

**Blaž Frešer**

*University of Maribor  
Faculty of Economics and Business  
Razlagova 14,  
2000 Maribor, Slovenia  
blaz.freser1@um.si  
Phone: +38622290313*

**Polona Tominc**

*University of Maribor  
Faculty of Economics and Business  
Razlagova 14,  
2000 Maribor, Slovenia  
polona.tominc@um.si  
Phone: +38622290302*

**UDK: 658.14:334.722/(497.4)**

**Original scientific article**

*Received: May 22, 2017*

*Accepted for publishing: July 11, 2017*

This work is licensed under a  
Creative Commons Attribution-  
NonCommercial-NoDerivatives 4.0  
International License



# INNOVATIVENESS AND FINANCIAL RESOURCES DIVERSITY OF SLOVENIAN EARLY-STAGE ENTREPRENEURS

## ABSTRACT

This paper focuses on the diversity of financial resources for Slovenian early-stage entrepreneurs. In the empirical study, we examined whether early-stage entrepreneurs with different characteristics regarding innovativeness also differ regarding the mode of obtaining financial resources, where the average number of used financial resource types and the average share of owned financial resources provided were analysed. Demographic characteristics (age and gender) of early-stage entrepreneurs were also taken into account. As results suggest, there are differences in the diversity of financial resources used between groups of early-stage entrepreneurs in relation to various aspects of their innovativeness. However, a statistically significant difference occurred only when analysing innovativeness in terms of technology. Results also indicate that there are statistically significant differences between groups of entrepreneurs according to their age, in both the number of financial resources used and the share of own financial resources provided. On the other hand, results don't indicate any statistically significant gender differences, either in the number of financial resources used or in the share of own financial resources provided.

This paper is based on Global Entrepreneurship Monitor (GEM) data for Slovenia; the large number of countries participating in the world-wide GEM research enables the international comparability of the topic analysed. As such, this research provides important insights into early-stage entrepreneurs' behaviour in a country context.

**Keywords:** Financing, own financial resources, innovativeness, demographic factors, early-stage entrepreneurs

## 1. Introduction

The core contribution of this paper relates to the analysis of diversity of financial resources used by Slovenian early-stage entrepreneurs. This paper is based on data from the GEM Slovenia 2015 database. The possibility of comparisons with findings referring to other countries and regions participating in GEM is a major advantage of this world-wide research project. Namely, in 2015 GEM included 60

participating countries. The importance of multi-country studies of entrepreneurial activity in enabling the comparison and replication of research and generating meaningful contributions to scholarship, practice, and policy is outlined (Terjesen et al., 2016). This is especially important when processes in Slovenia are analysed in comparison with the broader regional European and global environment.

GEM defines early-stage entrepreneurs in the Total Early-Stage Entrepreneurial Activity (TEA), which include nascent and new entrepreneurial activities. TEA indicates the prevalence of individuals engaged in nascent entrepreneurship and in the new enterprise ownership for the adult population (18 to 64 years of age). Nascent entrepreneurs are those who have taken steps to start a new business (to own and manage it at the same time), but have not yet paid salaries or wages for more than three months. New entrepreneurs are running a new business as (co) owners and managers that have been in operation for between 3 and 42 months (i.e. 3.5 years) (Daniels et al., 2016: 21).

This paper provides an answer to the question: If groups of early-stage entrepreneurs that differ according to the innovativeness, age and gender differ also regarding the mode of obtaining financial resources, where were the number of used financial resources types and the average share of own financial resources provided analysed?

There is no doubt about the importance of small- and medium-sized businesses for national economies. In their study, Davidsson and Delmar (2002) have shown the great impact of small and medium businesses (attention was focused mainly on nascent and new entrepreneurs in the early years of operation) on national employment and economic growth. Since the financial resources and their availability have an important influence on enterprises' operations, and thus also on the overall entrepreneurial activity and economy in general, we believe this topic deserves special attention.

Access to financial resources is one of the key elements that have an impact on the development and growth of small and medium-sized enterprises<sup>1</sup> many of which belong to the early-stage entrepreneurs. The lack of financial resources or inadequate financial resources may lead to inability of proper functioning of these enterprises or to the inability of proper realization of opportunities. This could negatively influence the growth process of these enterprises (Carter, Van Auken, 2005; Eddleston et al., 2014; Wu et al., 2007; Bewaji et al., 2015; Shane, Cable, 2002). This implies that the acquisition of financial and other resources is one of the key challenges of modern entrepreneurial process (Grichnik et al., 2014).

Innovation and entrepreneurship are closely connected concepts. It is argued that entrepreneurs disrupt market equilibrium by introducing new product-market combinations into a market, teach-

ing customers to want new things, and driving out less productive firms as their innovations advance the production frontier. Innovation capabilities are thus important to an economy's ability to become competitive, particularly in higher-productivity sectors (Daniels et al., 2016: 39). Innovations could differ between each other, because they could be disruptive (new ideas that change the status quo) or more or less focused on small changes in the existing situation (Dyer et al., 2011). Innovativeness represents the most frequently used measure of the degree of newness of an innovation (Garcia, Calantone, 2002: 112).

GEM Entrepreneurial Finance Report (Daniels et al., 2016: 26) data indicate that entrepreneurs in innovation-driven economies, as compared to efficiency- and factor-driven economies, on average use higher amounts of formal resources (especially resources from banks, venture capital, and government and crowdfunding). With this research we aim to find out if different aspects of innovativeness are related to the financial resource diversity and if innovativeness creates differences between early-stage entrepreneurs in an innovation-driven economy (in the case of Slovenia).

