

Determinants of the aspiration to growth of entrepreneurial initiatives: a quantitative study in Venezuelan ventures from the GEM data

Abstract

The article is focused on the determinants of aspiration to growth of entrepreneurial ventures in Venezuela. We use the GEM data base for 2007, 2009 and 2011, and build an econometric model based on a set of exogenous variables grouped into three big categories: contextual, individual and business variables. Given the country specific socio-economic characteristics we pose a particular focus on understanding the differences between entrepreneurs of the Base of the Pyramid (BoP) as compared to other socio-economic segments. The main findings of this work are the identification of the variables that explain aspiration to growth, namely: belonging or not to the BoP, gender, education, motivation, recognition, age and years of study. The use of the contextual BoP variable in relation to the aspiration to growth furthers the reach of the traditional income variable through a construct that implies a wider characterization of the entrepreneur propensity to marginalization.

Key words: entrepreneurial initiative; aspiration to growth; GEM; base of the pyramid; developing countries; Venezuela.

1. Introduction

Entrepreneurship has been seen for several decades as a driver of economic growth (Schumpeter, 1934; Audretsch & Thurik, 2004; Baumol, 2002; Reynolds et al., 2002). In this sense, several researchers have shown that high levels of entrepreneurial activity can have a positive impact on development (Wennekers and Thurik, 1999), employment (Storey, 1994; White & Reynolds, 1996) and business innovation (Drucker, 1984, Pavitt et al., 1987, Acs & Varga, 2004). As a result, it has been argued that entrepreneurship constitutes a valuable vehicle through which countries with low levels of growth could counteract the effects of unemployment on the life quality of its population.

On the other hand, it has been noted that high rates of entrepreneurship does not always lead to higher levels of development and creation of jobs (Gómez et al., 2009). In this regard, Wong & Autio (2005) had illustrated the impact of entrepreneurial initiative on the economic growth at the macro level, showing that high growth expectations and innovative entrepreneurship was determinant of national economic growth in developed countries; while extending the work of these authors, Vallerie & Peterson (2009) found that this effect of the was absent in emerging countries. The latter stated that there seemed to be a threshold for that entrepreneurs can have access to the formal economy, under which the entrepreneurial contributions act through informal mechanisms, suggesting that the underlying mechanisms operating in the two groups of countries are different and that the role of the entrepreneur and the potential benefit of the development of knowledge change as economies mature.

Other works have studied the relationship between entrepreneurship and economic growth in early and intermediate stages of development countries, finding a negative relationship, since the majority of the active population tries to evolve from self-employment to formal employment to improve their economic status; the opposite is true in developed countries with innovation-based economies, since employees often try to create their own enterprises to benefit from the existing business opportunities (Acs & Amorós, 2008; Merino & Vargas, 2011; Wennekers et al., 2005). Therefore, from the perspective of growth and economic development, it is important to distinguish between the creation of new companies that are capable of generating employment and growth and the so-called self-employment ventures. Estrin & Mickiewicz (2010, 2011) distinguished between entrepreneurship as a whole - that usually includes self-employment - and entrepreneurship with a high aspiration to growth, considering that in the first case they are not always ventures in a strict sense, while entrepreneurs with a high aspiration to growth are those who create additional jobs and incorporate innovation to their organizations thus boosting the economy.

In Latin America (LA), a large number of individuals are self-employed in small informal businesses, which they create for survival purposes, without growing expectations (CAF, 2013). In terms of the contribution of entrepreneurship to growth and job creation, trends suggest that while self-employment facilitates the transition of individuals to the remunerated employment, only a few self-employees become entrepreneurs capable of creating new jobs (Llisterra et al., 2006). Some factors that affect this transition are: education, finance, economic conditions, cultural and family conditions and other aspects of the business environment (Henley, 2007)

The Global Entrepreneurship Monitor (GEM) is currently the broader international academic research on entrepreneurship. Since 1999, it has studied more than 90 countries of almost all regions of the world. The GEM takes a broad view of entrepreneurship and considers the degree in which individuals engage in entrepreneurial activities within a country, identifying different types and stages of entrepreneurship (Amoros, 2011). From various GEM global reports, it is well known that the index of early entrepreneurial activity (TEA for its English name)) tends to be higher in regions with low GDP per capita, this activity, in many cases, being driven by the lack of other viable income sources (Amoros & Poblete, 2011). However, even though the developing economies generally exhibit values of TEA higher than, for example, North America or Oceania, the enterprises of these latest regions are considered to be of better quality in terms of its high growth potential (Acs & Szerb, 2007; Amoros, 2011; Autio, 2005; Terjesen et al., 2008; GEM, 2005, 2007), having pointed out that the differences between North America and Oceania on the one hand, and Africa and South America, on the other hand, evidenced different structures of social opportunities (CAF, 2013).

On the economic growth of LA, Sosa et al. (2013) indicated that the external favorable conditions together with sound macroeconomic policies stimulated GDP growth during the last decade; thus, LA together with the Caribbean (LAC) grew by 4 percent on a yearly average from 2003 to 2012, compared with a growth of less than 2.5% between 1980 and 2002. Venezuela, with a resource-based economy, is a different case. It registered a decrease in total GDP from 2004 moving from an annual variation rate in the GDP per capita of 16.2 for that year to - 2.9 for the year 2010 (ECLAC, 2011). Furthermore, the World Economic Forum (Global Competitiveness Report, 2010, 2011) ranks Venezuela in the position 113 of 133 for 2009-2010 and 122 of 139 for 2010-2011, in terms of its competitiveness index which can be associated with its poor economic performance (Schwab, 2010).

With regard to the entrepreneurial activities in Venezuela, the GEM study has shown a high, although decreasing TEA rate since 2003. In 2005, Venezuela was first in the GEM TEA ranking with 25%, while in 2007 the rate of 20% obtained by Venezuela was surpassed by those of Thailand, Peru, and Colombia (Vainrub, 2009). In 2009, Venezuela held number eight position globally with a TEA of 18.66%, and the fifth in LA, after Guatemala, Jamaica, Colombia and Peru and two years later, the country came down to the twelfth place with a TEA of 15.43% (IESA, 2011). Additionally, GEM data also registered a reduction in the rate of established entrepreneurs by every new entrepreneur, from 0.34 for the year 2009 to 0.10 in 2011, highlighting the difficulties that the companies have to keep with the times and, therefore, instability in the business environment (IESA, 2012). Regarding the qualitative aspects, Vainrub & Rodríguez (2008) pointed out that the Venezuelan entrepreneurial activity has been concentrated in short-term businesses with low-value-added and low degree of innovation, with a high percentage of companies that does not survive three years of operations, indicating that many Venezuelans entrepreneurs, more than being potential entrepreneurs are self-employees that initiate a business, and that most of the businesses identified in the GEM shows a limited growth, measured by the expectations of creation of jobs in the short and medium term. However, the determinant factors of this behavior had not been researched.

