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**Monitoring and analysis of policies
and public financing instruments
conducive to higher levels of R&D investments
The “POLICY MIX” Project**

Country Review Greece

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Introduction and Policy mix concept

The policy mix project

This report is one of the 31 country reviews produced as internal working papers for the research project “Monitoring and analysis of policies and public financing instruments conducive to higher levels of R&D investments” (Contract DG-RTD-2005-M-01-02, signed on 23 December 2005). This project is a research project conducted for DG Research, to serve as support for policy developments in Europe, notably in the framework of CREST activities. It does not form part of the ERAWATCH project, but the working documents are made available on ERAWATCH webpages for the purpose of steering a debate on the policy mix concept.

The “Policy Mix” project is run by a consortium of 7 partners:

- UNU-MERIT (The Netherlands), consortium leader
- Technopolis (The Netherlands)
- PREST – University of Manchester (United Kingdom)
- ZEW (Germany)
- Joanneum Research (Austria)
- Wiseguys Ltd. (United Kingdom)
- INTRASOFT International (Luxembourg).

Each country review is produced by an individual author, and provides expert’s view on the policy mix in the country. This report is not approved by the Commission or national authorities, and is produced under the responsibility of its author.

The role of country reviews is to provide an exploratory analysis of the current policy mixes in place in all countries and detect the most important areas of interactions between instruments as well as new modes of policy governance that are particularly adapted (or detrimental) for the building of policy mixes. They provide analytical material for the analysis of the policy mix concept and its implementation in Europe. This material will be used as background for further reports of the project and for the construction of a tool for policy-makers (to be made available in late 2007 and 2008).

The policy mix concept

The country reviews are based on the methodological framework produced by the consortium to frame the “policy mix” concept. They have been implemented on the basis of expert assessments derived from the analysis of National Innovation Systems characteristics and policy mix settings, using key information sources such as Trendchart and ERAWATCH reports, OECD reviews, and national sources, among which the National Reform Programmes.

In this work, the “policy mix for R&D” is defined by the consortium as: **“the combination of policy instruments, which interact to influence the quantity and quality of R&D investments in public and private sectors.”**

In this definition, policy instruments are: “all programmes, organisations, rules and regulations with an active involvement of the public sector, which intentionally or unintentionally affect R&D investments”. This usually involves some public funding, but not always, as e.g. regulatory changes affect R&D investments without the intervention of public funds.

Interactions refer to: “the fact that the influence of one policy instrument is modified by the co-existence of other policy instruments in the policy mix”.

Influences on R&D investments are: “influences on R&D investments are either direct (in this case we consider instruments from the field of R&D policy) or indirect (in that case we consider all policy instruments from any policy field which indirectly impact on R&D investments)”.

Structure of the report

The report is structured along the following questions.

First, in section 1, and in order to place the policy mix in context, the general challenges faced by the National Innovation System (NIS) are analysed by the expert. The view is here not restricted to the challenges with regard to raising R&D investments, but rather encompasses all the conditions that directly or indirectly affect the functioning of the NIS and R&D expenditures. These context conditions are very important for the discussion of the relevance of the policy mix later on.

Second, the stated main objectives and priorities of R&D policy in the country are spelled out in section 2, as well as their evolution over the last ca. five years. This discussion is based on White Papers and official documents, i.e. on published policy statements. The reality of these objectives compared to actual working of policy instruments will appear in section 5.

The third section provides an expert assessment and critical analysis of a possible gap or convergence between the NIS challenges and the main policy objectives and priorities stated before.

Section 4 presents the policy mix in place, following the above definition, i.e. policy instruments affecting R&D activities in the private and in the public sector, either directly for instruments from the R&D policy domain, but also indirectly for instruments outside the R&D domain which are of particular relevance to R&D activities. A typology of instruments is used, to categorise the R&D-specific and non-R&D specific instruments. A short description of each instrument is provided: aim, nature, target group, budget.

Then, section 5 discusses whether there is a gap between the main policy objectives and priorities stated in section 2, and the instruments in place. This is done by

comparing the set of objectives with the set of instruments at work. When individual evaluations of programmes or policy instruments are available, their results are used if they shed light on contribution of these instruments towards the policy objectives.

Section 6 discusses the orientation of the policy mix, indicating priorities amongst various possible routes to increase R&D investments. Policy instruments are categorised under 6 different routes according to their relevance, and this categorisation is followed by a discussion on the range of instruments affecting each route, missing instruments, routes that are not addressed by instruments, possible redundancies or overlaps, etc.

Section 7 provides another view on the policy mix, focusing on the relative importance of each types of instruments. The aim is to get a picture of the policy mix, the balance between (sets of) instruments, and the relative weight between them.

From section 8 onwards, the review turns to the crucial question of policy governance. That section discusses the emergence of the policy mix through examination of the following question: how did the set of R&D policy instruments arrive ? What is the rationale behind them, what were the driving force behind their establishment, and how is this evolving recently. A crucial question relates to the existence of some consideration of possible interactions when establishing new or suppressing existing instruments. The section tries to establish whether the policy design process is incremental or radical, analytical or non-analytical. From this, that section discusses if the policy mix is a “construct” or an “ex post” reality.

The next section, section 9, focuses on the governance of the system of R&D policy instruments take place. It examines the key question of interactions, i.e. whether there is a form of co-ordination between R&D policy and policy instruments from outside the R&D domain, and the existing mechanisms that favour or hinder such interactions.

The final section, section 10, deals with the core question of the policy mix concept: it endeavours to discuss interactions between policy instruments to affect R&D expenditure. The section discusses possible positive, neutral and negative effects of R&D policy instruments; both within the R&D policy domain, but also with instruments from other policy domains. In most cases, this takes the form of hypotheses rather than hard evidence.

Feedback welcome

Feedback on this report is gladly received. Individual country reports will not be updated but discussion on policy mixes is welcome during the timeframe of the study (2006-2008). Please send your comments to:

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1 National Innovation Systems Challenges

Several recent assessments of the Greek R&D system, based either on indicators or expert assessment, have emphasized the low level of GERD as a percentage of GDP in comparison to other EU Member States. According to the latest figures, Greek is spending 0.61 per cent of the GDP on R&D. R&D spending remains stagnant since the late 1990s and the situation has deteriorated slightly since 1999, when R&D spending reached its highest level in recent years (0.67 per cent of GDP).

At the same time, an R&D system of 28,000 researchers has been established with an above the average performance in the European market for research projects and despite the proliferation of R&D policy instruments, the small number of dynamic innovative firms demonstrate a strong preference for self-financed investment in R&D projects. In addition, a closer look to the “Greek Innovation System” reveals a number of interesting cases of firms and R&D institutes with a continuous improvement in the accumulation of competence and increasing involvement in R&D activities. These “enclaves of excellence” remain scattered, in the formal R&D system or in specific production activities either at the sectoral or at the regional level.

Experts have suggested that in addition to the low level of resources, as a percentage of GDP, there are also some persistent systemic weaknesses in the Greek R&D system. To start with, the participation of the private sector in RTD projects remains limited and its contribution to R&D spending is still at the level of 0.32 per cent of GDP. One of the main sources of R&D investment is the flow of funds and project from abroad (21.58 per cent of R&D spending). They also point out that, when it comes to output indicators, the Greek economy and the local production system has entered a higher growth period which is not driven by innovation but from the quantitative expansion of inputs in the production process, enhanced market efficiency and improved macroeconomic conditions after the introduction of the Euro¹.

