Financing of Research Activity from Private vs. Governmental in Romania

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Abstract

The research-development activity is an important compound within an economy. Therefore, this activity must be financed accordingly, both from sources from the state budget (government sources) and from private sources. Although, the finality of this activity is mostly to write articles, studies and to present the results at scientific events, this are ultimately the ground for innovation which leads to new or improved products. Let us not forget that the great discoveries of the world were based, in one form or another, on a research activity.

Key words: government sources, private sources, fundamental research, applied research, experimental development.
J.E.L. classification: G32, G39, O32, O39

1. Introduction

We wish to study the way scientific researches are financed in Romania. Unfortunately, it is well known that this department has benefited less that other economical fields. However, after 2007 and the adherence of Romania to the European Union, things began to change following various treaties signed in this regard.

Thus, by the Program ,,Orizont2020" Romania committed to allocate, until 2020, 1% from GDP for the financing of the activity of research – development and 1% from private sources to finance this activity as well. This also in the light of what national legislation provides for this activity, which includes:

a) fundamental research – means experimental or theoretical activity undertaken, mainly, to acquire new knowledge about the foundations of observable phenomena and facts, without any direct commercial application or use being contemplated;

b) industrial research (applicative) – means critical research or investigation, planned, in order to acquire new knowledge and skills to develop new products, processes or services, or to make significant improvements to existing products, processes or services. This includes the creation of components for complex systems and may include the construction of prototypes in a laboratory or in an environment with simulated interfaces of existing systems as well as pilot lines where this is necessary for industrial research and in particular for validation of generic technologies;

c) experimental development – means acquiring, combining, shaping and using of existing technological, business and other scientific relevant knowledge and skills to develop new or improved products, processes or services. This may include, for example, activities aimed at defining, planning and documenting new products, processes or services. (Government Ordinance no. 52/2002, published in the Official Gazette no. 643/30.08.2002)

I made this presentation of the components of the research and development activity because I will continue to refer to the financing of these components.

2. Theoretical background

The research and development activity and implicitly the funding of this area is a very debated subject not only in Romania but also in other states seeing as it plays a very important role in the economy of a country. The means of funding this activity are various and we can organize it according to the source of funding. In the western European countries, the funding of the research and development activity is based on private sources while in the eastern European countries, the funding is done essentially through governmental sources. Thus, in Germany for instance, the small companies are encouraged to undertake research activities (Becker W. & Dietz J., 2004). In Italy as well, the research is funded through private sources (Bozzano F. et *al.*, 2010), especially in the automobile industry. In England, the subject has been analyzed thoroughly by Bronwyn (2002) in an expansive study about the funding of the research and development activity. Larger studies, at the scale of Europe have been conducted by Romanian authors too (Dobrescu, E.M., 2007, Rus, M.I., 2011).

3. The methodology of research

The scientifically approach I have chosen for this study is a comparative analyze which lead to some results significative not quantitively but highly relevant for the funding of the research and development activity at a national scale. I tried to illustrate a parallel between private and governmental sources. All through this study, I used the data analyze method especially concerning the literature presented previously.

4. Financing from private sources vs. financing from government sources

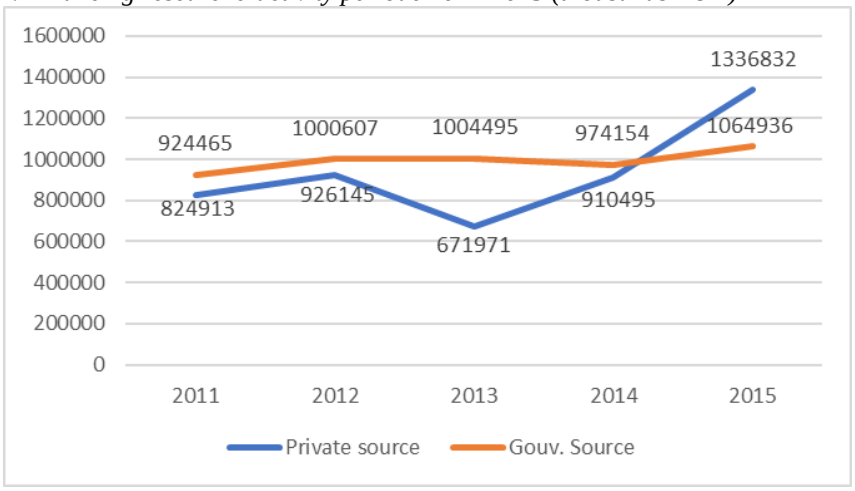
Funding from government sources is, in fact, the funding provided each year in the Stage Budget. These values are different from year to year, depending on the financing needs. Our scientific approach follows the evolution of these allocations for the period 2011-2015.

