regimes, entrepreneurship may be a sign of economic insecurity and inefficiency, and highlight the need for scholars to pay greater attention to understanding the structural forces that facilitate entrepreneurship development.

Introduction

Motivated presumably by the fact that economic inequality and entrepreneurship rates vary greatly across societies, Lippmann, Davis, and Aldrich (2005) proposed the first sociological theoretical account linking economic inequality and the entrepreneurial process. Their stated goal was to stimulate empirical sociological investigations into the mechanisms by which inequality influences the entrepreneurial process (Lippmann et al. 2005:4). Yet, 14 years later, there have been virtually no systematic

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empirical sociological evaluations of the mechanisms underlying the potential relationship between economic inequality and the entrepreneurial process. An individual's educational and financial endowments are among key determining factors for entrepreneurial entry, success, and motivation (Aldrich and Yang 2014; Kim, Aldrich, and Keister 2006; Xavier-Oliveira, Laplume, and Pathak 2015). However, the influence of economic inequality on the importance of an individual's education and income for entrepreneurial entry and motivation is understudied.

This article attempts to fill this gap in the literature by examining the following questions: (1) how does economic inequality affect the extent to which an individual's educational and income endowments shape their entrepreneurial entry and motivation?; (2) given that economic adversity tends to shape individuals' life experiences differently depending on their position in the social strata (Rivera and Tilcsik 2016), how does the effect of economic inequality vary across educational and income strata? These questions are examined using entrepreneurship and economic inequality indicators from two unique cross-national data sets, Global Entrepreneurship Monitor (GEM; Reynolds et al. 2005) and Standard World Income Inequality Database (Solt 2016), as well as mixed-effects regressions.

We find that economic inequality lessens the importance of an individual's educational and income endowments for entrepreneurial entry. However, the moderating effect of economic inequality on entrepreneurship varies substantially by educational and income strata, with a greater weakening effect of inequality on entrepreneurial entry among higher education and income individuals compared with lower education and income individuals. Higher economic inequality also leads to a greater propensity for people to undertake entrepreneurial activities due to necessity, a propensity that is greater among lower education individuals compared with higher education individuals. These findings reveal important nuances in the process by which structural inequalities affect the importance of an individual's characteristics in shaping their

participation in the capitalist production process. They also highlight conditions under which entrepreneurship may be a sign of economic insecurity and inefficiency.

Understanding the Link between Economic Inequality, Individual Educational and Financial Endowment, and Entrepreneurial Entry and Motivation

The theoretical framework adopted here builds on the sociological structural approach, which links the emergence, the small-scale nature, and low-growth potential of ethnic businesses to the characteristics of the opportunity structure in ethnic communities (Aldrich and Waldinger 1990; Light and Gold 2000; Light and Rosenstein 1995). A common argument contends that ethnic entrepreneurial activities emerge primarily as an alternative to unemployment, because immigrants, particularly those of the first generation, experience low mobility into the main stream labor market. The small size and low buying power of members within these ethnic communities limit the size and growth of entrepreneurial activities (Aldrich and Waldinger 1990). Furthermore, it has been shown that the entrepreneurship process within African American communities has been shaped by structural and historical disadvantages in ways similar to that seen within ethnic communities (Light and Gold 2000). Thus, an underlying assumption in research on ethnic economies contends that race and ethnicity constitute key factors in shaping the amount of resources made available to individuals by their environments for entrepreneurial development and success. In societies with high economic inequality, economic opportunity tends to be restricted to a small portion of the population at the expense of the majority, therefore resources available to individuals for social mobility are even more constrained (Corak 2013). Building on this premise, the present study examines the extent to which societal

economic inequality shape overall market opportunities, beyond racial and ethnic minority, thereby affecting the ability of individuals to leverage their personal characteristics for entrepreneurial development in the overall population.

The Moderating Effect of Economic Inequality on the Importance of Educational and Income Endowment for Entrepreneurial Entry

In this section, I will show that economic inequality may weaken the importance of an individual's educational and financial endowment for entrepreneurship development by constraining the entrepreneurship-enabling environment. Economic inequality tends to hinder market opportunities (Foellmi and Josef 2006), which in turn affects the extent of the return that an individual can gain from educational and financial investments (Sorensen 1974). Increased economic inequality tends to augment the proportion of the population in the lower end of the income and wealth distribution (Piketty 2014; Roy Chowdhury 2013). In this respect, economic inequality can shape the availability of opportunities for entrepreneurship in three distinct ways, as a result of shrinking the middle class and increasing economic adversity. Economic inequality is likely to undermine the importance of individual education and income endowment by restricting (1) the purchasing power of the economy, (2) the availability of capital for investment, and (3) the ability of the government to invest in human and infrastructure development necessary for entrepreneurship.

First, entrepreneurs are embedded in a context that can provide advantages or disadvantages for new venture creation and growth (Cameron and Cabaniss 2018; Dahl and Sorenson 2009). For instance, in order for entrepreneurs to prosper and for new ventures to emerge, there needs to be a large enough market to sustain the demand for the goods and services that are produced, which necessitates the presence of a strong middle class with sufficient wealth to consume beyond their immediate needs (Easterly 2001; Foellmi and Josef 2006; Matsuyama 2002). However, increased income and wealth inequalities tend to shrink the middle class by increasing the proportion of population at the bottom of the income distribution (Piketty 2014; Roy Chowdhury 2013). This in turn would limit the market opportunities necessary for incentivizing new venture creation.

Furthermore, research has convincingly demonstrated that educational and financial endowments equip people with the skills and networks necessary to mobilize resources for entrepreneurial development (Aldrich and Yang 2014; Kim et al. 2006). The extent to which an individual's education and income may facilitate mobilization of resources depends on the availability of resources in the entrepreneur's environment (Cameron and Cabaniss 2018; Sorensen 1996). In this respect, by limiting the extent of market opportunities, economic inequality is likely to hinder the degree to which an individual's educational and financial endowment can facilitate the mobilization of resources for entrepreneurship development.

Second, economic inequality is likely to weaken the importance of an entrepreneur's education and income by restricting the availability of financial capital necessary for business development. This is crucial for understanding the moderating impact of economic inequality on income and education as it relates to entrepreneurial entry because the availability of financial capital is an important determinant of the rate of entrepreneurial activities (Stuart and Sorensen 2003). As described above, the opportunity structure in an environment tends to shape the importance of individual characteristics for economic mobility (Sorensen 1974). In the same vein, one may expect that the degree of development of an economy's financial sector should also impact the extent to which individuals can leverage their education and income to navigate the institutional structure. Diminished financial capital in the environment due to a small middle class also reduces the total resources available to potential entrepreneurs (Matsuyama 2002). This in turn increases

overall unemployment and perpetuates economic inequality.

Third, one of the well-documented consequences of growing income inequality in recent decades is an increase in the divide between the rich and the poor (Corak 2013; Duncan and Murnane 2011). Increased income and wealth inequality have been shown to strengthen the position of the wealthy, enabling them to create and maintain mechanisms that sustain their structural advantage (Corak 2013; Seery and Caistor Arendar 2014). For instance, as wealth becomes increasingly concentrated in the hands of a few at the expense of the majority of the population, the power of the wealthy to influence the political process is likely to strengthen (Jacobs and Dirlam 2016; Stiglitz 2012). The wealthy may, for example, be able to influence government policies such as regressive taxation to maintain their resource and class advantage (Stiglitz 2012). Regressive taxation policies, in turn, make it difficult for government to raise the revenue necessary to invest in infrastructure development, which has long been shown to be indispensable for the development of the capitalist enterprise (Weber [1923] 1961). Indeed, it is well established that contextual factors are important for entrepreneurial success, regardless of the entrepreneur's personal qualities (Stuart and Sorensen 2003). This point is particularly important to emphasize because, similar to the way that opportunity structure influences the return that an individual can gain from educational and financial investment (Sorensen 1974), the nature of the infrastructural environment (i.e., physical and service infrastructure) in which entrepreneurs are embedded is deemed to shape the extent to which personal characteristics of entrepreneurs affect the entrepreneurial process. Institutional and physical infrastructure development are important aspects of the entrepreneurship-enabling environment, which condition the extent to which an individual's personal characteristics influence their entrepreneurial efforts.

