

INTRALAB: In search of inspiring policy practices

Case-studies report



INTRALAB: In search of inspiring policy practices

“INnovation, TRAnsport and LABour Market Policy Practices in EU Member States: the balance between sectoral and integrated approaches and the involvement of sub-national levels”

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Preface

This case studies report is part of a study that is undertaken in the context of discussions on the main policy directions for EU Cohesion Policy for the programming period 2014-2020. The study analyses recent developments in EU-Member States in the balance between sectoral and integrated policy approaches and the involvement of sub-national levels in three main domains: innovation, transport and labour market.

The study has been commissioned by DG REGIO and executed by a team of experts from ECORYS Research & Consulting (including its sister company IDEA Consult in Brussels). The study was undertaken in the period January-December 2010. The main outcome of the study is summarized in a Final report that has been released under the same title as this case studies report. This case studies report is an Annex to this Final report.

The study has been initiated and supervised by Mr. Lewis Dijkstra (DG REGIO). A group of renowned international experts took part in the Peer Review Group that discussed the methodology and (first) results of the study in 4 meetings over the duration of the project. The following experts participated in the Peer Review Group: Prof. Dr. Willem Molle (Erasmus University, Rotterdam), Prof. Dr. Peter Lloyd (ECOTEC, Birmingham), Dr. Alasdair Reid (Technopolis Group, Brussels), and Prof. Dr. Jan Burnewicz/Dr. Elzbieta Adamowicz (University of Gdansk, Gdansk).

The following experts of ECORYS have contributed to the study:

- Overall management and coordination (incl. quality control, editing and final reporting): Sjaak Boeckhout, Marten van den Bossche, and Prof. Dr. Marcel Canoy;
- Innovation: Dr. Vincent Duchene, Prof. Dr. Ruslan Lukach, Myriam van Hoed, and Arnold Verbeek (IDEA Consult; coordination, editing and also case studies);
- Transport: Wim Spit (coordination and editing), Konstantina Laparidou, Ewa Paluszkiewicz, Nienke Uil, Jonas van Praag, Robert Ossevoort, Broos Baanders, Wesley van Dijk, Bas Scholten, Roelof-Jan Molemaker, Shahram Tahmasseby and Michiel Modijefsky;
- Labour market: Thijs Viertelhuizen and David Jepson (coordination, editing and also case studies), Judith Juhasz, Annemieke Biesma, Dafina Dimitrova, and Claudia Groen.

The Project Team wants to acknowledge the contributions that both DG REGIO and the Peer Review Group members have made to the study in reacting to discussion notes and interim and draft final reports. However, the responsibility for the final report and the reporting on the case studies remains fully with ECORYS Research and Consulting.

Rotterdam, May 2011

1 Introduction

1.1 Background

This case-studies report presents the results of the case studies that have been undertaken in the context of the INTRALAB-study. This study that is commissioned by the European Commission, DG REGIO, is focusing on innovation, transport and labour market policy practices (hence ‘INTRALAB’) in EU Member States in general and more specifically on the balance between sectoral and integrated approaches and the involvement of sub-national levels. The study will provide conclusions and recommendations for policy makers at international, national and local levels on what type of policy approaches in the domains of innovation, transport and labour market are more effective and efficient under what kind of conditions.

1.2 Approach for the study

The Terms of References for the study has requested 3 main components:

- 1) **Literature review:** Literature review on the benefits, drawbacks and complementarities within the three policy domains (innovation, transport and labour market) of a sectoral versus an integrated approach and high versus low involvement of sub-national levels of government;
- 2) **Member State Policy practice:** Analyse the three policy domains through seven case studies in (partly) different Member States, focusing on six specific questions (see hereafter);
- 3) **Identify best policy practices:** to identify which issues should best be dealt with in a particular manner and could be used for inspiration for other Member States at national and/or regional/local level.

The main results have been included in a final report that has been issued separately. In this report the case studies that have been undertaken, will be reported upon.

1.3 Overview of the selected case-studies

The literature review for each of the policy domains has revealed typical situations and recent developments in policy interventions in the various EU-Member States. Further analysis of some of these situations and developments will be undertaken in specific case studies. In total 7 case studies have been selected in each of the 3 policy domains (innovation, transport and labour market).

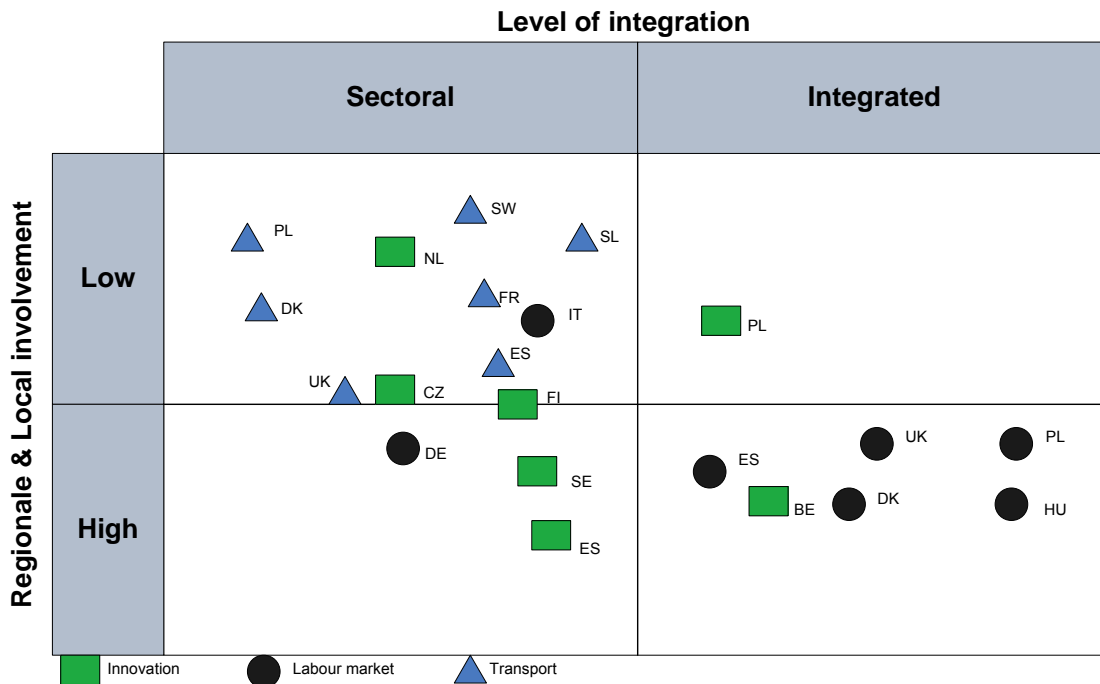
The case studies have been selected on the basis of the following general criteria:

- A. A typical case of a substantial and successful policy intervention or instrument in one or several EU-Member States which can provide inspiration in other Member States;
- B. Example of a sectoral or integrated policy intervention or instrument on the one hand and of a centralised or decentralised government initiative on the other, with clear demonstration effects for situations in other parts of Europe;

- C. Good spread over different policy situations in Western and Central and Eastern Europe, both per policy domain and for the 3 policy domains all together.

Table 1.1 summarizes the selected case studies. All quadrants of the matrix have been covered, while attention has also been paid to have a good spread across EU-27. In each of the case studies we will describe the type of policy initiative, the instruments used, how different government levels have been involved in that, how successful it has been, which specific aspects have contributed, and how this specific policy initiative compares with policy initiatives in other countries and regions in Europe. This will allow to present best practices and draw some wider conclusions regarding the balance between sectoral and integrated policy approaches and the involvement of sub-national levels in the field of innovation, transport and labour market.

Figure 1.1 Overview of selected case-studies for innovation, transport and labour market



1.4 Set-up for the case studies

The case studies have been based on desk-research, telephone interviews and/or personal visits to government institutions, key stakeholders and experts in the selected countries/regions. For some of the cases there is already quite some information, which have allowed for desk research and telephone interviews mainly. In other cases the necessary information could only be gathered through personal visits to relevant organisations and experts in the respective Member States. The case studies have followed a more or less pre-defined set-up in order to answer the questions that the ToR has specified for the case studies, i.e.:

- a. What is the current balance between the different types of policies?
- b. What are the arguments used to justify each type of policy?

- c. How has the impact of each type of policy been judged?
- d. Has the balance between the different types of policies shifted over time?
- e. What are the arguments used to support this shift?
- f. What balance is used by the Member States which are seen as the top performers in this domain?

The structure of each of the case studies will be as follows:

- Background information on Country X
 - Performance and policy objectives in the respective policy domain;
 - Governance and policy trends;
 - Types and balance of policies pursued;
- Outline of case study
 - Description of the case;
 - What is the institutional set-up, which organisations are involved and what is their role (who is beneficiary, who is managing, how do parties cooperate, who are relevant stakeholders, etc.), any recent changes?
 - How many funds are involved and who is providing funding;
- Case study results
 - What is impact of the policy/strategy (in terms of reaching goals set in advance, socio-economic impact, economic/budgetary efficiency, spin offs in other areas and investments by other parties, etc.);
 - Impact on governance issues (direct, indirect, involvement of the private sector, new model of working to be used in other fields, etc.
 - What are main determining factors that have led to the success of the case-study?
 - Other impacts?
- Comparison with other related cases
 - What are main differences with other approaches in other countries;
 - Why has the case created better results: is this linked to sectoral or integrated policies/strategies, and/or centralised/decentralised government initiatives, or are other factors more dominant and if so, what are these?
 - Are there specific elements that can be presented as best practices?
- Conclusions
- Annexes: specific background information and sources per case, including a list of persons that have been.

2 Innovation case studies

2.1 Belgium: Flemish Innovation Cooperation (VIS) support programme

2.1.1 This Case Study

In this case study we carry out a detailed examination of performance and evaluation results for one of policy measures in the Belgian innovation policy mix:

- Flemish Innovation Cooperation (VIS) support programme.

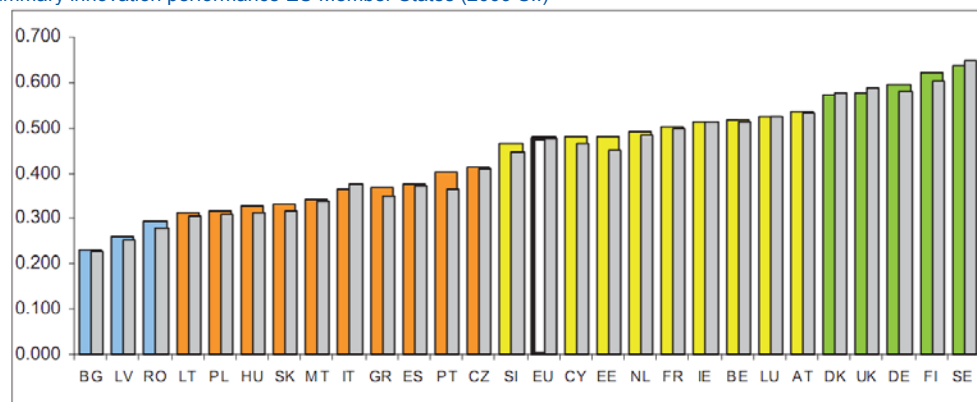
The study consists of four parts. In the first part we examine the Belgian innovation policy mix and analyse its main features along the dimensions of centralised/decentralised and sectoral/integrated policy design. In the second part we describe the case policy, its objectives, design, and implementation mechanism. In the third part we make an overview and analyse the results of the policies past impact evaluations. The fourth section of this study concludes and presents answers to the main research questions formulated in the general analysis framework.

2.1.2 Innovation performance and policy mix in Belgium

Belgium belongs to the group of developed Western European countries. This country can be characterized as a rich, geographically well-located ('centre of Europe'), densely populated country. Its economy is mostly service-oriented and with high labour productivity rates (although slightly decreasing over time).

Belgium is also an extremely open economy (export shares exceeding 70% of GDP) dominated by a small number of multinational companies surrounded by a large number of small and medium enterprises. The social security system in Belgium is widely accessible and well developed, which makes it at the same time quite expensive, the problem which becomes more serious with ageing population. As a result this translates into higher salary costs putting pressure on the competitive position of Belgium.

Figure 1. Summary innovation performance EU Member States (2009 SII)



Note: The Summary Innovation Index (SII) is a composite of 29 indicators going from a lowest possible performance of 0 to a maximum possible performance of 1. The 2009 SII reflects performance in 2007/2008 due to a lag in data availability.

The grey coloured columns show 2008 performance as calculated backward from 2009 using the next-to-last data for each of the indicators. This 2008 performance is not identical to that shown in the EIS 2008 as not for all indicators data could be updated with one year. The difference between the columns for 2008 and 2009 show the most recent changes in innovation performance.

Source: European Commission (2010), European Innovation Scoreboard 2009.

Belgian government authorities at federal and local level have expressed their commitment to the Lisbon objectives. In the adopted National Reform Programme the R&D policy is given one of the prominent positions. The regions (Flanders and Wallonia, and Brussels) put their own emphasis on various objectives and policy dimensions:

- In Flanders the main goal was simplification of the innovation policy, as recent assessment of the Flemish innovation policy mix has shown (see Soete (2007)) that the set of instruments appeared to be complete, but complex;
- Wallonia has recently adopted the plan which has special emphasis of fostering closer coordination of public and private R&D strategies and efforts;
- The Brussels region has put an objective of increasing the regional R&D capacities by sectoral measures focusing on three sectors: ICT, health and environment.

The progress report 2006 indicates that Belgium is on the right track in achieving its longer term objectives (EC (2009b)). This finding is confirmed by the positive evaluation in the OECD Economic Survey of Belgium 2007 (OECD (2007)).

Belgium's overall innovation performance is positive with a position on average above both the EU25 and EU15 in the group of so called "innovation followers". However, Belgium's research and innovation performance is characterized by large R&D investments in the business sector, which off-set a relative under-investment in the public sector. These investments are subject to uncertainty due to the dominance of several large multinationals in the total expenditure. Belgium has a relatively well-educated population but is currently losing ground in the area of new science and technology graduates. Such a situation is worsened by the uncompetitive net wages paid to researchers and engineers.

A skewed industrial landscape (a few large firms and many medium to small size companies) and a subsequent skewed private R&D expenditure pattern (large companies being the main spenders) make the overall R&D profile of Belgium relatively fragile.

The Belgian economy entered a deep recession during the second half of 2008 due to the impacts of the international economic crisis. The government intervened with support measures that reinforce the financial and economic system. It is likely that the crisis will affect the Belgian innovation system. In particular, since research and development (R&D) tends to be mainly financed from retained earnings in business, R&D budgets are likely to decrease. Furthermore, these investments are subject to uncertainty due to the dominance of several large multinationals in the total expenditure.

In general, the Belgian innovation faces the following three major challenges (EC (2009b)):

- *Innovation skills mismatch.* There is a low share of new science and technology graduates, as well as a growing under-utilization of lifelong learning. These two elements are essential to maintain an adequate supply of skills to strengthen the country's competitiveness.
- *Creating knowledge-intensive enterprises and stimulate their growth.* There is need to boost the attractiveness of starting up and foster innovative businesses. Reliance on several large multinationals presents a risk, especially in the current economic context.
- Create a favourable environment for the exploitation of research results in Belgium. R&D and innovation efforts do not yet bring sufficient results that ensure economic development.

The case study presented in this note, the Flemish Innovation Cooperation (VIS) program, examines the policy initiative, which directly addresses two of the above challenges for Belgian innovation system: creating and supporting knowledge-intensive enterprises and promoting better exploitation of research results.

2.1.3 Governance issues

The responsibilities in the innovation policy system are distributed across the different authorities in Belgium. Belgium is a federal country composed of three communities (Dutch, French, and German-speaking) and three regions (Flanders, Brussels Capital, and Wallonia), as well as the federal government level. Each entity has exclusive authority and competencies in a number of areas, which are embodied in its own elected parliament, government, administration, legislation, and advisory bodies. There is no hierarchy between the entities regarding their competencies.

Communities are in charge of matters linked to people-related matters such as culture, media, health policy, and education. Regions are charged with issues related to territorial matters such as energy policy, agriculture, public works, environment, and economic support. In Flanders, the Flemish community and the Flemish region have merged their institutions into one administration, government, parliament, etc.

When considering the overall Belgian innovation-policy mix, the main activities in this policy domain take place at the level of Communities and Regions, although several instruments (such as all fiscal measures) are being administered at the federal government level. In Belgium, each regional (i.e. Community or Region) entity and the federal authority define its own innovation-

policy. Table 1 presents the information about the number and the budget for different innovation support measures on the federal and regional level.

Table 1: Number of support measures and the related budgets at different governance levels in 2009

Governance level	# measures in database	Related budgets (m€)
<i>Federal</i>	12	295
<i>Flanders</i>	22	546
<i>Wallonia/French Community</i>	31+1	204
<i>Brussels Capital</i>	12+1	28
<i>Overall Belgium</i>	78	1 074

Source: European Commission (2009b).

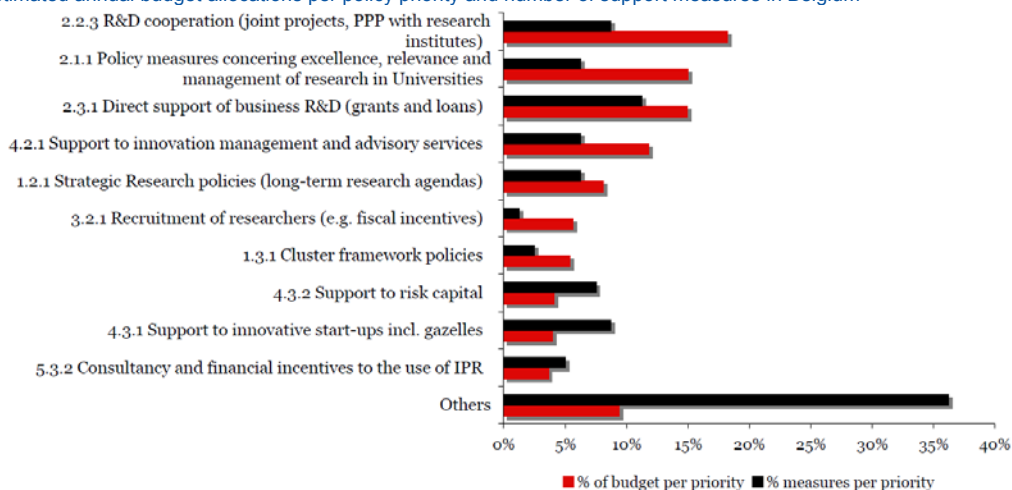
The **Communities** are in charge of education (including the university level), and research related to their own competencies.

The **Regions** are in charge of economic support and technological innovation, and research related to their own competencies. This includes, among other, the measure for technological and industrial support, development of new products and processes, technology transfer, and the public research organizations.

The **Federal authority** is responsible for research related to its own competencies, for scientific research in particular areas (space and nuclear research), and for the federal scientific and cultural institutes. It is also charged with intellectual property right (IPR) policy and tax policy including fiscal measures in support of R&D. The regional entities and the federal authority have a number of agreements regulating their joint cooperative efforts.

In general, policy mixes on regional and federal levels contain most of the modern policy measures and instruments considered to be the ‘state-of-the-art’ in international practice. Figure 2 presents the relative shares of different support measures in total Belgian innovation policy mix.

Figure 2. Estimated annual budget allocations per policy priority and number of support measures in Belgium



Source: European Commission (2009b).

Recent trends in Belgian innovation policy mix

As the objectives for innovation policy are set at regional level, we see different policy development trends at different governance levels in Belgium. Recent, major trends in the policy-mix can be summarized as follows:

- The **Federal Government** has continued to expand and strengthen the number of fiscal measures in favour of business R&D and innovation, with notably the introduction of a new R&D tax credit. Given the limited scope for action in favour of enterprise level investments in innovation of the Federal authorities this orientation is coherent and responds to a long running critique of the ineffectiveness of fiscal subsidies for R&D and innovation in Belgium.
- The **Flemish Government** has complemented the already fairly extensive horizontal IWT program for R&D support targeted at specific bottlenecks in the innovation system and its effort to encourage increased co-operation amongst networks of actors (the VIS projects) with a number of measures that are more oriented towards enterprise creation and growth. These measures are managed by the Flemish Holding Company, consist mainly of other means of support than subsidies (loans, guarantees, etc.) and are partly financed by private parties.
- In **Wallonia**, the 2005 Priority Actions ('Marshall Plan') has given a new framework for intervention in favour of R&D and innovation as described previously. In 2005, the Walloon Government decided to allocate an additional appropriation of 270 million Euro between 2006 to 2009 in favour of R&D and innovation. In 2006, the main emphasis has been on implementing this budgetary commitment through specific measures. The key new measure has been the launch of the competitiveness poles.
- The region of **Brussels-Capital** has begun to develop for the first time an innovation policy, through the drafting of a first regional innovation plan which is clearly influenced by the specific nature of the urban economy confined to a relatively small geographic space. The policy-mix being developed is based on a sectoral/clustering approach (priority for funding being given to three specific sectors) complemented by a drive to stimulate creation of new 'high-tech' or knowledge intensive enterprises; and an effort to improve the commercialization of the academic and public sector research base in the region.

The recent trends described above give us a good illustration of how fragmented is the Belgian innovation system. Therefore there is increased attention for the need of enhancing inter-regional cooperation. In particular, the recent declaration for regional policy in Wallonia emphasizes extensively the need to enhance cooperation with the region of Brussels, in particular, by providing increased policy coherence between the two regions. At the same time simplification of the research and innovation support system has been an issue in Flanders, and has led to some improvement. Similarly, in Wallonia attention was paid to administrative simplification which also led to a more streamlined innovation policy mix. This common tendency can become even more prominent when supported at the highest (federal) policy governance level. However the 2009 TrendChart report for Belgium still point out that division of responsibilities makes it harder to fund interdisciplinary projects (EC (2009b)).

Innovation policy mix in Flanders

In Flanders, innovation is governed by the administration of Economics, Science and Innovation. Under this administration, several agencies are in place to foster innovation. For policy execution (but also with a role in policy preparation in their respective fields) there exist a number of agencies, covering a broad spectrum of policy areas: competitive scientific research (FWO), R&D

and innovation support to companies (IWT), training (SYNTRA), financial participations, guarantees and loans (PMV) and entrepreneurship (Entrepreneurship Agency). The latter is a recent merger of the agencies of entrepreneurship (VLAO) and economic support to companies (Economy Agency). The Flemish Science Policy Council (VRWB) advises the Flemish Government on the preparation and the evaluation of its science, technology and innovation policy and has analyzed a wide range of issues including the future's main lead sectors in the field of innovation such as the competence poles. Flanders has six universities (of which two are located in the Brussels Capital region), four large strategic research centres (IBBT, IMEC, VIB, VITO) along with a number of smaller competence poles (or excellence centres) for specific (mainly sectoral) knowledge development and/or knowledge transfer.

In Flanders there is much continuity in the policy mix: most horizontal instruments for RD&I support have been around for quite a while. Government budgets increased substantially (approximately EUR 50 million was structurally added to the science and innovation budgets annually in the last five years). Main change in the policy in the last five years was the **increased focus on entrepreneurship** (with new measures related to start-ups and venture capital (VC)). This increased attention addresses the important challenge to get from knowledge to business. Furthermore the **attention for cooperation increased**, focusing on increased application of new knowledge in industry (e.g. competitiveness poles, strategic research centres, VIS-program) as well as developing more **industry-oriented knowledge in universities** (e.g. IOF and Strategic Research Centres).

In Flanders, simplification of the innovation policy has been a main goal, as the set of instruments appeared to be complete, but complex. Furthermore, 'greening' of the economy (i.e. sustainable growth) and broadening the innovation policy to more focus on entrepreneurial activities were main goals. Since 2009, the 'Flanders in Action' plan is the basis for the Flemish innovation policy. At Flemish level, no new measures were implemented last year. In Flanders, the research and innovation budgets have been increased significantly (with 45 million euro in 2008 and 75 million euro in 2009, see EC (2009b)). Moreover, several instruments have been simplified.

The simplification of the regional policy mix in Flanders went parallel with moving towards more integrated horizontal policy measures, which can be tailored to the needs of beneficiaries, and by decreasing the administrative burden related to participation in government-sponsored programs. According to the recent TrendChart analysis (EC (2009b)), in Flanders the following three innovation policy measures are considered important:

- **The Flemish Cooperative Innovation Networks (VIS, BE56)** is a valorisation support program of the IWT. The global objective of the VIS is to stimulate technological innovation in Flemish enterprises, primarily SMEs, by increasing awareness of technological innovation, improving access to technological knowledge and supporting the implementation of knowledge in enterprises. The competence poles are one dimension of this measure. **The VIS scheme is a substantial measure in the innovation instruments (EUR 129 million on a yearly base or around one quarter of the total Flemish support measures budget in 2009) and has been used as a best practice instrument in Belgium.** Furthermore, it is a comprehensive, providing regional and thematic stimulation, as well as research budgets and companies indicate that the VIS scheme is a good or even perfect match with their needs.

- **ARKimedes** is an important investment fund for corporate financing, managed by the PMV. ARKimedes doubles the risk capital of young companies that show potential for growth. The ARKimedes fund has allocated EUR 105 million in several private partnerships. **Together with the private partners, a total of EUR 218 million is made available to invest in promising companies.** The ARKimedes fund thus succeeds in raising private investments in young companies, which is important, especially in hard economic times. At the beginning of 2009, about EUR 66 million had already been invested in 92 Flemish SMEs. The added value of ARKimedes in the Flemish innovation system is that it succeeds in mobilizing private risk capital, and that it offers SMEs growth and innovation.
- **The Strategic Basic Research (SBO)** stimulates accumulation of knowledge that promises economic benefits on the longer term. SBO positions itself between basic research – aiming at building up knowledge, and more specifically applied science – aiming at the development of products on a short term. **The budget for the current call of SBO is EUR 38.6 million.** SBO does not yet close the gap between the longer-term basic research and applied science. A recent impact assessment showed that especially firms are not involved enough in the SBO. As changes have been and will be made to the design of SBO, its importance will be rising.

Further, among other instruments of importance we find such measures as the Strategic Research Centres and the R&D subsidy program for companies.

Policy design patterns and governance issues

All three Belgian regions have at their disposal a relatively full set of policy measures. These policy measures are implemented in a decentralized way with some coordination effort at the federal and the inter-community level.

In terms of budget appropriations, we see that Brussels Capital and Wallonia/French community have very similar priorities structures in their policy mixes (European Commission (2009b)). In Flanders we observe a set of larger instruments, and a larger share spent on support for innovative enterprises (for example, the VIS program for advisory services, and VC support). Flanders spends less on measures towards improving governance and horizontal policies, yet it has a larger number of measures in these areas.

In general, the innovation policy measures in Belgium do not target a specific industry. This definitely holds for Flanders, which has a strong preference for integrated and horizontal policies. As an exception, one can mention the competence poles programs in Flanders and Wallonia, which focus on specific sectors (such as SMEs) or technologies (ICT and medical technologies), although in the implementation stage the policy is realized in a horizontal manner. Furthermore, the federal measure for innovation support consist virtually only of fiscal measures without fixed budget.

When analyzing the recent tendencies in the policy mix, we in general can conclude that the main changes are being made towards better and more efficient implementation of the existing policies, with a trend towards concentration (thus centralization at the regional level) of the executive bodies. In Walloon and Brussels region we observe the emergence of some sectoral priorities at the level of policy initiatives.

2.1.4 Case description: Flemish Innovation Cooperation (VIS)

- **Policy type**
 - *Decentralised, Sectoral-integrated (see below for details)*

- **Sectoral/Integrated**

	Objectives/targets			
Delivery process/ instruments		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
	Sectoral			
	Other policy domains to be taken into consideration		X	
	Other policy domains fully on board			

- **Centralised/decentralised**

	National level	Regional level	Local level
Conceive		X	
Manage		X	
Deliver		X	

- **Global policy objective**

The goal of the program is to increase technological innovation capacities in Flanders by stimulating **cooperation and knowledge transfer** between research organizations, intermediaries and companies. A long-term objective is to increase the competitiveness of SMEs by reinforcing their innovative capacities.

- **Design**

The most important sub-programs are:

- **Collective research (CO)**. Allowing large groups of companies to profit from specific knowledge or technologies.
- **Regional Promotion of Innovation (RIS)**. Assisting groups of companies that have a technological problem in common. Stimulates networking between the companies and knowledge institutes by funding the labour costs of cooperative projects.
- **Issue-focused Promotion of Innovation (TIS)**. Aimed at groups of SMEs that need innovation support in a certain area of technology. Funds short-term exploration projects of one year's duration where a certain domain is investigated for state of the art, best practices, etc.
- **Thorough Technological Advice (GTA)** offered via accredited knowledge institutes. Companies can obtain specialized technological advice (projects of maximum €7500).

Except for the feasibility studies and the collaborative projects, for which continuous applications can be submitted to IWT, the subprograms are annually ‘opened’ for submission of new proposals. IWT prepares and launches the various calls for proposal, manages the process of evaluation and selection, handles the contractual process, and monitors the performance of the different projects.

Financing in the framework of the VIS program is provided on competitive basis. In addition to the selection criteria, the funding authorities apply several evaluation criteria, such as: 1) quality of the proposal, and 2) innovation potential of the proposal.

Furthermore, IWT can take into account several criteria referred to as ‘socio-economic effects’, such as: 1) contribution to sustainable development; 2) contribution to other policy objectives; 3) domain exceeding character of the project; 4) interregional and/or international character of the project.

- **Institutions and funds**

The beneficiaries of the policy program are Belgian (i.e. registered under Belgian law) companies, located in Flanders. Typically, only consortia of companies, large groups of (more than 10) companies, clusters, ‘poles of competence’ or alliances of companies and research institutes are eligible for the support program.

The funds are administered by IWT, the government agency for Innovation by Science and Technology. The general mission of this institution is helping Flemish companies and research centres in realizing their research and development projects. IWT offers financial funding, advice and help accessing the network of potential partners in Flanders and abroad. IWT also provide support services to Flemish Government in its innovation policy.

IWT is funded by and falls under the authority of the Flemish Government. The legal basis for the development of these activities by IWT is provided by the resolution on Flemish Innovation Cooperation Network adopted by the Flemish government in May 2002. The Decree on Science and Innovation (30 April 2009) sets out the most recent description of its mission and assignments.

Position of the VIS programmed in the Flemish policy mix

The activities in the framework of the Flemish VIS program are situated in the following areas:

- R&D cooperation (joint projects, PPP with research institutes)
- Direct support of business R&D (grants and loans)

When related to the national and regional policy agendas, besides the ‘horizontalisation’ and further integration of innovation policy in various policy domains, the Flemish government emphasizes the importance of knowledge transfer to Flemish SMEs. This is partly based on the recognition of the large innovation potential in this type of companies. Furthermore, the Flemish industrial structure is to a large extent (almost 80/20 relation) SME dominated. Adequate support of SMEs in getting access to relevant knowledge and know-how is therefore essential. To the background of the increasing awareness of ‘open innovation’, knowledge transfer (and thus networking) becomes a key element for a successful science, technology and innovation system.

The Flemish Innovation Cooperation network (referred to as ‘VIS’) aims at stimulating networking and knowledge transfer.

The VIS program represents a clear example of a horizontal policy measure directed at stimulating innovation in enterprises through the following set of different mechanisms:

- Financial support of R&D projects in firms and knowledge diffusion;
- Co-ordination of the various innovation actors working with financial support of the Flemish government;
- Strengthening the services provided in the area of innovation stimulation;
- Development of a knowledge centre for R&D and innovation in Flanders.

As we mentioned above, the budget of the VIS program comprises almost a quarter of the total innovation support budget of the Flemish region. In 2008, IWT paid various Flemish Innovation-related Collaboration (VIS) projects a total subsidy of 39.6 million Euros (from the total 297 million Euros spent on R&D-related projects); in addition, 2.8 million Euros went to interface services of the Flemish universities (IWT (2008)). By the main components the scope of the program can be described as following:

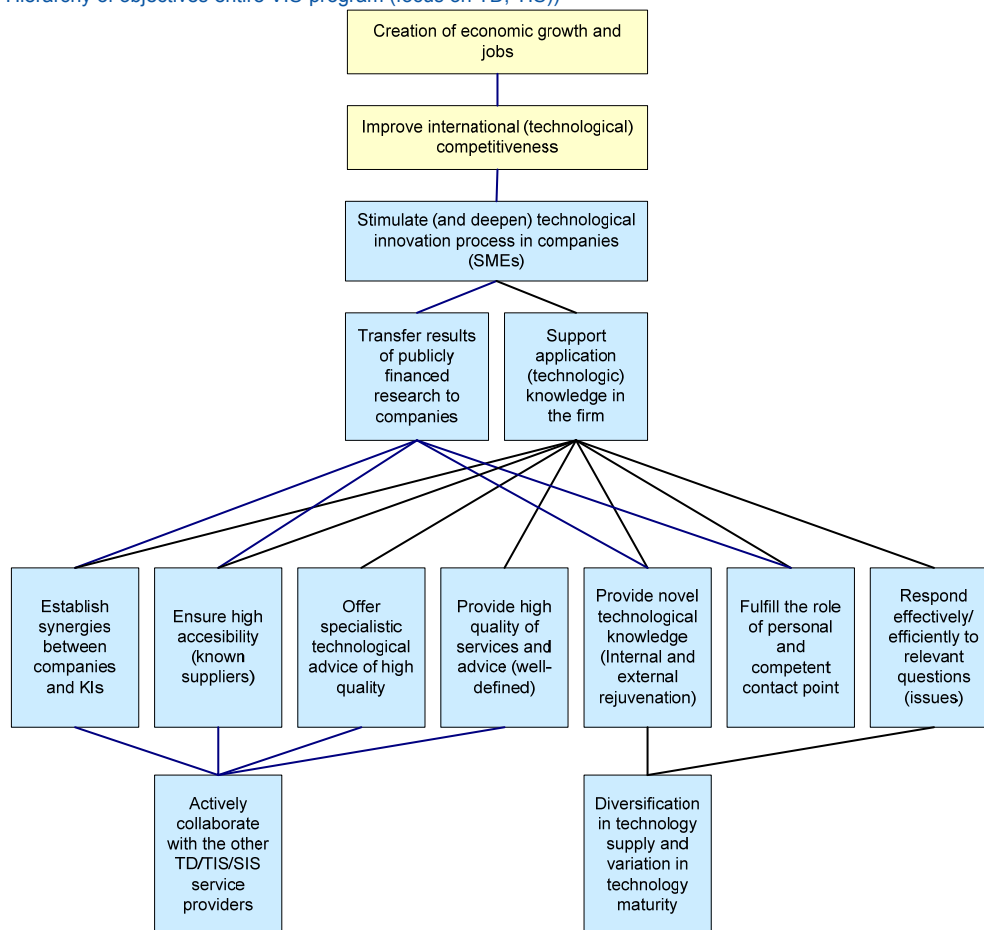
- **Collective research (CO)**
 - Collective Research (CO) builds knowledge and translates it into innovative applications to be used by a range of companies. IWT paid 8.5 million Euros to 18 out of 34 collective research projects. The quality and valorisation potential of these projects are equally important during selection.
- **Regional Promotion of Innovation (RIS)**
 - Each out of five Flemish provinces has its own regional innovation centre. IWT funds these centres to stimulate innovation in their region. The funding program is called the Regional Promotion of Innovation (RIS). At the end of 2008, IWT evaluated the performance of the various provincial innovation centres and established that they have met and even exceeded their goals (Verbeek (2008)).
- **Issue-focused Promotion of Innovation (TIS)**
 - Companies — especially SMEs — can contact IWT for Issue-focused Promotion of Innovation (TIS) projects, a funding program for those tackling common technological problems. IWT assists in these projects by tracing synergies between various companies and between companies and knowledge centres. In 2008, 50 consultants were working full time on 43 TIS projects. IWT funded 18 out of 29 newly applied TIS projects at a cost of 6.9 million Euros.
- **Thorough Technological Advice (GTA)**
 - IWT brings companies in contact with recognized knowledge centres for technological advice. At the end of 2008, 22 knowledge centres were offering 56 technological consultancy services. IWT financed 19 out of 43 technological service projects to the tune of 9.3 million Euros. IWT also paid out 1.2 million Euros to 31 applicants for Thorough Technological Advice (GTA). As of 2009, the “SME wallet” replaced GTA funding.

2.1.5 Impact of the case study

Method

The VIS scheme was evaluated recently in several parts (among which we find the four subprograms mentioned above) (Verbeek 2008).

Figure 2 – Hierarchy of objectives entire VIS-program (focus on TD, TIS))



Source: Verbeek 2008

The objectives of the program (see Figure 2) and subprograms have been the starting point of the analysis. These objectives have been ‘translated’ into anticipated effects that have formed the basis for the development of the questionnaire and the analysis of the results of the survey.

The main research questions addressed by the evaluation projects are:

- Do the services provided under the VIS-program (and mainly the TD and TIS-subprograms) improve the international (technological) competitiveness of the companies that have received these services?
- Do the services provided under the VIS-program stimulate and deepen the technological innovation process in companies?
- Do the services provided under the VIS-program facilitate the transfer of the results of publicly financed research to companies?

- Do the services provided under the VIS-program support the application of (technological) knowledge in the firm?

Results

Below we present the main findings of the analysis of the effects of the VIS-program, both at the level of the companies and the actors outside the VIS/VIN-network:

- **‘Generic’ services are more frequently used than ‘company-specific’ services.**
In general, based on the interviews we carried out, it can be concluded that smaller companies depend more on the services provided under the VIS-program than larger companies (e.g. 62% of the companies indicates not that have used any commercial service provider over the period 2004-2006). At the same time we see that ‘generic’ services are used more frequently than ‘company-specific’ services. Regardless the size of the company, the more frequently used services concern the following: personal visits from an innovation advisor, telephone-support and the use of test-facilities. Less frequently used are the development of an innovation plan, company-specific advice, and audits.
- **The companies indicate a strong fit between their ‘needs’ and the services offered under the VIS-program.**
63 % of the companies in the sample have reported that the services provided under the VIS-program strongly fit their needs; 35% indicates a weak fit, whereas only 2% of the surveyed companies see no fit at all. This confirms that the design and development of the services by the intermediary organizations is indeed based on the needs of the company-clients.
- **Compared to the commercial services, the VIS-services score well in relation to ‘costs’ and ‘breadth’**
The companies (38%) that have used commercial services over the period 2004-2006, and thus are able to compare, indicate that the VIS-services score well in comparison to services provided by other service providers. Particularly, they refer to the lower costs of the services and the ability of the VIS-service providers to provide more integrated solutions (broader support). At the same time a slight majority of the companies (about 56%) acknowledges the higher quality and state-of-the-art character of the commercial services when comparing to the VIS-services.
- **There are positive indications that the VIS-program (focusing on TD and TIS) succeeds in achieving its longer term objectives and effects.**
 - *The VIS-program helps to improve the technological (and innovation) capabilities of the companies: the ability of the companies to understand and improve technical problems is most positively influenced.*

Most of the respondents agree that the VIS-program does positively influence several aspects of a company’s technological capabilities. In general, the respondents agree mostly with the positive effect of the services on the ability to understand and solve technical problems and to become acquainted with new technologies which have been unknown to the company in question. Based on the survey, no real agreement could be found on whether the services offered have stimulated and/or helped companies to develop an innovation strategy (mean value of 2.05 on a scale to 4).

The agreement becomes more distinctive and stronger when frequent and the non-frequent users are distinguished. The frequent users agree significantly more to the positive effects of the services on their technological (and innovation) capabilities. Taking into account the effect of an internal R&D department or facility, it is found that companies that do not have an R&D department or facility benefit more from the services when it comes to becoming acquainted with new technologies and the ability to apply them.

- *The VIS-program helps to improve the (technological) competitiveness of the companies: quality and range of products/services as well as the overall value-added of the company are most positively influenced.*

Most of the respondents indicate positive effect on the range of products, the development of new markets, the quality of services and products offered, and the general value-added of the company. Particularly positive are the effects of the services on: a) the quality of products and services of the company, b) the range of product and services that the company, and c) the value-added of the company.

The effects of the services on the development of new markets and the value-added of the company are significantly stronger for smaller companies than for larger companies.

- *The VIS-program facilitates networking but to a lesser extent formal collaboration.*

On average, 1/3 of the companies has reported that the services have had a positive effect on the possibility to expand their network with other ‘players’ in the economy such as other companies, competitors, suppliers, universities, and consultants. When looking at the effect on network consultation, companies agree that due to the VIS-services they are more frequently contacting network partners. The most outspoken is the consultation of network partners on more general ‘business-related’ challenges. Innovation and R&D related challenges follow. This network consultation does not always translate into more ‘formal’ types of collaboration.

- **“Frequency of use” of services plays a role of importance**

Throughout the analyses it appeared that frequency of use significantly affects the benefits that a company may have from the services provide under the VIS-program. The effects of the services on the frequent users is systematically higher than the effects of the services on the less-frequent users.

- **The VIS-program/network does not seem to have negative side-effects on the landscape of S&T actors outside the network**

Based on a number of interviews with actors outside the VIS-program and network, there seems to be no direct disruptive effects on the actors/market outside the network. Occasionally there is competition, especially in relation to services that have been taken up by external/commercial service providers. There is in this context a ‘spill over’ effect, namely, new services/solutions are developed inside the VIS-network and are taken-up after some time by the external/commercial players. It is stated that it is “a ‘task’ of the knowledge centres inside the VIS-program to develop new ideas and services, and that it is a ‘task’ of the

commercial providers to take these up and develop them further”. In this light there is a ‘complementarity’ between the two spheres which often results in (formal) collaboration.

Analysis: Governance Issues and Determining Factors

The VIS program is clearly a regional policy measure directed at stimulating cooperation in R&D between private and public research institutions. The subsidized services are provided to local enterprises on a competitive basis.

The VIS program is functioning in direct contact with the beneficiaries (mostly SMEs). It has been shown that the frequency of such contacts does play a role in determining the overall effect of the firms’ participation in the program. The more often the firm comes in contact with VIS-subsidized activities, the greater positive effects it has on her innovative performance.

This seems to suggest that the development of **long-term relations with company-clients and thus a frequent interaction** are important preconditions for realizing (lasting) positive effects. It should be mentioned that this does not necessarily involve a high frequency of recurrent and identical support services, but rather an **evolving trajectory with different types of support**. VIS program appears to be able to influence the quantity and quality of similar services provided in the private sector. Based on the interviews with firms and service providers evidence has been found that the services and solutions developed in the cooperation framework kick-started by VIS later become available and used by other independent players who in their turn developed them further and brought to the market.

Among factors contributing to good performance of this policy measure users name its ability to meet the needs and requirements of the beneficiaries. The program has a wide selection of services available in different formats and with different content, which makes it easier for the users to obtain the services they need.

The ‘broadness’ of the provided services is another positive factor. Although not being superior to services provided in private sector it terms of their technological advancements and state of the art, the services by VIS providers are broader and better packaged in the form of **integrated solution**. In the light of the recent trends in the Flemish policy mix, the VIS program provides a good practice example of the sectoral policy measure, which is here to stay. As Flemish and Belgian innovation policy mix progresses towards more horizontal rather than sectoral approach, it is important to realize that some of the sectoral policy measures have their place in the updated policy mix.

Analysis: Economic impact of public support for cooperation

It is very challenging to provide a quantifiable measure for the effect of public support for cooperation in R&D and innovation. The above evaluation has been conducted at the firm and project level, thus considering the impact of policy on research and innovation currently under way in enterprises. It is beyond doubt that the outcomes of these efforts have a long way to go before they come to the market and their actual economic effect becomes visible.

Therefore if one must derive the economic effects of the VIS program, one must undertake an additional step to translate the results of the policy in relation to its objectives into the quantified

economic benefits. We argue that at the moment it is not feasible to provide an adequate translation procedure to calculate such effects, mainly because many of collective innovation supported by the VIS program has not yet materialized in the market. What we can do already is taking a step towards qualitative assessment of the economic impact while considering the indications about the programs progress towards its objectives.

The respondents in evaluation do agree with the statement that support provided in the framework of the VIS-program helps the firms to approach their technical problems in a more effective and efficient way. This serves as an indication that the firms are able to perform their R&D more efficiently, which is likely to produce two economic effects: decrease the cost of R&D and improve its returns, which in its turn increases the chances that a particular R&D project will become undertaken and produce an innovation otherwise considered not profitable to the firm. It has also been stated by the interviewed firms that the R&D carried out with support of Vis has contributed to improving the quality of their products, which therefore, positively affect that value added of the company and provides benefits to the consumers.

The effects of the VIS-support related to networking, although positive, are even more difficult to quantify, because these cannot be linked directly to business expansion, production efficiency, or the product quality improvement, thus leaving too much uncertainty about its true effect. Taking into account the fact that the network consultations rarely lead to more formal forms of cooperation (as indicated by the respondent), the economic effect of the VIS program in this area remains unknown.

2.1.5 Comparison with cases in other EU-Member states

The elements of the Flemish Cooperative Innovation Networks programme by their design and implementation resembles several other cases in our analysis:

- VINNVAXT programme in Sweden in the segment of thematic and problem-oriented cooperative research between public and private innovating actors;
The programme aims at supporting regional innovation systems to make them internationally competitive and sustainable over the long term. The goal is therefore to contribute to the development of problem-oriented research. The focus is a triple helix model of collaboration between the public, private and research/academic sectors.
- INGENIO programme in Spain, especially the CENIT sub-programme directed at public-private interaction in research;
INGENIO 2010 aims to use the initiative to involve the State, businesses, universities, and other public research bodies in a determined bid to attain levels in keeping with Spain's economic and political weight within Europe.
The CIBER (and RETIC) projects of the INGENIO programme encourage outstanding research in Biomedicine and Health Sciences conducted in the Spanish Health System and the Spanish Science and Technology System by developing and enhancing Network Research Structures.
- OSKE programme in Finland in the context of thematic and regional orientation of cooperating clusters.
The aim of the Centre of Expertise Programme is to enhance regional competitiveness and to increase the number of high-tech products, companies and jobs. To achieve this goal, the

programme implements projects reflecting the needs of industry, to encourage industry, research and training sectors to co-operate, to ensure rapid transfer of the latest knowledge and know-how to companies and to exploit local creativity and innovation.

All three countries, where these comparable cases come from, can be currently characterised as countries with predominantly sectoral policy implementation tradition with different degree of centralisation. Two of these countries are innovation leaders (Sweden and Finland) and one is a moderate innovator (Spain). Yet as we mentioned above, these countries also show a noticeable shift towards more integrated innovation policy design, and the corresponding cases serve as examples of such a shift.

2.1.6 Conclusions

The main objective of this programme is to stimulate cooperation and knowledge transfer between research organizations, intermediaries and companies. A long-term objective is to increase the competitiveness of SMEs by reinforcing their innovative capacities. Below we present the main results of this case study in the context of the key research questions.

a. *Current balance in policies*

The VIS programme fits well into the current structure of Belgian innovation policy mix, which is predominantly structured around decentralised (at the federal level) and integrated policies.

b. *Arguments to justify policies*

The programme was designed according to a bottom-up approach as a comprehensive measure, providing regional and thematic stimulation, as well as research budgets. Additional favourable factors were the local regional nature of the policy (thus shorter ‘administrative’ distance for both the beneficiaries and the policy administrators) and the fact that the Flemish region does have the necessary knowledge capacity available, which provided an extra impulse to public-private cooperation.

c. *How can impact of each type of policy be judged*

The performance of the VIS measures has been judged positively in several external evaluations (for details see the Case Description). The main advantage of this policy is its ability target different kinds of participants and activities employing different instruments and their combinations. The companies indicate that the VIS scheme is a good or even perfect match with their needs.

d. *Has the balance shifted over time?*

As for the recent tendencies in the Belgian policy mix, the VIS programme has undergone certain corrections with an objective of streamlining its implementation and decreasing the administrative burden for both beneficiaries and administrators. The global balance of decentralised/centralised and sectoral/integrated policy approaches in the Belgian policy mix does not exhibit any considerable shifts, which in this case would allow us to consider the VIS programme as an example of a good practice in the context of a ‘mainstream’ national policy.

e. *Arguments to support the shift*

As of this moment, the Belgian innovation policy mix does not exhibit considerable shifts. Most efforts are directed towards improving effectiveness and efficiency of the current policy measures implementation.

f. *Balance top performers*

The elements of the Flemish Cooperative Innovation Networks programme by their design and implementation resembles several other cases in our analysis:

- VINNVAXT programme in Sweden in the segment of thematic and problem-oriented cooperative research between public and private innovating actors;
- INGENIO programme in Spain, especially the CENIT sub-programme directed at public-private interaction in research;
- OSKE programme in Finland in the context of thematic and regional orientation of cooperating clusters.

All three countries, where these comparable cases come from, can be currently characterised as countries with predominantly sectoral policy implementation tradition with different degree of centralisation. Two of these countries are innovation leaders (Sweden and Finland) and one is a moderate innovator (Spain). Yet as we mentioned above, these countries also show a noticeable shift towards more integrated innovation policy design, and the corresponding cases serve as examples of such a shift.

The current objectives of the program are quite broad, which can be considered to be in line with the broad and bottom-up approach that underlies the VIS-program. To summarize the set of factors contributing to success, one can say that the main advantage of the VIS-initiative lies in its ability to meet the individual needs of participants, which in this case is mostly due to the local regional nature of policy and the fact that the Flemish region does have the necessary knowledge capacity available.

With a certain degree of confidence we can conclude that the total economic effect of the VIS-program in Belgium is likely to be positive. We expect most of the benefits to originate in the fact that the public support for R&D cooperation makes R&D more efficient and effective, extends the number of potential innovations, and contributes to improvement of product quality at firms.

In general, with an emerging trend towards more horizontal and integrated policy implementation in Belgium, the VIS program provides an example of a balanced approach to sectoral policy design and objectives combined with the horizontal integrated approach to implementation.

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2.2 Czech Republic: ROZVOJ support programme

2.2.1 This Case Study

In this case study we carry out a detailed examination of performance and evaluation results for one of policy measures in the Czech innovation policy mix:

- Support programme to dynamically growing SMEs (ROZVOJ).

The study consists of four parts. In the first part we examine the Czech innovation policy mix and analyse its main features along the dimensions of centralised/decentralised and sectoral/integrated policy design. In the second part we describe the case policy, its objectives, design and implementation mechanism. In the third part we make an overview and analyse the results of the policies past impact evaluations. The fourth section of this study concludes and presents answers to the main research questions formulated in the general analysis framework.

2.2.2 Innovation performance and policy mix in the Czech Republic

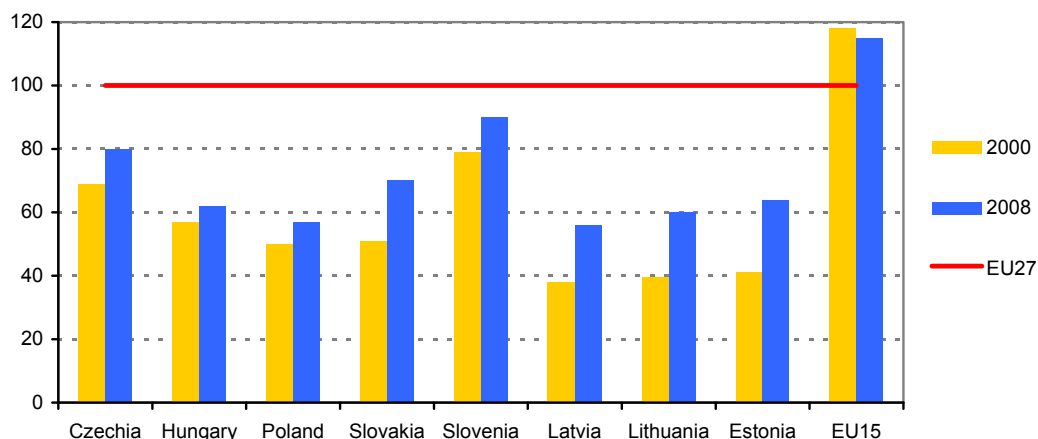
The aim of this chapter is to describe the latest evolution and changes in the system for support of research, development and innovation (R&D&I) activities in the Czech Republic focusing on the latest changes which took place during 2008 and 2009. The political and institutional setting, however, cannot be described fully without understanding the context. Therefore, the chapter starts with a short description of the latest socio-economic developments in the Czech economy and its position in EU27.

Economic performance

A gradual convergence of the Czech economy started after 2001. Since 2001, Czechia managed to get closer to the EU27 average – from the initial 69 % of the average GDP per capita in EU27 to circa 80 % of the EU27 average in 2008 (see figure 1). Among the new Member States, the Czech GDP per capita rates among the highest, having been exceeded only that of by Slovenia. However, the Czech Republic (CR, Czechia) lagged behind Slovakia and Poland according to the growth rate¹¹ parameter.

¹¹ Strategic Report of the Czech Republic, 2009

Figure 1: GDP per capita in Purchasing Power Parity as a percentage of the EU average, 2000 and 2008



Source: Eurostat

The catching up process of the Czech economy is regionally differentiated. The key driving force of the overall growth of Czechia has been so far the city region of the capital Prague together with Central Bohemian Region which forms its functionally integrated hinterland. The remaining twelve NUTS 3 regions did not show much differences and almost none of them had managed to reach by 2006 its economic level of 1996. There are two exceptions – the Karlovarský and Olomoucký NUTS 3 regions. Their economic performance was low even during the period of economic growth which indicates the risk of increasing regional disparities in future.

Czechia is lagging behind the EU countries also in its labour productivity, even with a larger difference than that in the case of the GDP. Although the productivity growth in the CR rated one of the highest among the new Member States between 2000 and 2008, the productivity of the Czech economy reached only 72 % of the EU27 average in 2008.

The economic growth of the CR after 2001 is closely related to the inflow of FDI into the Czech economy or into selected branches of manufacturing industries respectively. The companies under foreign control have significantly contributed to the growth of the labour productivity; in general it exceeds considerably the productivity of domestic companies¹².

The highest volumes of the FDI were motivated by the transfer of export oriented production with a low value added from Western European countries to the new Member States characterised by cheaper labour and production costs¹³.

Due to these factors, the position of the Czech Republic in the global production networks is characterised by a relatively high share of manufacturing industries. It can even be called “second industrialization”. The growth of the manufacturing industries together with growing exports

¹² In 2006 the labour productivity of domestic companies reached only 53 % of the labour productivity of the companies under foreign control.

¹³ Market-driven FDI represent a second large group of the FDI stock in Czechia. These investments were directed mainly to service industries such as trade, financial service etc.

associated with the FDIs located in Czechia, were a crucial driving force behind the economic growth during the years 2002-2007.

Because of the high volume of FDI and growing exports, the Czech Republic has become an open economy strongly dependent on the economic performance of its key business partners, particularly Germany but also some other Western European countries. The current economic crisis has led to a drop of the external trade, that immediately had its effect on the Czech economy.

The crisis has also brought a strong pressure towards cutting companies' costs. This can result in a lower inflow of new investments into Czech economy. It has already caused lower investment activity of companies in Czechia, and thus a quicker outflow of the foreign investors into lower-costs locations. Consequently, to stay competitive, the Czech Republic should continuously change its orientation towards knowledge-based activities rather than remain the country with the cheap manufacturing labour.

Knowledge based economy

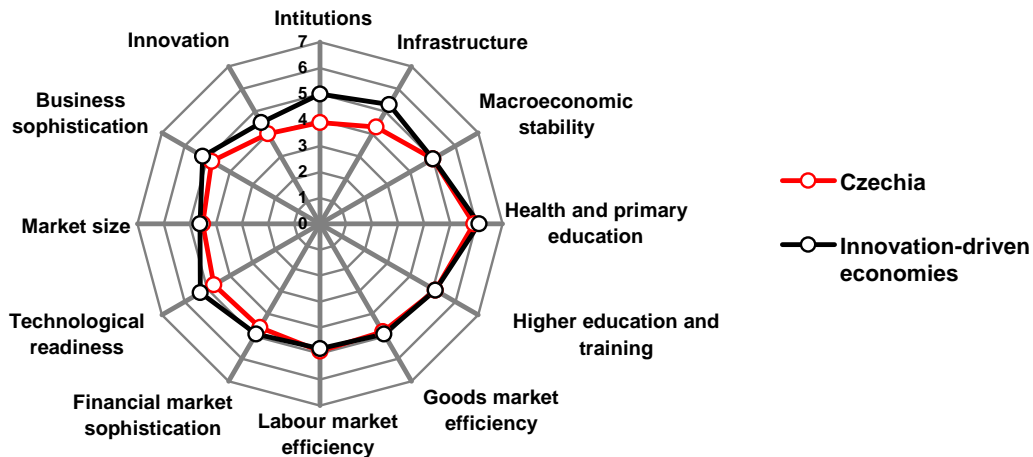
The knowledge-based competitiveness factors in Czechia are still limited, dispersed and fragmented. This is demonstrated by the latest European Innovation Scoreboard (EIS) where Czechia is positioned in the group of Moderate innovators with innovation performance below the EU27 average, but the rate of improvement above that of the EU27.

Relative Czech strengths are located in such parameters as economic effects and innovators, particularly in achieved reduced labour costs and reduced use of material and energy. This is still partly the result of previous economic specialization and cannot be truly regarded as an innovation. Similarly, high employment in high-tech and medium-tech manufacturing and services, another stronger factor of the Czech economy in the EIS, can be explained by the broad definition of these categories (for a more detailed discussion see e.g. Srholec, 2005) rather than attributed to the real representation of high-tech activities (activities, not industries).

Furthermore, a relative Czech weakness is observed in throughputs and finance and support. This is also demonstrated by the below EU average position of Czechia according to the most common R&D indicator – R&D intensity, and a very weak position in the output indicator – EPO patents and community trademarks and designs.

A similar picture is observed in the Global Competitiveness Report 2009-2010 where Czechia still belongs to countries in transition. It is ranked 31st compared to 33rd position in years 2007-2009 (see figure 11).

Figure 2: Global Competitiveness Index 2009-2010



Source: WEF – The Global Competitiveness Report 2009-2010

The main findings of the 2009 Regional Innovation Scoreboard show that there is considerable diversity in regional innovation performance and Czechia belongs to the most heterogeneous countries in EU27. The R&D capacities (i.e. R&D expenditures, personnel, research organizations, universities etc.) are concentrated basically in two regions – metropolitan region of Prague-Central Bohemia and South Moravian region making up together for 71 % of all the expenditures on R&D in the Czech Republic in 2008. On the other hand, in Karlovarský region the R&D expenditures account only for 0.1 % of the total GERD in Czechia. These results emphasize the need for policies to reflect the regional context; however, as shown in the following chapters, this is not the case in the Czech Republic programmes and interventions in RTD.

2.2.3 Governance issues

The Czech research and development (R&D) system is a primarily centralised one, with a balance between public and private funding. Private investment in R&D accounts for some 54 % of total R&D investment and is dominated by foreign-controlled companies (see e.g. Žížalová, Csank, 2009). The public sector funding channel is split between the higher education and the Czech Academy of Sciences. The former is less research-oriented and more focused on teaching while the latter deals mainly with research activity, predominantly in basic research.

At the policy level, the key role is assigned to Research, Development and Innovation Council (until 2008 R&D Council) which prepares a plan for allocating public funds for R&D, including the division of funds among relevant responsible bodies. The R&D Council includes representatives of both public (universities, Academy of Sciences) and private research representatives (Association of Research Organisations and individual large companies).

Three main bodies are responsible at operational level for R&D&I policy, funding and intervention measures:

- Ministry of Education, Youth and Sports (MoEYS) which has a special position in relation to publicly supported R&D. It is responsible for the preparation of national R&D policy/strategy documents, as well as for international R&D cooperation, and it provides funds for research conducted at universities and also coordinates the National Research Programme.
- Czech Science Foundation (=Grant Agency of the Czech Republic, GACR)
- Ministry of Industry and Trade (MoIT) which is responsible for industrial R&D and still represents the main body responsible for public support of private R&D (competitive grants for private sector and collaborative grants between public and private sectors).

The Czech R&D system went through a significant reform in the last two years at the operational level. The key aims of the reform were:

- 1) simplification of the system, including an introduction of institutional funding based on results;
- 2) reduction of the number of funding bodies (from current 22 to 11), incl. introduction of a Technology Agency for Applied R&D;
- 3) supporting excellence in R&D and ensuring the exploitation of results for innovation processes;
- 4) making the programme support from public sources conditional on co-funding of R&D activities by third parties (commercial partners);
- 5) more flexible organisational structure of public R&D;
- 6) supporting supply of personnel for R&D and innovation;
- 7) increasing the intensity of international cooperation in R&D.

Regional Policy and RTD policy in the Czech Republic

RTD policy in the Czech Republic has not been explicitly linked to the Czech regional policy and their links have not been more than a declaration of intentions until recently. First changes, although minor, were brought in by the EU cohesion policy and its interventions after the Czech accession to the EU. Innovation became part of the Operational Programme Industry and Enterprise 2004-2006. Research, development and innovation interventions became more integrated into the Czech regional policy in the new programming period 2007-2013. It was caused particularly by the increasing importance of the knowledge-based competitiveness as it has been stressed in the EU Cohesion policy.

The RTD policies and programmes are central policies in the Czech Republic, with the strong sectoral orientation. These policies are centrally (and sectorally) conceptualised, established and generally managed. There is also very limited real integration of programmes or interventions (if any) at the central level.

However, there has been a very active role of regional governments particularly in elaborating and implementing (certain kinds of) RTD projects. These projects have been mostly (but not exclusively) funded by the respective operational programmes and have been aimed at building various kinds of hard infrastructure to stimulate innovations. Regional governments and cities

were among the beneficiaries of the OPs and they usually built Science and Technology parks or Innovation Centres or Business (Innovation) Incubators¹⁴.

Hence, even if at the central level the sectoral approach still prevails (though its problems are now recognised and may become gradually resolved), the regional government and larger cities (regional capitals mostly) do implement their innovation and R&D interventions as part of the wider/integrated economic development. Therefore, the regional level is quite important in the Czech Republic for integrated development approach. Some regions (see below) have even developed their own programmes in the area of innovation and R&D support.

The most successful case is the South Moravia (NUTS 3) region which developed its 3rd Regional Innovation Strategy in 2010, with the first two having been successfully implemented by using various national resources, but also combining them with the regional funding. The South Moravia regional government in cooperation with the City of Brno established several organisations which developed a mix of tools to implement the Regional Innovation Strategy, many of them as pilot projects or programmes; some of them possibly unique in the Central European countries.

Finally, the Czech Government has adopted a Regional Development Strategy a part of which deals with the economic growth based on technology and innovation type of interventions, in coherence with the EU Cohesion Policy. This Strategy integrates a wide array of sectoral objectives and priorities into one, cross-sectoral policy tool, with the aim to (broadly) coordinate interventions of different ministries, agencies and government levels. However the implementation of the Strategy remains at the sectoral ministries or regional governments and certain doubts prevail as to the real adjustment of the sectoral measures/programmes to the Strategy and its intentions.

As part of the Regional Development Strategy, the Czech Government has also decided about the list of affected regions in which the state support will be concentrated¹⁵. Some of the state sectoral interventions are then focused on these regions (such as ROZVOJ II programme) or these regions have more favourable conditions for state interventions (such as Active Labour Market Policy). Therefore, the list of affected regions is a tool which enables the state interventions to be regionally specified but it does not require such a specification in case of particular interventions.

Recent developments in Czech innovation policy mix

The framework of the innovation policy in the Czech Republic in recent years was shaped by the National Innovation Policy (NIP) 2005-2010. For the first time, the Czech Republic's government adopted a strategic document which focused on innovation. It addressed the principal problems related to the innovation system in the Czech Republic, out of which many were of a structural nature or required institutional changes rather than direct interventions only.

¹⁴ Other beneficiaries were private entities, too, but their intentions were rather narrow, not incorporating among their main objectives economic development of the territory.

¹⁵ Gov. Resolution 560/2006 on the Regions with Concentrated State Support, updated by Gov. Res. 141/2010.

The NIP consisted of 48 concrete targets which were mostly implemented successfully (EC, 2009). A number of measures was carried out to strengthen R&D as a source of innovation. Most of the measures to improve HR for innovations were implemented only partially. The legislative measures as well as measures dealing with structural changes have not been implemented in many cases. Instead, they have been incorporated into more recent strategic documents.

One of the main, still remaining barriers of the Czech system is the low interaction and cooperation between public research institutes and industry. The Czech system has become fragmented and scattered during the transformation period of 90s, and vertical links have started to be rebuilt gradually only in recent years. The new R&D institutional system is aimed at diminishing the existing large sectoral fragmentation; it also stresses the horizontal cooperation among various bodies, nevertheless it is still dominated by centralised, sectoral approaches.

Support of R&D and of innovations is divided between different sectors/ministries. This causes unclear responsibility for delivering innovation policy and it also makes it difficult to coordinate interventions in a "grey zone" between research policy and business development. Such coordination is very weak, if it exists at all.

Another milestone of this reform is the drafting of the new National R&D and Innovation Policy for 2009-2015 (NP RDI) which replaces the current NPRD for 2004 – 2008 and the National Innovation Policy for 2005 – 2010. Hence, as the NIP was the first innovation policy document, the new NP RDI is the first strategic document that deals with the Czech innovation system as a whole (incl. R&D, innovation and education).

This document focuses on nine areas of the national innovation system:

- Establish a strategic management of RDI at all levels based on systematic impact assessment of the National Policy as well as analyses of RDI;
- Target the public support to RDI in line with demands of sustainable development;
- Increase the efficiency of the public support to R&D;
- Utilize the R&D results in innovation processes and enhance the cooperation of the public and private sector in RDI;
- Intensify the Czech Republic's involvement in international RDI cooperation;
- Provide qualified human resources for RDI;
- Create an environment stimulating RDI in the Czech Republic;
- Ensure the compatibility and linkages of the National Policy with other sectoral policies;
- Ensure consistent evaluation of the RDI system.

The NP RDI introduces several major changes to the innovation governance system such as the establishment of one central coordination body responsible for RDI (due in 2013), reducing the number of the budget chapters, through which R&D is supported, and the establishment of the Technology Agency described in the previous chapter.

This shall lead to better horizontal coordination and to integration of R&D&I policies, programmes and measures across several sectors. However, wider coordination with other policies, integration with other development programmes or integration across several levels of governance is not envisaged, or is likely to be only formal.

Additionally, the NP RDI aims to achieving higher efficiency of the public support by adoption of a more effective approach to the evaluation of the R&D. The level of utilisation of the R&D results in innovation, especially in industry, will be one of the indicators set up by funding bodies. The NP RDI aims to address other key deficiencies of the Czech innovation system which can be summarized into the following points¹⁶:

- the lack of cooperation between the research and the business sector and
- the lack of researchers and S&E graduates.

Strengthening cooperation between public research and industries is among the main targets of the new NP RDI. It puts emphasis on collaborative research and, in particular, applied research projects with joint participation of research organisations and businesses. The introduction of a system of innovation vouchers is another important policy measure aiming to increase research cooperation between industry and public research. This system should be ready to be implemented in 2013.

Ensuring quality of human resources for RDI is one of the nine key innovation policy targets of the NP RDI. It puts emphasis on international and horizontal mobility of young researchers. In this respect, the aim is to promote internships for doctoral students and young researchers at prominent European and world workplaces, which will enable their involvement in international research projects. Students will also be encouraged to stay at prestigious foreign universities, where they can get their first international experiences and establish contacts with top experts. Mobility between public research and industry will be intensified by creating programmes that will allow young researchers and S&E graduates to participate in research projects of businesses (especially SMEs).

Research, Development and Innovation in the Czech Cohesion Policy

A major policy and intervention tool for the Czech Republic is the EU Cohesion Policy, which provides funding for numerous interventions in 2007-2013. There are 3 Operational Programmes for the programming period 2007–13, which provide different types of support to RDI in

Convergence Objective regions:

- Operational Programme Enterprises and Innovations (OP EI)
- Operational Programme Research and Development for Innovation (OP RDI)
- Operational Programme Education for Competitiveness (OP EC)

The first two programmes (ERDF) are dominated by centralised, grant based measures/interventions. Grants are provided to beneficiaries mostly in order to support building of a hard infrastructure, both in public as well as in private sectors. The third programme (ESF) contains some strongly decentralised measures, but only in primary and secondary education while the tertiary education, important for the R&D is implemented centrally by providing grants to beneficiaries (tertiary schools, mostly universities).

¹⁶ Based on several documents: Blažek, Uhlíř, 2007, Žižalová, Blažek, 2010, Analyses of the Existing State of Research, Development and Innovation in the Czech Republic and a Comparison with the Situation Abroad 2009, Green Paper on the Research, Development and Innovation in the Czech Republic, White Paper in Tertiary Education. The documents are listed in References.

The Operational Programme Enterprise and Innovation is one of the key programmes contributing to the Czech NSRF 2007-13 strategic objective “Competitive Czech Economy”. Its interventions are mostly focused on improving competitiveness of companies in the Czech Republic, in compliance with the Community Strategic Guidelines, mainly by increasing innovation performance of industries and services at the level of developed European countries¹⁷.

Table 1: Allocations of the OP EI per priority axis

Priority axes	Total allocation*
Priority axis 1 – Establishing of companies	€ 79 074 126
Priority axis 2 – Development/growth of companies	€ 663 006 134
Priority axis 3 – Energy efficiency	€ 243 305 004
Priority axis 4 - Innovations	€ 680 155 247
Priority axis 5 – Business and Innovation Environment	€ 1 076 624 642
Priority axis 6 – Services for Business Development	€ 209 546 434

* EU contribution only, without national match funding, TA priority axis not included

Source: OP Enterprise and Innovation

Priority axis 3 and Priority axis 4 are fully aimed at innovation support, providing various tools (see later), particularly for private sector beneficiaries. Other priority axes also include tools that are innovation or even R&D focused, such as ICT support which is part of Priority axis 2 or Science and Technology Parks which are part of Priority Axis 5. Some of tools are also available for public sector.

The operational programme and all its tools are centrally managed and cover all the Convergence regions. The only exception is part of the Priority Axis 2, programme ROZVOJ II, which is limited only to selected regions (see later), but still managed at central level.

Particularly in the Priority Axis 5 – Business and Innovation Environment important beneficiaries may also be public bodies at regional/local levels so that the OP, though centrally managed, contains a strong regional development feature in this part.

Operational programme Research and Development for Innovations is aimed at strengthening the Czech R&D and Innovation potential that should contribute to its economic growth, competitiveness and to creation of highly qualified workplaces so that the Czech regions can become important locations of these activities within Europe¹⁸.

¹⁷ OP Enterprise and Innovations, available at: <http://www.mpo.cz/dokument12175.html>

¹⁸ OP R&D&I Global objective, available at: <http://www.msmt.cz/strukturalni-fondy/operacni-program-vyzkum-a-vyvoj-pro-inovace-1>

Table 2: Allocations of the OP R&D&I per priority axis

Priority axes	Total allocation*
Priority axis 1 – Centres of Excellence	€ 685 395 373
Priority axis 2 – R&D Regional Centres	€ 685 395 373
Priority axis 3 – Commercialization and Popularization of R&D	€ 213 280 131
Priority axis 4 – Infrastructure for University Education Related to Research	€ 414 136 177

* EU contribution only, without national match funding, TA priority axis not included

Source: OP Research and Development and Innovation

The OP is a centralised one, with a strong regional feature in Priority Axes 2 and 4, which are aimed at strengthening regional competitiveness of convergence regions in the Czech Republic. However, even these interventions are sectoral ones, with low or almost no horizontal integration (except proclamative support from regional or local government bodies). On the other hand, Priority Axis 1 – Centres of Excellence are predominantly aimed at improving international competitiveness of the Czech Republic.

The Operational Programme Education for Competitiveness is only partly linked to the Innovation and R&D interventions, particularly in its Priority Axis 2 – Tertiary Education, Research and Development. This priority axis supports improvement and development of higher professional education, university education, human resources in research and development and development of partnerships and networking. The total Community contribution to this priority axis amounts EUR 626 536 268¹⁹.

The objectives of interventions in this priority axis are to improve flexibility and creativity of graduates to become better employable in the knowledge economy, to link the education with research and development activities and to support the innovation process as a whole²⁰.

2.2.4 Case description: Support programme to dynamically growing SMEs ROZVOJ

The case study covers the ROZVOJ programme in the cohesion policy programming periods 2004-06 and 2007-13, including changes of the programme over time.

The ROZVOJ I programme lasted only for a short period in 2004. It was launched as continuous Call for Proposals. Its terms were very broad which generated very high demand. Due to such a demand the Call had to be finished soon and conditions had to be changed in order to make the subsidy scheme more selective and better targeted. The ROZVOJ II programme was started in March 2005.

¹⁹ OP Education for Competitiveness, available at: <http://www.msmt.cz/strukturalni-fondy/op-vzdelavani-pro-konkurenceschopnost-verze-z-1-10-2007>

²⁰ OP Education for Competitiveness, available at: <http://www.msmt.cz/strukturalni-fondy/op-vzdelavani-pro-konkurenceschopnost-verze-z-1-10-2007>

- **Policy type**

ROZVOJ I, ROZVOJ II, 2004-06

- *Centralised, sectoral, **no regional focus** (see below for details)*

The Programme covered the whole Objective 1 territory in the Czech Republic in 2004—2006 programming period

ROZVOJ II, 2007-13

- *Centralised, sectoral, **regionally focused** (see below for details)*

The programme covered only part of the Convergence Objective territory of the Czech Republic – the regions with concentrated support of the state.

- **Sectoral/Integrated**

	Objectives/targets			
Delivery process/ instruments		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
	Sectoral		X	
	Other policy domains to be taken into consideration			
	Other policy domains fully on board			

- **Centralised/decentralised**

	National level	Regional level	Local level
Conceive	X		
Manage	X	X	
Deliver		X	

- **Global policy objectives**

The programme ROZVOJ has been implemented within the operational programme Industry and Enterprise (2004-06), as part of the measure “2.1. Establishment and development of SMEs” within the priority 2. “Development of competitiveness of companies”.

The objective of the measure most relevant to the ROZVOJ programme was: “To strengthen or maintain the competitiveness of SMEs by acquiring new technologies/machinery”²¹.

The measure was implemented by other programmes together with ROZVOJ, e.g. programmes START or ZÁRUKA.

²¹ Source: Programme Complement to OP Industry and Enterprise as amended on June 4, 2007.

The objective of the programme ROZVOJ I was not precisely targeted and oriented at technology improvement in SMEs. The objective²² of the programme ROZVOJ II (2004-06) was to provide subsidies to SMEs in selected industrial branches of the Czech economy in order to enable them to implement business development projects that:

- will allow the SMEs to grow, that will contribute to higher interconnectivity of the Czech economy with international trade and
- will have positive impact on the growth of the Czech economy.

The programme ROZVOJ II continues within the OP Enterprise and Innovation (2007-13), however in a different scope and with territorially limited focus. The programme is being implemented as part of the priority axis 2. “Development of companies”, area of intervention (former measure) 2.2. “Support to new production technologies, ICT and selected strategic services”.

The operational objective of the measure/area of intervention 2.2. is: “to stimulate development of the SMEs in selected regions by subsidising investments into modern technologies/machinery, to increase the quality of the ICT infrastructure in companies and to support increasing share of services in the GDP.”²³

The objective of the ROZVOJ II programme²⁴ in 2007-13 is to support growth (of the production) and competitiveness of SMEs in regions with higher unemployment which will lead to improved position of SMEs on their markets and consequently to safeguarding or to increasing the number of jobs.

- **Design**

The key purpose of this area of intervention which the ROZVOJ II programme belongs to is to stimulate development in regions with concentrated support of the state.²⁵

The current programme ROZVOJ II is focused on supporting projects that:

- will create technical and economic pre-requisites for increasing flexibility, performance and efficiency of the production process;
- will increase qualitative parameters of products;
- will increase the number of products or variety of products;
- and will in the end lead to improved competitiveness of small and medium sized enterprises.

In 2007-2013 the programme ROZVOJ II supports following activities:

- acquiring new technology equipment with higher technical parameters and better usability;
- realization of projects which increase the effectiveness of processes in companies.

²² Source: Support programme to dynamically growing SMEs ROZVOJ II (as of March 30, 2005), www.mpo.cz/

²³ Source: OP Enterprise and Innovations, as of November 2007

²⁴ Source: Call for Proposals, ROZVOJ II in 2007-13 programming period, www.mpo.cz/

²⁵ Source: OP Enterprise and Innovations, as of November 2007

In 2007-13 programming period the programme ROZVOJ II is limited only to selected territories. There are three types of such regions: (i) lagging behind regions, (ii) structurally affected regions and (iii) regions with high unemployment. But in fact all three types of regions have higher than average unemployment.

Based on these “Regions with focused state support” the actual regional coverage is announced for each call for proposals in order to reflect the actual needs of the regions. The purpose of the ROZVOJ II focus on such regions is to stimulate their economies by subsidising SMEs in modernisation of their production, in acquiring new technology and machinery that would otherwise be difficult and risky to implement, as they are located in regions with generally unfavourable economic conditions.

- **Institutions and funds**

The ROZVOJ programme has been managed by the Ministry of Industry and Trade, with the CzechInvest, the Czech Investment and Business Development Agency serving as intermediary body. The applications of SMEs are collected in regions by the CzechInvest regional offices, but the assessment of projects is made at central level and final decision is made by the Managing Authority (MoIT).

ROZVOJ II 2004-06

The beneficiaries of the programme were Czech SMEs with projects to be implemented in the Czech Republic, Objective 1 regions. The beneficiaries had to fall into one of 22 industrial branches that were selected for this kind of support. All of the industries were manufacturing industries.

The new machinery to be bought or the new technology to be installed had to lead to better products, technologies or services, including lower cost/benefit ratio. The grant could be used to buy new machinery or equipment, patents, licences or non-patent know-how. If new machinery was bought by the beneficiary, the beneficiary had to be the first owner of the machinery – only new equipment was possible to buy. The grant could cover maximum 30% of the project eligible costs, or, in territories stipulated by the Government Resolution 1005/2004²⁶, it could be up to 40% of the eligible costs. The minimum size of the grant was 1,5 mil CZK (approx. EUR 60,000 in exchange rate in May 2010) and maximum size was 6. mil. CZK (approx. EUR 240,000).

The applicant had to prove sound economic situation of the company, supported by relevant documents. The project had to increase the productivity of the company by at least 10% (measured as value added per employee) in the second year following the year in which the project would be finished.

ROZVOJ II 2007-13

The general conditions and concept of the programme have not changed much. However the details differ from the ROZVOJ 2004-06 as well as between the Calls for Proposals. The major change was limiting the programme only for regions with concentrated state support, together with

²⁶ Government Resolution on the Regions with the Concentrated State Support for the years 2004-06 No. 1005/2005

increasing the level of support (proportion of the eligible costs to be funded) up to 55%, with the exception of districts Cesky Krumlov and Tachov where the level of support reached only 51% of eligible costs. In the latest Call for proposals the eligible regions were updated again according to the Government Resolution 141/2010 in order to reflect the regional impact of economic crisis.

In the period 2007-2013 the minimum size of the project for ROZVOJ programme decreased to 1 mil. CZK (approx. EUR 40,000 in the current exchange rate), the maximum size of the project increased up to 20 mil. CZK (approx. EUR 800,000).

The industrial branches which the beneficiaries may fall into vary among Calls for Proposals, with the majority still being manufacturing. But for example in the 1st Call for Proposals also 11 branches of services could be supported out of which the majority were retail. From the 2nd Call for Proposals the support is limited again to only manufacturing industries.

Position of the ROZVOJ programme in the Czech policy mix

The ROZVOJ programme is part of the Czech effort to modernise its economy and to increase its competitiveness. Prior the SF programming period 2004-06 the new set of programmes was developed at the Ministry of Industry and Trade to address the weaknesses of the Czech economy (and enterprises). These MoIT programmes became then part of the SF operational programme Industry and Enterprise 2004-06 which was aimed at 2 major priorities:

- Priority 1: Improving of the Business Environment
- Priority 2: Improving Competitiveness of Companies

The Business environment priority consisted of 4 measures within which 4 programmes were designed and implemented. The programmes were:

- Prosperity – supporting the creation of Business Incubators, Science and Technology Parks and Centres for Technology Transfer.
- Real Estate – supporting construction, development and rehabilitation of the real estate for enterprises.
- Training Centres – supporting creation of the new training centres for specific industries, or rehabilitation and modernisation of training centres in companies.
- Clusters – supporting identification and establishing of clusters.

The Competitiveness of Companies priority consisted of 3 measures within which 7 programmes were designed and implemented. The programmes were:

- Start – supporting establishing of new SMEs by provision of subsidised loans
- Credit – supporting development/investments of current SMEs with a short history by provision of subsidised loans
- Marketing – supporting better access of companies to foreign markets by subsidising their marketing activities
- Development (ROZVOJ I and II) – supporting development of SMEs by provision of grants/subsidies to modernise their equipment and technologies
- Innovations – supporting commercialization of results of R&D by subsidising the development of new products or technologies and their implementation
- Renewable Resources – supporting the use of renewable resources, including combined production of electricity and heating

- Energy Savings – supporting the lower use of energy in companies.

Some of the above programmes became also part of the SF operational programme Enterprise and Innovation 2007-2013, though their details have changed.

The new programmes in 2007-2013 reflect the changes of the Czech economy as well as the changes in national policies. The low-tech investments and economic competitiveness based on cheap labour has been considered outdated or at least not sufficiently sustainable in the long run. The Lisbon agenda has also led to stressing the knowledge based competitiveness, though in the Czech Republic the primary focus is still on physical conditions rather than on soft tools such as networking or institutional improvements.

2.2.5 Impact of the case study

Method

The ROZVOJ programme has been evaluated by two studies evaluating its performance and results in the programming period 2004-2006. The studies focused on the overall results of the programme in the Czech Republic and on the regional differences in these results. The programme ROZVOJ II in the SF programming period 2007-13 has not been assessed yet apart from the internal monitoring and assessments of the OP Managing Authority. Nevertheless some reflection of these assessments is included in this case study as well.

Both of the above studies have been made in order to evaluate the OP Industry and Enterprise and all its measures/programmes, not only the ROZVOJ programme. The studies focused on assessing and commenting on the level of achieving the OP targets, and the targets relevant to each of the partial interventions within the OP. Data on achievement of targets per intervention programme are also available in annual reports.

Although the results (and possible impacts) that had been achieved seemed quite promising, there were still many uncertainties concerning the quality of data which the studies were based on. Therefore the results and impacts may in reality be less remarkable than shown by the evaluation studies and annual reports.

Results

Below we present the main findings of these analyses, both at the national level as well as at the regional levels, including the differences between the regions. The operational programmes and their relevant measure (2004-06) or priority axis (2007-13) set up two main indicators:

- Increase of value added in supported companies due to the project interventions – both as a % increase compared to initial level as well as the financial increase in value added.
- Increase of jobs in supported companies due to the project interventions – number of jobs created in direct linked with the support

Output indicators, number of projects and number of companies supported were also set up, but their relevance for this assessment is minor.

- **Increase of value added in supported companies**

This indicator is linked to the objective of the relevant priority/priority axis and overall purpose of the intervention, which is improvement of the economic competitiveness by increasing competitiveness of companies.

The targets in terms of value added were set up as 10% increase for the period 2004-06 and additional 20% increase for the period 2007-13. The job creation targets were not set up for the interventions made by the ROZVOJ programme but for the measure or priority axis. Hence they cannot be easily associated with the ROZVOJ programme interventions, nevertheless the contribution of the ROZVOJ programme can be measured this way, too.

Table 3: [Overview of projects – ROZVOJ programme in 2004-08 \(in 2004-06 programming period\)](#)

	Increase of value added in supported companies – in % *	Increase of value added in supported companies – in mil. CZK *	Number of projects finished by the end of year	Value of projects supported by the end of year in mil. CZK
2005	29,9	369,4	33	242,4
2006	35,1	819,8	83	445,3
2007	58,3	4 221,4	76	279,2
2008	81,2	4 426,2	20	71,8

* Cumulative since the beginning of implementation period

Source: OP annual reports

The results seem remarkable, with the target of the programme exceeded in the second year of implementation. That shows that an effort was made to support projects with high growth potential, and that this effort was successful.

- **New jobs in supported companies**

This indicator is more general and relates to all programmes directly supporting companies in the OP. It is based on the assumption that growing and more competitive companies shall in the end create new jobs, even if the support to them may lead to decreasing number of jobs because of better efficiency of production. Hence this indicator is relevant to broader understanding of economic development rather than to direct increase of the company productivity and competitiveness.

The jobs were created in companies not only due to the support of the ROZVOJ programme but also due to other causes. In general, companies created more jobs due to these other causes than due to programme interventions; however it is likely that some of these “other jobs” were generated indirectly because of the initial intervention of the ROZVOJ programme. Programme ROZVOJ generated directly 1623 jobs in all companies supported by the end of 2008. Total number of jobs created in supported companies achieved 3 655, of which some were not entirely new jobs, but were counted because of mergers or organisational changes in companies.

- **Regional differences in implementation of the ROZVOJ programme**

The ROZVOJ programme is a centralised one, covering the whole Convergence Objective territory of the Czech Republic in 2004-06 programming period, and centralised but regionally limited in the 2007-13 programming period. Nevertheless there are regional differences among NUTS 3 regions. In general, economically growing regions have shown larger number of applications as well as larger number of successful beneficiaries, with the Central Bohemia region being the most successful also in number of applications and projects per capita. Regions in economic difficulties, such as Karlovarsky region and Ustecky region (together forming NUTS 2 North-West) and Moravskoslezsky region have shown low demand, both in absolute numbers and per capita. This means that regions which have more needs in terms of supporting the economic growth and modernisation of companies did get less support from the programme in the 2004-06 period. That was one of the reasons why the programme ROZVOJ was limited only to specific regions for the programming period 2007-13.

Regional differences also prevail in (possible) impacts of the programme as measured by the number of jobs created. Moravian regions – Jihomoravsky region, Olomoucky and Zlinsky regions (the latter two forming NUTS 2 Central Moravia) have achieved higher number of jobs directly created by the projects as well as of jobs that were likely generated by the projects indirectly in supported companies. The lowest total number of jobs was created in 4 regions: Ustecky, Karlovarsky, Liberecky and Plzensky, which corresponds with the low demand from these regions.

Analysis: Governance Issues and Determining Factors

The ROZVOJ programme is clearly a national/central policy measure directed at subsidizing companies in their modernisation effort.

The programme has undergone several changes since its introduction in 2004. Originally, as ROZVOJ I, it was a broad programme offering subsidies to SMEs with only a few limiting factors/conditions. This insufficient focus generated very high demand (exceeding the available funds about 4 times) which led to closing the programme only several months after its start.

The funding for the programme ROZVOJ II was then increased in order to meet the continuous demand (as many funds were allocated for the ROZVOJ I programme) but the conditions were changed in order to target the intervention more properly. The programme support aimed only at certain (22) branches of manufacturing industries.

The ROZVOJ II programme was launched in spring 2005. Due to the better design and targeted intervention the demand fell but still exceeded the funds available which allowed to select the most promising projects for funding. This resulted in high increase of value added and it contributed to direct and indirect generation of jobs in supported companies.

The programme ROZVOJ II has continued in SF programming period 2007-13 though in different conditions and with even narrower focus. Due to rather simple, subsidy based type of intervention the economically successful regions have not been included into the programme. Only companies from disadvantaged Regions with the Concentrated State Support were allowed to apply for

subsidies. The selection of branches have changed among the relevant Calls for Proposals, once even including retail branches, but currently it involves only manufacturing branches again.

The ROZVOJ II programme has been used as one of the tools to cope with the impact of the economic crisis, as the economically disadvantaged regions have been seriously affected.

The allocation for the ROZVOJ II programme is supposed to be increased in order to stimulate investment activity in the disadvantaged regions, and to stimulate job creation (or at least to stabilise jobs in supported firms) because the consequences of the crisis on the labour market are most serious in this type of regions. Nevertheless this increase in of allocation (not yet officially approved) will not change the innovation focus of the OP Enterprise and Innovation. The programme ROZVOJ has had rather small allocation in the period 2007-13, and if it is increased, it will not exceed 10% of the OP, comparing to other, more innovation oriented programmes (INNOVATIONS, POTENTIAL) which amount more than 25% of the OP allocations.