This way of financing should not be confused with the financing of the research and development activity of the European programs, as Framework Programs 6 and 7, structural funds, PHARE funds etc. These funds come from the European Union, of the budget it provides for the financing of the research and development activity.

The private environment is also present in the field of research and development funding, seeking to find new products or machines to help them both strengthen their market position and also allow them to increase their market share.

The values allocated to the financing of the research and development activity of both sources, private and governmental, are shown in Figure 1:

Figure no. 1. Financing researche-activity periode 2011-2015 (thousands RON)



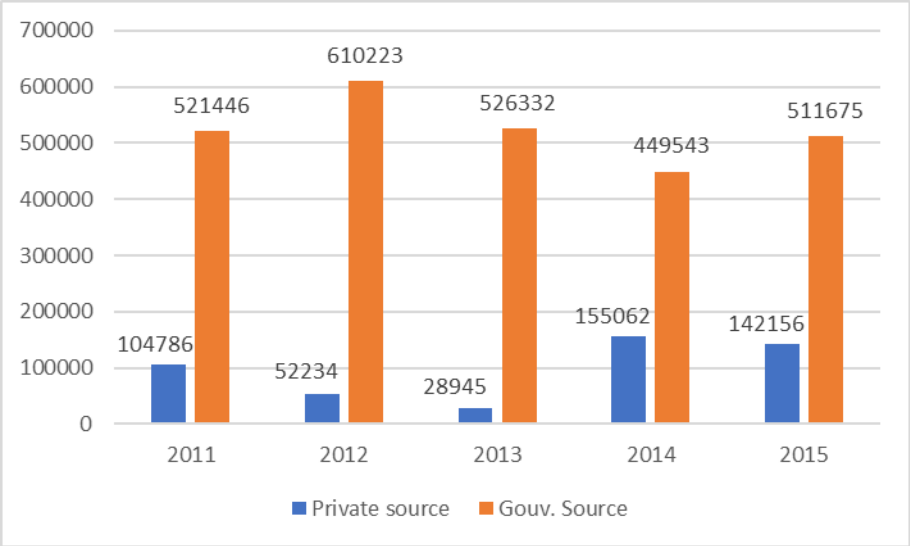
Source: Author's adaptation based on www.insse.ro/statistici

From the presented data we can see the values from private sources, taking as a mark the amount from 2011, increased in 2012 by 12.27%, in 2013 they decreased by 18.45%, in 2014 they increased again by 10.37%, so that in 2015 we arrived at a higher amount of 62.06%.

On the other side, government sources have continued to increase between 2011-2015, even though there was a decrease in 2014. More precisely, the funds allotted in 2012 increased by 8.23%, and in 2013 by 8.66%. However, in 2014 the increase was only of 5.37%. The growing tendency was visible again in 2015 when the amount was increasing with 15.19%.

From the values presented in Figure 1 we will analyze the three components of the research and development activity. Thus, Figure 2 shows the allocation for fundamental research:

Figure no. 2. Financing fundamental research periode 2011-2015 (thousands RON)

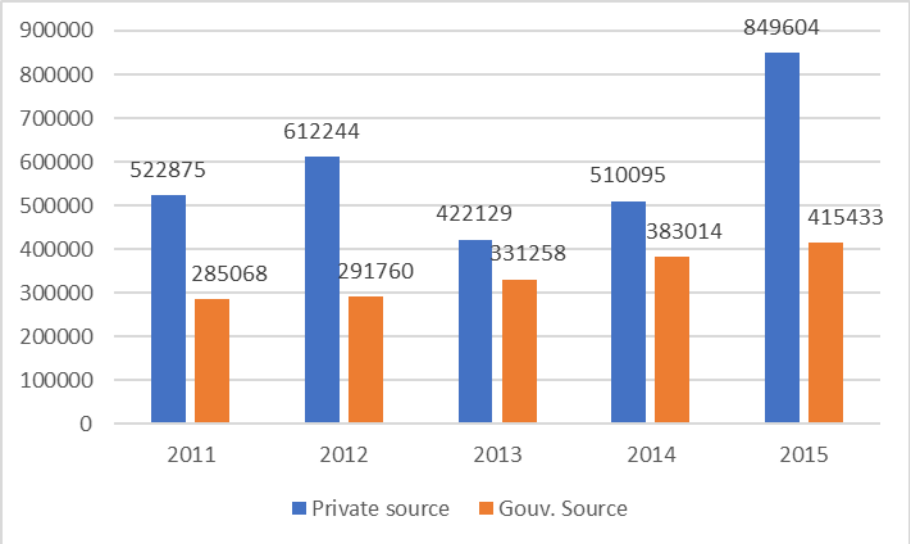


Source: Author's adaptation based on www.insse.ro/statistici

If the funding of private funded research has experienced a rebound in 2012 and 2013 compared to 2011, instead, in 2014 and 2015, the amount allocated significantly increased. On the other hand, government sources only show small variations in amounts, with a decrease in 2014.

