



Munich Personal RePEc Archive

Romania: Many Entrepreneurs but Few Innovators

Badulescu, Daniel and Cadar, Otilia

University of Oradea, Romania, University of Oradea, Romania

26 May 2016

Online at <https://mpra.ub.uni-muenchen.de/78924/>

MPRA Paper No. 78924, posted 04 May 2017 17:31 UTC

ROMANIA: MANY ENTREPRENEURS BUT FEW INNOVATORS

Daniel Badulescu, Otilia Cadar

Department of Economics & Doctoral School of Economics, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

Doctoral School of Economics, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

dbadulescu@uoradea.ro

otiliacadar@yahoo.ro

Abstract: *Entrepreneurship is considered an essential element for the development and prosperity of contemporary economies. The already known traits: creating jobs, boosting growth, revenues to the state budget, are supplemented by vitality and adaptability, and not least, a capacity for innovation. Thus, innovation became one of the most important factors in the companies' activity. However, innovation doesn't only mean new products and services. It is closely related to the capacity of entrepreneurs and managers to apply new business models, embedding an organizational culture capable to identify how new ideas could be converted into value for business and society. Innovation supports the efforts of ambitious entrepreneurs to pursue their objectives and stimulate other potential entrepreneurs to enter into businesses. Innovation generates, directly and indirectly, positive effects not only within a company but also within the national economy, as a whole. Despite this empirical evidence, the link between entrepreneurship and innovation is difficult to describe, to introduce it in strong theoretical models, in order to substantiate viable political programs. First, only a relatively small part of entrepreneurs really innovate. Secondly, researchers reveal deep, but subtle, ties between the entrepreneurs' profile, availability for innovation and effects on states' competitiveness and prosperity. Finally, the number (or proportion) of entrepreneurs isn't the most relevant, but their availability to innovate, the type of innovation chosen and, especially, how entrepreneurial organizations stimulate innovative initiatives among their employees (intrapreneurship). From this point of view, Romania's situation is difficult and challenging. The importance and size of the sector, entrepreneurial motivations, or the share of early stage innovative entrepreneurs indicate an average position at a global or European Union (EU) level. However, Romania is a modest innovator, often ranked last in the EU for a several innovation indicators, and its innovation performance in 2014 is at a significantly lower level compared to 2007. The poorest relative performance has been registered for the Linkages & entrepreneurship indicator. Our research also performs a comparison between entrepreneurship and innovation indicators, for Romania and selected Central and Eastern European states, to better understand the gap regarding a reasonable performance in innovation.*

Keywords: innovation, entrepreneurship, competitiveness, EU, Romania

JEL classification: O31, M21, L26.

1. Introduction

To innovate is part of the human essence and tendency to think of new ways to improve one's life. Without innovation, the world as we know today would have looked a lot different. We are not only referring to the spectacular results of modern science and technology, but also to fundamental innovations that have radically changed the perspective on human life. Innovation is not a new phenomenon, but along the human history it rarely incurred the attention it enjoys in modern times. Furthermore, although its

role in applied sciences became obvious more than a century ago, the subject of innovation is relatively new in social science. In economics most researchers had focused on studying the „classic” factors, such as the accumulation of capital or labour, not on innovation. Gradually, starting with the research of Schumpeter (1934), (1942), Arrow (1962), Drucker (1985) or Baumol (1990) things changed, and innovation acquired the status of an individual field apart from other disciplines (Fagerberg, 2003). At the same time, innovation has been approached from different perspectives: sociological, psychological, technical, becoming a highly disputed and prolific interdisciplinary field.

