

EUROPEAN TREND CHART ON INNOVATION

Trend Report: “Innovation Finance”

Covering period:
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**EUROPEAN COMMISSION, DIRECTORATE GENERAL
ENTERPRISES
“INNOVATION AND SME” PROGRAMME**

The European Trend Chart on Innovation

Innovation is a priority of all Member States and of the European Commission. Throughout Europe, hundreds of policy measures and support schemes aiming at innovation have been implemented or are under preparation. The diversity of these measures and schemes reflects the diversity of the framework conditions, cultural preferences and political priorities in the Member States. The "First Action Plan for Innovation in Europe", launched by the European Commission in 1996, provided for the first time a common analytical and political framework for innovation policy in Europe.

Building upon the Action Plan, the "*Trend Chart on Innovation in Europe*" is a practical tool for innovation policy-makers and scheme managers in Europe. Run by the "Innovation" directorate of DG Enterprise, it pursues the collection, regular updating and analysis of information on innovation policies at national and Community level, with a focus on innovation finance; setting up and development of innovative businesses; the protection of intellectual property rights and the transfer of technology between research and industry.

The Trend Chart serves the "open policy co-ordination approach" laid down by the Lisbon Council in March 2000. It supports policy-makers and scheme managers in Europe with summarised information and statistics on innovation policies, performances and trends in the European Union. It is also a European forum for benchmarking and the exchange of "good practices" in the area of innovation policy.

The "Trend Chart" products

The Trend Chart on Innovation has been running since January 2000. It tracks innovation policy developments in all EU Member States, plus Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Liechtenstein, Lithuania, Norway, Poland, Romania, Slovak Republic and Slovenia. The Trend Chart web site (www.cordis.lu/trendchart) will provide access to the following services and publications, as they become available:

- a database of policy measures across Europe;
- a "who is who?" of agencies and government departments involved in innovation;
- a series of six-monthly country reports for all countries covered;
- a series of six-monthly trend reports covered on each of the four main themes;
- a number of benchmarking reports;
- the European Innovation Scoreboard and other statistical reports;
- a news service and thematic papers;
- the annual reports of the Trend Chart;

The present report was prepared by INBIS Ltd. The information contained in this report has not been validated in detail by the Member States or by the European Commission.

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1. Executive Summary

Access to finance has always been (and is still) quoted as a major constraint for the start up and growth of technology companies. This state of affairs has been recognised at Member States and Commission level, with a large array of measures aiming to relieve the problem at firm level, and also by improving their financial environment.

The last two to three years represent a turning point for Innovation Financing in Europe. In particular the figures provided on the Venture Capital Industry show an industry which is booming, especially with respect to early stage investments, e.g. in Sweden, Austria, and Belgium.

During this reporting period, Trend Chart has collected additional measures targeted on improving the financial environment, granting tax relief and pushing for a more positive Venture Capital understanding.

The trends continue to support measures which:

- Focus more on funds there where the Venture Capital Industry is much more developed to support those which are more focused in terms of investment size or which are specifically linked to a research centre.
- Some R&D and Innovation advanced member states are developing Business Angel Networks and Incubators to create a favourable environment for start-up. These measures are complementary to public support the major financial instrument especially in Central Europe. Further analysis of these measures, of their early results and dissemination of experience and good practice in this developing area is to specify interest to allow cross fertilisation and harmonious development over the EU.
- The development of fiscal measures to facilitate the mobilisation of capital and to encourage R&D initiatives, is progressing like in countries like Portugal and Spain. This instrument offers for the EU as well as for Central Europe still a wide possibility to favour R&D as well as Innovation.

Further measures in the above areas are under preparation and the governments plan and prepare in the years to come more innovative measures among at developing a more favourable financial environment to support public efforts as well as commercially support efforts. It is interesting to note that Innovation efforts are not only included in the classic R&D means of rendering support but also provide support to the development and implementation of commercial business plans. However, it has to be noted that grants, subsidies and loans are still the traditional sources of financing applicable to finance such ventures.

It is interesting to notice that Business Angel Networks and Venture Capital sources are increasingly sought for R&D and Innovation financing.

2. Introduction

Access to finance is a recurring theme quoted by companies as a constraint on their development. In almost all countries in the EU, access to finance appears among the three most significant constraints to development. Not surprisingly, early stage and highly innovative companies are the ones who perceive insufficient access to finance as the most serious impediment to their development and growth.

In some EU countries we can find weak linkages between industrial research and universities; in others, such as Belgium, research is concentrated in universities. These matters have largely been dealt with. A large range of measures to facilitate R&D and Innovation activities in small companies and creating links with universities through e.g. incubators is more and more supported. Direct financial support to firms or financial operators, tax incentives, measures to improve the financial environment and information of companies as well as special promotional actions are undertaken.

With the vastly improved economic conditions, the last two years represent a turning point for Innovation Financing in Europe. The most striking figures are those provided by the Venture Capital Industry.

The actual tendency during the last half year shows that an increase, however, less dramatic than during the first half year could be noticed. Investment figures appear good for the financing of high technology and sectors like Biotechnology.

Obviously, Venture Capital is only one of the financing modes which is available to innovative companies (it is unfortunate that no similar data are produced by the banking industry). But, together with the dramatic growth in terms of high technology company creation, these figures indicate the most significant change over the last years.

Innovation finance policies should therefore to be considered in this context, with several issues in mind. Among them:

- How did the innovation finance support measures taken by the member states contribute to a better situation for all R&D players?
- What private finance vehicles should be supported by further measures to be implemented by the member states?
- How can by fiscal measures or others still important discrepancies in terms of Innovation financing and/or R&D financing be eliminated?
- Should private initiative related to innovation finance be developed and if so by applying what measures?
- Should a thriving private initiative. be supported in a way that innovation financing in its majority will be carried out through private financing initiatives ?

3. Analysis of current policies

3.1 Analytical Framework

The Innovation Trend Chart has collected more than 100 measures which have been gathered under the innovation finance heading in this edition of the Trend Chart. These measures cover a wide range of activities aiming to relieve the financing of SMEs to carry out RTD and Innovation activities, such as:

- Direct grants to conduct R&D and Innovative activities
- Direct equity investment by public bodies or their agencies directly into companies or financial institutions.
- Provision of “soft” loans to companies
- Subsidising the interest rates of commercial loans from financial institutions to firms
- Providing tax incentives, both to firms and to financial institutions
- Providing innovative firms with guarantees for their lenders/investors, making it economically profitable for the financiers to provide loans or equity to these firms
- Developing measures aimed at facilitating contacts and understanding between the financial world and technically innovative companies
- Improving the financial environment, in particular by fostering the development of the “supply” side – financial institutions apt to deal with technologically innovative firms, stock exchanges adapted to the needs of start-ups, etc.

3.1.1 Direct Public Financial Support to companies and intermediaries

In this type of measure, funds are directly provided by government or government-controlled agencies to companies in order to finance R&D and innovation projects which are considered too risky to be financed on a purely commercial basis.

They can include a number of different means, which are more or less distant from the purely commercial process.

At one extreme lie **grants**, which are normally provided to companies in order to finance a proportion of the innovation and R&D process. This proportion can vary depending on a number of factors (level of risk in the project, nature of the expenses, geographical location, etc.). Grants can be reimbursable in case of success or not. These subsidies normally cover pre-competitive R&D but increasingly also cover activities closer to the market. Although a large number of these measures are provided under the Innovation Finance label, this report will consider in detail this type of action which does not involve the other actors of Innovation Financing. From the policy making point of view, however, an interesting point is to see how this type of direct subsidy measure, which is slightly out of favour, coexists with other, more indirect measures.

Tax relief is a frequently used mechanism by which companies can offset against their revenues the expenditures sunk into R&D and Innovation activities. Tax relief has a long history for companies undertaking R&D in some countries (like the *Crédit Impôt Recherche* in

France). Tax relief for private or corporate investors who invest in Innovation-linked projects is a relatively new feature in a number of countries (notably UK and Netherlands).

Soft loans are loans provided through public organisations under more favourable conditions than a commercial loan. These conditions can be linked to specially low interest rates, to the absence of collateral required, to the fact the loan is forgivable (does not need to be repaid in case of failure, which makes it in effect similar to a grant), or other condition.

Another version is the **subsidy to commercial interest** rates which directly reduces the cost to the company of borrowing money.

Taking equity in companies. Government or government-backed agencies can also provide capital to companies undertaking innovative activities. Most of the time this equity stake is repayable after a period of from 5 to 10 years and the public agency plays the role of a “silent investor” (does not play a role in the management of the company).

3.1.2 Other types of financial support measures

Other types of measures can in one way be compared to direct subsidies because they very often have a financial cost to the public body. They are not targeted directly at firms but can concern financial institutions, innovation support organisations or can be of a purely regulatory nature. They are generally designed, however, to have a leverage effect on private financing that make them more economically efficient than pure subsidies to firms. They are also seen as less likely to compete unfairly with private initiative or to produce economic distortions, hence better for the development of a sustainable “innovation system” which can survive with no or minimal state intervention. One can include amongst such measures:

Guarantees. These could be considered as just another form of subsidy, very similar in their principle to direct subsidies, the difference being that state intervention takes place only if the Innovation/R&D project fails commercially or if the investment does not fulfil its objectives. The most common form of guarantees apply to bank loans and there is a wide array of different loan guarantee mechanisms in most EU Member States. They are also used, although on a more limited scale, to guarantee investments by risk investors.

Tax relief for investors. These measures are generally taken to encourage non-professional investors (private individuals, corporate investors) to invest (directly or indirectly through specialised funds) in innovative companies.

Equity investment in financial organisations. In the case of **equity investment**, the state provides, either directly or through a government-owned financial institution, a contribution towards the capital of a fund, which will in turn invest in companies of a predefined profile (e.g. technology start-ups). Most of the time the state participation is under or just at the 50% level, leaving the day-to-day management of the fund to professionals, ensuring an efficient expenditure of the funds thus provided.

Financial environment. One of the major concerns of policy makers in the recent past has been to improve the financial environment of firms, reducing the need for direct intervention on a project to project basis, leaving it to the market to sort out the question of evaluating, financing and following projects. Measures have followed sequential routes:

- Creation of a professional infrastructure of investors. Measures such as direct financial support or guarantees to the supply side have largely been used to build this infrastructure, in particular in less favoured regions;
- Other measures of a more regulatory nature, such as changes in the fiscal and legal environment have also been used to channel funds towards the financing of technology start-ups;
- Development of stock markets adapted to innovative/high technology projects. These measures, also of a largely regulatory nature, complement the first ones by providing an exit route for investors.

Intermediation. In view of a situation where money seems plentiful, one new route for action in order to exploit that money has been to develop the structures and actions aiming to improve the links and understanding between investors and entrepreneurs through training and reciprocal provision of information.

Typical of this type of measure is the development of Business Angel Networks, aiming to better inform Business Angels of investment opportunities and allowing potential entrepreneurs to be known by a larger network of Business Angels. It is worthwhile noting that the development of such Business Angels Networks is actively supported by the European Commission.

This activity is also very much included in the global functions of the numerous incubators created with public funding (while there are also a large number operating on a private basis) which assist companies in identifying adequate sources of finance.

Other models operated on a private basis (but often with public support) are the Investment fora or the numerous structured events which provide a mechanism for entrepreneurs to meet investors and vice versa.

3.2 Summary of the National Correspondents Reports

3.2.1 Direct financial support

Grants

Grants are reported by the national correspondents as the most numerous measures to support R&D and innovation activities. The main beneficiaries are generally SMEs or public institutions (universities, research centres, etc.). This vehicle is applied at national and regional level with an important macroeconomic impact on economic development and employment levels. Grants can sometimes be considered to be hidden subsidies favouring less developed regions (Eastern Germany, Mezzogiorno, etc.). This report will, like its predecessor, not consider this matter further.

Tax relief

Tax relief is mainly used to stimulate R&D and Innovation in firms (very often in place of grants) and to encourage risky capital investments.

Tax relief for R&D has played and will continue to play in the future a major role in the stimulation of R&D and innovation. In a number of member states as well as in Central European Countries (Bulgaria, Hungary, Romania) new measures for tax relief are under discussion at Government level. The situation appears now to be in a state of change and taxation is and will be used to an ever greater extent to promote R&D and Innovation.

For example, in Portugal the system of tax credits for R&D investments by firms defined by the Decree - Law N° 297/97 (PT-4) was extended for the fiscal year 2001, providing better conditions for R&D performers. There are also new ideas such as that in Spain: in the framework of a new law, aiming at fostering competition in the Spanish Economy, an additional 10% in tax deduction is allowable for SMEs related to investment in technological facilities and training in new technologies.

Soft loans

Faced with the difficulties experienced by start-up firms in obtaining loans from the private sector, a number of Member States have set up public institutions which provide loans, very often together with equity, at preferential conditions for the very early stages of high tech firms. These preferential conditions can include interest rates below the market rates, a financial assessment which takes into account the innovative value of the project, a lower collateral requirement from the borrower, repayment dependent on the success of the project and other factors.

Seed financing programmes, business development financing, technical development financing and micro-loan programmes such as those in Central Europe are financial support programmes which are very often applied. Many of these, however, produce unwanted market distortions and generate unfair competition with financial institutions.

Interest rate subsidies

As has been mentioned above, R&D and Innovation financing is often provided not only through grants but also through loans. An SME requesting the same may have a legitimate interest in obtaining an interest subsidised loan, considered to be very often a political instrument e.g. provided by regional development banks or agencies.

Equity stakes in companies

A number of public authorities have been taking “silent shares” in firms or providing “hidden Venture Capital”. This policy is traditionally not viewed favourably by professional Venture Capitalists who generally regard this as unfair competition (at least in the part of the market in which they operate).

3.2.2 Indirect measures

Guarantee schemes for venture capitalists

In Germany, within the programme FUTOUR (DE-20) public venture capital is made available to focus in Eastern Germany.

Loan Guarantee Schemes

These are amongst the oldest measures to facilitate the provision of finance to SMEs, especially start-ups.

Tax relief to investors

A number of measures have been taken relatively recently in three areas to encourage higher risk investment by private individuals and large companies and to increase the flow of capital toward the funding of high tech start-ups:

- encouraging informal investment by business angels by provision of tax “deferments” on capital gains reinvested in new companies;
- encouraging public investment in innovative companies;
- Encouraging corporate venturing.

