

Societal and Economic Impact of Research

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Erawatch Country Report 2013 underlines five structural challenges

- 1) Resources for Higher Education remain insufficient (falling number of professors and lower financing of research)
- 2) Low share of skilled human capital (falling number of students, emigration of Italian scholars)
- 3) Low R&D intensity and specialization in low technology (AGID not yet operational)
- 4) Economy dominated by very small firms (not enough resources for R&I)
- 5) Increasing territorial inequalities

The above mentioned issues are related to long-term problems of Italian society and cannot be reduced to the context of R&I. However some of them are also a specific effect of a lack of awareness , peculiar to Italian society and Italian culture.

Economically and socially advanced countries tend to make large investments in R&D, because there is a widespread understanding of the medium and long term return of such investments.

It would be almost pointless to mention specific examples: at present there is no economic and/or social context (from health to transportation, from energy to information) that is not affected and strongly conditioned by scientific development.

In passing one must stress also the social importance vested by research in the humanities, since it acts as a stimulus for creativity in all fields, it offers a better understanding of social and human problems and issues, and it supports the creation of new job opportunities in the cultural and recreational sectors.

Innovation may lead to a loss of job opportunities in traditional sectors, but it also creates new jobs in new and developing activities. Historically the balance has always been favorable .

Innovation of processes and products is a result of applied research, but applied research cannot be really innovative if it is not supported by basic and fundamental research.

This fact raises a critical issue, because we may expect companies to become more aware of the need to invest in R&D, but we cannot pretend them, in most cases, to invest in basic research, not to mention the fact that Italian companies (typically small) are accustomed with process innovation but are already in trouble with product innovation, and they tend to buy patents rather than make new ones.

Therefore the role of the State (and of the European Union) in supporting and financing basic (and even applied) research is unavoidable, and involves also supporting and financing higher education, because human capital is the most important factor in generating innovation.

But in Italy a large part of the population does not perceive research (with the possible exception of medical research) as a really useful activity, and in times of economic crisis it is almost natural for politicians to cut resources for higher education, with the reasonable expectation that no serious protest will arise from the bulk of the body social.

It is (at least partially) a vicious circle, because people not sufficiently exposed to scientific culture do not seem to “miss” it and do not appreciate the importance of higher education.

There is also some responsibility of scientists and scholars, who are ready to complain this lack of attention by the rest of society but not so ready to make efforts in order to explain and justify their activities.

Dissemination of scientific results is one of the crucial ingredients in building a productive research network. In the long run probably all transmission of information, including scientific information, will be completely dematerialized and quality will be assured by forms of collective control, but presently we still need a quality control, implemented by peer review, and in order to grant adequate dissemination we need Open Access policies, that cannot ignore the cost of Open Access. Again the role of the State in supporting and financing initiatives is crucial.