

CeSPI

Centro Studi di Politica Internazionale

**ITALY AND INNOVATION: ORGANISATIONAL
STRUCTURE AND PUBLIC POLICIES**

Raffaella Coletti

November 2007

Contents

Introduction	3
Characteristics of the Italian economy.....	4
The actors, competences and the national innovation support system	5
National Policies for Innovation.....	9
References	19

Introduction

The characteristics, initiatives and potential manifested by the Italian regions in the field of innovation and internationalisation (which we will attempt to outline through a description of the dedicated organisational structures, the policies put in place and the best practices existing in the country within the regions of Lazio, Tuscany and Piedmont) must of necessity be framed within decisions taken at the national level. Indeed, from an operational point of view, the Regional Innovation Systems (RISs) come within the national system, of which they form offshoots. From a political institutional and legislative perspective, innovation is the subject of *Multilevel Governance*, which involves dialogue between the national level and the regional level within an EU framework.

Over the next few pages, some information will be provided regarding the “national level”. In the first place, we will attempt to map out the organisational support structure (the actors, their responsibilities and their interrelationship). Secondly, the principal policies the government has adopted for innovation will be set out. Finally, the system of incentives and resources for innovation will be briefly described. In all of these areas, the following three crosscutting aspects will be taken into account:

- the express or tacit links between innovation policies and the dynamics of internationalisation;
- the specificities of Italy and, more generally, of Mediterranean countries in relation to their adoption of the Lisbon Strategy; and
- the role of the regions from a national perspective.

In relation to the latter aspect, it is worth noting that Italian support for innovation is largely managed at the national level but that the regions have in recent years assumed a growing role, including by virtue of European Union policies that have provided direct financing for Regional Innovation Systems (RISs). In particular, starting from 1999, “a new legal framework for governance has been created and new criteria for the distribution of administrative duties amongst the state and the regions have been established. New provisions governing the financial autonomy of regional and local authorities have been laid down” (Directorate-General Enterprise, *Annual Innovation Policy Trends and Appraisal Report. Italy. 2006, p.17*). “As far as R & D and innovation policies are concerned, Italian regions have a high degree of autonomy in planning their own innovation and industrial support programmes. Legislative decree no. 112 of 31 March 1998 is a milestone in this respect as it assigns specific powers to the regions in terms of design and implementation of industrial and technological policies. More specifically, regions are in charge of the promotion of applied research, innovation, and technology transfer programmes and projects”. (Directorate-General Enterprise, *Annual Innovation Policy Trends and Appraisal Report. Italy. 2006, p.18*).

“In recent years the role of regional policies has increased, especially in less favoured areas, mainly as support to innovation and technology transfer initiatives.” (Directorate-General Enterprise, *Annual Innovation Policy Trends and Appraisal Report. Italy. 2006, p.4*). Innovation policies have, in any case, an important link with regional cohesion policies. Around 5% of total EU funds for 2000-2006 for Italy (around €3 billion) and 4.6% of national regional funds for southern and central-northern Italy for 2000-2004 (over €3 billion) was allocated to research and innovation (Italian Innovation, Growth and Employment Plan 2005 - PICO, p.35)¹.

Coordination between the State and regions is provided by the *State-Regions Conference* (a permanent body). Other bodies are important for the political representation of the regions, namely the

¹ In particular, the following are in the process of being implemented: Financing of R & D investment projects in the underutilised areas, funded by the Enterprise Support Revolving Fund established under the 2005 Budget Law; initiatives coordinated between the public system and the Italian industrial system; the creation of hi-tech districts; support to projects proposed by industrial businesses, including jointly with public actors, for product and process innovation and for the development of digital technologies; and the relaunch of basic strategic research on the part of universities and public research institutes (PICO, p. 36).

Conference of Regional Presidents and the Conference of Presidents of the Italian Regional Parliaments.

Characteristics of the Italian economy

It is, however, necessary to very briefly preface by setting out the principal characteristics of the Italian economy, since these determine the specificities of the territories in their response to innovation challenges.

According to the European Commission (Directorate-General Enterprise, *Annual Innovation Policy Trends and Appraisal Report. Italy. 2006, p.1*), these characteristics may be summarised as follows:

- a) a predominance of SMEs, which affects the level of R & D expenditure, innovation enhancement and human capital improvement;
- b) the perception of innovation carried out by SMEs as a modernisation process rather than as a strategic activity;
- c) an uneven distribution of economic activities and ICT infrastructure;
- d) low levels of technical education;
- e) a limited propensity to make patent applications; and
- f) a shortage of finance and the need for a more dynamic venture-capital market.

The European Commission – Directorate General Regional Policy stated that “in 2005, Italy’s innovation performance was in 12th position out of the 25 EU Member States. Its main strength is the public funding of innovation; its main weaknesses are the lack of venture capital, the low level of cooperation between firms and the low level of business RTD. In addition, there is a predominance of SMEs (98% have less than 20 employees) specialising in low and medium technology sectors.” (Directorate-General Regional Policy, *Innovation in the National Strategic Reference Frameworks*, 2006, p. 2).

According to the Italian government (PICO, p.9), the peculiarities of the Italian economy consist of:

1. the vulnerability to global price competition of traditional national products, such as textiles, clothing, footwear and wood/furniture/household products, which are manufactured by small, family-run companies, and the vulnerability of “Made in Italy” products to unfair competition, especially in the form of imitations;
2. marked disparities (or dualisms) in terms of productivity at the regional level, chiefly between northern and southern Italy, and between sectors, i.e. industry on the one hand and the primary and tertiary sectors on the other; and
3. the methods of meeting social needs, which impact on the structuring of State finances and the activity of private enterprises, the latter being already burdened by excessive regulation.