On the other hand, developing economies have been considered a source of future investment and potential entrepreneurship (Alon & McIntyre, 2004; Welsh & Alon, 2001), considering that much of this potential is at the base of the pyramid (BoP), referring this term to socio-economic groups of people belonging to the lowest levels of the socio-economic pyramid, which includes a high percentage of the population and are prone to the marginalization (Hart, 2005; London & Hart, 2004; Prahalad & Hammond, 2002), entrepreneurship in these levels has special characteristics, having pointed out that entrepreneurs in the BoP usually create micro-businesses with informal operations and few assets and employees (Gudz, 1999; Chakrabarty & Bass, 2013). However, most of the studies on entrepreneurship in the BoP have been conducted well from the perspective of microfinance, studying the costs and risks for institutions to operate for the BoP (Chakrabarty &

Bass, 2013), or from that of the inclusive business, that consists on considering the role of the BoP in the value chain of the organization (Reficco & Vernis, 2010), while little has been researched in terms of aspiration to growth and business models of BoP entrepreneurs. (Cervilla & Puente, 2013).

Given the characteristics described above for Venezuela, which makes it a special case among the developing economies in LA, it is considered of interest the study of the aspiration to growth of the enterprises in Venezuela, to which this paper presents an empirical investigation whose main research question is: what are the factors that explain the aspiration to growth of Venezuelan business initiative. To answer this question we use GEM data for 2007, 2009 and 2011.

Additionally, we consider of particular interest to understand the effect that socio-economic level to which the entrepreneur belongs has on the aspiration to growth, placing as a second objective of the research to establish whether there are differences between the entrepreneurs of the BoP and of the ones that do not belong to it.

The other independent variables studied to explain the aspiration to growth are: motivation, desirable career, recognition, innovation, skills, fear to failure, educational level, age and gender, which were selected based on a review of the literature and taking into account the availability of information from the data raised from the GEM study in Venezuela.

The paper is structured as follows: Theoretical framework, presents a literature review on the determinant factors of the aspiration to growth of entrepreneurial initiatives; methodology, explains the database and methodology employed, describing the variables chosen and built, as well as the econometric model used; results and discussion, presents the empirical analysis; conclusions, summarizes the main findings and implications for future research.

2. Theoretical framework

Despite the extensive evidence that points to the importance of the companies of high growth for the economic development (Acs, 2008), there is relatively little research on the determinant factors of the aspiration to growth of their businesses by the entrepreneurs (Davidsson and Wiklund, 2000).

Some investigations have highlighted the importance of considering factors at different levels that contribute to determine the aspirations to the growth of the entrepreneurial initiatives (Autio & Acs, 2009; Storey, 1994; Hessels, et al., 2008; (Tejersen & Szerb, 2008), which include: i) the context or environment (local, national or regional) where the business is developed; (ii) socio-demographic variables: level of income, gender, education, age, employment status; (iii) individual or personal characteristics of the entrepreneur: motivation, skills, recognition of opportunities, management knowledge, risk-taken, fear to failure, etc.; ((iv) characteristic of the company: size or number of employees, owners, initial capital, external investors, among others, and (v) business strategy: innovation in products and processes, export orientation.

The environment in which the business takes place seems to play a crucial role in promoting or weakening business activity, both in terms of the creation of new companies and of its growth and consolidation, as well as the development of

innovative products or processes (Wiklund & Davidsson, 2003; Tominc & Rebernik, 2007; Gomez et al., 2009; Autio & Acs, 2010, Estrin & Mickiewicz, 2011). From a strategy formulation and policies for development point of view, these conditions are the aspects that provide a broader scope for the action (Freytag & Thurik, 2007). In this sense, Hechavarria et al. (2009), claim that the contextual motivation is the influence of the economic, social, cultural and political environment that shapes the individual behaviors and impacts the possibilities of development of a business initiative, focusing on exploring the macro and micro links related to the context in order to contribute to the understanding of the entrepreneurial phenomenon by identifying the contextual dimensions that allow to differentiate types of emerging companies, finding different relationship between the categories of contextual motivation and aspiration to growth by studying variables of gender and ethnic group.

For his part, North (1990) states that the organizations created by the entrepreneurs adapt their activities and strategies to the opportunities offered by formal and informal institutional frameworks, as well as its limitations. The formal rules can be established to facilitate the exchange and to reduce the costs of transaction (Williamson, 2000), but it is also likely that they affect individuals or groups in different ways; in particular, when there are possibilities for the discrimination of specific socially vulnerable groups (Estrin & Mickiewicz, 2011).

Based on the GEM model, we have explored other environment factors that seem to be determinant for the aspiration to the growth, such as the recognition of opportunities and the cultural support to the entrepreneurship, explained in terms of recognition, the respect for entrepreneurial activity and the perception of the desirable career. In this regard, Tominc & Rebernik's (2007) work suggests that the cultural support for the entrepreneurial motivation, as well as a higher degree of vigilance against the perceived opportunities not exploited, may be associated with higher aspirations to the growth in the early stages of a company; whereas, with regard to informal institutional factors. For his part, Alvarez & Urbano (2011) highlight that in LA countries the informal institutions are more important than formal ones, showing that the role models, along with political stability, have a high influence on the decision to start a business.

Davidsson and Wiklund's (2001) works show that among the socio-demographic variables, the income level and the gender exhibit stronger influences on the aspirations to the growth.

With regard to the first of the above mentioned factors, according to Autio & Acs (2010) the family income of an individual affects the aspirations to growth in three ways. Firstly, it is expected that a high-income individual will select higher quality business opportunities in comparing a venture and alternative labor activities, since the relations and the social capital associated with the financial position would allow to have access to better business opportunities (Dunn and Holtz, 2000). Secondly, belonging to high income households creates higher expectations of earnings, so that, after taking the decision to

start a business, the individuals from higher socio-economic levels would be willing to work hard to ensure the success and growth of their business. Thirdly, high income households are better endowed with financial resources and they often have access to more and better choices of financing for their businesses and a better ability to acquire other resources for the growth of the business, such as human capital and intellectual capital (Evans & Jovanovic, 1989). Moreover, the access to seed and venture capital is usually only available to the most promising ventures (Wright et al., 2006). The authors point out that having more possibilities and skills to obtain resources from different sources has a positive influence on aspiration to growth.