In addition, institutional and physical infrastructure development, such as rule of law, electricity, and roads, are generally undertaken by the state. Thus, policies that hinder the ability of the state to raise the necessary revenue to finance these projects are likely to undermine the extent to which individual characteristics can affect the entrepreneurial process. This is important to highlight because in modern capitalist societies, entrepreneurs are typically not expected to build these sorts of infrastructures for the production and circulation of goods and services. As Weber ([1923] 1961) demonstrated, the state is expected to undertake large-scale infrastructural development necessary for the development of the capitalist enterprise. But, as economic inequality increases the power of the wealthy to influence regressive taxation policies, the states' ability to finance infrastructure development may be diminished, thus constraining entrepreneurial activity. Based on the above argument, I formulate the following hypothesis.

> **Hypothesis 1:** Economic inequality should weaken the importance of individual educational and financial endowment on an individual's likelihood to undertake entrepreneurial activities.

The Influence of Economic Inequality on Differences in Entrepreneurship Experience across Education and Income Strata

The entrepreneurship process occurs in a context, and the social stratification system of that context should shape an individual's entrepreneurial experience (Cameron and Cabaniss 2018). Students of stratification have long argued that people's location in the social stratification system influences the extent to which they can participate in the capitalist production process, the nature of their involvement, and the return that they can gain from their contribution to the capitalist production (Ollivier 2004). The reason is that people have resource advantages and disadvantages conferred to them by their class positions independent of personal efforts (Khurana and Jan Piskorski 2004; Massey 2007; Ollivier 2004). Thus, positional advantage is likely to affect the extent to which people are exposed to economic opportunities (Massey 2007). Education,

income, and wealth are among key stratification indicators (Tamborini and Kim 2017) that scholars have shown to shape differences in how people experience the entrepreneurial process (Aldrich and Yang 2014; Kim et al. 2006).

Consistent with this argument about the entrepreneurship-enhancing effect of education and income, recent research has demonstrated that people who are in the higher end of the educational and income strata tend to undertake entrepreneurship at a higher rate (Lim, Oh, and Clercq 2016) and tend to start businesses that have high growth prospects (Frid, Wyman, and Coffey 2016). Higher education and income individuals also tend to be less likely to enter entrepreneurship because of economic adversity compared with lower education and income individuals (Wassink and Hagan 2018) and tend to have access to a greater share of market opportunities (Patrice 2016).

Thus, in the event that economic inequality restricts market opportunities, higher education and income strata are likely to have more at stake, in term of loss of market share and return on investment, than those in the lower education and income strata. As a result, under high-income inequality regime, it is likely that a greater proportion of higher socioeconomic status individuals would refrain from entrepreneurial activities than lower education and income individuals. The logic of this argument is that a decrease in market opportunities is likely to have a more direct effect on the entrepreneurial decision of those who have access to these opportunities than that of those who, due to their positional disadvantage, have been excluded from market opportunities. Consequently, entrepreneurship among low strata individuals is less likely to be driven by access to market opportunities. Therefore, economic inequality, which restricts market opportunities, is likely to disincentivize entrepreneurship among higher socioeconomic status individuals to a greater extent than among lower education and income individuals.

Members of the lower status group are often not exposed to the environments, such as resource-rich schooling contexts, social networks, and occupations, that they could leverage to mobilize entrepreneurship resources. In this respect, for lower socioeconomic status people, education and income may be less important in determining entry into entrepreneurship. Therefore, in the event that economic inequality diminishes the importance of individual education and income for entrepreneurial entry, such effect would be less influential for entrepreneurial activities among lower education and income strata than among higher education and income individuals. It would be fair to presume that more advantaged individuals or groups should be more likely to undertake entrepreneurial activities under uncertain and precarious market conditions because their positional advantage grants them access to resources that would allow them to absorb the risk associated with investing in uncertain markets. Yet, data on entrepreneurial activities in the United States during the recent economic recession suggest that more socioeconomically advantaged individuals or groups are not necessarily more entrepreneurial than their less-advantaged counterparts under uncertain economic conditions. For instance, analyzing the U.S. Census Bureau's 2012 Survey of Business Owners for North Carolina, Johnson (2015) found that predominantly white nonminority businesses dropped by 4 percent (i.e., a loss of 25,396 businesses) compared with a 40 percent increase (i.e., a gain of 52,531 businesses) in minority owned-businesses. This U.S. example is consistent with the overall argument of this article that under unfavorable market conditions, those in the higher socioeconomic strata may be more able to refrain from uncertain entrepreneurial activities because they are more likely to have alternative sources of income, such as savings, wage-and-salary employment, and family support. Thus, based on the above argument, I derive the following hypothesis.

Hypothesis 2: Economic inequality should have a greater weakening effect on entrepreneurial entry among higher education and income individuals compared with lower education and income individuals.

Understanding the Moderating Effect of Economic Inequality on the Importance of Individual Educational and Income Endowment for Entrepreneurship Motivation

I have shown above how economic inequality may influence the way that individual educational and financial endowment affect entrepreneurial entry by hindering market opportunities and capital investment. In this section, I show that economic inequality may also influence an individual's motivation for undertaking entrepreneurial activities. More specifically, I will demonstrate that through its upward pressure on economic adversity, on one hand, and decreasing-effect on social mobility, on the other, economic inequality may increase the overall number of people who undertake entrepreneurial activities as a last resort.

As mentioned earlier, research has shown that economic inequality tends to decrease social mobility, which scholars refer to as the Great Gatsby Curve (Corak 2013). The Great Gatsby Curve argument contends that societies characterized by high economic inequality tend to also experience a low level of social mobility and tend to have a large number of their population living in poverty compared with lower income inequality countries. From this logic, low social mobility combined with economic adversities and poverty is likely to increase the proportion of the population who would undertake entrepreneurial activities due to lack of economic opportunity. In addition, economic inequality, by lowering market opportunities, is likely to increase unemployment, which would further exacerbate economic insecurity and push people into entrepreneurship as an alternative to unemployment (Thurik et al. 2008).

As demonstrated above, increased economic inequality can undermine the ability of the government to raise the necessary revenue to finance social and infrastructure development programs. In this respect, high economic inequality may cause welfare state retrenchment (Barth, Finseraas, and Moene 2015),

rendering it difficult for the state to support social safety net programs, such as unemployment support, old age, family and disability benefits, and educational programs, which tend to buffer individuals against economic adversity and enable them to recover from job and income loss. Thus, by forcing the government to cut back on social protection programs, combined with increased unemployment, economic inequality is likely to increase economic adversity, pushing people into poverty and economic insecurity. This would further reduce economic opportunity, while increasing the overall economic insecurity in the society, thereby increasing the number of people who may engage in entrepreneurship as a last resort. Thus, I formulate the following hypothesis.

> **Hypothesis 3:** Economic inequality will increase the likelihood that an individual will undertake entrepreneurship out of necessity.

Furthermore, considering that people tend to experience the entrepreneurial process differently based on their position in the socioeconomic strata (Cameron and Cabaniss 2018; Patrice 2016), one may expect the way that economic inequality affects entrepreneurial motivation to vary by education and income levels of individuals. More specifically, in societies characterized by high economic inequality, lower education and income individuals should be more likely to undertake entrepreneurial activities due to lack of economic opportunities compared with higher education and income individuals. This is important because people who are located in the higher end of the socioeconomic strata often have structural advantages, protecting them against economic adversities (Keister and Lee 2014; Massey 2007; Patrice 2016). They are therefore less likely than their lower education and income counterpart to undertake entrepreneurship out of necessity.

In contrast, lower education and income individuals tend to have low chances of being exposed to resources opportunities (Patrice 2016). Consequently, lower education and income individuals (compared with higher

education and income individuals) tend to have little or no buffers against the adverse effects of economic inequality (Campbell and Kaufman 2006), which is likely to force them into entrepreneurship as a last resort. In addition, economic inequality is likely to exacerbate job insecurity of workers from the lower socioeconomic strata by restricting investment, hindering production and job creation (Duncan and Murnane 2011), and increasing precarious working conditions (Kalleberg 2018). This is partly because lower education and income strata often lack the resources, the network, and the knowledge to navigate the labor market and economic institutions for social mobility and achieving economic security (Bargain and Kwenda 2011; Huerta-Wong, Burak, and Grusky 2013). Thus, job insecurity, combined with increased precarity of work, is likely to push lower education and income individuals into entrepreneurship due to economic insecurity compared with their higher education and income counterpart. Thus, based on the above argument, I derive the following hypothesis.