In the National Strategic Framework (NSF) 2007-2013, the poor innovation capacity of the private and public sectors is identified as the principal source of competitive lag in the country. The systemic weakness of Italy is linked to the modest amount of private research conducted even in very large firms, the insufficient capacity to institute relationship mechanisms between the latter and SMEs, the limited aptitude of SMEs to dialogue with the research supply system, the inadequate level of training of entrepreneurs and the poor involvement of workers in the innovation process both in businesses and in the public administration. More generally, the weaknesses are traced back to an inadequate climate of competitiveness and to the existence of highly-protected positions in the market, in businesses and in public institutions, as well as to lower skill levels than in other industrial countries and to poor dialogue between businesses and the research sphere. Also insufficient is the ability to produce and attract skilled human capital, while at the same time the national economy has difficulty in absorbing human resources that have successfully completed higher education. The research supply

system is described as being “patchy”, that is, as having areas of excellence which are not however supported by an adequate system of rules. This in turn leads to the perpetuation of situations of unaccountability fuelled by the absence of merit-based recruitment mechanisms.

The actors, competences and the national innovation support system

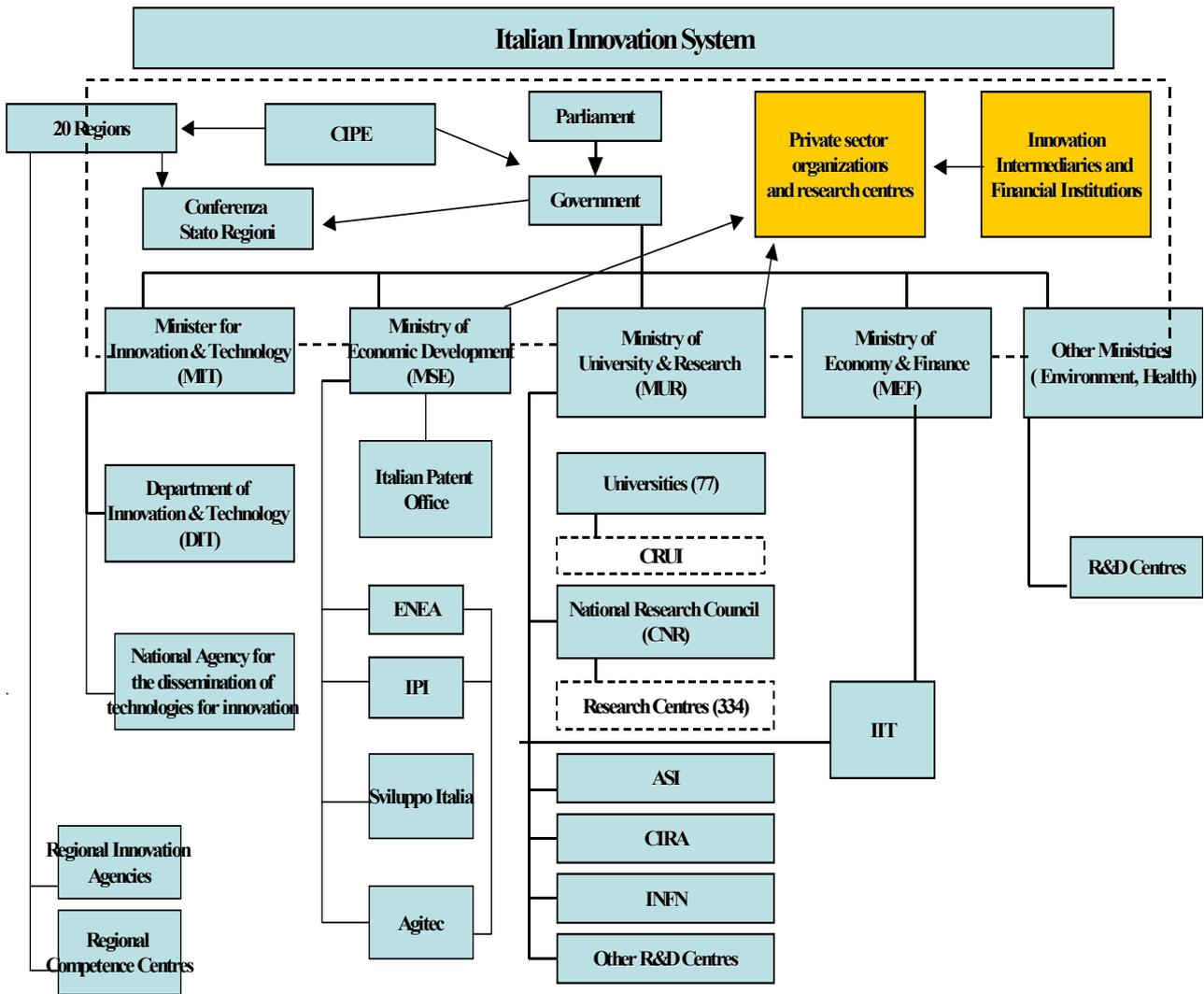
As often happens when examining the “Italian system”, within its various subdivisions, even the “Italian national innovation System (NIS) is characterised by a large number of entities and a high level of fragmentation” (Directorate-General Enterprise, *Annual Innovation Policy Trends and Appraisal Report. Italy. 2006, p.6*).

