

Issues Regarding Innovative Companies and Their Financing

Iulia Lupu

Adina Criste

"Victor Slăvescu" Centre for Financial and Monetary Research

iulia_lupu@icfm.ro

criste.adina@gmail.com

Abstract

The importance of innovation's evolution has led to the emergence of global measurement indicators, built so that information can be compared between countries and hierarchies can be created. In this article we intend to present the current situation of Global Innovation Index (including Romania's position) in order to inform on the operating framework of innovative companies. Ways to define and characterize innovative companies are subsequently identified, especially in financing programs. Different financing resources for innovative companies are highlighted according to the stages of the innovation process and other specific aspects.

Key words: innovative companies, efficiency of innovation

J.E.L. classification: O33, G15

1. Introduction

At the international level, efforts are being made to capture the evolution of innovation by including multidimensional elements, both as input elements (possibilities) and output variables (results), to help calibrate policies that can support its development.

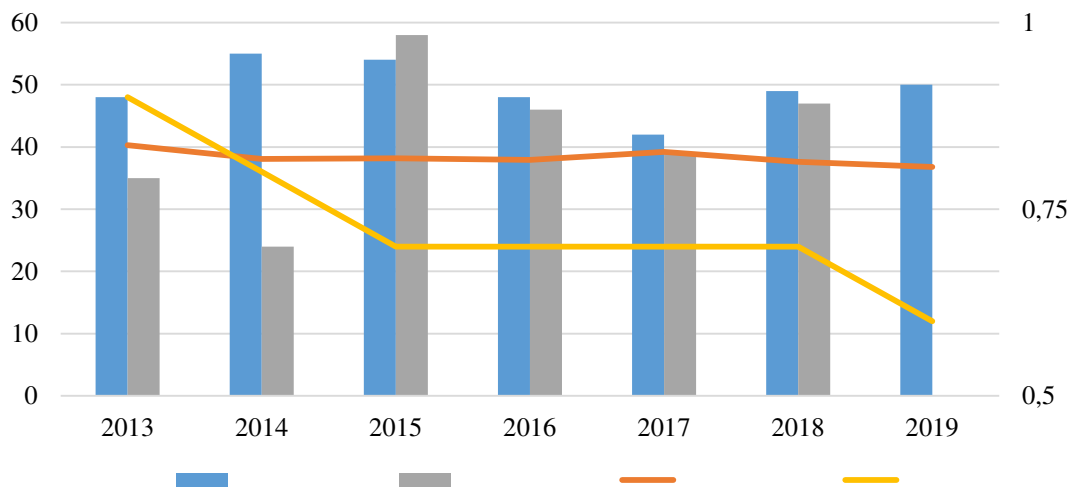
An example of this is the Global Innovation Index published by a consortium of Cornell University, INSEAD and the World Intellectual Property Organization special agency of the United Nations), which is in its twelfth edition in 2019 and is calculated in this moment for 129 countries. This indicator, which takes into account many more elements than traditional ones such as research and development, is considered a basic reference of the level of innovation for a given country.

In the case of Romania, the evolution of the Global Innovation Index and the Innovation Efficiency Index (Figure no. 1) is not impressive, our country being at the end of the first third, or at the beginning of the second third of the total number of analysed countries (Romania is in the top 50 in 2014).

If the Global Innovation Index has a stable evolution, its value being between 40.3 in 2013 and 36.8 in 2019, and the position in the ranking varying between 42 and 55, the Innovation Efficiency Index has a divergent evolution. Its value decreases from 0.9 in 2012 to 0.6 in 2019, following a downward trend throughout the period, and the position in the ranking has a fluctuating evolution, the best position occupied by Romania in the ranking being 24, in 2014.

The deterioration of the Innovation Efficiency Index in the last 5 years is worrying about how resources ("institutions, human capital and research, infrastructure, market and business sophistication") are reflected in the results obtained (knowledge, technology, creativity).