These are valid points for an in-depth analysis of the interaction between knowledge production and knowledge exploitation. The concept of National Innovation Systems is a useful framework for additional insights along the same line of thinking. Let’s take as our point of departure the integration of the Greek economy in the European Union. Our hypothesis is that if we could identify the institutional requirements and the relative importance of innovation related actors in this process, we will come up with valuable insights for the current challenges.

In the last 20 years, the Greek economy has demonstrated a mixed record of successes and failures in its efforts to catch up with advanced European economies. For the purpose of our analysis, it is important to stress that R&D and investment in

¹ Several studies on the post-EMU performance of the Greek economy have pointed out these trends. For a summary of these arguments, see OECD (2005), Chapter 3 (pp. 79-83) and for a growth accounting perspective, see Bosworth and Kolintzas (2001). They emphasize the lack of productivity improvement in the trajectory of the Greek economy in the last two decades. The proceedings of a recent high-profile conference on “Greek Industry: towards the Knowledge Economy” (organised by the Greek Chamber of Engineers) offer similar arguments, in the context of a qualitative, innovation-related perspective.

innovation related activities were always very low in the priorities of the Greek Government's policies when it comes to the final allocation of Community Support Funds (CSF). Thus, investment in R&D and innovation remained always below 5 per cent of the aggregate flows of CSF. Having said that, it is useful to note that other components of the Greek NIS, like accumulation of human capital, fixed capital investment, ICT infrastructure and firm level investment processes received the lion's share of funds in the framework of the CSF.

If that is the case, we should seek for an explanation of the lack of a productivity-enhancing component in the Greek economic growth trajectory in recent years. The Systems of Innovation approach highlights two important dimensions of the recent Greek experience. The first one refers to a challenge, i.e. the quality of the institutional environment for the development and the expansion of firms and sectors in knowledge intensive activities. It is a well established fact, in the tradition of the social capability school of thought, that well functioning Innovation Systems provide local actors (firms) with effective selection processes and carefully crafted solutions of market failures with the provision of complementarities. That has been the case of innovation driven growth in a number of small European economies, since the early 1990s. Up to now, the Greek Innovation System has failed to address this challenge in a satisfactory way. Thus, the bulk of technological infrastructure, which is much broader than R&D projects, remains underutilized.

The second observation refers to the role of innovation capabilities in the diffusion and adoption of technological change. Several studies have demonstrated that there is a threshold of a critical mass of local technological capabilities, which is needed in the catching up process of industrialising countries. Our argument so far has been that Greece failed to develop this critical mass because of the scale of investment. That creates a low equilibrium situation with three potential exit strategies for involved actors. A fraction of the R&D system becomes an independent, outward-oriented component in the local innovation system. The bulk of human capital and embodied technological expertise follow short-term strategies and are being diverted to low-tech activities. And, finally, the market for business services and technology transactions is being captured by a large number of small and inefficient firms.

This mixture of systemic weaknesses and contradictory trends is a challenge by itself. On the top of that, the latest policy document on Research and Development makes a commitment to a target of 1.5 per cent GERD/GDP by 2013. The document includes many interesting proposals for reforms and policy initiatives needed in order to implement this target. Under the circumstances, this is a major challenge for policy makers and the actors involved in the "Greek Innovation System".

In what follows, we will examine recent trends and the current policy debate on R&D in Greece. We will discuss current priorities in the context of the recent experience from policy implementation and we will explore the potential impact of some more generic features in the evolution of the Greek production system.

2 Objectives and priorities of R&D policy

At this stage, we will examine the specific policy for R&D as conceived and implemented by the General Secretariat for Research and Development (GSRT). The objectives of the policy towards R&D are twofold: first, to expand further the existing R&D system in close collaboration with knowledge production abroad and second, to introduce complementary policy initiatives for the diffusion of knowledge in the local production system.

The list of priorities, though, is longer. The first priority is to maintain existing research capacity and eventually to enhance its efficiency with the introduction of a programme of reforms in the Greek R&D system. The second priority is to streamline existing policies in a small number of well focused areas. The third priority is to secure the flow of EU funds with the introduction of specific policy instruments with active local participation. The fourth priority is to introduce an efficient policy implementation process.

According to a recent policy document, a first decisive step towards the reorganisation of the Greek R&D system is going to be the introduction of a new legislative framework with the establishment of the National Research Council, as well as an Inter-ministerial Committee and National Management Agency. This comes as a joint initiative of the Ministries of Development and Education and is currently under public discussion. According to government officials, this framework is expected to improve the research environment and will eventually increase investments in RTD and basic research from both the private and the public sector. The draft law includes the establishment of new mechanisms for the preparation, adoption and implementation of research policy in Greece, involving several sectors of governmental policy, under the direct supervision of the Prime Minister. It is expected to be submitted to the Parliament for adoption before the end of 2006.

The latest Trend Chart annual country report on Greece is taking stock of the official policy priorities for the Greek R&D system and their time frame. For a comprehensive list, see the following exhibit. This table summarises the official priorities for technological development and RTD in the framework of the National Reform Programme, for the period 2005-2008. A first reading suggests that this is a programme aiming at potential complementarities of different sets of policy instruments. A careful consideration, though, reveals that these are still very broad policy objectives without a well structured process of co-ordination in all these different policy initiatives.

Exhibit 1: Greek Innovation Policy objectives

Objective	Quantitative target (if set)	To be achieved by (year)
Eliminate Greece's deficit in research, innovation and technology compared to other EU Member States and link R&D with the production process	GERD/GDP 1,5% with BERD/GERD 40%	2010
Operate a digital strategy to increase the productivity of businesses, improve efficiency in public administration and raise the standard of life for all citizens. Addresses computing, new technologies and the development of necessary skills in a single document.		2013
Improve the international competitiveness of Higher Education Institutions by raising the standards of postgraduate studies and research	Fund 2200 research programmes by the OP Education	2008
Increase public spending on education. Make the educational system more flexible and coherent, improve quality and effectiveness through decentralization, reduce bureaucracy and introduce assessment schemes at all levels	Public spending 5% of GDP	2008
Establish an integrated regulatory framework to substantially improve competition in the financial markets and reduce the administrative burden on financial intermediaries and listed companies		Coming years
Continuous training: creation of a strong labour force together with a viable and competitive business environment to increase employment and foster the development of the Greek economy	130,000 unemployed and 95,000 employed individuals have been or will be trained	2000-2006
Adapt the education and training systems to the new demands of the market, diagnose needs for skills and specialties, followed by the immediate adaptation of education and training programmes to these needs		"Early"
Priority areas of industrial policy: Reforming the institutional framework on industrial areas, improving the provision of services at regional level concerning licensing, attracting investment, providing information on existing programmes, simplifying the legal and regulatory framework by introducing an evaluation system for the impact of legislation on enterprises, introducing new technologies, quality, innovation, modernising and restructuring specific sectors, increasing the participation of industries, providing access to venture capital, creating industrial clusters, promoting cooperation between enterprises, promoting business excellence, establishing an objective and reliable market monitoring system which will ensure compliance with quality standards		Next three years
Release the vast potential of SMEs to improve competitiveness, thus increasing employment, enhancing economic growth and improving social cohesion		2013
Upgrade the state's administrative functions: establishing an evaluation system for the impact of new legislation on competitiveness, lifting administrative barriers, preventing exclusion from the knowledge-based society, administrative transparency, fighting corruption, etc.		