To better understand innovation it is essential to distinguish between two terms which are sometimes used interchangeably, invention and innovation, yet should not be confused. Typically, the invention relates to the first appearance of a new idea for a new product or process, a creative recombination of existing ideas, but whose outcome is to be perceived as new, by all people involved. In cognitive terms, the invention relates to the possibility of discovering something, of creating through imagination. Instead, innovation appears as a marketable application, something to be put into practice as a new idea, the integration of an invention within the economic and social practice. In terms of economic science, innovation may mean departing from the emergence of a new idea to the launch of a new product, through market research, prototype development and early stages of production (Fagerberg, 2003). In other words, if the products resulting from an innovation are not traded (or tradable) the innovative idea has no economic value to the enterprise. In social terms, an innovation has to be really useful „to function” so it can be commercially exploited and transferred, while an invention can or cannot be applied in practice (Roberts, 1988), (Fagerberg, 2003).

Beyond the well-known terminology-creating something new, most definitions of innovation address different perspectives, but in a common tone, change and renewal for a better situation (Nicol, 2010). OECD defines the innovation by relating it to the technological development of products and services, meanwhile the European Union institutions use a broader definition. So, according to the European Commission’s (1995) documents, innovation includes qualitative changes in workforce talent, working conditions, managerial and organizational jobs and involves a clear renewal and growth in product and service range.

2. Entrepreneurship and innovation

Innovation is not only limited to new products and services, it includes the companies’ ability to apply and spread new models of operation and businesses, to stimulate an internal organizational culture able to identify new ideas that can be converted into value for companies and society. According to Audretsch (2005) innovation is one of the most important factors in the companies’ activities, generating direct and indirect benefits within a state, by stimulating economic growth. Drucker (1998) considers that innovation is the centre of entrepreneurial activity. Innovation feeds the business initiators’ effort to pursue their ambitions. Furthermore, innovation has feedback and motivational effects; successful entrepreneurial innovation stimulating other entrepreneurs to get into business and promote their ideas (Hatos, et al., 2015). Some of those ideas will become viable innovations and may bring prosperity to the initiator (De Cleyn & Braet, 2012), (Castaño, et al., 2016) or (Tonç & Tonç, 2016).

According to the Global Entrepreneurship Monitor (GEM) and the World Economic Forum (WEF) (2015, p. 17) the innovative entrepreneur is the one introducing a new product or service which is new for the vast majority of consumers in a market because very few (or none) of the existing producers offer it. We note that this definition of the innovative entrepreneur disregards quantitative assessments (number of patents, processes or new technologies, R&D results); it is highly contextualized and relative. In other words, what is

new on one market may already be known on another market.

The value of this definition is based on the fact that it considers the role of the market, by referring to making the products and the services available to consumers. It takes into account both technological (vertical), and global (horizontal) development (Thiel & Masters, 2014), open economy and the local expansion of the entrepreneurs.

The relationship between entrepreneurship and innovation, although obvious, is not as straightforward. Thus, there are countries where entrepreneurship (measured by number of entrepreneurs, self-employed, firm birth rate, net business population growth, survival rate) is intense (Ahmad & Hoffman, 2007), but their contribution to innovation is low. In addition, there are countries which are well-situated in the innovation standing, yet do not have a very extensive entrepreneurial sector, which is however highly qualified and intensive, with a significant contribution to social prosperity. Furthermore, the business profile differs, depending on age, gender, education, country; complicating the search for a universally valid model of the relationship between entrepreneurship and innovation.

Due to this diversity of the entrepreneurial world, various organizations and researchers involved in studying the relationship between entrepreneurship/ intrapreneurship (on one hand) and innovation and economic competitiveness (on the other hand) argue that entrepreneurship should not be treated as a whole, homogeneously, it must be segmented in different categories. Based on these segmentations its relationship with innovation and its effect on the economic competitiveness in different countries could be better studied and understood. Moreover, expectations on entrepreneurial innovation also refer to solutions for overcoming difficult times, underdevelopment, crises and unemployment (Gündoğdu, 2012), (Acs, et al., 2012), (Noseleit, 2013), (Castaño, et al., 2016), "to survive in adverse economic conditions such as lack of adequate reforms for the development" (Rangone, 2016, p. 23), and even to foster economic recovery.

