

The Effectiveness of R&D Support in Italy. Some Evidence from Matching Methods

Aiello Francesco ¹

¹ : University of Calabria, Dept. of Economics, Statistics and Finance (DiSESF)
P. Bucci 19A I-87036 Rende (Cosenza) - Italie

There are two main arguments to explain the low level of private R&D investments. The first refers to the appropriability of basic research. If technology is a quasi-public good then the incentive to invest will be reduced because each firm will try to take advantage from the innovative efforts made by others. The final outcome is a level of innovative activities which is lower than that desirable at an aggregate level (Arrow 1962). The second element influencing R&D investments is related to capital-market imperfections. The risk of research leads investors to increase the cost of financing innovation and, as a consequence, this tends to a reduction in the amount of research made by the private sector. This is particularly true for Italy, a country with a low propensity to innovate due to specific characteristics of its industrial sector which is dominated by small firms and by firms operating in low-tech sectors.

These considerations help to understand state intervention in favour of R&D activities. Any innovation policy is aimed at making up for the difference between social and private returns on R&D innovations and ensuring financial facilities to innovators, particularly in the first stage of the innovation process. While the initial objective of R&D policy is to increase the amount of innovative activity, the general scope of any research and innovation policy is to strengthen the position of each country among the leading knowledge and competence-based countries. In other words, public support for private R&D is a good policy option per se because increasing technological potential through sizeable investments should lead to innovation and, ultimately, growth in an economy. This is basically the mission of many R&D programmes, for example Europe 2020 which is part of the EU's growth strategy to promote a more competitive economy in the coming years. With regards to the theme of this paper, it is of value to point out that, among other objectives, Europe 2020 fixes at 3% the proportion of the EU's GDP to be invested in R&D up to 2020. According to the EU commission, this is a pre-requisite to have a smart-growth which is based on more effective investment in education, research and innovation. As mentioned before, the level of actual R&D efforts is lower than the optimum and very far from 3%. For instance, in Italy, R&D investments were 1,26% of GDP in 2010, while the average of the EU-27 was around 2% (the intensity was more than 3% in some Nordic countries (Finland, Sweden, Denmark) and more than 2% in Austria, France, Germany and Slovenia. However, compared to the early 2000s, Italy has increased its innovative efforts by about 20-25 basis points from, R&D investments of just over 1% of GDP in 2000.

However if, and to what extent, the objectives of R&D programmes have been achieved is an empirical issue to be addressed through an evaluation study. This paper analyses the effect of an innovation policy from which a sample of manufacturing firms benefitted. With this goal, the literature is followed and ex-post evaluation is carried out by using the counterfactual approach, which - through different methods - permits estimation of what would have

happened without the policy. In order to assess the impact of Italian R&D policy support at firm level, the matching techniques are applied, just as in Almul and Czrnitzki (2003), Czrnitzki and Licht (2005), Herrera and Heijs (2007), Duguet (2004), Gonzalez and Pazò (2008).

Data used in this paper are from the survey carried out by Capitalia (2008) and cover the years 2004-2006. This source allows precise identification of whether a firm has received a policy support within R&D programmes or not. The possibility of distinguishing the two groups of treated and untreated gives an advantage in that the analysis does not suffer from the potential bias of other sources of public funding, as would be the case if we only paid attention to a specific scheme without being able to control for the presence of other policies. In this, the paper is similar to many other studies. However, this is not without cost. Indeed, knowing whether a firm participates or not in a programme impedes to assess the role of the different policies implemented in favour of private innovation in Italy. Therefore, the results are meant to be the average effect of overall R&D policies adopted in Italy in the period 2004-2006. We find that R&D policy has been effective in increasing the amount of R&D investments made by firms, although the effect disappears when considering the intensity of innovative efforts. There is similar inconclusive evidence with regard to the impact of R&D policy on the capability of firms to sell innovative products.