2.2.6 Comparison with cases in other EU-Member states

Compared to the countries, where similar support measures were or are being implemented, the Czech case does not stand alone. Poland's SME services network programme is also targeting SMEs with growth potential. There are the SME support measures in the policy mixes of, for example, Belgium (VIS) and The Netherlands (WBSO starter facility).

- The National SME Services Network (Polish name: *Krajowy System Usług* – KSU) is a network of 214 non-commercial organizations (business assistance centres, regional development agencies, associations, etc.) which provide advisory, information, training and financial services for entrepreneurs (mostly micro, small and medium-sized enterprises) and persons intending to start a business activity.
- Belgium (VIS) programme contains a policy component aimed at groups of SMEs that need innovation support in a certain area of technology. Funds short-term exploration projects of one year's duration where a certain domain is investigated for state of the art, best practices, etc.
- The Starter Facility of the WBSO offers an additional tax credit to new and innovating firms.

We note only one and very important difference in this case. Unlike providing grants for equipment purchases by ROZVOJ, the SME-targeting measures in the advanced innovating member states provide financing mostly for purchasing R&D labour or R&D services. Exactly this difference separates the efficiency-driven development from the innovation-driven one.

2.2.7 Conclusions

The ROZVOJ programme has been from the very beginning part of the Cohesion Policy in the Czech Republic, aiming at modernisation of the Czech SME sector and increasing competitiveness of the Czech economy. Despite its focus on the new technologies and new, modern equipment in companies, the programme has not been truly innovation-oriented.

Based on two evaluations carried out, it can be said that the ROZVOJ programme has achieved its objectives if measured by the increase in value added of the supported companies and by the

number of new jobs created. At the same time the evidence about the programme's contribution to innovation support is not convincing.

The programme enabled companies to modernise their production capacities, increase efficiency of production as well as allowed for the company to produce products that were better or new for the company, but usually known elsewhere. Therefore, the "innovations" supported by the programme were mostly buying new machinery or technology equipment, not really introducing unique products or even developing new/unique technologies.

The ROZVOJ programme is considered to be an important modernisation programme. However, since the programming period 2007-13 it has reflected its low innovation focus and was limited only to regions with unfavourable economic conditions. Since 2007 the programme is focused more on supporting entrepreneurship in the economically disadvantaged territories and rather than on stimulating innovations and knowledge based economic activities.

Apparently the new programming period interventions are more focused on innovations and more targeted at market compliant support. Nevertheless the demand for more simple and subsidy based programmes is in general very high among beneficiaries. Apart from natural explanation based on the fact that such types of programmes are more favourable to companies this fact is also caused by the impact of the economic crisis which increased the uncertainty of the companies, thus decreasing their willingness to take the risks and to invest in development activities.

As described above, the ROZVOJ programme falls fully within the common Czech development approaches. The Czech Republic policies and programmes are generally and traditionally redistributive ones, mostly based on giving grants to beneficiaries on a project competitive basis. Therefore their design as well as implementation focuses on formal/technical rules, setting up how to provide grants and to whom, rather than on effectiveness of efficiency based criteria. Most of the Czech policies and programmes are strongly centralised and sector oriented. The same applies to regional level, where regional government carry out their own, regionally centralised and sector oriented policies, programmes and funding mechanisms. However, the integration at regional level (in case regional governments are involved) is probably a bit higher than at central level.

Regarding the key research questions of the study, we conclude the following:

a. *Current balance in policies*

The ROZVOJ programme is clearly centralised and sectoral in design and implementation. In this sense it is an example of the 'mainstream' policy measure in the Czech policy mix, which is also predominantly centralised and sectoral. The policies do allow for regional specifics, which is, nonetheless, centrally determined and/or approved;

b. *Arguments to justify policies*

It is managed as a part of the national (centrally defined) operational programme which is directed at improving competitiveness of Czech enterprises. In the framework of this programme it has been decided that the support of ROZVOJ is aimed only at certain (22) branches of manufacturing industries.

c. *How can impact of each type of policy be judged*

The programme did enable the SMEs to modernise their production capacities, increase efficiency, and allowed them to produce improved or new products for the company (yet usually known elsewhere). Therefore, the “innovations” supported by the programme were mostly buying new machinery or technology equipment, not really introducing unique products or even developing new/unique technologies. In economic terms we may speak of improvement in static efficiency of Czech enterprises, which in the short term provides clear positive effects, but tends to be short-lived as the production inefficiencies get worked out and new sources of growth become needed;

d. *Has the balance shifted over time?*

At this moment the Czech policy makers have acknowledged the need in more integrated innovation support measures, especially those directed at public-private cooperation. Yet most policies still exhibit mostly centralised and sectoral characteristics. To a certain extent such a situation is caused by the fact that the Czech Republic’s innovation system still find itself in the initial development stages, in which we tend to observe more redistributive, and thus centralised and sectoral policy approaches;

e. *Arguments to support the shift*

Therefore at this moment one can not talk about visible policy shifts along the axes of centralised/decentralised and sectoral/integrated policy approach. There is, nonetheless, the possibility that the Czech innovation system will gradually move from supporting an efficiency-driven economy to an innovation-driven economy.

f. *Balance top performers*

Compared to the countries, where similar support measures were or are being implemented, the Czech case does not stand alone. Poland’s SME services network programme is also targeting SMEs with growth potential. There are the SME support measures in the policy mixes of, for example, Belgium (VIS) and The Netherlands (WBSO starter facility). We note only one and very important difference in this case. Unlike providing grants for equipment purchases by ROZVOJ, the SME-targeting measures in the advanced innovating member states provide financing mostly for purchasing R&D labour or R&D services. Exactly this difference separates the efficiency-driven development from the innovation-driven one.

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2.3 Finland: Centre of Expertise Programme (OSKE)

2.3.1 This Case Study

In this case study we carry out a detailed examination of performance and evaluation results for one of policy measures in the Finnish innovation policy mix:

- Centre of Expertise Programme (OSKE).

The study consists of four parts. In the first part we examine the Finnish innovation policy mix and analyse its main features along the dimensions of centralised/decentralised and sectoral/integrated policy design. In the second part we describe the case policy, its objectives, design and implementation mechanism. In the third part we make an overview and analyse the results of the policies past impact evaluations. The fourth section of this study concludes and presents answers to the main research questions formulated in the general analysis framework.

2.3.2 Innovation performance and policy mix in Finland

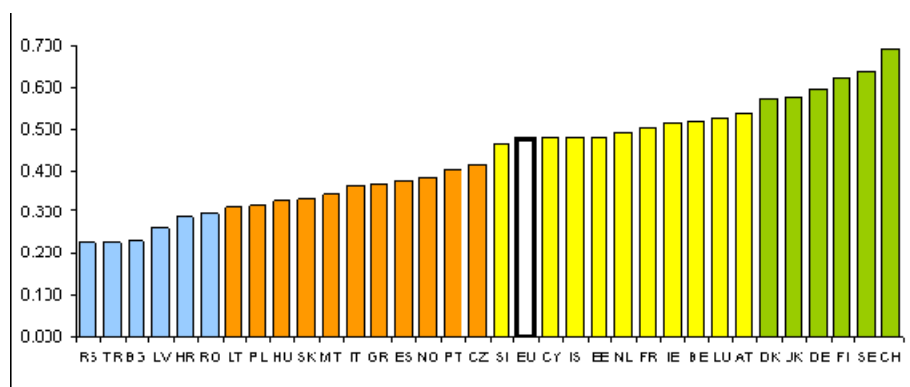
Finland is a highly industrialised country with some of the highest output levels in the OECD and heavily focused on the ICT, forestry and engineering sectors. The country has experienced a slowdown in productivity growth during the last couple of years and according to Statistics Finland the long-term growth trend indicates that the pace of growth in labour productivity has slowed down strongly in the whole economy since the mid-1990s, from 3.5 per cent to 1.7 per cent in 2008. Finland was also among the most affected OECD countries during the financial crisis as demand for its mainly capital-goods intensive exports collapsed and recovery has been slow since then.

Finland has long been recognised for the success of the work it has done to promote science, technology and innovation and the results are reflected in its consistently high position in innovation performance rankings such as the European Innovation Scoreboard (EIS). The 2009 edition of the EIS ranks Finland ahead of Germany and as the second-best performing EU Member State after Sweden and places it among the group of "Innovation Leaders" (European Commission 2010). This success is mainly due to strong performance in R&D and the education system. However, despite one of the highest densities of researchers and spending on research and development in the OECD, and an excellent performance in the pre-tertiary education sector, more could be done to improve the performance in the tertiary level and boosting innovation the OECD recently concluded (OECD 2010).

While Finland has been very successful in encouraging technological R&D, it has proven more difficult to incorporate the results of basic research into successful business innovations. One of the most obvious reasons is that there are simply not enough businesses in some important areas of science and technology based development, and the companies that do exist have not always been able to grow as rapidly as expected. This is particularly true in biotechnology, nanotechnology, and the life sciences. Another clear reason is that a number of traditional industries have not been able to make use of new creative and innovative science and technology to a sufficient degree (OECD 2007).

An international evaluation panel recently concluded that "the current state of the Finnish innovation system is good but it does not suffice" in terms of its contribution to restoring stronger growth and raising living standards in the long-term and that "major adjustments are needed in order for Finland to meet its future challenges" (Veugelers 2009).

Figure 1. Innovation performance of 33 European countries (2009 SII)²⁷



Source: European Commission (2010), European Innovation Scoreboard 2009.

Finnish innovation policy currently faces the following three main challenges (European Commission 2009):

- *Transformation of firm strategies and emerging new innovation models.* Changes in company strategies, increasing importance of alliances and partnerships as well as changing modes of innovation reflect the need to rethink innovation policies in terms of goals, focuses, design and implementation.
- *Increase and enforce Finland's attractiveness for investments.* Maintaining the momentum of attractiveness for investments is not only crucial for future wellbeing, but also an ultimate test of the quality of the national innovation system.
- *A need to broaden the base of innovative growth-oriented enterprises.* There is evidence that the current Finnish innovation system and a stable business environment have not led to truly innovative and growth oriented businesses or entrepreneurial behaviour to the extent expected.

2.3.3 Governance issues

The Finnish model of innovation governance is characterised by strong strategic planning and coordination at the national level. The **Research and Innovation Council**, chaired by the Prime Minister, represents the strategic level and is the highest advisory and coordinating body for research and innovation policy. The Council is responsible for the strategic development and coordination of Finnish science and technology policy as well as for the national innovation system as a whole. It combines an advisory function and expert members with the highest political-level representation, which gives it considerable influence.

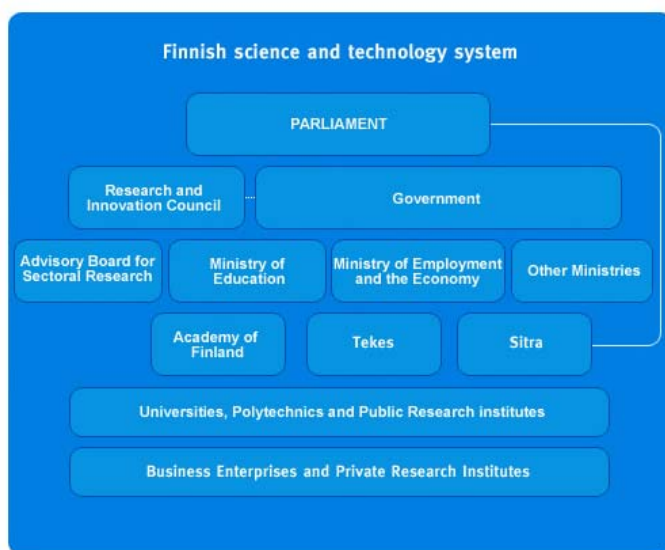
²⁷ The Summary Innovation Index (SII) is a composite of 29 indicators going from lowest possible performance of 0 to a maximum possible performance of 1. The 2009 SII reflects performance in 2007/2008 due to a lag in data availability.

At the operational level, the **Ministry of Employment and the Economy** and the **Ministry of Education** are the two dominant entities. After the merger of the former Ministry of Trade and Industry, the Ministry of Employment, and some units of the Ministry of the Interior into the present Ministry of Employment and the Economy at the beginning of 2008, it has become a "super" ministry with much improved resources to coordinate innovation policy. It is responsible for the foundations underpinning entrepreneurship and innovation, ensuring a well-functioning labour market and people's employability, and regional development. It therefore combines most of the key policy areas relevant for shaping regional innovation systems (RIS) under one umbrella. The Ministry of Education is responsible for the overall education system including the universities and the Academy of Finland. This ministry has also been given the responsibility for coordinating public sector research institutes.

The **Advisory Board for Sectoral Research** established in 2007 is another governmental advisory board. It is the responsibility of the Board to coordinate the overall steering of state sectoral research. The aim is to improve the commissioning know-how of the relevant ministries, enhance the targeting of sectoral research and step up the utilisation of research across administrative boundaries.

The most recent structural changes in the innovation policy governance system point to a higher level of centralisation in terms of strategic planning and decision-making. The overall tendency towards a more integrated and less sector focused innovation system is also confirmed to a certain extent. Overall, however, the development of the Finnish innovation policy structures has been largely incremental and stability and a widely spread consensus among the key actors has characterised the policy governance system.

Figure 2. Finnish science and technology system



Source: Finnish Science and Technology Information Service

Tekes (The Finnish Funding Agency for Technology and Innovation) is an intermediary organisation under the Ministry of Employment and the Economy, with a budget of € 552 million in 2009. It is tasked with enhancing the development of the Finnish industry and the service sector through technology and innovation. Tekes is the main publicly funded expert organisation for financing and maintaining networks for a wide range of public and private research, development and innovation projects, and promotes cooperation between the business and academic communities, as well as between producers, suppliers and end-users. The relative importance of Tekes in government innovation policy has been growing steadily in recent years.

The **Academy of Finland** is the prime funding agency for basic research in Finland, dedicated to advancing scientific research and its application, supporting international scientific cooperation and acting as an expert resource in science policy issues. The Academy includes four Research Councils with different thematic orientations (Biosciences and Environment, Culture and Society, Natural Sciences and Engineering, and Health).

Sitra, the Finnish Innovation Fund, is an independent public fund under the supervision of the Finnish Parliament. The organisation is dedicated to promoting the economic prosperity and future success of Finland and engages in foresight activities and seeks to advance the necessary changes for Finland's long-term competitiveness in cooperation with other actors.

There are also a number of public agencies and actors involved in implementing innovation-related policies in Finland that are not explicitly mentioned in the above diagram of the science and technology system. **VTT**, the Technical Research Centre of Finland, is the largest multidisciplinary research organisation in Northern Europe, offering R&D, testing, product approval, certification, information and venturing services that help customers create new products, production methods and services, and generate new business. VTT is under the authority of the Ministry of Employment and the Economy and generated a turnover of € 269 million in 2009.

Public financing institutions include **Finnvera**, a state-owned company, acting as a provider of complementary risk financing services in close association with banks and other financing organisations. It has 16 regional offices around the country. **Finnish Industry Investment Ltd**, a state-owned investment company engages in equity capital investment and invests in venture capital funds and directly in growth companies, together with private co-investors.

Recent trends in Finland's innovation policy mix

Regarding innovation governance and policy trends, there are clear signs that Finland has entered a new phase of development. Firstly, there is a move towards a broad based innovation policy which challenges the traditional technology and production centred perspective. Secondly, the existing innovation governance system and its structures have been under critical consideration during the last years (Peltonen 2009).

Under the strategic leadership of the Research and Innovation Policy Council, Finland's Government has now prioritised understanding why the knowledge and infrastructure developed in Finland has not been taken up and translated into concrete commercial innovations as efficiently as hoped. As a result of this process, structures have either been reformed recently or changes are

currently underway or in preparation. These include restructuring of organisations and their functions, establishment of new organisations and mergers of existing ones, and redefinition of inter-linkages and responsibilities between the public actors involved in the innovation system.

- The Council of State approved in October 2008 a National Innovation Strategy which contains the key strategic lines for the development of the innovation policy and environment in Finland in the coming years (Government of Finland 2008). The strategy puts forward development guidelines for the creation of a broad based and multifaceted innovation policy, to facilitate and promote the development and reform of the knowledge-based competitiveness of the Finnish economy with special consideration of innovation-based regional development.
- The wide scope of these structural changes is demonstrated by the creation of the Research and Innovation Council itself, which is the result of a government decree that came into force in the beginning of 2009. Based on the development guidelines presented in the National Innovation Strategy, the decree stipulates that the new Council replaces the former Science and Technology Policy Council which has had a narrower scope in its tasks and composition.
- The reorganisation of the ministerial structure resulting in the establishment of the Ministry of Employment and the Economy in the beginning of 2008 and the on-going structural reform of the universities and renewal of sectoral research as well as plans to renew public enterprise services are other important outcomes of this process.

It should be noted that the core of the policy mix is formed by the Research and Technology programmes of TEKES and the Academy of Finland and that the majority of Finnish innovation policy instruments is aimed at supporting research in universities and public research organisations. When reviewing aspects of the innovation process targeted by policy measures, most of the measures are targeted either to dissemination of technologies in enterprises, development/prototype creation, applied industrial research, awareness-raising amongst firms on innovation and promotion of entrepreneurship/start ups (European Commission 2009). In the near future, innovation policy development in Finland will be dominated by the implementation of the National Innovation Strategy. Especially the concept of demand-oriented and user-oriented innovation policy needs clarification in order to be translated into concrete instruments.

2.3.4 Case description: Centre of Expertise Programme (OSKE)

- **Policy type**
 - *Decentralised, Integrated (see below for details)*
 - **Sectoral/Integrated**

	Objectives/targets			
		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/ instruments	Sectoral			
	Other policy domains to be taken into consideration			
	Other policy domains fully on board		X	

- **Centralised/decentralised**

	National level	Regional level	Local level
Conceive	X	X	
Manage		X	
Deliver		X	

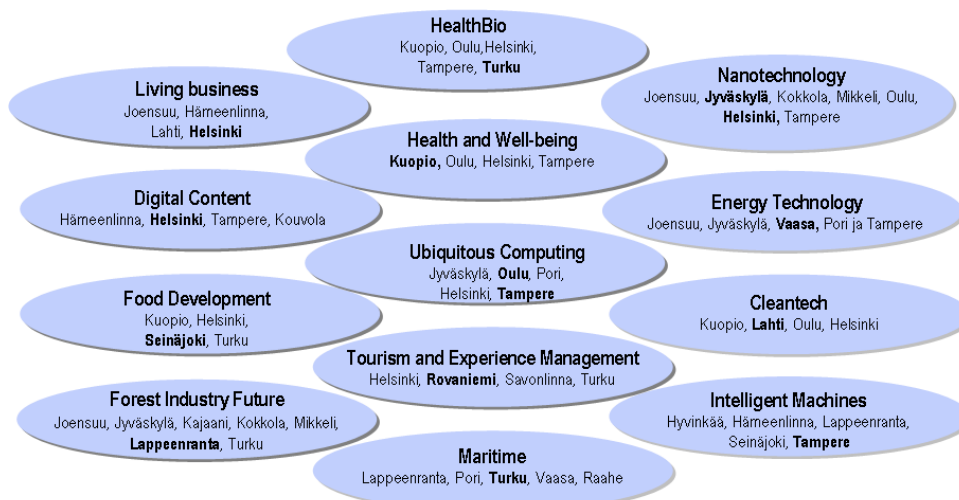
- **Global policy objective**

- The aim of the Centre of Expertise Programme is to **enhance regional competitiveness** and to **increase the number of high-tech products, companies and jobs**. To achieve this goal, the programme implements projects reflecting the needs of industry, to encourage industry, research and training sectors to co-operate, to ensure rapid transfer of the latest knowledge and know-how to companies and to exploit local creativity and innovation.

- **Design**

- The key principles of the Programme are: a) to utilise local strategies to meet national innovation policy targets b) triple helix interaction between academia and the private and public sectors c) to combine regional strengths and specialisation (bottom-up) with coordination on the national level by a cross-sectoral committee representing ministries, research organisations and industry (top-down).
- The Programme involves 13 national Competence Clusters and 21 regional Centres of Expertise. Individual competence clusters form a network and cooperation forum for centres of expertise and comprise 4-7 centres each (see Figure 3 below). Competence clusters can be technology-driven (e.g. Nanotechnology, HealthBio), application-driven (e.g. Living business, Tourism) or industry-driven (e.g. Forest cluster).

Figure 3: Overview of Competence Clusters and Centres of Expertise



Source: Ministry of Employment and the Economy

- The Centres of Expertise Programme is a fixed-term programme for the years 2007-2013 and builds on a string of predecessor programmes starting in 1994. However, the operational model of the programme has been redefined and now builds on the competence clusters which function as the new platform for development of inter-regional co-operation.

- **Institutions and funds**

- On national level, the Programme is under the authority of the Ministry of Employment and the Economy and co-ordinated by a multi-disciplinary Programme Committee appointed by the Government. The Committee consists of representatives from relevant ministries, research organisations and industry. The Committee is assisted by the Secretariat with experts representing the Ministry of the Employment and the Economy, the Ministry of Education and the Finnish Funding Agency for Technology and Innovation (Tekes).
- On a cluster level, each of the 13 clusters has appointed a Programme Director to coordinate the cluster's national and international operations. Regional technology centres and science parks typically act as the administrative and legal operators behind individual clusters. A cluster of competence is formed from at least two centres of expertise situated in different regions, having complementary fields of expertise which can be defined on the basis of branch, technology, expertise or application. Within individual clusters pivotal cooperation parties are companies, universities, institutes of higher education, research institutes, technology centres and various institutions providing finance (cities, municipalities, regional councils, Employment and Economic Development Centres, especially their technology divisions and county administration boards).
- The most recent publicly available overall budget figure of € 60.75 million covers the years 2007-2009 of the on-going programme period which will last until 2013. If this funding level is maintained roughly € 20 million in basic funding for operational work of centres and clusters would be available annually. The overall budget is financed through central government appropriations which cover around half of the expenditures and self-financing from regions and municipalities. Co-financing is also provided from the Structural Funds in eligible regions. Individual RDI projects are typically also funded through Tekes, EU framework programmes, EU structural funds, etc.

Position of the Centre of Expertise Programme in the Finnish policy mix

The activities in the framework of the Finnish Centre of Expertise Programme are situated in the following EC policy Action area:

- Cluster framework policies;
- R&D cooperation (joint projects, PPP with research institutes).

The Centre of Expertise Programme is a central element of Finland's approach to innovation and regional competitiveness. Other relevant programmes in adjacent areas include the Strategic Centres for Science, Technology and Innovation (SHOKs), and a range of other national technology programmes implemented by Tekes.

- The **Strategic Centres for Science, Technology and Innovation (SHOKs)** are public-private partnerships for speeding up innovation processes. Their main goal is to renew industry clusters and to create radical innovations. In the Strategic Centres, companies and research units work in close cooperation, carrying out research that has been jointly defined in the strategic research plan of each Centre. The research plan has the aim of answering to corporate application-oriented needs within a 5-10 year period. Six of these centres are currently in operation: Forest cluster (Forestcluster Ltd), Information and communication industry and services (TIVIT Ltd), Metal products and mechanical engineering (FIMECC Ltd), Energy and

the environment (CLEEN Ltd), Built environment innovations (RYM Ltd), Health and well-being (SalWe Ltd). The Strategic Centres are a new way of concentrating scattered research resources into projects that are significant for companies and society. In addition to the shareholders, public funding organisations like Tekes - the Finnish Funding Agency for Technology and Innovation, and the Academy of Finland have made a long-term commitment to fund the centres. According to the current planning, SHOKs will account for roughly 20% (€ 123 million) of Tekes' annual public support for R&D and innovation by 2012 (Nikulainen and Tahvanainen 2009). In contrast to the Centres of Expertise Programme, SHOKs focus on collaborative pre-competitive research activities partially overlapping with currently existing programs by the Academy of Finland (basic research) and Tekes (applied research). The competitive research and development is viewed to be in the domain of in-house corporate R&D and, thus, is not integral to the concept of SHOKs.

- **Tekes** is running a broad range of technology programmes to allocate its financing, networking and expert services to areas that are of strategic importance for business and society in Finland. Programmes are launched in areas of application and technology that are in line with the focus areas in Tekes' strategy. The technology programmes are aimed at strengthening cooperation between companies, universities, research institutes and the public sector and emphasise the diverse development and exploitation of international and regional technology cooperation. Tekes invests approximately half of its R&D funding through technology programmes. The duration of the programmes ranges from three to seven years. Tekes usually finances about half of the costs of programmes. Besides support for R&D, the programs have other objectives as well. Most importantly the programmes aim to increase collaboration by acting as forums for the exchange of information and networking between companies and research groups. In 2009 Tekes made funding decisions regarding 2,177 projects, which resulted in total investment of €579million, of which €343 million was invested in enterprise projects (61% of which targeted at SMEs) and €236 million was invested in projects carried out by universities, research institutes and polytechnics (Tekes 2010).

In budgetary terms, the Centre of Expertise Programme is relatively modest when compared to the level of funding allocated by TEKES in general and the SHOKs in particular.

2.3.5 Impact of the case study

Method

Evaluation is an integral part of the design of the Centres of Expertise Programme and measures of success and impact have been established in terms of jobs created or preserved, new companies founded and innovations created. Comprehensive ex-post evaluations are required for each programme cycle. The general national objectives for the period 2007-2013 are:

- Generate new innovations, products, services, businesses and jobs based on top-level expertise;
- Support specialisation and division of tasks between regions to form internationally competitive Centres of Expertise;
- Increase the capacity of regional innovation environments to attract internationally active businesses, investment and top professionals.

The national quantitative objectives for the current programming period are:

- In the projects launched by the Centres of Expertise, the share of joint project funding in the cluster is a minimum 40 % by 2010 and a minimum 70 % by 2013.
- In the projects launched by the Centres of Expertise, the share in all projects of nationally and internationally competed funding is a minimum 30 % by 2010 and a minimum 50 % by 2013.
- A minimum of 6,000 businesses participate annually in programme implementation by 2010, and a minimum of 8,000 businesses by 2013.
- The projects launched within the programme as a cooperative effort of the various operators influence, by 2010, the creation of a minimum 5,000 new expertise-intensive jobs and 500 businesses, and by 2013, the creation of a minimum of 10,000 new expertise-intensive jobs and 1,000 businesses.
- The total turnover and exports of businesses participating in the programme grow by a minimum 10 % more in the cluster of expertise than in comparable industry businesses on average, and the number of rapid growth businesses in the cluster of expertise is higher than in the industry and the service sector on average.

Results

Multiple rounds of evaluations have been carried out since the programme was first introduced in 1994. However, this case study will mainly focus on the results of the current programming period, since the design of the initiative has changed substantially over the years. The evaluation results of the first three programming periods can be summarised as follow:

- According to the official, externally commissioned evaluation of the first programme period (1994-1998), the main results of the programme concerned the increase of co-operation, both at regional and national level. The State Audit Office, in its own evaluation of October 2001, considered the Centre of Expertise Programme as a key initiative of Finnish regional policy. The programme's added value from the firm perspective came from its impact on R&D and the additional resources made available to firms (OECD 2007).
- The mid-term evaluation of the second programming period (1999-2002) indicated that programme has created altogether: 7100 new knowledge-intensive jobs, 9000 preserved jobs, 500 new high technology companies, 1800 new innovations, and educated 40000 persons.
- The ex-post evaluation of the programme period 2000-2006 (overlap with the second programming period) came to the conclusion that implementation was largely successful both at the national and the Centre of Expertise levels, even though certain development needs in the national coordination were identified. A national competition was considered to enable the programme to succeed in profiling regional innovation policy, promoting specialisation and channelling resources to the development of regional fields of expertise. Although regional specialisation has taken, the evaluation highlighted some overlapping of functions between Centres of Expertise.

For the current programming period (2007-2013) a first mid-term assessment, carried out by experts from the VTT Technical Research Centre of Finland, presented at a seminar in Helsinki on 20 May 2010, focussing on the programme's success and objectives for the remaining part of the programming period (2011-2013) indicated that:

- The Centre of Expertise programme (2007-2013) has succeeded in boosting the competitiveness and attractiveness of small localities in particular. It has also enhanced the

division of duties between regions, while enabling closer cooperation between enterprises and research institutions working in different regions. Moreover, by eliminating overlaps, the programme has intensified the efficient utilisation of research and innovation activity resources.

- At this point, the programme has contributed to the creation of over 350 new enterprises and over 3,000 jobs. This has enhanced the specialisation of regions and sub-regions and helped bring expertise up to international standards. In the future, it is increasingly vital that regional actors, enterprises, universities, universities of applied sciences and decision-makers in all regions share a mutual perspective on regional development guidelines.
- Participating companies have forged new contacts through the programme, while gaining new information on the development of their operating environment. The programme has relayed enterprise development needs further on to other actors involved in innovation, such as institutions of higher education and other development organisations. The programme also helped to activate SMEs to utilise new information, new types of tools and best practices, while encouraging them to go international. It also motivated enterprises to link with international projects and enter international markets.
- According to the assessment by VTT experts, the challenge regarding the programme's successful implementation lies in coordinating the special needs of regions with national objectives, and poor awareness at national level. Due to the general economic recession, the programme has not succeeded in meeting all of the business objectives set. Another point highlighted by the evaluators was that the programme needs to ensure that targets fit with the maturity and growth strategy of each cluster.

Analysis: Governance Issues and Determining Factors

The positioning of the Centres of Expertise between mainstream innovation policy (including the SHOKs) and regional development policies is considered as one of the defining elements of the programme and generally seen as a success.

The combination of regional strengths and specialisation (bottom-up) with coordination on the national level by a cross-sectoral committee representing ministries, research organisations and industry (top-down) is one of the defining elements of the programme and most assessments conclude that this has substantially contributed to the positive outcomes. By linking the regional-driven innovation actions to the national and transnational innovation framework, the Centres of Expertise Programme has contributed to focussing regional resources and activities on development areas of key national importance. Another key success factor appears to have been to define clusters that are of sufficient critical mass and link them with smaller scale regional business value chain activities.

The overall set-up of the Centre of Expertise Programme is both an expression of centralised planning when it comes to key principles, conditions and modalities for cooperation and a decentralised approach when it comes to implementation and management, where individual Centres of Expertise and Competence Clusters enjoy considerable freedom in terms of their organisation and activities. From a sectoral vs. integrated perspective, the thematic openness of the programme is worth noting since themes have not been predefined and emerged from a competitive tendering process while building on existing regional strengths / areas of regional specialisation.

2.3.6 Comparison with cases in other EU-Member states

Compared to the other comparable programmes in Europe, the Centres of Expertise appear to belong to the set of integrated policies which are currently occupying an important place in innovation policy agenda's. Among such comparable programmes we can name:

- Denmark – DNRF programme;
- The Danish National Research Foundation supports a large number of Centres of Excellence at universities, oriented towards basic science. Today, more than 30 Centres of Excellence are funded; in February 2009, nine new centres were established. The continuation of the foundation will strengthen this policy instrument. In 2005, the foundation initiated the Niels Bohr Visiting Professorship as a supplement to the Centres of Excellence in order to further the internationalisation of Danish research. The foundation invites top foreign researchers to Denmark.
- The Netherlands – Top Research Schools (Toponderzoekscholen);
- The Netherlands Academy of Science has earmarked 5 top research schools within the Dutch government's research and innovation strategy: National Research School Combination-Catalysis - NRSC-Catalysis, Nederlandse Onderzoekschool Voor Astronomie - NOVA, Netherlands Research Centre for Integrated Solid Earth Science - ISES, Onderzoekschool COBRA. Communication Technology: Basic Research and Applications, Zernike Institute for Advanced Materials. The top research school is a meeting point of knowledge in The Netherlands. Experts in various key sub-disciplines join forces in this new organisation to execute a strong innovative research programme of international standing, to meet the challenge of a sustainable society.
- The Netherlands – 'Leading Technology Institutes' (Technologische Topinstututen – TTI);
- The TTIs ("technological top institutes") are – often virtual – research organisations in which companies, universities and research institutes participate in public-private partnerships for research and innovation. In 2008 such "top institutes" are active in ICT, polymers, materials, food, pharmaceuticals, molecular medicine, life sciences and water;
- Switzerland – National Centres of Competence in Research.
- National Centres of Competence in Research promote long-term research projects in areas of vital strategic importance for the development of science in Switzerland, for the economy of the country, and for Swiss society. Each Centre of Competence is under the directorship of a university or another recognised research institution which allows research groups based at the home institution to network with other teams working throughout Switzerland.

It can be noted that the "centre of expertise" type of policy initiatives are predominantly used in the leading innovating countries, which have developed substantial research capacity.

2.3.7 Conclusions

The case under consideration in Finland is the case of Centres of Expertise Programme. Since its launch in 1994, this policy has undergone several round of evaluation. The last round provides a positive general assessment of the programme.

a. *Current balance in policies*

The positioning of the Centres of Expertise between mainstream innovation policy, which still exhibits strong features of the sectoral/centralised approach and the regional development

policies with more integrated features is considered as one of the defining elements of the programme and generally seen as a success.

b. *Arguments to justify policies*

The combination of regional strengths and specialisation (bottom-up) with coordination on the national level by a cross-sectoral committee representing ministries, research organisations and industry (top-down) is one of the defining elements of the programme and most assessments conclude that this has substantially contributed to the positive outcomes. Another key success factor appears to have been to define clusters that are of sufficient critical mass and link them with smaller scale regional business value chain activities.

c. *How can impact of each type of policy be judged*

The Centre of Expertise programme (2007–2013) has succeeded in boosting the competitiveness and attractiveness of small localities in particular. It has also enhanced the division of duties between regions, while enabling closer cooperation between enterprises and research institutions working in different regions. Moreover, by eliminating overlaps, the programme has intensified the efficient utilisation of research and innovation activity resources.

d. *Has the balance shifted over time?*

Regarding innovation governance and policy trends, there are clear signs that Finland has entered a new phase of development. Firstly, there is a move towards a broad based innovation policy which challenges the traditional technology and production centred perspective. Secondly, the existing innovation governance system and its structures have been under critical consideration during the last years.

e. *Arguments to support the shift*

Finland's Government has now prioritised understanding why the knowledge and infrastructure developed in Finland has not been taken up and translated into concrete commercial innovations as efficiently as hoped.

f. *Balance top performers*

Compared to the other comparable programmes in Europe, the Centres of Expertise appear to belong to the set of integrated policies which are currently occupying an important place in innovation policy agenda's. Among such comparable programmes we can name:

- Denmark – DNRF programme;
- The Netherlands – Top Research Schools (Toponderzoekscholen);
- The Netherlands – ‘Leading Technology Institutes’ (Technologische Topinstituten – TTI);
- Switzerland – National Centres of Competence in Research.

The recent evaluations of these programmes provide a positive assessment of their direct and indirect societal impacts. Similarly to Finland, the current policy mixes in these countries still have a considerable volume of centralised sectoral measures, and the above programmes are considered as important steps in bringing more momentum to the shift in direction of more integrated innovation policy measures.

The fact that the Centre of Expertise programme, albeit with certain changes, has been continued since it was first introduced in 1994 indicates that Finnish policymakers see it as an important contribution to both innovation and regional policy. The evaluation results of the first three programming periods and the first assessment during the current period support this view.

However, the challenge of finding the right balance between "international excellence" and "regional SME clusters" remains. It has also been highlighted by external evaluators that internationalisation is not a goal in itself and that it may be worthwhile to rethink what "international excellence" means in the given context by more clearly differentiating between excellence in attracting science and technology companies and international competitiveness of local companies through export.

2.3.8 References

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2.4 The Netherlands: WBSO R&D tax subsidy

2.4.1 This Case Study

In this case study we carry out a detailed examination of performance and evaluation results for one of policy measures in the Dutch innovation policy mix:

- WBSO R&D tax subsidy.

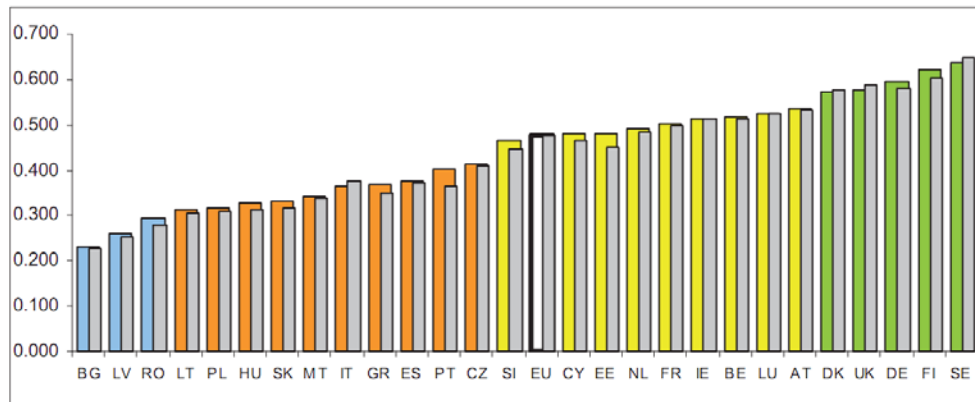
The study consists of four parts. In the first part we examine the Dutch innovation policy mix and analyse its main features along the dimensions of centralised/decentralised and sectoral/integrated policy design. In the second part we describe the case policy, its objectives, design and implementation mechanism. In the third part we make an overview and analyse the results of the policies past impact evaluations. The fourth section of this study concludes and presents answers to the main research questions formulated in the general analysis framework.

2.4.2 Innovation performance and policy mix in The Netherlands

Performance of the Dutch economy in recent years (2004 – 2007) can be considered as relatively good. The Netherlands has improved its already quite good position in terms GDP per capita. The labour productivity parameter per employed has stayed at the relatively high level, but its growth has been weak. Considering the real GDP growth rate, the Dutch economy performed above EU 27 average and the volume of foreign direct investment remained high. The economic developments in 2004 – 2007 also resulted in an increase of employment rate, which stayed well above the EU 27 average. The public payments balance improved and the general government debt decreased.

As a result of the recent financial crisis, the financial position of the government, households and pension funds have deteriorated significantly. Before the crisis, the Netherlands enjoyed a period of strong employment growth and relative shortages on the labour market. This trend reverted in 2009 and employment is expected to decrease, especially in the private sector.

Figure 1. Summary innovation performance EU Member States (2009 SII)



Note: The Summary Innovation Index (SII) is a composite of 29 indicators going from a lowest possible performance of 0 to a maximum possible performance of 1. The 2009 SII reflects performance in 2007/2008 due to a lag in data availability.

The grey coloured columns show 2008 performance as calculated backward from 2009 using the next-to-last data for each of the indicators. This 2008 performance is not identical to that shown in the EIS 2008 as not for all indicators data could be updated with one year. The difference between the columns for 2008 and 2009 show the most recent changes in innovation performance.

Source: European Commission (2010), European Innovation Scoreboard 2009.

The crisis has also affected the research and innovation activities. There is a decline in business investments in R&D and innovation. The innovating firms have difficulties in securing financing and venture capital. There is uncertainty about the jobs for knowledge workers.

Yet at the same time, the current economic crisis creates a number of opportunities for renewal, organizational changes, 'creative destruction' among enterprises and re-orientation towards eco-innovations and sustainable development.

Before the onset of the economic crisis, the Netherlands exhibited the innovation performance just above the EU 27 average, with a very modest improvement tendency. According to the European Innovation Scoreboard 2009, the Netherlands firmly occupies position of an 'innovation follower'. The EIS 2009 is based on calculation of the three groups of indicators: so called enablers/drivers of innovation, innovation efforts of firms, and the outputs of firm activities. In terms of enablers the Netherlands scores well in both Human resources and Finance and Support. Relatively high indicators for tertiary education and life-long learning contribute to good performance in Human Resources further strengthened by growth in numbers of graduates and doctorate graduates in science & engineering and in social sciences and humanities. In terms of Finance and support indicators, we observe high scores regarding public R&D expenditure, availability of private credit, and the broadband access by firms. In Finance and Support the situation is not yet clear. On one hand we see strong increase in broadband access by firms and in the availability of private credit (before 2008), while on the other hand there is evidence of decrease in public R&D expenditure and in availability of venture capital. Such tendencies give us a sign of slowing down the renewal tendencies in Dutch economy.

Therefore, when considering the weaknesses in the Dutch innovation system we can translate them into the main challenges. A first challenge faced by the Dutch innovation system is to increase the number of innovative SMEs. Such an increase should not be limited to manufacturing only, but also should involve firms in services which constitute a relatively large share in the Netherlands. In order to provide favourable conditions for innovation and entrepreneurship it is important to take steps towards reducing administrative bottlenecks and improving access to capital.

The second challenge to Dutch innovation is to attract more knowledge-intensive activities into country. In particular this involves attracting more foreign R&D-intensive companies to establish their research facilities. The relatively low intensity of foreign direct investments in R&D is one of the factors that determine the low intensity of business R&D expenditures.

Finally, steps should be taken to secure sufficient human capital for expanding innovation in the Netherlands. As of this moment, the Netherlands is one of the few developed countries which does not benefit from expanding number of knowledge workers in the world. It is evident that a sufficient supply of well-trained knowledge professional is a crucial condition for further expansion if the knowledge and innovation intensive industries in the Netherlands.

2.4.3 Governance issues

The two key governmental agencies determining the broad innovation policy are the Ministry of Economic Affairs (EZ) and the Ministry of Science, Culture and Education (OCW). They have divided responsibilities: the EZ being responsible for industry-oriented R&D and innovation policy and OCW for scientific research and education.

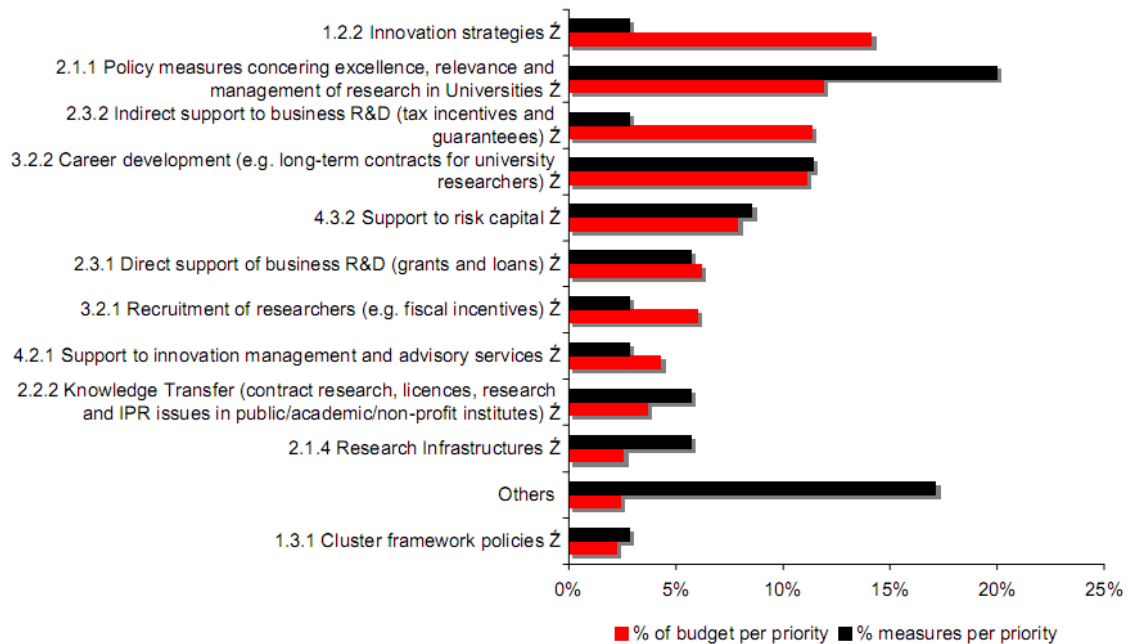
Other ministries (e.g. Agriculture, Nature & Food Quality, Health, Welfare & Sport and Transport, Public Works & Water Management) have their own specific programmes oriented at stimulating innovation. The corresponding innovation policy budgets of these ministries are, however, much smaller than the innovation budget of EZ.

At the inter-ministry level there are several advisory bodies that provide inputs and guidance to innovation policy. One of the latest additions is the Innovation Platform, which was established in 2003 as a temporary organisation, and re-established in 2007 with new members and new tasks.

Among other innovation policy advisory bodies we can name:

- the Advisory Council for Science and Technology Policy (AWT) – which will be merged with the Dutch Energy Council,
- several Strategic Advisory Councils, e.g. the Scientific Council for Government Policy (WRR) and the Social Economic Council (SER),
- the Netherlands Bureau for Economic Policy Analysis (CPB),
- the Royal Netherlands Academy of Arts and Sciences (KNAW).

Figure 2. Estimated annual budget allocations per policy priority and number of support measures in the Netherlands



Source: European Commission (2009b).

Recent trends in Dutch innovation policy mix

In order to better address the challenges of the Dutch innovation system, the Ministry of Economic Affairs has renewed and restructured its instruments and their implementation. The aim of the proposed reform of the policy mix is to achieve greater flexibility and customized solutions to meet the needs of businesses.

The new approach clusters the restructured instruments in two different “packages”:

- A “basic package”, primarily aimed at SMEs, providing information and advice on, for example, access to the knowledge infrastructure, and financial support in the form of credits, loans and guarantee schemes.
- A “programme-based package” aimed at specific key areas of strategic importance for the Dutch economy. In collaboration with the ministry of Economic Affairs, actors within a specific key area (industry, universities, etc.) define organisation and objectives of an innovation programme, allocate financial resources, and formulate projects supporting the programme objectives. After approval of the programme, the government provides “tailor made” support, including (co-)financing, with the help of the instruments clustered within the “programme based package”.

The most recent definition of the main innovation policy objectives has been made in the long-term strategy for Dutch knowledge and innovation 'Towards an agenda for sustainable productivity growth' (2008).

This strategy presents the vision, ambitions and policy objectives of the cabinet for the Dutch society and economy in 2030. It contains three main 'policy agendas': Talents, Public & private research, and Innovative entrepreneurship.

The stimulus package of the government to counter the economic crisis introduces two new measures to prevent the loss of knowledge workers by R&D intensive firms. The total policy budget for these measures is quite substantial: EUR 280 million for 2009 and 2010. The Knowledge workers scheme enables firms to temporarily second their R&D personnel to public knowledge institutes for a period of one and a half years. The High Tech Top Projects scheme helps firms in the high-tech sector to keep their R&D workers employed by giving support for large R&D projects.

Furthermore, the tax incentive R&D work Stimulation Act (WBSO) has been earmarked to be broadened and extended. The budget of WBSO has a temporary increase of EUR 300 million (EUR 150 million for both 2009 and 2010). Also the budget for the Innovation Credit scheme was increased.

Another relevant development in public support for innovation is the gradual growth of the innovation programmes in strategic areas of the Dutch economy. Currently, there are nine innovation programmes: in nano-electronics, embedded systems & mechatronics, food & nutrition, water technology, maritime, automotive, life sciences & health, new materials, and polymers. The programmatic package consists of three modules: strengths in innovation, strengths in regions, and energy transition. There is also a fourth module aiming at providing programmatic support to enter prioritised foreign markets

In general the Dutch innovation policy mix at its current state can be characterized as favouring sectoral and centralised measures, which target specific market failures and bottlenecks in the country's innovation system. In the recent years we see the rise of policies in the framework of the programmatic packages, which are designed in a more integrated manner covering different aspects of innovation and production activities in particular technological fields and industries.

2.4.4 Case description: WBSO R&D tax subsidy

- **Policy type**
 - *Centralised, Sectoral (see below for details)*
 - **Sectoral/Integrated**

	Objectives/targets			
		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/ instruments	Sectoral	X		
	Other policy domains to be taken into consideration			
	Other policy domains fully on board			

- **Centralised/decentralised**

	National level	Regional level	Local level
Conceive	X		
Manage	X		
Deliver	X		

- **Global policy objective**
 - The main objective of the WBSO²⁸ is to promote R&D by enterprises. We only explore the general instrument, not specific spin-offs like the WBSO for starters.
- **Design**
 - The design of instrument is that it is a general measure. It is a fiscal policy that subsidizes 42% of the wage costs for R&D employees by reducing wage tax withholdings and social security contributions. For the firm to qualify for the program employees should work on technological R&D activities aimed at the development of new products, processes and software
 - Innovating enterprises in the Netherlands spend in total around 5500 million euro on R&D each year (CBS Statline).
- **Institutions and funds**
 - The programme is administered by the Dutch Ministry of Economic Affairs (EZ).
 - In 2009 WBSO subsidies amounted around 425-466 million euro (EZ, WBSO Dossier Online).
 - At the beginning of the programmes' existence some 75% of the companies with their own R&D expenditure applied for WBSO facilities in the 1996-1998 period. This rises to 86% in industry and in the 'other' sector, which includes utilities and the construction industry, to almost 80%. In the service sector, 'only' 51% of companies with their own R&D expenditure actually applied for WBSO tax credits.

Position of the WBSO programmed in the Dutch policy mix

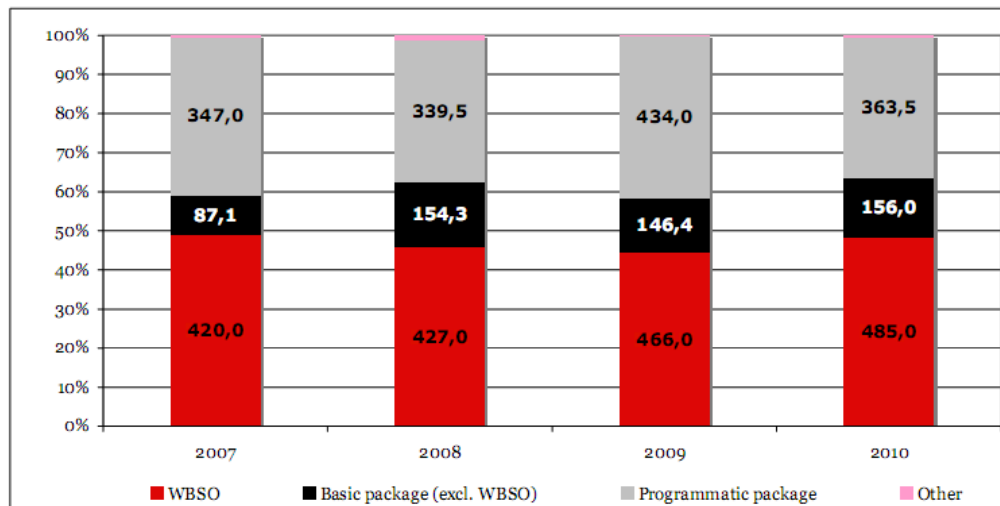
The activities in the framework of the Dutch WBSO programme are situated in the following areas:

- Indirect support to business R&D (tax incentives and guarantees).

Compared to the other policy packages, the WBSO stands out as a very important component of the policy mix (see Figure 3).

²⁸ The official name of the Act is the 'Act on the Reduction of Wage Tax and Social Insurance Premium Payments, Research and Development Work Section'

Figure 3. The distribution of the innovation policy budget of the EZ Netherlands.



At this moment the fiscal incentive WBSO has a budgetary weight of EUR 466 million. Together, the total budget for the Dutch innovation policy mix amounts to circa EUR 1 billion. The 'basic package' (without WBSO) receives EUR 146 million and the 'programmatic package' EUR 434 million. The share of the budget for the 'programmatic package' has increased in the period 2007-09. The relative share fluctuates around 40%. The relative share of WBSO initially decreased, but is expected to increase in 2010 (EC (2009b)).

2.4.5 Impact of the case study

Method

The WBSO programme has been evaluated several times by different research groups. Given the aim of the WBSO, a central question in these evaluations is whether and to what extent the WBSO leads companies to conduct more R&D activities (1st order effect) and to become more innovative (2nd order effect). The abundance of the data allowed the researchers to employ comprehensive quantitative analyses and estimate the multiplier which relates the instrument to the target variable: it describes the increase in size of enterprises' R&D expenditures in euro due to 1 euro subsidy.

Results

One of the recent evaluations carried out by is Brouwer et al. (2006) estimates the effect of the WBSO programme on the total R&D expenditures of Dutch enterprises. It evaluates the effect of the tax subsidy on firms R&D expenditures based on dynamic firm-level panel dataset assuming a non-linear relationship between private R&D expenditures and the amount of the WBSO subsidy with the two-years lag (based on the two-year fiscal cycle for a subsidy). Brouwer et al. (2006) conclude that based on average one euro of the WBSO tax subsidy results in 1,02 euro of extra R&D spent by the firms. Qualitatively such a result can be interpreted as a positive evaluation indicating the complementary relationship between the tax subsidy and the firms' R&D.

Donselaar and Segers (2006) carry out the macroeconometric study of determinants of economic growth and R&D based on the data for OECD countries. The estimation of the effects of public

R&D financing on private R&D intensities (private R&D per unit of GDP) has given the value of the additionality effect of 1,27 for joint effect of the R&D subsidies and credits.

The above two studies estimate a so called average effect of the WBSO programme, i.e. it is the average increase in the R&D expenditures of all firms at the current level of the programme financing.

The two studies above share a common weakness. These studies do not account properly for possible causality problem. There are two mechanisms that give rise to the positive correlation between the WBSO and the R&D which is not caused by the policy itself.

The first mechanism is that the R&D expenditures of enterprises cause WBSO-subsidies as enterprises will carry out their legal rights. The second mechanism is that firms that already have own R&D programs (and higher R&D expenditures) will be more likely to apply for the subsidy, which causes a so called selection problem. These two mechanisms make the R&D expenditures and the WBSO-subsidies complementary. Evidently, this complementarity is usually found in empirical research.

These causality problems were taken into account in the evaluation carried out by Cornet and Vroomen (2005) that used the natural experiment to evaluate the causal effect of the WBSO program on (additional) R&D expenditures of the enterprises.

The study made use of the change in the policy design, which allowed to identify the control group and design a proper experimental setting. In 2001 the Dutch R&D tax credit program WBSO has been changed in two ways. First, an additional tax credit was offered to new and innovating firms: the starters facility program. The second, the upper bound of the first tax-credit bracket was raised. The researchers estimated the impact of these policy changes. They conclude that each extra euro of the tax credit spent through the starters program yields about 50 to 80 eurocents extra in the R&D labour activity. The extension of the first tax-credit bracket yields about 10 to 20 eurocent extra R&D-labour expenditures for each additional euro tax credit. These calculated estimates provide us with the marginal effect related to the expansion of the WBSO programme.

Combining the results from these studies it is possible to make a summarizing conclusion. Based on the first two evaluations it can be stated that the program at this moment facilitates additional R&D spending of the Dutch firms on average at the current programme volume. The third study shows nonetheless that expanding this programme by a considerable amount is likely to have smaller effect on the firms' R&D efforts.

Analysis: Governance Issues and Determining Factors

This type of measure (fiscal incentive) was chosen to stimulate R&D in firms due to the fact that wage costs form a bottleneck for the take-up of R&D. A fiscal form was chosen so it could easily merge with private spending on R&D. Also the low threshold and generic and broad coverage of a fiscal form fits well with the aim of the measure. An evaluation of WBSO in general concluded that WBSO-users use the fiscal advantage fully for R&D and invest own means on top of that. The effect on R&D expenditure depends on the size of companies: effect is larger in small companies. Revenues (extra private investments in R&D) are larger than costs of the act.

This programme also has own advantages in terms of governance. It is administered in a centralised manner by one institution (EZ), which is responsible for handling the subsidy request.

The administration burden on firms is quite low and can be well accommodated in their fiscal reporting cycle.

Thus, the two main factors contributing to the effectiveness of the WBSO programme are its clear targeting of the innovation bottlenecks (and therefore sectoral type of intervention) and addressing them in a very effective manner when it comes to administration burden (the centralised policy design contributes to that).

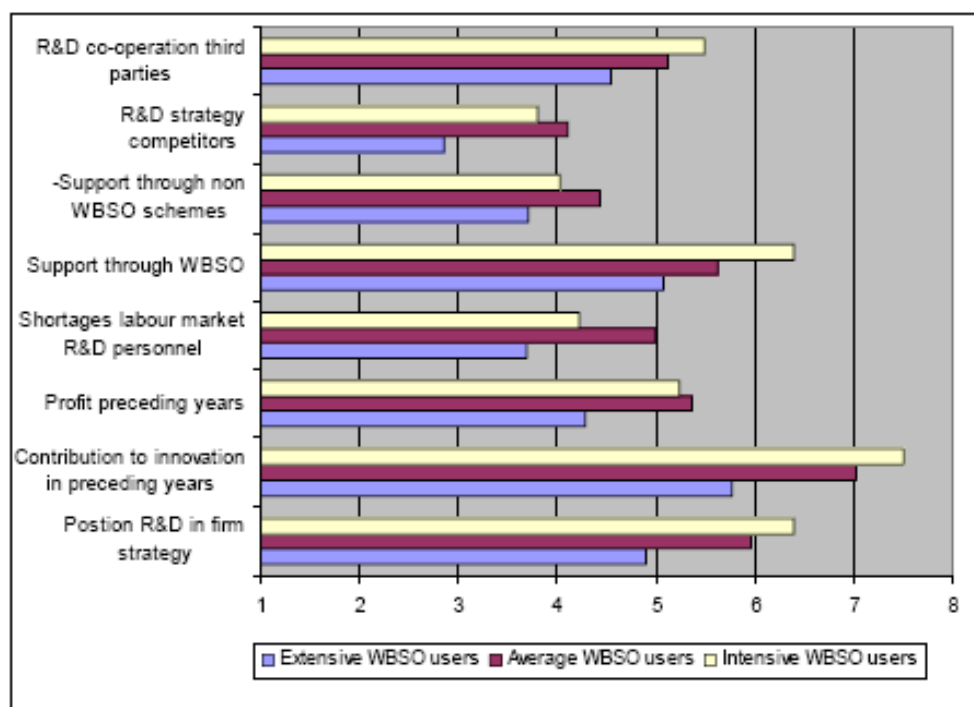
Analysis: Economic impact of public support for R&D

A large body of macro- and microeconomic literature points out in the direction that the R&D efforts of enterprises have a considerable effect on economic development and growth in the country.

While other factors, such as macroeconomic shocks, can affect productivity in the short to medium term, only the development of technology can make economic growth sustainable and durable in the long run. Anecdotal evidence from past history shows that new technology, especially the ICT in the 1990s, has substantially contributed to recent improvement in the productivity of firms. The existing literature on more ‘aggregated’ economic analysis points to R&D as being the ultimate source of technological change. Most studies in this field of research have confirmed that domestic business R&D and foreign R&D are major drivers of economic growth.

The effects of innovation work via two main channels. The first effect is realized directly via creating new products and technologies, which make the economy more competitive. The second channel goes via technology transfer, where new knowledge and technologies become applied in other industries or even other activities, thus driving the productivity of the whole economy up.

Figure 7 Degree to which WBSO-users considers factors that affect scale of R&D efforts to be important, by level of R&D intensity (1= totally unimportant, 10 very important)⁴²



Finally the R&D can have a so called ‘second face’ (a notion introduced by Griffith et al. (2004)). The R&D can increase the knowledge necessary for adoption of new technologies and processed developed elsewhere. Such a mechanism is important for the countries, which lag behind in the technological development. Therefore a policy measure, which is effective in stimulating the privately financed R&D has large potential to contribute to economic growth driven by both the technological catch-up and/or the true advancement of the technological frontier.

2.4.6 Comparison with cases in other EU-Member states

The R&D tax subsidy policies are present in a number of Member States. Countries such as Spain, Norway, Denmark, Hungary, France, Austria and the United Kingdom are leading the international comparison or have the strongest R&D tax treatment incentives in Europe. Although the majority of countries provide R&D tax treatment regardless the size of the enterprise, seven countries – Italy, Netherlands, Norway and United Kingdom - provide R&D tax treatment for small companies. In most cases small businesses are offered a preferential R&D tax treatment. The balance of centralised/decentralised and sectoral/integrated innovation policy measures in these countries is pretty divers, what makes us conclude that the R&D tax subsidy measure can be given as an example of a good working centralised sectoral policy, which can perform well under different circumstances.

2.4.7 Conclusions

From this case it can be concluded that the Dutch tax subsidy scheme WBSO has proven as an effective policy towards stimulating private R&D expenditures and increasing the innovation and productivity potential of the economy.

The strengths of this policy lie in two main factors. First, the programme addresses a clearly defined performance bottleneck in the innovation system, i.e. the high labour costs of the R&D personnel. This strength has been realized via the sectoral and centralised design and implementation of the policy measure. Second, the programme has proven to impose a limited administrative burden on both policy administrators and the enterprises themselves. This measure was able to benefit from the already established fiscal administration dataflows and procedures.

When considering the results of this case study in the framework of the main research questions, we make the following conclusions:

a. *Current balance in policies*

In general the Dutch innovation policy mix at its current state can be characterized as favouring sectoral and centralised measures, which target specific market failures and bottlenecks in the country's innovation system. With this respect the WBSO programme is a clear example of such a mainstream policy measure managed in the centralised way with a clear sectoral approach (tax subsidy for the R&D labour costs).

b. *Arguments to justify policies*

This type of measure (fiscal incentive) was chosen to stimulate R&D in firms due to the fact that wage costs form a bottleneck for the take-up of R&D. A fiscal form was chosen so it could easily merge with private spending on R&D. Also the low threshold and generic and broad coverage of a fiscal form fits well with the aim of the measure.

c. *How can impact of each type of policy be judged*

An evaluation of WBSO in general concluded that WBSO-users use the fiscal advantage fully for R&D and invest own means on top of that. The effect on R&D expenditure depends on the size of companies: effect is larger in small companies. Revenues (extra private investments in R&D) are larger than costs of the act.

d. *Has the balance shifted over time?*

In the recent years we see the rise of policies in the framework of the programmatic packages, which are designed in a more integrated manner covering different aspects. Such developments, nonetheless, can not be considered as a pure shift due to the fact that most of the existing measures with centralised and sectoral design were left in place and even expanded (for example, the WBSO).

e. *Arguments to support the shift*

In order to better address the challenges of the Dutch innovation system, the Ministry of Economic Affairs has renewed and restructured its instruments and their implementation. The aim of the proposed reform of the policy mix is to achieve greater flexibility and customized solutions to meet the needs of businesses. Similarly to other countries with strong innovation

performance, the ultimate goal of these changes is to stimulate improve economic competitiveness.

f. *Balance top performers*

The R&D tax subsidy policies are present in a number of Member States. Countries such as Spain, Norway, Denmark, Hungary, France, Austria and the United Kingdom are leading the international comparison or have the strongest R&D tax treatment incentives in Europe. The balance of centralised/decentralised and sectoral/integrated innovation policy measures in these countries is pretty divers, what makes us conclude that the R&D tax subsidy measure can be given as an example of a good working centralised sectoral policy, which can perform well under different circumstances.

To summarize, the WBSO provides an example of a well designed sectoral and centralised innovation policy measure which effectively serves its clearly defined purpose.

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2.5 Poland: National SME Services Network (KSU)

2.5.1 This Case Study

In this case study we carry out a detailed examination of performance and evaluation results for one of policy measures in the Polish innovation policy mix:

- National SME Services Network (KSU).

The study consists of four parts. In the first part we examine the Polish innovation policy mix and analyse its main features along the dimensions of centralised/decentralised and sectoral/integrated policy design. In the second part we describe the case policy, its objectives, design and implementation mechanism. In the third part we make an overview and analyse the results of the policies past impact evaluations. The fourth section of this study concludes and presents answers to the main research questions formulated in the general analysis framework.

2.5.2 Innovation performance and policy mix in Poland

Poland's economy is one of the fastest growing in Europe, in fact the only one in the EU that maintained growth in 2009. The country's GDP grew by 6.8% in 2007, 5.1% in 2008 and 1.8% in 2009. These favourable results were brought by large increases in internal demand and investments (2007 and 2008) and positive external balance contribution in 2009, rather than investment in innovation.

The impact of the recession on the CEE countries' economies was mainly determined by the degree of trade openness and the share of loans in private consumption financing. Due to a relatively low significance of those factors in the Polish economy, Poland was the only country in Europe which showed positive economic growth, of 1.8%. The positive economic growth, despite recession in surrounding countries, was determined on one hand by lower exposure to external shocks (a lower share of foreign trade in GDP in comparison with other countries of the region) and on the other, by lower importance of loans in financing household consumption. A huge depreciation of Polish zloty was also an important factor allowing positive net exports contribution.

In 2010, a weakening of the dynamics was recorded in many areas. Despite a slightly lower growth in industrial production, the industry continued to be the most dynamic sector of the economy. The sales of services in transport and communications also grew at a slower (seasonally adjusted) rate. Despite this slowdown the financial results of the enterprises were better than a year before. Revenues reached a higher level than a year before. During the first three months of 2010, the commodity turnover in foreign trade increased in annual terms. As a result of higher dynamics of exports than of imports, the negative balance of total commodity turnover improved. The most rapid growth concerned exports to developing countries and imports from the Central and Eastern European countries, mainly from Russia (Central Statistical Office 2010).

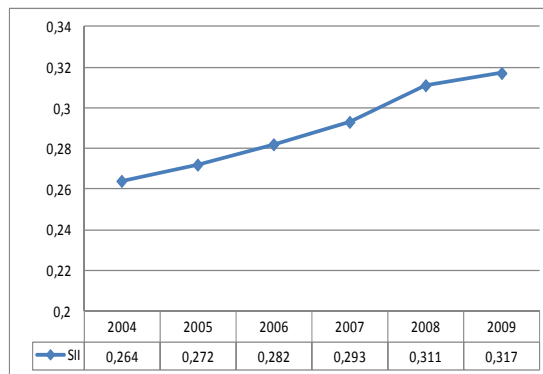
Poland is using structural funds more effectively than in the past, but transport bottlenecks are still an infuriating and growth-stifling feature of Polish life. Despite this problem, Poland attracted more than \$10 billion foreign direct investment last year. The European Commission estimates

that the general government deficit in Poland grew from 3.7% of GDP in 2008 to 7,1% of GDP in 2009.

According to the Global Competitiveness Report 2009-2010 published by the World Economic Forum, Poland improved its competitive position, climbing up by seven places to 46th rank among 132 countries. One of the pillars taken into account is innovation. In the most recent ranking Poland was scored on 52th position (World Economic Forum, 2009).

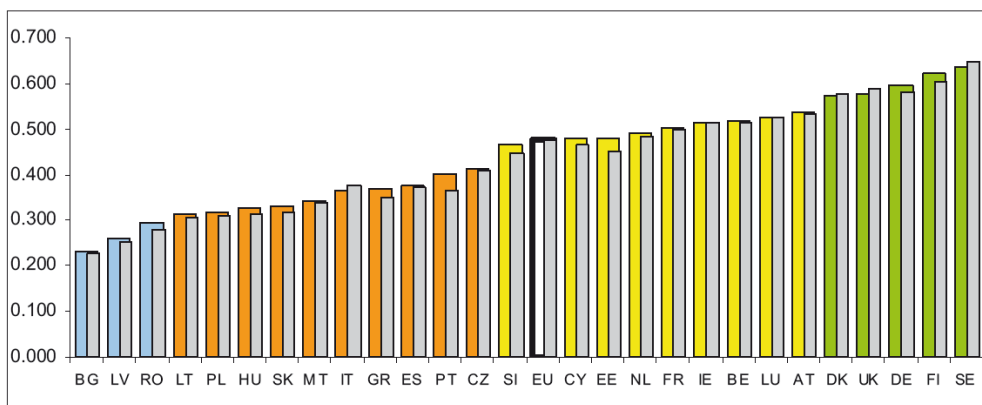
Despite a relatively good economic performance Poland's performance in the field of innovation, development is still weak in comparison with other countries. The positive fact is that the level of investment in innovation is raising, and the inflow of structural funds helps improve the situation. In 2005 Poland was ranked the 27th in the European Innovation Scoreboard (out of 33 countries). In 2005 there were only four indicators in which Poland performed above the EU-25 average: youth education attainment level, innovation expenditures, ICT expenditures, and new to firm product sales. The Summary Innovation Index presented in the EIS shows an improvement. According to the latest EIS Poland is among the group of 'Moderate innovators', with an innovation performance considerably below the EU27 average but an above average rate of

improvement. The relative strengths, compared to the country's average performance, are in Human resources and Firm investments and Economic effects while the relative weaknesses are in Linkages & entrepreneurship, Throughputs and Innovators (EC 2010).



improvement. The relative strengths, compared to the country's average performance, are in Human resources and Firm investments and Economic effects while the relative weaknesses are in Linkages & entrepreneurship, Throughputs and Innovators (EC 2010).

Figure 1. Summary innovation performance EU Member States (2009 SII)



Note: The Summary Innovation Index (SII) is a composite of 29 indicators going from a lowest possible performance of 0 to a maximum possible performance of 1. The 2009 SII reflects performance in 2007/2008 due to a lag in data availability.

Source: European Commission (2010), European Innovation Scoreboard 2009

A growing recognition within the Polish administration that innovation is important for the future economic growth is accompanied by a significant inflow of funding from the EU Structural Funds. It should be mentioned that the impact of these funds has not been reflected in the statistics yet, as the SII is based mostly on data from 2007.

Polish authorities at central and local level have expressed their commitment to the Lisbon objectives. In the adopted National Reform Programme the R&D policy was given one of the most prominent positions. The strategic document "Strategy of increasing innovation in the economy for 2007-2013" adopted on 4 September 2006 by the Government was a base for elaborating the objectives of the Innovative Economy Operational Programme. The strategic objective of the Strategy is "the growth of the innovativeness of enterprises in order to maintain the fast development of the economy and to create new, better jobs". The document indicates four development paths.

The most important areas of public intervention have been defined as follows:

- Human Resources for modern economy,
- Research for the economy,
- Intellectual property for innovation,
- Capital for innovation,
- Infrastructure for innovation.

According to the TrendChart, Poland faces the following three major challenges in the field of innovation (EC 2009):

- *Stimulating and deepening innovation internal capacities of Polish companies.* There is a need to identify the companies with the highest innovation potential and consolidate innovation funding in order to ensure that the economy becomes more innovative for the benefit of society and the environment.
- *Improving science-industry co-operation.* The co-operation between science and business is still a weakness of the innovation system in Poland, despite the fact that there are measures directly responding to this problem, financed from the Structural Funds. There is a need to foster science-industry co-operation in strategic areas with the involvement of the strongest business partners already undertaking R&D activities and best research teams.
- *Promoting multidisciplinary profile skills for innovation.* The number of graduates needs to grow and the share of technical universities should be increased. The issue of developing a multidisciplinary profile of skills that would match the expectations of existing and future innovative companies is one of the priorities expressed in the strategic document "Poland 2030".

The case study presented in this note examines the initiative which addresses to some extent two of the above challenges for the Polish innovation system: stimulating and deepening the innovation capacities of the Polish companies and improving science-business relations.

2.5.3 Governance issues

The responsibilities in the innovation policy system are distributed across the different authorities in Poland. Poland is a unitary state, with territorial self-government. As far as the territorial self-

government is concerned, there is a three-tier administrative system in Poland: voivodships (regions), poviats (subregions) and gminas (municipalities). There are 16 voivodships, 314 poviats and 2478 municipalities. Public duties aimed at citizens are performed by territorial government units as their direct tasks. Territorial self-governmental units also perform statutory tasks or tasks commissioned under agreements with government administration bodies. Territorial government units possess legal personality and their self-governing nature shall be protected by the courts.

According to the Constitution, gmina shall be the basic unit of territorial government. Gminas are in charge of matters linked to people-related matters such as culture, media, health policy and education. The tasks of voivodships are focused on region wide issues, such as: programming of regional development, public roads and transport network, public education, health care, protection of cultural heritage, social welfare and environmental protection. Poviats' tasks include, among others: running hospitals and social welfare homes and institutions, technical infrastructure and public roads on poviat's level, public order and safety (flood and fire protection, constructing supervision), as well as education.

When considering the overall Polish innovation-policy mix, the main activities in this policy domain take place at the level of central government, although several instruments are being administered at the regional level. Each region (voivodship) may define its own innovation policy. The regions are in charge of economic support and technological innovation (like initiatives related to clustering, technology parks and incubators, etc), enhancing the competitiveness of the regional economy. There is a number of instruments that may be used for these purposes by regional authorities, the most important being Regional Operational Programmes. Each region in Poland also developed a Regional Innovation Strategy. The creation of the innovation strategies was co-financed from the structural funds and their implementation depends on the instruments available under Operational Programmes and the UE Framework Programmes (7 FP) – as these are the major sources for financing projects fostering innovation. Poviats and communities are not assigned any tasks related to innovativeness of the local economy. As a consequence, centrally managed policies prevail in the policy mix. The most important instruments are developed at the central level and are linked to the National Cohesion Policy. The National Strategic Reference Framework for 2007-2013 sets objectives of Cohesion Policy in support of Economic Growth and Jobs and constitutes an umbrella for the most important instruments of the Polish policy mix in the field of innovation. As a result the most important instruments have more integrated than sectoral features.

Recent trends in an innovation policy mix

There are many important changes in the policy mix. The recent, major trends can be summarised as follows.

- The Polish Parliament passed a package of five acts reforming the science system in April 2010. The package *Building upon knowledge: Science sector reform for Poland's development* introduces major changes in the functioning of the Polish Academy of Sciences, research institutes, National Research and Development Centre, National Science Centre and sets new principles of funding science. One change in the principles of funding science is the creation of an Accreditation Committee of Research Institutions (an advisory body) in order to ensure high quality of research funded from public funds. The Science Council will be responsible for

setting strategic thematic areas for the National R&D Programme and determine the priorities of international co-operation.

- The Chancellery of the Prime Minister is currently working on a review of all the national strategies in order to consolidate the strategic documents into 9 most important, setting the directions for the development. One of the nine documents will be the Innovativeness and Efficiency of the Economy strategy coordinated by the Ministry of Economy. The blueprint will be presented soon and the final strategy should be completed by the end of 2010.
- A strategy for the development of Higher Education in Poland until 2020 was completed in February 2010 and presented to the government. The strategy aims at improving the academic activity, in particular the quality of teaching at Polish universities and the quality of R&D activities. The document is complementary to the white paper 'Partnership for Knowledge', which focuses on three elements of the higher education system: new management model for higher education institutions, new model of academic career, and reform of university courses.
- The government has continued to expand and strengthen the number of fiscal measures. Some changes in existing instruments are now being implemented, the most important concerning the Technology Credit (a credit granted to micro, small and medium-sized enterprises) and the change in the range of tax allowances for R&D Centres. The changes in the regulation concerning the Technology Credit include the payment of technology premiums once the investment is completed. So far this was only possible upon the presentation of paid invoices for products and services that were developed based on the technology financed through the Technology Credit. The envisaged change concerning the status of an R&D Centre will make it possible for the centres to reduce their taxable income by up to 200% of real R&D costs.
- The Polish Agency for Enterprise Development is launching new instruments: innovation vouchers, loans for innovations and support for getting a grant.
- In June 2010, the Ministry of Economy is launching a portal that will provide access to innovative solutions offered by R&D units to entrepreneurs. Its main advantage is the possibility of direct contact between technology and business owners. The administrator of the database is the Ministry of Economy.

The dominating trend in policy changes is towards centralised and integrated measures. The consolidation of strategies seems to serve the same purpose. The new instruments that are being currently planned at the central level will be aiming at: fostering co-operation, raising the awareness of the importance of innovation, implementation of innovation responding to the social problems like climate change, energy and the aging society. The horizontal measures constitute a base for sectoral sub-measures directed at specific issues (protective textiles, renewable energy, recycling, bio-based products, and health). So it can be assumed that the overall innovation policy is integrated and centralised, focused on direct support to business R&D, in transition towards R&D co-operation support.

In Poland, there are three Ministries which handle innovation issues: the Ministry of Economy, the Ministry of Regional Development and the Ministry of Science and Higher Education. The system is quite complicated, as apart from the governmental instruments financed from the state budget there are many measures implemented within Operational Programmes. The Polish Agency for Enterprise Development (PAED) became officially recognised as the main implementing authority of innovation policy measures funded from structural funds (2007-2013). PAED is also

responsible for the administering of the National SME Service Network which is the subject of the present case study.

Apart from the PAED, there are other institutions and organisations involved in the innovation support system. One of them is the Foundation for Innovations, Restructuring and Entrepreneurship, dealing with innovative start-ups. Another is Bank Gospodarstwa Krajowego (BGK, National Economy Bank), responsible for the implementation of the Technology Credit. The new policy trend is to involve commercial banks in the process of technology loans financing, while public support will be used to finance the Technology Credits.

Thanks to the structural funds, there is quite a number of measures supporting SMEs and enhancing the innovativeness: subsidies to investment and support for R&D activities, subsidies for staff development, subsidies for obtainment of patents and copyrights, subsidies for establishment and development of clusters, subsidies for the development of industrial parks, technology parks and incubators. The measures are listed below, along with institutions responsible for their implementation.

As mentioned before, there are governmental programmes financed from the state budget, for example a scheme promoting investments of priority interest for the Polish economy. The main objective of the scheme is to boost innovation and productivity of the Polish economy by increasing the inflow of technologically advanced investments. The Ministry of Science and Higher Education is implementing an instrument supporting goal-oriented projects. The National R&D Centre has launched an instrument called IniTech. The Innovation Centre of the Polish Federation of Engineering Associations (NOT) also re-launched goal-oriented projects for SMEs.

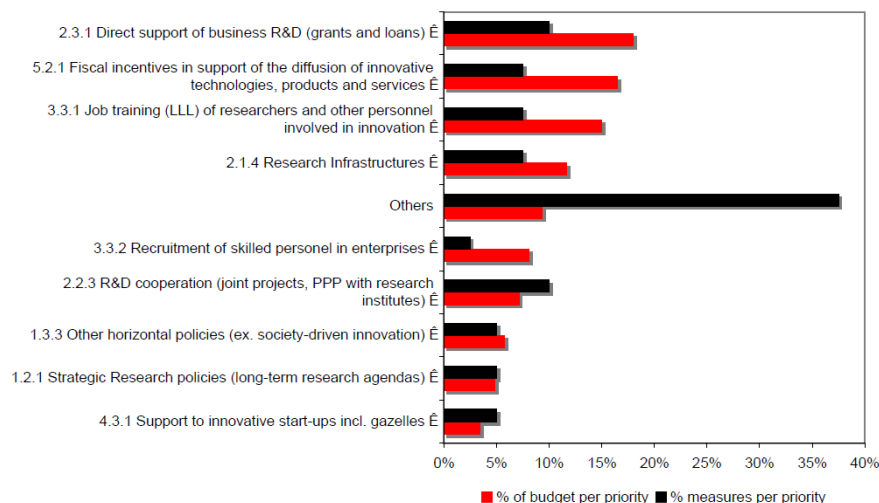
According to the INNO-Policy TrendChart (2009) the types of measures that may be regarded most promising are the following.

1. **Support to R&D related activities.** Measures 1.4 (Support for goal-oriented projects) and 4.1 (Support for the implementation of the outcome of R&D work) of the IE OP are complementary. 1.4 provides support to companies with financing for applied research projects implemented by enterprises in co-operation with research units and 4.1. supports investment projects, with consultancy a component, related to the implementation of the outcome of R&D work carried out under Measure 1.4. (Stage I) or the ‘Technological Initiative I’.
The ‘Goal-oriented projects’ is an instrument designed to support SMEs in co-financing technical, technological and organizational projects (industry-related research and development work) conducted by entrepreneurs or research units. Measure 1.4 helps cover the expenses bared up to the moment a prototype is created (inclusive of creating the prototype). The measure is a response to the low investment in R&D-related activities in SMEs. The programme was launched in 2009 and will be implemented until the end of 2013.
2. **Quality of skills for innovation.** There are a number of initiatives designed for this purpose, for example measure 4.2 HC OP “Development of skills of the R&D system staff and increasing awareness of the importance of research to economic growth” implemented by the Ministry of Science and Higher Education. It aims at improving the skills of R&D staff in the area of management of research and development work and commercialization of research results (including the area of protection of intellectual and industrial property).

3. **Implementation of a new technology.** Investment in the implementation of a new technology, whether developed by the beneficiary or purchased, may be financed with the use of a technology credit. The Technology Credit may be granted to micro, small and medium-sized enterprises by commercial banks, which sign a co-operation agreement with BGK. The credit may be used by firms for investment in a new technology, purchase or extension of the existing buildings, machines, devices, installation and starting-up the machines and devices, etc. One more measure should be mentioned among the most important for fostering innovation²⁹.
4. **New investment of a high innovation potential.** Measure 4.4. IE OP supports investment projects involving a purchase or implementation of a new technology including those leading to a reduction in the harmful environmental impact, such as: reduction of the energy, materials and water consumption in a production process, or provision of services resulting in a creation of a new or substantially improved product or service. The technological solution must be relatively new (existing no longer than 3 years) and its level of dissemination throughout the world in a given industry cannot exceed 15%. The budget allocation is EUR 1,420 mln.

The importance of support measures is also reflected in the budget allocations. Figure 2 presents the relative shares of different support measures in Poland.

Figure 2. Estimated annual budget allocations per policy priority and number of support measures in Poland



Source: European Commission (2009).

The most important policy measure in terms of budget allocations is direct support to business R&D. This involved loans and grants that can be found in both centralized and decentralized measures, e.g. grants offered to companies under ROPs, within goal-oriented projects financed within IE OP or grants financed from the state budget. Some of these measures are centralised and some decentralized and most have a horizontal perspective. Despite the fact that the measures are not sector-oriented it is hard to classify the instruments as integrated. As mentioned in this section,

²⁹ According to the interviewed representative of the Ministry of Economy.

the instruments overlap instead of playing a supplementing role for each other (e.g. the Ministry of Science and Higher Education is implementing an instrument supporting goal-oriented projects which is similar to the measures 1.4 and 4.1 implemented under the IE OP and the goal-oriented projects for SMEs implemented by the Innovation Centre of the Polish Federation of Engineering Associations).

The second biggest instrument in terms of budget allocation is fiscal incentives. The measure in place is a tax allowance. Companies are able to deduct the expenditures spent on the purchase of new technologies from their tax base up to the amount not exceeding 50% of the actual costs. This is a horizontal instrument targeted at all companies. Despite the availability of the measure for all the firms and the relative simplicity of this instrument, according to the representative of the Ministry of Economy, only 20 companies deducted the costs of new technologies of the corporate tax.

The third type of measure is job training of researchers and other personnel involved in the innovation process. All the measures are horizontal, not targeting any specific sector, and integrated. Most of the measures in this field are co-financed from structural funds, e.g. 2.1 HC OP “Development of human resources for modern economy”, but some are financed from the state budget, e.g. professional development training courses for engineers, technicians & managers, as well as Continuing Engineering Education & Continuing Professional Development courses, among them those organised in cooperation with foreign partners run by the Innovation Centre of the Polish Federation of Engineering Associations NOT. The latter is complementary to other NOT activities.

2.5.4 Case description: National SME Services Network

- **Policy type**
 - *Centralised/DECENTRALISED, integrated (see below for details)*
 - **Sectoral/Integrated**

Delivery process/ instruments	Objectives/targets			
		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
	Sectoral			
	Other policy domains to be taken into consideration		X	
Other policy domains fully on board				

- **Centralised/decentralised**

	National level	Regional level	Local level
Conceive	X		
Manage	X		
Deliver		X	

- **Global policy objective**

The goal of the programme is to increase entrepreneurship. The development should be assured by providing services in the areas where the public support for enterprises is needed. The objectives are as follows:

- To increase the availability, range and quality of specialised services offered to enterprises in order to increase the effectiveness of their in-house innovation activities;
- To provide adequate infrastructure to new technology-based firms to facilitate their survival and growth;
- To upgrade innovation-related skills and diffuse new technologies in enterprises.

- **Design**

The National SME Services Network (Polish name: *Krajowy System Usług – KSU*) is a network of 214 non-commercial organizations (business assistance centres, regional development agencies, associations, etc.) which provide advisory, information, training and financial services for entrepreneurs (mostly micro, small and medium-sized enterprises) and persons intending to start a business activity. The services are free of charge. There are four different types of services.

Table 2. Types of services provided by KSU network

Type of service	Specification
General advisory services	Administrative and legal aspects of running a business Public funding and sources of financing for a business activity The scope and the principles of rendering different accessible services within the KSU Contact details of institutions that may provide further assistance for business development
Pro-innovation advisory services	Technological audits Technology transfer consisting of: - preparation of the technological offer or inquiry about a technology, - a review of the profiles of suppliers or recipients of a technology, - advising on the implementation of a technology or in the process of negotiations of the contract between the recipient and the supplier of a technology and monitoring implementation of technology or the completion of a contract.
Advisory pro-export services	Analysis of the potential of an enterprise Elaboration of export development plans
Financial services	Loans Credit guarantees

Source: <http://ksu.parp.gov.pl>

- **Institutions and funds**

The budget allocated for the measure is ca EUR 4 mln per year³⁰. In comparison with other measures, in particular those co-financed from structural funds the budget is insignificant³¹. For example, the minimum value of a project within IE OP measure 1.4 is ca EUR 0.5 mln and the minimum value of a project financed within Technology Credit is EUR 1 mln (the total allocation for the years 2007-2013 being EUR 410 mln).

The beneficiaries of the programme are entrepreneurs, particularly SMEs as well as persons intending to start a business.

³⁰ Estimation given by the PAED representative (director of a Department responsible for administering of the National SME Service Network)

³¹ The allocation of IE OP 2007-2013 is EUR 9 711 629 742 of which Priority 1 constitutes 13% and Priority 4 - 36%.

KSU was created in 1996 by the Polish Foundation for Promotion and Development of Small and Medium-sized Enterprises (legal predecessor of PAED) under the Regulation of 27 January 2005 on the National SME Services Network. The regulation, signed by the Minister of Economy and Labour introduced a comprehensive framework for the assessment of potential applications to the network and established the procedures allowing for verification of quality standards of service providers. The institution in charge of the network, providing technical support, is the Polish Agency for Enterprise Development – a government agency. PAED is funded by and falls under the authority of the Ministry of Economy.

The funds are administered by PAED. The financing is assured by the HC OP, within a system project “Support and development of institutions providing services for entrepreneurship and their network” – submeasure 2.2.1. implemented by PAED, however some institutions (National Innovation Centres, see below for more details) get support from the IE OP measure 5.2 “Support for business environment institutions providing pro-innovation services and their networks of supra-regional significance”.

PAED also supervises the quality of services rendered by the KSU centres and their consultants by commissioning external audits and provides information, training as well as consultancy to the institutions within KSU network.

There are three different types of institutions involved in the KSU system forming the following sub-networks:

- Regional Financing Institutions (RFIs),
- Consultation Centres (CC),
- National Innovation Centres (*Krajowa Sieć Innowacji* - KSI).

Additionally, there is also a network of individual experts who are referred to as Innovative Project Promoters (IPP).

Regional Financing Institutions act as PAED’s partners in the process of implementation of policies addressed to SMEs, e.g. perform the formal assessment of application forms for goal-oriented projects under IE OP (measure 1.4.). There are 16 RFIs and usually, the status of an RFI is assigned to regional development agencies. These institutions play a significant role in the regional economy in the field of SME development. The agencies have gathered a considerable experience in the implementation of projects financed with EU and other foreign funds, some of them contributed in drafting the municipal development strategies in the field of support to SMEs, some of them run investor service centres.

There are 111 Consultation Centres, providing information services for entrepreneurs and persons planning to start business activity in the field of enterprise development and the available forms of support for entrepreneurs. The activities of Consultation Centres are financed within the PAED system project financed from the HC OP submeasure 2.2.1.

The National Innovation Centres (KSI) are a group of institutions providing pro-innovative advisory services, covering technology audit, assessment of entrepreneur’s potential and technological needs and the process of technology transfer. Currently, over 40 KSU institutions belong to the sub-network of National Innovation Centres, 22 of them being financed from the IE OP measure 5.2.

Innovative Project Promoters (IPP) assist in applying for a grant for goal-oriented projects. They issue opinions on application forms regarding project's purposefulness, formal eligibility of an applicant and a project, as well as initial substantive eligibility according to the Guidelines for Applicants in measures 4.2 and 4.4 of the IE OP. There is a 'Standard for provision of services by Innovative Projects Promoters' which must be observed by all the experts. The experts provide basic instructions regarding the annexes to the application form and inform entrepreneurs on the rules of using IPPs' services. There are currently 36 promoters certified by the system.