Equity Investment in Venture Capital Funds and financial institutions

This involves providing public funds to venture capital funds and financial institutions which will in turn provide finance to companies. In contrast with direct investments in firms, this type of measure is seen as fostering the development of a private Venture Capital industry.

This method is particularly suitable, together with guarantees to investors, when building the VC industry in a situation where one did not exist or it was in its infancy. A recent addition to measures in this area are two schemes in Greece (GR_36, GR_39) to create a local Venture Capital industry. The Baltic States, particularly, Estonia are now considering such a scheme.

Where an established Venture Capital industry exists, it is now used to build up a previously lacking regional/seed capability in larger member states (France, Germany, and UK). Seed funds are often set-up with a regional emphasis for technology start-up and to facilitate the setting up of incubators.

Environment

Life assurance and/or pension funds are today more amenable to investment in risk capital. In some member states, e.g. France and Sweden it is already common practise to for such funds to invest in Venture Capital as well as more traditional investments.

Intermediation

Investors and technology entrepreneurs in a number of West European countries have become global players in recent years through private development and funding. However, a number of initiatives are funded publicly and are consequently, like the Business Angel Networks which are to be found in most member states, publicly supported.

One of the most recent trends is the creation of specialised incubators to support the creation of new high technology firms. The task of facilitating contacts between their customer companies and the financial world figures in most cases within the general all-embracing mission of these incubators

4. Conclusions

Europe is confronted with a rapid change in innovation finance, thus so far the EU as well as Central Europe. Private finance for innovative technology projects is more and more available as the return on investment is high and interesting for all type of investors (Venture Capital operators, Business Angels, Corporate Ventures, New Capital Markets, etc.).

The 27 country reports show clearly the progress in private innovation finance and clearly indicate how the ways also in Central Europe, are paved for a further real increase and that the private risk capital sector is gaining pace.

However, concerning public subsidies to R&D it clearly shows that still the highest percentage to finance innovation is publicly sponsored. New measures are and will in the future show that at this point there is no alternative to this policy. Private finance depends on performance and consequently on return on investment. In order to overcome a possible imbalance, member states should debate on this matter and public finance will never be lesser than private finance, but the measures to apply should be carefully harmonised.

What are the issues which are now the most likely to warrant public intervention? Looking at the new measures launched in a number of Member States, a number of new trends appear:

- Faced with an apparent on-going funding gap for small technology projects, public measures tend to support **funds that are much more focused** in terms of investment size (targeting specifically the pre-seed or seed stage) or which are specifically linked to a research centre.
- Taking into account the much improved conditions of the supply side, public policies (very often within the framework of public/private partnerships) have been fostering the development of **“intermediation” measures** destined to facilitate the contacts, flow of information and matching between technology entrepreneurs and potential investors.
- The development of **fiscal measures** to facilitate the mobilisation of **capital considered still untapped** for innovation, in particular in the domain of small investors, business angels or corporate investors.

Further analysis of these measures, identification and assessment of early results and dissemination of experience and good practice would allow cross fertilisation and harmonious development in the EU and Central Europe.

The information provided by the country reports could be more precise, specially as Innovation Finance is an important subject more precision would be expected in order to make it easier to write up a synthesis of the above.

5. ANNEXES

5.1 Distribution of Measures Countries/Theme

General Measures

	<- 1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Financial Environment		IT17 IL3							DE50 DE40 AT15 AT6		AT48 GR36 GR39 ES17 IT21
	UK2	UK4			IE8		UK5 FR16				
Intermediation							UK6 UK5 NL9 FI3 AT4				
		IL1				SE8		ES9	BE11	BE53 BE28	ES17 ES13
Loan Guarantee	DE10 UK8		DK1		PT3 NL3					CZ4	CZ8
Equity Guarantee	IL2 DE13 FR9 AT5				DK2	DE12		AT12	AT7		

Investors

	<- 1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Equity Investment	DE11 GR13	IT17 IL3			PT 3	DE12			NL15 LU2 FR15	UK11 FR13	
Tax Relief							NL23	PT4 FR10			UK31

Firms

	<- 1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Tax relief	D14							IT7			UK35	DE14
Loans	ES1 NO8 AT3				NO25		FI4 NL28 IS1 FI2	NL10 NL2 DE20	AT7	BE46 SK1	DE 56	
								AT29 ES3		CZ4		
Interest rate subsidy	ES3 AT14											
Equity Investment	DE11 AT14				NL16		AT13	DE20 AT11		BE46		
Grants	AT3 AT5 ES4 SE3 SE2 NO18 NO8 NO2 IT19 IL4 GR1											
		IL1	IT16	LU1 AT10	PT9 PT3/4	IL4 PT10 ES8 ES7 IT20 SE1 IT4 AT8		UK5 NL9 DE8	ES9 ES6 AT11		AT 39 DE26 AT9	PT 15 UK10 ES19 ES17 ES13 ES12
VC Programme											DE20	

5.2 List of Measures

A summary of Innovation support measures since 1990, as from the data sheets provided by National correspondents .

TREND CHART ON INNOVATION INNOVATION FINANCING

Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Austria	AT 3 Seed Financing Programme (Venture Capital Programme)	www.innovation.co.at	1989	Provides quasi-equity, up to €728,000, to technology based start-ups and new ventures promising to offer superior know-how (products, processes or services), and supports the coaching of the entrepreneurs by the investment.	Grants – firms Loans – Firms	SMEs/Industrial SMEs
Austria	AT 4 I2 - Ideas and Investments	www.innovation.co.at	1996	Linking together entrepreneurs with good ideas or existing products, and investors supporting them with capital and management (business angels)	Intermediation	Large Companies/Large Industrial Companies Managers SMEs/Industrial SMEs
Austria	AT 5 BÜRGES/ Young Entrepreneurs Programme and Equity Capital guarantees	www.buerges.com/en/naviset/fford.html	1977	Supports the build up of equity capital for the foundation of new enterprises, by means of grants for interest of saved -up own capital resources, and guarantees equity holdings in SMEs for minority participation in cash and for a minimum of 10 years	Grants – firms Equity guarantee	Individuals SMEs/Industrial SMEs
Austria	AT 6 Vienna Stock Exchange: "FIT" the exchange for SMEs	www.wbag.at	1998	Targeting SMEs with growth potential in promising sectors, or innovative niche players that have expansion plans.	Financial environment	Innovative SMEs with a growth potential, investors
Austria	AT 7 Technology financing programme for SMEs- ERP	www.fgg.at/	1998	Supports the development of technology-oriented SMEs by providing risk sharing guarantees and loan guarantees to companies using also Venture Capital co-financing funds	Equity Guarantee Loans – firms	Venture Capital Funds, technology-orientated SMEs
Austria	AT 8 ERP Technology programme/ SME technology programme / Special programme on Growth and Technology	www.erp-fonds.gv.at/erp/	1995	Provision of low interest loans to stimulate RTD projects / Support for the creation of new enterprises, processes and products / support to mobilise equity capital and to extend the equity capital base of technology based SMEs	Grants – firms	Individuals , Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Tyrol	AT 9 Tyrolean impulse Package	www.tirol.gv.at/wirtschaftsfoerderung/impulspaket.html	1999	Subsidies (up to 15%) to companies (mainly SMEs) with projects of a technological content and a positive impact on Tyrolean economy.	Grants –firms	Tyrolean SMEs; larger enterprises for project with a clear technological content
Tyrol	AT 10 Directives for the promotion of research and development, innovation		1993	Financial promotion measure (subsidies) for industrial research and development, innovation and flexible automation in SMEs.	Grants – firms	Tyrolean SMEs

The measures highlighted in bold have been added since the last version

Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Styria	AT 11 Regional Initiatives Styria	www.sfg.co.at	1997	Grants and participation for the setting up and development of SMEs. The scheme provides in particular a "silent participation" of up to 75% of eligible costs (max €728,000) over 5 to 10 years.	Grants – firms Equity – firms	SMEs/Industrial SMEs
Voralberg	AT 12 Saving for the creation of an enterprise		1997	A guarantee to up to 50% of equity investment in enterprises with growth potential in international markets. Duration up to 5 years Max 25 M. ATS.	Equity Guarantee	Enterprises located in Vorarlberg with innovative products and services and potential for growth
	AT 13 Young Entrepreneurs Programme	www.ooe.gv.at/foerderung/wirtsc haft/index.htm	1995	Supports the costs of external consultancy in connection with the formation of new enterprises. The max. support up to 1,090 €. Supports SMEs to strengthen their equity capital base. 72,000 to 363,000 € participation between 10 and 20 years.	Consultancy services Equity – firms Early stage financing	Individuals SMEs/Industrial SMEs
Lower Austria	AT 14 Lower Austria participation model, business start ups	www.noel.gv.at/service/WST/WST2/index.htm		Financial participation and subsidies for existing companies and start ups in Lower Austria	Equity – firms Interest subsidy – firms	Start-ups; innovative enterprises
Austria	AT 39 Technologies for sustainable development	www.fff.co.at	1999	The aims of the programme are to strengthen research in the field of sustainable development and to facilitate the implementation and diffusion of technologies involved	Grants	SMEs Universities Large firms Research institutes
Austria	AT 40 Impulse Programme Mobility and Transport Technologies	www.erp-fonds.gv.at	1999	To promote innovative activities in the Austrian transport sector which improves the resource efficiency and quality of transport	Grants	SMEs Universities Large companies Research institutes
Austria	AT 48 REG Plus	www.tig.or.at		a major funding module within RIF 2000 and intends to increase the performance of the Austrian Technology- and Innovation Centres.	Grants Subsidies	Technology and Innovation Centres
Carinthia	AT 15 Equity Capital guarantee scheme		1998	Guarantees equity holding in SMEs for minority participation in cash and for a minimum of 10 years. Maximum guarantee offered by the Carinthian Government up to 100% .	Equity guarantee	SMEs and investors
Brussels region	BE 11 Business Angels Connect	www.eebic.be/	1998	Network of business angels aiming to match supply and demand for risk capital, contribute to the quality of the business proposals	Intermediation	Large Companies/Large Industrial Companies SMEs/Industrial SMEs
Flanders	BE 28 Business angel Networks		1999	Subsidies to the launch and operation of 5 Business Angels Networks. 50% feasibility study and 50% of the pilot phase if financed by the EU.	Intermediation	all Flemish companies

The measures highlighted in bold have been added since the last version

Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Wallonia	BE 46 Fund for the industrialisation and commercialisation of the results of research (FIRD)		1999	Fund, co financed by the Walloon region, aiming at providing equities and loans to companies wishing to exploit the results of research co financed by the region.	Equity – firms Loans – firms	Enterprises in the Walloon region having benefited from regional co-financing for research projects.
Wallonia	BE 53 Business Angel Networks		1999	Subsidies (70% ERDF, 30% region) to a Business Angel Network .	Intermediation	Walloon SMEs
Denmark	DK 1 Business Development Finance	www.vaekstfonden.dk/uk/	1992	Autonomous public organisation having the status of a private venture capital company, and providing loans, bank loans guarantees or direct guarantees to SMEs for their development projects	Loan Guarantees Loans – firms	Large Companies/Large Industrial Companies, Research Institutes, SMEs/Industrial SMEs
Denmark	DK 2 Equity Guarantee Programme		1994	Selected venture capital companies to receive a 50% guarantee on investments made in emerging growth companies, on a case by case basis (from seed/start-up stage to a later developmental stage)	Equity Guarantee	SMEs/Industrial SMEs
Finland	FI 2 Finnvera Small Loan Programme	www.finnvera.fi	1996	Provision of small and micro loans for start-up and small operating businesses, including in the service sector, with a special credit line for companies owned and managed by women	Loans –Firms	Graduates Other Researchers
Finland	FI 3 SITRA Matching Service	www.sitra.fi/matching	1996	Business Angel Network.	Intermediation	Private investors and SMEs
Finland	FI 4 Capital Funding for companies' product development activities	www.tekes.fi	1996	Low interest loan to finance equity to start-ups and growing technology intensive SMEs. No guarantee. Up to 50% of equity given for up to 8 years with 5 free years.	Loans – firms	SMEs/Industrial SMEs
France	FR 9 SOFARIS guarantee scheme for venture capital companies	www.education.gouv.fr/technologie/mesur/assemnat.htm	1982	The scheme provides a guarantee to Venture Capitalists who make equity investments in higher risk or start up businesses (up to 50% of equity investments, 70% in the case of new companies). Guarantees are limited to €750k for each company.	Equity Guarantee	Venture capital companies and innovative start-ups
France	FR 10 Mutual Fund for Innovation (FCPI)	www.education.gouv.fr/technologie/mesur/fcpi.htm www.industrie.gouv.fr/accueil.htm www.anvar.fr	1997	Provides tax advantages to individual investors who invest in FCPI reserved for equity investments in innovative enterprises.	Tax relief – Investors	Individuals
France	FR 13 Support for the creation of seeds capital funds	www.education.gouv.fr/technologie/mesur/incub5b.htm	1999	Creation of seed capital funds on major areas of technology with a partnership of public research institutions and private investors. Development through regional incubators regional funds to invest 75% of its funds in firms linked with public research.	Equity – Investors	Research Institutes

The measures highlighted in bold have been added since the last version

Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
France	FR 15 The Public Venture Capital Fund (FPCR)	www.caissedesdepots.fr	1998	Public fund which can take a participation of 20% in private funds with a limit of €9,2 million. Private funds must invest in equity capital of new innovative companies (less than 7 years old).	Equity - investors	Venture capital funds, Innovative SMEs
France	FR 16 The “Nouveau Marché”	www.nouveau-marche.fr www.anvar.fr	1996	Part of Euro NM network. No specific conditions required for companies less than two years old. Equity capital necessary 9 MF. Minimum market value €5 million	Financial environment	Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Germany	DE 8 INSTI SME Patent initiative	www.insti.de/ www.patente.bmbf.de	1996	Improve the use of patent system in SMEs. SMEs receive coupons through which they can pay for consulting, searches, patent application assistance, etc. Subsidy up to 50% of total costs. Maximum DM15.000 per applicant	Grants – firms	SMEs/Industrial SMEs
Germany	DE 10 European recovery Programme fund	www.kfw.de	1997	Provision of soft loans or guarantees/refinancing (up to 85% in the new Länder) for the development of innovative/ high growth firms for innovative products can be developed more easily and enter the market in a shorter timeframe.	Loan Guarantee	Individuals , Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Germany	DE 11 DtA- Technology Venture Capital Programme (tbg)	www.tbgbonn.de/finance/index_phasen.html		Equity for (a) the development of business plan, organisational structure for product and process development in early stages of investment projects (b) R&D and market introduction (c) Introducing the company into a capital market. Equity investment of up to €125 000, €2.5 million for “hidden VC”	Equity –firms	Large Companies/Large Industrial Companies SMEs/Industrial SMEs
Germany	DE 12 BTU- Investment Capital for small and medium sized companies		1995	Mobilisation of up with DM6 million (with a co investor) to finance R&D expenditures, changes in existing technology or marketing.	Equity – firms Equity Guarantee	SMEs/Industrial SMEs
Germany	DE 13 Venture capital Programme of the KfW	www.kfw.de		The KfW can bear the risk of (up to 50% in new Länder) of investments in technology SMEs. Commission between 0.45 and 2.2% per year.	Equity Guarantee	Technology SMEs, venture capital funds/companies
Germany	DE 14 Principles for strengthening the innovation power	www.bmwi.de www.bundesfinanzministerium.de		Reduction of corporate taxes to 25% by 2001 to improve investment by firms.	Taxation – Firms	Large Companies/Large Industrial Companies, Public Authorities/Organisations, Research Institutes, Researchers, SMEs/Industrial SMEs, Universities