3 Coherence between NIS challenges and R&D objectives and priorities

To a large extent, the current debate on objectives and priorities remains at the very abstract level. For a realistic assessment of the coherence between NIS challenges and R&D policies, in this section, we will broaden our analysis beyond policy implementation for R&D -in the narrow sense.

One major challenge for the Greek NIS and the local production system is the technology diffusion process. In other words, the successful adjustment of firms depends on the efficient utilisation of knowledge flows and spillovers, primarily in the context of the enlarged European Union. Considering that the local production of knowledge is marginal it is evident that policy makers are being confronted with a crucial challenge. Because of procedures, deadlines and regulations in their programmes, they have to introduce instruments supporting technology diffusion with a set of incentives aiming at local actors. However, when it comes to firms and the rationale for policy intervention, it is useful to remember that inefficiency is not always the outcome of market failures. This is an endemic problem in policy making processes. And, of course, that creates a significant mismatch with the pool of knowledge which they are targeting. Thus, policy makers feel the need to add new programmes for every specific problem, which they identify in the local network of knowledge intermediation. That increases the number of inexperienced actors and creates bottlenecks in the channels of international diffusion of technology.

A second challenge, as far as future demand for endogenous knowledge and R&D is concerned, is the restructuring of the production system. The Greek economy is in a growth path which is not innovation driven. Productivity remains low, the contribution of technology intensive sectors in value added is marginal and factors driving economic expansion are the mobilisation of production factors, the macroeconomic environment and opportunities for profitable activities abroad. Bearing in mind that entrepreneurial activity is confronted with many institutional and bureaucratic obstacles, it becomes evident that local returns of investment and labour market incentives facilitate investment in sectors with either high rates of return in the short-term or with very low risk. This environment is not very fertile for the diffusion of local knowledge, after a long process of collaboration between the R&D system and local firms. In addition, this environment is not conducive, to say the least, for the diffusion of skills and competence which are being accumulated in the Greek R&D system.

The third challenge refers to the R&D system itself. As part of a typical supply driven R&D system, Greece developed in 25 years an extensive network of institutions, actors and interests in the area of knowledge development. To a large extent, these activities take place in Universities and government financed institutions. The usual assessment of this situation, in Greek policy debates, is that a long term strategy of R&D priorities and a commitment of public funds is needed. That will provide a predictable environment for the research community and the business sector. In addition, experts from the research community and from academia stress that in an

outward-oriented R&D system, that is the Greek case, the first challenge is to maintain existing capacity and it is the government's responsibility to do that.

However, I think that the roots of the problem are deeper. The real problem in supply-driven R&D systems is that they don't respond to incentives but to funding opportunities. In other words, the availability of funds drives the expansion of the system. In market-driven R&D systems, a mature and thick market for ideas is being activated. The process of market creation develops its own set of incentives and rules of selection. On the contrary, in supply-driven systems, institutional inefficiency is not a problem, when a continuous flow of resources takes place. Thus, the current context, in the Greek case, is a real challenge for the local R&D system. The pressure for rationalisation and integration in the European research market will increase the outward orientation of the local R&D system. At the same time, it reveals the institutional inertia and inefficiency of some of the Greek actors involved in R&D activities. Therefore, a policy of reforms in the R&D system, primarily addressing Universities and PROs is a pre-condition for the re-orientation of the Greek R&D system. Greek policy makers and the Greek society at large, realise this problem and a consultation process is under way for the introduction of reforms in education and in the R&D system. It remains to be seen what is going to be the speed and the depth of this reform programme.

4 Composition of the policy mix for R&D

What follows is a detailed list of policies directly or indirectly relevant to the level and the quality of R&D activities in Greece. We have included policies with a broad scope which exercise significant impact on the local R&D system.

Table 1: Composition of the Greek Policy Mix

Policy categories	Policy instruments: short description and target group	Funding (€000)
R&D Domain		
R&D policy generic	<p>PENED (Programme for the reinforcement of research manpower) PENED is focusing on: (a) training of young researchers in forefront disciplines, through their involvement in projects aiming at exploitable results, (b) The introduction of R&D in the strategic planning of firms in collaboration with academia, (c) The upgrading of the educational profile of private sector management and the increase of research FTE in industry.</p> <p><i>Target group: The graduate training dimension in the Greek R&D system and Greek firms</i></p>	59,800
	<p>Incentives for Research Excellence The institutes supervised by the General Secretariat for Research and Technology apply for 3-year development projects. Panels of international peers evaluate the proposals.</p> <p><i>Target group: R&D Institutes supervised by the GSRT</i></p>	10,300
	<p>EDET (National Network for Science and Technology) Since 1995, EDET provides networking services to the Greek academic and research community. The development of EDET was first launched as a project of EPET II aiming at establishing the basic infrastructure for upgrading INTERNET connectivity for Greece and providing high level network services to the academic and research institutions as well as the R&D departments of other institutions relevant to RTD. It is considered as an important step for Greece towards the Information Society.</p> <p><i>Target group: Academics and research personnel</i></p>	NA.
	<p>International Co-operation in Industrial Research and Development Activities Provides financial support of firms, which implement RTD projects, in the pre-competitive stage, in cooperation with firms or different types of organisations (universities, research centres) from abroad. The objective of the programme is the development of new or improved products, innovative processes and services able to penetrate international markets.</p> <p><i>Target group: Dynamic, export-oriented Greek firms</i></p>	21,400 [2002-2004]
	<p>Bilateral Co-operations for Research and Technology The programme for international S&T cooperation aims at bringing together Greek researchers in the academia and the businesses community with the international research community.</p> <p><i>Target group: Academics and research personnel</i></p>	68,366 [continuous]

	<p>Reinforcement of Youth Entrepreneurship The proposals refer to patent grants or patent applications in specified period of reference. An Evaluation Committee, composed of 7 university professors, engineers and business people, is created by ministerial decision, to select inventions to be prized by the minister himself in a public event, which receives large advertisement.</p> <p><i>Target group: Young innovators and entrepreneurs</i></p>	127,700 [2001-06]
R&D policy sectoral	<p>Research and Technological Development Consortia in Sectors of National Priority The measure aims at promoting collaborations between business enterprises and research organizations through long-term research, technological development projects and demonstration projects. The task here is to produce innovative products and services and to meet social and cultural needs and thus promote economic competitiveness.</p> <p><i>Target group: Dynamic, export-oriented Greek firms</i></p>	137,978 [2002-2006]
R&D/Innovation policy – Linkage	<p>ELEFTHO (Support of Incubators and S&T Parks in Greece) This measure is aiming at the creation and development of new technology based firms and the transfer of technology to the production sector. The support is given to companies that will develop the S&T parks and incubators and they will also manage the support to the incubators, upon submission of applications after an open call of proposals.</p> <p><i>Target group: innovative firms and the local R&D system</i></p>	68,900 [2001-2006]
	<p>Technology Brokers: Development and networking of services The measure focuses on the reinforcement or the creation of local technology brokerage centres in various major regions of Greece and at national level. The expected result will be a network of brokers providing state of the art information to interested firms.</p> <p><i>Target group: the local business services sector</i></p>	6,433 [2003-06]
	<p>PAVET (Programme for the Development of Industrial Research & Technology in New Firms) The scheme is aiming at encouraging the newly established firms to use R&D as a tool for development, either by developing internal capacities and/or using public R&D institutions as subcontractors. Firms of less than five years old in all productive sectors may apply for funding of industrial research and pre-competitive development projects.</p> <p><i>Target group: Greek firms</i></p>	85,000 [2001-06]
	<p>AKMON (Research centres development and service providing projects with user Participation) The measure aims at enhancing the infrastructure and the efficiency of public laboratories, leading to the intensification of the cooperation between universities, technological colleges and public R&D centres on one side and the business enterprises on the other side, on issues of R&D and related activities (technology transfer, measurements, analyses, valuations etc).</p> <p><i>Target group: the Greek R&D system and Greek firms</i></p>	31,000 [2001-2006]