There are KSU institutions that do not belong to any of these groups and don't get any financial support from PAED. In order to become a member of the network the institutions must fulfil a number of requirements. Despite this fact there is a controversy over the selection of institutions (some institutions playing an important role in supporting SMEs don't belong to the KSU network). The benefits of being a member, besides funding from sub-measures 2.2.1 and 5.2 (measure 5.2 available for KSI institutions only), is that PAED provides training for the consultants (mostly on-line). Another important incentive may be the fact that in the case of some PAED programmes only KSU members are eligible to participate.

For example – an institution that belongs to KSU may be as well a member of Enterprise Europe Network and provide free of charge services for companies under the umbrella of EEN (financed within EEN), not receiving any support from PAED. Also, an institution offering pro-innovative services doesn't have to be a member of KSI, as it is not obligatory, however it may apply for a grant within IE OP measure 5.2 and receive a it (if the institution decides to join KSI).

Some institutions, like microfinance organizations offering loans for small businesses withdraw from KSU.

Position of the KSU programme in the Polish policy mix

The activities of the KSU programme are situated in the following area:

- Promote and sustain the creation and growth of innovative enterprises.

When related to the national and regional policy agendas, KSU network can be compared with other business environment institutions providing similar services and their networks. Outside of the KSU network there are also other organisations which play a similar role: centres for technology transfer, business incubators, academic incubators, technology parks or chambers of commerce. The following networks are also worth mentioning:

- Enterprise Europe Network (currently covering also BISNEP institutions - Business and Innovation Support for North-East Poland - and the former Euro Info Centres),
- Innovation Centre of the Polish Federation of Engineering Associations NOT (with its regional units),
- National Association of Guarantee Funds,
- Polish Association of Loan Funds,
- Polish Business and Innovation Centres Association in Poland (a network of ca 200 individual and supporting members, representing innovation and entrepreneurship centres as well as other institutions operating in the field of entrepreneurship promotion and regional development),
- KIG NET (association of regional chambers of commerce and other institutions),
- STIM (technology transfer and support for innovation network).

The KSU institutions are also members of these organizations and they cooperate within diverse frames. KSU is the most significant in terms of the number of associated members. For example Enterprise Europe Network has 30 associated members, NOT has 35 regional units, Polish Business and Innovation Centres Association in Poland has 200 members. It should be mentioned that the comparison of KSU network with the above programmes in terms of the size and impact is difficult for two reasons. First, the budgets allocated for the activity of the institutions associated in different networks cannot be compared due to the differences in the services they provide (e.g. loan funds and association of regional chambers of commerce). Second, the networks overlap (some institutions belong to KSU and Enterprise Europe Network and/or Polish Association of Loan Funds at the same time).

A controversy over KSU aroused when the information centres within the Regional Operational Programmes launched their activity (providing information on how to apply for a grant within ROPs). KSU institutions did not inform about regional programmes while this kind of information was among the most important issues for the local companies. There was no co-ordination between the different information centres responsible for dissemination of information about regional programmes and the KSU network.

2.5.5 Impact of the case study

Method

Desk research and interviews have been carried out in order to answer the questions related to the impact of the programme:

- Do the services provided under National SME Services Network stimulate the development of entrepreneurship?
- Do the services provided under National SME Services Network improve the innovativeness and competitiveness of the companies that have received these services?
- Do the services provided under National SME Services Network increase the effectiveness of the in-house innovation activities in companies?
- Do the services provided under National SME Services Network upgrade innovation related skills and diffusion of new technologies in enterprises?

So far, three evaluations were carried out and one publication was completed on the functioning of the KSU network. All the evaluations available focused on different subjects and the results cannot be compared. None of the studies touched upon the issue of the efficiency of the KSU system. The focus of the evaluations was on:

- 1) The potential of KSU institutions to provide pro-innovative services, PSDB 2007
- 2) The experience of KSU institutions in implementing projects (Resource 2008)
- 3) The quality and range of services provided by the Consultation Centres (PAG, 2010)

The publication focused on examples of good practices in KSU institutions with respect to implementing projects (2008).

Results

Below we present the main findings of the analysis of the documents related to KSU and the existing evaluations of the measure. The general conclusion is that the instrument does not play an important role in the current innovation support system. None of the evaluations aimed at

assessing the impact of KSU activities aimed at SMEs on the innovativeness and implementation of new technologies. The assessment was based only on the range of services for entrepreneurs carried out by the institutions, the number of entrepreneurs that were granted a service and their declared level of satisfaction.

The total number of clients registered between September 2008 and March 2010 was 89,369 (in March 2010 it was 5,612). The main group of beneficiaries were persons intending to start a business. The groups of beneficiaries are strongly related to the types of services that are granted within the system. Training is a key activity for a large number of KSU institutions. They provide training for the unemployed (e.g. on starting a business activity). 27% of projects carried out by KSU institutions were addressed to the unemployed (Resource, 2008). The structure of clients remains stable over the years.

In the years 2002-2007 only 11% of KSU institutions were formally registered as institutions providing advisory services in the field of innovation. Only 5,5% of projects aimed directly at enhancing the competitiveness of a company. Pro-innovative advisory services were delivered by KSU in the case of 3,6% of projects (Resource, 2008). Among the projects proposed by SMEs 34% had innovative components and 20% were carried out in a partnership with a higher education institution and 11% in a partnership with a research institution (Resource, 2008). The research carried out in 2007 indicated an improvement in the share of services related to the enhancement or implementation of innovation in enterprises. Among the business environment institutions which are not members of KSI 58% provided at least one pro-innovative service. Among the services provided by KSI institutions, pro-innovative advisory services linked with innovative projects services constitute 80 percent. The most frequently provided service was assistance in the implementation of new products or services (PSDB, 2007).

54 percent of KSU clients acknowledged that the information obtained from KSU had an impact on their business decisions in a significant way. About 20 percent of the beneficiaries that wanted to start a business activity and received support from KSU succeeded in launching a company. The entrepreneurs are in general satisfied with the services – 80 percent of the clients assessed the services provided by CC as very good or good (PAG, 2010).

A significant number of clients were interested in the possibilities of financing different projects form structural funds (62 percent of companies were seeking this information, both in Q1 1010 and over the period 09.2008 – 03.2010). Despite the low share of other services, the KSU institutions carried out 302 technology audits and 39 technology transfers in 2009 (PAED 2010). In total, 325 companies received pro-innovative services.

The assessed market value of these services is ca EUR 680 thousand, of which technology transfer constituted EUR 376 thousand and technology audit EUR 304 thousand.

KSI institutions assisted in technology transfer processes in different branches of the economy. The examples of the most interesting technology transfers are listed below.

- a) Technology of production of the fuel for diesel engines from a biomass. The subject of a technology transfer was a license for a device blending the fuel.
- b) Promotion of a company in Internet. A promotion management system was tailored for a company. It consisted of a know-how implemented in a company and an internet service.
- c) Technology of beauty treatments using the multifunctional treatment device.

d) Environment friendly tire recycling technology. KSI consultants assisted in finding a technology supplier, developing an installation design and testing the new solution. These examples of projects give a general idea of how the system works.

Analysis: Governance Issues and Determining Factors

The KSU network is an important part of the PAED strategy related to the support of SMEs and support for business environment institutions. On the one hand it involves direct support to SMEs (e.g. assistance in technology transfer), on the other it also supports business environment institutions co-financed within IE OP, HC OP (which is an indirect objective). PAED drafted a strategy for KSU development (not available on the website).

The main problem with the assessment of KSU impact is that, being a country-wide network, KSU includes institutions offering a wide range of services, but only a certain share of these institutions belongs to KSU. On the other hand, networks like the National Association of Guarantee Funds or the Polish Association of Loan Funds gather institutions playing a similar role (offering the same type of services). The same rule applies to regional networks – only institutions located in a certain region belong to the network and the network covers the majority or all the institutions in a region. In the years 2007-2009 the KSU system underwent some changes related to the implementation of a new strategy. The new strategy was a response to a very low recognition of KSU institutions among companies (86% of companies were not aware of its existence).

The strategy of KSU development is not available so it is hard to say whether the monitoring system is adequate. Assuming from the available statistics and from the evaluation studies, the monitoring system is very basic (limited to measuring the number of clients and services) and not reliable (some institutions admit that the system gives them incentives for manipulating the data).

2.5.6 Comparison with cases in other EU-Member states

Policy makers recognise the need to address the important challenges for the national innovation system, among which the most prominent are stimulating and deepening the innovation capacities of the Polish companies and improving science-business relations.

There are numerous innovation policy measures in place which target the SMEs directly or indirectly. Among the cases considered in this study (for details see case reports) virtually each one of them has SMEs as its target groups. Similarly to what we concluded in the Dutch case, we can state that the SME innovation support is the type of policies which can be implemented along any of the centralised/decentralised and sectoral/integrated dimensions as long as it meets the needs of its target group and is implemented in an effective way.

For example, the KSU programme is in general well designed with all the mechanisms in place and the priorities well defined. The main point for improvement lies in implementation, such as the improvement in quality of consultants' services and better coordination with other knowledge exchange initiatives.

2.5.7 Conclusions

The impact of the measure is hard to assess due to insufficient data. However some general conclusions can be drawn.

The objectives of the program are quite broad and difficult to measure. Thanks to the existence of the system the availability and range of services offered to enterprises is quite high, however due to the low visibility the most frequent clients are the unemployed, not the entrepreneurs.

The services provided under the National SME Services Network stimulate the development of entrepreneurship to some extent. The services provided to persons intending to start a business activity constitute over 60 percent of services and 20 percent of clients succeed in launching a company (so it can be assumed that half of the services are not effective).

The services provided under National SME Services Network improve the innovativeness and competitiveness of the companies to some extent. The number of companies that have received pro-innovative services in 2009 was rather low – 325, which is not a high number compared to the number of companies in Poland. The scope of industries that received the services and the examples of the technology transfers suggest that the improvement is hardly perceptible. There are several features that may have contributed to this result:

1. The services are free of charge and directed at SMEs. It may be assumed that more advanced companies use services better tailored to their needs and are able to pay for the better quality of the service.
2. The professional competences of the consultants working at KSU centres are usually lower than in the case of consulting companies. Innovative and technologically advanced companies require partners having a deep knowledge of the subject that would provide specialised services. This condition is not fulfilled by KSU despite constant training provided by PAED to the consultants. It seems to be insufficient as a relatively low remuneration of the consultants causes a frequent rotation of workers.
3. The monitoring system does not provide information useful for policy making, e.g. the additionality of the system has not been evaluated, so it is hard to say how the system is working towards fulfilling the market gap. On the other hand the indicators and targets for KSU institutions are very difficult to reach which makes the monitoring unreliable. High requirements in this respect trigger “creative” reporting.
4. The budget allocated for the measure is very limited which influences the scope and quality of services.

There is no research on the impact of the services provided under National SME Services Network on the effectiveness of in-house innovation activities in companies. Nevertheless, it is hard to expect any increase in the effectiveness in the light of the results presented in the monthly bulletin. The scope of services (low share of pro-innovative services) and the results of the KSU activity suggest that the service provides assistance in the areas of a low importance for the Polish economy. The situation may change as pro-innovative services are of a growing interest for PAED.

The services provided under the National SME Services Network upgrade innovation-related skills and diffusion of new technologies in enterprises to a limited extent. The upgrade of innovation

related skills may occur in the case of KSU consultants. Diffusion of new technologies in enterprises does take place, however the impact is insignificant. During a year KSI institutions assisted in 39 technology transfers and 302 technology audits. The impact of technology transfers carried out by KSI centres has not been evaluated yet, but PAED intends to analyse the usefulness of these technologies for the economy.

The programme seems to be well designed (the overall concept) but apparently the policy implementation remains the major drawback. The implementation depends to some extent on the budget allocation which is very limited in the case of KSU network. The main improvement that should be done is the enhancement of the consultants' potential. The consultants should be able to provide specialised and interdisciplinary services and work on a partner basis with the companies. PAED declares that the monitoring system will be improved and the shape of the programme will be continuously changed according to the needs of the companies and the changing conditions of the economy. New services have just been designed: eco-innovations and cost optimization in a company. This approach will make the KSU services more interesting for SMEs.

In the framework of the main research questions we can state the following:

a. *Current balance in policies*

When considering the overall Polish innovation-policy mix, the main activities in this policy domain take place at the level of central government, although several instruments are being administered at the regional level. The National Strategic Reference Framework for 2007-2013 sets objectives of Cohesion Policy in support of Economic Growth and Jobs and constitutes an umbrella for the most important instruments of the Polish policy mix in the field of innovation. As a result the most important instruments have more integrated than sectoral features;

b. *Arguments to justify policies*

The KSU network is an important part of the national strategy related to the support of SMEs and support for business environment institutions. On the one hand it involves direct support to SMEs (e.g. assistance in technology transfer), on the other it also supports business environment institutions co-financed within other innovation and enterprise policy initiatives (which is an indirect objective);

c. *How can impact of each type of policy be judged*

The services provided under National SME Services Network improve the innovativeness and competitiveness of the companies to some extent. The services provided under this programme tend to upgrade innovation-related skills and diffusion of new technologies in enterprises. The upgrade of innovation related skills may occur in the case of the KSU consulting. Diffusion of new technologies in enterprises does take place, although the impact is limited;

d. *Has the balance shifted over time?*

The dominating trend in policy changes is represented by further increases in centralised and integrated policy measures. The consolidation of strategies seems to serve the same purpose. The new instruments that are currently being planned at central level will be aiming at: fostering co-operation, rising the awareness of the importance of innovation, implementation of innovation responding to the social problems like climate change, energy and the aging society;

e. *Arguments to support the shift*

Policy makers recognise the need to address the important challenges for the national innovation system, among which the most prominent are stimulating and deepening the innovation capacities of the Polish companies and improving science-business relations;

f. *Balance top performers*

There are numerous innovation policy measures in place which target the SMEs directly or indirectly. Among the cases considered in this study virtually each one of them has SMEs as its target groups. Similarly to what we concluded in the Dutch case, we can state that the SME innovation support is the type of policies which can be implemented along any of the centralised/decentralised and sectoral/integrated dimensions as long as it meets the needs of its target group and is implemented in an effective way. For example, the KSU programme is in general well designed with all the mechanisms in place and the priorities well defined. The main point for improvement lies in implementation, such as the improvement in quality of consultants' services and better coordination with other knowledge exchange initiatives.

2.5.8 References

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2.6 Spain: INGENIO 2010 Initiative

2.6.1 This Case Study

In this case study we carry out a detailed examination of performance and evaluation results for one of policy measures in the Spanish innovation policy mix:

- INGENIO 2010 Initiative.

The study consists of four parts. In the first part we examine the Spanish innovation policy mix and analyse its main features along the dimensions of centralised/decentralised and sectoral/integrated policy design. In the second part we describe the case policy, its objectives, design and implementation mechanism. In the third part we make an overview and analyse the results of the policies past impact evaluations. The fourth section of this study concludes and presents answers to the main research questions formulated in the general analysis framework.

2.6.2 Innovation performance and policy mix in Spain

Performance

The actual RDI Spanish system arose as a consequence of the Lisbon Agenda in order to achieve the objectives established but despite all efforts made in this area, Spanish performance in RDI is not at the same level of other EU countries.

Based on the 2008 Summary Innovation Index (SII), Spain ranks 16th within the EU-27 (it ranked 17th in 2007). Following the categories established in the European Innovation Scoreboard (EIS), Spain remains within the '**moderate innovators**' group along with Cyprus, Czech Republic, Estonia, Italy, Norway and Slovenia.

Over the past five years, 'Finance and support' and 'Firm investments' have been the main drivers of the improvement in innovation performance, in particular as a result of strong growth in private credit (12.7%), broadband access by firms (15.3%) and non-R&D (research and development) innovation expenditures (13.4%). Performance in linkages and entrepreneurship and innovators has worsened, in particular due to a decrease in the firm renewal rate (-6%). Although the growth in performance in human resources is better than previous years (due to the parallel increase of the RDI expenditure), compared to other EU countries it is significantly lower. These results demonstrate that Spain lags behind the most advanced EU countries in the field of science and technology (S&T).

Aiming at reversing this situation and placing Spain at the level of the most advanced EU countries in innovation, Spain has implemented a set of measures included in the National Reform Programme (NRP) and the new National Plan for Scientific Research, Development and Technological Innovation (VI National Plan for the period 2008-11).

Policy objectives and main challenges

There are two main researches, development and innovation (RDI) policy documents in Spain where policy objectives can be found: the '2008-11 RDI National Plan' and the draft of 'The Science and Technology Law', both created by the Ministry of Science and Innovation.

The 2008-11 RDI National Plan is the planning tool of the Spanish Science and Technology (S&T) System and where targets and priorities of the medium-term RDI policy are established, according to the text defined in the Science Law of 1986 and in the first National Plan (1988-1991), approved in 1988.

Nowadays, this planning exercise is registered inside the reference framework, represented by the National Strategy of Science and Technology, whose scenario in 2015 depicts the basic principles that must guide all the research and development (R&D) and technological innovation actions in Spain.

The **objectives of the 2008-11 RDI National Plan** are:

1. Positioning Spain at the knowledge avant-garde.
2. To boost a highly competitive business sector.
3. To develop an integral policy of science, technology and innovation (STI); superposition of regional fields in the science and technology (S&T) system.
4. To advance in the international dimension as a basis for making headway in the system.
5. To achieve a favourable environment for RDI investment.
6. To promote the scientific and technological culture of society;

If the above are the general objectives for innovation in the country, the Spanish innovation faces the **following three major challenges**³² :

- *Increase public-private cooperation.* Probably the most serious challenge to the Spanish innovation system is the mentioned instability of participation between public and private sectors. Spain relies on a high-level scientific community. However, the research sector, developed in a wide network of researching centres and universities, is not adequately oriented to enterprises. As a consequence, Spain has great potential on scientific discoveries and advances that is not converted to marketable commodities and services nor transferred in a technology way to industry.
- *Increase R&D entrepreneurial expenditures.* Although in Spain R&D entrepreneurial expenditure represents 56% (EUR 7 474.9 million) of the national R&D expenditures and 0.71% of the GDP, these values are well below the EU performance of business R&D expenditures (BERD).
- *Overcome the lack of qualified RDI human capital.* Spain is still below the EU average (e.g. S&E and SSH graduates values are: 0.67 (Spain) vs. 1.11 (EU-27)). This difference can be caused by the low activity of the technical applied research in Spain, but also by the high impact of university teachers in that group. Nowadays, there are no measures to increase the number of S&E and SSH graduates and doctorate graduates although to overcome the lack of RDI personnel some measures have already been launched.

³² INNO- Policy TrendChart- Innovation Policy Progress Report, Spain, 2009 (European Commission, Enterprise Directorate General)

2.6.3 Governance

With regard to the innovation governance system, and after the general elections of March 2008, the Ministry of Science and Innovation was created. The creation of this ministry is an important element to boost activities and policy development in the Spanish RDI system.

Within the Ministry, there are two fundamental departments dealing with innovation policy aspects:

- State Secretariat of Research, on with the following directive bodies depend:
 - General Direction of Research and Management of the RDI National Plan which is responsible for the elaboration and management of the RDI National Plan
 - General Direction of International Cooperation and Institutional Relations which is responsible for the management of institutional and international relations, the management and negotiation of the framework European research programme and the management of the Spanish participation in scientific international facilities, assuming the competences of the removed General Direction of International Cooperation.
- General Secretariat of Innovation, with Sub-Secretariat level, which is responsible for the orientation of innovation policies in all the areas, the coordination of financing tools to support innovation and the extension to the business sector of innovation policy.

In parallel to this, there are three main bodies which take control of managing implementation of RDI policies and whose budget rises to EUR 5, 9 billion:

- a) Inter-ministerial Commission on Science and Technology (CICYT), structured as a working group of different ministries and with an extensive working portfolio that includes:
 - to develop, coordinate, and evaluate RDI policies, especially the coordination of the 2008-11 RDI National Plan which constitutes the reference framework of Spanish RDI;
 - to coordinate the work carried out in ministries with a role in RDI;
 - to supervise and monitor the performance of Spanish institutions participating in international projects.
- b) Spanish Fund for Science and Technology (FECYT, in Spanish) is the main integration instrument of the ministerial activity. Its new approach is linked to the cross cutting concept as a priority objective to achieve that universities, public research centres and enterprises produce the economic impact which allows the change of the growth model based on knowledge and innovation
- c) The Centre for Industrial Technology Development (CDTI) is a public entrepreneurial entity, dependent on the Ministry of Science and Innovation, which promotes the innovation and the technological development of Spanish enterprises. The main objective of CDTI is to contribute to the improvement of the technological level of Spanish enterprises through the development of the following activities:
 - technical-economic evaluation and funding of R&D projects developed by enterprises;
 - management and promotion of Spanish participation in international programmes of technological cooperation;
 - fostering the international transfer of business technology and support services to the technological innovation;
 - support to the creation and consolidation of technology-based companies

Governance and the Autonomous Communities in Spain

The Spanish innovation policy making and delivery structures cannot be understood without considering the regional governments of Spanish Autonomous Communities. Although the Spanish government is the main actor in innovation policy, there is a decentralisation aspect that increases the complexity of the Spanish Innovation system due to the devolution of responsibilities and funding to the regional authorities. Among the 17 Autonomous Communities there are some dominant regional innovation systems (RIS) that are defined as the network of organisations, individuals and institutions which determine and shape the generation, diffusion and use of technology and other knowledge, which, in turn, explain the pattern, pace and rate of innovation and the economic success of innovation in the region.

The National RDI Plan 2008-11, designed and managed at a national level, has explicitly included coordination between the central and regional governments in the RDI cooperation area as one of its main objectives. The General Council of Science and Technology is responsible for the coordination of the technological and scientific policies of the regional governments and reports to the CICYT that is the national organisation to plan, coordinate and follow up the innovation policy. Although the top level in terms of legal setting and funding is managed through the national governance at regional level there are implemented local plans managed on their own, although continually interacting with the national system.

The competences in innovation policy are the same in all regions and include regional development policy, technological and scientific parks, research centres, technological centres, planning and implementing the management of the EU Structural Funds (SFs), Innovation Relay Centres and organisations for the transfer of technology and raising public awareness of technology.

The autonomous communities which engaged in a greater effort in R&D in 2007³³ are the Community of Madrid (1.96% of gross domestic product (GDP)), Comunidad Foral de Navarra (1.89%), Basque Country (1.87%) and Catalonia (1.48% of GDP). These communities are the only figures presented in the intensity of R&D spending above the national average (1.27%). Also performing well are La Rioja (1.18%), Castilla-León (1.10%), Galicia (1.03%) and Andalusia (1.01%).

The types of policies pursued in Spain cover all the RDI areas, scientific and technological sectors, enterprises etc. Likewise, the importance of the measures is extended to a national level in every sense due to some of them being related with the regulation and implementation of the legal framework of the Spanish RDI, others directly affect small measures or actions in technological centres, universities etc.

These support measures are currently classified into five main categories, ranging from 'Governance and horizontal research innovation policies' to 'Markets and innovation culture'.

- 'Governance and horizontal research innovation policies', measures include into it, such as 2008-11 RDI National Plan, Ingenio 2010 programme, support to technology platforms, public venture capital (VC) to NTBFs etc., constitute the general and most important framework of

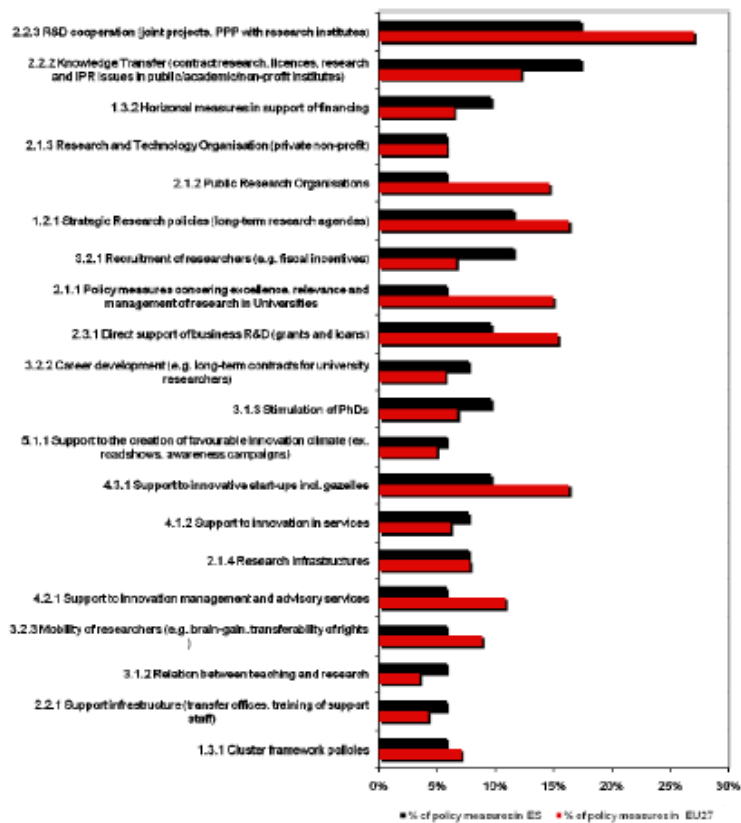
³³ Latest data available from INNO- Policy TrendChart- Innovation Policy Progress Report, Spain, 2009 (European Commission, Enterprise Directorate General)

RDI support due to their cover all the RDI range of Spanish programmes, agents, institutions and enterprises.

- 'Research and Technologies', more focused on R&D activities, technologies, infrastructures, personnel etc. Likewise, this category is divided into three subcategories, among which the great number of measures to foster R&D activities can be emphasised, whether it be basic, applied research, experimental development or recruitment of postdoctoral researchers by public or private R&D Centres, or acquisition of S&T infrastructures. Furthermore, support is provided to Transfer Offices of Research Results, technology cooperation among SMEs, enterprises and public research centres and universities, reindustrialisation and support to areas or sectors with difficulties, public VC to new technology based firms etc.
- 'Human Resources', which is made up for all the measures supporting research visits stays and medium-term stays of lecturers and researchers of higher educational and research centres in foreign R&D centres or higher educational organisations, training of researchers for different subjects, personnel of the CSIC, university etc., an important lack of measures related to awareness creation and science education has been detected.
- 'Promote and sustain the creation and growth of innovative enterprises' is the fourth category, among which are considered all the measures related to support for innovation in enterprises. Several important programmes are included inside, as INNOEMPRESA (which provides grants for innovation projects, technological advice through support institutions, support for the complementation and certification of technological quality standards and joint innovation projects between value chain partners), CEIPAR (devoted to the creation of innovative technology-based companies located in S&T parks), NEOTEC (created to foster the start-up of technology-based companies), public VC to new technology-based firms.
- Carrying out initiatives to support, promote, regenerate or create the entrepreneurial structure, seeking a positive impact on the socio-economic variables of certain regions having special difficulties due to a crisis of important public or private enterprises that need to adapt their infrastructures and procedures.

The main policy priorities in Spain as it is illustrated in the support measures are mainly covering R&D issues, knowledge transfer, R&D cooperation, recruitment of researchers, strategic long term R&D and stimulation of PhDs. Hence, most measures deal with improvements of the R&D system and its linkages.

Figure 1. Estimated annual budget allocations per policy priority and number of support measures in Spain



Source: TrendChart-ERAWATCH database of support measures (data downloaded on 5 June 2009); analysis Technopolis Group

Recent trends in Spanish innovation policy mix

Boosting R&D and innovation in the business sector is a challenge for Spain given its industrial structure, which includes only a small share of high-technology sectors, and the fact that most firms are small or medium-sized. International firms play an important role in performing R&D, especially in industries such as aerospace, pharmaceutical and information technology.

Another challenge facing Spain is the expected drop in EU funding for regional development, part of which is being used to support R&D and innovation activities. Between 2007 and 2013, Spain will receive around EUR 27.7 billion from the European structural funds, which implies a reduction compared to the amount received between 2000 and 2006 (EUR 37.3 billion). To compensate for this general decrease of funds, a European technology fund of EUR 2 billion has been established by the European Union for Spain for the period 2007-2013. Moreover, the Spanish government and the European Commission have increased the share and the total amount of structural funds devoted to R&D&I. As a result of both measures, the share allocated to R&D&I will be growing by 30% for the period 2007-2013 compared to 2000-2006 and Spain will have around EUR 10 billion from European structural funds to invest in R&D and innovation.

Nevertheless, the technology fund is exceptional and unique for Spain, and more radical decreases in the total amount of EU structural funds for Spain are envisaged in the future, which suggests

that the share of EU structural funds allocated to R&D&I in Spain will be reduced in the next period.

Thirdly, while decentralisation has its benefits in terms of enabling local actors to have a greater voice in the design and implementation of policy, too great a dispersion of competences can create problems of coordination, insufficient synergies or even duplication and overall lack of clarity for all those involved in the system (e.g. firms, researchers, research institutions). To address these challenges, Spain will have to improve co-ordination between the different ministries as well as with the regions.

Finally, actual trends in the RDI sector reveal several challenges to be addressed by the main policy priorities. Most policy priorities are aimed to increase R&D cooperation between the public and private sector (through joint projects, public-private partnerships (PPP) with research institutes etc.) because of the mentioned instability of participation between both sectors, which causes an important loss of great potential on scientific discoveries and advances that are not converted in marketable commodities and services. Another matter tackled by policy priorities which coincides with an important challenge of the RDI system is to increase RDI expenditure in enterprises and to provide more support to innovative start-ups including gazelles, and new technology-based enterprises. Furthermore, policy priorities to focus on more support in public research organisations (PROs) and universities, fostering knowledge transfer (through contract research, licenses, research and intellectual property rights (IPR) issues in public/academic/non-profit institutes).

2.6.4 Case Description: INGENIO 2010

- **Policy type**
 - *Centralised/DECENTRALISED, integrated (see below for details)*
 - **Sectoral/Integrated**

<i>Delivery process/ instruments</i>	Objectives/targets			
		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
	Sectoral			
	Other policy domains to be taken into consideration			
Other policy domains fully on board			X	

- **Centralised/decentralised**

	National level	Regional level	Local level
Conceive	X		
Manage		X	
Deliver		X	

- **Global policy objective**

INGENIO 2010 is an initiative presented by the Spanish Government in June 2005 in response to the re-launched Lisbon Strategy approved by European leaders at the 2005 Spring Council. The strategic aim of the programme is to achieve full convergence with the European Union in 2010, in per capita income, employment and the knowledge society.

As well as maintaining current efforts in the R&D&I field, INGENIO 2010 aims to use the initiative to involve the State, businesses, universities, and other public research bodies in a determined bid to attain levels in keeping with Spain's economic and political weight within Europe.

There is a significant gap between Spain and the EU in the R&D&I area, both in terms of total R&D spending as a proportion of GDP and in terms of the business contribution to funding this investment. Spain also considerably lags behind in most Information Society indicators.

The INGENIO 2010 programme has been developed to combat these weaknesses, which restrict the country's economic competitiveness and growth. Its objectives are as follows:

- To increase the R&D investment ratio with respect to GDP from 1.05% in 2003 to 1.6% in 2008 and 2% in 2010;
- To increase private sector contribution to R&D spending from 48% in 2003 to 52.5% in 2008 and 55% in 2010;
- To reach the EU-25 average in the percentage of GDP earmarked for Information and Communication Technologies (ICT) from 4.8% in 2004 to 6.4% in 2008 and 7% in 2010.

- **Design**

To achieve the above mentioned objectives, the INGENIO 2010 Initiative focuses its efforts on the following:

- Allocating more resources to R&D&I;
- Promoting legislative reform that will encourage R&D&I activities;
- Implementing a new system to monitor and evaluate R&D&I policies;
- Focusing incremental resources on **4 strategic actions**:

- **CONSOLIDER Programme (budget of 130 million euro)**, to stimulate critical mass and research excellence. This strategic line aims to achieve research excellence by boosting cooperation between researchers and creating major research groups.

CONSOLIDER projects offer long-term (5-6 year) and large-scale (€1-2 mill.) funding to outstanding research groups and networks in any of the knowledge areas covered by the Spanish R&D&I Programme.

CIBER (and RETIC) projects encourage outstanding research in Biomedicine and Health Sciences conducted in the Spanish Health System and the Spanish Science and Technology System by developing and enhancing Network Research Structures.

The Incentivisation, Incorporation and Research Activity Intensification (I3) provides incentives for the creation of stable jobs within the Spanish Science and Technology System for Spanish and foreign teacher-researchers with outstanding careers. It supports the best researchers by reducing their teaching workload.

The Strategic Scientific and Technological Infrastructures Fund seeks to ensure the availability and renewal of scientific and technological equipment and facilities for research in the Spanish

Science and Technology System. It aims to promote science and technology parks with links to Universities and Public Research Bodies and special strategic research.

- CENIT Programme - National Strategic Consortiums for Technological Research- ,(952 million euro for the 2006-2010 period), to stimulate cooperation in R&D&I among businesses, universities, Public Research Bodies and centres, science and technology parks and technology centres.

CENIT projects co-finance major public-private research action. They have a minimum duration of 4 years and a minimum budget of €5 mill. a year which includes a minimum contribution of 50% from the private sector, and with at least 50% of public funding allocated to public research or technology centres.

The Torres Quevedo programme funds the hiring by business of PhDs and technologists. The aim is to virtually quadruple current figures, which stood at 340 in 2004 to 1000 by 2008 and 1300 by 2010.

A risk capital fund of funds will also be set up to create and consolidate technology companies (NEOTEC) It will invest in private venture capital funds which, in turn, will invest in technology companies in their infancy and start-up phases. The fund seeks to complement existing programmes to create, on public initiative, 110 new companies by 2008 and 1300 by 2010.

- AVANZ@ Plan (with a 225 million euro budget for 2010) aims to converge with Europe in the main Information Society indicators. The Plan is divided into three major horizontal lines designed to bring ordinary citizens, businesses and public administration on board the Information Society. It includes a series of actions in specific sectors, one of the most important of which is bringing Education into the Information Society.

- EUROINGENIO 2010 is a Plan which aims to improve returns from the European Union's 7th Framework Programme so that, throughout FP7's validity, the resources Spain obtains from the programme attain 8% of the more than € 50.521bn budgeted. This would bring these returns to a figure equivalent to Spain's economic weight within the European Union. It should be noted that under the previous FP, Spain obtained returns of 5.9%. EUROINGENIO 2010 will therefore give a considerable boost to Spanish R&D&I in Europe. This umbrella plan encompasses the following four programmes, which have a combined budget total of €15.6 mill for 2007:

- EUROCIENCIA, sponsored by the Ministry of Science and Innovation (MICINN), will reward the Universities and Public Research Bodies (PRBs) which most participate in FP7. It will also set up a MEC-Europe Office and will fund the implementation of an office network to support the presentation of European projects. It has a budget of €2.7 mill.
- EUROSALUD, sponsored by the Ministry of Health and Consumer Affairs, will fund hospitals for the regular medical care provided by health professionals taking part in an FP7 programme, to permit greater dedication to their projects. It provides for the creation of a European Projects Office for Biomedicine and Health Sciences, dependent on the Ministry of Health and Consumer Affairs. It has a budget of €1.6 mill.
- TECNOEUROPA is designed by the Ministry of Industry, Tourism and Trade. It offers financial and management support for the creation of international innovation units. The Programme is particularly aimed at large companies and at enabling Spanish corporations to lead projects involving three or more EU countries. It has a budget of €8.8 mill.

- INNOEUROPA is a programme sponsored by the Ministry of Industry, Tourism and Trade, the aim of which is to increase the economic returns obtained by Technology and Research Centres in the 6th Framework Programme, to increase their leadership in 7th Framework Programme projects and to encourage the participation of Spanish businesses (particularly SMEs) in 7th Framework Programme consortiums, promoting the incorporation of new companies. It has a budget of €2.5 mill. for 2007 and €1.2 mill. for 2008.

- **Institutions and funds**

The Interministerial Commission on Science and Technology (CICYT) is the body which plans, coordinates and monitors the National Strategy for Science & Technology in Spain and INGENIO 2010, in accordance with the provisions of Article 7 of Act 13/1986, April 14 (Official State Gazette no. 93, April 18) on the General Coordination and Promotion of Scientific and Technical Research, and its subsequent modifications. Its aim is to safeguard an integral, coherent and rigorous scientific policy at the planning, programming, execution and monitoring levels, in order to obtain the necessary increase in resources for research and scientific-cultural, social and economic returns, in line with needs and requirements.

This collegial body is presided over by the Prime Minister or delegated Minister and its members are the representatives of the Ministerial Departments designated by the Government.

It proposes the allocation of public funds and agreed private funds earmarked for the different programmes that make up the INGENIO 2010 Initiative, conferring, where appropriate, the management and execution of these and establishing their duration.

It coordinates the research activities conducted by the different Ministerial Departments and state-owned bodies to comply with the National Plan, and ascertaining support action and technical assistance for those related to these activities. Furthermore, the co-ordination of the INGENIO 2010 plans with the Autonomous Community administrations is being affected through this body and via the NRP's own scheme for co-ordination with the regions. Finally, in addition to playing a major role in the INGENIO 2010 programmes via co-operation agreements, the Regional Governments have undertaken important innovation projects that complement the State's actions in their regions.

In terms of funds, it has to be highlighted the fact that the INGENIO 2010 programme devotes specific attention to promoting R&D and innovation in SMEs. INGENIO 2010 fosters participation by SMEs in major industrial research projects by requiring that there be a minimum number of SMEs in the major consortia financed with CENIT grants. Additionally, the NEOTEC Fund of Funds will promote the creation and consolidation of technology SMEs by co-financing private investment in firms of this type and contributing to the improvement of their human capital through the Torres Quevedo programme, which focuses particularly on SMEs. Finally, within INGENIO 2010, the AVANZ@ Plan's largest single area is devoted to bringing SMEs into the Information Society (56% of the budget). Moreover, the NRP supplements this support for innovation via the Entrepreneurship Programme.

The budget for the next four years will total approximately € 8bn.

Position of the INGENIO 2010 Initiative in the Spanish policy mix

The **main policy vehicle to shift the policy mix in Spain towards higher quality research and innovation in the business sector is the Ingenio 2010 initiative**. The programme itself is part of the broad based National Reform Plan launched by the government in 2005 to boost Spanish competitiveness.

In addition to introducing new measures, it intends to complement initiatives contemplated in the Spanish National Plan for Scientific Research, Development and Technological Innovation (2004-2007) which was approved by the previous government.

Under Ingenio 2010, the national government has almost doubled public support to R&D and innovation (in the 2007 budget more than EUR 8 billion was allocated). Through this massive increase in public funding, the government expects that GERD will reach 2% of GDP by 2010. In practical terms, the plan proposes a number of instruments to increase the focus and funding of government research, stimulate technology transfer by encouraging public/private partnerships and enhancing the incentives for private-sector research and the diffusion of new technologies.

The driving logic behind the various policy instruments proposed by the Ingenio 2010 plan is to build critical mass for research, foster networking and increase the contribution of public research efforts to innovation in the Spanish productive sector. The funding targets long-term, large-sized and broad-ranging projects, to stimulate higher-risk and more ambitious research.

Regional investment is encouraged in the policy mix, calling on the regional governments to collaborate in the start-up of the programmes as well as to co-finance the subsequent activity in their areas.

2.6.5 Impact of the case study

Method

The Spanish 2008-2011 R&D&I Plan, and subsequently the Spanish Reform Programme and the INGENIO 2010 initiative, have set out the objectives and instruments that will enable Spain to achieve full convergence with Europe by 2010 in the area of Science and Technology.

The Integral Monitoring and Evaluation System SISE is the tool devised by the Government to control management of public aid programmes for R&D&I activities. It seeks to improve the transparency and publicising of these actions so that Spanish citizens and society as a whole are better acquainted with publicly-funded activities. SISE is also designed to produce and analyse information which will help planning, review, updating and adaptation to the new scenarios posed by the objectives of public policies on science and technology.

By monitoring these policies, progress can be gauged and shortcomings detected. It is also possible to ascertain which areas will require greater emphasis if the desired results are to be achieved.

The organisation of the SISE involves the creation of committees of experts and managers whose participation is vital in revealing the status of the Spanish Research and Innovation System.

Results

The transferability of the INGENIO 2010 Programme

The great achievement of the INGENIO Programme in the Spanish strategy on science and technology is that it involves all the main public and private players of the innovation and research fields in Spain.

The State, the autonomous regions, the business sector, and the public research bodies are part of an integrated system which enhances the position of Spain in the international context of innovation and technology. The Programme, based on a **decentralised integrated** model, demonstrates the potential efficiency of this system and is totally coherent with the administrative structure of the country, and seems to be able to influence the approach of similar policies promoted in the public sector for the implementation of future innovation and research strategies. In this respect, on the basis of the INGENIO 2010 programme and as a result of the experience accumulated during the successive National Plans carried out until now, the National Science and Technology Strategy (ENCYT in Spanish) was elaborated.

This programming document summarises the main principles and general objectives that should govern the science and technology policies in Spain, both at a national and sub-national levels, in the 2007-2015 period. Following the integrated model promoted by the INGENIO 2010, it was prepared with the collaboration of members of the Spanish Science and Technology System (General State Administration, Autonomous Regions, R&D&I executives, social agents, etc.). This political agreement is a good example of transferability of an organisational model from a national programme, such as the INGENIO 2010, to a medium term national strategic document. The ENCYT states the basic principles for the promotion of innovation in Spain: to use R&D as a service for citizens, to support R&D&I as a key factor for improving business competitiveness and to promote R&D as an instrument to generate new knowledge.

To achieve these goals, the document develops six strategic objectives. The third one is the *integration of the regional contexts in the science and technology system*. In particular, it promotes:

- an active cooperation between the regional policies, in order to solve the lack of coordination emerged from the ex-post evaluations of the previous national programmes. Mutual agreements between the national and regional systems could help to achieve synergies in fields of common interest;
- an efficient information exchange between the national and regional research and innovation plans, especially on the participation models, financing instruments and management methods;
- an inter-territorial technologic and scientific cohesion, promoting the interaction between research and innovation groups proceeding from different Autonomous Communities.

On one hand, the identification of common thematic priorities, the bilateral and multilateral exchange of information and the co-finance of common public actions represent the main instrument to preserve and boost the **efficiency of the integrated model**. On the other hand, the attempt to set more structured coordination systems should guarantee the elimination, or at least the reduction, of insufficient synergies, coordination problems and duplications, which may derive from a poorly **structured decentralised model**.

The result would thus be an **efficient integrated decentralised model**, minimising the unnecessary overlapping between different administrative levels and at the same time respecting the territorial needs and differences. This could be seen as an efficiency improvement, which would prove the viability of a system where the R&D policy promoted by the central government would not only co-exist with the regional innovation systems, but would be coordinated with them. Although many regional R&D policies tend to be quite similar to those defined by the central government, a good coordination could prevent an inefficient overlap but at the same time would respect the specific needs and priorities collected in the regional innovation policies.

In this sense, the INGENIO 2010 case has produced good and concrete results in this field. From a strategic point of view, it could represent a good practice not only applicable to the fields of research and innovation, but transferable to a variety of contexts which may need a strong interaction between different kinds and levels of public and private actors.

The decentralised and integrated model in Spain: concrete examples of regional implementation

In order to give a more concrete idea of the implementation of the decentralised and integrated model explained above, it can be useful to have an overview on the different systems of the most relevant Autonomous Communities in the field of innovation in Spain.

In coordination and in parallel with the central institutions charged of the national innovation policies, which give direct support to business R&D, regional organisations and regional technological centres have been set up by the Autonomous Communities in Spain in order to foster regional opportunities and capacities in the field of innovation.

All of them promote policies and initiatives to impulse the innovation in the respective territories and thus regional economic growth. The focus of these centres is mainly regional, based on specific innovation plans and strongly adapted to the needs of the territory, but at the same time they interact complementarily with different policy and territorial levels (national, interregional and international). Some regional examples follow, referred to Catalonia, the Community of Madrid, the Valencian Community, Navarra and the Basque Country. They are necessary to understand how the decentralised model works, the importance of the regional innovation centres and institutes and their main objectives.

Catalonia

In Catalonia, different actors have a predominant role in the regional innovation development. In particular, ACCIÓ is the Catalan agency for competitiveness specialised in innovation, internationalisation and attraction of inward investment. It is part of the Catalan Ministry of Innovation, Universities and Enterprises. It is the result of over 20 years of experience in the development of programmes in this field.

Although the Catalonian innovation policy is strictly focused on the territorial needs, the Research and Innovation Plan (PRI in Spanish) 2010-2013, which regulates the regional interventions in this field, has a systemic and oriented approach which combines the regional and the national levels.

Out of its ten strategic objectives, the most relevant in this direction are:

- To involve the civil society and citizens in the innovation process, using science, technology and innovation (STI) as a structural element for society. In this context, a national coordination network for strengthening the STI is regarded as a strategic tool.
- To improve the R&D&I governance system. In this sense, the Plan aims to organise the governance levels and actors in order to achieve an efficient model. For this reason, it

underlines the importance to set efficient cooperation and coordination mechanisms with other administrations.

- To mobilise more resources for R&D&I, in a more efficient way. To achieve this objective, the Plan considers necessary to set synergies and cooperation agreements in the R&D&I field with the state, the local administrations and the socioeconomic actors and stakeholders. Furthermore, it points out that a diversification of sources of funding for R&D&I is needed.

This is why it aims to increase the state funding in R&D&I in Catalonia, by spreading national infrastructures and research centres in the region; to support the participation of actors in the research system with State and EU Programmes; to implement new mechanisms of public-private R&D&I co-financing; to develop a plan to increase sponsorship for R&D&I; as well as to attract funding for R&D&I from other regions and countries.

Autonomous Community of Madrid

In the Community of Madrid, the Madrid Development Institute (IMADE in Spanish), depending on the regional Ministry of Economy and Finance, is in charge of the regional innovation policies, aiming to promote the balanced development of the productive system of the region, to encourage technological and organisational adaptation of the business, to strengthen and consolidate the economic activities of greater strategic importance, and to support the economic activities that contribute to create and maintain employment.

In the most recent version of the Science and Technology Plan of the Community of Madrid (in Spanish IV PRICIT), which covers the 2005-2008 period, the global objective is to make the region an increasingly important node in the European and global network of the "regions of knowledge", driving its development, and considering science and technology as key elements in creating wealth, social welfare and cultural creativity.

While defining its objectives, this Plan seeks cooperation, complementarity and integration at all levels: the interregional, with the General State Administration, and with the global networks of knowledge. The Plan reports that the agreement with the Central Administration is essential, given that the State is charged of many public resources for R&D located in the regional territories. In this regard, the Community of Madrid assumes direct responsibility for those actions in which the proximity factor is critical, like the ones related to technology cooperation or scientific culture, while never forgetting that its work should complement and not compete with the national policy on R&D&I. The IV PRICIT has also taken into account that within the Community of Madrid itself there are different agencies with responsibilities in these areas and has sought to articulate mechanisms to ensure coordination between them.

Navarra

The Navarra Innovation and Technology Agency (ANAIN in Spanish) is a public enterprise created in 1999 to promote the quantitative and qualitative increase of innovation in the region. It contributes to the economic and social development of the Autonomous Community by fostering collaboration among the Science – Technology – Enterprise System agents in Navarra and their participation in the international R&D&I space, promoting technology transfer and strategic watch, and in general, innovation.

The Third Technological Plan of Navarra, covering the 2008-2011 period, is committed not only to assume, but to broaden the objectives of the previous plans, taking into account the evolution and different profiles of the actors and beneficiaries. That is, it aims to stimulate further R&D in companies with no previous experience, but also to enhance R&D&I among experienced regional players. For this reason, the innovation strategy promotes cooperation in R&D&I between the regional, national and international players, and is based on the following criteria:

- to promote the generation, management and transformation of knowledge;
- to encourage cooperation and networking in R&D&I at regional, national and international levels;
- to apply the model of continuous innovation in all aspects concerning the regional production system;
- to maintain a balanced production structure;
- to enforce the regional strategic sectors.

Basque Country

In the regional policy of the Basque Country, innovation has a great importance. A “Basque Innovation trident” has been created, in order to support the innovation and research policy of the region, on the basis of the Science, Technology and Innovation regional Plan. The trident is composed by three centres: a) the Basque Council for Science, Technology and Innovation, b) the Basque Agency for Innovation, and c) the Ikerbasque Foundation.

In the Science, Technology and Innovation Plan for 2010, the Basque Country gives a great importance to the need of a stronger partnership between the Central and the Basque Government in the field of R&D&I, so that coordination and cooperation between the two administrations can be performed under the efficiency criteria, ensuring the resources needed to define a comprehensive innovation policy that encompasses both the generation of knowledge and its transfer and application.

Furthermore, the Plan makes an explicit reference to the R&D&I strategy (INGENIO 2010), underlining that it has a direct influence on the contents and settings of the Plan itself.

Valencia Autonomous Community

In the Valencian Community, The Institute for Small and Medium Industry (IMPIVA in Spanish) is a public entity of the region, which develops policies to promote innovation of the Valencian Government.

It promotes a network of technical support services to SMEs; it collaborates with business associations in developing strategic actions under the regional Competitiveness Plans and collaborates with public and private entities for generating and transferring research results, knowledge and skills in business management.

It is important to notice that IMPIVA collaborates with the central Ministry of Industry, Tourism and Trade to coordinate activities and facilitate access of small and medium-sized companies from Valencia to public innovation programmes and services.

We have outlined some examples of regions in Spain but it has to be noted that all regions in Spain have competences and implement policies towards achieving higher levels of innovation in their productive systems.

In such a decentralised system, it is of paramount importance to count with an adequate coordination between the national and sub-national tiers of government.

In the case of Spain, in accordance with Act 13/1986, the General Council for Science and Technology is the consultative body of the CICYT which seeks to promote research coordination between the different Autonomous Communities themselves and between the Autonomous Communities and the General State Administration. It has representatives from all Autonomous Communities and from the State Administration. In particular, the role of the General Council for Science and Technology is as follows:

1. To inform regions, in particular, prior to the National Plan, on everything related to the best use of all research resources and means available.
 2. To propose the inclusion of objectives in the National Plan.
 3. To propose, depending on interest, the research programmes and projects of the Autonomous Communities, once these have been duly presented by their regional governments.
 4. To promote the exchange of information between the State Administration and the Autonomous Communities regarding their respective research programmes, with a view to facilitating the overall coordination of scientific and technical research.
 5. To promote joint actions between Autonomous Communities or between these and the General State Administration to develop and implement research programmes.
 6. To issue reports and opinions regarding the coordination of the research conducted by the public sector, requested by the Interministerial Commission on Science and Technology or by the bodies responsible for science policy in the Autonomous Communities, or by the Advisory Council for Science and Technology.
- To create a documentation base on the different research plans and programmes sponsored by public authorities.

In practice, and so far, the General Council for Science and Technology has actively worked on two aspects:

- Cooperation in the **design and preparation** of the Future National Strategy for Science and Technology ([ENCYT](#)) and in the new **National R&D&I Plan**, as well as coordination with R&D&I objectives and Regional Plans. It was agreed that for the preparation of the National Plan and the ENCYT Strategy, the Working Group would have six representatives in the Reflection Group, which is the interministerial, intersectoral and interregional working group entrusted with the design and preparation of both instruments
- Cooperation in the **preparation** of a long-term **strategy for scientific and technological infrastructures** to develop a Science and Innovation poles programme based on the networks of technological centres, science and technology parks and special science and technology facilities. For this purpose, the Working Group proposed drawing up an inventory listing the characteristics (in concise form and to include the human resources available) of science-technology-innovation promotion and interaction units and infrastructures, in such a way that these can be used by enterprise and entities in the public R&D&I system of the Autonomous Communities and General State Administration.

2.6.6 Comparison with cases in other EU-Member states

The INGENIO programme represents a large multi-instrument innovation policy which is similar to other national wide-angle policies in Europe, such as the VIS programme in Belgium and Central Innovation Programme in Germany.

- **Flemish Innovation Cooperation (VIS)**
The goal of the program is to increase technological innovation capacities in Flanders by stimulating cooperation and knowledge transfer between research organizations, intermediaries and companies. A long-term objective is to increase the competitiveness of SMEs by reinforcing their innovative capacities. The most important sub-programs are:
 - **Collective research (CO)**. Allowing large groups of companies to profit from specific knowledge or technologies.
 - **Regional Promotion of Innovation (RIS)**. Assisting groups of companies that have a technological problem in common.
 - **Issue-focused Promotion of Innovation (TIS)**. Aimed at groups of SMEs that need innovation support in a certain area of technology.
 - **Thorough Technological Advice (GTA)** offered via accredited knowledge institutes.
 - German Central Innovation Programme
The Federal Ministry of Economics and Technology integrated the previous programmes PRO INNO II, NEMO and InnoNet in one support measure ZIM - The Central Innovation Programme SME. The aim of the measure is to support the innovativeness and competitiveness of SMEs. Beneficiaries are SMEs and public research organisations. The programme has three main pillars:
 - Support of co-operations
 - Support of networks
 - Individual support to firms.
 - Individual support to firms is limited to firms in East Germany.

The common similarity among these programmes is that they resulted in fusion and/or greater coordination among previously independent policy measures. Such an approach can be considered a good example of the shifts toward more centralised and integrated innovation policy implementation and design.

2.6.7 Conclusions

The INGENIO 2010 programme is a recent set of policy measures with an established monitoring system to follow and evaluate its progress. With regards to the key evaluation questions we observe the following:

a. *Current balance in policies*

The types of policies pursued in Spain cover all the RDI areas, scientific and technological sectors, enterprises etc. All of them promote policies and initiatives to impulse the innovation in the respective territories and thus regional economic growth. The focus of these centres is mainly regional, based on specific innovation plans and strongly adapted to the needs of the territory, but at the same time they interact complementarily with different policy and territorial levels (national, interregional and international). In general the Spanish innovation

policy system is decentralized and integrated, which is also followed in the setup of the INGENIO programme.

b. *Arguments to justify policies*

The rationale for the development of an INGENIO policy package is the necessity to address the main challenges posed before the Spanish innovation system and also the goal to achieve convergence with the leading innovating states by 2010.

c. *How can impact of each type of policy be judged*

The impact of the INGENIO programme has not been yet evaluated ex post. Nonetheless there is a comprehensive monitoring system in place, which allows to follow the progress in the policies implementation. As for now the programme's indicators show positive signs of progress with most of the target values being achieved. There is evidence of strong interest expressed by the private sector in participating in the programmes sponsored by the INGENIO initiatives.

d. *Has the balance shifted over time?*

There have been recent developments towards more effective and closer coordination of the regional policy mixes and priorities. This can be considered as a shift towards more centrally coordinated policy design and implementation. With regards to the shifts along sectoral/integrated dimension, there is evidence of strengthening the integrated policies toolkit in the total policy mix.

e. *Arguments to support the shift*

These developments go along with the general European tendencies towards greater horizontal and mostly centralised implementation of innovation policy (catching up argument also plays a strong role).

f. *Balance top performers*

The INGENIO programme represents a large multi-instrument innovation policy which is similar to other national wide-angle policies in Europe, such as the VIS programme in Belgium and Central Innovation Programme in Germany. The common similarity among these programmes is that they resulted in fusion and/or greater coordination among previously independent policy measures. Such an approach can be considered a good example of the shifts toward more centralised and integrated innovation policy implementation and design.

The analysis of both the transferability of the INGENIO 2010 Programme to other national policies and initiatives and the selected regional cases gives some relevant information which demonstrates that the current decentralised and integrated Spanish system is working, but needs a better implementation.

Although on one hand a national initiative has been successfully transferred to other national policies, agreed between a number of actor belonging to different territorial and administrative levels, on the other hand the integration between the regional and the national level does not seem to have become totally efficient.

The autonomous communities have reached a great level of independence and competence in terms of innovation policies, but the insufficient coordination between the central and the regional administration may lead to an overlapping between policies.

Each of the five regional plans here analysed state as a priority to achieve a better coordination and collaboration between the different policy levels. This means, that even if the General Council for Science and Technology is moving in the right direction towards coordination, regions themselves recognise that a bad or poorly structured coordination leads to inefficiencies, but is also shows that these autonomous communities are oriented to an improvement of the decentralised-integrated model. This would demonstrate that this complex model, although being particularly difficult to be implemented in an efficient way, is still thought to be the (potentially) most efficient for the Spanish administration.

2.5.8 References

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2.7 Sweden: VINNVAXT innovation support programme

2.7.1 This Case Study

In this case study we carry out a detailed examination of performance and evaluation results for one of policy measures in the Swedish innovation policy mix:

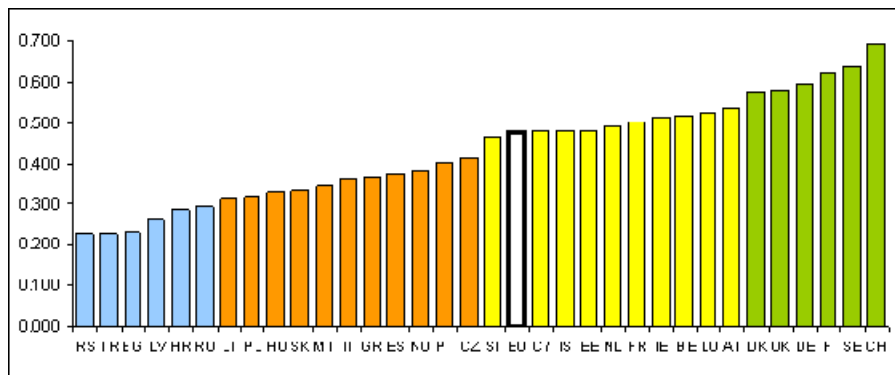
- VINNVÄXT innovation support programme.

The study consists of four parts. In the first part we examine the Swedish innovation policy mix and analyse its main features along the dimensions of centralised/decentralised and sectoral/integrated policy design. In the second part we describe the case policy, its objectives, design and implementation mechanism. In the third part we make an overview and analyse the results of the policies past impact evaluations. The fourth section of this study concludes and presents answers to the main research questions formulated in the general analysis framework.

2.7.2 Innovation performance and policy mix in Sweden

Sweden is commonly seen as one of the countries with the best innovation performance in the EU. This is reflected in the country's consistently high ranking on the European Commission's innovation scoreboard (see Figure 2). Sweden is placed among the group of "Innovation leaders" and the best performing EU Member State overall. However, its rate of improvement is below that of the EU27 average (European Commission 2010). According to the same report, Sweden's overall innovation leadership is based on its exceptional performance in the three dimensions capturing innovation inputs (Human resources, Finance and support, Firm investments), but Sweden's performance in the two dimensions capturing innovation outputs (Innovators, Economic effects) is not as good. The fact that the very high values of input indicators for innovation in Sweden do not correspond with the relatively low values achieved in output indicators is frequently described as the main shortcoming of the national innovation system in the literature and is referred to as the "Swedish paradox".

Figure 2. Innovation performance of 33 European countries (2009 SII)³⁴



Source: European Commission (2010), European Innovation Scoreboard 2009.

Swedish innovation policy currently faces the following three major challenges (European Commission 2009):

- *Strong dependence on a small number of large, globalised firms.* Sweden's 20 largest firms account for 62% of industry R&D. The Swedish economy is heavily dependent on exports, which are to a large extent specialised in investment goods. For both these reasons, the downturn in demand has a stronger impact on the Swedish economy than on the EU average. The necessary restructuring of the major export industries limits their ability to invest in innovation for their long-term competitiveness. A limited ability to invest in innovation does not only affect the large companies, but also their demand for innovation-related services from knowledge-intensive SMEs, research institutes and universities.
- *Dealing with the impact of the crisis,* in particular uncertainty about the viability of Sweden's motor vehicle industry. The automotive sector accounts for around one quarter of private sector R&D investments and around one fifth of investments in machinery and inventory in Sweden. Recently, Saab Automobile and Volvo Cars have been affected by sharp drops in demand and the financial weakness of their respective US parent companies. As a result Saab, formerly owned by GM, is now part of Spyker cars, a small Dutch producer, and Volvo, currently owned by the Ford Motor Company, is being sold to the Chinese Zhejiang Geely Holding. This restructuring may affect industry R&D spending in Sweden.
- *Lack of policies for supporting non-technological forms of innovation,* innovation in services etc. The main pillars of Swedish innovation policy remain a strong university research system on one hand, and general framework conditions for business on the other, with some efforts to link up the two, however mainly with a view to 'getting research results out' not communicating the needs of business to the academic community.

It is necessary to remember that at least the first two challenges are closely related to the financial and economic crisis and potentially exacerbated by it. While some of the downturn was already evident in 2007, most of the data used for calculating the SII refers to the situation before the

³⁴ The Summary Innovation Index (SII) is a composite of 29 indicators going from lowest possible performance of 0 to a maximum possible performance of 1. The 2009 SII reflects performance in 2007/2008 due to a lag in data availability.

effects of the financial crisis will have manifested themselves and, therefore, does not fully capture the impact of the current crisis on the innovation system.

2.7.3 Governance

The Swedish model of governance consists of three tiers; the national, the county³⁵ and the municipal. It should be noted that in Sweden, county governments are much weaker than the central and municipal level in terms of political power, strategic capabilities and finance. In terms of innovation policy and support, the national level is the most dominant. At the highest political level, research policy is decided by Parliament (Riksdag), acting on bills prepared by the government. However, Sweden does not have an explicit national innovation policy and most policy measures which directly address innovation fall under either the research policy budget or the enterprise policy budget (European Commission 2009).

Correspondingly, the governmental structure behind Sweden's research and innovation policy system is clustered around the Ministry of Education and Research and the Ministry of Enterprise, Energy and Communication. It needs to be kept in mind however that the Swedish institutional system is characterised by relatively small ministries. This implies that functions held by ministries in other countries fall under the responsibility of government agencies in Sweden. These agencies are formally independent, and there are relatively narrow limits on the amount of micromanagement ministers can exert.

The Ministry of Education and Research is in charge of the higher education system and most central government sponsored research funding. Higher education institutions in Sweden are autonomous agencies responsible to this ministry and conduct roughly two thirds of publicly funded research in Sweden in terms of budget. The Swedish Research Council, the country's largest research funding agency, which in 2009 shared out SEK 4 billion (roughly € 400 million) to basic research, is also an authority inside the remit of the Ministry of Education and Culture. Other public research funding bodies include the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas), which distributed about SEK 850 million (roughly € 85 million) in 2009, and the Swedish Council for Working Life and Social Research (FAS) with a budget of some SEK 400 million (roughly € 40 million) in 2009. There are also a number of public foundations that fund research and university-industry relations such as the Swedish Foundation for Strategic Research (SSF), the Foundation for Strategic Environmental Research (MISTRA) and the Knowledge Foundation (KK). It is estimated that these foundations invested some SEK 1.3 billion (roughly € 130 million) in research in 2009.

The Ministry of Enterprise, Energy and Communications has overall charge of the activities relating to business development, small and medium-sized companies, supply of capital, entrepreneurship, issues relating to patents and innovation, ICT policy and regional growth. In this function, it oversees the activities of a number of central government agencies including VINNOVA, the Swedish Governmental Agency for Innovation Systems which is in charge of

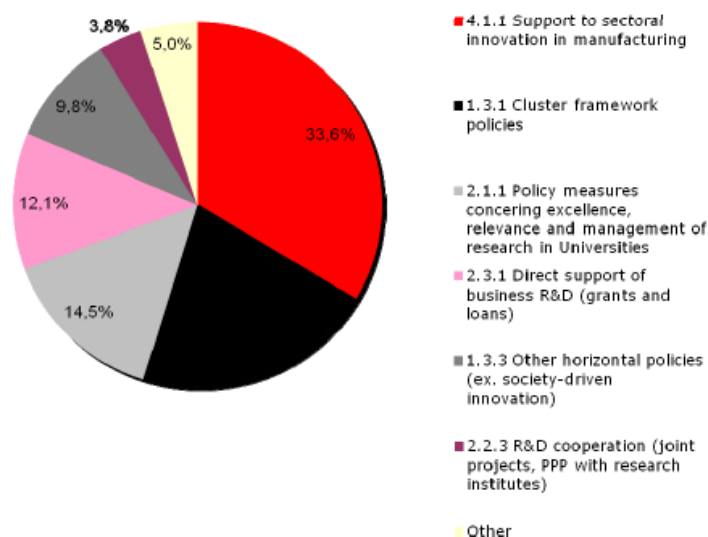
³⁵ Sweden is currently divided into twenty-one counties further subdivided into municipalities. However, the Swedish government has been recently investigating the possibilities of merging the current 21 counties into 6-9 larger regions. If approved, these changes could come into effect around 2015.

implementing the VINNVÄXT programme. VINNOVA distributed some SEK 1.4 billion (roughly € 140 million) in 2009, primarily to needs-driven research in the fields of technology, transport and communications and seeks to strengthen actors and networks within the Swedish innovation system. The Swedish Agency for Economic and Regional Growth (Tillväxtverket) also operates under the remit of the Ministry of Enterprise, Energy and Communications.

Figure 1 below indicates that in terms of the public annual budget allocation sectoral innovation in manufacturing still receives the single biggest allocation (33.6%). With a total allocation of 21.2% cluster framework policies come second and are followed by policy measures concerning excellence, relevance and management of research in universities (14.5%). The remainder is spent on direct support for business R&D (12.1%), other horizontal policies (9.8%) and R&D cooperation (3.8%).

Overall, Swedish government appropriations for research amounted to approximately SEK 28.3 billion for 2009 (approx. € 2.83 billion). In this context, it should be noted that industry invests more in research and development than central government. However, almost the entire R&D funding that comes from industry remains within the business sector.

Figure 1. Estimated annual budget allocations per policy priority in Sweden



Source: European Commission (2009).

Recent trends in Sweden's innovation policy mix

Recent, major trends in the policy-mix can be summarised as follows:

- Every electoral period, the Government presents a bill, setting the framework for central government-funded research and innovation for the coming four years. Within the new government bill for 2009 on research and innovation, the government emphasizes the importance on investments in research and in research based innovation. The arguments that are put forward are that Sweden needs to build competitiveness based on high value added and high knowledge content in products and services. In relation to this research, development and

innovation are central parts of the Swedish innovation policy. The sum allocated in this autumn's Research and Innovation Bill, covering the period 2009–2012, is by far the largest ever, in terms of additional resources. With its SEK 5 billion (€ 500 million), it is more than double as large as any of its predecessors. With the bill substantially more resources were also allocated towards long-term research (Swedish Ministry of Education and Research 2008).

- Strong research and innovation milieus are seen as important in order to keep and attract R&D within the country and to attract foreign investments and competence. Within the Swedish national strategy for regional competitiveness, entrepreneurship and employment (2007-2013) innovation is one of the priorities and innovative milieus and entrepreneurship are considered highly important. It is specified in the strategy that it is important that the context on a national, regional and local level stimulates innovation and renewal and also that well functioning innovative milieus demands an effective interaction between research, business, public sector and political institutions (Government Offices of Sweden 2007).
- In 2004, Sweden developed a national strategy entitled Innovative Sweden (Swedish Ministry of Industry, Employment and Communication / Swedish Ministry of Education 2004) through its new Innovation Policy Council. The Innovation Policy Council (IPC), established in the same year, is chaired by the Minister for Industry, Employment and Communications, and is designated to provide a basis for the communication between the minister and key stakeholders in innovation policy. While pointing to general needs and areas that need to be addressed (Knowledge base for innovation, Innovative trade and industry, Innovative public investment, Innovative people), the Strategy stops short of proposing concrete measures.
- Overall, Sweden's innovation policy mix has evolved towards more horizontal policy-making, integrating parts of research and industrial policy into a coherent innovation policy. The development of new instruments such as VINNVÄXT in 2001 was to a large extent based on solutions launched in the early 1990s, which first witnessed the introduction of programmes characterised by collaboration, co-funding, and a generally strong emphasis on decentralisation coupled with accountability and a departure from the sectoral principle that dominated Swedish R&D funding until the late 1980s. The transformation of the organisational landscape, including the merging of the ministries of Industry, Labour Market and Communications and transport into one “super ministry” and the creation of VINNOVA could also be interpreted as an effort to formulate a more horizontal policy process, trying to co-ordinate several policy areas and integrating several ministries towards a general goal (Persson 2008). In this context an OECD publication recently concluded "that Sweden is one of the OECD countries in which the “regionalisation” of industrial policy and economic development policy has already yielded promising results. After bolstering a technology-based, R&D-intensive industrial policy, (...) Sweden has progressively adopted a set of measures geared towards promoting innovation in a broader sense at the regional level" (OECD 2010).

2.7.4 Case description: VINNVÄXT

- **Policy type**
 - *Decentralised, Integrated (see below for details)*
 - **Sectoral/Integrated**

<i>Delivery process/ instruments</i>	<i>Objectives/targets</i>			
		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
	Sectoral			
	Other policy domains to be taken into consideration			
Other policy domains fully on board			X	













- **Centralised/decentralised**

	National level	Regional level	Local level
Conceive		X	
Manage		X	
Deliver		X	X

- **Global policy objective**
 - The programme aims at supporting regional innovation systems to make them internationally competitive and sustainable over the long term. The goal is therefore to contribute to the development of problem-oriented research. The focus is a triple helix model of collaboration between the public, private and research/academic sectors.
- **Design**
 - VINNVÄXT is built around a concept where a few selected regional innovation systems receive grants and are regularly evaluated in order to secure progress. One of the guiding principles of the programme is that the regional projects are selected on the basis of a competitive call for proposals. A prerequisite for the programme is the active participation of players from the private, public and research sectors and from the political sphere.
 - The winning regional innovation systems receive funding of up to SEK 10 million (approx. € 1 million) per year. All the funding provided by VINNVÄXT requires at least 50% in co-funding, thus providing a total of SEK 20 million (approx. € 2 million) per year or more. The funding is allocated for periods of 3.5 years at a time, but the intention is that funding should continue for 10 years. This is however subject to satisfactory progress and the winners must submit a status report every third year in order to demonstrate that the funds are being used for the intended purpose and that the work is progressing as planned.
 - The main focus of funding is on needs-based research and development in support of product innovation, less so process innovation. VINNVÄXT also comprises a number of support activities such as seminars, training/education, the exchange of experience and the extension of knowledge/research.

- The programme began in 2001. Since then, VINNOVA has carried out three calls within the VINNVÄXT programme (1st round 2003-2013, 2nd round 2004-2014, 3rd round 2006-2016). There are 12 so called winners, regional innovation systems that are financed by VINNOVA. In the first of these two calls rather mature initiatives were chosen. It was therefore decided that the 3rd call would be a call for initiatives in an early stage, with high growth potential and high risk. Altogether the budget allocated to the programme is almost € 80 million. Funds dispersed through the different calls were € 30 million (1st round), € 30 million (2nd round) and € 5 million (3rd round). The remainder of the budget is dedicated to process support, training measures, communication and dissemination.

Table 1: Overview of VINNVÄXT winners by selection round

1 st round (2003-2013)	Location	Thematic focus	
Robotdalen	Västra Mälardalen	Robotics	
Food Innovation at Interfaces	Skåne region	Food	
Uppsala BIO	Uppsala region	Life Sciences	
2nd round (2004-2014)	Location	Thematic focus	
Fiber Optic Valley	Coast of Southern Norrland including Sundsvall and Gävle	Fiber Optics	
Biomedical Development in Western Sweden	Göteborg region	Biomedical	
New Tools for Health	Östergötland	Health	
ProcessIT Innovations	Umeå / Luleå	Information Technology	
Triple Steelix	Bergslagen	Steel Production and Processing	
3rd round (2006-2016)	Location	Thematic focus	
Biorefinery of the Future	Örnsköldsvik and Umeå	Biofuels	
Peak of Tech Adventure	Åre-Östersund region	Winter Sports, Tourism and Outdoor Pursuits	
Smart Textiles	Sjuhärad in Västra Götaland	Next Generation Textiles	
Printed Electronics Arena	Norrköping / Linköping	Printed Electronics	

- Institutions and funds**

The programme is administered by VINNOVA, the Swedish Governmental Agency for Innovation Systems, a state agency tasked by the Swedish Government with a) contributing to making Sweden a leading research nation in which research of high scientific quality is conducted b) promoting sustainable growth and increased employment by acting to increase competitiveness and the emergence and expansion of successful companies c) supporting research and development work of the highest quality in areas such as engineering, transport, communications and working life in order to promote renewal and sustainable growth c)

stimulating Swedish participation in European and international R&D collaboration and in the exchange of experience in the field of innovation.

Several companies, universities and institutions are involved in each VINNVÄXT cluster initiative with different degrees of engagement. The objective regarding number of firms and educational institutions involved varies depending on the conditions for each VINNVÄXT initiative and also the sector that is represented. Not all of the clusters supported by VINNVÄXT had a formal governance structure prior to the call for proposal, and some never formalised their institutional status. A number of different organisational forms were applied, ranging from informal networking and non-profit associations to the establishment of centres or corporations (OECD 2007).

The program used functional regions as opposed to administrative ones (i.e. counties). There are examples of clusters that cross administrative borders or cut-through counties as well as examples of initiatives that span several administrative regions (OECD 2007).

Position of the VINNVÄXT programme in the Swedish policy mix

As VINNOVA's flagship programme, VINNVÄXT is integral to Sweden's innovation approach. There is, however, another programme, the Regional Cluster Programme aiming at the development of strong regional innovation milieus by supporting clusters and innovation systems. However, the overall ambition for cluster development under this programme is mostly oriented towards the national level while VINNVÄXT seeks to develop world class clusters. The Regional Clusters Programme also has a smaller overall budget than VINNVÄXT.

- The **Regional Clusters Programme** is administered by Tillväxtverket (Swedish Agency for Economical and Regional growth). The programme is an initiative seeking to strengthen regional concentrations of enterprises and public as well as non-public organisations, both competitive and cooperative, i.e. clusters. The cluster initiatives work as joint ventures between industry and public sector, and sets off from current clusters. The programme period is 2005-2010 and the budgeted amounts to 70 million SEK (roughly € 7 million). Among the activities supported are commercial cooperation (analysis, purchase collaboration), networking (triple helix, dialogues) and cluster expansion (new establishments, spin-offs etc). All activities should have clear market oriented qualities, which implies that the program does not support basic research and product development.
- VINNVÄXT and the Regional Cluster programme seek to be consistent with the **Regional Growth Plans (RTP)**³⁶ of the Swedish counties by supporting strategic sectors identified in the plans, although RTP inclusion was not an explicit criterion in the VINNVÄXT call for proposals. This approach was used to identify focal points for government service delivery to ensure coherence between the regional and national level.

There are also other relevant programmes that need to be mentioned in this context. These programs are aimed at developing strong research and innovation milieus, commercialisation or growth in existing innovative SMEs. These are:

- The VINNOVA **Vinn Excellence Center Programme** is a program aimed at strengthening research and innovation milieus in Sweden. The Vinn Excellence Centers aims at providing a

³⁶ Since 2003, each of Sweden's counties has been obliged to produce an RGP document for the following three years. The purpose of the document, as stipulated by central government, is to outline the strategy for long-term economic growth and sustainable development in each of Sweden's 21 counties.

forum for collaboration between the private and public sectors, universities and colleges, research institutes and other organisations that conduct research. The Centers deal with both basic and applied research and they work to ensure that new knowledge and new technological developments lead to new products, processes and services. VINNOVA's ambition is to establish 25 different VINN Excellence Centers that will be funded for a period of 10 years. The expected funding for one centre during the entire 10 year period is roughly € 21 million (VINNOVA's share amounts to roughly € 7 million).

- Another program within this area is **Global links for strong research and innovation milieus**. This program aims at increasing the international attractiveness and competitiveness of strong research and innovation milieus in Sweden. The rationale for the program is that innovation is increasingly taking place in global networks of players within research, business and the rest of society. The formation of globally competitive and recognised research and innovation milieus in Sweden is an important goal.
- **The Key Actors Programme** is another example. This program is also run by VINNOVA. It has the aim of developing expertise, methods, processes and structures that will make key players in the Swedish innovation system more professional in their roles with regard to collaboration between research players, companies and other players in society at large, as well as to the utilisation of knowledge and the commercialisation of research results.
- **Research and Grow** is a VINNOVA program that is focusing on the growth potentials in innovative SMEs. Given that R&D operations have become more complex and are also associated with major costs and risks, small and medium-sized companies find it more difficult to conduct their own R&D operations than large companies. The programme aims at strengthening and stimulating R&D in SMEs. For 2009 the call had a budget of SEK 120 million (roughly € 12 million).

In direct comparison with these initiatives VINNVÄXT does not stick out in terms of budget and especially the more R&D focused VINN Excellence Centre Programme has a considerably higher overall budget. However, among comparable programmes that do not have a basic research component, VINNVÄXT is clearly the most important in terms of budget and ambition.

2.7.5 Impact of the case study

Method

According to the programme document the objective of VINNOVA's programme "VINNVÄXT – Regional growth through dynamic innovation systems" is:

to promote sustainable growth based on international competitiveness in regions, by steadily developing or further developing, the innovation system's functionality, dynamics and efficiency in functional regions to an international level.

In the same document VINNOVA also states that:

Effects in the form of growth can only be expected after a relatively long time. For that reason the programme's success must be tracked by measurements and indicators that describe the process, as well as structural and institutional changes regarded as vital preconditions for future growth.

This has led to a monitoring and evaluation strategy where the programme will be examined basically every third year. The expected progress of the regional ventures financed by VINNOVA is described as follows in the programme document:

Objective 1 year:

The ventures that VINNOVA chooses to support should in the short term be able to demonstrate that they have established effective management, control and coordination of the venture, that the key players in the system are involved and committed, that the necessary resources have been mobilised, that the programme is capable of influencing the priorities in the three Triple Helix spheres in ways that coordinate and mobilise resources for the objective of this specific venture, and that a process leading to actual development and regeneration has been established.

Objective 3 years:

The ventures that VINNOVA chooses to support shall, after three years, over and above the short-term objectives, also show clear and positive changes in a number of indicators of innovative capacity and international competitiveness.

Objective 6 years:

After six years, the 3-year objectives shall demonstrate further clear improvements. It should also be possible to perceive certain growth effects from the regional ventures.

Objective 12 years

Over the long term, the programme as a whole shall have made a manifest contribution to sustainable growth in the functional regions that VINNOVA has supported, and have established innovation systems with international competitiveness. Furthermore, the regional ventures together with the support processes that are also being run in the scope of the programme, shall have manifestly contributed to national learning that has contributed to stimulating growth in other regions.

VINNVÄXT was designed to include regular evaluations of projects funded to determine eligibility for additional funding. The evaluation and monitoring system includes yearly assessments (monitoring) made by VINNOVA and three-year evaluations made by an international panel. The above objectives have been the starting point of these evaluations.

Results

Below we present the main findings of the analysis of the effects of the VINNVÄXT Programme. These findings are based on four reports published so far covering different aspects and projects (VINNOVA 2007a, 2007b, 2008, 2010b). The main source used to describe the results of the VINNVÄXT Programme is the most recent report "VINNVÄXT at the Halfway Mark: Experiences and Lessons learned" (VINNOVA 2010b). This report comes to the conclusion that, overall, the initiatives supported under VINNVÄXT made varying contributions to promoting innovations and growth through:

- Catalysing and streamlining the regional innovation system through better coordination, by identifying drivers and bottlenecks plus strategic processes followed by activities;
- Contributing a regional structure for advising linked to R&D projects;
- Identifying relevant issues and partners and thereby contributing to better project applications;
- Funding R&D projects and contributing to the development of new goods, services or processes in new or existing companies;
- Attracting funds for strategic R&D areas;
- Serving as an entrance for national and international players;
- Proactively contributing to the attraction/retention policy.

More specifically, results can be summarised as follows:

- **Regional, national and international strategic processes**

VINNOVA expects initiatives to take a leading role and contribute to the development of a regional leadership within the focus area. While the reports find that some of the initiatives do act as regional nodes within their focus area in national and international contexts, other initiatives clearly do not have a mandate to lead more comprehensive strategic processes for the focus area in the region. However, even the ones that do not take a clear leadership role often do contribute when such activities take place. The outside perception of the VINNVÄXT supported structures (i.e. do outside players see a sufficient quality and agglomeration of research and commerce which justifies a strategic leadership role) was found to be crucial in this context.

Furthermore, the initiatives contributed in varying degrees to improving the chances and developing the capacity of the players in a region to collaborate on development of the regional innovation system within the focus area. The analysis of individual project reports gives the impression that most initiatives currently have good standing in their own regions. It is harder to assess the level of recognition the initiatives have achieved in the national arena. The impression it is that an increasing number of initiatives are involved in contexts which indicate recognition at national level.

Evaluations of individual initiatives highlighted deficiencies in terms of how the initiatives work with issues of internationalisation. A number of the initiatives are not focused sufficiently on how to manage internationalisation issues. Two of the first eight VINNVÄXT initiatives only run a small number of activities in this area. One reason given for this was that an initial choice was made to focus on other operations in the functional region and perhaps at a later stage commence internationalisation activities.

- **Needs-driven research**

The VINNVÄXT programme goals state that the initiatives are expected to contribute to knowledge development and profiling within each focus area and region. However, one needs to keep in mind that in nearly all the initiatives, the funding which the VINNVÄXT programme contributes is a small proportion of the total R&D funding for each focus area in these regions.

Within the relatively broad range of activities that VINNOVA classifies as R&D related, projects emphasising verification and commercialisation dominate overall. At the same time, most initiatives also fund projects with a comprehensive research element emphasising knowledge accumulation. Initiatives usually identify new project proposals using means such as calls for proposals. Projects are also often identified following a needs inventory in which the process management or other representatives of the initiative visit companies, or through

other dialogues with groups of companies. Usually there is an evaluation of which projects are to be granted funding or other support (such as advice) by groups with a mixture of representatives from academia and industry. In some cases, investors, public representatives and others are also included. However, there is no common approach across initiatives when it comes to systems to safeguard quality, transparency and efficiency in how projects are identified, chosen and monitored.

While in most cases there appears to have been a relatively clear understanding how a given research project will help to position the cluster within the regional and national context, only few initiatives appear to have a clear strategy on how the R&D project portfolio should contribute to positioning and uniqueness of the initiative's players' operations in an international comparison.

- **Newly established enterprises**

For the purposes of promoting growth, the initiatives conduct activities to facilitate commercialisation of university research in the form of new start-up companies or spinoffs of existing ones. The initiatives have varying interest in commercialisation activities. In most cases, initiatives with commercialisation activities are collaborating with the innovation-supporting organisations and operations that already exist in the region. Partners typically are technology and science parks, incubators and university holding companies. Of the eight initiatives which started operations in 2003 or 2004, six have reported the start-up of new companies based on their operations for the year in question. The number of companies started varies from 1 to 11 for the six initiatives. Three of the four latest VINNVÄXT initiatives report that the initiative has helped start one company each, operating within the focus area. Occasionally, companies have originated in R&D projects co-financed by the initiatives. In other instances, the initiatives have contributed funding or advice when starting the company.

- **Competence supply**

VINNVÄXT operations are also expected to contribute to competence supply by influencing researcher training and by funding researchers within the focus areas. The existing evaluation reports indicate that the initiatives have identified a broader need for competence supply and have developed activities to serve these (including activities to interest young people in the focus area). Overall, competence supply related activities are important in most of the initiatives and are often given high priority by contributing companies. In several of the initiatives, it is one of the most important reasons for major companies' involvement and participation. Municipalities and universities are very important in this operational area as they are the players who "own" the issue and are ultimately taking the decision on which training courses to implement.

Analysis: Governance Issues and Determining Factors

The VINNVÄXT Programme is a policy initiative aimed at promoting sustainable growth and employment by developing internationally competitive research and innovation environments in specific growth fields. The immediate geographical focus of activities is clearly at the level of functional regions, but effects are also expected to materialise at the national level.

A prerequisite for the programme is the active participation of players from the private, public and research sectors and from the political sphere. In this context, the intervention of VINNVÄXT is reported to have partly created a regional governance "environment" that proves to be conducive to public-private collaboration by creating various fora for dialogue between stakeholders from

industry, university and the public administration. This relative openness of the programme to the participation and ideas of a broad group of actors ensures that the vision on which the programme builds is shared and endorsed by the participating actors and that it corresponds to real needs of the industry. Such bottom-up, broad involvement is highly important for the development and accomplishment of regional innovation strategies. Especially the long-term funding perspective (10 years) appears to have contributed substantially to the perception of the VINNVÄXT supported structures as legitimate and respected parts of the regional innovation system. According to the OECD the VINNVÄXT programme has successfully combined an explicit focus on exploiting specific regional comparative advantages, by going beyond high-technology industries to encompass a variety of regional assets and a cross-sectoral perspective, which encourages cross-fertilisation among activities (OECD 2010).

However, the available evaluation and monitoring reports point to the need for increased coordination between national and regional players. One of the lessons drawn from the VINNVÄXT initiatives' operations is that an increased dialogue between national and regional public players is desirable when it comes to future national and regional programmes for R&D-linked regional growth. This dialogue should include a discussion on strategic research and development areas for knowledge-building, innovation, growth and public benefit and identify prominent regional nodes which have good prospects of contributing in these areas. This is to enable prioritisations of those with the best prospects. At the same time, it is important to stimulate collaboration between prominent regional nodes in an international comparison. Furthermore, the dialogue should deal with issues relating to how to develop the coordination of national and regional activities to promote innovation, renewal and growth. Furthermore, more operationally orientated collaboration may be required between players who operate within strategic research and development areas in different parts of the country. Although the bottom-up process may have restricted the strategic steering VINNOVA would be able to provide at the national level, the VINNVÄXT programme remains a successful model for using strategic science and innovation investments to strengthen regional partnership (OECD 2010).

2.7.6 Comparison with cases in other EU-Member states

According to the OECD the VINNVÄXT programme has successfully combined an explicit focus on exploiting specific regional comparative advantages, by going beyond high-technology industries to encompass a variety of regional assets and a cross-sectoral perspective, which encourages cross-fertilisation among activities.

This programme has its counterparts in Germany (Innoregio) and Finland (Tekes Technology Programmes). The INNVAXT programme also served as an inspiration by the Scottish Innovation System.

- The basic ideas behind "InnoRegio" and the subsequent programmes which build upon its framework: new creative ideas arise where disciplines, industries, institutions and particularly people come together. The success factor of a region is the formation of an innovative network with specific abilities and technologies which provide it with competitive advantages.
- Tekes promotes the development of new research areas by implementing specific technology programmes around a specific field. Cooperation is encouraged between the different organisations as well as between differing fields of technology. Tekes organisation matrix consists of separate branches for different support areas: activation, technology programmes

and project funding. On the other side there are several dedicated branches for different activities: Technology and Research Areas, Regional Network, International Networks and Finance and Administration. Moreover, there is a cross-cutting office for Industrial Branches and Support for Core Processes.

Our general observation is that the regional innovation cluster programmes mostly make a part of the policy mix in the leading innovation countries with well established governance tradition and experience in implementing the integrated policy measures at the national level.

2.7.7 Conclusions

Overall, the available evaluations indicate that the VINNVÄXT programme was successful in terms of stimulating the long-term development of strong regional innovation systems. The international evaluation team concluded in its 2007 review of the programme (VINNOVA 2007) "that the VINNVÄXT programme stands out as a world class national programme" and VINNVÄXT is clearly the dominant broad-based innovation policy measure aimed at the creation of regional innovation systems in Sweden. Evaluations identified the following success factors:

- The relatively long-term perspective during which support may be given to each of the chosen projects (10 years);
- The consistent, fair and thorough use of competition as a project selection mechanism;
- The overall openness to regional autonomy when it comes to design of, and priorities within, each project;
- The different forms of process support offered to the projects;
- The continuous benchmarking carried out in relation to similar programme initiatives taken elsewhere, which inevitably escalates the ambitions of VINNVÄXT;
- The essential role that VINNOVA has taken as a dialogue partner – in addition to and more strongly emphasised than the role of controller or auditor.

Two positive side effects of the VINNVÄXT programme have also been noted:

- At a regional level each of the VINNVÄXT projects seems to function as a catalyst to leverage broader Triple Helix cooperation. Thus the projects may have a positive impact far beyond the specific cluster or industrial branch which is perceived as the prime beneficiary.
- The VINNVÄXT programme also tends to challenge the structure of the innovation support system in Sweden. Each of the regional (umbrella) projects supports highly focused and relevant R&D sub-projects which otherwise would have encountered great difficulties in finding public financial support. In this regard, the VINNVÄXT programme represents a necessary supplement to the other presently running innovation initiatives.

