

# **TECHNOPOLIS**



## **Faithful Servant? Ministries in the Governance of the Research Council of Norway**

Background report no 11 in the evaluation  
of the Research Council of Norway

**Erik Arnold**

**December 2001**

## Reports in the evaluation of the Research Council of Norway

### Synthesis report

Erik Arnold, Stefan Kuhlman and Barend van der Meulen, *A Singular Council? Evaluation of the Research Council of Norway*, Brighton: Technopolis, 2001

### Background reports

#### 1. The Research Council of Norway and its different funding mechanisms: The experiences and views of researchers in universities, colleges and institutes.

Background report No 1 in the evaluation of the Research Council of Norway  
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#### 2. Bibliometric Analysis of Norwegian Research Activities.

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## **Faithful Servant? Ministries in the Governance of the Research Council of Norway**

Erik Arnold  
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### **Summary**

This background report to the evaluation of the Research Council of Norway (RCN) examines governance: the way RCN is governed and steered by the ministries to which it reports.

Norway is in the process of implementing many of the same, modernising administrative reforms as other countries. This has placed RCN within a hierarchy of relationships connecting state funded research with parliament and the electorate, and implies a comparatively ‘hands off’ style of governance. Typically, such hierarchies develop a division of labour, where the implementers of policy acquire detailed knowledge of their task and a high degree of control over it, while the policy makers confine themselves to setting broad directions. In Norway things are more complicated than this.

Developing the RCN budget involves a large number of people and committees, and therefore a lot of compromises. In our analysis, the budget process is one of the reasons why RCN has struggled to reach its full potential as an arena for research policy and – crucially – as an organisation that can help launch the rather radical changes that are needed in the Norwegian knowledge system. The new Research Fund has been a crucial factor in improving RCN’s ability to work towards its main goals in the recent past, because it provides resources which are free from sectoral constraints.

About a quarter of the Norwegian ministries’ funds for R&D are spent through RCN. The industry and education ministries are by far the two biggest spenders, but all the ministries except defence channel at least some of their research spend through the council. Some act as ‘patrons’ – channelling money through RCN, for others to spend, without seeking much influence in how this is done. Most act as ‘customers’ – ordering research results from the council, which they need in order to do their work. It is not really clear who pays to maintain the national research capabilities in all the areas where ministries want to buy research.

The ministries identify their research needs in a range of different ways, but few have a systematic research strategy that takes proper account of long as well as short-term needs. Ministries, which owned research councils before RCN was created in 1993 tend to be the best equipped in this respect. Interaction with RCN tended to be a more useful way to learn about research needs among the medium and large spenders than among the smallest.

Ministries tended internally to co-ordinate their funding of RCN, but not of other research spending. Few had clear ways to distinguish short from long-term needs, and some ministries without formal research strategies saw a risk that short term concerns crowded out long term needs. While administrative aspects of budgeting and governance were becoming smoother, ministries continued to have incentives to specify in considerable detail the way RCN should spend their money. While the people involved know and trust each other, institutionally, the ministries trust neither each other nor RCN. The distinction between patronage and custom had largely broken down, and the governance system was locked into over-determining what RCN should do.

The education ministry has the lead role in the governance of RCN and responsibility for co-ordinating research across the ministries. Its powers to achieve such co-ordination are weak. The budgeting system is constructed in such a way as to make it difficult to implement a policy about the level of the government research spend overall. There are options to increase the strength of the education ministry's co-ordination role without taking the step of creating a separate research ministry, which has important disadvantages.

The ministries tended to feel that RCN was unable effectively to work 'horizontally,' and break through the watertight compartments within which the individual divisions sit. They wanted RCN to be more holistic and at the same time for it to be more under their own control but did not generally recognise their own role in preventing holism RCN. However, the previous system of multiple research councils was no better in this respect.

RCN is seen by many as having difficulty in taking big steps in research resource allocation. Some recent initiatives have bypassed RCN, and launched discussions about major state research funding in other arenas. While RCN has managed to 'capture' the implementation work for some of these, these events bring into question its ability to act as a research policy arena and change agent under the current framework conditions.

We conclude that the current system of governance is an important obstacle to the realisation of the 1993 vision for RCN to be a holistic research strategist and funder. Major needs are

- A national technology foresight exercise, as a start to wider use of foresight in research strategy across the ministries
- Clarification of the sector principle, to include responsibility for long term research capabilities
- Clearer separation of ministries' roles as patrons and as customers of research
- Reinforcement of the education ministry's co-ordinating role in research policy by making the total R&D spend a matter for decision early in the process of setting the national budget
- Retention of the new Research Fund within RCN, in order to allow the council freedom to operate a research policy within the highly sectorised Norwegian context

# Faithful Servant? Ministries in the Governance of the Research Council of Norway

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## 1 Introduction

This background report to the evaluation of the Research Council of Norway (RCN) examines governance: the way RCN is governed and steered by the ministries to which it reports. The empirical basis for this report is interviews with ministries, which we approached at the level of the permanent secretary (*departementsråd*). The permanent secretaries themselves decided whom it was most appropriate for us to meet. In many cases, we met with several people from different directorates in addition to the ministry's research co-ordinator and, on a number of occasions, the permanent secretary herself. We interviewed all the ministries except defence, which does not fund RCN, and justice, which asked to be excused since its total funding of RCN was only 3.6 MNOK. For some of the ministries, this involved several visits. We asked a series of questions designed to discover how the ministries

- Identified their research needs
- Procured the necessary research
- Received reports about it and used the results

and, more generally, what their experience was of working with RCN over time. The ministries also supplied us with copies of research strategies, background documents and allocation letters (*tildelingsbrev*) to RCN. We have additionally made use of interviews with current and former RCN personnel and board members.

