

Executive  
Exchange Network

# THE ROLE OF GOVERNMENT IN INNOVATION POLICY

CLUSTER POLICY IN EUROPE

CONFERENCE PAPER  
Seventh round table conference  
March 2004





de Baak

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Seventh round table conference of the

Executive Exchange Network

March 2004

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By Arjen van Ballegoyen & Steven de Waal

### **The Executive Exchange Network**

The Executive Exchange Network brings together a small group of high-ranking government officials, captains of industry and civil entrepreneurs for debates on the future of the public domain. The Network intends to combine knowledge and experience on civil entrepreneurship, public management and corporate citizenship to look for new strategic models and concepts. Therefore the Network wants to know: what are the lessons learned abroad in managing the public domain? To this purpose facts, developments and trends are gathered, compared and discussed. International experts are consulted and foreign programs, policies and practices are assessed for their possible use in the Netherlands.

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# INTRODUCTION

The business and academic world have both indicated their apprehension about the future in light of the restriction of public funds available for the education of students and research. In France, scientists went to the streets and presented a petition in protest of the government's budget cuts for academic studies.

The Netherlands faces an innovation crisis, according to the Dutch Government. During the formation of the current coalition and cabinet, the encouragement of the knowledge economy has received specific mention and a budget allocation to boot, even though the country is going through an economically difficult period.

In search for a solution, the Dutch government has turned its eye on the miracle of Finland, which transformed itself from a natural resource based economy to a high-tech, ICT, based economy with an impressive innovative capacity. Surely we could learn something from the approach used in Finland?

This paper will aim to identify the role of the government with regards to the strengthening of the innovative capacity of a nation's economy.

At the seventh meeting of the Executive Exchange Network, held in March 2004, the central theme was the innovation policy and the lessons that could be learned from the experiences in Germany. Prof. Dr. Josef Nassauer, Chief Executive Bayern Innovativ, presented his organization and the work it does to support innovation by bringing companies together. Frans Nauta, secretary of the Dutch Innovation Platform, presented the aim and approach of the Innovation Platform in helping the Netherlands to contribute to the goals set by the Lisbon declaration. The discussion took place under guidance of Steven de Waal, executive partner of the Public SPACE foundation, the initiator of the Executive Exchange Network.

This paper is an account of the presentation and discussion that took place at the conference and a summary of the state of affairs. We shall briefly outline the innovation policies of Finland and the Netherlands in chapters 2 and 3, followed by an overview of the various policy options available in the field of industrial and innovation policy in chapter 4. The concluding chapter discusses the role of government in the innovation system.



# FINNISH INNOVATION POLICY

Over the past decade, Finland's policymakers have adopted a cluster-based approach to national innovation policy, emulating the success of Silicon Valley. Finland's cluster-based strategy was first outlined in the Ministry of Industry and Trade's National Industrial Strategy of 1993. Prior to that time, Finnish public R&D policy had been focused primarily upon individual enterprises, and did not give much consideration to their contexts. However, because of the dire economic consequences of that time, the government recognized that it needed to both foster the international competitiveness of its industries and to do this as inexpensively as possible. A cluster-based policy fit the task perfectly and was seen as the perfect means for "diversifying the economy away from the forestry and metals industries towards new high-technology industries". Furthermore, since 75 percent of the country's value added was produced in five clusters (foodstuffs, information and communication technology, metals, construction, and forestry), such a policy could ensure that a few cluster-specific investments had the potential to affect large portions of the country's industrial base<sup>1</sup>.

In the Finnish Innovation Policy, the public sector has a distinctive task in the *national innovation system*, which covers areas that cannot be covered by the open market sector alone in a way that is optimal for the national economy. An essential part of the innovation system is the framework of public policy. There are many dimensions of public policy that affect the rate and directions of innovation. These include macroeconomic and particularly monetary policies (affecting levels of demand and interest rates), education policies (affecting the supply of skills), and regulatory policies (on environmental protection, or health and safety). All affect whether and how firms can innovate.

But Finland also has a range of policies and organizations aimed directly at enhancing the performance of the Finnish innovation system. These agencies

1 Fall 2003 Chazen Web Journal of International Business.

focus on such tasks as research and development, invention, venture capital finance, and internationalization. Together they make up a central part of the policy framework of the Finnish innovation system.