About the study of the gender variable, Parker (2004) argues that the tendency of women to spend relatively more time on household activities and the care of the children, is a particularly important explanation of the profile observed for men and women in relation to the business activities; which it is due to differences in preferences and attitudes towards risk, behaviors that can be exacerbated or caused by social norms in which women is credited with a limited set of roles. Minniti and Naudé (2010) provide a fairly comprehensive review of the literature on the determinants of the female entrepreneurship, asserted that in general the enterprises initiated by women tend to be smaller and with lower expectations of growth than those started by men and that, in addition, women's businesses tend to be less profitable and generate lower revenues than those of men, even in the same sector of economic activity.

Terjesen and Szerb (2008) coincide with these authors to point out that women, generally, are more risk-averse than men; however, it has been found that most of the gender differences disappear after controlling for demographic characteristics, such as age and education, and the sector where the company operates (Davidsson et al., 2006). Minniti & Nardone (2007) have shown that men and women tend to react to the same incentives and they also point out that many of the observed differences among the genders disappear after correcting for the socio-economic conditions.

Estrin & Mickiewicz (2011), for their part, compare the impact of institutions on the decisions of men and women to create new companies, using data from the GEM between 2001 and 2006 for 55 countries. These authors find that women are less likely to carry out business activities in the countries where the public sector is larger, pointing out that institutional issues affecting gender equality, in particular the restrictions on the freedom of movement, make less likely that women have high aspirations to the growth of their business.

On the other hand, the education is considered a valuable resource that requires a significant investment of time, effort and money (Davidsson et al., 2003; Shrader et al., 2007; Wright et al., 2007), increasing the value of an individual in the labor market. From a perspective of maximizing profitability, the decision to follow a business venture is a decision of allocation of resources taken in presence of opportunity costs. Because individuals can normally pursue only a full-time occupation at

the same time, the opportunity cost of occupational choice increases with the level of education, so it is expected that the aspiration to growth of the business will increase with the level of education, since the individual has to weigh the potential returns achieved through entrepreneurial initiative against those that he/she could obtain through alternative occupations (McGrath 1999; O'Brien et al., 2003). Other authors such as, for example, Davidsson & Honig (2003) and Reynolds et al. (2004) also identify a significant positive relationship between the level of education and the aspiration to the growth, even coming to affirm by some authors that the high-growth entrepreneurship is found almost exclusively among individuals who have a university degree (Autio, 2007). Therefore, in general, it is expected a positive relationship between the level of education of an entrepreneur and his/her business growth expectations (Terjesen & Szerb, 2008).

With respect to the age, it has been noted that the relationship between entrepreneurship and the age is typically as a function of U-inverted shape, with the highest proportion of entrepreneurs located in the age groups relatively younger (Lévesque & Minniti, 2006). However, while some empirical studies indicate a curvilinear relationship (Davidsson, 1998; Reynolds et al., 2004; and Storey, 1994), others show a negative relationship (Janssen, 2003), being attributed the latter to a reduction in the innovator behavior and to an increase of the aversion to the risk with the increase of the age.

The probability that an entrepreneur increases (or decreases) his /her aspiration to growth also seems to be conditioned to certain personal characteristics of motivation, cultural factors, capacity for innovation, among others. Several authors have included among the motivational factors independence, freedom and autonomy (Carter et al., 2003; Kolvereid, 1996); achievement motivation, recognition and status (Hessels et al., 2008b; Shane et al., 1991) and to the perception of economic benefit (Davidsson, 1989; Cassar, 2006).

Other authors link the aspiration of the entrepreneurs with need and opportunity drivers, finding that need driven entrepreneurs have lower aspirations (Reynolds et al. 2002; Terjesen & Szerb, 2008), which is justified in part because the need prevents to identify opportunities for greater potential (Morris et al., 2006) or because the venture is generated more as an option of self-employment than as an initiative to create an organization that will grow and consolidate (Thurik, et al., 2007).

In this regard, several authors claim that opportunity motivated individuals have a higher probability to focus on the growth of their businesses (Acs et al., 2004; Autio, 2005; Davidsson, 1991; Morris et al. (2006); Hessels et al. (2008); Reynolds et al. 2004; Storey, 1994). Based on GEM data, Autio (2005, 2007) studies the factors of growth of business initiatives using the number of jobs expected as a measure of expectation of business growth, focusing on individual factors. This author defines the dynamic entrepreneur as one who creates business with high potential of growth and employs at least to 20 people within the first five years of existence of the company, finding that a small proportion of the new businesses are

responsible for the majority of the new positions created, being these established by individuals with high levels of education and motivated by the opportunity.

Hessels et al. (2008) also investigate several determinants of the motivations and business aspirations and business motivations, proposing a model to explain the aspirations which includes the motivation and the socio-economic variables; among their findings it is the fact that the countries with a higher incidence of entrepreneurs motivated by the increase in the profits (entrepreneurs by chance) tend to have a higher prevalence of entrepreneurs with orientation to export and to the creation of jobs.

Business characteristics have also been considered as main determinants of the aspirations to growth. Organization's resource-based view explains that performance variation are derived from business resources and capabilities (Hitt et al., 2001; Tejersen & Szerb, 2008); from this perspective, it would be then expect that a set of variables at the level of the enterprise, such as: the size of the business, the degree of innovation, the availability of financial resources, its strategy, among others, have an impact on the growth expectations. In this regard, Terjesen & Szerb (2008) point out that the initial size of the company is the best predictor of the growth expectations, being these linked also to the levels of capital and initial investment for the nascent entrepreneurs and of recent creation.

Wiklund & Shepherd (2003) develop a model that relates the aspirations to the growth of the new business managers and the level of growth achieved, finding that the aspirations of entrepreneurs to expand their business positively relate with the businesses real growth. Also, they point out that the relationship between the aspirations and the growth also depend on the level of education and experience of managers of the small enterprises, as well as of the dynamism of the environment in which the business operates.