Other parts of our evaluation raise governance as an important issue concerning RCN's ability to do its job. In particular, there is concern both within RCN and among the foreigners involved in the evaluation, at the high degree to which funds passed to RCN are earmarked for particular uses. We have to recognise that, unlike organisation known as 'Research Councils' in other countries, RCN not only funds basic and applied research (where earmarking is uncommon in other countries) but also plays a role as an innovation agency, funding industrial research and its links with the knowledge infrastructure. Further, it manages large amounts of policy-related research for ministries. In this last category, it would be much more normal to see rather detailed instructions being given by the ministries, since they are themselves to a considerable extent the customers for the programmes and projects they fund.

## 2 On Governance

Norway is in the process of implementing many of the same, modernising administrative reforms as other countries. This has placed RCN within a hierarchy of relationships connecting state funded research with parliament and the electorate, and implies a comparatively 'hands off' style of governance. Typically, such hierarchies develop a division of labour, where the implementers of policy acquire detailed knowledge of their task and a high degree of control over it, while the policy makers confine themselves to setting broad directions. In Norway things are more complicated than this.

In most OECD countries over the past two decades, there have been significant changes in the structure of the institutions funding and performing research for the state. These are part of a wider series of administrative reforms, which have been pursued with varying degrees of enthusiasm. Collectively known as the New Public Management<sup>1</sup> (NPM) these reforms include

- Professional, management oriented leadership, decentralisation and increased local autonomy in resource allocation
- Management by objectives, using quantitative indicators
- Increased use of competition and markets, as well as privatisation
- Separation among customers and contractors in the production of public services
- De-integration of traditional administrative institutions
- A focus on the state as a producer of public services
- Increased use of incentives, contracting and local autonomy on wages
- Reduced costs and increased budgetary discipline<sup>2</sup>

To this list, we would add the use of evaluation as a key instrument, both in ensuring accountability and in fostering learning and therefore process improvement. Many actions of the state are not subject to competition, so evaluation is often needed to play the role of criticism that elsewhere would be taken by market forces. The Government Performance and Results Act passed in the USA in 1993 was a landmark in encouraging both unthinking and more critical use of evaluation to make the state more of a learning organisation.

While bearing in mind this broader context, in this analysis we focus on the smaller set of issues concerning the way ministries act as, in various ways, ‘customers’ for research and how they interrelate with RCN. In this sense, we can think of RCN as sitting within a hierarchy of performance contracts (or principal-agent relations – see below), which ultimately connect the projects it funds to the taxpayers who pay for them (

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<sup>1</sup> An important focus is the PUMA (Public Management) group at the OECD. See [www.oecd.org](http://www.oecd.org)

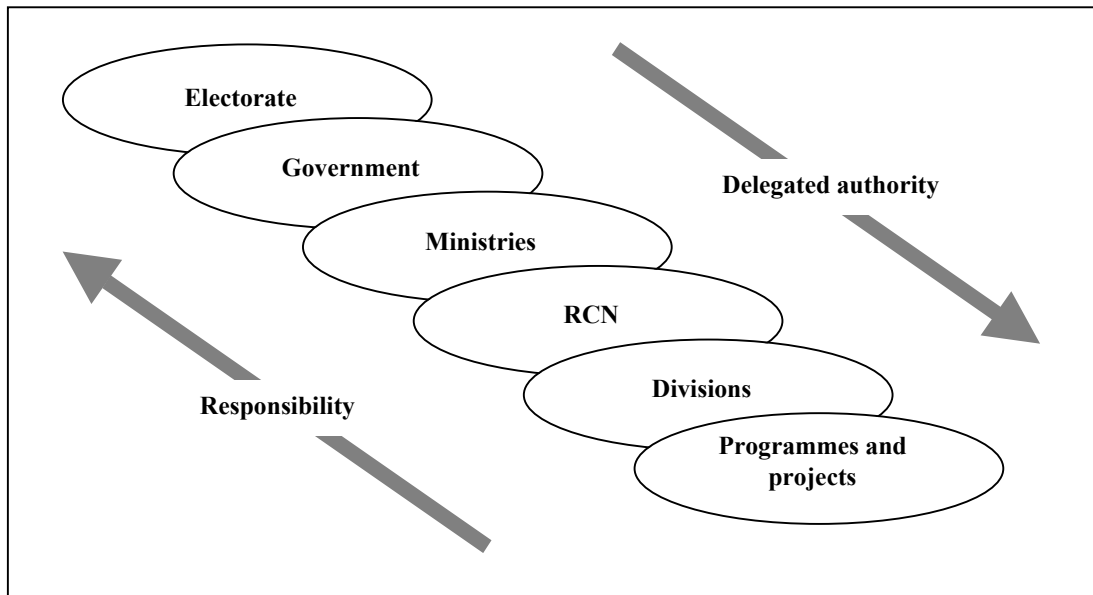
<sup>2</sup> Tom Christensen and Per Lægheid, *Den moderne forvaltning*, Oslo: Aschehoug 1998

**Exhibit 1).** Its location in this hierarchy reflects a judgement about the value added by creating an institution at RCN's level.

RCN handles the **portfolio** of activities represented by the divisions, provides strategy and co-ordination across a large part of the government R&D funding system and gives advice on research policy to government. Its location in the hierarchy argues that it is possible and beneficial to provide these 'horizontal' activities here, and not at some other level. (In contrast, Finland – for example – chooses to place the advice giving function above the level of the ministries.)