The organizations are as follows:

- Tekes, the National Technology Agency of Finland, a major organization for the funding and administration of R&D aimed at technological innovation. The main instruments of Tekes are industrial R&D grants and loans to firms and grants for applied technical research for public organizations.
- Finnvera plc, a state-owned financing company aiming at provision of risk financing (mainly loans and guarantees) and other financial products (such as export guarantees) particularly for small and medium-sized enterprises.
- Finnish Industry Investment Ltd (FII), a state-owned investment company, aimed at improving the venture capital market. FII's primary instruments are equity stakes in Venture Capital and regional funds, with a small array of direct investment in specific firms.
- Employment and Economic Development Centres (TE-Centres), consisting of 15 regional offices providing a complex range of services aimed at the establishment and growth of small firms.
- Finpro, a service organization aimed at internationalization of Finnish firms, with activities ranging from international marketing services to innovation networking.
- The Foundation for Finnish Inventions, (FFI), supporting early-phase activities related to innovation: inventions, legal services related to patenting and other IPRs, market exploration and commercialization, etc.
- The Science and Technology Policy Council determines the basic science and technology policy lines. A new White Paper on S&T policies was

adopted in December 2002 by the STPC. *The Knowledge, Innovation and Internationalisation* review examines the development challenges facing science and technology policy in the coming years and outlines relevant policy. Special attention is paid to the rapidly internationalizing innovation environment and the ensuing pressures for structural and operational change in Finland<sup>2</sup>.

These agencies offer a wide range of innovation financing instruments and support services. Beyond these organisations are of course others, also contributing to the innovation system. These include Sitra (The Finnish National Fund for Research and Development), the Academy of Finland, and the university system. It is important to note that there are active operating links between the organisations evaluated here – so the TE-Centres, for example, provide regional access points for Tekes' services, and Finpro's networking activities have Tekes as a major partner.

<sup>2</sup> Technology Foresight within the Finnish Innovation System, p. 3.



# DUTCH INNOVATION POLICY

## SYSTEMIC VIEW ON INNOVATION

Similarly to the Finnish policy, Dutch policy is based on a systemic view on innovation, in line with the research on innovation as a process. Most recent research sees innovation<sup>3</sup>:

- First, as an interactive social process, which integrates market opportunities with the design, development, financial and engineering capabilities of firms, in ways that are both uncertain and complex.
- Second, as a process characterized by continuous feedbacks between these activities, rather than by linear transitions.
- Third, as a process characterized by complex interactions between firms and their external environments, and in which innovation takes on a collective character.
- Fourth, as a process, which is continuous rather than intermittent, and in which capabilities and performance develop cumulatively over time.
- Fifth, as a process, which involves occasional major transitions, as technologies change in discontinuous and fundamental ways.

In summary, modern innovation research sees innovation as an *uncertain, complex, collective and cumulative process*.

Just as innovation itself is a complex mixture of elements and processes, so innovation policy support will have to involve many dimensions. The public sector plays a central role in the innovation system. Key elements in the system are public-sector organizations such as universities, publicly supported technical institutes, regulatory agencies, standards-setting organizations, libraries and databases, R&D programmes and government ministries and agencies.

Two Ministries are particularly involved in areas that affect innovation policy: firstly, the Ministry of Education, Culture and Science. This Ministry is responsible for the allocation of public funds to the universities, public research organizations and scientific research. The second Ministry to be involved is the Ministry of Economic Affairs. This Ministry pursues innovation policy from a market failure approach, whereby the elimination and remedying of market failures result in a better business climate for industry indirectly improving the conditions for pursuing innovation.

Current economic difficulties and the publicly voiced anxieties of prominent businessmen about the continued attractiveness of the Netherlands to industry have placed innovation policy squarely on the agenda of the newly formed government. Inspired by the Finnish model, the current government is aiming to reshape its innovation policy.

## BACKING WINNERS

The AWT, the Advisory Council on Science and Technology Policy to the Dutch Government, lists in its advise “Backing winners” the following five necessary elements in the innovation policy of the future<sup>4</sup>:

1. *A rich soil for innovation*: high-quality education and research across all disciplines form the basis for innovation and attract knowledge-intensive industries. The AWT finds structural investment in a high-quality knowledge infrastructure of great importance.
2. *Greater focus in the encouragement of industry*: the AWT advises to focus the public financial support of innovation to a select number of areas in order to improve the impact of such subsidies<sup>5</sup>.

4 Backing Winners, p. 6-7.

5 Footnote in AWT “Backing Winners”: Jacobs indicates that different countries all target the same key innovation areas, which will result in duplication and price (*Industriebeleid in de kenniseconomie: de relevantie van de clusteraanpak*, Dany Jacobs in *Clusterbeleid als hefboom tot innovatie*, IWT-Vlaanderen, februari 2000).

3. *Tie industry to innovation hot spots:* the AWT proposes to lock in industry in specific sectors to the Netherlands by providing an innovation climate that is so attractive as to keep incumbent firms here as well as to attract new ones to the Netherlands. This will require a combination of elements, ranging from highly educated workforce, supportive regulation and infrastructure to sufficient financial support. Determination of the hot spots is to be done by the government in cooperation with industry. The Innovation Platform would be a good vehicle for this determination process.
4. *Utilize an integral approach:* as innovation processes comprise more than solely technology or knowledge, such as the application and implementation phase, policy should focus on an integral approach.