Based on the European Commission’s *Annual Innovation Policy Trends and Appraisal Report* for Italy, it is possible to group the different institutions and organisations determining and shaping the innovation system in Italy into six categories:

- 1) Government and legislative bodies:
 - i. Ministries of Education, Universities and Research (MIUR), Economic Development (MSE), Innovation and Technology, Economy and Finance, and, to a lesser extent, Ministries of Environment and Health; and
 - ii. the Inter-ministerial Committee for Economic Planning (CIPE);
- 2) Universities and knowledge institutes:
 - i. 77 universities distributed across the country;
 - ii. the Association of Italian University Rectors (CRUI);
 - iii. Public Research Institutes, like the National Research Council (CNR), the National Agency for New Technologies (ENEA), the Italian Space Agency (ASI), the Italian Aerospace Research Centre (CIRA), the National Institute for Nuclear Physics (INFN) and the Italian Institute of Technology (IIT) - the latter established in Genoa in 2004 by the Ministry of Education, Universities and Research and the Ministry of Economy and Finance, as a foundation with the aim of becoming an international centre of excellence for scientific research in advanced technology; and
 - iv. Private research centres, mainly managed by the major industrial groups (Fiat, Pirelli, Telecom Italia, Finmeccanica, Enel etc.);
- 3) Public innovation agencies/organisations:
 - i. the Italian Patent Office (which regulates industrial property issues);
 - ii. the Institute for Industrial Promotion (IPI), a development agency controlled by the Ministry for Economic Development, which is involved in industrial policies, incentive instruments and policies, technology transfer networks and multilateral and bilateral international cooperation efforts;
 - iii. Sviluppo Italia, the national agency for enterprise and inward investment development, which controls “Innovazione Italia”, a dedicated agency that implements national innovation programmes;
 - iv. Agitec, the service agency designed to assist business in making investments in innovative technology;
 - v. at the **regional level**, relevant organizations are the **Regional Innovation Agencies** and the **Regional Competence Centres (RCCs)** - the latter have been established by the **Department for Public Administration** and the **Department for Innovation and**

Technology to facilitate and accelerate the development of e-government and the information society at the regional level; and

- vi. the 2006 Budget Law created a National Agency for the Dissemination of Technologies for Innovation (*Agenzia per la diffusione delle Tecnologie per l'Innovazione*), monitored by the Italian Prime Minister's Office and aimed at fostering the competitiveness of SMEs and of industrial districts by spreading new technologies and promoting integration between the research and industrial spheres;
- 4) Private sector organisations: main Italian industry associations such as Confindustria and Unioncamere;
- 5) Industrial research organisations and centres:
- i. the Italian Association for Industrial Research (AIRI), which promotes industrial research and cooperation between companies and public research institutions;
 - ii. Industrial Experimental Stations: organizations supporting the competitiveness of enterprises in close collaboration with the relevant production sector;
 - iii. Industrial districts;
 - iv. Technology districts: 24 technology districts have been promoted in key strategic areas;
 - v. Science and Technology Parks: the number in Italy is growing. The Association of Italian Science and Technology Parks (APSTI), founded in 1989, now has 30 parks throughout the country; and
 - vi. Business Innovation Centres (BICs), Integrated Centres for Entrepreneurship Development, Incubators and Innovation Relay Centres (7 in Italy), which support innovation and **transnational technology transfer**; and
- 6) Innovation intermediaries and financial institutions. The financial system supporting R & D in Italy is made up of:
- i. the Italian Business Angels Network (IBAN);
 - ii. the Italian Venture Capital and Private Equity Association (AIFI); and
 - iii. a series of private banks and financial intermediaries that offer funding to finance R & D and innovative projects.



A summary appraisal of innovation governance is provided by the following SWOT overview:

Strengths	Weaknesses
<ul style="list-style-type: none"> • New orientation in policy-making towards selected strategic programmes and technology clusters • Government initiatives and new reforms in the tax incentives system, labour market and educational system • Good results in the decentralisation process • Trend towards increasing stakeholder consultation • Digitalisation of the public administration 	<ul style="list-style-type: none"> • No effective coordination between policy-makers and risk of overlap • Public operators not inclined to adopt a strategic management approach to R & D • No long-term view on policy-making • Cultural barriers to public-private cooperation • Limited evaluation culture and “far-from-perfect” research/innovation impact evaluation system • Lack of evaluation to sustain the policy-making process • Stakeholder consultation but limited impact on policy-making • Barriers to the effective implementation of innovation policies (lack of funds, delays, bureaucracy)
Opportunities	Threats
<ul style="list-style-type: none"> • Re-formulation of several innovation measures turning from a more generalised approach to a thematic and technology-focused one • Signs of concerted action between the State and the regions • Further availability of resources through Structural Funds • Reform of the public incentive system • Agency for the dissemination of technologies for innovation • National Reform Programme - PICO 	<ul style="list-style-type: none"> • Decrease in resources allocated to R & D public measures and instruments

Source: Directorate-General Enterprise, *Annual Innovation Policy Trends and Appraisal Report. Italy. 2006, p.25*

It is worth noting that the role of the regions is recognised and made prominent under “Opportunities”, both implicitly as the principal beneficiaries of Structural Funds and, expressly, as key actors in innovation processes, by the very fact that the significance of concerted action between the State and the regions in relation to innovation is mentioned.

