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Government-Funded Businesses: An Empirical Study of Romanian Start-Ups

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Policymakers consider startups an essential sector of a dynamic and competitive economy. In this paper we assess the outcome of a Romanian program which provided a consistent subsidy to potential startup entrepreneurs. More specifically, we carry out a cluster and discriminant analysis to measure the economic performance of startup companies five years after their inception. The results show that there are three groups of businesses: companies with high capital and operational efficiency, companies with average profitability, and companies with low profitability, with substantial differences in turnover, profits, debt etc. We argue that these differences are attributable in part to the entrepreneur's human capital and to the attempt to exploit the different fiscal treatment of labor and capital income. We also show that the public grant scheme had no durable impact on employment and on fixed assets, which suggests the presence of a significant crowding out and moral hazard effects.

Keywords: Startups; Entrepreneurship; State Aid; Cluster Analysis; Determinant Analysis.

Introduction

Startups is a buzzword in business and political discussions. The role small and medium enterprises play in relation to economic growth and employment has been emphasized for a long time, but a particular focus on startups has grown in the last decades. An increasing number of economists and decision-makers have stressed that startups are associated with innovation, and that a high birth rate of enterprises is critical for economic development. A significant number of studies addressed the various challenges young firms need to surpass in order to grow, as well as the reasons behind (and the effects of) different government intervention to support entrepreneurship.

This paper focuses on Romania, where the government has pursued a consistent policy of subsidizing start-ups. We conduct a quantitative analysis of the economic performance of the first set of firms created with government funding in 2015, using discriminant analysis to assess the state of companies still in existence in 2020. The subsidization of start-ups has been analyzed by numerous economists. However, the variety of national government programs and the heterogeneity of local economic conditions make the generalization of particular results difficult. Our paper contributes to a flourishing literature by making a pioneer attempt to explore the outcome of start-up subsidization in Romania.

The paper is organized as follows. The next section reviews the arguments for state support of entrepreneurship and startups, and describes briefly the policy implemented in Romania. Section 2 explains the research methodology. Section 3 presents the data and the variables used in the analysis. Section 4 shows the results. In Section 5 we discuss the results and the policy implications. The last section concludes the paper.

Theoretical and Empirical Background

There is a consensus among economists that "entrepreneurship" is essential for economic growth all over the world (Vivarelli 2012). The positive relation between entrepreneurship and economic growth is based on well-established conceptual and empirical considerations. From a theoretical perspective, economic growth depends on the efficient utilization of scarce resources. As Kirzner (1997) emphasized, entrepreneurs are alert to the potential profit opportunities, therefore an effervescent entrepreneurial environment means profitable investment and production projects are undertaken quickly and production factors are allocated to their most productive uses. From an empirical point of view, various authors have documented this relation. For example, Carree and Thurik (1999) and Audretsch et al. (2002) find that OECD countries exhibiting higher increases in entrepreneurship also have experienced greater rates of growth and lower levels of unemployment.

As Goetz and Stinson (2019) show, in a very comprehensive study of business evolution in US, although mature and large companies employ the highest share of labour force, young firms are responsible for the entire net job creation in the U.S. economy. This finding confirms what we already knew from Acs and Audretsch (1989) and other authors, namely that small firms provide most of the new jobs in secondary and tertiary sectors of the economy. Although big (and often multinational) corporations have a significant footprint in production and trade, they act in an ecosystem together with a myriad of "petty capitalists" (Smart & Smart, 2006; Kyriakopoulos, 2021) which are essential for the flexibility and viability of every economy. Start-ups are seen also as the vectors of creative destruction par excellence. Last but not least, start-ups represent an important economic manifestation of social mobility (Solimano, 2014). The ease of doing business guarantees the regeneration of business elites, promotes the consolidation of middle class and opens opportunities for climbing the social ladder (Velez-Grajales & Velez-Grajales, 2014).

Economists have debated for a long time whether government can play an active role in fostering entrepreneurship. On the one side, some economists argued that various market failures prevent entrepreneurs from developing their businesses, therefore government intervention should mitigate these problems. Acs et al. (2016) mention network externalities, knowledge externalities, failure externalities, demonstration externalities, sunk costs – to which we can add asymmetric information in financing (Stiglitz & Weiss, 1981), agglomeration externalities (Soubeyran & Thisse, 1999) and other issues. For example, according to Hausmann and Rodrik (2003) "exploiting new business opportunities has considerable positive externalities for other entrepreneurs, who can learn about the profitability of certain ventures and can act accordingly". Market failures affecting entrepreneurship are more relevant in less developed economies (UNCTAD, 2018), therefore it is in these countries where the government should step in with adequate public policies. As Pahn et al. (2008, p.2) put it: "Emerging regions often lack the critical mass of inputs (capital, human talent and technology) required to ignite entrepreneurial action. Hence, in models of entrepreneurship in emerging regions, government bridges the supply side causes of market failure in entrepreneurial activity."

On the other side, some authors have argued that "entrepreneurship policy" is almost a contradiction. Following a tradition opened by Mises (1949) and continued by Kirzner (1973), a number of economists maintained that entrepreneurship is an intrinsic feature of human action, therefore "it is pointless to analyze the market process in terms of density of entrepreneurial activity. We cannot properly speak of an inadequate level of entrepreneurship, because all existing economic activity is entrepreneurial in the sense that it is always speculative, coping with uncertainty, and attempting to discover new and more profitable investment opportunities" (Glavan 2007, p. 109–110). In a highly cited work, Shane (2009, p. 146) states that governments should "reduce the incentives that we give marginal entrepreneurs to start businesses by reducing the transfer payments, loans, subsidies, regulatory exemptions, and tax benefits that encourage more and more people to start businesses."

The fact of the matter is that governments from all over the world have adopted more or less substantive policies to encourage entrepreneurship and many of these measures targeted start-ups creation.

The Global Start-up Revolution

At the root of modern entreprenership policy is the technological revolution coupled with the financial transformations which fueled a boom in start-up creation and business ventures after World War II. The 1950s and 1960s saw the rise of Silicon Valley, which became a global hub for innovation and entrepreneurship. Startups like Hewlett-Packard, Intel, and Apple were founded and went on to become major players in the global economy. The 1980s and 1990s saw another boom in startup activity, this time driven by the rise of the internet. In this era, new startups like Amazon, Google, and Facebook were founded and quickly grew into multi-billion dollar companies. Despite de dot-com bust which determined a reassessment of many businesses, the startup ecosystem survived and continued to grow in the new milenium.

The fast technological development of the last decades has made political authorities and society at large aware of the importance of entrepreneurship and innovation and, in particular, of start-up creation (Ortega-Argiles, 2022). Start-ups are widely considered an engine of economic growth, promoters of innovation and the driver of job creation. Promoting entrepreneurship in the form of start-ups is a policy activity being given high priority all over the world. For example, in the USA, the Obama administration implemented the Start-up America Initiative. In China the government has encouraged start-ups under "Widespread Entrepreneurship and Innovation" framework issued in 2015 and similar initiatives occurred in Korea (Wooseung, 2019). Italian authorities issued the Start-up Act in 2012, as part of a national strategy to support entrepreneurship and innovative SMEs (Biancalani, 2022). Many African governments became interested in building start-up ecosystems and specific laws have been implemented in countries like Tunisia and Senegal, in 2018 and 2019 (Volken, 2020).

Start-up Policies in Europe: the Romanian Case

In the last decade of the 20th century european decision-makers became concerned about the start-up phenomenon. They have begun to see start-ups as a solution for the depressed labor market, characterized at that time by historical high levels of unemployment (10 % in France, almost 25 % in Spain). As Fonseca et. al. (2001) explains, in 1990s, in an attempt to raise the employment rate, the European Union has changed its approach from traditional labor market policies to enhancing entrepreneurship. As a consequence, according to Millan et al. (2016), over the period 2008–2014 annual government expenditures on start-up incentives increased in EU member states reaching levels between 0.01 % of GDP in United Kingdom and 0.1 % of

GDP in Spain. This change in focus was also reflected in the major programs of the European Union. For example, in the context of the famous "Europe 2020" growth strategy adopted in 2010, political leaders argued that Europe is suffering from a lack of entrepreneurs. They draw a plan for fixing this problem by removing barriers to businesses, changing the perception of entrepreneurship and enhancing inovation (European Commission 2013). Therefore, the European Regional Development Fund 2014–2020 included support for small and medium-sized enterprises among its four main thematic directions. It attempted to help entrepreneurship by providing start-ups guarantees and initial capital through various financial instruments.

The EU's policies for startups have contributed to a revival of entrepreneurship. In the context of the third industrial revolution, startups such as Spotify, Skype, and TransferWise gained global recognition. Technology start-ups in particular, many of which received venture capital from US or China, have contributed significantly to the overall startup ecosystem in Europe,which has been recently assessed at $3 trillion in enterprise value (European Startups, 2021).

The Romanian government has pursued a similar approach, based on the fact that entrepreneurial activity is relatively low in Romania. This observation has been documented by various reports. According to a study conducted by the European Commission (Radauer and Roman, 2016) the Romanian entrepreneurial ecosystem is underdeveloped. The authors of this study emphasized several considerations. First, Romania has a low volume of new firm creation; the 'birth rate' of new firms has remained flat after the financial crisis and recession of 2009–2010. Secondly, "financial support is a large problem" (p. 20), which probably explains the low survival rate. The weak entrepreneurial dynamism in Romania was noticed also by the European Commission (2019), according to which Romania has the lowest number of SME's relative to population in Europe, see Figure 1.

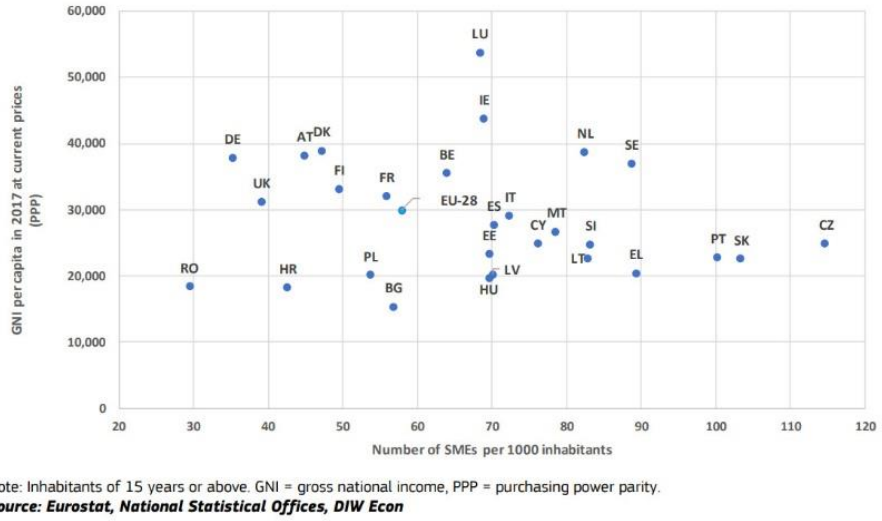

Figure 1. Number of SME's in EU Member States in 2018, European Commission (2019)

In light of a growing theoretical and empirical background the Romanian government decided to implement multiple aid schemes for start-ups. "Romania Start up" was a program funded by the European Regional Development Fund (POSDRU 2007–2013), the goal of which was to develop entrepreneurial abilities and subsidize business plans by offering a grant of maximum 25000 euros for setting up a firm. Financial aid for start-ups escalated in the next years. "Romania Start up" was followed by the "Start-Up Plus" scheme, also funded through ESF Operational Program Human Capital 2014–2020, this time providing up to €24,000 as grant and first instalment and a further €16,000 as second instalment if certain turnover targets are met. A similar program, Start-up Nation has been created and funded by the Romanian government (from national budget) in 2017 and continued in the subsequent years. The size of the grant has also increased, from almost €50,000 in 2017 to €100,000 in 2020, depending on the number of jobs created by the new companies. To the present, there has been no attempt to check the outcomes of these programs, in order to find potential weaknesses and to identify room for improvement.

