Do necessity-driven entrepreneurs have no-growth aspirations?

Introduction

Growth aspirations of entrepreneurs are a critical topic of interest because this variable is determinant in the firm growth, and at the same time it impacts the wellness and wealth of countries (Hermans et al, 2015; Davidsson et al. 2006). In this sense, there are many investigations about the determinant factors at different levels: Individual, contextual, business, etc. The Global Entrepreneur Monitor (GEM) is a reference in academic research on entrepreneurship, however, in the questionnaire the operationalization of motivation variable is very simplistic, and the necessity-opportunity dichotomy needs to be reconsidered.

On the other hand, the context variable had been explored but still needs our comprehension, especially in developing countries, where the political, economic, social, and business situation varies in an important mode along times. In Latin American TEA growth contrary to GDP growth, but the expectations about growth of this new firm is not encouraging, and many times it is related to the motivation of entrepreneurs when they begin his (her) business by necessity. In Latin American most entrepreneurs begin theirs ventures by necessity, and it could constitute a negative characteristic that determines no growth aspirations.

Our research objectives are related to these topics, we did an empirical research, based on GEM data for the years 2006 until 2012, focuses on identifying the factors that affect the growth aspiration of entrepreneurs in six countries, as well as finding if necessity entrepreneur means no growth aspirations, and the specific effect of context. We aim to answer three research questions: (1) Is the entrepreneurs' motivation engaging in new venture creation a dichotomy variable? (2) How do the context variables explain growth aspirations? (3) Does necessity entrepreneurship mean no growth aspirations?

The paper is structured as follows: The theoretical framework presents a literature review on (1) the opportunity-based and necessity-based entrepreneurship and its relationship with no growth aspirations, and (2) the contextual factors of entrepreneurs' growth aspiration; the methodology explains the database and method employed, describing the variables chosen and built, as well as the econometric model used; the results and discussion present the empirical analysis; and the conclusions summarize the primary findings and practical and policy implications.

Theoretical Framework

Is opportunity-based and necessity-based entrepreneurship: a false dichotomy?

The entrepreneurship literature identifies two major types of entrepreneurship, based on entrepreneurs' motivation behind engaging in new venture creation: necessity and opportunity-based entrepreneurship (Reynolds, Hay, Bygrave, Camp, & Autio, 2000; Acs & Amorós, 2008). The different motivations for entrepreneurial decisions influence the impact that a new venture may have on society and the economy (Amorós, Ciravegna, Madakovic & Stenholm, 2017); Estrin, Korosteleva & Mickiewicz, 2013; Williams, 2009).

Necessity-based entrepreneurs start a business to compensate for a lack of other sources of employment (Shane, 2009; Valdez and Richardson, 2013); it is often linked to informal activities, unemployment, economic recession, and poverty (Acs & Amorós, 2008; Block & Sandner, 2009; Gries & Naudé, 2011). Necessity-driven entrepreneurs, pushed into entrepreneurship because all other options for work are absent or unsatisfactory, or opportunity-driven, pulled into this effort more out of choice to exploit some business opportunity (Williams & Williams., 2014). While necessity-based entrepreneurial activity mainly reflects individual's motivation towards becoming self-employed in terms of job-replacement, opportunity-based entrepreneurship is more advanced and it has been considered that it has the potential to attain a more significant outcome in an economic sense (Reynolds, Bygrave & Hay, 2002)

This dichotomous classification has become increasingly at the center of contemporary entrepreneurial literature, largely because of the importance and impact of Global Entrepreneurship Monitor (GEM) in entrepreneurship research. GEM is the predominant global survey of entrepreneurship and has used the opportunity and necessity dichotomy to analyze the prevalence of entrepreneurship, its impact on economic development and how policy can be used to harness higher levels of enterprising behavior and business start-ups. However, Williams & Williams, 2014 argue that this opportunity versus necessity dichotomy is simplistic.

While a big body of the literature on entrepreneurs' motives adopts a static dualistic representation of entrepreneurs as either opportunity- or necessity-oriented, recent years have therefore seen the emergence of a small stream of thought that has begun to criticize the use of this simplistic dualistic typology, in order to recapture some of the complexity involved in entrepreneurs' motives (Williams 2007a, b; Williams 2008a, b). For example, Smallbone and Welter (2004) have claimed that transition economies can be argued to be special cases where opportunity and necessity might well coexist.

More recently, Williams and Williams (2014), have argued that opportunity versus necessity dichotomy, which uses the perceptions of the originator condition of an entrepreneur as a defining characteristic of their motivations, is a confusing way of classifying entrepreneurship types not only because motivations change over time, but also because entrepreneurs, frequently, are driven by both motivation factors: necessity as well as opportunity. One question to be asked is whether entrepreneurs obey exclusively to one or the other dynamic. On the other hand, Williams (2009) and Block and Sandner

(2006) have emphasized, that it is worthwhile asking whether necessity and opportunity entrepreneurs are homogenous groups.

For their part, Giacomin, Jansen, Guyot & Lohest (2011) also claim that the necessity/opportunity entrepreneurship dichotomy is too limitative. Indeed, they remark that it has not been established that the boundary between opportunity and necessity dynamics is as clear-cut as several authors pretend, considering the possibility of a simultaneous belonging to both dynamics, view that is shared by Arias and Pena (2010), Block and Sandner (2006) and Hughes (2003).

Does necessity entrepreneurship mean no growth-aspirations?

Several authors have indicated that need-driven entrepreneurs have lower growth aspirations (Reynolds et al. 2002; Terjesen and Szerb, 2008), which is justified in part because need prevents the ability to identify opportunities for greater potential (Morris et al., 2006) or because the venture is generated more as an option for self-employment than as an initiative to create an organization that will grow and consolidate (Thurik et al., 2007). In this regard, it has been claimed that opportunity motivated individuals have a higher probability of focusing on the growth of their businesses (Acs and Varga, 2004; Autio, 2005; Davidsson, 1991; Morris et al., 2006; Hessels et al., 2008a; Reynolds et al. 2004; Storey, 1994).

According to Amorós (2017), the opportunity-driven entrepreneurship is oriented to start a business in the pursuit of growth, profit, innovation, and personal aspirations. In the same direction, it has been pointed out that opportunity-based entrepreneurship is linked to innovative activities that have the potential to create jobs and increase productivity in an economy (Reynolds et al, 2005; Stenholm, et al., 2013).

Contextual factors of entrepreneurs' growth aspiration

The study of entrepreneurs' growth aspiration has been object of interest with a growing body of knowledge emphasizing that it is an important predictor of subsequent firm growth (Davidsson et al., 2006; Henrekson & Johansson, 2010; Stam & Wennberg, 2009; Hermans et al., 2015). Identifying the determinants of entrepreneurs´ growth aspiration can provide insights about which factors encourage entrepreneurial activity with significant economic and social impact, at different levels (Autio & Acs, 2009; Hessels, Van Gelderen & Thurik, 2008; Storey, 1994; Terjesen & Szerb, 2008). These micro-levels to macro-level factors can be organized in three big categories: i) the contextual or environmental factors: Economic, political, social, cultural, etc.; (ii) individual factors: Entrepreneur personal characteristics and demographic variables, and (iii) business characteristics and strategy: Size, capital innovation, etc.

Strategic entrepreneurial behavior cannot be fully understood without giving attention to the context in which it is observed (Autio & Acs, 2009). In that sense, Hwang and Powell (2005) have that entrepreneurial activity is context specific and significantly related to the character of the institutional environment. It's shaping the economy affects the dynamics of entrepreneurship within any given country. This environment is marked by interdependencies between economic

development and institutions, which affect other characteristics, such as quality of governance, access to capital, and other resources, and the perceptions of entrepreneurs.

Amorós (2017), guided by Baumol (1990) and new institutional economics (North, 1990), affirm that the national context—in particular, the state's capacity to provide the foundations for the functioning of markets, such as political stability, a clear regulatory framework, and accountable rule enforcement mechanisms—shapes incentives for both opportunity or necessity-based entrepreneurial activity, which also have several implications for economic development (Acemoglu & Robinson, 2012).