However, the evaluation also identifies potential for improvements in the following areas:

- VINNOVA could be more proactive in identifying and cross-fertilising best practices, and communicating such insights to the project leaders.
- Public involvement should be extended far beyond mere financial support. VINNOVA can enlarge the agency's responsibility in identifying good practices regarding integration of local or regional government and other public bodies on project level.
- A more clearly articulated research strategy as part of each regional project should be made "compulsory". An explicit demand for such an element will not only benefit each single

project strategically, but may also turn out to be very valuable input in the national debate about policies for R&D and higher education.

Going further in detail regarding the key research questions of this study we conclude:

a. Current balance in policies

Overall, Sweden's innovation policy mix has evolved towards more horizontal policy-making, integrating parts of research and industrial policy into a coherent innovation policy. The development of new instruments such as VINNVÄXT in 2001 was to a large extent based on solutions launched in the early 1990s, which first witnessed the introduction of programmes characterised by collaboration, co-funding, and a generally strong emphasis on decentralisation coupled with accountability and a departure from the sectoral principle that dominated Swedish R&D funding until the late 1980s.

b. Arguments to justify policies

VINNVÄXT seeks to develop world class clusters, support regional innovation systems to make them internationally competitive and sustainable over the long term. Thus, the global objective is the sustainable competitiveness of innovative Swedish regions.

c. How can impact of each type of policy be judged

The international evaluation team concluded in its 2007 review of the programme (VINNOVA 2007) "that the VINNVÄXT programme stands out as a world class national programme" and VINNVÄXT is clearly the dominant broad-based innovation policy measure aimed at the creation of regional innovation systems in Sweden.

d. Has the balance shifted over time?

See point a.

e. Arguments to support the shift

The arguments that are put forward are that Sweden needs to build competitiveness based on high value added and high knowledge content in products and services. In relation to this research, development and innovation are central parts of the Swedish innovation policy.

f. Balance top performers

According to the OECD the VINNVÄXT programme has successfully combined an explicit focus on exploiting specific regional comparative advantages, by going beyond high-technology industries to encompass a variety of regional assets and a cross-sectoral perspective, which encourages cross-fertilisation among activities.

This programme has its counterparts in Germany (Innoregio) and Finland (Tekes Technology Programmes). It also served as an inspiration by the Scottish Innovation System. Our general observation is that the regional innovation cluster programmes mostly make a part of the policy mix in the leading innovation countries with well established governance tradition and experience in implementing the integrated policy measures at the national level.

2.7.8 References

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3 Transport case studies

3.1 Sweden: Road safety policy

3.1.1 Positioning of the case

This case study is about the road safety policy in Sweden. The case has a specific objective in the transport policy domain, but at the same time also stimulated innovation. The delivery is mainly using transport policy instruments.

The policy is designed and implemented at the national level. This results in the following scores:

A. Sectoral/Integrated

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery	√		

process/instruments

B. Centralised/decentralised

	National level	Regional level	Local level
Conceive	√		
Manage	√		
Deliver	√		

The case is thus an example of a fully sectoral, central policy.

3.1.2 Transport System Performance and policy mix in Sweden

The quality of the Swedish transport infrastructure is amongst the world's best. Overall Sweden is ranked 10th out of 133, table 3.1 provides an overview.

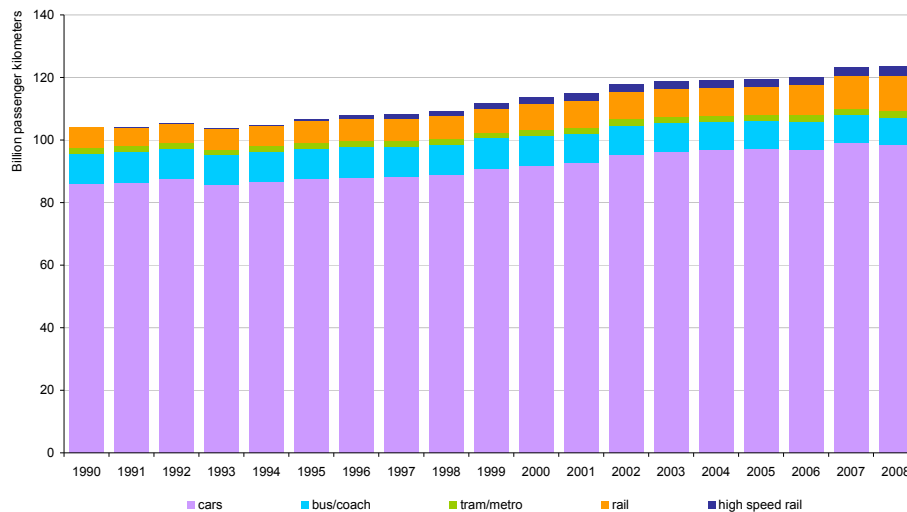
Table 3.1 Ranking of the quality of the infrastructure in Sweden

Sweden	Ranking in group of 133 countries
Quality of overall infrastructure	10
Quality of roads	19
Quality of railroad infrastructure	13
Quality of port infrastructure	11
Quality of air transport infrastructure	18
Available seat kilometres	42

Source: The Global Competitiveness Report 2009-2010, page 291

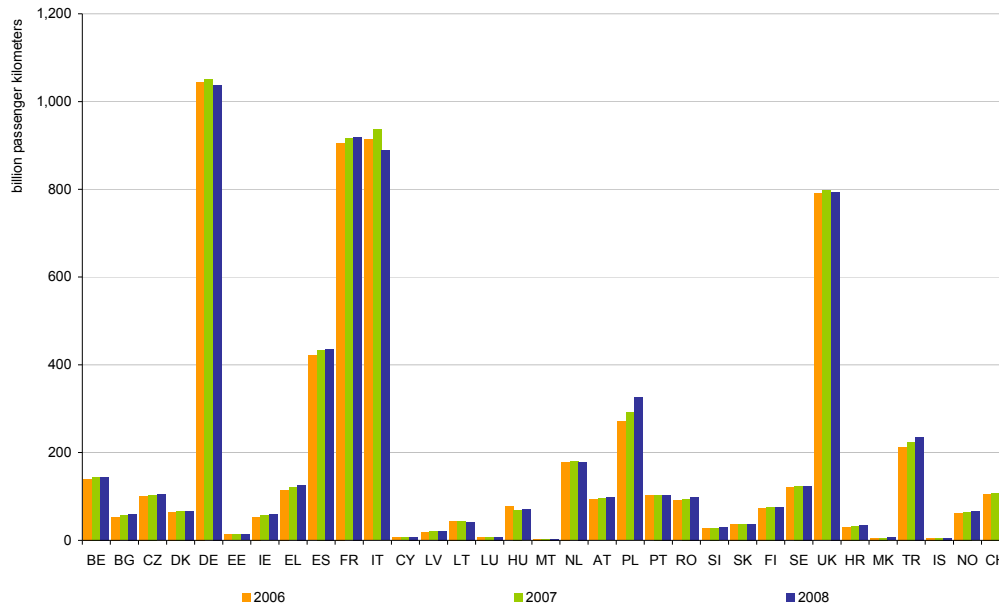
The modal split for Sweden clearly shows that cars are the dominant mode of transport, with bus and coach in second position. The number of passenger kilometres travelled on trains has increased since the late 1990s, see figure 3.1.

Figure 3.1 Development of passenger kilometres in Sweden per mode



Source: EU energy and transport in figures, Statistical Pocketbook 2009

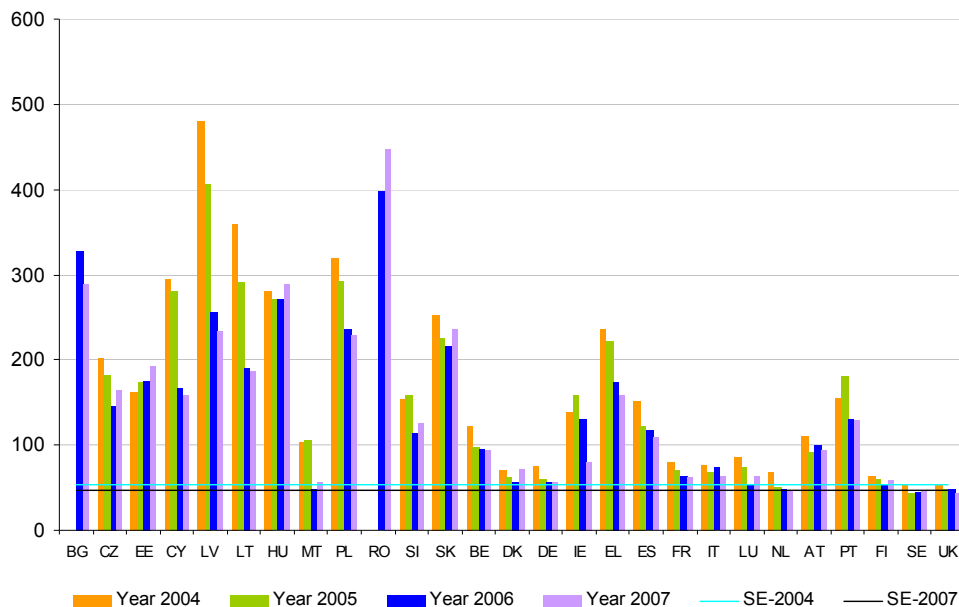
Figure 3.2 Development of total passenger kilometres in EU and neighbouring countries for 2006-2008



Source: EU energy and transport in figures, Statistical Pocketbook 2009

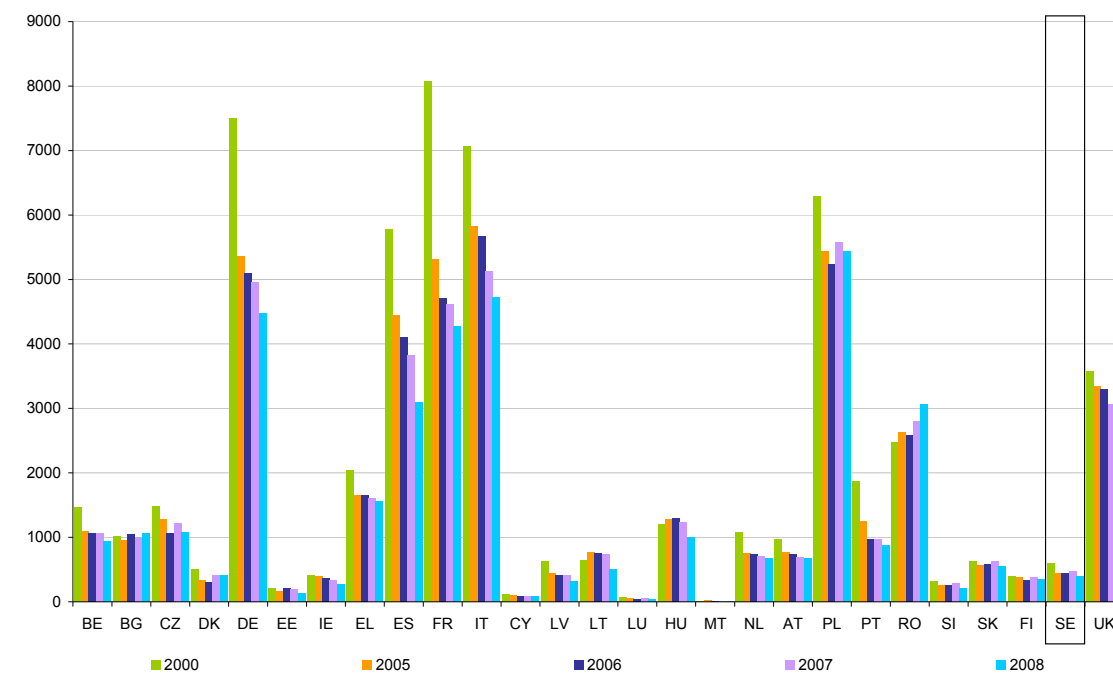
With respect to safety on Sweden's roads, figure 3.3 shows that in comparison with other EU27 Member States, it has one of the lowest rates of fatalities per billion passenger-kilometres. In 2007 only the UK performed slightly better. In figure 3.4 it is shown that Sweden also has one of the lowest absolute numbers of fatalities.

Figure 3.3 Road fatalities per billion passenger kilometres



Source: EU energy and transport in figures, Statistical Pocketbook 2009

Figure 3.4 Absolute number of fatalities in European countries in 2000 and 2005-08



Source: CARE database

Swedish transport policy in general

The transport policy proposed in March 2009³⁷ aims to “ensure the economically efficient and sustainable provision of transport services for people and businesses throughout the country.” In practice this means that the Swedish government aims to have a sustainable transport system, providing connectivity in and between regions, as well as connectivity to other part of the world. Travel should be reliable, safe, secure and accessible for all.

The Swedish Transport Administration and Swedish Transport Agency are placed at arm’s length of the Ministry of Enterprise, Energy and Communications. The Ministry has the overall responsibility to set the objectives for the transport sector. Given the model of delegating responsibilities to authorities, the involvement of the Ministry is at a strategic level.

One of the means of achieving these objectives is an integrated planning framework in which all layers of government are responsible for planning at their level. At the national level, the Swedish Transport Administration (established in 2010) is responsible for long-term planning of the transport system as a whole, as well as the implementation of this planning (building, operation and maintenance). The Swedish Transport Agency is responsible for more practical issues, such as the registration of vehicle ownership and driving licenses.

³⁷ Bill 2008/09: 93, titled “Targets for future travel and transport” was proposed in March 2009 and approved in June 2009.

The Swedish Road Administration is one of the authorities now absorbed in the new Swedish Transport Administration. SRA used to carry the responsibility for the entire road system. Its duty description shows that safety is and was a cornerstone of Swedish transport policy:

- to create a safe, environmentally sound and gender-equal road transport system that contributes to regional development and offers individuals and the business community easy accessibility and high transport quality.

The role of the regional government (county) is rather limited; counties shares responsibility for public transport with local governments. Regional roads also fall under the responsibility of the county. Except for police enforcement and other ‘police services,’ emergency services are a responsibility of local government. Local roads are taken care of by the local governments.

3.1.3 Case Description: Road Safety Policy in Sweden

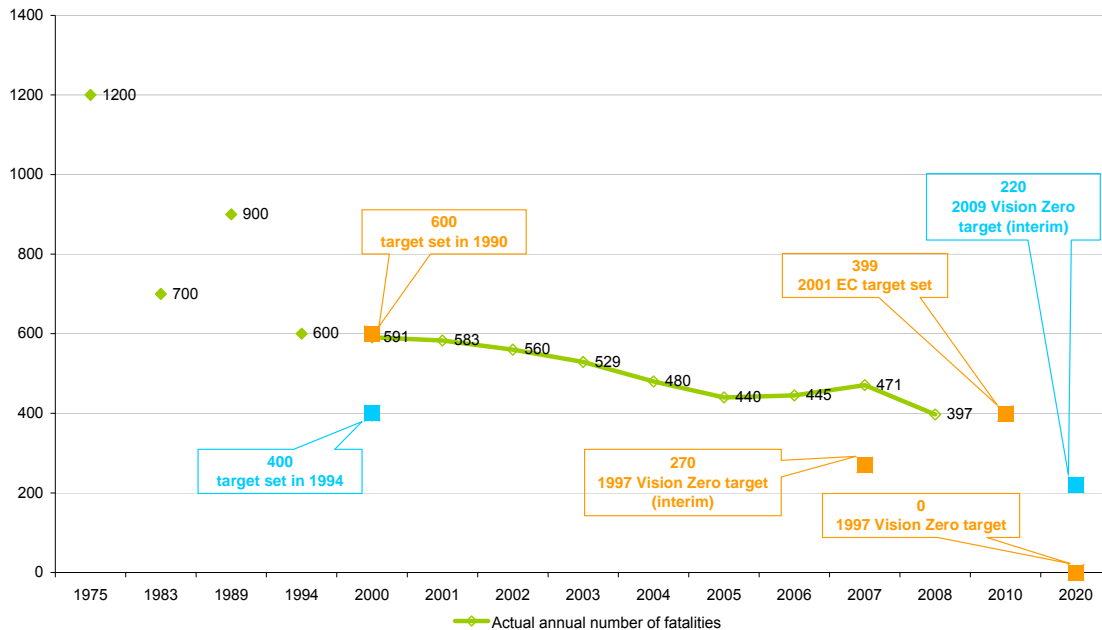
Vision Zero is the central paradigm of the Swedish road safety policy, which is a strong sector-oriented policy, in which the national government has the leading role. However, the role of lower governments should not be underestimated, as they are involved ‘on the ground.’ Vision Zero states: “*the design, function and use of the transport system will be adapted to eliminate fatal and serious accidents.*” The logic behind Vision Zero is the principle that people, by nature, will make mistakes. However, such mistakes should not lead to fatal accidents or serious injuries. In the following subsections, the Swedish road safety policy will be elaborated in more detail.

Road safety policy in Sweden

Sweden has a long tradition of policies and measures aimed at improving traffic safety, with the introduction of the ‘first’ measures in the 1970s. The combination of these efforts resulted in a decline to some 700 actual fatalities in 1983. However, the trend subsequently reversed and at the end of the 1980s Sweden suffered from 900 fatalities in road transport.

In response to this development, the National Traffic Safety Programme was introduced in 1990 with a goal of less than 600 actual fatalities in 2000. As this was already achieved in 1994, a revised target was set at 400 fatalities for 2000. Figure 3.5 below provides a graphical representation of the targets and the actual situation, with reference to sections further explaining the targets mentioned in the figure.

Figure 3.5 Absolute number of fatalities in road transport in Sweden: actual and targeted



Source: SUNflower report by SWOV, TRL and VTI (2002), Road Safety Policy of the Swedish Police (2007), EC White Paper (2001), CARE database (2010)

Introducing Vision Zero

The introduction of Vision Zero in 1997 was politically driven by the Minister for Communications³⁸, Mrs Ines Uusmann; she presented two main reasons:

- After years of continuously reducing number of fatalities and seriously injured, the trend had evened out; politically not acceptable and thus justifying action;
- The Swedish policy for occupational health and safety already aimed to achieve zero fatalities and serious injuries. It was argued this should also apply to transport. As an example politicians used the construction of the Oresund connection between Sweden and Denmark when no fatality or serious injury occurred.

The mindset resulting in Vision Zero was influenced by the accident with the MV Estonia in 1994: this ferry between Tallinn and Stockholm sank and 852 lives were lost in the accident. The accident created a momentum to introduce a new policy for transport safety, with the associated investments.

The introduction of Vision Zero also met resistance. It was argued for example that zero fatalities or serious injuries could only be achieved by (mainly) keeping the most vulnerable persons out of the transport system as a whole. Moreover, economists and others opposed the vision as it would lead to the government making decisions that lead to inefficiency: the costs associated with certain measures would not outweigh the benefits of these measures. Basically, aiming at zero fatalities without a clearly defined structure and framework, would justify any measure without weighing

³⁸ In Sweden the Minister for Communications is amongst others responsible for transport and telecommunication.

costs against benefits. Finally, opponents of Vision Zero indicated that the target of zero fatalities was a purely political target and not very realistic.

Involvement of Stakeholders

The introduction of Vision Zero was driven by the Minister of Communications. The Road Safety Office, which already existed before the introduction of Vision Zero, was merged into the Swedish National Road Administration (SRA). The SRA presented the National Traffic Safety Programme (1995-2000), aimed at reducing fatalities to 400 and contained 10 sub-targets for traffic behaviour. The NTSP was abandoned with the introduction of Vision Zero. The SRA, however, remained a major player in realising Vision Zero.

European Targets for Road Safety

In 2001 the EC published its White Paper “European Transport Policy for 2010: Time to Decide” which includes amongst others a call for more safety on Europe’s road. This target was re-affirmed in the 2006 Mid-term Review of the White Paper, in which the multi-level aspect was also re-affirmed. The White Paper itself states:

- The European Union must, over the next 10 years, pursue the ambitious goal of reducing the number of deaths on the road by half; this by way of integrated action taking account of human and technical factors and designed to make the trans-European road network a safer network.

Sweden has committed to achieving a 50% reduction too, implying a target of 399 fatalities. In 2009 this target was achieved with 397 fatalities. Of course, the future will show whether this accomplishment will be sustainable.

Implementing Vision Zero

Vision Zero is based on the idea that *in every situation a person might fail, the system should not* or, more popularly, “mistakes should not be punished by death.” Prevention of accidents and incidents is thus a shared responsibility between road users and those designing the system. The system should be designed around the limitations of the user. The impact of accidents should therefore be within the limits of what the human body can handle.

In terms of measures, Sweden can be compared with a number of other European countries to assess whether possible differences explain the good performance of the country. Speeding and drunk driving are frequent causes of accidents and thus a priority to be dealt with. Firstly, figure 3.7 and figure 3.8 show the legally allowed speeds in and outside built-up areas. As it turns out, allowed speeds in Sweden are in the lower brackets compared to the other countries in the same graph. However, the allowed speeds are not exceptionally low.

Apart from the above, a variety of other measures have been used to improve road safety:

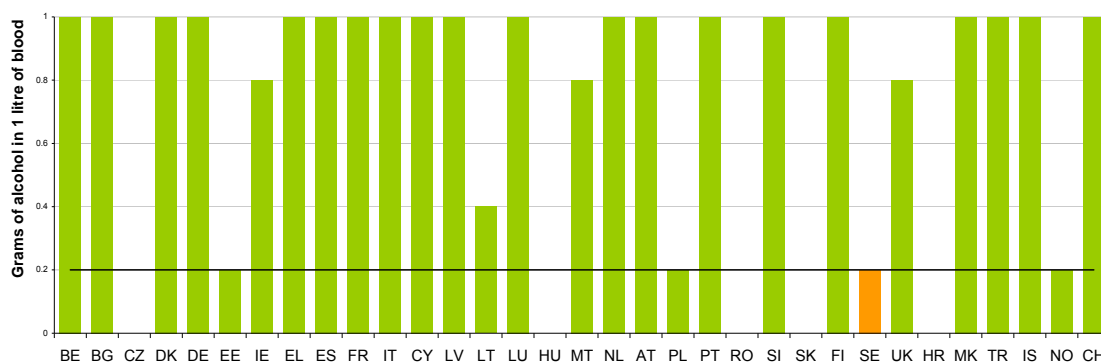
- Equipping cars with safety devices, e.g. seat belt reminders and ‘alcohol locks’ – which, in cases, have been developed in cooperation with Swedish manufacturers;
- Low cost infrastructure improvements on urban and minor rural roads, such as centre guard rail to prevent head-on collisions or roundabouts instead of junctions with traffic lights;
- Strict enforcement, e.g. random alcohol breath testing or speeding control;
- Roads have been made ‘self explaining’ to prevent people from making errors;

- Prevention by education, e.g. by pre-license driver training and general road safety education;
- Transport service providers also had a part in improving safety. In public contracts allowing them to provide such services they were asked to adhere to certain safety criteria.

Preventing Drunk Driving

The range of measures together has probably been most effective in improving safety. In combination with awareness campaigns and strict enforcement a strict blood alcohol limit is more likely to be effective. Figure 3.6 shows for example that Sweden is one of the countries with the lowest limits in Europe; together with Poland for example 0.2% is allowed. However, Poland's safety record is poor compared to Sweden as can be seen in figure 3.3.

Figure 3.6 Maximum blood alcohol limit



Source: EU energy and transport in figures, Statistical Pocketbook 2009

Preventing Speeding

Speed limits in Sweden have been adjusted a number of times and are currently amongst the lowest in Europe, as shown in figure 3.7 and figure 3.8. However, this is not necessarily a guarantee for success either. The allowed maximum speeds outside built-up areas in Sweden are the same in Lithuania and Malta and inside built-up areas, e.g. Belgium has the same limits. Provided for two considerations, namely that allowed speeds and actual speeds may differ and that the situations in which these limits apply could be different, the conclusion is again that individual measures are probably not the explanation for the good performance of Sweden.

Figure 3.7 Range of allowed maximum speeds outside built-up areas

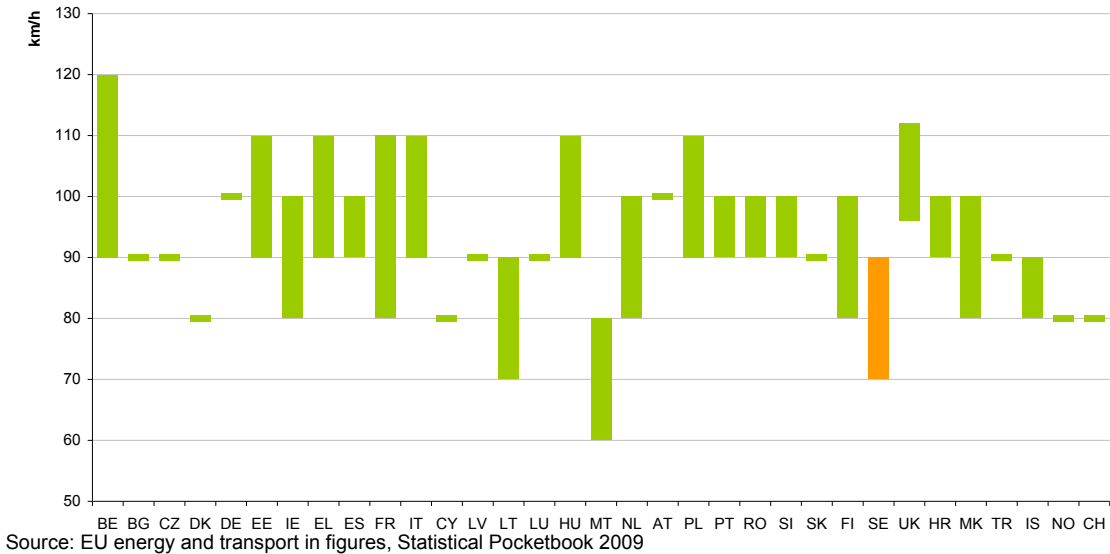
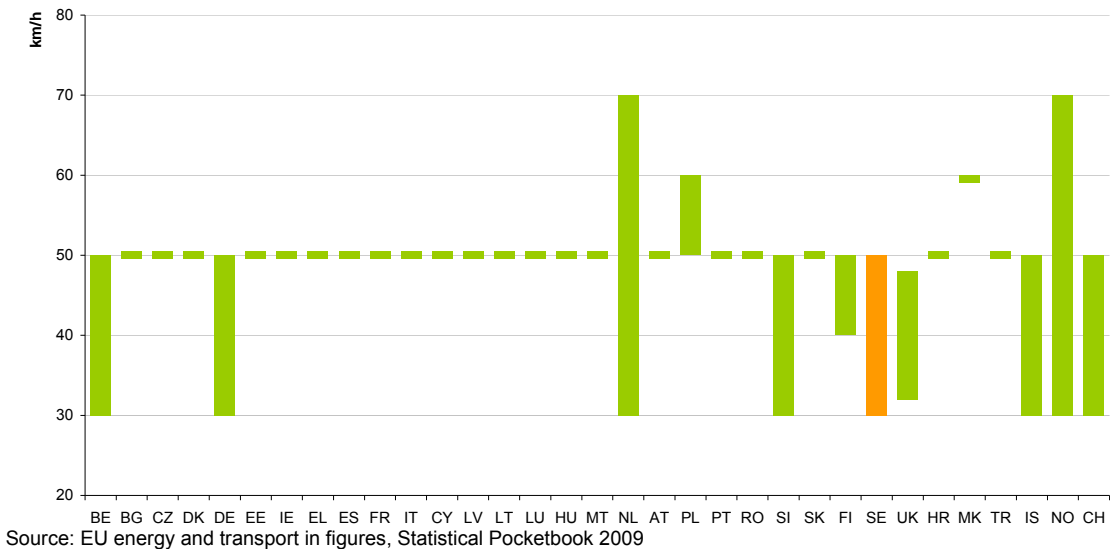


Figure 3.8 Range of allowed maximum speeds in built-up areas



Enforcement

Although no data is available, enforcement is an important factor in preventing people from creating hazardous situations. As mentioned earlier, enforcement measures have been introduced to monitor and fine speeding and drunk driving, two main causes of accidents. In Sweden the approach is to ensure a high probability of getting caught and imposing heavy fines on those getting caught.

Research & Investigation

Road safety research has a long history in Sweden, enabling the Swedish government to develop appropriate measures to increase safety. Research related to infrastructural measures, but also

vehicle safety. Swedish are reputed as safe. Investigation³⁹ of accidents, however, was crucial to Vision Zero. By investigating accidents it is possible to establish which element(s) of the road transport system failed and what possible remedies are. Without such activities it would be extremely difficult to achieve zero road fatalities.

In Conclusion

Road safety in Sweden is a sector-oriented policy, strongly driven by the national government. The policy is expressed in Vision Zero, the objective of having no fatalities or serious injuries in road transport in Sweden. Vision Zero is, in fact, a revolutionary and ambitious approach. The user is considered the limiting factor around which the system should be designed in order to minimise the impact of mistakes that the users will inevitably make. Support for Vision Zero was widespread, though not unanimous. Political leadership was one of the crucial factors for the implementation of Vision Zero, as is the cooperation between stakeholders involved.

The case of road safety in Sweden yields a number of lessons for other countries looking to improve safety at its roads. A crucial notion is the fact that no single measure will make roads as safe as Sweden's. Implementing both soft and hard measures are needed, either one will not be sufficient. Nonetheless, individual measures can contribute significantly in improving safety. Moreover, Sweden shows that cooperation between stakeholders, such as engineers, the police and the Road Administration, as well as between various levels of government is contributing to its success. The revision of Vision Zero has resulted in stronger partnerships between the various levels of government.

Moreover, having an ambitious goal has probably provided an impetus to efforts to increase road safety. What this case also clearly shows is that the Swedish road safety policy is holistic, yet sector-oriented. In order to improve road safety, the Swedes are looking at the system as a whole, as well as the process from accident to (eventually) prevention as a whole. So, research and investigation are considered of great importance to find and implement new measures.

3.1.4 Impact of the Swedish Road Safety Policy

Figure 3.5 showed that, although the number of fatalities has come down by almost 200 since the year 2000, the initial interim target for 2007 of 270 fatalities has not been achieved. From that perspective the road safety policy has thus failed to reach its target. Nevertheless, the road safety performance of Sweden can only be judged to be very good. It is therefore not surprising that the original Vision Zero has been revised to further improve road safety, while maintaining the ambition. In this section the impact of the original Vision Zero is elaborated, as well as the revision of Vision Zero into one claimed to be better achievable.

Although the success of individual measures can not be easily assessed, estimates do exist. A comparison between the fatalities in the year 1980 and 2000 shows the following⁴⁰. The number of

³⁹ Investigation relates to the process of understanding what happened in a particular accident, whereas research is more general in nature.

⁴⁰ Source: Swedish National Road and Transport Research Institute, VTI.

lives saved between 1980 and 2000 amounts to 426. The comparison suggests that 46% to 54% of the estimated savings in fatalities resulted from priority area policies like seat belt wearing, drunken driving and improved car safety. A substantial part (29% to 38%) of the reduction in fatalities is to be attributed to other measures for vulnerable road users.

Revising Vision Zero

After an independent review in 2006, Vision Zero was officially revised in 2008. In this review the target of 270 fatalities in 2007 was said to lack a firm foundation. The revised Vision Zero now aims at 220 fatalities in 2020, a target supported by research. No explicit specification of when the ultimate goal of zero fatalities has to be achieved. Refer back to figure 3.5 for a graph depicting the development of the number of fatalities.

The revision brought about a number of changes. First of all, with the use of more interim targets, as well as sub targets for road safety, management by objectives is now the paradigm. Management by objectives should bring contribute to a more structured approach to “provide sufficient guidance to stakeholders in activity planning.” The idea behind revising Vision Zero in this way is that to further decrease the number of fatalities, contributions of all stakeholders are needed and that there should be a clear link between measures and targets. As such, sub-targets for specific elements of the system are re-introduced. Actions will be prioritised to ensure that frequent failures in the system are dealt with first. This, of course, should result in significant and further reductions of the number of fatalities at relative ease.

A number of new measures have been proposed in the revision. Institutional strengthening stands out clearly: clear responsibilities should be attributed to each stakeholder, more engagement of parliament and arrangements between levels of government and different government organisations. Moreover, annual result conferences will be organised to disseminate successes, enable prioritisation and build support for measures. Other measures include:

- Regular performance review of involved sectors/stakeholders (health sector, judiciary, education);
- Better use of resources by allocating budget to the right organisations and involvement of the insurance industry;
- Link research and development better to the management by objectives approach in the sense that priority areas also require sufficient R&D attention.

In 2009 the transport sector has witnessed a general institutional restructuring. The Swedish Transport Administration⁴¹ and the Swedish Transport Agency are the major players for improving road safety. The Administration carries responsibility when it comes to designing the system, primarily concerning the infrastructural side. Investigation of accidents is an important task of the Administration to increase safety as it provides indication of possible failures of the system. The Agency needs to ensure that vehicles and their drives are able to safely participate in the system.

⁴¹ This organisation is responsible for the implementation of all transport policy as developed by the Ministry, except where it concerns aviation and maritime transport.

In Conclusion

With the initial Vision Zero not reaching the goal set, a review and subsequent revision has recently taken place. The revised Vision Zero addresses the shortcomings of the ‘previous’ Vision Zero, by including a gradual path towards achieving the ultimate goal. Moreover, sub targets and prioritisation of system failures are important elements in its realisation. In this way the criticism that Vision Zero would justify ‘any’ measure is taken up.

3.1.5 Comparison with Cases in Other EU-Member States

Whether the Swedish approach to road safety is successful can best be assessed by comparing it to other cases. Countries with similar performance include the other Nordic countries, the Netherlands, the United Kingdom and Germany (see figure 3.3). In this section we will consider the countries mentioned in table 3.2.

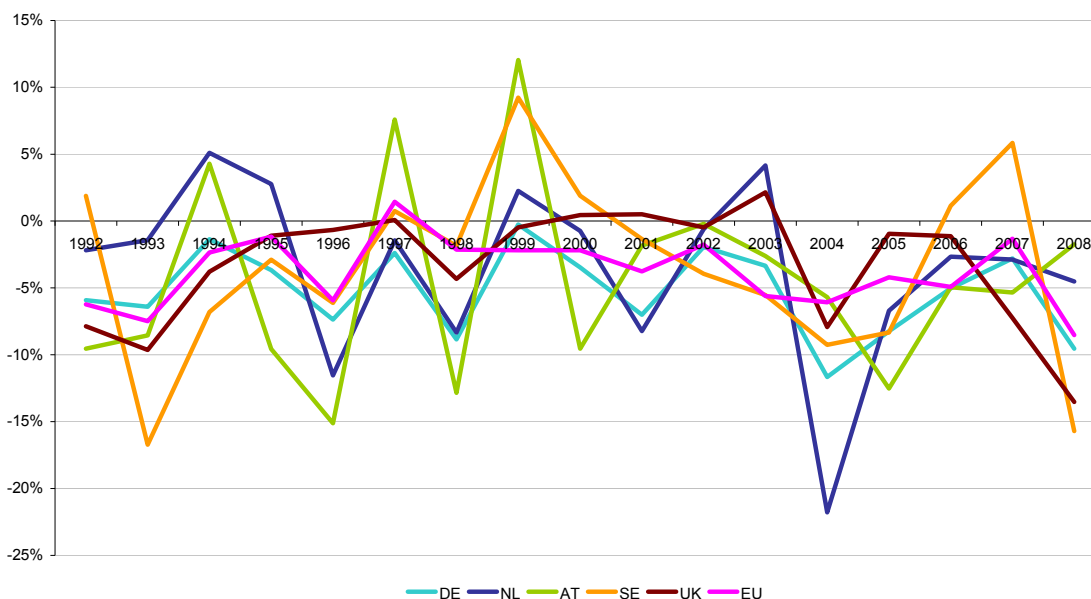
Table 3.2 Road fatalities per 10 billion km in selected countries

	Sweden		Malta		Germany		Netherlands		United Kingdom	
2004	54		111		76		69		54	
2005	44	-19%	92	-17%	60	-21%	50	-28%	49	-9%
2006	45	2%	100	9%	57	-5%	48	-4%	48	-2%
2007	46	2%	94	-6%	56	-2%	47	-2%	44	-8%

Source: EU energy and transport in figures, Statistical Pocketbook 2009

Figure 3.9 shows absolute road safety indicators for these countries. Apart from Germany each country shows decreases and increases in the absolute number of fatalities in some years. The overall trend is downward, meaning an increase in road safety.

Figure 3.9 Change in absolute number of fatalities in selected countries and EU



Source: CARE database

The Netherlands

In The Netherlands a similar approach as in Sweden is in place. Under the banner of *Sustainable Safety*, the Dutch government aims at permanently reducing the number of fatalities and serious injuries. The Sustainable Safety approach is the result of a prolonged effort to decrease fatalities from the 1970s onwards. Since then, policy focused on achieving substantial reductions (e.g. fatalities -50% between 1986 and 2010). To achieve these goals a policy of priority areas was pursued, such as drunk driving, speeding and addressing black spots.

In the early 1990s it was realised that maintaining the priority area policy would not result in the desired reduction. As a result the Sustainable Safety approach was introduced. This approach aims at reducing the probability of an accident taking place, primarily by improving the design of the roads. As is the case in Sweden, the limitations of what a human body can take is the starting point for designing the road transport system. The use of several tools is promoted to contribute to the reduction of the probability of an accident taking place.

The national government is very active when it comes to influencing traffic behaviour and improving the design of national roads. Moreover, it issues standards and guidelines for infrastructure under management of lower governments. Finally, it is involved in efforts aimed at vehicles, although European Union institutions and other national governments are also involved in this. However, in the case of ‘blind spot mirrors’ The Netherlands has taken the first steps, with an EU-wide requirement coming into force in 2011.

Like in Sweden, The Netherlands made significant progress in reducing fatalities in recent years. However, the reduction has decreased from 28% to 2%. The question thus is how much further the number of fatalities can be reduced.

Austria

In 2002 the *Austrian Road Safety Programme* came into effect. This Programme aims at reducing the number of fatalities by 50% in 2010; injuries should be down by 20%⁴². Actions are taken in four areas, namely human behaviour, infrastructure, vehicles, and transport policy and legal framework. Concrete measures include safety awareness campaigns, improvements of black spots and improved enforcement. As is the case in other countries, the national government is leading the efforts to improve road safety.

Table 3.2 shows that results are mixed in Austria. In 2005 there was a decrease vis-à-vis the year before, but in 2006 the rate had increased, followed by a decrease again in 2007 and 2008. Whether or not the Austrian approach will remain successful is to be seen.

One possible explanation of the performance of Austria compared with the other cases frequently used is the physical geography of the country. It is argued that driving in mountain regions is more dangerous than driving in fairly flat areas, because of the effect of such regions on infrastructure, e.g. the infamous hairpin bends. Another argument offered is the high number of tourists in such regions; they are unfamiliar with the local circumstances. Whether or not this latter argument is

⁴² When compared to the average numbers for the period of 1998-2000.

valid, is questionable as coastal regions with similar popularity would then show a comparable performance. However, answering this particular question extends beyond the scope of this study.

Germany

Germany has a similar performance as Sweden in terms of fatalities per billion passenger kilometres. Germany does not have an explicit Vision Zero. The Federal Ministry of Transport released its Programme for increased road safety in 2001. This increase, however, is not quantified as such. It is a policy with priority areas for safety improvements, such as traffic behaviour, freight transport, etc. Most of the proposed measures are ‘frameworks’ and ‘guidelines.’ This is the case for the legal framework, e.g. the blood alcohol limit and conditions under which infrastructural measures can be implemented. The Federal Ministry promotes a ‘management by objectives’ approach. The Minister will biannually discuss the issue with Parliament and establish actions and goals accordingly.

The figures and table in this section show that Germany has witnessed a continuous decrease of the number of fatalities. However, since the programme came into effect, the figures do not show real changes in the outcomes.

The federal structure of Germany, where *Länder* (states) have an important role to play in road transport determines the scope of action for the federal government. Measures at the disposal of the Federal government are relatively limited and cooperation between levels of government needs to be strong. It is for this reason that the federal government is mainly involved in creating a ‘level playing field’ across the country, awareness campaigns and research activities. At the national level, there is a coordination body where the federal government and states are represented.

Comparison

All of the countries discussed in this section have relatively safe road transport. Moreover, they have shown a decrease of fatalities over the last few years. In all cases, the national government is in the leading position to improve road safety, with federal Germany being somewhat of an exception. This leading role involves promoting and implementing a holistic approach to road safety: safe infrastructure alone does not suffice and other measures like education, enforcement and improving vehicles are also needed. The largest difference with Sweden is in the very ambitious goal in Sweden.

3.1.6 Conclusions

Type of policy

The detailed case of Sweden’s road safety policy, as well as the brief discussion of the other countries, shows that, as the policy concerns a nationwide problem, the concerned *national ministry needs to be the leading party* in improving road safety. In this respect it is clearly a sector-oriented policy, in which objectives of other policy domains are not prominent. As a sector policy, road safety strongly relies on measures taken within the transport sector: infrastructure and regulation. However, the role of e.g. education and enforcement is not to be underestimated.

A shift can be seen

The national ministry is also best able to *coordinate with other sectors and levels of government*. With the revision of Vision Zero in Sweden, the role of lower governments has been defined more clearly. The main argument raised was more effective spending of resources and better addressing of specific safety hazards. This is a development towards a less purely central policy. The national ministry also appears crucial for another aspect of leadership: it needs to set a goal; it needs to promote a consistently safer road transport system. Concerning the role of the national ministry, there is strong similarity between all cases.

Top performers

It thus appears that road safety policy in almost all (top performing) countries follows a predominantly central and sector-oriented approach. The role of regions may be increasing in terms of implementation, but this is than still done on basis of directions at national level. The effectiveness of the policy not so much depends on these characteristics, but rather on the mix of policies pursued and the vigour with which they are carried out.

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3.2 Slovenia: Road Corridor Development

3.2.1 Positioning of this case study

This case study is about the implementation (planning, financing, construction) of international motorways (road corridors) in Slovenia. The case combines objectives of transport domain and other policy domains, in particular regional development and public finance. The instruments used are mainly from the transport domain, and partly from public finance. The policy is designed and implemented wholly at the national level.

This results in the following scores:

A. Sectoral/Integrated

Objectives/targets

Delivery process/instruments	Objectives/targets		
	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Sectoral			
Other policy domains to be taken into consideration		√	
Other policy domains fully on board			

B. Centralised/decentralised

	National level	Regional level	Local level
Conceive	√		
Manage	√		
Deliver	√		

The case is thus an example of a central and partly integrated transport policy.

3.2.2 Transport system performance and policy mix in Slovenia

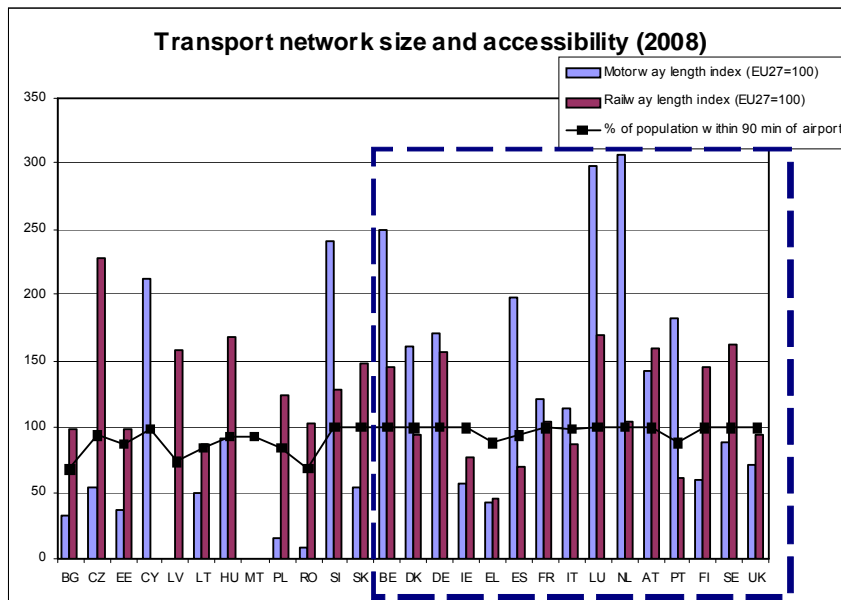
Transport System Performance

According to the data from the World Economic Forum, the quality of the infrastructure of Slovenia is among the highest of the new Member States⁴³. The quality score on road infrastructure is 4,9 (as compared to on average 3,8 for EU12), which is also higher than in Greece, Ireland and Italy, and only just behind UK and Spain (5,2 both). Rail infrastructure is significantly less developed, both in relative and absolute terms (at 3,5 compared to 3,8 on average for EU12), while passenger air infrastructure scores just above average for EU12.

The Slovenian transport sector is, as in all EU27 countries, strongly based on road and rail transport. In fact, the accessibility indexes (related to population and country size) for both modes are higher than the EU27 average, rating Slovenia at the fourth place in the EU27 in road and tenth in rail network accessibility (see Figure 1).

For both, passenger and freight transport, road is the dominant mode of transportation, even though other modes shares have been increasing. Among the new Member States, Slovenia stands the first in the share of road transport, both for passengers and freight. This is also reflected in terms of the motorisation rate where Slovenia figures are among the highest in the EU27 (and increasing). Thus the road network plays a very important part in Slovenian transportation.

Figure 1 Transport network size and accessibility in 2008

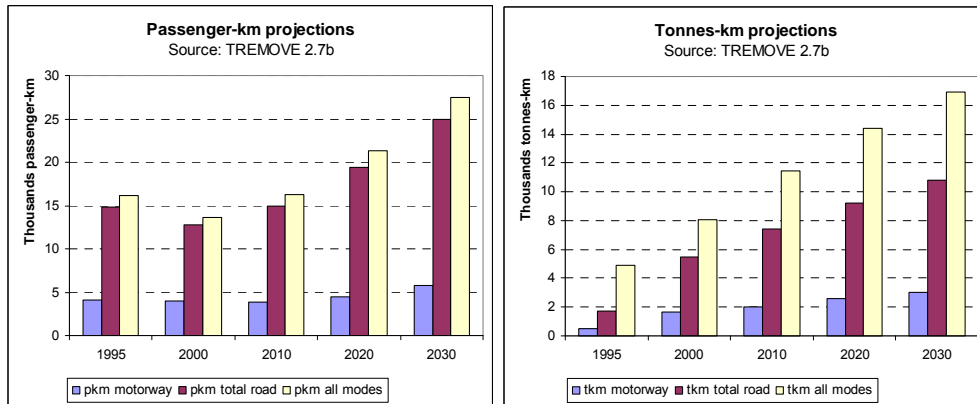


Sources: Eurostat, DG MOVE, EuroGeographics Association, JRC, EFGS, REGIO-GIS, Portugal: excluding Açores; France: excluding outermost regions

⁴³ See Chapter 4 of Miain Report.

Existing predictions by the TREMOVE⁴⁴ model show that this dominance of the road sector is expected to continue in future (Figure 2). The role of motorways is expected to further increase.

Figure 2 Projections for passenger and freight intensity for motorways, total road network and total transport network respectively (Source: TREMOVE 2.7b)

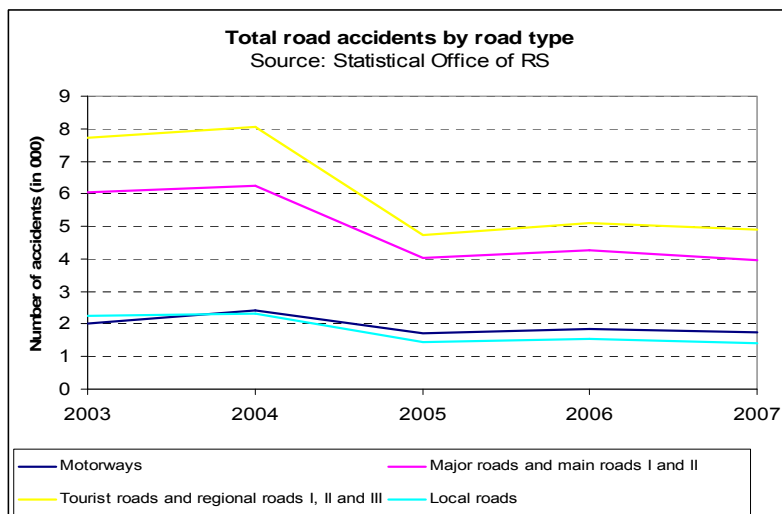


With respect to road safety, the number of road accidents in Slovenia has decreased in recent years in line with the country's safety strategy, with on average 31% since 2004. However, the accident rate is still among the highest in EU27. Most accidents happen in the capital region (*Ljubljana*) and the north-east regions (*Podravska* and *Savinjska*) followed by *Pomurska*, *Gorenska* and *Dolenjska*.

When classified per road type (as shown below), the tourist roads are the ones with the highest accident rate. However, they also show the strongest decrease, indicating the success of road safety measures. Motorways show low accident rates, which can be partly explained by the quality of the corridors and the safety measures taken into account during their construction (Figure 3).

⁴⁴ TREMOVE is a tool developed by the EC in order to predict the vehicle fleet, demand and emissions for all modes of transportation in Europe.

Figure 3 Safety rate in Slovenia



Finally, from the environmental scope, the largest share of transport emissions CO₂ emissions in Slovenia is related to road transport. Motorways take a large share of road transport emissions.

In short, transport in Slovenia is supported by a well developed road network, with high density motorways. The country has a high motorisation rate, which is expected to further increase within the next years as the main supported infrastructure is the road network. Adverse impacts of this road dominance are the related emissions and the safety situation, although the latter is improving.

3.2.3 Slovenia Transport Policy governance issues

General Objectives

Slovenian transport policy is one of the most representative examples of centralised policy making. The Resolution on the Transport Policy of the Republic of Slovenia (**RePPRS**) published in 2006 by the Ministry of Transport states multiple objectives of transport policy, which conform to the EU policies of sustainable transport⁴⁵, optimisation of different transport modes and safety, at national level. The following main policy objectives are defined [RePPRS]:

- Transport infrastructure for sustainable and harmonised regional development (reaching social optimum, optimum exploitation of available sources);
- Reliable, safe, price competitive and environmental friendly transport;
- Partial privatisation, for competitiveness (deregulation of transport subsystems) and regulation (fiscal measures) for services at stake in terms of public interest.

Specifically for passenger transport, the objective is to create a modal shift to public transport by introducing better quality of service and prices and information on alternative ways of

⁴⁵ TEN/412, Brussels, 17 March 2010, OPINION of the European Economic and Social Committee on the European transport policy in the framework of the post-2010 Lisbon Strategy and the Sustainable Development Strategy, European transport policy/ Lisbon strategy and sustainable development.

transportation. For freight transport, the RePPRS highlights the importance of rail transport and the prospective modal shift (redirecting freight from road transport).

Road Transport Policies

The **Roads Directorate** is, in general, in charge of road policy making. Its main purpose is the maintenance and upgrading of state roads, successful traffic control and optimal quality of service. In order to achieve these general goals, the following targets are set⁴⁶:

- Private financing orientation for faster road infrastructure development and more effective control of road users needs;
- National roads operational traffic management (CUP - PIS, Centre for Traffic Management and Traffic Information Centre);
- Expansion of the motorway network (in accordance with DARS);
- Road toll system in the Republic of Slovenia for both financial support to the motorway network and traffic flow control (electronic toll system);
- Monitoring and evaluation.

In addition, in RePPRS specific policies were developed regarding road safety (“Resolution on the road safety national programme 2007-2011 – together for a higher security” and the “Marginal plan for the insurance of road safety” in 2007). The transport policies and specifically the road policies defined by the Slovenian state denote the need of a **centralised** and **integrated** scheme: centralised as it is implemented on national (and not regional) level and integrated as it is applied explicitly (through policy targets) or implicitly (through its impacts) on other policy domains besides transport.

Financing

In motorways infrastructure financing in Slovenia two distinct periods can be identified⁴⁷. The first, implementing the kick off National Motorway Construction Program (**NMCP**), from 1994 to 2002 was mostly dependent on fuel tax revenues and loans from financial institutions (national and international). The second NMCP was again financed by the two main sources as defined in the first programme, supported by security bonds, hence allowing the private sector to participate in the motorway construction. The total estimated investment value for the whole period is € 4.4 billion, of which € 3.5 billion can be allocated to the second funding period.

3.2.4 Outline of the case

The Road Network and Planning Process

Slovenia has been constructing motorways since 1970. The first motorway, connecting *Vrhnika to Postojna*, was part of the modernisation scheme of the then reformist government⁴⁸. This trend was halted by the next conservative government and until the 1990s the motorway network expanded only by 198.4 kilometres of four and two-lane roads.

⁴⁶ Website URL: http://www.mzp.gov.si/en/areas_of_work/roads/

⁴⁷ Government Communication Office (October, 2003): “Motorway Construction in the Republic of Slovenia” and the EIB report for the “Transport Infrastructure Development for a Wider Europe” Seminar in Paris (November, 2003).

⁴⁸ There were two governing fractions in the period of late 1960s to the 1980s. The first represents the reformist fraction of the Slovenian Communist Party while the second is the conservative fraction.

The Slovenian network, in total some 39,000 kilometres, is mainly divided into state roads and municipal roads. The state roads managed by DARS are divided into motorways and expressways (avtocesta-AC and hitra cesta-HC)⁴⁹. The state roads represent main and regional roads. Finally, the remaining network encompasses local roads and public paths, owned by the municipalities. The table below shows the existing classification (measured in 2008). The current case study focuses on the motorway development as motorways have been the main recipients of investment budget.

Table 3 Length of Road Network (Source: Slovenian Roads Agency)

Road Network Length (measured in 2008)							
Road Category	Motorways	Expressways	Main roads	Regional roads	Local roads	Public paths	Total
Road Length in km	616	80	873	5085	13836	18384	38874

Slovenia has a strategic position in terms of transportation. It serves as a crossway between two main corridors. One, European transport corridor V linking southwest with southeast, and the other, corridor X, linking north with south. Corridor V includes the route *Trieste-Koper-Ljubljana-Budapest* with 346 kilometres in Slovenia and Corridor X the route *Villach-Tunnel Karavanke-Ljubljana-Zagreb-Thessalonica* with 177 kilometres in Slovenia.

The construction boom started after 1994 with the first NMCP which aimed at integrating the motorway network. In the first ten years of implementation (1994-2004) a total of 348 kilometres were constructed (DARS, 2005). In 2004 a second NMCP was enacted (2004-2013) with a planned further expansion of the existing motorway network (four and two-lane) by 443 kilometres, while constructing 130 kilometres of additional access roads connected to the main network, managed by DARS.

During 2008, around 159 kilometres were under construction, with 94 of them opened within the same year. In total, during both NMC programmes 791 kilometres of motorways are planned to be built.

Motorway Authorities – DARS and DRSC

Motorways in Slovenia are managed entirely by the State. The Slovenian government established a dedicated agent, **DARS** in 1993 to coordinate its construction/ rehabilitation. DARS has been a public enterprise in the form of a joint-stock company, merged since the 1st of January 2004 with the company for motorway (MW) maintenance. Its relation to the State is twofold: first, its tasks for construction/reconstruction/financial engineering have been specified under the NMCP (construction/ reconstruction/ financial engineering). Secondly for management and maintenance of the motorway network a specific concession agreement has been established with DARS.

When DARS was founded, Slovenia consigned to DARS 198.8 kilometres up-to-then built motorways (two and four lanes), plus 67.5 kilometres of expressways, which access the

⁴⁹ The AC motorways are specified with dual carriageways and a speed limit of 130 km/hour. On the other hand, the expressways are also dual carriageways but without emergency hard shoulders. Their speed limit is 100 km/ hour (Source: Wikipedia).

motorways. DARS acquired the right to collect motorway tolls for the management, construction and maintenance of the motorway network. Therefore, setting the collected tolls as revenues allowed DARS to finance itself independently from the State budget and ensure its income for prospective projects (e.g. road maintenance).

Creating a direct motorway agent proved to enhance the projects' efficiency in terms of decision making, management, bureaucratic issues etc. The accelerated performance is demonstrated by the fact that in the last 16 years the motorway network has expanded three times faster than before.

The second road agent, **DRSC**, is a body within the Ministry of Transport, responsible for professional-technical, developmental, organisational and administrative tasks related to the construction, maintenance and protection of main and regional roads as well as some expressways

Funding

The large-scale infrastructure project of motorways was supported by several funding mechanisms. As mentioned, the motorway construction has two financing periods: before and after 2003. From the national resources, in the first period, the most important funding source (48% of total fund) has been the "petrol tolar" and the road tolls. The petrol tolar was a special tax appropriated for motorway construction that expired in 2007, accounting for 20 % of the retail price of a liter of petrol. Motorway tolls are the second most important funding source, which is allocated more in the after-construction period, servicing debts and undertaking projects for road maintenance, road utilities etc. From the EU resources, the largest funding resources have been EIB, EBRD, the Cohesion Fund etc. EIB specifically financed various projects for the development and upgrading of Trans-European Transport Corridors (last loan was approved in 2006 and reached the amount of 300 million €). EBRD⁵⁰ also supported the highways financing in order to remove major bottlenecks in the west-east corridor. The Cohesion Fund⁵¹ has committed co-financing in 2006 to four priority (and one reserve) road projects for balanced regional development. Finally, TEN-T (Trans-European Network) co-financed feasibility studies, idea plans and preparation of technical documentation.

Looking at the funding situation, it is important to include the financial revenues that are directly generated by DARS according to its mandate. Of direct DARS revenues 82% comes from collected tolls (total revenues from this source increased by 14% from 2007 to 2008). Toll revenues come from the vignette⁵² system, assigned by the State. This system was established in 2008 and redefined in 2009 so as to be in accordance to the European Law, as it was unfair to non Slovenian users. DARS has demonstrated net profits which increased by 9 percent in 2008.

Financing the second NMCP has been more complicated, as the funding sources were not enough for the programme's implementation. In addition to that, the budget mainly came from the

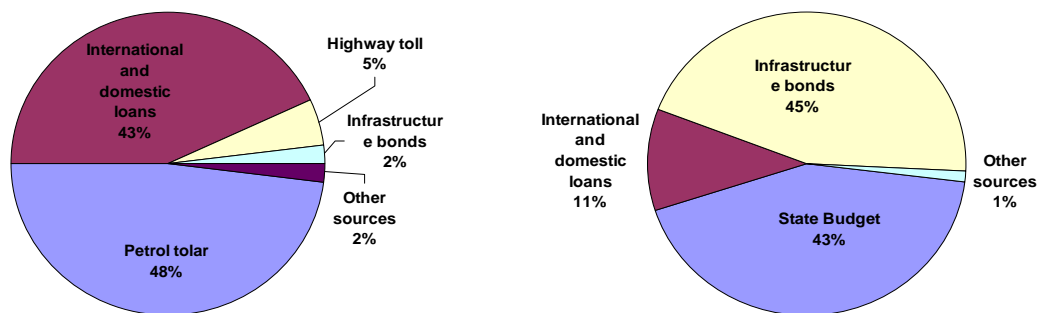
⁵⁰ Found in EBDR investments 1991-2009 for Slovenia (<http://www.ebrd.com/country/country/slovenia/cs.htm>)

⁵¹ Found in "Operational program of environmental and transport infrastructure development for the period 2007-2013" (Ljubljana, 2007)

⁵² Vignettes are defined for vehicles weighting less than 3.5 tonnes and vehicles over 3.5 tonnes. Toll fares depend, besides the vehicle type, on the time of travel during the day.

borrowings by DARS, for which Slovenia granted guarantees. In order to meet the requirements of the Stability and Growth Pact for its public debt (currently almost 10% of the GDP), Slovenia revised its strategy plan and reviewed all possibilities to transfer the largest possible share of it to the private sector (SlovExit, 2010). Therefore, the introduction of private parties has been considered, as an additional mean of financing. Private funding, e.g. in PPP or concession form, could accelerate the completion of the motorways. This has been facilitated by the law on PPPs, denoting that infrastructure projects worth more than 5.3 million € should be checked whether they could be financed on a PPP basis. Concessions have also been mentioned in the past but their use has failed due to high costs (of the procedure) and low benefits. Instead, long-term, stable, noninflationary infrastructure bonds were deployed, which were the 45.9% of the total budget. Bonds ensured the benevolent influence on domestic capital market, the involvement of domestic private capital, the liquidity for investors through secondary market and the disburdenment of the state budget (Krizanic, 2004).

Figure 4 Structure of motorway financing for the First and Second NMCPs



The table above demonstrates the structure of financing motorways for the first and the second NMCPs. The major differences are that in the first NMCP the international and domestic loans have a stronger presence than in the second. Also, the state budget differs from the first to the second stage. In the first stage it is mostly the petrol toll and a small percentage of tolls. In the second, it is mostly the tolls revenues. The loans are replaced by infrastructure bonds which were considered to be most appropriate in the second stage.

DRSC investment activities are financed in most occasions, by the state budget and the European Regional Development Fund. In addition, a small percentage of the projects is financed by the municipalities themselves and, finally, in some cases by DARS.

3.2.5 Case-study results and impact

Goals and objectives of motorways development

The motorway network was supported, relatively to the other modes, in order to maximise its economic impact. The sub-targets are defined as follows:

- facilitating economic development and increase competitiveness;
- providing an adequate and efficient road system (accessibility) within Slovenia, and between Slovenia and its neighbouring countries;
- improving road safety and diminish congestion;

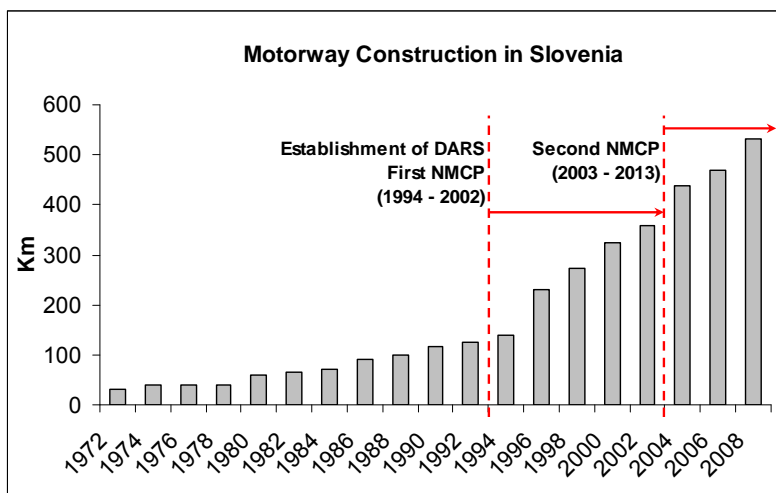
- minimising the negative environmental effects.

Not all objectives have been equally taken into account, as demonstrated later on the impact sections. The main goal has been the development of road corridors so as to facilitate economic development⁵³, increase competitiveness and improve safety. Accessibility has increased significantly and the constructed roads contributed directly to the expansion of the TEN-T network. It should be observed, that not all regions profited equally from this development and that spatial disparities intensified, as especially more remote area were not connected to the core network.

The strong focus on motorway development as opposed to more environmentally friendly modes of transport also has a downside with respect to environmental impacts, even though environmental norms and standards as stipulated in EC directives are respected (as shown in the environmental impact assessment). This has resulted in conflict caused by the Ministry of Environment and several NGOs, raising the question whether motorway developments is indeed the most environmental-friendly solution and whether the modal shift was adequately supported as the largest budget part was allocated to the road construction, putting aside other modes, such as rail.

In terms of project management, the goal of motorway construction was achieved entirely due to DARS. The organisation managed, financed by the Structural Funds of the EU, the petrol tolar and infrastructure bonds, to significantly extend the length of motorways. In addition, by allocating the collected tolls to its revenues, it established an additional amount to the future maintenance of the network. Also further research has been set on diminishing safety issues and congestion problems (to consequently improve road quality and boost competitiveness). As figure 1.5 demonstrates, from 1970 to 1994 a total of 198 kilometres of road network were built. After DARS establishment and the support of two NMC programmes, the network has almost tripled in only 14 years.

Figure 5 Motorway network growth (Source: DARS)



⁵³ The transport development is highly correlated to growth indexes (such as GDP and employment).

One can observe that, even though this cannot be only attributed to DARS (EU funding also became available), the appointment of this centralised agent as the only project/ budget administrator clearly accelerated the implementation of motorway construction.

Impact with respect to the modal split

Road and rail are supposed to connect the regions within the country and serve as intermodal points for the other modes (ports and airports). The modal split for inland freight in Slovenia is shared between two modes: road and rail, with road to dominate with more than 80% (measured in tonnes-kilometres), especially after its entrance to EU (before that, the increase was moderate). This was underpinned by the national strategic plan to increase road length, quality and capacities.

Until now, there has been limited attention to address public transport to benefit from the extended road network and mitigate the environmental burden, especially in the urban areas.

Impact with respect to the environment

The RePPRS report includes in its policy strategies the environmental-friendly orientation only for urban areas. The Ministry suggests that this strategy should be applied also to rural areas and that, generally, public awareness should grow. In general, Slovenia's target for reducing GHG emissions is 20%. Transport is responsible for about 26 % of it (doubled since 1987); with road to be the major polluting source (99.2% in 2007), and only rail to actually abate pollution (by 45%). ARSO (2009) report mentions that the pollution effect has grown due to international freight transit by 12%. The objections by the environmental bodies led to delays in the motorways' construction.

Impact with respect to the objective of regional development

Infrastructure projects, such as the motorway development in Slovenia, are expected to have effects not only in the region itself, but also on other regions connected by a transport network⁵⁴ (Hulten & Schwab, 1991). Slovenia, with such an upgrade in its road infrastructure, should show a stronger effect in terms of regional development, according to Rietveld & Nijkamp (1993). Nevertheless, it is very difficult to verify empirically the relation between the infrastructure and the regional development, as it depends on multiple factors, besides the road infrastructure such as geographical position or other infrastructures.

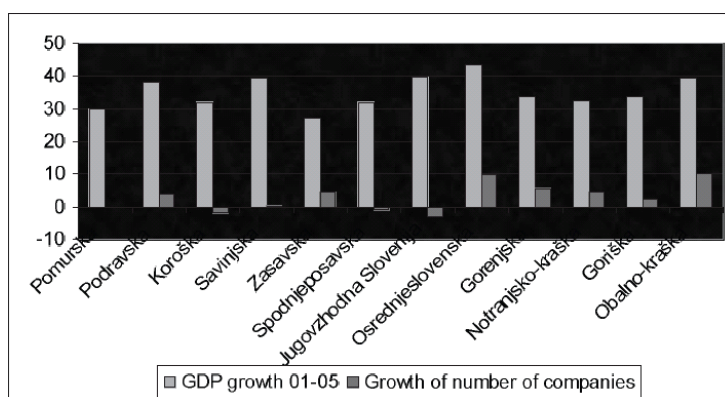
In their paper, Sternad et al. (2009) use two indicators: GDP and number of companies' growths including all transport infrastructures in their conclusions. In their results they end up in two major conclusions about regional development. The first is that the number of companies increased in most regions but mostly in *Ljubljana* and *Primoska*, which have also the largest motorway network (in kilometres). The second is that GDP (between 30%-40%) was higher, i.e. above 35%, for the regions of *Podraska*, *Savinjska*, *Ljubljana*, *Dolenjska*, and *Primoska*, which are located near to motorways ("priority areas"). The regions close to priority areas also demonstrate a strong growth in number of companies. Sternad et al. also highlight the effect of regional differentiation

⁵⁴ Considering the road network as a graph, the addition of a new node/ link has effects on the network as a whole, and not just the region where the infrastructure is built. It could create, as an example, shorter paths within the network. This creates the network externality effect. In this case, the construction of pan-European corridors facilitates the transport within several countries (Slovenia, in this case, is a transition node).

after the new motorways. The condition of regions already remote deteriorated due to their distance from major road links and due to the neglect of the State (most funds were invested into national projects).

Apparently, even though the regional development was promoted because of the motorway construction, the centralised approach by the Slovenian State led to disparities across the regions closer and away from the motorways.

Figure 6 GDP growth and the number of companies in statistical regions – Source: (Sternad et al., 2009)



Impact with respect to the objective of accessibility

Many economic activities, which are responsible to facilitate transfer demands, depend on transport infrastructures (Linneker & Spence, 1996). The case of Slovenia is even more interesting because it is a “transit” country. Due to its position and its small area, it could be easier to design motorway expansion, which aimed not only in the regional transactions but also the international ones. Additionally to the strictly road transitions we can include the port connection (*Koper*) to the Slovenian motorway, promoting the intermodal transport.

Impact with respect to the objective of road safety

Slovenia encountered high safety problems in the past. Even though the last years the fatalities number has decreased, the accidents and injuries number has nevertheless increased (Slovenija Road Safety Country Profile). Hence, the primary goal for policy making has been the minimisation of road accidents. Slovenia has applied multiple measures regarding safety: soft measures such as information/ education campaigns, and legislative measures, specially designed for young drivers due to their higher risk exposure. In accordance with the policy design, the effective implementation of measures, the upgrade of the vehicle fleet and the improvement of road standards led to overall improvement of traffic safety [SunFlower, 2005].

In terms of management, the road safety issues are treated by a specific body of Slovene Roads Agency (subsection of the Ministry of Transport): the Slovene Road Safety Council. The Council, founded in 1972, started as an independent body which was incorporated in 2007 to the Slovene Roads Agency. The body is mostly responsible for coordination and implementation of the national road safety programmes, information/ education and research and analysis of road data.

Impact with respect to the objective of congestion

In general, traffic is one of the principal marginal society costs⁵⁵ (negative externality). In Slovenia's case, since the main transport mode for passengers and goods has been the road, congestion has been one of the major triggers for road infrastructure development. Due to the country's geographical position, the road traffic volume has increased enormously in recent years. Motorways and expressways serve as a solution to existing congestion problems, offering additional capacity.

One of the main instruments for congestion handling has been the vignettes road user charging system. The vignettes were available only on half-year and year basis, which created a disproportional charge for the non frequent users (such as tourists from other European countries)⁵⁶. In 2008, the Commission threatened with legal proceedings as it considered the road charge system to be discriminating towards non Slovenian road users. The Slovenian government objected to the issue at stake by highlighting the benefits for the country (less congestion, less waiting at tolls and reduction of transit on local roads)⁵⁷ and the compliance to the EU directives, that the charging system should reflect the negative externalities (CO₂ emissions, congestion, safety etc.) and aim at modal shift.

The second directive, which is operationalised by using the toll revenues for other infrastructure modes, is not consistent to Slovenian policy, which denotes that the toll revenues are used for maintenance of the motorway network and debts quittance. Still, according to the transport authorities' statements, the road charges had a positive impact on congestion problems. Slovenia intends to introduce an electronic system for tolls by 2014.

3.2.6 Comparison with other related cases

The expansion of the road network has been the target of many European countries, such as Poland, Spain and Croatia.

Comparison to Poland

The case of Poland is relevant to Slovenia in the way that here there has also been a need for expanding the existing infrastructure in order to improve the social and economic development of the country. The Polish development program (*Narodowy Plan Rozwoju*) stated in its main policy priorities the improvement of existing infrastructure, intensification of the existing transport system and amelioration of accessibility, regional development and road safety (Krawczyk & Siwec, 2003). According to (MotorwaysPo, 2008) road transportation is one of the fundamental elements of national economy. In addition, Poland is also a transition country between Western Europe, Baltic States, Scandinavia, Ukraine and Central Asia.

⁵⁵ According to Lep and Mesarec (2007), the external costs of congestion measured in 2002 represented 0.53% of national GDP (123.5 million €). From these, more than 70% belongs to interurban transport. In addition, the costs are mainly divided into cars (75% of total) and heavy trucks (12% of the total).

⁵⁶ In 2009, the Slovenes introduced monthly and weekly vignettes.

⁵⁷ As taken from the statement of Junior Transport Minister Peter Verlič towards the road charges. The measure seems to compensate for negative network externalities, in the case that Slovenia is only a transit country.

Like Slovenia, Poland had a limited road network. Between 1946 and 1979 only 109 kilometres of motorways were built, adding 80 more in the 1980s and 156 in the 1990s. Additionally, due to the vastness of the country, implementation of such a large-scale infrastructure was more complex (in all levels of administration and construction). Financing the road network construction has been a major bottleneck for Poland. Consequently, financial planning has been defined through several schemes until now (Bak & Burniewicz, 2005).

Until 1993 only traditional solutions based on budget funds were used. The approval of the motorway construction in 1993 led to seeking new financing resources e.g. toll revenues⁵⁸ and developing a concession system, whose share until 2001 was minimal. Another financial resource was the National Motorway Fund which was responsible for applying for international loans (e.g. EIB) and managing several financial instruments, e.g. introduction of the vignette system. This Fund was replaced by the National Road Fund supplied by a fuel tax intended to finance motorways' infrastructure, like the petrol toll in Slovenia.

As mentioned above, the results of the concession system⁵⁹ were rather poor. Thus, it was transformed into PPPs setting up an increase of state funds involvement. There have been three concessionaires for the main motorway projects (A1, A2 and A4): AWSA⁶⁰, GDC and Stalexport⁶¹. The concessions were granted by ABiEA⁶², a body authorised by the Ministry of Transport. From the three concessions, the GTC was not realised. In 2002, in order to stimulate the motorway investment, the government reinforced ABiEA with the section of General Directorate of Public Roads, forming the General Directorate of National Roads and Motorways (GDDKiA⁶³). That is, basically, since then, the administering body for public roads.

Even though both systems, Slovenian and Polish have similar investment sources, their management styles are quite different. Both countries involved concessionaires as an additional financing source, with the difference lying in the context of concession. Poland has been including concessionaires⁶⁴ not just for funding, but also for constructing and operating the infrastructure (e.g. AWSA) until a specific time period. In contrast, concession bonds in Slovenia aimed only at financing, while construction/ operation and maintenance still remained the responsibility of DARS. Thus, the agents of the motorways are different, even though both countries have a specific setup body for motorways. In addition, foreign capital has stronger presence in Poland. That is partially explained through the territorial conditions (country's population, area). Also, the presence of European funds is more intense (EIB, Cohesion Fund, ERDF).

⁵⁸ The vignette system was unsuccessfully⁵⁸ attempted to replace toll motorways in 2003 also for passenger cars (since 2002 vignettes existed for freight transport).

⁵⁹ The concession system was a pure BOT consortium (built-operate-transfer) building and operating the motorways and transferring later to the public partner (Rolla, 2006).

⁶⁰ AWSA, founded in 1993, has been developing the largest part of the motorway expansion. It is a joint company from both national and international AGs. In total, investment stemming from national sources reaches 57.9%. The rest 42.1% was granted by foreign investors.

⁶¹ AWSA – Autostrada Wielkopolska S.A.

GTC – Gdansk Transport Company

⁶² ABiEA – Agency of Motorways Construction and Operation

⁶³ GDDKiA – General Directorate for National Roads and Highways (in Polish: *Generalna Dyrekcja Dróg Krajowych i Autostrad*)

⁶⁴ Problems occurring from the Polish road concessions have been the limited number of contractors, the legal barriers, the complicated procedures between the ministries and the bad experience with PPPs (Kielar, 2007).

What is common in both countries is their target to reinforce the road network instead of promoting alternative modes of transport. Like in Slovenia, there has been a strong criticism towards the national development plan and its scope to integrate the road network, leaving out more sustainable modes, such as the railways [ZM]. The criticism also lays on the facts that the social externalities effects (noise, pollution) were not taken into serious consideration.

Comparison to Croatia

One more comparable example to Slovenia is its neighbouring country Croatia, with which it shares some segments of the Pan-European corridors V and X. Croatia set the construction of the motorway network as a strategic prerequisite so as to achieve economic growth and connection to the European traffic network. The planning of construction has been so far successfully implemented, trying to reach the goal of 1501 kilometres of motorway network (until 2009, 1199 kilometres were already constructed).

Like Slovenia, Croatia has also one dedicated state-agent, Hrvatske Autoceste d.o.o. (HAC), founded in 2001, responsible for the construction and management of the public roads, with permission to grant the concession of rights for construction and management. The three concession companies working with HAC on the road network are ARZ⁶⁵ d.d., BINA_ISTRA d.d. (BI) and AZM d.d. HAC manages around 70% of the road network followed by ARZ and BI with 14% and 13% respectively (Privanic et al., 2006) Each company sets their own toll rates and strategic targets. Like Poland, in Croatia the concessionaires are the receivers of the road revenues they are in charge of [CroNatReport, 2008].

The main financing source during 2001 to 2004 consisted of loans supported by state guarantees and subsidies through fuel tax (Djukan et al., 2004). After that, the Government set the target to reduce governmental guarantees and promote concessions (with the three already mentioned companies). The Republic of Croatia infrastructures are also financed by international organisations (EIB, EBDR) so as to meet EU accession criteria. So far, EIB has loaned € 665 million only for road construction and rehabilitation (from 2000 to 2010) while € 400 millions more are under appraisal. Finally, there is opposition to the extension plans for motorways due to the low transport contribution to GDP (only 8% of GDP), the deceleration of intermodality, the crowding-out of expenditures on other road networks and the environmental effects (Green Action, 2005).

Comparison to Spain

Spain has also been a successful example of motorway construction. Like Slovenia, Spain designed a strategic plan for infrastructure and transport, Plan Estrategico de Infraestructuras y Transporte (**PEIT**) in 2005, similar to the Slovenian NMCPs. The Spanish governments have been prone to construct motorways since the 1940s in order to improve tourism and its economic state. Most times the funding was in concessionary form between private sources and the State combined with European funds. Compared to Slovenia, Spain included in very early stages private funding except from the period 1984 to 1996 where only European funds and public financing were used. The governing party was then the socialist one (*Partido Socialista Obrero Español* –

⁶⁵ ARZ – Autocesta Rijeka – Zagreb ; AZM – Autocesta Zagreb – Macelj ; BI – Bina-Istra

PSOE). After 1996, the government was returned to the conservatives (until 2004), when also the private funding returned. Overall, the combination of EU funds and private financing was used successfully for the motorway development.

One major difference between Slovenia and Spain is the “sovereignty” of the regional governments. Spain has regional and autonomous regions which participate lively in decision making and management of the regional projects, especially in the later years. Since 1975 the regional governments were involved in contracting PPPs, and by 2000 they were dominating the PPP market. Secondly, there has been involvement of the private funds from the very beginning of the motorway construction. Spain concessions were very effective, even when shifting from the national to the regional level.

On the contrary, Slovenia used private funds only as bonds in order to finance the actions of DARS. Finally, it should be noted that the targets of two countries were partly different. In the Spanish case motorways aimed at promoting tourism and economic growth while in Slovenian case, motorways were used to reduce congestion, improve traffic management and increase competition.

3.2.7 Conclusions

On motorway development in Slovenia

The road infrastructure in Slovenia is well developed, due to a well designed national strategic plan and successful means of implementation. One of the most impressive elements of the Slovenian motorway network is that the growth of this network happened only in the last 16 years. Slovenia focused on the development of the main road corridors, according to the TEN-project, in order to raise its financial benefits and resolve its traffic/ safety issues.

DARS, the established dedicated public agent founded in 1993, was responsible for all the processes involved in the motorway expansion: from construction and maintenance to financing. This allocation of a public company, independent from the Ministry of Transport, for infrastructure construction was the key to success of the motorway’s expansion. DARS, as the only responsible company, was able to take advantage of all the funding sources and invest them in infrastructure development. DARS was not only commissioned to the construct, but also to maintain the roads and manage the budget. Thus, any revenues from the network (toll revenues mainly) are allocated directly by DARS to the appropriate recipients.

For the first construction programme, DARS used mainly national and foreign loans and the petrol tolar, an additional tax on the fuels dedicated to motorway construction. In need of additional financing, the second stage of the programme included private funding in form of infrastructure concessionary bonds. Funding and management were the main parameters which allowed the fast implementation of this project (more than 600 kilometres).

The toll revenues from the motorways were not only used for the prospective financing of the project, but also for combating congestion. Slovenia introduced a vignette system for the road users, highly criticised by other European countries due to its discriminating effects on non Slovenian residents.

In order to deal with the negative externalities, the government and its appropriated bodies designed several policies. The main issues to deal with were congestion, safety and environment. In order to deal with road safety, Slovenia implemented a series of measures, soft, legislative and fiscal, and prioritised the safety issue in the construction of new infrastructure. In terms of environment, the roads network itself is the most non sustainable solution. Even so, in agreement with the EU directives, the environmental assessment was within the acceptable threshold. At any case, according to the Ministry of environment and several NGOs, in the future, Slovenia should appoint more environmental friendly modes in cohesion to the EU directives and the Kyoto protocol.

Type of policy

Although the transport policy was designed in such a way that other policy domains were integrated in it and in particular regional development policy, the impacts on these other policy domains (regional development, environment) appear not to be as envisaged. Although not made explicit is the integration of public finance objectives and instruments more prominent. This has also contributed to its success.

Thus, although on paper it is a relatively integrated type of policy, in practice the policy type seems more of sector-oriented.

Shift

Given the experienced drawbacks of the implementation, in which the impacts of regional development and environmental protection have been less successful, a shift towards more integration of such objectives is to be expected, as well as a gradual shift towards larger role for regional authorities. The reason for such a shift would than be higher effectiveness on the other policy domains.

Top performers

The comparison with other countries shows that a central and sector oriented approach like followed in Slovenia can be effective (Slovenia, Croatia), but that it is not a necessary condition for success (Poland). The case of Spain shows that at certain stages of network development, there is a call for more integration with other policy domains. This lesson can also be drawn from the Slovenian case. A more integrated approach, with a larger role for regions can be seen in other Member States as well. The level of development of the motorway network may be an important factor in this.

Glossary

- ABiEA – Agency of Motorways Construction and Operation
- AC - Motorways (in Slovenian: *avtocesta*)
- ARZ – Autocesta Rijeka – Zagreb (Croatian motorway company)
- AWSA – Autostrada Wielkopolska S.A.
- AZM – Autocesta Zagreb – Macelj (Croatian motorway company)
- BI – Bina-Istra (Croatian motorway company)
- CUP-PIS - Centre for Traffic Management and Traffic Information Centre
- DARS - Družba za avtoceste v Republiki Sloveniji
(Motorway Company in the Republic of Slovenia)

DRSC - Directorate of Republic of Slovenia for Roads
EBDR - European Bank for Reconstruction and Development
EC - European Commission
EIB - European Investment Bank
ERDF – European Regional Development Fund
GDDKia – General Directorate for National Roads and Highways (in Polish: *Generalna Dyrekcja Dróg Krajowych i Autostrad*)
GTC – Gdansk Transport Company (Polish motorway company)
HAC – Hrvatske autoceste (Croatian motorway company)
HC - Exressways (in Slovenian: *hitra cesta*)
MW - Motorways
NMCP - National Motorway Construction Programme
PPP - Public Private Partnership
RePPRS - Resolution on the Transport Policy of the Republic of Slovenia
TEN - Trans-European Network

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[ReRSNP] Resolution on the road safety national programme 2007-2011 – together for a higher security

[MPIRS] Marginal plan for the insurance of road safety

[MCRS] Motorway Construction in the Republic of Slovenia

[TIDWE] Transport Infrastructure Development for a Wider Europe

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3.3 UK: London congestion charging

3.3.1 Positioning of the case

This case study is about the introduction of road tolls for a specific area in London, United Kingdom. The case combines an objective of the transport domain and other policy domains, in particular economic development and environment. In this the transport domain objective is dominant. The policy instrument used is transport sector specific.

The policy is conceived, managed and delivered at local government level. This results in the following scores:

A. Sectoral/Integrated

Objectives/targets

	Sectoral	Sectoral, but other domains taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral	√	
	Other policy domains to be taken into consideration		
	Other policy domains fully on board		

B. Centralised/decentralised

	National level	Regional level	Local level
Conceive			√
Manage			√
Deliver			√

The case is thus an example of a predominantly sectoral, decentralised transport policy.

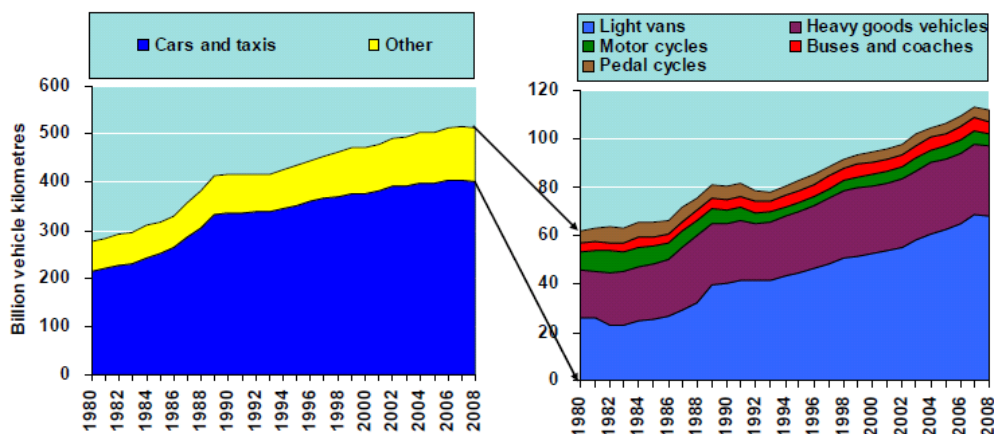
3.3.2 Transport performance and policy mix in the UK

Transport demand in the UK

Figure 1 shows development of traffic in the UK from 1980 onwards. It shows that total estimated road traffic, measured in terms of vehicle kilometers, increased by 85 percent between 1980 and

2008 (from 277 to 514 billion vehicle kilometers⁵⁶). Most of this growth occurred between 1980 and 1990, with some 50 percent; since 1990 the increase has been more modest.

Figure 10 Road traffic by cars and other modes: 1980 to 2008, UK



Source: UK Department of Transport, Transport Trends 2009.

The majority of the increase has been due to traffic by passenger cars and light vans; the latter increased more than two and a half times since 1980.

3.3.3 UK Transport policy

Goals

The 10 Year Plan for Transport⁵⁷, published in 2000, sets objectives and plans investments for the period up to 2010. Parallel to a major increase in investment in public transport, the plan:

- provides for significant **new road capacity**, including an estimated 360 miles for road widening and funding to recover from the backlog of maintenance work on local roads;
- assumed as the basis for analysis that eight local authorities would use their powers under the Transport Act 2000 to introduce **congestion charging**, with a further 12 introducing workplace parking levies;
- forecasted that, as a result, **congestion** on the roads would be some 20% lower by 2010 than it would have been without the plan. Such an impact would mean that congestion levels in 2010 would be back at the level of 2000.

Thus, the national policy gives the framework for congestion charging at local level, and takes into account the expected impact..

Strategy

The Energy White Paper *Our energy future – creating a low carbon economy* of 2003⁵⁸ announces the steps to be taken by the Government to realize a 60% reduction in carbon emissions of the UK

⁵⁶ UK Department of Transport, Transport Trends 2009.

⁵⁷ UK Department for Transport, Transport Ten Year Plan 2000, 2000.

⁵⁸ DTI, Energy White Paper - Our energy future – creating a low carbon economy, February 2003.

by 2050. Transport accounts for around one quarter of the UK's carbon emissions – 85% of it from road transport. There is major potential to reduce transport's impact on the environment, through cleaner, more fuel efficient vehicles and through increased use of low-carbon fuels such as biodiesel and bio-ethanol.

Transportation is a shared responsibility. The Government is working closely with the automotive and fuel industries, vehicle users, consumer and environmental interests and other stakeholders towards two fundamental objectives:

- to promote the development, introduction and take up of new vehicle technologies and fuels; and at the same time
- to ensure that the UK's automotive industries are fully engaged in the new technologies.

The strategy of the UK to reach the transport goals in 2030 is also written down in the report⁵⁹. The strategy is threefold:

- **Sustained investment** over the long term. Spending by the Department for Transport will rise by an annual average of 4.5 percent in real terms between 2005-2006 and 2007-2008;
- **Improvements in transport management.** Improvement in rail industry, bus services, traffic management and added capacity to the road network in consideration of the environment;
- **Planning ahead.** At all levels of Government – national, local or regional.

