MONIT

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CONCEPTUAL PAPER

MONIT is a collaborative project in the context of OECD to explore national capabilities in innovation policy and governance in the innovation driven economy

For more information, see www.step.no/monit/

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MONIT CONCEPTUAL PAPER[1]

MONIT CENTRAL GOALS

OECD is known for its recent engagement in analysing and benchmarking innovation policies in OECD member countries. It has played a substantial role in identifying new avenues in innovation policy thinking, in particular through its project on National Innovation Systems (see OECD, 2001a; OECD, 2001b; OECD 2001c; OECD, 2002). The NIS project in OECD has over the years turned out a number of useful policy implications, many of which have found breeding ground in various OECD-member states policy systems. In the Netherlands for example the notion of Dynamic Innovation System which is used as a framework for developing innovation policies further was to an important degree inspired by the OECD NIS project. [add other examples, PdH]. OECD through this NIS-project helped in defining and analysing what has been labelled as the systemic (policy) approach to innovation in an innovation-driven economic environment.

Why then an OECD project on "Monitoring and Implementing Horizontal Innovation Policy" (MONIT) one could ask? MONIT has been put in place as the overall feeling is that although the need for a systemic approach to innovation and to innovation policy is no longer questioned (there is more than market failure), putting the notion of systemic innovation policy-making into practice is far from easy. Further, MONIT acknowledges that innovation does not only play a role in enhancing competitiveness and furthering economic growth but plays a role in dynamising other sectoral policy domains (e.g. environment, health) as well. In these other domains, innovation policies have contributed to solving societal issues (ref. the distinction between primary and secondary impacts), but this has not always been recognised by those involved in STI-policy-making (including a lot of analysts). MONIT then basically questions simple market failure thinking (systemic innovation policies work through various direct and indirect mechanisms to further innovation) and broadens its scope in terms of sectoral policy domains. Put differently (and maybe a bit simplistic), MONIT will have to deal with two challenges:

- how to make innovation policy from a fragmented into an (integrated) multisectoral innovation policy;
- how to evolve from a single goal into a multi-goal innovation policy

In MONIT we will have to analyse and illustrate how (i.e. through studying policy processes) innovation policies can be transformed from a basically sectoral policy covering the domain of facilitating (technological) innovation to increase economic growth and competitiveness into a more systemic (and coordinated, or integrated, or horizontalised) policy where innovation is not only covering the domain of supporting innovation in the economic realm but contributes to solving societal problems more widely. In the matrix below this is illustrated again quite simplistic, maybe we need an extra dimension i.e. the sort of policy

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[1] This paper is a draft version of a joint conceptual paper for the OECD/TIP MONIT study. It is still a work in progress and will serve the two purposes of guiding the work of the MONIT network according to the workplan as well as serve as a learning medium in which lessons from the MONIT activities are fed back into this paper. As such, it will be a vehicle towards the Work Package 3 in which the MONIT study is summed up and synthesised. The paper has so far benefitted from contributions by Pim den Hertog, Patries Boekholt, Thomas Halvorsen, Rannveig Røste and Svend Remoe. The latter has also edited the contributions into one paper.

instruments/mechanisms.

DOMAINS GOALS	Sectoral innovation policy	Multi-sectoral innovation policy
Innovation policy in a limited sense i.e. aimed primarily at innovating (ultimately) industry and economic growth	Innovation policy in a limited sense (basically technology and industrial policies)	Integrated STI policies
Innovation policy in a wider sense i.e. aimed at (ultimately) economic growth and Quality of life	Innovation policies in other sectoral domains e.g. innovation policies in health, innovation policies in the environment	Horizontal / comprehensive / integrated or coherent / systemic innovation policies

The MONIT project in our view is exactly about the policy processes that contribute to the shaping of horizontal, comprehensive and coherent innovation policies. Key issues are such as policy mix, policy co-ordination, innovation governance and policy learning. The innovation policy-mix as used in certain NIS already indicates how broad innovation policies are defined. However, we must also look behind this policy mix and see how this policy mix has come into being and this is mostly the result of how innovation is governed in a certain NIS.

As said, we see the coming about of certain innovation policy mixes in a national innovation system, innovation governance (especially processes of "horizontalisation") and policy learning as key notions. Through MONIT we aim at understanding – basically through analysing policy processes – the following:

- how has a certain innovation policy mix evolved as an answer to what are perceived as the central problems in a certain national innovation system (and where is the particular country on the scale from 'limited innovation policies' towards 'horizontal systemic innovation policies');
- what are the key characteristics of the specific innovation governance in this innovation system (especially aspects of governance that deal with horizontalisation of innovation policies); and,
- in what way are processes of policy learning brought about and which tools are used in this process (again in the process of getting from 'limited innovation policies' towards 'horizontal systemic innovation policies');
- [ultimately: how can in a specific NIS a coherent and appropriate innovation policy mix or policy portfolio be put in place][2]

[2] I found article by Ken Guy and Claire Nauwelaers in IPTS-report, no. 71, p. 20-28, quite helpful e.g. "…if STI policies are to be fine-tuned to the needs of a particular innovation system, better linkages are needed between this and other policy spheres, notably those of industrial and business development and education and training. The adequacy of such links – often exacerbated by ministrial 'turf wars' – can be approved across the European Union, and network failures of this nature in the policy-making sphere constitute a further challenge to the development of systemic STI policies" (p. 25)

We do acknowledge that national innovation systems are inherently different in terms of history, specialisation, structural set up, agenda setting, interaction between actors, (perceived) dominant problems, policy culture and so on. We therefore can map good practices, but some will be transferable, others are custom made and cannot be transplanted easily. Identifying what is and what is not transferable is part of goal of the project. [This is obviously the point that Jari has stressed several times already and what in fact can be labelled as 'intelligent benchmarking' or 'intelligent policy learning', PdH]

Coherence – the ultimate goal of horizontal innovation policy

Horizontalization is not a goal in itself, but rather a characteristic of a policy system. It could be defined as the degree to which (in this case) innovation policy is guided by a comprehensive national strategy in which contributions from the various sectors are linked to achieve policy coherence. Hence, the link between horizontalization and the arrangements for co-ordination and governance is a crucial one.

Hence, it is the national capabilities of national policy systems to generate coherent innovation policy that is at stake. Coherence is important for many reasons:[3]

- Coherent policies are more likely to be effective and more readily applied in a consistent and equitable way;
- Governments are increasingly faced with complex and difficult issues, which may impact differently on different areas of society;
- They frequently have a range of objectives which cannot easily be reconsiled and may be in conflict;
- Faced with greater accountability and challenge, through parliaments, civil society and the media, lack of coherence becomes readily apparent and results in uncertainty loss of confidence.

The concept has basically three dimensions:

- Horisontal coherence ensuring that individual, or sectoral, policies, build on each other and minimises inconsistencies in the case of (seemingly) conflicting goals;
- Vertical coherence ensuring that public outputs are consistent with the original intentions of policy makers;
- Temporal coherence ensuring that todays policies continue to be effective in the future by limiting potential incoherence and providing guidance for change (and relates to transition management).

The MONIT study therefore aims at generating lessons for national governments on how to achieve coherence in innovation policy by highlighting issues like political leadership, building effective co-ordination mechanisms, socio-policical foundations for information exchange and policy learning, cultural factors in policy systems and related sources for coherent policy making. [4]

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[3] From a discussion paper for the Centre of Government Network: Government Coherence: The Role of the Centre, OECD, PUMA.

[4] See appendix for a list of tools that may enhance policy coherence. This list, derived from the above OECD paper, serves only as a point of departure. It is the aim of MONIT to expand and develop this into instructive lessons for member countries.