> **Hypothesis 4:** Economic inequality is less likely to push higher education and income individuals into entrepreneurship out of necessity compared with lower education and income individuals.

Data, Measurement, and Methods

Dependent Variables: Entrepreneurial Entry and Necessity-motivated Entrepreneurship

The theoretical argument developed above focuses on the extent to which economic inequality shapes how an individual's educational attainment and income affect their likelihood to enter entrepreneurship and the motivation for undertaking entrepreneurial activities. To evaluate this argument, we use two dependent variables that capture entrepreneurial entry and motivation: (1) involvement in early-stage entrepreneurial activities and (2) necessity-motivated entrepreneurship. These

are drawn from the GEM. GEM is a unique cross-national and country-representative survey administered yearly to individuals aged 18 and older to measure the state and evolution of entrepreneurship and organization founding across the world. The data used for this analysis span 2001 to 2012 across 50 countries.[1]

Entrepreneurial entry is captured in the GEM by asking respondents whether they were, alone or with others, trying to start a new business, including any self-employment or selling goods or services to others, at the time of the interview. Possible answers were coded 1 for "yes" and 0 for "no." The analytical sample size for this variable is 142,840, of which 15,760 (11.03 percent) reported that they were starting a new business (Table 1). GEM also asked people who responded yes to the above question to state the reason for undertaking the entrepreneurial activities. GEM classified entrepreneurial activities as *necessity-motivated* if respondents stated that they undertook entrepreneurial activities because of lack of employment or a better option for earning an income. Of the 15,760 people who reported that they were starting a new business, 4,236 (26.88 percent) stated that they undertook their entrepreneurial activities due to lack of employment or a better option for earning an income (Tables 1 and 2).

Independent Variables: Education, Income, and Economic Inequality

GEM collects information on respondent education and income. *The education variable* is coded in three categories: (1) no formal education or some secondary education, (2) secondary education, (3) postsecondary or graduate education. The *income variable* is coded into three categories: (1) bottom 33rd income percentile, (2) the middle 33rd income percentile, (3) and the upper 33rd income percentile.

Economic inequality variable. Economic inequality data were merged with entrepreneurship data on country-year using GEM as the base data set. Economic inequality is measured by the Gini coefficient calculated from post-tax-and-transfer household income. The Gini coefficient is

Table 1. Summary Statistics of Key Variables Used in the Analysis.

Variables	n	%
Entrepreneurial entry	142,840	
No	127,080	88.97
Yes	15,760	11.03
Necessity entrepreneurship (no better option for work)	15,760	
No	11,524	73.12
Yes	4,236	26.88
Educational attainment	142,840	
None and some secondary education	49,067	34.35
Secondary education	44,696	31.29
Postsecondary and graduate education	49,077	34.36
Income percentile	142,840	
Lowest 33rd percentile	43,604	30.53
Middle 33rd percentile	49,453	34.62
Upper 33rd percentile	49,783	34.85
Individual-level controls		
Preference for uniform living standard	142,840	
No	46,794	32.76
Don't know	5,746	4.02
Yes	90,300	63.22
Starting a business is a good career choice	142,840	
No	40,810	28.57
Don't know	7,184	5.03
Yes	94,846	66.4
Successful entrepreneurs receive high status	142,840	
No	38,781	27.15
Don't know	5,655	3.96
Yes	98,404	68.89
High praise for new businesses	142,840	
No	52,459	36.73
Don't know	4,241	2.97
Yes	86,140	60.31
Male	70,136	49.1
Female	72,704	50.9

expressed as a percentage, ranging from 0 to 100. The closer a country's Gini coefficient is to zero, the less economically unequal the country is; the closer the Gini is to 100, the more unequal the country. Economic inequality indicators were drawn from the Standardized World Income Inequality Database (SWIID; Solt 2016).[2]

The countries under study here vary widely in terms of economic inequality. For instance, the Gini coefficient is 62.09 in South Africa, 57.70 in Zambia, 45 in Mexico, 43 in Ghana, and 40.04 in Brazil. Consistent with previous research (Solt 2016), these results show that economic inequality is lower in advanced industrial societies. For instance, the Gini coefficient is 24.86 in Sweden, 26.19 in Finland, 29.43 in France, 28.95 in Germany, and 37.96 in the United States. Consistent with previous research (Auguste 2018; Piketty 2014), the SWIID data show that the United States is among the leading advanced economies with economic inequality.

Table 2. Country-level Controls and Pairwise Correlation between Key Dependent and Independent Variables.

Country-level variables and age	n	M	SD	Minimum	Maximum
Gini coefficient (×100)	50	42.10	8.21	22.89	62.20
Preference for uniform living standard	50	2.31	0.28	1.42	2.93
Starting a business is a good career choice	50	2.49	0.26	1.62	2.92
Successful entrepreneurs receive high status	50	2.50	0.22	1.84	2.96
Lots of media coverage for new businesses	50	2.37	0.29	1.43	2.93
Real GDP per capita	50	22476.50	12950.43	1270.15	58643.36
Unemployment rate	50	7.73	4.50	0.58	24.73
Rule of law, corruption, political institution index	50	0.54	0.16	0.31	1
Property rights	50	49.19	20.35	10	90
Intergenerational persistence	50	0.46	0.14	0.19	0.83
Age	142840	39.39	12.90	18	65

Pairwise correlations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Entrepreneurial entry	1																	
Motivated by lack of better option for generating income	2	N/A																
Income (upper 33%ile)	3	.0540***	−.175***															
Educational attainment (postsecondary graduate education)	4	.024**	−.189***	.283***														
Individual-level controls																		
Female	5	−.0596***	.0516***	−.0825***	−.0248***													
Age	6	−.0808***	.0360***	−.0312***	−.0807***	.0150***												
Preference for uniform living standard	7	.00548*	.0335***	−.0333***	−.0575***	.0270***	.0146***											
Starting a business is a good career choice	8	.0606***	.0258**	−.0284***	−.0916***	.000789	−.0460***	.159***										
Successful entrepreneurs receive high status	9	.0420***	.011	−.00778**	−.0564***	.000513	−.0342***	.127***	.238***									
Lots of media coverage for new businesses	10	.0703***	.00938	.00117	−.0469***	−.000956	−.0222***	.107***	.202***	.219***								
Country level																		
Gini coefficient	11	.138***	.0794***	−.00401	−.176***	−.0125***	−.171***	−.0129***	.131***	.0772***	.168***							
Preference for uniform living standard	12	.0185***	.0348***	.0122***	−.0185***	.00719***	−.000593	.282***	.131***	.115***	.0683***	−.0456***						
Starting a business is a good career choice	13	.155***	.0559***	.00477	−.129***	−.00255	−.124***	.123***	.302***	.160***	.184***	.434***	.434***					
Log real GDP per capita	14	−.171***	−.104***	.00946***	.280***	.0178***	.200***	.0166***	−.145***	−.135***	−.157***	−.587***	.0587***	−.479***				
Unemployment rate	15	−.0407***	.0182*	.0683***	−.00519	−.0230***	−.00956***	.0235***	.0202***	−.00911***	−.0723***	.158***	.0831***	.0669***	.0618***			
Rule of law, corruption, political institution index	16	−.142***	−.105***	.00910***	.211***	.0107***	.183***	−.0180***	−.174***	−.105***	−.155***	−.710***	−.0636***	−.575***	.737***	−.0125***		
Property rights	17	−.122***	−.129***	.0208***	.177***	.195***	.170***	.0372***	−.133***	−.0905***	−.129***	−.603***	.132***	−.439***	.723***	.0268***	.870***	
Intergenerational persistence	18	.105***	.0663***	−.00485	−.190***	−.0162***	−.129***	−.0124***	.107***	.100***	.0740***	.286***	−.0438***	.356***	−.732***	−.189***	−.586***	−.597***

Note. GDP = gross domestic product.

