



# The Influence of Self-Employment on Early-Stage Entrepreneurship in Romania. A Global Entrepreneurship Monitor-Based Analysis

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**Abstract.** The self-employment occupational status has a determinant role in the entrepreneurship development, including generally almost all sectors of the national economy. In this paper, we will focus on this topic. The statistical analysis of this occupational status and its implications on entrepreneurship in Romania in 2015 were considered based on the INSE statistical database, followed by an analysis based on a GEM 2015 (Global Entrepreneurship Monitor) database regarding the main factors influencing early-stage entrepreneurship. To describe the start-up intention and start-up effort, setting out from the literature, we included a set of indicators into the logistic regression analysis as follows: age, income, gender, education, working status, existence of entrepreneur acquaintances, confidence in one's own knowledge, skill, and experience, completing the set with the presence of self-employment, as new research suggests it.

**Keywords:** entrepreneurship, self-employment, occupational choice, Global Entrepreneurship Monitor (GEM)

**JEL Classification:** L26, J24

## **1. Introduction**

The Global Entrepreneurship Monitor (GEM) is the largest research initiative which analyses the propensity of a country's adult population towards participation in entrepreneurial activities and the conditions to increase these entrepreneurial initiatives. Romania participated in the Global Entrepreneurship Monitor between 2007 and 2015, being represented by Babeş–Bolyai University, Faculty of Economics and Business Administration (Györfy, 2014). This analysis is based on the Global Entrepreneurship Monitor Adult Population Survey database for 2015. Section 2 contains the literature review regarding self-employment and entrepreneurship. Section 3 discusses self-employment in Romania; in Section 4, we take into account the main factors influencing early-stage entrepreneurship. Section 5 presents the results, with discussion. Finally, in Section 6, we formulate our conclusions.

## **2. Literature Review**

The topic of self-employment and its main determinants were studied by Verheul et al. (2012) using a database including 8,000 individuals from 29 countries: the 25 EU Member States (2006), the United States, Iceland, Liechtenstein, and Norway. Based on Ajzen's (1991) Theory of Planned Behavior (TPB), they developed five hypotheses focusing on the gender and the entrepreneurial personality as well as on their influence on the preference for self-employment and ability to be involved in self-employment. Originally, Ajzen's (1991) theory differentiates the motivation (intention) and ability (behavioural control), with both having impact on behavioural achievement (Ajzen, 1991). In the case of Norway, this theory was used to predict the employment status choice by Kolvereid (1996) in a survey analysis: the respondents could choose between self-employment and organizational employment. In the case of Russia, in 1997, Tkachev and Kolvereid (1999) focused on a group of students.

Among the main reasons influencing the choice of being a self-employee or an organizational employee enumerated in Kolvereid (1996), we found economic opportunity, autonomy, work load, challenge, taking part in the entire process, avoiding responsibility, and career – based on a sample from Norway containing 372 business school graduates.

In the early literature on business start-ups, self-employment was discussed, among others, by Gatewood et al. (1995), who formulated survey questions related to the reason to start a business: “the autonomy and independence to do what I like through self-employment” and “enjoyment through self-employment”.

The preference of self-employment is primarily an individual choice influenced by the personal attitudes in the same way the entrepreneurial

intention is influenced by them, as Douglas and Shepherd (2002) proved. As Lee et al. (2011) argued, entrepreneurial intentions are influenced by other factors, such as job satisfaction and personal innovation orientation, although their results were based on the investigation of a special group's database, all interviewed people coming from the IT sector. Gender and age were identified as main factors in self-employment intentions by Walker and Webster (2007). In a survey-based analysis in Australia, they found that women had a minor tendency to become self-employees. The same results were concluded by Verheul et al. (2012), analysing 29 countries.

The main aspirations which influenced the decision of becoming a self-employee in Great Britain were analysed by Henley (2007), using a longitudinal dataset. His presumptions that becoming an entrepreneur and a self-employee are preceded by entrepreneurial aspirations and preparations in form of trainings were not proved in the majority of cases.