Bowen and De Clercq (2008), find that financial capital, educational capital, and regulatory protection are associated with potential high-growth entrepreneurship, whereas corruption and regulatory complexity are negatively associated with it, examining average yearly rates of entrepreneurial venture creation from the GEM in 40 countries. Their findings support Baumol's argument (1990) that strong formal institutions, such as the quality of the regulatory framework and the enforcement of laws preventing corruption, are linked to the type of entrepreneurial activity that can aid economic development (Acs & Desai & Hessels, 2008).

Hessels et al. (2008) investigate about drivers of entrepreneurial aspirations and entrepreneurial motivations using country-level GEM data from 2005 and 2006, and propose a two-equation model explaining aspirations using motivations and socio-economic variables. One of the main findings of their paper is that countries with a higher incidence of increase-wealth-motivated entrepreneurs tend to have higher rates of job-growth oriented and export-oriented entrepreneurship. The country level of social security is found to relate negatively to the prevalence of innovative, job growth-and export-oriented entrepreneurship. Furthermore, they find that the increase-wealth motive mediates the relationship between country levels of economic development/growth and entrepreneurial aspirations. GDP per capita has a direct positive relationship with high job growth and export aspirations, but also an indirect negative relationship with these aspiration variables through its negative relationship with the increase wealth motive, as richer countries tend to have lower indices of increase-wealth-motivated entrepreneurs. GDP growth has a direct positive association with high job growth aspirations, and also an indirect positive relationship with high job growth and export aspirations through the increase-wealth motive. On the other hand, McMullen, Bagby and Palich (2008) find that entrepreneurial rates are negatively correlated with available employment opportunities (which they proxy using gross domestic product, GDP) and positively correlated with labor freedom.

In the case of Latin-American countries, it has been claimed that weak institutional settings have created the informal lifestyle and the emergence of many survival entrepreneurs; similarly, poor environmental conditions (or framework conditions for the entrepreneurial context) could be a barrier to the subsequent growth of these new enterprises (Capelleras & Rabetino, 2008). Amorós (2001) points out that the Latin American countries present characteristics of an

economy in which most companies have a small-scale production system and therefore have a smaller relationship with innovation processes; likewise, the products and services they offer are of lower added value compared to those of large companies.

On the other hand, according to Kantis (2005), the Latin American countries have great potential to generate competitiveness and well-being through the creation of new companies, but in general they have not been able to consolidate a more innovative business dynamic. In relative terms, entrepreneurs motivated by necessity are an important percentage of the total entrepreneurial activity in Latin America. However, many of these business activities that include self-employment are generally not associated with value-added business opportunities or subsequent growth processes. However, in terms of necessity-based entrepreneurship, it has been emphasized that by itself it does not constitute a negative fact, since they could be a reaction to certain national conditions.

The economies of Latin America have a very limited number of innovative start-ups to make a transition to an entrepreneurial economy because there are still many constraints to the creation of knowledge-based enterprises (Angelelli & Kantis, 2004). In addition, empirical evidence has shown that the transition between two economic models is slower for the countries of Latin America than for the industrialized countries. However, in the region as a whole, it is observed that entrepreneurship is being a central theme not only in the public agenda but also through public-private cooperation mechanisms that strengthen the entrepreneurial dynamic of many countries in the region (Amorós & Poblete, 2011)

Analyzing the development of entrepreneurship in several Latin American countries, in terms of opportunity-based and necessity-based entrepreneurship, Sparano (2014) points out that countries which have a low GDP per capita, such as Peru, have a high percentage of entrepreneurial activity, while as the GDP increases, the entrepreneurial activity tends to decrease. Regarding growth expectations, this author observes that among the countries studied, the highest aspiration for business growth during the first five years in hiring at least five employees is observed for the case of Colombia, followed by Chile and Argentina. According to this author, among the factors that have influenced the increase in entrepreneurship, the educational aspect stands out, since the preparation required by the people for the creation of companies is fundamental, as well as the management at all levels of the educational system, as in Argentina.

Methodology

Data base and variables

The analysis focuses on the data of the Global Entrepreneurship Monitor (GEM) study for six countries (Peru, Uruguay, Colombia, Brazil, Argentina and Chile), for 2006 until 2012. Then to get our objectives we focus on nascent

entrepreneur or new businessman, according to the GEM's classification (Amorós, 2011), who are adult individuals, who developed early entrepreneurial activities (TEA). The last because only in TEA the growth aspiration variable is collected.

The GEM allows an approach to study the growth aspiration measured as the number of jobs the entrepreneur hopes to create in the next five years, considering it as a good predictor of the real growth of the business (Amorós & Poblete, 2011; Autio, 2005; Cassar, 2006; Wiklund & Shepherd, 2003). We assume, following Estrin and Mickiewicz (2010) measure of growth aspiration that of high aspiration is to create ten or more jobs in five years.

Table 1 presents a description of the variables that were included as the determinants of the growth aspiration of entrepreneurs, including the dependent variable. The first column describes the name of the variable; the second presents the question of the survey (GEM) or the definition in the case of variables outside GEM; and the third describes the method to build the variables for the econometric analysis.

Insert Table 1

All the variables were constructed according to the GEM data. There are two exceptions: The first is the innovation variable, which was regrouped according to Koellinger (2008); the second was age, which was included twice, one continuously and one as a discrete variable. Additionally, given that our research question is about if growth aspiration is a dichotomy variable, we operationalize the motivation variable in three categories: necessity, opportunity, and independence. Through the questionnaire GEM ask entrepreneurs about their motivation with four valid answers options: opportunity, necessity, both and "have a job but seek better opportunities". We could not take "both" as a category; because it could have correlations problems in this variable, then to have at least three valid categories, we take the last one and we give the label of "independence". Regarding country variable, we choose all the Latin-American countries possible considering that the database set would be no interruptions along the years, in this sense we take six countries and the range of date from 2006 until 2012.

Given that our second research question is about how context affects growth aspiration, we include some relevant variables that could allow us to estimate this effect. In these sense, we choose two indices available for all the countries and all the years: GDP growth and Global Competitiveness Index (GCI). The concept of competitiveness thus involves static and dynamic components. Although the productivity of a country determines its ability to sustain a high level of income, it is also one of the central determinants of its return on investment, which is one of the key factors explaining an economy's growth potential. Building on Klaus Schwab's original idea from 1979, since 2005 the World Economic Forum has published the Global Competitiveness Index developed by Xavier Sala-i-Martín in collaboration with the Forum. Since an update in 2007, the methodology has remained largely unchanged. The GCI combines 114 indicators that capture concepts that matter for productivity. These indicators are grouped into 12 pillars which are presented in Table 2.

Insert Table 2

The GCI approaches competitivity in three groups: Basic requirements, efficiency enhances, and innovation sophistication, each of them is a key to drive different phases: Factor, efficiency and innovation economies (Figure 1). GCI is an appropriate estimate of the level of productivity and competitiveness of an economy, capturing important factors that determine the capacity of national economies to grow (Van, Carree & Thurik, 2005). Data on the GCI 2006-2012 are taken from The Global Competitiveness Report for these years. Regarding GDP, growth rates are taken from the IMF World Economic Outlook database of the International Monetary Fund. This factor allows us to capture the effect of short terms, contrary to GCI, that is a structural factor and captures the medium term.

In Table 3, we show the frequencies of the dependent variable growth aspiration, categories were built according to the frequency of the aspiration continuous variable, ensuring that each option has a sufficient number of observations. According to Wooldridge (2011), the alternatives of choice of the ordered probity model with sample selection bias must overcome a statistical test of parallel regressions to ensure that all the alternatives are relevant. According to these frequencies, it is possible to affirm that the total sample is very heterogeneous according to this characteristic because there are entrepreneurs along low values and high values. Regarding motivation values we could say that opportunity behaves like the total sample, while independence entrepreneurs have the most amount in high values of growth aspirations, contrary to necessity entrepreneurs who have the most amount of individual in the low values of growth aspiration.

