The expansion of informal microenterprise: A question of performance or commitment?

La expansión de la microempresa informal: ¿cuestión de desempeño o de empeño?

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Abstract

The results on the relationship between the management of informal entrepreneurship and their possibilities of expansion are still scarce. Based on ENIGH data and through logistic regressions, we explore the characteristics associated with the growth of these enterprises in Mexico. It is shown that establishing the first location or evolving into a second one, are structurally different problems that are not necessarily related to economic-financial indicators. Despite the importance of profits in achieving their objectives, profitability does not appear to be the main factor driving this sector's growth. This could be due to the lack of orientation towards intertemporal profit maximization as well as restrictions imposed by a growth process on the destination of short-term income. Therefore, in addition to conventional economic-financial indicators other characteristics associated with the entrepreneur and the nature of his project must be considered to understand its growth potential.

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Resumen

Los resultados acerca de la relación entre la gestión del emprendimiento informal y sus posibilidades de expansión son aún escasos. Con base en datos de la ENIGH y a través de regresiones logísticas, se exploran las características asociadas al crecimiento de este tipo de emprendimientos en México. Se comprueba que el establecer el primer local o evolucionar hacia el segundo son problemas estructuralmente distintos y no siempre asociados a indicadores económico-financieros. Aunque fundamentales para cumplir con sus objetivos, el nivel de utilidades no parece ser el principal detonador del crecimiento en este sector. Lo anterior podría deberse a la falta de orientación a la maximización intertemporal de beneficios y a las restricciones que un proceso de crecimiento impone en la gestión de las ganancias de corto plazo. Por lo tanto, además de los indicadores económico-financieros, otras características asociadas al emprendedor y la naturaleza de su proyecto deben ser tomadas en cuenta para entender el potencial de crecimiento de este.

Código JEL: D21, E26, L26
Palabras clave: microempresa; informalidad; desempeño; crecimiento; expansión

Introduction

Among the reasons governments encourage the creation and consolidation of microenterprises[1] through financing and technical assistance programs is their potential positive effect on stabilizing the economy (Texis, Ramírez, & Aguilar, 2016). This approach is particularly recognized in periods of economic recession when microenterprises play a central countercyclical mechanism for reactivating the domestic market (Mungaray, Ramírez, Aguilar, & Beltrán, 2007). Nevertheless, even if profitable, these projects' vulnerability and low growth throughout their life sometimes raise questions about their contribution to local development (Docquier, Müller, & Naval, 2014).

Although there has been profuse research on the factors that drive microenterprise performance in Mexico (Mungaray et al., 2007; Hayes, Chawla, & Kathawala, 2015; Dini & Stumpo, 2018; Rivera, 2018), results about the relation between this and expansion potential are still scarce (Allinson, Braidford, Houston, & Stone, 2013; Jang & Park, 2011; Federico & Capelleras, 2015; Fuertes-Callén & Cuellar-Fernández, 2019); let alone if the search is circumscribed to the field of informal entrepreneurship, which in Mexico is not a minor issue. According to data from the National Institute of Statistics and Geography (INEGI), business owners operating informally, whether employers or self-employed, represent 23.1% of the economically active population (INEGI, 2018).

The fact that expansion only occurs in a small percentage of microenterprise projects could have multiple coexisting causes, such as demand limitations, lack of access to financing, or pressure to use the

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[1]Also referred to as "entrepreneurship" or "home-based business" in this document.

surplus. Other causes are attributable to the promoter's vision, such as the fulfillment of expectations (since more immediate goals have been achieved), the lack of implementation of controls, or aversion to long-term commitments.

Thus, given the significant presence and the complex panorama of the microenterprise sector in Mexico —including the formal sector— it is imperative to identify the circumstances under which the path of expansion is eventually explored, regardless of the macroeconomic environment. It cannot be overlooked that this expansion can become a way of community economic development that goes beyond the direct effects on the quality of life of the owners and their families, thus contradicting the traditional approach whereby informal entrepreneurship is only an urgent and fleeting solution to liquidity constraints.

This research aims, on the one hand, to identify and characterize low-productivity enterprises according to their size and their owners' visions of the future, and on the other hand, to measure the consequences of some management actions and economic-financial results on the expansion decisions of these enterprises, taking into consideration their nature and level of development. The paper explores growth from an operational and motivational approach, based on the reality of Mexico and many developing economies, rather than a structured and systemic one (which, for example, depends on formalization). Thus, the hypothesis is the possibility of growth of the informal microenterprise (its potential formalization and evolution in business stratification). Although it may be related to its economic-financial results, it would also be significantly linked to the promoter's initial conditions, structure and vision.

