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# Behavioral Patterns That Influence the Financing Choice Models of Small Enterprises in Ecuador through Latent Class Analysis

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**Abstract:** The presence of small enterprises in developing countries makes new information on these enterprises substantially valuable for these countries. Governments have put forward numerous action plans and public policies to improve access to external credit. However, despite all technological advances, there are still situations linked to the theory of asymmetric information between lenders and borrowers, which influences the granting of financing. Under this premise, the present research uses latent classes to analyze the financing decision behavior patterns of 1033 business owners who faced the financing process and the constraints faced by lenders based on the asymmetric information theory. The results allowed the construction of a model that identified five profiles of trust in financial institutions among entrepreneurs that affected their financing decisions.

**Keywords:** financing decision; entrepreneurship; latent classes; criteria for decisions; information asymmetry



**Citation:** Feijó-Cuenca, N.; Ceular-Villamandos, N.; Navajas-Romero, V. Behavioral Patterns That Influence the Financing Choice Models of Small Enterprises in Ecuador through Latent Class Analysis. *Sustainability* **2023**, *15*, 6790. https://doi.org/10.3390/su15086790

Academic Editor: Gaetano della Corte

Received: 10 February 2023
Revised: 23 March 2023
Accepted: 6 April 2023
Published: 18 April 2023



## 1. Introduction

Small enterprises play a fundamental role in economic dynamization worldwide by ensuring sustainable growth, job creation, and the reduction of income inequality and poverty. According to data published by the Economic Commission for Latin America and the Caribbean (ECLAC), they constitute "around 99% of all enterprises and employ around 67% of all workers". However, their contribution to the gross domestic product (GDP) is relatively low due to their fragile structure [1]. The relevance of this economic agent has motivated several governments, including the Ecuadorian government, to opt for numerous action plans and public policies aimed at supporting the competitiveness of SMEs, especially in accessing external credit [2]. Therefore, small enterprises face several obstacles in both developed and developing countries [3].

The appropriate channeling of resources, which is linked with the balance that should exist between the participation of public and private administration in the impetus for entrepreneurship, has become a constant challenge in public policy [4]. However, the resources managed for Latin America through philanthropic organizations and donor countries have been reduced over the last few decades, in in addition to the creation of funds and other traditional financing mechanisms [5]. Despite having an important role in the projection of the social, economic, and productive growth of countries [6], these funds and mechanisms have decreased.

According to De-Pablos-Heredero et al. [7,8], most of the microenterprises in developing countries are small-scale and have a family structure, with low levels of technology adoption and competitiveness. The lack of technological innovation in small firms is due to multiple factors, such as their low dimensions, poor financial capabilities, lack of

support for technology adoption, poor structures, risk aversion, and misalignment between technological improvements and firm objectives, among others. In this sense, the lack of financing compromises competitiveness in different aspects, leading to a decrease in growth, technological improvement, capacity for innovation, and access to markets, among others [9]. Microcredit is an opportunity for business empowerment and a tool for promoting economic development in various socioeconomic contexts [10,11]. Therefore, the motivation of this research was to deepen the knowledge of the reasons for why an entrepreneur chooses how to finance their micro-enterprise [10].

In Latin America and the Caribbean, the primary sources of financing are informal circuits (family, friends, neighbors) and formal circuits (banks, cooperatives, and others), whose conditions regarding time, interest rates, and qualification requirements for accessing credit are challenging to meet for self-employed or small business managers [11]. They are often compelled by necessity to initiate their enterprises with limited administrative knowledge and human resources. These limitations, in turn, cause them to depend on informal moneylenders, who, in many instances, impose higher interest rates. This scenario clearly demotivates them [12].

In recent years, several countries have conducted studies by using different research approaches related to the investment and financing decisions of small firms [13], information asymmetries and capital structure choices in firms [14], and financing decisions towards formal and informal lenders [10,15]. Each investigation highlights the perspectives of providers and claimants, and it is possible to observe the situation in relation to the theory of asymmetric information between moneylenders and debtors due to the unequal information available to both parties. This can lead to adverse selection and risks in trust [16–20].

Despite the difficulties and challenges constantly faced by small industries in obtaining financing [21], the report by SUPERBAN [22] indicated that the volume of loans granted to the SME sector barely accounted for 5% of the total loans granted, a percentage that dropped to 3% by 2020, which motivated us to consider what resources of capital are provided to Ecuadorian SMEs and what the reasoning that underscores financial decisions is.

The primary aim of this study is to analyze the behavioral patterns that impact the financing decisions of small enterprises in Ecuador while considering both formal and informal financing options and using latent class analysis [23]. Additionally, this study seeks to identify the reasoning that influences the choice of financing sources by entrepreneurs, the barriers faced during the financing process, and the perceptions of and trust towards financial institutions [10].

The latent class methodology in this study focuses mainly on financing decisions to explain the heterogeneity in the response profiles of business owners and to determine the probability of an individual's membership in observable classes or clusters [23]. The analysis considers the sources of capital reported by respondents for the operation of businesses, as well as the reasons that entrepreneurs find for not applying for financing, which, in turn, allows us to explore whether they intend to approach formal and informal investors.

This study focuses on characteristics that have not been previously researched in Ecuador, and they are relevant for outlining effective strategies to promote and strengthen the small business sector. This is crucial for both the public and private administration, especially in light of the necessary process of economic and social recovery after COVID-19.

### *1.1. The Financing Decisions of Entrepreneurs*

Several approaches to the timelines of business decisions have been developed, especially those associated with the performance of large companies or publicly traded organizations [24]. One of the aspects closely linked to business performance revolves around the financing decisions that may be made by firms—in particular, smaller firms that are perceived as borrowers with high levels of risk [25].

The literature has tried to explain entrepreneurs' financing decision processes in terms of the financial hierarchy structure [26]. Previous studies have analyzed the social

networks of entrepreneurship and the use of external funding resources from a gendered perspective [27]. In other cases, financing has been analyzed from the perspective of technology companies, where the government is a relevant source of financing in the initial stages of company formation, with research grants, credit cards, and salaried entrepreneurs' own investments as the options that are most commonly used by this segment [28].

Other studies have elaborated on the decision processes of small firms concerning formal and informal lenders [15], on the information provided by creditors, and on the investment practices that small firms have adopted. This study also examined the information provided by creditors and the investment practices that have been used to categorize firms as "good" or "bad" [13]. Specifically, the literature distinguishes four groups of firms based on individual, organizational, and contextual factors: (1) those that use external finance, (2) those that use only informal finance, (3) those that use only formal finance, and (4) firms that use both [10].

### *1.2. The Funding Dilemma*

Times of crisis tend to affect small businesses much more than large ones, especially because of the substantial drop in demand for goods and services. The knock-on effects of this impact have a direct impact on the non-fulfillment of financial commitments to financial institutions and suppliers, which affects the economic stability of small businesses [29].

There are many constraints faced by SMEs that rely on external financing, such as having more conservative accounting reports, internationalization, the profile and characteristics of the entrepreneur, the characteristics of the company, and future solvency [30,31]. These constraints also include informality, a lack of their own infrastructure, a lack of collateral or several guarantees, and low credit ratings [32]. Other factors that the literature points out as key in the financing process are the lack of intangible assets, such as human capital and access to networks, reputation, or legitimacy, as necessary factors for achieving value creation [33].