Insert Table 3

In Table 4 we show the descriptive statistics of independent variables. We highlight that our selection of three categories for motivation variables is supported by the amount that we found in each of them (opportunity, 53.4%; necessity, 35.9%; and independence, 10.6%). Additionally, we can see than more than half of the entrepreneurs in the sample are men, and in terms of education level, 71 percent have a degree greater than "high school education", which differentiates the entrepreneurs motivates by necessity from entrepreneurs motivated by opportunity and independence, because, in the first, only 18 percent have a higher level of education while the other two groups are around 80 percent. Most of the entrepreneurs are younger than 50 years old (77%).

Insert Table 4

Other individual variables that could influence the growth aspiration are skills and fear of failure. Most of entrepreneurs perceive that they have the necessary skills to start a new business (84%). As for the fear of failure 83 percent of our entrepreneurs state that they do not fear to fail in starting a new business, being the entrepreneurs motivated by necessity who most feel fear to fail (31%).

About the entrepreneurial culture, a majority (83%) perceive that being an entrepreneur is a desirable career. Coinciding with the above, many of the entrepreneurs (77%) believe that in their countries those who undertake a successful business enjoy public recognition. Regarding business related factors, for the degree of innovation in the business, we observed that 70% of entrepreneurs perceived that their products and business are innovative. Finally, the sample distributes over the seven years, concentrating in the last three years 65% of the sample and with respect to the six countries selected; three of them concentrate the 77% of sample (Colombia, Brazil and Chile).

Because the multicollinearity could be a potential problem, we calculate the correlations of the independent variables of our model. Table 5 presents the correlations among all variables under scrutiny. Some of them are correlated, for example we found that opportunity correlated negatively with independence (r =-0.37, p\0.01) and correlated positively with education (r=-0.17, p\0.01) and also with age (r=-0.07, p\0.01). However, the correlation between the independent variables of the model and the level of statistical significance does not allow us to conclude the existence of a problem of multicollinearity. All values $r < 0.8$.

Insert Table 5

Method

An ordered probit model is used to estimate relationships between entrepreneurs' growth aspiration (y_i) and a set of independent variables (x_i). Based on Carmeron and Trivedi (2005), and Wooldridge (2011), a simple way of estimating the econometric model is:

Insert equation 1

In this case, the dependent variable measures five choice in the growth aspirations:

j=1 if the entrepreneur i aspires to a growth of his/her business between 0 and 1 employee;
j=2 if the entrepreneur i aspires to a growth of his/her business of 2 employees;
j=3 if the entrepreneur i aspires to a growth of his/her business of 3 employees;
j=4 if the entrepreneur i aspires to a growth of his/her business between 4 and 9 employees
j=5 if the entrepreneur i aspires to a growth of his/her business of 10 or more employees.

In addition, ($\varnothing$) represents the cumulative normal distribution function, the independent variables can be grouped into four categories: (x_{1i}) are the motivation variables, (x_{2i}) are the characteristics of the entrepreneur, (

x_{3i}) are the context variable and (x_{4i}) are the interaction of motivation variables with all others independent variables. Finally, (ε_i) are the residuals of the model.

In ordered probit, an underlying score is estimated as a linear function of the independent variables and a set of cut points. The probability of observing outcome i corresponds to the probability that the estimated linear function, plus random error, is within the range of the cut points estimated for the outcome:

Insert equation 2

ε_i is assumed to be normally distributed. In either case, we estimate the coefficients β_1 , β_2 , …, β_k , together with the cut points k_1 , k_2 ,…, k_{J-1} , where J is the number of possible outcomes (y=1, y=2, …, y=5).

Therefore, in the next section, we calculate the marginal effects of x_j and the probabilities associated with each choice of growth aspiration without leaving aside the intuition and the descriptive analysis of the results. Therefore, in the next section, we calculate the marginal effects of x_j and the probabilities associated with each choice of growth aspiration without leaving aside the intuition and the descriptive analysis of the results (Greene, 2012).

Results and Discussion

This section presents the results of the estimation of the robust ordered multinomial probit model with sample selection bias, analyzing the variables influencing the growth aspiration of the entrepreneurs. First, we focus on demonstrate that entrepreneur´s motivation is not a dichotomy variable, in this sense, in Table 6 we show the results of estimations of Model 1 with only the motivation as independence variable. Given that the parameters of discreet motivation variable are statistically significant, we prove that motivation is not a dichotomy because it takes at least three categories (necessity, opportunity and independence).

Insert Table 6

With the evaluation of Model 2, adding the environment, individual and business determinants factors of growth aspirations, we obtain that the results of a no dichotomy motivation condition is still maintained. In Model 3, we add the context variables and in Model 4, we add the interactions variables between opportunity and independence motivation with all the variables included in the model, and the results it is the same. Finally, in Table 6, we show that Model 4 is the best

model according to three-selection test: AIC, LR test and Log likelihood, because this model obtains the lower values, it means that Model 4 explains better the variations of growth aspirations entrepreneurs. It shows a robust result about the importance of considering at least a third group in the entrepreneurs' motivation: independence. With this procedure, we answer the first questions of our research.

In Table 7, we can see how the motivation variable behave depends on each value. Specifically, when an entrepreneur begins his (her) venture by necessity, the probability of having a low growth aspiration is higher than for entrepreneurs with opportunity and independence motivation, it is more important for opportunity than for independence. On the other hand, the entrepreneurs with bigger probability to have a high growth aspiration are opportunities motivation's entrepreneurs. Additionally, in Table 7, we can see that we obtain that gender; education, age, skills, fear of failure, desirable career; recognition, and innovation are determinants factors of growth aspirations. These results are consistent with the results of Puente et al. (2017) for the Venezuelan case.

Insert Table 7

To explore how the context variables explain growth aspiration, we estimate the Model 3, and the Model 4. In Table 6 we can observe that GDP growth it is significant explaining the growth aspiration. In Table 7, we present the results for the marginal effect of Model 4, where it is possible to observe that the entrepreneur's growth aspiration is higher than GDP index growth, which obey to a logical sense meaning that GDP measures the wealth of the countries (Hessels et al, 2008).

Regarding pillars of competitiveness, in Table 7 we can see that Macroeconomic environment, Health and primary education, Financial market development, Market size and Innovation indexes begin with a positive value for growth aspiration equal to 1, and decrease until y= 5, with a negative value of GCI. While Higher education and training, Goods market efficiency, and Labor market efficiency behave contrary, means that when entrepreneurs aspiration is equal to 1, the value of competitiveness index is negative and this value grows until y=5, when GCI get positive values. It is important to mention that four pillars are not significant: Institutions, Infrastructure, Technological Readiness and Business Sophistication. The behavior of the first group of pillars does not seem logical, because as the index improves, the growth aspiration of the entrepreneur decreases. The explanation could be that most of these pillars are related to the first two phases of basic and efficiency development of the economy, and therefore the improvement of them do not encourage the entrepreneur to want to grow his business, because these factors do not seem to show signs of a high productivity and competitiveness in the country.

Other explanation to the inverse relation of the first group of variables with growth aspiration could be the expulsion effect of the macroeconomic policies of the government (Blanchard, 2008) The policies look for the wellness

population, but in the short place this kind of policies could have a negative impact in some process as the development of new ventures. The second group, where the relationship between them and growth aspiration is positive, it sounds logic that higher education and goods and labor efficiency impact positively the growth aspiration of entrepreneurs, and we highlight that the big impact between these three-competitiveness index on growth aspiration is from higher education and training. It is an important issue for the elaboration of public policies.