The measures highlighted in bold have been added since the last version

Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Germany New Länder	DE 20 FUTOUR	www.vdivde-it.de	1997	Subsidies , venture capital, consulting and technical support towards financing and implementation of R&D projects up to the market place. Subsidies and venture capital may not exceed €750,000 (up to 90% of project costs) over 10 years.	Loans – firms Equity – firms	SMEs/Industrial SMEs Young, technology-oriented very small firms (not more than 10 employees and not older than 3 years) and start-ups in the New Länder
	DE 26 InnoNet	www.vdivde-it.de/innonet www.bmwi.de	1999	Improves co-operation between small & medium sized companies and research establishments from as early as the R&D phase through a subsidy of up to 90% of the research establishments' project expenses at a level of up to €1.5 million for a period of three years maximum.	Grants – firms	Research Institutes , SMEs/Industrial SMEs
Germany	DE 40 Innovation Market	www.venture-management-services.de/innovation	1998	Market place for innovators to find companies, financing and assistance in bringing their products to the market through an internet site	Intermediation	New and recent firm founders in search of resources and assistance with their businesses
Germany	DE 50 Business Angel Network of Germany (BAND)	www.business-angels.de	1998	Provides a platform for contacts between business angels and potential start ups and young firms. Presentation through Internet, legal aid provided through the network.	Intermediation	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs
Germany	DE 56 Employment and Qualification	www.kfw.de	2000	Creation of new jobs related to SME activities	Loans - Firms	SMEs
Greece	GR 1 Investment Law		1990	Support expenses for the creation of a prototype for an innovation patented in Greece, expenses for its international registration (including renewal)	Grants – Firms	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs
Greece	GR 3 Financial incentives for SMEs		1997	Support of SMEs through venture Capital operators, provision of seed, start up, expansion and replacement capital. Subsidies to interest rates.		SMEs/Industrial SMEs
Greece	GR 5 Funds / Companies of Mutual Guarantees (CMGs)		1997	Supporting the creation and development of CMGs, in co-operation with banks and co-operative credit institutions, in order to provide SMEs with the guarantees needed for the acquisition of loans	Equity – investors	SMEs/Industrial SMEs
Greece	GR 13 Venture Capital companies			Support to the establishment of new Venture Capital companies to complement the Greek market.	Equity – investors	New venture capital companies
Greece	GR 36 Fund for the development of the new economy	www.ypetho.gr/ypetho/index-en.htm	2000	Aim of this fund is to financially support venture capital companies and fund early stage ventures as well as prototype development.	Competitive grant	Venture capital companies

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Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Greece	GR 39 Development of spin offs/Support of young researchers and scientists	www.ypan.gr	2001	Finance the development of new high tech enterprises exploiting research results.	Grant	Research institutes – Researchers - Universities
Iceland	IS 1 Job Creation Initiative for SMEs		1996	Supporting the integration of technologies and know-how with subsidies of 25 % of the total project cost, for companies getting 50 % by themselves	Loans – Firms	SMEs/Industrial SMEs
Ireland	IE 7 Research, Technology and Innovation (RTI) Support for Industry Scheme	www.enterprise-ireland.com	1998	Direct grants to R&D projects in Irish-based firms involved in manufacturing and internationally-traded services. 50% of project costs provided by small firm recipients themselves; 65%+ provided by other recipient firms.	Grants – firms	SMEs undertaking a significant R&D strategy.
Ireland	IE 8 Seed & Venture Capital Measure		1994	A set of initiatives put in place to address shortages of venture and particularly early stage/seed capital for innovation. The approach has been for the state to act as catalyst and/or co-funder with private sector sources of finance.	Equity – investors Financial environment	Banks, Venture capitalists, SMEs, Individuals, Managers
	IL 1 Technology incubators		1991	General assistance for entrepreneurs including assistance in obtaining financial resources and raising capital	Incubators Grants – Firms Intermediation	Individuals
Israel	IL 2 INBAL Government guaranteed research and development			Support the Research and Development Funds by purchasing 80% of the shares from any investor wishing to sell its investment.	Guarantee – equity	Individuals, SMEs/Industrial SMEs, Private investors
Israel	IL 3 YOZMA		1991	Draws foreign capital to invest in the Israeli hi-tech industry by co investing in Israel high tech industry either directly or by the creation of new VC funds.	Equity – investor Financial environment	
Israel	IL 4 Encouragement of Industrial R&D	www.tamas.gov.il/root/meida_lefi_nosim/ipc.htm	1984, revised 1995	Grants up to 66% of up to €280k per year for two years, including Feasibility Studies and Stage between R&D and Marketing 50% or 30%. The grants are repaid as royalties out of the revenues in case the R&D effort results in commercial sales.	Grants – firms	Start-ups, SMEs, and other companies engaged in R&D of industry oriented products.
Italy	IT 1 Special applied research fund	www.murst.it	1997	subsidies to projects carrying out industrial research activities and/or pre-competitive development ones.	Grants – firms	Large Companies/Large Industrial Companies, Public Authorities/Organisations Research Institutes, SMEs/Industrial SMEs
Italy (Obj.1 & 2)	IT 4 Autonomous research projects in the regions lagging behind	www.murst.it	1995	Idem as IT 1	Grants –firms	Large Companies/Large Industrial Companies , Research Institutes, SMEs/Industrial SMEs

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Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Italy	IT 7 Measures aimed at sustaining innovation		1997	Automatic tax incentives to support industrial research and development. Amounts depend on localisation and the size of the company.	Tax relief – firms	Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Italy ERDF supported area	IT 16 Investments in the depressed areas of the national territory		1992	Encourages business enterprises' investments linked to the introduction of technological innovation in the regions lagging behind.	Grants – firms	Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Italy	IT 17 Innovation and SMEs		1991	Includes possibility to set up financial intermediaries (financial company for development and innovation, SFIS) which can share the enterprise risks of SMEs.	Equity – investors Environment	SMEs/Industrial SMEs
Italy	IT 19 Research programmes within the international co-operation	www.murst.it	1987	Subsidies(up to 50%) to the participation of Italian enterprises to applied research projects carried out in co-operation with other enterprises at international or community level.	Grants – firms	Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Italy	IT 20 Incentives for the acquisition of new machinery		1995	Gives incentives to firms acquiring new machinery. The law finances the total cost of the machinery including financial charges, assembly, transport and testing.	Grants – firms	Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Italy Obj. 1	IT 21 Community Support Framework Objective 1 2000-2006: PIA		2000	A single point of reference through which the enterprise, through the presentation a single application, can get grants for a number of purposes, as the acquisition of equipment, the setting-up of networks, the purchase of services and consultancy, the realisation of common infrastructures.	Administrative simplification	Universities
Luxembourg	LU 1 Research and development incentive scheme	www.etat.lu/ECO	1993	Subsidises up to 100% pre-competitive development, industrial research, basic research realised by companies and research centres.	Grants – firms	Large Companies/Large Industrial Companies, Research Institutes , SMEs/Industrial SMEs
Luxembourg	LU 2 SME Capital-Development Company (CD-PME)	www.snci.lu/CD-PME.htm	1998	Public/private joint venture (50/50) providing participating loans up to 25 – 30 million LUF and 2/3 of the total cost of the project.	Equity - Investors	SMEs/Industrial SMEs
Netherlands	NL 2 TOK – Technical Development Credit	www.minez.nl www.syntens.nl www.novem.nl	1997	Supporting technically and financially risky projects of application of industrial research, by providing loans covering 25 % to 40 % of the total project costs, with a 10-year redemption term and no reimbursement in case of project	Loans – firms	Large Companies/Large Industrial Companies SMEs/Industrial SMEs
Netherlands	NL 3 BBMKB – SMEs Credit Guarantee	www.syntens.nl	1994	Providing to banks a credit guarantee of 90 % (100 % for start-up firms) up to a maximum of ECU 900,000 by company and for a maximum of 6 years (12 years for innovative companies)	Loan guarantee	SMEs/Industrial SMEs

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Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Netherlands (Obj.1 regions)	NL 9 MKB – SME Initiative	www.minez.nl/subs	1996	Subsidies (up to 80%) to intermediaries working with SMEs in products, production systems and technical innovation. Projects should be 50-50% co-financed by the intermediary.	Grants – Intermediaries	Intermediaries who work with SMEs in ERDF regions
Netherlands	NL 10 KREDO - Credit facility development of electronic services	www.minez.nl/subs www.novem.nl	1997	Forgivable loans to companies aiming to develop electronic services for commercial purposes for a maximum of 40% of project costs, with a maximum of €1.8 Million per project.	Loans – firms	Multimedia and IT companies based in the Netherlands
Netherlands	NL 15 Twinning Centres	www.twinning.com www.syntens.nl	1998	Incubator functions + Provision of seed (<€150k) and growth (co investment up to €900)	Equity financing Incubators Early stage financing	Start-up firms in the ICT sector
Netherlands	NL 16 Industry facility	www.minez.nl/subs	1994	Public/private provision of structural risk bearing capital (€4.5 - 22.5 million).	Equity – firms	Medium sized and large companies
Netherlands	NL 23 Aunt Agatha scheme		1996	Tax exemptions on revenues (up to €2275) and deduction (up to €227500) on losses for informal investors to invest in new companies (up to eight years old) or funds investing in such companies.	Tax relief – investors	Business angels, informal investors and new entrepreneurial firms
Netherlands	NL 28 Credit facility environmental product development (MPO)	www.minez.nl/subs/fs_subs.htm www.novem.nl	1996	Forgivable loans up to of 40 per cent or a maximum of €226.890) per project including the preparation of the commercialisation.	Loans – firms	SMEs/Industrial SMEs
Norway	NO 02 User driven programmes	www.forskningsradet.no		Subsidies to Industrial enterprises which set the priorities and provide an average of 35 to 40 per cent of the funding required for R&D for high risk projects.	Grants – firms	Individuals , Research Institutes, Researchers, SMEs/Industrial SMEs, Universities
Norway	NO 05 The Seed Capital Funds	www.snd.no	1997	Five seed funds established in co-operation (50/50) with private investors to invest in high risk projects with a high potential for wealth creation.	Equity – investors	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs
Norway	NO 08 Innovation funds	www.snd.no		High-risk loans and grants to innovative projects from the development of an idea, through planning and analysis, business and market development to establishment and commercialisation.	Grants – firms Loans – firms	Individuals , Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Norway Rural area	NO 18 Regional Development Grants			Grants to promote competitive, profitable commercial enterprises in rural areas.	Grants – firms	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs, Venture Capital Companies. Credit and financial institutions.
Norway	NO 25 Venture Capital Loans		1994	Soft Loans to restructure debt (up to 50% of overall capital requirement).	Loans – firms	Individuals , Large Companies/Large Industrial Companies , SMEs/Industrial SMEs.

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Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Portugal	PT 3/1 SINFEPEDIP Financial Engineering – Support for Risk Capital		1994	To ease the access to and to improve the quality of risk capital, participation of up to 50 % in the company capital (new funds) or in its enlargement (existing companies). Not longer into force	Equity – investors	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs, Venture Capital Companies. Credit and financial institutions.
Portugal	PT 3/2 SINFEPEDIP Financial Engineering – Promotion of		1994	Sharing the risk with the beneficiaries by providing guarantees : up to 65 % of the issues by credit and financial institutions and by institutional investors. Not longer into force	Loan guarantee	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs, Venture Capital Companies. Credit and financial institutions.
Portugal	PT 3/3 SINFEPEDIP Financial Engineering – Establishment of a Mutual Guarantee Scheme		1994	Establishment of a company with a mutual counter-guarantee fund of a least four times the initial capital subscribed by IAPMEI, and non refundable aid to support the establishment of and the technical assistance to mutual guarantee. Not longer into force	Equity – investors Environment	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs, Venture Capital Companies. Credit and financial institutions
Portugal	PT 3/ 4 SINDEPEDIP – Industrial Company Strategies		1994	Non refundable aid of 70 % of eligible costs, with a threshold of ECU 50,000, to help companies to diversify their financial resources and to support their active participation in the second capital market. Not longer into force	Grants – firms	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs, Venture Capital Companies. Credit and financial institutions.
Portugal	PT 4 Tax incentives for company investments in R&D		1997	Aimed to stimulate R&D led by Portuguese companies. It consists in a tax credit granted to companies that had performed or contracted R&D activities.	Tax incentive credit	Large Companies/Large Industrial Companies SMEs/Industrial SMEs
Portugal	PT 9 PEDIP Financial incentives		1994	Non refundable support to R&D industrial projects (up to 70%) . Not longer into force	Grants – firms	Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Portugal	PT 10 PEDIP – technological, innovation and transfer measure		1995	Non-refundable (up to 75%) financial support to R&D projects submitted Not longer into force	Grants - firms	Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
Portugal	PT 15 Promoting small company initiatives	www.iapmei.pt	2000	Addressed to micro and small firms, and small investment projects, non reimbursable grants corresponding to 40% of eligible expenditures	Grants	SMEs Industrial SMEs
Portugal	PT 16 Company Modernisation Incentive System (SIME)	www.icep.pt	2000	Promotion of company development, by supporting modern and competitive company strategies, and stimulating strategic competitiveness factors, namely in the areas of internationalisation, innovation, quality, environment, energy and upgrading of human resources skills.	Loans Grants	Large companies/Large industrial companies SMEs Industrial SMEs