The AWT is of opinion that the current Dutch policy is too reactive in nature and that opportunities are lost because of this. A more proactive stance would be more suitable, allowing government intervention when a number of criteria are met:

1. The public benefit of the measure should outweigh the private benefit;
2. The principle of additionality should be adopted, meaning that government will intervene only if the issue requiring intervention would otherwise not be dealt with (by other actors);
3. Government intervention should not result in a transfer of risk from business to society, which would undermine the market system.

## INNOVATION PLATFORM<sup>6</sup>

In September 2003 the Dutch government has established the Innovation Platform, akin to the Finnish Science and Technology Policy Council (STPC) established in 1986<sup>7</sup>. Chaired by the Dutch Prime minister Jan-Peter Balkenende, this platform aims to strengthen the innovative capacity of the Netherlands so that it may be among the forerunners in the European knowledge economy.

The working hypothesis of the platform is that the Dutch human and economic potential is underutilized. The platform will produce a number of proposals that aim to develop this potential to the fullest by employing a cross-sectoral approach encompassing all of the elements of the innovation system. This counters the current fragmentation of the innovation support mechanisms.

## CLUSTER POLICY

Currently, the innovation platform is trying to determine key areas of expertise and know-how (“sleutelgebieden”) in which the Netherlands has a strong position at this moment. These key-areas are characterized by the combination of entrepreneurship, expertise and innovation capacity powerful enough to compete globally in growth markets.

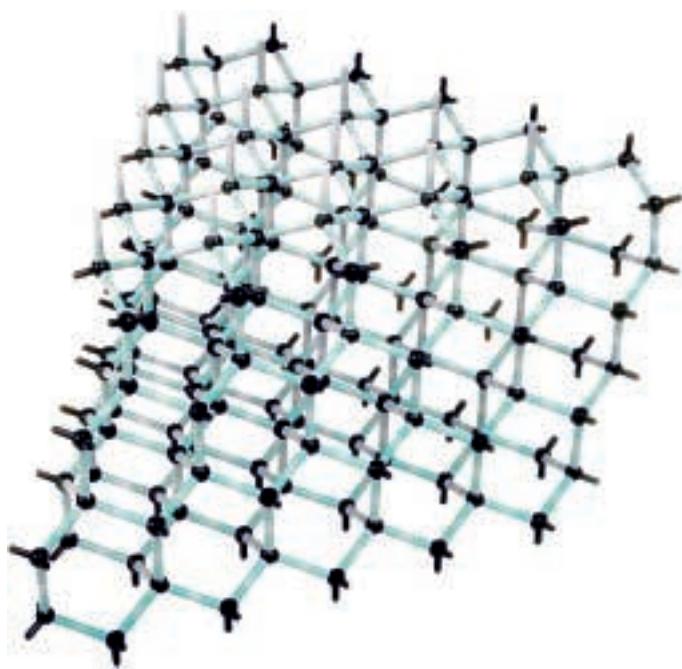
In cooperation with private companies, knowledge institutes and public bodies, the Innovation Platform aims to compile a list of the key areas as well as develop ideas on how to encourage innovation in those areas by means of government action (deregulation/de-bureaucratization, new initiatives). The outcomes of this process will in turn support the Innovation Platform in its task to develop a new innovation policy.

<sup>6</sup> [www.innovatieplatform.nl](http://www.innovatieplatform.nl)

<sup>7</sup> Lessen van Finland.

Both the advise of the AWT (which stresses “hot spots”) and the Innovation Platform (stressing “sleutelgebieden”) indicate a switch to cluster policy. The next chapter will introduce cluster policy as well as other forms of industrial and innovation policy.





# INDUSTRIAL AND INNOVATION POLICY OPTIONS AND DEVELOPMENTS

In general, industrial policies – understood as policies enhancing industrial growth and improving the microeconomic business environment – have, in most developed countries, included three kinds of elements during the last couple of decades<sup>8</sup>:

1. Subsidizing ailing industries, such as shipping, steel and textile industries, which are no longer major industries in Western Europe (“backing losers”);
2. Aiming at improving the operating conditions of business enterprises (“market failure approach”).
3. Trying to identify growth sectors and promote their development by means of two approaches:
  - a. Generically encouragement of the development of new technologies (“picking winners”);
  - b. Cluster policy, which aims to support and strengthen competitive capacity of industries in which the country already excels (“backing winners”<sup>9</sup>).

## BACKING LOSERS

The first element is a classic form of industrial policy and simply aims to protect the domestic industries under threat. The government would face severe political and societal pressure to lessen the impact of foreign competition. This type of state-intervention has been prohibited by EU law and the export-subsidies provided to US companies by the American government have come under fire in the WTO. Subsequently, use of subsidization as a tool of industrial policy has become less prevalent, even though the intent to protect domestic industry is still very much alive: the protection is now merely achieved by for example regulatory measures

<sup>8</sup> Evaluation of the Finnish Innovation Support System.

<sup>9</sup> AWT “Backing Winners”.