Carter et al. (2003) identified the main reasons of being a nascent entrepreneur: self-realization, financial success, innovation, and independence. Based on a survey study carried out in the USA, they discussed the topic of self-employment and gender differences.

The business founders were investigated by Kolvereid and Isaksen (2006) in order to identify the relationships between the entrepreneurship and entrepreneurs; based on their analysis, they concluded that "male entrepreneurs are significantly more likely to enter into self-employment" and that the "attitudes may be altered in education and training programs".

In Norway, using the GEM (Global Entrepreneurship Monitor) database alongside another survey analysis database, the preference for self-employment as an explanatory indicator for business start-up intentions and business start-up efforts was used by Kolvereid (2016). Linan and Chen (2009) analysed the entrepreneurial intention in Spain and Taiwan, using the entrepreneurial intention questionnaire (EIQ), focusing on the role of cultural and social particularities as motivational arguments, and "self-employment experience" as explanatory variable was introduced in their structural equation models. The importance of the cultural differences in entrepreneurial career intentions was confirmed by Moriano et al. (2012) in a comprehensive research, in which they included more than 1,000 individuals living in European and Asian countries.

The relations between self-employment and job satisfaction were investigated by Bradley and Roberts (2004), whose results indicate a higher job satisfaction for those who are in this employment status as compared to others.

Delmar and Davidsson (2000) investigated nascent entrepreneurs (those who have just started an individual business) in Sweden. According to their explanation, self-employment was male-dominated in Sweden. In a logistic regression model, they predicted the business start-up intentions of these nascent

entrepreneurs, where self-employment status was introduced among the other explanatory variables (Delmar–Davidsson, 2000).

In a survey analysis in Netherlands, entrepreneurial intentions are explained by Van Gelderen et al. (2008) based on TPB (theory of planned behavior). They also analysed the preference for self-employment, which (as business intention) was motivated in the perception of the studied group by the almost infinite (unbounded) income opportunities compared to the organizational status.

Venture creation is one of the main reasons among the individual intentions of entrepreneurship, as Shook et al. (2003) demonstrated (based on a profound literature review on this topic). Entrepreneurial intentions are analysed by Bae et al. (2014) in relation to entrepreneurship education, differenced by gender or cultural context. A higher risk preference also has a significant impact on entrepreneurial intentions, as Barbosa et al. (2007) indicated based on a survey analysis.

In Liñán et al. (2011), the most influential factors of becoming an entrepreneur were identified as individual perceptions, perceptions regarding the opportunities, and the socio-cultural background – based on GEM data containing 33,731 observations from thirteen countries, in a model in which age, gender, education, income, and work status were the control variables.

One of the main goals of entrepreneurial research is the understanding of the individual entrepreneurial intention and decision-making process, as Fayolle and Liñán (2014) formulated in their study regarding the methodological and theoretical analysis of entrepreneurial intention.

In the literature, among the methodologies based on GEM data, the logistic regression reached a particularly important position (situation).

Gimenez-Nadal et al. (2019) developed an algorithm to measure the variable importance in logistic models, based on their predictive power and using the 2014 Global Entrepreneurship Monitor (GEM) National Level dataset.

The main determinants of the entrepreneurial activity were analysed by Velilla (2018) using a logistic regression model in a comprehensive study focusing on Spain, Europe, the U.S.A., Canada, and Australia. Preference for self-employment in Kolvereid (2016) was analysed using the GEM database and a logistic regression model.

### **3. Self-Employment in Romania**

In the following, we will present the structure of active and newly created enterprises according to legal forms, the most common forms of the private entrepreneurs, and the employees' occupational status in Romania, focusing on the self-employment situation in the country.

The number of active enterprises in Romania increased with 14.24% between 2010 and 2015 mainly due to the increasing number of sole proprietors (an increase of 41.22%). The structural changes from the economic sectors' point of view show a significant increase in the number of enterprises in agriculture (*Table 1*).