The study is organized into five sections, including this introduction. The following section presents the theoretical framework, highlighting the main difficulties of microenterprises to grow and expand, as well as the importance of identifying the nature and circumstances of the enterprises in order to anticipate their evolution. This section is followed by a description of the methodology and the source of information used. Then, in the results section, the statistical behavior of the variables is examined, and the econometric estimates are analyzed and discussed in light of the literature. Finally, the main conclusions and limitations of the study are developed.

Theoretical framework

Environmental factors undoubtedly have an impact on a microenterprise's results indicators. According to INEGI (2016a), 39.7% of micro-entrepreneurs claim that the characteristics of demand, economic marginalization, an excess of competitors, or aggressive price competition restrict their margins, making

it impossible to increase sales volume without incurring, at least temporarily, losses that they are generally unwilling to bear.

It is also common for the regulated microenterprise sector to attribute the impossibility of growth to the informality in which many of its competitors operate, enabling them to offer lower prices due to savings derived from reductions in quality and tax evasion. In this regard, Mungaray et al. (2007) found that, to the extent that informal activities are a socially legitimized practice, the likelihood that they will also be profitable increases, as there is less risk of "punishment" by the consumer market or sanctions by the authorities. Nevertheless, the fact that this sector reaches a sufficient critical mass may also cause expansion attempts to occur only exceptionally (Berrone, Gertel, Giuliodori, Bernard, & Meiners, 2014; Webb, Tihanyi, Ireland, & Sirmon, 2009).

In terms of management, understood as the set of actions that are consistently carried out to lead and manage entrepreneurship, there are usually differences according to the use of productive factors, entry and exit barriers, and the economic sector of membership (Cruz, López, Cruz, & Meneses, 2016). For example, while 20.9% of service companies invest in training, only 13.3% of manufacturing companies and 7.3% of those dedicated to commerce do so. The reasons for not investing in training vary according to the business stratum. Microenterprises usually argue that their knowledge is adequate for the carrying out of the activity, while the cost of interrupting production is the usual inhibitor in larger companies (INEGI, 2016b).

The particular analysis of low-scale productive businesses shows that, in many cases, they have an autocratic type of management where the owner also carries out many administrative and operational tasks. Consequently, the evolution of this entrepreneurship depends on the owner's life experience (in the sense that decisions in both spheres of action are associated) and their competence and ambition (Allinson et al., 2013; Schindler, 2016). Given that the time dedicated to entrepreneurship compromises other individual and family activities, a myopic search for the optimal use of resources will hardly allocate enough time to planning, which represents a strong obstacle to growth[2].

In addition to the above, Berrone et al. (2014) state that the time of dedication to entrepreneurship and continuity in its operation are determining factors in its performance, to the extent that, in the case of these companies, having to withdraw from the activity temporarily jeopardizes the continuity of the project as a whole. In this logic, home-based businesses tend to operate according to how the owner's management of the processes is understood (Kuratko, Hornsby, & Naffziger, 1999). The preceding makes it evident that the search for success, on the one hand, of the microenterprise, and the other, of its owner, may be purposes with divergent paths in the short term.

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[2]The individual's daily decisions are usually derived from short-term evaluations because they are associated with immediate needs.

Similarly, authors such as Allinson et al. (2013) explore owners' views on the growth of their entrepreneurship and recognize the existence of myths that rationalize, perhaps unjustifiably, the desire to grow. Relatedly, Korunka, Kessler, Frank, and Lueger (2011) state that barely half of self-employment initiatives add employees to the workforce after eight years of operation, while Allinson et al. (2013) find a similar proportion for small companies with employees after five years of activity, regardless of the support they have received during that time. This supports the suspicion that moving from a one-person work format to one that requires coordination between individuals could be highly challenging for the owner and that a "growth phase" (in terms of the number of employees) would not be strictly enforced in the life cycle of a start-up.

Nevertheless, when this evolution is achieved, the micro-entrepreneur tends to employ personnel with general rather than specialized skills (Simpson, 2001), becoming incredulous at the possibility that others may have their competencies. There is also a belief that training employees is risky because it involves acquiring skills that could represent direct competition (Allinson et al., 2013). Finally, the suspicion that having more personnel represents entry into tax regimes with higher tax and regulatory burdens becomes a deterrent to growth.

Berge, Bjorvatn, and Tungodden (2015) state that poor human capital decisions can be an even more important brake on microenterprise development than lack of financing. Consequently, how the microentrepreneur addresses these and other operational challenges (e.g., strategic planning and implementation of operational controls) could determine whether or not the project is placed on a potential growth path (Hayes et al., 2015). In this regard, authors such as Thapa (2015), Markman, Baron, and Balkin (2005), and Holm, Opper, and Nee (2013) reveal that certain factors related to the entrepreneur themselves, such as management skills, the need for achievement and autonomy, perseverance, and tolerance for uncertainty are key in the development of entrepreneurship.