Key elements in policy profiling[5] [not exhaustive]

Shape of a NIS and innovation policy mixes as inheritances from the past
The actual form and operation of a certain NIS and the policy mixes used are to an important extend inheritances from past innovation governance and innovation performance. In the Netherlands for example already in the 1930s TNOs and the GTIs were established to solve the gap between science and practical application. Up till today these institutions are part of the Dutch innovation system. The Industry Science Relationships are still on the policy agenda, but the sheer existence of TNO and the GTI influences the sort of solutions proposed. Similarly, the quite early dominance of a few technology oriented manufacturing multinationals – also in the governance of the innovation system – made that an innovation system emerged that for a long time was well suited to their particular needs. However, the Netherlands are still experiencing a lack of fast growing innovative start ups that is at least related to the dominance of these firms in the innovation governance. This has also leaded to discussions on how research agenda's are built, who is consulted, who has an impact, etc. These two examples show how history matters in the shaping of NIS, the dominant policy designs that emerge and the sort of innovation governance that is typical for a certain NIS. The MONIT-project should help in understanding what is defined as the dominant policy challenge that innovation policy should help to solve and how certain policy mixes come into being. This points at the need for innovation policy profiling, understanding what are perceived as the major problems to be solved by innovation policy and also at the need to understand the history behind a certain innovation policy mix. [Mapping the current innovation policy mix, what are perceived to be the central barriers in a given NIS and indications of horizontalisation are dealt with in WP 1, part A]

Innovation governance is more than setting in place the right institutions
MONIT is about innovation governance. Innovation governance is not simply about top down designing an innovation strategy, putting in place the right institutions and then subsequently implementing it. As Kuhlman (2002, p. 25) observed: "Policy-making is only seldom a matter of top-down decision-making and straight-forward implementation; rather it can be modelled as a process of competition, networking and attempts at consensus-building between heterogeneous (corporatist) actors representing different societal subsystems. Frequently, policy decisions are negotiated in multi-actor arenas and related networks which may stretch over multi-level politico-administrative systems". As more straightforwardly put by Technopolis (2002) innovation governance is about the "interplay between the various actors that together determine the priorities, strategies, activities and outcomes in innovation" (Technopolis, 2002). This already hints at the fact that describing and analysing governance in a given NIS would require looking into aspects such as (possibly a selection thereof):

- institutional set up i.e. formal decision-making and responsibilities
- accountability (goal setting, evaluation, impact measurement)
- processes of agenda setting and prioritization
- inter-institutional coordination and integration ('horizontalisation')
- actor involvement
- coordination of the various policy levels (national – EU, national-regional)

[5] The following relates primarily to WP1.

[WP 1, Part B will focus on describing and analysing governance in a given innovation system. The exact aspects of innovation governance that we will look at needs to be decided on in the MONIT steering committee, but it is evident that the number of aspects needs to be limited to keep the workload within limits.]

Horizontalisation is key element of the development towards systemic innovation policies
Innovation policy is not a sectoral policy domain. Innovations can be useful to solve all sorts of societal problems in addition to playing a key role in processes of economic growth. Innovation is therefore relevant in all sorts of policy domains, but as a means rather than as a goal in itself. Modern innovation policy-making is about facilitating innovation in all domains. This first requires the opening up of the narrowly defined innovation policies (such as Science, Technology and Industrial policies) to include at first all sorts of framework policies that are important for realising innovation (such as competition, education, labour market and financial policies). Second, in a next phase, it is about looking in what way innovation is taken care of in more sectoral policy areas already. Although supporting innovation is maybe not their first aim, these policies could be integrated more with STI policies as to develop eventually more comprehensive and coherent innovation policies. These more sectoral policy domains include such areas as the environment, health, defence and so on in which innovation is not a prime policy concern, but in which a well thought through innovation strategy could help in solving the sort of problems addressed in these policy domains. [the aspect of horizontalisation part of WP 1 part A, B and C]

[Question: do we have to more explicitly make a distinction between horizontalisation in goals and horizontalisation in sectoral policy domains? To what extent os horizontalisation a goal in itself? Are there topical domains that by definition have their own governance structures and that we should try to integrate with the 'logic' of STI-based innovation policies?]

MONIT is about formal and informal policy co-ordination processes
In the overall synthesis of the preceding phase of the OECD NIS project it was concluded that "policy co-ordination is not a top-down process since the "components of co-ordination capacity are cumulative in the sense that higher level co-ordination functions depend on the existence and reliability of the lower one" (Metcalfe, 1994). Implementing an integrated innovation policy requires concerted efforts at many levels in many different organisations, including interfaces with the business sector and society at large, which together constitute the governance structure of the national innovation system" (OECD, 2002, p. 72). Interestingly a policy co-ordination scale is introduced ranging from independent decision-making by individual ministries (i.e. lowest level of coordination) through various forms of consultation and joint priority setting to an government strategy (i.e. highest level of coordination). A policy-co-ordination as this – which may be adjusted to the particular needs of the MONIT participants – in our view would be helpful in mapping and analyzing the innovation policy processes. [especially in WP parts B and possibly part C we will have to deal with this aspect]

MONIT is about processes of policy learning
Innovation scholars increasingly stress the importance of policy learning and systematic evaluations and policy experiments. OECD (2002, p. 75) for example observed that "Policy learning through cycles of experimentation, evaluation and adaptation of objectives and instruments is key to long term success…Policy learning rests on three pillars: participatory and non-bureaucratic policy processes; evaluation and "economic intelligence". Governments

need to engage in continuous interactions in knowledge networks, building on complementary institutions and private partners. Innovation policies and their combined effects should be both monitored to provide real time learning and evaluation to secure learning and reflection for ministries, agencies, and private sector organizations concerned". In the Dutch context CPB (2001, p. 196, p. 212, p. 232) noted that on many themes uncertainty is prevalent and a plea is made for policy learning and room for experiments (e.g. within schemes such as WBSO) in combination with serious policy evaluations in both generic and specific policy schemes as to further the knowledge on the efficacy of innovation policy.

MONIT in our view not only offers a good opportunity to compare innovation governance structures, but also offers a fine opportunity to see how policy learning and unlearning[6] is organized in the various participating countries through various means such as policy monitoring and evaluation[7] and benchmarking (including an intelligence function). [WP 1, Part C deals more in detail with the topic of policy learning.]

Intelligent benchmarking
What practices are transferable and what practices are culture/context or country specific (third point in mail Jari dd. 21/02/2003). See also, article by Soete, IPTS report no 71, p. 9
PM

Additional items that could be developed:
Technological and non-technological innovation (including renewal of institutions?)
PM

Differentiate between strategic intelligence, Policy capability and policy implementation?
PM, see e.g. October note Jari & Pentti on this.

Differentiate between various type of failure (rationale for systemic policies)
PM, here I found the 5 categories as mentioned by O'Doherty and Arnold (IPTS-report, no. 71, p. 32, see also IRCE-report) useful, differentiation between market, capability, institutional, network and framework failures.

INNOVATION POLICY SPACE [AN ATTEMPT]
At the risk of introducing yet another unspecific notion[8] we will introduce and outline the notion of 'innovation policy space' here somewhat. In general the idea stemming from a

[6] Unlearning and being prepared to timely abolish innovation schemes is as much part of policy learning as introducing new and improved schemes. In fact the additionality of each scheme needs to be checked for, a practice which is for instance quite common in Finland.

[7] There is an established monitoring and evaluation research tradition and community of evaluation experts. Some countries also have a well developed evaluation tradition. Recently Technopolis in an international benchmark study looked into evaluation procedures in several countries (2001). They for example listed the various methods used to evaluate the effectiveness of policies as practiced in 10 countries and at the European Commission (2001, p. 13).

[8] We are using phrases like innovation system, policy learning, strategic intelligence, innovation governance, horizontalisation of innovation policies, innovation policy space, etc. We should be weary not to introduce and use too many concepts at the same time as this makes it more and more difficult to convey our messages to the normal world of policy-makers and even fellow scholars.

systemic approach to innovation is that not only a series of interdependent actors are involved in the process of innovation, but also that there are various levers that can be pulled by policy-makers (as well as by other actors involved in the act of innovation) to facilitate the process of innovation. Certainly if we add to the argument of market failures the various other types of failures[9] that might be a rationale for policy intervention. Policy intervention does sound quite heavy (interventionist), but it is in practice a continuum from various direct and indirect forms of intervention ranging from direct support to individual actors (e.g. R&D support) to all sorts of more indirect forms of intervention[10] such as taking care of certain framework conditions or even the use of 'non-innovation policies' that may in one way or the other affect processes of innovation (or for that matter processes of knowledge production, diffusion and use).

