

Research and Innovation: The role of the Government

Rapporteur: Miguel Nussbaum

Funding and Policies

Worldwide there will be an increased inversion in Research. While the third world countries try to reach OECD levels, being far from them, developed countries see inversion in research as a key tool for competitiveness.

Government has a role as a regulator and a subsidizer. Regulation defines the framework for Research and Development. However, the less regulation can be defined the better. As a subsidizer, it is defining through think tanks, the key areas for Research and Development. What it is trying to do, in some way, is to postpone a national failure. The world is in a continues change. New problems appear, producing a gap in national needs and so a necessity for technology to solve it.

The government as a regulator has the responsibility, while defining the Research and Development framework, to assure sustainability. Sustainability has different faces; environment, energy, and society as a whole. Knowledge has to be in service of mankind and government can play a role by training officials in knowledge transfer.

Research and Development will be sterile if performed isolated. There has to be a critical mass to drive new technologies. It is therefore the tool to make sectors competitive and fertilize, as a side effect, other sectors. For companies Research and Development is key since knowledge has a value by its own. So, government as a regulator has to foster collaboration between companies, but assuring that there will be competition in the final outcomes to impede any sort of cartel in the created products and services.

Research and Development

Research and Development is different from where it is seen; developed or under developed countries.

First, the commonalities. Both define key areas to subsidize. However, these are different considering that the needs are dissimilar. Both are concerned about knowledge transfer, where a common issue is the relation between Universities and Industry. There has to be a change in the attitude of both and the state can play a role with different subsidizes.

In the under developed world there is a need to achieve a critical mass in human capabilities and in research infrastructure. Chairs paid by the Industry, training of PhDs, graduate students working in research projects in Industry, and enabling technology for cutting edge research, among others, are instruments that subsidized by the government

and international agencies, shortness the gap on the dependence of technology with the developed countries.

For the developed countries, fostering new markets, knowledge transfer through start ups, creation of knowledge pillars (Nano Technology, ICT, Bio Technology, Human Health, Environment and Energy) appeared as relevant issues.

For the European countries, a key issue appeared that is limiting Research and Development; its regulation of Intellectual Property Rights. It was a common view of all European panelists that the differences between the European and US regulation are severely affecting its competitiveness.

How can Innovation be promoted?

Interest and enchantment in science is not sufficient. Deep knowledge of an area and problem solving skills are not enough. Curiosity, imagination, patience and small group work are skills that have to be promoted both in school and college. Only with these, we will promote the minimal abilities for performing some sort of research.

Today's degree and funding requirements limits students' exploration for new research views. Fostering different research areas has to be a state issue. However, the direction of this search has to fulfill local needs.

Proposals

State regulation on research and development has to be minimal:

- Think tanks for defining research key areas.
- Assure environment, energetic, and social sustainability.
- Promote industrial sectors collaboration but impeding cartels of new technologies.
- Foster knowledge transfer with adequate Intellectual Property rights.
- Complementary abilities, as curiosity, imagination, patience and small group work, have to be promoted both in school and college to foster research.
- Promote different research areas from the main stream ones.

G8 can assist under developed countries by supporting them in creating both a human critical mass and a minimal research infrastructure. But these have to occur only on those fields that are relevant for the corresponding countries and that have some possibilities to be leaders in those niches.