**Exhibit 1 Hierarchy of Performance Contracts in Research Policy**



This value is in principle something additional to the benefits of having the individual divisions act as specialised buyers of R&D – a value that they would express in terms of divisional strategy, quality control, administrative capacity and scale. Realising the potential value of RCN and its divisions depends crucially on how it is governed: the nature and implementation of the contracts, which connect it with the ministries. Norwegian administrative law (*Økonomireglementet*, 1997) partly reflects a modern view on the character of such a contract. It requires that an organisation such as RCN shall have an operating plan, goals and the means to report progress against those goals. There should be a structure to the dialogue between RCN and the ministries. RCN should be enjoying increased freedom to allocate resources in pursuit of its goals rather than being micro-managed by the ministries. RCN should not only be reporting what it does, but the socio-economic effects of its actions. Unhelpfully, the administrative law succeeds in combining these enlightened principles with a large number of detailed reporting and control requirements, which undermine the central principles of decentralisation under responsibility promoted in the new public management.

We can think of RCN as the **agent** of the ministries, matching supply to their demands for R&D. The increased use of this kind of agent in public management has led prompted a body of research on ‘principal-agent interactions.’ What happens when ‘principals’ (here, the ministries) appoint ‘agents’ (RCN) to do things for them? This becomes especially interesting when the agent in turn has to work through third parties, as is the case with R&D funding.<sup>3</sup> Braun argues – and backs up his arguments with evidence from research funding systems – that, in this circumstance, the relationships are likely to be characterised by

<sup>3</sup> see especially Dietmar Braun, ‘Who governs intermediary agencies?’ Principal-agent relations in research policy making,’ *Journal of Public Policy*, 13 (2), 1993, pp135 – 162

- Information asymmetry: the agent is closer to the sources of knowledge than the principal, and can use this to acquire power and set agendas
- Partly because of this information asymmetry, principals find it hard to assess the performance of their agents, often relying on agents' reputation with the third parties as an indicator
- The agent needs the support of the third parties (in this case, the R&D community) in order to deliver (or to be seen to deliver) to her principal. Research councils thus risk being 'captured' by the researchers (and, in the case of RCN, by the 'usual suspects' among the industrial community), rather than operating in the best interests of the principals
- In general, agents who work for many principals are in a stronger position than those who work for one. Correspondingly, a principal who uses many agents can play them off against each other in order to extract a good performance

Rip points out<sup>4</sup> that principal-agent relationships in research councils tend to imply a transition to research **patronage** by the funders, and that the persistence of this type of relation for much of the post-War period in science funding has led to an "entitlement attitude" among researchers.

We might expect, on this analysis, to find RCN in the driving seat of Norwegian research policy and that RCN in turn is increasingly being controlled by the R&D performers whom it funds. While the basic research lobby in Norway has waged a continuous battle for control of the council since it was set up in 1993, neither it nor the Norwegian industrial constituency has succeeded in taking over. Instead, what we see at RCN is more segmented, with the basic research community having a strong influence over the allocation of response-mode funds through the peer review process and the industrial camp being influential in programme committees in the Industry and Energy division. The funding ministries themselves have an influence in equivalent Programme Boards in policy-related programmes. Those ministries funding policy-related research also influence the definition and implementation of programmes in the process of instructing RCN. In this sense, their relation with the council is not the type of principal-agent relationship we normally see in research councils, nor – as we show below – is it the type of comparatively 'hands off' relationship suggested in the New Public Management tradition. Rather, it is an uncomfortable mixture of the two.

### 3 The Budgeting Process

Budgeting is a dull subject, but a very important one, for it enables visions to be translated into reality – sometimes changing their shape along the way. Developing the RCN budget involves a large number of people and committees, and therefore a lot of compromises. In our analysis, the budget process is one of the reasons why RCN has struggled to reach its full potential as an arena for research policy and – crucially – as an organisation that can help launch the rather radical changes that are needed in the Norwegian knowledge system.

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<sup>4</sup> Arie Rip, "Aggregation machines – A political science of science approach to the future of the peer review system," (mimeo), University of Twente, 2000

The recent introduction of a Research Fund controlled by the Executive Board has been a crucial innovation in RCN budgeting. For the first time, it provides the council with money that stands 'outside' the sector principle, allowing it to make cross-sectoral and research-based judgements about how to invest some of the resources for which it is responsible.

### 3.1 Ministry Budgeting

**Exhibit 2** gives an overview of the process<sup>5</sup> through which RCN's main budget is developed. There are three parallel streams of activity: one within government, as part of the annual budgeting process; one within the ministries, which provide inputs into the government's budget; and one within RCN, which in turns feeds information into the bigger set of issues handled by the ministries. They provide a connection between bottom-up planning in the divisions and RCN's overall strategy and priorities.

The process begins one and a half years before the budget is implemented, so the first steps to plan the year 2000 budget were being taken in the summer of 1998. In August, RCN starts collecting internal views of how the budget should develop. Until recently, this was a rather bottom-up process, with the first inputs coming from the divisions. Now, the division directors meet to agree the broad directions of change that should influence the budget: the General guidelines (*Generelle styringssignaler*). If necessary, these may be discussed by the Divisional Boards before being adopted by the Executive Board.

To a greater extent than before, therefore, RCN now enters the budgeting process with a clear expression of what it aims to get out of it. The next internal step is for the Strategy division to specify in outline the desired changes to the divisional budgets, based on what RCN's overall priorities imply. The divisions then build up their budgets within this framework, based on their knowledge of the amounts individual ministries are likely to contribute and identifying the additional money needed. The divisions therefore have to balance the budget increase they believe they could get from their funding ministries against the overall priorities laid down by RCN as a whole. RCN's strategy division and top management act as 'referees' in arbitrating among conflicting divisional claims and in matching these to strategic priorities.

Formally, the ministries ask RCN about its draft major priorities (*store satsninger*) in the Autumn, so that they can explain the significant changes they want to the shape of their budgets at the start of the following year. Once RCN has sent its priorities to the respective sectoral ministries, it puts together a budget proposal, but then has to wait for most of the year before knowing anything more about how realistic this budget is.