	<p>PRAXE (exploitation of research with academic spin offs) The measure is implemented in two phases: the 1st phase supports universities, public R&D centres and individual researchers from these institutions to finalise the R&D results, to draft a business plan and to identify the financial scheme under which the spin off company will be established and take off (seed capital).The 2nd phase provides for funding directly to the spin off firm on the basis of their business plan. The grant may not exceed the amount that the private investors contribute to the stock capital of the firm.</p> <p><i>Target group: the Greek R&D system</i></p>	72,693 [2001-2006]
R&D/Innovation policy – IPR	<p>We should mention here the Law 1733/87 on patents, which establish the Industrial Property Organisation, the Law 2121/93 on copyright, the Law 2545/97, article 25, which establishes the possibility for a legal entity of the private sector to get government support for its participation in <i>any</i> R&D Programme launched by the GSRT.</p>	NA
	<p>Liaison offices (in universities, technical colleges, research centres) The measure aims at the promotion of the public research results to the market. The offices are expected to perform market research on the needs for new knowledge and funding opportunities and dissemination of the relevant information to researchers; organisation of the supply of services by laboratories and research teams to third parties, identification of the research results with commercialisation potential, provision of consulting services to the researchers on IPRs etc, marketing and promotion of the products and services of the research institution, drafting of business plans etc.</p> <p><i>Target group: the local R&D system</i></p>	5,869 [2003-06]
R&D specific financial and fiscal policy	<p>Credit Guarantee Fund of Small and Very Small Enterprises (TEMPME) and the New Economy Development Fund (TANEO) In order to facilitate the access of enterprises and, in particular SMEs, to flexible funding mechanisms, the Credit Guarantee Fund of Small and Very Small Enterprises (TEMPME) and the New Economy Development Fund (TANEO) were developed.</p> <p><i>Target group: SMEs and new entrepreneurs</i></p>	TANEO= 150,000 [continuous]
R&D specific education policy	<p>Training in Research & Technology (R&T) management The measure aims at enhancing the skills and the know-how for managing research and technology and the exploitation of knowledge.</p> <p><i>Target group: the (a) high level officers in research centres, universities, companies (b) journalists, public relations officers, editors (c) young researchers.</i></p>	..
	<p>Networks of research and technology training The establishment of these networks is focusing on sectors supporting the competitiveness of Greece, regions and business enterprises. Main activities of the networks are: training on international S&T knowledge production trends, training in research centres and business firms in Greece or abroad.</p> <p><i>Target group: Every network will consist of universities, research and technology institutions from at least three different regions of Greece, at least one business firm, and mass media institutions.</i></p>	..
	<p>Open Gates Open gates aims in particular to give the citizens access to the activities of public R&D centres and an understanding of the purpose for research institutions. Emphasis is given to pupils, students and industry staff.</p> <p><i>Target group: the general public</i></p>	..

	<p>Programme Techno-Mathia (Education in Crafts) The pupils of secondary schools may participate to this programme under the supervision of a teacher, who leads and manages the project. The selection of proposals is organised on a competitive basis. Calls till now address the secondary technical vocational training by offering to pupils, opportunities to demonstrate their talents and become creative technicians supporting the national R&D system.</p> <p><i>Target group: training of secondary school pupils</i></p>	14,600 [2002-2006]
R&D specific employment policy	<p>HERON (Employment of new Researchers in Enterprises) Programmes HERON and HERON-p aim at increasing the employment of research personnel in the business sector, which a serious shortcoming of the Greek industry. The Programme supports up to 50% of the salary (including insurance) cost due to the employment of new researchers and technical personnel (up to 5 persons) in firms for 18 to 36 months and operational cost for the implementation of an R&D project in the same period.</p> <p><i>Target group: the Greek R&D system and Greek firms</i></p>	12,000 [2002-2006]
	<p>ENTER (Programme for the Placement of Researchers from Abroad to the Greek R&T System) The Programme is funding research projects that are drafted by teams of universities or public research centres and provide for the employment of at least one experienced researcher from abroad, for a period that may extend from 3 to 24 months.</p> <p><i>Target group: Greek origin academics and research personnel working abroad</i></p>	7,556 [2001-2006]
Finance Domain		
Financial and fiscal policy	<p>Tax exemption of R&D expenses Research and development expenses as well as expenses having to do with the utilization of research results and the acquisition of new technology (royalties and fees paid for the use of licenses, know how, technical aid, patents, etc.) are considered as deductible expenses for the estimation of taxable profits of Greek enterprises (Law 2238/1994).</p> <p><i>Target group: this policy is targeting firms in medium and high tech sectors</i></p>	NA
Macroeconomic policy	<p>Macroeconomic Policy priorities The Greek macroeconomic policy supports the de-regulation of local markets for non-traded goods, the export orientation of Greek firms and has introduced a programme of tax cuts to corporate profits. The emphasis is on a growth trajectory driven by the modernisation of services and the increasing involvement of foreign capital in tourism, banking and infrastructure projects.</p> <p><i>Target group: the side-effects of this policy exercise significant influence on aggregate innovation dynamics; however, it is difficult to identify a specific target group.</i></p>	NA
Human Capital Domain		
Education policy	<p>Training of human resources of firms on technological and organisational challenges The Programme will enhance the professional skills of the labour force through training. That will allow them to adapt their qualifications and skills to new labour market needs.</p> <p><i>Target group: Greek companies and the local training market</i></p>	10,468 [2002-2006]

	<p>Training and transfer of know how for the start up of new businesses The measure aims at training young entrepreneurs in managing firms. Every trainee shall draft a project on the presentation of a complete business plan. The advisor trainer shall evaluate the business plans.</p> <p><i>Target group: small Greek companies - no more than 2 years old and the local training market.</i></p>	<p>17,600 [2001-2006]</p>
	<p>EPEAEK (Supporting entrepreneurial ideas through tertiary education structures)</p> <p>The measure was launched in the framework of the second Operational Programme for Education and Initial Vocational Training of the Ministry of Education and Religious Affairs.</p> <p><i>Target group: This programme supports university graduates or institutes for vocational training in order to develop and implement entrepreneurial ideas.</i></p>	<p>..</p>
Employment policy	<p>Reinforcement of Youth Entrepreneurship The programme provides for financial support to young persons (both for males and females) from 18 to 36 years old for starting a new venture, covering the eligible costs.</p> <p><i>Target group: young entrepreneurs</i></p>	<p>..</p>
Innovation Domain		
Innovation policy generic	<p>Support of SMEs participation in sub-contracting networks This programme facilitates the development of collaboration between enterprises and other actors with an emphasis on new market creation. The activities to be supported are: improvement of the production process and the other operating procedures, reduction of environmental impact, improvement of health and security conditions, enhancement of the promotion of the firms. The beneficiaries may spend the subsidy for the acquisition and installation of equipment for production, quality control, improvement of logistics and e-trade facilities, internal transport vehicles and equipment etc. They may also invest on quality certification and standardisation, linking to databanks, purchase consulting services.</p> <p><i>Target group: Greek SMEs</i></p>	<p>24,234 [2005-2008]</p>
	<p>Certify Yourself The measure aims at supporting SMEs, of 3 to 250 employees, operating for at least 3 years, in manufacturing, services, tourism and commerce to develop quality assurance systems, management systems and to be certified accordingly. The supported companies have to sign a collaboration agreement with a competent consultant.</p> <p><i>Target group: Greek SMEs and local consultants</i></p>	<p>36,684 [2001-2006]</p>