Societal-level and Individual-level Control Variables

Social mobility. A key premise underlying this article's theoretical framework is that inequality shapes the importance of individual education and income for entrepreneurial efforts by shaping the economic opportunity made available to individuals by their environments. Thus, one could expect the extent of a society's social mobility—that is the strength of the association between adult individuals' socioeconomic position and that of their parents (Torche 2015)—to also matter for how individual educational and income endowment influence an individual's entrepreneurial experience. Furthermore, a society's social mobility may influence differences in entrepreneurial activity across socioeconomic strata, as wealthy families are able to support their offspring during transition into the labor market; this is likely to affect differences between lower and higher economic strata individuals in the likelihood of becoming engaged in entrepreneurship due to necessity, such as due to lack of employment in the formal labor market. In this respect, the analysis accounts for the extent of social mobility in a society, which is measured as relative intergenerational persistence (IGP) in education and is drawn from the Global Database on Intergenerational Mobility (GDIM 2018). IGP in education is expressed as the beta coefficient from standard ordinary least squares (OLS) regression of an adult child's years of schooling on the highest years of schooling of the parents.[3]

Rule of law, political institution, and property rights. The strength of the rule of law, political institutions, the quality of government bureaucracy, and the extent of property rights in a society have been linked to the degree of business development and growth in a society (Kim and Li 2014). For instance, state laws that ensure contracts and their enforcement may facilitate links between producers and buyers that might not have happened otherwise. Property rights and financial laws may enable entrepreneurs to access capital for business development that may not have been available within their neighborhood and close network of family and friends.

In this respect, the degree of corruption in public administration may affect the ability of the state to facilitate economic exchange, thereby shaping market opportunity for entrepreneurial development. In contexts where institutional autonomy is weak, corruption is likely to be high, increasing the vulnerability of the legal system to the influence of power and resources. Thus, in societies characterized by weak rule of law, low-bureaucratic quality, and high corruption, high-resource individuals may be able to influence the law and political process in their favor and artificially outperform low-resource individuals or groups. This process is likely to cause economic inefficiency and force low-resource individuals into entrepreneurship due to necessity.

Thus, to ensure the robustness of the moderating effect of inequality, the analysis accounts for the strength of a society rule of law, the quality of government institutions, the extent of corruption, and the extent of property rights in a society. The data are drawn from the Quality of Government Institute and PRS Group (2018; Teorell et al. 2018).[4]

Economic development. The effect of education and income on entrepreneurship may not only vary across economic inequality regimes. The country's economic prosperity may also affect the availability of education and opportunities for business development. Therefore, I control for a country's level of economic development, measured by real gross domestic product (GDP) per capita denominated in U.S. dollars (i.e., GDP divided by population size). The data were drawn from the Penn World Tables (Feenstra et al. 2015). Table 2 shows that the average real GDP per capita across the 50 countries in the sample is about US$22,476. The lowest and highest values are, respectively, US$1,270 and US$58,643, with US$1,270 standard deviation. This means that real GDP per capita varies significantly across the 50 countries.

In addition, recent studies have contended that entrepreneurs tended to express greater tolerance for social inequalities than nonentrepreneurs

(Jansen 2016). To account for the potential confounding effect of individual tolerance of economic inequality on entrepreneurship, I control for individual and country-level economic-egalitarian attitudes. The economic-egalitarian belief is measured by asking individuals whether they believe that the inhabitants of their countries prefer a uniform living standard. Individuals who responded "no" are coded 1, those who are "neutral" are coded 2, and those who answered "yes" are coded 3. I measured the country-level economic-egalitarian belief by averaging the individual responses to the question (Tables 1 and 2).

Furthermore, cultural differences in acceptance and promotion of entrepreneurship have been implicated in cross-national differences in the rates of entrepreneurial activities across countries (Thornton, Ribeiro-Soriano, and Urbano 2011). Indeed, Bosma and Kelley (2019:48-52) have argued that individual perceptions about entrepreneurship and about how society evaluates the status of entrepreneurs tend to affect an individual's decision to undertake entrepreneurial activities. In this respect, an individual's perception about the prestige of entrepreneurship as an occupation is likely to influence an individual's decision to undertake entrepreneurial activities. Thus, to account for the potential confounding effect of cultural beliefs about entrepreneurship, I use three items from GEM capturing attitudes toward entrepreneurship in a country. First, GEM asks individuals whether they believe that people growing a new successful business receive high social status. Second, individuals are asked whether, in their society, starting a business is perceived as a good career choice. Third, respondents are asked whether, in their society, entrepreneurial development receives media coverage. Possible responses to these questions are "no" (coded 1), "neutral" (coded 2), and "yes" (coded 3). Individual responses to these questions were averaged to measure country-level cultural beliefs toward entrepreneurship (Tables 1 and 2).[5]

Finally, I also account for the overall unemployment level in the society. This is important because unemployment may exert upward pressure on the overall entrepreneurship rate by increasing the number of self-employed.

Research shows that the self-employment rate tends to be high in times of high unemployment (Fritsch, Kritikos, and Pijnenburg 2015). Research has also noted that unemployment tends to increase economic insecurity, forcing people to enter entrepreneurship as an alternative to unemployment (Koellinger and Thurik 2012). Unemployment rate is here measured as the percentage of the labor force that is without work but available and seeking work. The data were drawn from the International Labour Organization.

Method

The key argument advanced in this article is that understanding the moderating effect of economic inequality on the influence of individual education and income endowment on individual entrepreneurial entry and motivation may improve our knowledge of the extent to which structural inequalities shape the entrepreneurial process. In addition, the data used in this study depict a hierarchical structure, where individual-level factors such as entrepreneurial entry and motivation, education, and income are nested into countries. Thus, based on the theoretical argument and the hierarchical structure of the data, I use multilevel logistic regressions. The multilevel method enables me to simultaneously estimate the effects of an individual's education and income on entrepreneurship and the moderating effect of economic inequality.

Results

Modeling the Effect of Individual Education and Income on Entrepreneurial Entry and the Moderating Effect of Income Inequality

Model 1 in Table 3 estimates the effect of individual income and education on the likelihood an individual would engage in entrepreneurship, treating the lowest income and education categories as references. Model 1 shows that the coefficients for the middle 33rd and upper

Table 3. Mixed-effects Regression Estimates of the Moderating Effect of Inequality on the Effect of Education and Income on the Log-odds of Entrepreneurial Entry.

	(1)	Income × Gini (2)	Education × Gini (3)
Constant	−4.043* (1.979)	1.976 (2.401)	1.954 (2.414)
Middle 33rd income percentile	0.124*** (0.0241)	0.108 (0.122)	0.123*** (0.0241)
Upper 33rd income percentile	0.308*** (0.0246)	0.626*** (0.118)	0.305*** (0.0247)
Secondary education	0.123*** (0.0242)	0.126*** (0.0242)	0.618*** (0.127)
Postsecondary and graduate education	0.281*** (0.0254)	0.288*** (0.0255)	0.945*** (0.124)
Gini coefficient		−0.0612*** (0.0130)	−0.0589*** (0.0130)
Cross-level interactions			
Middle 33rd income percentile × Gini coefficient		0.000299 (0.00285)	
Upper 33rd income percentile × Gini coefficient		−0.00790** (0.00279)	
Secondary education × Gini coefficient			−0.0115*** (0.00291)
Postsecondary and graduate education × Gini coefficient			−0.0158*** (0.00290)
Individual controls			
Female	−0.377*** (0.0181)	−0.377*** (0.0181)	−0.378*** (0.0181)
Age	−0.0102*** (0.00074)	−0.0102*** (0.00074)	−0.0102*** (0.00074)
Preference for uniform living standard	0.00484 (0.0101)	0.00531 (0.0101)	0.00531 (0.0101)
Starting a business is a good career choice	0.0605*** (0.0114)	0.0609*** (0.0114)	0.0620*** (0.0114)
Successful entrepreneurs receive high status	0.0177 (0.0113)	0.0176 (0.0113)	0.0167 (0.0113)
Lots of media coverage for new businesses	0.0747*** (0.0106)	0.0746*** (0.0106)	0.0746*** (0.0106)
Country-level controls			
Preference for uniform living standard	0.274* (0.109)	0.169 (0.111)	0.174 (0.111)
Starting a business is a good career choice	0.403** (0.152)	0.273 (0.233)	0.325 (0.234)
Log real GDP per capita	0.330* (0.164)	−0.00566 (0.179)	−0.0311 (0.180)
Unemployment	0.0213*** (0.00585)	0.0374*** (0.00684)	0.0412*** (0.00686)
Rule of law, corruption, political institution index	−1.100 (0.760)	−2.156** (0.793)	−2.093** (0.795)
Property rights	−0.0349*** (0.00504)	−0.0312*** (0.00498)	−0.0317*** (0.00497)
Intergenerational persistence	−1.151 (1.236)	−1.715 (1.310)	−1.666 (1.322)
Between-country intercept s. d.	1.058 (0.272)	1.211 (0.297)	1.236 (0.302)
Observations	142,840	142,840	142,840
Number of countries	50	50	50
Log likelihood	−43,867.3	−43,847.5	−43,838.6
Chi-squared	1,392.5	1,433.3	1,443.6

Note. GDP = gross domestic product. Standard errors in parentheses.
*$p < .05$. **$p < .01$. ***$p < .001$.