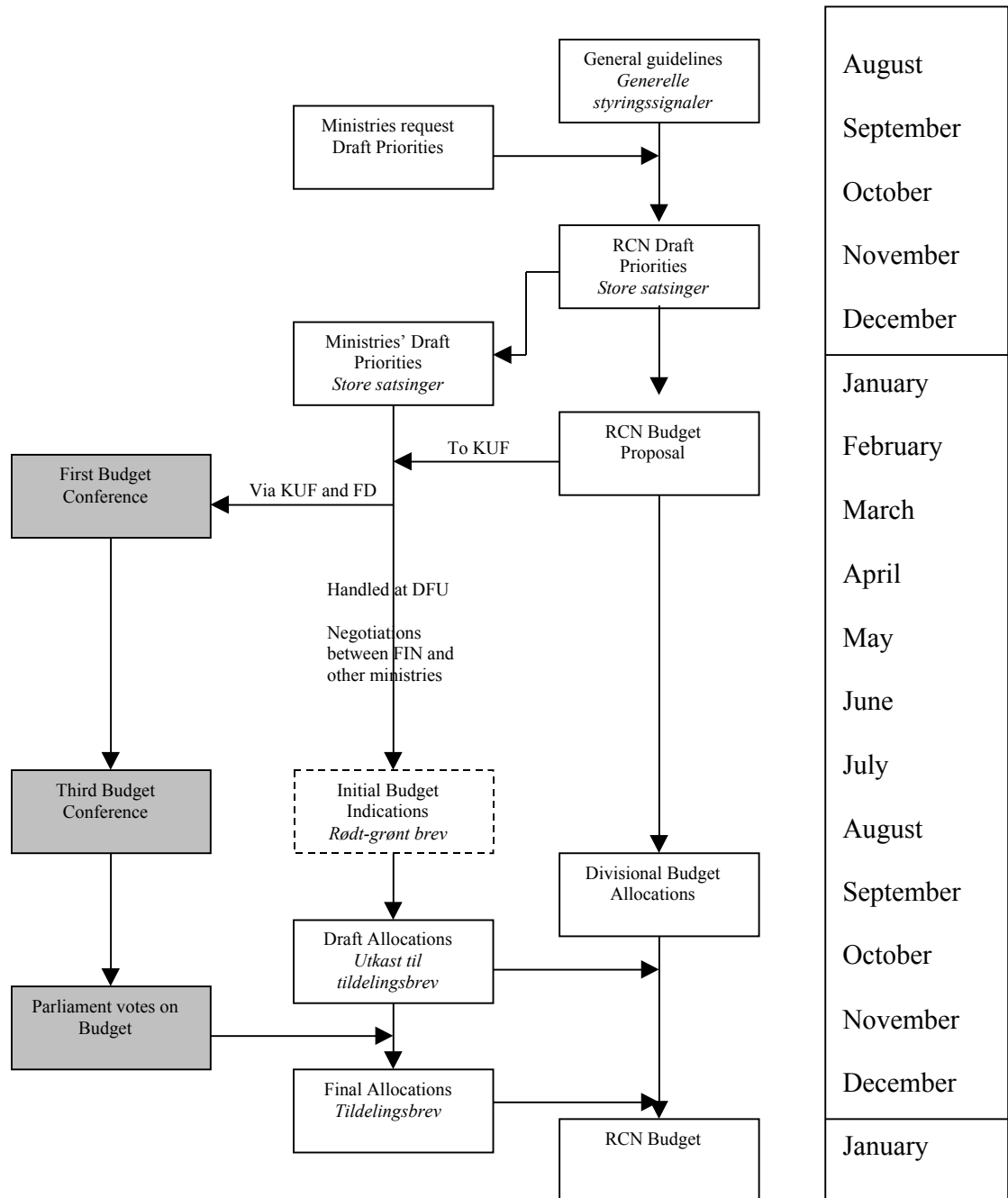
The ministries pass their own draft priorities on to the finance ministry (FIN) at the end of January. They send a copy to the ministry for church, education and research affairs (KUF), which is the lead ministry on research issues. It quickly collates the research components of the ministries' draft priorities to assemble a picture of the

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<sup>5</sup> It seems that the dates of some events can vary a bit, so the months shown in the Exhibit are approximate

way they would collectively change the pattern of R&D spending. This, too, goes to the finance ministry, which assembles a draft national budget for the first of the government's three budget conferences of the year. Normally, this involves FIN in proposing a series of cuts in the draft priorities to the government.

**Exhibit 2 RCN Budget Process Overview**



RCN has its Budget proposal ready at the start of March, just before the government's first Budget conference. In the meanwhile, the Strategy division has been adjudicating among the competing claims of the divisions, and the Budget

proposal is then confirmed by the Executive Board. While the Executive Board had some potential influence over the budget when it confirmed the General guidelines in the previous August, it now has very limited power, as the details are hammered out, compromise by compromise, among the divisions and with the funding ministries.

Between the first and the final government Budget conferences, there is a great deal of negotiation between the sectoral ministries and FIN. Administrative aspects of co-ordination may be handled by the ministries' research committee (DFU – *departementenes forskningsutvalg*). As the results of the government's decisions emerge, NHD writes a so-called 'red-green letter' to RCN. This is an informal and non-binding indication of the aspects of its budget proposal that can broadly go ahead and those that cannot. This allows RCN to start firming up parts of its budget proposal towards a real budget. Ministries send a draft allocation letter to RCN as soon as is practicable, making the likely budget increasingly clear and specific. Once the government's budget has been approved by Parliament, ministries can send RCN their allocation letters. At this point RCN's budget becomes binding, and it can be published in January.