	<p>Investment law (Support to private investment for the regional development of the country) The law (L.3299/04) addresses innovation in agriculture, manufacturing, tourism and other services through direct incentives (subsidies to investment, to leasing and to new jobs created) as well as financial reductions to firms that acquire new equipment, automated production processes and software, for process innovation, as well as studies aiming at adopting, developing and implementing modern technology, know-how, industrial design, blue prints for the production of products. Moreover, financial support in the framework of this law, incentives are encouraging the creation or expansion of industrial research laboratories and the investment in the production of innovative products and the introduction of innovations into the production process, the construction of prototypes related to inventions, the fees for the international protection of IPRs. In addition, the law offers incentives to firms of applied R&D and industrial design, firms of software development, firms supplying services of high-technology character and joint business activity centres which may involve universities and research centres.</p> <p><i>Target group: the Greek R&D system and Greek firms</i></p>	805.061,000 [2001-2006]
Innovation policy sectoral		
Other policies industry –	<p>SMEs Clustering This measure encourages clustering activities of small and very small firms. A cluster may be based on a specific project or on the creation of permanent cooperative business. Eligible are firms of the manufacturing sector, trade, logistics or other services to businesses. Priority is given to networking business plans that aim to reinforce the quality control, development and production of branded products, local specialization, adoption of innovative techniques and materials, improvement of information flows etc. Cooperation with institutions of research and technology transfer in the same area is an additional objective of this programme.</p> <p><i>Target group: Dynamic Greek SMEs</i></p>	
	<p>Support for Integrated Business Plans of SMEs and Micro enterprises (SMEs and VSEs) The programme has been launched in the context of the action 2.7.1 of the Operational Programme ""Competitiveness"" of the 3rd CSF and aims at improving the competitiveness of existing small and very small manufacturing enterprises. It supports the elaboration and implementation of an integrated two-year business plan. Within the scope of the business plan, support is given to the introduction of new technologies in the productive process, the improvement of existing productive equipment, the development and certification of quality assurance systems and product certification, the incorporation of environment-friendly technologies, the development of environment management systems and the provision of systems for environmental protection,</p> <p><i>Target group: The management of local SMEs and VCEs</i></p>	448,915 [2001-06]
	<p>Metecho (participate) and Network yourself Programme Two technology diffusion programme, targeting the needs of very small firms (2-10 employees) when it comes to the adoption of ICT.</p> <p><i>Target group: very small companies.</i></p>	..
Other policies trade –		

Other policies – defence	<p>Defence Procurement Offsets Greece is one of the four largest recipients of US arms exports and one of the most lucrative markets for weapons world-wide (Turkey is a large market for arms exports also). Technology transfer, financed by offsets from these imports, has been used in an attempt to channel a flow of defence and civilian technology in the Greek economy.</p> <p><i>Target Group: Greek defence industries and other local high-tech firms</i></p>	NA
Other policies – consumer protection	<p>Quality Standards In order to improve the quality of produced goods and enhance the competitiveness of domestic businesses the National System of Quality Standards is being upgraded, with particular emphasis on the national infrastructure on quality-standardization-certification-metrology.</p>	NA
Other policies – health and safety		
Other policies – environment	<p>Energy demonstration projects for innovative technologies This new policy is subsidising innovative investments in the energy sector. The subsidy varies from 40% to 65% of the initial investment.</p> <p><i>Target group: private firms or companies of the local authorities.</i></p>	5,428 [2005-2007]
Other policies – regional development	<p>Regional Innovation Poles The programme aims at the development of research and technological activities at the regional level. The aim is to build a technological "identity" of the pole, the preparation of a growth strategy and of a vision through foresight. The activities to be supported include among other the implementation of RTD projects for linking research to production and innovation, transfer of knowledge and know how (search of partners for licensing and investors, purchase of consulting services, networking with consulting organisations, development of electronic tools) mainly to SMEs, development of public RTD infrastructures, training, promotion, preparation of development plan, operation of regional technology platform, technology foresight and technology watch.</p> <p><i>Target group: The participants to regional poles are S&T institutions, universities, chambers or unions of trade and industry, business firms, S&T parks and incubators and any other organisation with similar objectives in the region.</i></p>	15,000 [2001-2006]
	<p>Centres of Entrepreneurial and Technological Development The measure aims at developing units (KETA), which provide information and consulting services to companies. Manufacturing, commerce, tourism and services in general are supported. The units operate as Centres under the supervision of the General Secretariat for Industry.</p> <p><i>Target group: Greek firms</i></p>	33,000 [2001-2006]
	<p>De-regulation of infrastructure investment The Special Secretariat for Public-Private Partnerships (PPPs) is already evaluating projects of €1.4 million of private sector investments in sectors such as sport installations, tourism and environmental infrastructure, or in the fields of health, education and justice</p> <p><i>Target group: the side-effects of this policy exercise significant influence on aggregate innovation dynamics; however, it is difficult to identify a specific target group.</i></p>	NA

	<p>Improvement of legal procedures A new bankruptcy code (in the form of a draft law) covering all cases of insolvency, is currently in public consultation and is expected to be brought to the Parliament by June 2007. The existing legislation is being overhauled in the interest of improving the business environment and tackling the stigma of business failure.</p> <p><i>Target group: the implementation of this policy will improve the mobility of firms in the Greek production system</i></p>	NA
Other policies – social security	<p>Labour Training Programmes Extensive training programmes of the labour force have been implemented in an attempt to solve unemployment problems</p> <p><i>Target group: provision of well trained human resources for firms</i></p>	NA
Other policies – infrastructure	<p>ICT Technological Infrastructure The “Broadband Action Plan to 2008” is currently in full implementation. The Broadband Action Plan is allocating a total budget of €450 million for the development of broadband infrastructure across regions of Greece, the co-financing of broadband services development and the stimulation of broadband demand. It includes the development of Metropolitan Area Broadband Networks in 75 cities, the deployment of Wireless Broadband Networks in 120 municipalities, the co-financing of the development of more than 700 wireless access points at 400 businesses, etc. The Broadband Action Plan to 2008, has set as minimum targets, the increase of broadband penetration to 7% by 2008 (compared to 0,1% in 2004), the increase of broadband population coverage to almost 90% (compared to less than 40% in 2004) and the increase of broadband geographical coverage to 60% (compared to less than 10% in 2004).</p>	NA

Note: NA=not applicable

5 Coherence between main policy objectives and priorities, and policy instruments

Table 2 draws on the assessment of the objectives of policy instruments in the Greek case. Two clear trends emerge from this exercise. The proliferation of policy instruments led to a portfolio of policies which is very diverse and difficult to coordinate. There is some continuity in the evolution of policies though. It is the outcome of the building up of R&D activities in a small number of private firms.