How much room to manoeuvre is there to influence (conditions for) or govern innovation? One of the key ideas in MONIT is that there is in practice much more room to influence the act of innovation than some are prepared to think. This room or space can be defined as 'innovation policy space' and depending on the particular case this innovation policy space will look differently as history, institutionalisation, economic specialisation, culture, governance tradition, policy mix etc. is different. The notion of innovation policy space might be useful in mapping differences in the policy mix and policy approaches to innovation between various countries or regions. One could think of four dimensions that together define the innovation policy space or realm where policy can influence the act of innovation, these are:

1. *Dimension 1: aspects of governance/variety in possible policy roles*
   ["aspects on which innovation is steered or characteristics of policy processes"]

This dimension points at the multiple ways in which innovation policy processes can be steered ranging from putting in place new (innovation) institutions, help building (innovation) agenda's, making sure the various policy levels are co-ordinated, involve various actors in the process of innovation, making sure government involvement can be accounted for etc. It is increasingly acknowledged, not least in innovation system approaches that apart from financing certain actors or facilities, policy-makers play a role in such processes as building an innovation agenda, making sure the institutional context is in tune with the needs of a particular set of actors or bringing together certain actors. In practice these policy processes can be both formal and informal policy processes. Innovation governance as outlined here is one of the three key analytical dimensions in the MONIT project (see also the vertical axis in figures 1 and 2 below).

2. *Dimension 2: Policy domains*
   ["Areas from which policy processes that affect innovation may originate"]

The policy-domains are one of the key dimensions in the MONIT-project as the general idea is that innovation is not confined to the area of STI-policies. Other 'non-innovation policy domaines' may influence processes of innovation in basically two ways:
(a) these non-innovation policy domains provide inputs or affect certain conditions that are

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[9] A fine taxonomy might be the one as proposed by O'Doherty and Arnold i.e. market, capability, institutional, network and framework failures.

[10] In the STI sphere Ken Guy and Claire Nauwelaers have provided a fine overview of STI policies that fit nicely with the NIS-notion (IPTS-report, no. 71, p. 23).

important for innovation to take place (e.g. the need for a well trained workforce, a judicial framework that facilitates and not stifles innovation);
(b) innovation takes place in these policy domains themselves and innovation can be a help here in solving certain societal problem (e.g. in healthcare there is a need for innovation in the organization of the system as a whole).
The MONIT-project explicitly deals with these processes of horizontalisation of innovation policy. In work package 1 as defined in the December MONIT-paper mapping and analysis of horizontalisation starts from the narrowly defined innovation policy-making, whereas the foreseen case studies in work package 2 illustrate how innovation is governed in more sectoral policy domains. The policy domains dimensions is given as the vertical axis in figures 1 and 2 below).

3. *Dimension 3: Levels of policy coordination*
["Degrees of co-ordination in innovation policy processes]

Quite a number of policy actors can be involved in innovation policy. Their activities can take place independently or can be co-ordinated to varying degrees. In mapping the policy space it might be good to identify to what extent these policy actions (or institutions) are coordinated or not. As mentioned above a policy co-ordination scale can be introduced ranging from independent decision-making by individual ministries (i.e. lowest level of coordination) through various forms of consultation and joint priority setting to an government strategy (i.e. highest level of coordination). This dimension is given as the third dimension in figure 1 below.

4. *Dimension 4: Stages in the policy life cycle*
[policy processes are different in the various stages of the policy cycle and differ in their level of concreteness and an iteration might result in policy learning] .

Generally some sort of a policy cycle is used to differentiate between the various stages that can be discerned in policy processes. Generally a differentiation is made between an analytical or strategic intelligence stage that precedes, the stage of setting the policy agenda, which should then be followed by a translation into concrete policy measures. These might be followed by some form of monitoring and evaluation which then feeds into a new policy iteration in which the lessons from the previous one are (or sometimes not) used. In between processes of benchmarking might be used to see whether other NIS perform better or dispose of policy processes that might be transferred to the particular NIS. This dimension is given as the third dimension in figure 2 below.

Figure 1: Conceptual framework for analysing innovation policy processes in MONIT [dimension 1, 2 and 3]

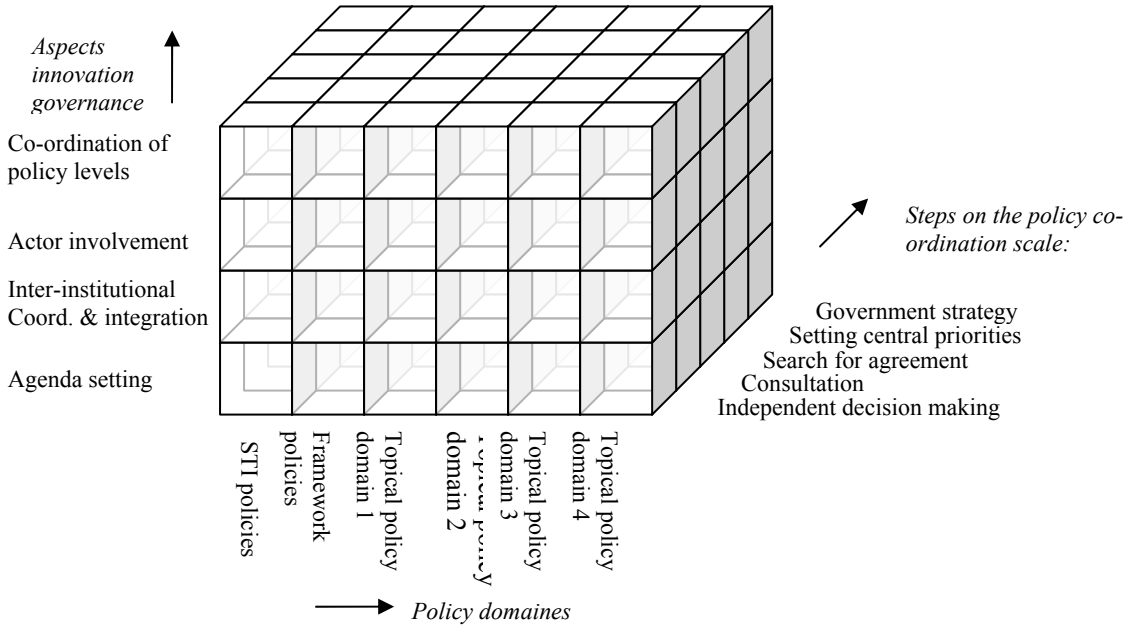
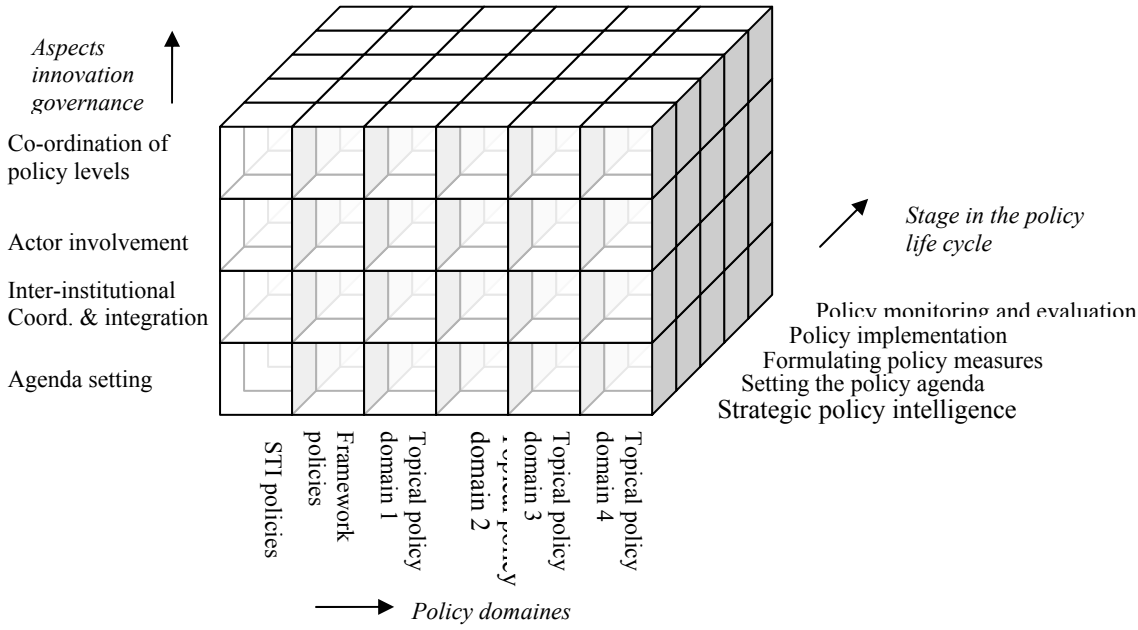


Figure 2: Conceptual framework for analysing innovation policy processes in MONIT [dimension 1, 2 and 4]



Either one of these two (or both) can be used to map and visualise how innovation policy is positioned in the various NIS or has evolved over the years. The notion of innovation policy

space can even be visualised by indicating how many blocks it covers or by indicating where particular problems arise in formulating or implementing innovation policies.