In the attempt to understand the relationship between innovation and the different stages and forms of entrepreneurship, GEM & WEF promote three dimensions of entrepreneurship as follows: a) Early-stage Entrepreneurial Activity i.e. the percentage of the population aged between 18 and 64 years, which includes emerging entrepreneurs and owner-managers of new functional businesses; b) Ambitious entrepreneurs, individuals involved in building an organization in order to meet their goals. The significant indicator of this ambition is the size of the organization expressed, mainly, by the number of staff that will be employed in the medium run and c) Innovative entrepreneurs, those entrepreneurs at early stage of business which are introducing a new product or service, unique in a market.

As shown above, for an economy, both the size of launching new businesses, but also their expansion, matters. From the standpoint of our research, we are interested, particularly, in the size of the creation and launching of new products on the market.

Although comprehensive, the segmentation, and especially the conditioning of the innovative aspect of these business during its early stages, contains both an element of potentiality, but also a limitation. In other words, a high rate of an early-stage entrepreneurial activity does not lead necessarily to outstanding results in competitiveness and social welfare. On the other hand, only a small percentage of new firms, small and medium enterprises, really innovate. Moreover, the constraints faced by these new firms, the extremely high mortality rate of SMEs in the first 2 years of existence, often undermine the efforts to innovate of the new entrepreneurs. In fact, "economies in which more entrepreneurs choose to be entrepreneurial for their employers, rather than create stand-alone entrepreneurial enterprises, tend to be more competitive and wealthier" (GEM & WEF, 2015, p. 7).

It can be an explanation why two economies may perform differently, although they both have a high proportion of innovative entrepreneurs. The economy in which entrepreneurs innovate technologically, vertically, has a better performance than the one in which a large part of these innovative entrepreneurs prefer to expand horizontally. By default, the greater

percentage of innovative entrepreneurs during the early stages of a business positively influences the competitiveness of an economy (GEM & WEF 2015, p. 17).

However, data sorting states by the proportion of innovating entrepreneurs in the early stage of business per total early stage entrepreneurs is not as suggestive.. This is a confirmation that only the percentage of innovative entrepreneurs among the total early stage entrepreneurs, does not say much about the connection between innovative entrepreneurs and the competitiveness (performances) of the economies they belong to. Moreover, we cannot find a correlation between the proportion of entrepreneurship activities and innovation. The best examples are Denmark and Germany, where the percentage of entrepreneurship activities it is relatively modest, but most of early stage entrepreneurs are highly innovative. The fact that countries with relatively similar proportion of innovative early-stage entrepreneurs have different levels of economic competitiveness, leads us to affirm that the innovative contribution of the entrepreneurs in countries less competitive concerns the horizontal expansion of the innovation of products and services. Conversely, in the countries with highly competitive economies stand entrepreneurs who bring absolute novelty innovations new-to-world products and services, namely a vertical expansion.

An additional argument is brought by the combination of early stage entrepreneurs with innovative employers. In a competitive economy, conditions for innovation are gradually created: people have access to better education, advanced knowledge, to social and financial capital, to legal protection of inventions. These countries create a climate within companies (large or small) encourage innovation from their employees (Nicolov & Badulescu, 2012). Thus, intrapreneurship is an alternative for “innovative employees to develop without having to risk their own assets or career prospects by setting up a new business” (GEM & WEF, 2015, p. 19).

3. Innovative entrepreneurs or innovative countries?

Is there a profile of innovative entrepreneurs, early stage, which distinguishes them from non - innovative entrepreneurs or even from ambitious entrepreneurs? Researches show that the only distinctive feature is given by the necessity vs opportunity typology. In other words, among the innovating entrepreneurs, we find more opportunity entrepreneurs in comparison with those of necessity. Instead, the ratio is reversed among ambitious entrepreneurs, who seem to be driven by needs rather than chances or opportunities.

In terms of gender or age, it is quite difficult to find obvious differences. However, in terms of education, there are really distinctive features. Globally, over three quarters of innovative entrepreneurs had a post-secondary degree or higher level of education, compared to no more than 55-60 % in the case of the non-innovative ones.