**Table 1.** *The number of enterprises by legal forms (a) and economy sectors (b) in Romania in 2010 and 2015*

|                                   |    | 2010    | 2015    | 2015–2010<br>% |
|-----------------------------------|----|---------|---------|----------------|
| <b>(a)</b>                        |    |         |         |                |
| Total                             | Nr | 768,371 | 877,788 | 14.24          |
| Limited liability company         | %  | 63.32   | 55.04   | -0.70          |
| Sole proprietors                  | %  | 35.97   | 44.47   | 41.22          |
| Partnership and other legal forms | %  | 0.71    | 0.49    | -21.13         |
| <b>(b)</b>                        |    |         |         |                |
|                                   |    | 2010    | 2015    | 2015–2010<br>% |
| Total                             | Nr | 768,371 | 877,788 | 14.24          |
| Agriculture                       | %  | 4.67    | 12.18   | 197.84         |
| Industry                          | %  | 9.05    | 8.44    | 6.47           |
| Construction                      | %  | 8.49    | 7.43    | -0.04          |
| Services                          | %  | 77.78   | 71.95   | 5.68           |

*Source: own calculations, INSSE*

In 2015 in Romania, 103,280 newly created enterprises were registered, 12.21% more compared to 2010. The majority of these enterprises had the legal form of limited liability company (54.67%) or of sole proprietorship (45.20%) in the services sector (73.55%) (*Table 2*).

**Table 2.** *The number of newly created enterprises by the legal forms (a) and economic sectors (b) in Romania in 2010 and 2015*

|                                   |    | 2010   | 2015    | 2015–2010<br>% |
|-----------------------------------|----|--------|---------|----------------|
| <b>(a)</b>                        |    |        |         |                |
| Total                             | Nr | 92,045 | 103,280 | 12.21          |
| Limited liability company         | %  | 47.20  | 54.67   | -0.70          |
| Sole proprietors                  | %  | 52.64  | 45.20   | 41.22          |
| Partnership and other legal forms | %  | 0.17   | 0.14    | -21.13         |

(b)

|              |    | 2010   | 2015    | 2015–2010<br>% |
|--------------|----|--------|---------|----------------|
| Total        | Nr | 92,045 | 103,280 | 12.21          |
| Agriculture  | %  | 6.54   | 10.64   | 82.62          |
| Industry     | %  | 7.51   | 7.33    | 9.55           |
| Construction | %  | 7.70   | 8.48    | 23.53          |
| Services     | %  | 78.25  | 73.55   | 5.46           |

Source: own calculations, INSSE

In Romania in 2015, there were registered 297,148 private entrepreneurs (an additional 2.13% compared to 2010) made up by two categories: authorized natural persons (92.23%) and family enterprises (7.77%) (source: INSSE).

The Statistical Household Labour Force Survey of the INSSE assesses the number of employees by status in Romania. In 2015, the proportion of the employees was 71.02%, while self-employees constituted 18.28%. The main tendency observed between 2010 and 2015 in the structure of employees by status highlights the growing number of employees, while the number of self-employees decreased with 15.65%, but it remained a significant form of employment (*Table 3*).

**Table 3.** *The number of employees by occupational status in Romania in 2010 and 2015*

|               |    | 2010      | 2015      | 2015–2010<br>% |
|---------------|----|-----------|-----------|----------------|
| Total         | Nr | 8,712,829 | 8,535,386 | -2.04          |
| Employee      | %  | 64.83     | 71.02     | 7.32           |
| Employer      | %  | 1.32      | 1.12      | -16.66         |
| Self-employed | %  | 21.23     | 18.28     | -15.65         |
| Others*       | %  | 12.61     | 9.57      | -25.70         |

Source: own calculations, INSSE

\* Contributing family worker or member of an agricultural holding or of a cooperative

## **4. Factors Influencing Early-Stage Entrepreneurship**

Two indicators and, related to them, two main questions could be found in the GEM 2015 (Global Entrepreneurship Monitor) database regarding the early-stage entrepreneurship status:

- the business start-up intentions variable named: “futsup”, with the question: “Are you, alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?” and

- the business start-up efforts variable named “bstart”, with the question: ‘Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?’”