Table 2: Policy instruments to increase R&D in Greece

Policy categories	Policy instruments	ROUTE 1: promote establishment of new indigenous R&D-performing firms	ROUTE 2: stimulate greater R&D investment in R&D-performing firms	ROUTE 3: stimulate R&D investments in firms non-performing R&D	ROUTE 4: attract R&D-performing firms from abroad	ROUTE 5: increasing extramural R&D carried out in cooperation with public sector	ROUTE 6: increase R&D in public sector
R&D Domain							
R&D generic policy	PENED (Programme for the reinforcement of research manpower)		X				X
	Incentives for Research Excellence						XX
	EDET (National Network for Science and Technology)						
	International Co-operation in Industrial Research and Development Activities		X			X	
	Bilateral Co-operations for Research and Technology		X				X
	Reinforcement of Youth Entrepreneurship	X					
R&D sectoral policy	Research and Technological Development Consortia in Sectors of National Priority		X				X

R&D / Innovation policy – Linkage	ELEFTHO (Support of Incubators and S&T Parks in Greece)	XX					
	Technology Brokers: Development and networking of services			X			
	PAVET (Programme for the Development of Industrial Research & Technology in New Firms)	XX	X	X			
	AKMON (Research centres development and service providing projects with user Participation)		X			X	X
	PRAXE (exploitation of research with academic spin offs)	XX					
R&D / Innovation policy – IPR	Liaison offices (in universities, technical colleges, research centres)						X
R&D specific financial and fiscal policy	Credit Guarantee Fund of Small and Very Small Enterprises (TEMPME) and the New Economy Development Fund (TANEO)	XX	X				

R&D specific education policy	Training in Research & Technology (R&T) management		X				
	Open Gates						
	Programme Techno-Mathia (Education in Crafts)						
R&D specific employment policy	HERON (Employment of new Researchers in Enterprises)		X				
	ENTER (Programme for the Placement of Researchers from Abroad to the Greek R&T System)		X				XX
Finance Domain							
Financial and fiscal policy	Tax exemption of R&D expenses		X				
Macroeconomic policy	Macroeconomic Policy priorities (described in Table 1)		X				
Human Capital Domain							
Education policy	Training of human resources of firms on technological and organisational challenges		XX				
	Training and transfer of know how for the start up of new businesses	X					

	EPEAEK (Supporting entrepreneurial ideas through tertiary education structures)						
Employment policy	Reinforcement of Youth Entrepreneurship	XX					
Innovation Domain							
Innovation policy generic	Support of SMEs participation in sub-contracting networks		X	X			
	Investment law		XX	XX			
	Certify Yourself		X	X			
Innovation policy sectoral							
Other policies – industry	SMEs Clustering			X			
	Support for Integrated Business Plans of SMEs and Micro enterprises (SMEs and VSEs)			XX			
	Metecho (participate) and Network yourself Programme		XX	X			
Other policies – trade							
Other policies – defence							
Other policies –	Quality Standards		X	X			

consumer protection							
Other policies – health and safety							
Other policies – environment	Energy demonstration projects for innovative technologies		X	X			
Other policies – regional development	Regional Innovation Poles					X	X
	Centres of Entrepreneurial and Technological Development	X	X	XX		XX	X
Other policies – competition	Improvement of legal procedures						
	Deregulation of infrastructure investment				X		
Other policies – social security							
	Labour Training Programmes						
Other policies- infrastructure	ICT Technological Infrastructure Broadband Action Plan to 2008						

6 Policy mix instruments and target groups

The importance of policy instruments are indicated in Table 3 according to the following dimensions:

- a) Overall contribution to increase of private R&D expenditures
- b) Impact on specific aspects of the NIS or R&D performers
- c) Public attention/attention by policy makers
- d) Volume of public funding involved
- e) Beneficiary of a shift in public funding

Table 3: Assessment of importance of policy mix Greece

Policy instruments	Funding (€000)	Criteria				
		a	b	c	d	e
PENED (Programme for the reinforcement of research manpower)	59,800		X	X		
Incentives for Research Excellence	10,300	X			X	X
EDET (National Network for Science and Technology)	N.A.		X			
International Co-operation in Industrial Research and Development Activities	21,400 [2002-2004]		X			
Bilateral Co-operations for Research and Technology	68,366 [continuous]					
Reinforcement of Youth Entrepreneurship	127,700 [2001-06]			X	X	
Research and Technological Development Consortia in Sectors of National Priority	137,978 [2002-2006]	X			X	
ELEFTHO (Support of Incubators and S&T Parks in Greece)	68,900 [2001-2006]		X			
Technology Brokers: Development and networking of services	6,433 [2003-06]		X	X		
PAVET (Programme for the Development of Industrial Research & Technology in New Firms)	85,000 [2001-06]	X				
AKMON (Research centres development and service providing projects with user Participation)	31,000 [2001-2006]	X	XX	X		
PRAXE (exploitation of research with academic spin offs)	72,693 [2001-2006]	XX			X	
Liaison offices (in universities, technical colleges, research centres)	5,869 [2003-06]					X

Credit Guarantee Fund of Small and Very Small Enterprises (TEMPME) and the New Economy Development Fund (TANEO)	TANEO= 150,000 [continuous]]	XX			X	X
Tax exemption of R&D expenses	NA					
Macroeconomic Policy priorities (described in Table 1)	NA					
Training in Research & Technology (R&T) management	..			X		
Open Gates	..					
Programme Techno-Mathia (Education in Crafts)	14,600 [2002-2006]				X	
HERON (Employment of new Researchers in Enterprises)	12,000 [2002-2006]		XX			
ENTER (Programme for the Placement of Researchers from Abroad to the Greek R&T System)	7,556 [2001-2006]		X			
Tax exemption of R&D expenses	NA	X	X			
Macroeconomic Policy priorities (described in Table 1)	NA	X	X			
Training of human resources of firms on technological and organisational challenges	10,468 [2002-2006]	X		XX	X	X
Training and transfer of know how for the start up of new businesses	17,600 [2001-2006]		X			
EPEAEK (Supporting entrepreneurial ideas through tertiary education structures)	..	X				
Reinforcement of Youth Entrepreneurship	..	X				
Support of SMEs participation in sub-contracting networks	24,234 [2005-2008]					
Investment law	805.061,000 [2001-2006]	X	X	X	X	
Certify Yourself	36,684 [2001-2006]		X			
Support for Integrated Business Plans of SMEs and Micro enterprises (SMEs and VSEs)	448,915 [2001-06]	X				
Metecho (participate) and Network yourself Programme	..			X		
Quality Standards	NA		X			
Energy demonstration projects for innovative technologies	5,428		X	XX		

	[2005-2007]					
Regional Innovation Poles	15,000 [2001-2006]	X	X			
Centres of Entrepreneurial and Technological Development	33,000 [2001-2006]	NA	NA			
Improvement of legal procedures	NA					
Deregulation of infrastructure investment	NA					
Labour Training Programmes						
ICT Technological Infrastructure Broadband Action Plan to 2008	NA					

Note: NA=not applicable

7 Balance within R&D policy mix

The following table elaborates further on policy instruments. It includes the vast majority of the policy instruments we discussed so far and reveals the implicit balance and relative importance of different thematic areas of policies.