With respect to innovation, in general it has been pointed out that more innovative is the company, there will be greater expectations of business growth, especially in the case of business initiatives - new and emerging companies - compared to the established companies (Acs, 1996; Koellinger, 2008). For their part, Terjesen & Szerb (2008) coincide in stating that the novelty of the product or service is related to a significant and positive way with the growth expectations of the company for all the cases studied; while the technology is a significant variable for the nascent businesses but not for the established ones, which leads them to consider that, even in the case of the young companies, the technological development could influence in the replacement of the labor with capital.

3. Methodology

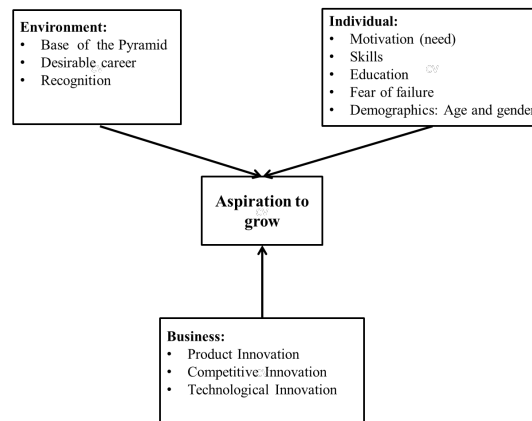
3.1 Data base

In this research the data of the Global Entrepreneurship Monitor (GEM) of Venezuela are used for 2007, 2009 and 2011. They were selected individuals who developed early entrepreneurial activities (TEA), which consists of the percentage of the population aged 18-64 years of age who is a nascent entrepreneur, and new businessman, according to the classification of the GEM (Amoros, 2011).

The GEM allows an approach to the study of the aspiration to growth that an entrepreneur sees for his business through the number of jobs that he hopes to create in the next five years, considering him a good predictor of the real growth of a business (Amoros & Poblete, 2013; Autio, 2005; Cassar, 2006; Wiklund & Shepherd, 2003). Estrin & Mickiewicz (2010) establish as a high aspiration to growth the expectation to create ten or more jobs in five years.

As noted, the work is focused on investigating the determinant factors of the motivation to grow the business, through the study of a set of exogenous variables grouped into three big categories, which are presented in Figure 1.

Figure 1. Determinant factors of the aspirations to the growth



Source: Adapted from Terjesen & Szerb (2008)

Table 1 presents a description of the variables that was included as determinants of the aspiration to the business growth of the Venezuelans entrepreneurs. The first column describes the name of the variable, in the second the question of the survey (GEM) is presented and the third, and last, describes the way how the variable for the econometric analysis was built.

Table 1. Description of the variables

Variable	Question of the survey	Classification of the answers in the model	
		Answers	Assigned code
Aspiration to growth	The aspiration to growth 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
Base of the pyramid	(This information is provided by the interviewer of the GEM in Venezuela: Datanalisis)	A/B/C	No BoP
		D/E	BoP
Gender	¿What is your gender?	Woman	1
		Man	0

Educational level	¿What is the highest level of education you have completed? (This variable was re-categorized since ranges between years varied, Terjesen & Szerb, 2008 and Bhola, et al. 2006)	High school	1
		Other	0
	¿Do you have been involved in this business that starts to take advantage of a business opportunity or because you do not have a better alternative of work?	Necessity	1
		Other reason different to necessity	0
Desirable career	¿In Venezuela do most people consider that starting a new business is an option of a desirable career	Yes	1
		No	0
Recognition	¿In Venezuela do the people that have initiated with success a business have a high level of life and recognition/respect?	Yes	1
		No	0
Product innovation	¿How many of your potential customers you think that they will consider this as a new and unknown product/service?	All	1
		Some	1
		None	0
Competitive innovation	¿ How many other businesses do you know that offer the same products or services to their potential customers?	All	0
		Some	1
		None	1
Technological innovation	¿ How long the technologies or procedures required for this product or service have been available?	Less than 1 year	1
		More than 1 year	0
Skills	¿ Do you have the knowledge, skills and experience necessary to start a new business?	Yes	1
		No	0
Fear to failure	¿ Is the fear to failure what prevents you from starting a new business?	Yes	1
		No	0
Age	¿How old are you?	Continuous variable between 18 and 64 years of age	
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.	2007	0
		2009	1
		2011	1

Source: Authors' elaboration

All the variables were constructed by the authors according to the data of the GEM. However, for the base of the pyramid variable the ranges were built based on information provided by the company from Datanalisis market research organization, who perform multivariate statistical studies to determine socio-economic segments. In Venezuela the socio-economic segments are organized into five categories that correspond to A, B, C, D and E, from the highest socio-economic level to the lowest.

The BoP concept continues to cause confusion, relating it only with population in extreme poverty and with income conditions, when the term refers to broader groups, belonging to lower socio-economic strata prone to marginalization (Hart, 2005; London & Hart, 2004; Prahalad & Hammond, 2002).

For practical purposes of estimating the size of the BoP, this population is defined based on purchasing power; in that sense people who belong to the BoP have a daily purchasing power between \$ 2 and \$ 4 (Hammond et al., 2007). If this concept is moved to the Venezuelan case, and taking as a basis the classification of socio-economic strata made by Datanalisis (2011) the BoP would include the D and E sectors of the Venezuelan population, (as it is considered the value of the dollar, the official was 4.3 BS by dollar in the year 2011, or the value of the parallel market which was quoted about twice higher than this value for that same year (2)).

Thus to achieve the objective of this study we regrouped the socio-economic levels in two segments, in the following way, D and E base of the pyramid (BoP) and the rest no base of the pyramid (no BoP). Table 2 shows that the base of the pyramid in Venezuela is characterized by certain conditions of environment, housing, education, overcrowding, and public services, among others, that make a difference with the rest of the population that lives on more favorable conditions.

Table 2. Base of the pyramid: characteristics of D and E strata, 2011

Characteristic	D and E strata
Distribution	80%
Average nominal familiar income (Bs.)	3.124
Source of familiar income	Pay weekly and bi-weekly; entry piece (informal) self-employed. Works in public companies.
Family size (members)	5
Type of house	Simple house, house of blocks with or without floor
Overcrowding	There is overcrowding
Potable water service	Some have water service, other very low.
Urban garbage collection service	Between medium and poor garbage collection
Excreta disposal	Little connection to sewers and more installation of septic pools.
Fixed phone service	61,04%
Electric service	Some homes do not have a contract with the electricity company
Educational level	Between elementary and high school
Vehicle	14,5% has a vehicle prior to 2000
Home placement	Popular neighborhoods

Source: Adapted from Datanálisis (2011)

3.2. Method

The aspirations to the business growth of the entrepreneurs can be grouped into five ordered categories (or elections). In this case when the choice of the entrepreneur is multinomial and orderly, an ordered probit model is used (Cameron & Heckman, 1998; Ermisch & Francesconi, 2001; Chevalier & Lanot, 2002; Lauer, 2003). Three models are estimated, the first for the entire sample, the second for the base of the pyramid and the third for no base of the pyramid, keeping the same explanatory variables.