In the Steering committee meeting in Helsinki, it was agreed to use the following set of policy dimensions for the profiling of national innovation policies:

Innovation Governance

Why is Innovation Governance important?

In the last two decades we have witnessed an evolutionary learning process in the thinking about innovation and innovation policy. Gradually the concept of *'innovation systems'* has established a position on the policy agenda's of many OECD countries. The interactive and systemic approach pays much more attention to multiple sources of new ideas and knowledge creation, to the bridges and linkages of various actors in the system, to widening the 'pipeline perspective' of innovation than was common in the linear innovation approaches. This insight has induced a gradual process of reshaping the system and rethinking the role of public and private actors in this system.

With a good two decades of experience in innovation policy and an even much longer history in science, technology and industry policy, most OECD countries have built up an extensive institutional structure dealing with innovation. The way in which science and innovation are organised in a country shows a historical path dependency, giving each country a relatively unique governance structure. This has led policy analysts still to think in terms of **national** (or regional) systems of innovation, despite the fierce developments of globalisation and international political integration that also have taken place.

In parallel, recently an increasing number of actors outside and inside the innovation system (parliaments, government auditors, business associations, political parties), are demanding evidence of the effectiveness of all these innovation policies.

It is evident that some countries, more than others, are successful in shifting from traditional and mature economic activities to knowledge intensive industries and services, in raising the R&D intensity of their firms and in harbouring new growth industries. While the policy community has been active to disseminate 'good practice' policy practices and instruments in the 1990s, we have also witnessed limitations to the transferability of these good practices due to the differences in the institutional set ups between countries and regions. This raises an important question: in how far is this difference in ability to make these transitions linked to the way science and innovation are governed? Are some governance structures better equipped to stimulate and channel this transition? Could governance structures form an obstacle to this transition? The question how the governance of the innovation system affects the success in creating both economic growth and a good quality of life is therefore crucial for future policy strategies.

What are the key issues?

The objective of MONIT is to help TIP *learn from national efforts to develop national capabilities for innovation policy governance*. More precisely, this will involve drawing lessons from selected national experiences to improve the understanding of:

a) How path dependencies from national traditions generate and sustain policy mixes.
b) How different policies interact to create a basis for developing horizontal policy.
c) How to co-ordinate policies across institutional boundaries through inter-ministerial. collaboration and institutional mechanisms for policy learning within and between agencies and ministries.
d) The key national capabilities for effective processes of policy formulation, co-ordination and implementation as well as for the management of transition processes in complex innovation systems. These capabilities include those of evaluation and identifying policy needs.

The term governance is a widely used and therefore not very precisely defined concept. In public management literature, the term governance " … is a perspective within which the conventional boundaries between politics and administration are perhaps less significant, and which enables large social questions to be approached more directly than from within the narrower perspective of traditional public administration". These are linked with systems approaches where "the boundaries between individual institutions become less significant than the question of how the whole ensemble dances (or fails to dance) together."[11] The European Commission published a White Paper on the subject of governance which "… *concerns the way in which the Union uses the powers given by its citizens."* [12] The definition of the term in this White Paper is as follows:

> "*'Governance' means rules, processes and behaviour that affect the way in which powers are exercised at European level, particularly as regards openness, participation, accountability, effectiveness and coherence.*"

The key to using the concept is that it focuses on policy *processes* rather than on the outcome in terms of policy instruments, institutional actors, financial resources etc. Rather than creating a static picture of the innovation system or the set of policy instruments, looking at governance means looking at the dynamics of the system, those aspects which allow innovation systems to change and to adapt.

Governance mechanisms should fulfil a number of functions in the innovation system[13]

- Agenda setting: deciding the scope of actions the state and the publicly funded actors in innovation and research should take
- Prioritisation: deciding which of these actions are most necessary in the context of scarce government resources
- Learning and adapting to change

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[11] Pollitt, C., Bouckaert, G., Public Management Reform, A comparative analysis, Oxford University Press, 2000.

[12] Commission of the European Communities, COM (2001) 428 final, Brussels, 25.7.2001.

[13] This section draws heavily upon Boekholt, Arnold, et al; The Governance of Research and Innovation, An international Comparative Study, Report for the Netherland's Ministry of Economic Affairs, Technopolis, 2002

- Effective implementation of the actions taken

A recent empirical study compared Research and Innovation Governance practices in Canada, Denmark, Finland, Ireland, the Netherlands, Norway, Sweden and the UK.[14] The study found that many countries are struggling with similar governance issues. A critical one is how to arrive at a coherent science, technology and innovation (STI) policy. The study identified the need for greater coherence and integration along three dimensions:

- The integration of knowledge creation (mostly basic research) and the use of knowledge for commercial exploitation, thus better integration of science and innovation policies.
- The co-ordination and attuning of different societal and economic goals of research and innovation, thus integrating STI policies across sectoral departments.
- The combination of knowledge from different science disciplines to tackle interdisciplinary research needs (e.g. bio-technology) and overarching societal problems that need such an interdisciplinary approach (e.g. climate change).

Other typical STI governance issues are:
- How does the governance structure deal with adaptation and change in the innovation system? What brings about change in structure and public investments in STI ?
- How are research performers (universities and public research organisations) and intermediaries (funding agencies) held accountable for their activities?
- How do national and regional actors co-ordinate their activities?

These form a combination of **horizontal co-ordination** issues (between policy domains, and across traditional scientific and technological boundaries) and **vertical co-ordination** issues (between political agenda setting, policy formulation, design and implementation). In MONIT the emphasis will primarily be on horizontal co-ordination issues, and on broadening the scope to policy domains outside the core science, technology and innovation policy arenas. Horizontalisation is not a goal in itself but a possible solution to:

- Avoid that policy instruments developed in one domain are not off-set or made ineffective by those in another domain (or in a more positive sense: reinforce the effect of policies in one area by developing accompanying measures in another area)
- Tackle societal issues with potentially conflicting objectives, e.g. economic growth and sustainable development, entrepreneurship and labour policies, …
- Tackle societal issues that are too broad and complex to deal with from one or separate policy angles (mobility)

In addition to governance issues related to co-ordination, important aspects of governance to understand are also how **priorities are set** in the system, what **stakeholders** have an impact on this (and how are they consulted), how **policy learning** takes place (through formal routes such as policy planning tools, monitoring and evaluation, or more informal channels). The latter also includes how parts of the system are abolished.

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[14] ibid.

How could MONIT contribute to the advancement in understanding and policy making?

Within the MONIT project innovation governance is closely linked to the description of policy profiles (WP1-A) on the one hand and the analysis of policy learning (WP1-C) on the other, as well as the study of interaction, integration and learning in the various policy studies in WP2.

The focus in MONIT is on four dimensions of the national capabilities to manage coherent and adaptive innovation policy:

- Policy analysis and evaluation
- Agenda setting and prioritization
- Implementation
- Transition management

Transition management is here understood as the ways in which more complex changes are managed through comprehensive policy packages and their strategic implementation. This includes the ways through which innovation policy institutions learn and the ways in which governance structures renew themselves.

More specifically the tasks that could be performed in MONIT are:

- A deepening of the analytical discussion of governance and the key issues involved
- Defining the 'policy space' that we are going to cover collectively, allowing for different emphases in each country
- A mapping of institutional actors in each country and a comparison with other MONIT countries
- An overview of the main 'rules of the game', how these actors report to and interact with each other, what co-ordination mechanisms exist on several levels. The focus is on governance issues such as horizontal co-ordination, accountability, priority and agenda-setting, evaluation and learning.
- Some indicators of 'good practice' and success in governance including an assessment of performance of each of the countries

First suggestions for an approach

Governance is more than the official structures of organisations, the rules and procedures that formalise the relations between those organisations and the official mandates they are given. Understanding governance also means understanding the informal processes, the power relations between organisations, the personal relations and positions taken in the networks of organisations, in short the 'informal glue' that either makes the innovation system move smoothly or makes it sticky.