Some consequences of this process are

- It is essentially administrative. Except at the level of general priorities, the RCN Executive Board has little power over the outcome. This power is likely to be increased only in so far as these priorities are consistent with those of the government
- The opportunities for coalitions between RCN divisional staff and ministry research champions to increase research budgets from inside are limited by the budgeting processes within RCN and among the ministries
- Government power is also limited. There is competition among ministries for budget, focused on their sectoral duties. As was intended in the 1993 reforms, embedding responsibility for research within the sector ministries has created a large number of research champions. However, while KUF provides co-ordination, in the absence of a research ministry, total research spending is a second-order result of the budget competition

The most important conclusion is that the budgeting process is inherently conservative. It is difficult to open up 'space' for large initiatives, except in so far as these are championed by the most powerful ministries, and it is almost impossible for RCN to decide to undertake major changes. We will go on to see that this tight control is also reflected in the way ministries are involved in other aspects of the governance of RCN, and that the degree of over-determination involved is preventing RCN from acting as a change agent in the research funding system. Rather, others are beginning to seize this role. RCN was becoming an arena to discuss research-related issues, but more could be done. Whether there was a coherent research strategy across ministries depended on the weight placed by government on achieving this. Administrative co-ordination among the ministries could achieve administrative improvements, but could not set strategy.

### 3.2 The Research Fund

In 1999, the government set up an important new financing mechanism for RCN. The White Paper of that year<sup>6</sup> calls it as a “research and innovation fund” but it is generally known as the Research Fund. Initially, the government provided a capital of 3 BNOK, whose earnings should be used to fund research. This capital has now been increased to 10 BNOK. The income from the fund to RCN was already 90 MNOK in 2000, and was expected to grow to above 200 MNOK in 2001 and more than 500 MNOK in 2002.

The White Paper said that the government was committed to a policy in which the sector principle remained central. Research should be a part of each sector ministry’s responsibility. It recognised, however, that a consequence of this was the under-development of mechanisms that were holistic or that cut across sectoral responsibilities. It was therefore important for RCN to have resources allowing it to realise priorities at a higher research policy level. The Fund would secure a more long-term and holistic research policy to be followed.

It will be clear from other parts of this evaluation that the Research Fund is widely understood as perhaps **the** key framework factor allowing RCN to increase its rate of progress towards the goals set for it in 1993. We share this perception. By creating some economic ‘slack,’ it has reduced the internal rigidities, which make the RCN divisions defensive of their budgets, and reduced the incentives for ministries to earmark funds, even if there is some way to go on both counts.

## 4 The Ministries and Research

In 2000, 27% of the Norwegian ministries’ funds for R&D<sup>7</sup> were spent through RCN. The industry and education ministries are by far the two biggest spenders, but all the ministries except defence channel at least some of their research spend through the council. Some act as ‘patrons’ – channelling money through RCN, for others to spend, without seeking much influence in how this is done. Most act as ‘customers’ – ordering research results from the council, which they need in order to do their work. It is not really clear who pays to maintain the national research capabilities in all the areas where ministries want to buy research.

The ministries identify their research needs in a range of different ways, but few have a systematic research strategy that takes proper account of long as well as short-term needs. Ministries, which owned research councils before RCN was created in 1993 tend to be the best equipped in this respect. Interaction with RCN tended to be a more useful way to learn about research needs among the medium and large spenders than among the smallest.

### 4.1 The pattern of research funding by ministries

The research budget of RCN has four main components: general funds, special funds, core funds for public research institutes and recently proceeds from the

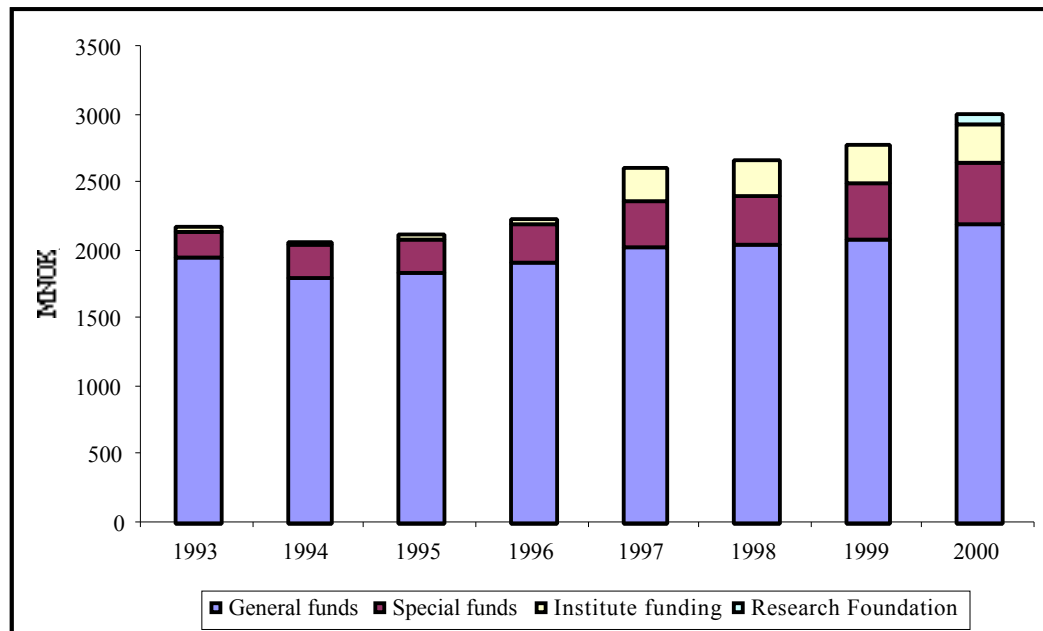
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<sup>6</sup> St meld nr 39 (1998-99) *Forskning ved et tidskille*

<sup>7</sup> Excluding contracted studies: 2703.9 MNOK of a total spend of 10,086.5 MNOK, according to NIFU’s analysis. See [www.forskningsradet.no](http://www.forskningsradet.no)

Research Fund. **Exhibit 3** shows the development of these sources of income over time. (RCN receives a separate administrative budget from KUF, which is not shown here.)