In Tables 6 and 7 we also found that year and countries variables are significant explaining the growth aspiration. In Figure 3, we can see that the growth aspiration of entrepreneurs is different depending on the country, specifically Colombia has the lower number of entrepreneurs with growth aspiration with y=1, and Brazil has the highest amount between all the countries, and we can see that this country does not have high growth aspirations. The conclusion is that Brazil seems the most pessimistic country, while Colombia seems to be the most optimistic in terms of growth aspiration of entrepreneurs. This result agrees with Sparano (2014), who observes that among the countries studied the highest aspiration for business growth during the first five years in hiring at least five employees is observed for the case of Colombia, followed by Chile and Argentina.

Insert Figure 3

Regarding age, in Table 7, we can see that for the years 2007, 2008, and 2010, the highest values of growth aspirations (y=4, 5) are significant and negative, they show that for these years the growth aspirations was worst that for 2006, that it is the base year. It could be explained because of the 2008 financial crisis, which could be predicted in 2007, before that it happened.

With these results, we demonstrate that GDP growth, some competitiveness index, year and country, affect growth aspirations and how they affect the dependent variable, answering our second research question. Other interesting results in Table 7 were related to the interactions of each environment, individual and business determinants factors, and each value of growth aspirations. Only gender*opportunity, age2*opportunity, age3*opportunity, desirable career*opportunity and innovation*opportunity were significant, it means that when the entrepreneurs begin the new ventures for opportunity gender, at certain ages (30-49) desirable career and innovation affect the growth aspiration.

To answer our third research question about if necessity entrepreneurship means no growth aspirations, we elaborated Table 8, for entrepreneurs whose motivation is by necessity and aspirations to high growth (y = 5), to verify that there were variables that determined the growth aspiration of these entrepreneurs. Effectively we obtained that gender, education, age, skills, fear of failure; desirable career, and innovation are significant explaining how these entrepreneurs by necessity have high growth aspirations. Also, some context variables, such as pillars 1, 3, 5, 7, 8 and 11, explain the aspirations of entrepreneurs, because they result significant in the estimated model. In this way, we demonstrate that there

are significant differences between entrepreneurs whose motivation is for necessity and have high growth aspirations (y = 5) and the rest of the entrepreneurs motivated by necessity (y=1, 2 ,3 y 4).

Insert Table 8

It is interesting that in this occasion there are two different significant indices: Institutions and Business sophistication. It could be that when entrepreneurs begin by necessity the institutions are important to help them to overcome their challenges. In the case of business sophistication, it could be that the entrepreneurs fear to growth because they feel that their business could not compete with the leaders of the market. On the other hand, health and primary education, goods market efficiency, market size, and innovation in this occasion, do not explain growth aspirations.

To show that there are probabilities that the entrepreneurs who start their business by necessity could have high growth aspirations, Figure 4 was elaborated. In this Figure, we show how those variables of environment, individual, and business whose interactions with the different values of motivations were significant in Table 6 behave for different values of growth aspirations. In this Table, we show the probabilities of each motivation value and its confidence interval.

Figure 4

In Figure 4, it can be observed that there is always a probability that the entrepreneurs who begin his (her) new venture motivated by necessity have a high growth aspiration, this probability is always less than in the case of entrepreneurs motivated by opportunity for the four considered variables (education, gender, desirable career, and innovation), but probability exists. In this way, we demonstrate our third research question about that not necessarily undertaking a business motivated by necessity means no growth aspirations. It is worth mentioning that the probability of having high growth aspirations is very similar in the case of necessity and independence for the four characteristics.

In Figure 5, we can see, through the distribution of growth aspiration, how many entrepreneurs have low and high growth aspirations along the different values of motivation variable.

Figure 5

Specifically, we found that the entrepreneurs motivated by necessity with the higher aspiration (y=5) are scarce compared with entrepreneurs motivated by independence, because in this group we found most of the total entrepreneurs with the highest growth aspiration (y=5). Again, we can see that not necessarily necessity entrepreneurs mean no growth aspiration.

Finally, in Figure 6, we show the mean marginal effects for the significant interaction variables in Table 7, and the value that takes each variable for each value of y (y= 1, 2, 3, 4 y 5). It is possible say that, for example in the case of gender, the impact of being women who initiate her venture by necessity is higher than for the case of men who initiate by opportunity and independence. In the case of desirable career, the impact of it is less important in the case of those

entrepreneurs that are motivated by opportunity and independence than these motivated by necessity. In the case of innovation, the result it is interesting because is different between motivation by independence and opportunity; in the independence case to have an innovation offer, impact more the probability to have high growth aspirations than in the case of entrepreneurs that are motivated by necessity. It is the contrary to opportunity, the impact in the probability is less than for those entrepreneurs motivated by necessity.

Figure 6

Conclusions and recommendations

In this research we demonstrate that it is false the motivation dichotomy necessity versus opportunity, when we show that at least three groups of entrepreneurs exist based on motivation to begin a new venture: opportunity, necessity and independence. This result show that motivation variable is a complex variable to explore. For example, it could be valuable research for the dynamic character of motivation, or what differentiate independence entrepreneurs from opportunity and necessity entrepreneurs, and how necessity-driven entrepreneur differentiate between them..

Our second result is the importance of context as determinant factor of growth aspiration. The GDP growth affects the growth aspiration; before it was demonstrated that GDP growth affects negatively TEA (Sparano, 2014), however we demonstrate that GDP growth impacts positively the growth aspiration of entrepreneurs. Regarding the GCI, there are significant effects of eight pillars of the index on growth aspirations of entrepreneur. Specifically, we found that is higher education and training the pillar that affects more growth aspiration, and that innovation affects differently necessity, opportunity and independence entrepreneurs (the probability to have higher growth aspirations is bigger in the case of independence entrepreneurs, followed by necessity and then opportunity entrepreneurs).

The third result is that necessity is not a negative condition to growth aspiration of entrepreneurs; it could be more related to context condition, because we demonstrate how the context affects in different way necessity, opportunities and independence entrepreneurs. We demonstrate that there is the probability to begin a venture by necessity and have high growth aspirations. This supports the complexity of the motivation variable, more if we add our result about that probability to have high growth aspirations is very similar in the case of necessity and independence for the three significant variables (gender, desirable career, and innovation).

The policies makers would be worried about context variables that encourage entrepreneurs to growth, and not necessarily change the initial motivation of entrepreneurs, because even the entrepreneurs that begin their venture motivated by necessity have high growth aspirations. The GDP growth affects positively the growth aspiration, thus the governments

should develop strategies to guarantee the stability of this economic variable. Regarding the competitivity index, it is very important to conduct policies that impact high education and training because it is the most import determinant of growth aspiration, also the support to develop innovation strategies for the entrepreneurs because it impacts the probability to have high growth aspiration, especially in independence and necessity entrepreneurs.

For future research, it could be very valuable through qualitative research to know more about what differentiate these small groups of entrepreneurs motivated by necessity but with high growth aspirations. It could be also very valuable to think to incorporate in the GEM questionnaire a more complex operationalization of motivation variable, because we demonstrate that it is not a dichotomy variable.