We believe that the important contribution of this paper is also represented by the following points. Firstly, despite the huge significance of this topic, there is a limited amount of knowledge and previous research. Secondly, the existing research studies are mostly focused on the association between a single factor (innovativeness, demographic factors) and a single financial resource. Therefore, we see in our research an advantage in combining more than one financial resource, which allows us to see the wider picture of entrepreneurs' decisions within the Slovenian entrepreneurial ecosystem in comparison with the international context of GEM.

## 2. Literature review and hypotheses

Past entrepreneurship research studies have highlighted several characteristics that affect entrepreneurial behaviour and performance. Among them, researches often emphasise the importance of innovation (Teece, 2007) and the influence of demographic and personal characteristics (Shane, 2003; Krueger Jr. et al., 2000).

Innovativeness is most frequently used as a measure of the degree of newness of an innovation. Although the majority of research takes a firm's perspective toward newness, it can be also viewed differently, such as newness to the world, to the adopting unit,

to the industry, to the market, and/or to the consumer (Garcia, Calantone, 2002: 112).

For the purposes of this research, we will focus on the definition of innovativeness that is used in GEM, which is in line with the above presented aspects. Therefore, innovativeness is analysed from three different points of view, which are the technological point of view, newness from consumers' point of view, and the competitors' point of view (Rebernik et al., 2016: 43). Entrepreneurs are innovative in the technological point of view if they use technologies that are available on the market for less than a year, from the aspect of newness to consumers if their enterprises offer products/services that are new to all consumers, and from the competition's point of view if entrepreneurs operate on markets with no competitive businesses (ibid, 2016: 43).

Common to all three aspects of innovativeness is novelty, either in terms of the technology used or for the consumers and competitors. This is in line with the findings of Garcia and Calantone (2002: 112-113) who have pointed out that despite the fact that there are many different aspects of innovativeness, these aspects have a common point, which is related to market or to technological factors.

Past research has shown that innovative small- and medium-sized enterprises have, on average, higher demand for external capital, and that this demand seems to have increased since the financial crisis (Lee et al., 2015: 379). According to GEM Entrepreneurial Finance Report, innovative entrepreneurs need about 1.5 times more funds to start their business than non-innovative entrepreneurs from innovation-driven economies (Daniels et al., 2016: 7). These entrepreneurs are also more likely to be turned down for financing than others, and this situation worsened significantly in the wake of the 2008 financial crisis (Lee et al., 2015: 370). Innovativeness, especially among early-stage enterprises, can increase the already high level of risk related to these businesses. Thus, early-stage innovative businesses perceive, on average, more financial constraints than established innovative businesses (Schneider, Veugelers, 2010). The role of firm's innovativeness in obtaining financial funds is vague. Despite the fact that some previously mentioned research findings claim that innovative businesses may have difficulties in acquiring and obtaining financial resources, other research has shown that innovativeness can even provide better access to financial resources, especially to venture capital investments (Engel, Keilbach, 2007) or to the business

angels' capital investments (Bilau, Sarkar, 2016), because it may create strategies that could lead to fast growth and high profitability. Innovativeness, especially from a technological point of view, causes major investments into new technologies, and because of that, innovative enterprises will very likely need to use more types of financial resources to cover all their financial needs.

Due to the increased financial needs of innovative entrepreneurs and increased usage of financial resources, we believe that the share of entrepreneurs' own financial resources, given the total financial resources needed, will be smaller for these entrepreneurs, as compared to non-innovative entrepreneurs whose financial needs are smaller.

On the basis of past research results presented above, we created the following hypotheses:

H1: Innovative early-stage entrepreneurs, on average, use more diversified financial sources than non-innovative early-stage entrepreneurs.

H2: Innovative early-stage entrepreneurs, on average, use a smaller share of their own financial resources than non-innovative entrepreneurs.

Since innovativeness is studied from three different aspects in this research, the following three research hypotheses are formed with the purpose to test H1:

H1(A): Early-stage entrepreneurs that offer products/services that are new to all consumers, on average, use more diversified financial sources than early-stage entrepreneurs who don't.

H1(B): Early-stage entrepreneurs who operate in markets without competitors, on average, use more diversified financial sources than early-stage entrepreneurs who don't.

H1(C): Early-stage entrepreneurs who use new technologies that are available on the market for less than a year, on average, use more diversified financial sources than early-stage entrepreneurs who don't.

For testing H2, three research hypotheses are formed as well:

H2(A): Early-stage entrepreneurs who offer products/services that are new to all consumers, on average, use a lower share of own financial resources than early-stage entrepreneurs who don't.

H2(B): Early-stage entrepreneurs who operate on market without competitors, on average, use a lower share of own financial resources than early-stage entrepreneurs who don't.

H2(C): Early-stage entrepreneurs who use new technologies that are available on the market less than a year, on average, use a lower share of own financial resources than early-stage entrepreneurs who don't.

Another important element in the past entrepreneurial research was demographic characteristics of entrepreneurs. Here, we limited our research only to the age and gender of early-stage entrepreneurs, since they are the most commonly used demographic factors (often in the context of control variables) in previous entrepreneurial studies.