Economists have conducted numerous attempts to evaluate the public policies supporting entrepreneurship, but it is difficult to identify a broad consensus. Some authors, like Duhautois, Redor and Desiage (2015) or Butler, Galassim and Ruffo (2016) arrive to positive conclusions, while other researchers, like Shane (2009), Kosters (2010) or Caliendo, Kunn and Weissenberger (2020) are rather skeptical about the benefits of government intervention. A fundamental reason for this heterogeneity of conclusions is the substantive difference both between national policies and the particular circumstances of different countries. The present research contributes to this literature and provides a first assessment of the outcome of Romanian government start-up subsidization program, by looking at the performances of the surviving firms five years after their inception. We will use cluster analysis and discriminant analysis to create a typology of government-funded start-ups and investigate the differences between them.

Cluster analysis is widely used to compare different objects and to diagnose their strengths and weaknesses. Economists have resorted to this approach for a wide set of phenomena, from consumer behavior (Halkier & Lund

2023) to understanding the structure of energy production (Kyriakopoulos *et al.*, 2023). Cluster analysis has been used to explore the evolution of start-ups by a number of authors. For example, Reid and Smith (2000) use cluster analysis to rank 150 Scottish start-ups into low, medium, and high performance categories based on three indicators: employment growth, rate of return, and productivity. Delmar et al. (2003) use this tool to study 1,501 Swedish new firms founded in the 1987–1996 period, discovering seven distinct growth patterns. Also, Signore (2016) analyses 2,951 firms funded by the European Investment Fund and uses a similar method to establish a taxonomy of start-ups growth patterns.

Methods and Analysis

The problem we intend to solve is to find an efficient grouping of government-funded start-up companies for 2020 and to analyze the evolution of clusters using various financial and economic variables. Starting from the whole population of 821 publicly-funded start-ups and using specific data cleaning techniques, we determine our data sample of representative companies. For each company, indicators were recorded from their balance sheets in the period 2015–2020, and based on them, financial ratios were calculated in order to better illustrate the existing situation in terms of profitability, the study being carried out mainly in 2020. The methodology established for solving the problem proposed for solving includes several steps, namely:

- the construction of the data sample and collection of balance sheet statistics for the period 2015–2020;
- based on the balance sheet data, financial ratios will be calculated for each company, in the period 2015–2020;
- a first classification of companies for 2020 using cluster analysis;
- improving the classification previously made by applying discriminant analysis;
- analyzing, retrospectively, the evolution of business clusters using several variables (turnover, profit, debt and equity).

Applying discriminant analysis to a data set involves the application of an algorithm that consists of a combination of MANOVA (Multivariate Analysis of variance) analysis, multiple regression and factor analysis, having as a main objective the identification of functions that allow a company to belong to a class, according to minimizing the classification error. The algorithm for applying the discriminant analysis has several stages, namely: the calculation of the descriptive indicators specific to the MANOVA analysis (Multivariate Analysis of variance) of each initial class from which the analysis begins; identifying the coefficients of the transfer functions; for each object in the group where the analysis is applied, a score will be calculated, based on which it belongs to a class, in our case the maximum probability of belonging to the respective class will be used; the comparison between the initial classification and the one resulting from the application of the discriminant analysis algorithm.

The discrimination functions for each class are linear and have the following generalized form:

$$Sk1_i = \sum_{j=1}^{6} \mathrm{Ij_i} * Ck1_j + ak1\,, \forall i = \overline{1{,}300},\quad k = 1{,}2{,}3 \qquad (1)$$

$$Sk0_i = \sum_{j=1}^{6} \mathrm{Ij_i} * Ck0_j + ak0\,, \forall i = \overline{1{,}300},\quad k = 1{,}2{,}3 \qquad (2)$$

The following notations have been made in equations (1) and (2):

- $\mathrm{Sk1_i}$ represents the probability of the company i being in class k
- $\mathrm{Sk0_i}$ represents the probability of the company not being in class k
- $\mathrm{Ij_i}$ represents the value of the indicator Ij calculated for the company i, j=1...6
- $\mathrm{Ck1_j}$ represents the coefficients of the function that calculates the value of the function of discrimination in the sense of belonging to a company to class k (k=1,2,3)
- $\mathrm{Ck0_j}$ represents the coefficients of the function that calculate the probability that a company does not belong to the class k (k=1,2,3)
- ak1 and ak0 are constants related to discrimination functions
- i represents the company number in the data sample.

Following the application of the proposed methodology, we expect to obtain an answer to the question regarding the usefulness of the state aid granted to small and medium enterprises.

Defining the Indicators and the Data Sample

The "Romania Start-up" program was the first country-wide attempt of the Romanian government to promote entrepreneurship by offering a grant of maximum 25000 euros to potential entrepreneurs who decide to start a business. There was no mandatory shareholder contribution. The new firms had to create two jobs for at least 6 months. The program was implemented through various intermediaries: universities, NGOs, chambers of commerce, consulting companies, municipalities etc. These institutions delivered entrepreneurship training courses, provided advisory services and organized business plan competitions. Interested participants submitted their business ideas and, eventually 821 projects were selected and financed throughout the country.

The initial data set consisted of these 821 companies, and the source of data is the companies' balance sheets presented on the Ministry of Finance website. The observation period is 6 years, from 2015 to 2020. After the elimination of dead enterprises, of companies with incomplete data, but also of all outliers, the data set was reduced to a representative sample of 300 of companies.

To characterize the financial performance of the firm we decided to take into account the following indicators: profit margin, debt ratio, return on assets, asset turnover ratio, self-financing rate and, current assets turnover ratio. Each of these indicators was given a label from I1 to I6, as presented in Table 1.

Table 1

The Indicators Used in the Application

Abbreviation for indicator	Indicator's name	Formula	Indicator's objective
I1	Profit margin	Net Profit / Turnover x 100	Profitability
I2	Total debt ratio	Total debt / Total assets x 100	Operational risk
I3	Return on assets	Net profit / Total assets x 100	Profitability
I4	Asset turnover ratio	Turnover / Total assets	Operational efficiency
I5	Self-financing rate	Equity / Total assets x100	Operational risk
I6	Current assets turnover ratio	Turnover / Current assets	Operational efficiency

Annex 1 presents, for each company in the representative sample, the values of the indicators calculated according to the formulas in Table 1, for the year 2020.

A first step in analyzing the data series is to calculate descriptive indicators (Table 2), such as: simple arithmetic mean, standard deviation, skewness, kurtosis and bimodality. A first conclusion that can be drawn from Table 2 is related to the fact that the series I1, I2, I3 and I5 are very close to the normal distribution, this being demonstrated by the indicators bimodality (each indicator has a single maximum) and kurtosis (graphs values have no tail to the right or left). The graphs of indicators I4 and I6 are mainly inclined on the right side of the Ox axis, having a single maximum value.

Table 2

Descriptive Statistics Indexes

Variable	Mean	Std. Dev.	Skewness	Kurtosis	Bimodality
I1	48.1591	37.3593	0.8805	0.8601	0.4563
I2	37.1232	43.7961	1.6583	2.8524	0.6375
I3	34.2370	32.5946	1.2881	2.3229	0.4968
I4	1.0343	1.3135	4.8492	32.9502	0.6813
I5	61.2125	33.0607	-0.3649	-1.1768	0.6114
I6	2.1218	8.5686	14.8440	239.2	0.9139

Results

Using the SAS Enterprise Guide program, we made a first classification of the companies, using Ward's clustering method. This method involves minimizing the sum of the squares of the aggregation errors of the objects in the clusters, the error being calculated as the distance between an object at the center of the class in which it is assigned. By successive calculations of these errors and their minimization, clusters will be obtained, different from each other, but being composed of homogeneous elements.

Table 3

Eigenvalues of the Covariance Matrix

	Eigenvalue	Difference	Proportion	Cumulative
1	2711.91953	1362.77511	0.4891	0.4891
2	1349.14442	491.64196	0.2433	0.7325
3	857.50246	304.13877	0.1547	0.8871
4	53.36369	482.09668	0.0998	0.9869
5	71.26700	70.07350	0.0129	0.9998
6	1.19351		0.0002	1.0000

Eigenvalues provide details about the amount of information brought by each indicator and whether or not it is necessary to give up any of them. The Proportion column in Table 3 provides information about the additional amount of information brought into the application. In our case, all the indicators are important, they bring maximum information and we will not give up any of them from the analysis.

Following the application of the Ward classification algorithm, a main result is represented by the aggregation chart of the companies in classes, see figure

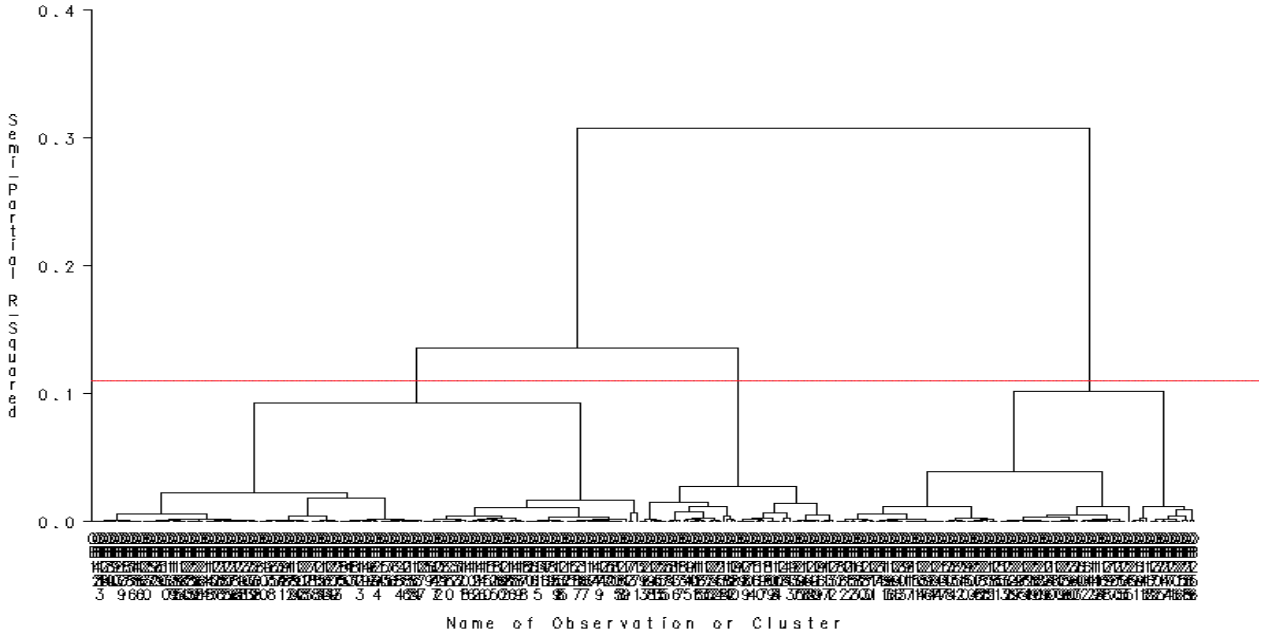

Figure 2. Dendogram of Classification of the Companies

Depending on the level at which the sectioning of the chart is performed, a different number of classes will result. Thus, if it is cut to the value of 0.11, it is observed that three classes will result, the companies in the structure of each class being presented in Annex 2. The next step in the analysis is to improve the classification, minimizing the error, by applying other data mining techniques.

The discriminated analysis will be further applied for each group of companies identified in the cluster analysis in order to improve the results obtained. The statistical tests specific to the MANOVA analysis calculated by the SAS Enterprise Guide are: Wilk`s Lambda, Pillai`s Trace, Hotteling - Lawley Trace and Roy`s Greatest Root (table 3).

Table 4

The Values of the Specific MANOVA Statistical Tests for Each Class

Crt. No.	Test name	Value for Class 1	Value for Class 2	Value for Class 3
1.	Wilk`s Lambda	0.2452	0.5038	0.3442
2.	Pillai`s Trace	0.7545	0.4963	0.6558
3.	Hotteling - Lawley Trace	3.0776	0.9851	1.9053
4.	Roy`s Greatest Root	3.0776	0.9851	1.9053

In practice, Wilk's test is mainly used, so if its values are close to zero then the null hypothesis is rejected, which implies that the independent variables, ie the indicators used in the application (I1-I6), have no effect on the dependent variable, probability belonging to a certain class. The non-null hypothesis implies the opposite of the null hypothesis, in other words the results of the discriminant analysis reach their goal, so that the indicators influence the belonging to the respective class. The other calculated tests (Pillai`s Trace, Hotteling - Lawley Trace and Roy`s Greatest Root) are used additionally if the Wilk`s Lambda test does not provide conclusive information, but in the end, regardless of the test we will refer to, we will end up we get the same result. According to the values of the four tests for each class, presented in table 3, a first conclusion is the fact that the hypothesis is ignored according to which the objects are not found in the class for which the discriminant analysis is performed.