Wooldridge (2011) shows that an ordered probit model is constructed as a linear function of the independent variables and a set of breakpoints, where the probability of observing the j result corresponds to the probability that the estimated function is within the range of the estimates breakpoints:

$$\Pr(y_i = j) = \Pr(\alpha_{j-1} < \beta_1 x_{1j} + \beta_2 x_{2j} + \dots + \beta_k x_{kj} + \mu_j \leq \alpha_j)$$

Where (μ_j) it is assumed that it is distributed normally and the choice of the entrepreneur are j=1 if the entrepreneur i aspires to a growth of his business between 0 and 1 employee; j=2 if the entrepreneur i aspires to a growth of his business of 2 employees; j=3 if the entrepreneur i aspires to a growth of his business of 3 employees; j=4 if the entrepreneur i aspires to a growth of his business between 4 and 9 employees and j=5 if the entrepreneur i aspires to a growth of his business of 10 or more employees.

In this case the $\beta_1, \beta_2, \dots, \beta_k$ coefficients are estimated together with the $\alpha_1, \alpha_2, \dots, \alpha_5$ breakpoints in robust form. The results of the estimation of the discrete choice models by the method of maximum likelihood are not easily interpretable by what it is recommended to use the calculation of the marginal effects and conditional probabilities (Cameron & Trivedi, 2005). In this case the marginal effects are calculated according to the following formula:

$$\frac{\partial \Pr[y_i = j]}{\partial x_i} = \{F'(\alpha_{j-1} - x_i\beta) - F'(\alpha_j - x_i\beta)\}\beta$$

Where (F') denotes the derivative of F, which represents the function of the cumulative distribution of the error term.

Similarly, the conditional probability calculation is subject to $S_j = x_{1j}\beta_1 + x_{2j}\beta_2 + \dots + x_{kj}\beta_k$. In the same way, the

probability predicted (or estimated) of aspiring to a growth of the business (j), can be written as the probability that $S_j + \mu_j$

among a pair of breakpoints α_{j-1} y α_j :

$$\Pr(S_j + \mu < \alpha) = \Phi(\alpha - S_j)$$

$$\Pr(S_j + \mu > \alpha) = 1 - \Phi(\alpha - S_j) = \Phi(S_j - \alpha)$$

$$\Pr(\alpha_1 < S_j + \mu < \alpha_2) = \Phi(\alpha_2 - S_j) - \Phi(\alpha_1 - S_j)$$

Where Φ represents a cumulative normal distribution function and the explanatory variables are individual characteristics of the entrepreneur, of the business and of the closer socio-economic environment, as it is, belonging to the population of the base of the pyramid. However, after making the contrast of the parallel regressions and given the value of the Chi-square test (χ^2) it was decided to estimate the models as ordered widespread multinomial probit, which guarantees better statistical properties in the estimators (Greene, 2012).

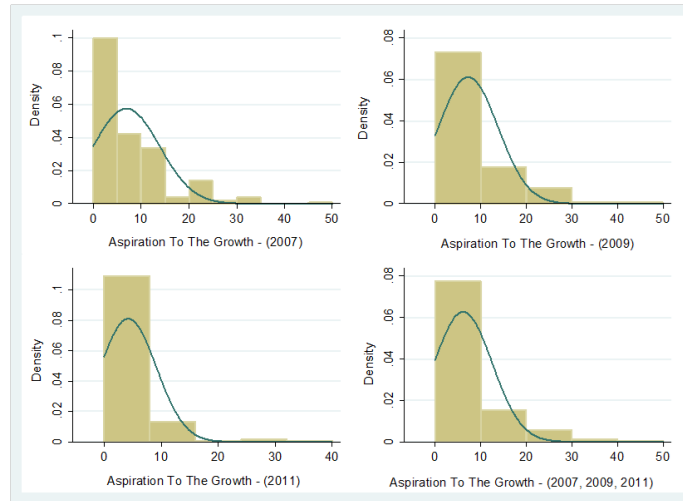
Therefore, below, in the section of results we show the marginal effects and the probabilities associated with each choice of aspiration to growth of the business without leaving aside the intuition and the descriptive analysis of the results.

4. Results and discussion

This section presents the results of the estimation of the ordered multinomial probit model to analyze the variables influencing the aspiration to growth of the entrepreneurs, in particular it is emphasized the effect that it has to belong or not to the base of the pyramid.

Figure 2 presents the distribution of the aspiration variable for a purified sample of 530 observations for the years 2007, 2009 and 2011 of GEM - Venezuela. In this case the variable is continuous and is distributed with values from zero to one hundred, with an average of six and a standard deviation of seven for the entire sample.

Figure 2. Kernel density of the aspiration to growth of the business variable



Source: GEM data for 2005, 2007, 2011 – Venezuela

Figure 2 shows four panels, in the first three we present the distributions for the three years selected independently, and in a fourth panel it is presented the total distribution of pooled data. This analysis allows us to establish that the distribution of the variable of interest is symmetrical along the years with a majoritarian concentration between 0 and 10 employees. The average on all panels is close to six with a little heavy tail up to a possible value of aspiration of 100 employees. Finally, the asymmetry and the kurtosis that the graphics show allow concluding that the distribution is similar and that the data can be grouped for the three years without any bias.