According to the National Survey of Business Productivity and Competitiveness (ENAPROCE), in 2016 14.7% of micro-entrepreneurs stated that they did not want to see their business grow. 28.4% attributed this refusal to insecurity; 25.1% to feeling satisfied with the results achieved; 18.6% to anticipating administrative complications; and 16.6% to not wanting to pay more taxes or face costly paperwork (INEGI, 2016a). The results of this same survey for 2019 are even more disturbing, showing that as many as 22.5% of microentrepreneurs did not want to see their business grow. 47.4% of these argued that they felt satisfied with the results (INEGI, 2019). This suggests that, beyond the expectation of growth supported by economic-financial indicators, sometimes there may be an original refusal on the part of the owner to accept this growth.

When analyzing the directionality of the relation between growth and good economic-financial performance at the microenterprise level, Federico and Capelleras (2015), as well as Fuertes-Callén and

Cuellar-Fernández (2019) suggest that the former has a positive impact on the latter, but not necessarily the other way around. The authors specify that the relation depends on the attributes of the company and the production sector to which it belongs (Federico & Capelleras, 2015), and that even an adverse economic context is not an impediment to expansion, provided that hostile conditions are addressed strategically (Fuertes-Callén & Cuellar-Fernández, 2019). Monge and Torres (2015) assert that the youngest and smallest companies tend to show the greatest increases in their short-term performance indicators but also experience more difficulties in evolving business stratification. According to them, only 5.3% of the microenterprises that have been in operation for 10 years under a formal regime evolve into small ones, a lower value being foreseeable in informality.

According to Berrone et al. (2014), in a functional view of the microenterprise, the imperfect correspondence between its performance and growth potential could be partly explained by the motivations that originate it, which influence the form of management used. These motivations can be based, according to Allen, Elam, Langowitz, and Dean (2008), and Dawson and Henley (2012), on urgent economic need (push factors) or on taking advantage of a market opportunity (pull factors). With an emphasis on informality, Berner, Gomez, and Knorringa (2008) distinguish between two types of entrepreneurships with certain parallels to the previous ones: "subsistence" and "accumulation oriented."

Authors such as Karlan and Zinman (2011), Berge et al. (2015), and Thapa (2015) argue that the perception of what guarantees an economic surplus is not always compatible with the pursuit of business growth and that a reconciliation between the approaches will depend on the management skills and social relations of the owner, but, above all, on the elements associated with their business behavior and vision. Accordingly, there is an inclination in subsistence companies to prioritize diversification over specialization and vertical development, so that, although market conditions and the maturity achieved by the passage of time make it possible to explore the alternative of expansion, the lack of development of competitive advantages makes it difficult for subsistence microentrepreneurs to overcome the "culture of poverty" (Berner et al., 2008). Nevertheless, it would be risky to claim that having objectives other than profit maximization (typical of accumulation-oriented microenterprises) nullifies growth possibilities.

Methodology and data

Due to the objectives pursued in this study and the cross-sectional nature of the data used, binomial logistic regression analysis was used as an alternative to statistically test the research hypothesis. Works such as Texis et al. (2016), Berrone et al. (2014), and Monge and Torres (2015) have employed this model to achieve objectives akin to those of the present research. The first of these papers analyzes the possibility for socially-based microenterprises to overcome the first years of operation; the second studies the

determinants of microenterprise performance with emphasis on the effect of human capital; the last of the references explores the dynamics of entry and exit from the market of the enterprises, as well as their growth.

The following specification is used to define the Logit model:

$$Y = \frac{1}{1 + e^{-\alpha - \sum_{i=1}^{k} \beta_i X_i}} + \varepsilon = \frac{e^{\alpha + \sum_{i=1}^{k} \beta_i X_i}}{1 + e^{\alpha + \sum_{i=1}^{k} \beta_i X_i}} + \varepsilon$$

(1)

where Y is the binary response dependent variable (0,1), while X_i (i $= 1,2,\ldots,k$) is each of the k explanatory variables. In addition, α and β are parameters to be estimated, the latter being a vector of size k. The Logit model presents an approximation to the probability of occurrence of the event under study ($Y = 1$); in this case, the increase by one unit in the number of establishments, commercial premises or points of sale (given that there is up to one of these), in a given period. This paper uses the increase in the number of establishments as a proxy for microenterprise growth[3].