The functions that calculate the score on the basis of which a company belongs or not to class 1 are represented by equations (3) and (4).

$$S10_i = 6.71 * 10^{-2} * I1_i + 6.54 * 10^{-2} * I2_i - 2.47 * 10^{-2} * I3_i + 1.26 * I4_i + 6.56 * 10^{-2} * I5_i + 2.35 * 10^{-2} * I6_i - 5.23, i = \overline{1,300} \quad (3)$$

$$S11_i = 3.69 * 10^{-2} * I1_i - 7.76 * 10^{-3} * I2_i + 2.55 * 10^{-2} * I3_i + 0.82 * I4_i + 0.2 * I5_i + 5.61 * 10^{-2} * I6_i - 10.79\ , i = \overline{1,300} \quad (4)$$

Discrimination analysis will also be applied for class 2. The functions that calculate the probability based on which a company is assigned or not in class 2 are represented by equations (5) and (6).

$$S20_i = 4.37 * 10^{-2} * I1_i + 5.43 * 10^{-2} * I2_i - 10.03 * 10^{-3} * I3_i + 1.15 * I4_i + 9.91 * 10^{-2} * I5_i + 3.12 * 10^{-2} * I6_i - 5.69, i = \overline{1,300} \quad (5)$$

$$S21_i = 0.14 * I1_i + 5.31 * 10^{-2} * I2_i - 4.4 * I3_i + 1.34 * I4_i + 3.83 * 10^{-2} * I5_i + 1.83 * 10^{-2} * I6_i - 7.5\ , i = \overline{1,300} \quad (6)$$

For the last class the same algorithm is applied and we will find the functions that calculate the score based on which a company is assigned or not in class 3. These functions are represented by equations (7) and (8).

$$S30_i = 0.1 * I1_i + 1.53 * 10^{-2} * I2_i - 1.21 * 10^{-2} * I3_i + 1.08 * I4_i + 0.12 * I5_i + 3.4 * 10^{-2} * I6_i - 7.97, i = \overline{1,300} \quad (7)$$

$$S31_i = 3.91 * 10^{-2} * I1_i + 7.57 * 10^{-2} * I2_i - 1.97 * 10^{-2} * I3_i + 1.25 * I4_i + 6.84 * 10^{-2} * I5_i + 2.36 * 10^{-2} * I6_i - 5.34\ , i = \overline{1,300} \quad (8)$$

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After an overall analysis of the results obtained so far and taking into account the maximum probability of belonging to a company to a class, changes in class by comparison can be seen in Annex 2, and the complete structure of groups of companies can be viewed in Annex 3.

Discussions

Following the analysis, three clusters of companies were identified, according to financial ratios, and they are presented in Figure 3: Class 1 – companies with high profitability and low risk, Class 2 – companies with average profitability and risk, and Class 3 – companies with low profitability and high risk

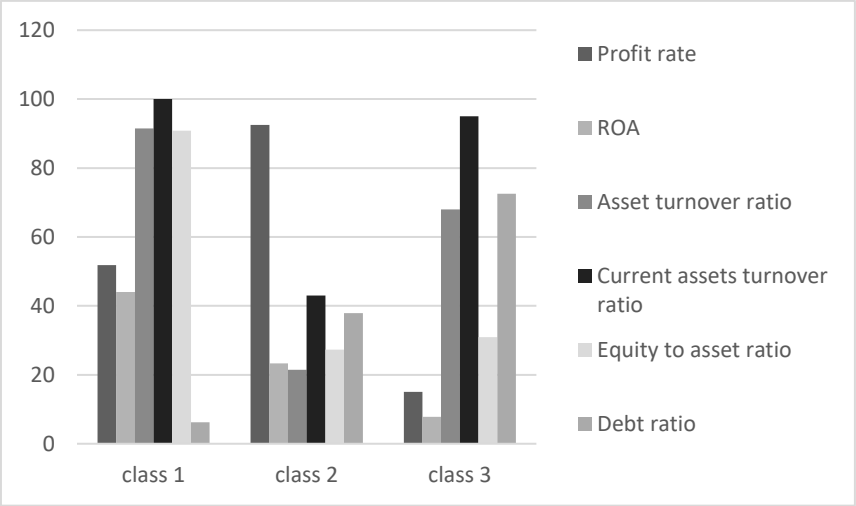

Figure 3. Business Clusters: Columns Representing Median Value of Each Variable

Class 1 includes firms with a high capacity of producing sales from assets. This is the dominant group, representing 156 firms, or 52 % of the total number of firms. Class 1 has the highest score on all financial indicators, except profit ratio. Members of this class have identified how to best use their assets in order to increase sales and generate income and, simultaneously, have managed to finance their assets from their own capital, preserving their financial autonomy. Class 2 includes businesses with the highest ability to generate profit relative to sales, but lower operational efficiency and a higher debt ratio. This group is small, representing 46 firms, or 15.3 % of the overall number of firms. Class 3 includes firms with a low profitability. It represents 98 firms, or 32.6 % of the total number of firms. Members of this class operate with a low profit margin and with a low return to assets, despite the fact that these firms have a high debt ratio, indicating that they have undertaken a larger risk.

It is useful to consider the evolution of various balance sheet variables in the period 2015–2020. Figure 4 below shows how turnover, profit, debt and equity of each class developed in time.

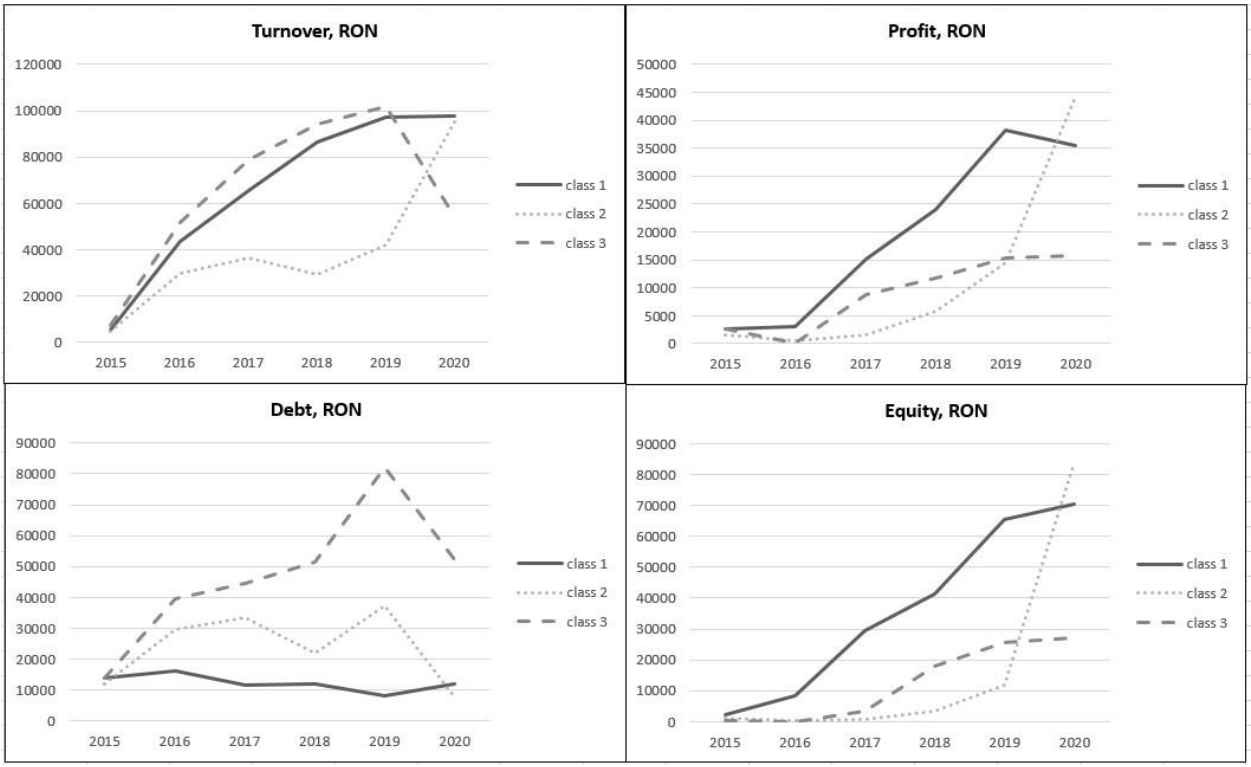

Figure 4. Balance Sheet Variables: Curves Representing Median Values of Each Variable

Several observations can be made. Businesses included in Class 1 followed a virtuous spiral of profit maximization and capital accumulation from the very beginning. They financed their assets almost exclusively from their capital, exploited their assets in a very efficient manner to increase sales and revenues, then capitalized profits and increased assets and sales further. Their financial autonomy proved important in the context of pandemic related economic turmoil, when businesses managed to preserve their sales and profits. By contrast, businesses included in Class 3 were not able to operate with a high profit margin, they financed their assets through debt and used leverage to increase sales. Despite the increase in sales, profits were smaller, slowing capital accumulation. Firms included in Class 2 (a small group) were able to reach a high profit margin only in 2020, after six years from their inception. Although their historic performance was modest, the pandemic disturbances had a positive impact on them.

The clear difference in the evolution of debt confirms the observation made by Hanssens, Deloof and Vanacker (2016), according to whom the debt policy follows a path dependent course, as suggested also by the imprinting theory (Mathias *et. al*., 2015): initial debt policy is a good predictor of future debt policy, because it reflects the vision of the business founder. The entrepreneurs included in Class 1 are debt-averse, while those represented by Class 3 are risk-loving entrepreneurs. At the same time, our findings contradict the idea that risk and return go hand in hand even in the case of start-ups, as suggested by Franck, Huyghebaert and D'Espallier (2010). For Romanian publicly funded start-ups, higher debt is associated with lower operational efficiency and profitability; to put it differently, profitability reduces the need for debt, as Cotei and Farhat (2017) noticed.

To further analyze the differences between clusters, we consider the number of employees. As we have mentioned earlier, the main requirement of the funding program as that each business should set up two jobs and should keep those employees for at least six months. Unsurprisingly, the median number of employees is the same in all classes in 2015, when businesses started to operate. However, the number of employees declined from 2015 to 2020, and the decline is fastest in Class 1 and slowest in Class 3. Starting with 2019 the median number of employees in Class 1 firms was zero, while the other classes remained with one employee, as it is shown in Table 5.

Table 5

The Number of Employees, Median

	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Class 1	2	1	1	1	0	0
Class 2	2	1	1	1	1	1
Class 3	2	2	1	1	1	1

In addition, the evolution of fixed assets is also worth considering. As shown in Figure 5, fixed assets declined steadily in time. Starting from around 30000–40000 RON in 2015, fixed assets have declined in all classes and in every year, with a single (and small) exception: Class 1 in year 2020. This evolution suggest that businesses refrain from investing in long term tangible or intangible assets after 2015, allowing this factor to gradually decrease due to depreciation. Class 1 started from the lowest level and had the steepest decline. Thus, the evolution of our subsidized start-ups invalidates in part the conclusion of Hottenrott and Richstein (2020), according to which public grants facilitate, among other things, tangible investment. On the opposite, our findings support the view that start-up subsidization attracts inept entrepreneurs, creating adverse selection.