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Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Sweden	SE 1 SNITS - Small and New companies' development of innovations, and Technology	www.nutek.se/teknik2/teksprid/snits.html	1994	Providing financial support to SMEs, up to 50 % of eligible costs, for feasibility studies and development of advanced R&D work into commercially successful innovations (part of a larger concept of "seed financing")	Grants – firms	high- and medium-tech firms, with no more than 50 employees
Sweden	SE 2 Seed Financing	www.nutek.se		Providing high risk loans with interest and conditional repayment, or grants with a royalty clause, to SMEs (small technology based firms) for innovation projects in pre-commercial stages (including national support to EUREKA)	Grants – firms	Very small firms, primarily new technology based ones
Sweden	SE 3 Product Advisory Committees			Advice, service and seed financing for inventors and small businesses. Advice, service, and small financial support (less than 50,000 SEK, 6,000 ECU).	Grants – firms Intermediation	SMEs.
Sweden	SE 8 NUTEK Investment Forum CapTec	www.nutek.se	1995	An annual investment forum for young technology based firms (TBFs) and the venture capital. The main goal is funding of the selected young technology based firms.	Intermediation	
Sweden	SE 13 Database to access to risk capital companies	www.nutek.se	1999			
Spain	ES 1 CDTI Financial Support	www.cdti.es	1978	Loans with low or no financial costs, to be fully reimbursed in case of success only, to finance R&D projects (including preparation costs of Community projects), technology promotion and integration, and innovation projects, mainly in Objective 1 regions	Loan – firms	Large Companies/Large Industrial Companies, SMEs/Industrial SMEs
Spain	ES 3 Financing Programme of the SME Initiative for Industrial Development	www.ipyme.org	1997	Subsidising the interest rates of guaranteed or participative loans used to acquire or to improve competitiveness, in the framework of a strategic management plan	Interest subsidy – firms	SMEs and interface organisations.
Spain	ES 4 ICO financing action lines	www.ico.es	1971	Subsidised grants to industrial SMEs for financing up to 70% of R&D.	Grants - firms	SMEs/Industrial SMEs
Spain	ES 6 Support to Industrial technology, security and quality (ATYCA)	www.mcyt.es	1997	Grants to companies and research institutions to carry out R&D and innovation activities	Grants – firms	Large Companies/Large Industrial Companies , Public Authorities/Organisations , Research Institutes, SMEs/Industrial SMEs, Universities
Spain	ES 7 Projects for Encouraging transfer of Research results	www.seui.mec.es	1995	Grants for the adaptation of pre competitive results to the needs of companies	Grants – firms	Large Companies, SMEs, Research Institutes and Universities.

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Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
Spain	ES 8 Concerted and co-operative industrial research and development projects	www.seui.mec.es www.cdti.es	1994	Grants (up to 60%) to support co-operative research between companies and public research centres	Grants – firms	SMEs or large companies, universities, public research centres, innovation and technology centres
Spain Objective 1 & 2	ES 9 Fostering R&D and Innovation in Objective 1 & 2 regions	www.seui.mec.es	1997	Grants to public research centres for R&D co-operation and technology transfer	Grants – intermediaries	Public Research Centres
Spain	ES 12 Co-operation projects	www.seui.mec.es	2000	Grants to support technology transfer and co-operative research	Grants – firms	Research Institutes, SMEs/Industrial SMEs, Universities
Spain	ES 13 Applied research projects	www.seui.mec.es	2000	grants to Research and technology organisations to foster technology transfer and co-operative research with industry	Grants – intermediaries	Research Institutes , SMEs/Industrial SMEs, Universities
Spain	ES 17 Development of technical Research (PROFIT)	www.mcyt.es/	2000	Subsidies to R&D, technology centres and companies to carry out technology transfer and innovation activities	Grants – intermediaries	Large Companies/Large Industrial Companies , Public Authorities/Organisations, Research Institutes, SMEs/Industrial SMEs
Spain	ES 19 The Information society for all	www.mcyt.es/	2000	Subsidies (including equity provision in firms) to promote the use of information society in companies	Grants – firms	Individuals , Public Authorities/Organisations, Researchers, Students in upper secondary schools
UK	UK 2 Liaison at Ministerial and Official Level with Private Sector Providers of Finance to Address Concerns about financing			To enhance among private finance providers the understanding of the needs of innovative SMEs and how to match them. To improve the business skills of SMEs and to ease their access to appropriate finance	Financial environment	SMEs/Industrial SMEs
UK	UK 4 R&D Scoreboard		1991	A document containing financial data, aimed at encouraging more effective investment in R&D by stimulating informed debate within, and between companies and their investors	Financial environment	
UK	UK 5 Biotechnology Mentoring and Incubator (BMI) Challenge		1996	To stimulate the start-up of new high quality biotechnology companies which will contribute to the growth of the UK biotechnology industry. A competition to encourage intermediary organisations to support such start ups through the provision of grants.	Grants – intermediaries Financial Environment	Large Companies/Large Industrial Companies, Public Authorities/Organisations, Research Institutes, SMEs/Industrial SMEs, Universities

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Coverage	Measures	Web site	Date	Content Summary	Mode of operation	Targets
UK	UK 6 Biotechnology Finance Advisory Services		1996	To improve biotechnology SMEs' awareness of, and access to sources of finance, in order to develop the UK biotechnology sector. To identify potential sources of private sector funds or appropriate government grants in all business development phases.	Intermediation	Individuals , Large Companies/Large Industrial Companies , SMEs/Industrial SMEs
UK	UK 8 Small Firms Loan Guarantee Scheme		1981	70 % guarantees on loans from banks and other financial institutions for small businesses with viable business proposals which have tried and failed to obtain a conventional loan because of a lack of security	Loan guarantee	SMEs/Industrial SMEs
UK	UK 10 National Endowment for Science, Technology and Arts (NESTA)		2000?	Help talented individuals to develop full potential in science, technology and the arts/ help to turn inventions into products or services/ contribute to public knowledge, and appreciation of science technology and the arts	Grants – firms	Individuals
UK	UK 11 University Challenge		1999	Competition among UK universities for getting seed capital funds. Entrants should have a range of viable projects, a proper organisation to manage the fund and entrepreneurial staff to support the commercialisation of the results	Equity – Investors	Universities
UK	UK 31 Corporate venturing tax relief	www.inlandrevenue.gov.uk/home.htm	2000	Relief on corporation tax payable by companies at 20% of the amount invested in specific economic activities	Taxation – investors	<i>larger companies wishing to invest in smaller companies.</i>
UK	UK 35 New Tax Incentives for SMEs	www.inlandrevenue.gov.uk/home.htm	2000	Provision of tax relief (up to 150% of expenses) to improve the quality and quantity of R&D undertaken by British firms	Taxation –firms	SMEs
Czech Republic	CZ 4 Capital Programme	www.mpo.cz	1999	Guarantee to bank loans (up to 70%) and interest subsidies for SMEs over a 5 year period.	Loan guarantee Interest rate subsidy	SMEs/Industrial SMEs
Czech Republic	CZ 8 Credit Programme	www.mpo.cz	2000	Government guaranteed low interest, short-term bank loans for innovative business projects in SMEs up to Kc10m, 7% per annum over of 6 years.	Loan guarantees	SMEs/Industrial SMEs
	SK 1 Micro-loan programme	www.nadsme.sk	1999	Low interest loans ranging between 50,000SK 500,000SK (11.3% over 3 years) for companies with less than 10 employees.	Loan – firms	SMEs/Industrial SMEs

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5.3 Innovation Finance

Country	Summary of the country report
Austria	Innovation financing for already established firms is a traditional strong point of Austrian Innovation policy. For all R&D spending that is above average spending during the past 3 years, 35% can be deducted from tax base.
Belgium	During the last few years, all innovation financing structures have invested in venture- and seed-capital funds in partnership with public authorities. One-stop-shops have been set up for promoting industrial investment. There is also a trend towards universities playing a more active role in risk capital provision, focusing on the financing of spin-off companies for the valorisation of university research results..
Bulgaria	Financing possibilities are increasing progressively. The Ministry of Education and Science is granting interest free credits for implementation of scientific research results of SMEs. The profit tax of 20% for juridical persons with taxable profit up to 23,000 USD has been reduced to 15%. VAT credit recovery period has been reduced from 6 months to 4 months..
Cyprus	Innovation financing is increasing rapidly. New Industrial Policy has been adopted new support measures for business incubators, high technology R&D support and government grants to manufacturing industries. Ten-year tax relief of profit emanating from the production of high technology goods are pursued.
Czech Republic	Programmes (national) are in the stage of being set up.
Denmark	The main tool for innovation financing, the Vaekstfonden has gone through a process of development in recent years, with its responsibilities steadily broadening. It has changed from being simply a lender to having the status of a partner with innovative companies and other actors.
Estonia	The Ministry of Finance considered to increase the R&D budget allocation in 2001. This would have consisted a major increase. A comparatively simple and transparent taxation system creates a favourable business environment.
Finland	The Science and Technology Policy Council has suggested that government research funding should be increased during years 2000-2004.
France	No new measures have been launched these last months. The Public Venture Capital Fund has invested in 205 start-ups.
Germany	German innovation policy attempts to improve financing conditions for innovation, especially in SMEs by a broad set of instruments. The Risk Capital Programme of the KfW secures venture capital investment in SMEs. Low-interest loans to finance innovation projects are available as well as a special programme for public venture capital is made available to firms in Eastern Germany. The recent tax reform still does not address direct tax relief on R&D and innovation expenditures.
Greece	Innovation finance is shifting more to the core of policies. In 2000, 85 business plans were discussed between investors and VCs, compared to 45 the first time.
Hungary	Support to SMEs in building up networks and to become strategic partners.
Ireland	A capital/capability scheme and a competitive scheme for revenue expenditures was introduced. This scheme aims to build the capability of firms to carry out R&D at a significant and continuous level. At all levels spending for R&D is encouraged to bring technology into the core of their business and for SMEs.
Italy	The EC approved the Decree for the implementation covering all interventions concerning the co-ordination, promotion and implementation of measures aimed at sustaining research and innovation in industry by means of a unique fund which absorbs all the previous ones.
Latvia	Priority research areas are covered by national (public) research programmes. Fiscal measures are considered.
Lithuania	N/A
Luxembourg	R&D is generally encouraged. The innovation aspect related to the services, products, processes, markets or commercial ideas are financially supported. An accelerated depreciation rate used exclusively for scientific or technical research is applied.

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Country	Summary of the country report
Netherlands	Closure of the national Venture Capital guarantee scheme. Existing credit facilities are merged into one new technological credit facility. TOP will replace the TOK, while MPO and Kredito will expire at the end of the year.
Norway	Public investments in strategic research in R&D are co-funded by industry, however, the public share in this area is increasing. New taxation measures are considered for 2001 and 2002.
Poland	Only measures are channelled through the State Committee for Scientific Research. As main financial instrument, preferential loans are employed. Financial measures currently in force are overall insufficient. The taxation system does not sufficiently stimulate innovations.
Portugal	Loans are the main financing instrument used by specially SMEs to finance their investments, including innovation projects. Special measures are developed to encourage start-ups as long as they focus on innovation and technological development. The system of tax credit for R&D investments was extended for the next fiscal year.
Romania	Government funded subsidies to R&D.
Slovakia	N/A
Slovenia	No changes since last country report
Spain	No novelties regarding financial instruments for innovation have been introduced. Subsidies and reimbursable credits are the main instruments developed in co-operative research, while grants are applied for basic research projects. Additional tax deduction for SMEs related to investment in technological facilities and training in new technologies are applied.
Sweden	Influx of private money not only to establish venture capital firms but also as private placements of rich individuals. The bulk of the money is invested in MBOs. Business angels are considered to be the most valuable partners in early stages.
UK	Within this period under review, no new specific measures have been introduced.

5.4 Country reports – December 2000

Austria.

Innovation financing for already established firms is a traditional strongpoint of Austrian Innovation Policy. Innovation financing of applied research and product development is mainly carried out by funds like the FFF (AT_2), the ERP (AT_8) or the Innovation Agency (AT_4). New developments have been measures towards the promotion of venture capital (I², AT_4, the Technology Financing Programme of the FGG, AT_18 or the BÜRGEN equity capital guarantees, AT_15). Funding of innovations in a wider sense (mainly funding of infrastructure) also happens in connection with programmes aiming at establishing co-operate research institutions: K plus programme (AT_23, AT_48), the K ind and K net programme (AT_27), Tech Gate Vienna (At_24) and the Impuls Projects Polytechnics – Industry (AT_22).

The tax reform which came into effect in the year 2000 included enhanced indirect promotion measures. Enterprise can deduct 25% of their R&D spending from their profits thus reducing the basis for taxation. For all R&D spending that is above average spending during the past three years 35% can be deducted from the tax base. This higher allowance intends to increase incentives for additional R&D spending by firms with no R&D in the past.

Belgium.

In addition to classic subsidies for industrial development under the “economic expansion laws”, public support for investment is channelled through the semi-public investment companies of the three regions:

- The SRIB/GIMB in Brussels, www.srib.be;
- The GIMV (De Investeringsmaatschappij voor Vlaanderen) in Flanders, <http://www.gimv.com/indexe.jsp>;
- the SRIW (Société Régionale d’Investissement de Wallonie) in Wallonia, www.sriw.be

During the last few years, all these structures have invested in venture- and seed-capital funds in partnership with the public authorities. The relevant subsidiaries of the GIMV in **Flanders** are: TAKE-OFF Funds, offering seed-capital to starters or young companies in traditional sectors, KAMOFIN, providing finance for dynamic SMEs, and BIOTECH funds, which performs the same function in the biotechnology sector.

Subsidiaries of the SRIW in **Wallonia**, active in innovation financing, are SOGEPa, which controls the sub-regional “Invests”, most of them having created seed- and risk-capital funds, notably with the availability of EU Structural Funds; CD-TECHNICOM in the telecom sector, and SOFRIWAL for enterprises having benefited from research advances or subsidies by the Region. The Walloon government invested in 1999 through the SRIW in two new Funds, the FIRD and TECHNOWAL both managed by SRIW, for the financing of industrial activities resulting from research activities. FIRD intervenes when the company had received public money for its research, while TECHNOWAL acts when the Region did not invest in an earlier research project. See also section 2.3 above regarding the **possible creation of a one stop shop for industrial investment**.

In the **Brussels** Capital Region, BRUSTART is the subsidiary of the SRIB which offers seed-capital to start-up or fast-growing companies, and BRUFICOM another subsidiary provides finance for companies in the telecom sector.