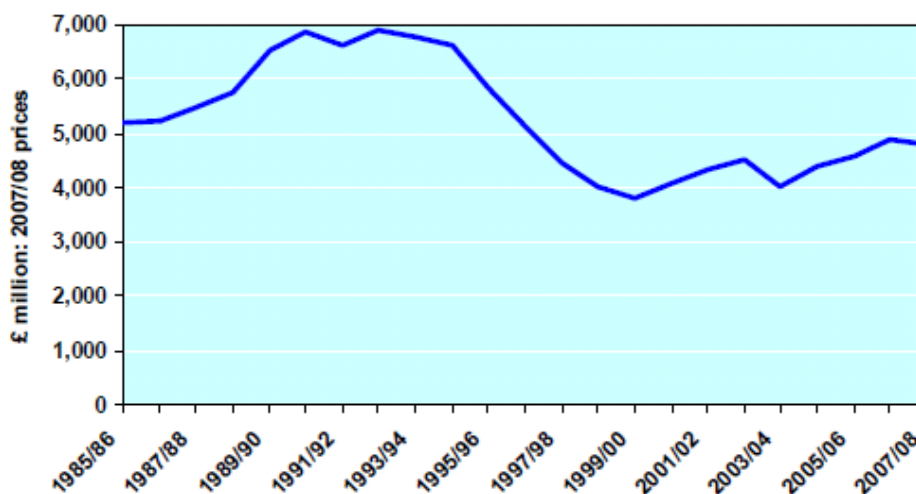
Financing

Investment in road infrastructure increased in the late 1980s and early 1990s, reaching a peak in 1992/1993 of £6.9 billion at 2007/2008 prices⁶⁰. Investment fell between 1992/1993 and 1999/2000, but has risen since then by 26 percent to £4.8 billion in 2007/2008. The next figure shows this trend. With to lower investments in infrastructure in the late 1990s, the importance of a congestion charging became larger.

⁵⁹ UK Department of Transport, The Future of Transport, a network for 2030, July 2004.

⁶⁰ UK Department of Transport, Transport Trends 2009.

Figure 11 Investments in road infrastructure: 1985/86 to 2007/08 United Kingdom



Source: UK Department of Transport, Transport Trends 2009.

The main policies regarding transport demand management and sustainable transport are thus both centrally driven. Both types of policies appear to concentrate on the transport sector itself, even though both policies clearly originate from other policy domains as well, in particular environmental policy.

3.3.4 Case description: London Congestion Charging

Type of policy

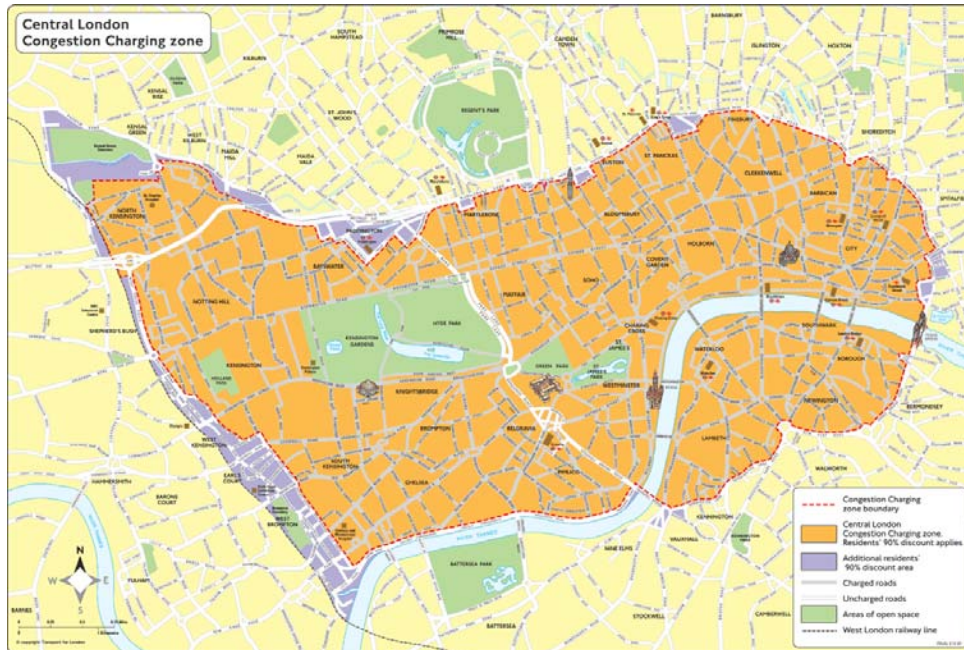
Even though the framework for congestion charging is set at national level, congestion charging in London is clearly a policy that has been decided upon and implemented at local level. Despite that it originates from various policy domains, it is predominantly oriented at transport itself, as explained below. It is therefore an example of a regional sector-oriented transport policy. There are no shifts noticeable in this policy type over time.

Introduction

Since February 2003 motorists driving in central London on weekdays between 7:00 am and 6:30 pm are required to pay a charge of £5; in July 2005 this charges was increased to £8. Motorcycles, licensed taxis, vehicles used by disabled people, some alternative fuel vehicles, buses and emergency vehicles are exempted, while area residents receive a 90% discount for their vehicles.

Upon introduction of the charge, the charging zone was restricted to the centre of London. The zone has been expanded to the west in 2007, and new charging hours were set: between 7:00 am and 6:00 pm. In the next figure the charging zone is shown.

Figure 12 London congestion charging zone



Drivers using a vehicle in the central zone pay the charge in advance or on the day of travel. Payments can be made at selected retail outlets or payment machines located in the area, by Internet and by cellular telephone messaging, at any time during that day. A network of video cameras records the license plate numbers of vehicles and matches them with the list of payments. Parked vehicles are also inspected, by foot patrols.

The development of a charging policy in London

The concept of road pricing has a long history. In the early 1960s the Ministry of Transport appointed a panel, whose job it was to find various methods for improving the pricing system for the use of roads. The panel concluded that direct road user charging would achieve superior results to other forms of tax or charge, because such charges can take the large differences in congestion costs between different journeys into account.

In the early 1970s, the Greater London Council commissioned studies to investigate methods of traffic restraint in response to concerns about the impact of congestion. This study concluded that the best method was to use a paid licence on any vehicle located in the designated area during the day. Though substantial economic and environmental benefits were expected, it was felt that the negative impact on lower income groups and difficulties with enforcement would be larger, and therefore the proposal was abandoned.

In the 1980s the London Planning Advisory Committee (LPAC) commissioned research into a number of transport strategies as part of its work in providing the Government with strategic planning advice for London. This work concluded that the management of congestion was central to transport policy in London. Again, the preferred method was found to be congestion charging,

which was consequently recommended as an appropriate policy for London to the Secretary of State in 1988.

The increasing concern for congestion in London led to the London Congestion Charging Research Programme in 1991. In 1995, the study concluded that charging in London would reduce congestion, yield net revenues and provide a rapid payback on the initial costs in both financial and economic terms.

The Greater London Authority Act 1999 created an authority for Greater London, consisting of the Mayor of London and the London Assembly. With this authority the Mayor of London had powers to implement road user charges, workplace parking levies or both. After being elected, Livingstone decided to go forward with the idea of road pricing.

In 2000 the Mayor of London commissioned the Road Charging Options for London (ROCOL) study, to further investigate the options on road charging. The program intended to contribute directly to three of the mayor's ten priorities for transport set out in his transport strategy in July 2001:

- to reduce congestion;
- to make radical improvements in bus service;
- to improve trip time reliability for car users.

The main objective was to improve reliability, sustainability and efficiency of the distribution of goods and services.

Goals and objectives of London congestion charge

The primary goal of the London congestion charge is to lower the level of congestion in the inner city. More specifically the following objectives were defined⁶¹:

- to reduce inner London traffic levels with 10-15%;
- to cut road transport delays with 15-25%;
- to increase speeds by 10-15% inside the zone;
- to improve conditions outside the zone;
- to improve bus operations;
- to produce net revenue of £ 130 million per annum;
- to achieve a modal shift.

Implementation

The campaign for Mayor for London began in 1999 with four main candidates from each of the main political parties and one independent, Ken Livingstone. Livingstone was elected as Mayor in May 2000 and set himself a significant challenge, promising to introduce a congestion charging scheme in London.

⁶¹ Derek Turner Consulting, Central London Congestion Charging Schema, Has it achieved its goals? PowerPoint presentation, 2003.

In July 2000, the Mayor asked Derek Turner as Director of Transport for London. Transport for London installed a project team to investigate, procure, implement, manage and monitor the introduction of a congestion charging scheme in London: the Congestion Charging Team.

Next to the instalment of a dedicated team / entity working out the promises of the Mayor, the Mayor began the consultation process through publication of a discussion paper called 'Hearing London's Views'. This paper was sent to nearly 400 key stakeholders such as the London boroughs, London MP's, MEP's, business groups, transport operators, motoring organisations and disabled groups. The results were clear: there were six times as many stakeholders supporting the concept of introducing a congestion charging scheme than those opposing the initiative.

The next step was the publication of the Mayor's draft Transport Strategy in January 2001. The proposed congestion charge scheme is an integral part of this strategy and resulted in 8,000 responses, demonstrating that the public, stakeholders and other interested parties were broadly in favour of the proposed scheme and the Mayor's plans in general. In July 2001 the Mayor promised to introduce the scheme in early 2003.

On 23 July, Transport for London sent the Scheme order, which forms the legal basis for the implementation of the scheme, to 500 stakeholders to inform them of the details.

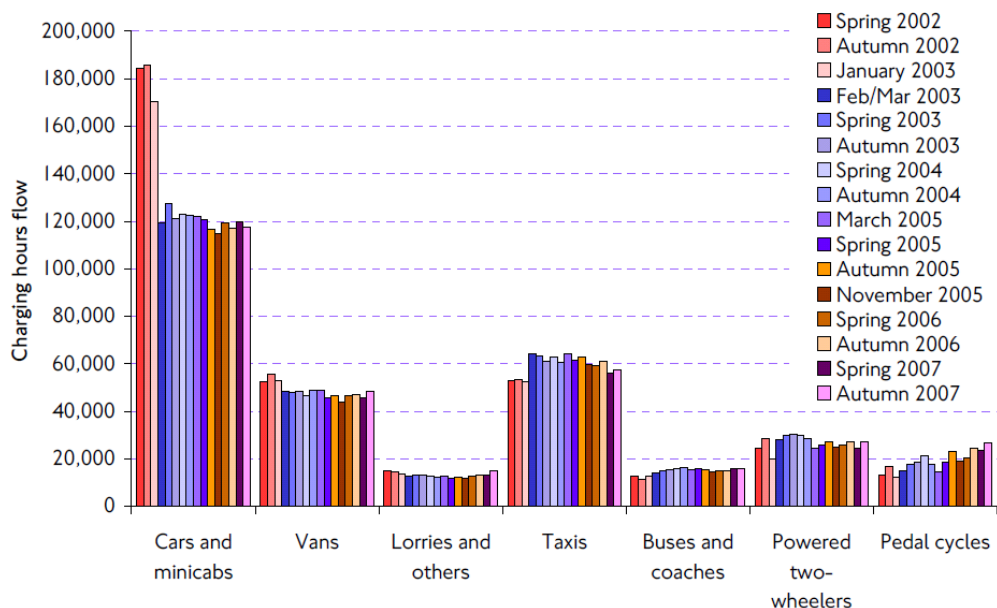
During August and September, Transport for London ran an exhibition and hosted two public meetings as the final part of the consultation process. After these meetings a number of modifications have been suggested by Transport for London to the original scheme proposals. Londoners were consulted again in January 2002 on these suggested modifications. In February 2002, the Mayor decided to go ahead with the scheme.

3.3.5 Impact of the case study

Impact with respect to the objective of reducing traffic levels and increase speed Central zone

The impact of the congestion charge has been enormous since its introduction in 2003. The overall results show that total traffic in the central zone has reduced by 16 percent, the number of cars even been reduced by 29 percent. The number of buses, taxis and cycles has increased.

Figure 13 Traffic entering the central London charging zone



Source: Transport for London, Congestion Charging, Impacts monitoring, Sixth Annual Report, July 2008.

The major part of the effect was seen in the first year of the charge, with little change in the traffic levels in the following years. The number of vehicle kilometres driven in the central zone has decreased by 14 percent in the period up to 2006. In particular, the number of vehicle kilometres by car decreased by 37 percent; at the same time the number of kilometres driven by taxis, buses and bicycles increased. In 2005-2006 the number of vehicle kilometres driven by cars and vans increased again.

Table 3 Year-on-Year change (%) in vehicle-kilometres driven within the original Central Zone during charging hours

Vehicle type	2002-03	2003-04	2004-05	2005-06	2002-06
All vehicles	-12	-5	+1	+1	-14
Four or more wheels	-15	-6	0	+1	-19
Potentially chargeable	-25	-6	-1	+3	-28
Cars	-34	-7	-1	+4	-37
Vans	-5	-4	-4	+3	-9
Trucks and other	-7	-8	+8	+2	-7
Licensed taxis	+22	-7	+5	-5	+12
Buses and coaches	+21	+5	-1	+3	+25
Powered two-wheelers	+6	-2	0	-3	0
Pedal cycles	+28	+4	+14	-2	+43

Source: Georgina Santos, London Congestion Charging Comment, Brookings-Wharton Papers on Urban Affairs, 2008, pp. 177-234.

The congestion is measured in terms of number of minutes per kilometre. In the first year, the mean excess travel rate decreased by 30 percent. However, as of 2007, the mean excess travel rate had returned to the level of 2002 (see next table).

Table 4 Mean excess travel rate in London central congestion zone 2002 – 2007

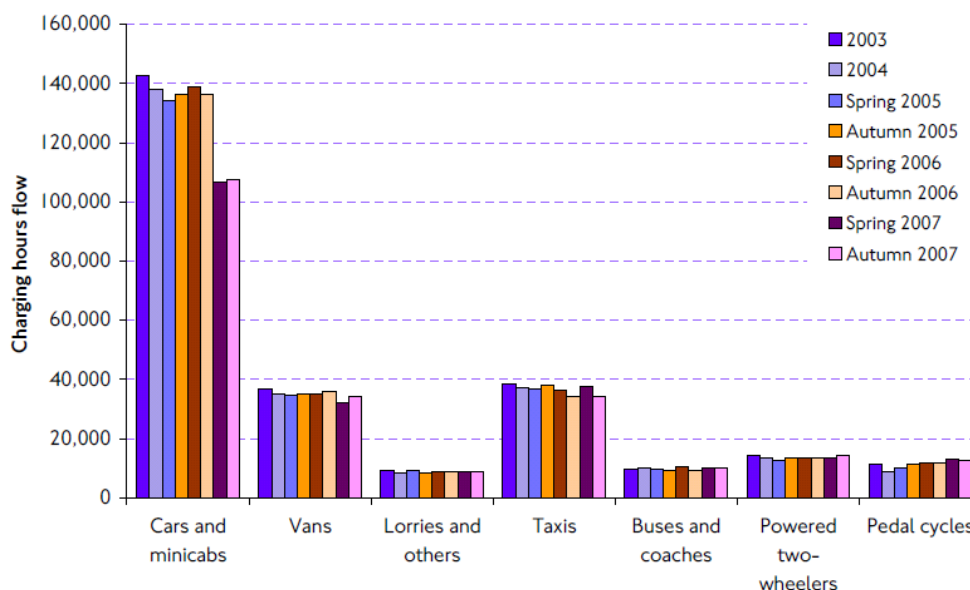
Averaging period	Mean excess travel rate (minutes per kilometre)	Difference 2002 representative value (%)
2002 calendar year – Observed average	2.5	+8%
2002 calendar year – Representative level	2.3	base
2003 post charging	1.6	-30%
2004 post charging	1.6	-30%
2005 post charging	1.8	-22%
2006 post charging	2.1	-8%
2007 post charging	2.3	0%

Source: Transport for London, Congestion Charging, Impacts monitoring, Sixth Annual Report, July 2008.

Western extension

The impacts in the western extension were expected to be lower than those in the central zone, because of a lower number of commuters (170,000 compared to 1 million in the central zone). Specifically, Transport for London expected that the settled volumes of traffic entering the extension zone, in terms of vehicles with four or more wheels during charging hours, would reduce by between 13 and 17 percent against pre-charging traffic conditions. In reality the total number of vehicles entering the western extension zone fell by 14 percent compared to the year before. In line with the central zone, the number of cars decreased significantly with 21 percent.

Figure 14 Traffic entering the London charging zone



Source: Transport for London, Congestion Charging, Impacts monitoring, Sixth Annual Report, July 2008.

In conclusion, the goals on reducing traffic and increasing speed levels were reached in the first years after introduction of the congestion charging scheme.

Impact with respect to the objective of modal shift and environment

Modal shift

Increasing the use of buses is a key element in the success of London congestion charging. Transport for London had predicted that roughly 20,000 commuters would switch from private car to public transport during the morning peak as a result of the congestion charge. Of this number, 5,000 were expected to transfer to the underground, 14,000 to buses and the remainder, to the rail system.

Many commuters who were priced out of driving switched to taking the bus, and bus passenger numbers increased by 18 percent and 12 percent during the first and second years after charging respectively. However, not only the charge had impact on an increase in bus travels, also the service was improved, the waiting time was lowered, the fares were lowered and the reliability was increased. Although bus rider ship increased in line with expectations, underground and rail travel did not⁶².

Environmental effects

One of the major goals of the introduction of a charging zone was to reduce CO2 emissions from road transport. Compared to 2003, the CO2 emissions in the central zone decreased by 15.7

⁶² Santos, Georgina, and Blake Shaffer. 2004. "Preliminary Results of the London Congestion Charging Scheme." *Public Works Management and Policy* 9 (2): 164–81.

percent (8.4 percent contribution from lower traffic, 7.3 percent from speed change). In addition, a decrease of about 1 percent was realized from a change in the vehicle stock⁶³.

Impact with respect to the objective of net revenue

It was predicted beforehand that the revenues of the system would outweigh the costs. The following table presents the net present value of projected costs and revenues between 2000 and 2008, including three years of development and five years of operation.

The net revenue was £ 137 million⁶⁴ per year in 2007/08, which is above expectation. Both costs and revenues were higher than expected. Not only the revenues from the charge were higher, also the penalty/enforcement revenues were more than three times the expected level.

Table 5 Congestion Charging Program project costs and revenues (in million pounds)

	Total (NPV)	Per Operating Year
Start up costs	£ 180	£ 36
Operating costs	£ 320	£ 64
Total costs	£ 500	£ 100
Charge revenues	£ 690	£ 138
Penalty revenues	£ 110	£ 22
Total annualized revenue	£ 800	£ 160

Source: Todd Litman, London Congestion Pricing, Implications for Other Cities, Victoria Transport Policy Institute, 10 January 2006.

Impact on business and economics

The impact of the charging scheme on business and economics cannot clearly be assessed. For instance, the employment in the charging zone has been higher since 2003 than before 2003, but this may reflect the underlying economic performance of London. Key business sectors – financial and business services, hotels and restaurants, and retail – in the central charging zone showed positive trends in the years following the introduction of congestion charging in comparison to pre 2003. The commercial property market does not appear to have been impacted by the charging scheme⁶⁵.

3.3.6 Comparison with cases in other EU-Member States

Road pricing has been introduced in many EU Member States, as well as in other parts of the world. Among the EU Member States are: Sweden (congestion tax in Stockholm), Germany (LKW-MAUT nationwide), Italy (Ecopass in Milan), Norway (toll in Bergen and Oslo) and Malta (Controlled Vehicular Access in Valletta). Some examples outside Europe are Singapore (electronic road pricing) and Shanghai (car registration limitation).

Several initiatives (New York and San Francisco) have been taken in the USA. Introduction has not yet realised, though, as various parties are against it.

⁶³ Nigel Campbell, Transport for London, Traffic management: London Congestion Charge, PowerPoint, 17 September 2009.

⁶⁴ Transport for London, Congestion Charging, Impacts monitoring, Sixth Annual Report, July 2008.

⁶⁵ Transport for London, Congestion Charging, Impacts monitoring, Sixth Annual Report, July 2008.

In the Netherlands a proposal for a nationwide scheme for all road users has met with strong opposition both within and outside parliament.

In this section we compare the London congestion charging scheme with those in Stockholm and Germany.

Stockholm congestion tax

The Stockholm congestion tax was introduced on a permanent basis on August 1, 2007 after a trial period of seven months in 2006. The technology of the system works the same as in London. However, in Stockholm travellers pay by the hour and pay more tax during peak travel times during the day. The maximum tax per day is 60 SEK (6.30 Euro).

Before implementing the scheme, there was a lot of resistance. Nevertheless, in the trial period the traffic was reduced by 20 to 25%⁶⁶. For final introduction a referendum was held in September 2006. The referendum showed that the persons living in the Stockholm Municipality were in favour of the charge, while those in other municipalities in Stockholm County opposed it.

The first year results of the Stockholm congestion charge are comparable with the London case. There is no sign (yet) of traffic levels stabilising or increasing, as they are in the London case. However, the coming year will learn if this is the case.

Thus, like the London Congestion Charging scheme, the scheme in Stockholm is an example of a transport policy at regional level, which is predominantly sector-oriented.

Germany LKW-MAUT

In January 2005 a new toll system was introduced on the 12,000 km of German autobahn, for all trucks with a maximum pay load of 12 ton and above: LKW-Maut. It is an example of a central policy, with a predominantly sector oriented approach. Unlike London and Stockholm, the system is constructed and administrated by a private consortium (Toll Collect).

The toll system is not based on toll booths or plazas on the highways but works via several methods, like On Board Units (OBU), manual payment terminals and payment via the internet.

Early results suggest that the Maut has been associated with the following impacts⁶⁷:

- An improvement in average load per vehicle;
- A 6 percent reduction in empty running;
- 6 percent modal shift to rail freight;
- Diversion of some freight traffic onto secondary roads to avoid the MAUT.

Although these results are generally positive (except for the diversion of traffic) the impact of the Maut is in absolute terms smaller than those of the decentralized policies in London and

⁶⁶ IBM, The Stockholm Congestion Charging Trial, PowerPoint, June 2006.

⁶⁷ Anthony Vigor, *Germany Delivers the Goods*, Transport Times, 13 January 2006

Stockholm. This, however, is due to the difference in type of charge (at national level, with less alternatives available), rather than the type of policy followed.

When comparing the experiences with the introduction of the Maut with the difficulties experienced in the introduction of a nationwide scheme of road pricing with strong integrated elements in the Netherlands, the introduction of Maut appears more effective, even taken into account the technical problems experienced. This may imply that a simple (not integrated) type of scheme is easier to implement on a nationwide basis, than an advanced (and integrated) scheme.

3.3.7 Conclusions

Type of policy

The London congestion charging is an example of a regional transport demand management policy. It has a predominantly sector-oriented approach resulting in lower levels of traffic, thereby reducing greenhouse gas emissions and strengthening the accessibility of the city.

The most important factor in the decision making procedure seems to have been the promises of Mayor Ken Livingstone during the elections. His election gave him free way to start with a dedicated team in the Transport for London, to further develop and realise his promises. The decision making process therefore became easier instead of dealing with numerous stakeholders. Nevertheless, the consultation process was an essential way to further develop the system and win the hearts and minds of the Londoners.

Arguments for the type of policy

The arguments for the choice of this type of policy were not made explicit. However, given that there is a national policy framework for congestion charging, the nature of the problem (being local) makes it a logical choice for a sub-national approach. This even holds for the elaboration at policy level, as it was up to local officials to make use of the national framework and to decide on the technology used. It is hard to see how a national approach can be used.

Although some non-transport objectives are taken on board, notably environmental ones, the differentiation in charge level is limited, only some special fuel vehicles being exempted. The reason for this is not entirely clear, but the experience in the Netherlands shows that too much integration of other objectives may hamper an effective introduction.

Impact

The introduction of a congestion charge in London was successful. The goals regarding decreased traffic levels and congestion and improvement of bus operations were met. In the first years there also was an improvement in terms of speed. The scheme generates more revenues than expected.

The first years' results of Stockholm's congestion tax are similar to those of London. The type of policy followed (at regional level, predominantly sector-oriented) is similar to that of London. The toll system in Germany can be seen as a predominantly sector-oriented policy at central level. As compared to the situation in The Netherlands, a simple nationwide scheme seems more effective in the implementation process compared with a more integrated scheme for all road users.

Top performers

Given the experience in London, Stockholm and Germany, with respect to transport demand management both policies at central as well as regional level can be envisaged. Also in the design both a predominantly sector-oriented approach (reducing congestion) and a more integrated approach (introducing other policy fields like environmental impact) can be followed. In comparison a more sector-oriented approach appears more effective than an integrated approach. At regional level the sector-oriented approach appears effective.

3.3.8 References

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3.4 High speed rail infrastructure development in France

3.4.1 Positioning of the case

This case study is about the development of rail infrastructure in France. The case increasingly combines objectives of the transport domain with those of other policy domains, in particular spatial planning and regional development. In the delivery policy domains are taken into consideration. The policy is designed and implemented at the national level.

This results in the following scores:

A. Sectoral/Integrated

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
<i>Delivery process/instruments</i>	Sectoral	√ (previously)	
	Other policy domains to be taken into consideration		
	Other policy domains fully on board		√

B. Centralised/decentralised

	National level	Regional level	Local level
Conceive	√		
Manage	√		
Deliver	√		

The case is thus an example of an increasingly integrated, centralised policy.

3.4.2 Transport performance and policy mix in France

Transport system performance

The quality of the transport infrastructure is judged to be one of the best in Europe. The scores in the Executive Opinion Survey of the World Economic Forum, as cited in Chapter 4 of the main report, show France to be top performer in terms of both road infrastructure (score: 6,6 with 5,7 on

average for the northern EU Member States) and rail infrastructure (score 6,5 compared to 5,4 for the same group).

In The Global Competitiveness Report 2009-2010 France shows an excellent score on the Infrastructure pillar: out of the 133 countries reviewed France is ranked in third place for overall infrastructure, behind Germany and Hong Kong. The score in this field is the highest for France amongst the various competitiveness pillars reviewed.

The following ranks are found for the relevant individual elements of this Infrastructure index:

France	Ranking in group of 133 countries
Quality of roads	2
Quality of railroad infrastructure	4
Quality of port infrastructure	10
Quality of air transport infrastructure	9
Available seat kilometres	6

Source: The Global Competitiveness Report 2009-2010, page 147.

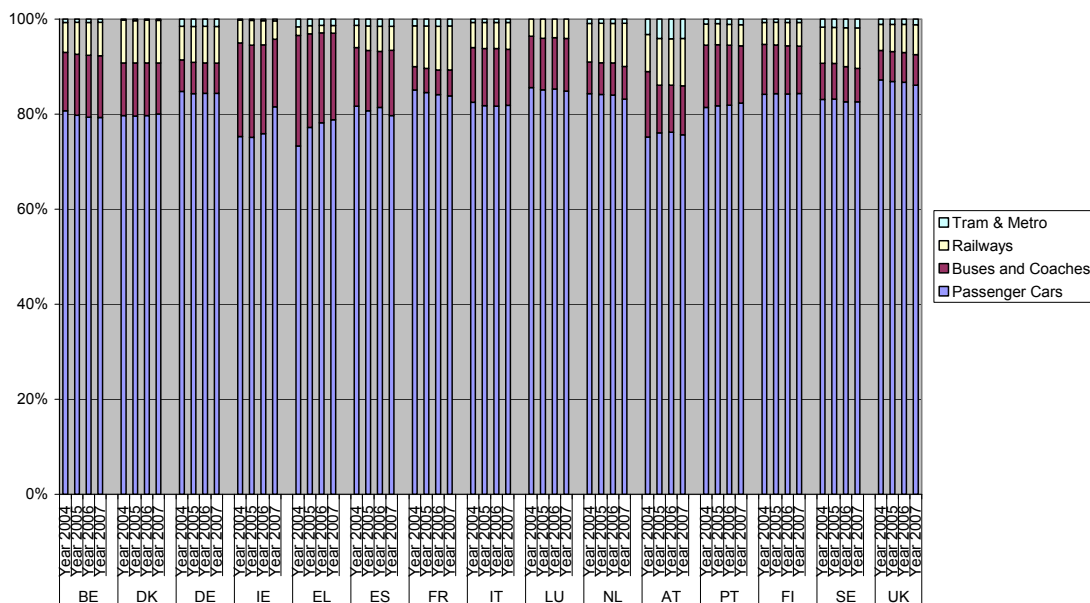
On road infrastructure only Singapore scores better, while for railroad infrastructure a higher score is found in Switzerland, Japan and Hong Kong only.

Thus clearly both road and rail infrastructure are well developed in France. This may result in strong competition between the two modes, reflecting in the modal split of freight and passenger transport.

In terms of transport demand, France shows a share of railways in freight traffic which is slightly above EU average: 15% versus average of 13% in EU15.

The share of railways in passenger traffic is more prominent. As compared to the EU15 average of 6%, the railways have a 9% share in passenger traffic in France. With this high share France is among the group of countries with highest share of rail in passenger modal split (Denmark, Austria, Netherlands, Sweden).

Modal split passenger transport (EU15)



This relatively high share of railways in passenger movements goes together with car ownership in France at the EU average (511 cars per 100 inhabitants in France as compared to an EU15 average of 492).

The general picture that emerges from these data is that the rail network is not excessively developed in France, but at the same time of very good quality. The role of the railways in total passenger mobility is substantial, while its role in freight transport is also above average, though to a lesser extent.

3.4.3 Transport policy

Goals

France's transport policy aims to reduce greenhouse gas emissions by 20% by 2020 along with a reduction in the sector's dependence on hydrocarbons. In order to achieve this, priority has been given to modal transfer and complementary and less polluting means of transport by reducing unnecessary travel and developing innovative systems meeting economic, ecological and social cohesion requirements.

The Directorate General of Infrastructures, Transport and the Sea (DGITM) is one of the eight general entities of the Ministère de l'Écologie, de l'Énergie, du Développement Durable et de la Mer (MEEDDM). Its main mission is to promote a modal transfer policy (switch from one form of travel to another), placing the sustainable development priority at the heart of each decision making stage. The DGITM Directorate General was created in July 2008 so as to prepare and implement the terrestrial and maritime multimodal policy respecting sustainable development

principles. It plays a cross-sector role, taking responsibility for all issues relating to terrestrial and maritime transport, but also the planning of airports.

Financing

The finance law voted annually by Parliament contains two conventional headings: “Transport infrastructures and services” and “Maritime safety and affairs” and a specific heading: “Research in the field of transport, equipment and housing”. For the first time in 2009, a multi-year finance bill was voted to provide longer term visibility on the financing of major infrastructure operations. The use of public-private partnerships is developing progressively to finance such projects. A particular example of this is the funding of the high-speed train link (LGV) South-Europe-Atlantic.

The French Transport Infrastructure Financing Agency (AFITF), set up in 2004, represents a cornerstone of funding for major transport infrastructure projects sponsored by the State, in conjunction with additional funding from local authorities, public establishments and European funds. It accompanies the government’s policy in the implementation of a multimodal equipment policy, providing the State’s contribution as well as multi-year programming, with greater clarity for all those involved

Recovery Plan and transport infrastructure

At the Interministerial Committee for Development and Competitiveness (CIACT) of February 2, 2009 at Lyon, the Prime Minister unveiled the 1 000 projects to be funded by the stimulus of the economy announced by the President of the Republic December 4, 2008.

"The 26 billion spent on recovery plan will be financed throughout France concrete projects we build, rehabilitate, accelerating investment projects across France we will launch projects that will create economic activity and the employment," said Francois Fillon. In this context, € 870 million are spent on transport infrastructure:

- € 400 million for road infrastructure to improve the maintenance of national roads and to upgrade routes (preventive maintenance of roadways, secure tunnels, accelerated program operations modernization route of national road network);
- € 300 million for rail infrastructure, helping to secure the rail network and accelerate its development, particularly that of high-speed lines (LGV Est-Européenne, South Europe Atlantic);
- € 170 million for infrastructure and river port, to facilitate the implementation of major projects and river port, as the canal project large gauge Seine Nord Europe.

Conclusion on policy

In conclusion, French transport policy goals are strongly influenced by goals from other policy domains, in particular in terms environmental sustainability. In this respect it is probably more of an integrated nature than transport policies in most other EU Member states. Although many Member States mention sustainability in their transport policies, it is more often seen as a restriction within which transport policy operations, than of a integrated goal of transport policy, as it is in France.

Furthermore, transport policy is of a central nature. Many decisions are taken at national level, even if implementation is at regional level. There is a shift noticeable, however, to give more responsibility to the regions. This can for instance be seen from recent changes in the road system where responsibility of many national roads has been delegated to regions.

3.4.4 High Speed Rail development in France

The development of the high speed network

The policy of high speed rail passenger transport was initiated by the French national railway company SNCF in the 1950s. While the construction of the motorway network was starting and domestic airline services were growing, the SNCF concluded that, as a response to this growing competition, rail transport had to become much faster. A research and development programme was started in the 1960s, in co-operation with the French railway industry, and with support from the government.

The first high speed rail trials were made with electric traction, resulting in a world speed record of 331 km/h in 1955, using modified existing locomotives. Later, gas turbine power (derived from aviation technology) was explored and a prototype train set was built, which reached a top speed of 318 km/h in 1973. The oil crisis in the same year contributed to the final choice for electric traction, to be used on train sets that were derived from the turbine driven prototype.

The philosophy chosen was to run at high speed on newly built dedicated railway lines, with no other types of traffic, but to use the existing railway network to reach the main stations in the cities, which meant trains had to be compatible with the existing system. In this way the disadvantage of having to build new lines in existing dense urban areas was avoided; in this respect it distinguishes itself from the German magnetic levitation trains and the Japanese Shinkansen.

At the initiative of the SNCF, the government approved the construction of the first line in 1976, between the country's two largest cities, Paris and Lyon. Top operating speed was 270 km/h. The 419 km of high speed line were opened in two stages in 1981 and '83 and proved to be an instant success.

This was the first high speed rail line in Europe and the second in the world (after Japan, which started operating in 1964⁶⁸). The new high speed trains were called TGV (Train à Grande Vitesse, or High Speed Train) and the line was called LGV Sud-Est (Ligne à Grande Vitesse Sud-Est, or South-East High Speed Line).

The fares were higher than on classic trains and reservation was compulsory, which allowed the fares to be graduated according to the time of travel, following the airline practice of yield management.

⁶⁸ The First line in Japan had a top speed of 200 km/h. This speed was also reached in daily operation by the SNCF train 'Le Capitole' in 1967 on part of its route from Paris to Toulouse, and it is not now regarded as high speed rail. This shows how the definition of high speed rail has been confused for a long time. At present, the UIC definition of 250 km/h or more is generally accepted. Later Japanese lines do qualify as high speed according to this definition.

Originally, the TGV service was planned to run between the two cities of Paris and Lyon, onward travelling passengers would have to change trains. But when the line opened, SNCF started using the ability of running on classic tracks to continue trains to onward destinations, thus offering direct trips to many cities in the east of France, on the Mediterranean coast and in Switzerland. By 1985, 30 cities in this area had TGV train services to/from Paris, between 2 and 20 return services per day.

This concept, a relatively short stretch of high speed line giving large time gains to trains that also run at normal speeds where there is no high speed line (yet), was used even more extensively in the next project, the Atlantique high speed line. The line runs south-west from Paris for 130 km and then splits in two branches, one of which continues west to join the classic line near Le Mans, and the south-west to join the classic line near Tours. The line opened in 1989 and '90 and was again a success. Top operating speed is 300 km/h. The trains are serving many cities to the west and the south of these branches, continuing on classic lines of which the speeds were partly raised, to 160 or 190 km/h.

The cities served by the LGV Atlantique were the first to see the development opportunities of having a high speed rail link, and initiated redevelopment of their station areas, which in a number of cases turned into major urban redevelopment projects. Moreover, many cities started to claim a TGV service. One small town, Vendôme (north of Tours), which had the line running across its territory, but was deemed by SNCF to be too small to warrant a station, started a political lobby to get a station, which it partly financed itself. This was served, however, by only a limited number of trains per day, and the idea was not copied elsewhere along the line (Facchinetti-Mannone, 2005). This line also saw the first local (NIMBY) protests against its construction, notably from wine growers in the Vouvray area (where the line was eventually constructed in a tunnel).

The third line in the planning was the LGV Nord Europe, from Paris to Lille, the Channel Tunnel and the Belgian border (to be continued to Brussels). An agreement to continue the high speed lines to Brussels, Amsterdam and Cologne was reached between the four countries concerned in 1989.

The LGV Nord was opened in stages between 1993 and 1996, and connects to the Channel Tunnel (opened in 1994) via Lille, and to the Belgian high speed line to Brussels (last stage opened in 1997) and beyond. It is 333 km in length. It runs for 130 km parallel to the existing A2 motorway, to limit the spatial impact.

In Lille a new station was built, Lille-Europe, which was the occasion for an important urban redevelopment, known as Euralille. Variants of the TGV train sets were developed for running through the Channel Tunnel and to Brussels and beyond to Amsterdam and Cologne, and special international operating companies were formed (Eurostar and Thalys). Traffic on the line initially remained below expectations.

Criticism of the alignment in the Picardie region was that it missed all the cities in the region, notably the regional capital Amiens. This was because the government wanted a straight line to Lille, even if a line via Amiens to the Channel Tunnel would have been shorter. This had two consequences:

- A station was built on the line at a site in the middle of the region, but far from any city, called Haute-Picardie, but popularly known as “gare des betteraves” (“beetroot station”) as it is lying in open agricultural terrain. It is served by a limited amount of trains per day, and there is no town at all in the vicinity. It relies fully on park-and-ride and bus services for access and egress.
- The region continues to campaign for a new line via Amiens, directly to Calais, which would also give the shorter link to the Channel Tunnel (LGV Picardie).

Further high speed lines built until now are:

- The LGV Interconnexion Est, opened in 1994 (104 km). This line provides a junction between the LGV Nord and the LGV Sud-Est via the eastern outskirts of the Paris agglomeration, and is used by trains which run non-stop from the north to the south-east of the country. It also has a station at the largest airport of Paris, Roissy–Charles-de-Gaulle, and at Marne-la-Vallée–Chessy, serving the Disneyland attraction park. Trains from this line to the LGV Atlantique operate via classic lines to the south of Paris (a high speed junction line is proposed, but not yet decided).
- LGV Rhône-Alpes, opened in 1994 (115 km). This passes the Lyon agglomeration to the east and then runs south to Valence, as a continuation of the LGV Sud-Est. It also serves the airport of Lyon.
- LGV Méditerranée, opened in 2001 (250 km). This is a further continuation of the Sud-Est line, from Valence to Marseille and Nîmes.
- LGV Est Européenne, opened in 2007 (300 km). This line runs eastwards from Paris to a junction with the classic line from Metz to Strasbourg, and its continuation to the latter city is in planning. The line already carries trains to Germany and Switzerland, including some German ICE high speed trains. It took many years to decide, as its rate of return was expected to be low. On this line, the top operating speed was stepped up once again, to 320 km/h.

All of these have train services that reach cities off and beyond the line via the classic network.

To be opened soon are:

- LGV Rhin–Rhône: a first part of a line that is to link the LGV SE to Mulhouse, this part running from a point east of Dijon to Belfort.
- LGV Perpignan-Figueres: part of the connection between the Spanish and the French high speed networks. This line crosses the Spanish border. It is ready, but not yet in service, as the connecting line to Barcelona is delayed.

The high speed rail network in France presently has a length of 1,181 km. Figure 3 shows the lines currently in operation, the classic lines with TGV services and the stations served.

Figure 3 Stations served by TGV trains in 2009, Heavy lines show the high speed lines, light lines show classic lines with TGV running.



Source : DIACT, P. Mignerey, 2009

The planning process

By the early 1980s, when the first TGV services proved to be very successful in terms of patronage and effects on car use and air travel, most regions in France had become convinced that they needed a TGV service to Paris to boost their regional economy and that they could not afford to be left behind when other cities got a TGV station. High speed rail had become an instrument of regional development policy and was serving the government's policy goal of a more equitable economic development in all regions of France, just like the development of the motorway network did. This resulted in many discussions between the government, the parliament, the regions and the local authorities on which lines should be built next and where they should run.

This discussion resulted in the government master plan for high speed rail of 1991, the Schéma Directeur des Lignes à Grande Vitesse. This master plan had as one of its objectives providing high speed train services to all regions of France, especially with Paris. The master plan incorporated many of the regional and local claims: it contained 16 projects totalling 3,172 km. The SNCF indicated it needed a minimum internal rate of return of 8%, but the forecast IRR for

most of these projects was far below that. It was to take a very large share of the total investments by SNCF, and was endangering the financial position of the railway company. This led to the decision by the government to take over the responsibility of financing the new lines.

Very soon doubts about the feasibility of the master plan arose and a new government decided in 1996 to have the plan reviewed. This resulted in the 'Rouillois Report', which recommended a more modest approach:

- giving up eight projects with a too low IRR / benefit-cost ratio;
- phasing over a longer period of the six projects retained (including the LGV Est);
- development of tilting trains, which can provide higher speeds on classic lines, diminishing the need for new high speed lines (research funds were made available in the national transport R&D programme PREDIT);
- reintegration of the new lines in an overall network with a more systematic serving of city centres, as many connections as possible with the classic network and multiple purpose use where possible (passenger and freight transport);
- search for new formulas of public-private capital use.

The government followed these recommendations, and the planning and building of the lines continued at this more modest pace, as indicated in the previous section. A government decision of December 2003 (CIADT, inter-ministerial committee for spatial structuring and development) shows that at that time there were eight projects for new lines in planning.

A new impulse to high speed rail planning was given in 2007 by a large scale discussion on the environment, at the initiative of president Sarkozy, called "Grenelle de l'environnement". This resulted in a declared ambition to double the network in length in 2020 (presently 1,881 km). There is no firm planning yet, most projects do not have a precise deadline. The map in figure 4, published by the ministry responsible for transport (MEEDDM), is based on this ambition and gives an overview of the present and the planned network. The LGV projects shown to be "launched before 2020" are the same that were indicated in the CIADT government decision.

Principaux projets de lignes à

Figure 4
Projects for high speed rail lines in France, resulting from the national discussion on the environment 'Grenelle de l'environnement', situation 2009
The red arrows indicate the projects that could be launched before 2020, the purple arrows the subsequent projects.



Despite the fact that tilting trains operate successfully in many countries, including extensive use on and off the high speed networks of Italy and Spain (countries that were pioneers in different

forms of this technology), the French government has concluded that it is too expensive and has discontinued the development. An issue that continues to be explored is the multiple purpose use of new high speed lines, making them fit for regional passenger and freight trains as well. This is especially aimed at the line between the Spanish border and the Rhône delta, where a very strong growth of freight traffic between Spain and France is expected.⁶⁹

A phenomenon which came up relatively late in France, if compared to countries like Germany or the Netherlands, was the resistance of the inhabitants of the areas concerned against the environmental impacts of the new lines. It first came up in the vineyard area of Vouvray, on the trajectory of the southern branch of the LGV Atlantique; it should be noted that wine growing is more sensitive with regard to its location than most other agricultural activities. This resistance became particularly serious around 1990 during the planning process for the LGV Méditerranée, which had to go through the narrow Rhône valley that was already full of infrastructure, but also vineyards. In this period new procedures and mitigating measures were developed.

Funding

The LGV Sud-Est was built within budget and the traffic proved to be much higher than the forecasts had indicated, which meant that the rate of return was very good and that the SNCF could fund it by its own means. The LGV Atlantique was also built within budget and the traffic was as had been forecast (the forecasting model had been adapted based on the empirical data from the first line).

Things were different during the construction of the LGV Nord (around 1990). The building contracts were let for higher prices than budgeted because of heavy demand on the public works market and the measures mitigating the environmental impacts were costing more than was budgeted. This meant the cost per km went up and the expected rate of return went down.

An overview of the realised and expected rates of return, as calculated in 1993 (Bonnafous & Crozet, 1997), is given in the next table. The financial IRR is applicable to the investor, the SNCF in this case; the economic IRR includes the effects for the wider economy. The SNCF had indicated that it needed a minimum financial IRR of 8 %, to be able to finance it, and it can be seen that an important number of lines from the master plan did not meet that criterion, including the LGV Est, which was eventually built after long political discussions between the government, the parliament and the regions. As more lines were planned, these were by necessity those with lower returns. An important aspect of the IRR calculation was the costs avoided for solving the bottlenecks in the classic network, and going down the list, there were fewer bottlenecks to be solved in those corridors.

As indicated, funding was originally done by SNCF itself, which is a public company, and starting with the LGV Nord this was done by the government. Regional and local authorities contributed, for certain aspects of construction on their territory. The situation changed in 1997, with the creation of RFF (Réseau Ferré de France), the public company to manage the railway

⁶⁹ This is a reversal of the original planning policy of the SNCF, which was that the high speed lines were for passenger traffic only, pointing to the difficulty the German railways were having with the combined running of passenger and freight trains on their high speed lines. In Italy and Germany freight trains are now using the high speed lines only at night, when there is no passenger service.

infrastructure, which took over ownership of the network from the SNCF. Investment in TGV rolling stock is still the responsibility of the SNCF.

Table 1 Realised and expected rates of return, as calculated in 1993

LGV projects	Internal Rate of Return	
	financial	economic
LGV lines after opening of service		
Sud-Est	15.2 %	30.0 %
Atlantique (Paris – Tours):		
• without subsidy	12.0 %	23.0 %
• with subsidy	19.0 %	23.0 %
Nord	11.9 %	18.7 %
LGV lines from the 1991 master plan (Schéma Directeur)		
Interconnexion Est (by-passing the East of Paris)	12.7 %	
Acquitaine (Tours – Bordeaux)	9.5 %	12.3 %
Rhône – Alpes (by-passing Lyon)	9.0 %	14.0 %
Côte d'Azur	8.4 %	11.0 %
Interconnexion Sud (by-passing the South of Paris)	8,2 %	9,6 %
Méditerranée (Valence – Marseille/Montpellier)	8,0 %	12,2 %
Transalpine link (connexion with Italy):		
• 1st phase (Lyon – Montmélian)	8,1 %	13,9 %
• 2nd phase (Montmélian – Turin)	7,1 %	11,4 %
Bretagne	7,4 %	13,6 %
Rhin-Rhône (full line)	5,9 %	10,7 %
Rhin-Rhône (section Dôle – Mulhouse)	8,4 %	13,9 %
Midi-Pyrénées	5,5 %	6,5 %
Pays de la Loire	5,4 %	7,7 %
Grand Sud	5,0 %	12,0 %
Picardie	4,8 %	5,0 %
Est	4,1 %	9,7 %
Auvergne	3,1 %	6,7 %
Limousin	2,4 %	4,4 %
Normandie	0,1 %	3,0 %

Source: BONNAFOUS A. (*Prés.*) (1993) Transports : pour une cohérence stratégique, rapport de l'atelier sur les orientations stratégiques de la politique des transports et leurs implications à moyen terme. Paris, Commissariat général du Plan.

3.4.5 Impacts

Goals and objectives of high speed rail

There is no concise overview of the goals and objectives set in advance for the high speed rail policy in France. As said, it evolved from a commercial objective of the SNCF in the 1950s and '60s (to improve the competitive position vis à vis the motorway network and domestic aviation) to wider objectives when the government gradually introduced its own policy. Vickerman and

Ulled (2007) give an interpretation of the broad objectives at the European scale, for the high speed rail lines in the TEN-T, which also seem to be broadly valid for the French case. This can be paraphrased as follows:

- to diminish environmental damage by transport through a shift away from road and air to high speed rail,
- to improve accessibility of regions and cohesion by high speed rail,
- to improve competitiveness of the economy by direct and indirect impacts of high speed rail on productivity,
- to reinforce the railway industry and its technological R&D.

Each of these objectives, if not always formulated explicitly, is implicit in the policies that have been pursued by the stakeholders involved, notably the national railway company SNCF (the initiator of the policy) and the successive French governments. The policy impacts, in terms of these objectives, are described in the following sections.

Impact with respect to the objective of modal shift and environment

When the first LGV opened in 1981-'83, comparable radial links on the French railway network were experiencing a slight decrease in patronage. The South-East corridor was used by 12.2 million passengers in 1980. The effect of the TGV services was that this jumped to 19.2 million in 1985. The most spectacular increase was on the following relations: between 1980 and 1984 traffic between Paris and St. Etienne multiplied by 2, that between Paris and Lyon by 2.5, that between Paris and Le Creusot - Montchanin (where a new station was created on the new line) and Paris by 7.2.

The origin of this passenger growth was estimated as:

- 33 % from air travel,
- 18 % from car travel,
- 19 % from new, induced travel.

(Bonnafous, 1987)

A series of studies (ex ante and ex post) was carried out by several institutes, to accompany the opening of the first high speed rail lines. This included a before-and-after survey carried out by the LET (Laboratoire d'Economie des Transports, University of Lyon) of business travel in the corridor, among air and rail users, in 1980 and 1985, supplemented by a survey of businesses in the Rhône-Alpes region, of which Lyon is the capital. (Bonnafous, 1987)

Business travel with the purpose of buying or selling services rose from 18% of all business trips to 22%. Table 2 shows that airplane use declined and train use grew strongly, that trips originating in the region of Lyon grew more rapidly than those from the region of Paris, and that from the former region the growth is particularly pronounced in trips connected with services (these are mostly consultancy activities).

Table 2 Changes in business travel before and after the opening of the LGV Sud-Est, between the Paris and Rhône-Alpes regions

Purpose	change in travel per purpose between 1980 and 1985 in %				
	by train	by air	originating in Paris region	originating in Rhône-Alpes region	total business trips
To buy/sell a product	+ 141	- 36	+ 84	+ 39	+ 57
To buy/sell a service	+ 247	- 38	+ 52	+ 144	+ 91
Internal contact in firm	+ 220	- 35	+ 21	+ 156	+ 89
External contact between firms	+ 49	- 77	- 42	+ 10	- 8
Others	+ 102	- 38	- 8	+ 101	+ 52

Source: Bonnafous, 1987

‘Regional expansionist’ firms were found in the service sector, that benefited from the TGV to establish themselves in the Parisian market, e.g. in the field of publicity, where the Paris region represents 70% of the national market. Nationally and internationally operating firms, for which Parisian contacts are important, found it less necessary to relocate to Paris, as the TGV made it more easily accessible. This did not work in the same way in the opposite direction, however, as is shown in table 2 by the fact that for services the number of trips from Parisians increased by 52%, whereas trips originating in the region of Lyon grew by 144%. The effect feared by some (including the author of the cited document) that Paris would start to dominate Lyon even more, did not occur. (Bonnafous, 1987)

Another phenomenon for business trips was that the number of overnight stays diminished, as same day returns became easier. This was felt in the hotel industry, where the number of stays declined strongly in some cities. For these hotels, this was not compensated by the increase in the number of tourist trips, which went to different areas (often outside the cities), where a saturation of hotel capacity arose. (Bonnafous, 1987)

As for the relocation of industries, the studies confirmed that the (passenger) transport services are only one of the factors that play a role in location decisions. The TGV is often regarded as a bonus, but not a decisive factor. (Bonnafous, 1987)

Another series of before-and-after surveys by the LET accompanied the opening of the LGV Atlantique. The surveys were carried out in 1989 (before) and 1993 (after), and were more extensive than those done for the LGV Sud-Est, as they covered all modes (air, road, rail) and all travel purposes. This study covers the full range of longer and shorter trips that can be made by the TGV Atlantique, and shows a marked difference in the impacts of the TGV according to distance. The TGV is a strong competitor of the road and air modes on distances between roughly 400 and 600 km, which represents 1.5 to 3 hours of travel time. (Klein, 1997) Note that the distance Paris – Lyon is in this distance bracket.

For shorter trips the higher fares are a major drawback; the TGV fare system, with its supplements which are independent of the distance, becomes penalising at these distances. Moreover, the

station access and egress trips become relatively more important. This means that the car remains the preferred mode and the high speed train does not diminish its use. Another factor is the need for reservation on the train, which makes the travel schedule less flexible, while the reservation procedure itself also takes time. (Klein, 1997)

For trips over about 600 km, the travel time of the high speed train is not competitive with aviation, and no shift from airplane to TGV was observed. (Klein, 1997)

In the 400 - 600 km distance bracket which is therefore the relevant market for the TGV, the Atlantique survey shows as the main characteristics of TGV travel:

- a strong competition of the train versus the airplane,
- a shortening of stays, as day returns become more frequent and overnight stays at the destination diminish,
- a growth in the number of half-day trips,
- an increase in trip frequency.

Like in the case of the TGV Sud-Est, for business trips the TGV stimulates most strongly the service sector. Another phenomenon is the increase in commuter trips, where a number of the persons who only returned home for the weekend, started to use the TGV for daily travel. (Klein, 1997)

However, contrary to what was observed in the case of Paris–Lyon, the increase in business trips from Paris to the cities served by the TGV Atlantique is much stronger than that in the other direction. This indicates that the TGV allows Parisian firms to be more present in the western and south-western markets than vice versa. It should be noted that the observation period 1989–1993 was a period of economic downturn and actually business trips in total declined. (Klein, 1997)

For the TGV Nord the distance is much shorter, travel Paris–Lille is one hour. One study concluded that 90% of firms identified no effect on their activities of TGV services, although there were changes in business travel patterns. (Vickerman & Uljed, 2007)

Generally, French studies seem to indicate that the TGV has an effect of centralising economic activities in the larger cities. (Vickerman & Uljed, 2007)

In summary, according to Klein (2002), the structure of the high speed rail lines in France is radial and strengthens the predominance of Paris, but the lines do not yet cover the full territory. For business trips, the performance of high speed rail is insufficient in relation to the size of the French territory. Its main role is for distances between 1.5 and 3 hours of travel time, i.e. roughly 400 - 600 km, but some of the largest flows are in this bracket. In the case of intra-company travel, shorter stays (day trips) become possible by train, leading to higher trip frequencies. In the service sector, which heavily relies on person-to-person contacts, it becomes easier to do business without being established locally. For the other large cities the competition with Paris increases, but this is more or less symmetrical. For the smaller cities, however, it strengthens the economic dominance of Paris.

Impact with respect to the objective of accessibility

The advantages of the high speed rail lines for the cities served by direct TGVs, on and off the new lines, have been indicated in the previous sections. Since the 1990s, the disadvantages of the high speed lines have become more apparent in the discussion. Many observers noted that regional services are sacrificed to the long distance services. The TGV is geared to direct service between the large cities, neglecting the shorter distance links that the classical long distance trains were providing at the same time. Three effects are important in this context:

- Long distance trains in the same corridor as the new TGV service are naturally discontinued and this means that regions between the TGV stations get less service, as the classic trains used to have more stops.
- TGVs that continue on the classic lines beyond the high speed network, skip stations that used to be served by the trains they replace.
- And finally, many trips across France become faster via Paris than directly, an effect which is strengthened by the connections between the high speed lines. Trains using these connections give faster services between the regions they serve, but the former transversal train services are reduced in frequency because demand for them drops and the intermediate stations on links like Lyon – Nantes get a lesser service. Those regions are trying to compensate this by improved regional services (called ‘TER’, for Transport Express Régional), but this means a considerable financial effort from the regions.

In the light of the finding that the TGV plays no role in shorter distance travel, the initiative of the region Nord–Pas-de-Calais for the combination of the TGV and TER systems, called TERGV, is notable. This system allows travellers on shorter distances to buy a pass for a day or a longer period, which entitles them to use TGVs in the region without having to pay the regular TGV supplement or make a reservation. Use is made of the surplus capacity on the regular TGVs. Its success has even led to a number of special regional TGV circulations that have been put into service. The region pays the cost of this system to the SNCF, so there is an important subsidy. Other regions are looking at this system with interest, but have not copied it so far. (VERGV, 2006; Torchin et al., 2008) This experience confirms that the fare and travel conditions of the TGV have an important effect on the fact that the TGV is generally not attractive for shorter trips.

The location of the TGV stations is an important factor in the impact of the TGV network has on the accessibility of the areas served. A distinction should be made between existing stations and stations newly built directly on the high speed lines.

Existing stations

The most important TGV stations, those of the large cities, are all in this category, with the exception of Lille Europe (which is on a high speed line). Most TGV services start and end at a main station in a large city, all have at least at one end such a station. Five of the six main terminal (rail head) stations of Paris have TGV services, the trains running in a different geographical direction each.⁷⁰ These stations, and the main stations of the other larger cities in France, are served by regional and local trains as well, providing rail connections for the TGV travellers to and

⁷⁰ These are: Gare du Nord, Gare de l'Est, Gare de Lyon, Gare d'Austerlitz and Gare Montparnasse. The one without TGV service is Gare St.Lazare.

from other parts of the region. They also have bus services and, for the larger cities, connecting tram and metro lines. The connection to the high speed network is via a shorter or longer distance of classic lines. Stations that have a short connection are e.g. Lilles Flandres, Lyon Part Dieu, Reims, Le Mans, Marseille St.Charles. But for others the trains have to travel a longer distance to reach the high speed rail line, like Strasbourg, Metz, Nancy, Dijon, Nice, Bordeaux St.Jean, Tours, Nantes, Rennes. And there are also the smaller stations on the classic lines that are used by TGVs as a continuation of a high speed line.

New stations on the high speed lines

As in other European countries, the high speed lines themselves are not built through cities in France. The exception in this respect is Spain, where a number of cities opted for a restructuring (including tunnelling) of the railway serving the existing main station plus a by-pass around the city for through trains not serving the city (Zaragoza, Burgos, Valladolid, Lleida). These ‘maximalist’ solutions were chosen in the recent period of strong real estate boom in Spain (Bellet, 2009).

The exception in France is Lille, where railway land near the city centre was used to build a completely new station on the high speed line from Paris and Brussels to the Channel Tunnel and London. There are no trains passing this station at full speed, however. The station is called Lille Europe and has become the focal point of a major urban redevelopment, called Euralille. The original station, Lille Flandres, a terminal station (rail head) closer to the city centre, continues to be used by trains of the classic lines, but also by Paris – Lille only TGVs.

Non-urban TGV stations

Apart from Lille Europe, the stations on the high speed lines are outside the cities, on the lines by-passing the cities. The map in figure 5 shows the location of these stations.

There are two very important stations in the category, both on the LGV Interconnexion Est. These are Roissy–Charles-de-Gaulle, serving the largest airport of Paris but also acting as a transfer station between TGV services, and Marne-la-Vallée–Chessy (serving the Disneyland attraction park). They are also offering interchange with the Parisian RER express metro network. Both have TGV services to many different destinations all over France and abroad, in contrast to the central Parisian terminal stations, which each serve a distinct bundle of destinations (but have much higher travel volumes). It should be noted that as part of the government’s transport infrastructure plans known as “the Grand Paris”, announced in 2009, the SNCF proposes a series of five TGV stations in a ring around Paris, with the aim to diminish congestion at the existing terminal stations, to be built by 2025. These would be at La Défense, Orly, Saint-Denis, Juvisy-sur-Orge and Villeneuve-Saint-Georges. (Voyages d’Affaires, 2009)

The other non-urban stations are of a much smaller scale, although between there are still big differences in passenger volumes and levels of service. A part of the TGVs is calling at these stations, but others are running through them at full speed. The logic for the SNCF for the connection to these stations was that they were to serve a large less populated area, and therefore had to have good car accessibility. Many have no public transport link at all, bus services having

been discontinued because of the lack of demand. In most cases a linking with train services on the classic lines was never considered, even if the high speed lines cross many classic lines.

Figure 5 TGV stations outside cities

15 GARES À L'EXTÉRIEUR DES VILLES EN 2007



Situation for 2007, unchanged for 2010.

Blue squares indicate the stations, those in black boxes are outside cities, those in white boxes are inside cities. Red lines indicate the HSR lines in service in 2010, the dotted lines those under construction or planned and the green lines the existing and planned improved classic lines.

A striking example is Haute-Picardie on the LGV Nord, already mentioned, which is located 6 km north of Chaulnes, the crossing point with the line Amiens – Tergnier, which carries TER train services (Buffier, 2004). Another example is the station Lorraine TGV on the LGV Est, opened in 2007, which is situated halfway between the cities of Nancy and Metz, but also 5 km to the east of the point where the high speed line crosses the classic main line between the two cities. It seems likely that in a few years the stop on the high speed line will be moved to the point of the crossing, offering an interchange with the Nancy–Metz TER trains. The reason for the temporary station is that the local authorities could not agree on its location in time. The present station, at Louvigny, is sometimes called the “gare de colza” (colza station) because of the crop grown around it. There are no attraction points in its vicinity and it is served by a parking lot and a few minibus services.

A drawback of these station locations is that their good accessibility by car is only attractive for the travellers living in the region, who can use their car to reach the station. Visitors to the region do not have their car available at this end of the journey, unless they use it for the whole trip and avoid the TGV (Facchinetti-Mannone, 2009).

Since these stations were planned, thinking appears to have evolved and in recent discussions on the location of non-urban TGV stations, the importance of linking up with the rest of the rail network is being highlighted. In a presentation in 2009 to representatives of local authorities, the DIACT (a government agency for spatial planning) summed up a number of important characteristics for non-urban high speed rail stations. They should:

- be connected to the local public transport networks, including the TER regional trains,
- be developed for the localisation of economic activities that are linked to the nearby city.

For urban areas below 200,000 inhabitants the level of service is more important than the location; if serving the city station is not possible, a non-urban station directly on the line may offer a better level of service, than a spur used by just a few TGVs per day. However, the link to other modes of public transport (with an attractive frequency) is important, preferably by rail (Mignerey, 2009).

There are currently only two non-urban stations which offer an interchange with regional TER trains: Valence TGV on the LGV Méditerranée and Champagne-Ardennes TGV on the LGV Est.

- The station of Valence TGV (opened in 2001) is situated at the intersection between the high speed line and the classic line Valence – Grenoble, but there is no timetable coordination, meaning that for half the TGVs calling at the station there is no effective TER connection (Facchinetti-Mannone, 2009).
- The station Champagne-Ardennes TGV was opened in 2007 and is the first station where special tracks for TER trains were added, to offer a rail connection to the city of Reims, which is 5 km away. From 2011, it will also be served by the new tramway of Reims. The city station of Reims also sees a number of TGV services (5 return services per day to/from Paris Gare de l’Est), while the station Champagne-Ardennes TGV has a much larger number of services,

serving a variety of destinations other than Paris (VERGV, 2006; Bazin et al., 2009; Moyat, 2010).

The evolution in thinking can be seen from the fact that the two non-urban stations under construction on the new LGV Rhin-Rhône in the region Franche-Comté (first part to be opened in 2011), will both be connected to TER train services (VERGV, 2006; VERGV, 2008; Facchinetti-Mannone, 2009).

Impact with respect to the objective of competitiveness and productivity

The effects of high speed rail in France on business trips have already been described in the previous section. High speed rail appears to lead to an increased productivity and to a centralisation in the larger cities. Recent research indicates the difference within the service industry between firms with a regional and a national market. Only the latter firms are potential TGV users and are likely to be influenced by TGV supply (Bazin et al., 2009).

In most cities the advent of TGV services was used as an opportunity for urban redevelopment around the stations, often using underused or deserted railway land in the city. A very large operation was the development of the district of Part-Dieu in Lyon, including a new station, but this was linked to many more factors than just the arrival of the TGV services in 1981. A spectacular development was Euralille, a new station and district in an area of railway yards, in which a TGV station had to be built because the original main station is a terminal and cannot be used by through trains. The opportunity was used to create a new business district at this location, designed by a famous architect (Rem Koolhaas). Its success shows that high speed rail can act as a catalyst for urban investments, which in their turn can make the city more attractive for the location of economic activities (Immoquest, 2009).

Another interesting example is Le Mans, the city where the western branch of the LGV Atlantique ends. SNCF's original plan was to build a by-pass around Le Mans, ending at junctions with the classic main lines west of the city in the directions of Rennes and Nantes. The city lobbied successfully against this by-pass and the high speed line was built with a junction with the classic main line on the Paris side of the city, all trains passing through Le Mans central station. Using land on the site of former industrial and railway facilities, a new station was built next to the original station, associated with an important office development (known as Novaxis of Gare Sud) and a complete remodelling of the station surroundings (including expansion of parking capacity for cars and bicycles, redesign of traffic circulation, integration of the city's new tramway line and the bus station), making the station a new focal point of transport interchange. Another effect is that the barrier effect of the railway is much reduced. The potential of these developments would have been quite different in case a new station had been built on the by-pass line, in the periphery of Le Mans (Facchinetti-Mannone, 2009). The planning of this redevelopment started before the TGV first arrived in Le Mans.

Interestingly, it appears that such success is not initiated by the firms that want to relocate, but by the real estate developers that decide to develop new office space. A survey of the occupants of new offices close to the station in the centre of Reims shows that the presence of a TGV service was only a marginal factor in their location decision. The supply of new office space was the main

factor, locating in new surroundings was attractive. But it was the decision of the developers to construct the offices in a previously run down area near the main station of Reims, that was clearly influenced by the advent of the TGV service. This made them consider the station surroundings in a different way than they would have done otherwise and sparked off the development (Bazin et al, 2008; Facchinetti-Mannone, 2009). In many other cities, stations were renovated and surrounding districts redeveloped in expectation of the arrival of the TGV.

As indicated in the previous section, the situation for non-urban stations is entirely different. Recent publications aimed at the real estate sector underline the attractiveness of urban TGV stations for development projects, but at the same time warn against non-urban TGV stations (Immoquest, 2009). This is based on a number of examples where real estate investments near non-urban stations, intended to attract new economic activities, completely failed. A clear example is Le Creusot TGV, opened in 1981 on the LGV Sud-Est, which is at some 8 km from its namesake city. Before the line opened, the local authorities had visions of large firms and even government agencies relocating from Paris to the area around this station, but in reality nothing like that happened (Facchinetti-Mannone, 2009; Immoquest, 2009).

In other cases, however, the creation of new TGV links and stations has not been accompanied by new development initiatives. In this respect there is a clear relation between the location and function of the TGV station and investments. Whereas substantial investments were made in places like Lille and Lyon, the location of other stations like Haute-Picardie, almost literally “in the middle of nowhere” does not substantiate such investments. There are little or now existing economic activities on which can be build, meaning that substantial investments are required to build up such new economic activities. This would at the same time go to the disadvantage of development plans in existing urban areas.

The TGV thus seems to be successful in strengthening existing rail stations areas, but less successful in stimulating new development in areas where there is insufficient economic basis. This is strengthened by the effect that large cities have a better level of service, while smaller cities or greenfield stations have a low level of service of the TGV, only a few trains per day halting at those stations.

As we indicated earlier, many regions and cities are claiming new high speed lines and TGV services. This is illustrated by the association ‘Villes et Régions européennes de la Grande Vitesse’, an association of French regional and local authorities promoting high speed rail at the service of social and economic development. This association signalled that LGVs should not necessarily be directed to Paris (which was the logical thing to do in the beginning, but in the present list of new lines, see figure 4, many are not directed to Paris).

Impact with respect to the objective of railway industry R&D

From the early trial with high speed rail, the interest of the railway industry in France was clear. Recently, a strong concentration has taken place in the railway industry, and there are now only a few large multinational firms active in this field. One of these is Alstom, which has factories worldwide, but its head office France. Alstom is leader of the consortium responsible for the successive TGV generations and it used the high speed rail operations from the beginning as a

showcase for export opportunities. Its big competitor was and is Siemens, with the German high speed train set ICE.

An aspect of this is a series of speed records, which started with record of 331 km/h in 1955 mentioned in an earlier section, and culminated with the record of 574.8 km/h in April 2007 on the LGV Est, just before the opening for regular service.

The export success of the Alstom high speed technology is limited. Train sets exported to Spain started to run in 1992, and those exported to South-Korea in 2004. Part of the Alstom technology is used in the Acela Express that runs since 2000 between Boston and Washington in the United States. A sale of train sets to Argentina was concluded in 2008, but this was suspended due to lack of funds. Currently an order for high speed trains in Morocco (Tanger – Kenitra) is in the final negotiation stage (Railway Gazette, 2010).

3.4.6 Comparison with other countries

France set an example in high speed rail development in Europe. Germany started high speed rail R&D earlier, but took longer to complete its first line. Italy also works at a slower pace and the same is true for Sweden. Each of these countries appears to have worked from the beginning more in a philosophy of networks, than in the French corridor (line) logic. The first new lines were shorter, relying more heavily on integration with the existing lines and on improving these for higher speeds.

French TGV logic (and its technology) was exported, by means of the international connections with the French network, to Belgium, the Netherlands and Great Britain. The map of figure 3 shows the lines and stations served in these countries. These countries now each have a line that was planned and is functioning in the French style. But as their existing networks are very different, the contribution that these lines are making to rail travel and regional development is also different. The high speed lines seem to remain more of an extra to the national rail network than the main element of it, which it is in France.

Switzerland has a number of TGV train services from France running to a number of its cities, but has a very different policy with respect to its passenger rail network and the train speeds ('Bahn 2000').

French lessons appear to have inspired Spain. After a late start, this country is constructing its high speed rail network at a higher pace than any of the other European countries. The aims are comparable to those of France, including the strengthening of economic development of the different regions. The first line was opened in 1992 between Madrid and Seville (471 km) and the network had reached a length of 1,595 km in 2009 and another 1,000 km will be added soon. (Bellet, 2009)

Another interesting aspect is the use of tilting trains on existing track versus high speed trains on new dedicated track. Italy and Spain have a long history of using these ('Pendolino', 'Talgo

Pendular') and they play a role in regional development. In France the idea came up at one stage, but was dropped later.

A strong sectoral policy focus has helped to start the high pace of development of high speed rail in France. The integration with regional development policy came later, but is now clearly on the political agenda. National pride is also an important factor, linked to the objective of securing a home market for a high tech rail industry, and this also is an element in regional thinking.

A next step in the development is the prospect of open access for international trains. These operators will have to run on the lines developed with different network logics, of course, but it will be interesting to see how they will change the landscape of operations. The first step may be the further penetration of the national railway companies in each other's territory. How will the regions served react to that?

When the construction of the high speed rail lines started in France, observers from countries like Germany and the Netherlands were surprised by the speed of the spatial planning procedures, which were much slower at home. The NIMBY problems arose later in France than in many and other countries. This was perhaps because the first French lines were built in open and sparsely populated agricultural territory. But this changed as soon as the more sensitive areas were hit. This difference between the countries seems to have much diminished; the procedure times in France have increased substantially.

3.4.7 Conclusions

Type of policy and shift

The development of high speed rail in France started as a sectoral initiative of the Railways. As soon as the regional development potential was perceived, the development of the network was increasingly geared by regional development objectives. Recent expansion plans reflect more the regional development objective than the transport efficiency objective. The argument of the shift is that regions want to reap indirect benefits from new rail terminals as they see them as bearer of new developments.

The development of stations lead in a number of cases to the reconstruction of larger areas, including housing and office space projects. The network development was therefore a vehicle for urban (re)development. Such an effect is in particular visible in places where existing train stations are being strengthened, like Lille and Lyon. In such cases the TGV offers the possibility to redevelop station areas and attract additional investments in economic activity.

At the same time around stations with little or no existing economic basis (e.g. Haute-Picardie), substantially less additional development takes place. This can be explained by the lower economic basis (i.e. sparse population and production nearby), reflecting in lower levels of service of the TGV (trains halting only a few times per day), in combination with higher needs for investment funds to build up public infrastructure and economic activity. Clearly, in such cases more is needed to strengthen regional economic development than improving accessibility by building a TGV line and station only.

Impact of TGV

The change in accessibility of the regions shows a mixed picture. Whereas the cities served by the high speed trains greatly benefit from the shorter travel times, intermediate destinations not having a TGV station may experience a worsening of the level of service, as conventional rail services are trimmed down. This reinforces the effect of strengthening the position of the already existing regional centres viz-a-viz the nearby smaller towns and villages.

Due to the increased accessibility, travel patterns changed in various ways. For longer distance trips (1.5 to 3 hours) the TGV became an attractive alternative for road and air travel, thereby contributing to more sustainable travel. The service also generated travel, as it promoted commuting over longer distances and made the duration of social and business trips shorter. The increased travel is in some cases more oriented towards Paris, the administrative and business centre of the country, and less towards the regional cities. In case of the largest cities outside Paris, travel towards regional cities grew faster than towards the Paris.

The impact on regional development also shows a mixed picture. It is generally found that larger cities at sufficient distance from Paris profit from the increased accessibility, while smaller cities do not profit from these developments.

Top performers

With respect to development of high speed rail network, France clearly is one of the top performers. It has a well developed network that not only serves the transport needs, but also related impacts such as:

- how high speed rail development can promote regional development;
- that development can be based upon sound transport efficiency considerations;
- that development of the network can also boost innovation of the rolling stock industry.

The case also shows some risks, such as:

- improved accessibility may negatively affect cities nearby dominant economic centres;
- accessibility of towns not served may reduce;
- a radial system may negatively affect interregional travel and economic relations.

Some of these risks have been treated differently in other larger countries, in that a network approach is more clearly followed. As the benefit of high speed rail is especially present for distances of 400 to 600 km (1,5 to 3 hours travel), high speed rail development may be less suitable for regional developing in smaller EU countries. For instance in The Netherlands, although connected to the French system, further development of a high speed rail network was decided against because of lack of perceived regional development benefits. The density of train service on the existing network, which is much higher in the Netherlands than in France, is an important consideration in this respect, while the distances are also shorter.

The case shows that in developing the high speed rail network originally the central and sector oriented approach followed has been quite successful. France nowadays has a well developed rail network of high quality and a substantial patronage. The system thereby contributes to reaching the overall transport policy objectives regarding sustainability.

In recent years a shift can be noted towards more integrated approach in planning of rail infrastructure. The shift reflects the larger role of regions in the planning process, even though the planning itself remains central. The regions see the development of TGV terminals as possibilities to restructure urban areas and/or attract more businesses. Research shows, though, that the latter may not always happen and that the impact on regional development may be smaller than anticipated.

3.5 Spain: Motorway development

3.5.1 Positioning of the case

This case study is about the planning of the motorway network of Spain. The policy has as primary objective this development, although in later years other policy domains are also taken into consideration. The delivery process is purely sectoral.

The policy was originally conceived, managed and delivered primarily at central level, but the role of the regions has increased over time. The case is thus an example of a sectoral policy, originally at central, but increasingly also at decentral level.

Objectives/targets

		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral	√ (previously)	√ (now)	
	Other policy domains to be taken into consideration			
	Other policy domains fully on board			

	National level	Regional level	Local level
Conceive	√	√	
Manage	√	√	
Deliver	√	√	

3.5.2 Transport performance and policy mix in Spain

Motorway development in Spain

Spain has been a member state of the European Union since 1986. The country is divided into 17 autonomous communities (regions) which all have their own directly elected authorities.

Motorways are developed by the State (interregional motorways) and by autonomous regions (in case the motorway runs within the region only).

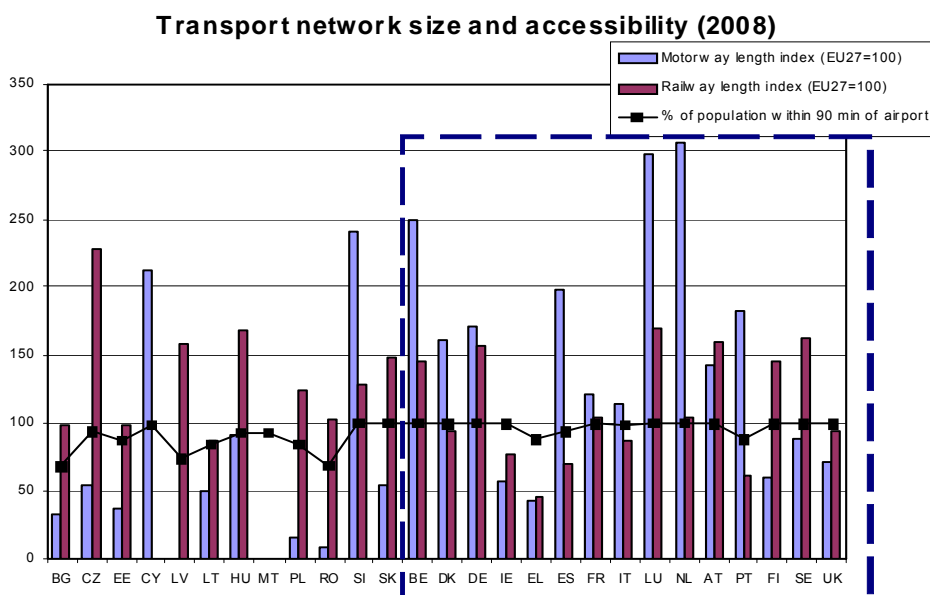
The history of motorway development in Spain can broadly be divided into three distinctive periods:

- 1960's to early 1980's: the first motorways were developed as private toll roads therefore in this case study this period will be called the **'private toll period'**;
- Early 1980's to around 2005: the private toll act was frozen and roads were developed with European funds (cohesion funds) and public budget. In the remainder of this case study this period will be referred to as the **'cohesion fund period'**.
- 2005 – 2020: cohesion funds are no longer available to Spain, a Strategic Infrastructure and Transport Plan is introduced (PEIT). Therefore this period will be referred to as the **'PEIT period'**.

Transport performance indicators

The development of the road transport system in Spain measured in terms of network length in relation to population and size of the country is well above EU27 average for road infrastructure (index of 200 for Spain vs. 100 for EU27). The figure shows that the motorway length index of Spain is comparable to that of smaller, much more densely populated countries such as Belgium, Luxembourg and the Netherlands, as well as Portugal (benefiting from the Cohesion Fund in the same period as Spain did).

Figure 1 Transport network size and accessibility in relation to population and country size (2008)



Sources: Eurostat, DG MOVE, EuroGeographics Association, JRC, EFGS, REGIO-GIS, Portugal: excluding Açores; France: excluding outermost regions

In the Global Competitiveness Report 2009-2010 Spain shows a good score on the Infrastructure pillar: out of the 133 countries reviewed Spain is ranked 28th for overall infrastructure. After market size (ranking 22nd of 133 countries), infrastructure is Spain's best performing pillar. The following ranks are found for the relevant individual elements of this Infrastructure index:

Table 1 Spain's Performance on Infrastructure pillar in the Global Competitiveness report 2009-2010

France	Ranking in group of 133 countries
Quality of roads	28
Quality of railroad infrastructure	18
Quality of port infrastructure	33
Quality of air transport infrastructure	37
Available seat kilometres	8

Source: The Global Competitiveness Report 2009-2010, page 284

3.5.3 Case-description

Objective

This case study aims to analyze the history of development of motorway in Spain. It highlights the policy changes introduced over time. It also addresses how motorway development is coordinated between the State and the autonomous regions over time. Furthermore it addresses the financing of the motorway network. Spain benefited substantially from European funds and Spain is also one of the countries with the earliest privately financed motorways. The three motorway development policy periods compared in this case study defined are for a large part finance driven:

- during the private toll period roads were financed using private funds;
- during the cohesion fund period, the road network was further developed with European funds and;
- during the PEIT period the network is further optimised with state budget and private funds, based on appropriateness of financing sources for the specific project.

From sector-oriented to more integrated development

Motorway development in Spain shifted over the years from being sector oriented in the private toll period, to a planning approach also driven by non transport objectives in the PEIT period.

- *Private toll period: sector driven*

During the private toll period private toll operators would only invest in roads where the investment cost could be recovered from user charges. Therefore, motorway development was based on demand forecast linked to the development of the first touristic areas. From the point of view of the government, who allowed the private sector to develop the motorways, there was a more integrated objective of developing the tourism industry and the economy in general. But motorway development was mainly driven by the private sector. The following figure shows that the motorway network was by 1980 concentrated in the coastal areas of Catalonia, linking Barcelona with the French border, Valencia, Alicante and Bilbao. Some smaller tranches of motorways were to be found in Madrid and linking Seville to the coast. The red lines indicate private toll motorways and the green lines represent other motorways. The grey lines show the other roads.

Figure 1: Spain's motorway network in 1980



Source: Holl, A, Journal of Transport Geography 15, 2007

- *Cohesion fund period: mainly project based moving towards planning*
During the cohesion fund period a more radial network was created, linking Madrid with the Spanish regions. The tolled motorway programme was frozen in 1982 and motorway construction was funded by the Cohesion Fund and state budget. This period can be characterized by a more project driven approach for the motorway projects funded by the Cohesion Fund. Projects that were ready for funding were developed, with the aim to optimally benefit from the European funds made available. However, a number of overall plans to create a radial road network existed:
 - 1984 – 1991 Master plan for the Roads sector
The principal objectives of the Master Plan for the roads sector were to complete and modernize the high capacity road network and to extend it from 8,000 km in 2000 to 13,000 km by 2010. In addition to operations on densely trafficked sections and on sections to complete the existing motorway and expressway network, the Plan includes new routes to provide a more closely interconnected network and to facilitate its integration into the trans-European road network.
 - 1993 – 2007 Infrastructure Plan - PDI
In the period from 1993 to 2007, policy is characterized by the social and economic importance of transport. Based on an analysis of the state of infrastructure in Spain relative to other European countries, directives were established based on regional planning. The directives were based on the empowerment of medium-sized towns and a rural system characterized by the need for provision of infrastructure with clear environmental conditions. The focus was on interurban, urban and rural transport, to gain a new equilibrium between cities.

By 2000 Madrid was linked to a large part of the rest of the country with free motorways (see figure 2)

Figure 2: Spain's motorway network in 2000



Source: Holl, A, Journal of Transport Geography 15, 2007

- *PEIT period*

By introducing the Strategic Infrastructure and Transport Plan (PEIT) in December 2004 Spain tries to ensure that public investments are no longer directed at maximizing the amount of investment projects to guarantee stability and continuity in the investment pipeline. With the introduction of PEIT, the transport policy is now based on transport planning; all decisions and actions are to be based on the transport plans. Transport planning is introduced with PEIT for the following reasons:

- planning provides adequate information for decision making, prioritization and provides insight in the consequences of decisions and actions;
- to estimate actual infrastructure needs;
- transparency in decision making process;
- facilitation of budget allocation;
- base for transport policy;
- provide synergy between different fields of infrastructure and development initiatives of other (regional) authorities.

Directives are that high performing basic network should be developed in cooperation with the autonomous regions. Furthermore, toll road concessions are only allowed if they are in line with PEIT objectives and if a free high capacity alternative is offered.

Under PEIT regional involvement in motorway development increased. On corridors where State and local roads coincide, studies regarding compatibility of investments must be done and construction must be coordinated between the different authorities, with the aim to develop the network in the most efficient way and to limit the fragmentation and conflicting or redundant

investments. Besides, road development should be based on demand characteristics and local needs.

With the introduction of PEIT, more integrated transport planning was introduced. The goals of the Strategic Infrastructure and Transport Plan (PEIT - introduced in December 2004) are directed towards sustainability. The aim in drafting the PEIT is to create a rational and efficient framework for the transport system on the medium- and long-term.

The objectives in the PEIT can be summarized into four fields:

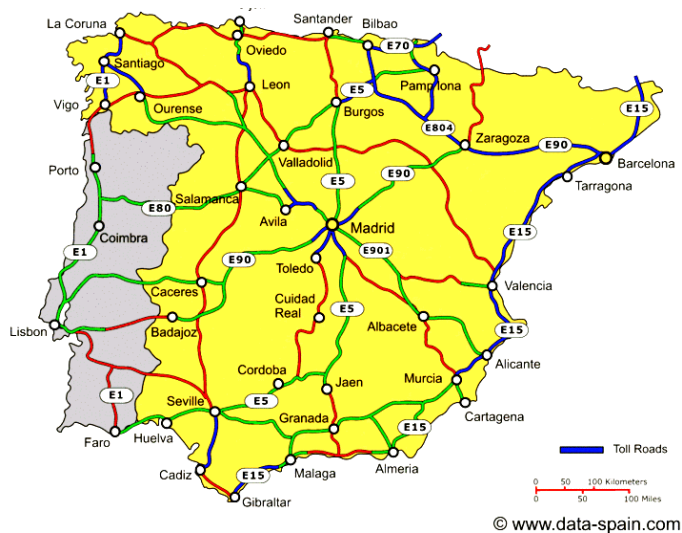
- system efficiency,
- social and territorial cohesion,
- environmental compatibility and
- economic development.

Specific objectives of PEIT are:

- To enhance the system's efficiency, in terms of the quality of the services actually provided, and to deal with the needs for the mobility of persons and flows of goods in conditions of adequate capacity, quality and safety, and in proportion to the nature of those flows.
- To enhance social and territorial cohesion by:
 - Ensuring equitable conditions of accessibility throughout the country and, in particular for non-mainland Spain;
 - Identifying the potential beneficiaries of infrastructure and transport policy, avoiding regressive transfers of income;
- To contribute to the system' general sustainability by compliance with the international commitments in the European environmental provisions, in particular in relation to Greenhouse Gas emissions.
- To promote economic development and competitiveness, by:
 - Enhancing the role of Spanish urban and metropolitan areas;
 - Reinforcing cross-border links;
 - Developing R&D+i programs and technological advances applied to the management and operation of transport infrastructures and services;
 - These qualitative objectives need to be taken as the basis for the implementation of a series of quantified objectives for the PEIT horizon year and, ultimately, with mid-term references too.

The following figure shows the Spanish State motorway network in 2009. It shows that from 2000 to 2009 the radial character was maintained and expanded, also adding some links between the radial road (north-south from Oviedo to Cadiz) and East–West from Valencia to Santiago and La Coruna, bypassing Madrid).

Figure 3 Spain's State motorway network in 2009



Level of regional involvement

The formation of several Autonomous Regions in the early 1980s led to the transfer of many roads to the new regional authorities. Since then, several of those roads have been upgraded to motorway level in order to ensure the internal cohesion of the region, or to provide alternative high-capacity routes to those managed by the national government, in case the latter were inadequate or saturated. All of the old *comarcal* roads (C-roads) comprising the secondary network were transferred to the Autonomous Communities; while the *national* roads (N-roads) that formed the primary network were mostly kept by the State.

Today, most of the high capacity roads (including motorways) in Spain (except those in Navarre and the Basque Country) are under the authority of the General Roads Directorate (*Dirección General de Carreteras - DGC*) of the Ministry of Public Works. This is a department of the central Government of Spain. Usually, the DGC manages all road maintenance, but in the case of the tolled *autopistas*, the management is commonly delegated to the concessionaire company. The following figure shows the State motorways in blue color and the regional motorways in orange. It shows that the radial network is a State network and that some regions have created interlinking roads (especially in Andalusia)

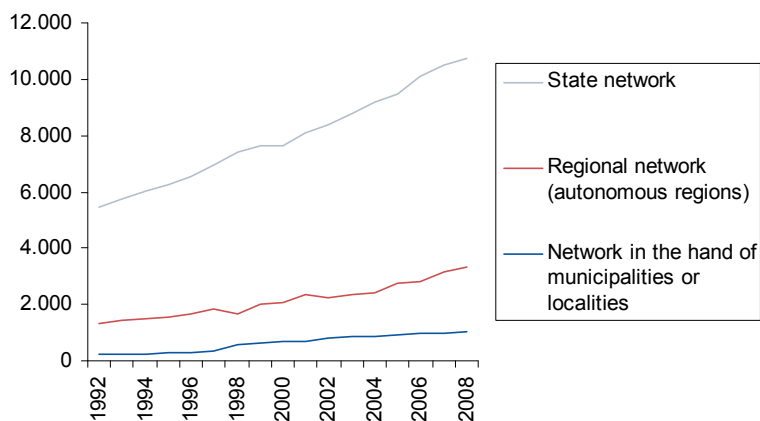
Figure 4 State and Regional motorways



Source: fomento.es

The development of Spain's motorways (high capacity) network is illustrated in the following graph, showing that most of the high capacity network was developed by the State, but that from the end of the 1990's the autonomous regions and municipalities increased their networks as well.

Figure 5 Evolution of the high capacity network in km from 1992 to 2008



Source: based on www.fomento.es

3.5.4 Impact of the policy

Since the 1960's Spain has developed a very ambitious motorway construction program. This has provided the country with an extended transport infrastructure, that links the major cities of the country and also provides improved access to European markets. The infrastructure development in Spain since the 1960's has contributed significantly to the Spanish economy.