Figure no. 1. The evolution of the Global Innovation Index and of the Innovation Efficiency in Romania, in the period 2013-2019

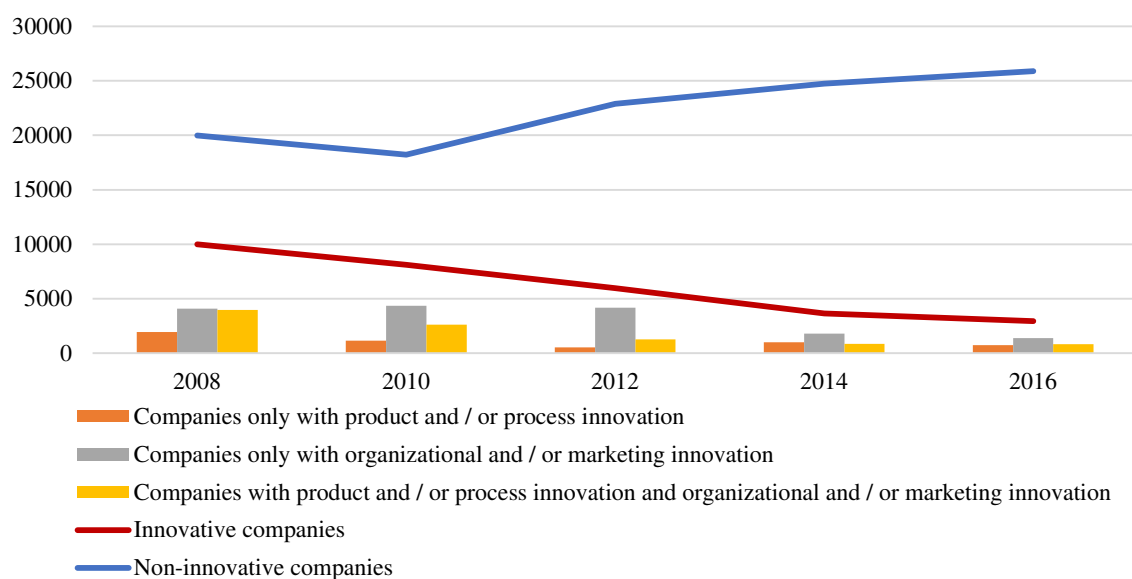


Note: The highest value recorded for the Global Innovation Index is 68.4 (Switzerland in 2018). Values below 1 of the Innovation Efficiency Index mean that a particular country is below the innovation potential.

Source: Processing of authors using data from The Global Innovation Index database, available online at www.globalinnovationindex.org (accessed October 29, 2019)

According to the National Institute of Statistics (2018), innovation represents “the introduction in the enterprise of a product, new or significantly improved process, of a new method of organization or marketing”, and innovative enterprises are those that have launched products (goods or services) “new or significantly improved in the market or introduced new or significantly improved processes or new methods of organization or marketing”. According to this definition, the evolution of innovative enterprises in Romania is declining compared to 2008, the survey being conducted every two years highlighting a very weak situation for 2016, the last year for which data are available (Figure no. 2).

Figure no. 2. Evolution of innovative enterprises by types of innovation, in the period 2008-2016 (the number of enterprises)



Source: Processing of authors using National Institute of Statistics data, TEMPO online (accessed September 5, 2019)

After the presentation of the current situation of Global Innovation Index (including Romania's position) that aim to introduce into the operational framework of innovative companies, in this article we identified ways to define and characterize the innovative companies especially in financing programs. After that, are highlighted different financing resources for innovative companies based on their stages in the innovation process and are discussed other specific aspects.

2. Literature review

The story of innovation's financing is linked with the information disclosure and symmetry and was compared with the 'market for Lemons' of Akerlof (1970). The idea of financing the firm in stages, based on the progress achieved, vanishes the issue of agency (Yung, 2019).

It is well known that the access to external finance for innovative SMEs is difficult (Beck and Demirguc-Kunt, 2006; Schneider and Veugelers, 2010). Lee et al. (2015) addressed this issue in the light of the financial crises and sussed out that access to finance for these companies is more difficult after the crisis. In the economic literature were also explored context specific subjects (Mina et al., 2013), structural issues (Canepa and Stoneman, 2007; Freel, 2007) or the cycle of the firm's life (Hirsch and Walz, 2019).

Looking at a group of 30 transition economies, Ullah (2019) analysed the finance prospect for innovative companies and reported that the formal finance promotes the firms' growth and is more productive. Although this is a desired situation, the undeveloped financial markets existing in these countries contribute to the usage of informal financing especially by smaller firms (Allen et al., 2018; Peng et al., 2018). A study based on Latin America countries suggested that the financial constraints and access to finance are the main drivers for innovation which is considered to be represented at a quite low level (Fernandez, 2017).