Thus a deep understanding of governance needs a mix of approaches and methodologies. Very roughly we suggest that the following types of research activities need to be performed in the course of Work Package 1B:

- Mapping of the actors involved in the core of Science, Technology and Innovation (STI) policy and their formal relations
- Mapping of other major policy actors who directly or indirectly determine the STI policy space
- Mapping of major policy actors who use or could use STI for solving societal problems
- Desk research to make a first description of missions, activities, resources and the role of STI in these missions
- Description of co-ordination failures and governance tools or arrangements in each policy system
- Face-to-face interviews with key people to develop a deeper understanding of informal and informal co-ordination processes, power relations, stakeholder influence, priority setting and general policy planning mechanisms
- Workshops with policy actors and stakeholders to discuss findings

Depending on the scope of governance issues that each country team chooses and the person-power that each team can spend on MONIT, the kick-off workshop can help to define the 'minimal core' of research activities regarding both to the 'policy space' we aim at and particular governance issues on which we need a minimum understanding.

Given the 'slippery nature' of governance issues the end result of MONIT would benefit from a certain degree of commonality in analysis and reporting. Development of common checklists for interviews could be one of the first steps of the teams involved in WP-1B. Developing a common structure of reporting another.

Co-ordinating innovation policy – do we know how to deal with it?

This section deals with the difficulties of coordinating innovation policies. These difficulties, it is argued, may be seen as emerging from two sources, partly the limitations of innovation system theory (1), partly from the inherent problems of policy coordination (2). This section then reviews the lessons from theories of public management and policy coordination – and summarise these lessons in a discussion which opens up for implications for the study.

Some reasons why complex problem solving among policy makers often run into problems

Government agencies may act co-operatively as rational, collective actors, deciding to give power and resources to new, co-operative institutions, in order to solve common problems, like innovation policy. However, these rational decisions may be offset by different forms of institutional logic (Scharpf 1988) that "creates frustration without disintegration". The decision to commit power and resources to new institutions to solve common problems may be limited by well-known considerations of self-interest, restricting the field of co-operation, weakening co-operative institutions, and – in a worst-case scenario, transforming them into rhetoric with no or limited practical impact on the problem. The solution to the common problem may be found in the available arsenal of dominant institutions, thus resulting in institutional diffusion. As we all know, these processes of diffusion and mimicking may prove to be inadequate, given the complexity of the problem at hand (DiMaggio & Powell,

1983). Thus, institutional logic may offset rational action on all these phases, the field of co-operation may be deprived of adequate resources and powers of allocation, the solution to the problem may be found in some dominant model which does not apply very well to the actual problem at hand – and the field may be fragmented, because the institutions are too weak to be able to perform the dance of mutual adaptation.

Lessons from theories of public management and policy co-ordination

In the last two decades there are two conspicuous international trends with respect to government: the internationalisation of governance and public management reform. The domestic reforms, on the one hand, are mainly motivated by a desire to curb publics spending. A transfer of tasks from the public to the private sector, often called a rolling back of the state, is a widespread strategy in trimming public budgets. The internationalisation of governance is, on the other hand, a reaction to increasing global interdependence (Metcalfe 1994). The establishing of EU institutions and other supranational bodies means a multiplying of involved institutions and political processes in the shaping and implementation of policy (Sand 1998). As several authors have argued, there are strong dependencies between state capabilities in the international context on the one hand, and the management and coherence of domestic policy on the other (e.g. Katzenstein 1985; Putnam 1988). The entanglement of the domestic and the international levels suggests that domestic developments will have repercussions on state capabilities internationally.

A key task in the making and implementation of broad, coherent policies both on the domestic and the international level is the co-ordination of policy complexes and processes.

Co-ordination

What does the term *co-ordination* mean in the context of modern government? From a systemic point of view it means that the parts of the system "work together more effectively, more smoothly or more harmoniously than if no co-ordination took place" (Metcalfe 1994: 278). The drive for stronger integration of policy, often implying the joint efforts of a number of ministries and other state and non-state agencies, makes governmental co-ordination and governance in general an increasingly difficult task. In the classical Weberian bureaucracy co-ordination is ideally done through fixed relationships among positions in a hierarchy with strong central control, not being reliant on more informal interpersonal networks. At the other end of the scale, co-ordination can be conceived of as a process of voluntary co-operation among more flexibly bound individuals and organisations without a intervening central co-ordinator (Metcalfe 1994: 279).

Most of the literature on co-ordination has the single organisation as a frame of reference. Having modern government in mind, it makes less sense taking on this point of view. The involvement of both public and private partners as well as quasi-governmental organisations in constituting broad-based policy calls for an interpretation of governmental co-ordination within an expanded framework. This position is reinforced by the varying degree of interdependence to be found between the parts involved. Governmental co-ordination involves co-existing "spheres" of both high and low interdependence, where differing mandates to a certain degree also determine the level of interdependence within and between these "spheres".

A pragmatic position is to adopt a principle where the co-ordination model is repeatedly re-tailored to fit new circumstances:

"If co-ordination is a response to interdependence and provides the means of managing interdependence then the amount and form of co-ordination capacity should be related to the needs that arise in particular circumstances. Where there is limited interdependence, simple co-ordination capacities should suffice. Where the activities of several ministries are closely interdependent more sophisticated and complex co-ordination capacities are needed (Metcalfe 1994: 279)"

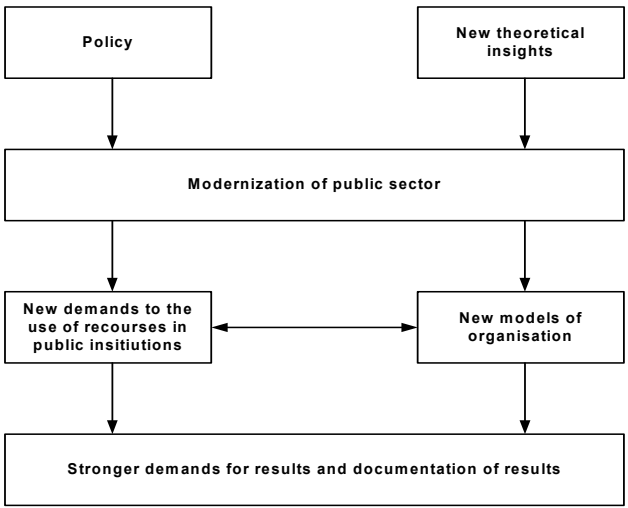
This principle may indeed be useful when it comes to handling transitory needs of co-ordinating capacity. As an organisational principle on which to create a more persistent basis for bureaucracy, it may however be inadequate.

Relatively early insights from network theory argue the importance of weak linkages in co-ordination of individuals and institutions not subject to hierarchies or any central co-ordinating agency. Strength of linkages being interpreted as a function of the time spent together, emotional intensity, intimacy, and the degree of reciprocity characterising the relations. The importance of the weak linkages derives from the assumption that groups characterised only by strong ties insulate these groups from inducement external to the group. Weak linkages, i.e. personal, although not strong bonds, can function as "bridges" between the more socially cohesive groups. Thus creating the necessary condition for co-ordinated action among these groups (Granovetter 1975). As such, these insights from network theory adheres to the loose interpretation of co-ordination mention above, an interpretation that seems highly relevant for co-ordination in the compounded landscape of modern government.

New Public Management

Together with the economic crisis of the 1970's new theoretical trends paved way for the liberalization of public sector. It was argued that the welfare state had distorted the necessary incentive structures of the public sector (government failure). The 'modernization' program was thus motivated both from political developments and new theoretical trends with public sector implications.

Figue …



New public management (NPM) is the name that became attached to the program of reforms in public sector. It is not really a unitary program; it is a number of reforms, where the makeup and speed of implementation varies across countries. NPM is a collective term for a number of reforms and techniques inspired from private sector practices and economic rationales. Klausen (2001) sorts the main components of NPM into two main clusters: One concerning liberalisation of public sector based on economic arguments, the other concerning the application of new organisation- and management principles in public sector. The economic initiative centres around subjects like: privatisation, competitive tendering and contracting, unrestricted consumer choice, performance-related salaries, etc., while the organisational/management initiative centres on entrepreneurial- and strategic management, team management, management by objectives, new systems for budgeting and accounting, etc.

Co-ordination through the market

The "New Institutionalist Schools" has played an especially important role in supplying the theoretical rationale to the reforms of New Public Management. This is a collection of schools of thought that seek to explain political, historical, economic and social institutions.