There is a link between the proportion of ambitious entrepreneurs and the innovators, but the argument is rather indirect. Thus, we find that there are countries with high rates of ambitious entrepreneurs, as well as of the innovators; as there are countries with high rates of innovative activities, but with a reduced pool of new and ambitious entrepreneurs. Germany is an example of a highly competitive country which has under average values in both *early stage innovation* and *ambitious entrepreneurs* (GEM & WEF 2015).

It is possible that the explanation relies on the fact that ambitious entrepreneurs in early stage are more likely to state that they have innovative products or services. In most factors-driven economies, a large proportion of ambitious entrepreneurs declared that they promote innovative products or services. Specifically, the share of ambitious entrepreneurs who are (self)-declared innovators in factors-driven economies is higher than in innovation-driven economies, but this self-declaration does not help to reclassify countries which belong to the factors-driven or efficiency-driven category, in innovation-driven economies.

A closer, country-level analysis of the relationship between ambitious and innovative entrepreneurs shows that things are more complex. Countries with high rates of innovation

(Germany, Switzerland, and Korea) have a sector of growth-oriented entrepreneurs lower than in most factors-driven countries, but most of these ambitious (growth-oriented) entrepreneurs are also innovative. Things are not evolving similarly not even in countries with high growth rates, with low competitiveness levels. Probably, the chance that opportunities could lead to the creation of new solutions is better capitalized in innovation-driven economies, and there is a greater connection between entrepreneurial innovation and ambitious entrepreneurship.

As a conclusion, there is a remarkable diversity of forms of entrepreneurship in these categories of economies – factors-driven, efficiency-driven and innovation-driven, in growth rates and type of associations. We found various cases where high levels of entrepreneurs in early stage have no chance to contribute to economy's growth, to innovation and prosperity, precisely because the country does not provide the necessary environment for ambitious and innovative businesses to develop. Conversely, many competitive countries have a relatively low sector of new entrepreneurs, but this is obviously focused on growth and innovation.

4. A short analysis on Romania's performance indicators related to Entrepreneurship and Innovation

According to GEM Report 2014 the profile of Romanian entrepreneurs includes all age groups between 18 and 64, the highest values situated between 25-34 years old and 35-44 years old (Sipos-Gug & Badulescu, 2013). In Table 3 of the Appendix the distribution of entrepreneurs by gender, age, level of education and income can be observed. Compared to other selected ECE countries (Croatia, Hungary, Lithuania and Poland) entrepreneurial efficiency rates for Romania (expressed as a percentage of population aged 18-64 years) are encouraging (Table 1).

Thus, Romania has the highest rates for *intentional entrepreneurs*, of 33% compared to 23% in Croatia and 16% in Hungary and for *young business entrepreneurs*: 6.20% in Romania compared to 4.80% as the EU average, 5.30% in Lithuania or only 2% in Croatia. Romania also has a satisfactory position for the TEA - *early stage entrepreneurs* with 11.30%, compared to 7.80% the EU average, or in case of new entrepreneurs - 5.30% compared to 4.80% the European average, but below the countries taken in the GEM analysis (Lithuania Croatia, Poland). Interestingly, Romania has a good positioning for *entrepreneurial employees* defined by GEM as people "who are actively involved in and have a leading role in at least one of the following phases: idea development for a new activity or preparation and implementation of a new activity" (Dézsi-Benyovszki, et al., 2014). In this case, the percentages are almost double compared to the countries taken in comparison, and well over the EU average.