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Table 1. Description of the variables

Variable	Question of the survey	Classification of the answers in the model	
		Answers	**Assigned code**
Growth aspiration	Growth aspirations is obtained from the absolute value of the difference between these two questions: - How many people do you think that will work for this business when it will have five years of established, excluding owners, but including exclusive contractors? - How many people currently work for this business, excluding owners, but including exclusive contractors?	It aspires between 0 and 1 employee	1
		It aspires to 2 employees	2
		It aspires to 3 employees	3
		It aspires between 4 and 9 employees	4
		It aspires to 10 or more employees	5
Gender	What is your gender?	Man	1
		Woman	0
Educational level	What is the highest level of education you have completed? (This variable was re-categorized since ranges varied between years (Terjesen & Szerb, 2008; Bhola, et al. 2006).	High school	1
		Other	0
Motivation	Have you been involved in this new venture to take advantage of a business opportunity or because you do not have a better alternative of work?	Necessity	= 1 & o.w.=0
		Opportunity	= 1 & o.w.=0
		Independence	= 1 & o.w.=0
Age	How old are you?	Continuous variable between 18 and 64 years of age	
Age (Year)	How old are you?	18-29	= 1 & o.w.=0
		30-39	= 1 & o.w.=0
		40-49	= 1 & o.w.=0
		50-59	= 1 & o.w.=0
		>= 60	= 1 & o.w.=0
Skills	Do you have the knowledge, skills and experience necessary to start a new business?	Yes	1
		No	0
Fear of failure	Is the fear of failure what prevents you from starting a new business?	Yes	1
		No	0
Desirable career	In your country, most people consider that starting a new business is a desirable career option?	Yes	1
		No	0
Recognition	In your country, those successful at starting a new business have a high level of status and respect?	Yes	1
		No	0
Innovation	Based on the three questions on innovation: 1. How many of your potential customers do you think will consider this a new and unknown product/service? 2. How many other businesses do you know that offer the same products or services to their potential customers? 3. How long have the technologies or procedures required for this product or service been available? (This variable was re-categorized based on Koellinger, 2008)	Innovation: All, some (for q1 or q2) or less than 1 year (for q3)	1
		Imitation: None (for q1and q2) and more than 1 year (for q3)	0
Year	Dichotomous variable that takes the value of 1 for each year. This variable was created by the authors according to the year in which the survey was conducted.	2006	=1 & o.w.=0
		2007	=1 & o.w.=0
		2008	=1 & o.w.=0
		2009	=1 & o.w.=0
		2010	=1 & o.w.=0
		2011	=1 & o.w.=0
		2012	=1 & o.w.=0
Country	Dichotomous variable that takes the value of 1 for each country. This variable was created by the authors according to the country in which the survey was conducted.	Peru	=1 & o.w.=0
		Argentina	=1 & o.w.=0
		Brazil	=1 & o.w.=0
		Chile	=1 & o.w.=0
		Colombia	=1 & o.w.=0
		Uruguay	=1 & o.w.=0

Source: Authors' elaboration.

Table 2. The GCI Framework: The 12 Pillars of Competitiveness

Pillar	Description
First pillar: Institutions	Concepts related to protection of property rights, efficiency and transparency of public administration, independency of public administration, independency of the judiciary, physical security, business ethics and corporate governance: • Public institutions. • Private institutions.
Second pillar: Infrastructure	Quality and available of transport, electricity and communications infrastructures: • Transport infrastructure. • Electricity & telephony infrastructure.
Third pillar: Macroeconomic environment	Fiscal and monetary indicators, savings rate and sovereign debt rating.
Fourth pillar: Health and primary education	State of public health, quality and quantity of basic education. • Health. • Primary education
Fifth pillar: Higher education and training	Quality and quantity of higher education, and quality and availability of on-the-job-training: • Quantity of education. • Quality of education. • On-the-job-training.
Sixth pillar: Goods market efficiency	Factors that drive the intensity of domestic and foreign competition, and demand conditions: • Competition. • Quality of demand conditions.
Seventh pillar: Labor market efficiency	Labor market efficiency and flexibility, meritocracy and gender parity in the workplace: • Flexibility. • Efficient use of talent.
Eighth pillar: Financial market development	Efficiency, stability and trustworthiness of the financial and banking system: • Efficiency. • Trustworthiness and confidence.
Ninth pillar: Technological readiness	Adoption of technologies by individuals and business: • Technological adoption. • ICT use.
Tenth pillar: Market size	Size of the domestic and export markets: • Domestic market size. • Foreign market size.
Eleventh pillar: Business sophistication	Efficiency and sophistication of business processes in the country.
Twelfth pillar: Innovation	Capacity for and commitment to innovation. Innovation can emerge from new technological and non-technological knowledge.

http://reports.weforum.org/global-competitiveness-report-2015-2016/methodology/

Table 3. Frequencies of the growth aspiration variable

	Growth aspiration	Opportunity	Necessity	Independence	Total
1	It aspires to have between 0 and 1 employees	28.44	45.42	13.98	33.00
2	It aspires to have 2 employees	12.43	13.29	10.54	12.54
3	It aspires to have 3 employees	9.37	9.66	9.74	9.52
4	It aspires to have between 4 and 9 employees	24.10	18.21	28.66	22.47
5	It aspires to have 10 or more employees	25.66	13.42	37.08	22.48
	Observations	10668	7171	2125	19964

Source: Own calculations

Table 4. Descriptive statistics of the independent variables. Total and by motivation values.

Variables	Opportunity	Necessity	Independence	Total
Motivation				
Opportunity				53.44
Necessity				35.92
Independence				10.64
Gender				
female	40.47	49.80	36.14	43.36
male	59.53	50.20	63.86	56.64
Education				
Other	21.79	43.68	17.88	29.24
High school	78.21	56.32	82.12	70.76
Age				
18-29	29.34	20.21	28.99	26.02
30-39	28.04	24.29	30.26	26.93
40-49	22.87	26.91	23.81	24.42
50-59	13.93	20.29	13.55	16.17
≥60	5.82	8.30	3.39	6.45
Skills				
No	13.74	20.69	14.96	16.37
Yes	86.26	79.31	85.04	83.63
Fear of failure				
No	78.36	69.38	77.51	75.04
Yes	21.64	30.62	22.49	24.96
Desirable career				
No	18.86	15.34	13.60	17.04
Yes	81.14	84.66	86.40	82.96
Recognition				
No	23.62	22.55	23.44	23.22
Yes	76.38	77.45	76.56	76.78
Innovation				
Imitation	28.18	38.27	15.01	30.40
Innovation	71.82	61.73	84.99	69.60
Year				
2006	7.42	7.42	3.34	6.99
2007	10.25	12.02	2.54	10.07
2008	7.58	7.91	1.60	7.06
2009	11.33	11.92	8.05	11.20
2010	21.73	26.16	10.73	22.15
2011	17.83	16.59	43.86	20.16
2012	23.85	17.98	29.88	22.38
Country				
Peru	13.75	12.23	12.56	13.08
Argentina	5.89	7.53	2.92	6.16
Brazil	22.09	22.65	6.78	20.66
Chile	24.25	18.39	9.32	20.56

Variables	**Opportunity**	**Necessity**	**Independence**	**Total**
Colombia	29.89	35.71	65.60	35.78
Uruguay	4.12	3.49	2.82	3.76
Context Variables				
	Mean	Sd	Min	Max
GDP growth	4.71	2.51	-1.04	9.45
Global Competitiveness Index				
1st. Pillar (Institutions)	3.81	0.65	2.85	5.06
2nd. Pillar (Infrastructure)	3.72	0.63	2.53	4.93
3rd. Pillar (Macroeconomic environment)	4.97	0.59	3.66	6.15
4th. Pillar (Health and primary education)	5.52	0.20	5.07	6.04
5th. Pillar (Higher education and training)	4.22	0.28	3.62	4.72
6th. Pillar (Goods market efficiency)	4.10	0.42	3.14	4.94
7th. Pillar (Labor market efficiency)	4.28	0.33	3.29	4.96
8th. Pillar (Financial market development)	4.26	0.39	3.15	5.17
9th. Pillar (Technological readiness)	3.74	0.45	2.87	4.48
10th. Pillar (Market size)	4.67	0.57	2.97	5.63
11th. Pillar (Business sophistication)	4.19	0.26	3.70	4.65
12th. Pillar (Innovation)	3.22	0.25	2.68	3.55

Source: Authors' calculation based on GEM data and FMI and GCI.

