

Evaluating the Effect of Public Subsidies on firm R&D activity: an Application to Italy Using the Community Innovation Survey¹

Giovanni Cerulli and Bianca Potì

CERIS-CNR

Via dei Taurini 19

00185 Rome, Italy

g.cerulli@ceris.cnr.it; b.poti@ceris.cnr.it

ABSTRACT. The aim of the paper is twofold: to verify a full policy failure of public support on private R&D effort, when in presence of a potential plurality of public incentives; to compare the most recent econometric methods used for the analysis of the input additionality.

Compared to previous studies our work wants to trace out an advance in two directions: adding more robustness by comparing results from various econometric techniques and providing an analysis of the R&D policy effect behind the average results. A by-product of the paper is a taxonomy of the econometric methods used in the literature, according to the structure of the models, the type of dataset and the available policy information.

We exploit the third wave of the Community Innovation Survey for Italy (1998-2000) with a sample size of 1,221 supported and 1,319 non-supported firms. Given the used type of data, the article presents two main limits: first, we do not know the level of the subsidy, so that we can control only for the presence of a total crowding-out; second, we can check only the short-run effect of the supporting policy, while an increase in the private R&D effort could be more likely in the medium term.

Our results suggest that: 1. the main factors influencing the probability to participate to the incentive policy are R&D experience, human skills, liquidity constraints, but also foreign capital ownership; 2. on average, the total substitution of private funding by the public one is excluded for Italy as a whole, although some cases of total crowding-out are found: low knowledge intensive services, very small firms (10-19 employees) and the auto-vehicle industry. We get, on average, 885 additional thousand Euros of R&D expenditure per firm with a ratio equal to 4.62: it means that if a generic control unit does 1 thousand Euros of R&D expenditure a matched treated does 4.62 thousand Euros. The additionality for the R&D intensity is about 0.014 with a ratio of about 2.67.

KEYWORDS: Business R&D; Public Incentives; Econometric Evaluation

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