(environmental/health requirements etc.) rather than the easily detectable tariffs and subsidies.

#### Advantages

- Politically attractive: saves jobs and keeps industry in the country;
- Can serve to protect a certain knowledge base within a country (Fokker);
- Easy to administer: concerns a transfer from general public funds.

#### Disadvantages

- State aid to companies is prohibited by European Law;
- Funds likely to be used for bail-out i.e. continuation of proven inefficient companies;
- Not specifically geared toward improving capacity of companies to innovate;
- General public funds allocated for an inefficient and likely unsustainable purpose.

### MARKET FAILURE

The economic analysis of industrial and innovation policy included, starts from the concept of market failure. A market failure is said to occur if markets fail to achieve the most efficient allocation of resources. Under the condition of “perfect competition” there would naturally occur the most optimally efficient allocation of resources possible. Perfectly competitive markets would be characterized by the following:

- Perfect information (e.g. all consumers/businesses know the characteristics and prices of all goods that are available);
- Price taking (i.e. no firm has market power to affect prices because there

- are enough alternative suppliers);
- No transaction costs;
- No externalities;
- Free entry and exit into the market (i.e. setting up and closing a firm is costless);
- Perfect divisibility of the output.

It is clear that rather all real world markets fail to satisfy these requirements even to a crude approximation. Within this theoretical framework though, reduction of market imperfection will automatically lead to a better functioning market and i.c. a more optimal resource allocation vis-à-vis innovation.

The existence of a market failure opens the door for policy actions: the government may, by judicious choice of policy, improve on the outcome that the market would deliver if left to operate on its own. Common reasons for market failure applicable to research and development include:

- Badly designed property rights (e.g. the inventor cannot appropriate the returns to her innovation because rivals imitate the innovation – information spillovers);
- Information costs;
- Observation costs and enforcement costs (e.g. costs of finding a trading partner, costs of verifying the quality of the object on sale, and costs of enforcing contracts through courts). One particular market failure often invoked to justify active innovation policies relates to financial markets' capability to allocate financing to R&D investments;
- A final problem is that any attempt to create useful knowledge is accompanied by high levels of risk, which private market actors may be unable to carry.

These problems combine to reduce the amount of R&D being performed, and hence there is wide agreement that the high social return to innovative activities justify government involvement in research and development. This is especially acutely the case with respect to basic research. For example, it has been argued that a precondition for R&D subsidies to work is that the supply of scientists and other research personnel is elastic enough. In other words, as the volume of research activity is largely dependent on the amount of labor inputs, increasing spending will only result in higher wages of existing researchers unless there is a fresh supply of new ones.

#### Advantages

- Targets directly market failings;
- Economically legitimate and valid intervention;
- Targets problems unlikely or impossible for the private sector to tackle;
- In line with European legislation;
- Compatible with a systemic and integral view of innovation processes.

#### Disadvantages

- Will have an indirect effect on innovation rather than an immediate direct effect as the main purpose is to improve conditions for industry/business;
- Markets are very imperfect, meaning that many interventions are necessary to reduce market failures.

#### PICKING WINNERS

During the 50s and 60s governments started to support industries, which they believed to be key to future development of the country. This approach has been tried by many countries and ranges from a complete focus on heavy

industries, linkage industries and high-value added industries.

A famous example is Japan where the Ministry of Trade (MITI) picked the automobile industry as the key to future development of Japan. Under conditions of a low state of development of the economy and as long as few governments target subsidies at promising activities, such a policy can be quite successful in terms of economic growth. You simply imitate what has been successful in countries higher up the ladder and underbid them on the basis of cheap labor cost and tax subsidies.

There have however been a few lapses that have received much less extensive documentation. The bureaucrats in the industry ministry told Sony that the transistor had absolutely no future and Honda, then a motorbike manufacturer, that they had no chance in the car market. When Japanese development levels approached those of the West, the policy was more or less abandoned.

There are a number of problems in determining the efficacy of government intervention by means of picking winners. It is difficult to attribute the successes to government intervention.

Numerous studies of the reasons for fast economic growth in Asia have dismissed industry policy as a decisive factor and identified the real causes for the East Asian ascendancy: hard work, concentration on technical learning, high saving, low taxes, small government, stable money, no welfare state, a progressively more open economy, and stable, trustworthy political and economic rule systems, which provide a predictable business climate for entrepreneurs.

The second problem in designing policies to rectify an identified market failure is often alluded to under the heading of government failure. This term seeks to

capture the fact that even if one were able to design theoretically “perfect” policies, a real-world government (broadly defined) may be unable to implement them. A variety of reasons offer themselves: there are serious informational problems; there are problems of civil servant capabilities; the tools that a government has available may be too crude; there is an inherent principal-agent problem between the government and the civil servants who are supposed to implement the policies; there is a principal-agent problem between the electorate and the politicians; and finally, the new political economy literature shows that politicians do not necessarily maximize social returns when in office.