The road network is now quite developed and at the same time of adequate quality. The motorway network was developed efficiently and effectively from the 1960's when Spain had no motorways, to the network of today. Therefore the autonomous, sectoral and sometimes project based approach to motorway development has been successful in the fast development of a network.

Now that the back-bone network is finished, a more integrated approach may be followed, to adequately fine-tune the network based on PEIT. However, results of the PEIT evaluation of 2009 are not yet published.

3.5.5 Comparison with cases in other EU-Member States

Spain is one of the top five successful EU countries when it comes to motorway development. According to figure 1, the Netherlands has the highest motorway length index in relation to population and country size, followed by Luxembourg. Spain has the highest motorway length index of the larger and less densely populated countries.

In this section, Spain's policy is compared to that of the Netherlands, both being successful in the development of motorway networks. Spain is also compared to Poland: a country with a lower level of motorway development, but with similar size and population density profile.

Specific comparison to the Netherlands

The Netherlands is a logistic hub in Europe, with the largest port of the EU. There is a lot of freight throughput on rail, inland waterways, as well as on motorways. The motorway network is well developed in terms of network length in relation to country size and population.

More than in Spain, roads development in the Netherlands is sector based, driven by congestion or other infrastructure problems leading to the development of the network. Spain's radial network is partly developed based on demand (during the private toll period) and based on the objective of regional cohesion and optimal absorption of EU funds (during the cohesion fund period). The countries differ in nature; Spain is rather peripherally located within the EU, whereas the Netherlands is not. Spain is much larger and much less densely populated. Therefore the differences in policy approach seem to make sense, the Netherlands does not have peripheral regions to the extent that Spain does, and therefore this would not be the driving force behind motorway network development. The Netherlands' motorway development shows that, due to environmental reasons, parts of the network are not in line with demand and some sections would have been developed if planning was purely based on a sector-oriented approach.

Specific comparison to Poland

The case of Poland is relevant to Spain because both countries are of similar size and both have peripheral regions that need better connection to the economic centers to improve the social and economic development of the country. Like Spain, Poland started off with a limited motorway network. The Polish development program (*Narodowy Plan Rozwoju*) stated in its main policy priorities the improvement of existing infrastructure, intensification of the existing transport system and amelioration of accessibility, regional development and road safety (Krawczyk & Siwec, 2003). According to MotorwaysPo (2008) road transportation is one of the fundamental

elements of national economy which is in line with Spanish views on motorway development in the private toll roads period and the Cohesion Fund period. However, Poland has not been quite as effective in its motorway development; between 1946 and 1979 only 109 kilometers of motorways were built in Poland, adding 80 more in the 1980s and 156 in the 1990s. Unlike Poland, Spain increased its motorway network rapidly, starting with private finance and making optimal use of the European Cohesion Fund, increasing the number of motorway-kilometers from nil in 1960 to around 5000 in 1990 to over 13,000 km today.

There are no significant differences in policy type that explain the difference in success of the motorway development policy. Like in Spain, regional involvement in motorway development in Poland was limited. The National Motorway Fund is responsible for applying for international loans (e.g. EIB) and managing several financial instruments, such as the introduction of the vignette system.

The development is planned from sector point of view in both countries. Differences may be sought in financing of motorway development. Both countries have benefitted heavily from European funds (EIB, Cohesion Fund, ERDF), although Spain has been more effective in doing so.

The results of the Polish concession system⁷¹ were rather poor, whereas the results in Spain have been good before 1982 and many motorways were developed with private finance after 1996. The analysis of the reasons for the failure of the Polish concession system in comparison to the Spanish concession system would be an interesting one, but it is outside the scope of this case study.

3.5.6 Conclusion

Type of policy

Based on the description of the three periods in motorway development it can be concluded that Spain's motorway development policy shifted over time, from a predominantly sector-oriented policy to a more integrated type of policy, in that objectives of other policy domains have been taken on board. Even though the motorway network is predominantly state owned, over time regions have become more involved in the planning of the motorway network, especially under PEIT.

Shift and arguments

According to the PEIT document the Spanish infrastructure was being developed in an autonomous way, leaving projects to compete with each other for budget rather than to support each other in providing the best services to the public. Functionality of investments had been ignored in the previous period leading to a network that is not developed in line with real demand and leaving some of the existing roads with obsolete quality and safety standards. According to the PEIT documents, the roads network is still relatively centralized in 2004, increasing the disparity between different regions and leading to concentrated economic activities around a limited number of economic centers. PEIT was introduced to address these issues. PEIT also aims to coordinate

⁷¹ The concession system was a pure BOT consortium (built-operate-transfer) building and operating the motorways and transferring later to the public partner (Rolla, 2006).

motorway development with the autonomous regions. The effect of PEIT cannot be measured as the evaluation has not yet been published and the economic crisis disturbs the effects the PEIT has on economic development.

Impact

The case study shows that the central, sectoral approach has been effective. At the same time the central, more integrated approach during the cohesion fund period has shown success in terms of number kilometers, but has also created inefficiencies.

Top performers

In summary, motorway development policy in Spain has been shifting somewhat from a purely central and sector oriented type of policy towards a more integrated type of policy. Also the regions have become more involved in planning. This shift is quite typical for many other Member States, including other top performers like the Netherlands, Germany and France. Even though the national network requires a central steering on the policy, in various Member States regions have more power in deciding on improvement of links. Also in many Member States at a particular stage of road network development (i.e. economic development), network planning takes into account other policy objectives, such as regional development and environmental concern.

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3.6 Denmark: Integrated urban planning in Copenhagen

3.6.1 Positioning of the case

This case study is about integration of land use and transport planning in the Copenhagen region. The case combines objectives of transport domain and other policy domains, in particular spatial planning. Also the instruments used are from both policy domains. The policy is designed and implemented at the sub-national level. This results in the following scores:

A. Sectoral/Integrated

Objectives/targets

		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral			
	Other policy domains to be taken into consideration			
	Other policy domains fully on board			√

B. Centralised/decentralised

	National level	Regional level	Local level
Conceive			√
Manage			√
Deliver			√

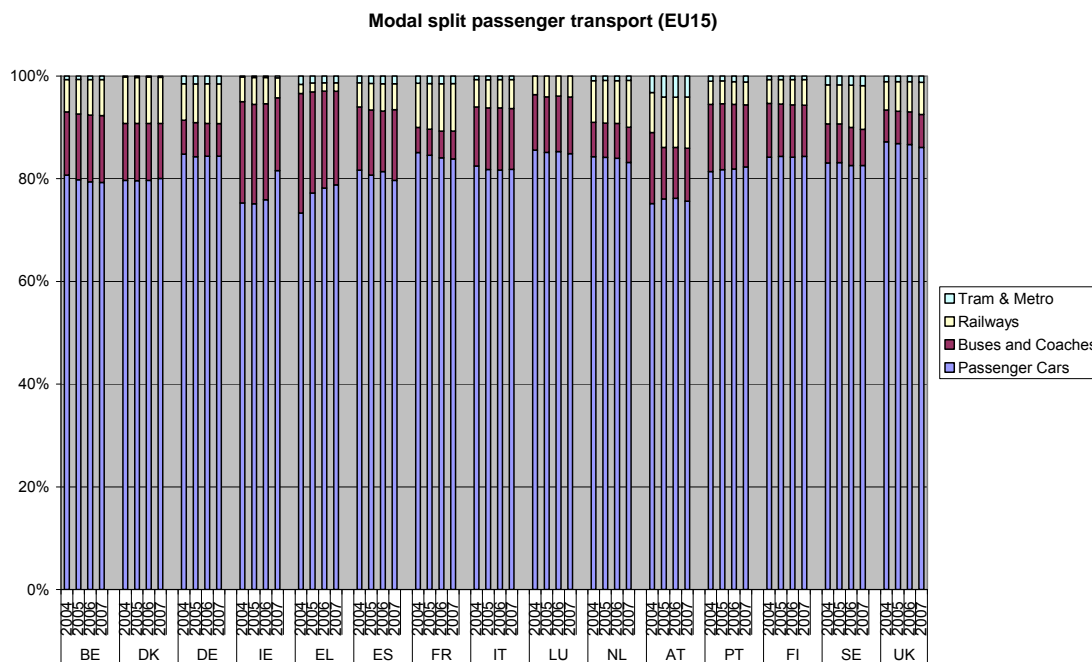
The case is thus an example of a fully integrated, decentralised policy.

3.6.2 Transport performance and policy mix in Denmark

Public transport use in Denmark

Compared to other West-European EU Member States, the share of Danish travelers using public transport, in particular railways, is somewhat above average.

Figure 3.1 Modal split of passenger transport in the EU15 countries.



Source : Statistical pocketbooks, Eurostat

Transport in Copenhagen

Copenhagen is by far the largest city of Denmark. In 2010, the city has 1.2 million inhabitants, the region 1.9 million; this is over one third of the total Danish population of 5.5 million.

The city itself is located on the far eastern edge of the island of Sjaelland. Expansion of the city could only be done in the western direction.



Public transport

Copenhagen has 1,140 buses operating on 251 routes, with 5 minute frequencies on main routes in the peak hour. In addition, it has 170 km of suburban rail network and 79 stations and five local railways run by “private” companies, operating under contract to HUR. Recent projects implemented in the region include the metro system and new high quality bus links (the “A-Network”) [TRPG].

Figure 3.2 Local trains and metro in Copenhagen - the M2-track to the airport has been opened in 2007



Biking

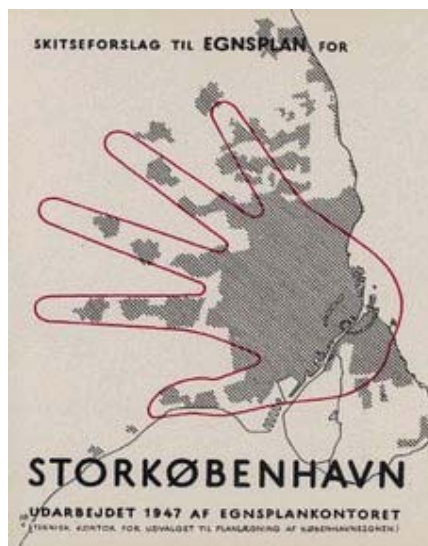
Copenhagen is a city where biking is made convenient. According to the municipality of Copenhagen, 36% of the people working in the city centre commute by bike.

3.6.3 Case-description: Copenhagen Finger Plan

General

The concept of the Finger Plan was embraced in 1947, a plan in which urban development would concentrate along five railway tracks that run westwards out of the centre of Copenhagen. In between those five “fingers” green wedges would be preserved. This concept has been more or less respected since then; it has been a starting point of all successive urban planning exercises in the area. It has evolved as a policy over time, but always with a focus on the integration of land use to the public transport available in the region.

Figuur 3.3 Cover of the first urban development plan of the Copenhagen region, dating from 1947



In this chapter we will, based on existing literature:

- describe the history of the urban development in the Copenhagen region;
- discuss to what extent goals of the finger plan policy have been reached and whether integrated planning policies should be recommended for other regions;
- assess how the different levels of government interacted in such a way the finger plan could have been respected over a period of over 60 years.

Before the Finger Plan

At the start of the 20th century the greater Copenhagen region experienced rapid population growth. The old city centre, of which the fortification had already been torn down in the late 1800's, got surrounded by a layer-structure of urban sprawl. Neighbouring villages got acquired by the city of Copenhagen until 1920. [Verje] The prospect of continued growth worried planners, who foresaw a lack of access to recreational areas for the population. In this period road infrastructure improvements were carried out to increase the accessibility of the city from outside and vice versa. Electric suburban railways radiating out from the city centre were constructed, like “fingers”, already with the purpose to stimulate urban development along the tracks. Plans for

development of green structures around the city were made in the 30s, but all developments came to a halt due to the outbreak of World War II [Hermansson].

Original Finger Plan (1947) and the 50's

Inspired by the "Greater London Plan", in 1947 a vision for urban development was prepared by Bredsdorff and Rasmussen. The existing urban city centre would be complemented by five inland fingers along the already existing S-train tracks, building on the same philosophy as in earlier years. In between the fingers green zones would be preserved [Verje]. Urban development should be concentrated along these fingers and within central Copenhagen, which would remain the principal regional centre. Suburbs along the lines should grow into small independent communities with local shopping centres, connected by train to Copenhagen. The plan was based on limited growth [Hermansson]. This was the first Finger Plan. The guidelines for contours of the Finger Plan were contained in the 1949 national act on urban regulation [Hartoft1].

According to the "Finger Plan", new suburban units were built around the S-train stations. The plan was that a new S-railway would support suburbs to the north. This line was never constructed, though, and these suburbs are currently served by the motorway to Helsingör [Hermansson].

Doubling of the population of the Copenhagen region caused more expansion than envisaged. Various development plans respected the Finger Plan, but the fingers got thicker and the wedges in-between became narrower than in the original plan [Verje].

The 60's

In 1961 an update of the regional plan was approved, called "The Strategic Outline". The main goals of the plan were to promote urban growth in the two "fingers" located west and south-west from the centre, along with developing two new centres with the purpose to relieve the city core of some pressure. The Høje Tåstrup nodal point and the entire Køge Bay "finger" are a result of this plan. The development was, as before, concentrated around the S-train stations [Hermansson].

The 70's

Initiatives at local, regional and national level safeguarded the (remains of the) wedges, approved by law by government in the 70's [Verje]. In 1973, the "Regional Plan 1973" was drawn: again this was based on "transportation corridors" and "junction centres". Regional functions including industrial and service areas were to be located in "activity zones" along the corridors north-south and east-west, this to serve both the original "Finger Plan" as well as a newly proposed development to the west. A new "corridor" would cross to connect the five "fingers". At the junctions regional centres would, as an extension of the 1961 Plan, help to relieve the city core of some pressure. Four regional centres were planned but only one, Høje Tåstrup, became reality. This plan mainly concentrated on development zones outside the finger plan area. Within the finger structure development was to be limited. The Plan further promoted a continuation of the infrastructure development begun in the 60s, bridges or tunnels were to cross Öresund to connect Helsingör with Helsingborg and Copenhagen with Malmö. A new international airport was also planned [Hermansson]. Only the bridge became reality, but not before 2000.

Due to the increase of car ownership traffic conditions worsened. The Plan proposed development of so-called terminal towns along the radials with park-and-ride activity. It also provided a number of ring road connections between the radials [Vuk].

As the public opinion was opposed to dense building and extending the road network in the city centre of Copenhagen, the fingers grew fatter than intended. The need for building became even more urgent as single family housing became more popular [Hartoft1].

1980s

In the early 80s, it became apparent that the 1973 Regional Plan was greatly over-dimensioned. Most of proposed projects never came true. In 1988, the principle of the “Proximity-to-station”-policy was formally installed. An agreement was made by the Greater Copenhagen Council and the government. The state, responsible for most investments in public transport in Greater Copenhagen, thus played an active role in design of this policy [Hartoft1].

In 1989 the new “Regional Plan 1989” was developed. This proposed a continuation of the finger plan policies: a central focus on particularly city-oriented activities and a decentral focus on “traffic nodal points” for other forms of activities were recommended. The plan further underlines the importance of coordinating traffic and local planning, with special attention for public transport. Next to this, the plan gave an important place to environmental and ecological problems [Hartoft1].

The Plan echoes the “proximity-to-station”-policy: offices and other urban functions should be located mainly within 500 m of stations along suburban rail lines; locations inside Copenhagen city center and Frederiksberg can be within 1000m of a station [Hartoft1].

The urban functions are defined by the regional plan. The Plan made explicit that for the county of Copenhagen change of land use would only be possible if development would not be possible on “proximity-to-station”-locations [Hartoft1].

1990s

Copenhagen city authorities focused their planning on minimising travel time in and out of the city with expansion of roads and public transport infra measures. Construction of metro lines started in 1994, connecting the city centre to the island of Amager and the airport. Restrictive parking policies were also installed [Vuk]. Transport junctions were created where trains would cross orbital buses. Enterprises could be established at those locations, according to the “proximity-to-station”-policy [Hartoft1]. The 1997 Regional Plan for Copenhagen county specified that the underlying principles should be based on the original “Finger Plan”.

2000s

Despite the measures above, the fingers grew thicker due to deconcentration. People were also commuting from one end of the periphery to another one [Larsen]. This was a particular challenge to the public transport system designed in spokes and not in rings and meant more car-based transportation [Larsen].

In 2001 a new regional authority was formed (HUR) with responsibility over the regional planning and public transport. This authority ensured updates of the regional plan in 2001 and 2005, still based on the Finger Plan principles.

In 2007 a big administrative reform came into effect in Denmark, reducing the number of municipalities as well as the number of regions. The Copenhagen region (HUR) was made smaller. A new regional plan (the “2007 Finger Plan”) was made and turned into a national directive, based on strengthened national planning, and reinforced the finger structure by defining four geographical zones (the core urban region, the fingers, the rest of the region and the green wedges). The principles were now incorporated in national spatial planning law.

The 2007 plan revitalises the proximity to station policy (weakened since 1989 due to lack of regional political commitment):

- Regulation of large building projects (over 1500m²): at maximum 600m from a train station
- Retail functions only allowed in town centres and close to a train station. Those retail centres are limited in size. Only towns with more than 40,000 inhabitants are allowed to have larger shopping areas.
- The quality of transport in orbital directions is being improved by the construction of the Ring Line and the City Ring line are constructed [MAP]

This new 2007 Finger plan would lead to the municipal plans to be finished in 2009. The municipal plan must contain provisions for phased development of new urban zones, negotiated with the central Department of Environment. Reservations for transport infrastructure and corridors would be determined in this overall plan.

Main observations from this historic overview

- The finger structure has been more or less adhered to over a period of more than 60 years. The idea never has been under serious pressure.
- With the inauguration of the “proximity-to-station”-policy, urban development has formally been tied to the availability of public transport, in particular the five train tracks.
- The “proximity-to station”-policy has been complemented with the decision to construct the Copenhagen metro and to take anti-car measures, like increasing parking fees and stimulating the use of bikes.

3.6.4 Impact of the Finger Plan

Hartoft [Hartoft1] mentions some goals for the “proximity-to-station”-policy, which are more or less similar to those of the finger plan policy:

- ensure mobility for all people, including for people without a car, and create a free choice of mode;
- ensure accessibility to all vital urban functions for all people;
- promote a modal shift in passenger transport from car to public transportation;
- relieve pressure, avoid traffic jams and ensure that the road network is passable;
- limit the environmental pressure from transport;
- support the economy of public transport;
- protect the green wedges between the urban fingers and thus ensure easy access to green and recreation areas close to all urban areas;
- limit the take-up of land for urban purposes.

We will explore the effects of the policy, on the basis of accessible literature. It should be mentioned, though, that existing literature appears to be limited. According to (local) experts, no more research has been done.

We will address effects on:

- urban development (housing, offices, retail areas);
- transport and mobility;
- preserving green landscape around Copenhagen;
- environment.

Impact on urban development

Urban development has mainly occurred in the fingers

It is clear from a look at the map that the finger structure still exists in Copenhagen. Green wedges, albeit perhaps not completely as envisaged, are clearly recognizable on the map.

“Proximity-to-station”-policy leads to more construction around stations, although not perfect

Hartoft [Hartoft1] has done some research about the effects of the proximity to station policy in the 90's:

- Only half of new office space has been built at proximity to station locations (1989-1999), although this is higher than for office space built in the 80s;
- 44% of residential buildings has been constructed within 1 km from station
- Of the 1400 ha land at “proximity-to-station”-locations with new constructions, only 14% has been used for offices and 18% single-family housing. 33% has been used for other commercial use.

Impact on transport and mobility

Residents and employees in the Copenhagen region at locations close to a station (in the fingers) use more public transport and drive less distance by car

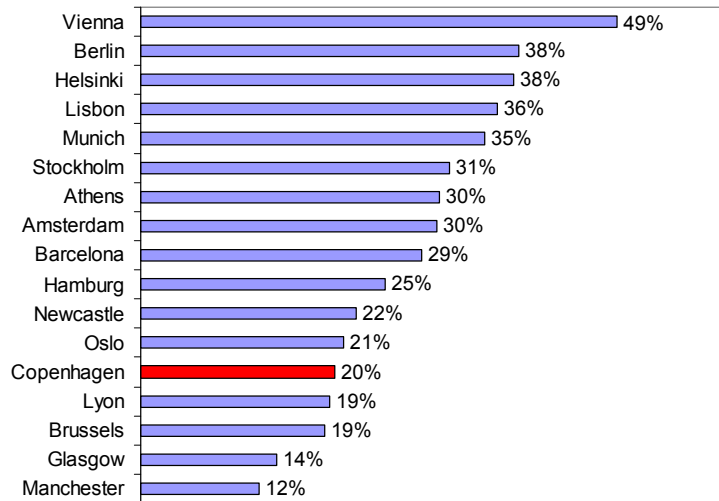
Hartoft [Hartoft1] drew some conclusions about the modal split and the intensity of transport based on a survey carried out by Urban and Regional Planning Department (DFLRI) in 2001:

- only 10-25% of office employees in inner cities use cars to commute, due to limited parking space and high parking fees and the high use of bikes and availability of public transport. Of people working more than 1 km away from a train station this is over 75-85%;
- there is a substantial variation in car use by office employees, depending on the distance between the office and the nearest station. People living more than 1km from a station drive 30-45 km on average, while people living closer to a transport junction only drive 19-25 km per day on average;
- the volume of car transport increases substantially with the distance of the residence to the centre of Copenhagen, also if controlled for socio-economic differences;
- residents in new housing areas close to a station show on average 25% less travelling by car than comparable residents in non-proximity-to-station locations.

Despite these clear findings, public transport appears not to be used to a high extent in Copenhagen, relative to some other capitals and cities in Europe (see figure below). The figure

only shows the share in motorized trips and thus does not take into account that in Copenhagen 39% of trips were made by bike or foot. The strong competition from biking may explain the relatively low share of public transport.

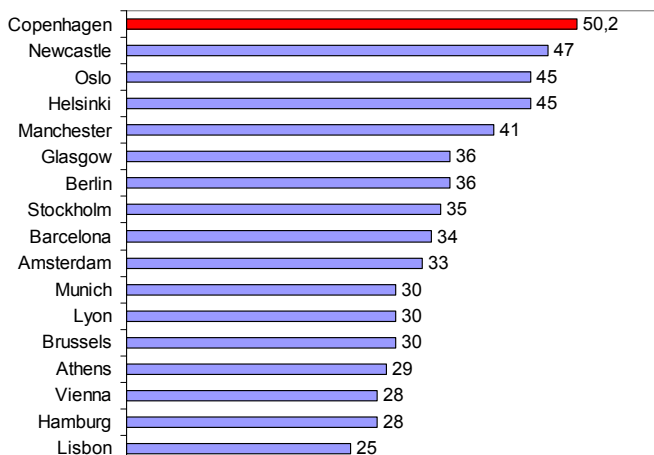
Figure 3.4 Percentage of daily motorized trips made public transport within the city in 2001. Source: Mobility in cities database, UITP



Congestion in Copenhagen is supposed to be limited compared to other major cities

[Vuk] states that thanks to finger structure and public transport policy Copenhagen is one of the few European big cities without major traffic congestion. The graph below supports this thesis for 2001.

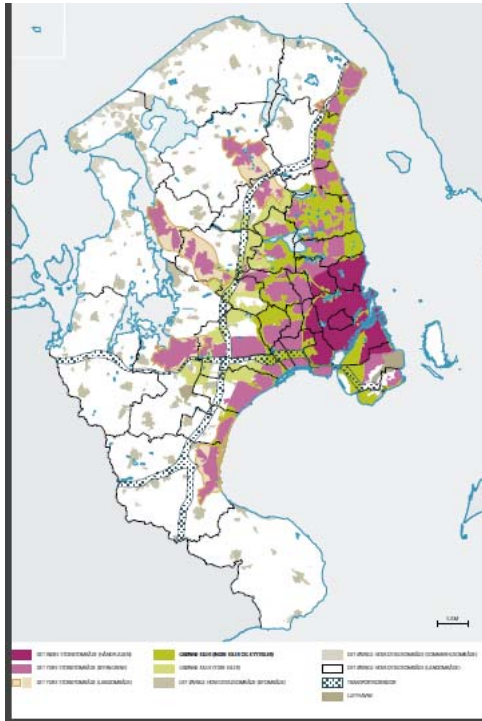
Figure 3.5 Average speed on the city road network (km/h) in 2001. Source: Mobilities in cities database, UITP



Impact on preserving green landscape around Copenhagen

It is clear from the map that the green wedges still exist to some extent.

Figure 3.6 The finger plan: purple = developed areas; green = green wedges. Source: Spatial planning in Denmark, Danish Ministry of the Environment, 2007



Impact on environment

The policy may have had an effect on the environment and emissions. There is no evidence for this, though. The fact that green areas are still to be found in the green wedges, relatively close to the urban centers, supports the thesis that the region has a relatively good access to green areas.

Successful policy

Although the paragraphs above show that empirical evidence is lacking, most experts are convinced the policy has been a success, mainly because of:

- integration of land use and mobility options has been taken into account for most of the period of 60 years;
- the green wedges have been preserved;
- congestion in the city is low, supposedly partly because of the land use policy;
- use of public transport is stimulated as work places and residences are in general well accessible;
- urban functions have mainly been constructed within the fingers.

Government and spatial development in Copenhagen area

It is very hard to say why Denmark was successful in sticking to the Finger Plan principles originating from 1947. Denmark, and in particular the Copenhagen region, underwent many reforms on the institutional level, drastically affecting the responsibilities in spatial development and transport of the different levels of government. Due to lack of evidence-based research, it is

not possible to conclude which government structure has best facilitated the application of the plan and its principles. Also a contacted expert from the Danish Department of Environment was not able to judge this.

Below short description are being given of the current spatial planning structure, and those in the past. Some advantages and disadvantages are listed. Field research is needed to judge this in detail.

Current structure (after 2007)⁷²

At the start of 2007 Denmark underwent a big national reform:

- Municipalities were reduced from 271 to 98;
- Counties were abolished;
- Regions were reduced to the number of 5.

For the Copenhagen region, special provisions were made:

- Unlike before, the Finger Plan principles were implemented in the new national planning act. A new Finger Plan for the region was being defined at state level as a directive, exactly defining the areas designated for housing development, office development, retail, etc. The national minister of environment got an obligation to veto any municipal plan that would not be in line with this.
- The 2007 plan revitalised the proximity to station policy:
 - Large building projects (over 1500m²) are only allowed at a maximum of 600m from a train station;
 - Retail is only allowed in town centres close to a train station and can not be too big. Towns with over 40,000 inhabitants are allowed to have larger shopping areas.
 - Lack in quality of transport between fingers: Ring Line and City Ring line are constructed.
- This also meant the green wedge structure was fixed at a national level.
- The regions would produce regional spatial development plans after elections. These would only describe desired planning for high-priority topics and actions the region would take to make this happen.
- In Copenhagen, the responsibility of monitoring the municipal plans and the use of the Finger Plan principles was transferred from the previously existing Greater Copenhagen Authority to the national government.
- Municipalities got the end-responsibility in their local planning. They are able to decide what parts of their territories to develop, although they have to obey the national Finger Plan. Municipal plans would be much more important.
- Municipal plans must contain provisions for phased development of new urban zones negotiated with the central ministry of environment.
- Reservations for infrastructure and public transport hence are made in the state-level Finger Plan.

This way of planning ensures the Finger Plan is being respected strongly. Deviating from it means disobeying from national law. The plan can only be changed at state level.

⁷² [Hartoft2] [Østergård2]

Structure between 2001 and 2007

Before the national reform, Denmark knew counties, consisting of several municipalities. In the Copenhagen region, the 5 counties together formed the Greater Copenhagen Authority (HUR). In this body, the five mayors and their deputies were sitting. HUR's main tasks were to [TRPG]:

- co-ordinate, develop and conduct the region's transport, including public transport;
- work out regional plans, and follow them through;
- provide a concerted traffic plan;
- manage tasks in collaboration with the wider Oresund region;
- co-ordinate and develop industrial policy and tourism within the region;
- develop cultural and other initiatives.

As the key government authority, the HUR-council had responsibility for solving political difficulties within their competence, and for the HUR budget. The counties raised money for HUR's operating budget through the county income tax, which also funded some investment, with the balance coming from national government. [TRPG]

HUR's transport committee regulated the operation of the buses and local railways. [TRPG].

Within the HUR administration there were a Transport Division and a Planning Division. The transport division administered the public buses and the six local railways, while the planning division managed regional planning and general traffic planning. Rail services operated by the Danish State Railway were run under contract from the Ministry of Transport. The Copenhagen Metro opened in 2002, and was administered by HUR. There also was an integrated tariff system for all forms of public transport within the HUR area [TRPG]. It is crucial to note that while HUR had a traffic planning function, its control over the road network was still effectively limited and most roads were controlled either by the National Roads Administration, or by the counties/cities [TRPG].

At this HUR-level, the regional plans were established, in close negotiation with the state. These regional plans contained the Finger Plan principles. As these were not formally law or national directives, within the HUR-body, negotiations could be made to amend the plans, for example by acknowledging wishes of municipalities within the wedges to build larger functionalities than originally planned. Also, municipalities were free to choose their "proximity-to-station"-area, which could be larger than in the current situation. Through this structure, the central planning principles were weaker.

1990 – 2001

Before 2001, HUR did not exist. During this period, each of the five counties made their own regional plan. The counties were aligning those with the state department, according to the Finger Plan principles and the (by then new) "proximity-to-station"-principles [Hermansson]. These had to be obeyed as an agreement after transferring responsibilities for the planning to the counties in 1990 (see below): they should, "as far as possible, mutually coordinate and find joint solutions to problems without the assistance of the Ministry of the Environment".⁷³ The Plan made explicit that for the county of Copenhagen change of land use would only be possible if development would

⁷³ (as in act of abolition of Greater Copenhagen Council in 1990) [Hermansson]

not be possible on “proximity-to-station”-locations [Hartoft1]. Apparently this was not the case in the other counties.

This meant the planning system was decentral, but local planning could not contradict planning at a higher level [Hartoft1]. However, the centre-left minister of interior (1993-2001) played a crucial role in maintaining a policy with having the right to veto in case the use of land was changed against earlier agreements [Hartoft1].

Deviations from the plans could be done within the counties themselves. This made it easier to deviate than in the situation after 2001 and additionally, alignment between the plans of the 5 counties was harder to achieve. Nevertheless, as shown above, offices and residences were constructed closer to stations than in the 80s. This could also be because of the new “proximity-to-station”-principle designed in 1989.

[Hartoft1] also discusses some barriers to the implementation of the Finger Plan during this period:

- Due to Danish legislation, it still was a long-term process to change the planned designation of a specific area. Municipal plans from as long back as the 70s were still in place, and could not be set aside with a new regional plan. In those plans, the space dedicated to possible offices was for one third on non-“proximity-to-station”-locations. These areas were defined due to foreseen growth in the 70s.
- In 1997 and 2001 regional authorities asked municipalities to reduce land dedicated for urban purposes but they refused this, as this would limit their own growth potential.
- In addition, municipalities wanted to revitalise old industrial areas by converting them into offices, although those locations could be far off from stations.
- According to Hartoft, little is known about forces driving urban development, but one driving force could be constant pressure on authorities to more intensive land use: developers can obtain higher profits in this way.

1974 – 1990

In 1990, the Greater Copenhagen Council, existing since 1974, had been abolished as a part of deregulation. The Council was explicitly responsible for the regional planning and the Finger Plan, like after 2001. See for comparison in the paragraph above.

3.6.5 Comparison with cases in other Member States

The difficulty of maintaining a spatial policy for a long period is illustrated by:

- the Dutch ‘A-B-C-policy’ for location choice of economic activities;
- the development the Budapest region;
- the planning of the Greater London region.

The ‘A-B-C-policy’

The ‘A-B-C-policy’ policy in The Netherlands was launched in two government strategy documents of 1990, concerning the national transport and the urban planning policies, and became part of the Spatial Planning Act in the same year.

Using the motto “the right activity in the right place”, the aim of the A-B-C-policy was to obtain a decrease in car use to and from economic activities that attract large numbers of trips, by furthering the location choice for these activities near well served nodes of public transport. ‘Accessibility profiles’ for the economic activities were defined as mobility profiles for the economic activities, both in three classes, A, B and C.

Class A sites would have high public transport accessibility and would be the location of activities that attract large flows of people (to work, to shop, etc.). So this meant concentration of offices, education institutions, hospitals, etc. in inner cities and surroundings of main railway and metro stations. A concentration of high rise office blocks on formerly lightly developed land near the Central Station of The Hague is a good example of this.

Class C sites would not have high public transport accessibility, but be close to motorway junctions, and would be the location of activities that involve important freight streams, but no large flows of people, and would need more workspace per employee than offices. Examples are industrial estates and distribution centres. The development of offices near motorway junctions outside the cities was clearly what the policy wanted to discourage.

Class B sites and class B activities would have an intermediate position between the two.

It was clear that the policy would only have an effect in the long run, as it was only applicable to new location decisions. It was implemented through the municipal land use plans (zoning regulations). Although there were some successes, some less positive effects also became apparent, and the policy was discontinued in 2001.

The policy was implemented by most municipalities in their land use plans. It was found that the local parking policy was a decisive factor in the mode split of travel to the area. There were some negotiations between businesses and municipalities on the norms, which were found to be too inflexible. The classification of the sites and the activities also was difficult in some instances, some businesses succeeding in influencing their classification. The capacity of class A sites was found to be insufficient, leading to the location of class A activities at class B or C locations. Only the class A locations had a public transport accessibility that was able to compete with car use, but a matching parking policy was essential. Between the B and C locations there was hardly a difference in mode split. Companies did not want to be located at B or C locations. Finally, it was found that aiming only at mode choice made the policy too inflexible as a part of a more overall urban policy.

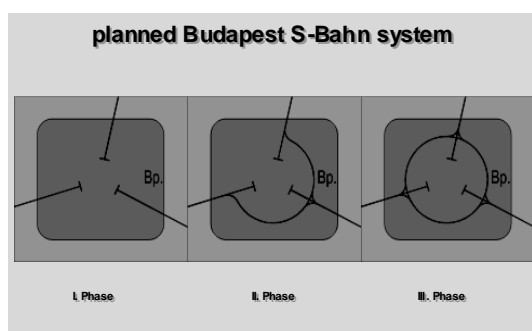
This experience led to a change in national policy in 2001. The A-B-C classification mechanism was discontinued and more freedom was given to the municipalities to decide about the land use in their territory. However, the government continued to play a role in the spatial development of important transport nodes. Next to considerations of modal split, economic, social and cultural considerations were given more weight. But the idea of influencing mode shares by considering the effects of location choices was not lost. And some municipalities used the freedom they were given to continue policies that were derived from the A-B-C policy.

The fate of the A-B-C policy illustrates that it can be difficult to pursue a policy for a long period. Accumulating experience and new policy goals may be good reasons to discontinue a policy of which it is clear that it can only work in the long run (as is the case with all spatial policies). A policy should be broadly formulated and flexible from the outset, to be able to adapt to changing circumstances.

The opportunities of the Greater Budapest S-Bahn⁷⁴

A case where the finger plan policy might be considered may be the Hungarian capital Budapest. The railway lines of Budapest are coming into the city from all directions, ending in three terminal stations. There is also a two-thirds ring connecting the lines to the three terminals. Currently, the lines are used principally by freight and longer distance passenger trains, but the plan for an ‘S-Bahn’ intends to give the railway lines also a suburban function.

The S-Bahn (the name is derived from the system of high frequency suburban train services around many cities in Germany) is being developed by the Budapest Transport Association (BKSz), grouping the national and local authorities and all public transport operators in the Greater Budapest area. It would involve adapting the national railway infrastructure (MÁV) to needs of suburban train services with much higher frequencies and speeds than the current services, and serving stations with good Park-and-Ride facilities and connecting bus services. This would make it attractive for the increasing number of car owners to take the train for their trips into the city. The figure below shows schematically how the S-Bahn network could be developed. The lines shown for phase II are already in existence, but need to be adapted to the higher frequencies. The ‘third of a circle’ added in phase III does not exist, and this would be in the area of the Buda hills, where construction of a new line would be more difficult and costly.



There is already a number suburban rail lines, which are operated by the urban public transport operator (BKV), and have already high frequencies, but relatively low speeds. These lines could also become part of the S-Bahn system.

Together, these lines might be used to form the basis of a ‘finger’-concept for urban spatial development, as in the concept of Copenhagen.

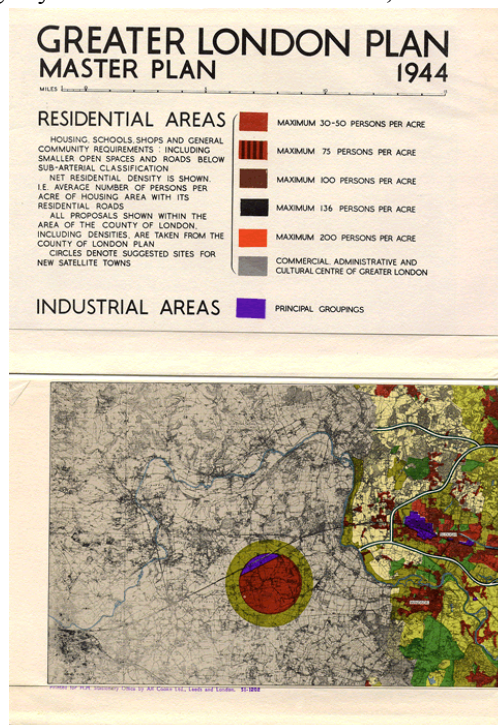
However, the urban planning for the Greater Budapest Metropolitan Area does not appear to use this logic. The current line of thinking about the urban development of the metropolitan area is to expand in concentric circles. This would mean gradually filling the space between the fingers (the S-Bahn lines). The S-Bahn plans, if implemented, seem to offer the opportunity to consider using them as the structuring element for a less car-dependent urban layout, than would the classic structure of concentric circles.

⁷⁴ The information is taken from a recent study of public transport in the Greater Budapest area, made by ECORYS on behalf of DG REGIO, concerning the fourth metro line currently under construction, including its relationship with the S-Bahn plans: Assessment of the proposed Metro Line 4, Budapest, Hungary, ECORYS, 2009 (Multiple Framework Contract for TA for major projects, Reference 2006CE160AT016, European Commission - DG Regional Policy).

Greater London Policy

London had planning since 1943 as well, and underwent similar phases of more central and more regional planning.

The Second World War and the physical damage to London stimulated new thinking about the planning of the capital in the post-War era. Patrick Abercrombie's Greater London Plan, published in 1945, was the first attempt at a regional plan for London. War or not, it was long overdue. For the area covered had 143 local authorities and, while almost all of them had either prepared a planning scheme or were in the process of drawing one up, there was virtually no co-ordination (Cherry 1972). This Greater London Plan is notable for its apparent simplicity and its clarity. With its four concentric zones overlaid by a revised transport system, it effectively put a brake on any significant expansion of London's built-up area. That was the role of the third zone, a 15 km deep ring of land, which was the basis for the present Green Belt. It was to curtail any further sprawl of the second zone, the outer suburbs, and there would be no further growth of any of the smaller towns within it. Another key feature of the Plan was its strategy of reducing densities in the first of the zones (the inner urban ring) through rehousing some one million people in an outer country ring beyond the Green Belt. Some 400,000 of these people were to be accommodated in eight new



towns some 30–50 km from London. The plan also contained limits on the amount of people should live in an area. Due to the lack of coordination, the plan did not materialize as envisaged.

In 1965, the Greater London Council was set up, replacing the former London County Council. It produced a statutory plan, the Greater London Development Plan, but this was not at all in line with the collapse of manufacturing industry tremendously affecting London's spatial needs.

When Margaret Thatcher came into power in 1979, the government's emphasis had switched in a major way from regulation to the unleashing of private enterprise. As an early sign of this, it introduced the enterprise zone (EZ) in which firms would be free of normal planning controls and able to enjoy a ten-year

freedom from property taxes. A second innovation was the setting up of urban development corporations, e.g., the London Docklands Development Corporation in 1981, directly accountable to British parliament. It had full development control powers and was able to assemble land through compulsory purchase. For example the Canary Wharf development and the construction of the Jubilee underground line were results of this. Moreover, local government, and democratic control, were bypassed. In 1986, the government abolished the Greater London Council. Responsibility for planning passed to 33 unitary planning authorities (the 32 London Boroughs

and the Corporation of the City of London). These bodies were charged with producing Unitary Development Plans (UDPs), but there was no provision for any overall plan for London (Simmons 1990). This highly radical step was widely criticised by planning bodies at the time. Would it not have been better to have reformed the GLC so that it could concentrate on key strategic functions, was one of the arguments made (TCPA 1985). But what actual difference did the abolition make? Strategic issues were dealt with through various cooperative arrangements aided by the London Planning Advisory Committee (LPAC), a joint committee of the London Boroughs and the Corporation of the City of London. And from above, the Government Office for London (GOL) produced strategic guidance following consultation with LPAC and other interests (GOL 1996).

But many issues were not being tackled. Infrastructure, in particular, the Underground system, was being allowed to decline. But above all, an adverse image was spreading of an increasingly congested and uncared for London. With no overall voice to put its case, and no overall vision, there was a fear that London would decline relative to continental cities.

The Greater London Authority Act 1999 provided for the re-establishment of citywide governance. However, the Greater London Authority (GLA) that it created is a very different organisation from the former GLC. For one thing, it is a much smaller organisation with fewer functions. For another, it has an elected mayor who is supported by a separately elected assembly. The mayor has direct responsibility for strategic planning in London and, in particular, for producing a spatial development strategy. Although said to be successful, this new structure still allows for alignment problems between the GLA and the many boroughs of London.

3.6.6 Conclusion

Continuous use of finger plan over 60 years

The continuous use of some sort of the Finger Plan concept has aligned the urban development and the transport planning in the Copenhagen region since 1948. The principles of the Finger Plan have had different legislative status over time, but municipalities had to respect them to a certain extent. Hence, urban development mostly took place close to the stations of the railway tracks running through the fingers. In between the green wedges have been preserved to a certain extent. Apparently, opposition to the finger structure has never been really strong.

This is different from another example of a well-known policy, the Dutch ABC-policy. This policy had already been abolished after 10 years due to lack of effectiveness and flexibility. In London, the non-existence of a central strategy over some period illustrates the difficulties in maintaining a common plan.

Governance structure has facilitated use of finger plan

Municipalities have always been the responsible authority in developing land. The Danish national government has been strongly involved by developing the Finger Plan, although the regional authority or the counties had been responsible for ensuring its application in the municipal plans. Apparently some stricter rules to respect the finger plan policies were needed, most importantly:

- the stricter “proximity-to-station”-principle has been added in 1989, making it even more clear what is meant by urban development along the finger structure. This principle has also been reinforced during the national reform of 2007;

- with the national reform in 2007, the responsibilities to ensure application of the finger plan were transferred to the state level while fixing the principles in a national law and directive. Whether this will result in urban development that is even more closer within the fingers can only be concluded after some years from now.

Effects of the policy were considered mainly positive

Based on research described above, the policy shows mixed results:

- residents and employees close to a train station tend to use more public transport than when located far off, and drive less kilometres by car;
- despite this the use of public transport is not exceptionally high in Copenhagen, even though average traffic speed is among the highest in urban centres in Europe;
- urban development has been done closer to the stations in the fingers than before as a result of the “proximity-to-station”-policy;
- the original green areas between the fingers still exist, albeit to less extent than originally desired.

Transferability of policy

It is clear from this case study that an integrated policy, aligning transport and spatial developments has had positive effects. The more or less strict regulation from the regional and/or state level has had a strong impact on maintaining this. A similar model could be copied by other big cities in Europe. It should be noted that most large cities have already seen lot of urban sprawl, filling up green space around the city and not necessarily close to the public transport axes, like is the case in Copenhagen. This will not likely be turned around by future alignment between transport and spatial development, as this would involve destructions of built areas, but can have positive impacts for future developments further off the city centre.

Conclusions with respect of main questions INTRALAB

- *Current balance:* the case study can not be used to draw conclusions on overall transport policy in Denmark. However, it is known that with respect to infrastructure development, Danish policy is sector oriented in terms of instruments and objectives; and of rather central nature (conceived, managed), with decentral delivery.
- *Justification:* there is no explicit reasoning found on the justification for an integrated, decentral approach. However, it appears a logical approach, as it combines effectiveness and subsidiarity principles.
- *Impact:* as indicated, the impact of the policy has been reasonably good, in particular when compared to other examples.
- *Shift and arguments:* there has not been a clear shift in type of policy over time
- *Top performers:* from this case it is hard to assess which MS are top performers in this type of policies.

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3.7 Poland: Krakow Regional Airport Development

3.7.1 Positioning of the case

This case study deals with the development of a regional airport near the city of Krakow, Poland. The case combines objectives of transport domain and other policy domains, in particular regional development. Although the policy is mainly developed at national level, there is a large regional element in it. Not only are both management and delivery at regional level, also the role of the region in policy development has been increasing over time.

This results in the following scores:

A. Sectoral/Integrated

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral		
	Other policy domains to be taken into consideration		√
	Other policy domains fully on board		

B. Centralised/decentralised

	National level	Regional level	Local level
Conceive	√	√	
Manage	√	√	
Deliver		√	

The case is thus an example of a predominantly sectoral, more or less decentralised policy.

3.7.2 Transport sector performance and policy mix in Poland

Introduction

The Polish transport system has undergone significant changes since the country's accession to the European Union in 2004. Liberalization of transport markets and availability of EU funds for infrastructure investments have boosted growth in virtually all transport sectors. Growing purchasing power has increased mobility of the Polish society and its demand for transport. Road transport is a dominant mode in Poland, but growth in civil aviation has been by far the most dynamic. The quality of transport infrastructure is, however, still insufficient and the transport services are not equally available throughout the country.

This can be illustrated by the scores of Poland on Quality of infrastructure in the Competitiveness Report⁷⁵. In this Poland scores lowest of all New Member States (EU10) on road infrastructure (2,1 as compared to 3,8 on average), lowest for rail infrastructure (2,9 versus 3,8) and almost lowest for passenger air infrastructure (3,7 versus 4,7 on average).⁷⁶

The overarching goal of the national transport policy⁷⁷ is therefore to **improve the quality of the transport system** in Poland and its development in accordance with the principles of sustainability. It is regarded as a necessary condition to accelerate economic growth, improve competitiveness of the national economy and raise the quality of living of Polish citizens to the European standards.

The emphasis is on **territorial and sectoral integration of transport system**. A priority is to **ensure accessibility of Polish regions**, particularly of the major economic centers. The National Transport Policy 2006-2025 mentions the role of accessibility in removing barriers to economic development and in increasing cohesion.

Development of regional airports is part of the larger effort to bring the transport system in Poland to the European standards and to eliminate the isolation of regions.

Airport system in Poland

There are 12 civil airports in Poland (see map in Appendix), 8 of which are part of the Trans-European Transport Network (TEN-T). On average in Poland there is one civil airport per almost 3.2 million inhabitants and 26,881 km² of land, while in the EU15 this ratio stands at around 460,000 citizens and 4,309 km² per airport.⁷⁸ This means that the network in Poland is approximately six times less dense than in more developed European countries. As a result, airport accessibility in Poland is also lower. In almost all EU15 countries the whole population can access

⁷⁵ World Economic Forum, Executive Opinion Survey 2008, 2009.

⁷⁶ See main report, Chapter 4.

⁷⁷ The strategy and objectives with regard to transport in Poland have been outlined in the National Transport Policy for 2006-2025 (adopted by the Council of Ministers on 29th June 2005) and in several other documents [National Development Strategy 2007-2015 (adopted by the Council of Ministers on 29th November 2006); National Development Plan 2007-2013 (adopted by the Council of Ministers on 6th June 2005), Operational Programme Infrastructure and Environment 2007-2013 (approved by the European Commission on 7th December 2007)].

⁷⁸ Programme for the Development of Airports and Landside Air Facilities, 2007

an airport within maximum 90 minutes travel time.⁷⁹ In Poland, as in other new Member States, this share is much lower.

Table 1 Classification of TEN-T airports in Poland according to EU criteria

Category	Airport
International connecting point	Warsaw-Okęcie
Community connecting point	Krakow-Balice
Regional connecting points and accessibility points	<ul style="list-style-type: none"> • Gdańsk-Rębiechowo • Katowice-Pyrzowice • Poznań-Ławica • Wrocław-Starachowice • Szczecin-Goleniów • Rzeszów-Jasionka

Note: Not part of TEN-T: Bydgoszcz-Szwederowo, Łódź-Lublinek, Zielona Góra-Babimost, Szczytno-Szymany. The Ministry of Infrastructure has submitted an application to the European Commission to include airports in Lodz and Bydgoszcz in TEN-T. These airports did not satisfy TEN-T conditions in 2003 when the document was negotiated. Source: The Aviation Sector in Poland, Polish Information and Foreign Investment Agency (PAIIZ), 2006; Decision No 1692/96/EC on Community guidelines for the development of the trans-European transport network

The air transport mobility index (propensity to fly)⁸⁰ in Poland is still low compared to other EU countries. In 2007 it stood at 0.4 passengers per capita (in the EU this was only lower in Romania), whereas the EU27 average was 1.6 passengers per capita.⁸¹ High growth figures in air traffic in Poland demonstrate this unlocked potential. Future growth will depend on GDP growth and the purchasing power of Polish society. The Civil Aviation Authority estimates that the propensity to fly will equal 1 around the year 2019.⁸²

Air transport in Poland is mostly used for international travels. In 2008, the total number of passengers was 20.7 million of which 5% was domestic transport. Road transport is by far the dominant mode in Poland and has grown over the past years (see Figure 1). However, growth in civil aviation has clearly outpaced growth of road transport.

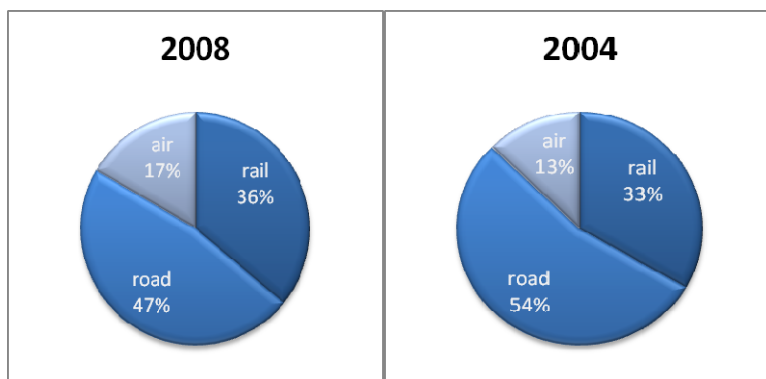
⁷⁹ The exceptions are Greece and Portugal with 88% of the population.

⁸⁰ ratio between the total number of air passenger carried and the number of inhabitants

⁸¹ Eurostat

⁸² Polish Aviation Office (ULC) forecast, April 2010

Figure 1. Market share by mode of transport in Poland (passenger km)



Data Source: Polish Central Statistical Office (GUS)

Air traffic growth

The low cost carriers (LCC) that have entered the Polish market after liberalization resulting from accession to the EU played a catalytic role in growth of air transport. With the entrance of LCC, new international connections became available at reduced price from a number of regional airports. It has generated new demand for air travel in Poland making air transport available and affordable to a larger part of the Polish society (which is in general price sensitive).

The total number of passengers at Polish airports between 2004 and 2008 increased by 130%, from about 9 million in 2004 to more than 20 million in 2008. Also from an international perspective growth of air transport in Poland has been exceptionally strong. For example, between 2005 and 2006 passenger growth at Polish airports was over 30%, while in Europe about 7%. The International Air Transport Association (IATA) forecasted passenger traffic in Poland in 2005-2009 to increase by 11.2% yearly – the highest growth rate projected for airport traffic anywhere in the world.⁸³ In fact the average annual growth rate in that period proved to be even higher (18%).

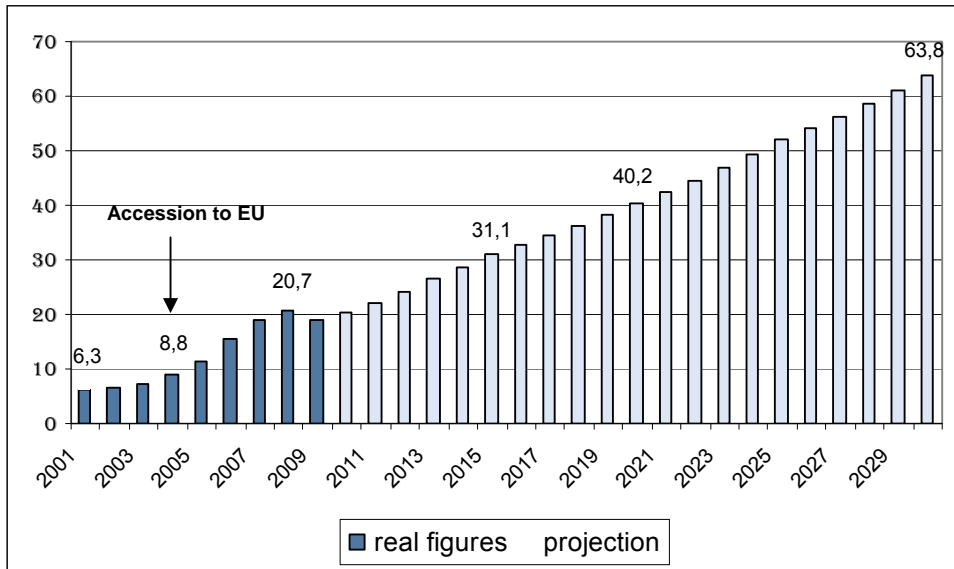
Figure 2 indicates the traffic growth over the period 2001-2009. It can be observed that especially from 2002 onwards growth accelerated, to slow down in 2008 and even show negative growth in 2009 due to economic crisis. This growth should be seen in the light of a relatively underdeveloped civil aviation market in Poland before accession to the EU (a fact which is pointed out in various studies⁸⁴). By 2030 Polish airports are expected to handle almost 64 million passengers.⁸⁵

⁸³ IATA Passenger Forecast 2005-2009

⁸⁴ See for example: Pisarek (2009), Kembowska & Nowaczyk (2008), Huderek (2008), Civil Aviation Office (2009)

⁸⁵ Polish Aviation Office (ULC), April 2010

Figure 2. Air traffic in Poland before and after accession to the European Union (million passengers)



Data Source: Polish Aviation Office (ULC)

Before the liberalization the Polish air market was a hub-and spoke system dominated by the flag carrier LOT Polish Airlines (PLL LOT) operating from the airport in Warsaw. LCC that have launched their operations at regional airports contributed to the decentralization of the airport network in Poland which was further supported by the national policy. Regional airports served 54% of passengers in Poland in 2008.

Air transport policy

The authority responsible for civil aviation in Poland is the Department of Civil Aviation – Ministry of Infrastructure. The Civil Aviation Office (ULC) performs functions of aviation administration and aviation supervision authority. The basic legal act on aviation in Poland is the decree “Air Law” promulgated on 3 July 2002. Airport charges are set individually by the airports based on rate-of-return method and require approval of the Civil Aviation Office.

To respond to the growing demand for air travel, strategic goals with regard to the development of air transport in Poland have been outlined in the Programme for the Development of Airports and Landside Air Facilities.⁸⁶ The Programme adopts the principle of further decentralisation and increased development of regional airports so as to make air services more available throughout the country.

The Programme envisages creation of several new airports, with priority given to the less developed regions of eastern Poland. However, it does not indicate the exact location of airports. Rather, it sets out rules of conduct in selecting a suitable location:

⁸⁶ adopted by the Council of Ministers on 8th May 2007

- A greenfield airport can only be built in the absence of possibility to further expand existing airports.
- Decisions about the location of new airports or adapting the existing military airports to serve civil aviation have to be justified by: (1) access time to the nearest airport; (2) potential air traffic in the region; (3) macro-economic indicators.
- The interested party has to prepare an airport master plan, feasibility study and an Environmental Impact Assessment of an investment.
- The decision whether or not the airport can be developed is given by the Polish Aviation Office based on the conditions mentioned above.

The programme also outlines the rules of financing of airport development projects. Over the period 2007-2013 development of the eight airports within the TEN-T will be supported from the Cohesion Fund in accordance with Operational Programme Infrastructure and Environment 2007-2013. The development of other (non TEN-T) regional airports will be supported from the European Regional Development Fund according to the 16 Regional Operational Programs of the voivodships (provinces). Investments at the regional level, i.e. development of local airports are in the responsibility of local authorities.

The Minister of Infrastructure has the power to influence the development of airports which are part of the TEN-T, as they constitute basic airport framework in the country and are part of the European infrastructure. The Minister ensures that the development of these airports comply with the national transport policy by approving the master plans of the airports.

3.7.3 Case-description: Krakow Regional Airport Development

Development of regional airports in Poland follows an **integrated approach**: the main objective has been to improve the accessibility of regions, with the aim to enhance their competitive position and contribute to economic development.

The distinction between a centralised and decentralised approach is in this case less obvious. It can be best described as a mix of both with **tendency towards decentralisation** as the case study demonstrates.

Introduction

Krakow Airport – basic information

Full name	John Paul II International Airport Kraków - Balice
Opened for civil aviation	1964
Type	Civil/ military
Location	Balice near Cracow (11km), Lesser Poland Voivodship (Małopolska Province), southern Poland
Area	total area of 426 hectares, approximately 24 hectares of which managed by John Paul II Kraków-Balice International Airport Ltd.
Capacity	3 million passengers (international terminal), 0.5 million passengers (domestic terminal)
No. of passengers served in 2009	2,661,294
Runway	2550m x 60m



Krakow Airport is Poland's second-largest airport after Warsaw, measured by the number of passengers, and has maintained its position for over a decade. Like other regional airports, it has largely benefited from the entrance of low cost carriers. In 2007 the airport served 3 million passengers clearly outpacing other regional airports (see Figure 4).

Better accessibility combined with the economic potential of the region soon started to attract foreign investors. Krakow is regarded as one of the top urban centres, next to Warsaw and Wroclaw, for the location of knowledge-based services. The presence of an airport with international connections, including transatlantic flights, is seen as one of the main factors determining the investment attractiveness of Malopolska province.

Regional authorities have consequently invested in the development and promotion of the airport, recognizing its role in the economic growth of the region. National government has been financing development of Krakow Airport as a supporting airport for Warsaw. Thanks to that already in 1998 Krakow had international connections. However, the involvement of state in the management structure of the airport has drawbacks leading to conflict of interest and hampering the decision making process.

The following sections give an overview of the development of Krakow Airport, its history, expansion and governance structure.

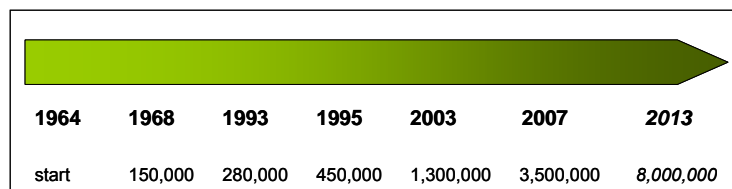
History of airport expansion at Krakow Airport

The beginning of the civil aviation at Krakow Airport dates back to 1964. The military authorities made available about 10 ha of land for the civilian part of the airport and granted the right to use airport facilities. In February of that year the airport received its first flight operated by PLL LOT. Local authorities signed an agreement with the Air Traffic and Civil Aviation Management Authority (ZRLiLK) to finance expansion of the airport. In 1968 a modern passenger terminal was opened with a capacity of 150,000 passengers a year. Connecting roads and parking lots were built.

First transatlantic flights from Krakow Airport were inaugurated in 1997. In 1998 it had regular connections with New York, Chicago and Toronto. In 2004 the first low cost carriers started to operate from Krakow. In response to growing demand, the airport has been expanded several times (see Figure 3). An important investment for Krakow Airport was launching of a light rail service between the airport and Krakow Central Station in 2006. Transfer to the city centre takes 15 minutes. Krakow is the only airport in Poland which has a railway connection with the city centre.⁸⁷

The airport's investment plan for 2007-2015 includes further expansion of the passenger terminal to about 8 million passengers by 2013.⁸⁸ An important objective is the expansion of the airport infrastructure: apron, taxiways and development of the service sector (hotel, multi-storey car park). Plans include building internal transportation circuit connecting the airport to road infrastructure (A4 highway and national roads) and to the railway line, as well as creating an internal road network.

Figure 3 Terminal capacity of Krakow Airport (passengers per year)



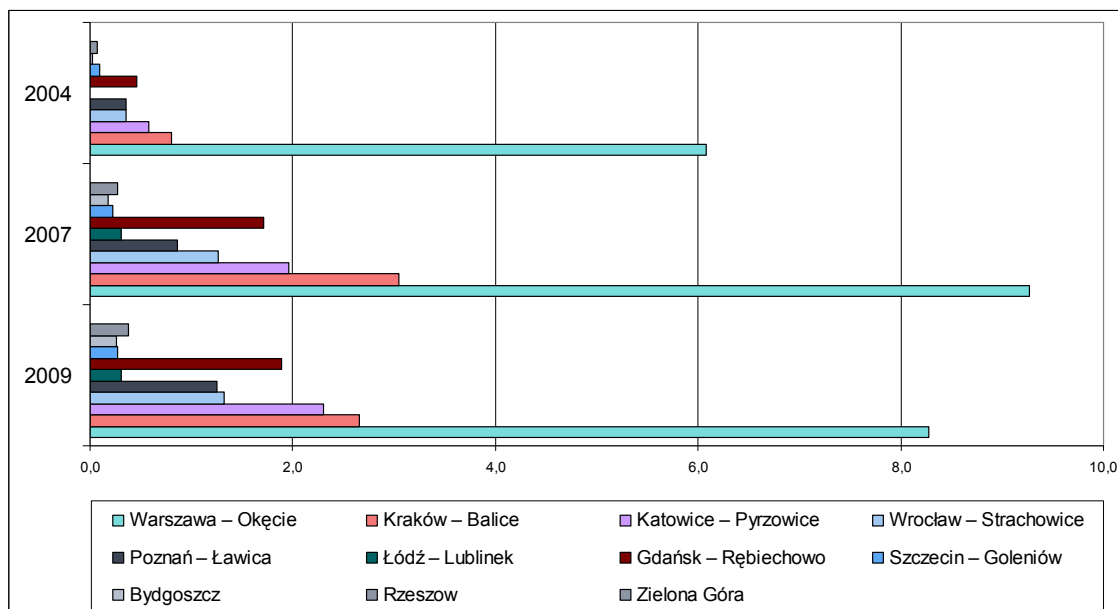
Air traffic growth at Krakow Airport

The Malopolskie Development Strategy of 2000 estimated that the Krakow Airport will serve 3 million passengers in 2015. In fact this number was reached already in 2007. It means that growth in air traffic has been even more dynamic than expected. In 2008 it has slowed down due to economic crisis.

⁸⁷ However the train station is only a temporary one located 200 m from the terminal and shuttle buses take passengers. Airport's investment plan includes modernization of the connection and integration of the rail service with the terminal.

⁸⁸ Selection of the design engineer was announced in February 2010.

Figure 3 Air traffic at Polish airports (million passengers)



Source: Polish Aviation Office (ULC)

As mentioned before, the airport has benefited from the entrance of the LCC. The first LCC to open its base in Krakow was SkyEurope, followed by Easyjet and Ryanair. Wizzair from the very beginning has established its base in Katowice-Pyrzowice (about 100 km away), the competitor of Krakow Airport. LCC were targeting their flights at Poles working abroad, with destinations such as London, Dublin, Edinburgh. Civil aviation has largely benefited from this outflow of Polish citizens to other EU countries. It started to pay off to carry migrants and their families, especially from regional airports. It used to be the entry strategy of many LCC, also in Krakow.

A major force was the tourist attractiveness of the city and its surroundings. Krakow started to be a popular travel destination among Western European tourists. Tourist attractions of the region are also Zakopane located in the mountains (the so called winter capital of Poland), the salt mine in Wieliczka, the museum Auschwitz-Birkenau, and many cultural events.

The governance structure

Historically Polish airports have been fully state-owned and managed by a centralized body – the Air Traffic and Civil Aviation Management Authority. In 1987, management of airports was taken over by a newly created State Enterprise “Polish Airports” based in Warsaw.

Decentralization followed the reforms of 1990s. The airports are now run by separate public corporations that are subject to the laws of private entities. The current manager of the Krakow Airport is the limited liability company "International Airport Krakow - Balice" formed in 1996. Currently there is no cooperation between the regional airports or between any of them and the airport in Warsaw. However, the State Enterprise “Polish Airports” is still a significant player directly managing three airports (Warsaw, Rzeszow and Zielona Gora) and holding shares in the

reminder, also in Krakow (see Table 2). The governance structure has had a large influence on the development of Krakow airport.

Malopolskie Voivodship is one of the shareholders of Krakow Airport, but the majority of shares are held by the State Enterprise “Polish Airports”. It is argued that this public enterprise is not interested in supporting development of Krakow Airport. A potential conflict of interest arises from the fact that it is at the same time the manager of Warsaw-Okecie airport.

Regional authorities were even considering establishing a separate company and leasing the runway from the military when in 2003 the management board did not want to lower the fees for low cost airlines seeking to establish their base in Krakow. As a result, the first LCC set up its base in Katowice-Pyrzowice. Krakow was close to losing huge opportunities. The conflict resulted in a change in management, and finally reduction of airport charges and entry of LCC. The city of Krakow launched a unique support scheme for operators opening new connections from Krakow – subsidies to advertisements from the city budget.

Table 2 Ownership structure of John Paul II International Airport Krakow - Balice Limited Liability Company

Main shareholders	
Shareholder	% of shares
State Enterprise "Polish Airports"	76.19%
Małopolskie Voivoship	22.73%
Municipality the City of Kraków	1.04%
Municipality of Zabierzów	0.04%

Source: Airport data

Regional authorities many times expressed their interest in buying shares from the State Enterprise "Polish Airports" if there will be such an opportunity. The government intends to commercialize the enterprise. Plans for that have been included in the Programme for the Development of Airports and Landside Air Facilities but no progress has been made so far.

The management of the Katowice-Pyrzowice airport (Slaskie voivodship), where the national government is only a minority shareholder, seems to be more successful. Thanks to greater flexibility, less politics involved and faster decision making process the Katowice-Pyrzowice airport is rapidly catching up with Krakow.

The planning process in Krakow is further complicated by the land ownership issues as Krakow Airport is shared by military and civil aviation. This dual structure has led to conflicts slowing down the expansion of the airport. The main competitor of Krakow airport, Katowice-Pyrzowice airport did not have such problems and could adjust faster to growing demand.

The issue became urgent when it turned out that the EU might refuse to give funds for the expansion of Krakow airport as it is not willing to finance projects with an unclear legal situation. The situation has been resolved only in 2009. The regional government became an owner of additional 30 ha of land. It allowed to expand the apron area, and in future to build a new terminal.

Regional authorities point out that land use is still a constraint and there is the need to change the rules to ensure the smooth development of the airport in future.

3.7.4 Impact

The main objective of developing Krakow Airport has been to improve the accessibility of the region as a whole. This in turn should enhance its competitive position and contribute to economic development.

The impact of an airport on economic activities is either by directly stimulating activities at the airport itself or (indirectly) by influencing the location decisions of firms.⁸⁹ According to surveys, 52% of companies consider international transport links to be an essential factor when locating businesses in Europe.⁹⁰ The investment decisions of firms in a wide range of countries have been significantly affected by the absence of good air transport links.⁹¹

Presence of an international airport facilitates the access to international business opportunities. This may reduce transaction costs, increase productivity and then enhance economic development in terms of higher employment.⁹² There is also a symbiotic relationship between tourism and air transport.

The economic impact of Krakow Airport on the region can be mainly observed in stimulated tourism and to some extent also in attracting business activities.

Tourism

In 2009 Malopolska was the second most visited region in Poland. The number of visitors was increasing since 2003 until the economic crisis of 2008 when a 5.6% drop occurred (Table 3). Total spending of domestic and foreign tourists visiting Malopolska in 2008 amounted to 7.8 billion PLN (about 1.9 billion EUR).⁹³

Table 3. Number of visitors coming to Malopolska between 2003-2008

	Number of visitors (in thousands)					
	2003	2004	2005	2006	2007	2008
Total Malopolska	8 585	10 024	9 846	10 715	13 200	12 454
<i>share Krakow</i>	44.7%	60.4%	58.1%	59.8%	60.2%	56.9%
Domestic	7 260	7 953	7 481	7 844	9 935	9 757
<i>share Krakow</i>	39.4%	55.3%	52.5%	54.6%	54.9%	51.7%
Foreign	1 325	2 071	2 365	2 871	3 266	2 696

⁸⁹ McCann and Shefer (2004)

⁹⁰ European cities monitor 2007, Cushman & Wakefield

⁹¹ Oxford Economics, 2005 and 2006

⁹² Percoco (2010)

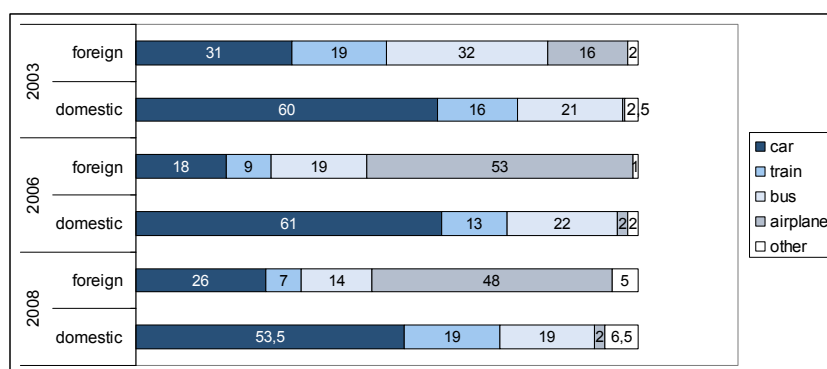
⁹³ Institute of Tourism (2008)

	Number of visitors (in thousands)					
	2003	2004	2005	2006	2007	2008
share Krakow	73.8%	79.7%	75.6%	73.9%	76.3%	75.7%

Source: Institute of Tourism, 2008

There has been a significant increase in air travel among foreign visitors. The number of travellers using air transport has increased about threefold (Figure 5). Foreign visitors came mostly from the UK, Germany, Italy, Russia and France. Domestic air transport is still not very popular. It should be noted that growth in air travel cannot be attributed entirely to the development of Krakow Airport. Some of the tourists are using Katowice-Pyrzowice airport which offers shuttle services to Krakow (travel time is about 2 hours).

Figure 5. Share of tourists visiting Malopolska by mode of transport



Source: Institute of Tourism, 2008

Investment attractiveness

Malopolska is one of the smaller Polish regions in terms of surface (12th in the country), but in terms of population it is 4th (3 million 298 thousand). It scores high on economic performance and is one of the top five Polish regions.

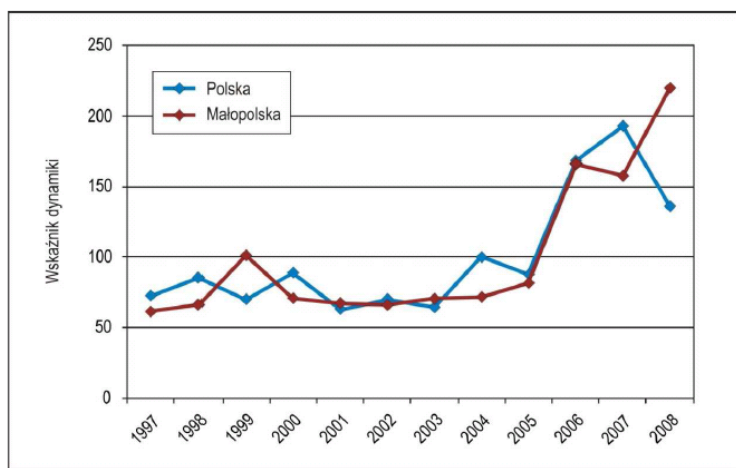
According to the analysis of the Polish Information and Foreign Investment Agency (PAIiIZ), the fastest developing sectors in Malopolska are: high-tech, automotive, tourism and the BPO sector (Business Process Offshoring). International accessibility is an important factor in location decisions of these industries.

Krakow Technology Park (KTP) established in 1998 has been very successful in attracting major players from high-tech industry. Companies such as Motorola, RR Donelley, Comarch, Az-Soft, Google, Ericpol and Car Technology have chosen to establish their branch or factory there. The results from a case study suggest that one of the success factors of KTP was the location of Krakow Airport.⁹⁴

⁹⁴ Fostering academic innovation: The 'Technoinkubator' of the Krakow Technology Park, DG Regional Policy

Malopolska is 5th in Poland in terms of invested foreign capital (2008 data). The region enjoyed a faster growth of FDI in relation to the average rate for Poland. It might be due to the extensive network of external contacts in Malopolska, as well as good transport accessibility of the region and its positive image.

Figure 5 The dynamics of foreign capital inflow to Malopolska comparing to Poland



(100% means the average annual value of investments in the years 1997-2007)

Source: Foreign Direct Investments in Malopolska, 2008

The report on the investment attractiveness of the Polish voivodships (2009) ranked Malopolska 5th out of 16 voivodships.⁹⁵ The region scores high on social infrastructure (wide range of cultural activities, well-developed gastronomy and hotel infrastructure and active cultural institutions) and on labour market (above average quality of human resources). It has one of the lowest unemployment rates among the Polish regions (9.7% in 2009, comparing to 11.9% for Poland).

Its transport accessibility has been only ranked 9th. It suggests that the quality and availability of land infrastructure is poor and this cannot be outweighed by the presence of an airport. Airport infrastructure should also be better integrated with other modes of transport.

It should be also noted that there are large disparities among the sub-regions of Malopolska with some locations performing well above the average and some below it.

The city of Krakow and its surroundings (the so called Krakow Metropolitan Area, KOM) are the engines of economic growth and they seem to benefit most from the development of Krakow Airport. Krakow is the recognized Polish capital of culture and the second most important academic centre in Poland with reputable universities and highly qualified labour. Majority of tourists visiting Malopolska are coming to Krakow (see Table 3).

⁹⁵ Investment Attractiveness of voivodships and sub-regions of Poland 2009, The Gdańsk Institute for Market Economics (IBnGR)

A COFAR report (2001) found that the airports are central job-creation points in their region and in their area the unemployment rate is usually lower than in the rest of the region. This is also the case for Krakow (subregion).⁹⁶

Krakow is also attracting majority of foreign investments that come to the region (Table 4). Regional authorities offer various instruments of support for the investments, but the vast majority of these investments so far went to Krakow Metropolitan Area (74.6%), and almost one third to the city of Krakow.

Table 4 Inflow of foreign investment to Malopolska (million USD)

Area	Until 1998		1999-2003		2004-2008	
	Investment value	Share (%)	Investment value	Share (%)	Investment value	Share (%)
Krakow Metropolitan Area (KOM)	1685.0	58.6	2725.1	78.5	5276.9	82.2
Krakow	1497.1	42.6	2299.1	66.3	3959.9	61.7
KOM suburbs	173.7	9.3	337.6	9.7	908.0	14.1
KOM commuting zone	15.2	6.7	88.4	2.5	409.0	6.4
Cities above 20,000 inhabitants (outside KOM)	202.5	27.9	397.3	11.5	637.0	9.9
Cities below 20,000 inhabitants (outside KOM)	190.2	9.8	232.8	6.7	338.8	5.3
Rural areas around cities (outside KOM)	13.1	1.3	36	1.0	104.7	1.6
Other rural areas	23.3	2.5	77.1	2.2	62.9	1.1
Total	2114.9	100.0	3468.2	100.0	6420.4	100.0

Source: Foreign Investments in Malopolska in 2008, Malopolskie Obserwatorium Gospodarki

In Malopolska the inflow of foreign investment is strongly related with the human capital (correlation $R = 0.70$).⁹⁷ This relation is stronger than in the case of transport accessibility ($R = 0.61$). The strongest correlation exists with an investment attractiveness index and not with its sub-indices. It is consistent with the view that the extent to which an airport succeeds in its role as a catalyst of economic development depends strongly on the ability of the region to meet the requirements of international companies other than just a well connected airport.

3.7.5 Comparison with cases in other EU-Member States

The formation of the EU common market and the rise of the low cost carriers, the increased utilization of larger regional jets, conversion of former military airfields into commercial service airports and the growth and expansion of the number of regional carriers have been the key drivers for the growth of regional airports throughout Europe.⁹⁸

⁹⁶ For socio-economic data see Appendix

⁹⁷ Foreign Investments in Malopolska in 2008, Malopolskie Obserwatorium Gospodarki

⁹⁸ Gillen (2006)

Most EU countries have opted for decentralized management of regional airports. One exception is the Spanish airport system which is managed in a centralized way through a publicly owned organization (AENA) that depends on the Ministry of Public Works and Transport (Ministerio de Fomento) and has full control over Spanish airports. This centralized system has been justified with the arguments of territorial redistribution. The profits generated by the major airports can be used to compensate the losses of the smaller, less profitable ones, subsidizing services to remote areas.

However, results from studies⁹⁹ suggest that a decentralized approach with an individual management of airports could yield better results for Spanish regions. As regional airports have different geographical constraints, individual strategies would be better suited to unleash their full potential.

Ireland has moved from a centralized system to an individualized management in order to constrain the monopolistic behavior and to promote a more efficient performance of airports. In United Kingdom the idea of centralizing the airport system was abandoned for the same reason.¹⁰⁰

Some level of national supervision seems however desirable to ensure a coherent airport policy and to prevent wasteful competition among regional airports. As in many countries the airport planning and ownership has been shifted from the national to the regional level, the individual regions view airports as a possible source of economic development and are willing to subsidize them. However, there are externalities as regions ignore each other as each tries to shift economic development to their region.¹⁰¹ It is possible for a region to enjoy some economic gains as a result of an airport subsidy but the nation as a whole is likely to lose.¹⁰²

For instance in Germany the federal government has delegated a wide range of responsibilities to the federal states, including approval procedures for airfields. This has led to the conflict of interest as regional authorities are both regulators and owners. The emergence of additional regional airports leads to strong cannibalisation of traffic from nearby airports. One example can be seen in the plans to expand the Kassel-Calden airport which could take passengers away from Paderborn-Lippstadt, located 75 km away.¹⁰³

In Poland the hierarchy in airport planning has been ensured by putting in place the framework for airport development and a central approval of airport master plans.

Another course of action, next to national control of airport planning, could be privatization. This would prevent creation of unprofitable airports and reduce public burden. Further, private airports develop other sources of commercial value (retail and other businesses on and off airport land) and therefore create more employment in the region. There are numerous small airports in the UK and

⁹⁹ Tapiador et al. (2008)

¹⁰⁰ Bel, G., Fageda, X.

¹⁰¹ Gillen, D. (2006)

¹⁰² Forsyth (2006)

¹⁰³ Deutsche Bank Research (2005)

these airports produce many products, not just aviation services and use these revenues to cover costs. In most cases these airports are privately run.¹⁰⁴

Several studies¹⁰⁵ have concluded that cost efficiency does vary with ownership form. Although there is no agreement whether privately owned airports are always more efficient than the publicly owned, it appears that already a minority private interest is enough to cause a fundamental change in management attitude and bring a more entrepreneurial and commercial orientation to airport operations and strategy.¹⁰⁶ This is a relevant issue for Krakow Airport case.

3.7.6 Conclusions

Type of policy

The policy to develop regional airports in Poland was conceived at national level. The main of the policy is not only to ease capacity constraints in air travel, but also to increase attractiveness of the regions for investments and consequently increase their competitiveness. However, over time there has been shift away from the national towards the regional level. This shift is not complete, as the national government still owns considerable stakes in the regional airports. Thus, there has been a shift from centralised to decentralised approach in airport planning, albeit not a complete one.

The situation in Poland can be currently described as a mix where the initiative and the responsibility for airport development lies within regional authorities, but the national government has instruments to intervene. Moreover, the state is a shareholder (often majority) in most of the Polish airports. Privatization (partial) might be a next step leading to increased efficiency and productivity of airports, especially in a context of constrained public budgets.

Regional airports started to develop rapidly after the liberalization of air market in the EU. In Poland this growth has been particularly high. Decentralization enabled the regional authorities to respond to this growing demand and capture the benefits of it for their respective provinces. Competition among the airports was also beneficial for the customers as it brought prices down and put pressure on quality and availability of airport services. In a centrally planned system the development would have been most probably much slower and restricted to certain priority regions due to financial constraints. The monopolistic position of the national carrier PLL LOT operating from the hub in Warsaw made great contribution to the prolonged discrimination of regional airports.

Overall this integrated and (to a large extent) decentralized policy initiative has been successful. It facilitated the development of regional airports, improved accessibility and stimulated economic development of Polish regions.

There have been however several constraints which the case study of Krakow Airport has shown: ownership conflict with the military base, conflicting interests and politics involved in decision

¹⁰⁴ Starkie (2005)

¹⁰⁵ See for example Gillen (2006) and (2009), Oum et al. (2006)

¹⁰⁶ Gillen (2009)

making process due to mixed management structure. Further, the integration of airports with land transport infrastructure was insufficient to date. Regional governments are responsible for part of the infrastructure but connections between regions, highways as well as railways are a domain of the national government.

Shift in policy

The shift towards a more regional approach is thus deemed to be more effective, as the regional government can help to create and improve the conditions for further growth of the airport, thereby stimulating regional development.

Top performers

The shift towards more regional approach reflects the trends in other EU Member States, sometimes driven by the need to reduce public burden and to promote efficiency improvements. The shift also enables a stronger role in regional development. However, at the same time the regional approach may lead to competition between regional airports and subsequently inefficient investments. This might invoke again a stronger role for the central government in the future.

Lessons from the polish case

Lessons learnt from the case study can be summarized as follows:

- Decentralization of airport management provides opportunities for airport competition and efficiency improvements which benefit regional and national economy.
- Private operators can be included in the management of airports to bring more entrepreneurial and commercial approach leading to long-term planning and development of non-aeronautical activities.
- Shared ownership with military activities has a negative impact on airport efficiency and hampers development. National government need to resolve such an issue.
- The national government should create the right environment for the airports to develop their potential and increase catchment areas. This includes provision of land transport infrastructure at national level, so that regional airports will be included as nodes in the transport network.

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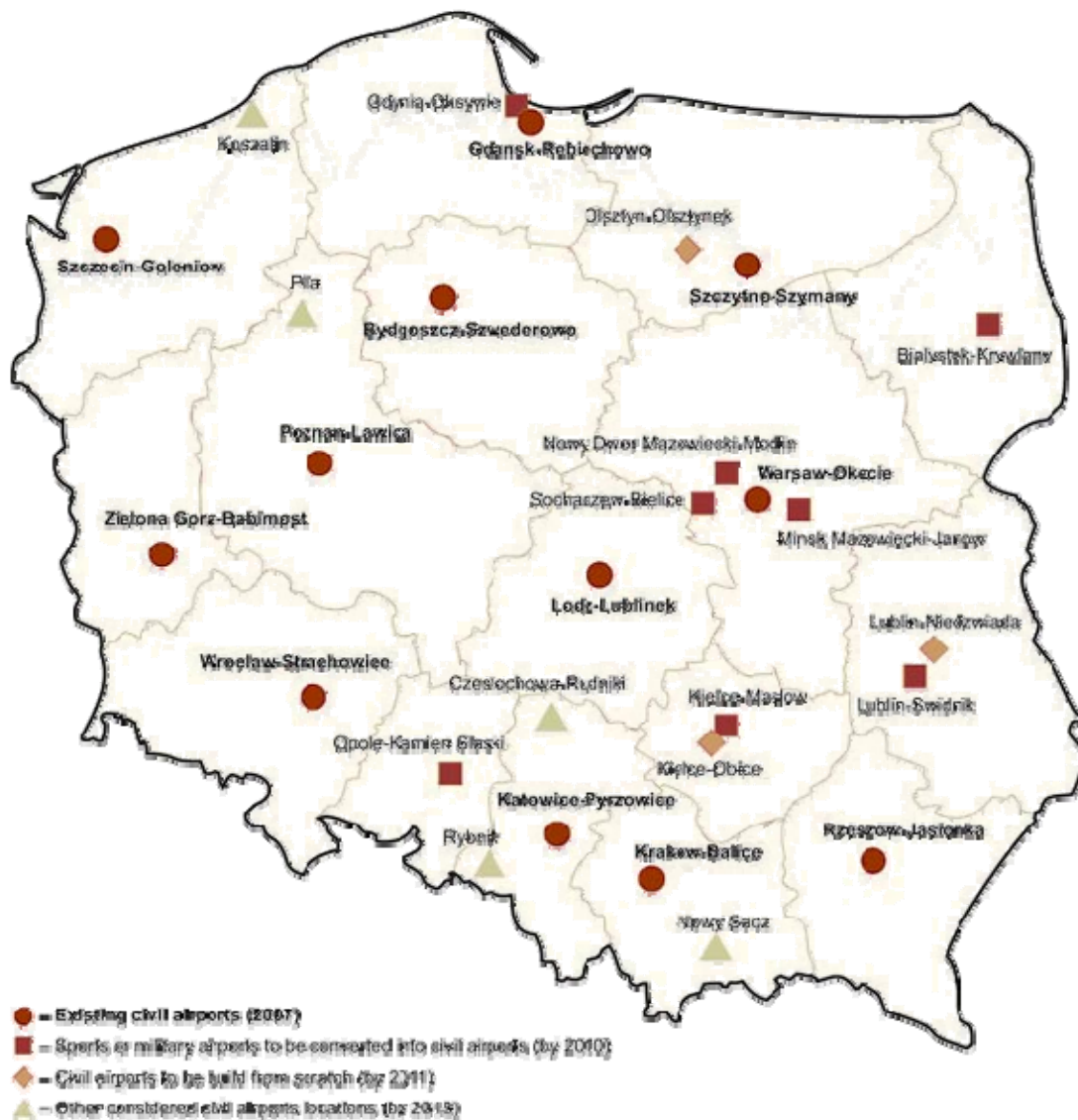
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Appendix

Figure A Existing and planned civil airports in Poland



Source: PMR Publications, 2007

Table A Socio-economic situation of voivodships and selected sub-regions in Poland

Region	Unemployment rate		GDP (current prices, million PLN)		GDP per capita (Poland=100)		Investment attractiveness [rank]
	2004	2007	2004	2007	2004	2007	2007
DOLNOŚLĄSKIE	22.4	11.4	71,353	96,666	101.8	108.7	2
KUJAWSKO-POMORSKIE	23.6	14.9	44,710	55,358	89.3	86.8	11
LUBELSKIE	17.8	13.0	36,694	45,361	69.3	67.7	15
LUBUSKIE	25.6	14.0	21,821	27,581	89.3	88.6	10
ŁÓDZKIE	19.5	11.2	57,712	72,656	91.9	91.9	6
MAŁOPOLSKIE	15.0	8.7	67,287	86,635	85.3	85.7	4
Subregion - krakowski	14.8	7.7	9,639	12,985	60.8	63.2	n/a
Subregion - Kraków	7.5	3.8	28,393	37,003	154.7	158.5	n/a
Subregion - nowosądecki	21.1	13.3	10,368	13,264	56.9	56.5	n/a
Subregion - oświęcimski	17.7	10.7	11,871	14,742	77.6	75.5	n/a
Subregion - tarnowski	16.6	10.8	7,016	8,641	63.1	60.9	n/a
MAZOWIECKIE	14.7	9.0	189,565	255,893	152.3	160.1	3
OPOLSKIE	20.0	11.9	21,895	26,618	85.8	82.9	9
PODKARPACKIE	19.1	14.2	35,416	43,685	69.7	67.5	12
PODLASKIE	16.1	10.4	21,737	27,351	74.6	74.2	16
POMORSKIE	21.4	10.7	51,783	67,073	97.5	98.5	7
ŚLĄSKIE	16.9	9.2	128,078	152,741	112.3	106.1	1
ŚWIĘTOKRZYSKIE	22.0	14.9	24,121	30,329	77.2	76.9	14
WARMIŃSKO-MAZURSKIE	29.2	18.7	26,839	32,756	77.6	74.4	13
WIELKOPOLSKIE	15.9	7.8	87,448	109,131	107.4	104.5	5
ZACHODNIOPOMORSKIE	27.5	16.4	38,079	46,904	92.7	89.8	8

* Top three scores have been marked bold
Source: Polish Central Statistical Office (GUS) data

4 Labour market case studies

4.1 Poland: Regional employment promotion in Upper Silesia

4.1.1 Positioning of case-study

The labour market policy mix in Poland is depicted in the following figures:

Balance between sectoral and integrated policies

Objectives/targets

		Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral			
	Other policy domains to be taken into consideration			
	Other policy domains fully on board			X

Balance between centralised and decentralised modes of labour market governance

	National level	Regional level	Local level
Conceive		X	(X)
Manage		X	
Deliver			X

The case study in Poland is an example of a fully integrated policy that is conceived and managed at regional level and delivered at local level in the region of Upper Silesia. With an economy in transition and a high level of unemployment, Polish labour market policies have been designed to support the provision of labour market services and the demand side of the labour market. By focusing on the areas of potential economic growth, the integrated approach focused on flexibility and adaptability in the labour market.