Beyond the innovative process, the financial issues are present when patent and other protection mechanisms are addressed. Colombelli et al. (2019) concluded that formal and informal ways of protection are linked with financial policy measures. There is therefore an important link between patenting and access to finance, an issue analysed by Audretsch et al. (2012), Hsu and Ziedonis (2008), Engel and Keilbach (2007), Hellman and Puri (2000). On the other side, a partnership with a strong investor acts as a signalling effect and bring value and recognition for the firm (Plagmann and Lutz, 2019).

Woodside et al. (2016) addresses the issue of innovation alongside culture, entrepreneurship and quality of life for the BRIC, Denmark, Germany and the United States by using the complexity theory.

3. Research methodology

The article deals with a relevant subject, important in terms of its timeliness and novelty. The methodology is not a complex one, but is assuming an analysis on various levels: identification of innovative companies' specifications in financing programs, presentations of the funding resources for innovative companies depending on the stages of the innovation process, and specific aspect regarding the financing of innovative companies, in order to construct a compound image of the subject.

For this purpose, some usual techniques are applied: information collection and processing, presentation of the relevant literature in the field, figurative representation. disposing these tools, some logical observations are proposed.

4. Main findings

4.1. Innovative companies - identification in financing programs

In the description and methodology specific to certain funding programs at national or international level, innovation is defined according to the objectives pursued. Thus, within the "Start-up Nation - Romania" program, 2017 edition financed by the Ministry for Business Environment, Trade and Entrepreneurship (2017), at point 6.16 of the Annex to the Order of the Minister for Business Environment, Trade and Entrepreneurship no. 692/2017 on the approval of

the de minimis aid scheme provided in the Program for stimulating the establishment of small and medium enterprises "Start-up Nation - Romania" of 06.06.2017 (specify: "The innovative character will be demonstrated at the first request for reimbursement / request for payment by proof from the manufacturer / supplier that the goods purchased in a proportion of at least 25% of the value of the business plan include technology / technologies and / or software necessary to carry out the activity not older than 3 years. "

In other financing projects, such as those carried out through the European Investment Fund, the Oslo Handbook - Guidelines for the Collection and Interpretation of Innovation Data of the Economic Organization for Cooperation and Development (2005) has been used to define innovation.

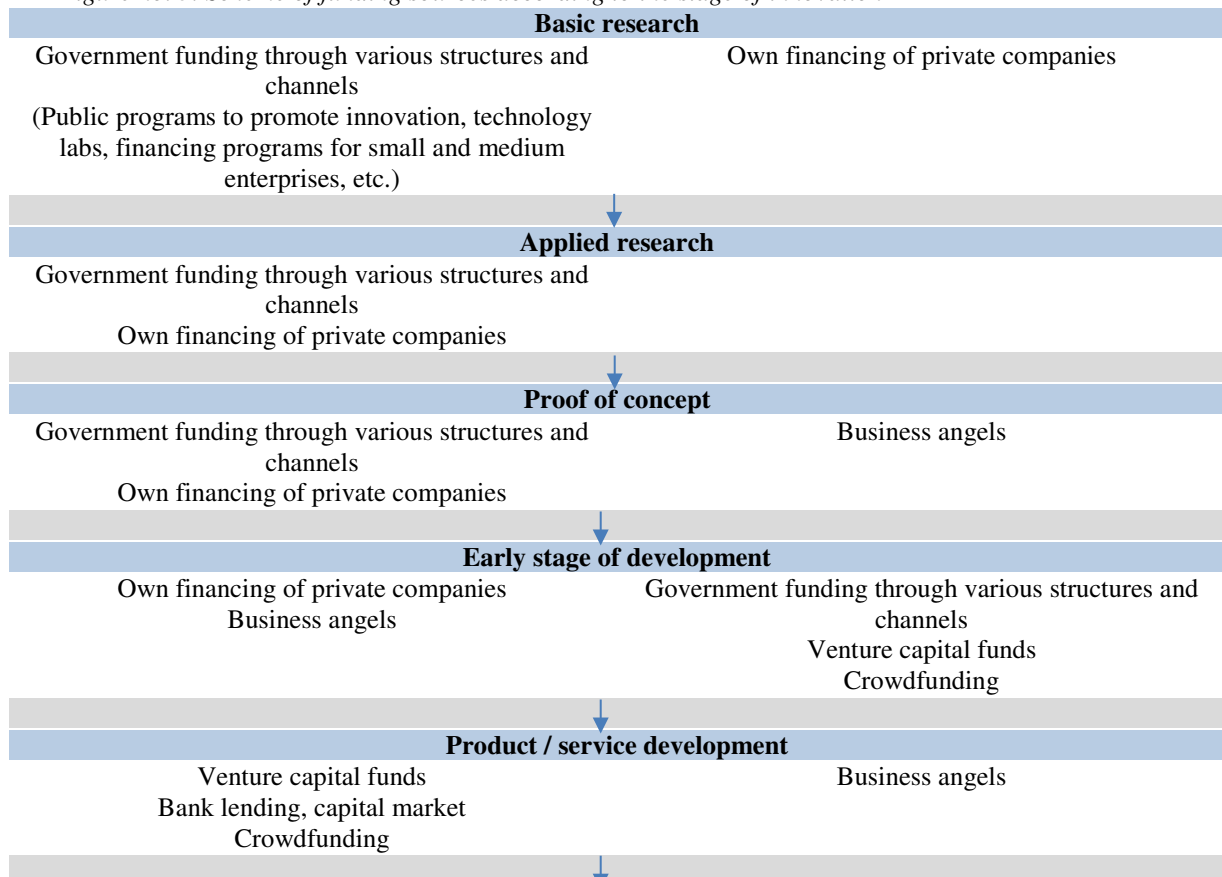
There are also private award initiatives for innovative companies in Romania, such as the catalogue published by Business Magazine (2014) in 2014 (The most innovative companies in Romania), which considers companies "that have refurbished or use new and efficient technological processes, companies that have created and launched special, ingenious products or packaging, inventions designed to generate higher incomes or make savings, with an impact on the environment or the quality of life of people, companies that have created or developed methods of management that led to obtaining great results or companies that use innovative methods in the production, distribution, sales process".