National Policies for Innovation

Political Framework

In terms of political strategy, the main reference document is the “PICO” or Innovation, Growth and Employment Plan. This plan (also known as the National Reform Programme – NRP) implements the re-launch of the Lisbon European Strategy. The PICO was instituted in response to a specific request from Europe. The European Councils of March and June 2005 expressed dissatisfaction over the results obtained in relation to the Lisbon Strategy and decided to re-launch it, streamlining the implementation procedures and involving the Commission more directly in pursuing the objective. In the instructions issued by the European Council, member states were requested to present their implementation plan taking into account the national economic and social specificities and the 24 guidelines prepared by the European Union. The document was drafted by the Prime Minister’s Office (Department for EU Policies) and published in October 2005.

It is interesting to note that in the PICO, it is expressly stated that “what might be good for one country is not necessarily good for all of them”. In particular, reference is made to the fact that a country like Italy, with its production specialisation, “does not necessarily need the same amount of spending on R & D as countries involved in advanced technology sectors, but does especially need an organisational framework capable of making these technologies accessible in its production processes”. Thus, “the Italian Plan takes note of the desire expressed in official documents to assess national proposals and results on the basis of indicators that take into account the economic structural differences on which they will impact”.

The objectives of the PICO (which summarise the 24 guidelines for the re-launch of the Lisbon Strategy by the European Commission) are as follows:

- extending the area of free choice for citizens and companies;
- **granting incentives for scientific research and technological innovation;**
- strengthening education and training of human capital, and extending the relative benefits thereof to the rest of the population, especially to young people;
- upgrading tangible and intangible infrastructure; and
- protecting the environment.

The public financial resources placed at the disposal of the Plan were already partially incorporated in cash budget allocations up till 2005 and in actual budget allocations for the period 2006-2008, as well as in the additional EU cohesion policy resources and, as to the additional component, from proceeds of the disposal of State assets estimated to be in the order of 1% of GDP for the 3-year duration of the Plan (equivalent to 13 billion euro), of which 3 billion was for 2006. In total, for the 3-year period 2006-2008, the Italian State budget has placed 46 billion euro at the disposal of the Lisbon Strategy re-launch, apportioned as follows:

Objective	Allocation (billion euro)			
	Up till 2005	2006-2008	New PICO funds	Total
Free choice area	0.6	0.2	1.3	2.1
Research and development	4.3	0.9	4.1	9.3
Human Capital	1.0	0.2	0.4	1.6
Infrastructure	23.6	2.5	5.2	31.4
Environment	0.4	-	1.7	2.1
Total	29.9	3.8	12.7	46.4

The budgeted allocations table highlights that, in terms of total resources, the item Research and Development is second only to the Infrastructure objective. Two categories of interventions are envisaged for the achievement of these objectives. On the hand, generally applicable provisions for the economic system, and on the other, dedicated projects with positive impacts on the productivity and competitiveness of the Italian economy. With respect to the Research and Development² objective, the need not only to support research activity but to overhaul the network of relationships and of cooperation between universities, laboratories and businesses is highlighted. The principal general measures thus consist of: a) reorganising the national research system; b) giving incentives for spending on research; and c) fostering innovation and technology transfer. Other measures accompany these interventions which essentially aimed at the development of public-private partnership and the creation of international networks³.

The Plan also envisages the implementation of a series of projects⁴, whose underlying objective is that of networking public and private sectors in the field of innovation, with particular attention paid to the regions of southern Italy. Moreover, government policy regarding innovation and R & D has focused on the concentration of resources on specific technology areas, the creation of clusters (favouring the aggregation of SMEs to overcome disadvantages linked to their size, but also fostering public-private cooperation), and the promotion of technology transfer (Directorate-General Enterprise, *Annual Innovation Policy Trends and Appraisal Report. Italy. 2006*, p.5).

On 15 October 2006, the first document relating to the state of progress of the implementation of the National Reform Programme was published. Between the PICO and this initial assessment, there was a change of government. Consequently, the document also offered an opportunity to the new Prodi government to put its stamp on the policies implemented.

Compared to the PICO, this document makes more explicit reference to the role of the regions, referring to the strategies adopted “by the government and the regions” (*Strategia di Lisbona, Programma Nazionale di Riforma 2006-2008, Primo rapporto sullo Stato di attuazione*, 2006, p.4).

As regards Research and Technological Innovation, the document describes the existing instruments⁵ and introduces a new instrument for 2007⁶. The underlying strategies that one can deduce from an analysis of the set of instruments may be summarised as follows:

² Stated in the National Research Programme 2005-2007.

³ In particular, this involves: participation in European sectoral technology platforms (ETPs) with the participation of the research sphere and the entrepreneurial and financial sphere at the sectoral level in order to reduce the technology gap between Europe and the main world competitors; the creation of Italian technology platforms under Italian steam to identify R & D programmes which support competitiveness in various innovative sectors, encouraging cooperation between the public and private spheres at various territorial levels; and Memoranda of Understanding for research programmes with foreign partners of particular political strategic interest which entail reciprocal commitments (including financial ones).

⁴ The projects envisaged are the following: 12 strategic research programmes (10 identified by the NRP 2005-2007 and 2 added by the CIPE Deliberation of 15/7/2005), which provide for initiatives coordinated between the public system and the industrial system, including in cooperation with industrially-advanced countries, and are aimed at specific strategic areas (to be implemented through calls for tenders). The areas are: health, pharmaceuticals, biomedicine, advanced manufacturing systems, mechanical engineering, shipbuilding and aviation, advanced materials (ceramics), telecommunications, agricultural food, transport and advanced logistics, ICT and electronic components, energy efficiency and microgeneration. 12 laboratories dedicated to the southern Italian regions, to create synergies between universities and businesses in promoting innovation and technology transfer. Consolidation of public-private laboratories already operating in central-northern Italy in sectors such as territorial conservation, advanced materials, textile engineering and biocomputing. Advanced ophthalmological research. Strategically significant initiatives with technological and social impacts, such as security, aerospace etc. Basic research initiatives regarding health, ICT, nanoscience and other proposals put forward by businesses.