The age of entrepreneurs can play an important role in deciding on the usage of diverse financial resources, as small business finance literature suggests that older entrepreneurs tend to be less willing to invest additional finances into their businesses (Romano et al., 2001: 294). As shown in research of Romano et al. (2001), external equity seeking is less likely to be a consideration for older family business entrepreneurs and those who have a strong preference for retaining control. The logic from family business studies can be, in our opinion, transferred to early-stage entrepreneurs' financial decision-making process. Although the entrepreneur's age was found to enhance capital acquisition and improve the ease of obtaining resources (Neeley, Van Auken, 2010: 25), it was also found that older and more "rigid" entrepreneurs seem to have more difficulty in the finance acquiring process (Hustedde, Pulver, 1992). The reason for this could be the flexibility of younger entrepreneurs and their less traditional behaviour.

On this basis, we have formed the following hypotheses:

H3: Younger early-stage entrepreneurs, on average, use more diversified financial sources, as compared to their older counterparts.

H4: Older early-stage entrepreneurs, on average, use a higher share of their own financial resources, as compared to their younger counterparts.

The next important demographic characteristic is gender. Some past research studies have shown that gender has an important role in enterprise financing, in a way that a greater proportion of female entrepreneurs perceived financial barriers as important constraints in their business, as compared to their male counterparts (Kwong et al., 2012: 75). This is in line with findings of Roper and Scott (2009) that women may face or perceive greater bar-

riers in start-up phases, but at the same time, they also didn't find any evidence that this is likely to have a significant effect on differences regarding the start-up activities of women, as compared to men (ibid, 2009: 162). The findings also show that financial resource providers' (for example microfinance institutions) preferences for female borrowers varies internationally, but the fact that microfinance institutions focus on female borrowers is generally attributed to two reasons: trustworthiness and greater social impact (Aggarwal et al., 2015). Next, there is the debate if gender has an influence on financial decisions made by entrepreneurs. Jia et al. (2008: 573) have shown that female entrepreneurs most often choose sole-funded business structures, and that their main financial resources of initial funding are their own savings and borrowing from family members, relatives, and friends.

The effect of gender on financing is, therefore, vague. We believe that these positive and negative impacts negate each other, which has been shown in a study of Neeley and Van Auken (2010), where findings suggest that bootstrap finance methods (resources from family and friends—informal types of financial resources) were similar among female- and male-owned small enterprises.

Because of that, we have formed the following hypotheses:

H5: Male and female early-stage entrepreneurs, on average, do not differ regarding the diversity of financial sources used.

H6: Male and female early-stage entrepreneurs, on average, do not differ regarding the share of own financial resources used.

Demographic factors can also influence the growth aspirations of entrepreneurs. Growth requires substantial financial resources (Moreno, Casillas, 2007: 75), so this could result in the financial decisions made by early-stage entrepreneurs about the diversity of financial resources needed or about the share of entrepreneurs' own financial resources provided for the enterprise. On the basis of the data available, we cannot say that, in Slovenia, male entrepreneurs have higher growth aspirations than female entrepreneurs (Tominc, Rebernik, 2006: 47), but nevertheless, the topic of growth aspirations within the financial context is beyond the focus of this research.

### 3. Methodology and data

#### 3.1 Sample characteristics

This empirical research is based on GEM national data of the Republic of Slovenia for the year 2015. A random sample consists of 2,009 individuals belonging to the adult (18-64 years) population. Within GEM research the early-stage entrepreneurs were identified ( $N = 119$ ). For testing hypothesis H1, H3 and H5 the complete data basis consisted of 72 early-stage entrepreneurs, while for H2, H4, and H6 the complete data basis consisted of 42 early-stage entrepreneurs.

Early-stage entrepreneurs included in the sample don't use many different types of financial sources. More than two-thirds of entrepreneurs (approximately 71%) don't use any of the studied financial sources or they use only one of the seven possible types. The percentage of entrepreneurs using several different types of financial sources is low. Only 4% of entrepreneurs have indicated that they use four of the seven possible types of financial sources. In our sample there were no entrepreneurs who would use five or more types of financial sources.

The share of entrepreneurs' own resources provided by the early-stage entrepreneurs themselves in Slovenia is, on average, approximately 73% of all used fi-

nancial resources, which places Slovenia in the upper half of European countries (Daniels et al., 2016: 24).

Our sample of 72 early-stage entrepreneurs consisted of 54 (representing 75%) male entrepreneurs and 18 (representing 25%) female entrepreneurs. Similar ratios between male and female entrepreneurs can be found in the majority of innovation-driven countries (Rebernik et al., 2016: 25). The age pattern of entrepreneurship activity is relatively homogenous all over the world. The highest participation rate is among the 25- to 34-year-olds (ibid, 2016: 24). These age patterns also apply to our sample of early-stage entrepreneurs. Entrepreneurs aged between 25 and 34 represent approximately 44% of all early-stage entrepreneurs included in our research, followed by entrepreneurs aged between 35 and 44 (representing 26%) and 45 and 54 years (18%). The age groups of 18-24 and 55-64 have the smallest proportion of early-stage entrepreneurs (in each category, approximately 6%). The youngest early-stage entrepreneur is 22 years old, and the oldest is 62 years old. The average age of early-stage entrepreneurs included in our sample is 36 (Standard Deviation = 10.456).

#### 3.2 Variables

In the next three tables, we describe the variables used.

**Table 1** The number of financial resources used and the share of entrepreneurs' own financial resources provided

Variable	Design and values
Number of financial sources used	For each type of financial resource <sup>2</sup> : Dichotomous variable (0 – doesn't use; 1 – does use) is formed. The number of financial resources used by each early-stage entrepreneur is established.
Share of own financial resources provided	Continuous numeric variable with value from 0 to 100 percent.