4.2. Funding resources for innovative companies depending on the stages of the innovation process

Funding resources for innovative companies are different for different stages of the innovation process. However, their efficiency and availability depend on the economic conditions in which the activity is carried out, the category of companies to which the innovative company belongs (small, medium or large companies), the type of activity in which the innovation takes place.

A scheme of funding sources that are depending on the stage of innovation can be found in Figure no. 3 (Giannopoulos and Munro, 2019).

Figure no. 3. Scheme of funding sources according to the stage of innovation



Introduction on market

Own financing of private companies
Venture capital funds
Bank lending, capital market

Note: The most frequently used funding sources are shown on the left and the least frequently used sources on the right.

Source: Processing of authors using Giannopoulos și Munro (2019)

4.3. Specific aspect regarding the financing of innovative companies

The innovation activity is not always followed by the expected results, a favourable market reaction or an increase in profit from the investments made. For this reason, the success rate is difficult to estimate. The results of studies in the field suggest that the financing activity is one of the components with an essential contribution to the success of an innovation process (Mazzucato, 2013). In addition, Lee et. al (2015) find that, although funding is very important for the activity of companies that focus on innovation, they often face difficulties in accessing funding sources.

The literature (Coad and Rao, 2008; Hall, 2002) distinguishes the importance of uncertainty regarding the financing activity of companies with an intense innovation component, which makes it difficult to evaluate them if common principles of economic and financial analysis are applied. Because the risk to which they are exposed cannot be estimated, companies operating in the field of innovation are very different from those carrying out other activities (Mazzucato, 2013).

Another important element is the size of companies that choose to rely on innovation activity. Larger companies have the ability to manage failures frequently, while this is very difficult for small or start-up companies. The latter have more access to alternative sources of funding, in which case they can sometimes also benefit from consultancy or mentoring services.

An important aspect of financial innovation contributing to the work of innovative companies is improving the availability of funds to finance activities for which access to finance is limited, with expectations of a positive impact on long-term growth prospects.

5. Final remarks

In research endeavour, identifying truly unique products and services is a great challenge, many of the new products and services being adaptations of older products and services, transformed to meet the new requirements and trends identified in the market. In the field of manufacturing, however, innovation is easier to measure because new and / or existing patents can be used, to which can be added indicators such as research and development expenditure or the proportion of researchers in total employment.

Future research directions may consider approaches from the perspective of behavioural economics, psychology and sociology being areas that can contribute to understanding the motivations for adoption, but also the success or failure of innovations.

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