Table 4: The relative importance of direct investment in Innovation and RTD

Policies 2000-2006	Number of policy Instrument	%	Policy instruments
Efficiency in policy implementation	2	3.3%	Foresight Evaluation of PRO
Innovation facilitating conditions	12	15.0%	TANEO e-government Incubators
Technology transfer to firms	49	53.9%	Many small scale initiatives
Innovation poles	4	6.5%	Innovation poles and clusters
Creation of NTBFs	22	23.3%	PRAXE, INVESTMENT LAW
Applied research and product development	16	11.5%	PAVE AKMON

Source: Komninos (2006).

On the basis of this table we can draw the following conclusions:

- ∅ The bulk of recourses is targeting embodied technology transfer transactions and creates limited demand for local knowledge.
- ∅
- ∅ As a side effect, a large number of policy instruments is targeting the local market of business services.
- ∅ The creation of new firms receives a significant share of resources.
- ∅ A new priority is the emphasis on regional poles- but that is still under-financed

8 Emergence of R&D policy mix

The policy mix in the Greek R&D system has a long history. The appended figure 1 provides useful information on the evolution of the Greek R&D system in the last 25 years. What follows is a brief account of this complex history.

The governance structure of the Greek R&D system was established in the early 1980s with a major challenge ahead. That was the design and the implementation of an investment programme for the development of local technological infrastructures and the mobilisation of skilled scientific research personnel. During the 1980s, a lot of learning by doing had taken place. However, imitation and adoption of policy instruments from abroad remained one of the features of policy making processes in the Greek R&D system.

In the 1990s, the two Operational Programmes for Research and Technology (EPET I and EPET II) under the respective CSF, as well as the initiative STRIDE HELLAS, have been the main instruments for the formulation and implementation of a science and technology policy in Greece. As a matter of fact they defined the main policy guidelines, specified them to the level of concrete targets (measures), and provided for the necessary funds and evaluation/management procedures. Eventually, two new players emerged: R&D institutions and small innovative firms in sectors with small sunk costs for barriers of entry.

In recent years, knowledge development and innovation became cross cutting issues, for regional development, competitiveness and governance. That would explain the increasing involvement of Ministries in the provision of funds for the development of research and innovation activities in Greece. In theory, innovation is becoming a horizontal issue. The Government has declared 2007 as the year of Innovation for the Greek economy. However, there is still very limited cross-fertilization of policies in the administration. Primarily for historical reasons related to the *ex-post* evolution of competence in policy implementation and power. The Ministry of Finance has the control of the flow of funds from the EU and advocates a strategy of clear lines of authority and accountability while the Ministry of Development is more active with a policy targeting innovation and competitiveness. The Ministry of Education is the third pole addressing the issue of human resources. A fourth player is the Ministry of Labour with the portfolio of policies for training and skills. As always, there are good intentions for collaboration but the fact is that there is a clear gap in accumulated experience on the assessment of needs and policy implementation. That leads to the segmentation of ministry-level action in the same programme and to different levels of efficiency.

9 Governance of the policy mix

The following exhibit (from the 2006 Trend Chard annual report on Greece) provides a detailed account of lines of authority and institutional linkages in the Greek R&D system. It is evident that there are three large players in place: the Ministry of Development, the Ministry of Economy and Finance and the Ministry of Education. Other smaller actors cover the fourth column in the exhibit and participation in innovation governance on an *ad hoc* basis. The three players control three different and vertically integrated networks of institutions and resources. Policy co-ordination is mission oriented with a clear lack of continuity and feed-back mechanisms. In other words, this system of governance is active when it comes to the preparation of new programmes and the launching of new policy initiatives.

Exhibit 2: organisational chart of innovation governance (source: GSRT)