**Exhibit 3 RCN Research Income by Category, 1993 – 2000 (current prices)**



Source: NIFU

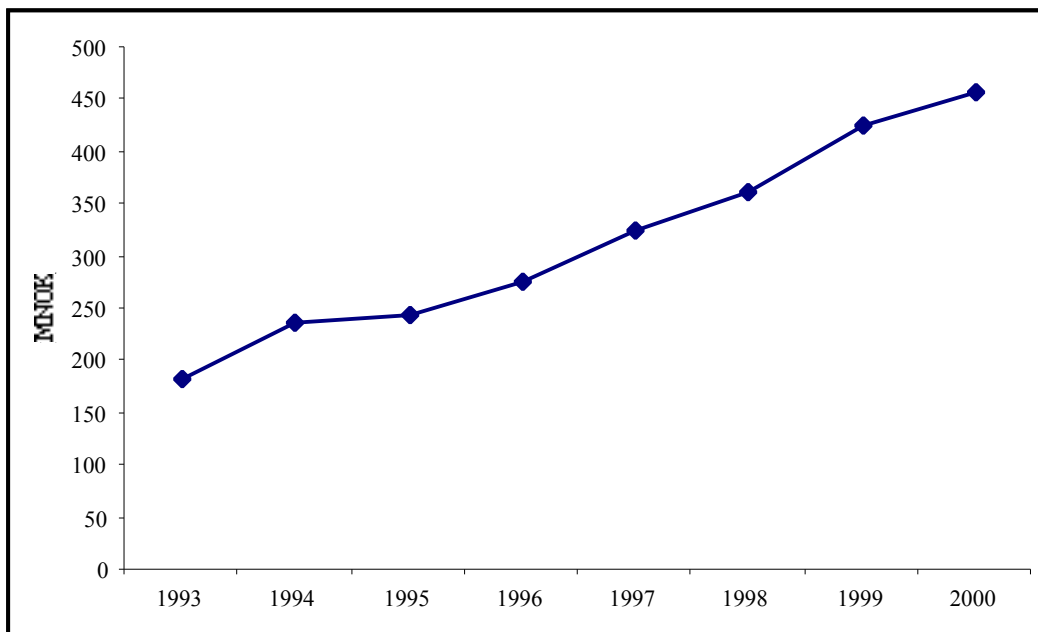
Ministries that give their appropriations to the RCN as ‘general funds’ are the ministries that in the previous research council system were the ‘owners’ of their ‘own’ research councils, namely

- Ministry of Education, Research and Church Affairs (KUF, previously the ‘owner’ of NAVF and NORAS)
- Ministry (-ies) of Trade, Industry, Petroleum and Energy, presently the Ministry of Trade and Industry and the Ministry for Petroleum and Energy (NHD and OED respectively, previously the ‘owners’ of NTNF)
- Ministry of Agriculture (LD, previously the ‘owner’ of NLVF)
- Ministry of Fisheries Affairs (FiD, previously the ‘owner’ of NFFR)
- Ministry of the Environment (MD, previously the ‘owner’ of the Norwegian National Committee for Environmental Research (a semi-autonomous part of the NAVF).

Special funds are the sum of single items of appropriations to specific research programmes and activities. The RCN receives special funds from all ministries, except the Ministry of Defence, including from those ministries whose RCN appropriations are mainly allocated as general funds. While NHD, OE and FiD allocate almost all their resources as general funds, the appropriations by LD and KUF also include considerable special funds. These funds are less stable and predictable than general funds. This element in RCN’s income has increased over time (**Exhibit 4**), with the biggest increased coming from the transport and

communications ministry (SD), the regional development ministry (KRD) and the ministry of health and social security (SHD).

#### Exhibit 4 Development of Special Funds in RCN Income, 1993 - 2000



Source: NIFU

Two ministries, KUF and NHD, respectively the ministry for church, education and research affairs and the ministry of trade and industry, dominate RCN funding (**Exhibit 5**), together accounting for 57% of RCN's normal research funding income from ministries<sup>8</sup> in 2000. As the **Exhibit** indicates, the bulk of the spend (about three quarters, in fact) goes via other channels, though it should be recalled that in the case of KUF 'other channels' means the part of university funding (about 50% of staff costs) that is intended for research. RCN is more important as an agent for NHD than for any other ministry.

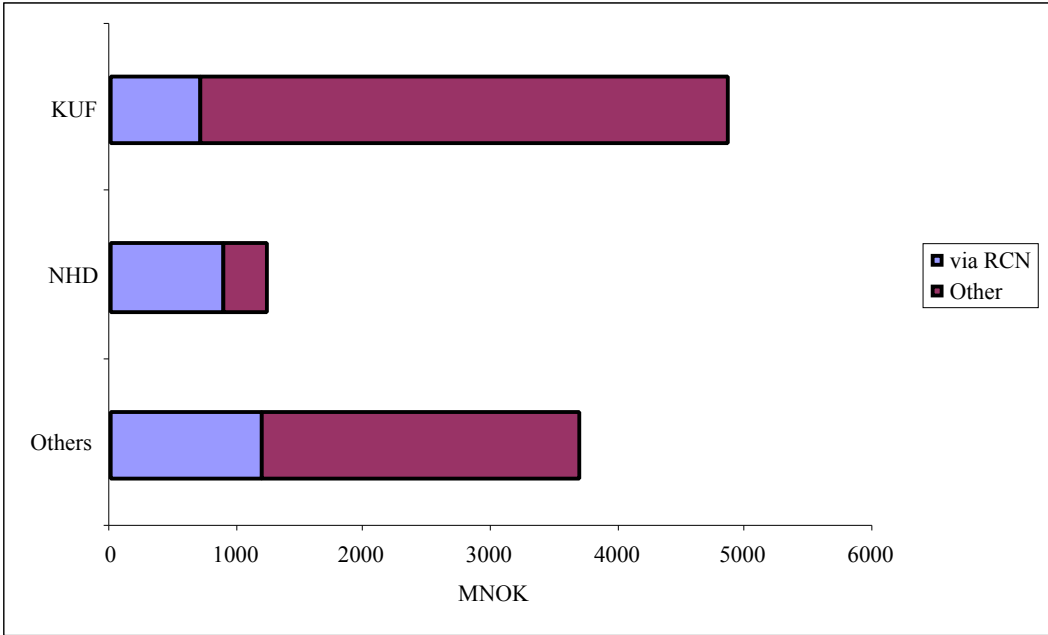
**Exhibit 6** shows R&D funding from other ministries in more detail, and how much of this is spent via RCN. The **Exhibit** needs to be interpreted with some care, as many of the resources spent by the ministries are of a type, which would not fit with RCN's mission. These include purchases of certain type of materiel by the defence ministry, donations in foreign aid and contributions to international organisations by the foreign ministry, research funding for the major hospitals, the internal research budget for the national highways agency (Veiverket).

