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Space Economy: Valuing the Uses (3)

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PRIVATE AND SOCIAL RETURNS TO SPACE INVESTMENTS: ARE WE ABLE TO MEASURE
THEM? AN ATTEMPT IN THE ITALIAN CASE

Abstract

In the first part of the paper by drawing from the economic literature on the measurement of the returns to innovations, technological spillovers, cost-benefit analysis (CBA) of public projects, value of information and public procurement, we shall put forward a general framework for the evaluation of the benefits of space investment (including RD investment). We shall show the substantial differences between the evaluation of private and social returns to the private sector (business and consumers) and to the public at large (via public, civil and military, space expenditure). In the first case the main problem is to keep track of the changes in the net surpluses of producers and consumers following investments and innovation in the space sector, whereas in the second case the problem is to attach monetary values or to find other ways of evaluating the importance of collective benefits, as is done in the standard CBA. In both cases the pervasive presence of spillovers or external effects must be taken into consideration. We shall argue also for the importance of summarizing the results of any exercise in terms of appropriate rates of returns. Finally we shall use our framework for a critical review of recent studies on the benefits of various types of space programs. Keeping in mind that severe data constraints prevent the researchers from using the methodologies that in principle would be the most appropriate ones for assessing the returns from space investments, in the second part of the paper we shall attempt an evaluation of their benefits in Italy by looking for indicators or proxies for them. Specifically we shall look at: i) the growth of Italian space service sector relatively to the growth of Italian space industry, also in comparison to other European countries for which data are available, and with special attention to the impact of the implementation of Public Private Partnerships on the part of the Italian Space Agency (ASI); ii) the strategies adopted by ASI to improve, develop and meet the growing national and international public demand for space applications serving citizens and the entire civil community, according to its Space Plan (Strategic Vision 2010-20). A special attention will be given to earth observation and telecommunication applications.