Business Angels Networks have also been created in all regions with varying degrees of public funding or backing. There is also a trend towards universities playing a more active role in risk

capital provision, focusing on the financing of spin-off companies for the valorisation of university research results.

In terms of the measures covered by the Trend Chart report, no specific policy changes have occurred since the June 2000 report and no new measures have been launched. However, at **Federal** level, a discussion paper presented by the Minister of Economic Affairs in July 2000 foresees further fiscal measures in favour of researchers; and tax deduction measures in favour of spin-offs and start-ups.

In **Wallonia**, rather than launching new measures in favour of financing for innovation and new firm development, the main effort of the Regional Government during 2000 would appear to have been aimed at increasing the awareness of new entrepreneurs and SMEs of the range of instruments and organisations offering financial engineering or support for start-ups and innovation (see section 0.4). An overhaul of the current measure in favour of *support for individual inventors* was announced at the Walloon Venture Capital Fair in October (see section 3.3).

Bulgaria.

Financing possibilities are increasing progressively. After the additional credit resource of lev 170 m (\$85 m) which commercial banks received in June as a result of the reduction of the minimum obligatory reserves, a new resource of about lev 200m (\$91m) is expected to be available in result of the Mortgage Securities law which was passed in October 2000. Local Banks are still cautious and many of them prefer to keep their free assets in foreign banks. Nevertheless bank credits to the real sector are increasing. The sum of the credits granted to the private enterprises in the first half of 2000 amounted to \$937 m, which is 40% increase year on year and 71% of all granted credits to the real sector. Over 15 banks and funds offer special credit lines to SMEs. In operation is also a financial organisation for risk financing in high technologies, biotechnology, tourism, infrastructure etc. - the National Financial Company of USA. In selected cases the Department "Scientific Applied Research" of the Ministry of Education and Science is granting interest free credits for implementation scientific research results of small and medium size firms. In the list of offered credits bank appeared also long term investment credits for 4 to 10 years period.

The main reason for banks to be cautious and to require high collateral is the high risk of the credits to private sector. To overcome this situation the Agency for SMEs completed the preparatory work for setting up of the first guaranty fund for the SMEs, which will guaranty the 50% of the credits, granted by the banks. The preparatory work for the SAPARD pre-acquisitions program is also in a completion stage. The government approved in November, the agreement with EC and authorised the Ministers of Finance and of Agriculture and Forests to sign it. The last organisational step – setting up of a guaranty fund with €10 m capital is progressing with the participation of local banks, insurance companies and other financial institutions. Under SAPARD program Bulgaria is to receive €53 m annually until the end of 2006 in the form of subsidies. The projects, which will be financed with 50 % subsidy paid upon their realisation, will vary between 1000 and €1.5 m. It is expected the program to contribute considerably for the modernisation and innovation of the Bulgarian agriculture and food industry. Although the credit activity is increasing fast, it still remains low in terms of share of GDP – in first half of the year the total sum of all credits was 18 % of GDP and that of the credits to the private sector – 13%. In order to help SMEs in finding financing for their investments and innovation projects the Agency of SMEs publishes regularly brochures which enlist in details the banks and the funds – local and foreign with credit lines and the basic conditions for obtaining credits.

The announced by the government in June 2000 tax reduction has been materialised in relevant laws which passed already first reading in the parliament and will be made effective from January 2001. The profit tax of 20% for juridical persons with taxable profit up to lev 50,000 (\$23,700) has been reduced to 15% and for these with taxable profit over lev 50,000 from the existing 25% to 20%. The tax rate for the life insurance companies has been reduced from the current 3% to 2%. The municipality tax remains 10% for all juridical persons. VAT credit recovery period has been reduced

from the current 6 months to 4 months. Social insurance payments by the employers were decreased from the existing 28.7% on the gross wage to 26.3% and for the employers from 7% to 6.4% i.e. the overall social insurance burden was reduced from 35.7% to 32.7%. Up to 40 lev (\$19) monthly payment by employers for additional voluntary social insurance per employee will be tax exempt. Reductions related to the personal income tax have been also passed. The minimum monthly non-taxable amount has been increased from the current lev 80 to lev 100 and on annual basis from lev 960 (\$456) to lev 1,200 (\$569). The highest tax bracket of 40% was reduced to 38%. Other announced tax benefits for physical persons are: income from land leases and from interest paid on corporate bonds will be tax exempt, the additional real property tax on real estate with aggregate value over lev 100,000 has been revoked.

Experts of the Ministry of Finance have estimated the following effective impact of the reduced tax and social insurance rates: from the profit tax reduction: lev 135m, from the reduced VAT recovery period – lev 55m, from the reduced personal income tax lev 150m and from the reduced social insurance payments – lev 216m. The overall effect is estimated to lev 550-600m.

Cyprus.

Innovation financing is increasing rapidly. The Cyprus Institute of Technology and the Research Promotion Foundation offer a variety of grants. In the framework of the *New Industrial Policy* the Ministry has adopted new support measures for business incubators [CY_5], high technology R&D support and government grants to manufacturing industries.

The measure titled “Guarantees for loans to small and medium enterprises”, aimed at encouraging the financing under short procedures and favourable terms [CY_12], introduced in the framework of the New Industrial Policy, has not operated yet.

The Cyprus House of Representatives approved two bills providing for an increase in the Value Added Tax from 8 per cent to 10 per cent and a package of compensatory measures increasing the tax-deductible amount. The increase in the VAT was considered necessary in view of Cyprus' bid to join the European Union. The new package of compensatory measures provides for an increase in tax-deductible income from the five thousand Cyprus pounds it stands at today, to six thousand pounds, and adjustment of the other scales. The House also approved a new bill providing for the abolishment of compulsory taxation in favour of the Cyprus Broadcasting Corporation, which was estimated so far according to electricity consumption in each household. The public Television and Radio Station will now receive its funds from the State Budget.

Tax incentives to the benefit of the manufacturing industry will be examined within the context of the new tax reform now under study. Ten-year tax relief of profits emanating from the production of high technology goods are pursued. The Council of Ministers has already decided favourably on the application of the above tax relief.

It should be mentioned that the exclusion of Cyprus from an OECD list naming tax havens applying harmful tax practices is a fact.

Denmark.

In recent years the Act on Vaekstfonden (DK 1) has been through a number of revisions, which has supplemented the traditional loans from the Fund with a number of new instruments, including Development Companies, Innovation Companies and result loans.

At the same time the Vaekstfonden has been assigned new tasks of a more general character. With the Development Companies and the Innovation Companies the Vaekstfonden must act not only as lender vis-à-vis the companies but also initiate, manage and monitor financial arrangements.

As of today the Vaekstfonden can not only establish and carry on equity guaranty schemes and business angels networks, but also extend loans to single companies and extend co-financing to companies larger than the EC definition of small and medium sized companies.

So the Fond has gone through a development from a role as sole lender to being a catalyst for building up competencies with private actors in the market. One of the reasons for this development is that high tech projects have become more and more sophisticated. And this has complicated the work of assessing the profitability of projects.

The Government will analyse the future role of the Vaekstfonden on the Danish capital market and in the innovation system in general.

Estonia.

The Innovation Foundation and the Estonian Science Foundation are the two main financing bodies in the Estonian national innovation system. However, this structure will change with the finalisation of the Foundation's reform by end of 2000.

In the spring 2000, the Finance Ministry considered to increase the R&D budget allocation in 2001 state budget by EEK 100m. This would have consisted a major increase as the 2000 budget allocation was EEK 30m. The increase, however, may not materialise, as the government has been tightening the spending in the 2001 draft budget. According to sources close to the negotiations, government has linked the size of its allocation to Innovation Foundation with anticipated proceeds from privatising Estonian Railway that is intended to be complete by the end of 2000 (but is not yet completed).

One positive change for the Tartu Science Park and Tallinn Technical University Innovation Centre is the new financing scheme mulled in the Technology Agency (the institution that will emerge from the Innovation Foundation as a result of the reform). Before the reform was passed, the institutions had to compete for financing from the Innovation Foundation on an equal basis with other projects in this field. The financing of support structures will be treated separately in the future. This gives hope of more stable financing, freeing up resources from fund hunting to actual support services.

Given the country size, Estonia has been a very successful participant in EU projects, such as the Copernicus project. Initial results from the 5th Framework Programme of the EU show similar positive results. Phare has also provided continuous financing possibilities. The private sector is increasingly active in providing venture capital (both domestic and foreign), of which IT firms developing new IT applications and solutions have been the main recipients.

Estonia has a comparatively simple and transparent taxation system, which is one part of the quite favourable business environment. Traditionally, the corporate income tax rate has been relatively low (26%). As of January 1, 2000 the rate was reduced to 0% on all revenues re-invested in the business. According to preliminary statistics of the Ministry of Finance, the elimination of the tax rate has increased private sector investments into fixed assets by 19.7% during the first half of year 2000.

The Government Coalition agreement (<http://www.riik.ee/valitsus/MIRkoal.html>) also provides for VAT reductions on IT equipment purchases. However, up until now, this measure has not yet been materialised. According to sources at the Ministry of Finance the Government is reluctant to introduce measures, which are not in line with EU practice.

Another suggestion of the Education Strategy is to exempt private capital invested into education system (in the form of scholarships, etc.) from taxation, in order to facilitate inflow of private capital. This is already the case in personal investments into education or dependants' education.

Finland.

A major increase in innovation financing was introduced in 1996 when the Cabinet Economic Policy Committee made the decision to increase government research funding to raise the national research input to 2.9% of the GDP by 1999. This increase has been realised through the programme for additional R&D funding (FI 7). The additional appropriation of FIM 1,5 billion (€250 million) has been targeted mainly to activities initiated by Tekes and the Academy of Finland (The Science and Technology Policy Council of Finland 1996). The goal of 2.9% was achieved in 1999, and the Science and Technology Policy Council has suggested that government research funding should be increased during years 2000-2004 at a rate which responds to the estimated growth of the GDP. This would indicate an annual development of about FIM 300 million (€ 50 million). The estimated public research expenditure in years 2001-2004 would be 1.04% of the GDP.

In Finland, Tekes is the most important public financier of technical R&D. In 1998 Tekes had FIM 2,1 billion (€350 million) available to fund R&D projects. Industrial R&D represents more than 60 % of Tekes R&D funding. It is in the form of grants, loans and equity loans. The rest 40 % is used for national technology programmes and other applied technical research projects. The most recent Tekes' financing instrument is equity loans for companies' product development activities (FI 4). This funding is directed especially at starting and growing technology intensive SMEs. The share of Tekes can be 25-50% of the equity, although it might be higher for smaller firms. The loan is typically directly related to a specific R&D project aiming for an innovation (<http://www.tekes.fi>).

In addition to Tekes activities in the field, there is the Finnvera Small Loans Programme (FI 2) (Finnvera was formed in the beginning of 1999 through the merger of the activities of Kera and the Finnish Guarantee Board, FGB). The small loans programme is a financial product suitable for small operating businesses and for start-up businesses. The programme promotes the creation of new enterprises and jobs. Another noteworthy measure is the Sitra Matching Services, involving the matching of investors and growth companies in need of innovation financing and other types of investments (FI 3).

In the late 1980's there was in Finland for some time in use a tax concession for R&D. However, the authorities abandoned the mechanism very soon. The authorities had come to conclusion that the benefits of the tax concession were not high enough compared to the administrative and other costs of the mechanism. One motivation was also the fact that at that time Finland had as a general striving to simplify taxation, which resulted in the exclusion of all kind of concessions.

France.

No new measures have been launched these last months. We are in a period of consolidation of the measures that have been undertaken. The main trends can be summarised as follow:

- to help enterprises to have access to the measures (this is mainly the role of ANVAR)
- to encourage the emergence of new projects (call for projects, national competitions...)

Nevertheless, some up to date figures can be given for the existing measures.

Launched in 1998, the **Public Venture Capital Fund** (FR 15) has invested FF816 million (€124,3 million - 91% of the initial allocation) and has supported 19 funds. These funds will collect FF5,6 billion of capital (€0,9 billion). They have already invested in 205 start-ups.

The measure for the development of **Subscription Bond** in share of newly created companies, proposed in the 1998 Finance Act, was confirmed in the 2000 Finance Bill.

The **Mutual Fund for Innovation** (FCPI - FR 10) has concerned, since their implementation in 1997, 261 SMEs that have been listed by ANVAR.

The only novelty is a new service provided by ANVAR called **Innovation and Capital**. This ICT based service aims to give regular information to investors about innovative SMEs looking for equity capital. These SMEs are selected by ANVAR amongst those who have got a first support by ANVAR, have been labelled within the FCPI, or have been selected by the MINEFI within the national contest for innovation project.

The SME is presented in detail, and the ANVAR gives its own evaluation (strengths and weaknesses) about the project.

This service is not free (€4000 subscription/year) and the access is private with a login password (for more details: http://www.anvar.fr/ser/html/f_ser71.htm)

The **Research Tax Credit** (RTC - FR 5), that has been extended for 5 years in 1999, concerns 3200 companies per year, in which more than the half are SMEs. The annual budget for this measure is €426,8 million.

The other measures like the tax deferrals on capital gain reinvested in newly created companies are still in place.

Germany.

German innovation policy attempts to improve financing conditions for innovation, especially in SMEs, by a broad set of instruments. In recent years, new activities in this field are related to stimulating the venture capital market especially for technology-oriented start-ups. There is a variety of different promotion measures which directly address the venture capital market. In addition, some programmes consider the issue as a side effect. Moreover, there are some programmes which either provide loans with below-market interest rates or collateral requirements when the loan is connected to innovation projects or start-ups. Finally, several subsidies for R&D personnel in the new Länder can be viewed as alternatives for financing innovation via the capital market or via banks. As such these programmes can be viewed as programmes for financing innovation.

The programme “BTU-Beteiligungskapital für kleine Technologieunternehmen” (Venture Capital for small technology-based firms, see DE_12) supports venture capital funds, firms, banks or others willing to participate in the development and start-up of small technology-based firms. The BTU Programme was set up in 1995 to address a perceived shortage in venture capital for technology-based start-ups and small, but fast-growing technology-oriented firms. The BTU scheme offers two types of public promotion for small technology-based firms and technology-based start-ups, depending on the market needs:

- *DtA Co-Investor Model:* The Technologie-Beteiligungs-Gesellschaft (tbG, a branch of DtA - Deutsche Ausgleichsbank) invests in young technology-based firms provided that another, usually private investor (lead investor) makes available funds at least matching those of tbG. The investment by tbG takes the form of a dormant equity holding whereas the lead investor's holding is active and thus has a greater say in the conduct of business. In return for the lead investor's commitment, tbG may compensate partially any potential loss sustained.
- *KfW Refinancing Model:* The Kreditanstalt für Wiederaufbau (KfW) provides low-interest loans to refinance venture capital providers who pass on this funding as venture capital to young technology based firms. KfW partially releases the venture capital providers from their liability for the refinancing loan.