In short: the over-all track record of governments to pick winners is actually quite poor.

#### **Advantages**

- Government directly supports innovation activities;
- Enables a government.

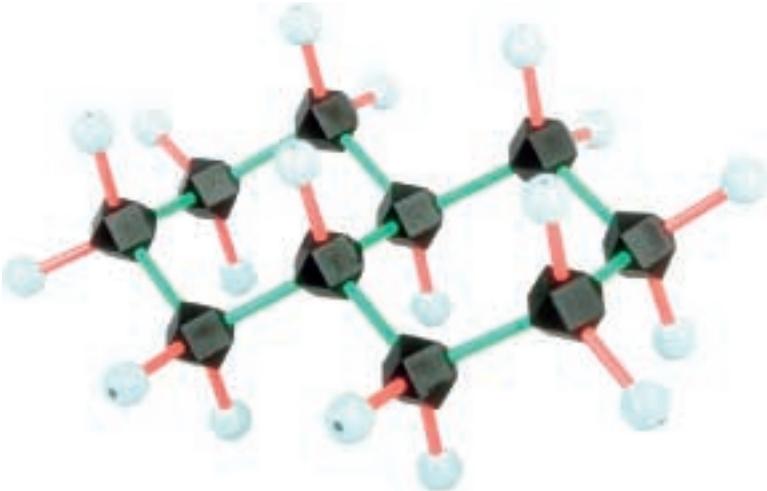
#### **Disadvantages**

- Government has a poor track record of picking winners;
- Assumes governments outperform the market in picking winners, which is discounted by the performance of governments over the last decades;
- Governments are likely to pick the same categories/sectors of winners resulting in duplication or subsidised wars between national champions (Boeing vs. Airbus);
- Assumes a non-systemic nature of research;
- Assumes linearity between R&D funds and innovative capacity.

### BACKING THE WINNERS (CLUSTER POLICY)

A new development in the field of industrial and innovation policy is the emergence of cluster policy. The economic success of Silicon Valley has proven to be extremely intriguing for economists and politicians alike and attempts to replicate a Silicon Valley elsewhere has spurred research in both the dynamic process of innovation and the phenomena of clustering.

Michael Porter was the first economist to explicitly cite clusters as the key determinants of national competitive advantage in “The Competitive Advantage of Nations.” It was there that he first argued that “a nation’s competitiveness depends on the capacity of its industry to innovate and upgrade” and that companies gain advantage by being subjected to an environment of “pressure and challenge”. Industrial clusters were a way of fostering this type of advantage, for they offered a high degree of competition among rival buyers and suppliers, resulting in an increased drive by individual firms in the cluster to innovate and stay ahead of their competitors<sup>10</sup>.



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Cluster policy is about self-organization: co-operatively organizing the conditions favorable to exploit synergism and complementarity, in particular in knowledge creation and knowledge use. Cluster policy has to do with the exploitation of the public good nature of knowledge, in particular the externalities that are generated through proximity. To engage in new public-private initiatives that promote self-organization, networking and relations in horizontal sense, a pragmatic approach is needed. This approach combines a basic understanding of the new network economy with “bottom-up” experience and learning<sup>11</sup>.

In addition, the cluster-based approach is also justified by the existence of spill-over effects, because the high level of interactions between firms in a cluster: investing in one company in a cluster will create extensive spillovers (of technology, know-how, and productivity) to other firms. This multiplier effect ensures that the social rate of return for investments in a cluster is significant, and therefore provides the most cost-effective way for public R&D spending to maximize social profitability.

Cluster policies are more efficient as a complement of traditional innovation policies. They should ideally consist of putting in place framework conditions and tailor-made industrial policies, and, in order to be successful, must always leverage on existing regional assets. Governance should be on a long-term basis and reviewed regularly as the environment and/or the cluster evolve.

Government has to fulfill a new responsibility in a knowledge economy as a facilitator of innovative interactions. The management of national/regional innovation systems must be aware of the importance of spillovers in creating cumulative knowledge creation, take advantage of increasing returns, and exploit the collective productivity. One way is to encourage the production and internalization of these spillovers in cluster organizations. Government cannot

11 OECD ‘Do clusters matter in innovation policy’, p. 7.

be but a facilitator since the main actors are the enterprises. One such effort by a government to facilitate innovation by means of coordinating and organizing networking and matchmaking for companies, universities and research organizations is Bayern Innovativ.

### CASE STUDY: BAYERN INNOVATIV<sup>12</sup>

Bayern Innovativ is a publicly held company initiated by the Bavarian State Government. In 1995 it was jointly set up by politicians, science and industry as a corporation for innovation and technology transfer, located in Nuremberg.

#### **Rationale**

For the economy it is essential that research findings and novel discoveries do not remain where they are originated, but that they are rapidly transferred into commercial applications. In the same way it is essential to seize latest developments generated within industries and to evaluate these findings with respect to new market opportunities.