New institutional economics and the cost of transactions

New institutional economics, originated with Willamson (1975), is a theoretical trend that provides a set of economic arguments to interpret organisational form. Within this tradition the central question at the outset was: under what conditions are economic functions performed within the hierarchies of firms rather than through market processes? The answer, offered, was that the organisational form chosen was the one that most efficiently dealt with the costs of economic transactions. Reoccurring transactions characterised by ambiguity and substantial “transaction-specific investments” is, according to this tradition, more likely to take place within the hierarchies of firms rather than between firms in a market interface. Non-repetitive, simple transactions, requiring no transaction-specific investments, would more likely be organised through market processes (Granovetter 1985).

An example of what could be counted as a simple transaction, although certainly being repetitive, is the municipal waste management. In many cases has this service been subcontracted out to private companies under the assumption that the service can be provided for less cost when transferred to the private domain. The rationale being that this service is so simple, needing small transaction-specific investments, thus being more efficiently produced over a market interface than by the municipality itself. And when this logic is applied in general the result will be a distribution of tasks between the public and private domain that minimises the total production- and transaction costs.

The co-ordination of the transactions will normally be done through three forms of contractual agreements: *Market contracts* regulating the buying and selling of well-defined goods and services in a market, *price* being the most important co-ordinating factor. *Relational contracts*, also called network-relations, come into being when the delivery can not be fully

specified, and consist of informal agreements and unwritten codes of conduct. *Trust* being the most important co-ordinating factor under such conditions. Finally, there are *hierarchical contracts* (contracts of employment) functioning mainly within firms (or other organisations), *authority* being the most important co-ordinating mechanism (Busch 2001: 85).

The *relational contract* is especially relevant when there is high transaction specific investments, i.e. when there is high uncertainty concerning the complete nature of the delivery. Writing effective market contracts can be impractical in such situations. Within firms, incentives like higher salary and promotion is based on performance in teamwork, leadership, and personal initiative. These are aspects of occupational behaviour that are difficult to positively verify in any other way than through the personal opinion of the employer and colleges. Both the employee and the employer recognise this without codifying the details in a contract. The employers' incentive in following up on these relational contracts is their labour market reputation (Levin 2003).

The same logic also applies to the *relational contracts* often supplementing the *market contracts* between firms. In the transactions of firms it is often a need for a level of flexibility that goes beyond contractual agreements. A trust based give- and take relationship permits flexible co-ordination and keeps the firms out of court when the circumstances require more than what is specified in the *market contract*.

> "A relational contract thus allows the parties to utilize their detailed knowledge of their specific situation and to adapt to new information as it becomes available. For the same reasons, however, relational contracts cannot be enforced by a third party and so must be self-enforcing: the value of the future relationship must be sufficiently large that neither party wishes to renege" (Baker*, et al.* 2002: 40).

The contribution of the New Institutional Economics and transaction cost theory with respect to NPM is that it supplied some criteria for when to expect that public services could be produced more effectively in the private market than within the hierarchy of bureaucracy itself. A question in MONIT is the extent to which the notion of relational contracting can serve as a useful concept for the understanding of the social mechanisms for the relationships within policy systems that have a bearing on co-ordination and generation of policy coherence.

Public Choice

Public choice theory is devoted to studying politics based on economic principles. In the seminal work of Buchanan and Tullock (1962) they hold that one can understand the behaviour of public servants in much the same way as actors in the private market: as utility maximising individuals.

> "Men co-operate through exchange of goods and services in organized markets, and such co-operation implies mutual gain. The individual enters into an exchange relationship in which he furthers his own interest by providing some product or service that is of direct benefit to the individual on the other side of the transaction. At base, political or collective action under the individualistic view of the State is much the same. Two or more individuals find it mutually advantageous to join forces to accomplish certain common purposes. In a very real sense, they "exchange" inputs in

> the securing of the commonly shared output. (Buchanan and Tullock 1962: pt. 1, ch. 3).

The theory of the bureaucrat is the part of the public choice tradition that has exerted the heaviest influenced on the NPM movement (Busch 2001). Especially Niskanen (1971;1973) has been influential. He argues that the self-interest of the individual is not a problem in the private sector because maximisation of profits is what serves both the individual and the firm best. This is, however, not necessarily the case in the public sector. The problem is that the bureaucrat, being no different from other people, maximises his or her own self-interest, and this is done through the maximisation of the agency's budget. By doing this the bureaucrat is rewarded with increase in salary, power and improved promotional prospects.

This government failure is made possible because the costs and benefits of the work of the bureaucrat are hard to evaluate. The information required to evaluate the costs and benefits of public goods are not as readily available to the politicians as to the bureaucrats producing the collective good. Hence, the beureucrats have a considerable advantage in arguing budget increases, and in doing so maximises their own rather than the society's utility.

Obviously the utility-maximising bureaucrat can pose a problem for the co-ordination of a horizontal policy. Horizontal policies require the reconciliation of multiple interests and the co-operation of possibly several state and non-state agencies. If bureaucrats maximise the budgets of their own bureaus, at the expense of other participants in a co-operative relationship, this could lead to mis-allocation of resources in the formulation and implementation of broad policies. Still, there is a mechanism, within the logic of economic man, which can keep check on such unproductive opportunism and that is if the task or "transaction" has the nature of a sequential or repeated game. From the game of prisoner's dilemma it is known that sequential or repeated games let players develop an understanding of the games complexities. This leads to self-constraining behaviour, co-ordination and in the end: higher benefits for all the players (Hovi and Rasch 1993). In other words – longer relationships lead to the possibility of trusting behaviour.

The main contribution of the public choice literature with respect to the development of NPM-reforms has been to heighten the awareness of opportunistic behaviour resulting in oversupply of public goods in the public sector (Busch 2001).

Principal-agent

The principal-agent model has been an important input to the study of public choice. An example of this is Niskanens description of the utility maximising bureaucrat, which is based on this model. But the relevance of principal-agent models goes beyond public choice theory. It is an general analytic expression of the relationship between a principal and an agent, "in which one party, the principal, considers entering into a contractual agreement with another, the agent, in the expectation that the agent will subsequently choose actions that produce outcomes desired by the principal"(Moe 1984: 756).

The problem in the pincipal-agent relation is twofold. First there is a problem of choice of agent. Because the principal is unable to observe the information, beliefs and values the agents actions are based on, it is difficult for the principal to select the best agent to do the "job" (adverse selection). Second, once an agent is hired, it is difficult for the principal to monitor the job actually being done by the agent (*moral hazard*).

The core of the problem lies with the incentive structure. The information on the motives and actions of the agents is imperfect and skewed in favour of the agent. It is this unevenness in access to information (information asymmetry) that leads to *adverse selection* and *moral hazard*. With *moral hazard* the agent has an incentive to act in a way that promotes his or her utility but detracts from that of the principal (cf. Niskanens bureaucrat). In order to mitigate the information asymmetry the principal would want to set up a monitoring system as well as create incentives for the agent to disclose as much of his or her privately held information as possible (Moe 1984: 756).

The whole state administration is structured as a chain of principal-agent relationships, the ultimate principal in democracies being the citizens, with politicians as their agents. On the next tier the politicians are the principals, bureaucrats being their agents. This dual principal-agent relationship manifests itself all the way down through the bureaucracy, ending with the lowest-level bureaucrats providing direct service to the citizens (Moe 1984). A strategy to overcome the *moral hazard* problem of the principal-agent relationships in the public sector is to pre-define measurable ends to policies, giving the public and politicians the opportunity to assess the achievement of civil servants vis-à-vis such standards (Broadbent*, et al.* 1997). The issuing of political guarantees and development of measurable policy-indicators[15] (e.g. waiting list guarantees for hospital treatment in Norway) is an example of this.

Co-ordination through public management

During the 1980's and 90's there was a transfer of managerial techniques and models from the private to the public sector, but the development of management thought in general traces back to Frederick Winslow Taylor. He argued that management could be a 'true science' and that the laws discovered is universally applicable – all human behaviour is subject to these laws - and consequently, anything can, and should, be managed. Taylorism stood for determination and fixation of efforts in the workplace production process and the bureaucratization of the structure of control and the de-bureaucratization of employment relationships (Pollitt 1993). The impact of these and later managerial principles was initially restricted to organizations of the private sector, but has, as we have learned, in later years also largely influenced the practices of public sector organization and administration. This development has to be seen in relation to the development of the 'economics' of organizational form and employer-employee behaviour (cf. transaction-costs theory, public choice theory, the principal-agent model).