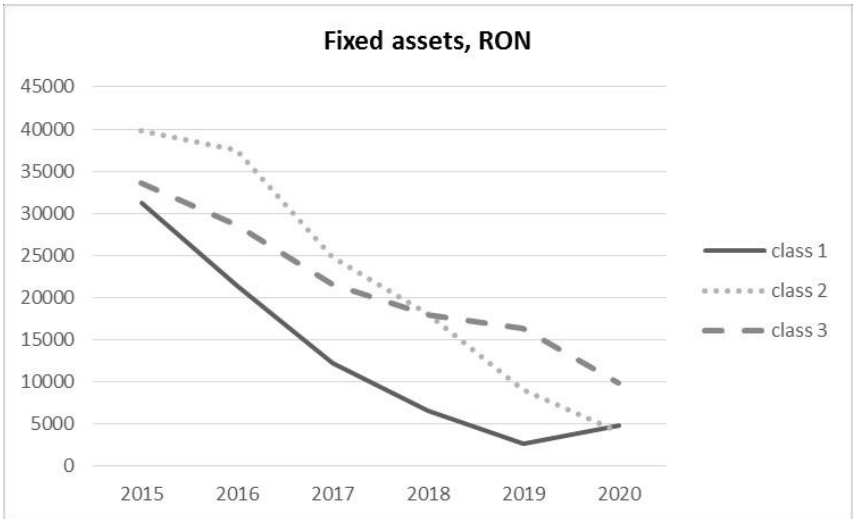

Figure 5. The Evolution of Fixed Assets, Curves Representing Median Value

The evolution of employment and fixed assets helps us put the performance of these businesses in a proper perspective. Firms in Class 1 had the steepest decline in employment and fixed assets, while displaying very good financial indicators. This seems to validate the idea that startups with a high value of human capital embodied in the entrepreneur need less physical assets and are unlikely to use debt in their financial structure (Mann & Sanyal, 2010). Therefore, Class 1 includes firms whose performance relied heavily on the quality of their founder's knowledge and skills. On the other hand, the lack of workforce questions the significance of profitability ratios: since the entrepreneur's labor is not compensated officially with a paycheck, then salaries are replaced with dividends. The profitability indicators seem to be less the result of a genuine business performance and more the effect of a tax-inspired tradeoff: it is advantageous to take dividends instead of salary, because the fiscal burden on labor income is much higher (at least in Romania) than the taxation of capital. The same considerations may explain, in reverse, the low profitability and higher indebtedness of Class 3: the business model adopted by companies included in this group required to a larger extent both the investment in slower-depreciating equipment and the presence of specialized complementary workers. If we take into account not only the salaries, but also the amount of taxes paid by these businesses, we can posit that the (broader, societal) economic value created by Class 3 is not inferior to the one generated by Class 1. By the same reasoning, Class 2 sits in the middle of this economic landscape.

Was "Romania Start-up" Technology-Biased?

The government state-aid program was conceived to stimulate entrepreneurship in a wide number of areas: tourism & ecotourism, textiles & leather products, furniture, automobile manufacturing, creative industries, information and communication technology, health & pharma sector, energy and environmental management, bio-economy, food & beverage industry. These areas had been previously identified as corresponding to the main directions of industrial policy in Romania, according to the National Strategy for Competitiveness 2014–2020.

Given the program prescriptions, 23 % of all businesses were started in IT&C sector: publishing (including software), motion picture, video and television programme production, sound recording and music publishing activities, tele-communications, computer programming and information service activities. 58 % of surviving start-ups acting in IT&C clustered in Class 1 – companies with high profitability and low risk, the remaining IT&C companies being relatively equally distributed among Class 2 and Class 3.

Why were IT&C firms so attracted by the Romania Start-up program? The program requirements made it ideal for freelancers, photographers and self-employed software creators. Several other considerations may have played a role: salary income in IT sector is not subject to income tax in Romania; many employees in IT sector have given up jobs and have created microenterprises instead, to exploit the advantageous fiscal treatment of this entities in Romania and be able to "work" for many customers simultaneously; the capital investment is quite low for a self-employed, so it was possible to fund it entirely using government money etc.

Was "Romania Start-up" a Successful Program?

Every public policy has benefits as well as opportunity costs. The easiest way to imagine the tradeoff implicit in any state aid program is the following: while public spending programs in the form of subsidies for businesses may lead naturally to an increase in employment, turnover and profitability of their recipients, they are funded by the taxpayer. Therefore, every euro spent as subsidy for a certain business is a euro collected through taxes from the rest of the entrepreneurs and market participants. While the positive impact on subsidized businesses "is seen", "what is not seen" is the effect on taxpayers.

A comprehensive evaluation of Romania Start-up program is beyond the scope of our study, which focuses on "what is seen" side of the subsidization scheme. However, even from this partial perspective, we have found several worrying issues. As we have stated above, the size of surviving start-ups (which represent less than half the number of subsidized businesses) in terms of employment and fixed assets has decreased year after year. Basically, Romania Start-up program turned into a self employment subsidization scheme. In this regard, the warning of Millan *et. al*. (2016, p. 33) according to whom start-up subsidies "might be distorting the occupational choice against true entrepreneurs in favour of certain forms of self-employment" is relevant and should be taken into consideration by policymakers. Moreover, the cost of achieving the slight increase in employment is distressing: given that 25,000 euros (or 5 annual average salaries) were spent initially to create two jobs, but less than a third of these jobs were still in existence in five years later, it means that for every job recorded in 2020 the government spent the equivalent of 15 average annual wage in 2015.

Conclusions

A number of policy conclusions can be derived from our analysis. First, the condition imposed by Romanian government according to which a startup should create two jobs for at least six months had no durable effect on employment: most of the companies stopped the respective labor contracts as soon as they became legally entitled to do it. Secondly, the beneficiaries of public funding did not continue to invest in long-term tangible or intangible assets; thus, it seems that 2015 Romania Start-up program is associated with a crowding out effect and/or moral hazard that affects the startups future perspectives and, therefore, future public programs should include provisions to mitigate this risk.

The international experience teaches us that in order to produce positive effects, the government intervention needs to target a specific issue and complement (i.e. not replace) private sector's contribution. It is one thing for the public authority to fund 30 % or 50 % of a business project, in which case the entrepreneur still has skin in the game and is indeed motivated to manage the project efficiently, and another thing to cover 100 % of the business costs, which may lead to severe moral hazard. Also, picking winners is a difficult task for government employees or third parties who do not have skin in the game either. Alternatively, the government could leave the business selection process entirely in the hands of private investors, promising to subsidize or buy a minority stake in the selected start-ups.

Future research could explore the relation between the personal characteristics (such as age, gender, minority, experience) of the entrepreneurs and their business performance. Financial capital (the entrepreneur's own contribution or other private contribution) should be also taken into account. The risk appetite and the inclination toward innovation among start-up founders could also make the difference between succesful and unsuccesul businesses.

Annexes

Annex 1. The Data Sample Used in the Study. The Indicators are Calculated for 2020

Company name	I1	I2	I3	I4	I5	I6
BONPROIECT SRL	15.49	27.35	21.26	1.37	72.65	4.27
MC LASERLAND SRL	80.81	0.48	54.36	0.67	100.56	0.69
BOLD TEHNOLOGIES SRL	63.6	1.45	8.03	0.13	12.5	0.15
ARBEIT ARHITECT PROJECT SRL	57.69	26.78	63.9	1.11	73.22	1.29
EVOPLAY STUDIOS	95.26	0.89	72.5	0.76	72.52	2.27
FREELANCER IT SRL	51.94	1.97	36.45	0.7	98.13	0.71
HS MEDICAL S.R.L.	26.57	60.22	14.06	0.53	39.73	0.76
ARHITECTURES PROJECTS DEVELOPMENT- 8 SRL	64.03	7.21	65.88	1.03	92.79	1.04
SC DROPIA VFX SRL	71.47	32.33	39.14	0.55	67.93	0.97
MELIOR CRAS SRL	39.51	11.63	76.47	1.94	88.37	1.94
SC POPESTIDENT SRL	28.23	15.01	56.21	1.99	85.03	2.95
Eventpay SRL	96.18	5.45	96.96	1.01	94.55	1.01
OUTREACH DESIGN SRL	33.81	0.8	73.14	2.16	99.2	3.48
Clinica Smile Life SRL	55.14	2.25	60.37	1.09	91.49	1.24
ZMARTCODING S.R.L.	98.35	5.82	94.03	0.96	94.18	0.96
Blaze Devs SRL-D	82.98	7.28	92.63	1.12	92.72	1.14
FAST PITSTOP SRL	74.15	18.71	38.44	0.52	81.29	0.53
ON POINT SOLUTIONS	62.68	41.65	56.12	0.9	58.35	1.08
GRANDEUR PAB SRL	71.28	7.06	67.54	0.95	92.94	0.95

Company name	I1	I2	I3	I4	I5	I6
TEHNOCONSULT CONCEPT	31.49	44.4	17.64	0.56	46.55	0.56
SC METALTEST NDT EXPERT	56.86	86	78.98	1.39	4.68	1.57
ZERO DPI MEDIA SRL	44.44	16.66	26.68	0.6	69.42	0.6
ARNHITECTURA S.R.L.	84.64	0.52	102.77	1.21	99.48	1.22
TECTUM PRO SRL	49.04	143.32	46.26	0.94	43.32	0.95
Frame advertising SRL	32.82	7.32	20.24	0.62	92.68	0.76
Ral Advert SRL-D	17.96	43.23	13.6	0.76	70.35	0.76
SC BOCASOFT SRL	18.87	14.91	34.79	1.84	85.09	3.26
SC DESIGN MOB PLUS SRL	93.03	1.62	55.64	0.6	89.01	0.64
Dental Corp	33.17	32.05	32.28	0.97	67.95	5.2
OTEEA SRL	71.75	13.38	77.6	1.08	78.99	1.17
SC PROVANOR SRL	97.03	13.3	53.71	0.55	86.7	0.55
CLEAR VIEW ARHITECTURE&DESIGN SRL	88.65	1.79	77.45	0.87	98.21	0.88
TRANSILVANIA SMART PHONE SRL	9.32	39.41	22.6	2.43	59.14	2.49
SC. NEW ENTERTAINMENT TELEVISION	67.12	2.16	39.9	0.59	97.91	0.6
MOTION GRAPHICS S.R.L.	92.05	0.95	91.66	1	99.05	1
SC DEV SOFTWARE TEAM SRL	62.49	1.41	43.7	0.7	98.59	0.72
GARDEN CORNER SRL	42.52	21.48	47.02	1.11	78.74	1.26
Herainvestimus SRL	14.78	7.57	23.66	1.6	92.43	4.22
SC ROLTEX MOB SRL - D	42.5	6.3	75.86	1.79	84.12	2.25
IMPLANTOCLINIC SRL	58.47	3.2	63	1.08	77.66	3.35
SC. WPRIDERS SRL	11.4	24.9	24.57	2.15	75.21	2.24
TECHAROMA MEDIA SRL	77.91	82.11	81.13	1.04	17.89	1.04
S.C. KRISTOTEQ CNC SOLUTIONS SRL	80.28	5.97	92.71	1.15	94.03	1.15
AZZA DDC SRL	80.98	4.27	42.61	0.53	61.84	0.54
URBAN TALE SRL	62.59	12.52	83.26	1.33	86.97	1.33
SC ARCHIVISIO CONCEPT STUDIO SRL	23.84	3.16	53.91	2.26	91.75	2.26
ARCA CONSTRUCT DESIGN SRL	37.64	13.54	37.11	0.99	82.91	0.99
SALISERAW SRL	30.79	16.42	63.98	2.08	83.58	2.09
Fabrica de Intarsii SRL	16.62	7.97	21.89	1.32	92.03	1.48
LEMNART CONCEPT	94.08	8.39	91.37	0.97	91.61	0.97
TRANSFACTOR TECHNOLOGIES SRL	66.15	3.44	96.32	1.46	96.56	1.49
FEUILLE DOR	51.73	1.42	47.85	0.93	93.67	0.96
GREEN HOSTEL SG SLR	29.93	49.99	4.15	0.14	8.29	1.92
M.B.S. Precision SRL	11.48	65.54	10.36	0.9	22.39	1.15
Adar Design Mix	66.41	23.57	25.64	0.39	25.69	0.51
I DRAW STUDIO DE ARHITECTURA SRL	35.99	10.73	21.98	0.61	90.63	0.62
SC TEATRU LA CINEMA SRL	135.56	14.27	24.14	0.18	80.01	0.19
SC DEVAPP MOBILE SRL	77.18	0.81	54.77	0.71	99.19	0.75
Turmar Ionismart SRL	26.89	71.76	39.79	1.48	28.65	2.46
SC. VIVA LA VIDEO SRL-D	47.45	21.04	50.99	1.07	87.6	1.13
DISORDERART SRL-D	96.55	1.68	61.13	0.63	91.32	0.63
DR. DENT MEDICAL SERVICES SRL	16.43	14.72	85.04	5.17	85.28	8.77
I&I SMART MOB QUALITY S.R.L.	31.61	87.32	19.66	0.62	12.68	3.64
CATERINA - RUL SRL	17.14	19.78	1.35	0.08	11.69	0.09
SC ESCAPE RULES SRL	59.53	0.77	76.4	1.28	99.23	1.29
MINDFIELD SOLUTIONS S.R.L.	65.91	0.71	55.66	0.84	99.29	0.84
MOBACO EXPERT SOLUTIONS SRL	46.03	26.92	53.37	1.16	53.54	1.16
SC Cycling Tour SRL	53.99	118.95	40.31	0.75	18.95	0.79
WHITE SOFTWARE SRL	63.02	42.64	36.58	0.58	57.36	0.59
TOURISM EVOLVE SRL	71.39	9.45	78.09	1.09	90.55	1.09
SC DB OFFICE ARHITECTURE SRL	103.79	0	122.58	1.18	11.46	1.28
SC SERIT SYSTEM SRL DB OFFICE ARCHITECTURE SRL	103.79	0	122.58	1.18	11.46	1.28
ANTREPRENORIAT START 23 SRL-D	24.51	22.18	42.41	1.73	77.82	3.58
PROLOGYSOFTWARE	56.49	6.18	51.55	0.91	93.82	0.91
RUSTIC TURISM OFFICE(PROLOGYSOFTWARE S.R.L)	56.49	6.18	51.55	0.91	93.82	0.91
SC LIMNIONAS SRL	80.04	0.93	104.97	1.31	99.07	1.31
ARMONIA DIS-ART SRL	77.58	3.37	15.46	0.2	94.83	0.21
CLEANON C.C. SRL	17.66	115.59	42.86	2.43	20.45	2.51
OFF THE RECORD S.R.L.	69.31	2.82	100.93	1.46	97.17	1.46
INSPIRE CONCEPT SRL	35.25	4.7	59.2	1.68	95.3	1.68
NOVARAMOD	30.82	58.6	16.81	0.55	42.02	0.77
MT Datamart SRL	129.38	69.74	26.12	0.2	30.26	0.21
AUTOMATA CREATIVE SOFTWARE SRL	126.27	5.44	15.37	0.12	94.56	0.12