Source: GEM Slovenia 2015 database

**Table 2** Innovativeness variables

Variable	Design and values <sup>3</sup>
Innovativeness in the aspect of novelty to the consumers	Dichotomous variable (0 – enterprise offers products/services which are already known to some or all (potential) customers; 1 – enterprise offers products/services that are new to all customers)
Innovativeness in the aspect of competitors	Dichotomous variable (0 – enterprise operates in markets with few or many competitors; 1 – enterprise operates in markets with no competitive businesses)
Innovativeness in the aspect of used technology	Dichotomous variable (0 – enterprise uses technologies that are available on the market for more than a year (not new technologies); 1 – enterprise uses technologies that are available on the market for less than a year (new technologies))

Source: GEM Slovenia 2015 database

The literature review, described in Section 2 of this article, revealed the importance of demographic factors, especially gender and age. Because of that, an important part of our research paper is focused on

researching the relationships between these two demographic variables and financial resources diversity and the share of their own financial resources provided by the early-stage entrepreneurs in Slovenia.

**Table 3 Demographic variables**

Variable	Design and values
gender	Dichotomous variable (0 – male; 1 – female)
age	Dichotomous variable (0 – entrepreneurs that are up to 34 years old; 1 – entrepreneurs that are 35 years old or older)

Source: GEM Slovenia 2015 database

### 3.3 Methodology

To test the research hypotheses, we have used IBM SPSS Statistics 24.0 software. The research hypotheses were tested using non-parametric testing for differences between two independent samples – using the Mann-Whitney U test – since the variables analysed were not normally distributed (Shapiro-Wilks and Kolmogorov-Smirnov tests<sup>4</sup>). The Mann-Whitney U test is a non-parametric test that is used to test statistical differences in mean ranks for two independent groups, where the variable studied is not normally distributed. To use the Mann-Whitney U test, several assumptions must be fulfilled. These assumptions are: numeric dependent variables and dichotomous independent variables, as well as independence between the groups included.

Simultaneously with the test results, the descriptive statistics results are presented.

The 5% significance level was used to test the hypotheses.

### 4. Empirical results and discussion

Table 4 shows the results of testing H1(A), H1(B), and H1(C). The results were supplemented with the average number of financial sources used. The share of early-stage entrepreneurs who are innovative regarding a particular aspect of innovativeness (entrepreneurs who offer products that are new to all consumers, operate in the industry without any competing businesses, or use technology that is available on the market for less than a year) is between approximately 10% and 20% of all early-stage entrepreneurs.

**Table 4 Innovativeness and number of financial resources used**

		Early-stage entrepreneurs (N)	Mean Rank	Mean (number of financial sources)	Asymp. Sig (2-tailed)
Innovativeness in the aspect of novelty to the consumers	non-innovative	58	35.55	1.10	0.410
	innovative	14	40.43	1.36	
Innovativeness in the aspect of competitors	non-innovative	63	35.79	1.13	0.425
	innovative	9	41.44	1.33	
Innovativeness in the aspect of technology used	non-innovative	64	33.70	1.00	0.001
	innovative	8	58.88	2.38	

Source: Own calculations based on GEM, Adult population survey Slovenia, 2015

In the fourth column of Table 4, the average (mean) ranks are presented, which in our case indicate that preferences for usage of more diverse financial sources (in other words, usage of financial resources from more providers) differ between groups of in-

novative or non-innovative entrepreneurs, regardless of the studied aspect of innovativeness. As presented in Table 4, regarding all three aspects of innovativeness, innovative entrepreneurs, on average, use more diversified financial sources, but the

difference is statistically significant only in the case of innovativeness from a technological point of view ( $p < 0.05$ ). Thus, the conclusion is that early-stage entrepreneurs who use the technologies that are available on the market for less than a year, on average, use more different types of financial sources (on average 2.38 different types of financial sources) as compared to those who use older technologies (on average 1.00 financial source). Therefore H1(A) and H1(B) are rejected, while H1(C) is not rejected.

By testing the hypotheses H1(A), H1(B) and H1(C) we found that the first hypothesis H1 can be partly confirmed. GEM defines innovativeness from three different aspects, which include costumers, competitors, and technologies. Thus it is crucial to study innovativeness through these different aspects and not as a homogeneous phenomenon that bundles all aspects of innovativeness together. The results of empirical study confirm the hypothesis from the standpoint of technological view of innovativeness and not from the number of (potential) customers or competitors' view-point.

In the international comparisons, it is shown that differences between innovative and non-innovative entrepreneurs regarding the average (median) amount of financial resources required are highest in North America (Daniels et al., 2016: 40). Differ-

ences are also obvious in other innovation-driven economies around Europe. In innovation-driven economies, innovative entrepreneurs need about 1.5 times more funds to start their business than non-innovative entrepreneurs. On average, European innovative entrepreneurs need approximately 20,000 € to start a business and non-innovative entrepreneurs only approximately 15,000 € (ibid). This difference between innovative and non-innovative entrepreneurs is obvious also in our research. Analysis of median values of total money required to start a business with regard to technological innovations has shown that innovative early-stage entrepreneurs in our sample, on average, need approximately 30,000€, and non-innovative early-stage entrepreneurs only need approximately 10,000€, when analysing the technological aspect of innovativeness. Therefore, they will probably use more diverse financial resources to reach the expected amount. This statement is supported by results of statistical analysis of correlation. The correlation coefficient between the average amount of financial resources used and financial source diversity (number of used types) is 0.317, and it is statistically significant ( $p = 0.030$ ), indicating the positive linear relationship between variables: the higher the amount of financial resources needed, the higher, on average, the number of financial sources used.