Table 1: Entrepreneurial activity rates in efficiency-driven EU countries, 2014 (% of population aged between 18 to 64 years)

Entrepreneurial activity rates	EU average	RO	HR	HU	LT	PL
Nascent entrepreneurs	4.80	5.30	6.00	5.60	6.10	5.80
Young business entrepreneurs	3.20	6.20	2.00	3.90	5.30	3.60
Early stage entrepreneurs (TEA)	7.80	11.30	8.00	9.30	11.30	9.20
Established business owners (EB)	6.70	7.60	3.60	7.90	7.80	7.30
Discontinuation rate (business did not continue)	2.60	3.20	3.80	3.10	2.90	4.20

Legend: Ro-Romania, HR-Croatia, Hu-Hungary, LT-Lithuania, PL-Poland

Source: adapted from Dézsi-Benyovszki, A., Nagy, A., Szabó, T.P. (2014) *Entrepreneurship in Romania. Country Report 2014*, Global Entrepreneurship Monitor.

The report on innovation (Innovation Union Scoreboard) conducted annually by the European Union, provides a comparative analysis among EU Member States on research and innovation performances using the latest Eurostat statistics and other recognized international sources such as the OECD or the United Nations (European Commission, 2015). Innovation performance is measured using a composite indicator - Summary Innovation Index - totalling the performances of European countries through a comprehensive range of indicators, grouped into three main types of indicators - *Enablers*, *Firm activities* and *Outputs* and eight dimensions of innovation.

Enablers refer to the key drivers of external innovative performance (human resources, research excellence and funding/support). The *firm activities* indicator captures innovation efforts through three dimensions - *Firm investments*, *Linkages & entrepreneurship* and, *Intellectual assets*. Finally, *Outputs* captures the effects of the enterprise innovation activity, among these distinguishing *Innovators' and Economic effects*.

To illustrate some of these indicators, in Table 2 we analysed comparatively the values recorded among several countries in the EU. We selected the same group of countries used in analysing the efficiency of entrepreneurial activity rates based on GEM reports (Table 1). Although innovative performance is noted by Innovation Union Scoreboard in a wide range of indicators, we preferred that our analysis was narrowed to the *Firm activities* category, in which *linkages and entrepreneurship* has a special position.

In a comparative general analysis of the indicators of entrepreneurship activities' efficiency and of performance in innovation, we see that all selected countries have values close to the EU average (sometimes higher) in terms of entrepreneurship, but below the European average in terms of innovation. The investments indicator has values below the EU average in all 5 countries, with Romania and Lithuania recording the lowest values. Hungary has the highest level of investment, but at 75% of the EU average. Linkages & entrepreneurship values are higher in Croatia than in other countries and Intellectual assets are below the EU average in all 5 countries.

Table 2: Current performance related to Innovation, selected EU countries

Firm activities	EU 28	RO	HR	HU	LT	PL
1. Firm investments						
1.1. R&D expenditure in the business sector	1.29	0.12	0.41	0.98	0.24	0.38
1.2. Non R&D innovation expenditure	0.69	0.30	0.95	0.7	1.1	1.04
2. Linkages & entrepreneurship						
2.1. SME's innovating in-house	28.7	10.6	19.3	10.6	13.8	10.1
2.2. Innovative SME's collaborating with others	10.3	1.2	7.5	5.6	7.5	3.9
2.3. Public-private co-publications	50.3	6.6	30.00	26.8	7.2	4.7
3. Intellectual assets						
3.1. PCT patent applications	3.78	0.2	0.57	1.49	0.34	0.42
3.2. PCT patent applications in societal challenges	0.98	0.05	0.22	0.42	0.03	0.09
3.3. Community trademarks	5.83	1.85	1.24	2.42	4.13	3.61
3.4. Community designs	1.13	0.19	0.15	0.34	0.46	1.62

Legend: RO-Romania, HR-Croatia, HU-Hungary, LT-Lithuania, PL -Poland

Source: adapted from European Commission (2015) *Innovation Union Scoreboard*, pp. 82-83

Within the European Union, countries such as Belgium, the UK, Denmark, the Netherlands

and Sweden (Figure 1) are on top for the *Linkages & entrepreneurship* indicator. Innovation capacity in these countries is crucial for SMEs; they are combining in-house innovation activities with joint innovation activities with other enterprises or public sector organizations. Also, research systems are focused on meeting the requirements of the companies, this fact is underlined by the performances of the *Public- private co-publications* indicator.