Teaming up companies and institutes across technologies and branches frequently leads to brand new products and processes at a superior level of innovation. The support of these processes is a central part of innovative business development, since innovations strengthen competitiveness, open up new markets, lead to new enterprises and create new jobs.

#### **Objectives**

As an innovative and future orientated organization aligned with Bavaria's politics for industry and technology, Bayern Innovativ has the following overall objectives:

<sup>12</sup> <http://www.bayern-innovativ.de/>

- Transfer of novel scientific and technological findings into new products and modern processes;
- Formation of active cooperation networks for companies and scientific institutions as a new infrastructure for the initiation of innovation projects;
- Attracting numerous institutes and companies across broad economic and scientific areas – especially within Bavaria – for market driven collaboration;
- Development of project related national and international cooperation opportunities;
- Strengthening the innovative ability and the competitiveness of Bavaria's industry, especially of small- and medium-sized enterprises, with regard to the European and global market development.

#### Activities

- Continuous development of cooperation networks across technologies and branches comprising companies and institutes beyond commonly established value chains, for fast and efficient realization of innovations;
- Conceiving technology transfer events for companies, universities and research institutions to present the latest findings, initiating new cooperation for the next generation of innovative products;
- Support of small- and medium-sized companies in their innovation processes by intensifying technology transfer across enterprises as well as between science and industry;
- Coordinating strategic innovation and technology transfer projects e.g. organization of national and international congresses and cooperation initiatives, e.g. BAIKA, as well as running the operational business for associations, e.g. Forum MedizinTechnik und Pharma in Bayern e.V.
- Coordination of the technology transfer network in Bavaria and collaboration with relevant institutions to strengthen regional activities

### Technology Platforms organised by Bayern Innovativ



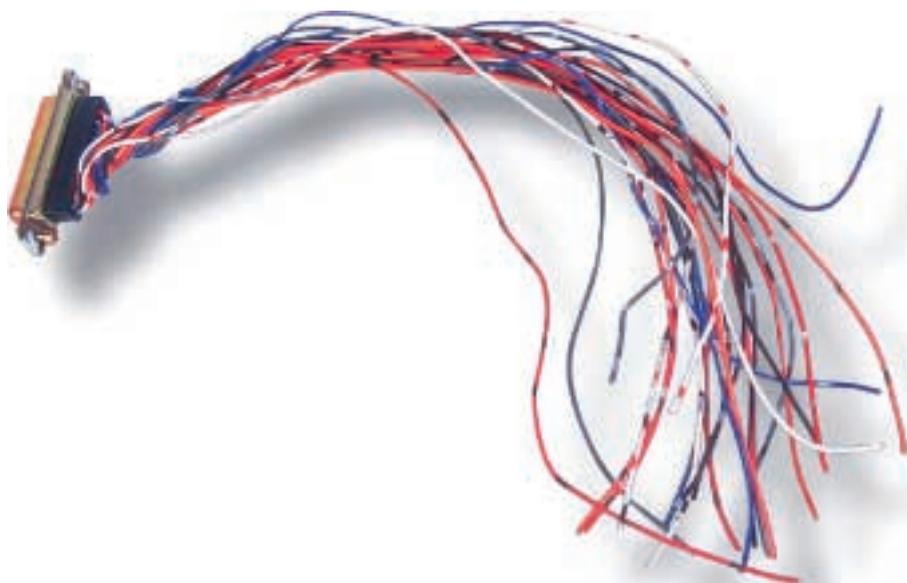
Cluster policy overview:

#### *Advantages*

- Policy specifically aims to enhance innovative capacity of the system;
- Government is an active player in the innovation system;
- In line with developing European cluster policy and European Research Area;
- Compatible with a systemic and integral view of innovation processes.

#### *Disadvantages*

- Tempting for governments to overstep facilitator role;
- Complex to administrate due to required closeness to industry (communication requirements, need for reduced lag in regulatory processes);
- New and untested policy;
- Possibility of duplication of speciality.



# THE ROLE OF GOVERNMENT

Having briefly examined the various options for industrial and innovation policies available to the policy makers, what should the role of government be?

## DIRIGISTE

There are two forms of policy on the dirigiste end of the spectrum, backing losers and picking winners. These are also the two policy options that have been discredited as tools to strengthen innovation. The backing of losers does not have an innovation aim but rather serves to secure employment of the workforce employed in that sector of particular company. Although theoretically it would be possible for such companies or sectors to reorganize themselves on the time bought by the subsidies, the situation was usually serious enough that the subsidies kept businesses from going bankrupt rather than to aid to their innovative capacity. With the emergence of European laws aiming to provide a level playing field to all European businesses, this form of industrial policy is no longer a possible choice.