⁵ In this context, the following instruments are highlighted: the twelve strategic research programmes, technology districts, public-private laboratories, the Industrial Liaison Office Programme, the International Research Programme Agreement, the scientific degrees project, the Italian Institute of Technology, implementation networks for technology platforms set up under Italian initiatives, the National Aerospace Plan, actions to support SMEs, and the donation of five per thousand (“5 x mille”) of income tax to research.

⁶ Tax credits, establishment of a National Council for University and Research Assessment, Fund for investment in scientific and technological research, recruitment of research staff and measures for the university sector.

- to make the public and private, business and university sectors and various research centres communicate with each other and interact;
- to involve SMEs and foster cooperation between large, small and medium-sized enterprises in innovation projects;
- to improve the competitiveness of the public research system;
- to improve the quality of training and the number of human resources in the scientific sectors;
- to stimulate employment for researchers;
- to privilege investment in sectors of excellence; and
- to rationalise financing for research and innovation.

Among the existing instruments, it is worth mentioning that in **the case of International Research Programme Agreements, the southern shore of the Mediterranean is explicitly mentioned**. Many projects have been approved in conjunction with Israel and there is mention that scientific cooperation agreements with Mediterranean countries (namely Morocco, Tunisia, Palestine and Turkey) “are currently being finalised”. In addition, cooperation agreements with Egypt and Jordan are in the process of being definitively approved⁷.

Also included among the innovation instruments is the Industria 2015 programme, which represents the contribution of the new government to innovation. It is a legislative bill on the new industrial policy and passed by the Italian government on 22 September 2006 (its provisions being reflected in the 2007 Budget Law), which aims at identifying the fundamental drivers of change from an innovation perspective and orienting economic policy decisions accordingly. Industria 2015 represents “a reflection on the real economic problems, on the strategic positioning of Italy vis-à-vis the new international division of labour and on the role of public action in support of economic development (...). The reference to 2015 in the title has the aim of projecting the analysis onto the future scenarios which await Italy in kicking off a new phase of planning and of reciprocal commitment which must involve all levels of government and all economic actors. In order to achieve this, great national objectives must be set, around which public action and the commitment of those operating within the market can be made to converge” (*Sintesi DDL Industria 2015*, p.1).

The document explicitly links the themes of innovation and internationalisation, in that it states that “as far as hi-tech sectors are concerned, we are convinced that businesses must be assisted in the internationalisation process, thereby guaranteeing the participation - not in an inferior role - of Italian industry, in alliance-forming or industrial consolidation processes on a European or world scale, taking advantage of the points of excellence that our country is able to offer” (*Sintesi DDL Industria 2015*, p.4).

Industria 2015 aims at fostering the development of new products in hi-tech sectors and the upgrading and reinforcement of SME systems. This involves “recovering the capacity to point the production system towards structures that are compatible with the evolution of competitive scenarios. This capacity for orientation requires, on the one hand, the identification of production technology areas and specific innovation activities to implement; and on the other hand, it requires the mobilisation, around these objectives, of local and national administrations, of the business world, of universities, research institutes and the financial system (*Sintesi DDL Industria 2015*, p.4).

Industrial policy will be structured along two main lines. On one hand, there will be general incentives, including of an automatic nature, to facilitate research, reduce business costs, promote investment, increase the size of businesses and restore territorial balance. On the other hand, there will be made-to-measure incentive schemes, for individual strategic objectives, which will be implemented by identifying production technology areas with a strong impact on development. The technology areas (energy efficiency, sustainable mobility, new life sciences and technologies, new technologies for Made-in-Italy

⁷ Note that in addition to countries on the southern shore of the Mediterranean, only the United States, Japan, Canada, India and Great Britain are mentioned by name.

products and innovative technologies for cultural heritage) were set out in a Programming Document for triennial development, on the basis of which individual industrial innovation projects will be identified which will be put forward by SMEs, large firms, research institutes, universities and the financial system.

The linchpin of the projects will be the new partnership between the Minister for Economic Development, the Minister for Universities and Research and the Minister for Innovation in the Public Administration. This partnership will be further consolidated through close coordination between the Applied Research Funds managed by MIUR and the Development Funds managed by MSE. The funds will be jointly used to implement the projects. **The regions, on the basis of their production specialities and areas of expertise, will participate and provide their contribution to projects of national importance.**

The government's strategy identifies three principal mechanisms for ensuring the strategic repositioning of the Italian industrial system:

a. Industrial innovation projects

These are comprehensive intervention projects which, based on the production technology objectives identified by the government, aim at facilitating development of a specific type of highly-innovative products and services in strategic areas. The projects will be structured on the basis of a collaborative effort between local authorities, businesses, universities and research centres. Listed among the features of the industrial innovation projects is "a synergy between the activities of public actors responsible for actions supporting the production system, with particular regard to the **involvement of the interested regions through the enhancement of their industrial policy activities**". To date, the project managers and staff for the energy efficiency and sustainable mobility projects have been selected. The energy efficiency project has issued **a call for proposals which closed on 21 June 2007**. The project will be structured on the bases of project idea proposals received from businesses and **from contributions received from regional public administrations**. The project relating to sustainable mobility was launched later, on 18 May 2007, and to date only the manager and staff have been selected.

b. Finance for innovation

Competitiveness Fund aims at financing both industrial innovation projects and incentives for businesses within the jurisdiction of the MSE⁸. As well as the activities envisaged under projects, **regions and other administrations and authorities** interested may also participate on the basis of dedicated agreements and also by granting or using resources allocated in their own budget estimates. The Fund may finance: investments and activities of businesses involved in the projects; infrastructure which directly supports production facilities and business activities; and **regional interventions which complement and supplement the projects**.