The values assigned for industrial (applicative) research are shown in figure 3:

Figure no. 3. Financing industrial research periode 2011-2015 (thousands RON)

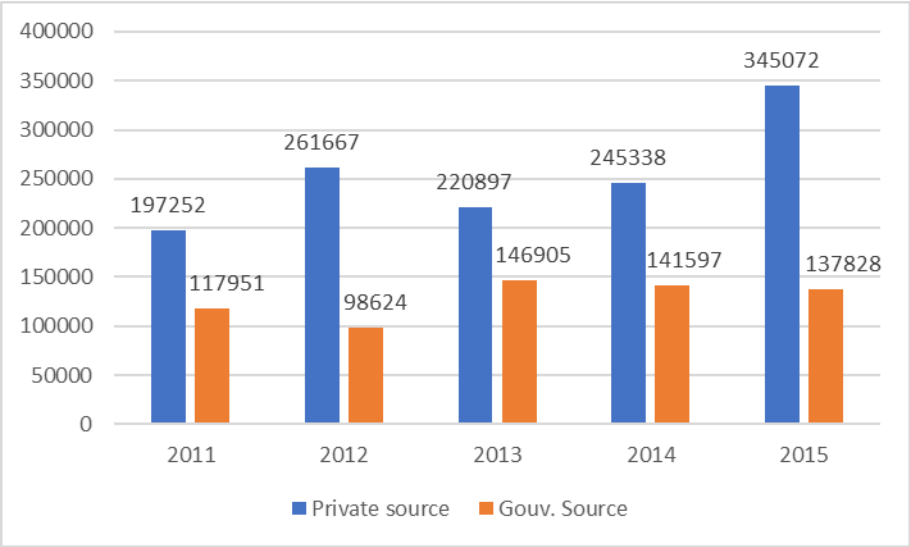


Source: Author's adaptation based on www.insse.ro/statistici

For industrial research, private sources were "generous", the allocated values showing a small rebound in 2013 but having the highest value, as expected, in 2015. On the other hand, the values allocated from government sources have seen a steady increase, reaching, as in the case of private sources, a maximum value in 2015.

The values assigned for experimental development are shown in Figure 4:

Figure no. 4. Financing experimental research periode 2011-2015 (thousands RON)



Source: Author's adaptation based on www.insse.ro/statistici

If the values allocated for experimental development from private sources have been steadily rising, instead, the amounts allocated from government sources varied from one year to the next, reaching a maximum value in 2013.

We can say for sure that private and governmental sources did not invest large amounts in technology. They did, however, invest a lot more in applicative research that can lead to new products (whatever it may be). The reason behind this? It's less expensive to create a new product that to improve one that already exists and which is in terms of functionality, already overcome.

5. Remarks

My intention was to show that research and development begins to get more finance in Romania and to follow a normal path, under the influence of the European Union and trying to meet its requirements. Nevertheless, we cannot compare the amount invested in Romania in this areas with the one allotted in some other European countries. Of course, there are states that get even less funding for research and development than Romania. Besides, we can see some improvements: private sources tend to allot more funding than State Budget sources and the "Orizont2020" Program requires that by 2020, in Romania, research and development should be funded by 1% of government sources and 1% of private sources.

6. Conclusions

Based on the information I collected and the studies I have undertaken, I can conclude that the funding of the research – development activity in Romania is very much inferior if we consider the comparison with the other countries and with today needs in this area. The causes are various and we can mention:

a) The number of employees in the research and development area has decreased constantly in the last years while the quality of the new personnel is not always up to the expectations;
b) There is a poor cooperation between economical agents and research-development unities;

c) With very few exceptions, the research infrastructure is far from the one in the western European countries which may act as an obstacle when we want to create collaborations with research-development unities from these countries.

Nevertheless, I am confident that Romania can turn this around and reboot its economy through research-development activity seeing that it already did a first important step in this direction with the Magurele Laser and we will analyze this particular example in a forthcoming study.

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