Company name	I1	I2	I3	I4	I5	I6
BIROU DE ARHITECTURA PEPICI -BIRLAN	35.91	12.9	76.45	2.13	87.1	2.15
LINKMAN COMMUNICATION SRL	75.89	24.56	70.22	0.93	70.48	0.93
SERVICE MEDICAL BROKMED S.R.L.	44.07	17.12	44.28	1	64.86	1.27
VAIDA EMBROIDERY ART SRL	50.17	3.12	63.36	1.26	47.53	1.9
AVANGARD MEDIA	55.54	10.08	88.67	1.6	90.38	1.6
SC SANIVAP ECO CLEANING SRL	28.5	28.02	27.7	0.97	71.98	1.17
EUPHORIC TRIPS & TRAVEL SRL	5.09	50.28	11.14	2.19	50.58	2.35
PRESTIGE PHOTOGRAPHY AGENCY SRL-D	33.66	11.24	22.09	0.66	88.97	0.69
MERRYOKIDS SRL	60.01	52.02	11.01	0.18	47.98	0.3
IT Production SRL-D	98.63	53.44	29.24	0.3	46.56	0.3
Exit Media SRL	31.16	5.84	7.76	0.25	20.12	1.5
URBAN MOVEMENT SRL	86.42	99.1	10.15	0.12	0.9	0.13
SC LU AGENCY CREATIVE IDEAS SRL	42.71	0.77	21.33	0.5	99.23	0.5
XPRESS PRODUCTION SRL	68.57	1.56	27.09	0.39	98.44	0.39
SC DDA LIFESTYLE & C0. SRL-D	24.37	12.48	66.32	2.72	87.52	2.72
SC PELINISTEPEPACE PRODUCTION SRL	54.47	1.94	30.02	0.55	95.42	0.65
AURA WEDDING AND PARTY SRL	97.53	58.38	31.33	0.32	29.4	0.34
DENTALIA MEDICAL SRL	30.87	82.12	57.41	1.86	13.76	5.38
Loveartsyou SRL	62.77	13.03	76.25	1.21	31.34	1.21
C WEB DESIGN BUSINESS S.R.L.	71.14	12.11	88.37	1.24	87.89	1.27
Editura Aegyssus SRL	56.32	32.79	66.88	1.19	67.21	1.21
CREATIVE PARTY TIME SRL	94.89	2.07	94.43	1	97.93	1
Carvo Min-MH Media SRL	125.75	1.13	66.81	0.53	98.87	0.55
EMAS STORE SRL	48.57	17.62	71.18	1.47	39.7	1.5
HIDRO ROYAL GEOEXPERT S.R.L.	52.17	18.29	22.74	0.44	28.95	0.51
Cep-Constructor SRL-D	12.61	61.33	5.63	0.45	45.38	0.45
IE Traditional SRL	34.44	86.34	20.97	0.61	13.66	0.61
UPON PILLBOX SRL	22.53	97.99	17.9	0.79	0.21	0.82
SC SONJALINE SRL	70.35	52.77	40.82	0.58	47.33	0.58
HAPPY BUSINESS KID S.R.L.	60.03	2.85	68.19	1.14	97.15	1.14
EDEN BY OANA THOMAS SRL-D	90	149.43	93.14	1.03	51.17	1.37
Raw Design Atelier SRL	80.66	95.45	25.44	0.32	4.77	0.32
SC WHERE DESIGN SRL - D	80.76	0.5	12.64	0.16	99.5	0.16
MM IT SOLUTIONS SRL	91.86	8.09	144.67	1.57	91.91	1.7
VISUAL JOY PRODUCTION	39.96	40.93	59.31	1.48	59.07	2.64
CREATIVE IT LEADERS SRL	89.76	3.6	72.2	0.8	96.4	0.8
SC NETVERS HOSTING SRL	59.82	25.45	73.1	1.22	74.8	6.75
RAPITECTURA SRL	42.42	4.2	60.21	1.42	95.8	1.97
RED VISION SRL	15.66	48.06	5.42	0.35	50.42	0.51
TRANSYLVANIA HIGH TECH SOLUTIONS	85.28	0.34	62.96	0.74	64.51	0.78
DIGITAL FORMULA POST PRODUCTION SRL	62.19	7.41	39.84	0.64	76.94	0.76
SC Jumbo Holidays SRL	41	100.12	11.7	0.29	4.17	0.29
VECTOR ADS SRL	91.3	40.83	38.38	0.42	53.84	0.42
PREMIUM CLOSER SRL	44.78	20.29	27.98	0.62	79.71	0.64
ONLINE MARK SRL	23.11	6.23	17.11	0.74	91.36	0.75
ACODEMY SRL	69.66	93.33	32.15	0.46	6.67	0.46
SC 1001 ESCAPES SRL	32.62	9.39	43.06	1.32	90.96	2.13
Mob Performance SRL	7.99	64.86	3.69	0.46	31.84	0.48
YES TRAINING SRL	34.75	1.64	51.27	1.48	88.63	1.71
Principii Mob	15.17	12.48	32.14	2.12	45.12	3.14
Party Pics	147.03	35.64	23.88	0.16	64.36	0.23
S.C PESOA DINAMIC SRL	13.13	38.28	4.21	0.32	49.11	0.37
ROPESC INVEST SRL	187	77.27	111.56	0.6	22.73	0.6
ATELIERUL MATASE SRL	23.04	2.45	8.74	0.38	88.82	1.79
ALLNEAGU SRL-D	10.77	110.51	5.55	0.52	15.73	1.77
Sky Turism SRL	68.94	163.66	31.39	0.46	46.39	0.46
COBI BICYCLE S.R.L.	49.43	70.63	15.1	0.31	29.37	0.39
NN COACHING AND	29.07	55.1	127.78	4.4	38.85	4.4
SC MOD TRADITIONAL SRL - D	18.26	8.81	15.74	0.86	73.49	3.82
SIBARA COMPANY S.R.L.	126.19	46.08	23.95	0.19	31.86	39.26
ENTRENET CILV SRL	53.58	4.31	69.45	1.3	70.09	1.73
GRADINARUL ANDREI SRL	79.11	1.54	36.29	0.46	98.46	0.5
Dental flow SRL	18.72	7.9	15.15	0.81	75.74	0.97

Company name	I1	I2	I3	I4	I5	I6
HAPPY AD SRL	32.02	79.88	29.27	0.91	20.12	1.88
SC ALPINE ADVENTURE CONSULTANTS SRL	41.22	8.71	65.12	1.58	68.12	1.58
WE ARE MONO SRL	1.26	52.78	1.66	1.31	46.21	2.12
Doctor Dermatolog A-Z SRL	3.65	57.59	43.38	11.88	42.95	13.16
THE FOOD PROJECT SRL	66.32	17.14	11.56	0.17	82.86	0.17
UNIQUE IDEAS DESIGN	43.69	77.7	4.12	0.09	17.95	0.1
SC DAVING TOU SRL	69.36	70.82	21.03	0.3	30.33	0.4
SC MOBIMAR EXPERT SRL	20.97	2.44	19.22	0.92	77.46	1.14
TEA TREE S.R.L.	53.61	3.3	104.01	1.94	96.7	1.94
DODO ADV SRL	51.93	5.78	94.33	1.82	94.22	1.82
ARM FUTURE	83.14	25.62	66.39	0.8	74.38	0.8
CITY BOUTIQUE SRL	13.22	42.88	14.25	1.08	57.12	1.08
SC HUMAN BEHAVIOR RESEARCH SRL	30.09	60.16	30.72	1.02	40.01	1.04
TALENTAGENGY.RO SRL	95.34	2.77	6	0.06	97.23	0.06
SC GEORGE AUTO CONCEPT SRL	22.86	89.17	35.75	1.56	10.83	1.91
CARPATHIAN ESCAPES SRL	97.51	59.77	21.01	0.22	11.75	0.39
AVENTURIERUL ZAMBARET SRL	30.41	16.37	38.06	1.25	83.63	1.26
CLAU ENTERPRISES SRL	26.61	8.17	20.16	0.76	91.83	0.81
GUSERO SERVICE ROTI SRL	7.64	169.99	12.71	1.66	82.73	3.79
MTB PROCONSULT XYZ SRL	53.14	217.64	24.5	0.46	117.64	0.46
APPMED INNOVATION SRL	17.23	39.65	42.59	2.47	48.53	2.96
KINETOSTARS MED S.R.L.	128.06	3.24	209.15	1.63	96.76	1.63
COPILUL CĂLĂTOR S.R.L.	61.36	2.6	22.13	0.36	97.4	0.36
AXIS CAR SRL	83.72	34.09	15.65	0.19	13.95	0.58
Mischihobita SRL-D	6.88	149.09	10.21	1.48	56.5	2.12
Monobloc Design SRL	3.45	81.08	5	1.45	17.91	1.45
SC CONTENT WIZARDS SRL	43.56	18.57	39.16	0.9	81.43	0.9
BVL Design Concept SRL	170.89	17.12	18.14	0.11	82.88	0.11
SC EXE PRINT CENTER SRL	83.97	0.52	29.58	0.35	57.23	1.53
MEMIDRON SRL	79.65	11.47	87.43	1.1	88.53	1.1
N&T PICTURES 2015	62.87	0.33	25.81	0.41	99.67	0.41
SC RUXANDA DENT SRL-D	16.21	15.13	13.38	0.83	41.55	2.78
COFFEE GEAR S.R.L.	11.09	12.96	9.76	0.88	84.57	1
SC SMART FAMILY SRL	14.21	18.16	25.86	1.82	66.44	2.09
CISCOSAN SRL	190.46	63.58	39.93	0.21	18.17	4.85
EDUCATION FOR THE LITTLE ONES SRL	16.38	4.53	11.49	0.7	95.94	0.84
Eurocasa Travel AGT SRL	8.02	19	20.24	2.52	81	5.19
OPTIM PROJECT	14.07	101.95	1.33	0.09	1.95	1.38
Pixel Art Software	35.24	3.1	45.99	1.3	96.9	2.13
SC IDEAS GROUP EDUCATIONAL SRL-D	85.65	7.51	33.37	0.39	69.78	0.39
CUCBUC SRL	58.27	62.39	36.97	0.63	37.61	0.63
LUIS & CRIS CONCEPT CREATIV SRL-D	50.9	135.91	30.69	0.6	35.91	0.61
SC ALERTIST SRL-D	168.38	9.88	45.88	0.27	19.19	0.29
YOR ALPIN TAXI S.R.L.	5.7	37.06	4.07	0.71	62.94	2.66
VIBE SOFTWARE	52.65	0	14.05	0.27	100	0.27
MALKA CONSULTING	17.01	5	6.21	0.37	95	0.38
SC KINETO ZEN SRL	5.82	35.19	5.48	0.94	66.69	5.32
CARDBOARD NETWORK SRL	63.39	39.31	54.52	0.86	7.62	8.19
SC ALBAWOOD SRL - D	91.13	13.02	34.31	0.38	6.41	5.7
SC LILIA SRL	15	83.74	9.6	0.64	14.38	2.2
LUDOR ENGINEERING SRL	28.38	11.79	4.93	0.17	10.87	0.2
SC TOTAL CREATE SRL	2.02	34.27	3.43	1.7	67.46	2.13
SC. E MARKETING HUB SRL-D (fosta IMARKETINGNEWS SRL-D)	56.29	0.15	6.77	0.12	99.85	0.12
ZDZ PLAYGROUND SRL	33.32	88.32	0.67	0.02	11.71	0.02
E-TOP COMPANY SRL	3.58	53.39	3.03	0.85	46.61	0.85
MENTSEC IT SRL	18.69	18.47	4.76	0.25	81.53	0.33
FABRICA DE POVEȘTI SRL	17.02	153.99	20.26	1.19	53.99	6.53
EASY BOOKIG TOUR SRL	14.26	51.61	2.04	0.14	48.39	0.14
RAPID ROBOTICS SRL	34.85	34.67	15.21	0.44	12.86	0.95
SC PHOTO PICTURE SRL	97	3.96	13.08	0.13	96.04	0.13
KEYTEK INNOVATION	9.52	91.61	6.22	0.65	8.39	0.91
SC CENTRUL IPSI SRL	16.81	35.21	40.83	2.43	64.79	3.59
SC FOTO&FILM 365	8.56	26.64	3.32	0.39	15.6	0.44