**Table 5 Innovativeness and share of own financial resources provided by the early-stage entrepreneur**

		Early-stage entrepreneurs (N)	Mean Rank	Mean (In %)	Asymp. Sig (2-tailed)
Innovativeness in the aspect of novelty to the consumers	non-innovative	34	22.94	0.78	0.077
	innovative	8	15.38	0.51	
Innovativeness in the aspect of competitors	non-innovative	35	22.11	0.75	0.413
	innovative	7	18.43	0.63	
Innovativeness in the aspect of used technology	non-innovative	38	22.32	0.76	0.134
	innovative	4	13.75	0.46	

Source: Own calculations based on GEM, Adult population survey Slovenia, 2015

Table 5 presents the differences between average shares of financial resources provided by early-stage entrepreneurs themselves separately for non-innovative and innovative early-stage entrepreneurs in relation to different aspects of innovativeness.

In the sample, as can be seen from the mean ranks, innovative entrepreneurs (regarding all three aspects of innovativeness) have lower preferences to

use their own financial resources. That is confirmed by analysing the average (mean) share of their own financial resources provided by innovative entrepreneurs in comparison to non-innovative early-stage entrepreneurs. In all aspects of innovativeness, innovative entrepreneurs in the sample use lower shares of their own financial resources, as compared to non-innovative early-stage entrepreneurs.

This is in line with expectations that entrepreneurs who want to achieve innovativeness usually need more financial resources, and this can lead to the situation that the share of their own financial resources is smaller (although it may not be smaller in terms of absolute values in monetary units). Innovative entrepreneurs, in that way, cover their financial needs not with their own financial resources, but with external sources of financing to a larger extent. This is in line with findings that innovative entrepreneurs have more need for external financial resources (Lee et al., 2015: 379).

However, the sample differences are not statistically significant ( $p > 0.05$ ). Therefore, hypotheses H2(A), H2(B), and H2(C) are rejected.

Therefore, the hypothesis H2 can also not be confirmed.

Tables 6 and 7 refer to the differences in the diversity of financial sources used and differences of the share of entrepreneurs' own financial resources provided, both regarding the age of early-stage entrepreneurs; the results of testing H3 and H4 are presented.

**Table 6** Age of entrepreneurs and number of financial resources used

		Early-stage entrepreneurs (N)	Mean Rank	Mean (number of financial resources)	Asymp. Sig (2-tailed)
Age	34 or less	36	41.75	1.44	0.025
	35 or more	36	31.25	0.86	

Source: Own calculations based on GEM, Adult population survey Slovenia, 2015

From a total of 72 early-stage entrepreneurs in the sample, exactly half of them (N = 36) belong to the younger generation.

From the average (mean) rank, we can see that this rank is higher in the group of younger entrepreneurs, meaning that they have, on average, higher preferences for usage of more diverse financial sources from more different providers. This is reflected also in the mean values, indicating that younger entrepreneurs, on average, use more than

one type of financial sources (out of seven possible forms), and that older entrepreneurs in a sample, on average, use less than one type of financial sources.

The difference is statistically significant ( $p < 0.05$ ). Because of that, hypothesis H3 is not rejected — younger entrepreneurs indeed use more types of financial sources than older entrepreneurs. Table 7 refers to the analysis of the age of early-stage entrepreneurs and the share of their own financial resources provided.

**Table 7** Age of entrepreneurs and share of own financial resources, provided by the early-stage entrepreneur

		Early-stage entrepreneurs (N)	Mean Rank	Mean (share)	Asymp. Sig (2-tailed)
Age	34 or less	23	17.78	0.60	0.015
	35 or more	19	26.00	0.88	

Source: Own calculations based on GEM, Adult population survey Slovenia, 2015

The mean rank is higher in the group of older entrepreneurs (entrepreneurs who are 35 or older), indicating that these entrepreneurs, on average, have higher preferences to use their own financial resources. This is reflected also in the mean values, indicating that younger entrepreneurs, on average, use approximately two-thirds of their own financial resources and only one third of external financial resources. On the other hand, older entrepreneurs depend more on their own financial resources.

The difference is statistically significant ( $p < 0.05$ ). Because of that, hypotheses H4 is not rejected — older entrepreneurs indeed have a significantly higher share of their own financial resources in the total amount of financial resources.

These results are also in line with the previous findings from past research, which suggests that older entrepreneurs tend to be less willing to invest additional finances into their businesses, and that



older family business owners will less likely show the interest for external equity seeking, because they have a strong preference for retaining control (Romano et al., 2001), meaning that they will use and rely more on their own financial resources. This logic is also confirmed by hypotheses H3 and H4, since older entrepreneurs use, on average, less diversified financial sources and have higher preferences to use their own financial resources, as compared to those who are younger. The reason for this could be the fact that young people often have no credit history or assets to serve as collateral in order to secure loans from financial institutions. In the 25- to 34-age cohort, in addition, individu-

als may not yet reach the career position offering high salaries and perks (less opportunity cost) or they may have fewer financial obligations, such as families to support and loan repayments (Daniels et al., 2016: 31), which could lead them to more innovative approaches and more flexibility in the finance acquisition process. But on the other hand, older entrepreneurs have had time to develop their skills and knowledge through education, as well as through work experience, building their confidence in their own abilities and their networks, which could increase the possibility of better access to finance, and they may have accumulated other resources, such as personal savings (ibid).