The set of indicators included in the analysis are:

age9c – age range for all respondents,

gemhhinc – income range for all respondents,

gender – gender,

gemeduc – education level,

gemwork3 – working status of all respondents classified into 3 categories,

knownent – the question: “Do you know someone personally who started a business in the past 2 years?”

futsupno – entrepreneurial intentions (in the sample of the population aged between 18 and 64 years who are not involved in entrepreneurial activity), and

occuself – the presence of self-employment status.

At the beginning of this analysis, our hypothesis was that the presence of self-employment status had a significant effect on business start-up intentions and business start-up efforts in Romania in 2015. The calculations above had tested these assumptions.

## **5. Results and Discussion**

In the first step, we calculated the correlation relationships between the variables included in the model. The most important Spearman correlation results are as follows:

- between the existence of self-employment status and enterprise start-up efforts (bstart): -0.236,

- between the existence of self-employment status and start-up intentions (futsup): -0.093,

- between knowing entrepreneurs and start-up efforts (bstart): 0.232, and

- between perceptions of skills and start-up efforts (bstart): 0.287.

**Table 4.** Spearman correlations among the variables

|          | bstart  | futsup  | age9c   | gemhinc | gender  | gemeduc | gemwork3 | knowen15 | suskil15 | futsupno | occuself |
|----------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|
| bstart   | 1.000   | .276**  | -.103** | .089**  | -.105** | .083**  | -.135**  | .232**   | .287**   | .283**   | -.236**  |
| futsup   | .276**  | 1.000   | -.220** | .079**  | -.125** | .086**  | -.141**  | .230**   | .262**   | 1.000**  | -.093**  |
| age9c    | -.103** | -.220** | 1.000   | -.119** | .054*   | -.117** | .275**   | -.100**  | -.075**  | -.244**  | .057*    |
| gemhinc  | .089**  | .079**  | -.119** | 1.000   | -.124** | .423**  | -.323**  | .187**   | .196**   | .075**   | -.050*   |
| gender   | -.105** | -.125** | .054*   | -.124** | 1.000   | -.057*  | -.057*   | -.087**  | -.117**  | -.174**  | .095**   |
| gemeduc  | .083**  | .086**  | -.117** | .423**  | -.057*  | 1.000   | -.275**  | .177**   | .209**   | -.117**  | -.007    |
| gemwork3 | -.135** | -.141** | .275**  | -.323** | -.057*  | -.275** | 1.000    | -.138**  | -.230**  | -.149**  | -.007    |
| knowen15 | .232**  | .230**  | -.100** | .187**  | -.087** | .177**  | 1.000    | 1.000    | .298**   | .226**   | .289**   |
| suskil15 | .287**  | .262**  | -.075** | .196**  | -.117** | .209**  | -.230**  | 1.000    | 1.000    | .286**   | -.201**  |
| futsupno | .283**  | 1.000** | -.244** | .075**  | -.117** | .095**  | -.149**  | .226**   | 1.000    | 1.000    | -.111**  |
| occuself | -.236** | -.093** | .057*   | -.050*  | .095**  | -.007   | .289**   | -.167**  | -.201**  | -.111**  | 1.000    |

Source: own calculations, INSSSE

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).



In the case of Romania, in 2015, based on the above presented GEM database, the logistic regression model estimations were used in the identification of self-employment presence concerning start-up intentions and start-up efforts, as Kolvereid (2016) analysed this topic in the case of Norway. In our first model, the depending variable “futsup” has the value of 1 = “Yes” in the case of a responder “expecting to start a new business, including any type of self-employment within the next three years”, while in the second model the depending variable “bstart” has the value of 1 = “Yes” in the case of a responder currently trying to start a new business.

Among the commonly used explanatory variables of the business start-up intentions – such as: age, income, gender, education, working status, knowing entrepreneurs, perception of skills, and the lack of skills in entrepreneurial activity (known from the GEM literature, as Kolvereid (2016) suggested) –, we introduced the “occurself”, referring to the presence of self-employment (having the value of 1 = “Yes” in the case of existence).