In the studies on aspirations to the growth of the businesses that used as the dependent variable the expected number of workers there are two methodological approaches to treat the aspiration variable. In the first, the variable is treated as a continuous variable which is estimated in a linear way by the method of ordinary minimum squares (Terjesen & Szerb, 2008). On the other hand, in the second method the aspiration variable is a choice that is categorized according to ranges of a continuous variable, which finally is estimated by the method of maximum likelihood (Terjesen & Szerb, 2008). In this article we use the second methodological approach because the aspiration continuous variable is divided into five categories in the following way:

$Y_i: 1$ = the entrepreneur i aspires to a growth of his business between 0 and 1 employee

$Y_i: 2$ = the entrepreneur i aspires to a growth of his business of 2 employees

$Y_i: 3$ = the entrepreneur i aspires to a growth of his business of 3 employees

$Y_i: 4$ = the entrepreneur i aspires to a growth of his business between 4 and 9 employees

$Y_i: 5$ = the entrepreneur i aspires to a growth of his business of 10 or more employees

The previous alternatives 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 multinomial probit model must overcome a statistical test of parallel regressions to ensure that all the alternatives are relevant. Table 3 presents the frequencies of the aspiration variable transformed into five options for the entire sample and divided for the entrepreneurs who belong or not to the base of the pyramid. It is observed that more than half of the sample aims to have more than four employees in five years. As expected the percentage of entrepreneurs at the base of the pyramid corresponds to the majority of the entrepreneurs about 78.11 percent, consistent with the distribution of the base of the pyramid of the Venezuelan population according to reports of the GEM.

Table 3. Frequencies of the aspiration to growth variable

Y_i	Aspiration	All	BoP	No BoP
1	It aspires between 0 and 1 employee	11.13	11.59	9.48
2	It aspires to 2 employees	18.30	18.36	18.10
3	It aspires to e employees	15.66	16.43	12,93
4	It aspires between 4 and 9 employees	33.21	35.02	26.72
5	It aspires to 10 or more employees	21.70	18.60	32.76
	Observations	530	414	116

Source: Authors' elaboration with data from the GEM.

Table 4 shows the descriptive statistics (frequencies and averages as appropriate to the type of variable) for the independent variables considered to explain the probability of the aspiration to the growth.

Table 4. Descriptive statistics of the independent variables in percentage of share/participation

Variables	All	BoP	No BoP
Base of the pyramid			
Yes BoP	78.11		
No BoP	21.89		
Gender			
Woman	51.89	52.17	50.86
Man	48.11	47.83	49.14
Education			
Education level – High school	53.55	47.30	76.11
Other	46.45	52.70	23.89
Motivation			
Necessity	29.43	32.85	17.24
Other	70.57	67.15	82.76
Desirable career			
Yes	90.29	90.23	90.54
No	9.71	9.77	9.46
Recognition			
Yes	84.48	86.97	75.68
No	15.52	13.03	24.32
Product innovation			
All and some	33.46	32.08	38.39
Other	66.54	67.92	61.61
Competitive innovation			
None and some	30.84	30.56	31.86
Other	69.16	69.44	68.14
Technological innovation			
<= 5 years	29.41	31.15	23.26
Others	70.59	68.85	76.74
Skills			
Yes	92.33	92.28	92.50
No	7.67	7.72	7.50
Fear to failure			
Yes	17.07	16.25	19.77
No	82.93	83.75	80.23
Age			
Medium	37	37	39

Maximum	75	75	66
Minimum	18	18	18
Year			
2007	40	40	40
2009	27	28	26
2011	33	32	34

Source: Author's elaboration with data from the GEM

More than half of the entrepreneurs in the sample are women and in terms of education level, 54 percent have a degree greater than "high school education", differentiating the entrepreneurs of the BoP vs no BoP, because in the latter 76 percent belongs to the group of higher level of education.

As for the reason to start business, most entrepreneurs make it for a different reason to the necessity (71%), being this difference even higher in the case of no BoP (83%). If for the studied population it is estimated the relationship between the frequency for reasons other than the necessity and by necessity, it is seen an important difference between the entrepreneurs of the BoP and the no BoP, found for this last group about five entrepreneurs that have a reason other than the necessity to undertake by each individual motivated by the necessity.

With regard to the entrepreneurial culture, most of the individuals (90%) perceive that being an entrepreneur is considered a desirable career. Coinciding with the above most of the entrepreneurs (84%) believes that in Venezuela, those who undertake a business successfully enjoy public recognition.

About the factors relating to the company, for the degree of innovation in the business that according to the GEM model affect the aspiration to growth, it is observed that for the three types of innovation: in products, with regard to competition and in technology, most of the entrepreneurs perceive that their offer is little innovative with a 66, 69 percent respectively.

On the other hand, most of the entrepreneurs believe that they have the knowledge, skills and experiences needed to start a new business (92%). The fear to failure is not seen as an impediment to undertake in the majority of the cases (83%).

Finally, the average age for the entrepreneurs is 37 years. And according to what it was observed, the sample is distributed as follows over the years, 40 percent for 2007, 27 percent for 2009 and 33 percent for 2011.

Below, there are the results obtained for the determinant factors of the aspirations to the growth of the entrepreneurs estimated through the three ordered probit models: the first for the entire sample, the second for the BoP and the third for the not BoP, keeping the same explanatory variables. The coefficients of the robust estimation of the ordered multinomial probit model are not presented, since they do not have any interpretation. The conventional way of analyzing the outcomes for this type of models is by calculating the marginal effects in the average for each variable. Table 5 presents the marginal effects of the exogenous variables considered for the five categories of the aspiration to growth variable.

Table 5. Marginal effects of robust ordered probit model on the likelihood of the aspirations to the growth

Variables	$Y_i = 1$	$Y_i = 2$	$Y_i = 3$	$Y_i = 4$	$Y_i = 5$
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Base of the pyramid					
Yes BP	0,0626***	0,0523***	0,0127***	-0,0443***	-0,0833***
Gender					
Woman	0,0461*	0,0338*	0,0059*	-0,0342*	-0,0517*
Education					
Level of education >high school	0,0794***	0,0596***	0,0114***	-0,0578***	-0,0926***
Motivation					
Necessity	0,0680***	0,0433***	0,0046***	-0,0510***	-0,0648***
Desirable career					
Yes	-0,0528	-0,0324	-0,0028	0,0398	0,0482
Recognition					
Yes	-0,0825**	-0,0480**	-0,0029**	0,0619**	0,0716**
Product innovation					
All and some	0,0014	0,0010	0,0001	-0,0011	-0,0016
Competitive innovation					
None and some	-0,0180	-0,0135	-0,0025	0,0134	0,0207
Technology innovation					
<= 5 years	0,0014	0,0032	0,0024	0,0022	0,0019
Skills					
Yes	0,0053	0,0015	0,0021	0,0022	0,0036
Fear to failure					
Yes	0,0714	0,0430	0,0033	-0,0537	-0,0641
Age					
Years	0,0003***	0,0002***	0,0002***	0,0002***	0,0003***
Year					
2009	0,0035***	0,0031***	0,0031***	0,0034***	0,0033***
2011	0,0012***	0,0014***	0,0015***	0,0014***	0,0012***

Source: Author's elaboration with data from the GEM

First of all, it is proven that there are statistical differences between belonging or not to the BoP for the five categories of the aspiration to the growth, given that it is significant for all values of Y_i . Table 5 shows that of the other independent variables that were taken into account to analyze the aspiration to the growth, the ones that were significant were: gender, education, motivation, recognition, age and year. Statistical significance was calculated according to the values given by the robust standard error. To explain how the aspirations of an entrepreneur change, next we describe the results of the variables that were significant in the values of Y_i .