**Table 8 Gender and number of financial sources used**

		Early-stage entrepreneurs (N)	Mean Rank	Mean (number of financial resources)	Asymp. Sig (2-tailed)
Gender	male	54	36.56	1.17	0.967
	female	18	36.33	1.11	

Source: Own calculations based on GEM, Adult population survey Slovenia, 2015

Table 8 shows gender differences between early-stage entrepreneurs regarding the diversity of financial resources. As we can see, the differences between male and female entrepreneurs are very small. The difference between male and female en-

trepreneurs is also not statistically significant ( $p > 0.05$ ). Because of that, hypothesis H5 — male and female early-stage entrepreneurs, on average, do not differ regarding the diversity of financial resources used — is not rejected.

**Table 9 Gender and share of own financial resources provided**

		Early-stage entrepreneurs (N)	Mean Rank	Mean (In %)	Asymp. Sig (2-tailed)
Gender	male	33	21.18	0.72	0.717
	female	9	22.67	0.76	

Source: Own calculations based on GEM, Adult population survey Slovenia, 2015

In Table 9, results for testing H6 are presented. Gender differences regarding the usage of entrepreneurs' own financial resources are minimal. In the sample, male entrepreneurs, on average, use 72% of their own financial resources whereas female entrepreneurs provide 76% of total financial resources needed.

The difference isn't statistically significant. Because of that, hypothesis H6 — male and female early-stage entrepreneurs, on average, do not differ regarding the share of own financial resources used — is not rejected.

Previous entrepreneurial research findings that deal with the gender perspective indicate the possibility of both positive and negative impacts of gender on enterprise financing or on financial decisions made

by entrepreneurs (in relation to barriers, accessibility, and networking). Findings in GEM Entrepreneurial Finance report shows that, in Slovenia, female and male entrepreneurs need on average the same amount of finance to start their enterprises (on average approximately 10,000€) (Daniels et al., 2016: 30). From this we can conclude that gender differences regarding the diversity of financial resources used also don't exist, and this was shown by the results in the Tables 8 and 9.

## 5. Conclusion

The aim of this research is to analyse different characteristics of financial resources of Slovenian early-

stage entrepreneurs regarding the differences in their innovativeness and demographic factors. Our empirical research focuses on analysing the average number of types of financial sources used and, on average, the share of entrepreneurs' own financial resources provided between innovative and non-innovative groups of early-stage entrepreneurs and groups broken down by gender and age.

Our research focuses on one of the key challenges of the modern entrepreneurial process, which is the issue of acquiring and obtaining financial resources. Their availability is, in fact, one of the key elements in the development and in the growth process of small- and medium-sized enterprises<sup>5</sup>, where we can find most of the enterprises belonging to early-stage entrepreneurs.

The results show that innovativeness, especially from a technological point of view, can create statistically significant differences in the average number of used types of financial sources between innovative and non-innovative early-stage entrepreneurs.

Despite the fact that some previous research findings sometimes define innovative businesses as those that may have difficulties in acquiring and obtaining financial resources, other research has shown that innovativeness can enable better access to venture capital investments (Engel, Kelbach, 2007) or to the business angels' capital investments (Bilau, Sarkar, 2016). The key element is that innovative enterprises/entrepreneurs have higher financial needs, and because of that, they will need to use more external financial resources. This is also confirmed by the results of our empirical research, which indicates that innovative entrepreneurs, on average, use more diverse financial sources, but the difference is statistically significant only from the technological point of view.

In the empirical research, we have also examined the connection between two demographic factors (age and gender) and the average number of financial sources used, as well as regarding the average share of financial resources provided by early-stage entrepreneurs. The results confirmed previous research findings of statistically significant effect of entrepreneurs' age on the financial sources used and on the share of entrepreneurs' own financial resources. Thus, younger entrepreneurs, on average, use more types of financial sources and consequently a smaller share of their own financial resources. Unlike entrepreneurs' age, gender differences were

not found to be significant. Nevertheless, we would like to point out that research studies regarding entrepreneurship are extremely heterogeneous, meaning they cannot be simply compared to each other, because different samples of entrepreneurs represent different characteristics of selected enterprises or characteristics of national entrepreneurship ecosystems.

Our research represents an important contribution to the understanding of Slovenian early-stage entrepreneurs' financing, since it deals with the connection between innovativeness, demographic factors, and financial decisions of early-stage entrepreneurs, which has not been analysed so far.

This paper also allows us to see the wider picture of entrepreneurs' decisions within the Slovenian entrepreneurial ecosystem in comparison with the international context of GEM. As presented in the paper, Slovenian innovative early-stage entrepreneurs (technological point of view) have more financial needs than average innovative entrepreneurs in Europe. Innovative and non-innovative entrepreneurs in Slovenia are also more prone to use own financial resources than many entrepreneurs from other European countries. This could indicate that Slovenian policy makers should put their efforts into enabling financial diversity by establishing access to several external financial sources. Also many of the previous models of entrepreneurial finance remain relevant today, including informal investment through the founders themselves, as well as borrowing from friends, family, and colleagues. Venture capital (VC) investments, particularly in developed economies, remain important for high-impact enterprises. However, newer financing models, including business angels, microfinance, and small business accelerators, have matured considerably over the past 10 years (Daniels et al., 2016: 4), and if policy makers want to create potential for prosperity, they need to be flexible in regard to fast-changing global economy.