33rd income percentile are positive and statistically significant ($b = 0.124$, $b = 0.308$ and $p < .001$). This indicates that those in the sample who are in the middle 33rd and upper 33rd percentile of the income distribution are more likely to undertake entrepreneurial activities compared with those in the bottom 33rd percentile of the income distribution. These findings are consistent with previous research demonstrating that people who are in the higher income strata tend to be more likely to become business owners and achieve entrepreneurial success (Frid et al. 2016).

Model 1 also shows that the coefficients for the secondary, and postsecondary and graduate education categories are positive and statistically significant ($b = 0.123$, $b = 0.281$, $p < .001$). This means that those in the sample with a secondary, postsecondary, or graduate education are more likely than those who have only some or no formal education to undertake entrepreneurial activities. These results are also consistent with the existent literature that finds that higher education individuals tend to be better positioned than their less-educated counterparts to access the market opportunities and gain the skills and the financial resources necessary for entrepreneurship development and success (Aldrich and Yang 2014; Kim et al. 2006). Of particular importance to the present analysis is the understanding of the extent to which economic inequality moderates the effect of an individual's educational and financial endowment on entrepreneurial entry and motivation. Thus, I turn to this phase of the analysis in the following sections.

Models 2 and 3 in Table 3 estimate the moderating effect of income inequality (Gini coefficient) on the effect of an individual's educational and income endowment on the likelihood that an individual would undertake entrepreneurial activities. To this end, I treat the bottom 33rd income percentile and lowest education categories as the references in order to assess potential differences in the moderating effect of inequality across education and income strata. Model 2 shows that the coefficient for the interaction between the Gini coefficient and middle 33rd percentile income is negative, but not statistically significant. This
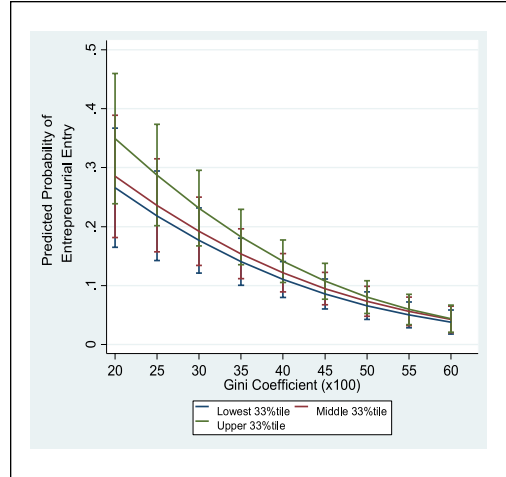

Figure 1. Predicted probability of entrepreneurial entry for three income categories, by societal level income inequality (95 percent confidence interval).

means that income inequality does not have a differential effect on the entrepreneurial entry among people at the bottom and middle 33rd percentile of the income distribution. However, the coefficient for the interaction between the Gini coefficient and the upper 33rd percentile of income category is negative and significant ($b = -0.0079$, $p < .01$). This indicates that income inequality decreases the likelihood of individuals in this sample who are in the upper 33rd percentile of income to undertake entrepreneurship compared with those in the bottom 33rd percentile of the income distribution. This finding supports this article's argument that economic inequality should have a greater weakening effect on entrepreneurial entry for higher income individuals compared with lower income individuals (Hypothesis 2).

Furthermore, I present the results of the interaction between the Gini coefficient and the three income categories in Figure 1 to facilitate interpretation of the moderating effect of economic inequality across these income strata. Figure 1 shows that as income inequality increases, the propensity for entrepreneurial entry decreases for all three income categories (upper 33rd, middle 33rd, and bottom 33rd income percentile). For example, in countries where income inequality is as low as 20, the probability of entering entrepreneurship for people in the upper 33rd

income percentile is 0.389, whereas it is 0.045 in societies where income inequality is as high as 60. The results are similar for those in the middle 33rd percentile and bottom 33rd percentile of income distribution. These findings support this article's argument that economic inequality should weaken the importance of an individual's financial endowment for the likelihood that an individual would undertake entrepreneurial activities (Hypothesis 1).

Figure 1 also provides a better understanding of the results of the interaction between the Gini coefficient and the middle 33rd and upper 33rd income percentile. It shows that the lines for those in the bottom 33rd and middle 33rd income percentile are parallel, indicating that the Gini coefficient does not have a significant differential effect on the entrepreneurial entry of the people in the bottom 33rd and middle 33rd income percentile. For instance, in societies where the Gini coefficient is as low as 20, people in the bottom 33rd and middle 33rd income percentile have, respectively, a 0.266 and 0.285 probability of undertaking entrepreneurial activities. Although the propensity for entrepreneurial entry decreases for both bottom 33rd and middle 33rd income percentile categories at a higher income inequality level, the differential propensity remains insignificant. For example, for a Gini coefficient level as high as 40, the probability of people in the bottom 33rd and middle 33rd income percentile of becoming involved in entrepreneurship are virtually the same (i.e., 0.110 and 0.122, respectively).

However, Figure 1 shows that the effect of the Gini coefficient on individual propensity for entering entrepreneurship is different for people in the upper 33rd income percentile compared with those in the middle 33rd and bottom 33rd percentile of the income distribution. For instance, as the Gini coefficient increases from 20 to 60, the propensity for entering entrepreneurship of those in the upper 33rd income percentile decreases by about 88 percent (0.389–0.046), whereas that of the people in the bottom 33rd income percentile decreases by 83 percent (0.266–0.044) and that of those in middle 33rd income percentile drops by about 84 percent (0.285–0.046). These findings support the argument that economic inequality should have a larger

weakening effect on the entrepreneurial entry of higher income individuals than that of lower income individuals (Hypothesis 2).

Furthermore, Model 3 estimates the moderating effect of income inequality on the effect of individual educational achievement on the likelihood of becoming engaged in entrepreneurship. To this end, I treat the lowest education level as the reference category to evaluate the relative impact of Gini on the entrepreneurial entry across the three education categories. Model 3 shows that the coefficient for the interaction term between the secondary education category and the Gini coefficient is negative and statistically significant ($b = -0.0115, p < .001$). This suggests that as income inequality increases, those in the sample with a secondary education are less likely to enter entrepreneurship compared with those with some or no formal education. Model 3 also shows that the coefficient for the interaction term between the postsecondary and graduate education category and the Gini coefficient is negative and statistically significant ($b = -0.0158, p < .001$). This means that in contexts where income inequality is high, those with a postsecondary and graduate education are less likely to undertake entrepreneurial activities compared with those with some or no formal education. These results support the argument that economic inequality will have a greater weakening effect on the entrepreneurial propensity of those at the higher educational strata than that of those in the lower education strata. Figure 2 presents these interaction results to facilitate interpretation.