Table 5. Correlation independent variables of the model

	Aspiration	Opportunity	Independence	Gender	Education	Age 30-39	Age 40-49	Age 50-59	Age ≥60	Skills	Fear to Fail	Desirable career	Recognition
Aspiration	1												
Opportunity	0.1154*	1											
Independence	0.1628*	-0.3697*	1										
Gender	0.1431*	0.0625*	0.0503*	1									
Education	0.2261*	0.1753*	0.0862*	0.0396*	1								
Age 30-39	0.0274*	0.0268*	0.0259*	-0.0246*	0.0528*	1							
Age 40-49	-0.0214*	-0.0387*	-0.0049	-0.0044	-0.0496*	-0.3451*	1						
Age 50-59	-0.0949*	-0.0653*	-0.0246*	-0.0126	-0.1157*	-0.2667*	-0.2497*	1					
Age ≥60	-0.1028*	-0.0275*	-0.0430*	0.0220*	-0.0952*	-0.1594*	-0.1493*	-0.1154*	1				
Skills	0.1373*	0.0761*	0.0131	0.0740*	0.0799*	0.0165	0.0243*	-0.0027	-0.0254*	1			
Fear to Fail	-0.1021*	-0.0821*	-0.0197*	-0.0683*	-0.0690*	-0.0067	0.0226*	0.0079	0.0167	-0.1887*	1		
Desirable career	0.0177	-0.0520*	0.0315*	-0.0217*	-0.0575*	-0.0226*	0.0092	0.0102	0.0046	0.0336*	-0.012	1	
Recognition	-0.0104	-0.0103	-0.0018	-0.0014	-0.0728*	-0.0088	0.0149	0.0157	0.0058	0.0148	0.0022	0.1614*	1
Innovation	0.2609*	0.0517*	0.1155*	-0.0093	0.1455*	0.0008	-0.0255*	-0.0383*	-0.0144	0.0811*	-0.0589*	0.0081	-0.0142

Note: Data of GEM, Venezuela. Two-tailed test * ρ <0.01.

Table 6. Ordered probit model for aspiration to growth

	Model 1	Model 2	Model 3	Model 4
Opportunity	0.460***	0.341***	0.338***	0.551***
Independence	0.857***	0.446***	0.401***	0.536***
gender		0.273***	0.271***	0.226***
High school		0.229***	0.230***	0.215***
Age				
30-39		-0.143***	-0.143***	-0.0905**
40-49		-0.227***	-0.226***	-0.170***
50-59		-0.387***	-0.382***	-0.352***
≥60		-0.640***	-0.637***	-0.604***
Skills		0.279***	0.281***	0.291***
Fear failure		-0.113***	-0.114***	-0.113***
Desirable Career		0.0288	0.0347	0.147***
Recognition		0.0475**	0.0492**	0.0471**
innovation		0.363***	0.351***	0.406***
GCI				
1st. Pillar			0.0793	0.0688
2nd. Pillar			0.117	0.110
3rd. Pillar			-0.180**	-0.184**
4th. Pillar			-0.383	-0.362
5th. Pillar			1.184***	1.190***
6th. Pillar			0.277*	0.283*
7th. Pillar			0.264*	0.268**
8th. Pillar			-0.350**	-0.359**
9th. Pillar			-0.297***	-0.303***
10th. Pillar			-0.971**	-0.946**
11th. Pillar			0.679*	0.730**
12th. Pillar			-0.874**	-0.884**
GDP Growth			0.0457***	0.0455***
gender * opportunity				0.0830**
gender * independence				0.00661
High school * opportunity				0.0483
High school * independence				-0.0655
age2 * opportunity				-0.0664
age2 * independence				-0.0930
age3 * opportunity				-0.0777
age3 * independence				-0.0878
age4 * opportunity				-0.0521
age4 * independence				0.0311
age5 * opportunity				-0.0444
age5 * independence				-0.0477
Skills * opportunity				-0.00435
Skills * independence				-0.109
Fear failure * opportunity				-0.00391
Fear failure * independence				0.0174
Desirable Career * opportunity				-0.190***
Desirable Career * independence				0.0143
Innovation * opportunity				-0.116***
Innovation * independence				0.0438
Years	No	Yes	Yes	Yes
Countries	No	Yes	Yes	Yes
N	19964	19964	19964	19964
AIC	59465.3	55019.4	54979.7	54968.5
LR test	0.000	0.000	0.000	0.000

Log Likelihood	-29726.7	-27481.7	-27448.9	-27423.3

Source: Authors' calculation based on GEM data. ***ρ< 0.01; **ρ< 0.05; *ρ< 0.1.

Note: Model 1 shows the relation between aspiration and motivation. Model 2 includes entrepreneurship variables and dummies of countries and years as controls. Model 3 includes the economic context: GDP growth and the pillars of the global competitiveness indicators. Finally, Model 4 includes interaction terms between variable motivation and the entrepreneurship variables.

Table 7. Marginal effects of robust ordered probit model with sample selection bias on the likelihood of the growth aspiration

	$Y_i=1$	$Y_i=2$	$Y_i=3$	$Y_i=4$	$Y_i=5$
Motivation					
Opportunity	-0.199***	-0.0184***	0.00761***	0.0774***	0.132***
Independence	-0.189***	-0.0394***	-0.00870	0.0567***	0.180***
Gender					
Male	-0.0728***	-0.00705***	0.00274***	0.0288***	0.0483***
Education					
> High School	-0.0763***	-0.00642***	0.00350***	0.0306***	0.0486***
Age					
30-39	0.0296*	0.00279**	-0.00117*	-0.0118*	-0.0194**
40-49	0.0594***	0.00501***	-0.00272***	-0.0238***	-0.0378***
50-59	0.122***	0.00667***	-0.00780***	-0.0502***	-0.0709***
≥60	0.218***	-0.000397	-0.0207***	-0.0915***	-0.106***
Skills					
Yes	-0.0978***	-0.00626***	0.00572***	0.0400***	0.0584***
Fear of failure					
Yes	0.0434***	0.00389***	-0.00185***	-0.0173***	-0.0281***
Desirable Career					
Yes	-0.0540***	-0.00438***	0.00259***	0.0218***	0.0340***
Recognition					
Yes	-0.0168**	-0.00163**	0.000632**	0.00665**	0.0111**
Innovation					
All innovation	-0.149***	-0.0103***	0.00808***	0.0601***	0.0911***
Year					
2007	0.256***	-0.00231	-0.0252**	-0.107***	-0.122***
2008	0.167**	0.00371	-0.0137	-0.0696**	-0.0871***
2009	0.0940	0.00561***	-0.00574	-0.0385	-0.0553
2010	0.255**	0.00590	-0.0203*	-0.105**	-0.136***
2011	0.163	0.00696***	-0.0115	-0.0670	-0.0911*
2012	0.134	0.00778***	-0.00823	-0.0547	-0.0787
Country					
Peru	0.474*	-0.0346	-0.0586	-0.191**	-0.190***
Argentina	0.185	0.00232	-0.0162	-0.0772	-0.0934
Chile	0.483**	-0.0269	-0.0553	-0.194**	-0.207***
Colombia	0.0216	0.00214	-0.000793	-0.00855	-0.0144
Uruguay	0.687***	-0.140***	-0.112***	-0.250***	-0.185***
GCI					
1st. Pillar	-0.0298	-0.00307	0.00102	0.0117	0.0201
2nd. Pillar	-0.0121	-0.00125	0.000414	0.00478	0.00820
3rd. Pillar	0.0824***	0.00847***	-0.00281***	-0.0325***	-0.0556***
4th. Pillar	0.200**	0.0205**	-0.00680*	-0.0786**	-0.135**
5th. Pillar	-0.462***	-0.0475***	0.0157***	0.182***	0.312***
6th. Pillar	-0.155**	-0.0159**	0.00528**	0.0610**	0.105**
7th. Pillar	-0.0956*	-0.00983*	0.00326*	0.0377*	0.0646*
8th. Pillar	0.145**	0.0149**	-0.00494**	-0.0571**	-0.0979**
9th. Pillar	0.0211	0.00216	-0.000717	-0.00829	-0.0142
10th. Pillar	0.430***	0.0442***	-0.0146***	-0.169***	-0.290***