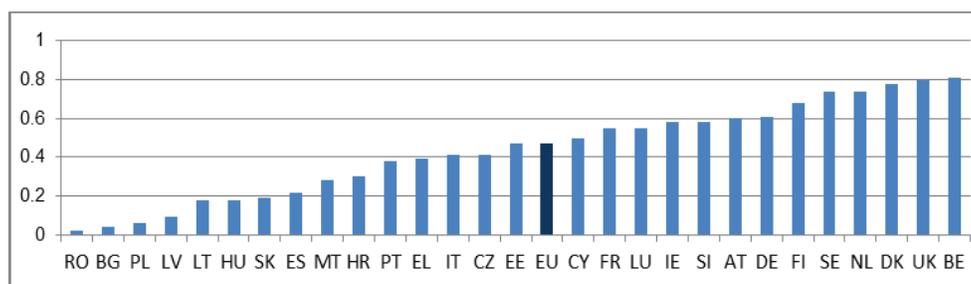


Figure 1: Performance in *Linkages & entrepreneurship* on the EU level

Source: adapted from European Commission Innovation Union Scoreboard (2015), p. 25

Limiting the analysis to Romania's case, we find that *R&D Expenditure* in the business sector are 10 (!) times lower than the EU average, and 2-4 times lower than the countries taken into the panel. Romania has extremely low results in *Linkages & entrepreneurship*: Romanian's SMEs are in-house innovating three times less than the EU average and at half of the performance of the studied countries. The situation is even worse in terms of innovative activities carried out in collaboration with third parties, or in terms of expansion of cooperation relations, where Romania's indicators are way below the European average. It is worrying that, in most indicators, the evolution of Romania is falling, while the EU average (and, to some extent, of the countries analysed) is increasing (European Commission, 2015).

Romania is the only country in the set that recorded a decrease of the *R&D Expenditure in the business sector* (-5.6%) compared to an EU average of + 1.9%. Moreover, countries such as Hungary and Poland experienced increases between 10 and 12%. Romania recorded net adverse developments in the last decade to *Linkages and Entrepreneurship*, particularly *Innovative SMEs collaborating with others* (it is worth mentioning that all the selected countries experienced a decrease of this indicator). The only positive developments for Romania, well above the EU average and sometimes upper than selected countries, were registered for several indicators of the subgroup *Intellectual assets*.

Overall, we can say that, within the EU, Romania is a modest innovator. Even if the performances in innovation rose until 2011, then this indicator has been declining, the level of 2014 having a significantly lower level compared to 2007. The relative performance decreased from 46% in 2007 to 37% in 2014. Romania recorded values below the European average for most indicators and the weakest relative performance (in terms of dimension) was recorded for the *linkage and entrepreneurship* indicator (European Commission, 2015).

5. Conclusions

Entrepreneurship has been considered an essential element of development, prosperity and adaptability of contemporary economies. Its vitality and resilience, verified during the recent economic crisis, adds to the already known attributes: creating jobs, boosting progress and economic growth, creating revenues to the state budget, an alternative to

large, bureaucratic and less competitive organizations, and, not the least, innovation capacity. Consequently, governments and policy makers, based on laborious studies and researches, are implementing several programs to increase the number of entrepreneurs, and, perhaps more importantly, to support viable businesses and the veritable mentality of entrepreneurship among active population.

The relationship between entrepreneurship and innovation is complex and difficult to refine in theoretical models with practical value. There are countries where entrepreneurship is intense, but which have mediocre innovation indicators, as there are countries, that are paramount in innovation, but has a relatively small business sector. Furthermore, two economies may perform differently, although both have a high proportion of innovative entrepreneurs. Researchers found that economies, in which entrepreneurs are technologically (vertically) innovating, bringing new-to-world products and services, perform better than those in which a large part of these innovative entrepreneurs prefer to expand horizontally.