Figure 2 shows that the Gini coefficient has an overall decreasing effect on the propensity for entrepreneurial entry across all three education levels. For example, at a Gini level as low as 20, the probability of individuals with (1) some or no formal education, (2) a secondary education, and (3) a postsecondary or graduate education are, respectively 0.261, 0.328, and 0.373. But at a Gini level as high as 60, the probability of entering entrepreneurship for these groups are, respectively, 0.060, 0.046, and 0.040. That is a decrease in probability of entering entrepreneurship of about 77, 85.90, and 89.27 percent, respectively. These results support the argument advanced in this article that economic inequality should weaken the
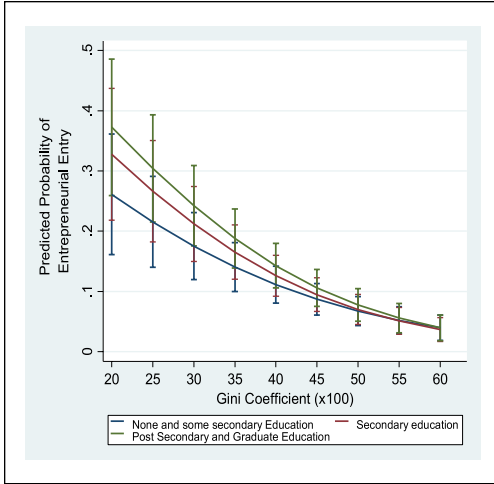
Figure 2. Predicted probability of entrepreneurial entry for the three education categories, by societal level income inequality (95 percent confidence interval).

importance of an individual's educational attainment for the likelihood of undertaking entrepreneurial activities. These findings also indicate that economic inequality has a greater weakening effect on the propensity of higher education individuals to undertake entrepreneurial activities than that of lower education individuals. For instance, as the Gini coefficient increases from 20 to 60, the probability of entering entrepreneurship for individuals with some or no formal education decreases by 77 percent (0.261–0.060), whereas that of people with a postsecondary or graduate education decreases by 89.27 percent (0.373–0.040). These results support my argument that economic inequality should have a larger weakening effect on the entrepreneurial entry of those in the higher end of the education strata compared with that of people in lower end of the education strata (Hypothesis 2).

Modeling the Moderating Effect of Income Inequality on the Effect of Individual Education and Income on Entrepreneurship Motivation

First, Model 4 in Table 4 estimates the effect of individual income and education on the likelihood that an individual is motivated into entrepreneurship due to necessity. I treat the lowest income and education categories as references to assess potential differences in propensity for entering necessity-motivated entrepreneurship by social economic status. Model 4 shows that the coefficients for the middle 33rd income percentile and upper 33rd income percentile categories are negative and statistically significant ($b = -0.362$, $b = -0.88$, $p < .001$). This means that those in the sample who are in the middle 33rd and upper 33rd income distribution are less likely to be motivated into entrepreneurship due to necessity than those in the bottom 33rd percentile of the income distribution. These findings reinforce previous research that has found that people who are in the higher end of the income distribution are less likely to enter entrepreneurship due to economic insecurity (Moulton and Scott 2016; Wassink and Hagan 2018).

Furthermore, Model 4 shows that the coefficient for secondary, and postsecondary and graduate education categories are negative and statistically significant ($b = -0.293$, $b = -0.727$, $p < .001$). This indicates that those in the sample with a secondary, postsecondary, or graduate education are less likely than those with only some or no formal education to undertake entrepreneurial activities as a last resort. These results are also consistent with extant literature showing that higher education individuals tend to have better chances at finding a job in the formal sector, improving their economic standing compared with low-education individuals (Tamborini and Kim 2017). Consequently, research shows that higher education individuals tend to be less likely than their lower education counterparts to undertake entrepreneurship as a last resort (Kim et al. 2006; Moulton and Scott 2016). However, of particular importance to the present analysis is the understanding of the extent to which economic inequality moderates the relationship between an individual's educational and income endowment and necessity-motivated entrepreneurial activities. Thus, in Models 5 and 6 of Table 4 I investigate the potential moderating effect of economic inequality on the relationship of education and income to an individual's likelihood of undertaking entrepreneurial activities due to economic insecurity.

Table 4. Mixed-effects Regression Estimates of the Moderating Effect of Inequality on the Effect of Education and Income on the Log-odds of Necessity Entrepreneurship.

	(4)	Income × Gini	Education × Gini
		(5)	(6)
Constant	5.741** (2.104)	5.016* (2.420)	5.368* (2.441)
Middle 33rd income percentile	−0.362*** (0.0493)	0.0791 (0.272)	−0.361*** (0.0493)
Upper 33rd income percentile	−0.881*** (0.0527)	−0.476 (0.278)	−0.876*** (0.0529)
Secondary education	−0.293*** (0.0491)	−0.287*** (0.0492)	−0.461 (0.277)
Postsecondary and graduate education	−0.727*** (0.0562)	−0.722*** (0.0563)	−0.0914 (0.282)
Gini coefficient		0.0115 (0.0141)	0.00621 (0.0141)
Cross-level interactions			
Middle 33rd income percentile × Gini coefficient		−0.0102 (0.00621)	
Upper 33rd income percentile × Gini coefficient		−0.00945 (0.00640)	
Secondary education × Gini coefficient			0.00394 (0.00621)
Postsecondary and graduate education × Gini coefficient			−0.0152* (0.00650)
Individual controls			
Female	0.236*** (0.0399)	0.237*** (0.0399)	0.233*** (0.0399)
Age	0.00938*** (0.00175)	0.00942*** (0.00175)	0.00939*** (0.00175)
Preference for uniform living standard	0.0360 (0.0221)	0.0355 (0.0221)	0.0362 (0.0221)
Starting a business is a good career choice	−0.0157 (0.0253)	−0.0151 (0.0254)	−0.0140 (0.0254)
Successful entrepreneurs receive high status	−0.0349 (0.0248)	−0.0353 (0.0248)	−0.0366 (0.0248)
Lots of media coverage for new businesses	−0.0427 (0.0236)	−0.0423 (0.0236)	−0.0411 (0.0236)
Country-level controls			
Preference for uniform living standard	0.822*** (0.203)	0.826*** (0.205)	0.843*** (0.206)
Starting a business is a good career choice	0.329 (0.340)	0.319 (0.339)	0.303 (0.340)
Log real GDP per capita	−0.469** (0.172)	−0.448* (0.180)	−0.463* (0.182)
Unemployment	0.0676*** (0.0107)	0.0638*** (0.0115)	0.0668*** (0.0115)
Rule of law, corruption, political institution index	−0.774 (0.921)	−0.715 (0.963)	−0.662 (0.970)
Property rights	−0.00348 (0.00684)	−0.00356 (0.00684)	−0.00409 (0.00690)
Intergenerational persistence	−0.404 (0.836)	−0.417 (0.836)	−0.335 (0.845)
Between-country intercept s. d.	0.359*** (0.101)	0.350*** (0.0988)	0.360*** (0.102)
Observations	15,760	15,760	15,760
Number of countries	50	50	50
Log likelihood	−8,170.6	−8,169.0	−8,165.4
Chi-squared	808.5	812.7	814.1

Note. GDP = gross domestic product. Standard errors in parentheses.
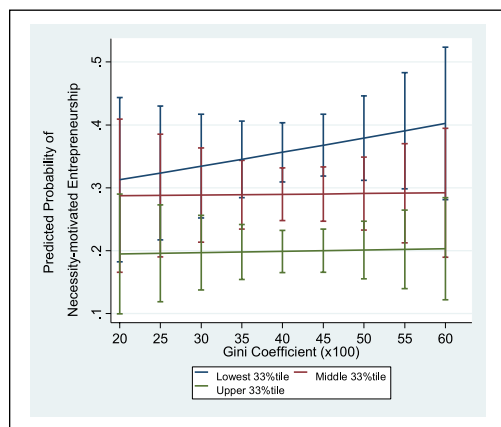*$p < .05$. **$p < .01$. ***$p < .001$.

Figure 3. Predicted probability of necessity-motivated entrepreneurship for the three income categories, by societal level income inequality (95 percent confidence interval).

First, Model 5 examines how income inequality moderates the effect of an individual's income on the likelihood that an individual would undertake entrepreneurship due to necessity. To this end, I treat the bottom 33rd income percentile as the base category to assess the possibility that economic inequality may have a differential effect on entrepreneurial motivation across different income strata. Model 5 shows that the coefficients for the interactions term between middle 33rd income percentile and the Gini coefficient, and that of the interaction term between the upper 33rd income percentile and the Gini coefficient, are not statistically significant. These results seem to indicate that income inequality does not have a significant differential effect on the likelihood that those in the middle 33rd and upper 33rd income percentile would undertake entrepreneurship because of economic insecurity compared with people in the bottom 33rd income percentile.