Company name	I1	I2	I3	I4	I5	I6
SC CYCLE MANAGEMENT SRL	11.76	14.51	19.52	1.66	85.49	1.97
NENA - P JUNIOR SRL	15.85	4.78	10.01	0.63	21.17	1.1
SC DREAMSCAPE SRL	49.39	172.64	19.32	0.39	72.64	0.4
RICIMOC SRL-D	18.33	139.46	7.94	0.43	66.47	0.83
SC GROZAWORLD SRL-D(SMARTERS GROWTH AGENCY S.R.L.)	2.62	55.57	11.2	4.28	44.43	4.68
Xtrabuild Development	42.05	1.3	8.6	0.2	98.7	0.21
ATELIER DE ARTE SI	53.16	99.9	13.05	0.25	47.23	0.5
BUSINESS PULSE SRL	5.02	1.19	1.58	0.31	98.81	0.31
Equal Group Expert SRL	7.77	78.13	5.09	0.65	18.26	0.68
MAYMU TRAVEL SRL	88.85	0.53	35.84	0.4	99.47	0.4
AICI STUDIO DE ARHITECTURĂ S.R.L.	38.48	6.09	6.4	0.17	93.91	0.19
HIGHLIGHT EVENTS 4K S.R.L	100.3	4.31	2.2	0.02	95.69	0.02
SC Centrul Vechi SRL	118.68	29.46	16.64	0.14	68.59	0.17
SC SKY PROFESSIONALS SRL	1.57	70.39	1.1	0.7	29.66	0.7
SC LOMIO IMAGE SRL	35.88	14.85	10.1	0.28	69.35	0.28
ALEXANDRA COSNAROVICI DESIGN SRL	21.7	94.79	31.84	1.47	5.21	1.77
MODE DANUBE SRL-D	4.77	104.08	4.22	0.89	4.08	0.94
ATELIERE EDUCREATIVE SRL	34.8	9.26	17.31	0.5	90.74	0.5
CITY-DERM SRL-D	9.9	12.1	6.55	0.66	48.96	1.08
SC. INNOVATIVE CONSULTING TEAM	125.57	109.65	11.25	0.09	9.65	0.1
CLAY PLAY SRL	10.24	9.24	9.15	0.89	72.25	1.35
KITE MEDIA STUDIO	35.47	36.72	10.92	0.31	6.57	0.67
UNU AQUASCAPE SRL	39.7	0.18	94.99	2.39	99.82	2.39
110 BPM PRODUCTION STUDIO SRL	15.4	84.37	17.58	1.14	14.15	2.92
MUST TRAVEL COMPANY SRL	67.44	56.12	2.05	0.03	40.89	0.03
GM DESIGN AND STRUCTURES SRL-D	48.96	0	23.5	0.48	91.96	0.52
DENTIS SMILE SRL	3.64	3	2.56	0.7	75.5	0.88
SIM AUTO TOTAL SERVICE SRL	0.8	40.46	2.35	2.94	26.97	8.59
MY UNIQUE COSSETTE SRL	93.69	9.03	13.54	0.14	10.53	1.33
SC 59sec SRL	96.56	48.47	1.64	0.02	51.53	1
APIHOUSE S.R.L.	0.62	127.78	2.01	3.24	27.8	3.24
CENTRU MEDICAL SANAVITA	11.45	49.09	2.72	0.24	50.91	0.83
Clinica Stomatologică	0.7	96.06	2.07	2.95	4.01	142.16
DAVID STEPHAN TAILOR S.R.L	3.83	43.55	0.77	0.2	55.72	0.21
SC. ONE IT SOFTWARE SRL	37.5	188.5	15.64	0.42	87.11	0.42
VIRTUAL STEPS SRL	73.31	64.16	29.5	0.4	35.84	0.4
KUJI LUXURY SRL	8.08	70.03	5.99	0.74	29.97	0.74
STUDIO PIX MASTER SRL-D	91.81	1.3	63.48	0.69	98.7	0.69
ALSEC SECURITY S.R.L.	18.34	115.03	10.76	0.59	97.81	0.65
IAL CROWN SRL	93.64	25.78	20.86	0.22	74.22	0.22
CRIOKINETIC SRL	97	13.97	3.88	0.04	6.51	0.67
VALVET ASISTANCE SRL	97	44.26	3.15	0.03	55.74	0.03
Dermogenesis SRL	94.5	17.98	3.87	0.04	6.79	0.59
EVIVID 13 CREATIVE SRL	10.27	237.71	7.61	0.74	137.71	0.93
ZEN CENTER SRL	1.34	57.41	1.9	1.43	42.59	1.44
SC MAFILM SERVICES SRL	58.24	100	8.28	0.14	104.6	0.14
EMOTIONS MEDIA PRODUCTION SRL (THE SILICON JOURNEY)	0.95	103.69	4.96	5.25	3.69	5.25
SC KRONOXY SOFT SRL	0.3	86.78	1.99	6.59	13.22	8.32
Pintea Consult Med	1.12	1.8	0.99	0.88	98.2	8.29
VMP Construct SRL	9.17	70.59	0.24	0.03	29.41	0.12
Schnel Soft Tech SRL	80	0.29	2.09	0.03	99.71	0.06
SC DAMAD SMART SRL	1.3	80.66	4.32	3.33	19.34	3.33
OUTDOOR 360 SRL	2.47	0.83	1.09	0.44	91.95	0.75
SC AVANTEVO SRL	21.57	0	3.3	0.15	58.7	0.22
ADRIAS MOB SRL	81.11	0.46	1.94	0.02	4.1	0.44
FILMĂRIDESUS.RO SRL	3.62	5.77	1.57	0.43	61.7	0.91
FANALEX MEDIA SRL	0.68	79.83	0.34	0.51	26.52	0.67
Dania Traduceri	48.15	87.69	0.91	0.02	2.9	0.04
LATIN STREET DANCE	2.69	143.7	10.25	3.81	43.7	3.81
BONTON EVENTS SRL	13	165.96	4.9	0.38	89.69	0.39
SC FUN FOR EVERYBODY SRL	97	0.06	2.04	0.02	86	0.02

Company name	I1	I2	I3	I4	I5	I6
3D EU INTEGRATED DESIGN SERVICES SRL	23.55	0.62	1.94	0.08	99.38	0.08
SOUND OF NATURE SRL	100	20.88	0.44	0	19.52	0.32
SC GRANAT CREATIVE TEAM SRL	0	0.06	0.03	7.65	0.04	7.65
ESTER MEDICAL SRL	38.13	4.68	52.91	1.39	123.73	3.95
COUNTRYBALL SRL	20.84	0.27	2.12	0.1	22.59	0.12
SC GEPETTO'S THEATER SRL	13.53	18.07	6.94	0.51	81.93	0.51
SMART IMPROVEMENT TECHNOLOGY S.R.L	158	16.79	6.1	0.04	0.75	0.56
C_LOCK GAMES SRL	0.1	84.59	0.12	1.14	15.43	1.16
SC ACT DENTAL SRL	17.42	0	0.95	0.05	32	0.06
SC NEO VISION TECHNOGIES SRL	35.58	51.98	47.79	1.34	48.02	2.06
SC ELASTIC STUDIO SRL	47.6	11.29	56.81	1.19	88.71	1.58
FOTO ART MOLDOVA SRL	5.01	2.98	1.16	0.23	97.02	0.23
SP CLEAN SRL	20.78	11.72	48.38	2.33	88.28	5.63
SC TOUCHED MARKETING SRL	92.63	6.47	93.38	1.01	93.53	1.01
SC QARTUM ZONE SRL-D	67.33	7.45	92.04	1.37	92.55	1.37
SIGMA APPDEV SRL	71.76	42.82	49.5	0.69	57.18	0.69
AQUA FRESH CRISTAL	0.71	107.74	0.07	0.09	7.74	0.12
STUDIO ILLUSIO S.R.L.	58.69	1.73	39.61	0.67	98.27	0.74
Concept Econart	85.03	18.94	67.32	0.79	81.06	1.55
GROUNDWORK PLANNING S.R.L.	55.45	1.83	0.2	0	0.1	0
RAMIAN-ATELIER CREATIE S.R.L.	21.38	24.55	81.8	3.83	75.45	6.99
HOUSE DOCTOR DEMAROS SRL	60.36	36.58	9.62	0.16	47.16	0.32
DIGITAL NINJA SRL-D	2.04	61.56	1.62	0.79	38.44	0.94
ANIMAR EXPERTVET SRL	6.23	73.23	6.2	1	26.77	1.04
A4D STOVI DESIGN STUDIO SRL-D	1.83	16.93	5.27	2.87	83.07	3.98
LUNA PICTURES SRL	0	0.49	0	0.63	99.64	0.68
PETATEK SRL-D	0	105.9	0	0	0.79	0.51
SUN LUXES INT SRL	0	26.06	0	0.5	74.47	0.5
SIA SPĂLĂTORIE TEXTILĂ SRL	0	41.46	0	1.81	58.54	7.1

Annex 2. Moving the companies from one class to another following the application of the discriminant analysis