11th. Pillar	-0.228	-0.0234	0.00776	0.0897	0.154
12th. Pillar	0.416**	0.0428**	-0.0142**	-0.164**	-0.281**
GDP Growth	-0.0189***	-0.00194***	0.000642***	0.00743***	0.0127***
Inflation	0.000322	0.0000331	-0.0000110	-0.000127	-0.000218
gender * opportunity	-0.0290**	-0.00318**	0.000858**	0.0113**	0.0200**
gender * independence	-0.0142	-0.00157	0.000410	0.00553	0.00982
High school * opportunity	-0.0211	-0.00222	0.000688	0.00830	0.0144
High school * independence	0.0398	0.00329*	-0.00187	-0.0160	-0.0252
age2 * opportunity	0.0361*	0.00315**	-0.00159	-0.0144*	-0.0232**
age2 * independence	0.0296	0.00254	-0.00133	-0.0119	-0.0189
age3 * opportunity	0.0342*	0.00297**	-0.00151	-0.0137*	-0.0219*
age3 * independence	0.0495	0.00369**	-0.00258	-0.0201	-0.0305*
age4 * opportunity	0.0275	0.00244	-0.00119	-0.0110	-0.0177
age4 * independence	0.0221	0.00198	-0.000941	-0.00883	-0.0143
age5 * opportunity	0.0339	0.00283	-0.00158	-0.0136	-0.0215
age5 * independence	0.0435	0.00334	-0.00221	-0.0176	-0.0270
Skills * opportunity	-0.00263	-0.000271	0.0000894	0.00104	0.00178
Skills * independence	0.0367	0.00310	-0.00169	-0.0148	-0.0234
Fear failure * opportunity	0.00325	0.000329	-0.000114	-0.00128	-0.00218
Fear failure * independence	-0.00669	-0.000714	0.000210	0.00262	0.00457
Desirable Career * opportunity	0.0661***	0.00642***	-0.00248***	-0.0261***	-0.0439***
Desirable Career * independence	0.0279	0.00248	-0.00121	-0.0112	-0.0180
Innovation * opportunity	0.0454***	0.00434***	-0.00175***	-0.0180***	-0.0300***
Innovation * independence	-0.0372	-0.00455	0.000773***	0.0142	0.0267
N	18304	18304	18304	18304	18304

Source: Author´s elaboration based on GEM data. ***p<0.01; **p<0.05; *p<0.1.

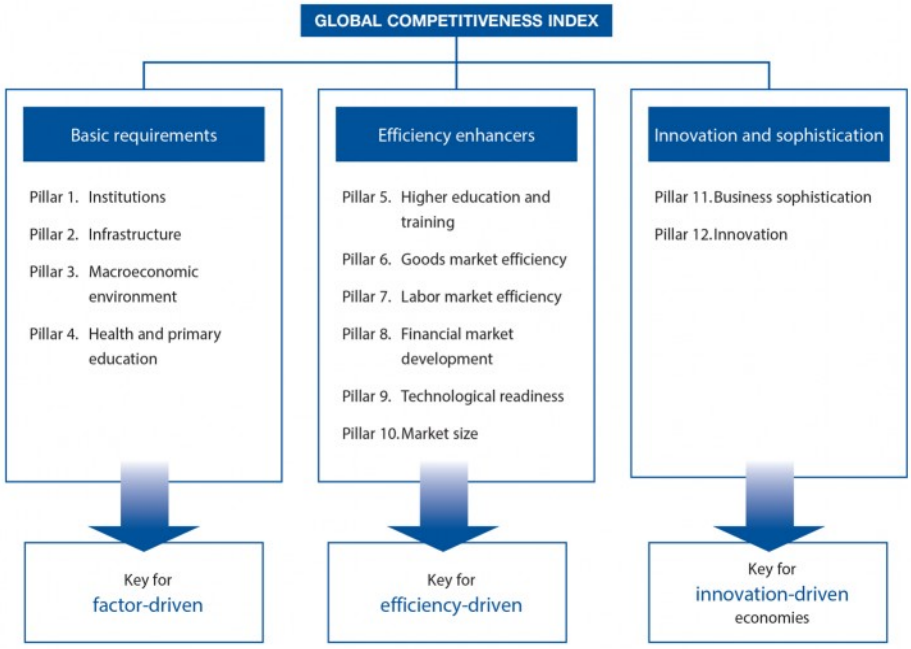
Table 8. Marginal effects of robust ordered probit model with of the growth aspiration for entrepreneur motivated by necessity

	$Y_i=5$
Gender	
Male	0.0377***
Education	
> High School	0.0354***
Age	
30-39	-0.0160**
40-49	-0.0284***
50-59	-0.0528***
≥60	-0.0738***
Skills	
Yes	0.0436***
Fear of failure	
Yes	-0.0189***
Desirable Career	
Yes	0.0243***
Recognition	
Yes	0.00422
Innovation	
All innovation	0.0635***
Year	
2007	-0.0287
2008	-0.0125
2009	-0.0402

2010	-0.0815
2011	-0.0506
2012	-0.0611
Country	
Peru	0.585
Argentina	0.274
Chile	0.0267
Colombia	0.409*
Uruguay	0.287
GCI	
1st. Pillar	0.0643*
2nd. Pillar	0.00243
3rd. Pillar	-0.0407*
4th. Pillar	-0.130
5th. Pillar	0.286**
6th. Pillar	0.0409
7th. Pillar	0.0994**
8th. Pillar	-0.163***
9th. Pillar	0.00550
10th. Pillar	-0.00236
11th. Pillar	0.196*
12th. Pillar	-0.0232
GDP Growth	0.00527
N	7171

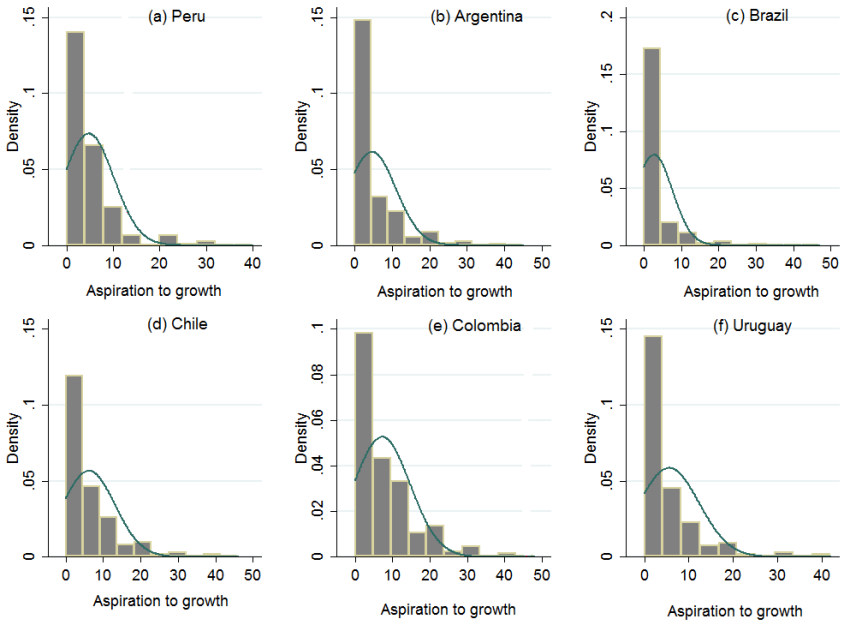
Source: Author´s elaboration based on GEM data. ***p<0.01; **p<0.05; *p<0.1.