From the analysis of the values of the marginal effect of belonging to the BoP, where the values are reducing from positive sign ($Y_i = 1, 2, \text{ and } 3$) to negative signs ($Y_i = 4, 5$), it is possible to affirm that belonging to the BoP reduces the likelihood of having high aspiration to the growth. Therefore, if an entrepreneur is of the BoP probably will be in the first categories of aspiration to growth of his business. This result is consistent with what was expounded in the literature about the significant impact that the characteristics of the socio-economic environment may have over entrepreneurship (Amoros & Poblete, 2011), being noted in addition that the aspiration to growth of the entrepreneurial initiatives seems to vary significantly depending on the socio-economic context, which may be an indicative of the different structures of the social opportunities that the environment offers to the individuals (CAF2013).

About the gender, the results allow to affirm that the entrepreneurial women are more likely to belong to the lower categories of the aspiration to the growth, it is so that for $Y_i = 4$ levels (between 4 and 9 employees) and 5 (more than 10 employees) the marginal effects are negative. The results are consistent with several studies on the determinants of entrepreneurship from a gender perspective, where it is stated that women in general have a greater aversion to risk and the

companies initiated by them tend to be smaller and with lower expectations of growth than those started by men (Minniti & Naudé, 2010; Terjesen & Szerb, 2008; and Parker, 2004).

With regard to the education, the results indicate that with an educational level higher than high school it is reduced the possibility of having a "high" level of aspiration to the growth, given that the marginal effects of the model are decreasing from $Y_i = 1$ up to $Y_i = 5$, being negative for $Y = 4$ and $Y = 5$. Different from the observed for the previous variables, this behavior contrasts with results obtained in different studies, in which, from the perspective of maximization of the utility, it stands out that starting a business is a decision of allocation of resources taken in presence of opportunity costs, finding in general a significant positive relationship between the level of education and the aspiration to growth (Davidsson & Honig, 2003; Reynolds et al., 2004; Terjesen & Szerb, 2008, among others). O'Brien et al. (2003), for their part, indicate that it is expected that the aspiration to the growth of the business will increase with the level of education, because the individual has to weigh the potential returns achieved through entrepreneurship against those that he could get through alternative occupations. The contrasting results of this study could be explained by the behavior of the labor market in Venezuela over the past decade, where, according to Daza (2012), the economic returns of the education for each year of schooling have decreased continuously practically from 10.6 percent in 2002 to 6.0 percent in 2011, occurring, in addition, as of 2008 a shift in the composition of unemployment by level of education; according to this author, the workers with more education do not have greater possibilities of getting a job observing an unemployment rate among those who possess college degrees more than of the people who reached only six years of schooling. This could be interpreted as that some university students opt for the self-employment or by the creation of a company as a mechanism to earn income in the absence of employment opportunities, but not as a life option.

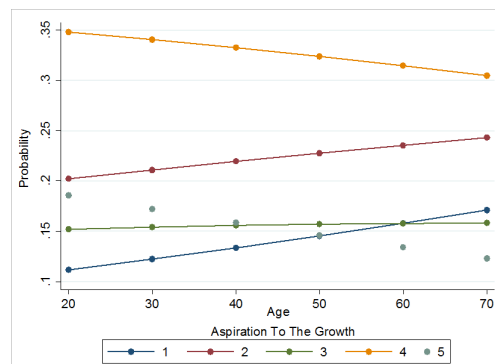
On the other hand, with regard to the study of the motivation variable, it was found that become an entrepreneur motivated by necessity reduces the probability of having a high aspiration to the growth. The marginal effects of being an entrepreneur motivated by necessity on the aspirations to the growth lower ($Y = 1, 2,$ and 3) are positive and significant at 99% confidence, while the marginal effects for higher aspirations ($Y = 4$ and 5) are negative and significant at the same level of confidence. These results are consistent with the revised entrepreneurship literature, where it has been noted that in LA this occurs more as an option for self-employment (CAF, 2013 & Amoros, 2011).

The fourth of the variables taken into account to analyze the aspiration to growth that was significant was the recognition, as referred to in the model of the GEM among the entrepreneurial attitudes to measure the extent to which people assign a high status and recognition to the entrepreneurs and is related to cultural aspects. The results indicate that the entrepreneurs who perceive that having a successful business allows them to enjoy recognition are more likely to have high aspirations to the

growth, which is the expected result. In this sense, Amoros & Poblete (2011) claim that an environment surrounded by successful entrepreneurs can positively influence that the people improve their attitudes to the entrepreneurship, increasing their propensity to undertake; in addition, if the attitudes toward entrepreneurship are positive, this will generate cultural support, financial resources, and benefits of network for those who are really entrepreneurs or want to start a business.

The results presented in Table 5 allow saying that the age is a factor that influences the aspiration to the growth, since there are statistically significant differences in the aspiration to growth according to the age of the entrepreneur. The behavior of this variable is presented in Figure 3, which shows the marginal effects of the age on the probability of aspiring to the growth of the business. As can be seen, to the lowest levels of (Y = 1 and 2), the probability of aspiring to the growth of the business increases with the age, while for higher values (Y = 4 and 5), the probability of aspiring to growth is reduced with the age.

Figure 3. Change in the probability of aspiring to the growth according to the age (marginal effects)



Source: Author's elaboration

Finally, Table 5 shows that there are statistically significant differences between the years of the sample, which may be an indicative of that the changing conditions of the environment affects the aspiration to the growth, aspect that will be expanded later in the article.

Conclusions

As a first result of this work it was obtained that the variables that explain the aspiration to growth of the entrepreneurs are: belonging or not to the BoP, gender, education, motivation, recognition, age and years of study.