Company	Class number from cluster analysis	Class number from the discriminant analysis
SC DROPIA VFX SRL	2	1
ON POINT SOLUTIONS	2	1
SC METALTEST NDT EXPERT	2	3
RAL ADVERT SRL-D	3	1
MOBACO EXPERT SOLUTIONS SRL	3	1
SC DB OFFICE ARHITECTURE SRL	1	2
SC SERIT SYSTEM SRL DB OFFICE ARCHITECTURE SRL	1	2
AUTOMATA CREATIVE SOFTWARE SRL	2	1
VAIDA EMBROIDERY ART SRL	2	1
EMAS STORE SRL	2	1
VISUAL JOY PRODUCTION	3	1
ACODEMY SRL	2	3
COBI BICYCLE S.R.L.	2	3
NN COACHING	2	3
SC EXE PRINT CENTER SRL	1	2
CUCBUC SRL	2	3
SC CENTRUL IPSI SRL	3	1
ATELIER DE ARTE SI	2	3
CLINICA STOMATOLOGICĂ	3	2
SC MAFILM SERVICES SRL	3	1

Annex 3. The grouping of companies resulting from the two analyzes: the cluster analysis and the discriminant analysis

Class	Cluster analysis	Discriminant analysis
Class 1	BONPROIECT SRL, MC LASERLAND SRL, ARBEIT ARHITECT PROJECT SRL, EVOPLAY STUDIOS, FREELANCER IT SRL, ARHITECTURES PROJECTS DEVELOPMENT- 8 SRL, MELIOR CRAS SRL, SC POPESTIDENT SRL, Eventpay SRL, OUTREACH	BONPROIECT SRL, MC LASERLAND SRL, ARBEIT ARHITECT PROJECT SRL, EVOPLAY STUDIOS, FREELANCER IT SRL, ARHITECTURES PROJECTS DEVELOPMENT- 8 SRL, SC DROPIA VFX SRL, MELIOR CRAS SRL, SC POPESTIDENT SRL, Eventpay

Class	Cluster analysis	Discriminant analysis
	DESIGN SRL, Clinica Smile Life SRL, ZMARTCODING S.R.L. Blaze Devs SRL-D, FAST PITSTOP SRL, GRANDEUR PAB SRL, ZERO DPI MEDIA SRL, ARNHITECTURA S.R.L., Frame advertising SRL, SC BOCASOFT SRL, SC DESIGN MOB PLUS SRL, Dental Corp, OTEEA SRL, SC PROVANOR SRL, CLEAR VIEW ARHITECTURE&DESIGN SRL, SC. NEW ENTERTAINMENT TELEVISION MOTION GRAPHICS S.R.L., SC DEV SOFTWARE TEAM SRL, GARDEN CORNER SRL, Herainvestimus SRL, SC ROLTEX MOB SRL - D, IMPLANTOCLINIC SRL, SC. WPRIDERS SRL, S.C. KRISTOTEQ CNC SOLUTIONS SRL, AZZA DDC SRL, URBAN TALE SRL, SC ARCHIVISIO CONCEPT STUDIO SRL, ARCA CONSTRUCT DESIGN SRL, SALISERAW SRL, Fabrica de Intarsii SRL, LEMNART CONCEPT TRANSFACTOR TECHNOLOGIES SRL, FEUILLE DOR, I DRAW STUDIO DE ARHITECTURA SRL, SC DEVAPP MOBILE SRL, SC. VIVA LA VIDEO SRL-D, DISORDERART SRL-D, DR. DENT MEDICAL SERVICES SRL, SC ESCAPE RULES SRL, MINDFIELD SOLUTIONS S.R.L., TOURISM EVOLVE SRL, SC DB OFFICE ARHITECTURE SRL, SC SERIT SYSTEM SRL, ANTREPRENORIAT START 23 SRL-D, PROLOGYSOFTWARE, RUSTIC TURISM OFFICE(PROLOGYSOFTWARE S.R.L, SC LIMNIONAS SRL, ARMONIA DIS-ART SRL, OFF THE RECORD S.R.L., INSPIRE CONCEPT SRL, BIROU DE ARHITECTURA PEPICI -BIRLAN, LINKMAN COMMUNICATION SRL, "SERVICE MEDICAL BROKMED S.R.L., AVANGARD MEDIA, SC SANIVAP ECO CLEANING SRL, PRESTIGE PHOTOGRAPHY AGENCY SRL-D, SC LU AGENCY CREATIVE IDEAS SRL, XPRESS PRODUCTION SRL, SC DDA LIFESTYLE & C0. SRL-D, SC PELINISTEPEPACE PRODUCTION SRL, C WEB DESIGN BUSINESS S.R.L., Editura Aegyssus SRL, CREATIVE PARTY TIME SRL, Carvo Min-MH Media SRL, HAPPY BUSINESS KID S.R.L., SC WHERE DESIGN SRL - D, MM IT SOLUTIONS SRL, CREATIVE IT LEADERS SRL, SC NETVERS HOSTING SRL, RAPITECTURA SRL, TRANSYLVANIA HIGH TECH SOLUTIONS, DIGITAL FORMULA POST PRODUCTION SRL, PREMIUM CLOSER SRL, ONLINE MARK SRL, SC 1001 ESCAPES SRL, "YES TRAINING SRL, ATELIERUL MATASE SRL, SC MOD TRADITIONAL SRL - D, ENTRENET CILV SRL, GRADINARUL ANDREI SRL, Dental flow SRL, SC ALPINE ADVENTURE CONSULTANTS SRL, THE FOOD PROJECT SRL, SC MOBIMAR EXPERT SRL, TEA TREE S.R.L., DODO ADV SRL, ARM FUTURE, TALENTAGENGY.RO SRL, AVENTURIERUL ZAMBARET SRL, CLAU ENTERPRISES SRL, KINETOSTARS MED S.R.L., COPILUL CĂLĂTOR S.R.L., SC CONTENT WIZARDS SRL, SC EXE PRINT CENTER SRL, MEMIDRON SRL, N&T PICTURES 2015, COFFEE GEAR S.R.L., SC SMART FAMILY SRL, "EDUCATION FOR THE LITTLE ONES SRL, Eurocasa Travel AGT SRL, Pixel Art Software, SC IDEAS GROUP EDUCATIONAL SRL-D, VIBE SOFTWARE, MALKA CONSULTING, SC. E MARKETING HUB SRL-D (past IMARKETINGNEWS SRL-D), MENTSEC IT SRL, SC PHOTO PICTURE SRL, SC CYCLE MANAGEMENT SRL, Xtrabuild Development, BUSINESS PULSE SRL, MAYMU TRAVEL SRL, AICI STUDIO DE ARHITECTURĂ	SRL, OUTREACH DESIGN SRL, Clinica Smile Life SRL, ZMARTCODING S.R.L., Blaze Devs SRL-D, FAST PITSTOP SRL, ON POINT SOLUTIONS, GRANDEUR PAB SRL, ZERO DPI MEDIA SRL, ARNHITECTURA S.R.L., Frame advertising SRL, Ral Advert SRL-D, SC BOCASOFT SRL, SC DESIGN MOB PLUS SRL, Dental Corp, OTEEA SRL, SC PROVANOR SRL, CLEAR VIEW ARHITECTURE&DESIGN SRL, SC. NEW ENTERTAINMENT TELEVISION MOTION GRAPHICS S.R.L., SC DEV SOFTWARE TEAM SRL, GARDEN CORNER SRL, Herainvestimus SRL, SC ROLTEX MOB SRL - D, IMPLANTOCLINIC SRL, SC. WPRIDERS SRL, S.C. KRISTOTEQ CNC SOLUTIONS SRL, AZZA DDC SRL, URBAN TALE SRL, SC ARCHIVISIO CONCEPT STUDIO SRL, ARCA CONSTRUCT DESIGN SRL, SALISERAW SRL, Fabrica de Intarsii SRL, LEMNART CONCEPT, TRANSFACTOR TECHNOLOGIES SRL, FEUILLE DOR, I DRAW STUDIO DE ARHITECTURA SRL, SC DEVAPP MOBILE SRL, SC. VIVA LA VIDEO SRL-D, DISORDERART SRL-D, DR. DENT MEDICAL SERVICES SRL, SC ESCAPE RULES SRL, MINDFIELD SOLUTIONS S.R.L., MOBACO EXPERT SOLUTIONS SRL, TOURISM EVOLVE SRL, ANTREPRENORIAT START 23 SRL-D, PROLOGYSOFTWARE, RUSTIC TURISM, OFFICE(PROLOGYSOFTWARE S.R.L), SC LIMNIONAS SRL, ARMONIA DIS-ART SRL, OFF THE RECORD S.R.L., INSPIRE CONCEPT SRL, AUTOMATA CREATIVE SOFTWARE SRL, BIROU DE ARHITECTURA PEPICI -BIRLAN, LINKMAN COMMUNICATION SRL, SERVICE MEDICAL BROKMED S.R.L., VAIDA EMBROIDERY ART SRL, AVANGARD MEDIA, SC SANIVAP ECO CLEANING SRL, PRESTIGE PHOTOGRAPHY AGENCY SRL-D, SC LU AGENCY CREATIVE IDEAS SRL, XPRESS PRODUCTION SRL, SC DDA LIFESTYLE & C0. SRL-D, SC PELINISTEPEPACE PRODUCTION SRL, C WEB DESIGN BUSINESS S.R.L., Editura Aegyssus SRL, CREATIVE PARTY TIME SRL, Carvo Min-MH Media SRL, EMAS STORE SRL, HAPPY BUSINESS KID S.R.L., SC WHERE DESIGN SRL - D, MM IT SOLUTIONS SRL, VISUAL JOY PRODUCTION, CREATIVE IT LEADERS SRL, SC NETVERS HOSTING SRL, RAPITECTURA SRL, TRANSYLVANIA HIGH TECH SOLUTIONS, DIGITAL FORMULA POST PRODUCTION SRL, PREMIUM CLOSER SRL, ONLINE MARK SRL, SC 1001 ESCAPES SRL, YES TRAINING SRL, ATELIERUL MATASE SRL, SC MOD TRADITIONAL SRL - D, ENTRENET CILV SRL, GRADINARUL ANDREI SRL, Dental flow SRL, SC ALPINE ADVENTURE CONSULTANTS SRL, THE FOOD PROJECT SRL, SC MOBIMAR EXPERT SRL, TEA TREE S.R.L., DODO ADV SRL, ARM FUTURE, TALENTAGENGY.RO SRL, AVENTURIERUL ZAMBARET SRL, CLAU ENTERPRISES SRL, KINETOSTARS MED S.R.L., COPILUL CĂLĂTOR S.R.L., SC CONTENT WIZARDS SRL, MEMIDRON SRL, N&T PICTURES 2015, COFFEE GEAR S.R.L., SC SMART FAMILY SRL, EDUCATION FOR THE LITTLE ONES SRL, Eurocasa Travel AGT SRL, Pixel Art Software, SC IDEAS GROUP EDUCATIONAL SRL-D, VIBE SOFTWARE, MALKA CONSULTING, SC. E MARKETING HUB SRL-D (past IMARKETINGNEWS SRL-D), MENTSEC IT SRL, SC PHOTO PICTURE SRL, SC CENTRUL IPSI SRL, SC