The business literature highlights the perceived lack of transparency due to asymmetric information between entrepreneurs and finance providers as the main difficulty in obtaining financing [34]. The restricted amount of information that business owners can disclose to lenders during the financing process affects the cost. The reason for these increases is based on the perception of risk. Once a loan has been granted, there is no agreed-upon guide for action between the lender and entrepreneur to ensure the minimum returns to repay the financing, but rather, it is the entrepreneur—based on the economic context—who decides and applies the management that is considered most appropriate, and there is a possibility that companies take excessive commercial risks [25,35].

When entrepreneurs seek to obtain financing from formal lenders, the information asymmetry between the two groups can be exacerbated by basing lending on information obtained from the management and quality of other projects, which may be incomplete information [25,36,37]. Informal lenders have interpersonal relationships with entrepreneurs, which can result in an advantage over formal lenders. This connection makes it easier for informal lenders to obtain additional information from the entrepreneurs related to their business activities, including aspects such as motivation, personality, and the capacity of the entrepreneurs, among others, which they consider when making their financial decisions [38]. These characteristics of the information flows between informal lenders and entrepreneurs mean that the information asymmetry between the two can be mitigated.

This article focuses on the factors that influence the credit decisions of a group of micro- and small entrepreneurs in the province of Manabí, Ecuador by analyzing the basic determinants of their main sources of financing.

**Hypothesis 1 (H1).** *Their own funds were the source of financing most commonly used by microenterprises.*

**Hypothesis 2 (H2).** *Microenterprises are extremely vulnerable and, consequently, showed aversion to assuming financial risks*.

**Hypothesis 3 (H3).** *In relation to the motivations and modes of financing, the microenterprises showed heterogeneous behavior*.

Hypothesis 1 relates to the financing sources that are most commonly used by microenterprises, which is relevant to the focus on the financing choice models of small enterprises. Hypothesis 2 relates to the vulnerability of microenterprises, which can be a behavioral pattern that influences financing choices. Hypothesis 3 relates to the heterogeneous behavior of microenterprises in terms of financing motivations and modes, which is also relevant to the focus on behavioral patterns than influence financing choices.

## 2. Materials and Methods

### *2.1. Study Area*

Ecuador is a country with an economy that is predominantly driven by small and medium-sized enterprises (SMEs). These businesses represent an important engine for economic growth and job creation in the country [39]. SMEs in Ecuador span a wide variety of sectors, from agriculture and manufacturing to services and technology. These businesses exhibit the distinctive features of this type of economic entity based on their sales volume, social capital, number of employees, and level of production or assets [40].

This study focuses on micro- and small entrepreneurs in Manabí, a coastal province located in the west of Ecuador. The survey questionnaire was administered in commercially active areas of the 22 municipalities of the province (Figure 1). With a projected population of 1,562,079 people by 2020, Manabí is one of the most populated provinces in the country [41].

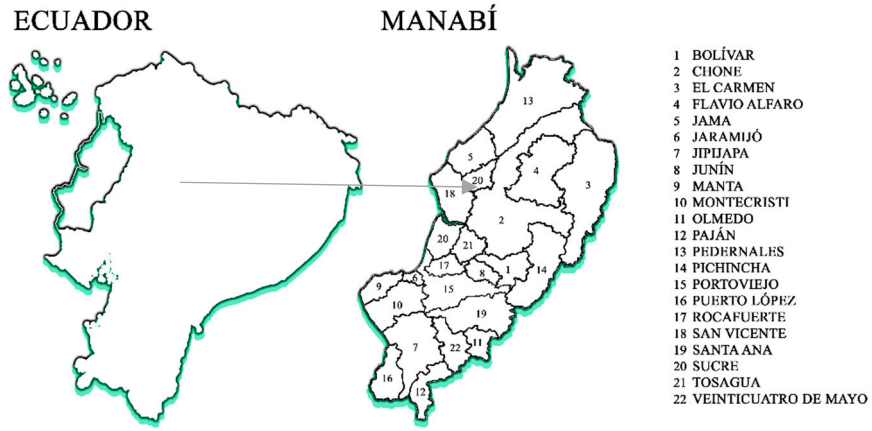


**Figure 1.** Location of Manabí province and its 22 municipalities.

Manabí is a province that is very fertile for the production of coffee, cocoa, plantains, corn, tropical fruits, and vegetables, in addition to its potential for cattle raising and fishing due to its proximity to the sea [42]. Its landscapes and geographical characteristics make its economic activities more outstanding, especially in the agricultural, commercial, and tourist sectors [43]. Despite these potentialities, complementary aspects, such as limited access to basic services, especially in rural zones, influence an impoverished environment for life in the countryside [44].

The small-scale agricultural, cattle-raising, and fishing activities produce daily income in the rural zones and are the main source of the supply of consumer goods in the local markets, where it is possible to appreciate gastronomic and craft entrepreneurship [44]. In the urban zones, the commercial field is characterized by small business establishments in which grocery stores, stationery, clothing stores, bars, ice cream shops, beauty centers, handmade crafts, and more can be observed. The improvised construction of these establish-

ments has been a product of the necessity of generating resources for the sustainability of the family economy. It is worth mentioning that in Manabí, entrepreneurship, autonomous jobs, self-employment, and the familiar aspect constitute the strongest impulses and the basis of the province's own business generation [45].

For the selection of the sample, the database of the Instituto Ecuatoriano de Estadísticas y Censos [41] was used based on the consideration of 76,712 companies registered in the province of Manabí, of which 25,479 microenterprises were focused on commercial activities. The sample that was obtained contained 1033 units of data collected during 2020 (Table 1); the random application was defined according to the volume of records reported in each of the municipalities [46]. There was a certain degree of heterogeneity in the data, which suggested the presence of different subgroups within the sample, with certain predominant patterns.

**Table 1.** Sample data.

| *Items* | *Sample* |
|---|---|
| *Total of thecompanies registered in Manabí* | 76,712 |
| *Microenterprises dedicated to local commerce* | 25,479 |
| *Sample* | 1033 |
| *Error range* | 3% |
| *Range of trust* | 95% |

To ensure the validity of the survey, a pilot model was used to verify the internal consistency of the selected instrument, which led to the determination that a closed questionnaire was the most appropriate in relation to the research objectives. After the implementation, the survey items were evaluated by two groups of experts in the areas of management and employment. By preparing teams of interviewers, the surveys were applied directly and anonymously with the consent of the entrepreneurs who were willing to collaborate for the academic purposes of the research.

The survey included 21 items: 5 socioeconomic items (age, gender, among others) and 16 items related to sources of funding (Tables 2 and 3). The variables for the sources of funding were evaluated by using a Likert scale in this study. A Likert scale metric was used, ranging from 1 (not important) to 5 (very important). In this case, the intervals between the points on the scale corresponded to empirical observations in the metric sense. Each equidistant point on the visual scale was associated with a level of response based on empirical observations in the metric sense [47,48] The reliability of the questionnaire was verified by using Cronbach's Alpha, and a value greater than 0.7 was considered acceptable to confirm the internal consistency. The full survey showed a Cronbach's Alpha of 0.83.