A simpler interpretation of the parameters used is obtained by linearizing the model. For this purpose, M is defined as the probability of occurrence of option 1 of the dependent variable and expressed as

$$\Pr(Y = 1) = M = \frac{e^{\alpha + \sum_{i=1}^{k} \beta_i X_i}}{1 + e^{\alpha + \sum_{i=1}^{k} \beta_i X_i}}$$

(2)

which can be transformed into

$$\frac{M}{1 - M} = e^{\alpha + \sum_{i=1}^{k} \beta_i X_i}$$

(3)

The quotient between the probability of occurrence of the event subject to verification (option 1) and the probability that it does not happen (option 0) is interpreted as the preference or advantage of the former over the latter.

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[3]For the purposes of this exercise, it is understood that a microenterprise project will be larger the greater its number of establishments, with options such as the number of employees, the rate of profitability, or the level of assets being disregarded as direct measures of growth (Fuertes-Callén & Cuellar-Fernández, 2019).

Based on the subjective value theory, this paper expects to find a non-linear relation between the explanatory variables and the probability of occurrence of the relevant event, whereby the variations in the probability caused by changes in these variables would depend on their original level. This non-linear relation would suggest that the reasons why a business promoter without an establishment decides to set up a store to sell their products or provide their services are not necessarily the same reasons why an entrepreneur with an establishment decides to set up a branch office. To this end, the transitions make it possible to distinguish the effect of the explanatory variables for, on the one hand, the probable exit from self-employment (linked to the start-up of the first establishment) and, on the other hand, the consolidation of the microenterprise (with the opening of the second establishment).

To highlight these underlying differences in the dependent variable, this paper has chosen to estimate two binary logit models (each with two categories: one lower and one upper) as a statistical analysis method. In the first of these, the dependent variable reflects the transition, or not, from being "without an establishment" to having "an establishment" during the last year (case 0-1). The second case refers to the change, or not, from having "one establishment" to having "two establishments" during the last year (cases 1-2). It is assumed that this treatment makes it possible to differentiate the nature of the undertakings.

The data used come from the Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) 2016, which biennially collects individual information about the socioeconomic characteristics of household members, including sources of income-both formal and informal-and the destination of spending (INEGI 2016c). This survey, conducted by INEGI, has a cross-sectional design and is nationally representative. The ENIGH reserves one of its questionnaires for household business information, whose sample size in the reference year was 5 294 observations. Although this is the basic source of information, the final sample used in this research consisted of 1 860 observations since it was limited to cases in the industrial, commercial, and service economic sectors and to those that did not have articles of incorporation and registration with a notary, federal entity, or tax authority (informal enterprises).

It is worth noting that the average household size of the sample is 3.9 persons, while the mean age of the business manager is 47.7 years old. In addition, although the average number of income earners per household is 2.6 persons, the number of employed household members is 1.5. It should not be overlooked that at least 15.1% of labor remuneration in Mexico originates from non-subordinate activities such as those of home-based businesses. Based on the number of observations, the participation of the states in the sample ranges from 5.0% for Baja California to 2.5% for Mexico City, while the weight of urban areas ranges from 98.9% in Mexico City to 45.6% in Baja California.

Regarding the variables that may have a relation, directly or indirectly, with business growth, Forth and Bryson (2018) find that productivity and constancy in operation may be useful to explain the

evolution of the microenterprise. Rivera (2018), meanwhile, points out that associativity, sector of activity, number of premises, workforce makeup and profit level can help explain the heterogeneity in the makeup of entrepreneurship in Mexico.

Table 1 presents the variables used in the specification of the statistical models of this work, which have been selected based on the literature and the availability of information.

Table 1
Variables used in the statistical analysis

Type	Name	Definition	Forms of response**
-	Number of establishments*	Branches engaged in the same commercial or productive activity related to the same owner	From 0 to 2 (depending on the case in question)
Management	Type of economic activity	That defines the actions and processes that characterize the organization of work oriented to producing and commercializing goods and services	1: Industrial, 2: Commercial, 3: Services
	Number of partners	Individuals who contributed initial capital or have a say in decisions and to whom part of the profits must be delivered	From 0 to 10
	Number of employees	Workers (paid or unpaid) under the orders of an employer	From 0 to 10
	Percentage of male employees	Male workers as a proportion of the total	From 0 to 100
	Type of employment represented by the venture	Priority —in terms of income— represented by entrepreneurial activity	1: Primary, 2: Secondary
	Use of accounting services	Reliance on external services for financial and accounting control	1: No, 2: Yes
	Taking goods for self-supply	Consumption, by the entrepreneur or their family, of goods or services of the venture for which no value is paid	1: No, 2: Yes
	Percentage of year in operation	Proportion of months of the year in which the activity is conducted (based on the last year)	From 0 to 100, in intervals of 8.33
Results	Productivity***	(income − expenditure)/number of employees	From USD -1 083 to USD 5 149
	Sales variability	Standard deviations from the mean are necessary to cover the full range of sales	From 0 to 2.45
	Profitability****	$100 \times$ (revenues − expenditures)/revenues	From -200 to 100