BTU support is restricted to firms not older than 5 years. The BTU programme aims at spreading the risks amongst the venture capital providers and assistance banks in order to mobilise a higher volume of venture capital for young technology-based firms and start-ups. At the same time the burden on public financing is kept small. The level of support is adjusted regularly according to market developments. With a comparably small amount of public funds firms can be effectively supported by going on to be listed on the stock exchange. Within the innovation support strategy of the Federal Ministry for Economics and Technology, the BTU programme focuses on (indirect) financial support for R&D and the introduction of new products and services into the market. Within the programme FUTURE (DE_20), public venture capital is made available to firms in Eastern Germany. The ERP Innovation Programme (DE_10) offers venture capital for larger firms.

The Federal Ministry of Economic and Technology reports a significant effect of the BTU programme on the labour market. On average, a company aided by BTU creates approx. 20 new jobs over the first four years. These results have to be compared with the performance of non-supported firms in the same fields of technology, however. In future, the focus of the programme will be shifted towards stronger support in the early phase of start-ups.

The DtA Investment Programme (see DE_11) addresses technology companies with no more than €128 million total annual revenues at preparatory and R&D stages. The DtA offers equity investment even in the absence of an additional investor. Equity holdings are differentiated by three stages (early stage, first-stage-financing and exit-financing). Relevant innovation financing items comprise costs for development of business plan, organisational structure for product and process development in early stages of investment projects. This programme complements the BTU scheme when innovation projects exceed the BTU financing options or costs of market introduction are involved.

The KfW-Risikokapitalprogramm (Risk Capital Programme of the KfW, see DE_13) secures venture capital investment in SMEs, predominantly in innovative firms. The KfW can be made liable for the repayment of the amount of the investor's venture capital. The investors must have experience in venture capital and dispose of no less than €1 million of company capital. The programme includes: Opening up of new markets, successor proceedings, temporary financing till introduction to stock market, and management consulting and co-operations.

The ERP- Innovation Programme (European Recovery Programme Fund, see DE_10) is the best known example for loan guarantee schemes in innovation financing. The programme is intended primarily for larger innovative companies of longer standing and thus has a much broader range than the assistance available under the BTU-programme. In the ERP-Innovation Programme, the KfW makes available low-interest loans to finance innovation projects in two different ways: as loans to banks in order to refinance their loans to innovative companies, or as venture capital to equity capital investors in order to refinance their equity holdings in innovative companies. Subject of subsidies can be: R&D and improvement of products, processes and services, market information, and – following a recent modification of the programme – venture capital.

In July 2000, a major tax reform was passed and will be effective by the year 2001 (see DE_14). The tax reform covers the period 2001-2005 and will be realised via three steps (see 1.6). The reform will significantly reduce tax payments by enterprises (both SMEs and large corporation) by about €10 billion and shall increase investment and innovation activities by firms.

However, the tax reform still does not address direct tax relief on R&D and innovation expenditures. The introduction of an R&D tax credit which is well-known from other EU member state, the US, Canada or Australia is not in sight. However, the innovation financing programmes (e.g. personnel subsidies in the new Länder) probably have a similar impact on the cash-flow available to R&D as a tax credit.

We expect that the policy discussion about R&D-related tax credits will be revitalised when the reform of capital gains taxes has effectively come into operation from the year 2001 on.

Greece.

Innovation finance is shifting more to the core of policies. The creation of the New Stock Market (NEXA) was greeted as a major improvement. The first company went already public and more are on queue. The *Ministry of National Economy* has created a new fund (GR_36) and the GSRT has announced a new presidential decree, which is not publicly available yet. The Minister of Development has announced a call for academic spin offs in the beginning of 2001 (GR_39) hoping for 50 new companies and 500 new jobs. The National Centre for the attraction of foreign direct investment (ELKE) has organised the second Venture Capital Forum, a major event, where interested new firm founders submit their business plans for discussion with venture capitalists. This year 85 business plans were discussed between inventors and VCs, compared to 45 the first time.

No changes in taxation are made.

Ireland.

New and revised incentives for R&D

A number of new/revised measures for industrial R&D featured in the National Development Plan are currently being introduced. They include a capital/capability scheme and a competitive scheme for revenue expenditures.

1. RTI for Industry

A. R&D Capability

This scheme aims to build the capability of firms to carry out R&D at a significant and continuous level. It will support firms to make substantial new investment in RTDI and thus make them more competitive in global markets. This support will enable firms to initiate strategic R&D development by encouraging them to make substantial new investment (principally staff, equipment, facilities) beyond the current level of R&D activity. This scheme is administered by both Enterprise Ireland (EI) and the IDA.

B. Competitive RTI Scheme

This scheme supports R&D undertaken by manufacturing or internationally traded service firms in Ireland. It is operated on a competitive basis and seeks to;

- encourage and support high quality, high risk R&D projects.
- encourage the continuation of an RTDI culture in firms
- encourage company participation in collaborative R&D projects, both national and international.

Particular focus is on established companies planning their first R&D projects & those significantly developing their existing R&D activity.

C. Innovation Management

As firms increase their R&D spend there is also a need to develop their management ability to control the process and absorb the benefits resulting from this increased spend. The intention is that this scheme will be targeted at first time R&D performers and at firms with track record in R&D where the firm would benefit from better management systems.

The action will provide training and consultancy to firms to enhance skills and to ensure that the best practice tools and techniques are embedded in company operations.

2. RTI for Collaboration

A. National Collaboration

Firms must bring technology into the core of their business and for SMEs this means accessing it externally. It is the objective of the action, through research collaborations, to help firms to get access to appropriate technology, to use that technology effectively and to build partnerships that enhance their capability and competitiveness. The networks created will:

- Promote and support co-operation between colleges and firms in the short to medium term exploitation of research,
- Develop an industry driven agenda to direct these networks,
- Create scale in research groups of strategic importance to firms in Ireland.

Some specific schemes under the RTI Collaboration measure are:

Strategic Research

The Strategic Research Grants Scheme supports pre-competitive research of medium term interest to industry in selected areas of national importance.

This scheme is aimed at encouraging researchers in the Third Level colleges to engage in research projects which may lead to new products, processes and services in strategically relevant technologies.

In this way the skills and capabilities of the Third Level colleges can be attuned to enhancing the competitive advantage of Irish-based industry.

Applied Research

There are two separate schemes, one for the universities and one for the Institutes of Technology. Under these schemes, grants are awarded to researchers in the Higher Education sector to undertake research and development projects in collaboration with one or more industry partner. Projects should be of potential benefit to a company (or a group of companies) which demonstrates its (their) confidence by making a significant contribution to the project.

Corporate Taxation

In the Budget introduced in December 2000 progress continued on reducing taxation rates on all non-manufacturing companies in the state (other than those involved in internationally tradable services and financial services in general) to 12 ½ % by 2003. In 2005 rates on financial companies will increase from 10 to 12 ½ % and in 2010 a similar rate will be levied on all manufacturing companies.

This type of favourable tax regime has the indirect effect of making Ireland a relatively less attractive place to undertake R&D as for most foreign-owned companies at least it is a 'profit' rather than a 'cost' centre. This underlines the need for a system of tax credits to overcome these taxation disadvantages. Despite vigorous lobbying from industry representatives little or no headway has been made in convincing the tax authorities of the merits of such an approach in enhancing the national innovation system.

BES and Seed Capital Scheme

The Business Expansion and Seed Capital Schemes are due to lapse on 5 April 2001. The Minister for Finance proposes to renew these schemes to the end of 2001 while a review is carried out by the Department of Enterprise, Trade and Employment on their continued effectiveness. He also propose to recognise County Enterprise Boards for the purpose of certifying suitable projects under the schemes.

Italy.

On 26 July 2000 the European Commission approved the Decree for the implementation of D.L. 297/1999 which covers all MURST interventions concerning the co-ordination, promotion and implementation of measures aimed at sustaining research and innovation in industry by means of a unique fund which absorbs all the previous ones. 2000 budget: 1,608 billion Lire (equivalent to €830.46 million).

Reduction of the tax burden envisaged by the Budget Law for 2001. (*see "Policy Debate"*)

Latvia.

In 1997, the total gross domestic expenditure for R&D was €26.32m representing 0.45% of the GDP. In 1997, the government expenditure for R&D was €14.36m, only 0.24% of the GDP. The comparatively higher expenditure from the private sector is presently due to a high level of financial support from abroad. The relatively high level of finance from abroad (26%) is a result of successful applications by Latvian scientists to a variety of international scientific foundations. As of 1998 a considerable change in the funding of research was implemented. A significant part of the direct research funding is allocated to state research programmes and projects in the areas of national research priorities determined by the Cabinet of Ministers. The Latvian Council of Science plays an important role as a semi-governmental decision-making body, controlling approximately 80% of the science budget. The main part of the funds is allocated through the grant system to particular projects. Approximately 62% of the state science budget (governmental funds) are to basic and applied research. These pre-reviewed projects are proposed on a project-to-project basis. The Commission of the European Communities administers grants given to winners of the national project proposal competition in a similar manner to that used. In 1998 the Council of Science, basing its decisions on expert commissions, distributed this portion of the science budget among 634 grant applicants. About 20-30% of projects were rejected. 1995-1999 more than 350 research projects have been carried out through market oriented research programmes. The financial support for these projects is provided in the form of a subsidy or interest free loan. The expert commission chose subsidy if an essential part of the project is investigation. Ministries are the initiators of research projects ordered by state institutions. The results of this research are used by the appropriate ministries and disseminated for public area. To accomplish this task, the state allocates approximately 10% of its science funds. Each ministry creates the conditions and terms of reference for its projects and the Ministry of Education and Science finances them.

In accordance with the National Concept for Research Development, priority is given to the following principles of financing:

- Granted research projects as the principal form of research activity based on the principle of project competition.
- A limited number of National research programs. These are mainly covering the priority research areas.
- Funding of infrastructure of selected research institutions. State research centres and research institutes receive funding to fully or partially cover infrastructure expenses and material supply of

the research area. Such funding is allocated to the institutes of experimental sciences dependent on their scientific merit, productivity, contribution to social and economic sector, higher education and international collaboration.

- Support to researchers and research groups ranked as excellent by international standards.
- The Ministry of Economics in conjunction with the Government-established work group is planning to evaluate and consider revisions in tax laws to provide breaks to companies and other structures actively participating in the development of innovation. However, no specific measures have been submitted at this time.

Lithuania.

The *Programme on innovations in business*, which the Government improved on May 9, 2000 provides for general financing of innovation related measures.

The programme provides for specific financing for innovation projects – LTL 1m (\$250,000) during year 2001 and LTL 2m (\$500,000) during year 2002.

In 1998 the Government approved the *Programme of reorganisation of tax legislation*, which encourages economic growth and was to ensure stable tax revenues. In addition, the measure aims to harmonise national tax legislation with EU Law.

Reforms of tax legislation are still being implemented.

Luxembourg.

This law of 27 July 1993 (**template LU - 1**) on: 1. economic development and diversification; 2. improvement in the general economic structure and regional equilibrium, which was amended on 21 February 1997, allows the State to grant aid to investment, restructuring or R&D activities which aim at promoting the creation, development, rationalisation, conversion or diversification of industries and service providers, where the latter must have a decisive impact on economic development.

Investment, restructuring or R&D activities must meet requirements relating to town and country planning and environmental protection, be in the general economic interest and such as to contribute to economic development or structural improvement, or to a better geographical distribution of economic activities, or to a better protection of the natural and human environment, or to a more rational use of energy.

The **scheme which aims at encouraging R&D** applies to investments, basic and industrial research and pre-competitive development activities as well as ancillary activities. Article 6 of the law provides for financial support in the case of:

- a) Investments or expenditures relating to pre-competitive development activities (maximum support equal to 25% of eligible costs)
- b) Investments or expenditures relating to industrial research (maximum support equal to 50% of eligible costs)
- c) investments or expenditures relating to basic research (maximum support equal to 75% of eligible costs).

The law of the 2nd August 1977 allows the SNCI (**LU-1**) to grant loans to industrial companies or service providers having a decisive impact on economic development. These loans are dedicated to the financing of expenditure directly linked to companies' R&D programmes or projects aimed at introducing a new product or service or at developing new manufacturing or marketing processes, this

as long as the said expenditure is likely to give rise to redeemable assets over a period of more than a year according to standard economic and accounting criteria.

Innovation loans are generally granted for a period of 3-5 years. The interest rate is fixed for the whole duration of the loan. SNCI's intervention is normally limited to 25% of the eligible total cost of the R&D project. In addition to SNCI's intervention, the borrower can benefit from a capital subsidy that is granted by the Ministry of Economy on the basis of the amended economic development and diversification framework law of 27 July 1993.

SNCI also holds half of the capital of the Luxembourg SME development capital company (Société luxembourgeoise de capital-développement pour PME: CD-PME) (LU-02); the other half of the company being owned by five large private Luxembourg banks. CD-PME's beneficiaries are existing or start-up SMEs, which implement innovative projects leading to the creation of jobs. The innovative aspect can relate to services, products, processes, markets or commercial ideas. Beneficiary SMEs must be organised in the form of companies with a share capital. The intervention lasts for a maximum of 10 years and can exceed neither the company's capital and reserves nor half the cost of the project. Maximum financing is limited to LUF30 million (€743,680).

Laws on income tax provide for accelerated depreciation of plant and machinery used exclusively for scientific or technical research with amounts decreasing over the years. The annual rate of depreciation cannot exceed four times the rate that would be applied in the case of constant annual depreciation and cannot exceed 40 per cent.

Netherlands.

The Guaranty Scheme for venture capital (PPM NL#4) which existed up to the end of 1995 has been closed. The reason for this was that it was not proven that the Venture Capital Funds, which received the guarantees, altered their attitudes towards risk-bearing high-tech firms and continued a certain risk evasiveness in dealing with high risk technology ventures. In its place three Funds for high-tech start-ups and more targeted Seed and Growth Funds attached to the Twinning Centres have been launched (NL#15). The propositions are intended to finance projects in the pre-seed phase in which ideas have yet to be tested for their technical feasibility. To increase the financial possibilities of the HE institutes, the AWT proposes the establishment of a national fund that matches the contributions of the institutes.