The three key themes of the Polish approach are:

- enhancing governance structures
- increasing active labour market policies
- promoting entrepreneurship

Even though the Polish economy has improved in general, it is notable that policies in Upper Silesia have been more successful than in comparable regions. According to research, the success can be linked to the gradual nature of the policy process applied rather than the abrupt transformation found in less successful regions.

Other key elements of success in this case:

- Local level partnerships between institutions, employers, labour market agencies and other relevant stakeholders;
- Direct links between Public Employment Services and economic sectors showing the most growth in the region;
- Provision of training courses as a method of active labour market policies;
- Special programmes for unemployed and socially excluded groups, including women
- The focus on youth to prevent out-of-school unemployment;
- Encouragement of entrepreneurial behaviour and facilitation of self-employment.

The labour market situation in Upper Silesia has improved since these targeted measures have been implemented. Nevertheless, there are a variety of improvements needed, particularly with regard to enhancing old economic and social structures, to maintain and to increase a flexible labour market.

4.1.2 Labour market performance and policy mix in Poland

The labour market model of the Upper Silesia region is a response to the state of the national economy and the capacity at local and regional level. The balance in the policies is therefore an integrated and decentralised approach.

National economy

Poland has been regarded as one of the most successful transition economies with a rise of more than 50% of economic growth during a ten-year period from the mid 1990s. The World Bank assessments however, indicated that Poland is one of only two countries in Europe within which absolute poverty has risen in recent years. Recent labour market trends are regarded as a major part of the explanation for this poverty increase. Unemployment rates across the country have been amongst the highest in Europe. From 2001 until 2007 unemployment rates across the country ranged between 18 – 20%, followed by a reduction and then the economic crisis.

During the period from 2004 and EU accession, significant emigration to the UK, Ireland and elsewhere has hit the Polish labour market. In addition, hidden unemployment, especially in rural areas, is estimated to affect around 1 million people and employment in the informal economy is just under a million. Underemployment and low productivity is another feature of the labour

market with an impact on specific sectors including agriculture and some heavy industries (for example coal mining and metal industries).

Certain demographic groups are especially badly affected by the crisis, including women, young people, people in rural areas, the unskilled as well as older workers displaced from contraction of heavy industry. The level of employment is as a consequence only 51% compared with an EU15 average of 64% and a US average of 71%.

Regional situation

The Upper Silesian Agglomeration is a region located in South Poland. Its development was to a large extent connected with heavy industry, for example the Upper Silesian Industrial Zone and the Rybnik Coal Zone. Since the beginning of the 1990s, the cities in the agglomeration struggled with the processes of heavy industry restructuring. Cities often lack effective strategies to promote the main cities in order to attract new investments. While figures vary between parts of the region, the unemployment rate, especially among youth, reached in some parts up to 30 percent.

Employment in manufacturing and mining in Upper Silesia exceeds 10% of the total employment in these sectors in Poland. It appeared as an industrial area in the early nineteenth century taking advantage of rich deposits of coal and zinc ores. Coal mining, steel production and zinc smelting became dominant activities, which represented two-thirds of industrial employment and one-third of all economically active population till the late 1980s (including 27% in coal industry alone). In contrast to the coal regions of Western Europe, the Upper Silesian Region had not undergone significant change after WW II: in fact its economic and spatial structure was inflexible due to the socialist economic policy (Kortus et al. 1989). The region has suffered from the underdevelopment of both consumer and producer services; the entire tertiary sector comprised a mere 42% of employment in 1989. Upper Silesia became exposed to the need of a rapid structural change at the same time it suddenly had to adjust to re-established market relations and global impacts

The Silesian region of Poland experienced a period of fast economic restructuring and growth (5.9% in first quarter of 2004) but which has tended to bypass the potential of the labour force and the potential to grow indigenous business (SMEs). Re-skilling of the labour force lags behind economic restructuring leading to high unemployment (19.7%), and opportunities to develop indigenous small and medium sized enterprises could have been better done with insufficient availability of capital investment and state investment (e.g. in R&D).

Sectoral versus integrated approach

This case study concerns an example of a regional, integrated approach to labour market and employment undertaken in the Upper Silesia region of Poland. The context is the challenging situation of the re-structuring of coal mining and related heavy industries in a candidate country evolving into a New Member State in which institutional development was also a key factor. The status of the labour market requires policies that will allow public employment services to support the needs of the unemployed yet meet the demands of the employers and in particular take into consideration that:

- Structural adjustments in the labour market have followed with reduced demand for labour as enterprises have restructured and the development of new but relatively capital intensive sectors in parallel
- The service sector in Poland has been limited in its development, especially in rural and heavy industrial areas (for example 50% of Polish employment but 66% in Germany and 71% in UK).
- The need to absorb large numbers of new workers following a population boom in the period 1979 – 1985

A sectoral approach would not suffice as the Upper Silesia suffers from many of the national problems that have created a challenging situation on the Polish labour market including:

- Social exclusion, including discrimination;
- Weaknesses in the education system including poor performance of schools and lack of skills development;
- VET and life long learning systems have been slow to develop and adjust to a flexible market based economy;
- The social protection systems allowed more than 2 million workers to retire early as well as lenient provision for those with disability or illness.

These factors require more than a sectoral focus with regards to labour market policies. An integrated approach has therefore been taken to promote better skills for available jobs in an adaptive and growing economy. Active labour market policies have become the preferred method to respond to the economic situation.

The demand side of the labour market in old industrial and mining regions is powerfully influenced by the way the public agencies devise programmes for using them. In particular, a major component of policy for the development of old industrial and mining regions has been to upgrade the quality of human capital in the local skill pool. This has a number of dimensions. The retraining of the existing workforce is a priority, with measures consistent with the European Employment Strategy to help workers become more adaptable and flexible – capable of responding to changing skill and productivity requirements.

Another key component of the strategy is the obvious need to capture young people early to make them more employable and to keep them from entering unemployment after full-time education. A focus on gender and, in particular, on the special needs of women returnees has been a long standing feature of this dimension of labour market policy. For the long-term unemployment and for those groups that are excluded not so much by skills deficiencies but by prejudice and discrimination, these sorts of regions have become test beds for a huge variety of schemes, projects and programmes directly targeted to particular groups and frequently particular neighbourhoods.

National, regional and local roles

Local level action is of considerable importance for older industrial and mining regions. Local actors are increasingly finding themselves dependent on creative ways to reveal their own intrinsic value to the national and international marketplace.

Conditions in Poland reflect that there has been only a limited, if any, history of local-level activity on the labour market. Labour policy has traditionally been the preserve of national (or devolved regional or provincial) government agencies. Traditionally, there exists a reluctance to devolve power to the local level, given the absence of pre-existing organisations and structures. Stakeholders from outside the public administration have little direct experience of involvement in joint activities for employment and local development.

Local Development Agencies are breaking new ground in creating local employment partnerships where little local activity took place. The partnerships benefit from, encourage and are a means toward the decentralisation of power from the national and regional level to the local level.

In addition, the involvement of local authorities and social partners became indispensable for effective delivery of LMPs as local PES offices increased and employers obtained a stake in financing ALMPs while significant regional differences in economic and labour potential became more apparent.¹⁰⁷

4.1.3 Description of case-study in Upper Silesia

The current transformation of the Upper Silesian industrial region cannot be satisfactorily explained by traditional theories nor by simple continuation of earlier trends. In contrast to the poor forecasts of the early 1990s and the experience of similar regions, the economic collapse of the Upper Silesian region has not happened and unemployment remained below the national level (see Tkocz, 2001).

In 1997 the Voivodship of Katowice established Local Development Agencies as a basis for the development of Local Pacts as initiatives for community support for development. The mission of the development agencies was to address unemployment and support local economic development in particular cities and poviats. There have been variations in the way that local partnerships have developed. Initiatives implemented have included business incubators, training centres, loan guarantee funds, counselling for SMEs and personal resource banks. In addition ten Local Employment Pacts have been developed in the region under the PHARE programme – and forming part of the Silesian regional employment strategy involving the voivodship regional government, labour office and regional partners (NGOs and business).

Since then, several strategic initiatives were launched to stimulate regional development at a regional level. These include the Regional Development Strategy 2000-2020 and the Regional Innovation Strategy 2003 – 2013. Concrete innovative measures to promote investment and diversity employment in the Upper Silesian region include the development of research and technology parks such as the Technology Park in Katowice or the Industrial Park Euro-Centrum in Katowice

¹⁰⁷ Cf. OECD (2003). *Managing decentralisation: A new role for labour market policy*.

Parallel to these economic development activities, the decentralisation of employment services started in 1998 and was completed by 2002. In general this was not done in an effective way and local institutions often did not have the capacity to undertake their functions effectively, especially as this process coincided with a rapid increase in unemployment and reduced levels of public expenditure. As a result, decentralisation became characterised by short term crisis management rather than long term strategy. Business development and attraction of inward investment was needed to complement active labour market policies in areas of rapid industrial and agricultural restructuring, but was done in a fragmented and poorly integrated manner.

The adoption of the new *Act on the Promotion of Employment and Labour Market Institutions* in 2004 mirrored a reorientation in Polish labour market policy. Instead of providing unemployment benefits, the promotion of employment became a central feature of Polish labour market policies. The activation approach is to be implemented by a new decentralised network of Public Employment Services. Lawmakers hoped that 'local' Public Employment Services would be able to bring their active labour market policies more in line with local development strategies for business and economic development.

After the passing of the Act, expenditures on active labour market policies increased significantly in Poland. In 2009, the 2004 Act was amended in order to further enhance measures to reintegrate unemployed persons in the labour market. This amendment foresaw an extension of the scope of training measures from youth only to adults and older workers as well as a change of the rules of unemployment insurance benefit payment.

Example: City of Gliwice

This city within the region has a population of just under 200 000 and been the focus of a regeneration project: "the restoration of post industrial New Gliwice zone." This aims at the restoration of former coal mining areas of the city and is placed in the context of the "regional strategy for innovation for the region of upper Silesia", the "Strategy for the Integrated Development of Gliwice" and the "Strategy for solving social problems in Gliwice 2006-15." The idea behind the strategy consists of increasing employment by providing direct assistance to self employment, micro and small businesses as well as encouraging life long learning and job creation programmes. The City can be considered as a centre for education and science with the Silesian Technical University and also the Academy of Entrepreneurship located in the city. The development strategy focusses on two business clusters; firstly; car production and automotive components and secondly the service sector. In addition, future priorities are being considered and include aviation, biotechnology, medical equipment and environmental technology (linked to clean coal).

The development of the city attaches high priority to the development of SMEs via a partnership approach that includes the education and training sectors and combines active labour market measures with passive measures. This resulted in lower levels of unemployment, new employment opportunities have been created and the SME sector has evolved, especially in the service sector. This growth has shown to be employment intensive on the one hand, but seems also vulnerable to economic downturns that reduce consumer confidence and spending on the other hand.

The relative success of the approach can be ascribed to the partnership approach, the strategic framework that gives a framework for development and the integration of passive and active labour market actions with business and economic development, drawing on the city's assets in the education sphere.

As it will be shown, there is a need for strategic public intervention to alter mechanisms that reproduce old economic and social structures. New path-dependent processes of the growth of service and non-manufacturing activities were set into motion by a specific combination of global and national processes and place-specific attributes in the early 1990s (Domanski, 2002).

Integrated approach at regional and local level

The structure of governance in the region is rather complex due to its cultural and economic heterogeneity. Major actors include regional authorities, local governments, NGOs, state agencies, state-owned enterprises, indigenous businesses and foreign investors, differ in their perception of the region, long-term strategies and everyday practices.

The first regional contract between the central state and regional authorities was signed in Katowice before the territorial reform of 1998. Influential NGOs operate in Upper Silesia and in Bielsko-Biala –Cieszyn area. All this makes a coherent regional strategy and policy of voivodship authorities difficult and threatens their social legitimation. What is clearly lacking is metropolitan governance structure at the level of the Katowice conurbation (Domanski, 2003).

Authority structure in Poland

Since 1 January, 1999, the territorial division binding in Poland comprises three independent levels of the self-government:

1. Voivodeship
2. Powiat
3. Borough

These three levels of governance are explained below.

Voivodeship

The Voivodeship's self-government determines the Voivodeship's development strategy and executes its development policy. This comprises:

- forming the conditions for economic development, including creating the labour market
- maintaining and extending the social and technical infrastructure of the Voivodeship significance
- acquiring and combining the public and private financial resources in order to execute the tasks in the scope of the public usability
- supporting and running the activities to increase the educational level of citizens
- rational usage of the natural resources and forming the natural environment with the principle of the balanced development
- supporting the development of science and co-operation between the sphere of science and economy
- promoting the technological progress and the protection and rational usage of the cultural heritage

- promoting the Voivodeship's development prospects and opportunities

The Voivodeship self-government executes the tasks of the Voivodeship nature, determined by laws and particularly in the following scope:

- public education, including the schools of higher education
- health promotion and protection
- culture and protection of its values
- social welfare
- modernising the rural areas
- land development
- environmental protection
- public roads and collective transport
- physical culture and tourism
- counteracting the unemployment and activating the local labour market

Apart from the self-governmental authorities, in each voivodeship it is the Voivod, appointed by the Cabinet that holds an office. He is the superior of the team governmental administration, the supervision body over the territorial self-government units as well as the senior body as per the regulations for administrative proceedings. The Voivod represents the treasury in the scope and upon the regulations stipulated in separate laws. Being the Cabinet's representative, he is responsible for exercising the government's policy within the voivodeship.

Poviat

There are two types of poviats: the basic territorial division unit that comprises the entire areas of the bordering boroughs – a land poviat or the whole town area – a town with the rights of a poviat. A poviat executes the public tasks of cross-borough nature. It serves the inhabitants quite a general scope, among others, it maintains and manages schools, manages the social welfare and fights the unemployment.

Borough

A borough is the fundamental community and the smallest administrative unit. The scopes of its activity comprise the public affairs of the local significance, unreserved statutorily for other entities. Predominantly, a borough is responsible for satisfying the primary, concrete needs of its inhabitants; it deals with planning and managing the lands, environment protection, public transport etc.

4.1.4 Impact of the case

The region of Upper Silesia adjusted more successfully because of a more gradual transformation of the economy and labour market than in many comparable regions in Poland and other New Member States. According to some (Damanski 2003), there is no simple or single explanation for this. Hudson (1994) has outlined five possible options for old industrial regions:

- Heritage tourism
- SME manufacturing firms
- Branch plants of large firms
- Middle class residence / consumption

- State transfer payments

In Upper Silesia, no single approach was followed. Elements of all five options were applied (with the exception of heritage tourism). The approach in the region was contrasted (Damanski) with the adjacent region of Ostrava in the Czech Republic where heavy reliance was placed on a sudden transformation process and the working of the market to ensure new employment opportunities. In Upper Silesia, the restructuring process was relatively slow and accompanied by well-coordinated and integrated labour market and business development support in other potential growth sectors and business clusters. Further, the integrated approach with regional and local institutions working together both reflected and helped to reinforce a strong lobby in relation to the needs of the region in relation to national government institutions. The success of the transformation of the region therefore can be ascribed to institutional differences with similar regions elsewhere.

George Blazyca¹⁰⁸ concludes from his analysis comparing Upper Silesia with the case of Scotland that Upper Silesia is well served by institutions and schemes for development and these have diverse origins and often bottom up with backing of combination of government support and donor assistance (prior to EU accession). Schemes to encourage self employment and micro enterprises being set up by unemployed workers from mining and related industries being good examples.

4.1.5 Comparison to other EU Member States

Despite the similarity in other cases with regards to a focus on the provision of integrated active labour market policies, the stakes are higher for regions such as the Upper Silesia than in old EU Member States. In particular, the Polish situation requires an emphasis on institutional building more so than old Member States. Although decentralisation also has taken place in countries such as the Netherlands, Belgium, Denmark and the UK, the process in these countries is more focused on the transferring of power rather than the building of capacity at local level.

It is equally hardly possible to draw parallels to the process currently undergoing in New Member States such as Romania. New Member States tend to fall within similar categories in terms of the need to focus horizontally on economic growth and capacity- building at local level at the same time. Poland is definitely a forerunner when it comes to the framework in which such transformations are currently taking place.

Romania recognized the need to provide passive labour market policies through wage compensation first in 1991. Like Poland, the cost of unemployment insurance increased to the point where changes were needed to be able to maintain the policy. To curb the growing costs, unemployment insurance laws were adapted in 2001 to include restrictions and to activate the unemployed. While the timeframe of the problem and the response were similar to the situation in the Upper Silesia, there is a significant difference in the support systems present.

¹⁰⁸ Restructuring regional and local economies, towards a comparative study of Upper Silesia and Scotland, 2004

In particular the measures to stimulate jobseeking behavior included active labour market policies in order to provide education and training that focused on the local economic needs in Upper Silesia. In Romania by contrast, there were little or no provisions for such services.¹⁰⁹

4.1.6 Conclusions

The following conclusions can be drawn in relation to the 6 key questions for this study:

- a. Of the new member states, Poland gives one of the most interesting examples of the national policy mix through which there has been a firm and clear shift from national approaches to labour market and employment policy to approaches which also emphasis a strong local and regional dimension (albeit retaining national instruments in some policy areas.) Poland is a relatively large country with significant variations in levels and characteristics of development at regional level thereby underlining the need for policy mix which reflect this diversity. In parallel to this a shift can also be seen in relation to a focus on integrated approaches, especially in relation to connecting policies for economic growth and development to labour market and employment factors, both in terms of indigenous growth and the attraction of inward investment. Again, the Upper Silesia case study demonstrates this.
- b. Promoting employment in Upper Silesia is an example of an integrated and local approach towards approaches to labour market. The decentralised approach to the provision of local employment services took place from the 1990s onwards, enabling regionally and locally based institutional structures to tackle problems of the local economy.
- c. The region of Upper Silesia has undergone a process of economic transformation since the early 1990s with the decline of heavy industry (notably coal mining) and the loss of jobs and job opportunities. The region has sought to adapt a strategic approach to development with the identification of potential growth sectors and business clusters in part building on the strengths of the region's universities and higher education capacity. This has included a major focus on employment and labour market issues, including retraining for redundant workers, training and employment opportunities for young people and training and development at enterprise level. Partnership working has aimed to ensure that training and labour market actions reflect the needs and priorities of the enterprise sector. The relatively un-developed service sector, which is usually employment intensive, has proved an important source of new jobs. Schemes to encourage self-employment and micro enterprise have also been successful.
- d. The case study concerns a new balance of various policy types which seems not to be comparable with the prior situation under Communist times.
- e. In Poland the devolution of LMP competences occurred in line with a broader transformation of post-Communist states to strengthen local democracy. Here the involvement of local authorities and social partners became indispensable for effective delivery of LMPs as local

¹⁰⁹ The Impact of EPL on the Flexicurity Policy – Case Study for Romania by Vasilica CIUCĂI, Luise MLADEN, 2008

- PES offices increased and employers obtained a stake in financing ALMPs as soon as significant regional differences in economic and labour potential became more apparent.
- f. The institutional structure has helped to ensure that the impact of the re-structuring process has not been so severe as in other comparable regions in new and indeed some old Member States. The transferability of the model used is specific to regions where the capacity of local or regional employment services is limited.

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4.2 Denmark: The case of the “Golden Triangle”

4.2.1 Positioning of case-study

The labour market policy mix in Denmark is depicted in the following figures:

Balance between sectoral and integrated policies

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral		
	Other policy domains to be taken into consideration		
	Other policy domains fully on board		X

Balance between centralised and decentralised modes of labour market governance

	National level	Regional level	Local level
Conceive	X		(X)
Manage		X	
Deliver			X

The Danish case study is an example of an integrated approach of which policy objectives are largely sectoral, even though other domains can be taken into consideration, and the instruments comprise those from other policy domains. Policies are conceived at national level (sometimes at local level), managed at regional level and implemented at local level.

By using three different angles of the labour market to achieve one common goal, the Danish flexicurity model has been attributed to be successful in the way it stimulates economic growth while maintaining a social balance. Two of these angles are sectoral approaches and one is integrated; all are indispensable for the success of the Danish labour market model.

The three angles included in the Golden Triangle are:

- active labour market policies to increase the rate of employment (integrated)
- a high level of social security to maintain a minimum level of welfare (sectoral)
- a flexible labour market to allow employers to respond to changes in the market (integrated)

The model is comparable to flexicurity measures used in other EU countries, specifically the Netherlands, though the emphasis on the three angles varies. For example, the high level of unemployment in Denmark in the early 90s, led to stronger focus on active labour market policies.

Key elements of good practice

- Combining flexibility for employers to dismiss employees in times of recession with active labour market policies to ensure a quick transfer of employment
- Mandating active job-seeking behavior as a pre-requisite to certain social benefits to reduce the length of unemployment
- Providing trainings as an active labour market measure to increase the level of highly skilled workers relevant to the needs of the labour market
- Using social partners to negotiate collective agreements to stimulate social dialogue and provide efficient solutions
- Decentralizing active labour market policies and wage systems and thereby empowering local and regional authorities to respond to local labour market needs more precisely and amend policies and measure accordingly.

While the model is now successful in the Danish labour market, it has come about through a historical process of trial-and-error and has certain limitations to its transferability. In particular, the high level of spending on social security is noted to be above the EU average. This however, is essential to the success of the model.

4.2.2 Policy performance and policy mix in Denmark

The Danish labour market policy underwent a number of reforms in the past decades, which led to a transformation of a predominantly passive approach to a more active approach toward the late 1980s and early 1990s resulting in the ‘golden triangle’ or, the ‘flexicurity model’.

Flexicurity is policy that combines flexibility to the employer -with regards to hiring and firing- with security for the employee through wage compensation if unemployed. Andersen and Svarer (2007), state that, though the term was not yet coined until the 1990s, flexicurity policies were already in place in Denmark throughout the 1970s and 1980s. Although flexicurity elements are awarded to have attractive implications, at that time the unemployment rates in Denmark were relatively high compared to other European countries.

In fact, the flexicurity model that has been used as a model for other countries and is currently in place in Denmark stems from the mid 1990s when a more active component was officially added to form the golden triangle.

In the 70s and 80s, the flexicurity-style policies placed a high demand on government resources and incorporated little incentives to re-enter employment, resulting in dramatic consequences for public finances and high levels of unemployment. Therefore, reduction of the unemployment level remained one of the spearheads of Danish labour market policy throughout the years. For this reason, the active policy component was added in the mid 1990s. The active component provided

education and training to re-educate the unemployed to be able to meet the demands of the labour market.

The policy change in the 1990s did not only add an active component but limited the duration of the unemployment benefits, tightened the eligibility criteria for the receipt of benefits and implemented “rights and duties” in relation with activation. The aim of these changes was to encourage the active seeking of employment. Having people quickly re-activated and back on the labour market, was not only in response to the high level of unemployment, but also with the intend to reduce the high level of public spending on social security. It is noteworthy that despite the high burden on the budget, these policies did not reduce the level of benefits.

The Danish unemployment rates show a sharp decline from 12.4 percent in 1993 to 1.7 percent in 2008¹¹⁰. In 2009 unemployment rates in Denmark have risen, due to the current economic and financial crisis. In February 2010, 4.1 percent of the Danish labour force was unemployed, which is still among the lowest unemployment rates in Europe¹¹¹. The Danish labour market model, or ‘Golden Triangle’, is regarded as the principal factor contributing to the notable outcomes achieved.

Table 1 Overview of relevant indicators

Indicator	OECD/EU27	Denmark
Total expenditure on social protection (% of GDP)	EU27 (2007): 26.2	28.9
Employment protection	OECD (2008): 2.25	1.91
Percentage of the adult population (25-64) participating in education and training	EU27 (2007): 9.5	30.2
Total spending on ALMPs (% of GDP)	EU27 (2007): 0.47	1.021
Employment growth (%) – 4 th quarter 2009	EU27 -0.3	-1.7
Unemployment rate (15-64)	EU27 (2009): 8.9	6.0

Source: OECD and Eurostat

Sectoral versus integrated approach

The flexicurity labour market model is somewhat in the middle between the Anglo-Saxon labour market model, which is marked by a high degree of flexibility and high levels of social security spending and the Southern European model, which is characterised by high levels of employment protection.

¹¹⁰ Source: Statistics Denmark, in *Danish Employment Policy* from the Danish National Labour Market Authority, February 2008.

¹¹¹ Source: *Denmark's National Reform Programme*, The Danish Government, October 2009.

The European Commission defined flexicurity as ‘an integrated strategy to enhance, at the same time, flexibility and security in the labour market; designed and implemented across four policy components:

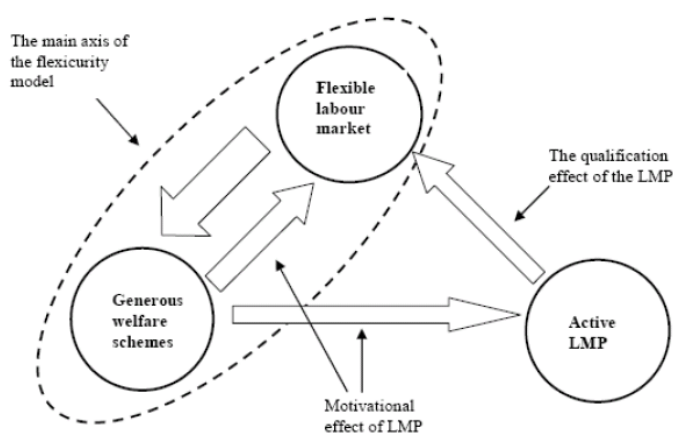
- 1) flexible and reliable contractual arrangements
 - 2) comprehensive lifelong learning strategies
 - 3) effective active labour market policies
 - 4) modern social security systems providing adequate income support during transitions”
- (European Commission 2007).

The ‘Flexicurity model’, is one of the most important characteristics of the Danish labour market policy and refers to the mix of:

- 1) A flexible labour market with a limited degree of employment protection and a high degree of mobility. This is an integrated approach, allowing companies to respond to the market and thereby fostering economic growth.
- 2) A high level of social security for the unemployed. This is also a sectoral approach as the specific benefits of this model are unemployment benefits, rather than generic welfare benefits.
- 3) An active labour market policy functioning as a disincentive effect for the unemployed, who have “rights and obligations” towards finding a job. This is an integrated approach as it not only focuses on the labour market, but also on education and training.

Together these three components make up the integrated flexicurity model, also referred to as the ‘**Golden Triangle**’.

Figure 1: The ‘Golden Triangle’ of Flexicurity



Source: In ‘Danish Employment Policy’, February 2008, Jan Hendeliowitz, The Danish National Labour Market Authority.

Labour market policies have to balance the needs of employers to keep their company or organisation functioning, competitive and innovative and of employees to ensure a source of

income. The flexicurity model is like an “unwritten contract” or “historical compromise” between the state, the employers and the employees¹¹².

The limited regulation for dismissal and hiring of employees on the one hand allows employers to have a flexible labour force and to react on changes in the market by dismissing employees during a period of recession, and hiring employees when the market is improving. This approach is integrated in the sense that it allows employers to respond to the needs within their sector, thereby remaining competitive and increasing economic growth. On the other hand, the social security in the forms of unemployment benefits guarantees all employees an adequate income (safety net) when they become unemployed. These benefits are specifically intended as an income-replacement and are considered a passive labour market policy.

As a result of the flexibility provided to employers, the average job duration in Denmark is among the lowest in the OECD countries¹¹³ and about 20 percent of the work force experiences unemployment each year¹¹⁴. This allows companies and organisations to respond to the market changes in their sector and perform more competitively. To protect the employees, the unemployment benefit system consists of unemployment insurance (UI) benefits complemented by a basic state-financed social security benefit system. About 77 percent of the labour force is a member of one of the Unemployment Insurance Funds. Once unemployed, the benefits an individual may receive correspond to approximately 80-90 percent of their previous income. By providing this level of support, the unemployed are able to maintain a similar level of lifestyle, making it a passive labour market policy.

Danish labour market policy is marked by the concept of employment security rather than job security. To ensure that the 20% of the workforce experiencing unemployment at some stage do not remain unemployed, Denmark provides the training they need to keep their skills up to date in order to be an attractive candidate. Through such active labour market policies, the majority of the unemployed find a new job relatively soon. Therefore, the requests for social benefits are usually for a short period, which keeps the system affordable. In a nutshell, Danish labour market policy embraces all 4 elements that are included in the EU definition of flexicurity.

National, regional and local roles

The institutional roots of the flexicurity model date from a long way back in Denmark’s history. In the negotiations between employers and trade unions that took place during the September Compromise of 1899 the basis was created for a mutual beneficial state, based on agreements. In the early 1990s, the Social Democrats-led coalition governments have been the drivers of the system that is now known as flexicurity¹¹⁵. Around the same time, active labour market policies (ALMP) were implemented in order to reduce structural unemployment. The further labour markets reforms that took place throughout the 1990s have led to the unification of flexicurity in the Danish active labour market policy.

¹¹² Danish Ministry of Employment, via <http://uk.bm.dk/>.

¹¹³ Source: Sorensen, 2006 in *Danish Employment Policy* from the Danish National Labour Market Authority, February 2008.

¹¹⁴ Source: Danish Ministry of Employment, via <http://uk.bm.dk/>.

¹¹⁵ <http://www.absoluteastronomy.com/topics/Flexicurity>

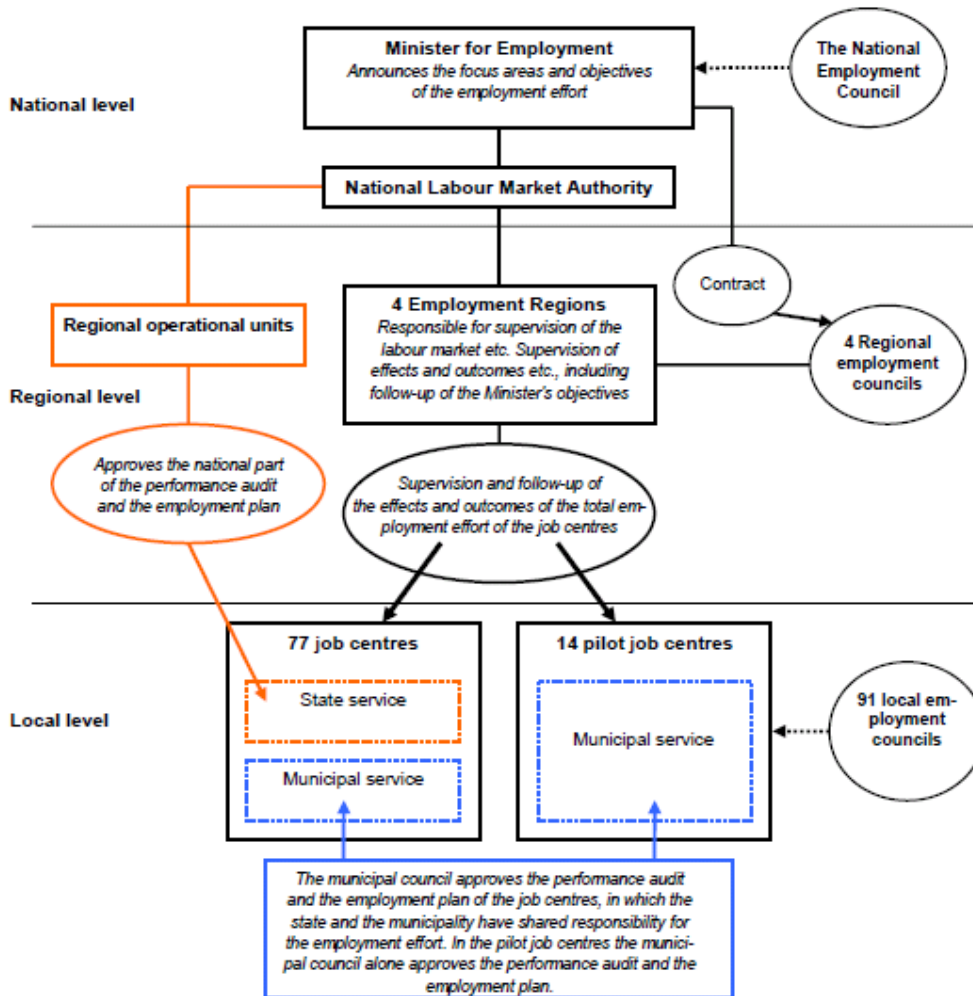
More recently, the Danish labour market policy underwent another major structural reform. This reform, which took place under 'Denmarks National Reform Programme', started in 2007. The aim of the reform programme was to strengthen local and regional authorities, so that they are better able to deal with increased responsibilities. According to a report of the Structural Commission (2004) "analyses had shown that many of the administrative units were too small and lacked the capacity to handle the tasks they were given, and also that most of the counties (regional authorities) lacked adequate capacity to ensure optimal sector planning"¹¹⁶. Under the reform, the number of municipalities was reduced and five administrative regions were put in place to replace the counties. Furthermore, the reform should also prepare the Danish labour market for the future challenges it faces regarding the ageing population. In order to deal with these kind of challenges, a new institutional structure has been put in place. The most important elements of the new institutional structure are the introduction of:

- Four employment regions: these are in addition to the five administrative regions and should keep a special focus on the labour market.
- 91 new job centres: these job centres focus on the promotion of employment (of which 14 are pilot job centres).

The figure below gives an overview of the new institutional set up and how it is organised at the different levels. In the next sub-section a more elaborate description will be given on the roles and responsibilities of the organisations involved.

¹¹⁶ In Danish Employment Policy, February 2008, Jan Hendeliowitz, The Danish National Labour Market Authority.

Figure 2: The institutional structure



Source: In Danish Employment Policy, February 2008, Jan Hendelowitz, The Danish National Labour Market Authority.

An important aspect of the Danish labour market is that it is marked by relative strong decentralization. The shift that took place in the early 1990s from a more passive orientated labour market policy towards an active labour market policy, resulted in greater responsibilities at the regional and local levels. In the current Danish labour market model, planning of labour market policy and implementation of policy measures takes to a large extent place at the regional and local levels.

The system of wage formation became increasingly decentralized. More workers are now employed under a wage system that allows for local and individual variations in wages, and fewer workers are under the traditional wage system implying a centrally stipulated wage (Andersen and Svarer, 2007).

The Ministry of Employment

On a national level, the Ministry of Employment sets a number of measurable targets and focus areas. The targets are based upon reporting on the outcomes of the job-centres. The focus areas are usually decided upon the basis of the recommendations of the regional employment councils¹¹⁷.

Further, the Ministry of Employment has the overall responsibility for the legislative framework regarding employment and working conditions, safety and health at work and industrial injuries, financial support and allowances to all persons with full or partial working capacity as well as placement activities, services in relation to enterprises and active employment measures¹¹⁸. Further, the Ministry has the overall responsibility for measures in relation to all groups of unemployed persons¹¹⁹.

The National Labour Market Authority (AMS)

Based on the targets that are set by the Ministry of Employment, the AMS, the regional employment councils and employment regions negotiate the regional objectives. A contract for the coming year is made up, in which the targets and specific objectives for each region are set.

Further, the AMS is responsible for the implementation and follow-up to employment policy measures. Before the 2007 National Reform Programme, the AMS would set specific requirements and objectives for the Public Employment Services (PES). Those formed the basis for the annual performance contracts. On the basis of these contracts, the achievements of the PES were monitored.

The Regional employment councils(REC) and Employment regions (ER)

The Employment regions act as the Regional Employment councils' secretariat. Since the 2007 reform, the REC has a more extensive role. Their tasks include:

- Monitoring the job-centres (e.g. the performance audit: this audit is meant to monitor the outcomes of the employment measures compared with other job-centres. Further it aims to assess the efficiency of the activities that are undertaken and the division of responsibilities between the former PES and the municipality authorities. The performance audit is undertaken on the basis of the AMS measurement system);
- Ensure coherence between the national labour market policy and local policy initiatives;
- Monitor and analyse changes in the regional labour market;
- Support employment measures in the job-centres (ensure effectiveness and good performance outcomes);
- Ensure access to specialist knowledge.

Furthermore, the Employment regions prepare quarterly analysis reports to investigate the results achieved and the progress made by the individual job-centres. This close and continuous follow-up is done in order to supervise and support the job-centres.

¹¹⁷ In Danish Employment Policy, February 2008, Jan Hendeliowitz, The Danish National Labour Market Authority.

¹¹⁸ Danish Ministry of Employment, via <http://uk.bm.dk/>.

¹¹⁹ Danish Ministry of Employment, via <http://uk.bm.dk/>.

The Danish Working Environment Authority

The responsibilities of the Danish Working Environment Authority are based on the Working Environment Act and related Executive Orders. This authority in particular contributes to health and safety at workplaces. This is done through:

- Carrying out inspections of companies
- Drawing up rules on health and safety at work
- Providing information on health and safety at work

In day to day practice this means that they execute (unannounced) company visits in order to determine whether or not the enterprises comply with the working environment rules¹²⁰.

The National Directorate of Labour

The National Directorate of Labour administers the Act on Unemployment Insurance. Further it administers benefit payment and holiday pay. Also, it answers questions related to: the Act on an active social policy, the Act on benefits in the event of illness or child birth, the Act on partial pension, the holiday Act and the Act on flex benefits.

Unemployment insurance funds (UIFs)

An important characteristic of the Danish labour market policy is the importance given to a comprehensive unemployment benefit system. The Danish unemployment benefits consist of unemployment insurance (UI) benefits, and a basic state-financed social security benefit system. The UI is based on voluntary schemes administered by the 36 state-approved UIFs. The majority of the employees in Denmark (77%) is a member of such an UIF. When people lose their jobs and are a member of an UIF, they receive unemployment insurance, which is based upon their previous income and work-life history. The UIFs can have autonomous strategies that reflect the policies of the trade unions they represent. These are private organisations, though more than 90 percent of their revenue comes from the state. Before the 2007 reform, the Public Employment Service (PES) was responsible for the activation of the unemployed. When unemployed persons after four years hadn't been able to find a job, the financial responsibilities for these individuals passed from the PES to the local municipality¹²¹.

Job centres

On local level, the local employment councils together with the job-centres draw up employment plans. These plans take into account both the targets that are set by the Ministry and the specific regional targets and objectives. In the employment plan, targets, priorities, budgets and strategies to tackle the challenges are described. Both the employment plan and the performance audit (see the Regional Employment Council) form part of the central government's planning and budgeting for employment measures for the coming year.

¹²⁰ Danish Ministry of Employment, via <http://uk.bm.dk/>.

¹²¹ Danish Employment Policy, February 2008, Jan Hendeliowitz, The Danish National Labour Market Authority.

Under the old structure, there was a clear division of responsibilities:

- The municipalities were responsible for unemployed people without insurance, people who were first registered with the PES office, but hadn't been able to find a job in the time set and young unemployed people without vocational education.¹²²
- the *Public Employment Services (PES)* were responsible for unemployed people with insurance. The PES is responsible for measures to unemployed persons who are receiving unemployment benefits. In practice this means that the PES is responsible for their activation.

However, the 2007 reform programme prescribes that the PES and employment authorities in the municipalities should work together in the newly established job centres (91). Fourteen of these jobcentres are pilot job centres; here the responsibility for the insured unemployed has been delegated to the municipality. According to the Danish National Labour Market Authority, 'the overall objective of the creation of these job centres is to combine and utilize the knowledge of the PES and the municipal service' (Hendliowitz, 2008, p.12). Further, the main task of the job centres is to 'establish a quick and efficient match between (unemployed) jobseekers and enterprises' (Hendliowitz, 2008, p.12). On the one hand they should supply organisations as soon as possible with the required labour, whereas on the other hand they should provide (unemployed) jobseekers as quick as possible with jobs or direct them to activation measures. As the objective of the job centres is to keep a clear focus on bringing the demand and supply of labour together, these centres are not responsible for decision making concerning benefit claims, the amount of benefits and the payment of the benefits¹²³.

The social partners

The Danish labour market is characterized through an important role played by the social partners. Denmark has a long-standing history in regulations via collective agreements that are negotiated between employers and trade unions. The social partners are allowed to regulate pay and working conditions, and they are consulted when legislation is prepared on issues such as health and safety at work, job placement and unemployment assurance. Also on a local level, the social partners are usually also consulted and often they have a seat in the local councils¹²⁴.

The most important organisations are the 'Confederation of Trade Unions' and the 'Confederation of Danish Employers' (DA). The DA represents 13 employers' organisations covering 29,000 companies from various industries. The majority of the Danish employees (80%) is a member of a trade union. The trade unions together form several national confederations, that fall under a small number of central organisations. The 'Confederation of Trade Unions' is the largest national trade union confederation in Denmark and is recognised as the most representative workers' organisation in both the private and the public sector. Two thirds of all unionised workers are member of one of LO's affiliated unions. One of the most important tasks of the Confederation of Trade Unions remains the activities related to collective bargaining agreements, as these agreements form the basis of the living and working conditions of the employees they represent.

¹²² Danish Employment Policy, February 2008, Jan Hendliowitz, The Danish National Labour Market Authority.

¹²³ Danish Employment Policy, February 2008, Jan Hendliowitz, The Danish National Labour Market Authority.

¹²⁴ Danish Employment Policy, February 2008, Jan Hendliowitz, The Danish National Labour Market Authority.

4.2.3 Flexicurity model and its impact

The Danish model has been referred to as ‘an example of how to achieve economic growth, a high level of employment and sound public finances in a socially balanced way’ (European Economic and Social Committee, 2006, p.48). This chapter aims to describe the impact of Danish labour market policy and the most important characteristics that have contributed to its success.

Although these characteristics are described below as standing alone-characteristics, it is important to notice that they can not be seen as single contributors, but that their force lies in the fact that these characteristics *jointly* form the **integrated policy** that has contributed to the impacts and notable outcomes achieved. Also it is important to notice that a distinction could be made between impacts on the institutional level and the individual level. Furthermore a distinction could be made between direct and indirect impacts. The sections below do not include these distinctions as they fall outside the scope of this study.

Policy characteristic: low levels of employment protection

Impacts: job creation, employee mobility, high levels of flexibility, economic growth, competitive position in the global economy

A study from the OECD of 2004 shows that high levels of employment protection reduce flow into and out employment. As it reduces the risk of job loss, it also hinders job creation¹²⁵. In contrast, the Danish flexicurity policy is marked its limited degree of employment protection. Every year about 1/5 of the Danish labour force change their jobs. Partly this is due to jobs that disappear, which are about 260,000 jobs. An equivalent number of jobs are created that ensure employment security, which counter balances the reduced levels of job security. The high degree of job turnover positively contributes to employee mobility. The average job duration is eight years, which is among the lowest in the OECD countries¹²⁶. The other way around, the model is also acceptable for the employers, although they have to contribute to generous unemployment benefits, it facilitates them to respond to changing market requirements which allows them to stay competitive and deal with challenges in the global market place. The flexible dismissal and hiring rights make that re-hiring is very common in Denmark. It allows organisation to dismiss employees in times of overcapacity and re-hire them when it is required by the market.

Policy characteristic: high levels of social security

Impacts: employment and income security, high levels of welfare, high level of GDP expenditure on social security, economic growth.

High levels of social security mark Danish flexicurity policy. Spending on social protection in Denmark is 28,9 percent of GDP and lies above the European average. The high level of social benefits provides the unemployed with an adequate income. As a consequence, the level of welfare in Denmark is among the highest in Europe¹²⁷. Since the reform process that started off in the

¹²⁵ Source: OECD, 2004 in *Danish Employment Policy* from the Danish National Labour Market Authority, February 2008.

¹²⁶ Source: OECD, 2007 in *Danish Employment Policy* from the Danish National Labour Market Authority, February 2008.

¹²⁷ Source: Eurostat, http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database- In work at-risk-of-poverty rate (tsdsc320)

1990's, the benefit period has shortened and activation is compulsory in order to stay eligible for benefits, though the level of benefits remained the same.

Policy characteristic: high levels of activation 'rights and obligations'

Impacts: low unemployment rate, career development, highly skilled and qualified labour force, high levels of labour force participation, healthy public finances, economic growth.

A high levels of activation is another marker of Danish flexicurity policy. Participation in activation is one of the conditions in order to remain eligible for benefits. The average costs of ALMPs have risen over time. Before the reform process, expenditure on ALMP was 0,9% of GDP, whereas in 2007 1,7% was spent on active measures (and another 2,5% on passive measures, including unemployment insurance). The expenditure on ALMPs has increased as it changed from a passive to a more active oriented approach, which includes more expensive and more intensive forms of activations (including training and skills development).

A small number of (empirical) studies and evaluations have been undertaken in order investigate the effects of activation policies;

- De Groot and Elhorst (2009) found a positive threat/motivation effect; in their study it was found that the threat of activation encourage the unemployed to search more intensively for a job. This threat/motivation effect was stronger than for instance the locking-in effect.
- De Groot and Elhorst (2009) also found the positive post-programme effect, which holds that participation in the programme improves human capital and therefore job prospects after completion of the programme.
- The Danish Economic Council (DEC) (2007) found that the short-term effects were negative for four types of activation programmes they investigated but on the long-term were successful and that in fact the Danish workfare policies reduces welfare dependency on the long-term.
- The DEC (2007) found that benefits of job training (especially private job training) exceed its costs.
- The DEC (2007) study showed that the effect of activation policies differs across the population. Findings suggest that low-skilled unemployed exhibit positive employment effects of educational training, whereas highly educated do not.
- Andersen and Svarer (2007 p. 422) compared expenditure on activation policies and the employment level prior and after the reform. They found that 'the shift in labour market polices have improved the cost-effectiveness ratio relative to past policies'.

Policy characteristic: the important role of the social partners

Impacts: social dialogue, collective agreements, work organisation,

According to the European Expert Group on Flexicurity (2007), one of the determining factors of the success of the Danish labour market policy is a supportive and productive social dialogue between the social partners and the public authorities. The flexible labour market policies are regulated through collective agreements that are negotiated between the social partners, rather than via regulation that is opposed by the state. Furthermore, the collective agreements are contributing to an efficient and effective labour market policy as the social partners negotiate them. This positively affects policymaking as it is expected that the social partners are in the best position to know what the problems on the labour market are, and thus are in the best position to find quick solutions.

Policy characteristic: high level of decentralization

Impacts: low unemployment rate, labour supply, high levels of labour force participation, healthy public finances, regional economic growth.

A high level of decentralization is another marker for the Danish labour market policy. The shift that took place in the early 1990s from a more passive orientated labour market policy towards an active labour market policy, resulted in greater responsibilities at the regional and local levels. In the current Danish labour market model, planning of labour market policy and implementation of policy measures takes to a large extent place at the regional and local levels. Also the system of wage formation became increasingly decentralized. More workers are now employed under a wage system that allows for local and individual variations in wages, and fewer workers are under the traditional wage system implying a centrally stipulated wage (Andersen and Svarer, 2007).

The recent reforms contributed to further decentralization and increased responsibilities at the local level. The relative high degree of freedom of regional and local authorities has a positive effect on the regional employment, as it allows for adjustments to individual and local conditions. Although unemployment is currently rising in Denmark, labour supply remained a focal point during the recent reforms. On the one hand, labour supply is a crucial element of the reforms as Denmark is facing an aging population, but at the same time labour supply and labour force participation are crucial in order to keep the system affordable.

4.2.4 Comparison with cases in other EU Member States

As has been explained earlier, the flexicurity labour market model not only provides employers with a level of flexibility to overcome tensions and deal with changing challenges, also offers a social security for the employees. This ideal combination of ‘the best of both worlds’ and the remarking results in terms of unemployment and welfare levels, has led to a discussion in literature on whether it is possible to copy-paste this policy mix to other countries. The single flexicurity model should not be awarded all the credits, as it indicated the importance of the third element, namely the activation element. The Danish ‘Golden Triangle’ came into existence through an historical process of trial and error. Therefore Danish labour market policy provides important lessons on successes and failures for those countries that want to incorporate elements of the flexicurity model in order to reduce levels of unemployment and welfare.

Labour market policy of both Denmark and the Netherlands can be classified in the Northern European model¹²⁸ which is marked by high benefits, disincentive effects caused by active policies, strict rules governing availability for jobs, and low to medium degrees of employment protection legislation. Further, both the Dutch and Danish labour markets are often cited as examples of flexicurity. Viebrock and Clasen (2009) compared the Danish flexicurity model with the Dutch flexicurity model. In their study they also state that both countries claim to have introduced flexicurity. According to observers, the concept of flexicurity was first used in the Netherlands in the mid-1990s, when debates took place on the Dutch Flexibility and Security act,

¹²⁸ In *Danish Employment Policy* from the Danish National Labour Market Authority, February 2008, four types of labour market policy are distinguished, namely, the Northern European model, the Anglo-Saxon model, the Central European model and the Southern European model.

at that time being criticized a lot. The term was picked up in other countries, such as Denmark where it marked the origin of labour market policy reforms introduced by the Danish social democrat government (Viebrock and Clasen, 2009, p.7).

According to Viebrock and Clasen (2009, p. 14) The most important characteristic of the Dutch flexicurity model 'is the combination of atypical, flexible types of work with social security rights which are similar to those for persons in standard employment'. In a nutshell, the Dutch labour market model can be summarized as 'normalising non-standard work' (Visser, 2002; Wilthagen, 2007, p.3). In the Netherlands, measures have been taken to promote the balance between work and care activities and life long learning. For instance, a fiscally supported voluntary savings scheme enables workers to save a percentage of their wage to cover periods of leave for care, education or other reasons¹²⁹. Employees have the right to take up leave and to revert back to their previous working time as stated in their contract. During the last 20 years, activation programmes have been extended and regulations have been introduced to provide temporary agency workers with employment protection, rights to training, wage guarantees and supplementary pensions (Wilthagen, 2007¹³⁰). The position of temporary workers has improved without compromising on labour market flexibility.

Also the Dutch flexicurity model is the result of an historical process of trial and error, in which changes in employment protection have played an important role. In the Netherlands, a rather complicated dual system of employment protection existed, which provided workers under traditional employment contracts with high levels of employment protection, whereas workers in flexible employment, in particular temporary agency workers, faced low levels of protection (Viebrock and Clasen, 2009). In order to meet both the interests of workers and employers, by strengthening both competitiveness and social protection, a bill on 'Flexibility and Security' passed in 1997. This bill introduced flexibilization (through a slight reduction in dismissal protection in standard employment), liberalization of the temporary work market, and improving types of security (for instance, more employment and employability protection for non-standard workers). Whereas the Dutch trade unions tended to be quite sceptical towards increased flexibility due to fear for lower levels of employment protection, more recently, Dutch trade unions have changed their strategy, with part-time jobs becoming extremely popular with Dutch women. The trade unions started to accept and even promote flexible arrangements, mainly by trying to make part time employment more similar to standard jobs in terms of social security rights. Currently, coverage by collective agreements and dismissal protection of part-time work is similar to full-time work.

According to Viebrock and Clasen (2009), the Dutch case has given slightly less priority to activation strategies than in the Danish case, whereas in the Dutch case more attention has been given to other aspects such as temporary work agencies. Similar to the Danish situation, the flexicurity policies have been noted as key for the positive labour market performance in the Netherlands (OECD, 2004). In both countries, the role of the social partners and social dialogue in developing and legitimising flexicurity policies has been emphasized. The comparison of the

¹²⁹ Source: European Commission 2006b, in Viebrock and Clasen, REC-WP 01/2009.

¹³⁰ Source: in Viebrock and Clasen, REC-WP 01/2009.

Danish and Dutch flexicurity model shows, that although they are very similar, there are alternative ways of combining flexibility and security and in both countries the flexicurity model is the outcome of a gradual process.

4.2.5 Conclusions

The following conclusions can be drawn in relation to the 6 key questions in the study:

- a. In relation to the national policy mix, Denmark has shown a strong tendency to shift towards a more integrated approach from a narrow sectoral one for labour market and employment policy. Through this shift, the concerns of other policy domains are now taken on board. This reflects commitment to a policy approach to labour market and welfare issues which are underlined by the concept of flexicurity. The Danish labour market model is an integrated approach consisting of integrated and sectoral policies that originated at national level but is now implemented at regional and local level. Here the policy mix concerning the balance between national and local / regional approaches is complex. On the one hand there has been a shift towards decentralisation and a greater and more flexible role for the local and regional level concerning implementation, whilst policy formulation and definition of overall objectives has been strongly driven by the national level.
- b. In the Danish case, the balance between the sectoral and integrated approach is essential to the success of the model. Without labour market flexibility, employers are less able to respond to the changes in the economy, without social security employees would not be able to maintain their life as established through employment and without the active measures the government has an expensive bill to pay to keep both sides functioning.
- c. The model has worked very well for Denmark, which has seen a low level of unemployment since introducing the Golden Triangle. The model has helped not only the level of unemployment low and the labour market flexible, but it has also helped the economy in general by retraining the unemployed to meet the demands of the changing markets.
- d. The shift to more active labour market policies in the mid 1990s was the push that created labour market policies into the “Golden Triangle” and gave the model the reputation that flexicurity can work.
- e. The additional shift from central to decentralised organisation of the model, enables the model to be applied to the needs of the local economies and labour markets. Specifically, the type of active labour market policies provided has become more targeted to the type of education and training needed for the situation of the local economy. This shift occurred in the context of broader administrative reforms.
- f. Denmark belongs together with the Netherlands to the top performers in terms of high employment levels and low rates of unemployment. Both approaches are to be considered as integrated, while the involvement of sub national authorities is to a lesser extent the case in the Netherlands. A partnership approach however, is present in both countries. Yet, given the

historical specificities that largely influenced the outcomes in both countries, the scope for transferability is rather limited.

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4.3 Hungary: Regional employment promotion in West Pannonia

4.3.1 Positioning of this case-study

The labour market policy mix in Hungary is depicted in the following figures:

Balance between sectoral and integrated policies

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral		
	Other policy domains to be taken into consideration		
	Other policy domains fully on board		X

Balance between centralised and decentralised modes of labour market governance

	National level	Regional level	Local level
Conceive	X		
Manage	X		
Deliver			X

The Hungarian case study is an example of an integrated approach to boost regional development. The policy is conceived and managed at national level but delivered at local level.

The West Pannon Region in Hungary

The West Pannon region is one of the seven statistical regions adopted by the Hungarian Parliament in 1998. The Region of West Pannonia includes three counties: Győr-Moson-Sopron, Vas and Zala. The region borders with four countries: Austria in the west, Slovenia and Croatia in the southwest and Slovakia in the north. The region is neighbouring with the Region of Central Transdanubia in the east, while with the South Transdanubian Region in the south.

The territory of the region is 11 183 km² that includes 12 % of the territory of Hungary. County Győr-Moson-Sopron occupies 36 % of this terrain, while County Vas 30 % and County Zala 34 %. Finally, the biodiversity is extremely various and West Pannonia is blessed with natural resources.

Economic performance and trends in the region

Because of its geographical location, the West Pannon region can be considered as the major transport hub in Hungary. 60 % of total road traffic in Hungary, heavy traffic in particular, crosses the region. In addition, the region is covered by several international railway lines, therewith ensuring the connection between the capital and the neighbouring countries. There are also two important regional airports: Sármellék beside the Lake Balaton and Pér near Győr. Finally, the Danube constitutes important water ways for the transport of both passenger and goods. Several ports (in Keszthely, Balatonyörök, and Győr-Gönyű) have been established in the region.

Much foreign capital has been invested in the region since the beginning of the 1990s. Especially the very advantageous geographical location was widely recognised among investors. As a result of these investments, West Pannonia became the second most developed region in Hungary after Central Hungary that includes also the capital (in terms of shares in GDP).

Industrial production in the region has tripled since 1991. The strongest industrial branch in Győr-Moson-Sopron is the motor car production and the engineering industry, while in Vas the manufacture of machinery. Also the meat industry, the dairy industry and the drink industry are important economic sectors. Finally, the chemical industry is prominently represented in the area.

The share of the agricultural sector in the regional economy is limited. There is 939 000 hectares of cultivable land, more than half of it is arable land. The most frequent arable crops are wheat and maize. Sugar beet and Spring Barley are important in County Győr-Moson-Sopron. In the county of Vas and Zala fruit growing is important. In the area of Sopron and Pannonhalma, there is an important wine-growing region. The area of the region is covered by 286 000 hectares of forest which is in the property of the successors of the former state-owned companies. Live stock breeding is not extraordinarily widespread.

Employment in West Pannonia

Because of its favourable geographical location and the amount of FDI that has been pumped in the country, economic development has brought along employment rates in West Pannonia that exceed the Hungarian average. Between 2004 and 2008 employment rates in the region have been continuously 5 percentage points higher than the Hungarian average. The development of employment in both Hungary and the West Pannon region is summarised in Table 1.

Table 1 Total employment rates for persons between 15 and 64 years at NUTS levels 1 and 2 (%)

	2004	2005	2006	2007	2008
Hungary	56.8	56.9	57.3	57.3	56.7
West-Pannonia	61.4	62.1	62.8	63.4	62.1

Source: Eurostat

Also the unemployment rate is in the West Pannon region much lower than the Hungarian average. While unemployment in the whole of Hungary has increased over the period 2004-2008, this rate has remained relatively stable throughout the West Pannon region. Unemployment is particularly

low in Győr-Moson-Sopron. Table 2 summarised the development of unemployment 2004-2008 in Hungary and the West Pannon region.

Table 2 Total unemployment rates for persons 15 years and over, at NUTS levels 1, 2 and 3 (%)

	2004	2005	2006	2007	2008
Hungary	6.1	7.2	7.5	7.4	7.8
West-Pannonia	4.6	5.9	5.7	5.0	4.9
Győr-Moson-Sopron	3.8	4.3	4.3	3.6	3.5
Vas	5.8	7.9	7.4	6.8	5.5
Zala	4.7	6.4	6.3	5.4	6.6

Source: Eurostat

Even though the employment rate is comparatively high and unemployment is comparatively low, the West Pannon labour market remains vulnerable. The reason for this is that this regional labour market finds itself in amidst a profound restructuring process. Those industries which are based on cheap labour force (light industry, machine industry with low added value) and which settled in the past, have meanwhile left the region. The change in the economy towards industrial sectors with higher added value, i.e. a knowledge-based economy, has herewith started.

This process of economic change endangers sustainable employment growth because the skills and capacities that are required in a knowledge-based economy are to only a limited extent present in the region. With regard to research and development (R&D), the region lags far behind the national average, even though its capacity of research and development has been consequently expanded since the middle of the 1990s. Considering the most important indexes however, the share of the region was about 4-7 % of the national total in 2004.

Because of the structure of the regional economy and of the institutions of higher education in the region, R&D is predominantly undertaken in Győr-Moson-Sopron. Two universities are present in this county. R&D activities in Vas and Zala are much less common.

In the field of R&D at company-level, there seems no product development taking place within the region. Multinational companies that have settled in the region perform these tasks in other locations. Only some technological developments and production developments are undertaken in the region.

In order to guarantee a sustainable development of the regional economy it is important that region becomes increasingly entrenched in international research networks by means of competition as well as by participating in institutional co-operations.

4.3.2 Institutional set-up in Hungary

The public agency that is charged with promotion of such a sustainable development in Hungary is the National Development Agency (NDA). The Agency is predominantly charged with the implementation of the National Strategic Reference Framework.

This Agency also administers projects that are funded by the EU through the European Regional Development Fund (ERDF) and the European Social Fund (ESF). The Managing Authority (MA) of all Operational Programmes (OPs) operates as a separate organisational unit of the National Development Agency. In line with Article 59, paragraph (1) of regulation 1083/2006/EC, the tasks of the Managing Authority in case of the West Pannon Operational Programme are carried out by the NDA's Directorate General Managing Authority for West Pannon Programmes, while the tasks of the Managing Authority in case of the Social Renewal Operational Programme are carried out by the NDA's Directorate General Managing Authority for Human Resource Programmes.

Intermediate Bodies are responsible for administrative, financial and technical tasks of implementation delegated by the MA.

Intermediate Bodies contributing to the implementation of the operational programmes were selected on the basis of a set of objective criteria measuring their institutional capacity and technical competence.

The following organisations were appointed as intermediate bodies of the West Pannon Operational Programme as result of the qualification procedure:

- West-Pannon Regional Development Agency Kht. (non-profit Company);
- VÁTI Hungarian Public Non-profit Company for Regional Development and Town Planning.

The organisations qualified as intermediate bodies of the Social Renewal Operational Programme are as follows:

- National Office for the Management of the Programmes of the European Social Fund (ESZA Kht.);
- Support-management Directorate of the Ministry of Education and Culture (SMDMEC);
- Health Strategy Research Institute – Programme Office for the Management of Structural Funds Programmes (HSRI-POMSFP).

In accordance with Article 63 of Council Regulation (EC) No 1083/2006 a Convergence Monitoring Committee has been established for the 2007-13 Convergence Regional Operational Programmes. The Monitoring Committee is composed of one Regional sub-committee for each operational programme based on the Regional Development Councils and ensuring the involvement of a wide range of regional partners. The Regional Sub-committees share the responsibility for programme implementation with the Convergence Monitoring Committee in line with Article 65 of the above Regulation. The Social Renewal Operational Programme has a separate Monitoring Committee.

Funding

The EU co-finances development projects in the region. Financial allocation of priorities of the Operational Programme in the West-Pannon region is organised as follows:

Priority Axis	Source	Mode of calculating co-financing	Funding by the European Union	Domestic indicative distribution			Total financing	Ratio of co-financing	Data for information	
				Domestic Financing	State	Private			Other financial instruments	EIB loans
Regional economic development	ERDF	Public Spending	71.305.470	12.583.318	12.583.318		83.888.788	85.0%	n.a.	n.a.
Tourism development - Pannon Heritage	ERDF	Public Spending	109.573.484	19.336.497	19.336.497		128.909.981	85.0%	n.a.	n.a.
Urban development	ERDF	Public Spending	88.293.607	15.581.225	15.581.225		103.874.832	85.0%	n.a.	n.a.
Environmental protection and transport infrastructure	ERDF	Public Spending	93.059.226	16.422.217	16.422.217		109.481.443	85.0%	n.a.	n.a.
Development of infrastructure of micro-regional public services	ERDF	Public Spending	84.824.451	14.969.021	14.969.021		99.793.472	85.0%	n.a.	n.a.
Technical assistance	ERDF	Public Spending	16.696.655	2.946.468	2.946.468		19.643.123	85.0%	n.a.	n.a.
Total			463.752.893	81.838.746	81.838.746		545.591.639			

The priority Based financial allocation of the Social Renewal Operational Programme is as follows:

At current price in euros

Priority Axis	Source	Mode of calculating co-financing	Funding by the European Union	Domestic Financing	Domestic indicative distribution		Total financing	Ratio of co-financing	Data for information	
					State	Private			Other financial instruments	EIB loans
Improving employability. promoting entry to the labour market	ESF	Public Spending	680.518.375	120.091.478	120.091.478		800.609.853	85.0%	n.a.	n.a.
Improving adaptability	ESF	Public Spending	549.739.133	97.012.788	97.012.788		646.751.921	85.0%	n.a.	n.a.
Providing quality education and ensuring access for all	ESF	Public Spending	756.138.748	133.436.250	133.436.250		889.574.998	85.0%	n.a.	n.a.
Developing the content and organisation of higher education to create a knowledge- based economy	ESF	Public Spending	380.576.402	67.160.542	67.160.542		447.736.944	85.0%	n.a.	n.a.
Strengthening social inclusion and participation	ESF	Public Spending	377.315.000	66.585.000	66.585.000		443.900.000	85.0%	n.a.	n.a.
Health preservation and human	ESF	Public Spending	188.086.286	33.191.698	33.191.698		221.277.984	85.0%	n.a.	n.a.

Priority Axis	Source	Mode of calculating co-financing	Funding by the European Union	Domestic Financing	Domestic indicative distribution		Total financing	Ratio of co-financing	Data for information	
					State	Private			Other financial instruments	EIB loans
resource development in health system										
Technical Assistance in the convergence regions	ESF	Public Spending	106.355.531	18.768.624	18.768.624		125.124.155	85.0%	n.a.	n.a.
Total			3.038.729.475	536.246.380	536.246.380		3.574.975.855			

4.3.3 Case description: Integrated regional development policies In West Pannonia

Policy type

The shift to a knowledge-based economy in West-Pannonia requires actions in the area of the labour market. Labour market development in West Pannonia is supported by an *integrated* approach.

Outline of the case study

In the programme period 2004-2006 only one joint Regional Operational Programme was developed covering all seven statistical planning regions in Hungary. The integrated regional development approach was mainly covered by the Human Resources Development Operational Programme.

The Regional Operational Programmes directly covers the issue of the knowledge base economy, i.e. skills and human resource development at regional local level. The objective 3 financed by the European Social Fund under the Regional Operational Programme 2004-2006 aimed at “Strengthening the regional dimension of human resource development” through 3.1 “Capacity building of local public administration and local non-governmental organisations”; 3.2 “Support for local employment initiatives”; 3.3 “Strengthening co-operation of higher education institutions with local actors” and 3.4 “Support of region-specific vocational training”.

The Human Resources Development Operational Programme 2004-2006 moreover, aimed at “Supporting Active labour market policies” (Objective 1); “Fighting social exclusion by promoting access to the labour market”(Objective 2); “Promoting life-long learning and adaptability” (Objective 3) and “Developing the infrastructure of education, social services and health care” (Objective 4).

The West Pannon Operational Programme 2007-2013 finally, supports all of the ten micro-economic objectives of the “Integrated guidelines for growth and jobs 2005-2008”, which transform the Lisbon Strategy of the European Union into structural objectives, as well as the majority of employment objectives (Implement employment policies aiming at achieving full employment, improving quality and productivity at work, and strengthening social and territorial cohesion (17); Ensure inclusive labour markets, including disadvantaged people, and the inactive (19); Improve matching of labour market needs (20); Expand and improve investment in human capital (23); Adapt education and training systems in response to new competence requirements (24)). The horizontal objectives of sustainability (which, in line with EU requirements and the renewed Goteborg Strategy, equally covers the sustainability of environmental, macro-economic and social processes, also including the aspects of security) and strengthening cohesion (in economic, regional and social terms) are all apparent directly or indirectly in the structure of the operational programme.

4.3.4 Impact of the case

Impact of the implementation of the strategy on employment and labour market in the West Pannonia

According to the mid-term evaluation of the implementation of the Action Plan 2007-2008 of the West Pannon Operational Programme 2007-2013, the projects supported significantly contributed to the improvement of employment in the region. The proportional value of indicators related to the number of workplaces created as result of the implementation of the supported projects is satisfactory.

There are some tendencies however that should be taken into account when assessing impact. It can be noted that the territorial distribution of the workplaces created is uneven. Most of the newly created workplaces are in the more developed micro-regions, while less developed micro-regions were less active and successful in tendering and therefore less workplace could be created in these regions. That means that territorial discrepancies in the employment situation of the micro regions might increase even further.

The unit costs of the workplaces created differ largely by priority axis. The most effective priorities in this regard were those related to economic development, while it was more expensive to create one workplace under the tourism development priority. Less effective in this regards was the priority of sustainable utilisation for touristic purposes of the historical and cultural heritages of the region.

As far as urban development is concerned, it is interesting to note, that cities with county jurisdictions were less effective compared to normal cities as far as the per unit cost of the workplaces created is concerned.

79% of all employment created under the West Pannon OP between 2007-2009 were initiated by private entrepreneurs. They are related mainly to the construction of industrial parks and the tourism industry. The local government sector is represented with 20% in employment creation. 1% of employment was created by institutions of the central administration and NGO's.

The sectoral programmes were successful in maintaining existing employment, in improving employability and employment of certain disadvantaged groups and improving labour market services. Most successful were the complex and personalised (to the needs of the target group) development services for disadvantaged target groups. This meant to be a combination of labour market training, plus labour market and social services provided. Especially the employment situation of women could be improved this way. Especially young mothers intending to return to the labour market belonged to the main target groups in focus.

Impact on governance issues

Further governmental attention and support must be given to strengthening the planning and management capacities in the less developed micro-regions in order to enable less developed micro-regions to apply for funding with more efficiency and thus territorial differences can be reduced within the region.

In order to increase the activity of the private sector the burden on labour should be decreased. As mentioned earlier 79% of the employment created under the West Pannon Operational Programme were created by private entrepreneurs, mainly SMEs. The reduction of burden on labour could trigger the creation of even more workplaces by SMEs.

More attention must be paid to the sustainability of the employment created under sectoral programmes. Evaluations show that the employment measures aiming at labour market integration of disadvantaged people are not sustainable and majority of employment cannot be maintained once the financial support from both EU and national funds stopped.

Success factors

The planning and implementation of the West Pannon Operational Programme is characterised through much involvement of regional and local stakeholders and actors. A strategic development unit was established within the West Pannon Regional Development Agency. This agency is responsible for the co-ordination of the strategic planning activities in the region. The strategic development unit is responsible for: strategic planning; project development and for the co-ordination of the West Pannon Economic Co-operation. This regional and local involvement can be considered as one of the key success factors.

The objectives and measures of the West Pannon Operational Programme successfully complement the objectives and measures of the sectoral employment Operational Programme (Social Renewal OP). While the integrated approach intends to increase employment by supporting direct employment creation actions in the tourism industry, or in newly established industrial parks, or by establishing new public services as some examples, the sectoral programmes focus on increasing employability and labour market integration of disadvantaged people with low educational level, or with outdated qualifications. The good combination of integrated regional and sectoral efforts can be considered as another key success factor.

4.3.5 Comparison with cases in other EU Member States

The case of labour market development promotion in West Pannonia is here compared with similar measures in Upper Silesia, Poland.

The West Pannon Region has been especially successful because of the advantageous geographical location of the region, which makes the region very attractive to foreign investors than other regions of the country, to the availability of advanced transport infrastructure, the and the availability of qualified labour.

The other element of the success is that regional planning works more efficiently than in some of the other regions of the country. Due to high involvement of regional and local stakeholders and actors in strategic planning, the commitment of these to development programmes and projects are stronger.

In Upper Silesia, economic restructuring also took place in a successful way, especially in comparison with other Polish regions. Here the restructuring process was relatively slow and

accompanied by well-coordinated and integrated labour market and business development support in other potential growth sectors and business clusters. Further, the integrated approach with regional and local institutions working together both reflected and helped to reinforce a strong lobby in relation to the needs of the region in relation to national government institutions. The success of the transformation of the region therefore can be ascribed to institutional differences with similar regions elsewhere.

The institutions involved as well as the programmes developed have diverse origins. These were often bottom-up with a backing of both the government support and a variety of donors (prior to EU accession). Schemes to encourage self employment and micro enterprises being set up by unemployed workers from mining and related industries are good examples.

The West -Pannon case however, is an example of a highly institutionalised and mainly formal top-down approach that mirrors an integrated approach. Some of the measures were successful also because they were targeted, such as the combination of labour market training, plus labour market and social services for disadvantaged target groups.

Both cases show that multiple factors contribute to the success of the promotion of development of regional labour markets and that various approaches are possible to realise success. There are clearly also factors at play that cannot be influenced by policy, such a geographical location. An integrated approach seems however unavoidable when realising the multiple objectives that are being followed in such development policies for regional labour markets.

4.3.6

Conclusions

The following conclusions can be drawn in relation to the 6 key questions for the study:

- a. Hungary is a small and traditionally centralised country but has very considerable regional variations in development concerning employment and labour market issues. The policy mix has shifted considerably in recent years. The country has seen a shift towards a more local / regional approach through which institutions and instruments have been put in place to tackle employment issues. However, nationally driven and determined frameworks for policy remain strong. In relation to the balance between sectoral and integrated approaches, the integrated approach in regional planning and development has proved to be successful in regions such as West Pannonia. In order to develop the regional labour market in West Pannonia, integrated development measures that target increasing economic activity and employment of the region in an indirect way, e.g. by creating new workplaces in the business sector, in tourism, in environment protection or through improving services offered by the public sector. Labour market development programmes moreover, target special problems or needs of certain well defined disadvantaged target groups, for example how to increase employment amongst low qualified people, or people, with outdated qualifications, people with disabilities, or people living in remote rural areas.
- b. The argument used to justify this approach is that there are common problems that hamper employment growth all over the country, indifferently of the exact geographical location; therefore a national solution shall be find to solve these. The tools to address these nation-wide

problems are the sectoral development programmes. In case of labour market and employment this nation-wide problem in Hungary is how to increase employment in remote rural areas with bad accessibility and infrastructure and amongst high number of low qualified people, or people with outdated qualifications who mostly live in these rural areas.

- c. The impact of both sectoral and integrated policies is judged based on evaluation of the implementation of the development programmes (mid-term or final). The evaluation is based on comparison of the results achieved with the values of the pre-set indicators of the development programmes. In general, the impact of these development measures is considered to be successful.
- d. If we consider the period between 1990 and 2010 it can be stated that there is a definite shift towards an integrated policy approach and stronger regional local involvement during the period. At the same time, an increase in the decentralisation of strategic planning and also implementation can also be witnessed. By 2006, with the second programme period of EU Structural Funds 2007-2013, this shift reached its apex. Much of the decentralisation and the integrated approaches have thus been introduced through EU integration.
- e. Further attention has to be paid to strengthening planning and management capacities in less developed micro-regions in order to reduce discrepancies within the region; to strengthen the employment creation capacities of SMEs by further reducing burden on labour and improving sustainability of workplaces created by integrated regional and sectoral development programmes.
- f. The Hungarian approach has been compared with a policy practice in Poland that is performing relatively well. Here a more decentralised approach is used. Regional and local authorities can more autonomously decide on policies.

4.3.7 [References](#)

Regional Operational Programme 2004-2006; Hungary

Human Resources Development Operational Programme 2004-2006; Hungary

Integrated Regional Development Financing Model 2004-2006

West Pannon Operational Programme 2007-2013; Hungary

Social Renewal Operational Programme 2007-2013; Hungary

Action Plan 2007-2008 - West Pannon Operational Programme 2007-2013

Action Plan 2009-2010 - West Pannon Operational Programme 2007-2013

Action Plan 2007-2008 – Social Renewal Operational Programme 2007-2013

Action Plan 2007-2008 – Social Renewal Operational Programme 2007-2013

Interim evaluation of the Human Resources Development Operational Programme 2004-2006

Mid-term evaluation of the implementation of the Action Plan 2007-2008 of the West Pannon Operational Programme 2007-2013

Mid-term evaluation of the indicators of the Social Renewal Operational Programme 2007-2013

National Strategic Report according to Article 29 of Council Regulation (EC) No. 1083/2006 Hungary

4.4 Spain: Decentralisation of PES to increase effectiveness of ALMPs in Catalonia

4.4.1 Positioning of this case-study

The labour market policy mix in Spain is depicted in the following figures:

Balance between sectoral and integrated policies

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral		
	Other policy domains to be taken into consideration		
	Other policy domains fully on board	X	

Balance between centralised and decentralised modes of labour market governance

	National level	Regional level	Local level
Conceive	X	(X)	
Manage		X	
Deliver			X

The case study in Spain is an example of an integrated policy that is primarily conceived at national level, managed at regional level and implemented at local level. The Spanish Constitution enables Regions (i.e. Autonomous Communities) to design their own ALMPs.

Given that the Law on Employment from 2003 encourages decentralization and emphasizes active labour market policies in Spain, this case study examines the process in a regional setting, namely in Catalonia. The policy method in Catalonia combines integrated and sectoral approaches such as:

- Local partnerships via Territorial Employment Pacts to encourage economic growth (integrated)
- Unemployment benefits (sectoral)
- Active labour market policies focused on training and re-training of the unemployed (integrated)

The decentralization process of the public employment services in Catalonia served as one of the pilots for transferring competencies related to active labour market policies before the introduction of the 2003 Law. It is therefore possible to look at the effectiveness of this process over a longer time period than other areas in Spain.

The case study found that the local partnership element has been central to the reorganization of the strategy for public employment services both for integrated and sectoral approaches. Elements of success include:

- Forming local partnerships to promote economic growth from the bottom-up
- A focus in each region on developing one particular theme for the Territorial Employment Pacts
- Empowering local employment services with the authority to decide on objectives, actions, resources and criteria for active employment policies to relate to specific local needs
- Establishing a regional consortium to effectively transfer a top-down decentralized approach and bring together all stakeholders to transfer skills and knowledge
- Involving social partners and local stakeholders in the strategy for and management of professional education and training courses to be most relevant to the needs of the local economies

Since the changes, Catalonia has maintained the highest level of employment in Spain and those participating in the training provided through active labour market policies were better able to find employment than those who did not.

4.4.2 Background to the situation in Catalonia

Catalonia applies a decentralised and integrated labour market policy model, which is the result of a general shift in policy approaches in Spain from centralised to decentralised government. The particular case of Catalonia provides an opportunity to see how this approach has been used specifically on the labour market and successfully to turn around a high unemployment rate.

For more than three decades, between the 1960s and the 1990s, the Spanish labour market was characterized by a stagnant employment level of around 13 million jobs, as well by the highest unemployment rate in the European Union, reaching almost 20% in 1994. In the period 1994-2007 however, Spain's economy grew annually with an average of 3.5%. These growth rates led to unprecedented job creation and to a reduction in the unemployment rate to 8% in 2007, similar to EU levels at that time¹³¹. With the current financial and economic crisis, the Spanish labour market is again experiencing major challenges, most notably an increase in the unemployment rate to 20.05%, the highest level in the Eurozone.

¹³¹ For a thorough overview of the development of Spanish labour market see Andrés J et. al (2009): Job creation in Spain: Productivity growth, labour market reforms or both?., International Economic Institute of Vienna Working Paper 903.

The main features and challenges of the Spanish labour market can be summarized as follows¹³²:

- High rate of temporary, fixed-term contracts and low labour market flexibility;
- Low rates for female employment and part-time work deals;
- Large differences in employment and unemployment levels by sex, age and region;
- Low labour productivity due to employment creation predominantly in construction and services sectors;
- High job turnover;
- Low occupational, geographical and firm mobility;
- Currently very high unemployment rate.

In Spain, governance and responsibilities for employment policies are assigned to the state and to the autonomous regions by the constitutional judicial framework, taking into account the division of competencies between the national, regional and local authorities. The legal framework is provided by the 2003 Law on Employment, which codifies ongoing decentralization reforms and emphasises the importance of ALMPs, with the objective of improving labour market efficiency as to achieve full employment¹³³.

4.4.3 Sectoral versus integrated approach

Two types of *passive labour market policies* can be distinguished in Spain: unemployment insurance benefits and social assistance benefits. Insurance benefits are granted on the basis of the period and the level of contributions being paid, whereas assistance benefits act as a supplement and are calculated given criteria such as age and family responsibility, provided a certain minimal qualifying payment period for unemployment benefit contributions¹³⁴.

Active labour market policies (ALMPs) in Spain are elaborated taking into account the European Employment Strategy and include a preventive approach towards long-term unemployment. Service provision is provided on an individualized basis, and tailored towards the job seeker's professional and personal characteristics. ALMPs, as developed by the CAs pursue following common objectives:

- To inform and advise in the active search of employment
- To develop adequate on-going vocational training scheme for the work
- To facilitate professional practices
- To create and stimulate employment, especially stable and high-quality employment
- To encourage self-employment, the social economy and the development of small and medium enterprises
- To facilitate the creation of activity that generates employment
- To facilitate geographical mobility

¹³² See Villagomez, E. and Carbonell, D. (2008): Active Employment Policies in Spain Statements and Comments, Peer Review – Vocational training for people at the margin of the labour market: The Individual Learner Plan – A new approach, Ireland, 8-9 May 2008; Ruiz, D. (2003). Spain: modernisation through regionalisation, in OECD, Managing Decentralisation: A New Role for Labour Market Policy. Paris: Organisation for Economic Co-operation and Development; Raul Ramos (2009): The effectiveness of regional active labour market policies to the fight against unemployment: an analysis for Catalonia, IZA Discussion paper 4649, December 2009.

¹³³ Ballester (2005): European Employment Strategy and Spanish Labour Market Policies, University of Girona Working Paper Series 14, June 2005.

¹³⁴ Gil Martín (2004).

- To promote policies aimed at integration into the labour market of people in a situation or at risk of social exclusion

The 2003 Law on Employment explicitly recognizes the importance of coordination between passive and active labour market policies, and introduces a workfare element with the requirement that people receiving benefits should participate in ALMPs.

In addition, there is a so-called integrate actions scheme for unemployed that grants unemployed who are no longer eligible for the regular benefit a 10-month subsidy (75% of national minimal wage). The integrated actions scheme includes profiling and priority access to ALMPs¹³⁵.

As will be demonstrated in further detail in the following pages, the specific organisation of the labour market policies at local level is particularly designed around the development of the local economy. The focus of the provision of training as well as on stimulating the economy and growth of businesses highlights that the active labour market component of the Spanish model is an integrated approach.

4.4.4 National, regional and local roles

The main state-level actors with regard to employment policy are Ministry of Labour and Immigration (MTIN) and the State Public Employment Service (INEM), which is an autonomous agency attached to MTIN. INEM has a dual structure that consists of central services (Directorate General, General Council and Executive Committee, with representation of social partners); and of territorial services (provincial directorates, regional employment offices, professional training centres and institutional participation bodies to act as representatives on the level of the autonomous regions). The state has exclusive responsibility over the formulation of basic labour legislation, in particular as regards labour conditions (in dialogue with the social partners), the management and control of unemployment benefits, the social protection system, as well as regulation covering active employment measures taking into account the European Employment Strategy.

As a result of various reforms that took place in the period 1985-2002, governance of the Spanish labour market has become increasingly decentralized. Already in 1994, the monopoly of INEM with regard to job placement services was abolished, as temporary work agencies and non-profit placement agencies were permitted¹³⁶.

In following reform rounds, the Autonomous Communities (CAs) gained substantially on independence with regard to the formulation and execution of active labour market policies. This trend has been associated with a growing realization that employment and economic development promotion measures need to be adapted to local needs, and employment policies have to be integrated under the participation of all social and economic stakeholders. In addition, the work of

¹³⁵ Kluve et al. (2007).

¹³⁶ Gil Martín (2004): An Overview of Spanish labour market reforms, 1985-2002, European University Institute, available at www.iesam.csic.es/doctrab2/dt-0217e.pdf.

INEM had been largely criticized as bureaucratic and ineffective with regard to management of job placements. Consequently, from 1994 onwards there has been continuous devolution in particular in job placement and promotion programs from the state to the CAs. In practice, this has meant the transfer of the administration and functions of public employment services from INEM to CAs¹³⁷.

The management and administration of unemployment benefits has remained under the core competences of INEM. There are nevertheless differences between the different CA in the extent to which specific activities related to passive labour policies are undertaken by the INEM offices. For instance, whereas in Galicia the INEM office is responsible for the whole range of services connected to unemployment benefits: information, procedures, recognition and payment of the benefits, in Catalonia the first two functions, namely information and procedures, have been transferred to the local PES¹³⁸.

Given the division of competencies between INEM and the CAs, several measures were undertaken in order to ensure the coordination of the benefit administration and employment placement functions in the PES;

1. The INEM offices were transferred to the same premises as those of the regional PES, thus avoiding the inconvenience for clients. In addition, this is seen as a measure to promote coordination of passive and active policies¹³⁹. S
2. INEM and the regional PES are using a unified information system that contains common statistics and an unemployment registry.
3. An important instrument for the coordination and integration of active and passive labour market is the Sectoral Conference on Labour, which is a forum on ministerial level, chaired by the Minister of Labour to whom INEM is accountable, with the participation of the Labour Secretaries of the CAs that are responsible for the respective regional PES.

The Sectoral Conference decides over fund allocation between regions on ALMPs, and also approves the local design of certain policies, and discusses the National Action Plans for Employment of each CA. Among the working groups of the Sectoral Conference is dedicated specifically to the coordination between active and passive labour policies. Therefore, even though integration of active and passive labour policies is not full, it seems evident that within the process of decentralization essential measures were taken to minimize the effects of the division of responsibilities between state and regional levels.

The following table gives a detailed overview of the division of responsibilities between the state (as carried out by INEM) and the Autonomous Communities.

¹³⁷ Vallvé (1998): Transfer of public employment services to Catalonia and Galicia, available at <http://www.eurofound.europa.eu/eiro/1998/02/feature/es9802140f.htm>.

¹³⁸ Vallvé (1998).

¹³⁹ OECD (2003).

State-level responsibilities	Responsibilities of the Autonomous Communities
Management of unemployment benefits	Administration and management of active employment policies and brokerage services
Regulation of passive and active employment policies	Administration of all employment subsidies
Budgeting of funds for financing active policies	Design and management of own employment policies taking into account local dimension, independent funding of such policies
Maintenance of a state-level database with data on jobseekers, job offers and employment contracts	Organization and management of Public Employment Services (PES) in an autonomous manner
Administration of subsidies given for hiring new workers in the form of a reduction in the social security taxes	Management of vocational training
Elaboration of guidelines for the National Acts for Employment, with participation of the social partners	Participation in establishing the criteria used for the distribution of funds granted to the CAs for active employment policies
Coordination of active employment policies	

It is important to note that each CA can choose the structure and organization of its Public Employment Service (PES) in the most suitable manner according to specific needs, as long as following principles are respected:

- Provision of services by the PES is free to the citizens
- All citizens are given equal opportunities in their job search (this does not prevent cases of legally permitted positive discrimination, e.g. for vulnerable and disadvantaged groups, for which special policies are needed)
- Adoption of a preventive approach to unemployment, providing individualized services to the job seekers
- Free movement of workers throughout the Spanish territory
- Enablement of geographic mobility for employment motives
- A unified Spanish labour market that takes into account regional diversity and endeavours to correct territorial and social imbalances
- Participation of most representative economic and social partners in the employment creation process, integrating their actions in a coordinated manner

While much of the responsibility is put with the autonomous communities, it is not clear how the financial support for taking on that responsibility is arranged. Catalonia has been quite successful in this, but has traditionally been relatively wealthy. The question remains, how do not-so-wealthy autonomous communities ensure they have the means necessary to provide the services.

4.4.5 Application of the integrated decentralised approach to Catalonia

The decentralization of PES in Catalonia was launched as early as 1998, and together with Galicia, this CA was considered a pilot scheme for the testing of the new model of transferred competencies in the field of ALMPs. A main motivation for the choice of Catalonia was the fact that since 1994 it had operated a parallel regional employment service- the Servei Català de

Colocació (SCC). The SCC was organized as a vast network of separate locally operating public and private agencies that charged their services directly to the regional administration. Additionally, Catalonia was the first CA to assume responsibility for occupational training already since 1992.

There are several reasons that make the studying of the effectiveness of the Catalan PES worthwhile. The process of decentralization of PES occurred earlier than in other CAs. It has therefore allowed for a greater and more varied experience with the administration and implementation of ALMPs than elsewhere in Spain. Moreover, Catalonia is the CA with the largest number of territorial employment pacts in Spain¹⁴⁰. Finally, the Catalonia has been among the CAs with the highest employment rates in the country.

Institutional set-up and service provision

Currently, the Catalan Public Employment Services (Servei d'Occupació de Catalunya, SOC) consist of 70 local branches that focus on managing employment demand and supply. SOC is structured around an Executive body; a Management Board that consists of representatives of the Catalan administration, municipalities, trade unions and employers; territorial execution bodies, which include the local employment offices and vocational and occupational training centers; and finally local employment boards that replicate the Management Board on the local level. Total staff of SOC was 1433 persons in 2008, placed in 70 branches (employment offices) throughout the Catalan territory, with a budget of 722 Million Euros.