* According to the source of information, "home-based businesses" may have several commercial establishments
** From the joint database for both cases
*** The profit per employee (adjusted for the company's line of business) is used as a proxy for productivity
**** Profit margin is used as a proxy for profitability in the absence of information on the value of assets
Source: created by the authors with information from INEGI (2016c)

According to their role in the operation process, the variables have been classified as management and results, which facilitates the recognition of a favorable environment for expansion by differentiating the behavior of the microentrepreneur from the performance of their project. Management variables would be associated with commitment, while outcome variables would be associated with performance. Although it is recognized that management can impact outcomes (Rivera, 2018), it is considered that this does not occur exclusively or necessarily directly. As mentioned, other demand-side variables such as disposable income, the competitive environment, or consumer preferences will likely affect the microenterprise's performance and existence. Nevertheless, including these variables would require fieldwork that exceeds the possibilities of this research, so they are assumed to be constant.

Finally, two filters are implemented to increase confidence in identifying changes in the scale of business of the units of analysis. On the one hand, only ventures with between zero and two establishments are included in order to homogenize the samples and better characterize behavior; on the other hand, only ventures with at least one year of operation are considered in order to reduce the possibility of including projects in the creation stage (whose change in the scale of business does not correspond to an expansion process). Thus, the subsample of the 0-1 case is composed of the enterprises that in the last year had not set up an establishment and those with evidence of having done so, while that of the 1-2 case is composed of the companies that during the last year had maintained one establishment and those where there was evidence that they had reached two.

Results

In order to characterize the microenterprise sector through basic statistics, an exploratory review of the database is conducted (before applying the filters presented in the previous section). This analysis shows that 63.2% of the home-based businesses have only one establishment, and only 1.9% have more than one (in which case the predominant sector is services); nevertheless, 34.9% do not have an establishment or exclusive area to carry out their commercial activities. Likewise, 62.1% of the businesses have no employees, and 25.2% have only one; only 12.7% have more than one employee. The preceding is related to the fact that only 54.3% of the sample reported carrying out these tasks in their private homes, in the homes of family members, or fixed stalls on public streets, while the rest relied on the homes of clients, semi-fixed stalls, or street vending.

As for the microenterprise sector, with a 51.5% share, the commercial sector is the predominant one, followed by the service sector with 38.3%, while the industrial sector, with a share of 10.2%, is in third place. In addition, 85.1% of the companies have been in operation for more than one year, and of these, 91.3% show continuity in the performance of the activity; the rest are seasonal or face some

operational problem (or a high opportunity cost in terms of income) that makes it inconvenient or prevents the owner from being constant in operation. Therefore, the time in operation achieved, which is proof of persistence and a condition for acquiring experience, plays an important role in the projection of the future life of the venture (for example, this estimate is very different from whether or not the economic break-even point has been exceeded).

The percentage of male personnel within the enterprises with employees varied according to the business size: 56.9% in those with no establishment, 52.5% in those with one establishment, and 38.2% in those with more than one establishment. This proportion indicates that the greater relative presence of women workers in home-based businesses increases with the size of these businesses. Also, about half of the workforce of those microenterprises with employees and at most one business location did not have a fixed salary. According to Aguilar, Mungaray, and Ramírez (2014), the lack of a fixed salary in microenterprises is greater when the employees are part of the family and even more so when these family members are women.

In addition, the greater the number of establishments, the greater the probability that accounting services are available and tax receipts are provided. In 2015, 96.7% and 98.7% of ventures without a storefront did not use external accounting services or deliver proof of sale, respectively. The indicators were reduced to 80.4% and 92.1% when there was an exclusive establishment for the activity and reached 54.8% and 78.4% when there were two establishments. Notably, in 2018 the absence of external accounting support in formal microenterprises was less than 50.0%, although one in five continued to rely on notebooks to record their operations (INEGI, 2016a; INEGI, 2019).

Self-consumption (taking items or enjoying services from the business without covering the cost of production or recording the operation) favors short-term liquidity but denotes a deficiency in the management control of the microenterprise that puts its permanence in the market at risk. Regarding behavior, if there was no establishment, self-consumption had occurred in the last month in 49.8% of the companies; when there was one point of sale, it occurred in 65.4%; but when there were two, the indicator decreased to 35.6%. This behavior suggests a greater "lack of control" when the enterprise has only one establishment, possibly related to the incorporation of the first employees, often unpaid family members. It is noteworthy that in 54.2% of the microenterprises where self-consumption was present, the value of the goods taken ranged between USD 6 and USD 60, ranging from USD 60 to USD 600 in 34% of the cases, and in 12.3% of these, goods were taken whose value was between USD 600 and USD 900, which exceeds the average income level of many of the microenterprises studied, as will be seen below.