**Table 2.** Specific descriptions of each variable used in the research.

| **Variables** | **Description** |
|---|---|
| **Sources of financing** | |
| **Personalsavings/relatives of the owner** | Funded the business with personal savings or funding from relatives. |
| **Personal assets/relatives of the owner** | Funded the business with personal assets or funding from relatives. |
| **Loans with mortgages from relatives** | Looked for formal loans with personal guarantees or funding from relatives. |
| **Credit cards** | Formal loans obtained through credit cards |
| **Commercial loans awarded by the government** | Formal loans obtained from public institution. |
| **Commercial loan from a bank or financial institution.** | Formal loans obtained from private institution |
| **Commercial loan from the provincial government.** | Funding or support provided by the provincial government. |
| **Commercial loan/investment from family/friend** | Formal loan or investment made on behalf of a third party. |
| **Investment from a venture capitalist** | Capital received from an organization that specialized in funding startups. |

**Table 2.** *Cont.*

| Variables | Description |
|---|---|
| **Reasons for not having external financing?** | |
| **Not eligible for credit.** | Ineligibility due to failure to meet loan requirements. |
| **Fear of debt** | Anxiety or hesitancy about acquiring financial commitments. |
| **High financial costs.** | Expensive fees charged by financial institutions for loan approvals. |
| **Preferredto reinvest profits.** | Reinvesting profits for business for improvements. |
| **No need for financing.** | No requirement for external financial loans. |
| **Waiting for improvementinfinancing conditions.** | Waiting for better terms of offers for financial loans. |
| **Waiting for business maturity.** | Waiting for the company to achieve profitability and stability. |

**Table 3.** Sociodemographic profile of the entrepreneurs.

| Variables | Categories | Description |
|---|---|---|
| **Age** | Young: 18–29 years old<br>Adults: 30–69 years old<br>Older adults: >70 years old | Age of the business owners. |
| **Sex** | Male<br>Female | Sex of the business owner. |
| **Level of education** | Could not read or write<br>Completed elementary school studies<br>Completed high school studies<br>Completed university studies<br>Completed technical studies<br>Completed master and post graduate studies<br>Completed doctoral studies | Level of academic training received by the surveyed business owner. |
| **Operating time** | Under 3 months<br>3–6 months<br>6–12 months<br>1–2 years<br>2–5 years<br>More than 5 years | Years of business activity |
| **Customers** | 1–10 customers<br>10–50 customers<br>50–100 customers<br>More than 100 customers | Number of customers that visited the business daily. |

Note: Sociodemographic information was part of the survey applied to the commercial micro-enterprises in all of the municipalities of Manabí province.

### *2.2. Latent Class Analysis as an Analytical Procedure*

Latent class analysis (LCA) was applied to test the behavioral patterns with respect to the sources of financing for small enterprises. LCA is an empirically based statistical approach that is used to account for heterogeneity in response profiles in terms of underlying latent classes [49]. According to this approach, patterns of funding behavior were the result of underlying (latent) classes. That is, unobserved class membership was reflected and, thus, indicated in observable financing behavior. LCA estimates the probability of an individual's membership in each latent class [23].

A series of LCA models were estimated by starting with a one-class solution and adding an additional class in each successive model. Multiple random initial values (500 and 250 sets, respectively, for initial- and final-stage optimization) were used to verify the model stability and model identification. Models that estimated an increasing number of classes were compared by using multiple fit statistics, including Akaike's information criterion (AIC), the Bayesian information criterion (BIC), the sample-size-adjusted BIC

(a-BIC), and $R^2$ entropy (Table 4). In addition to comparing the absolute values of the AIC, BIC, and a-BIC among the solutions, the relative decrease in these values in successive models was also considered by following an approach used by Foti et al. [50], in which fit statistics were plotted to identify where the decline in values stabilized. A strong emphasis was also placed on the interpretability of the solution given previous theories and research. All models were estimated in Latent Gold 5.1 [51].

**Table 4.** Statistical fit for the latent class models that were explored.

| Models | No. of Classes | LL | BIC | AIC | CAIC | NPAR | ERROR | $R^2$ |
|---|---|---|---|---|---|---|---|---|
| Model 1 | 1-Class | −207,905,541 | 420,461,031 | 417,151,082 | 421,131,031 | | 0.0000 | 10.000 |
| Model 2 | 2-Classes | −170,695,268 | 352,564,294 | 344,610,536 | 354,174,294 | | 0.0007 | 0.9971 |
| Model 3 | 3-Classes | −153,274,617 | 324,246,801 | 311,649,234 | 326,796,801 | 255 | 0.0033 | 0.9920 |
| Model 4 | 4-Classes | −144,384,975 | 312,991,327 | 295,749,951 | 316,481,327 | 349 | 0.0031 | 0.9933 |
| Model 5 | 5-Classes | −137,491,871 | 305,728,927 | 283,843,741 | 310,158,927 | 443 | 0.0033 | 0.9934 |
| Model 6 | 6-Classes | −134,194,935 | 305,658,865 | 279,129,870 | 311,028,865 | 537 | 0.0034 | 0.9942 |

Note: Log likelihood (LL), Bayesian information criterion (BIC), Akaike's information criterion (AIC), Akaike's corrected information criterion (CAIC); model complexity (NPAR); classification error (ERROR); $R^2$ entropy.

## 3. Results

Regarding the sample, most of the respondents were adults between 30 and 69 years old (61.4%) and were predominantly male (58.2%); they had predominantly completed secondary or university education (82.5%), had more than 5 years of business operation (56.4%), and had a frequency of between 10 to 50 customers per day (45.1%).

Latent class analysis (LCA) was used to test a range from a one-cluster model to a six-cluster model. The classes were freely estimated without equality restrictions. Each of the variables investigated described the source of capital used to start the entrepreneurial activity (personal savings, personal assets, mortgage loan, credit cards, government loans, commercial loan, provincial government loan, family/friends loan, venture capital investment) and the reasons for not applying for financing (not being creditworthy, fear of debt, high financing costs, preferring to reinvest profits, not needing financing, waiting for improved financing conditions, waiting for business maturity). LCA grouping variables, including gender and age, were included as grouping variables, while the level of education, length of business operation, activity previously engaged in, and number of customers per day were included as covariates.

Table 4 shows the fitting of several models containing between one and six classes. The one-class model was used as a baseline model for the other models. According to the indicators obtained and the model validation, the five-class model was selected.

As shown in Table 4, the LL (log likelihood) dramatically decreased. The BIC index decreased from one class to six classes, and the AIC (Akaike's information criterion) decreased from one class to six classes, but the CAIC (Akaike's corrected information criterion) decreased from one class to five classes and increased from five classes to six classes, indicating that the five-class model best represented the behavior in the respondents' profiles.

The $R^2$ values were quite similar for all models, and that obtained for the five-class model was 0.99. The classification error for the five-class model was 0.33%, which was satisfactory. As a result, according to Chung et al. [52], the five-class model was selected as the best-fitting model in an attempt to strike a balance between parsimony (simpler models were preferred), fit (the CAIC index decreased from the one-class model to the five-class model and increased from the five-class model to the six-class model (a lower value is associated with a better fit of the model to the data)), and interpretability.

In the Appendix A, one can observe the estimated parameters for each of the five classes. Class 1 was composed of 43.08% of the participants, Class 2 was composed of 29.29% of the participants, Class 3 was composed of 11.37%, Class 4 was composed of 8.46% of the participants, and Class 5 was composed of the remaining 7.8%. Except for age and

gender, all other indicators were significantly discriminative in the model because the Wald test was significant in all cases.

Table 5 shows that of the four covariates used in the model, three of them discriminated very well as explanatory variables of the classes, since the Wald test was significant. These variables were time in business and number of customers/days, while the level of education did not work as an explanatory variable for group composition.