Market contracts instead of hierarchical contracts

A fundamental public sector development following neo-Taylorian principles is the replacement of hierarchical contracts with market contracts as co-ordinating mechanism. This is realised partly by pushing for focused and specialized units that offer a limited number of services, services that are offered in quasi-market arrangements within the public sector, with clear separation between contractor and provider, between buyer and seller (Vanebo 2001).

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[15] The STEP-group itself has played a significant role in the development and use of policy-indicators in the assessment of Norwegian industrial policy.

Thus a market-based financing of public organisations becomes a supplement or alternative to the traditional budget-financing, and in line with the creation of more economically autonomous units in public sector, more is expected of head of departments etc. with respect to economic control and reporting.

Another expression of the substitution of hierarchical contracts with market contracts is the shift from the state as the monopolist provider of public services, all public services being produced within the public sector, to the use of private providers of public services. Use of outsourcing is an example of this, but also state support of private institutions (schools, hospitals, nursing homes, etc), and the privatization of state owned companies (like railways, telephone providers and electrical plants).

Accountability

The lack of state control in the production of public services (principal-agent accountability problems) is a hot topic also within the management literature. One of the concerns is that with the 'hollowing out of the state'[16] and the loss of the day to day administration of public services government also looses the ability to govern. The argument levelled against this critique is that it is better to "steer rather than row". The responsibility of the public is not to *produce*, but to know *what* to contract, *who* to contract, and post production, be able to evaluate *what* is purchased (Greve and Ejersbo 2001). An alternative, to clean-cut outsourcing, which let government retain a higher degree of control in the production, is *public/private partnerships*. Especially within the area of research and development is the use of public/private partnerships getting more frequent.

"In the area of technology policy, the term "public/private partnership" can be defined as any innovation-based relationship whereby public and private actors jointly contribute financial, research, human and infrastructure resources, either directly or in kind" (OECD 1999).

Ensuring a larger degree or public control is a benefit additional to the "official" rationale for promoting such partnerships which relates to i) the traditional correction of an undersupply in the market (of R&D), and ii) improving the efficiency of public support (for R&D) (ibid.).

Collaborations between both public and private actors and between private service providers are seen as strategies in creating better and more effective public services than what could be achieved through traditional hierarchies. The major task of modern government thus becomes to administer networks rather than hierarchies. Efficient network administration is accomplished by the integration of interdependent providers in such a way that a continuous and consistent array of services is created. In the world of competitive contracting network administration would consist of writing, negotiation, monitoring and enforcing contracts among a number of providers (Milward and Provan 2003). There is, however, an implicit inconsistency in the wish for both collaborative arrangements and competitive contracting. This relates to the assumption that competition depresses collaboration and thwarts performance. The answer would seem to be to create incentives for cooperation in the contracts. Still-there are indications that efforts to create competition between service

[16] Politically controlled devolution of (fringe) government authority to private initiatives (Milward and Provan 2003)

providers has led to instability in the level and quality of the services provided. In a study of mental health services in the U.S. Milward and Provan (ibid.) finds that frequent rebidding of contracts does not promote effectiveness in markets with few sellers of services (thin markets).

> "By relaxing the part of the contract that calls for competition, we believe that there can be relatively large gains in performance at the service delivery level. Infrequent rebidding of the contract to govern a system of services encourages trust, collaboration and long term investments in a network's infrastructure" (Milward and Provan 2003: 16).

Their recommendations is in accordance with the insights from game theory that states that when games are sequential (reoccurring over time) the players are more able to incorporate the full information of the game, creating trusting relationships, preventing unproductive opportunism.

A critique

A critique of the introduction of market-based solutions in the public sector is that the conditions for their successful application are not in accordance with the real life field/landscape of public administration. Defining sets of clear, mutually compatible objectives, translating these into operational targets, selecting the resources to implement these, and finally monitoring the implementation itself is unrealistic in a public-policy setting. "What is absolutely clear, however, is that clear and limited objectives, stable and explicit priorities (etc.) are very seldom the experienced reality of public-service organizations (Pollitt 1993: 120-121). And this is the result of reasoning that is built on "political rather than economic 'rationality'; emotional or psychological logic rather than the textbook utalitaran kind" (ibid.). Clear formulation of objectives is eschewed because of politicians need to build and maintain coalitions of support and because broadly-stated objectives are in less danger of being a 'hostage to fortune' (Pollitt 1993).

A cluster of public-sector studies and theories that is more oriented towards the complexities in the empirical field of government is those being associated with 'public governance'.

Publice governance

The governance-perspective surfaced at about the same time as NPM. The term 'governance' has in this perspective taken on a slightly different meaning than just a synonym for government. "Governance signifies a change in the meaning of government, referring to a *new* process of governing; or a *changed* condition of ordered rule; or the *new* method by which society is governed" (Rhodes 1997: 46)

This perspective tries to come to grips with the intricacies in the governing of modern societies. It tries to incorporate the implications of the complexity, dynamics and diversity of socio-political systems. It focuses on the development of governing styles that blur the boundaries between the public and private sector. It takes interest in the limitations of one-directional public management and the potential in more co-operative approaches. According to Kooiman (1993: 35) there is developed a 'third way' of governing that shifts the modus

operandi from unilateral to 'interactionist', this being a response to the lacking capacity of the 'old' political and administrative structures. Public management, within the governance perspective, is the co-ordination of-, and the collaboration with complex networks consisting of many different interdependent actors: local-, regional-, national- and international government; other political groups and interest organisations; private businesses and other private organisations. The practice of management is rather than an 'imposing of will' more in line with guidance:

"The management of such public networks is a form of external government 'steering', steering having a broader meaning than strict administrative control but being broadly defined as 'directed influencing'. Public management is the directed influencing of societal processes in a complex network of many other co-directing actors. These actors have different and sometimes conflicting objectives and interests. Government is not the single dominating actor which can unilaterally impose its will" (Kickert 1997: 33).

Clearly, governance involves a networks approach to the interpretation of policy institutions, -actors and -processes. Emphasis is on how networks are structures that constrain and facilitate action, with cultures that constrain or facilitate action; how networks define the roles of its members, define salient issues and tasks; have sets of embedded rules and practices that ensure sufficient cohesion to maintain the network.

> "Networks involve the institutionalization of beliefs, values, cultures and particular forms of behaviour. They are organizations which shape attitudes and behaviour. Networks result from repeated behaviour and, consequently, they relieve decision makers of taking difficult decisions; they routinize behaviour. They simplify the policy process by limiting actions, problems and solutions. Networks define roles and responses. In doing so they are not neutral, but, like other political institutions and processes, they both reflect past power distributions and conflicts and shape present policy outcomes" (Marsh and Smith 2000: 6).

Kickert (1997) claims it is an empirical fact that government occupy a special role in the policy networks, unlike that of the others, not implying top-down control, but rather that total horizontality and autonomy of actors in public sector networks are unrealistic, and that this places the concept of network governance between the extremes of hierarchy and market.

Inter-dependency

The relationships among the actors involved public policy networks are characterized by a social exchange which include negotiations, applying leverage, compromising, playing various forms of tactical games, etc. This implies that the actors committed to collective action are dependent on each other; they have to exchange resources and negotiate common purposes in order to achieve their goals; and the outcome is not only dependent on the recourses, but also what games are played and the context of exchange (Stoker 1998).

So even though government plays a special role in public policy networks, and would want to take control over an exchange, this is not easily accomplished because of the dependence on acquiescence and the actions of the other partners. The limitations of any single entity's capacity ensure mutual dependence. In formulating and implementing horizontal policy, no

single actor has the knowledge and recourses to run such processes unliterary, so the exchange will inevitably be an interactive one, between interdependent actors (ibid.).

Rhodes (1997) identifies five different types of policy networks with varying degree of horizontal and vertical articulation and interdependence. The weakest form of policy networks (with respect to social and structural cohesion) is the *issue networks*, characterized by unstableness, large member groups and limited vertical interdependence. The strongest is the *professional networks* and the *policy communities* characterised by stability, restricted membership, vertical interdependence and limited horizontal articulation. (more on the five types in here).

Depending on the type of policy networks, they will display different forms of partnerships among its members. The relations could be of a principal-agent form, an inter-organizational negotiation form, or a systemic co-ordination form. The *inter-organizational negotiation* involves, as the name indicate, the negotiation of joint projects between organizations. Such partnerships come into being because the pooling of resources makes it easier for the participants to reach the objectives of their own organizations. The *systemic co-ordination* represents an even more integrated form of partnership because the participants develop a shared vision in addition to the joint working capacity, resulting in the creation of *self-organizing networks* (Stoker 1998).