In particular, we consider that the use of the variable BoP as a contextual factor of the aspiration to growth is a contribution to the literature due that so far only it had considered the income variable; this construct implies a wider characterization of the entrepreneur because it involves different environment variables and describes it from their propensity to the marginalization.

The second result, which we consider useful for the understanding of the phenomenon of entrepreneurship in the developing countries, consists of the differences found between the aspirations of the entrepreneurs of the BoP versus those that do not belong to this group for all levels of aspiration. When comparing the entrepreneurs of the BoP with the rest of the group it is found that the behavior of both entrepreneurs is similar, although the likelihood of entrepreneurs who belong to the BoP is slightly higher for the three initial values for Y_i or the aspiration to the growth. However, for the higher values of the aspiration (Y_i between 4 and 5), the probabilities of the entrepreneurs of the BoP descend, while of those of the non-BoP continue increasing. This can be interpreted as a threshold, where from certain level of aspiration to growth the entrepreneurs of the BoP become adverse to continue aspiring to the growth for their company.

To continue characterizing the entrepreneurs of the BoP we used three variables of the study that highlighted as significant when the behavior was described as separate groups against aspiration, one of context: the year, and the other two individuals: the motivation and the age of the entrepreneur.

About the motivation the entrepreneurs of the BoP mostly focus on average aspirations to the growth for any reason that motivates the beginning of the business, while most of the entrepreneurs of non-BoP aspire to a greater growth when the entrepreneur is motivated by the necessity. The age affects to the entrepreneurs of the BoP in a way consistent with the results of the literature, where at an older age it is reduces the probability of aspiring to grow; but in the case of not BoP, it is on the contrary. And finally the year has an impact on the entrepreneurs of the BoP, observing that in 2011 the probabilities of a high aspiration to growth are reduced of the entrepreneurs, which can be explained by an economic recovery that was accompanied by greater public jobs and various subsidies to people of the lower strata.

As for the other explanatory variables of the aspirations to the growth of the business it was found that about the gender the results indicate that the entrepreneurial women have a lower probability of developing projects of good quality, that is with more than 10 employees; in this sense it is necessary a greater understanding of the individual factors and of context that affect women and men differently. This aspect is very important, since in the developing countries the women are mostly household heads and the results of these businesses have a high impact on the life quality of these families.

The age also explains the aspiration to the growth; specifically, the probability increases for low values of growth with the passing of the years, this is that it is more probable that the younger entrepreneurs (between 30 and 40 years) have higher aspirations to the growth. Finally the recognition as a variable of the context it has an impact on the aspiration to the growth, resulting that the probability of having high aspirations to the growth increase with the recognition that the society gives to the persons who undertake business. All these results are consistent with the review of the literature conducted.

The results found in relation to the education and the years are new findings. In literature, the results indicate that at a higher educational level it is higher the possibility of having high aspirations to the growth. However, the results obtained in this research show the opposite, that is that for high levels of education (higher to high school) it is reduced the probability of having a high level of aspiration to the growth. This contradiction could be explained since in Venezuela "the high educational levels do not pay", that means that it not necessarily let the people to get a better job, therefore they start a business activity that is more a self-employment than a venture with aspiration to the growth. The year has influence on the aspirations to the growth of the entrepreneurs given the conditions of development of Venezuela marked by constant changes in policies and results, which makes that the probability that the entrepreneurs will aspire to high growth decline in times of economic uncertainty.

Finally, other important contribution of this research is its methodological approach through the introduction of a robust generalized ordered multinomial probit model, that different to the probit and the MCO estimates, allows unbiased estimators and few problems of heteroscedasticity.

As for the implications of this research, first they may be related to the public policies needed to create incentives to develop projects of quality, especially in the case of those pertaining to the BoP, since they cover most of the population and in addition they are vulnerable groups likely to the marginalization. The creation of environmental conditions favorable for the creation of companies probably will affect positively the quality of these enterprises in terms of the aspiration to growth or to generating new jobs. In this sense, it would be useful the fiscal and financial support, as for example a tax exemption during the first years of creation of the business, while the company is consolidated, as well as some kind of special treatment in front of the laws that have an important impact on the larger companies, particularly those which have to do with the labor liabilities and non-salary staff expenses that in Venezuela prove to be significant.

Besides the private enterprise could also be part of this favorable context that enable to the entrepreneurs of the BoP to pass the threshold of growth; in this case through partnerships with entrepreneurs of the BoP and private companies that are seeking to penetrate these markets. This is what it is called in the literature of the BoP the ecosystems of value. This issue deserves further analysis and could be part of the future researches on the subject of the aspiration to the growth.

Among the limitations of the study it is included the database of the GEM for Venezuela. The measuring instrument used was designed for different purposes other than those proposed in this research, therefore this involves using the available variables and not be able to include others that may be of interest to study the aspiration to growth such as: dynamism of the business environment (Hessels et al., 2008), social capital (Liao and Welsch, 2003), ethnic group (Hechavarria et al.)2009) and other variables more related to the entrepreneurs of the BoP as the access to the bank credit (Alvarez & Urbano, 2011),

the entrepreneurial women's self-esteem, the formality or not of the business and entrepreneurship as self-employment and not with the objective of growth. Besides given the quantitative character of the study it was not possible to deepen into the personal reasons why the entrepreneur of the BoP perceives a threshold of the aspiration to the growth. In this sense it is recommended future studies, probably combining qualitative and quantitative methodology to investigate in new personal reasons that they would impact the aspiration to growth variable of the entrepreneurs. This same database of GEM Venezuela introduces additional bias to the results due to questions formulated differently throughout the years studied and involves limitations given its not longitudinal character.

Another possible future research with the GEM database and the aspiration to growth could be to study if the phase of entrepreneurship has impact on the aspiration to growth of the entrepreneur. This variable is included in the GEM database, but in this study there were analyzed the entrepreneurs jointly (new and nascent entrepreneur, i.e., owner and manager of a new business). Additionally, the aspiration to growth could be studied for the BoP in Latin American countries, using panel data, to assess if the findings of this work are extrapolated to other developing economies.

Notes

- (1) The parallel dollar is the value of the dollar when it is traded in the market and whose price depends on supply and demand. According to the Analítica report, also known as dollar in the black market (<http://analitica.com/actualidad/actualidad-nacional/bonos-de-la-banca-son-escasos-para-cubrir-demanda-del-paralelo/>)

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