**Table 5.** Estimated parameters for the covariances of the five-class model.

| **Class Sizes** | **C1** **0.4308** | | **C2** **0.2929** | | **C3** **0.1137** | | **C4** **0.0846** | | **C5** **0.0780** | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Indicators** **Covariates** | | **z-Value** | | **z-Value** | | **z-Value** | | **z-Value** | | **z-Value** |
| Level of education | | | | | | | | | | |
| 1. Could not read or write | 0.0067 | 0.3157 | 0.0066 | 0.3110 | 0.0000 | −0.1084 | 0.0000 | −0.1383 | 0.0000 | −0.0420 |
| 2. Completed elementary school studies | 0.1818 | 0.0649 | 0.1584 | −0.4085 | 0.0681 | 0.0698 | 0.0803 | −0.0327 | 0.1011 | 0.0861 |
| 3. Completed high school studies | 0.5858 | −0.0204 | 0.5392 | −0.6325 | 0.5691 | 0.1621 | 0.5980 | 0.0411 | 0.6215 | 0.0965 |
| 4. Completed university studies | 0.2078 | −0.0777 | 0.2759 | −0.6143 | 0.3031 | 0.2219 | 0.2988 | 0.0361 | 0.2649 | 0.0838 |
| 5. Completed technical studies | 0.0089 | 0.0696 | 0.0133 | −0.2101 | 0.0597 | 0.5020 | 0.0115 | 0.1225 | 0.0000 | −0.3721 |
| 6. Completed master and post-graduate studies | 0.0090 | 0.2053 | 0.0033 | −0.4037 | 0.0000 | −0.3430 | 0.0115 | 0.2939 | 0.0124 | 0.4021 |
| 7. Completed doctoral studies | 0.0000 | −0.1287 | 0.0033 | 0.3201 | 0.0000 | 0.0001 | 0.0000 | −0.0221 | 0.0000 | 0.0033 |
| Operating time | | | | | | | | | | |
| 1. Under 3 months | 0.0135 | −13.520 | 0.0330 | 17.149 | 0.0172 | −0.2031 | 0.0229 | 0.5023 | 0.0124 | −0.2746 |
| 2. 3–6 months | 0.0335 | −12.468 | 0.0333 | −16.553 | 0.1272 | 19.417 | 0.0352 | −10.584 | 0.0745 | 17.692 |
| 3. 6–12 months | 0.0999 | 36.204 | 0.0546 | 0.3553 | 0.0341 | −0.8429 | 0.0458 | 0.5297 | 0.0124 | −13.230 |
| 4. 1–2 years | 0.0979 | 0.4610 | 0.0972 | 0.2257 | 0.0853 | −0.9255 | 0.1031 | 0.2344 | 0.0745 | 0.1851 |
| 5. 2–5 years | 0.1672 | −20.357 | 0.2036 | −0.9833 | 0.3319 | 16.477 | 0.2064 | −0.3747 | 0.2360 | 0.7840 |
| 6. More than 5 years | 0.5881 | 11.636 | 0.5783 | −10.672 | 0.4043 | −0.8579 | 0.5865 | −0.0593 | 0.5902 | 0.6608 |
| Daily number of customers | | | | | | | | | | |
| 1. 1–10 customers | 0.2514 | 29.444 | 0.1323 | −17.548 | 0.1959 | 27.803 | 0.1147 | −12.347 | 0.0998 | −17.627 |
| 2. 10–50 customers | 0.4264 | −0.8520 | 0.4497 | −15.259 | 0.5408 | 23.955 | 0.4949 | −0.1044 | 0.4150 | −0.9993 |
| 3. 50–100 customers | 0.2015 | −10.465 | 0.2256 | 0.7781 | 0.2381 | 13.060 | 0.2071 | −0.1164 | 0.1739 | −10.203 |
| 4. More than 100 customers | 0.1207 | −11.369 | 0.1924 | 21.007 | 0.0252 | −33.705 | 0.1833 | 15.283 | 0.3113 | 41.221 |

This article focuses on the factors that influence the credit decisions of a group of entrepreneurs in the province of Manabí, Ecuador by analyzing the basic determinants of their main sources of financing in this regard. In this sense, the sources of capital used and the reasons for not applying for financing were revealed as key variables for the research. The statistical procedure used in this study allowed the entrepreneurs to be classified into different groups or clusters based on their behavior in relation to these variables.

Through the latent classes, it was possible to differentiate five clusters based on the financing decisions of the enterprises by means of the profile indicators, which allowed a vertical intra-class and ProbMeans analysis, whose distribution of proportions in a horizontal way helped to visualize how the groups reacted (H3). In this way, it was possible to establish a first cluster that grouped 43% of the respondents, who were labeled as "skeptics". Here, they had the profile of entrepreneurs who were fearful of the requirements and regulations associated with financing and who preferred to reinvest their profits rather than take on debts with high interest rates or undergo rigorous procedures, with their personal savings being their main source of financing.

A second cluster, which was made up of 29% of the sample, was identified with "dismissive" patterns because, despite being aware of the existing forms of financing in the environment, whether public or private, they disagreed with them and preferred to stay away from them and rely solely on their personal savings.

The third cluster (11%), which showed "bold" patterns, denoted a profile with a greater predisposition toward taking risks, showing that they found an option to boost their businesses in credit organizations (public or private).

Among the financing options that were used, mortgage loans, commercial loans, pledges, and aid through government programs stood out.

The cluster of "improvisers", which ranked fourth (9%), identified those who started their businesses with limited resources of their own and, despite understanding little about the dynamics of the financial market, were not interested in learning. With limited growth prospects, their main focus was on their day-to-day work.

The fifth cluster grouped together 8% of those who were surveyed and was made up of people with a "weak" profile, who were motivated by necessity to invest their available economic resources in their micro-enterprises. They knew that they were not eligible for credit and saw public or private banks as a fairly distant option due to the impossibility of complying with the countless requirements necessary for accessing credit, so they hoped that the situation would improve and that, as they gained maturity in the business world, they could consider the option of investing more resources in their enterprises through formal mechanisms.

Demographic variables such as gender, age, and level of education were not relevant to the financial decision-making behavior of entrepreneurs, but time in operation and number of customers per day were also not, which supports the fact that small businesses, because of their size, end up sharing the same identity as their owners.

By linking time in the market (experience) with both formal (banks, cooperatives, government) and informal (family, friends, neighbors, etc.) types of financing, the judgment of formal investors needs to be highlighted, as they see entrepreneurs' experience to reduce moral hazards. In other words, small entrepreneurs can use their experience as support for attracting formal investors [53,54]. However, for informal investors, experience is a much weaker indicator of an entrepreneur's competence, and the social ties between them are more highly valued [54].

The performance of businesses is generally reflected in their turnover, although this is a little-analyzed aspect; it was considered because it denotes not only the economic movement of a company, but also its relationship with customers, the level of acceptance and trust, which can contribute to the growth curve, and the stabilization of an organization [55].

According to the research, "experience" is highly valued by formal lenders, for whom this characteristic is linked to the reputation of a firm, while "sales volume" denotes an organization's capacity to guarantee a return on investment. As the entrepreneurial sector does not have properly systematized information, it is inclined to look for informal lenders, as could be seen in four out of the five categories that were determined (skeptics, dismissive, improvisers, weak), with only 11% of entrepreneurs being categorized as bold by opting for more formal systems.

For many entrepreneurs, the growth of their businesses becomes utopic due to the number of financial resources that must be invested to generate true innovation and provide added value to the products or services offered. However, having financing to promote entrepreneurial activity and strengthen small and medium-sized businesses in various aspects, which is essential for their operational success, requires transparency in the administrative, operational, and financial information of businesses to guarantee lenders a return on investment [56].