Other Financing Facilities are Credit Guarantee Schemes for established companies to conduct technology development projects (TOK, NL#2 and BBMKB, NL#3), to introduce new electronic services (KREDO, NL#10), or to develop new environmental friendly products (MPO, NL#28). Some of the Regional Development Agencies have allocated money to special high-tech start-up funds using funding for Regional Policy from the State and EU.

Following EZ's objective to streamline its instruments, plans have been put forward to merge the existing credit facilities TOK (NL#2), MPO (NL#28) and Kredon (NL#10) into one new technological credit facility, TOP (Technological Development Projects). TOP will replace the TOK, while MPO and Kredon will expire at the end of this year.

Taxation has been used as means for stimulating business development and in particular innovation for many years. It suits the policy vision in which the public sector facilitates without steering support in a particular direction in terms of sectors or technologies. The main policy concept is that companies performing research and development can deduct part of the related employment costs from their income tax bills and the social security payments. In the Netherlands employers are responsible for deducting income tax and social security from the gross salaries of their staff and transferring them to the tax and social security authorities. The main tax reduction scheme (called WBSO NL#5) allows employers to reduce these payments, only for their R&D staff. The WBSO is considered to be

successful since it is relatively easily administered and therefore attractive to SMEs. In 1988 60% of tax reduction went to companies smaller than 250 employees. The use of this scheme is increasing annually (from 5000 companies in 1994 to an estimated 14600 in 1999). Therefore the percentage of tax reduction had to be lowered in the course of its existence, in order not to exceed the budget maximum.

The government has increased the budget of the WBSO by fl 45 million in the period 2000-2003 in order to extend the use by small firms and technostarters. Besides, institutional adjustments in the WBSO demand an additional fl 45 million structurally.

In recent years other tax incentives have been introduced to stimulate start-up companies. A tax arrangement to stimulate business angles is the 'Aunt Agatha' scheme (NL#23). This offers tax reduction to individuals who provide loans to start-up companies or who invest in earmarked venture capital funds which invest at least 70% of their funds in start-up companies. Self-employed who start their own business can acquire a starters tax deduction for three years, the height being based on their annual profits. Neither of these schemes aim at innovation or at high-technology companies, but at any starting business regardless their activity. This generic type of R&D will remain an important policy instrument in the coming years.

Along with the general tax revision, a new package of fiscal measures for business will be implemented in January 2001. Part of the package is a fiscal facility for venture capital that is to replace the current Aunt Agatha scheme (NL# 23). The new facility will have a fl 45 million budget. The adjustments comply with the efforts to improve the climate for technostarters in the Netherlands.

Norway.

The Hervik Commission (see. the Norwegian annual report of 2000) had been asked to consider policy measures that could stimulate an increase in private investments in R&D.

The Commission proposed that companies investing in certain types of R&D projects should get 25 per cent of the expenses covered by the state, up to a limit of NOK 4 million (€484,000) or 8 million for projects involving universities, colleges and certain R&D institutes. The Commission's majority argued this should be given as a tax credit, the minority as direct financial support. This policy measure should be an addition to already existing schemes of support.

It is known that the Ministry of Finance has been rather sceptical towards tax allowances that may give a reduction in tax income that cannot be controlled through the annual national budget. There is reason to believe that the ministries of industry and research did push for a more radical solution.

In the end, however, the Government forwarded a rather modest proposal. Companies may get public financial support in order to buy research and development from the universities, colleges and research institutes. The upper limit is 25% of the total cost of a given R&D project (30% in Northern Norway). No company can receive more than NOK 1 million annually (€0.12 million), and the total budget is NOK 200 million for 2001 (€24.4 million).

The Research Council of Norway will administer the new instrument.

The measure is targeting small and medium-sized enterprises and will not be limited to companies that are – or have been – involved in activities already supported by the Research Council. The companies will themselves decide which R&D projects are to be developed.

The Government has also proposed the establishment of a new investment company jointly owned by the state and private interests. The capital base will be 5 billion NOK (€0.6 billion), and private

companies will own 51% of the stocks. The investment company is to contribute to the development of so-called existing “dynamic industrial milieus” and larger reorganisation processes.

The Hervik Commission also argued for a gradual increase in the public funding of industry related R&D, especially strategic university programs. The budget of 2001 does, however, present a small *decrease* in the public funding so-called “user oriented R`&D” (projects initiated and co-funded by industry). Public investments in strategic research in this area will increase from NOK 166 million to 186 million (€22.6 million)

The Hervik Commission recommended an increase in the amount allotted to SND short term high risk loans. This has not been followed up in the budget. SNDs national development support will, however, increase by NOK 36 million, reaching NOK 211 million (€26 million).

Some of the main features of the Government’s tax proposals for 2001 were:

- The introduction of a supplementary payroll tax of 1.5 per cent on the basis of wage costs and personal income for self-employed. The public sector was to be compensated for its higher costs associated with this tax. The proposal did not get the necessary support in the political milieus and was later abandoned by the Government.
- The introduction of a 14 per cent tax on dividends received by Norwegian personal taxpayers. The tax is to apply for all for all dividends declared as from September 2000. This will enhance the distributional profile of the tax system. Almost 90 per cent of dividends distributed to Norwegian personal taxpayers in 1998, was received by the 5 per cent of the population who had the highest income. The Government intends to introduce a new system of business taxation from 2002, where only the return in excess of a specified share of a company’s capital stock will be subject to a higher tax level. The aim of such a reform of the business taxation is to introduce a system with a more equitable distribution of income and a more equal tax treatment of different investments and businesses, without weakening the incentives to save and invest.
- The introduction of a general VAT on services as from July 1 2001 (with a few exceptions). The standard VAT rate is 23 per cent. The proposal may have some negative repercussions for some research institutes, as the price of public commissions of R&D will rise accordingly. Public institutions may not, unlike private enterprises, deduct VAT from their expenses. However, one may expect that more of the public spending on R&D will be channelled through various forms for R&D funding (programs, basic funding etc.) which are exempt from VAT. The State institutions and the municipalities will be compensated for the extra expenses following the introduction of VAT in 2001.
- A reduction of NOK 0.50 (€0.06) per litre on the excise duties on petrol and diesel as from January 1 2001. This proposal can be interpreted as a “populist” reaction to the success of the Progress Party. Environmentalists heavily criticised the decision.

The total Government tax proposals were criticised for increasing the tax burden on Norwegian companies, thus hindering wealth creation in small and medium sized enterprises and discouraging new investments.

Poland.

Except for military R&D projects (which are financed through direct transfers from the Ministry of Finance to the Ministry of Defence), all government support for separately budgeted research is channelled through the State Committee for Scientific Research (Komitet Badan Naukowych). The following types of financing are provided by the Committee:

1. Core funding for statutory R&D activities, i.e. institutional financing provided selectively to designated research establishments, units and university departments for their own activities. Schools are not eligible for these funds to finance their educational activities.
2. Investment in R&D infrastructure, such as buildings and equipment.
3. Research grants based on research proposals, presented by small research teams or individual researchers. Funds are granted regardless of the researchers' employment or scientific degree status. Applications are evaluated by the Committee's staff. Research projects should deal with new scientific problems and may not be financed from the state budget in any other form.
4. Subsidies for R&D programmes of national importance commissioned by enterprises, state bodies or regional authorities.
5. Subsidies for international scientific and technological co-operation resulting from inter-governmental agreements.
6. Subsidies for selected R&D activities (e.g. information services).

Besides of the State Committee for Scientific Research financing (mainly into pure scientific R&D), the Technology Agency (ATT) supports practical implementation of R&D results within industrial companies i.e. this is the main institution appointed for financial- and other support at the level of implementation of innovative projects. The Agency employs preferential loans (not grants) as main financial instrument (measure PL_06).

Recently, the Agency reported 3-year results to the parliament commissions (the Agency was established in 1996). The results were far below expectations. Between 1997-1999, the Agency received 157 applications of which only 43 were accepted. The estimated value of the accepted projects amounted to Zl 78m. The Agency, however, gave support only up to 40% of the project value, granting loans of Zl 19.5m between 1997-1999, which is rather a mere symbolic support than a real help.

Agency representatives stated that the funds allocated for loans had been strictly limited by the Finance Ministry and the set limit (for loans) was reduced from Zl 9.1m in 1997 to Zl 6.75m in 1999.

The measures (especially financial measures), which are currently in force, are overall insufficient.

In opinion of companies and scientific technical institutes the taxation systems does not sufficiently stimulate innovations in the economy. Until 2000, companies that incurred investment expenditure on the purchase and installation of machines or devices connected with implementation of licenses, patents and results of domestic development projects could deduct the investment costs from the taxable revenue up to 30% of this revenue. As of 2000, this tax relief has been abolish in view of the current taxation policy which aims to gradually reduce the corporate tax rate over the next 4 years to 22% in 2004. As the falling general tax rate is expected to stimulate innovation and modernisation expenditure, the tax relief for investment is seen as unnecessary.

Portugal.

Public support for innovation projects comes from POCTI and mostly from POE. The first is, as its PRAXIS XXI predecessor, mostly concerned with the promotion of "co-operation between R&D activities and firms and the exploitation of scientific research results". The purpose is to encourage University/Industry consortia as well as to launch funds to support the strategic concertation between groups with similar technological interests in the medium term. However, financial measures in this area were not implemented so far. POCTI regulations are expected soon.

POE will account for the majority of innovation financing. Support will be provided especially in the context of five measures, two of which were already subject to specific regulation (see PT-15 and PT-16):

- *SIPIE* is not addressed to innovation as such, but rather to the strengthening of small and micro firms technological base; nevertheless it may have an important contribution towards the development of innovative capabilities in some firms (see PT-15);
- *SIME*, on the contrary, has one action line specifically focussed on “innovation and technology” projects, that is, investments in the fields of R&D aimed at developing new products, services, systems and processes or significant improvements; level of innovation in products/services and in processes, organisation and management as well as the generation of skilled jobs are important project selection criteria (see PT-16);
- *Support activities and products of strategic nature* (Measure 2.1.), where several innovative projects may be included, especially: (1) those concerning economic activities with a strong multiplying potential (electronic commerce and digital economy; information and communication technologies; multimedia and audio-visual industries; biotechnology; environmental technologies and services; and energy-saving technologies); and (2) those aimed at increasing the innovative content in traditional industries. This measure, however, was not subject to regulation so far;
- *Mobilising new ideas and new entrepreneurs* (Measure 2.2.), which supports the creation of new firms in high-growth, innovative industries, as well as the development of those already established. The measure also includes the support to entrepreneurship, namely by young, high-skilled graduates, and the setting up of linkages with the scientific and technological system. Again, regulation concerning this measure is expected shortly; and
- *Stimulation of technological, quality and training systems* (Measure 3.1.), which although being mostly addressed to business support infrastructures, may also be addressed to firms or groups of firms. Further details on the expected impact of this measure on innovation financing will only be available after the publication of specific regulation.

Simultaneously, POE includes a measure (3.4.) specifically focussed on the consolidation and enlargement of company financing mechanisms. This is aimed at creating a favourable environment to foster both the supply and the demand of new financial instruments. As it was already indicated in our June Report, actions in this field will unfold through two vectors: (1) strengthening the financial support directly provided to firms, so that it could become a vehicle for promoting new financial instruments; and (2) actions to be launched by public administration as well as by other organisations (such as banks and institutional investors), under specific agreements, to disseminate the use of new financial instruments.

The Budget for 2001 is now under Parliamentary discussion. It will include several tax changes, with a view to improve an obsolete and uneven tax system. However, several observers indicate that the reform is insufficient. The system of tax credit for R&D investments by firms (PT-4) will most probably be kept into force. Tax incentives are also expected to promote computer and software acquisition by individuals, in order to promote digital literacy. An accurate report on tax policy on innovation for 2001 will be presented in the next report.

Romania.

Currently, R&D financing exists in the following forms:

1. Financing through the “Horizon 2000” National Program mechanisms
2. Project financing through the Research Development Innovation National Program
3. Financing of the institutes of the Romanian Academy
4. Financing by NASTI of the installations of national importance

5. The Grant Systems (NASTI, RA, MNE)
6. Financing of the defence research system by the Ministry of Defence
7. Financing through direct contracts with internal or external industrial beneficiaries

One of the objectives of the medium term strategy in the Science and Technology domain foresees *increasing the financial allocations through the State Budget for R&D activities* [the increase through the State Budget of up to 4% of GDP by year 2004, in accordance with Law 95/1998; regulation of the institutional financing; an increase in the level of the funds and investment allotted for the domain;

Financing funds for the component programs of the National Plan for R&D & Innovation in 2000, €'000*

Programs' financing – TOTAL:		11,311
From which by financing sources (thousand Euro)		
State budget (thousand Euro)		7,591
Extra-budgetary incomes from which:		3,720
- Co-financing from the economic agents		1,860
- Co-financing from international programs		1,860
Allocated amounts' structure from the state budget for the Programs	Code Chapter/ sub-chapter/Title/ Article/ Paragraph	Allocated amount
R&D fund	71.01.03/38/40.16	7,159
Stimulation of innovation	71.01.03/38/40.17	431

Note: * Based upon an €1:Lei 21,510 exchange rate

Component programs of the National Plan for R&D & Innovation in 2000 – indicators.

<i>Indicators</i>	<i>Estimates for 2000</i>
<i>Physical indicators</i>	
Number of contracted projects and co-financed by economic agents which benefits by the obtained results	10,000
Number of economic agents which co-finance project within the program	1,000
<i>Results indicators</i>	
Growing of the economic agents co-financer and beneficiary of the projects within the program (%)	90
Efficiency indicators	
Yearly average spending from the budget for financing a project, except the ones with international partnership. (Euro/project)	6,973

The medium term strategy for Science and Technology domain foresees elimination of the VAT, import duties and special taxes for the activities of R&D financed or co-financed by the State Budget

Slovenia.

Given the parliamentary uncertainties being the main factor influencing policy in Slovenia, little has changed in terms of policies since the last country report. The law enabling to shift from project-based

financing to research group financing was struck down by the parliament and a new decree aimed at harmonising the Slovene legislation with the EU's was adopted on 30/06/00.

As before, most of the funding aimed at innovation and science was channelled via the Ministry of Science and Technology (approx. 80%) and most of the funds within the Ministry (93.5%) were channelled to science itself, leaving little for the technology department of the Ministry.