Defence is the only ministry to spend nothing via RCN, preferring to maintain its own research institute (FFI). Eight of the 15 ministries that fund research via RCN spent less than 100 MNOK with the council in 2000.

<sup>8</sup> Namely: general funds plus special funds plus core funding for the research institutes, but not including the Research Fund

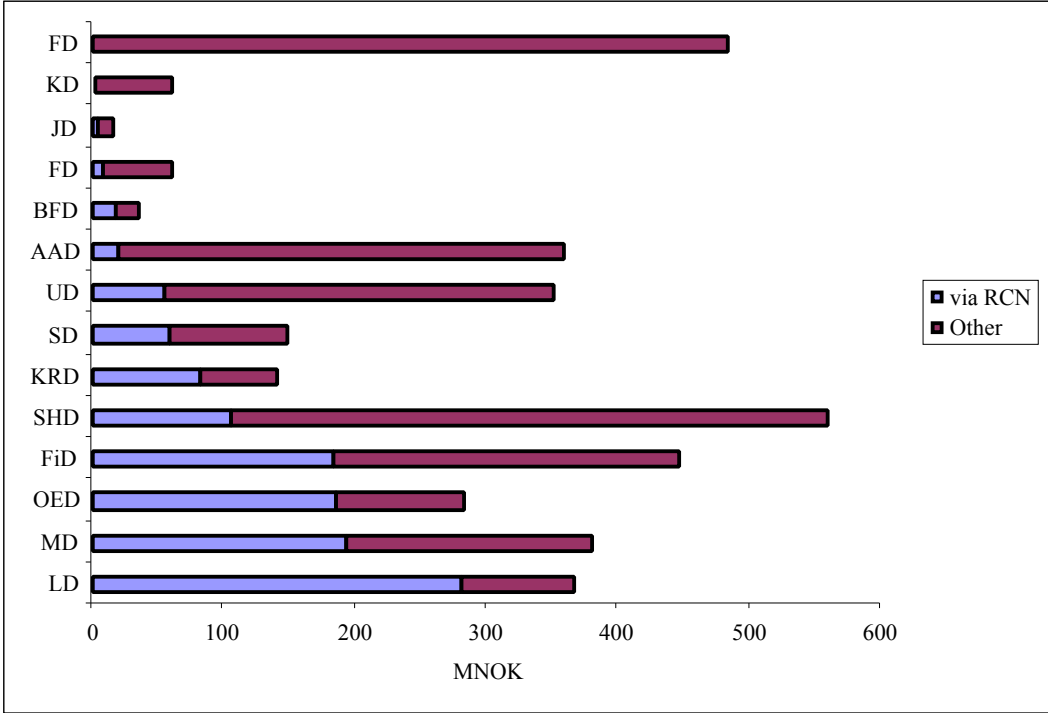


**Exhibit 5 Ministries' Spending on R&D via RCN and Others, 2000**



Source: KUF, St prp nr 1, 2000-01

**Exhibit 6 R&D Spending of Other Ministries, 2000**



Source: KUF, St prp nr 1, 2000-01

Over half the ministries shown in the **Exhibit** fund specialised sector-oriented research institutes directly, rather than channelling funds through RCN. Thus, the defence ministry (FD) funds the defence research institute (FFI). The culture ministry (KD) funds Kulturrådet. The ministry of labour and administration (AAD) funds SAMI, a working life environment institute. The ministry of transport and communications (SD) funds the transport economics institute (TØI), while the ministry of health and social affairs pays for quite a lot of research within the hospitals. Several of the ministries also have research-performing agencies, which provide them with policy advice that is partly research based.

Many ministries have therefore chosen to maintain direct control over part of their research expenditure, rather than to use RCN as an agent. Their choice between RCN and alternative funding channels depends on their perceptions of value added from going via the council. This provides a real constraint on the ability of third parties (such as researchers or industry) to take control of parts of the RCN funds allocation process.

There appears to have been an expectation when RCN was set up that it would be a large source of basic research funding (essentially through KUF and NHD appropriations) and that it would act holistically. In practice, the importance of the sector principle in research seems if anything to have increased in the period since RCN was set up. Ministries experienced this as useful in so far as it embedded research questions in ministry practice. They were less comfortable with the fact that this meant they would have to pay for their own research needs to be satisfied.

KRD expresses its research objectives as follows

R&D activity shall contribute to the acquisition and development of knowledge, which contributes to a more secure basis for political and professional decisions, promote knowledge about problem solving, development and evaluation of means for reaching the main goals within the ministry's area of responsibility. Research should be used as an important instrument in the development of the ministry's policies.<sup>9</sup>

This appears to be rather typical of the way the ministries think about their research needs.