## 4. Discussion

Entrepreneurship financing varies in Latin America and depends on many factors, such as market size, economic stability, and the business culture in each country. In general, some of the countries in which entrepreneurship is most financed are Brazil, Mexico, Chile, Colombia, and Argentina [57]. These countries have a range of government and private programs that provide financial support to entrepreneurs, including subsidies, loans, capital investments, and business accelerators. Additionally, these countries have mature entrepreneurial ecosystems and greater access to international investors and markets. However, entrepreneurship is also growing in other countries in the region, such as Peru, Costa Rica, and Uruguay, which are making significant efforts to promote innovation and entrepreneurship in their economies [1].

In Ecuador, financing for entrepreneurship is a constantly evolving topic. Over the last few years, various initiatives have been developed to support entrepreneurship and facilitate access to financing for entrepreneurs. In this regard, there are different financing options, such as bank loans, investment funds, business accelerators, and government programs that support entrepreneurship [58].

However, access to financing remains a challenge for many entrepreneurs, especially those in the early stages of their business or with a higher risk profile. Therefore, the Ecuadorian government and various private organizations have worked on creating specific programs and funds for entrepreneurs in order to promote economic development and innovation in the country [57].

The study discussed in this research article focused on the financing decisions of entrepreneurs in Latin America, with a special focus on Ecuador. Unlike in studies that have analyzed financing decisions in publicly traded organizations [24], the size of the companies [25], the structure of the financial hierarchy [26], the uses of social media and external resources based on gender [27], technological companies [28], small companies and formal and informal lenders [15], creditors' information and investment practices [13], and types of financing used (external, formal, and informal) [10], this study identified the patterns that affect the financing decisions of entrepreneurs from their declared sources of capital and the reasons for why they decided not to apply for loans.

One key finding of this study was related to hypothesis H1, which suggested that microenterprises mainly rely on their own funds as a source of financing. The research results shed light on this hypothesis by revealing that a significant proportion of microenterprises in the studied clusters relied on informal loans, and a large number of these loans were related to personal savings. This finding is consistent with the research conducted by Lasio and Zambrano [59], who found that a large majority (94%) of entrepreneurs in Latin America relied on their own savings to finance their activities. In Ecuador, the percentage was even higher, with 98% of entrepreneurs using their own savings to finance their businesses.

Therefore, the research results support the hypothesis that microenterprises rely heavily on their own funds—particularly their personal savings—as a source of financing. It is crucial to note that informal loans, despite technically not being considered one's "own funds", are often closely linked to personal savings and can represent a form of self-financing for microenterprises. These findings highlight the importance of personal financial management skills for microentrepreneurs, as well as the need for policies and programs that can help them access formal financing options to reduce their dependence on informal financing sources.

On the other hand, regarding hypothesis H2, which suggested that microenterprises are highly vulnerable and, as a result, tend to avoid taking financial risks, the research findings provided insight into this hypothesis by revealing that a significant proportion of microentrepreneurs, particularly those in clusters 1 (43%) and 2 (29%), displayed a skeptical attitude towards assuming financial risk. These microentrepreneurs expressed fear of the burden of debt and the high costs associated with financing. They preferred to reinvest their profits instead of taking out credit. This was because they did not need financing, because they expected better credit conditions, or because they wanted to reach business maturity before assuming such risks.

The results support the hypothesis that microenterprises are vulnerable and tend to avoid taking financial risks, particularly in the context of groups 1 and 2. The skeptical and dismissive attitudes of these groups towards financial risk suggest that microenterprises may not trust their abilities to manage debt and may avoid committing to long-term financial obligations. Additionally, their preference for reinvesting profits suggests a focus on short-term profits rather than long-term growth.

The findings underscore the need for policies and programs that can help microentrepreneurs manage risk and access affordable financing options. Such initiatives could include financial education programs to help microentrepreneurs better understand the

costs and benefits of different financing options, as well as incentives for lenders to provide more favorable credit conditions to microenterprises. By addressing the vulnerabilities faced by microenterprises and empowering them to take manageable levels of financial risk, policymakers can help promote the growth and development of these crucial economic actors.

As a result of this research, it is also possible to highlight that the patterns identified as "audacious" in cluster 3 (11%) represent the entrepreneurial spirit characterized by an attitude towards risk and denote optimism about the opportunities that can arise from failure. This group of entrepreneurs constitutes an important segment for the allocation of seed capital and strengthening and growth programs, as they trust the financial system and have a predisposition toward taking risks. As shown in [34], Cluster 5 (8%), with entrepreneurs that predominantly displayed "weak" patterns—mostly represented by women—showed the limitations of this group in accumulating savings or generating credit histories, which made them unattractive to lenders [60]. This aspect corresponds to the finding referred to by Cliff [61], whose research exposed that the maximum size to which women preferred to expand their businesses was smaller in relation to that of their male counterparts. The figure of the female entrepreneur stands as a representative of the balance between the businesswoman managing her business and the woman who is responsible for projecting the family as a cell on which society is built. In this scenario, the Ecuadorian government and non-governmental organizations are executing business development programs with a focus on leadership and female empowerment, which are still in progress and need to be strengthened. The current characteristics of small businesses affect the possibility of obtaining financing from formal sources for amounts that could be representative of the improvement of the productive capacities of companies. Commercial information represents a fundamental tool for formal investors or lenders to more transparently visualize the performance of each organization and adequately evaluate the reputation and experience of a firm.

From this perspective, the traditional financing approach is far from the answer that entrepreneurs currently require to boost their activities, especially when managing the risk of financing projects under information asymmetry is more frequent in small organizations and directly affects them. The pandemic caused by COVID-19 has exacerbated the economic conditions, threatened household stability, and increased inequalities. During the second half of 2020. the repercussions for the unemployment and participation rates were greater in several countries in the region, especially in countries such as Ecuador, which was recovering from an earthquake. In this regard, the evaluations by ECLAC and ILO anticipate a high impact of the pandemic on economic activity [62].

In summary, the establishment of economic policies aimed at promoting savings, efficiency in tax management, and the consolidation of a robust financial system with broad and inclusive credit lines that are intended to serve the most vulnerable sectors are also essential for providing liquidity to small businesses, which may use tools such as financial and non-financial indicators to obtain reliable information, or for reducing the levels of asymmetry and improving access to financing sources through the establishment of private-sector quality certifications [63].

The incorporation of practical and simple business training programs focused on skill development and the promotion of collaboration between entrepreneurs and existing companies is crucial. The simplification of the processes and requirements for accessing credit is also important. The findings of this research highlight the need to define better credit lines that are accessible to entrepreneurs of all ages, as well as to generate greater tax incentives and benefits in order to contribute to formalization and transparency in business administration.

This study may be of interest to researchers and professionals in public or private administrations who need to make decisions on supporting early-stage enterprise management, promote the insertion of new companies into the market, and strengthen existing ones though a more participatory and inclusive society.