Figure 1. The Global Competitiveness Index framework



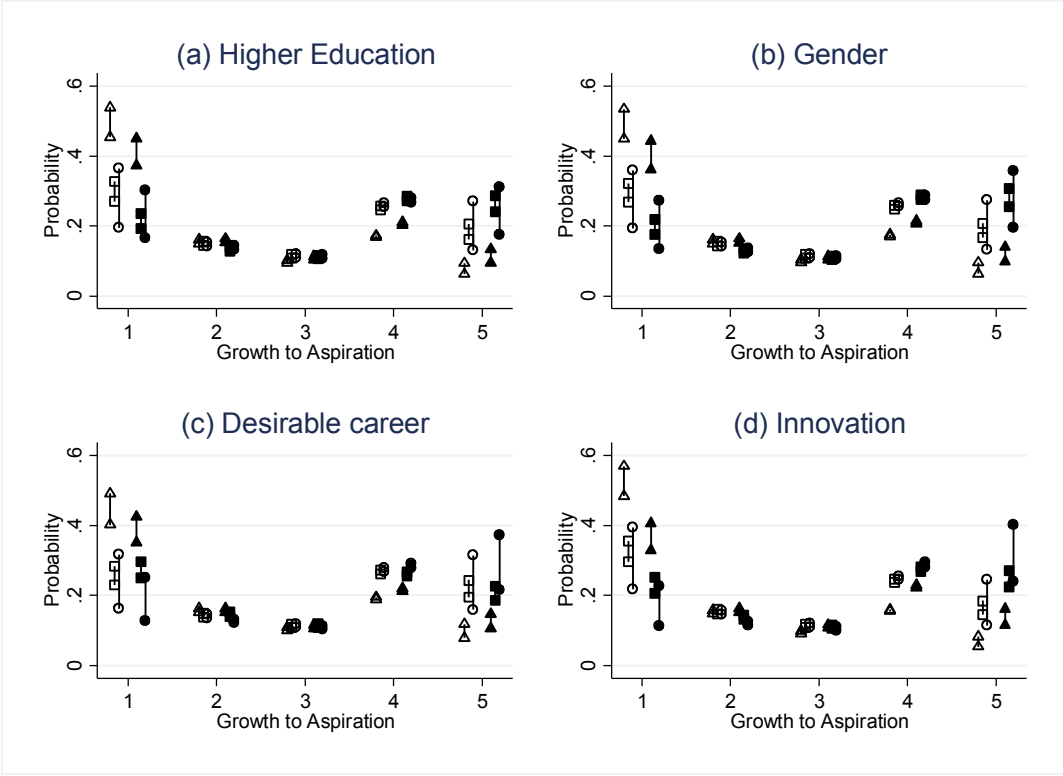
http://reports.weforum.org/global-competitiveness-report-2015-2016/methodology/

Figure 2. Kernel density of the aspiration to growth with sample selection bias



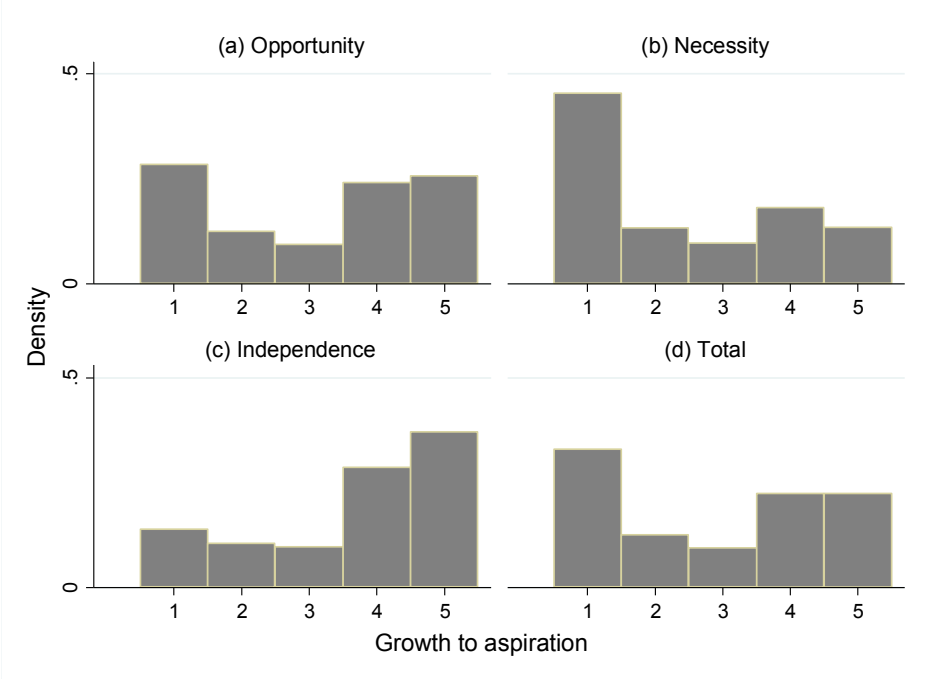
Source: Authors' elaboration based on GEM data.

Figure 3. Probability and confidence interval of aspiration to growth



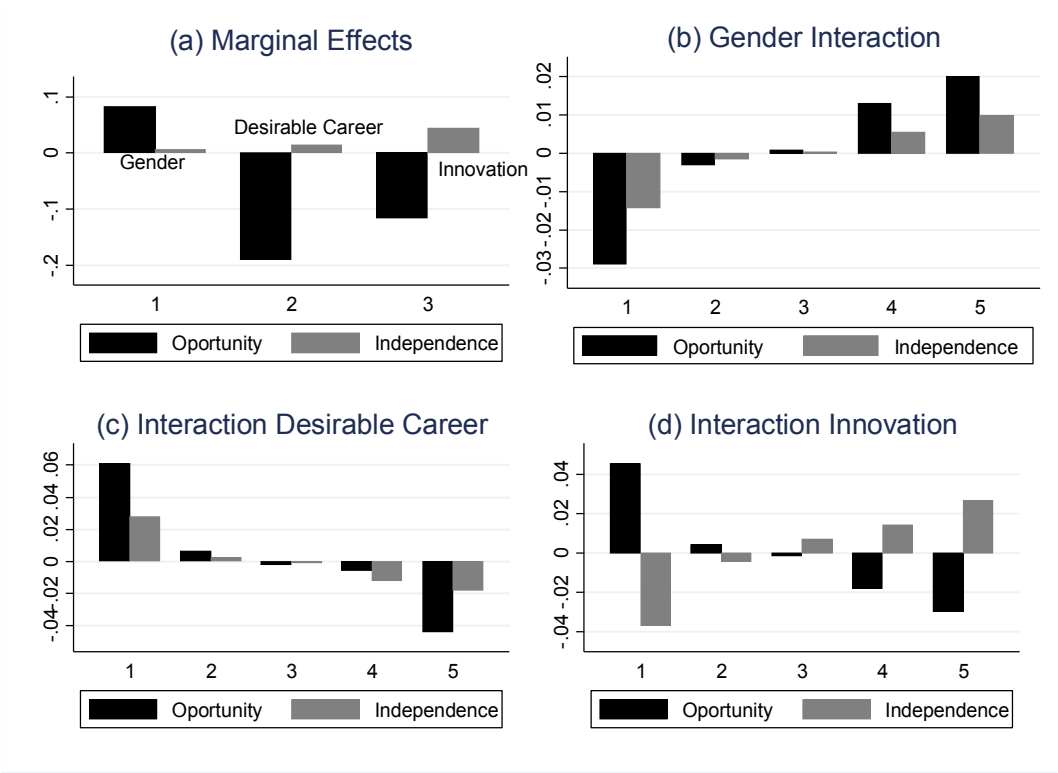
Source: Authors' elaboration based on GEM data. Note: Panel (a) shows the differences among the motivations (necessity, independence and opportunity) and have a high education or not. Panel (b) shows the differences in motivations by gender. Panel (c) shows the differences of motivation by fear of failure. Panel (d) shows the differences in motivations for innovation. ○● is assigned for opportunity driven entrepreneurs, □■ for independence driven entrepreneurs and▲Δ for necessity driven entrepreneurs. Empty form is for ○ is for the low level of the variable considered and full forms for the high level.

Figure 4. Distribution of the growth aspiration with respect to the motivation



Source: Authors' elaboration based on GEM data.

Figure 5. Marginal effects and interaction dummies effects



Source: Authors' elaboration based on GEM data.

Equation 1

$$y_i = \varnothing\left(\beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i}\right) + \varepsilon_i \qquad (1)$$

Equation 2

$$Pr\left(y_{i,j} = j\right) = Pr\left(k_{i-1} < \beta_1 x_{1i} + \ldots + \beta_k x_{kj} + \varepsilon_j \leq k_i\right) \qquad (2)$$