The specific measure in place is the following – Project-based subsidies [SO_2]:

- Up to 75% of all project costs if it is a project implemented by research organisation and has more clients (pre-competitive development of technologies) or if it is a mixed research group with no less than one half of its researchers employed in development or research units of the client.
- Up to 50% of the costs of a development project implemented by research organisations on the order of enterprises and whose results will be transferred for commercial use.

The Ministry of Science and Technology also subsidises technological development in organisations (enterprises), covering up to 50% of research costs if the research is implemented by greater number of user organisations, or up to 25% of research costs if the organisation develops technology for its own needs [SO_2].

However, much of the existing legislation will be harmonised to the degree, which, in the areas of research and development, is roughly defined as follows:

“Types of research, activities and studies, for which aid may be granted are:

1. Fundamental research, intended to broaden knowledge, not linked to industrial or commercial objectives. For fundamental research aid of up to 100% of the eligible costs of the project may be granted, if the results of the research are, without any discrimination, accessible to all firms under normal market conditions.
2. Industrial research aimed at the acquisition of new knowledge for developing new products, processes or services or which bring about a significant improvement in existing products, processes or services. For industrial research aid of up to 50 % of the eligible costs of the project may be granted.
3. Pre-competitive development activities, intended for shaping of the results of industrial research into the design of new, altered or improved products, whether they are intended to be sold or used, including the creation of prototypes, which could not be used commercially. For pre-competitive development activities aid of up to 25 % of the eligible costs of the project may be granted.
4. Technical feasibility studies as a condition for the performance of industrial research and pre-competitive development activity. Technical feasibility studies may be granted aid amounting to 75% of the eligible costs of the project, if they are a condition for the performance of industrial research and of up to 50% of the eligible costs of the project, if they are a condition for the performance of pre-competitive development activity.

In the case of points 2, 3 and 4 of the previous paragraph, the share of aid may increase in the following cases:

1. For SMEs, by up to 10 percentage points
2. If the project is carried out in area (a) by up to 10 percentage points, and by up to 5 percentage points if the research is carried out in area (b).
3. Where the research project is in accordance with the objectives of a specific project or programme undertaken as part of the Community's current framework programme for research and development, by 15 % percentage points (if the project involves cross-border co-

operation between firms and public research bodies and its results are widely accessible and published, whilst observing intellectual property rights, by 25% percentage points);

4. Where the research project is not in accordance with the objectives of a specific project or programme undertaken as part of the Community's current framework programme for research and development, by 10 percentage points provided one of the following conditions is satisfied:
 - The project involves effective cross-border co-operation between firms and public research bodies, particularly in the context of co-ordination of national research and technical development policies.
 - The project's results are widely accessible and published, patent licenses are granted or other appropriate steps are taken under conditions similar to those for the dissemination of Community research and technical development results.

Percentage points of the preceding paragraph are cumulative but the total amount of aid shall not exceed 75% for industrial research and 50% for pre-competitive development activities.”

While the decree is being introduced to comply with the EU, expected changes at the Ministry of Science and Technology measures are likely to be more of taxonomy rather than involving substantial measures adjustments.

No changes have been implemented at the fiscal level, where the following measures are still in force:

- With regard to income tax, the income tax base is reduced up to 3% for school fees, voluntary financial contributions and donations for scientific and research purposes and funding earmarked for the founding of science and research institutions.
- With regard to customs duties, exemptions or the lowest duties on imported research equipment, production material and software will be applied.

Spain.

The competitive calls for proposals (**ES-12 to ES-17**) that have been launched during this year have not introduced novelties regarding financial instruments for innovation. Most of the mechanisms have introduced some novelties in terms of modalities of participation, while typical instruments designed in the past to support technological innovation in enterprises have been adapted to favour the participation of public research institutions.

Co-operative research has been reinforced in several programmes of the IV NP since new modalities have been conceived in PROFIT programme (**ES-17**) and also in previous calls for proposals (**ES-12 to ES-16**). Subsidies and reimbursable credits are the main instruments developed in co-operative research, while grants are applied for basic research projects. In the case of enterprise participation, the high technical risk associated to those activities could make advisable the concession of subsidies that should be complemented in any case with financial contribution from the enterprise.

Fiscal incentives for R&D&I activities is a political line that has experimented important changes along this year. The reformulation of the Fiscal Law approved at the beginning of the year implies improvements in the general regime for R&D and new incentives for technological innovation. There are also novelties for SMEs in the framework of this new Law, aiming at fostering competition in the Spanish Economy: an additional 10% in tax deduction for SMEs related to investment in technological facilities and training in new technologies.

Sweden.

For a long time there has been a debate in Sweden on the shortage of capital for young innovative firms. Over the last years however, there has been an influx of private money not only to established venture capital firms but also as private placements of rich individuals.

The Swedish venture capital industry is today one of the largest in the OECD in relation to population.¹ About 150 venture capital actors are working nationally, managing around SEK 70 billion (€8 billion) and some of them have a regional preference. The investment focus has radically changed towards seed and start-up investments. In 1998, 52 percent of the number of new investments were made in seed and start-ups. In 1999 the number increased to 82 percent. The bulk of the money invested is MBOs (Management Buy-Outs) or restructuring deals as the investments needed are larger in later phases. The venture capital industry has boomed during the last five years for the benefit of firms focusing on early stage financing. IT and internet enterprises have had a leading part in the scene, although the recent developments in the capital markets concerning industries in the so called new economy have changed the rules of the game to a considerable extent.

Not only has Sweden seen a growing interest among venture capitalists for early stage investments, but also a couple of new markets (second-tier) with a focus on innovative firms have developed during recent years. Around seventy-five firms, most of them young high-tech firms, are now traded on the SBI-marketplace, Aktietorget och Nya marknaden. The entrance of foreign venture capital investors and corporate finance brokers has also improved the financial climate for small innovative firms (NTBFs) in early stages of development. In order to promote the equity markets for small, innovative firms, the government has provided NUTEK with funding for support of the professionalisation of the new markets.

In the new situation, interest among corporate finance actors to work with rather young technology-based firms has increased, while the activity level of private placements and preparations for IPOs (Initial Public Offerings) in NTBFs is only comparable to the situation in the early eighties, when the OTC market was created in Sweden.

The seed finance scheme (SE_2), run by NUTEK, has been in existence since the mid 1970s and represents a budget of about €10 million per year. NUTEK implements the Programme in co-operation with regional organisations, primarily ALMI Business Partners, Technopole organisations. The administration of the programme will be transferred to the new Agency for Industrial Development from 2001.

In the 1990s some new actors have been created in order to help bring together independent inventors and researchers interested in market exploitation. One example is SIC, Stiftelsen InnovationsCentrum, a foundation created in 1994 that started its operations in 1995. It was designed to support innovation among inventors and in small firms. Its capital amounts to SEK 500 million, which it focuses on inventions/inventors in the very early stage of development – pre-seed or seed stage (SE_3).

Apart from NUTEK and SIC there is a third state-owned actor, the Swedish Industrial Development Fund, providing conditional loans for development projects in industry as well as new equity through its venture capital branch. A relatively new pension fund controlled by the government - The sixth AP Fund (Sjätte APfonden) – has been formed with the mission to engage in venture capital via established actors in the field.

¹ *The Swedish venture capital industry – an infant, adolescent or grown-up?*, Karaömerlioglu och Jacobsson, 1999

Recent research on surviving NTBFs show that the business founders consider business angels to be the most valuable partners in the early stages, emphasising their role not only in financial support but also, and more so, in terms of market positioning and the establishment of early market relations.

One initiative of special interest here for the NTBFs population is NUTEK's CapTec programme which provides a yearly meeting-place for young innovative firms and investors. (SE_8) It has been running for five years and is planned to continue. At the same time new Financing Forums are being set up with the same purpose but with other organisers, one of which is CONNECT Sweden, whose activities were initiated in 1998 by the Royal Swedish Academy of Engineering Sciences (IVA).

To improve access and transparency of the venture capital market, NUTEK has launched an internet-based service (SE_13). The Venture Capital Database is a database on the internet which start-ups and SMEs looking for venture capital can access information in order to find the most suitable risk capital companies to contact.

The business income tax in Sweden is on a moderate level – 28 per cent – and the same holds true for capital gains. Personal capital gains tax is also relatively moderate, at 30 per cent. Income tax for private persons, however, is high in Sweden, with marginal taxes around 55-58 per cent for yearly earnings above SEK 250 000 (€30 000). Double taxation is in effect on dividends to private persons, as taxation occurs both at the business income level and then again at the individual receiver level. The consequences for business formation and business growth in Sweden are under debate. In order to stimulate private investments in unquoted firms, a special tax allowance (with many limitations) was introduced in 1996. It has been only marginally used though, and has shown to be of little practical importance.

Share options programmes have, over the years, not been used to any great degree in small technology firms. Recently, it seems to be used more as a part of incentive systems for key personnel in early investment stages. Because of tax regulations, however, the share or stock option is technically rather complicated. The problem is how to avoid taxation as personal income on a theoretical gain today, and instead get a taxation of a realised capital gain in the future, which would require changes of the present tax system.

A special time limited tax reduction for visiting scientists is being discussed.

UK

Within the period under review, no new specific measures dealing with the stimulation of innovation financing, such as tax credits for R&D, venture capital and similar incentives, have been introduced, although the previously announced (see previous report) Tax Credit for R&D in SMEs actually came into force for this tax year. The Government has also announced an intention to introduce a series of measures to “stimulate investment in enterprise and innovation” (see Section 2.6). Also, the University Challenge Competition (UK_11) will offer another round of seed venture funding for a further year.

Of indirect relevance is the Government's commitment of £10 million to a new fund for commercialising IP, in Public Sector Research Establishments (PSREs) including Research Council institutes and the NHS, to help bridge the gap in finance for seed investments (see Section 2.2).

NESTA (UK_10) also has two awards schemes which are used to support innovation and develop creative talent: the Invention and Innovation Programme is intended to support between 50-100 innovative and commercially viable ideas each year, whilst the NESTA Fellowship Programme involves the identification and development of 25-50 exceptionally creative and talented individuals in science, technology and the arts each year. As noted above, the first awards were made in May 2000 and included funding for innovations ranging from keyhole surgery to amphibious vehicles and for

individuals working on interactive technology, astrophysics and science centres. Further awards were made in the Autumn 2000. Awards will be made three times a year from now on.

According to the DTI Science and Innovation White Paper, the Government has introduced “a series of measures to stimulate investment in enterprise and innovation, and encourage risk taking, against the essential background of macro-economic stability. Capital Gains Tax relief², enterprise management incentives³, the tax credit scheme for small firms’ research and development (UK_35) and the All-Employees Share Plan⁴ are all designed to change the climate for investment across the economy, changing the risk/cost ratio for investment in research and development”. All the foregoing are operated by the Inland Revenue.

5.5 Venture Capital Investment in Europe 1996/1999

In EURO per capita	Early stage		Total		Trend 99 / 96 (99 as multiple of 96)	
	1996	1999	1996	1999	Early Stage	Total Investments
Austria	0.0	1.8	0.1	11.3	54.8	105.8
Belgium	2.0	20.9	10.8	66.7	10.4	6.2
Denmark	0.4	5.9	6.5	22.3	13.4	3.4
Finland	1.8	13.3	7.9	48.7	7.5	6.2
France	1.7	9.0	14.7	48.9	5.4	3.3
Germany	1.2	12.3	8.8	38.9	10.5	4.4
Greece	0.6	1.9	3.1	6.8	3.2	2.2
Iceland	-	53.9	2.9	86.6	n/s	30.2
Ireland	0.8	11.3	10.5	29.2	13.4	2.8
Italy	0.8	2.6	8.9	31.2	3.2	3.5
Netherlands	6.0	22.4	38.8	111.8	3.7	2.9
Norway	1.3	7.1	19.4	61.6	5.3	3.2
Portugal	0.1	0.9	3.4	12.0	7.3	3.5
Spain	0.3	2.4	4.9	18.5	7.9	3.7
Sweden	0.6	27.7	48.3	146.8	43.9	3.0
Switzerland	0.8	28.7	17.9	62.1	38.2	3.5
United Kingdom	0.7	4.4	51.3	198.3	6.2	3.9
Total Europe	1.2	8.5	17.7	65.9	7.3	3.7

This table provides comparative figures about the level of venture capital investment/ capita in total and for early stage. Early stage is defined as seed and start up (as from the EVCA definition).

It is interesting to see that there is no major difference in the growth rates of general VC investments between EU countries, apart one major exception: Austria (although starting from a very low basis). Two other countries are also doing better than average: Belgium and Finland. The picture is totally

² Capital gains tax (CGT) relief is designed to boost company productivity and increase the provision of risk capital. A series of changes were announced in the 2000 Budget designed to boost productivity, encourage serial entrepreneurs, promote wider share ownership among employees, and increase the incentive for the provision of risk capital to early-stage, entrepreneurial companies by ‘business angel’ investors. (See <http://www.inlandrevenue.gov.uk/news/budgetreleases/rev4.doc>).

³ Enterprise Management Incentives (EMIs) are intended: to help smaller firms with growth potential to recruit and retain high calibre employees; and to reward those employees who invest their time and skills in helping such firms achieve their potential. The scheme has been in operation for a while but the Chancellor of the Exchequer is currently consulting on lifting the limit on the number of employees who can be granted EMI options. (see <http://www.inlandrevenue.gov.uk/shareschemes/emi.htm>)

⁴ This offers tax and National Insurance incentives to companies that offer share options to employees in order to reward performance. The scheme was improved and extended to smaller companies in the 2000 Budget. (See <http://www.inlandrevenue.gov.uk/news/budgetreleases/rev3.doc>).

different if we concentrate on early stage. If we leave Austria apart (starting from a too low basis), Sweden is doing much better than any other country both in terms of growth and in terms of average investment, followed by Belgium, Germany and Ireland (in terms of growth). This is confirmed in a number of reports.

In particular the Swedish report mentions the change of focus from investors towards seed and start up investment. Sweden also mentions the success of the Swedish second-tier market

Similar remarks are made about Belgium, where, especially in Flanders, access to Venture Capital is not regarded as a problem any longer. Seed capital, however, is still difficult to find.

The aggressive policy followed Greece, Portugal and Austria has not really allowed them to close the gap with the other countries at this stage, although Austria's growth is far higher than average. Portugal and Greece are below or just average in terms of growth.