The economies are, and remain, competitive, if they create conditions for innovation: better education, access to advanced knowledge systems, financial assistance or legal protection of inventions. These economies stimulate a climate within companies that encourages the involvement of employees in innovative activities, i.e. the intrapreneurship.

In this context, Romania's situation regarding the entrepreneurship - innovation - competitiveness relation presents obvious discrepancies. Compared to the EU average or other selected ECE countries (Croatia, Hungary, Lithuania and Poland) the rates of the entrepreneurial efficiency are encouraging. Romania also has a good performance in terms of entrepreneurial employees. However, Romania is a modest innovator, probably the weakest in the EU, to most indicators used by the official's reports methodologies. The performances in innovating have declined in the recent years, and the relative performance decreased from 46% in 2007 to 37% in 2014. Moreover, the linkage and entrepreneurship indicator for Romania registered the lowest relative performance. These figures show that whether the entrepreneurial performance is not a good predictor of entrepreneurial innovation and competitiveness, or the development of the entrepreneurship in these frameworks (otherwise admirable) has reached its maximum contribution to increasing innovation and competitiveness score. It is possible that other factors we only mentioned above matter the most: educational systems, access to advanced knowledge, promoting intrapreneurship, collaboration between companies and institutions, and, not least, more consistent (public and private) investments in R&D infrastructure. Our further researches will deepen the role of these factors in interpreting the complex relationship between entrepreneurship/intrapreneurship and innovation.

References

- Acs, Z., Audretsch, D., Braunerhjelm, P. and Carlsson, B. (2012) "Growth and entrepreneurship", *Small Business Economics*, Vol. 39, No. 2, pp. 289–300.
- Ahmad, N. and Hoffman, A. (2007) *A Framework for Addressing and Measuring Entrepreneurship*, Paris: OECD Entrepreneurship Indicators Steering Group.
- Arrow, K. (1962) 'Economic Welfare and the Allocation of Resources for Invention', in Nelson, R. (ed). *The Rate and Direction of Inventive Activity*, Princeton: Princeton University Press.
- Audretsch, D. (2005) "The emergence of entrepreneurial economics", *Research on Technological Innovation, Management and Policy*, Vol. 9, pp. 37-54.
- Baumol, W. J. (1990) "Entrepreneurship: Productive, Unproductive, and Destructive", *The Journal of Political Economy*, Vol. 98, No. 5 (Part 1), pp. 893-921.
- Castaño, M.-S., Méndez, M.-T. and Galindo, M.-A. (2016) "Innovation, internationalization

and business-growth expectations among entrepreneurs in the services sector", *Journal of Business Research*, Vol. 69, pp. 1690–1695.

De Cleyn, S. and Braet, J. (2012) "Do board composition and investor type influence innovativeness in SMEs?" *International Entrepreneurship and Management Journal*, Vol. 8, No. 3, pp. 285–308.

Dézsi-Benyovszki, A., Nagy, A. and Szabo, T.-P. (2014) *Entrepreneurship In Romania. Country Report 2014*, Global Entrepreneurship Monitor.

Drucker, P. (1985) *Innovation and Entrepreneurship*, Oxford: Butterworth-Heinemann Elsevier.

Drucker, P. (1998) "The discipline of innovation", *Harvard Business Review*, Vol. 76, No. 6, pp. 149–157.

European Commission (1995) *Green Paper on Innovation, COM (1995) 688*, Brussels: European Commission.

European Commission (2015) *Innovation Union Scoreboard*, Brussels: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.

Fagerberg, J. (2003) *Innovation: A Guide to the Literature*. Ottawa, Workshop: The Many Guises of Innovation: What we have learnt and where we are heading.

Global Entrepreneurship Monitor and World Economic Forum (2015) *Leveraging Entrepreneurial Ambition and Innovation: A Global Perspective on Entrepreneurship, Competitiveness and Development*, Geneva: World Economic Forum.