Business Finance Fund aims at facilitating access to credit and venture capital by businesses, especially SMEs. In order to achieve this objective, the Fund aims to contribute to operations which involve the adoption of new credit-risk mitigation and private equity mechanisms, put forward by banks and/or financial intermediaries⁹. In general, "system-oriented" operations which are capable of triggering further public and private financial resources are preferred, as well as those aimed at a variety of businesses that come within the umbrella of a "portfolio" (such as districts, networks, clusters, etc.). The selection of investments will be need to be guided by market logic.

c. New business networks

⁸ The Fund represents a pooling of resources allocated annually through the budget and resources allocated by the CIPE to the MSE as part of the apportionment of the Fund for Underutilised Areas and the Unified Fund for Business Subsidies.

⁹ The Fund pools resources previously in the Guarantee Fund, those in the previously-established venture capital funds and, by decree of the Prime Minister, further available resources from other business finance funds of administrations and public entities.

Business networks are contractual forms of coordination between businesses, particularly geared towards **SMEs that wish to increase their critical mass and improve their market position without having to establish or merge under the control of another entity.** Industria 2015 envisages that the government, on the basis of proposals from the Minister for Economic Development, together with the Ministers for the Economy and for Justice, may adopt legislative decrees to define methods for creating networks. **With reference to networks covering businesses with registered offices in different countries, legal provision could be made for transnational networks, with a distinction being made between European networks and international networks.**

Resources and finance

The public incentive system for R & D and innovation is based on a funding scheme of direct aid to enterprises. The system is divided into a large number of measures adopted at national and regional level.

On the basis of the 2006 report on incentives, prepared by the Ministry for Economic Development, the intervention instruments for research and development coordinated by central administrations consist mainly of the FAR (the Research Assistance Fund) and Law no. 488 of 1992 – research administered by the MUR, and the FIT (the Fund for Technological Innovation), administered by the Ministry for Economic Development. The two funds operate as loan instruments with additional contributions via capital grants, which may be triggered for a variety of interventions with a significant degree of streamlined administration and procedural flexibility. In addition to these instruments, there are the ICT incentive laws administered by the Ministry for Economic Development, as well as the measures that finance the start-up and consolidation of innovative SMEs through venture capital or technical assistance interventions.

In terms of interventions financed with the contribution of EU resources, in the Community Support Framework (CSF) 2000-2006, innovation of the entrepreneurial system was implemented through priority axes and with the involvement of several actors at national and regional levels of government, but this was often not conducive to the comprehensiveness of interventions. The main interventions for innovation in the entrepreneurial system are represented by measures in the National Operational Programme (NOP) Local Entrepreneurial Development (Supplementary Incentive Package (PIA) for Innovation), by business mentoring services pursuant to Law no. 488 of 1992 and by the environmental equivalent pursuant to Law no. 488 of 1992.

In overview, the legislative framework for the funding of R & D and technological innovation is as follows:

National direct instruments or instruments delegated to the regions for R & D and innovation

Law	Administering authority	Purpose	Type of financing	Available resources as at 31.12.2005 (billion Euro)
Law no. 46/82, art. 14, 19 Technological Innovation Fund (FIT)	Ministry for Economic Development	R & D and Technological Innovation	Capital grants, direct finance	1,043.56
Law no. 752/82 art. 9 Mining research	Ministry for Economic Development	Consolidation and development of the production system	Capital grants, direct finance	23.69
Law no. 808/85 Aeronautical businesses	Ministry for Economic Development	R & D and Technological Innovation	Interest subsidies, subsidised leasing, direct finance	7.00
Law no. 488/92 Research	Ministry for Universities and Research	R & D and Technological	Capital grants	---

		Innovation		
Legislative Decree no. 297/99, art. 5, 6, 9, 10, 11, Research Assistance Fund (FAR)	Ministry for Universities and Research	R & D and Technological Innovation	Capital grants, interest subsidies, subsidised leasing, direct finance	420.72
Legislative Decree no. 297/99 art. 12, 13, Ministerial Decree no. 593/00 Research Assistance Fund (FAR)	Ministry for Universities and Research	R & D and Technological Innovation	Capital grants, direct finance	601.36
Legislative Decree no. 297/99 Ministerial Decree no. 593/00 14, 16 Research Assistance Fund (FAR)	Ministry for Universities and Research	R & D and Technological Innovation	Capital grants, tax credits, tax bonuses	42.19
Law no. 388/00 art. 103 Tax credit for e-commerce	Ministry for Economic Development	R & D and Technological Innovation	Tax credits, tax bonuses	---
Law no. 388/00 Quick Response computer link between businesses in the textile clothing and footwear sectors	Ministry for Economic Development	R & D and Technological Innovation	Capital grants	---
Legislative Decree no. 164/00 Oil research	Ministry for Economic Development	R & D and Technological Innovation	Capital grants, direct finance	4.86
Supplementary Incentive Package for Innovation (NOP 2000 – 2006)	Ministry for Economic Development	R & D and Technological Innovation, restoring the balance between infra-regional territories	Capital grants, loan guarantees, direct finance	1,094.90
Supplementary Incentive Package for Networking, Measure 2.1.c, NOP 2000-2006	Ministry for Economic Development	R & D and Technological Innovation, restoring the balance between infra-regional territories	Capital grants, interest subsidies and subsidised leasing, loan guarantees	60.00
Law no. 598/94 art. 11, Investment for innovation and environmental protection - research	Regions (reporting to the Ministry of Economy and Finance)	R & D and Technological Innovation	Interest subsidies and subsidised leasing	---
Law no. 140/97 Automatic incentives for research and innovation	Regions (reporting to the Ministry for Economic Development)	R & D and Technological Innovation	Tax credits, tax bonuses	---
Law no. 166/02 art. 35 shipbuilding industry				