Self-organizing networks and accountability

Within the governance paradigm *self-organizing networks* (i.e. autonomous *self-governing networks*) is not restricted to influencing policy; the act of governing is actually the co-ordination of *self-organizing* networks[17]. Since self organizing networks is a blend of various forms of relationships (hierarchical contracts, market contracts, relational contracts) the co-ordination and co-operation within these networks is potentially hampered by the same accountability problems identified in the public choice and principal-agent literature. Because of the interdependence between the members of the network, rules of conduct and control mechanisms are, rather than chosen and adopted by central government, a subject of negotiation. It is 'games about rule' rather than 'games under rule' (Stoker 1998). So there can also be an accountability deficit because of dissatisfaction with the network arrangements among the members of the constituent groups and a lack of channels to efficiently voice the dissatisfaction. And, as self-organizing networks is especially restrictive with respect to membership, there is an accountability problem in the exclusion of some interests groups.

Government

[17] Stoker (1998) notes that in other branches within political science studies the concept of *regimes* relates closely to the concept of *self-organizing networks*. In urban politics the concept of regime usually refers to a formation of elite actors drawn from public and private sectors, defined as "an informal yet relatively stable group with access to institutional resources that enable it to have a sustained role in making governing decisions" (Stone 1989: 4 cited in Stoker 1998:23). In international relations studies the concept of regimes is used to describe how self-governing networks are formed to manage common interest among participating states.

A solution to the accountability problem would be to bring government in some form back into the discussion (Kickert 1997; Stoker 1998). Kooiman (1993) argues that as the structure and processes of modern society is growing ever more complex, the option to govern from a single point is not very viable. So the concept of the omnipotent, unilaterally intervening state has lost its attractiveness. A new 'light touch' form of government does not, however, necessarily imply a 'hands off' policy. "The task of governments in contemporary, complex societies is to influence social interactions in such a way that that political governing and social self-organisation are made complementary" (Kooiman 1993: 256). The following points are suggested as a classification of general tasks in the governing of modern societies (Kooiman 1993):

- coordination and composition;
- steering and collibration;
- regulation and intergration.

This is Stokers (1998) interpretation of these tasks:

> "The first task involves defining a situation, identifying key stakeholders and then developing effective linkages between the relevant parties. The second is concerned with influencing and steering relationships in order to achieve desired outcomes. The third is about what others call 'system management' (Stewart, 1996). It involves thinking and acting beyond the individual sub-systems, avoiding unwanted side effects and establishing mechanisms for effective co-ordination" (Stoker 1998: 24).

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APPENDIX I: What are the tools for increasing coherence?

OECD countries have employed a number of structural and procedural mechanisms for strengthening coherence. These mechanisms are necessary for setting priorities, co-ordinating policy and developing formal and informal information and communication networks based on a common understanding of the benefits of government coherence:

Setting priorities and strategic planning

- A **collective priority-setting exercise** provides the head of government with an opportunity to build coherence. The Centre can support that exercise by leading a planning process designed to co-ordinate ministerial priorities, reconcile any conflicts, and seek a balance that will mesh sectoral priorities and the government's main policy goals into a coherent programme.

- Existing mechanisms such as the **budget and regulation processes** can be harnessed to help set priorities. The budgetary process is a particularly powerful tool of coherence. The budget affects all sectors of activity, provides a cyclical opportunity to set political and strategic directions for the future, and plays a determining role in the definition of the government's economic and other policy priorities.

Co-ordinating structures and instances

- **Permanent co-ordination structures** may be needed in fields where policies are intrinsically cross-sectoral. Permanent structures also help ensure that the country's foreign and domestic interests are fully integrated and coherently presented in international fora.

- Information flows between ministries can also be enhanced through formal, but less permanent mechanisms such as **consultative or co-ordinating committees**, organised around issues rather than around permanent functions. Working at various levels of the administration, such structures help build networks of officials and "policy communities", which can be widened by creating overlapping networks of committees (obtained by cross-membership). Such bodies can more easily cross ministerial and/or policy boundaries.

- **Temporary structures** such as task forces**,** created on an "as-needed" basis, provide flexibility and responsiveness and are less likely to outlive their usefulness.

- Centres of government can also recognise the role of civil society in strengthening coherence by creating **forums to represent the interests of relevant actors from outside government**. Advisory committee can help bring to light some cross-cutting aspects of policies that might otherwise have remained hidden.

- **Plenary debates in parliament** are themselves an occasion on which to review proposed legislation for their coherence with existing measures within a particular sector as well as with overall policy goals. Several parliaments have adopted procedures which can potentially reinforce parliament's capacity to monitor policy coherence.

- In many countries, the concern for coherence has produced a **conflict resolution system** which ensures that contentious issues move up the different levels of the hierarchy toward arbitration, either by a special body, such as a coalition council or a select committee of

ministers, or by the head of government, with whom rests the ultimate responsibility. The role of the Centre then is to ensure that the contentious issues are clearly defined, that the interests at stake are identified, and that the head of government has in hand all the elements required to manage the conflict. Dealing with policy conflicts in a non-systematic way increases the risks of confusion and incoherence.

The role of public actors in strengthening coherence

Centres of government need to develop a network of partners both throughout and outside government to assist in the strengthening of government coherence.

- The **council of ministers** is an important locus for the management of cross-cutting policy issues: all the main actors in policy making and service provision are represented. The challenge is to strengthen the capacity of the council to deal with cross-cutting issues, while preserving ministerial accountability. Committees of the council can also be used to co-ordinate defined policy fields.

- **Individual ministers** can also be given responsibility for strengthening coherence. Ministers without portfolio can be charged with co-ordinating broad clusters of programmes that transcend institutional boundaries. Line ministers can be given additional responsibilities to lead cross-cutting co-ordination efforts beyond their portfolio mandate. Junior ministers can be mandated to co-ordinate parts of large ministries, and to ensure a more holistic co-ordination of services to designated client groups.

- The **budget ministry** exercises broad co-ordination functions, stemming from its responsibility to integrate a wide range of policy objectives in the budget, and to ensure that the budget provides an accurate fiscal reflection of the government's overall order of priorities. This strategic role can be adapted to incorporate a coherence building function.

  Governments use a variety of mechanisms to direct and co-ordinate the preparation of budgets and to control incremental costs associated with policy development outside the budget process. Some systems emphasise bilateral negotiations between the budget ministry and line ministries, with less direct involvement of the Centre. In others (e.g. in systems where a tradition of budget secrecy prevails), the budget ministry might not go beyond informal consultations with line ministries before finalising the budget in collaboration with the Centre. What is essential is that there be mechanisms in place that enable the Centre to integrate expenditure control objectives in the government's overall programme.

- **Senior civil servants** should also be utilised to enhance co-ordination and strengthen the system's capacity to identify and manage cross-cutting issues. The careers of key civil servants should be structured so that they have a broader conception of government and policy. Civil servants who have spent time in a variety of ministries have a better perception of the perspectives of other policy fields. They are more likely to understand the range of services delivered by government, and how they can be managed more coherently.

- **Civil society partners** can be a source of incoherence as well as a partner in spotting signs of incoherence. In either case, their views cannot be ignored. Centres of government need analytical capacity in order to weigh competing claims. They also need to create

channels of communication to provide information to civil society partners and to receive feedback.

Building communications and information networks
Because policy decisions are also political decisions, systems must provide for close linkage of the political and administrative actors**.**

- **Linkage between co-ordinating structures and the Centre** can be ensured either through the direct participation of Centre officials in meetings, or through reporting mechanisms. For example, the Centre can insist, as a matter of policy, on being informed in advance of the agendas of meetings, and afterward of their outcomes.

- Where possible, **permitting some civil servants to attend ministerial-level meetings** gives them a more direct appreciation of the views, needs and constraints of ministers, and an opportunity to acquire a broader perspective on the policy-making process. It also creates an incentive for officials to do their utmost to consult with colleagues in other ministries prior to ministerial meetings, to review proposals, resolve outstanding issues, explore compromise options, identify issues that cannot be resolved at the administrative level and present them for discussion by ministers.

- In order to build a **culture of coherence**, the Centre must communicate major strategic concerns to the line ministries in order to create a shared sense of purpose. While understanding the concern for coherence will not lead line ministries to give up sectoral interests, it helps them to understand the oftentimes tough decisions that need to be made.