The option of picking winners has also lost credibility: governments actually have a poor record of picking winners. This is evident in the ample amount of government failures to pick winners as well as the inability to convincingly prove that government intervention has been the key factor in the cases where winners were “picked” successfully. This is particularly important because the justification for a government in picking winners is the belief that governments can do this better than private firms. This results in government stepping in and intervening with the normal operations and incentives of the market economy. Even more so, the government in these cases actually makes a market decision. The government is overstepping its boundaries here.

### LAISSEZ-FAIRE

On the opposite side of the spectrum is the market failure approach. This indirect policy targets specifically the problem areas of the market economy thus both enabling market actors and market incentives to function with increased efficacy. It is laissez-faire, a supportive policy tool that avoids government encroaching on market decisions. Consequently it is simple to understand why this has become the mainstay of industrial policy.

### THE MIDDLE GROUND

Cluster policy is an interesting mixed bag: it contains elements that are reminiscent of the market failure approach as well as a more dirigiste approach. The focus on clustering in order to make use of knowledge spillover benefiting all companies as well as the bringing together of various interdependent businesses and industries are definitely improvements along market incentive lines and improve the system as a whole.

Nonetheless, it could easily be argued that market actors would see the benefits of clustering and self-organize them. The reasons why they do not are perhaps more interesting to explore as they might indicate real market failures that business cannot remedy themselves but that only government can. Perhaps cluster policy can best be viewed as a short cut method skipping the deeper reasons why clustering does not appear because of self-organization.

The dirigiste element of cluster policy can be found in the aim of governments to use this approach to improve the nation's competitiveness by supporting their strongest clusters of industry and expertise. Whereas the policy of picking winners would usually entail picking individual companies, cluster policy

might inadvertently lead to specifically supporting entire sectors, while excluding non-key clusters. When special government intervention is limited to the reduction of red tape or adapting a better-suited regulatory system, there is no problem. As soon however as governments start making specific investments in the chosen cluster or when subsidies or other financial means are made available, government policy actually picking winners all-over, but in a roundabout way.

Even cooperation with industry and/or academia in picking the clusters to be strengthened does not decrease undercutting of market incentives and operations: businesses, industries and academia all have a private interest to have their particular field of expertise labelled a cluster, as it comes with preferential treatment in various forms. In fact, cluster determination could be a process vulnerable to rent-seeking behaviour.

An interesting international problem with cluster policy is the possibility that countries pick the same sectors and industries as key areas. This could easily happen with the ICT sector as the appeal of ICT as a high-growth, high potential sector is still very much alive, despite the dot com crisis. Comparable to ITC in appeal is also the biotech industry and possibly heavy industry a few decades ago.

A crucial precondition to successful cluster policy is that the determination of key areas ought to be based on the relative strength of the sector in the country, rather than on hype or wishful thinking. The more decisions are based on preconceptions rather than reality, the greater the chance that governments worldwide will inadvertently copy each others focus areas, which will to a great extent negate the efforts and resources poured into cluster policy.

## EUROPEAN COMMISSION

The European Commission offers the following balance in pursuing cluster policy, which balances cluster policy with the European standard of market failure policy. “Cluster policy is not about creating clusters but rather favoring framework conditions for cluster development. Clusters are not paradise solutions. There are pitfalls like the petrifying risk of a cluster, once the peak of evolution has trespassed<sup>13</sup>”.

The key findings of this study can be summarized in the experts’ recommendations:

1. Public authorities should support embryonic and existing clusters rather than trying to create them from scratch.
2. A policy planning to create entirely new groups of firms in selected sectors can give rise to destructive competition, should many regions pursue the same industries.
3. A policy on clusters should provide a framework for dialogue, and co-operation between small enterprises, higher education and research institutions, public and non-public organizations at local, national, European and international level.

At the national or regional level, further efforts should be given to:

- Identify market failures and upgrade policies affecting cluster firms;
- Provide cluster management infrastructures;
- Develop linkages between the research centers, the university and the industry;
- Implement appropriate education and training programmes;
- Implement platform of networking and exchange of information;

13 Report on European Seminar on Cluster Policy, Copenhagen, 10 June 2003.

- Supply on specialized infrastructure;
- Offer extended financial instruments (i.e. venture capital funds, mutual credit guarantee schemes).

At the Commission level, the following areas of future action could be envisaged to:

- Identify barriers and limiting factors to cluster development and raising awareness on the benefits and the pitfalls of clusters for SMEs, regions and nations;
- Provide a framework for exchange of experience, information, good practice, knowledge and competence between regions and clusters. In this respect, it has been recently agreed to finance a project aiming to support industrial networks between clusters from Member States and Candidate Countries;
- Reinforce synergies between all areas of policy actions of the different DGs.

## COMPARING NATIONAL CLUSTER POLICY APPROACHES

The Dutch, Finnish and Bavarian approaches to innovation are all examples of cluster policy. The differences in their execution, external conditions as well as their emphasis determine to a great extent the success or failure of the approaches.