## 5. Conclusions

Latent class analysis (LCA) was used to describe the patterns of credit adoption among microenterprises in the coastal zone of Ecuador. Most entrepreneurs used their own funds (70%) as the primary source of financing, showing aversion to external formal financing. Female entrepreneurs were particularly vulnerable to external financing, which added to the gender-related restrictions. Five behavior models were identified: Group 1 (43%) was categorized as "skeptic" and included those were not interested in learning about private financing and relied solely on personal savings. Group 2 (29%) displayed "complacent" patterns, and it included those who were aware of available financing options, but preferred to keep their personal and business finances separate. Group 3 displayed "audacious" (11%) patterns and included those with a greater willingness to assume financial risks by using pledges, commercial loans, mortgage loans, or governmental programs. Group 4 displayed "improvised" (9%) behavior, and it included those who had limited resources, short experience in the market, were not interested in learning, and were limited to subsisting through their daily incomes. Group 5 displayed "weak" (8%) patterns, and it included those who launched their businesses out of necessity, were unable to ask for a loan, and were waiting to gain maturity in the process. Identifying these patterns helps to understand the limitations of the traditional financial approach, which is far from providing the necessary support for entrepreneurs to grow their businesses, especially when the risk management of project financing under asymmetry affects small organizations directly, making them more vulnerable and distrustful of formal loan options.

In the case of this research, the political implications related to financing schemes, training programs, and the establishment of a conducive entrepreneurial ecosystem are highly relevant. For government entities that are promoting entrepreneurship in Ecuador, the findings of this research could be of great assistance in defining policies and support programs for entrepreneurs and businesses. Specifically, it is suggested that it is important to design financing and entrepreneurial training programs that are accessible to entrepreneurs of different ages and education levels. Furthermore, the importance of promoting collaboration between entrepreneurs and existing businesses and encouraging learning and knowledge exchange should be considered. On the other hand, for non-governmental organizations that provide entrepreneurial training programs in Ecuador, the implications of this research are also significant. It is important for these organizations to adopt a training approach that is relevant to entrepreneurs and businesses in terms of their specific needs and challenges. In this regard, it is suggested that entrepreneurial training programs focus on developing practical skills and promoting collaboration between entrepreneurs and existing businesses. In summary, the political and practical implications are relevant to both governmental and non-governmental entities that work to promote entrepreneurship in Ecuador.

The limitations of this study include the fact that the data were obtained through surveys and, therefore, may be subject to response errors and selection bias. The study focused on small businesses and did not consider other external factors that may influence financing decisions, such as macroeconomic conditions or industry-specific factors. Another limitation of this scientific article is that the findings may not be generalizable to other Latin American countries due to potential differences in healthcare systems, cultural practices, and socioeconomic factors. Further research is needed to explore the applicability of these results in other contexts. Finally, this study is cross-sectional and does not provide longitudinal data on how financing decisions may have changed over time.

**Author Contributions:** All authors were involved in developing, writing, commenting, editing, and reviewing the manuscript. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Data Availability Statement:** This is not applicable, as the data are not in any data repository with public access. However, if the editorial committee needs access, we will happily provide the data; please use this email: z62fecup@uco.es.

**Acknowledgments:** The authors thank the ECONGEST AGR267 Group at Cordoba University for their support and mentorship during the data analysis stage.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A