The results of the first model indicate positive significant influence on the start-up intentions (futsup) by knowing entrepreneurs and perception of skills at 1% significance level and by self-employment at 10% significance level, and they show a negative relation with age at 1% level and working status at 5% level.

The model estimated for the start-up intentions are:

$$\text{futsup} = -.2966687 * \text{age} -.0182436 * \text{gemwork3} + .5486836 * \text{known15} + .6959694 * \text{suskil15} + .2076317 * \text{occurself}$$

**Table 5.** *The business start-up intentions logistic model statistics*

|  |           |           |       |        |                       |           |
|--|-----------|-----------|-------|--------|-----------------------|-----------|
| Iteration 0: log likelihood = -1387.6807 |           |           |       |        |                       |           |
| Iteration 1: log likelihood = -1182.7313 |           |           |       |        |                       |           |
| Iteration 2: log likelihood = -1182.0821 |           |           |       |        |                       |           |
| Iteration 3: log likelihood = -1182.0815 |           |           |       |        |                       |           |
| Iteration 4: log likelihood = -1182.0815 |           |           |       |        |                       |           |
|  |           |           |       |        | Number of obs = 2002  |           |
|  |           |           |       |        | Wald chi2(8) = 320.98 |           |
| Log likelihood = -1182.0815              |           |           |       |        | Prob > chi2 = 0.0000  |           |
| futsup                                   | Coef.     | Std. Err. | z     | P >  z | [95% Conf. Interval]  |           |
| age9c                                    | -.2966687 | .0366908  | -8.09 | 0.000  | -.3685813             | -.2247562 |
| gemhhinc                                 | -2.84e-08 | 1.67e-06  | -0.02 | 0.986  | -3.29e-06             | 3.24e-06  |
| gender                                   | -.1259637 | .0919043  | -1.37 | 0.171  | -.3060929             | .0541655  |
| gemeduc                                  | .0001291  | .0001218  | 1.06  | 0.289  | -.0001095             | .0003678  |
| gemwork3                                 | -.0182436 | .0081835  | -2.23 | 0.026  | -.0342829             | -.0022043 |
| known15                                  | .5486836  | .1041772  | 5.27  | 0.000  | .3445                 | .7528672  |
| suskil15                                 | .6959694  | .0973295  | 7.15  | 0.000  | .505207               | .8867318  |
| occurself                                | .2076317  | .1072789  | 1.94  | 0.053  | -.002631              | .4178945  |

Source: own calculations, INSSE

The results of the second model indicate positive significant influence on the start-up efforts (futsup) by perception of skills and the lack of entrepreneurial activity involvement at 1% significance level, and they show a negative relation with gender and self-employment at 1% level, while with age and income at a 5% level.

The model estimated for the start-up efforts:

$$\text{bstart} = -.1582108 * \text{age} - 7.160 * \text{gemhhinc} - .5156572 * \text{gender} + .7251659 * \text{suskil15} + 1.534737 * \text{futsupno} - .8846882 * \text{occurself}$$

