

The Italian system of innovation: the gradual transition from a weak “mission-oriented” system to a regionalised learning system

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Introduction

The various studies conducted in the past on the performance of the Italian innovation system have almost inevitably underlined the weakness of the Italian R&D systems. Its main salient feature is the poorly performing, insufficiently developed, and scarcely organised block of activities related to Scientific and Technological Research (STR).

The failure of the Italian system in promoting basic science and technology development in high-tech sectors is not just “institutional” and it does not involve only the public sphere. In fact, it cannot be limited to the issue of the structural inefficacy of the Italian complex of public institutions delegated to support STR programmes (Universities, centralised authorities at ministerial level, and government funded public centres). On the contrary, it involves also the business sector, namely, the private system of R&D in-house laboratories.

Although Italy was a late industrialised country, it did not make any serious effort to overcome its backwardness by establishing new modern institutional forms at the frontier of the most advanced research¹ (either within the public system of basic research or in any high-tech sector.)

As an inevitable result, Italy is still very backward in high-tech sectors. It failed during the past in the development of any sustainable capability in high-tech sectors such as aerospace, nuclear energy, computer technologies and superconductors, telecommunication and bio-technologies. These are advanced sectors which require a strong coherence of the various actors of the “national innovation system” (Nelson, 1993). The Italian system lacked a high level of government support, technology transferring institutions, top frontier universities and institutions in basic science, and leading Schumpeterian entrepreneurs that are able to launch new products on the market place. Home-based firms in high-tech sectors are now on the margin of the international scene (Piccaluga, 1996). During the restructuring times of 1980s and 1990s, many closed down, or were acquired by foreign multinationals. In high-tech sectors, the Italian contribution to the global development is marginal, and the international competitiveness of the few existing firms is declining (Guerrieri and Sasson, 1990; Amendola and Perrucci, 1995).

¹ This is in striking contrast to what occurred, for instance, in the nineteenth century, in Germany (Keck, 1993), with the financing of higher education, and vocational training, or in the twentieth century, outside the university system with the foundation in 1911 of the net of research institutes partially financed by private firms: the Kaiser-Wilhelm-Society (later on renamed Max-Planck Society). And again, the Italian experience in the institutional setting of public research (the Italian CNR) is far from the case of France (Chesnais, 1993), where the centralised activities of the co-ordination of French science took place through a “mission oriented” initiative: a centrally well managed CNRS, where the very large firms belonging to the oligopolistic core of French business became the State partner in innovation activity.