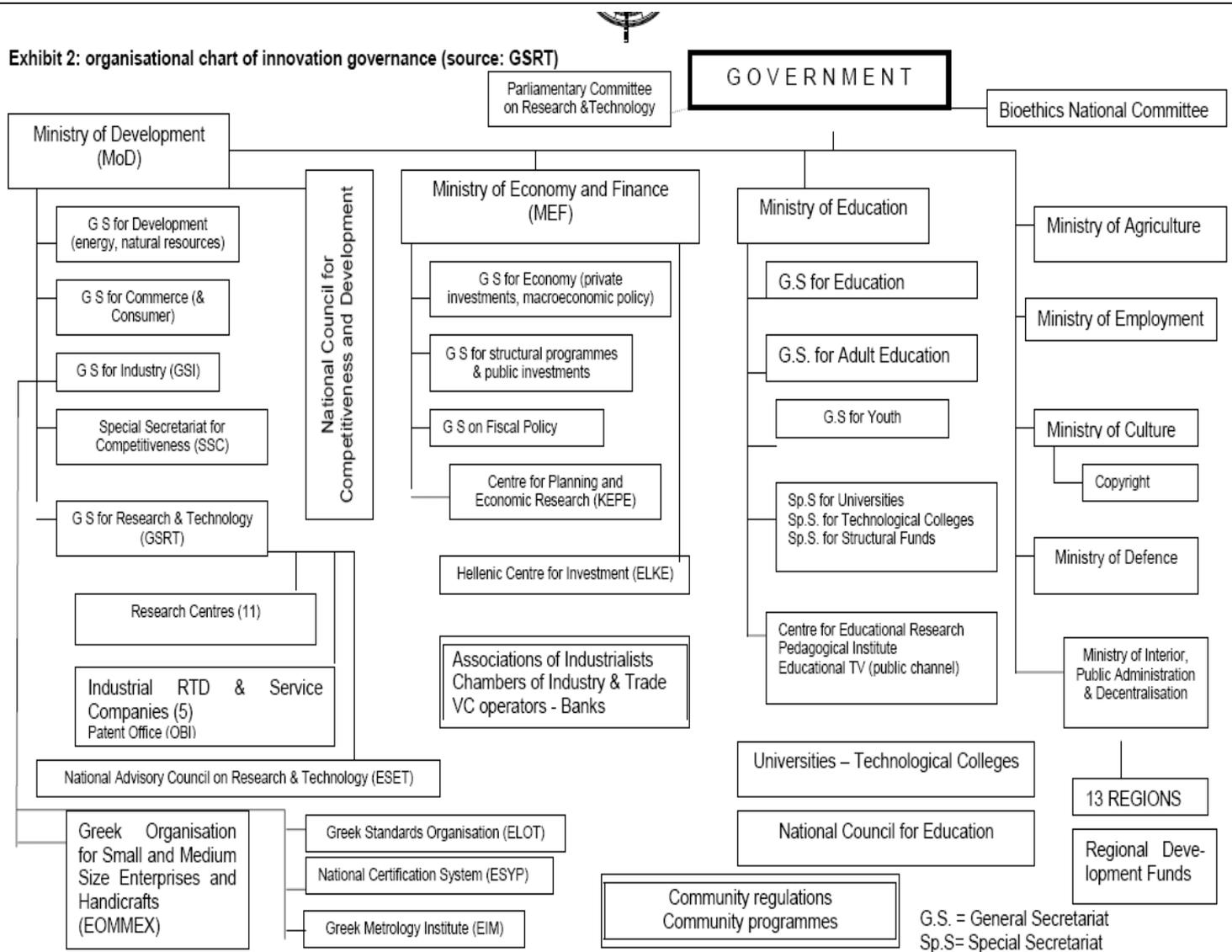
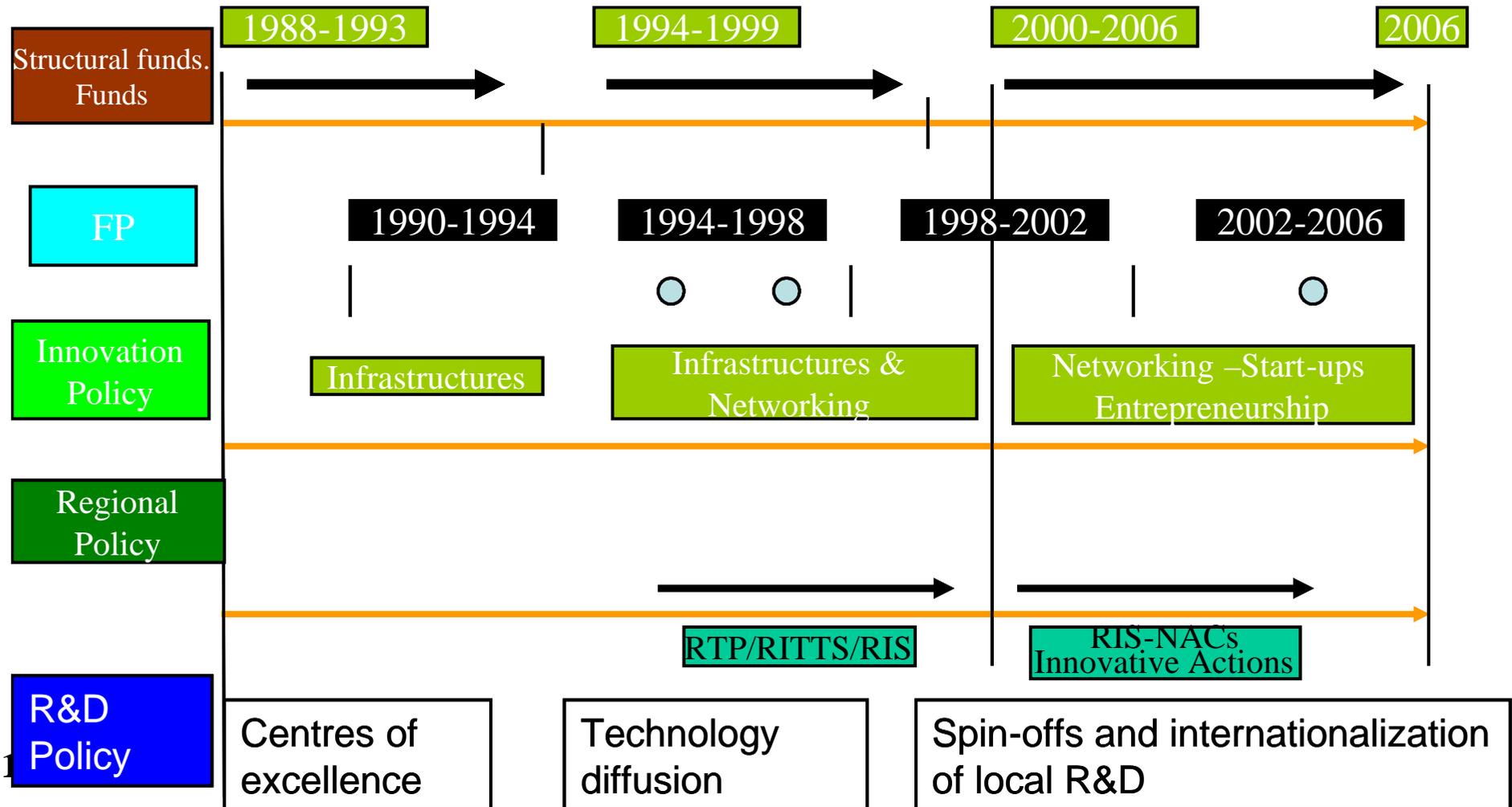


Figure 1: European Innovation Policy & Greece



Adapted on the basis of a recent Logotech presentation.

11 Interactions between policy objectives and instruments

In this section of the report, we will discuss the current combination of objectives and instruments and we will briefly elaborate on how things might evolve in the near future.

From our review so far, it became clear that the portfolio of R&D policy instruments in a country like Greece is the outcome of many different underlying factors. Some of them are relevant to current policy objectives, others to systemic weaknesses and/or to other exogenous factors. However, we should emphasize that whatever is the interplay of objectives and instruments, the scale of investment is always a fundamental structural characteristic of the R&D system. In addition, we have reached the conclusion that the evolving structure and the quality of governance procedures of R&D systems goes beyond a well informed policy implementation process. It is being influenced by long-standing institutional inertia and different trajectories in the accumulation of competence in specific areas of policy implementation.

Beyond the aggregate level, the experience of specific policy instruments is diverse and it is always difficult to reach any generic conclusions. One first observation refers to the issue of policy continuation. A number of policy instruments, under different names through the years, have targeted PRO and local high-tech firms and they have been successful in maintaining a network of pro-active partners in these programmes. That set of programmes has provided the bulk of new RTD projects in the Greek R&D system, since the early 1990s. A second interesting characteristic is the introduction of programmes aiming at the graduate and post-graduate training of young researchers. These programmes have been very well received and they managed to attract a large pool of applications. However, there is a downside in this process. In a small market for new research projects, a subsidy for research training might create a large number of unemployed and highly qualified young scientists. One area of policy instruments which received a lot of attention in recent years is the introduction of innovation policies at the regional level. This is a promising area of potential interaction between direct and indirect policy instruments but, at this stage, with one or two exceptions, what is really happening is that the debate is still revolving around general policy formulation.

The methodology of already available evaluations of policy instruments provides limited information for further analysis on the aforementioned issues. A general hypothesis, from what we have seen so far, is that while all the programmes address obvious market failures, success in policy implementation depends on competence and low cost barriers of entry for targeted groups. For a realistic assessment of the impact of policy instruments on medium term R&D trends, it would be useful to draw a line between (a) success in maintaining existing capacity and (b) further expansion of local R&D capabilities. Most of the successful policy initiatives in the Greek case have addressed the first objective. There are few cases of successful policies addressing the second objective, with two underlying factors explaining this success. First, the size of local markets (or rather the links and interaction between involved actors) and second, the promotion of an outward orientation in the world market for knowledge development.

At this stage, it is difficult to predict medium-term trends in the evolution of the Greek R&D system. A feasible agenda for the expansion of local knowledge development capabilities will include the consolidation of the current long list of policies in a small number of well focused thematic areas, combined with bold reforms in Universities and PROs. That would become an important step forward for the enhancement of productivity gains from local skilled labour and technological infrastructure. In addition and in order to enhance the welfare implications of the local R&D system, complementary policy instruments targeting technology diffusion and spillovers are needed. The scope for reforms is of high priority here. The current policy shift in favour of regional poles and international collaboration are excellent opportunities for the reconsideration of technology diffusion policies in the Greek context.

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