### *5.1 Limitations and opportunities for future research*

This research includes some important limitations. First, our research is limited to the data from the GEM database. Although this could represent a disadvantage, due to the limitations of preselected data, the possibility of international comparisons provides clear advantages. Second, our research is limited to the analysis of nascent and new en-

trepreneurs (early-stage entrepreneurs) and to the following factors: innovativeness, gender, and age. This research is also limited to entrepreneurs in the Republic of Slovenia and covers the situation during the year 2015.

Limitations, on the other hand, represent the opportunities for future research. It is possible to redirect attention from early-stage entrepreneurs to the established entrepreneurs and to the financial resources that are needed in different stages of the

entrepreneurial life-cycle. An important element of further research can also include the examination of other influential factors, not only the innovativeness, gender or age.

### **Acknowledgment**

The authors acknowledge the financial support from the Slovenian Research Agency (research core funding No. P5-0023).

## REFERENCES

1. Aggarwal, R., Goodell, J. W., Selleck, L. J. (2015), "Lending to women in microfinance: Role of social trust", *International Business Review*, Vol. 24, No. 1, pp. 55-65.
2. Bewaji, T., Yang, Q., Han, Y. (2015), "Funding accessibility for minority entrepreneurs: an empirical analysis", *Journal of Small Business and Enterprise Development*, Vol. 22, No. 4, pp. 716-733.
3. Bilau, J., Sarkar, S. (2016), "Financing innovative start-ups in Portuguese context: what is the role of business angles networks?", *Journal of the Knowledge Economy*, Vol. 7, No. 4, pp. 920-934.
4. Carter, R. B., Van Auken, H. (2005), "Bootstrap financing and owners' perceptions of their business constraints and opportunities", *Entrepreneurship & Regional Development*, Vol. 17, No. 2, pp. 129-144.
5. Daniels, C., Herrington, M., Kew, P. (2016), "GEM Special Topic Report 2015-2016: Entrepreneurial Finance". available at: <http://www.gemconsortium.org/report> (Accessed on: July 6, 2017)
6. Davidsson, P., Delmar, F. (2006), "High-growth firms and their contribution to employment: the case of Sweden 1987-96", in Davidsson, P., Delmar, F., Wiklund, J. (Eds.), *Entrepreneurship and the Growth of Firms*, Edward Elgar Publishing, Cheltenham, pp. 156-178.
7. Dyer, J., Gregersen, H., Christensen, M. C. (2011). *The Innovator's DNA: Mastering the Five Skills of Disruptive Innovators*. Boston: Harvard Business Review Press.
8. Eddleston, K. A., Ladge, J. J., Mitteness, C., Balachandra, L. (2014), "Do You See What I See? Signalling Effects of Gender and Firm Characteristics on Financing Entrepreneurial Ventures", *Entrepreneurship Theory and Practice*, Vol. 40, No. 3, pp. 489-514.
9. Engel, D., Keilbach, M. (2007), "Firm-level implications of early stage venture capital investment – An empirical investigation", *Journal of Empirical Finance*, Vol. 14, No. 2, pp. 150-167.
10. Garcia, R., Calantone, R. (2002), "A critical look at technological innovation typology and innovativeness terminology: a literature review", *The Journal of Product Innovation Management*, Vol. 19, No. 2, pp. 110-132.
11. Grichnik, D., Brinckmann, J., Singh, L., Manigart, S. (2014), "Beyond environmental scarcity: Human and social capital as driving forces of bootstrapping activities", *Journal of Business Venturing*, Vol. 29, No. 2, pp. 310-326.
12. Hustedde, R. J., Pulver, G. C. (1992), "Factors affecting equity capital acquisition: The demand side", *Journal of Business Venturing*, Vol. 7, No. 5, pp. 363-374.
13. Jia, L., Xiao, Z., Junyan, X., Zhong, Y. (2008), "The Impact of Gender Difference on Entrepreneurship: A Literature Review", *Proceedings of the 4th IEEE International Conference on Management of Innovation and Technology*, IEEE, Bangkok, pp. 570-575.
14. Krueger Jr., N. F., Reilly, M. D., Carsrud, A. L. (2000), "Competing models of entrepreneurial intentions", *Journal of Business Venturing*, Vol. 15, No. 5, pp. 411-432.
15. Kwong, C., Jones-Evans, D., Thompson, P. (2012), "Differences in perceptions of access to finance between potential male and female entrepreneurs: Evidence from the UK", *International Journal of Entrepreneurial Behaviour & Research*, Vol. 18, No. 1, pp. 75-97.
16. Lee, N., Sameen, H., Cowling, M. (2015), "Access to finance for innovative SMEs since the financial crisis", *Research Policy*, Vol. 44, No. 2, pp. 370-380.
17. Moreno, A. M., Casillas, J. C. (2007), "High-growth SMEs versus non-high-growth SMEs: a discriminant analysis", *Entrepreneurship & Regional Development*, Vol. 19, No. 1, pp. 69-88.
18. Neeley, L., Van Auken, H. (2010), "Differences between female and male entrepreneurs' use of bootstrap financing", *Journal of Developmental Entrepreneurship*, Vol. 15, No. 1, pp. 19-34.
19. Rebernik, M., Tominc, P., Crnogaj, K., Širec, K., Bradač Hojnik, B., Rus, M. (2016). *Podjetništvo med priložnostjo in nujo: GEM Slovenija 2015*. Maribor: University of Maribor, Faculty of Economics and Business.

