

Lettera

Club The European House - Ambrosetti

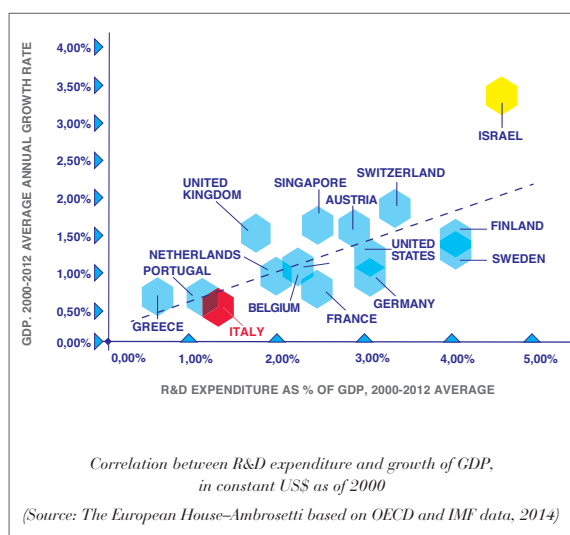
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The Priorities for Improving the Innovation Ecosystem in Italy

Innovation is a decisive factor in the competitiveness of organizations and local and regional economies in responding to the global challenges imposed by a context marked by major discontinuity and acceleration. At the same time, it is also an indirect aspect of well-being, making a fundamental contribution to sustainable, long-term development.

Those countries which were the first to grasp the importance of the positive “innovation-productivity-growth” cycle are those that are best positioned in terms of long-term systemic competitiveness and have demonstrated greater resilience and ability to respond to the current crisis. Today, more than ever, ignoring the innovative challenge **is not an option**.

This Lettera takes up once again the theme of innovation¹ and looks at it from the point of view of national economies to propose lines of action for Italy in light of the current context in the country.



¹ See: Lettera Club no. 51, July/August 2013.

THE CHALLENGE IS WON ON THE LEVEL OF NATIONAL INNOVATION ECOSYSTEMS

In advanced economies, linear innovation models that see innovative output as the precise result of pre-set quantitative inputs (investment, human capital, infrastructure) have been supplanted by collaborative models that aim at building **integrated innovation ecosystems** in which the results of innovation are determined starting from the interaction between key players (from academia, government and business) and in which maximizing network speed and optimizing network efficiency are critical factors of success.

For some time, Italy’s competitive position has been deteriorating. According to the most recent (2014) European Innovation Scoreboard—the instrument used by the European Union to measure the innovative capacity of its member states—Italy has remained (for over 10 years) in the “moderate innovator” group.

There are many indications of malaise: innovation-intensive exports have dropped from 9% of the total in 2000 to 6.4% in 2012; patents are 1/20th of those in South Korea;² the number of people employed in the Research and Development (R&D) sector are 1/6th of those in Finland; and investment in innovation is half that of the EU-28 average (1.27% of GDP vs. 2.1%) and significantly distant from the 3% goal Europe has set for itself for 2020.

It is a “systemic” problem.

Italy is taking steps to close the gap with its international competitors and in recent years successive governments have promoted major initiatives to improve the research system, support innovative businesses and implement regulatory and structural rationalization.³

What is required is a further qualitative/quantitative leap.

Innovation must be seen as a “**national action plan**”. The goal is to (re)create a national ecosystem

² Patents per 1000 inhabitants, 2011-2013 average: Italy (0.23), South Korea (4.94), Singapore (2.55), United States (2.46). Source: World Bank.

³ Recent initiatives include, among others: the 2014-2020 National Research Plan (February 3, 2014); Consob regulations regarding equity crowdfunding (a broad-based investment system involving risk capital invested via online portals); the “Research and Innovation in Companies” package (February 7, 2014); new R&D tax credits for the three-year period 2014-2016; the Inter-ministerial decree involving the ministries of Economic Development and of Economy and Finance regarding tax incentives for investment in innovative start-ups (January 30, 2014).

capable of structurally exploiting the intelligence and research available in think tanks, transferring them to businesses for purposes of innovation and market-oriented economic advantage and, as a result, overall attractiveness and growth.

WHAT SHOULD BE DONE: 10 INITIATIVES TO STIMULATE INNOVATION IN ITALY

To provide renewed impetus to the Italian innovation ecosystem, the “Technology, Innovation and Technology Transfer” Community of the Ambrosetti Club⁴ has identified ten urgent initiatives in ten priority areas:

- 1. National innovation strategy.** The most advanced countries manage innovation initiatives on the basis of long-term policy lines; this is lacking in Italy. A strategy that defines the country’s “innovation project” must be defined (for a period of at least 10 years) which identifies the priority technology and research areas, with a strong orientation towards the market and industrial competitiveness.
This strategy must provide a coherent link for research, employment, training and industrial development policies, and there must be a single governmental reference point with the power to orient, coordinate and fund.
- 2. National Innovation Group.** To guarantee a structured command of strategic thinking about how (modalities and instruments) to maximize innovation capacity within the system and its spin-offs, various governments⁵ are using groups of individuals with the role of “advisor”. Italy should also create a permanent consultative/policy-making body—non-bureaucratic without compensation—comprised of experts and businessmen whose goals would be to:
 - Stimulate the most effective ways to promote the Italian innovation ecosystem and formulate policy proposals;
 - Launch ideas for pilot projects;
 - Propose initiatives/instruments to upgrade the attractiveness of the Italian ecosystem.
- 3. Incentives for private research.** Innovation is a risk investment with uncertain returns. For Italy, it is essential that a framework of **structural measures** to provide support to businesses involved in R&D be created. These measures should include:
 - Tax breaks for earnings resulting from the utilization of intellectual property, in line with foreign best practices (e.g., the United Kingdom);
 - Fixed, automatic tax credits on R&D investment with significant deductions (as is the case in France);
 - Simplification and acceleration of procedures involving public funding for research activity, with revision of the write-off period (i.e., cancellation of book-keeping entries for amounts for which the maximum time it is kept on the books has expired), to be increased to seven years from the current period of three years.

- 4. Public-private venture capital funds.** Venture capital represents an important source of support for innovative entrepreneurship, but in Italy its volume is low. This channel could be stimulated through public-private funds with optimal technical characteristics in line with international practices:
 - Limit on the level of the public contribution (not to exceed 60%);
 - Maximum profit ceiling for public entities;
 - No down side protection clauses (through which the public entity is saddled with a pre-set level of any capital losses in the fund);
 - Buy-out options.⁶
- 5. Theme-related universities for Italy.** On an international level, more and more universities are striving to be sector-related hubs of excellence. Italy has approximately 80 universities, many of which are small in size, not very competitive or attractive, and which provide primarily training and struggle to be centers of innovation. An action plan should be launched with a joint MIUR (Ministry of Public Education, Higher Education and Research) and MiSE (Ministry for Economic Development) task force to study the best ways to stimulate the transformation of some general universities into regional, highly-specialized theme-related universities with the sharing of research laboratories and technology transfer centers with other universities.
- 6. New instruments for technology transfer (TT).** Il sistema di trasferimento tecnologico italiano ha criticità diffuse (mancanza di connessione tra Università e aziende, limitate risorse degli Uffici di Trasferimento Tecnologico⁷, The Italian technology transfer system has widespread problems (lack of connection between universities and the corporate world, limited resources for Technology Transfer Centers, coordination problems between structures) which make it difficult for the results of the research—in many cases excellent—undertaken in the country to reach the market. Solving this situation requires action on three levels:
 - Create a national TransferLab⁸ that provides support for the local technology transfer system and has professional expertise of international caliber hired through an open, competitive procedure, including applicants from abroad;
 - Allow for the separate and autonomous organization of Technology Transfer Offices within universities, with the possibility of having them be autonomous, both legally and administratively.
 - Promote aggregation (of universities, TT centers, etc.) on the basis of three principles: “One in, one out” (to create a new body, an existing one must be eliminated); “Inverse subsidizing” (provide for innovation policies decided on a national level and implemented regionally); “Measurement” (define the mission, goals and results of the body in advance of its creation).

⁴ This community, created in 2011, is an open system that brings together public and private players (involving approx. 120 players in each area).

⁵ The United Kingdom, Singapore, Chile and the United States.

⁶ Possibility for private investors to buy the publicly-held share at a pre-set price before the expiration date of the fund itself.

⁷ With an average staff of 3.8 people. Source: Netval 2013.

⁸ A potential role model could be the United States’ National Technology Transfer Center.

OVERVIEW

Innovation is a determining factor in the competitiveness of organizations and national economies

In the last decade, the global innovation scene has undergone radical transformation: not only have the players and challenges changed, but also the ways of innovating

The competitive premium for countries is tied to their ability to maximize the connections (in quality and quantity) between different players within integrated innovation ecosystems

The challenge is met on the level of innovation ecosystems

What is needed is a strong ability for strategic management of innovation which on a national level requires:

- A clear medium/long-term development vision with timed and measurable goals
- A (national and local) governance model that is effective, with resources, tools and coherent legislation
- Widespread culture oriented towards innovation

The ability of the Italian economy to innovate continues to deteriorate

What is needed is to optimize the organization of the national innovation ecosystem which must be conceived to promote processes for producing what is "new" on a continuous basis

10 proposals for Italy from the Ambrosetti Club community

ORGANIZATION OF THE INNOVATION ECOSYSTEM

1. Define the **national innovation strategy** with an "innovation project" for the country and priority technology and research environments that are oriented towards the market and industrial competitiveness
2. Create a **National Innovation Group** with experts and businessmen as advisors to government

FINANCING INNOVATION

3. Introduce **structural incentives for private sector research**, including:
 - Significant tax credits for R&D
 - Tax breaks for intellectual property revenues
 - Extension of the write-off period for public R&D financing
4. Promote **public/private venture capital** funds with technical features in line with international best practices