Class	Cluster analysis	Discriminant analysis
	S.R.L., HIGHLIGHT EVENTS 4K S.R.L, SC LOMIO IMAGE SRL, ATELIERE EDUCREATIVE SRL, CLAY PLAY SRL, UNU AQUASCAPE SRL, GM DESIGN AND STRUCTURES SRL-D, DENTIS SMILE SRL, STUDIO PIX MASTER SRL-D, Pintea Consult Med, Schnel Soft Tech SRL, OUTDOOR 360 SRL, SC AVANTEVO SRL, FILMĂRIDESUS.RO SRL, SC FUN FOR EVERYBODY SRL, 3D EU INTEGRATED DESIGN SERVICES SRL, "ESTER MEDICAL SRL, SC GEPETTO'S THEATER SRL, SC ELASTIC STUDIO SRL, FOTO ART MOLDOVA SRL, SP CLEAN SRL, SC TOUCHED MARKETING SRL, SC QARTUM ZONE SRL-D, STUDIO ILLUSIO S.R.L., Concept Econart, RAMIAN-ATELIER CREATIE S.R.L., A4D STOVI DESIGN STUDIO SRL-D, LUNA PICTURES SRL, SUN LUXES INT SRL	CYCLE MANAGEMENT SRL, Xtrabuild Development, BUSINESS PULSE SRL, MAYMU TRAVEL SRL, AICI STUDIO DE ARHITECTURĂ S.R.L., HIGHLIGHT EVENTS 4K S.R.L, SC LOMIO IMAGE SRL, ATELIERE EDUCREATIVE SRL, CLAY PLAY SRL, UNU AQUASCAPE SRL, GM DESIGN AND STRUCTURES SRL-D, DENTIS SMILE SRL, STUDIO PIX MASTER SRL-D, SC MAFILM SERVICES SRL, Pintea Consult Med, Schnel Soft Tech SRL, OUTDOOR 360 SRL, SC AVANTEVO SRL, FILMĂRIDESUS.RO SRL, SC FUN FOR EVERYBODY SRL, 3D EU INTEGRATED DESIGN SERVICES SRL, ESTER MEDICAL SRL, SC GEPETTO'S THEATER SRL, SC ELASTIC STUDIO SRL, FOTO ART MOLDOVA SRL, SP CLEAN SRL, SC TOUCHED MARKETING SRL, SC QARTUM ZONE SRL-D, STUDIO ILLUSIO S.R.L., Concept Econart, RAMIAN-ATELIER CREATIE S.R.L., A4D STOVI DESIGN STUDIO SRL-D, LUNA PICTURES SRL, SUN LUXES INT SRL
Class 2	BOLD TEHNOLOGIES SRL, SC DROPIA VFX SRL, ON POINT SOLUTIONS, SC METALTEST NDT EXPERT, TECHAROMA MEDIA SRL, Adar Design Mix, SC TEATRU LA CINEMA SRL, WHITE SOFTWARE SRL, MT Datamart SRL, AUTOMATA CREATIVE SOFTWARE SRL, VAIDA EMBROIDERY ART SRL, MERRYOKIDS SRL, IT Production SRL-D, URBAN MOVEMENT SRL, AURA WEDDING AND PARTY SRL, Loveartsyou SRL, EMAS STORE SRL, HIDRO ROYAL GEOEXPERT S.R.L., SC SONJALINE SRL, Raw Design Atelier SRL, VECTOR ADS SRL, ACODEMY SRL Party Pics, ROPESC INVEST SRL, COBI BICYCLE S.R.L., NN COACHING AND SIBARA COMPANY S.R.L., SC DAVING TOU SRL, CARPATHIAN ESCAPES SRL, AXIS CAR SRL, BVL Design Concept SRL, CISCOSAN SRL CUCBUC SRL, SC ALERTIST SRL-D, CARDBOARD NETWORK SRL, SC ALBAWOOD SRL - D, ATELIER DE ARTE SI, SC Centrul Vechi SRL, SC. INNOVATIVE CONSULTING TEAM, MUST TRAVEL COMPANY SRL, MY UNIQUE COSSETTE SRL, SC 59sec SRL, VIRTUAL STEPS SRL, IAL CROWN SRL, CRIOKINETIC SRL, VALVET ASISTANCE SRL, Dermogenesis SRL, ADRIAS MOB SRL, SOUND OF NATURE SRL, SMART IMPROVEMENT TECHNOLOGY S.R.L, SIGMA APPDEV SRL, GROUNDWORK PLANNING S.R.L., HOUSE DOCTOR DEMAROS SRL	BOLD TEHNOLOGIES SRL, TECHAROMA MEDIA SRL, Adar Design Mix, SC TEATRU LA CINEMA SRL, WHITE SOFTWARE SRL, SC DB OFFICE ARHITECTURE SRL, SC SERIT SYSTEM SRL, DB OFFICE ARCHITECTURE SRL, MT Datamart SRL, MERRYOKIDS SRL, IT Production SRL-D, URBAN MOVEMENT SRL, AURA WEDDING AND PARTY SRL, Loveartsyou SRL, HIDRO ROYAL GEOEXPERT S.R.L., SC SONJALINE SRL, Raw Design Atelier SRL, VECTOR ADS SRL, Party Pics, ROPESC INVEST SRL, SIBARA COMPANY S.R.L., SC DAVING TOU SRL, CARPATHIAN ESCAPES SRL, AXIS CAR SRL, BVL Design Concept SRL, SC EXE PRINT CENTER SRL, CISCOSAN SRL, SC ALERTIST SRL-D, CARDBOARD, NETWORK SRL, SC ALBAWOOD SRL - D, SC Centrul Vechi SRL, SC. INNOVATIVE CONSULTING TEAM, MUST TRAVEL COMPANY SRL, MY UNIQUE COSSETTE SRL, SC 59sec SRL, Clinica Stomatologică, VIRTUAL STEPS SRL, IAL CROWN SRL, CRIOKINETIC SRL, VALVET ASISTANCE SRL, Dermogenesis SRL, ADRIAS MOB SRL, SOUND OF NATURE SRL, SMART IMPROVEMENT TECHNOLOGY S.R.L, SIGMA APPDEV SRL, GROUNDWORK PLANNING S.R.L., HOUSE DOCTOR, DEMAROS SRL
Class 3	HS MEDICAL S.R.L., TEHNOCONSULT CONCEPT, TECTUM PRO SRL, Ral Advert SRL-D, TRANSILVANIA SMART PHONE SRL, GREEN HOSTEL SG SLR, M.B.S. Precision SRL, Turmar Ionismart SRL,I&I SMART MOB QUALITY S.R.L.,CATERINA - RUL SRL, MOBACO EXPERT SOLUTIONS SRL, SC Cycling Tour SRL, CLEANON C.C. SRL, NOVARAMOD, EUPHORIC TRIPS & TRAVEL SRL, Exit Media SRL, DENTALIA MEDICAL SRL, Cep-Constructor SRL-D, IE Traditional SRL, UPON PILLBOX SRL, EDEN BY OANA THOMAS SRL-D, VISUAL JOY PRODUCTION, RED VISION SRL, SC Jumbo Holidays SRL, Mob Performance SRL, Principii Mob, S.C PESOA DINAMIC SRL, ALLNEAGU SRL-D, Sky Turism SRL, HAPPY AD SRL, WE ARE MONO SRL, Doctor Dermatolog A-Z SRL, UNIQUE IDEAS DESIGN, CITY BOUTIQUE SRL, SC HUMAN BEHAVIOR RESEARCH SRL, SC GEORGE AUTO CONCEPT SRL, GUSERO SERVICE ROTI SRL, MTB PROCONSULT XYZ SRL, APPMED	HS MEDICAL S.R.L., TEHNOCONSULT CONCEPT, SC METALTEST NDT EXPERT, TECTUM PRO SRL, TRANSILVANIA SMART PHONE SRL, GREEN HOSTEL SG SLR, M.B.S. Precision SRL, Turmar Ionismart SRL, I&I SMART MOB QUALITY S.R.L., CATERINA - RUL SRL, SC Cycling Tour SRL, CLEANON C.C. SRL, NOVARAMOD, EUPHORIC TRIPS & TRAVEL SRL, Exit Media SRL, DENTALIA MEDICAL SRL, Cep-Constructor SRL-D, IE Traditional SRL, UPON PILLBOX SRL, EDEN BY OANA THOMAS SRL-D, RED VISION SRL, SC Jumbo Holidays SRL, ACODEMY SRL, Mob Performance SRL, Principii Mob, S.C PESOA DINAMIC SRL, ALLNEAGU SRL-D, Sky Turism SRL, COBI BICYCLE S.R.L., NN COACHING AND, HAPPY AD SRL, WE ARE MONO SRL, Doctor Dermatolog A-Z SRL, UNIQUE IDEAS DESIGN, CITY BOUTIQUE SRL, SC HUMAN BEHAVIOR RESEARCH SRL, SC GEORGE AUTO CONCEPT SRL, GUSERO SERVICE ROTI SRL, MTB PROCONSULT XYZ SRL, APPMED

Class	Cluster analysis	Discriminant analysis
	INNOVATION SRL, Mischihobita SRL-D, Monobloc Design SRL, SC RUXANDA DENT SRL-D, OPTIM PROJECT, LUIS & CRIS CONCEPT CREATIV SRL-D, YOR ALPIN TAXI S.R.L., SC KINETO ZEN SRL, SC LILIA SRL, LUDOR ENGINEERING SRL, SC TOTAL CREATE SRL, ZDZ PLAYGROUND SRL, E-TOP COMPANY SRL, FABRICA DE POVEȘTI SRL, EASY BOOKIG TOUR SRL, RAPID ROBOTICS SRL, KEYTEK INNOVATION, SC CENTRUL IPSI SRL, SC FOTO&FILM 365, NENA - P JUNIOR SRL, SC DREAMSCAPE SRL, RICIMOC SRL-D, SC GROZAWORLD SRL-D, MARTERSGROWTH AGENCY S.R.L., Equal Group Expert SRL, SC SKY PROFESSIONALS SRL, ALEXANDRA COSNAROVICI DESIGN SRL, MODE DANUBE SRL-D, CITY-DERM SRL-D, KITE MEDIA STUDIO, 110 BPM PRODUCTION STUDIO SRL, SIM AUTO TOTAL SERVICE SRL, APIHOUSE S.R.L., CENTRU MEDICAL SANAVITA, Clinica Stomatologică, DAVID STEPHAN TAILOR S.R.L, SC. ONE IT SOFTWARE SRL, KUJI LUXURY SRL, ALSEC SECURITY S.R.L., EVIVID 13 CREATIVE SRL, ZEN CENTER SRL, SC MAFILM SERVICES SRL, EMOTIONS MEDIA PRODUCTION SRL, THE SILICON JOURNEY, SC KRONOXY SOFT SRL, VMP Construct SRL, SC DAMAD SMART SRL, FANALEX MEDIA SRL, Dania Traduceri, LATIN STREET DANCE, BONTON EVENTS SRL, SC GRANAT CREATIVE TEAM SRL, COUNTRYBALL SRL, C_LOCK GAMES SRL, SC ACT DENTAL SRL, SC NEO VISION TECHNOGIES SRL, AQUA FRESH CRISTAL, DIGITAL NINJA SRL-D, ANIMAR EXPERTVET SRL, PETATEK SRL-D, SIA SPĂLĂTORIE TEXTILĂ SRL	INNOVATION SRL, Mischihobita SRL-D, Monobloc Design SRL, SC RUXANDA DENT SRL-D, OPTIM PROJECT, CUCBUC SRL, LUIS & CRIS CONCEPT CREATIV SRL-D, YOR ALPIN TAXI S.R.L., SC KINETO ZEN SRL, SC LILIA SRL, LUDOR ENGINEERING SRL, SC TOTAL CREATE SRL, ZDZ PLAYGROUND SRL, E-TOP COMPANY SRL, FABRICA DE POVEȘTI SRL, EASY BOOKIG TOUR SRL, RAPID ROBOTICS SRL, KEYTEK INNOVATION, SC FOTO&FILM 365, NENA - P JUNIOR SRL, SC DREAMSCAPE SRL, RICIMOC SRL-D, SC GROZAWORLD SRL-D, MARTERS GROWTH AGENCY S.R.L., ATELIER DE ARTE SI, Equal Group Expert SRL, SC SKY PROFESSIONALS SRL, ALEXANDRA COSNAROVICI DESIGN SRL, MODE DANUBE SRL-D, CITY-DERM SRL-D, KITE MEDIA STUDIO, 110 BPM PRODUCTION STUDIO SRL, SIM AUTO TOTAL SERVICE SRL, APIHOUSE S.R.L., CENTRU MEDICAL SANAVITA, DAVID STEPHAN TAILOR S.R.L, SC. ONE IT SOFTWARE SRL, KUJI LUXURY SRL, ALSEC SECURITY S.R.L., EVIVID 13 CREATIVE SRL, ZEN CENTER SRL, EMOTIONS MEDIA PRODUCTION SRL (THE SILICON JOURNEY), SC KRONOXY SOFT SRL, VMP Construct SRL, SC DAMAD SMART SRL, FANALEX MEDIA SRL, Dania Traduceri, LATIN STREET DANCE, BONTON EVENTS SRL, SC GRANAT CREATIVE TEAM SRL, COUNTRYBALL SRL, C_LOCK GAMES SRL, SC ACT DENTAL SRL, SC NEO VISION TECHNOGIES SRL, AQUA FRESH CRISTAL, DIGITAL NINJA SRL-D, ANIMAR EXPERTVET SRL, PETATEK SRL-D, SIA SPĂLĂTORIE TEXTILĂ SRL

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