20. Romano, C. A., Tanewski, G. A., Smyrniotis, K. X. (2001), "Capital structure decision making: A model for family business", *Journal of Business Venturing*, Vol. 16, No. 3, pp. 285-310.
21. Roper, S., Scott, J. M. (2009), "Perceived Financial Barriers and the Start-up Decision", *International Small Business Journal*, Vol. 27, No. 2, pp. 149-171.
22. Schneider, C., Veugelers, R. (2010), "On young highly innovative companies: why they matter and how (not) to policy support them", *Industrial and Corporate Change*, Vol. 19, No. 4, pp. 969-1007.
23. Shane, S., Cable, D. (2002), "Network Ties, Reputation, and the Financing of New Ventures", *Management Science*, Vol. 48, No. 3, pp. 364-381.
24. Shane, S. (2003). *A General Theory of Entrepreneurship. The Individual-Opportunity Nexus*. Cheltenham: Edward Elgar Publishing.
25. Teece, D. J. (2007), "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance", *Strategic Management Journal*, Vol. 28, No. 13, pp. 1319-1350.
26. Terjesen, S., Hessels, J., Li, D. (2016), "Comparative International Entrepreneurship: A Review and Research Agenda", *Journal of Management*, Vol. 42, No. 1, pp. 299-344.
27. Tominc, P., Rebernik, M. (2006), "Growth aspirations of Slovenian entrepreneurs – a gender differences perspective", *Management: Journal of Contemporary Management Issues*, Vol. 11, No. 1, pp. 37-52.
28. Wu, Z., Chua J. H., Chrisman J., J. (2007), "Effects of family ownership and management on small business equity financing", *Journal of Business Venturing*, Vol. 22, No. 6, pp. 875-895.

## (ENDNOTES)

- 1 International Finance Corporation (2011), "SME Finance Policy Guide", available at: [https://www.ifc.org/wps/wcm/connect/f3ef82804a02db409b88fbd1a5d13d27/G2o\\_Policy\\_Report.pdf?MOD=AJPERES](https://www.ifc.org/wps/wcm/connect/f3ef82804a02db409b88fbd1a5d13d27/G2o_Policy_Report.pdf?MOD=AJPERES) (Accessed on: March 20, 2017)
- 2 Financial resources from: family, friends, employers, banks, private/VC investors, government, crowdfunding platforms
- 3 For specific aspect of innovativeness the value 0 represents non-innovative enterprises (entrepreneurs) and value 1 innovative enterprises (entrepreneurs)
- 4 On the basis of Shapiro-Wilks and Kolmogorov-Smirnov tests we can reject the null hypotheses that variables used in our research are normally distributed at the significance level lower than 5% (statistical significance of Shapiro-Wilk and Kolmogorov-Smirnov for each variable (variables are represented in Tables 1-3):  $p < 0,05$ ).
- 5 International Finance Corporation (2011), "SME Finance Policy Guide", available at: [https://www.ifc.org/wps/wcm/connect/f3ef82804a02db409b88fbd1a5d13d27/G2o\\_Policy\\_Report.pdf?MOD=AJPERES](https://www.ifc.org/wps/wcm/connect/f3ef82804a02db409b88fbd1a5d13d27/G2o_Policy_Report.pdf?MOD=AJPERES) (Accessed on: March 20, 2017)

**Blaž Frešer**  
**Polona Tominc**

## **INOVATIVNOST I RAZNOLIKOST FINANCIRANJA KOD SLOVENSКИH PODUZETNIKA U RANOJ FAZI POSLOVANJA**

### **SAŽETAK**

U ovom se radu obrađuje raznolikost financijskih sredstava kojima se koriste slovenski poduzetnici u ranoj fazi poslovanja. U empirijskoj smo studiji promatrali poduzetnike u ranoj fazi poslovanja s različitim karakteristikama u pogledu inovativnosti i pokušali utvrditi razlikuju li se i u načinu financiranja. Pritom smo analizirali prosječan broj korištenih vrsta financijskih sredstava i prosječan udio vlastitih sredstava koja su na raspolaganju. U analizi su se uzele u obzir i demografske karakteristike (dob i spol) poduzetnika u ranoj fazi poslovanja. Na temelju rezultata može se zaključiti da postoje razlike u raznolikosti korištenih financijskih sredstava između grupa poduzetnika u ranoj fazi poslovanja u odnosu na različite aspekte njihove inovativnosti. Međutim, statistički značajna razlika uočena je samo u pogledu tehnološke inovativnosti. Nadalje, rezultati pokazuju statistički značajne razlike između grupa poduzetnika razvrstanih po dobi u odnosu na broj korištenih financijskih sredstava i na udio vlastitih sredstava. S druge strane, u istoj varijabli nije bilo statistički značajnih razlika u odnosu na spol ispitanika.

Ovo se istraživanje temelji na podacima organizacije Global Entrepreneurship Monitor (GEM) za Sloveniju. S obzirom na veliki broj zemalja koje sudjeluju u svjetskom GEM istraživanju, rezultate analize moguće je uspoređivati na međunarodnoj razini. Stoga je ovo istraživanje važan doprinos razumijevanju ponašanja poduzetnika u ranoj fazi poslovanja u kontekstu pojedinačne zemlje.

**Ključne riječi:** financiranje, vlastita financijska sredstva, inovativnost, demografski faktori, poduzetnici u ranoj fazi poslovanja