In terms of associativity, it was found that 97.1% of informal microentrepreneurs in Mexico do not have partners other than household members; when they do, both these and the resulting partnerships are also highly likely to be informal. Controlling for the business dimension, only 2.8% of the projects

without a location have partners; when they have one location, the indicator rises to 3.6%, while 3.7% of the ventures with two locations have a partnership in their organization. Thus, there are no significant changes in the associative structure of the enterprises according to the number of premises; nor is the impact of this variable on the quality of management clear.

In terms of economic-financial results, 78.8% of these microenterprises obtain monthly income from sales of up to USD 600[4]; in 18.5% of the cases, this income ranges from USD 600 to USD 3 000; the remaining percentage presents levels higher than USD 3 000 in the period. In terms of expenses, 86.2% require up to USD 600 per month for their operation (which is a higher percentage than microenterprises with revenues up to that amount), and in 12.1% of the cases, the expenses range from USD 600 to USD 3 000; the rest exceed that threshold.

There is also a positive relation between the productivity indicator (profit per employee) and the number of establishments, starting at USD 217.2 when there are no establishments and reaching USD 421.3 when there are two establishments. Nevertheless, the profitability indicator (the profit margin) decreases with the number of stores, from 36.9% when there are no stores to 19.0% when there are two. Finally, the variability of sales, an indicator of uncertainty, also decreases with the number of establishments. While suggesting the need for greater stability to grow, this relation could also mean that the returns to investment associated with an expansion could be compromised, which may constitute an obstacle to growth. Thus, the above results would only partially support the thesis of Federico and Capelleras (2015) and Fuertes-Callén and Cuellar-Fernández (2019), who argue that growth tends to favor the improvement of outcome indicators.

Exploration of the subsamples of the cases treated (0-1 and 1-2) reveals that the observations associated with the lower category present a lower proportion of microenterprise activity as the first source of income. In addition, there was a lower level of unpaid workers in the top response form for the 1-2 case but remained relatively constant in the 0-1 case. In general terms, these results respond to economic logic.

Table 2 shows the results obtained (at the level of both coefficients and mean values) by regressing the Logit specifications for each subsample (cases 0-1 and 1-2) to identify the existing relations between the variables. Since the signs of the Logit coefficients reflect the relation between independent and dependent variables but do not directly reflect the marginal effects (elasticities) associated with the relation between variables, partial slope coefficients are added to facilitate interpretation.

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[4]Monetary values are expressed in U.S. dollars at the exchange rate in effect in May 2018.

Table 2
Logit estimation results for two cases of microenterprise expansion

Type	Independent variables	Coefficient (Standard error)		Mean (Partial pending**)	
		Case 0-1	Case 1-2	Case 0-1	Case 1-2
	(Constant)*	3.1805 (0.7827)	−0.0751 (1.3688)	-	-
Management	Type of economic activity	0.3384 (0.0731)	-	2.0890 (0.0835)	-
	Number of partners	−0.2692 (0.1599)	-	0.0731 (−0.0664)	-
	Number of employees	-	0.7980 (0.0942)	-	1.7900 (0.0422)
	Percentage of male employees	-	0.0072 (0.0033)	-	49.3907 (0.0004)
	Type of employment represented by the venture	-	−1.5736 (0.6556)	-	1.1510 (−0.0833)
	Use of accounting services	2.2842 (0.2784)	1.3317 (0.2769)	1.8750 (−0.5634)	1.8111 (−0.0705)
	Taking goods for self-supply	0.2604 (0.1152)	−1.0079 (0.2663)	1.4391 (−0.0643)	1.3693 (0.0533)
	Percentage of year in operation	0.0114 (0.0049)	−0.0178 (0.0089)	95.7420 (0.0028)	98.1802 (0.0009)
Results	Productivity	0.0130 (0.0002)	-	294.5123 (0.0003)	-
	Sales variability	−0.4818 (0.1843)	-	0.2263 (−0.1188)	-
	Profitability	−0.0116 (0.0017)	-	28.9814 (−0.0029)	-
	McFadden's R^2	0.1546	0.3081	-	-
	Percentage of hits	66.9	90.9	-	-
	Akaike Criteria	1 889.2	430.2	-	-
	Hosmer-Lemeshow Test χ^2 (significance)	7 935 (0.115)	6 063 (0.469)	-	-
	n	1 811	704	-	-

The dependent variable reflects the occurrence or non-occurrence of the increase in a facility. All variables are significant at least 10% except the constant in cases 1-2.
* The constant acts as an adjustment variable contributing to reducing the model's error level
** Change in the dependent variable corresponds to one regressor unit, keeping the rest constant
Source: created by the authors based on INEGI (2016c)
SPSS 24.0 was used for statistical analysis