Source: MSE, Relazione sugli incentivi 2006

Added to these instruments are those established and financed within each individual region. It is worth noting that the instruments that offer incentives for innovation processes are completely unconnected with the instruments in support of internationalisation. Different too are the institutional

responsibilities, which in the case of innovation instruments are divided between the Ministry for Economic Development and the Ministry for Universities and Research, while in the case of internationalisation, they are administered by the Ministry for International Trade and SIMEST SpA¹⁰.

Once again according to the 2006 report on incentives by the Ministry for Economic Development, the majority of interventions financed research or innovation activities that businesses intended to undertake individually, even though there were almost always incentives for resorting to university organisations and for collaborative research. Overall, however, the resources allocated to research at the national level seem to have declined since 2002, and are also particularly focussed on business demand, while they do not address supply and give little support to the creation of networks. There has been a drop at the national level in the funding of R & D incentive instruments in recent years (the three-year period 2003-2005 was characterised by a steady decline in all grants), which has not been compensated by a corresponding increase in commitments at the regional level.

As regards the regional level, the weak features identified in national interventions resurface. There is a lack of instruments which link upstream research activities and the dissemination of results with production by SMEs or business clusters downstream. Regional interventions are not structured with a view to being complementary but have replicated the complete cycle of the R & D process, from financing by university structures to SME technology transfer activities, concentrating in particular on upstream activities. In addition, also in regional interventions, activities aimed at guiding planning and businesses in generally taking an innovative approach were lacking. Further, the difficulties involved in implementing innovation interventions under the ROPs were significant and many of the programmed instruments were not created.

The overall amount of assistance granted to businesses in the period 2000-2005 from the entire incentive system was around 50.5 billion euro, of which 42.3 billion through national instruments, 3.5 through delegated instruments and 4.7 through regional instruments. 45.8% of total resources were given over to interventions aimed at restoring infra-regional territorial balance, 25.5% to research and development and technological innovation and 10.5% to consolidation and development of the production system. In the case of national interventions, R & D was in second place in terms of resources allocated, after reduction of territorial imbalances. Regionally-administered interventions (including those co-financed by the Regional Operational Programme (ROP) and the Single Programming Document (SPD)) were predominantly aimed at consolidating and developing the production system, but in recent years the research and development and technological innovation component has increased in importance.

Concerning the type of facility used, the national instruments have predominantly used capital grants, as have regional instruments. On the other hand, with decentralised instruments, there has been wide resort to interest subsidies and subsidised leasing.

As regards funding, the 2007 Budget Law sets out the previously mentioned objectives identified in the Industria 2015 document as objectives for the technology and innovation area. 1.1 billion euro in the first three years is allocated to the competitiveness fund, while 300 million euro for that period is allocated to the business finance fund.

But the main reference document for the allocation of funds for the next few years is the NSF 2007-2013. What is peculiar about the NSF compared to the Community Support Framework for the period 2000-2006 is that it combines EU policy programming with national programming dedicated to regional development. Consequently, the National Operational Programmes (NOPs) and the Regional Operational Programmes (ROPs) bring together EU resources allocated to Italy with national (NOP) and regional (ROP) resources.

The total for the NSF is around 124.7 billion euro, of which 28.7 billion comes from the Structural Funds, 31.6 billion from national co-financing (these are indicative amounts pending the CIPE

¹⁰ Simest is a development finance institution promoting the activities of Italian businesses abroad. For further information, see: www.simest.it

deliberation) and 64.4 billion from the Fund for Underutilised Areas (the FAS Fund). The NSF 2007-2013 identifies 10 priorities for action. The resources are allocated between these as follows:

National Strategic Framework priorities	Programming allocation of regional, national and EU resources (in percentages)
Improvement and optimisation of human resources	9%
Promotion, enhancement and dissemination of research and innovation for competitiveness	14%
Sustainable and efficient use of environmental resources for development	15.8%
Social inclusion and services to improve quality of life and the attractiveness of the territory	8.8%
Optimisation of natural and cultural resources to improve attractiveness for development	9%
Networks and mobility links	17%
Competitiveness of production systems and employment	16%
Competitiveness and attractiveness of cities and urban systems	7.2%
International openness and attraction of investment, consumption and resources	1.2%
Governance, institutional capacity and competitive and effective markets	2.0%
Total	100%

Around 17.5 billion euro is allocated to the priority “promotion, enhancement and dissemination of research and innovation for competitiveness”.

Overall, compared to the past, the direct contribution of regional policy to aid schemes for businesses has been reduced in favour of public investment interventions. Furthermore, the allocation is based, in contrast with previous practice, on the redirection of direct aid provided by regional policy resources towards more thematic and crosscutting business incentive mechanisms, with these instruments being, as a consequence, triggered in relation to various priorities.