TRANSFERRING TECHNOLOGY AND RESEARCH COMPETENCIES

5. Develop a plan for the creation of **theme-related universities** for Italy with joint MiSE-MIUR task force
6. Implement **new instruments for technology transfer**
 - National TransferLab
 - Autonomous university technology transfer offices
7. Create a **technology transfer culture** with tech transfer professionals and applied doctorate programs in industrial research
8. Assign **patent rights to universities** and moral rights to inventors through an equitable premium

ATTRACTIVENESS OF THE NATIONAL ECOSYSTEM

9. Launch a **"shock program" to capitalize on young research talent**
 - Direct recruiting in the public research system
 - Negotiation of researcher salaries on an individual basis
 - Temporary tax exemption for companies founded by young researchers
10. Include in **school curricula** the teaching of themes/subjects involving innovation and entrepreneurship

7. **Technology transfer culture.** In technology transfer, the human element is central. Italy must:
 - Raise the professional profile of those involved in technology transfer and use research indicators as instruments for reporting the efficiency and efficacy of the bodies involved in knowledge generation, management and transfer.
 - Introduce specific instruments (e.g., assessment in researcher CVs of TT activities) and push for applied doctorate programs in industrial research.
8. **Intellectual property system for public research.** Patent rights to inventions by researchers in Italian universities belong to the inventors themselves. This situation is unique within the international context and because of it universities are denied a potential source of self-financing (through use of profits from the inventions) and are discouraged from managing technology transfer processes. We need to learn from the experience of other countries (United Kingdom, France, Germany, etc.) and assign patent rights to the university and moral rights to inventors through an equitable premium.
9. **“Shock program” to capitalize on young research talent.** Italy is not a country that is attractive to young talent, especially for research, in sciences and technology and innovation sectors in general. A “national program” must be launched with integrated initiatives, including:
 - Direct recruiting into the public research system through international recruitment competitions (going beyond national competitions);
 - Rapid processing of visas/residence permits for non-EU researchers;
 - Base salaries for researchers in line with international best practices (United States, Switzerland and Germany), negotiated on an individual basis;
 - Tax exemptions (e.g., for periods of 3-5 years) for companies founded by young researchers and “zero bureaucracy” financing.
10. **Education for innovation and entrepreneurship.** Promoting education models that include entrepreneurship and creativity is among the goals of ET2020, the strategic framework for European cooperation in education and training.

Italy is behind in these issues. It is a priority that it not fall further behind, and teaching of cross-subject themes/materials useful for innovation and entrepreneurship must be included—on a modular and gradual basis—in school curricula starting in elementary school and later integrated in the secondary school in the syllabuses of compulsory subjects such as economics and social sciences.

SUMMARY

The innovation scene on a global level is currently undergoing a “systemic” transformation that has operational structural impacts on national innovation ecosystems, resulting in new roles and new demands:

- Universities are increasingly being called upon to be “entrepreneurial universities” which must also aim at maximizing spin-offs from the knowledge generated from an economic and market-based standpoint;
- Public Administration—at all levels—becomes the center for bringing together, stimulating and supporting integration processes between players;
- Cooperative networks become fundamental to allow interaction and integration between the various agents, differentiated by competencies, capabilities and goals;
- The financial system becomes a strategic player in R&D processes to ensure the economic resources required in an efficient way;
- The orientation of corporate investment in innovation must make a qualitative-quantitative leap to successfully take on the competitive challenges.

Within this context, some areas of Italy must improve more than others: the speed of the slowest impacts on the speed of the country as a whole.

What Italy needs is to make these initiatives an even higher priority that must necessarily be clearly focused on local needs, and a coherent, organic action plan capable of re-establishing the competitiveness of the system on solid bases and with an eye towards the future.

“Innovation is everything.

When you're on the forefront, you can see what the next innovation needs to be.

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(Robert Noyce⁹)

⁹ American entrepreneur and inventor nicknamed 'the mayor of Silicon Valley'. He was the co-founder of Fairchild Semiconductor in 1957 and Intel in 1968

The next Lettera will be dedicated to “Priorities and Lines of Action for European Growth”

The European House - Ambrosetti Lettera Club draws on the analysis, theses and solutions developed as part of Club activities and, more generally, the professional activity of The European House - Ambrosetti Group. We are aware that we offer an observatory of information and relational network, including on an international level, that is extremely high-level, but at the same time we are cognizant of the fact that we are not the sole “repositories of truth”. In order to be of assistance to Italy and Europe - one of our key commitments - we sincerely hope that each Lettera will provide the basis for a large number of critical suggestions, both in terms of content and more generally, from those who receive it. Please send your suggestions and comments to letteraclub@ambrosetti.eu. We thank you in advance for your invaluable collaboration.

If you are interested in the activities of Ambrosetti Club, please contact Silvia Lovati by e-mail at club@ambrosetti.eu or call: +39 02 46753 1.

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