The estimations prove the existence of relations between a series of attributes in microenterprises (represented by both management and results variables), their initial conditions, and the number of establishments they decide to have. These relations suggest a structural differentiation in the context of the expansion decision. Among the management variables uniquely conducive to the move to the opening of the first establishment are the type of economic activity and the number of partners. More specifically, these would be commercial or service activities and maintaining a small number of partners, which is not incompatible with the great importance of social networks in entrepreneurial development

suggested by Berge et al. (2015) and Thapa (2015). In contrast, the increase in headcount, the increase in male labor force, and the project's priority in the entrepreneur's work activity would be exclusively associated with setting up a second establishment.

Other variables such as the use of accounting services —one of the main conditions necessary for growth according to the findings of this research— the level of self-consumption, and constancy in operation are significant in both regressions. Nevertheless, in these last two variables, the signs differ between cases. The interpretation of these results is presented below.

Even without going into issues of causality, it is possible to infer that the use of accounting services favors the transition to a more robust business configuration. The impact of this indicator is greater on a smaller venture. At the same time, self-consumption negatively affects the probability of opening a second store, but it is compatible with establishing the first one. It may be that in companies with a very basic organization self-consumption becomes part of the remuneration for employees' work; this situation no longer makes sense as the company grows, making it necessary to implement more controls.

Maintaining continuity in the development of the microenterprise activity increases the propensity for the company to have one location but moves it away from the possibility of having two, which is an unexpected result. This outcome is probably due to the flexibility associated with the service sector, which has the highest participation in projects with more than one establishment. Regarding the effect of time in operation on the growth of a project, the results of the literature are a function of the characteristics of the microenterprise, which is corroborated in this work. Nonetheless, the probability of expansion seems to decrease after a few years of operation (Nichter & Goldmark, 2005).

It is observed that only case 0-1 presented statistical significance in the variables related to the results. This implies that higher productivity and stability in the level of sales contribute to establishing the first store; nevertheless, the profitability behavior is the inverse. A possible explanation for this seemingly counterintuitive result is that the frequent indivisibility between ownership and control in this type of company (in the sense of Allinson et al., 2013) contributes to the fact that high levels of profitability, if reached in a short time, condemn the evolution of the activity in terms of its business dimension, beyond the fact that these levels far exceed the needs of the subsistence threshold. The above also shows a tangential correspondence with the empirical evidence presented by Federico and Capellares (2015) and Monge and Torres (2015) in the sense that the relation there may be between growth and profits is more direct for younger companies. Nevertheless, this is not always reflected in an evolution in business stratification.

On the other hand, variables such as where the activity is performed, the proportion of family employees or the number of economic dependents were not statistically significant in any of the

regressions, so they were excluded from the final specification. In contrast, variables such as the delivery of sales receipts and the presence of unpaid workers were discarded from the analysis to avoid multicollinearity problems.

Regarding the goodness of fit tests (see Table 2), the models were evaluated by the Akaike criterion that selects the specification with the smallest squared error. In addition, McFadden's R^2 was calculated; although not too close to unity, as expected in non-linear models and estimates based on household surveys, it is possible to ensure that the fit is acceptable given the data structure based on the significance of the Hosmer-Lemeshow test.

Additionally, Tables 3 and 4 show, with support from the results of Table 2, the probabilities of moving, respectively, from 0 to 1 and from 1 to 2 establishments in the relevant range of each regressor variable when the remainder takes its mean value. For the 0-1 case (Table 3), it is found that using accounting services, relying on self-consumption (taking care of liquidity), increasing productivity, not having partners (reducing the risk of opportunistic behavior in the absence of contracts), being constant in operation (in line with Berrone et al., 2014) and in the level of sales, and not presenting abrupt increases in profitability (reduction of the risk of spending on durable goods for the home, for example) would be associated with a 94.7% probability that a venture establishes its first commercial premises in the short term.

Table 3
Probabilities of moving from 0 to 1 establishment at the boundary of the relevant range of the regressor variables

Variables evaluated at the boundary	Lower limit of the range	Prob. (%)	Upper limit of the range	Prob. (%)
	One partner	49.7	No partner	56.4
	No accountant services	48.8	Yes accountant services	90.3
	No self-consumption	52.2	Yes self-consumption	58.7
Each variable, evaluating the rest on the mean	Half a year in operation	42.9	One year in operation	57.1
	Commercial activity	55.1	Service activity	63.3
	Productivity of USD 200	52.9	Productivity of USD 250	54.5
	Low variability in sales	46.6	Null variability in sales	58.5
	Profitability of 35%	54.2	Profitability of 20%	58.4
All variables	-	17.4	-	94.7

Source: created by the authors based on INEGI (2016c)
SPSS 24.0 was used for statistical analysis

For case 1-2, Table 4 shows that using accountant services, not self-consuming company goods (in line with Hayes et al., 2015, regarding the management of inputs), increasing the proportion of men in the workforce (gender inequality), being the entrepreneur's priority work activity, increasing the number of employees, and being more flexible in the operation (e.g., by outsourcing the economy), can be

associated with a 61.3% probability that the entrepreneur will establish a second business location in the short term.