The division of responsibilities for the implementation of the strategy is separated into three levels: central responsibilities, regional responsibilities and interregional responsibilities. Although in all cases adequate cooperation between the levels of government is necessary, it takes the form of different operational methods depending on the nature of the intervention and the scale of programming most appropriate for the purposes of effectiveness. As far as that part of the strategy implemented with EU funds is concerned, the NSF identifies in detail the number and the level of ownership of the Operational Programmes. Considering the nature of regional policy, which has as its primary goal the fostering of competitiveness and cohesion of the relevant territories taking into account their actual context and specificity, the institutional actors called upon - through allocation of resources - to implement the strategy are required to fulfil reciprocal commitments. In the case of the central level,

this includes ensuring adequate consultation in decision-making with the regional governments and the territorial levels directly involved or affected. In the case of the regional level, it involves ensuring adequate transparency in decision-making so as to contribute to maintaining the necessary consistency and complementarity of interventions formulated at different levels.

There is one general objective which attaches to the priority of “Promotion, enhancement and dissemination of research and innovation for competitiveness”, namely to “Reinforce and enhance the entire research chain and cooperation networks between the research system and businesses, in order to contribute to competitiveness and economic growth, support the widest dissemination and use of new technologies and advanced services and raise the level of scientific and technical expertise and knowledge within the production system and within institutions”.

Eight specific objectives are linked to this general one:

- 1) To upgrade research supply in an innovative manner, facilitating the creation of networks between universities, research and technology centres and the production sphere by developing mechanisms which are at the same time competitive and cooperative, capable of ensuring funds for the most promising researchers;
- 2) To enhance mediation skills and roles in order to overcome relationship and organisational constraints between actors in the research and innovation system;
- 3) To increase the propensity of businesses to invest in research and innovation;
- 4) To optimise human capital in order to facilitate research and innovation processes, thereby promoting the attraction of investment and talent and the absorption of human resources by the business sphere, encouraging better and closer interaction between the latter and universities and research and technology centres;
- 5) To enhance the research and innovation transfer and absorption capacity of the regions through **territorial cooperation**;
- 6) To develop advanced digital content, applications and services and increase the ability to use them, their accessibility and their availability, including by means of adequate promotion of supply;
- 7) To support the promotion of modern public services and reinforce innovation processes in the public administration using new Information and Communication Technologies; and
- 8) To guarantee internet access to citizens, businesses and the public administration, reducing the infrastructure gap concerning broadband in remote and rural areas (weak spots/marginal areas).

As can be seen, the issue is not expressly correlated to the internationalisation of businesses, nor is the Mediterranean area in any way explicitly mentioned.

Overall, the strategy aims to set various processes in motion paying due attention to the selection of interventions, namely: innovation in the supply of scientific research with support to recognised centres of excellence; the implementation of significant projects capable of giving rise to targeted and dedicated collaborations between administrations, the research sphere and businesses; intelligence-building in linking (“mediating”) businesses and research in a more systematic and widespread manner; and alleviating financial constraints on innovative and research activities of businesses. The implementation of the strategies in the Framework will also take into account ordinary policy decisions regarding the priorities in the National Research Plan (NRP), the role that Italy intends to play within European technology platforms and decisions taken with respect to the national industrial policy strategies previously mentioned.

The task of guaranteeing the existence of certain preconditions linked, especially, to the availability of skilled human capital and the possibility of progressively making the tax system more encouraging of research and knowledge-producing activities, issues that cannot be dealt with by regional policy, will remain within the ambit of ordinary policy. In particular, within the framework of assessing compatibility with public finance objectives, what remains within the province of ordinary policy is the

ability to mobilise resources and interventions which, in contrast with what has happened in recent years, enable regional policy to fully regain the additionality requirements that have been marginalised to date due to an insufficient commitment in this regard.

The preparation of a National Operational Programme (NOP) “Research and Competitiveness” is envisaged, which will rank among the principal strategy-setting documents for innovation and competitiveness (together with the National Research Plan and Industria 2015) and which will supplement the actions of the regions. The principal goals of the Programme will be:

- to promote high-quality scientific and technological and/or experimental interventions, which due to their critical mass, flow-on industrial effects on production processes and technology in the principal driving sectors, their risk level and the standards and levels of recruitment, require supra-regional involvement;
- to facilitate the dissemination online of best practices and research and innovation projects between businesses and centres displaying significant competitive technological merit; and
- to ensure financial support appropriate to the complexity of high risk innovation projects.

Each region will in turn provide for its own innovation interventions under the Regional Operational Programmes.

References

DPS – MEF, NSF 2007 – 2013

Italian Ministry for Economic Development –Department of Development and Cohesion Policies (2006) *Allegato al Quadro Strategico Nazionale 2007-2013. La politica regionale nazionale del FAS nell'ambito della programmazione unitaria della politica regionale per il 2007 – 2013*

Italian Ministry for Education, Universities and Research, *Programma nazionale per la ricerca 2005-2007*

Italian Ministry for Economic Development – *Relazione sugli incentivi 2006*

Italian Prime Minister's Office, Department for EU Policies, *PICO Piano Innovazione, Crescita e Occupazione. Piano italiano in attuazione del rilancio della Strategia di Lisbona* (October 2005)

Italian Prime Minister's Office, Department for EU Policies, *Strategia di Lisbona, Programma Nazionale di Riforma 2006-2008, Primo rapporto sullo Stato di attuazione* (October 2006)

Sintesi DDL Industria 2015 (Autumn 2006)

EC, Directorate-General Enterprise, *Annual Innovation Policy Trends and Appraisal Report. Italy. 2006*, European Trend Chart on Innovation