In Figure 3, I represent the results of the interaction terms to further examine the moderating effect of income inequality on income in necessity-motivated entrepreneurship across the three income categories. Figure 3 shows that economic inequality has a positive effect on necessity-motivated entrepreneurship for all three income categories. This is indicated

by the positive slope of the three lines representing the three income categories (the bottom 33rd, middle 33rd, and upper 33rd income percentiles). For instance, for a Gini level as low as 20, the probability of undertaking entrepreneurial activities as a last resort for individuals in the bottom 33rd, middle 33rd, and upper 33rd income percentile are, respectively, 0.313, 0.287, and 0.195. However, for a Gini level as high as 60, the probability of undertaking entrepreneurial activities due to economic insecurity for those in the bottom 33rd, middle 33rd, and upper 33rd income percentile is, respectively, 0.402, 0.292, and 0.203. This is an increase in probability of 28.62, 1.70, and 4.31 percent, respectively. These results suggest that economic inequality can push individuals into entrepreneurship as a last resort across all income categories. Thus, this result supports my hypothesis that economic inequality is likely to push individuals into entrepreneurship out of necessity (Hypothesis 3).

Model 6 estimates the interaction term between economic inequality and educational attainment. I treat the "no formal or some education" category as the base category to assess the possibility that economic inequality may affect necessity-motivated entrepreneurship differently across the three educational categories. Thus, the coefficient for the interaction term between the Gini coefficient and the secondary education category is not statistically significant. This suggests that as economic inequality increases, those in the sample with a secondary education are not different from those with some education or no formal education in the extent to which they would engage in necessity-motivated entrepreneurship.

However, the coefficient for the interaction term between the Gini coefficient and the postsecondary and graduate education category is negative and statistically significant ($b = -0.0152, p < .05$). This indicates that in societies where income inequality is high, individuals with a postsecondary or graduate education are less likely than people with some or no formal education to undertake entrepreneurial activities due to necessity. This finding supports my hypothesis that economic inequality is less likely to motivate higher education
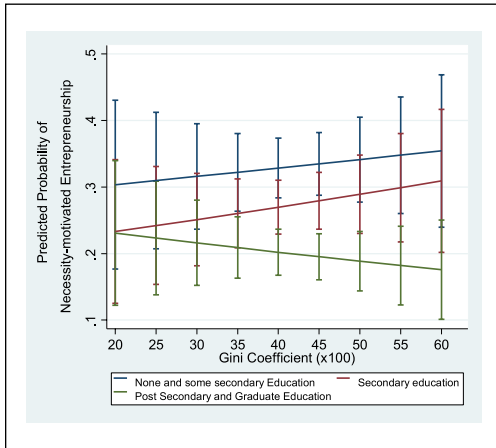
Figure 4. Predicted probability of necessity-motivated entrepreneurship for the three education categories, by societal level income inequality (95 percent confidence interval).

individuals into entrepreneurship out of necessity compared with their low-education counterpart (Hypothesis 4).

In Figure 4, I present the results of the interaction term between economic inequality and education to further examine the effect of inequality on necessity-motivated entrepreneurship across the three educational categories. Figure 4 shows that the slopes of the lines representing the probability that those in the lowest education and the secondary education categories would enter entrepreneurship due to necessity are positive, whereas the slope for those in the highest education category is negative. This means that as economic inequality increases, the probability that individuals in the lower education categories would undertake necessity-motivated entrepreneurship also increases, while the probability for those in the highest education category decreases. For example, for a Gini coefficient level as low as 20, the probability of undertaking entrepreneurship as a last resort is 0.304 for those in the sample with some or no formal education, 0.233 for those with a secondary education, and 0.231 for those in the highest education category. However, for a Gini level as high as 60, the probability of undertaking necessity-motivated entrepreneurship is, respectively, 0.354, 0.309, and 0.176 for individuals with

some or without any formal education, those with secondary education, and those with a postsecondary education. This is an increase in probability of 16.72 percent, and 32.56 percent for individuals with some or no formal education, and those with a secondary education, respectively. In contrast, the probability for those in the postsecondary and graduate education category decreases by 23.8 percent.

Taken together, these findings are consistent with previous research demonstrating that entrepreneurs' positions in the social stratification system influence the way they experience the entrepreneurial process. In the United States, for example, research shows that due to racial stratification, higher education tends to be associated with lower entrepreneurial activities for African Americans, while education tends to increase entrepreneurial activities among white and economically advantaged Americans regardless of race (Patrice 2016). Furthermore, Wassink and Hagan (2018), using data from return migrants in Mexico, show that lower education individuals tend to undertake short-term and precarious self-employment, whereas more educated individuals tend to engage in long-term and prosperous entrepreneurial activities.

Discussion and Conclusion

Sociologists have long argued that the organizational founding process should mirror society's social inequality structure (Aldrich and Ruef 2006; Stinchcombe 1965). Structural inequality can shape the relationship between personal characteristics and an individual's organizational mobility (Sorensen 1996), yet there have been few sociological analyses that examine this trend as it relates to the start-up process. This article fills this gap in previous research by examining the extent to which economic inequality shapes the importance of individual educational and financial endowment for entrepreneurial entry and motivation, and the degree to which the moderating effect of economic inequality may vary across educational and income categories. Drawing on two unique data sets, the GEM and the Standard World Income Inequality Database, I find four

key mechanisms by which economic inequality affects the entrepreneurial process.

First, consistent with the theoretical argument advanced in this article, the results show that economic inequality undermines the importance of an individual's educational and financial endowment in undertaking entrepreneurial activities. This finding is also consistent with stratification research demonstrating that structural inequalities shape the extent to which individuals are able to leverage their human and financial capital endowment for achieving organizational and labor market mobility (Ollivier 2004; Sorensen 1996).

The finding that inequality weakens the importance of individual education and income for entrepreneurship also highlights an important fact about the hindering impact of economic inequality on social welfare development. That is, this weakening effect may undermine society's ability to leverage the entrepreneurial capacity of its members for addressing its pressing social problems. This is important to note because entrepreneurship has been one of the key mechanisms by which societies have addressed the many challenges they face, namely health, national security, and environmental problems. Because individual human and financial capital have been shown to be key determining factors of entrepreneurial entry and success (Aldrich and Yang 2014; Kim et al. 2006), by weakening the importance of education and income for entrepreneurship development, economic inequality is likely to indirectly hinder society's ability to effectively address these challenges and promote social welfare and the well-being of its citizens.

Furthermore, the finding that economic inequality diminishes the importance of individual educational and financial endowment in entrepreneurial entry highlights an important mechanism through which economic inequality may hinder economic efficiency. A long-standing argument about sources of economic efficiency and sustainability in capitalism is the ability of the capitalist system to generate new organizational entry and products that challenge incumbent organizations to innovate or risk becoming irrelevant (Schumpeter 1942:81–86). It has been shown that the higher

an individual's education and income, the greater the likelihood of entering entrepreneurship (Aldrich and Yang 2014; Kim et al. 2006) and of starting innovative, growth-oriented, and successful ventures (Frid et al. 2016). Economic inequality may cause economic inefficiency by undermining the importance of individual education and income for facilitating the creation of new organizations. That is, by hindering the rate of entrepreneurial entry, economic inequality would exert downward pressure on the rate of new organizational entry, thereby discouraging incumbent organizations to innovate. This conclusion is based on the premise that a low rate of new organizational entry would lower the risk that incumbent organizations may lose legitimacy due to the emergence of new and more novel organizations. This conclusion is in line with recent U.S. research that has warned scholars and policymakers about the inefficiency-generating impact of economic inequality, by showing that children from high-income families are 10 times as likely to become inventors as their lower income counterpart with similar math test scores in early childhood (Bell et al. 2017). My findings suggest that one mechanism through which economic inequality may hinder the innovative potential of individuals is by undermining the importance of individual educational and income for undertaking entrepreneurial activities.