**Table 6.** *The business start-up efforts logistic model statistics*

|  |           |           |       |                       |                      |           |
|--|-----------|-----------|-------|-----------------------|----------------------|-----------|
| Iteration 0: log likelihood = -1061.9015 |           |           |       |                       |                      |           |
| Iteration 1: log likelihood = -383.66003 |           |           |       |                       |                      |           |
| Iteration 2: log likelihood = -366.05532 |           |           |       |                       |                      |           |
| Iteration 3: log likelihood = -363.25016 |           |           |       |                       |                      |           |
| Iteration 4: log likelihood = -363.24091 |           |           |       |                       |                      |           |
| Iteration 5: log likelihood = -363.24091 |           |           |       |                       |                      |           |
|  |           |           |       | Number of obs = 1532  |                      |           |
|  |           |           |       | Wald chi2(9) = 504.43 |                      |           |
| Log likelihood = -363.24091              |           |           |       | Prob > chi2 = 0.0000  |                      |           |
| bstart                                   | Coef.     | Std. Err. | z     | P >  z                | [95% Conf. Interval] |           |
| age9c                                    | -.1582108 | .0712184  | -2.22 | 0.026                 | -.2977963            | -.0186253 |
| gemhhinc                                 | -7.16e-06 | 3.62e-06  | -1.98 | 0.048                 | -.0000143            | -6.19e-08 |
| gender                                   | -.5156572 | .1811414  | -2.85 | 0.004                 | -.8706878            | -.1606267 |
| gemeduc                                  | -.0003162 | .0002188  | -1.45 | 0.148                 | -.0007451            | .0001127  |
| gemwork3                                 | -7.89e-06 | .016197   | -0.00 | 1.000                 | -.0317534            | .0317376  |
| knownen15                                | .2097862  | .2073823  | 1.01  | 0.312                 | -.1966756            | .616248   |
| suskil15                                 | .7251659  | .2040095  | 3.55  | 0.000                 | .3253145             | 1.125017  |
| futsupno                                 | 1.534737  | .2120386  | 7.24  | 0.000                 | 1.119149             | 1.950325  |
| occurself                                | -.8846882 | .207049   | -4.27 | 0.000                 | -1.290497            | -.4788796 |

*Source: own calculations, INSSSE*

The principal differences between the two models from the self-employment perspective: while business start-up intention probability is influenced positively by the presence of self-employment status, business start-up efforts probability is decreased by them.

## 6. Conclusions

In this paper, we studied the self-employment situation in Romania in 2015 and its influence on early-stage entrepreneurship. In the context of this topic, from the total number of active enterprises, there was 71.95% in services and 12.18% in

agriculture; by legal forms, 4.47% was sole proprietors, and from the total number of newly created enterprises 45.20% was this type in 2015. In the studied year, the main part of the private entrepreneurs (92.23%) was authorized natural persons.

The statistical household labour force survey datasets of the INSSE give a more accurate view on self-employees. In 2015, in Romania, 18.28% from the total number of employees were identified as having this type of occupational status.

The database contained the following variables: two indicators describing the early-stage entrepreneurship status: the business start-up intentions (futsup) and the business start-up efforts (bstart), and a set of explanatory indicators: age, income range, gender, education level, working status, knowing entrepreneurs, previous entrepreneurial intentions, and self-employment status.

In the first step, the dataset was analysed using the Spearman correlation matrix to identify the relations between the variables. According to the results, the correlation between the presence of self-employment and the enterprise start-up intentions (bstart) is -0.236, while between the self-employment and start-up efforts (futsup) is -0.093.

The logistic regression analysis results suggest positive influence on the start-up intentions by knowing entrepreneurs, perceptions of skills, and self-employment and negative influence by age and working status; the second model indicates positive significant influence on start-up efforts (futsup) by perceptions of skills and lack of entrepreneurial activity and negative influence by age, income, gender, and self-employment.

The main differences between the two models from the self-employment perspective indicate that self-employees had increased the probability of business start-up in Romania in 2015.

Our results suggest a preference for self-employment in Romania in 2015, which was a special occupational status, while from the entrepreneurial perspective it affected new business start-up intentions as well as new business start-up efforts.

The results mainly fit, but in small parts they also differ from Kolvereid's (2016) findings: in Romania, the preference for self-employment does not predict the involvement in business start-up attempts, but it predicts the intention to start a new business. Gender and age were identified as main factors in self-employment intentions by Walker and Webster (2007) in Australia, but in the case of Romania we have found only the influence of the age being significant concerning start-up intentions. On the other hand, regarding start-up efforts, our findings corresponded with Walker and Webster's (2007) and Verheul et al.'s (2012) findings, both gender and age being significant in the case of Romania.

Henley's (2007) unproven presumption for Great Britain that becoming entrepreneur and self-employee is preceded by entrepreneurial aspirations could be a subject for further analysis. Start-up efforts being influenced in Romania by perception of skills completes Kolvereid and Isaksen (2006)'s findings that

the “attitudes may be altered in education and training programs” – the linkage between the two aspects might also be a subject for further analysis.

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