**Table A1.** Estimated parameters for the indicator variables of the five-class model and group size.

| **Class** | **C1** | | **C2** | | **C3** | | **C4** | | **C5** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sizes** | **0.4308** | | **0.2929** | | **0.1137** | | **0.0846** | | **0.0780** | | | | |
| **Indicators** | | **z-Value** | | **z-Value** | | **z-Value** | | **z-Value** | | **z-Value** | **Wald** | ***p*-Value** | **$R^2$** |
| Personal savings | | | | | | | | | | | | | |
| 1 | 0.2820 | 13.820 | 0.2657 | 0.9467 | 0.0003 | −0.7604 | 0.0119 | −0.2860 | 0.0129 | −12.199 | | | |
| 2 | 0.0023 | 0.4872 | 0.0000 | −0.2979 | 0.0000 | −0.1477 | 0.0000 | −0.2292 | 0.2480 | 11.096 | | | |
| 3 | 0.0000 | −0.7194 | 0.0099 | 0.1156 | 0.0255 | 0.6013 | 0.3318 | 10.356 | 0.0249 | −0.1440 | 1.218.014 | $2.5 \times 10^{-18}$ | 0.0713 |
| 4 | 0.0130 | −0.3424 | 0.0437 | −0.0181 | 0.1106 | 0.5614 | 0.1030 | 0.1293 | 0.0745 | −0.9067 | | | |
| 5 | 0.7027 | 0.3134 | 0.6807 | 0.0620 | 0.8635 | 0.3986 | 0.5533 | −0.1760 | 0.6397 | −12.271 | | | |
| Personal assets | | | | | | | | | | | | | |
| 1 | 0.9573 | 30.201 | 0.7754 | 30.854 | 0.0092 | −0.6167 | 0.0015 | −19.809 | 0.0146 | −22.644 | | | |
| 2 | 0.0023 | 0.1581 | 0.0194 | 0.1718 | 0.0001 | −0.6450 | 0.0115 | 0.0266 | 0.6093 | 20.500 | | | |
| 3 | 0.0000 | −0.8018 | 0.0099 | −0.5957 | 0.0327 | 0.6454 | 0.6426 | 22.999 | 0.0620 | 0.3346 | 2.688.900 | $6.8 \times 10^{-48}$ | 0.4686 |
| 4 | 0.0117 | −0.3938 | 0.0756 | −16.249 | 0.3570 | 10.634 | 0.1603 | 0.1384 | 0.2235 | −0.4601 | | | |
| 5 | 0.0288 | 0.0577 | 0.1198 | −12.285 | 0.6010 | 12.504 | 0.1841 | 0.0221 | 0.0907 | −22.576 | | | |
| Mortgage loan | | | | | | | | | | | | | |
| 1 | 0.9820 | 22.961 | 0.9074 | 18.553 | 0.0750 | −0.6264 | 0.0016 | −24.475 | 0.0305 | −0.2950 | | | |
| 2 | 0.0000 | −0.4889 | 0.0227 | 0.4771 | 0.0001 | −0.7883 | 0.0116 | 0.2071 | 0.8326 | 21.941 | | | |
| 3 | 0.0000 | −0.5111 | 0.0034 | −0.5335 | 0.0576 | 0.7424 | 0.9064 | 24.569 | 0.0002 | −0.4969 | 3.952.302 | $3.6 \times 10^{-74}$ | 0.6469 |
| 4 | 0.0023 | −0.4076 | 0.0167 | −20.038 | 0.3655 | 0.8806 | 0.0459 | −0.5280 | 0.1365 | 0.8704 | | | |
| 5 | 0.0156 | 0.7856 | 0.0498 | 0.0908 | 0.5018 | 12.088 | 0.0345 | −0.0542 | 0.0002 | −0.7987 | | | |
| Credit cards | | | | | | | | | | | | | |
| 1 | 0.9797 | 21.390 | 0.9274 | 15.246 | 0.0836 | −0.7359 | 0.0016 | −15.795 | 0.0306 | −0.3740 | | | |
| 2 | 0.0000 | −0.5628 | 0.0128 | 0.0350 | 0.0001 | −0.8454 | 0.0345 | 0.9234 | 0.8573 | 20.339 | | | |
| 3 | 0.0000 | −0.6292 | 0.0133 | −0.0877 | 0.0576 | 0.4890 | 0.9522 | 22.962 | 0.0002 | −0.5898 | 3.976.018 | $1.2 \times 10^{-74}$ | 0.6767 |
| 4 | 0.0023 | 0.0854 | 0.0070 | −0.8388 | 0.4758 | 12.749 | 0.0001 | −0.7052 | 0.1117 | 10.661 | | | |
| 5 | 0.0180 | 0.8373 | 0.0397 | 0.0370 | 0.3830 | 10.269 | 0.0116 | 0.0277 | 0.0002 | −0.7218 | | | |
| Government loans | | | | | | | | | | | | | |
| 1 | 0.9288 | 20.534 | 0.9392 | 20.784 | 0.0093 | −29.884 | 0.0016 | −0.7855 | 0.0282 | −21.285 | | | |
| 2 | 0.0000 | −0.6826 | 0.0000 | −0.4877 | 0.0087 | −0.1316 | 0.0116 | 10.441 | 0.8057 | 20.153 | | | |
| 3 | 0.0113 | 0.0514 | 0.0001 | −0.9058 | 0.1171 | 0.3233 | 0.9865 | 24.463 | 0.0126 | −12.090 | 2.174.734 | $2.3 \times 10^{-37}$ | 0.6350 |
| 4 | 0.0045 | −0.3575 | 0.0199 | 0.6307 | 0.5419 | 13.711 | 0.0002 | −0.5579 | 0.0907 | 0.1744 | | | |
| 5 | 0.0554 | 0.6404 | 0.0408 | 0.7383 | 0.3229 | 0.7086 | 0.0002 | −0.6393 | 0.0627 | −0.3881 | | | |
| Commercial loan | | | | | | | | | | | | | |
| 1 | 0.7288 | 20.592 | 0.6156 | 22.063 | 0.0091 | −0.6695 | 0.0011 | −19.071 | 0.0281 | −14.620 | | | |
| 2 | 0.0000 | −0.3619 | 0.0066 | 0.1494 | 0.0001 | −0.4579 | 0.0229 | 0.6413 | 0.4464 | 15.622 | | | |
| 3 | 0.0000 | −0.6562 | 0.0099 | −0.5239 | 0.1596 | 11.249 | 0.5062 | 19.189 | 0.0126 | −0.6451 | 2.453.796 | $4.6 \times 10^{-43}$ | 0.2352 |
| 4 | 0.0068 | −0.0843 | 0.0530 | −11.582 | 0.5017 | 10.709 | 0.0802 | −0.4318 | 0.1244 | −0.6786 | | | |
| 5 | 0.2644 | 0.8065 | 0.3149 | −0.8876 | 0.3296 | 0.0585 | 0.3895 | −0.4114 | 0.3884 | −12.180 | | | |
| Provincial government loan | | | | | | | | | | | | | |
| 1 | 0.9954 | 0.7856 | 0.9998 | 0.8297 | 0.0770 | −20.583 | 0.0711 | −0.5157 | 0.1269 | −0.0875 | | | |
| 2 | 0.0023 | −0.1908 | 0.0001 | −0.3252 | 0.2181 | −0.4049 | 0.0688 | 0.0240 | 0.8603 | 0.7301 | | | |
| 3 | 0.0001 | −0.6530 | 0.0001 | −0.2037 | 0.5006 | 0.2759 | 0.8486 | 0.7364 | 0.0127 | 0.1184 | 1.454.814 | $6.1 \times 10^{-23}$ | 0.7062 |
| 4 | 0.0000 | −0.2084 | 0.0000 | −0.0279 | 0.1447 | 0.4958 | 0.0115 | 0.3497 | 0.0000 | −0.1602 | | | |
| 5 | 0.0022 | 0.4946 | 0.0000 | −0.0279 | 0.0596 | 0.3180 | 0.0000 | −0.2016 | 0.0000 | −0.1205 | | | |
| Loan from family/friends | | | | | | | | | | | | | |
| 1 | 0.9932 | 14.717 | 0.9668 | 0.9110 | 0.0854 | −28.304 | 0.0711 | −21.895 | 0.1022 | 0.0681 | | | |
| 2 | 0.0023 | −0.2716 | 0.0067 | −0.5235 | 0.2438 | −0.6291 | 0.0574 | −10.410 | 0.8849 | 10.953 | | | |
| 3 | 0.0001 | −0.7421 | 0.0100 | 0.0304 | 0.3559 | 0.3381 | 0.8257 | 14.316 | 0.0127 | 0.1813 | 3.258.534 | $1.1 \times 10^{-59}$ | 0.6522 |
| 4 | 0.0000 | −0.1897 | 0.0000 | −0.3298 | 0.2468 | 0.9338 | 0.0344 | 0.6395 | 0.0001 | −0.1295 | | | |
| 5 | 0.0045 | 0.5836 | 0.0165 | 0.5264 | 0.0681 | 0.0765 | 0.0115 | −0.2029 | 0.0000 | −0.3172 | | | |