There are six main lines of ALMPs provided by SOC, which are summarized below¹⁴¹:

Type of programme	Description of programme
1. Professional orientation (occupational guidance)	With a budget of more than 6.5 million Euro, the professional orientation policy strain targets self-employed professional through provision of personalized services through the Personal Integration Itinerary programme.
2. Professional (vocational) qualification	Comprising the largest scope of sub-actions, these ALMPs are aimed at professional qualification of working-age population. Among others, it covers the training needs in priority and emerging sectors of the Catalan economy; provides initial professional qualification for youth population; offers training possibilities for unemployed workers; has a specialized Train & Recruit initiative for training for immediate recruitment from businesses; as well as Innovation & Occupation Training offices. An innovative instrument is the FP.CAT Plan 2008-2010, aimed to bring vocational training closer to the needs of local businesses.
3. Training and employment	These programmes combine training with employment, involving works or services for the public interest, and are

¹⁴⁰ Lope and Gibert (2007).

¹⁴¹ Catalan Employment Service Report (2008), Executive Summary.

Type of programme	Description of programme
	targeted to specific population groups, in particular to young people as well as long-term unemployed and disadvantaged persons.
4. Employment promotion (job creation)	A series of occupational programmes, such as New Sources of Employment programme , Promotion of Local Development, s, as well as experimental programmes on employment like Territorial Employment Pacts that support job creation without any specific normative regulation.
5. Equal opportunities	Targeted at women, these programmes aim to tackle discrimination to providing specific training for women taking into account their specific training needs (ICT, conciliation and settlements, etc.)
6. International exchanges	These programmes include visits of beneficiaries abroad, with the aim of expanding their professional experience and increasing their qualifications.

An integrated approach towards employment and regional development is most visible in two of the ALMP areas that are handled by SOC- employment promotion and job creation, as well as vocational qualification.

Employment promotion and job creation

Currently, employment policies in Catalonia are based on the Catalan Strategy for Employment (ECO). It draws on the European Employment Strategy and consolidates experiences and lessons learnt from previous employment initiatives and activities in the CA of Catalonia. A distinct feature of ECO is that it recognizes the potential of enhancement of territorial aspect of employment for improving effectiveness and efficiency of SOC's activities.

In this respect, ECO encourages the establishment and further development of local partnerships at the county level under the form of Territorial Employment Pacts (TEPs). These represent agreements between relevant local administrative, social and business actors to promote the area's economic and employment development through an integrated bottom-up approach. The Pacts serve not only as a broad-based forum for the co-ordination and adaptation of employment policies to the local conditions, but also involve the better implementation of specific active labour market programs at the local level, promotion of entrepreneurial spirit, inward investment and business development.

There are 19 TEPs currently implemented in Catalonia. ECO aims at providing a coherent and coordinated framework in which those can function, as the TEPs are at different stages of development and not particularly consolidated. Therefore, the Generalitat of Catalonia has assigned each of the four regions (Barcelona, Gerona, Lérida, Tarragona) a different theme to

assess (tools for local integration, equal opportunities, support to entrepreneurs and new technologies) and to further develop¹⁴².

In the course of elaboration of ECO, and in the context of a large number of TEPs throughout Catalonia, an even greater decentralization of public employment services in the CA has been envisaged. The recently created Employment and Economic Promotion Consortium of Vallés Occidental (COPEVO) illustrates this development in practice.

Together with the first wave of decentralization of public employment services in 1996, there has been a number of pilot active employment programs applied in the region of Vallés Occidental. This has created an environment of public-private partnerships through collaborations between all relevant stakeholders at the community and local level, and has contributed to the establishment of a broad and stable network for job creation and support actions for SMEs. Against this background, in 2005 SOC proposed that principles of subsidiarity as regards active employment policies in Vallés Occidental become further enhanced through the establishment of a new form of a public institution, COPEVO. The aim of this step is to translate to the local level the decision on objectives, actions, resources and criteria with regard to active employment policies in agreement with all local actors and in consideration of specific local needs.

Thus, COPEVO was set up in 2006 as a new body that brings together the general authority (Generalitat de Catalunya), the regional authorities (Diputacions) the town councils, employers' organizations, trade unions and NGOs. It has the goals of promoting and developing the skills of local workforce and of unemployed people as to improve effectiveness of the local labour market as well as regional competitiveness and social cohesion. The Generalitat, in the face of SOC, remains the responsible body for the provision of technical assistance, monitoring and evaluation of actions under the Employment Pacts¹⁴³. In sum, COPEVO exemplifies a new approach towards active employment policies that combines the bottom-up experience with TEPs with top-down decentralization of public employment services to the local level. The set up of such institutions, as well as of Territorial Employment Committees, which will be active in the study and analysis of employment issues on the local level, as well as in the promotion and implementation of SOC's activities therefore constitutes a further part of ECO.

Vocational qualification

In the area of vocational qualification, SOC has developed a number of programs aimed at providing professional training for unemployed as well as occupational upgrading of skills for already employed people.

One important initiative that exemplifies an integrated approach towards employment policy and local development is the FP.CAT Plan on vocational education in Catalonia for the period 2008-2010. Elaborated in the context of the ongoing economic crisis, the Plan represents a strategic agreement between the regional authorities and the social partners on improving the quality of

¹⁴² ECOTEC, Catalan Strategy for Employment, available at www.ecotec.com/idele/themes/oldindustrial/studies/catalonia_eco.pdf

¹⁴³ EC, A step forward for territorial pacts in Catalonia, available at ec.europa.eu/employment_social/local_employment/lla/fo/File.do?di

professional education and the competitiveness of the Catalan economy¹⁴⁴. More specifically, the FP.CAT plan aims to better match the training offer of the professional qualification centers of SOC with the needs of local businesses.

For that purpose, the two subsystems of initial and continuous vocational training are being integrated in one, with pilot centers providing courses to three types of students in the same classroom- employed people receiving an upgrading of skills, jobseekers, as well as young people receiving first professional qualification. The centers will operate under the supervision of a Social Councils that will act as management boards and will ensure that the planned course offer corresponds to local needs of businesses and thus helps to boost the competitiveness of the local economy. In this respect, a particular emphasis is put on practical and company-based trainings, which constitutes around 70% of the courses offered.

4.4.6 Impact of the case

Effectiveness of SOC as compared to other PES

The effectiveness of regional Spanish PES was assessed by Alujas (2007) from a macroeconomic perspective in 2007, especially with regard to brokering. For that purpose three indicators were developed¹⁴⁵.

- The registration rate measures the ratio between the number of employers who use the services of PES and total placements in the labour market
- The success rate measures the ratio between the collective placements by the PES and the total job offers by employers
- The market share measures the ratio between number of total placements achieved by the PES and the total number of placements in the labor market of the CA

The higher those indicators, the more efficient the service of the PES, implying a higher confidence among enterprises in the possibilities offered by the PES, as well as a greater chance for sustainable match between supply and demand.

The results of this evaluation, which encompasses the period after 1994, show that Catalonia was substantially better performing with regard to the registration rate, which reached almost 40% in 2002. However, from 2005 onwards there has been a significant decrease in this indicator to 22%, bringing the CA closer to the country average of about 15%. On the other hand, the success ratio for Catalonia is significantly below (ca. 20 percentage points) the average for Spain in the period 1998-2003, and only after 2003 there is a strong upwards trend and equalization of the indicators. It has to be noted though that the result can be attributed to a very strong increase in total job offers by employer in that period, which SOC could not manage accordingly¹⁴⁶. Finally, on the third indicator which refers to the ratio between placements accomplished by the regional PES and

¹⁴⁴ Mutual Learning Programme 2009, Peer Reviews Spring , available at http://www.mutual-learning-employment.net/uploads/documents/SpanishPeer_Review_full_summary_final.pdf

¹⁴⁵ Alujas, J. A. (2007), El servicio público de empleo y la intermediación laboral, communication presented at the VII Days of Labor Economy

¹⁴⁶ Avaluació de les polítiques actives d'ocupació a Catalunya, available at http://www.oficinadetreball.cat/socweb/export/sites/default/socweb_ca/web_institucional/soc/estudis_avaluacions.html

total placements in the respective CA, the result shows that from the year 2000 SOC has had a market share rate between 20 and 26%, which is significantly above country average that never exceeded 16%. Nonetheless this final result shows that overall importance of SOC is not too high and given continuous reforms a comparative evaluation of the functioning of Spanish regional PES is probably too early to assess.

Effectiveness of selected ALMPs offered by SOC

In June 2008 SOC presented the results of an evaluation of the effectiveness of its active labour market policies, commissioned to the University of Barcelona¹⁴⁷. So far, it is the only study of its kind for the region¹⁴⁸, and it assesses the work of SOC for the year 2005 based on microeconomic techniques such as propensity score matching.

Against the background of regionalization and decentralization, the evaluation of SOC's activities gives some initial insights into the extent to which employment policies are successful when designed and applied at the local level.

In 2005, the SOC provided services to roughly 160,000 people. The actions with largest shares of participants were the territorial employment pacts (48.7%), the training programs for unemployed (27%), as well as the personalized employment support programs (13%). Unfortunately, given the specific statute of territorial employment pacts as an imitative that is not directly integrated into the services provided by the PES, and considering that participation in those is often combined with other services of SOC, the authors have excluded the TEPs from the analysis of effectiveness.

In total, the study estimates that the probability of finding a job as a direct result of having benefited from at least one of SOC's services, in comparison to a counterfactual group of non-participants is 5.03%. The other significant result of the study is the effectiveness of public employment plans (encompassed under Area 3, training and employment), participation in which increases the subsequent placement probability with almost 18%. Job training programs for unemployed had a positive effect of 5.88%, similar to the personalized support of 5.92%. On the other hand, the authors found a negative and significant effect of - for participants in re-training programmes (long-term unemployed), attributing this effect to a lock-down effect associated with this vulnerable group. The results for vocational education training are not significant.

4.4.7

Conclusion

The following conclusions can be drawn in relation to the 6 key questions for this study:

- a. In relation to the national policy mix, Spain the strong regional element of the country's public administration system lends itself to the elaboration of an approach with a strong regional / local element. Indeed over the past years, it has been realised that effective active labour market policies cannot be managed or delivered from the national level. The Spanish Constitution however, enables Regions (i.e. Autonomous Communities) to design their own ALMPs. The

¹⁴⁷ Ibid.

¹⁴⁸ The same authors team publisher an English version of the evaluation as a paper, see Raul Ramos (2009): The effectiveness of regional active labour market policies to the fight against unemployment: an analysis for Catalonia, IZA Discussion paper 4649, December 2009.

national PES proved to be unable to deliver effective ALMPs. Regional and local PES on the contrary, are considered more appropriate levels to manage and deliver such policies.

Therefore, the policy mix has shifted from the national to the regional albeit that the national level retains some responsibilities concerning policy design and setting of priorities. Spain, as illustrated by the case study, is an example of an integrated policy (in context of the national policy mix), with regard to the inclusion of policy instruments, which is primarily conceived at national level, managed at regional level and implemented at local level. It also places re integration into the labour market in the context of wider social inclusion policy domains.

However, the balance of the national policy mix is more weighted towards a sectoral focus than is the case for several other member states (such as UK, Denmark, Hungary, Poland).

- b. The case study shows that the approach has been successful, through the evaluations identified, for example with notably better outcomes for those participating in training and employment schemes than those who did not take part. However, other elements were less successful (for example training of long term unemployed). There is therefore a suggestion from the evaluation materials that elements of the program with a more integrated approach (though focus also on the demand side) were more successful than those which were more sectoral – or supply side focused.
- c. The decentralisation of PES functions, especially ALMP, reflect national constitutional, political and governance dynamics as well as newly perceived needs of the labour market and employment sector. The initiating of the pilot action in Catalonia (and Galicia) has helped to streamline the approach to PES / ALMP and has enhanced the focus on ALMP in contrast with passive approaches. It has also assisted in the development of further partnership approaches (especially Territorial Employment Pacts) which have allowed a more holistic approach and a move towards an integrated approach.
- d. The failure of the national PES to deliver effective active labour market policies triggered a wide public debate that resulted in a shift of competencies from the national level to the level of the Autonomous Communities.
- e. The policy implementation of the PES in Catalonia has been compared with ALMP practices elsewhere in Spain. Catalonia was substantially better performing with regard to the registration rate, which reached almost 40% in 2002. However, from 2005 onwards there has been a significant decrease in this indicator to 22%, bringing the CA closer to the country average of about 15%. On the other hand, the success ratio for Catalonia is significantly below (ca. 20 percentage points) the average for Spain in the period 1998-2003, and only after 2003 there is a strong upwards trend and equalization of the indicators.

4.4.8

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4.5 Germany: Reducing unemployment by increasing self-employment

4.5.1 Positioning of this case-study

The labour market policy mix in Germany is depicted in the following figures:

Balance between sectoral and integrated policies

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral		
	Other policy domains to be taken into consideration	X	
	Other policy domains fully on board		

Balance between centralised and decentralised modes of labour market governance

	National level	Regional level	Local level
Conceive	X		
Manage	X		
Deliver			X

The German case study reflects a primarily sectoral approach, in particular with regard to the policy objectives. Instruments of other policy domains may be taken on board, for example stakeholder consultation. The policy is conceived and managed at national level but delivered at local level.

4.5.2 Background information on labour market challenges and policy interventions in Germany

Policy measures to promote self-employment among benefit recipients were introduced in times of high structural unemployment. Germany has been particularly confronted with high levels of long term unemployment. Table 1 show that the level of long term unemployment lays structurally above the EU average. The German figures moreover, show an increasing or stabilising trend, whereas the EU average declines.

Table 1. Long term unemployment in Germany and EU 15 (% of U)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
DE	51.3	51.2	51.2	49.6	48.2	49.6	56.3	53.0	56.4	56.6	52.6
EU 15	47.1	45.6	44.7	42.6	40.5	41.4	42.5	:	42.0	40.2	36.1

Source: Eurostat

The occurrence of high levels of long-term unemployment is often considered a typical challenge for Continental regimes. Whereas generous benefit levels provide little stimuli for the unemployed to enter the labour market, the strong reliance on insurance schemes increases (non-wage) labour costs that, in turn, provides lesser incentives for business to create more employment, particularly for the lower skilled.

Labour market policies and governance

The recent Hartz Reforms incorporated a stronger activation logic in the system of German labour market policy: *‘Fördern und Fordern’*. The Hartz I –III legislation includes measures that refer on the one hand to reforms of the German PES: Competencies in the area of job-counselling and vocational education were increased as well as the organisational structure and the name was changed. On the other hand, the first three legislative packages enabled the creation of new forms of employment such as "Minijob" and "Midijob", with lower or gradually rising taxes and insurance payments, and paved the way for new types of (subsidised) self –employment (so-called "Ich-AG"). The last Hartz law (IV) was probably the most controversial as it reformed the system of benefits for unemployed.

National dominance in labour market policies

Labour market policies are in principle formulated and implemented at all levels of the German Federal State. The main actor in this policy area however, is the German federal Government: the Ministry of Labour and Social Affairs (*Bundesministerium für Arbeit und Soziales – BMAS*), and the federal Public Employment Service (*Bundesagentur für Arbeit – PES*).

According to the German Constitution (Art. 72, paragraph 1), the Federal States (*Bundesländer*) have the competence to act in the area of labour market policy *if* the Federal Government does not make use of its competency to act.¹⁴⁹ Because the Federal Government has always pursued the objective to create equal standards of living across the country, an aim which is laid down in the German Constitution (Art. 72), it ensured that both passive and active labour market policies similarly arranged in all Federal States. The implementing agency at federal level, the BA, has therefore always been the dominant actor.

Regionalisation of labour market policies

Several factors enabled the Federal States to issue their own labour market policies.¹⁵⁰ These regional policies result from the strong reliance on insurance based policies at the level of the Federal Government. In times of growing unemployment, much of the federal resources are spend

¹⁴⁹ Cf. Malik, C. (2008). „Die Arbeitsmarktpolitik der Bundesländer nach den "Hartz-Reformen". WZB DP 2008-103.

¹⁵⁰ Ibid.

on benefits, leaving fewer funds available for active labour market policies. This enabled the Federal States to develop their own active employment measures, in particular for social assistance beneficiaries who are able to work.

Federal states also started to provide financial support to their municipalities, thereby increasing the capacity to integrate social assistance beneficiaries in the labour markets, a requirement laid down in the Law on Social Assistance (BSHG). Because of growing long-term unemployment, municipalities increasingly had difficulties to finance such employment promotion measures. Municipalities originally had to co-finance active labour market policies for this target group together with the federal PES, but were hardly sufficiently financially equipped.

4.5.3 Case description: More employment through self-employment?

Policy type

The policy type illustrated by this case study is a national level sectoral policy approach to promote self-employment among unemployment benefit and social assistance recipients.

Outline of the case study

The German labour market has long been characterised through high levels of long term unemployment following German unification and industrial decline. At the beginning of the 21st century, the Red- Green Government led by Chancellor Schröder initiated reforms to improve the functioning of the German labour market. In particular the Hartz reforms 2002-2005 included new measures to activate the unemployed.

These active labour market measures included instruments to promote a start-up/self-employment for different categories of unemployed persons. Two additional instruments were created in 2003 and 2005 to promote self-employment, one for Unemployment benefit recipients and one for recipients of means-tested welfare benefits. Some flanking measures in the field of training and advice have also been introduced.

In 2005 three instruments for the promotion of self employment existed. Unemployed individuals receiving unemployment insurance benefit (UB I) could choose between the ‘bridging allowance’ (BA, *Überbrückungsgeld*), which existed already since 1986, and a ‘start-up subsidy’ (SUS, *Existenzgründungszuschuss*) in order to subsidise their start-up. Unemployed individuals receiving the means-tested unemployment benefit II (UB II) can have their start-up financed through the *Einstiegsgeld*. The former two schemes for unemployment insurance benefit recipients have meanwhile merged into a single start-up subsidy (*Gründungszuschuss*).¹⁵¹

The Bridging Allowance (Überbrückungsgeld)

During the period 1986 – 2002 the bridging allowance was the only programme to support the unemployed to start their own business. The programme was intended to provide support for the costs of living in the initial phase of self-employment. The subsidy equals the level of UI benefit that the participant would have received if he or she would have remained in the unemployment

¹⁵¹ Since 01.08.2006.

benefit scheme. In addition, a (annually indexed) lump-sum payment is granted to cover social security costs. It is however left at the individual's discretion how social security is arranged. The subsidy is paid for a maximum of six months.

The Bridging Allowance is a so-called *Pflichtleistung* for the Bundesagentur für Arbeit, it is in principle available for all unemployment benefit recipients, upon the condition that their business plan is approved by an authority other than the PES, usually the regional chamber of commerce. Approval is thus not dependent on the case manager of a local PES.

The Start-up-subsidy (Existenzgründungszuschuss)

An additional start-up subsidy for unemployment benefits recipients was launched with the introduction of a broader package of ALMPs through the Hartz reforms in 2003. The Start-up-subsidy (Existenzgründungszuschuss or Ich-AG) was intended to secure the initial phase of self-employment. It was furthermore intended to stimulate legalisation of informal activities. This provision of social security of self-employed consists of a lump sum payment of 600€ per month in the first year, and decreases to 360€ per month in the second and 240€ per month in the third year (upon the condition that other income doesn't exceed 25K p.a.). Participants are required to join the statutory pension fund and a legal health insurance scheme (participation against reduced tariffs).

The Start-up-subsidy is also a *Pflichtleistung* for the Bundesagentur für Arbeit. The program originally did not require the approval of a business plan. This was changed in November 2004 and is now similar to the requirements for BA.

The new Start-up-subsidy (Gründungszuschuss)

Both the BA and the SUS were replaced by a new Start-up-subsidy (*Gründungszuschuss*) in August 2006. This new programme pays as a start-up subsidy the UI benefit and a lump sum of 300€ per month, whereas the latter sum is intended to cover the costs of health insurance. The duration of the benefit is in principle nine months, but may be prolonged for another six months.

The Einstiegsgeld start-up scheme

The *Einstiegsgeld* start-up scheme was introduced in 2005 after the unemployment benefit II (UB II) replaced the former means-test unemployment assistance and social assistance schemes for needy people capable of working. The subsidy is intended for UB II recipients both for starting a (low paid) regular job as well as for starting up their own business. The level of the benefit approximates 50% of the UB II, depending on the size of the household. It is paid for a maximum of 24 months.

The *Einstiegsgeld* is a so-called *Kann-Leistung*. UB II agencies are not legally obliged to distribute such a subsidy even if formal criteria are fulfilled. Granting a subsidy depends herewith on the case-manager. He or she has to decide on the basis of criteria such as the working history of the applicant and a supplied business plan whether the applicant would be eligible to start up an own business. The Federal PES has issued an internal manual for case managers at UB II agencies (cf. BA (2008) SBG II Arbeitshilfe Einstiegsgeld).

	Bridging Allowance (Überbrückungsgeld)	Start-up Subsidy (Ich-AG)	Start-up Subsidy (Einstiegsgeld)
Type	National, Sectoral	National, Sectoral	(Sub) national, integrated (Integrates LMP with Social Security)
Aim	To provide support for the costs of living in the initial phase of self-employment	To stimulate legalisation of informal activities through the provision of social security of self-employed	to support needy unemployed people into self-employment (or an socially secured employment relationship)
Level	Subsidy equals the level of the insurance benefit, during max 6 months. An additional lumpsum of appr. 70% is granted to cover social security liabilities.	Participants receive a fixed sum of €600/ month in the 1st year, €360/ month (€240) in the 2d (3d) year.	Level approximate 50% of social assistance benefit, depending on household, for max 24 months
Implementing agency	Bundesagentur	Bundesagentur	Bundesagentur and or Municipalities
Other	<i>Pflichtleistung for UI recipients since 1986</i>	Pflichtleistung for UI recipients since 2003	<i>Kann-Leistung for SA recipients since 2005</i>

Flanking measures

Flanking measures include coaching and advice for individual starters, financed by the European Social Fund as well as by the public employment service. The German PES however concentrates its resources predominantly on preparatory seminars and training measures for its own staff to identify the appropriateness of applicants to become self-employed. Coaching seminars were originally not organised for those who intended a start-up out of unemployment in particular, but for starters in general. This was recently changed with the introduction of the new *Gründercoaching* programme.

Institutional set-up

The Federal Employment Agency (BA) has the formal responsibility for both the payment of the unemployment insurance benefit (UB I) and the implementation of active labour market policies.¹⁵² Its tasks are defined in the Third Book of the Social Code (SGB III). The BA has a unified structure with three main services: Placement, active labour market policies and UB I payments.

The BA is organised in:

- One central office in Nuremberg;
- 10 Regional Directorate offices;
- 176 Employment offices (*Agenturen für Arbeit*);
- Approximately 610 local Employment offices.

¹⁵² Cf. IZA (2006).

Regional Directorate offices are responsible for the implementation of regional labour market policy. These agencies cooperate closely with the governments of the federal states in order to bring their tasks in line with the labour market policies and the structural and economic policies of the federal states.

The local offices are in first instance responsible for the unemployment insurance benefit recipients. The SUS and BA are therefore primarily implemented at this level.

Local discretionary power

The BA itself also was modernised on the basis of the New Public Management philosophy.¹⁵³ The introduction of ‘management by objectives’ resulted in quantitative goals for each local office, while taking into account the special characteristics of the local labour market.

The JobAqktiv Law (2001) and the Hartz laws stressed the responsibility of local BA offices in the fight against unemployment. With the introduction of new active labour market policies, they have been allowed flexibility in deploying active labour market policies. Local agencies have the autonomy to determine the share of the budget for ALMP measures and they are allowed to spend approximately 10 percent of this discretionary budget on experimental and innovative instruments. The BA moreover, has become more autonomously in relation to the Federal Ministry of Labour and Social Affairs, since the Ministry no longer uses administrative acts to steer the BA.¹⁵⁴ The BA is now managed through performance contracts that include concrete outcome objectives. Individual PES offices thus now have the discretionary power to set priorities in the range of active labour market policies they intent to implement. Some PES offices tend to make self employment/ start-ups a priority, while other offices choose to focus on other types of active labour market policies. Cost-effectiveness is one of the key-criteria when choosing program contents and participants (IZA 2006).

According to IZA (2006), the improved targeting of active measures and the allocation of resources opened a wider scope of tailoring measures to individual needs.

The implementation of the Einstiegsgeld requires a different institutional set-up.

Social assistance used to be a sole responsibility of the municipalities.¹⁵⁵ Activation of job seekers on basic income support (UB II) however, required that responsibilities for this target group had to be shared with the BA. By creating joint customer centres, the Hartz reforms intended to end the different treatment of target groups: Those receiving UI or UA benefits on the one hand and those receiving basic income support on the other hand. All benefit recipients able to work were supposed to be activated in ‘one-stop shops’.

The joint customer centres of the BA and municipalities are called ‘ARGE consortia’ and are responsible for the administration of UB II benefits and for active labour market policies like the

¹⁵³ Ibid.

¹⁵⁴ Cf. Büchs & Lopez-Santana (2007).

¹⁵⁵ This turned out to be rather problematic. The German Constitutional Court ruled on 20.12.2007 that the current mode of cooperation between BA and municipalities is not compatible with the German Constitution. See for detailed information: IZA (2006).

Einstiegsgeld, for UB II beneficiaries. In some districts however, municipalities opted for the possibility to become fully in charge of active and passive measures UB II beneficiaries, while in other districts the original division of responsibilities between municipalities and the BA continues to exist.

Within the ARGE consortia financial responsibilities and decision powers remain divided. For example, while the BA agencies bear the financial responsibility for UB II as well as all active labour market measures (for all types of beneficiaries), the municipalities are in charge for the financing of various types of social services. In addition, municipalities have the power to classify UB II recipients as being able to work and be supported by federal measures who would otherwise receive municipal social assistance

Funding and provision of funding

Activities of the BA are funded through unemployment insurance contributions from employers and employees. The national Federal Government provides additional grants to the *Bundesagentur*. The BA, SUS the new SUS and the *Einstiegsgeld* are therefore financed through insurance contributions and topped up with tax money that stems from the Federal Government. .

Whether start-up subsidy can be financed from insurance contributions is often subject of (legal) discussion. The promotion of self-employment is not mentioned in the objectives of active labour market policies in the Third Book of the Social Code. Some argue therefore that these types of measures are “*versicherungsfremde leistungen*” and qualify them as illegal subsidies for business.

In those cases where municipalities and the BA could not agree upon a common *modus operandi*, municipalities finance integration measures for social assistance beneficiaries on their own. Here, the *Einstiegsgeld* is differently financed. This depends first of all under what kind of working relationship between the BA and the municipality the subsidy is granted. In those cases where the BA and municipalities cooperate, costs are split. Municipalities enjoy a so-called ‘*kommunale Finanzhoheit*’ to levy taxes and to decide upon expenditures autonomously.

4.5.4 Impact of the case

The introduction of the new start-up subsidies for unemployment insurance benefit recipients paved the way for a significant increase in the participation in such measures. While the Bridging Allowance already became increasingly popular since 2000, the Start-up subsidy managed already in the first year of its existence (2003) to attract almost 100.000 unemployed persons. Participation in both types of start-up subsidies reflected a climax in the year 2004 when a total of 351.400 start-ups were realised with the help of these programmes. Even though participation remained on a high level, the years 2005 and 2006 show a gradual decrease in the application of start up subsidies. The two initial start-up subsidies merged in 2006 into a single new Start-up subsidy that attracted in 2009 135.000 unemployed persons.

Table 2 provides an overview of the participants in the individual measures.

Table 2 Number of participants in the various start-up programmes for unemployed persons

	Bridging Allowance	Start-up Subsidy (SGB III)	New Start-up Subsidy (SGB III)	Start-up Subsidy (SGB II)	Sum
2000	92.600	-	-	-	92.600
2001	95.700	-	-	-	95.700
2002	123.300	-	-	-	123.300
2003	158.700	95.200	-	-	253.900
2004	183.200	168.200	-	-	351.400
2005	156.900	91.000	-	17.100	265.000
2006	108.300	42.800	33.600	32.600	217.300
2007	-	-	125.000	30.000	155.000
2008	-	-	119.700	22.600	142.300
2009	-	-	135.000	19.600	154.600

@2006: Exgz nur bis 30.6.2006, ÜG nur bis 1.11.2006, GZ ab 1.8.2006
Source: BMAS

Start-up subsidies became an increasingly important instrument

Start-up subsidies have become an increasingly important active labour market policy in Germany. With an increasing number of participants, expenditures on start-up programmes increased as well. In 2007, the level of expenditures reached more than two billion euros, from 800 millions in 2000. In 2004, when the most start-ups were subsidised, the level of expenditures reached almost 2.8 billion euros.

The fact that start-up programmes have become a more important active labour market policy also follows from the fact that the share of such schemes in total expenditures on ALMPs significantly increased during the period 2000- 2007.

Table 3 Expenditures on Start-up incentives (millions €)

	2000	2001	2002	2003	2004	2005	2006	2007
Expenditures on start-schemes (Eurostat LMP cat. 7)	803.00	934.69	1179.57	1836.63	2886.47	2010.01	2753.66	2019.24
Expenditures on ALMPs (Eurostat LMP cat. 2-7)	21227.50	21734.73	22135.21	20340.86	18729.42	13320.88	13648.85	12287.89
Share start-up schemes/ ALMPS (%)	3.78%	4.30%	5.33%	9.03%	15.41%	15.09%	20.18%	16.43%

Source: Eurostat

Participation in flanking measures

Despite the growing interest in self-employment, participation in flanking measures has remained limited. Already the 2006 evaluations showed that in 2005 only a limited number of starters made use of trainings and advice on self-employment. About half of the self-employed stated that they

made use of the advice of a tax-advisor, while 40 percent attended seminars for start-ups, but only 25 percent gathered information from either the PES or the chambers of commerce.

From a 2010 evaluation of the DIW Berlin and IZA Bonn, it seems as if this interest in flanking measures remained on a low scale. The evaluation reaffirms that only 25 percent of the start-ups makes use of coaching offered by the PES.

The BMAS meanwhile has reacted with a more extensive coaching programme that is solely intended for the formerly unemployed. The previous programme was not solely intended for formerly unemployed. In addition, the costs of participation were not completely covered by the BA.

The new coaching programme (Gründercoaching) exists since 1,5 years and comprises a very intensive course of which the costs are completely covered by the BA. According to the BMAS, starters are more eager to participate in the programme and also leave the coaching faster. This programme manages to attract some 1000 new participants (countrywide) each month (12-15K p.a.). It is herewith considered by the BMAS as successful.

Assessments of the start-up schemes

Policies to promote self-employment were evaluated on behalf of BMAS in 2006. A majority of start-ups (60% of those subsidised by the Start-Up subsidy and 70% of those subsidised by the BA) still existed after five years. 20% found regular employment while approximately 10% was again registered as unemployed. In addition, research has shown that those persons participating in self-employment schemes are generally much less likely to become unemployed again and manage to realise a higher income in comparison to unemployed persons that didn't participate in such self-employment schemes.

An IZA (2007) study found strong positive employment and income effects for participants compared to other groups of unemployed individuals. Because of the fact that the majority of start-up subsidy participants still received subsidy during the observation period, these results have only a preliminary character. It is likely that the survival rate of start-ups decreases after the financial support is stopped. In addition, the study found that the BA is also an efficient policy tool in the sense that it saved the Federal Government money compared to the continued payment of unemployment benefits.

A more recent IAB study (2008) on the effectiveness of the self-employment programme for the needy unemployed in Germany (Einstiegsgeld) concludes that participants have a lesser chance of receiving UB II after their start-up.

According to IZA (2010), the main shortcoming of (econometric) studies on the effectiveness of start-up schemes, is indeed the limited timeframe. The majority of studies only provide evidence for the short and medium term. The IZA 2010 seeks to fill this gap as it is based on data covering five years after the start up.

The study concludes that both BA and SUS have persistent positive long-term effects on the employment of the formerly unemployed. BA and SUS participants spend significant longer periods of time in employment or self-employment compared to non-participants. Especially participants who are at a high risk of being excluded from the labour market and becoming long-term unemployed seem to benefit from these programmes as they are especially effective for low educated and low qualified individuals. The results are mixed however, with respect to age and nationality.

Other recent studies from IZA and DIW retrieved that the success of start-ups from unemployment crucially depends on the motivation of the starters. Often it is through that most of these start-ups are initiated as a means of ‘last resort’. In reality however, the stronger the business idea, the niche occupied, or the desire to be ones own boss.

Two prominent German researchers on start-ups, Kritikos and Caliendo, distinguish “Opportunity entrepreneurs” or “Pull-starters” from “Necessity entrepreneurs” or “Push-starters”. Whereas the former type initiates a start-up to exploit a business idea (push motivation), the latter wishes to become self-employed because of the absence of alternatives to generate income (pull motivation). The motives from opportunity entrepreneurs are expected to have a positive impact on the development of the start-up. They are more likely to be committed to realise their business goals. Necessity entrepreneurs on the contrary, are expected to be less committed.

In practice, start-ups are initiated because of a mix of push and pull factors, where push factors dominate: All jobseekers participate in self-employment schemes because they want to end their unemployment. When taking all motivations into account however, only a small share of participants is induced by push factors only.

4.5.5 Comparison with cases in other EU Member States

Self-employment out of unemployment is also actively stimulated in the Netherlands. A ‘starter’s arrangement’ for persons receiving unemployment insurance benefits (startersregeling), which was introduced in 2006, is managed by the Dutch PES.¹⁵⁶

Like in Germany, the arrangements intends to stimulate entrepreneurship among unemployed persons and therewith the outflow out of benefit schemes. The scheme has recently been evaluated.

The starter’s arrangement is a benefit for unemployment benefit claimants and is granted, after approval of the PES (UWV Werkbedrijf), for a period of six months. During this period, starters may work on their company while staying eligible for benefit. After this period, the sum of the benefit needs to be paid back to the PES within a period of 52 weeks. The arrangement also foresees a preparatory “orientation phase” in which the entrepreneur can prepare his or her start-up and is freed from job application requirements. No real business activity however, may be performed during this preparatory phase.

¹⁵⁶ A ‘Supplementary benefit for Self-employed Persons’ (Bbz- Besluit bijstandverlening zelfstandigen) is intended to lift people out of social assistance which is managed by municipalities.

The number of start-ups of persons receiving an unemployment insurance benefit increased from 11.000 in 2005 and 2006 to 13.000 in 2007. Approximately half to three-quarters of these start-ups have been initiated because of the Startersregeling.

Support from the PES has increased with the introduction of the Startersregeling. Like in Germany however, Dutch starters often experience a lack of specialised knowledge among PES staff, on taxes and business in general. Beneficiaries are nevertheless more positive about PES support than before 2006.

In addition, the arrangement seems to attract new groups of people to entrepreneurship. The PES primarily mediated unemployed persons into paid employment and the possibilities for self employment are only explored after several unsuccessful mediation attempts. The idea of becoming self-employment stems therefore often from the unemployed him/herself. The arrangement is also valued because it offers starters a stable income when starting their business.

The arrangement however is considered as complex. Starters often do not exactly know how much they have to pay back to the PES as it is often unclear how the amount that needs to be paid back, is calculated.

4.5.6

Conclusions

The following conclusions can be drawn in relation to the 6 key questions for this case-study:

- a. In relation to the national policy mix, competencies in the area of active labour market have recently been decentralised, but the Federal government continues to shape the broader policy framework. Therefore the balance of the policy mix is still quite focussed on the national level in Germany although with a dynamic to engage more in the regional / local level. In relation to the national policy mix and the balance between sectoral and integrated approaches, many measures reflect solely labour market / employment related objectives and not those of other domains and so must be regarded as sectoral in character, in comparison with other member states. The measures within this case study at stake are solely intended to increase self-employment among unemployed benefit recipient and should therefore count as 'sectoral'.
- b. Local employment agencies now have the competencies to deploy active labour measures that are in line with local labour market needs. In those locations where self-employment is promoted, the success of individual start-ups depends decisively on the local network of the PES office. The promotion of self-employment is however mainly sectoral because of the fact that it is targeted at reducing unemployment.
- c. The number of start-ups from unemployed persons increased over the last years. A significant share of these start-ups also seems to be sustainable. These positive results follow from the introduction of self-employment programmes. Similar results can be found in the Netherlands where the governments also introduced measures to promote start-ups for unemployed persons.

- d. Labour market policies in Germany used to be solely issued at national level. These policies were also limited to passive measures, unemployment insurance and unemployment assistance. Since the beginning of the 21st century, there has been a clear shift towards integrated (active) labour market policies that are (partially) designed and implemented at sub national level.
- e. Arguments for this shift predominantly stem from the continuing high levels of unemployment and the seemingly incapability of existing institutions to alter this. Local and regional employment agencies have become responsible for their own performance, often because of new styles of public management. In addition, the Federal states became increasingly involved in the design and implementation of labour market policies in the light of discussions on their legitimacy of their existence. These discussions focused on the added value of Federal states and their inability to counteract increasing unemployment rates.
- f. Germany applies one of the largest budgets on the promotion of self-employment among unemployed world wide. It also has one the largest number of participants in these specific programmes. Recent research shows that the survival rate of start-ups in Germany is rather high, also in international comparison. The sectoral decentralised approach therewith seems to pay off. In the Netherlands, where a similar albeit smaller approach is undertaken, similar positive results have been witnessed.

4.5.7

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4.6 United Kingdom: Regional employment promotion in the West Midlands

4.6.1 Positioning of this case-study

The labour market policy mix in the UK is depicted in the following figures:

Balance between sectoral and integrated policies

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral		
	Other policy domains to be taken into consideration		
	Other policy domains fully on board		X

Balance between centralised and decentralised modes of labour market governance

	National level	Regional level	Local level
Conceive		X	
Manage		X	
Deliver			X

The case study in the United Kingdom is an example an entirely integrated approach to regional development. The policy is both conceived and managed at regional level and delivered at local level.

4.6.2 Labour market performance and policy mix in the UK

Labour market challenges

In the years since the Second World War, the UK saw the gradual decline of manufacturing industry, especially in the regions of the North and Midlands. Concern about lack of labour productivity and competitiveness was expressed from the 1960s onwards and from the 1970s onwards there were also concerns about lack of integration of certain geographic and social groups within the economy. During the 1980s, the decline of manufacturing industry became more intensive with major job losses within industries such as shipbuilding, coal mining, motor vehicle production, clothing and textiles, metal production and engineering. Old skills became outdated and training mechanisms for manual workers (for example the apprenticeship system collapsed

with low levels of in company training. Opportunities for young people and others without employment but with low levels of educational attainment became very much reduced. Since the 1990s, very significant numbers of people have become dependent on incapacity benefit, so outside the workforce, creating a concern about cultures of worklessness, especially in specific geographical areas.

During most of this period, NUTS II regions in the UK lacked structures for governance or for economic intervention. Instead, strategies for intervention either came from central government or local government. From the 1990s, attempts to put in place institutions at regional level were made. This included Government Offices (integrated teams of civil servants from ministries at regional level, Regional Development Agencies and also Regional Assemblies (indirectly elected consultation bodies). At the time of writing, these structures are likely to be significantly reduced by the Conservative Government.

This case study examines the situation in one UK region, the West Midlands. In setting the context, we firstly set out the national context and then the regional context.

The UK has, however, been characterised by a high level of participation in the labour market with 74% of the working age population in work comparable with levels in North America and ahead of other major EU economies such as France, Italy and Germany. This figure has risen since the mid 1990s with a dip visible at present following the crisis. This characteristic is also visible in relation to most demographic sub groups, except in relation to unskilled workers where the UK lags behind the OECD average. The UK also has significantly lower levels of spending on labour market programmes than most EU member states and members of the OECD with the exception of some new member states, the USA, Japan and Mexico.¹⁵⁷

Labour market policies and governance

In this context the current balance of different types of policies, the policy mix, has evolved which has shifted considerably since the immediate post war period. The current situation reflects a combination of factors including macro economic stability, flexibility and diversity and lateral approaches, making work pay (links into the benefit system) and flexible active labour market policies. Relevant instruments national level instruments such as Job Seekers Allowance providing a single benefit through a one stop service for all unemployed people. New Deal for Young People offering support in a more targeted and pro active approach from the late 1990s. From 2001, the Job Centre Plus approach widened to include all benefits (not just unemployment benefits) with work focussed interviews through an approach which reflected “work for those who can, support for those who cannot”. This reflected an increasing concern at the level of welfare expenditure but also a focus on specific hard to reach groups using the benefits “stick” as well as incentives to enhance labour market participation.

¹⁵⁷ Active Labour Market Policies in the UK: What lessons can be learned from British experience; Michelle De Cort, Dept of Work and Pensions, 2009

During the period 2001 – 2008, long term youth unemployment was reduced by 90% and most benefit claimant rates fell. Again this led to a shift in the policy mix and focus reflecting the reduced focus on general unemployment and increased focus on specific hard to reach groups. However, long term issues and problems identified at national level include a number of concerns. Very significant numbers of people of working age without work for more than one year (3 million in 2008) and nearly 3 million households in which no one works; 5 million adults who are not functionally literate and 17 million have numeracy problems. This to be achieved through a focus on five key principles as set out by the DWP (Relevant UK Ministry):

1. A stronger framework for rights and responsibilities
2. A personalised, responsive and effective approach
3. Not just jobs but jobs that pay and offer retention and progression
4. Partnership through elements of the public, private and third sectors working together
5. Devolving and empowering communities

There are numerous critiques of this approach key points of which include the fact that the approach has led to reduced levels of claimants within certain categories (eg young people) but not always into good quality and sustainable employment, that the approach has not generated positive outcomes for certain groups (for example people with mental health problems). In an overall context, the UK approach is not unique but reflects the wider EU context as set out in the Lisbon Agenda. However, the UK approach has lacked the generous social assistance provision (combined with active labour market actions and relatively light employment protection) that is said to characterise more successful models (such as Denmark). It has also not addresses issues of labour force productivity and the lack of specific and functional skills.¹⁵⁸

Regional Background

During the same period, following the immediate post war decades and especially from the early 1980s onward there has been a major shift in the UK towards local and regional policies within the overall mix. This partly reflected the recognition of the very significant differences between employment and labour market issues in different parts of the country and that failure of nationally determined approaches in that context, Especially important from the 1980s onward was the recognition of the need to relate labour market interventions on the supply side to the needs of business and the demand for labour. Further, tackling of long term worklessness and relationships with tackling social exclusion and also benefit dependency has also required an approach which is tailored to the needs of specific social / minority groups.

The West Midlands region was and remains a major centre of manufacturing industry. During the post war period the region had unemployment rates of less than 1% and the highest wages for manual workers in the UK. As a consequence of this there was a culture of low levels of attainment in relation to education and training. During this period there was very substantial inward migration of un- and semi-skilled workers into the region. Government policy during that period actually aimed to re direct investment away from this region towards those on the North and Scotland and Wales.

¹⁵⁸ Introduction to Active Labour Market Policy, National Institute for Economic and Social Research, 2007

During this period economic development and regeneration were not seen as priority areas for public policy with urban planning, housing, transportation being key drivers of change. Labour market and employment concerns reflected labour shortages both for unskilled / low skilled labour and also specific skills in the manufacturing sector. These shortages were largely met by inward migration from the Indian Sub continent and Caribbean, Ireland and other regions of the UK. In addition, during periods of relative prosperity businesses relied on recruiting workers from each other, helping to create a problem of a skills gap over a period.

However, concerns about the competitiveness of the West Midlands economy have been raised since the 1970s. Indeed it has been argued that debates about lack of competitiveness, including the roles of public and private sector in investing in human capital, can even be traced to the late nineteenth century.¹⁵⁹ In 1977, an analysis noted that the West Midlands economy entered recession before other UK regions, took longer to recover and that on each occasion there was a significant loss of economic capacity, especially in engineering and productive sector. The reasons for this were suggested to be lack of investment in plant and equipment and also lack of investment in human resources through appropriate education and training needed for an increasingly global market¹⁶⁰

It has been argued that the problems of West Midlands economy revolve long standing problems of lack of investment in training by businesses and the need for the needs of businesses to be reflected in training and other labour market actions. Until 1980s, volume was such that firms would recruit from each other. Important to demarcate the roles and responsibilities vis training and education between public and private sectors. Integrated approach needed for this. Since 1980s, upgrading of skills and training culture of some larger firms but this has not happened further down supply chain into SME sector. More comprehensive planned approach to training and skills development via supply chain was needed¹⁶¹

From the early 1980s until the early 1990s, the re structuring of the economy, especially key sectors of manufacturing including engineering, machine tools, auto motive, metal production and related activities, became more intensive. During a three year period from 1980 – 1983, three hundred thousand jobs were lost across the region. This saw the total collapse of some sectors (machine tools) and major re structuring of others (auto motive). The impact on the labour market was a major increase in levels of unemployment (especially amongst older, less skilled workers), high levels of youth unemployment and amongst minorities and falling wage levels and reliance on lower quality, less well paid, less sustainable employment opportunities¹⁶²

¹⁵⁹ Interview with Prof John Mawson, University of Durham Business School, previously Warwick Business School, and Director of West Midlands Enterprise Board.

¹⁶⁰ A Time for Action, West Midlands County Council, 1977

¹⁶¹ Interview with Prof Mawson

¹⁶² The key developments during this period are outlined in *Spencer K Crisis in the Industrial Heartland: a study of the West Midlands*; 1986

4.6.3 Case description

Policy type

The policy type illustrated by this case study is a regional level integrated approach to development in the context of labour market and employment outcomes

Outline of the case study

During the period following these developments a consensus emerged within the region with a focus on a number of factors; these included

- The need to create new employment opportunities, especially for younger people and for excluded communities.
- The need to ensure ongoing investment in human resources through better quality education and training relevant to the needs of the economy
- The need to more investment in plant and equipment and the need to strengthen competitiveness.
- The need to work in partnership between public, private and third sectors
- The need to diversify the economy away from dependence on a narrow range of manufacturing sectors (although the extent to which service sector growth could be seen as a replacement was controversial)

In 1998, a **Regional Development Agency** “Advantage West Midlands” was set up as part of a national framework for development within English regions and following this a comprehensive regional strategy was prepared and agreed by a wide range of stakeholders. The strategy “creating advantage” formed a basis for EU, national and regional interventions and sought to integrate training, employment and HRD aspects with enterprise development, infrastructure provision and attraction of investment. This included focus on training and HRD relating to self employment and small business development, up grading of training and skills in relation to growth sectors (such as business tourism) and also ensuring the integration of higher education more closely into the regional development process, therefore providing a framework for an integrated regional approach in terms of the policy mix

The **Regional Economic Strategy**¹⁶³ was launched after an extensive period of consultation in 1999. Problems included low levels of productivity, unemployment levels persist above national averages...below average for national learning targets. The primary vehicles for implementation included business clusters in key sectors, regeneration zones in urban and rural areas and growth corridors. Labour market and skills issues were therefore seen as integral to the problem of overcoming low productivity within the region and adding to competitiveness. They were also seen as important in relation to the regeneration of communities and social inclusion. However, the integration of wider labour market and skills issues and policy instruments to both these elements and their inter relationships was not clear.

¹⁶³ West Midlands Economic Strategy, Creating Advantage, 1999, Advantage West Midlands

The strategy reflected a widespread recognition that the ad hoc, fragmented approaches of the past, delivered through a “silo” approach with vertical sectoral interventions not properly inter relating and more crucially not clearly specifying or connecting with the problem trying to be solved. The vision for the strategy was outlined as “ *within the next ten years the WM will be recognized as a premier European location to live, work, invest and visit regarded internationally as world class and successful in creating wealth to benefit everyone who lives in the region*” It was organised around four pillars:

1. Developing a diverse and dynamic business base
2. Promoting a learning and skilful region
3. Creating the conditions for growth
4. Regenerating communities in the West Midlands

Within each pillar were set out more specific aims. These included within pillar 2:
aim 3) *develop a workforce which is highly skilled and can adapt to meet challenges that businesses will face in the next ten years*
aim 4) *to develop a culture of life long learning and continuing improvement.*

In relation to aim 3 it was acknowledged that the West Midlands has a history of low educational achievement. Given the evidence from regional studies on weaknesses that affect economic development, it is essential that as a first step, we improve qualification and skill levels in the region to achieve the aim of the strategy. Local Learning Partnerships to meet the local and regional targets. In doing so, we will encourage employers to invest in developing their workforce to improve their profit and meet the specific vocational skills gaps and needs. As well as the specific skill needs of the main business sectors, we will aim to achieve the following:

- children leaving school have basic skills (literacy and numeracy) and at least basic level (NVQ1) qualifications; increase the number of people who have already left school without these skills but later achieve NVQ1;
- meet the local and regional targets to support the achievement of the National Learning Targets for England for 2002;
- develop important skills (communication, problem solving, teamwork, IT, numeracy and improving own learning and performance) to improve students’ chances of getting a job (a continuing concern of employers in the region);
- achieve high standards of ICT within the workforce;
- increase management skills within Small and Medium Enterprises;
- increase the number of people continuing to learn at college, university and through work-based training programmes, such as Modern Apprenticeships, National Trainees and Graduate Apprenticeship;
- increase the number of people with NVQ levels 3 and 4 who are employed in the region, particularly in Small and Medium Enterprises;
- set up business learning networks in the eight main business sectors to begin with;
- to keep and attract the highly-skilled people the region needs to offer a higher quality of life and opportunity, including higher-paid, interesting and challenging jobs and careers and opportunities for personal and family development;

In relation to funding, the **Regional Strategy** provided the strategic context for the EU Objective 2 Operational Programmes for the region. However, only certain areas of the region were eligible. In addition, the RES also provided a mechanism for the use of direct UK government money directed to the main instruments of the strategy and also the direction and priority setting for the expenditure of other partners.

Here key institutions include

- Regional Development Agency Advantage West Midlands
- Government Office West Midlands
- Learning and Skills Council
- Sector Skills Councils and Local Skills Partnerships
- Job Centre +
- Local Government
- Business Organisations
- NGO sector

The vehicle for the implementation of many aspects of the skills agenda is outlined in the **Regional Skills Action Plan**,¹⁶⁴ prepared by the LSC and the Regional Skills Partnerships which is embedded in the RES. The purpose of the plan is to set out clear and specific skills related goals and set out how this will be driven by business leaders and to elaborate how new streamlined and simplified ways of working between public bodies in terms of their “offer” to the business sector. Improvements in performance have included: increasing the number of businesses investing through training and raising region from bottom of table. Increasing % of individuals acquiring new skills through a culture of learning. Reduction in skills gap between region and UK average from 7% to 4.5%

A further important element for the implementation of the labour market and employment elements of the RES is **the City Strategy Programme**¹⁶⁵ which was launched in early 2006. Fifteen such partnerships were set up across the UK including one covering Birmingham and the urban West Midlands. The initiative is intended to combat the issues of worklessness and poverty in urban areas by empowering local institutions to develop local but integrated solutions through partnership approaches. This represents a wider Government commitment to reform the welfare system so that power is devolved to the local level. The key aims are to:

- significantly improve employment rates (particularly among the most disadvantaged);
- ensure that individuals are better able to find and remain in work; and
- improve the skills of individuals so that they can progress in work.

¹⁶⁴ **West Midlands Regional Skills Action Plan and Strategy, LSC / Regional Skills Partnership**

¹⁶⁵ Evaluation of City Strategy, Ann Green, Duncan Adam, Chris Hasluck, DWP, 2010

4.6.4 Impact of the case

An evaluation of the West Midlands Economic Strategy was undertaken and found a number of key findings¹⁶⁶. It concluded that the RES was widely seen as effective framework for dealing with regions economic problems, with a major focus on labour market related issues, through an integrate approach, by most stakeholders and that the main instruments; regeneration zones, high tech corridors and clusters, seen to have become more focussed as mechanism for channelling resources. The total resources deployed exceeded £2.2b for the period. A stronger relationship between objectives and resources was also felt to be needed and this is important in the context of an integrated approach.

Stakeholders now see challenges as deeper than at first foreseen with more being understood about limits of intervention and the need for a long term time horizon (30 years)

In relation to specific labour market and HRD issues, continuing structural economic change and the increasing importance of the knowledge economy requires an up dated response that places greater emphasis on innovation and on skills and the labour market issues, not only at the lower end of the spectrum in terms of employability but also at higher education and skill levels. ship between objectives and resources. The evaluation also identified a need to improve balance between enhancing overall regional competitiveness and focus on disadvantaged areas within the region. This also has significant implications for the nature of the integration of labour market actions, whether to give priority to engaging excluded groups or to increasing competitiveness through more direct measures. Areas not addressed adequately through the strategy were identified as environment and sustainability, educational attainment, levels of worklessness and the operation of the housing market.

The revised regional economic strategy finalised in 2008 concluded that “Unemployment and economic inactivity varies considerably across the region with particular areas experiencing concentrations of worklessness Increasing the regions employment rate of 72% to the UK average of 74.5% would provide the 20% contribution to the regions output gap, increasing output capacity, increasing the demand for goods and services and addressing regeneration and social inclusion issues”¹⁶⁷ So a greater focus on tackling social exclusion and workless with the aim of also enhancing productivity and competitiveness should be increasingly stressed as an element of an integrated approach to labour market issues. That is integration with both competitiveness and also social cohesion aims as part of the same problem.

A more specific analysis of labour market and skills trends can also assist in understanding developments in the region. In a major survey prior to the full impact of the crisis, of more than 8000 employers in the region (78000 nationally) a number of small but positive features were identified¹⁶⁸ The percentage of establishments training staff over past 12 months rose from 60 –

¹⁶⁶ Evaluation of the West Midlands Economic Strategy, GHK Ltd, 2006

¹⁶⁷ West Midlands Economic Strategy, 2007, AWM

¹⁶⁸ National Employers Skills Survey 2009 – Implications for West Midlands, LSC, 2009

68% - now in line with national average and an enhancement of the position in the region. The number undertaking external training – rose from 46 – 51% and those with a training budget and training plan rose slightly to 45 and 35%. However, it is significant that a skills gaps between what workers have and what firms perceive themselves to need affected 20% of firms.

It is also useful to look at the recent evaluation of the city strategy initiative¹⁶⁹ which is an instrument relevant to the RES focus on labour market and training related issues in the context of both competitiveness and social inclusion. The points are useful for this initiative but also have broader relevance for attempted decentralised integrated solutions.

1. Over time the partnership structures needed to become smaller and more focussed to become successful. A central core team is needed to ensure integrated strategies and translated into integrated delivery
2. In general CSPs had less decentralised / local autonomy that was foreseen. Tensions between local and central levels where found in relation to example to data sharing and enabling measures
3. The main thrust of activities has been in relation to client engagement and employer engagement in order to offer a locally sensitive and integrated approach to getting hard to reach individuals and groups into work.
4. Client engagement developed more thoroughly than the employer engagement aspect.
5. There is clear evidence of cultural change and of new ways of inter-organisational Working, videdenced by the successes of the partnerships and their ability to xtend the worklessness brief to policy domains which traditionally have had little nvolvement with this agenda. A consequence f this has been to elevate the profile of employability in policy debate.

EXAMPLE – AUDIO – VISUAL / MEDIA CLUSTER

This sector was identified and selected as one of the growth clusters by the RES and to be a focus on both business level support and also individually focussed training and skills development. The sector comprises a series of specific sub sectors – such as film, computer games, graphic design, etc.¹⁷⁰ Within the film sub sector, Screen West Midlands had a role which combined organising production to enhance the profile of the region, direct assistance and advice to firms involved in the sector and also training for young people, for individual businesses with special attention to the needs of freelance employees. This training role (now taken over by Skillset) pinpoints future training support, issues affecting the sector and spot trends that could lead to skills shortages or over-supply. The Sector Skills Council tailors interventions and allocate funding to have the most significant immediate benefit to the sector¹⁷¹. The results of these efforts have included an increasing level of employment in this sector, increasing the profile of the sector within the region and the region more widely. Integration of small, micro and self employed enterprises within wider networks.

¹⁶⁹ Evaluation of City Strategy, Ann Green, Duncan Adam, Chris Hasluck, DWP, 2010

¹⁷⁰ Issues in developing an audio visual cluster in the west midlands, David Harte, 2009

¹⁷¹ Interview with Krysia Rozanska, former Chief Executive, Screen West Midlands

Screen West Midlands was tasked with undertaking an integrated approach to this sub sector in the context of the RES and the business cluster approach overseen by the RDA. In reality however relations between Screen West Midlands were complicated and challenging¹⁷².

4.6.5 Comparison with cases in other EU Member States

In comparison with other EU member states (for example Denmark, Netherlands, France, Germany), the UK is characterised by high levels of employment and labour market activity, but also by low quality and insecure employment. In addition, a further comparative feature is with other member states is specific problems of low levels of participation from certain excluded groups and inter generational problems of this nature.

In relation to the specificity of the integrated, regional approach as outlined in the detail of the case study, there are important comparisons here with industrial regions of new member states in Central and Eastern Europe which suffered from sudden and severe loss of employment in the outdated skills but attempting to use labour market flexibility as a development tool. In this context regions such as Northern Bohemia and also Ostrava (Czech Republic.), Zilina (Slovak Republic, NE Hungary, and a number of regions in Poland, including within this study are of relevance. Key issues here include mechanisms to facilitate engagement of the private sector to ensure that employment and labour market interventions reflect the needs of the market. Here the West Midlands has been able to demonstrate this through relatively high levels of autonomy and have been able to put in place meaningful partner structures. Some new member state regions, such as in Poland, compare relatively well to this approach whilst others (such as Czech Republic) less so. The increasing need to tackle the inter related issues of social exclusion and benefit dependency though an approach integrated with labour market interventions is a further point of comparison where experience of the West Midlands (and other UK regions) is of value to new member states.

4.6.6 Conclusions

The following conclusions can be drawn in relation to the 6 key questions in relation to this case-study:

- a. In relation to the national policy mix, the UK had a very national and sectoral approach to employment and labour market policies during the decades immediately after the Second World War. However, more recently, there has been a very significant shift towards a mix which reflects a local / regional and integrated perspective. Labour market and employment policies have encompassed the objectives of domains concerning economic development as well as social inclusion and welfare reform. Whilst the institutional framework for this remains the preserve of national government, specific objectives and strategy have become decentralised to the regional level. Much delivery and implementation is undertaken at local level, including delivery by non state actors (including private sector and NGOs) on a contract basis. However, since change of government in 2010, the role of the regional level is now less

¹⁷² Interview with Krysia Rozanska

certain. The case study provides an example of a regional integrated approach. This increasingly integrated approach has evolved from a national framework focussing on national and sectoral policies.

- b. The move to integration reflected the need to tackle poverty and social inclusion, deal with welfare and unemployment issues and also ensure greater reflection of the demand side of the labour market through the engagement of the private sector within a regional context. It also has been increasingly realised that a partnership approach was needed to ensure that solutions were designed and delivered to reflect these needs at least in part at regional or local level.
- c. Only from the 1980s did this problem come to be addressed following major economic restructuring and employment loss and the balance between national / regional and between sectoral and integrated approaches changed. This led to a gradual (1980s) and then more rapid (1990s) shift to an integrated approach through which training and education were addressed through a common framework for development which also encompassed business and economic development with the aim of enhancing productivity and competitiveness.
- d. A decentralised approach also developed from the 1990s onward towards a stronger regional emphasis (as opposed to national) with setting up of regional institutions (such as the RDA) and preparing of a regional economic strategy and more generally development of partnership working approaches. The role of the Learning and Skills Councils / Skillset and Sector Skills Councils is also important. The role of regional in contrast to sub regional and local bodies is also a significant issue here. An example being the audio visual sector.
- e. At the same time, the need to integrate labour market and employment interventions within a strategy that encompasses social inclusion also became important with significant numbers of people either not participating in employment or only in marginal jobs. This was reflected at national level by Job Centre + with the City Strategy Programme aiming to relate national aims to locally / regionally driven priorities and circumstances and reflects a further shift in the mix of policies between sectoral and integrated and regional. This is reflected in the recent evaluation of the City Strategy programme by the University of Warwick.
- f. In terms of assessing the impact of the policy mix now in place, the West Midlands example can be said to be successful insofar as levels of unemployment were significantly reduced, skills gaps and training and education provision was improved in comparison with other regions and institutional structures reflecting a partnership approach and bringing in the private sector were put in place and functioned.

4.6.7 References

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Interview with Anne Green, Principal Research Fellow, Institute of Employment Research, University of Warwick.

Interview with Lisa Trickett, Director of Research, Centre for Urban and Regional Studies, University of Birmingham, previously Assistant Director with Birmingham City Council

4.7 ITALY: Fragmented unemployment insurance system

4.7.1 Positioning of this case-study

The labour market policy mix in Italy is depicted in the following figures:

Balance between sectoral and integrated policies

Objectives/targets

	Sectoral	Sectoral, but other domains to be taken into consideration	Objectives of other policy domains fully on board (integrated)
Delivery process/instruments	Sectoral	X	
	Other policy domains to be taken into consideration		
	Other policy domains fully on board		

Balance between centralised and decentralised modes of labour market governance

	National level	Regional level	Local level
Conceive	X		
Manage	X		
Deliver	X		

The Italian case study is a prime example of an entirely sectoral passive labour market policy. The policy is conceived, managed and implemented at national level.

The Italian government recently launched an anticrisis package to combat the negative effects of the current economic and financial crisis on the labour market. With so-called benefits ‘in deroga’ the government extended income protection for the unemployed and for those who are threatened by unemployment.

This anticrisis package however, is insufficient to counteract the major challenges on the labour market in Italy. The package mainly touches upon passive labour market policies while the major challenges exceed that issue by far, especially when the employment problem in the southern part of Italy is to be addressed.

In addition, the anticrisis package includes measures that are of a temporary nature. It is therefore likely that the fragmented income protection scheme for workers continues to exist in the future.

This case study explores the existing passive schemes in Italy in the light of the challenges on the labour market. It will be argued that solving the pressing issues on the Italian labour market requires a modification of the entire regulatory framework, including the development and implementation of more active labour market policies at regional level.

4.7.2 Labour market performance and policy mix in Italy

Labour market performance

Employment opportunities in Italy have a significant gender dimension. The overall level of employment in Italy is already well below the EU 27 average, but female employment in particular, is with 46.4% much lower than the EU average of 58.6%. Aside from the fact that women are less likely to be employed; they are also more likely to be unemployed. As male unemployment is with 7.7% well below the EU average of 9.7 %, the level of unemployment among Italian women approximates the EU average 9.6%.

Table 1 Employment rate by gender 2009 (%)

	Total	Male	Female
Italy	57.5	68.6	46.4
EU 27	64.6	70.7	58.6

Source: Eurostat

Table 2 Harmonised unemployment rate by gender 2010M06 (%)

	Total	Male	Female
Italy	8.5	7.7	9.5
EU 27	9.6	9.7	9.6

Source: Eurostat

Aside from this gender dimension, unemployment in Italy has also a significant territorial dimension. Table 3 shows that unemployment increased throughout the whole of Italy as a result of the current financial and economic crisis. Yet, considerable regional differences exist. These differences have a long history. Currently (June 2010), the unemployment rate in the North is 6.4%, while the unemployment rate in the South is as high as 14.3%. In the Centre regions (Toscana, Umbria, La Marche, Lazio) the unemployment rate is lower than the national average of 9.1%, but much higher than in the Northern regions (June 2010). A clear picture on unemployment in Italy can herewith only be provided through an extended regional analysis. The relatively high national unemployment rate in Italy predominantly reflects highly concentrated unemployment in the South and the Islands. A solution to Italian unemployment must therefore mainly include a solution to Southern Italy's larger problem (cf. Bertola & Garibaldi, 2002)..

Table 3 Unemployment in Italy (by region)

	2004	2005	2006	2007	2008	2009	2010 (1 st quarter)
Italy	8	7.7	6.8	6.1	6.7	7.8	9.1
North	NW: 4.5 NE: 3.9	NW: 4.4 NE: 4	NW: 3.9 NE: 3.6	NW: 3.8 NE: 3.1	NW: 4.2 NE: 3.4	NW: 5.8 NE: 4.7	6.4
Centre	6.5	6.4	6.1	5.3	6.1	7.2	8.4
South	14.4	13.8	12	10.5	11.4	11.9	14.3 (incl. Islands)
Islands (Sicilia & Sardegna)	16.3	15.3	12.7	12.1	13.3	13.7	-

Source: ISTAT

The Economia sommersa and Lavoro nero in the South

While the South is characterised through high unemployment rates, it is also characterised through an extensive underground economy and a high share of irregular employment. Persons who are formally unemployed are therefore not necessarily inactive. The underground economy can be subdivided into various items: understatement of sales, the plumbing of intermediate costs, unlawful construction works, hidden profits, and – which is most relevant in this context- irregular employment. According to the ILO, about 12.8 % of all employees have been involved in irregular employment in 2004, all together generating a value of 6.4% of GDP (footnote: measured by irregular standard units of labour (ULA)).

While irregular employment decreased in the whole of Italy between 2000 and 2004, as a result of increased legal possibilities for flexible forms of employment and the regularisation of illegal immigrants in 2002, it increased with 6 % in the South during that same period.

Based on a 2005 CENSIS survey, the ILO furthermore states that the size of the underground economy increases. In the south the underground economy appears in a new shape which has less to do with tax evasion, a poor use of contract flexibility and mismanagement of migration flows, but more with ghost-firms, completely hidden labour hidden criminal dealings. In comparison with the Northern regions, irregular employment in the South is especially present in the industry sector and in the construction sector.

Building on other research, the ILO states that the rate of irregularity increased to 20.5 % in the South in 2006. Irregular employment recorded a peak of 21.5 % in 2002, as the number of irregular workers increased at a rate that was three times higher than of regular workers. Effects of the improved flexibilisation of (labour) contracts and amnesty for illegal immigrants have herewith been very limited in the South of Italy.

Labour market governance in Italy

The Italian labour market is still largely governed by sectoral policies at national level.

Nevertheless, *reforms in the 1990s transferred competencies in the area of active labour market*

policies to the regional level. In addition, *territorial employment pacts* were initiated (financed by EU) throughout the 1990s, involving a wide range of actors.

With regards to passive policies, the *Istituto Nazionale Previdenza Sociale* (National Institute of Social Security, INPS) is the main actor. The institute administers national unemployment benefits and issues pensions. The INPS has a central office and 220 local offices across the country. It covers the majority of the population, including unemployment benefits, sickness and maternity, accidents at work and occupational diseases, as well as old-age, invalidity and survivors' pensions and family allowances (cf. Büchs et al., 2007).

Italy has a specific model of labour market governance (Text on the regional dimension of Flexicurity in IT):

- Active policies are managed at a local level, in particular the employment services and the vocational training. These differ per region;
- Regulation and supply of unemployment benefits and definitions of forms of labour contracts are established at national level. These are uniform throughout the country;
- As a response to the current economic crisis, the *amortizzatori sociali in deroga* extended discretionary powers to regional authorities, which may now define (some) eligibility criteria for example.

Accordingly, this model includes various risks:

- The risk of uneven distribution of interventions (in terms of proportion and quality), of poor integration between the various levels of governance (national, regional, provincial);
- The separation of competencies regarding various pillars of labour market policies increase the risk of poor integration of passive and active policies in order to realise a welfare to work approach;

4.7.3 Case description:

The Italian government recently introduced several measures to combat the negative employment effects of the current financial and economic crisis. With the help of benefits '*in deroga*' the governments extended income protection for the unemployed and for those who are threatened by unemployment as a result of the global recession. Despite some significant improvements in the Italian framework by which the labour market is governed, these measures seem to be insufficient to counteract the structural challenges on the Italian labour market.

Crisis measures are insufficient to overcome the structural problems on the Italian labour market. These structural problems are related to some particular features of the regulatory framework of the labour market. This regulatory framework covers passive and active labour market policies, arrangements governing employment relations, and wage bargaining.

The "Italian labour market has undergone an extensive process of transformation since the beginning of the 1990s and several reforms have been implemented, aiming at increasing the supply of "flexible" labour and introducing new arrangements and a new governance model in the field of labour market policies. However, even if the search for higher flexibility has been a prominent part of the reform process, up to now the concept of "flexicurity" did not represent at

first a policy priority. The achievement of flexicurity should require an intended strategy and a country-specific coherent pathway: on the contrary, in Italy labour market reforms have often been implemented in a disorganized way, lacking a coherent framework, coping with strong public finance constraints and often facing a difficult political consensus. (FGB, 2010, p. 36).

The complex Italian framework especially lacks a income protection scheme for all types of unemployed workers as well as sufficient stimuli to promote (formal) employment in the South.

Lack of adequate income protection for all types of workers;

- A large variety of employment contracts has come into existence over the last years;
- Several unemployment benefits exist simultaneously, yet none of these covers all types of workers.

Lack of sufficient stimuli to promote (formal) employment in the South:

- Southern regions lag behind in implementing active labour policies;
- “National wages” are out of line with comparatively low level of productivity in the South.

Towards a flexible labour market in Italy?

Until the 1990s, legislation on labour contracts left little possibilities for flexibility as they were based on the 1970 Charter of Workers Rights (*Statuto dei Lavoratori*).¹⁷³ This Charter sought to promote and to protect the open-ended employment contract that became the standard in employment relationships in Italy. Hiring and firing procedures, wage structures, rules for workers mobility, promotions within firms and regulations on occupational health and safety subsequently have been based on this standard.

Temporary employment relationships were therefore initially very restricted. They were limited to seasonal or unusual activities and their renewal was restricted. From 1977 onwards, fixed contracts were allowed for retail and tourism sectors. In 1983 all sectors were allowed to use such contracts in case of temporary activity acceleration. Training contracts (*Contratti di Formazione e Lavoro*) moreover, were introduced in 1984 for young persons 16-32 to provide a first step to permanent employment in combination with training. The duration was limited from 1.5 to 48 months, depending on age and qualifications, and foresaw a payroll tax cut.

A Co.Co.Co. (*Collaborazione Coordinata e Continuativa*) is another form of an atypical contract. It is legally framed as self-employment, but in practice shows similar features as dependent employment. A variety of professional figures, ranging from qualified professionals to *de facto* dependent workers are hired under such contracts. Up to 1997 these workers were not obliged to pay social security contributions.

Since the mid-1990s, the usage of more flexible forms of employment relationships was allowed through several reform measures. In the 1997 the “Treu Package”, in particular the Law on Temporary Work 196/1997 reduced sanctions for violations of fixed-term contract regulations,

¹⁷³ Brugiavini, A. (2009), p. 23.

especially with regards to the conversion of fixed-term contracts to open-ended contracts. In addition, atypical contracts are promoted through a reduction of social security contributions and pension provisions. The law moreover, also allowed temporary work agencies to operate in Italy and ended herewith the monopoly on job mediation of the Italian Public Employment Service (PES). Finally, apprenticeship and training contracts have been made easier to obtain while also incentives for on-the-job-training have been increased.

The EU Directive on 1999/70 on fixed-term work furthermore, was implemented in 2001 by means of a Decree Law. The new law terminated the explicit circumstances under which the use of fixed-term contracts was restricted.

The 2003 Biagi Law finally, included some new types of labour contracts such as job-on-call (staff-leasing), job sharing, supplementary work, and “lavoro a progetto – Co.Co.Pro”(a variant of the Co.Co.Co regime).

4.7.4 [Fragmented income protection for the unemployed](#)

Passive labour market policies in Italy are highly fragmented and complex: There exists much variation in target groups, eligibility conditions, compensation levels and duration. One may differentiate between “comprehensive unemployment insurance” and “partial insurance” (cf. Brugiavini).

Unemployment insurance

Obligatory insurance against involuntary unemployment (*Indennità di disoccupazione*) was already established in 1919. Yet, protection against the loss of income resulting out of unemployment was not enhanced by developing the unemployment insurance scheme, as was the case in other European countries. The replacement rate has been particularly low for a long time. Only recently the level of unemployment benefit was raised.

Ordinary and special unemployment benefits are paid to dismissed workers who stem from the private sector, who are not eligible for other benefits and have paid contributions for at least 52 weeks during two years prior to unemployment. Young workers on training contracts are excluded from the scheme.

Some unemployment insurance benefits can be claimed by those who worked at least 78 days in the last year prior to unemployment (reduced requirement). Special conditions apply for dismissed workers in the agricultural and construction sector. They are required to have contributed only 10 months prior to the unemployment spell.

The replacement rate of the benefit was originally very small, but has been increased from 20% to 60% of the last earned wage (average wage of the last 3 months) since 1997. The benefit currently amounts to 60% for the first six months, 50% for the 7th and 8th month, and 40% for eventual subsequent months.

Partial insurance

Instead of developing a comprehensive unemployment insurance scheme, an anomaly funded partially via companies' contributions and partially via general taxation was introduced in 1945: the wage supplementation funds or *Cassa Integrazione Ordinaria*. These schemes funded 'substitution wages' to temporarily laid off employees, who are not considered unemployed.

With the growing bargaining power of the trade unions in the 1960s resulting from the economic boom, a new variant of the CIG scheme was introduced: the *Cassa Integrazione Straordinaria* – CIGs (1968).

This Special short term wage replacement benefit scheme included special benefits paid when the suspension of the activity is not only temporary, but it is due to sector – or area- specific firm restructuring. As a result, this type of benefit completely lost its 'temporary nature' (cf. Graziano).

In the 1980s, the CIG has been intensively used as an instrument of adjustment. In the late 1980s the CIGs in particular was heavily criticized, especially because of "carrying job security to the point of preserving purely fictitious jobs without any economic sense and for being a source of labour market rigidity". It was seen as a source of a "Balkanisation" of social benefits, i.e. providing special benefits for special groups, regions or industries. CIG protection created a division between protected privileged workers in industry (with high levels of job security BECAUSE of CIG) versus other workers who even lack minimal UI benefits. Finally, the rapid expansion in the usage of CIG led to an increase in administrative discretion – arbitrariness- in the granting of short-time benefits and blurred the distinction between the 'ordinary' and the 'extraordinary', i.e. structural forms of intervention.

Finally, changes in legislation in 1991 aimed at curtailing the usage of CIG through limiting the duration of benefits to maximum 2 years, increase the employers' share in financing (only employers who make use of the scheme), and establishing clear procedures for making workers in the CIG redundant.

CIGo is paid to workers for the foregone hours at work resulting from a temporary reduction or suspension of activity. CIGs is provided when the suspension of activity is not temporary but due to sector or firm specific restructuring. The replacement rate of both benefits is with 80% (limitations exist though) is much higher and the duration is longer than of the unemployment benefit. CIGo is usually paid for a maximum of 13 weeks, only under special circumstances to 52 weeks. CIGs is usually paid for a period of 12- 24 months. Extensions are possible if restructuring lasts more than 24 months with a clear maximum of 36 months in 5 years.

CIGs is restricted to firms in the manufacturing sector with more than 15 employees and those in the publishing and trade industries with more than 200 employees. Limited funds are annually located to trade companies with 50 to 200 employees and tourism companies with more than 50 employees. Derogations and prorogations of these limits occur quite often.

Mobility benefits

The mobility benefit (*Indennità di mobilità*) is an unemployment benefit granted to dismissed workers in the event of collective dismissals, usually after a period of extraordinary CIG.(CIGs). Only employees of firms that have access to CIGs are entitled to mobility benefits as soon as the employment relationship expired. Eligibility is dependent on the size of firms and on sectors. Duration moreover, depends on the age of beneficiaries and on the geographical area where the firm is located. In the South and in disadvantaged areas in general, the duration is usually longer. The level of the benefit equals that of the CIGs benefit during the first 12 months and 80% in the subsequent period.

Benefits 'in deroga'

Legislation that followed from the current economic and financial crisis was geared towards the protection of workers, firms and families from the effects of the crisis. The 'Anticrisis Decree' no. 185/2008 temporarily extended instruments for income protection, especially in case of suspension of employment relations that are associated with firm or employment crisis. These measures included:

- New income support measures for sectors not covered by CIG which also include now categories of atypical workers that have been previously excluded (temporary workers, apprentices, and the coordinated continuous collaborators);
- Extension of the financing procedure of the system;
- Renewed regulation on the exceptional benefits.

In short, a special form of CIG has been introduced which is extended to all sectors and funded through general taxation as well as by social partners and ESF (cf. FGB, 2010).

Regional active labour market regimes

While the Italian Constitution already assigned legislative powers to the regions, it took until the 1970s until the process of decentralisation took off and 15 regional governments were created. Regional governments were granted some legislative, administrative and financial competencies, but remained under tight control of the national State through the earmarked funding and its responsibility over "direction and coordination" (cf. Büchs et al.).

Regional authorities engaged themselves in a powerplay, i.e. an "effective breaching of the demarcation of competencies" (FGB, 2010), with the State from the 1980s onwards. The transition from plmps to almps offered an opportunity for the Regions to establish regional regulatory frameworks for the latter type of policies. Active services had never been provided by the State's PES before. Regional institutions started herewith to play an increasing role in the governance of local labour markets.

The legislative decree no. 469 of December 1997 assigned the Regions and Local bodies' functions and tasks in the field of labour market policies. All Regions, with the exception of those with special statuses, and the other Local Bodies were granted functions and tasks with regard to placement in employment and active labour market policies. The State was merely left with a general role of orientation, promotion and coordination.

In the Italian institutional model, the regions thus have the role of legislation, administrative organisation, planning, assessment and control of employment services, while the Provinces were assigned the role of “managing hub” for services and liaison with other Local Bodies. Italy has herewith a separate ‘Regional Employment System’ for each region.

ALMPs in Italy predominantly include different employment contracts and training opportunities for long-term unemployed, youth and unemployed persons in certain regions with high levels of unemployment:

- Training contracts (*Contratti di Formazione e Lavoro*) to promote employment among young workers at significantly lower payroll taxes;
- Public work programmes (*Lavori Socialmente Utili*) for the employment of young and long-term unemployed persons in public schemes;
- Reinsertion contracts (*Contratti di reinserimento*) for unemployed persons to promote their employment at lower social contributions up to 75% and up to three years.;
- Long-term unemployed persons and the young unemployed are eligible for training schemes financed by ESF and administered by the Regions.

National wage bargaining and regional differences

Restricting the level of wage dispersion is a type of a welfare enhancing measure as it plays a substantial role in supporting incomes in the South (cf. Rhodes and Molina, 2007, p. 15-).

Collective bargaining as stipulated in the 1993 social pact laid down a two tier bargaining structure (cf. Schindler, 2009). On the one hand, collective bargaining at the national (sectoral) level to determine the terms and conditions of employment (renegotiated every four years) and basic wage guarantees (renegotiated every two years). On the other hand, bargaining at the regional or firm level to supplement the national contracts that are valid for four years. Bargaining at the regional or firm level is optional and wages can not be reduced lower than the basic wage guarantee determined at national/ sectoral level. Regional or firm level bargaining may however offer flexibility for better wage-productivity links, but a wage floor is clearly established at national level.

De facto minimum wage for the whole of Italy, while considerable differences in productivity exists between regions.

4.7.5 Impact of the case

A growing share of atypical employment in Italy

The Legal extensions that made new forms of atypical employment possible led to an increased application of atypical employment contracts in Italy.

According to a report for EWCO, atypical employment represented approximately 15.3% of the total of employment relationships. Approximately four million workers are employed on the basis of contracts that diverge from the standard form of employment.

Fixed-term contracts have become mostly used for young workers. One-third of all employees aged 15-24 is employed on the basis of an atypical fixed-term contract. In the period 2003-2007 training contracts increased with almost 16% from 497.095 to 591.607. The share of fixed-term contracts rose from 6% in 1993 to 13.4% in 2007.

Temporary agency workers also increased vastly: from 158.000 in 2003 to 287.000 in 2007. Especially women in the agricultural and service industry are employed through temporary work agencies.

Employment on the basis of Co.Co.Co. amounted in 2000 to an approximate of two million (Brugiavini, 2009). With the introduction of a new form of this contract, its application is likely to increase.

Increased usage of passive schemes

The temporal extension of the access and scope of CIG schemes led to a vast increase in its application. According to statistical data of the INPS, a 302% increase in the recourse to CIG schemes was recorded in 2009 in comparison to 2008. In 2009, authorised hours of the CIGo increased to 576.465.359 and of the CIGs to 338.122.063 and involved approximately 350.000 workers. These 900 million hours exceed the previous record year 1984 (800 million hours) by far.

Applications to CIG benefits stem especially from the mechanical, engineering, metalworking, transport and telecommunications sector, while recourse to CIGs and CIG 'in derogation' was greater in the mechanical engineering, textiles, clothing/ furnishing, wood, construction and commerce sectors.

In geographical terms, applications to CIG benefits stem in particular from those regions with the highest share of companies. These are predominantly located in the northern part of Italy.

Large variety in the application of new regional competencies

Developing and implementing active labour market policies (almps) is a competence of the Regions of Italy. Because this competence has only recently been obtained regional labour market interventions are characterised by different levels of development in different areas. The FGB (2010) distinguishes between various stages of implementation of national legislation in the field of labour market governance.

The first level of implementation consists of creating the necessary organisational structures to manage local labour service providers. Calabria and Molise are the two regions that only recently moved on this first level.

The second level of implementation exceeds the regional organisation of the labour market and includes defining the functions of these organisations. Most of the Regions transposed law no. 181/2000 in regional legislation and arrived herewith at the second level of implementation.

The third level of implementation focuses on making the legislative powers in the area of 'labour protection and security' of regional employment institutions concrete. Little has been so far

achieved on this. Predominantly northern and central regions arrived at this stage: Marche, Tuscany Emilia Romagna, FVG, Sardinia, Lombardy, Piedmont, Liguria and Veneto.

Decreased spending on active labour market policies

The fact that competencies on (active) labour market policies are not yet fully exploited in all Regions is visible in data on labour market expenditure from Eurostat. While the level of expenditure on almps in Italy has been traditionally lower than the EU 27 average, the gap increased in between 2006 and 2008.

Expenditure on active labour market policy (% of GDP)

	2004	2005	2006	2007	2008
EU 27	-	0,507	0,498	0,51	0,455
Italy	0,538	0,477	0,410	0,48	0,358

Source: Eurostat

The declining trend however, is also visible in the wider EU 27. This result out of the fact that almps are often financed out of the same sources as passive measures. In times of rising unemployment, as is the case with the current financial and economic crisis, governments are obliged to pay unemployment insurance benefits, and not to fund almps. In this way, almps are seldom countercyclical deployed.

Increase in South-North/ Centre migration of high educated persons

Despite the expectation that the existence of national wage floors would put a halt on migration from the Mezzogiorno to the Northern and Centre parts of Italy, recent research of the Banca d'Italia shows that total South-North migration flows remained on a high level.¹⁷⁴ Migration flows from the South to the North and Centre of high educated persons in particular increased vastly during the period 1990-2005. While in 1990 seven per 1000 individuals migrate, this number has increased to 14 per 1000 in 2005.

South-North migration herewith continues to be driven by the large economic differentials between the two parts of Italy. The widening gap in employment, downsizing of the public sector, and the reduction of the gap in the house prices stimulated a growing number of people to migrate. The introduction of atypical forms of employment contracts as well as immigration from abroad also influenced the migration propensity of natives.

4.7.6 Comparison with cases in other EU Member States

The Italian case is compared with recent developments in regulatory framework of the labour market in Germany. Germany suffered from high levels of persistent unemployment for more than two decades. Like in Italy, there exist also large disparities between the regional labour markets. In

¹⁷⁴ Moretti, S. & Porello, M. (2010). *Labour mobility in Italy: new evidence on migration trends*. Internet: http://www.bancaditalia.it/pubblicazioni/econo/quest_ecofin_2/QF_61

Germany however, the largest disparities exist between East and West rather than between North and South. Germany's unemployment problem is especially located in the former GDR. Since the reunification in 1990, the average unemployment rate rose from 7.3% to 13% in 2005, with unemployment in East-Germany peaking to 20.6% in 2005.

Like in Italy, subsequent governments took measures to make the German labour market more flexible. The German law to support part-time employment came into force in 2001, but earlier initiatives on part-time employment had been taken in 1988 to ease the transition of older employees from working life into retirement. Since the beginning of the 1990s, part-time employment has increased with 82 percent and full-time employment decreased with 14 percent until 2005.¹⁷⁵ In addition, a recent study by the Bertelsmann-Foundation (2010) showed that temporary employment increased doubled between 2000 and 2007. The number of persons working with contracts of a limited duration increased significantly as well.

In order to reverse these high levels of unemployment, the German government launched a series of reforms in the beginning of the 21st century. These so-called Hartz reforms have been much more encompassing than the recent Italian reforms in Italy. The Hartz I-III reforms focused on the organisational structure of the German PES, on changing existing active labour market programmes, introducing new schemes, activating the unemployed and stimulating demand for labour through further deregulation of the labour market. The Hartz IV reform addressed the benefit system for the unemployed.

Prior to the reforms Germany's income protection systems for the unemployed consisted of:

- Unemployment insurance benefits: ...;
- Unemployment assistance;
- Social assistance.

Under the new regime, the former unemployment assistance and social assistance schemes were replaced by a single means-tested benefit for the needy unemployed. The new UB II is tax-financed and provides benefits for persons in need, able to work, but not eligible for unemployment insurance benefits. The reform of the unemployment insurance benefit mainly included a reduction of the maximum duration of the benefit.

The Reforms have been subject to a wide range of evaluations, of which some of them are still ongoing. Evaluations predominantly focused on the effectiveness of active labour market policies (for needy unemployed persons). Marco Caliendo (2009) offers a comprehensive overview of several evaluations. In general, the effectiveness and efficiency of the German labour market policies has increased while incentives for unemployed to enter the labour market have been improved.

This success stems partially from the fact that participants in active labour market programmes have been increasingly successful in re-entering the labour market. In addition, micro-simulations

¹⁷⁵ Klinger, S. & Wolf, K. (2008). "What explains changes in full-time and part-time employment in Western Germany?" IAB DP 7/2008. Internet: <http://www.iab.de/182/section.aspx/Jahrgang/2008>.

showed that the new Hartz IV benefit results in lower unemployment rates for both low- and high qualified workers.

Yet, the effects of the current crisis have not been taken into account in these evaluations. It might be very well the case that the effects of the Hartz reforms diminish because of a general decrease in employment levels following crisis-related job destruction.

4.7.7 Conclusions

The following conclusions can be drawn in relation to the 6 key questions for this study:

- a. In terms of the national policy mix, the Italian labour market is still largely governed by sectoral policies at national level. Of the countries within which case studies were undertaken, Italy demonstrates a mix with the strongest combination of sectoral / national approaches. However, there is a shift in this mix, with the balance between the national and regional level gradually changing. Transferred competencies in the area of active labour market policies to the regional level have taken place. Many regions have only recently begun to make use of these competencies. As a response to the current economic crisis, the *amortizzatori sociali in deroga* extended discretionary powers to regional authorities in the area of passive policies. They may now define (some) eligibility criteria for example. The mix remains defined by a quite strong sectoral focus with limited integration of the objectives of other policy domains.
- b. In the Italian institutional model, the regions have obtained the role of legislation, administrative organisation, planning, assessment and control of employment services, while the Provinces were assigned the role of “managing hub” for services and liaison with other Local Bodies. Italy has herewith a separate ‘Regional Employment System’ for each region in order to respond most adequate on regional labour market needs.
- c. Recent innovations in the types of employment relationships now allow for more flexible contracts. This has increased employment in the South. Until the current crisis however, the vast majority of workers who do not have a unlimited full-time contract are not protected against a loss of income when they become unemployed. Even though the temporal extension of the access and scope of CIG schemes led to a vast increase in its application, it basically leaves the fragmented system in tact and workers with atypical contracts less protected against a loss of income in case of unemployment.
- d. Passive schemes had already been extensively subject to reforms in the 1990s. In addition, regional authorities only recently started to play a more dominant role in the design and implementation of labour market policies.
- e. Drivers for reform included especially the prospective EMU membership. Generous benefit arrangements used to contribute heavily to the increasing public debt. In addition, regional authorities sought to increase their power vis-à-vis the national government by claiming exclusive competencies in the area of active labour market policies.

- f. Countries, like Germany, that performs better than Italy (both in terms of equity and efficiency) apply a similar sectoral and centralised approach. Unemployment insurance in Germany however, is organised in a much less fragmented way and equally available for different types of workers. This is predominantly a result of a different policy design.