Gündoğdu, M. Ç. (2012) *Re-Thinking Entrepreneurship, Intrapreneurship, and Innovation: A Multi-Concept Perspective*. Procedia - Social and Behavioral Sciences No. 41, pp. 296 – 303, International Conference on Leadership, Innovation and Technology Management.

Hatos, A., Hatos, R., Bădulescu, A. and Bădulescu, D. (2015) "Are Risk Attitudes and Individualism Predictors of Entrepreneurship in Romania?", *Amfiteatru Economic*, Vol. 17, No. 38, pp. 148-161.

Nicol, T. (2010) *The Innovation Handbook, How to profit from your ideas, intellectual property, and market knowledge*, Kogan Page.

Nicolov M., Badulescu A. (2012) "Regional Analysis of HR Involved in RDI Sector in Romania in the Last Decade", *Revista Economică*, Supplement No. 1, pp. 554-563.

Noseleit, F. (2013) "Entrepreneurship, structural change, and economic growth", *Journal of Evolutionary Economics*, Vol. 23, No. 4, pp. 735–766.

OECD and EC (1997) *Proposed Guidelines for Collecting and Interpreting Technological Innovation Data: The Oslo Manual*, Paris: OECD.

Rangone, A. (2016) "Corporate Psychology. How Does Italian Entrepreneurship Change?", *Oradea Journal of Business and Economics*, Vol. 1, No. 1, pp. 17-26.

Roberts, E. (1988) "Managing Invention and Innovation", *Research Technology Management*, Vol. 31, No. 1, pp. 11-29.

Schumpeter, J. (1934) *The Theory of Economic Development*. Cambridge, Ma: Harvard University Press.

Schumpeter, J. (1942) *Capitalism, Socialism and Democracy*, New York: Harper and Row.

Sipos-Gug, S. and Badulescu, A. (2013) "Entrepreneurial Activity in Romania - A Time Series Clustering Analysis at the NUTS3 Level", *The Annals of the University of Oradea*, Vol. XXII, No. 1, pp. 673 – 682.

Thiel, P. and Masters, B. (2014) *Zero to One: Notes on Startups, or How to Build the Future*, New York: Crown Business.

Tonț, D. and Tonț, M. (2016) "An Overview of Innovation Sources in SMEs", *Oradea Journal of Business and Economic*, Vol.1, No. 1, pp. 58-67.

World Economic Forum (2014) *The Global Competitiveness Report 2014–2015*, Geneva: World Economic Forum.

Appendix 1

Table 3: Distribution of entrepreneurs by gender, age, education and household income in Romania, 2014 (%)

Variable		Potential entrepreneurs	Intentional entrepreneurs	Nascent entrepreneurs	Young business entrepreneurs	Early-stage entrepreneurs TEA	Established business owners EB
Gender	Male	68.67	54.9	72.65	67.89	70.59	66.37
	Female	31.33	45.41	27.35	32.11	29.41	33.63
Age category	18-24	18.16	22.84	18.54	19.87	19.08	4.78
	25-34	30.61	25.79	29.02	29.14	29.03	21.94
	35-44	28.65	24.75	30.68	29.00	29.71	26.84
	45-54	12.00	15.46	10.16	13.79	12.27	26.30
	55-64	10.99	11.16	11.61	8.2	9.91	20.14
Educational level	Some secondary degree	6.07	10.67	4.88	5.50	5.28	4.00
	Secondary degree	44.34	51.47	38.80	34.34	36.65	39.07
	Post-secondary degree	33.04	29.61	36.35	37.78	37.16	42.59
	Graduate experience	16.55	8.25	19.97	22.38	20.61	14.33
Household income	Lowest	39.07	21.07	23.89	11.50	17.61	12.05
	Middle	29.34	30.87	29.05	33.71	31.83	33.83
	Upper	31.59	48.06	47.06	54.80	50.56	54.12

Source: Dézsi-Benyovszki, A., Nagy, A., Szabó, T.P. (2014), *Entrepreneurship in Romania. Country Report 2014*, Global Entrepreneurship Monitor.