**Table A1.** *Cont.*

| **Class Sizes** | **C1 0.4308** | | **C2 0.2929** | | **C3 0.1137** | | **C4 0.0846** | | **C5 0.0780** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Indicators** | | **z-Value** | | **z-Value** | | **z-Value** | | **z-Value** | | **z-Value** | **Wald** | ***p*-Value** | **$R^2$** |
| Venture capital investment | | | | | | | | | | | | | |
| 1 | 0.9977 | 0.6963 | 0.9998 | 0.7616 | 0.1109 | −21.253 | 0.0940 | −0.9075 | 0.1519 | −0.0133 | | | |
| 2 | 0.0023 | 0.0444 | 0.0001 | −0.3768 | 0.2778 | −0.4667 | 0.0574 | −0.2191 | 0.8477 | 0.8037 | | | |
| 3 | 0.0000 | −0.2597 | 0.0001 | −0.1395 | 0.3559 | 0.3116 | 0.8257 | 10.127 | 0.0003 | −0.2720 | 937.826 | $5.0 \times 10^{-13}$ | 0.6747 |
| 4 | 0.0000 | −0.0318 | 0.0000 | 0.0399 | 0.2042 | 0.6523 | 0.0001 | −0.2789 | 0.0001 | −0.0435 | | | |
| 5 | 0.0000 | −0.0979 | 0.0000 | −0.0521 | 0.0511 | 0.2299 | 0.0229 | 0.3746 | 0.0000 | −0.1054 | | | |
| Not being a creditworthy person | | | | | | | | | | | | | |
| 1 | 0.1272 | 36.383 | 0.1665 | −43.530 | 0.2689 | 13.707 | 0.2070 | −11.736 | 0.1779 | −26.327 | | | |
| 2 | 0.0043 | −24.431 | 0.1622 | 0.5695 | 0.4579 | 40.531 | 0.0252 | −27.428 | 0.1739 | 10.647 | | | |
| 3 | 0.0023 | −32.930 | 0.2873 | 19.145 | 0.2211 | 22.845 | 0.3891 | 37.999 | 0.0878 | −18.640 | 2.482.042 | $1.2 \times 10^{-43}$ | 0.2471 |
| 4 | 0.0054 | −19.342 | 0.2232 | 23.565 | 0.0512 | 0.2826 | 0.1031 | 0.2589 | 0.1495 | 0.8372 | | | |
| 5 | 0.8607 | 61.575 | 0.1610 | −0.5722 | 0.0008 | −21.650 | 0.2755 | 0.9799 | 0.4109 | 13.453 | | | |
| Fear of debt | | | | | | | | | | | | | |
| 1 | 0.2342 | 15.482 | 0.2998 | −11.130 | 0.2037 | 0.4643 | 0.1614 | −18.399 | 0.1866 | −18.699 | | | |
| 2 | 0.0122 | −0.5099 | 0.3054 | 0.3804 | 0.5427 | 15.260 | 0.0368 | −28.180 | 0.1763 | −0.5865 | | | |
| 3 | 0.0001 | −12.371 | 0.1849 | 0.5776 | 0.2358 | 13.589 | 0.4577 | 15.967 | 0.1035 | 0.0955 | 2.673.003 | $1.4 \times 10^{-47}$ | 0.2147 |
| 4 | 0.0066 | 0.4192 | 0.1256 | 0.8067 | 0.0001 | −0.6781 | 0.0916 | 0.7328 | 0.0874 | 0.6093 | | | |
| 5 | 0.7470 | 28.323 | 0.0843 | −31.219 | 0.0177 | −0.8959 | 0.2525 | −0.4832 | 0.4462 | 0.3443 | | | |
| High financing costs | | | | | | | | | | | | | |
| 1 | 0.0814 | 15.315 | 0.1611 | −19.660 | 0.1780 | 0.6274 | 0.0926 | −18.217 | 0.2111 | −12.489 | | | |
| 2 | 0.0045 | −0.6981 | 0.2444 | 0.5338 | 0.5852 | 19.433 | 0.0139 | −26.652 | 0.1621 | −0.2960 | | | |
| 3 | 0.0001 | −13.088 | 0.3495 | 0.9962 | 0.2188 | 12.818 | 0.5378 | 19.475 | 0.0931 | −0.4100 | 2.735.983 | $7.3 \times 10^{-49}$ | 0.3337 |
| 4 | 0.0020 | 0.0384 | 0.1722 | 10.899 | 0.0001 | −0.7445 | 0.0802 | 0.8774 | 0.1241 | 0.8609 | | | |
| 5 | 0.9120 | 38.401 | 0.0727 | −41.081 | 0.0180 | −11.016 | 0.2755 | −0.1018 | 0.4096 | −0.2739 | | | |
| Preferred to reinvest profits | | | | | | | | | | | | | |
| 1 | 0.0254 | 13.040 | 0.2202 | −0.8557 | 0.1272 | −0.7675 | 0.0926 | −17.084 | 0.1740 | −13.299 | | | |
| 2 | 0.0001 | −0.6237 | 0.2015 | 0.6113 | 0.6936 | 23.951 | 0.0253 | −0.9935 | 0.1903 | 0.5255 | | | |
| 3 | 0.0001 | −0.6698 | 0.3004 | 0.8251 | 0.1104 | 0.3836 | 0.5149 | 17.130 | 0.1005 | −0.2813 | 2.822.250 | $1.2 \times 10^{-50}$ | 0.3934 |
| 4 | 0.0000 | −0.5128 | 0.2077 | 0.8657 | 0.0342 | −0.1068 | 0.0917 | 0.5047 | 0.1875 | 0.7625 | | | |
| 5 | 0.9744 | 30.213 | 0.0702 | −44.522 | 0.0346 | −40.660 | 0.2756 | −0.8115 | 0.3477 | −11.679 | | | |
| No funding required | | | | | | | | | | | | | |
| 1 | 0.0790 | 13.103 | 0.1382 | −23.014 | 0.3486 | 21.012 | 0.0803 | −23.045 | 0.1621 | −17.354 | | | |
| 2 | 0.0109 | 0.0009 | 0.1856 | −0.4006 | 0.5228 | 40.689 | 0.0376 | −26.853 | 0.2150 | −0.0506 | | | |
| 3 | 0.0023 | −10.085 | 0.3466 | 17.276 | 0.0768 | −0.5581 | 0.5263 | 36.297 | 0.1250 | −0.9964 | 3.394.815 | $1.6 \times 10^{-62}$ | 0.3152 |
| 4 | 0.0000 | −0.8147 | 0.2116 | 12.608 | 0.0257 | 0.0636 | 0.0802 | 0.7598 | 0.1851 | 11.229 | | | |
| 5 | 0.9078 | 30.212 | 0.1180 | −36.053 | 0.0261 | −42.953 | 0.2755 | −0.1213 | 0.3129 | −0.8598 | | | |
| Hoped for improved financing conditions | | | | | | | | | | | | | |
| 1 | 0.0468 | 22.523 | 0.1525 | −24.405 | 0.3488 | 47.108 | 0.1375 | −0.7574 | 0.0751 | −35.656 | | | |
| 2 | 0.0090 | −17.031 | 0.1949 | 10.046 | 0.4825 | 72.349 | 0.0376 | −28.372 | 0.1621 | 0.2074 | | | |
| 3 | 0.0023 | −31.334 | 0.3599 | 37.652 | 0.1109 | 0.4036 | 0.4806 | 55.401 | 0.1374 | −0.5148 | 3.735.730 | $1.2 \times 10^{-69}$ | 0.3334 |
| 4 | 0.0038 | −18.260 | 0.1826 | 28.188 | 0.0339 | −14.601 | 0.0688 | −0.2287 | 0.2860 | 44.665 | | | |
| 5 | 0.9381 | 122.417 | 0.1101 | −63.799 | 0.0239 | −48.909 | 0.2756 | 0.3100 | 0.3395 | 0.1454 | | | |
| Expected business maturity | | | | | | | | | | | | | |
| 1 | 0.1833 | 17.389 | 0.1896 | −18.437 | 0.3147 | 0.4583 | 0.1148 | −18.456 | 0.1002 | −28.680 | | | |
| 2 | 0.0066 | 0.1971 | 0.2117 | 0.2117 | 0.4927 | 30.735 | 0.0241 | −26.574 | 0.1495 | −0.4140 | | | |
| 3 | 0.0001 | −0.9625 | 0.3268 | 10.690 | 0.1278 | 0.6029 | 0.4920 | 18.959 | 0.1374 | 0.2164 | 2.246.645 | $7.8 \times 10^{-39}$ | 0.2346 |
| 4 | 0.0000 | −0.6621 | 0.1259 | 0.6489 | 0.0400 | 0.1874 | 0.0802 | 0.6089 | 0.2505 | 11.681 | | | |
| 5 | 0.8100 | 25.302 | 0.1461 | −28.055 | 0.0248 | −42.924 | 0.2890 | −0.3195 | 0.3624 | −0.6152 | | | |
| Age | | z-value | | z-value | | z-value | | z-value | | z-value | Wald | *p*-value | $R^2$ |
| 1 | 0.3687 | −0.3292 | 0.3991 | −0.3939 | 0.3660 | 0.2380 | 0.4133 | 0.2394 | 0.2860 | −0.6635 | | | |
| 2 | 0.6223 | −0.3342 | 0.5843 | −0.4700 | 0.6340 | 0.2408 | 0.5867 | 0.2080 | 0.6768 | −0.5000 | 73.274 | 0.50 | 0.0036 |
| 3 | 0.0090 | 0.3318 | 0.0165 | 0.4321 | 0.0000 | −0.2394 | 0.0000 | −0.2237 | 0.0372 | 0.5826 | | | |
| Sex | | z-value | | z-value | | z-value | | z-value | | z-value | Wald | *p*-value | $R^2$ |
| 1 | 0.5556 | −13.030 | 0.5996 | 0.3137 | 0.6386 | 11.937 | 0.6530 | 13.830 | 0.4997 | −19.157 | 71.340 | 0.13 | 0.0070 |
| 2 | 0.4444 | 13.030 | 0.4004 | −0.3137 | 0.3614 | −11.937 | 0.3470 | −13.830 | 0.5003 | 19.157 | | | |

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