### The Bavarian approach

There are three distinct characteristics that make the Bavarian strategy as effective as it is: firstly, the approach is distinctly bottom-up. Secondly, the approach helps to reduce directly fundamental market imperfections. And,

lastly, the facilitating agent, Bayern Innovativ, has a commercial interest to do its job well.

Combined, these three elements provide a good example for the success that can be achieved by a non-profit public-private organization (Bayern Innovativ) that operates outside of the political/civil service setting in the same field where the private sector business operates (for-profit sector) and where those private businesses reward and punish the value added by Bayern Innovativ (membership dues).

#### **The Finnish Approach**

The approach adopted by the Fins is considered highly successful, but its success coincides with some extraordinary external factors non-replicable in other settings, which have been shown to be a crucial precondition. Prominent has been the severe depression that hit Finland in the early nineties, which was caused by a number of reasons ranging from the collapse of the leading trading partner the USSR, to poor design of financial deregulation. Subsequent massive unemployment of up to 20 percent has been a powerful motivator to change the previously unthinkable and under such conditions, consensus based systems often perform better than in less fundamentally threatening contexts. In the years 1993-1999, public R&D expenditure increased by 47 percent and such a large increase detracts from the Finnish, top-down, model as a key factor and supports a more systemic view on innovation policy, with clear bottom-up and market failure correcting measures.

#### **The Dutch approach**

Similarly to the Finnish system, the Dutch approach has a very strong top-down emphasis, aiming to establish an overall system that will enhance the innovative potential of Dutch business. The Innovation Platform is a carbon copy of the Finnish STPC. The Innovation Policy counts among its members

prominent persons from the public and private sector. Nonetheless, the Innovation Platform has had to face stiff criticism as the platform is fairly inactive and produces mainly policy recommendations and studies. Critical factors in this negative outcome are: firstly, the platform is a debating club with no commercial strings attached. Secondly, the platform centers completely on top down systems strengthening. Lastly, the platform does not initiate activities that affect the realities/problems of innovation that private companies face.

Combined, these elements form a bad example of a public private initiative, which remains detached from reality because the platform itself is not an actor (it is a debating club and not an organization), because it is operating mainly in the policy arena and not “on the ground” where the innovation has to happen, because the incentives of the platform are non- force of innovation (i.c. competition and commercial mindedness) to produce useful results. So far, the Innovation Platform functions more as a debating club than as a true driver of innovation, and this structure makes it vulnerable to lobbying and rent seeking behavior resulting in picking winners.

## CONCLUSION

When we bring the previous assessments and lessons learned together we are able to determine the role of the Dutch government in the innovation to be as follows:

1. *Government is an actor in the innovation system:* the government has a clear and distinct role in the innovation system and should actively seek to provide tailor-made support measures to improve the working of the innovation system. The Dutch approach embraces this viewpoint.

But:

2. *Cluster policy needs to be designed properly and with limits:* the cluster policy design spectrum ranges from essentially correcting market failure to more interventionist measures approaching the old style industrial policy. This side of the spectrum should be avoided.
3. *Government should limit itself to play a catalytic role* through open competition, supporting bottom up initiatives and avoiding excessive interventionism that would lead to pick and support the winners only. The current Dutch approach fails in both limiting itself to a catalytic role as well as in the implementation of the approach, which is every thing but bottom-up.



# SOURCES

Backing Winners. Van generiek technologiebeleid naar actief innovatiebeleid.  
AWT July 2003.

De prijs van succes. Over matching van onderzoekssubsidies in  
kennisinstellingen. AWT April 2004.

Do Clusters matter in Innovation Policy. OECD Cluster Focus Workshop  
Working paper 2003.

European Seminar on Cluster Policy. 10 Years of Danish National Cluster  
Policy. Jesper Rasmussen, 2003.

Evaluation of the Finnish Innovation Support System. Luke Georghiou, Keith  
Smith, Otto Toivanen, Pekka Ylä-Anttila. Ministry of Trade and Industry  
Finland Publications 5/2003.

Finland: A European Model of Successful Innovation. Robert Werner. Chazen  
Web Journal of International Business Fall 2003.

Lessen van Finland. Een overzicht van het Finse innovatiemodel en de  
beleidsmaatregelen tussen 1980-2002. Frans Nauta, Marieke Rietbergen  
en Joeri van den Steenhoven, september 2003.

Nederlands kompas voor de Europese onderzoeksruimte. Strategisch kader  
voor de internationalisering van het onderzoeks- en innovatiebeleid.  
AWT Januari 2004

Public Dimensions of the Knowledge-driven Economy. Paul A. David.  
OECD/CERI 2002

Report on European Seminar on Cluster Policy. European Commission Enterprise Directorate-general June 2003.

Technology Foresight within the Finnish Innovation System. Eija Ahola Tekes (the National Technology Agency), Finland.

The Folly of Industrial Policy. Matthew o'Keeffe. Economic Notes No. 48 1992.

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