The second key implication of my findings is that in contexts where economic inequality is high, entrepreneurship may be a sign of economic insecurity. This conclusion derives from the finding that economic inequality pushes people to undertake entrepreneurship due to economic insecurity. It is particularly revealing because, while entrepreneurship is often perceived as a desirable path to social mobility (Archer 1991; McManus 2000), some recent work has shown that entrepreneurship has many of the characteristics of precarious work (Moulton and Scott 2016; Wassink and Hagan 2018). Yet, the extant literature has not satisfactorily explained the conditions under which entrepreneurship may be considered as a sign of economic insecurity and precarious employment. My findings fill this gap in the literature

by showing that under the condition of high economic inequality, people are likely to undertake entrepreneurship out of necessity. Previous research has shown that necessity-motivated entrepreneurial activities tend to be undesirable self-employment, as they provide no or little wage or health insurance to the entrepreneur (Wassink and Hagan 2018). In a similar vein, other work has shown that economic inequality tends to increase economic adversity while decreasing social mobility (Corak 2013). My analysis demonstrates that, not only does economic inequality undermine the importance of individual education and financial endowment for entrepreneurial entry, but it may also push people to pursue precarious or survival entrepreneurial activities.

The third contribution of this analysis is the demonstration that an individual's position in the socioeconomic status strata shapes how economic inequality affects an individual's entrepreneurial experience. While some research has examined the impact of income inequality on entrepreneurship (Xavier-Oliveira et al. 2015), there have been no available studies that examine potential differential effects of economic inequality on entrepreneurship across different socioeconomic status. While economic inequality weakens the importance of an individual's education and income on the propensity to engage in entrepreneurship, it also has a larger weakening effect on entrepreneurship among higher education and income individuals than it has on low-education and low-income individuals.

Furthermore, the fact that economic inequality has a greater weakening effect on the likelihood that higher education and income individuals would enter entrepreneurship suggests that, by restricting the market opportunities necessary for incentivizing new venture creation, economic inequality is likely to discourage business entry among those who have access to these opportunities in the first place. This conclusion is reasonable because individual educational and financial endowments are crucial for accessing the resources and learning the skills for entrepreneurial entry and success (Aldrich and Yang 2014). Thus, by failing to examine the potential moderating

effect of economic inequality on entrepreneurship across educational and income categories (Xavier-Oliveira et al. 2015), previous research was unable to uncover these nuances in the mechanisms by which economic inequality shapes the entrepreneurship process.

The fourth contribution of this study is the finding that although economic inequality may increase the overall number of people who undertake entrepreneurship as a last resort, higher socioeconomic status individuals are less likely than their lower socioeconomic status counterparts to enter entrepreneurship due to economic insecurity. A possible explanation for this finding may lie in the fact that low-education and low-income individuals tend to be vulnerable to economic adversities, thereby more likely than higher socioeconomic status individuals to undertake entrepreneurship as a last resort. This suggests that students of organization and stratification should not only ask questions pertaining to how economic inequality shapes the entrepreneurial process (Lippmann et al. 2005), but research should also examine potential differences in the way that economic inequality may influence entrepreneurial motivation and how this effect may vary across socioeconomic strata.

This study makes an important stride in this direction by showing that economic inequality pushes lower socioeconomic status individuals, more particularly lower education individuals, into entrepreneurship as a last resort compared with their higher socioeconomic status counterparts. This finding is reasonable because lower socioeconomic status individuals tend to have little economic buffer against economic adversities. In this respect, economic inequality, by increasing economic adversity and lowering economic mobility, tends to aggravate economic insecurity for those in the lower socioeconomic strata, thereby increasing the likelihood of undertaking entrepreneurship as last resort. This finding is consistent with Wassink's and Hagan's (2018) analysis of entrepreneurship dynamics among returned migrants in Mexico, which shows that lower education individuals tend to enter temporary and survival-type entrepreneurship, whereas higher education individuals tend to undertake

long-term and prosperous self-employment. My findings advance this research by showing that economic inequality may constitute an important factor forcing low-education individuals to pursue undesirable self-employment.

Due to data constraint, the empirical analysis was limited to the examination of the moderating effect of economic inequality on the importance of education and income for entrepreneurial entry and motivation. However, building on the findings of this study, future research may examine potential influences of other dimensions of structural inequality, such as racial and gender stratification, on the importance of individual characteristics for entrepreneurship development. More specifically, research may examine the extent to which societally shared beliefs about gender differences in leadership competency and racial attitudes influence gender and racial differences in the effect of individual characteristics, such as education and income, on entrepreneurial entry and success. Findings from such research may further illuminate our understanding of the interplay between micro and macro-level processes that underlie the entrepreneurial process. For instance, future research may find that the personal qualities of individuals may be more effective at predicting entrepreneurial success in contexts characterized by low racial and ethnic segregation and gender inequality.

In conclusion, by bridging the entrepreneurship and stratification literatures, this study uncovers nuances in the way that economic inequality shapes the entrepreneurial process and conditions the extent to which personal characteristics affect an individual's entrepreneurial experience. In this regard, these findings suggest cautions about the disproportionate focus that existing research puts on the understanding of micro-level mechanisms at the expense of structural conditions that create entrepreneurial opportunities and shape the importance of individual efforts in taking advantage of these entrepreneurship opportunities.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Notes

1. Countries included in the analysis: Argentina, Australia, Brazil, Canada, Chile, China, Colombia, Czech Republic, Ecuador, Egypt, Estonia, Ethiopia, Finland, France, Germany, Ghana, Hungary, India, Indonesia, Iran, Italy, Japan, Kazakhstan, Korea, Lebanon, Malaysia, Mexico, the Netherlands, New Zealand, Pakistan, Peru, Philippines, Poland, Romania, Russia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Tunisia, Turkey, the United Kingdom, the United States, Uruguay, Venezuela, Yemen, Zambia.

2. *Economic inequality (Gini coefficient)*: Two other commonly used sets of cross-national income inequality data are the Luxembourg Income Study (LIS) and the World Income Inequality data (WIID), which are produced by the World Institute for Development Economics Research of the United Nations University (UNU-WIDER). LIS provides the most reliable income inequality data because LIS harmonizes concepts and measurements of income across countries to create income inequality measures (Solt 2016). However, LIS income inequality data are available for only a very limited number of countries and data are collected only every five years for some countries (Solt 2016). The UNU-WIDER database contains income inequality measures for a wider range of countries, but includes income data from countries with different concepts and measures of income (therefore reducing cross-country comparability). SWIID builds on the strength of these two income inequality data sets (UNU-WIDER and LIS) to maximize the number of countries in the LIS data set, while maintaining strong cross-country comparability. Based on information (household income per capita, household adult income equivalent, household income without adjustment, employee income, and personal income) from country years where the LIS and UNU-WIDER data sets overlap, SWIID synchronizes the LIS data with the UNU-WIDER data using Gini ratios from the LIS data and information on income concepts from the UNU-WIDER data. As a result, SWIID replicates the cross-country comparability of the LIS income inequality data and the large coverage of the

UNU-WIDER income inequality data. Further detail on the methodology is provided in Solt (2016).

3. *Social mobility*: Income and occupation are two other common indicators of parents' socioeconomic standing that scholars have used to calculate the extent of intergenerational persistence in a society. This analysis uses IGP in education because cross-national data on parents' income and occupation are both difficult to collect and synchronize across countries. In contrast, retrospective data on education, such as years of education, of adult children's parents are commonly available and less difficult to harmonize across countries (GDIM 2018; Jerrim and Macmillan 2015). Furthermore, some research has argued that education may be a more appropriate measure of intergeneration persistence because education captures a large range of the factors through which adult children's socioeconomic standing is linked to that of their parents. For instance, educated parents tend to be more financially stable and have greater sociocultural capital that they transmit to their children, all of which would influence adult-children's education, occupation, and income levels (Jerrim and Macmillan 2015).

4. *Rule of law, political institution, and property right*: Rule of law, political institution, and corruption are represented by an index that captures the extent of corruption within the political system, the strength of the law and order, and the quality of government bureaucracy (PRS Group 2018; Teorell et al. 2018). The property indicator captures the degree to which private property, including patent, is guaranteed under the law and protected (Teorell et al. 2018).

5. I only included one of the three country-level entrepreneurship beliefs variables because they are strongly correlated ($R = 0.66$). Therefore, including them in the same model would create redundancy of information, thereby causing multicolinearity.

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