Table 4
Probabilities of moving from 1 to 2 establishments at the limit of the relevant range of the regressor variables

Variables evaluated at the boundary	Lower limit of the range	Prob. (%)	Upper limit of the range	Prob. (%)
	One employee	2.9	Two employees	6.2
	50% male employees	5.3	100% male employees	7.5
Each variable, evaluating the rest on the mean	Secondary employment	1.5	Primary employment	6.6
	No accountant services	4.2	Yes accountant services	14.2
	Yes self-consumption	3.7	No self-consumption	9.6
	One year in operation	5.1	Half a year in operation	11.7
All variables	-	0.4	-	61.3

Source: created by the authors based on INEGI (2016c)
SPSS 24.0 was used for statistical analysis

Finally, the probabilities of moving to the higher category, calculated on the mean values of the variables, are 55.9% for the 0-1 case and 5.3% for the 1-2 case. The divergence between these probabilities, together with the exploratory statistics and the results of the significance and sign analysis in both models constitutes sufficient evidence not to reject the hypothesis that the growth possibilities of the informal microenterprise, although they may be associated with its results, would also be associated with the promoter's initial conditions, structure, and vision.

Conclusions

In recent years there has been a clear trend in the measures taken by Latin American governments to strengthen financing and technical assistance programs that promote the creation, development, and consolidation of microenterprises. The objective of the above is that these measures may serve as a mechanism for depressurizing the labor market and stimulating the economy. Nevertheless, the reality is that, beyond the fact that entrepreneurship may have good short-term economic-financial results, very few of them end up expanding and showing some of the supposed benefits, such as the generation of employment, the payment of taxes and social charges, participation in local development, and the promotion of economic competition, among others.

With information from INEGI (2016c) and through the estimation of Logit models, this paper studies, for informal low-value-added enterprises, the impact of different variables related to their management and results to provide empirical evidence that contributes to identifying the effect on

expansion decisions of, on the one hand, the management and commitment of the owners and, on the other hand, business performance.

Although there are many good reasons for wanting to make a business grow, managing this process alone is a challenge that does not always enter into the plans of those who, at some point, started a microenterprise project. This study showed that establishing the first commercial establishment and moving on to a second establishment (often understood as sequential elements within an inertial process of business expansion) are structurally and motivationally different decisions.

Although many characteristic elements of informal microenterprises are not sensitive to time in operation (which in part demonstrates the limitations of expansion that they present), there are factors related to management and commitment, and not only those related to results, capable of explaining this growth process. In any case, it should be considered that the future vision in these ventures seems to be largely driven by short-term economic needs and limited by cultural aspects and a variety of prejudices about what business operation, formality and social and institutional relations represent.

It cannot be concluded that the main trigger for microenterprise expansion is good performance or time in operation. The relations of these variables with growth are weak or non-existent, as well as structurally different depending on the nature and size of the business. This relation could be linked to the contrast between subsistence and accumulation enterprises, whereby the latter has a greater growth potential than subsistence microenterprises whose objectives are aimed at family security or maximizing income or installed capacity.

Authors such as Rivera (2018) believe that informal entrepreneurship, in whose growth the owner's commitment plays a significant role, as shown in this paper (reinforcing the point of view of works such as Forth and Bryson (2018), should be supported through long-term policies that consider the provision of credit and even social assistance. In any case, this should take place in suitable conditions for the scale of business and the education and training received and be accompanied by an environment that favors greater dedication to entrepreneurship with a view to its professionalization.

The effect of these policies on welfare will depend on the clarity of those responsible for their design and implementation regarding the type of success they want to promote through intervention (Garoma, 2012), which involves identifying the motivations of this sector and recognizing that if the aim is to formalize, consolidate and expand the companies that were born as informal (and possibly self-employed), boosting good economic performance, although useful, may not be enough.

It will be necessary to explore further the nature and purposes of these ventures and thus avoid the temptation to fall into generalizations that lead to inaccurate conclusions about their true potential for expansion. Future work in this line of research should consider the inclusion of variables that serve to adjust the model, such as gender, formality status, and income level by geographic area, as well as others

that more directly reflect the results of the entrepreneur's efforts, which, due to various limitations that arose during the study, it was not possible to incorporate.

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