In practice, 'research' is not a simple category but a complex one. Four different types of research spending by the ministries are clearly identifiable

- 1 Short term state of the art reviews, evaluations and analyses needed for immediate policy making. In general, ministries contract directly with the suppliers for this work, which often does not involve new research. Sometimes, they assign the purchasing and management of such work to RCN, in order to achieve distance from the research performers or to quality-assure the procurement process. Much of this work is **studies** (*utredninger*) rather than research. It applies existing knowledge to solving problems rather than producing much in the way of new knowledge

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<sup>9</sup> KRD, *Forskningsstrategi for Kommunal- og Regionaldepartementet* (draft), Oslo: KRD, 2001

- 2 Medium term improvements in the state of knowledge about specific policy-relevant issues, such as the needs for new or additional social policies or the likely environmental risks associated with the use of a new manufacturing process. Many ministries face a choice about whether to fund this kind of work through RCN or via alternatives, especially ‘captive’ research institutes. In principle, we would expect to see special funds used for this purpose
- 3 Longer term research in areas of potential relevance to ministries’ sectoral responsibilities, needed in order to maintain a stock of research competence in matters of strategic importance to the ministries and to provide new, external knowledge stimuli to the policy making process. This can include research on research and innovation. Many ministries – not just the ones who provide general funds to RCN - **said** that they fund this kind of work. However, it was not clearly distinguishable from categories 1 and 2, and there is no **mechanism** either for identifying it or for making sure that it is funded by sector ministries.
- 4 Research and other projects where the purposes of the ministry are served by the delivery of the basic or industry-related research itself. This is the category of research funding, which we referred to earlier as **patronage**. A minority of ministries (KRD<sup>10</sup>, NHD, KUF) funds this type of R&D, but KUF’s and NHD’s funding of this type is very significant part of the total RCN budget

The ways in which these different needs would be satisfied varies to some extent among countries. We are aware of no other case where a research council would be involved in all four categories.

#### 4.2 Identifying research needs

The ministries generally feel they have a responsibility to make evidence-based policy, and that part of this responsibility involves making sure there is a body of researchers in Norway who are able to produce the needed evidence. The 1999 research white paper<sup>11</sup> recommended all ministries to map their knowledge needs and develop R&D strategies. These are to include a definition of the boundaries of each ministry’s sectoral responsibilities as well as strategies for knowledge use and dissemination.

As is the case in most countries, there is no agreed principle at ministry level about how much to spend on research. Research budgets emerge from the annual fight with the finance ministry, so they tend to be more strongly driven by last year’s budget than by any zero-based thinking on research spending.

Most of the ministries identify their research needs in the course of their daily work, as policy problems occur and as they receive political signals and instructions. Both short and longer term questions arise in this way. A handful of directorates had developed research strategies, but these were a small minority. Six ministries had (or were about to complete) documents (of varying degrees of formality) where they had written down their overall research needs. Four ministries did this by asking the directorates to specify their own needs, then in effect writing an introduction to

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<sup>10</sup> KRD not only finances programmes whose performance is intended to raise the competence of performers, but also has an aim “to contribute to ensuring a good geographical spread of research funding and research capabilities in Norway” according to its research strategy (draft)

<sup>11</sup> St meld nr 39 (1998-99) *Forskning ved et tidskille*

integrate them into a single document. (One of these was still in note form and the ministry did not expect further to develop it.)

The agriculture (LD) and fisheries (FiD) ministries took a more wide-ranging and higher profile approach, publishing their research strategies and using them explicitly in the formal process of instructing RCN. These two ministries had their own research councils before 1993, which were effectively merged in order to become RCN's bioprocessing and production (BF) division. FiD incorporated scenario work and other studies in its process for defining research needs. LD also used studies as inputs, but observed that these needed to be backed up by greater scientific input than had been the case in the past. None of the ministry strategies was in any meaningful way connected to RCN's overall strategy: *Research for the Future (Forskning for Framtiden)*.

Ministries concerned with social and environmental policy made the greatest use of stakeholder groups outside the state system in identifying policy needs, including, for instance, pensioners', kindergarten and environmental groups. These ministries found they were constantly being approached by such groups, so there was little problem in understanding their points of view and needs. Trade and industry associations made their views clear to the ministries whose responsibilities affect various aspects of industry policy. Interaction with ministries' agencies (including in many cases RCN) and with individual researchers were otherwise key sources of ideas about research needs. Involvement in Programme Boards was a very useful way to stay abreast of developments and to maintain a network of people, creating the 'know-who' to let ministry people contact the right people when necessary.

The ministries generally felt that RCN had made a significant impact on national policy through the 1999 research white paper. Understandably, ministries' whose sectors fell within the national priorities identified there were more enthusiastic about the white paper than those, which felt their concerns fell outside the national priorities. Many, but not all, ministries felt that a more open process of building a national research strategy was needed. Some kind of technology foresight mechanism ought to be incorporated into the Norwegian system, to inject new ideas and create debate in addition to planning. RCN rarely produced radical suggestions – perhaps because it had so many different ministries as customers that it could not afford to do anything more than support the status quo.

The frequent interaction between the ministries and RCN mean that there was in many cases a good flow of impulses from research into the ministries' thinking. Some of the largest spenders commented that RCN's inputs about funding needs tended to involve 'more of the same' or only incremental changes. There was little ability to consider long term needs, such as a vision of knowledge requirements in 2020. Even quite important contemporary developments, such as changes in the importance of biotechnology, seemed to pass RCN by. This created incentives for people with more radical suggestions also to bypass RCN, and bring ideas directly to the ministries.

Some of the medium-spending ministries felt RCN had the ability to provide them with a structured understanding of their knowledge needs. In these cases, RCN's proposals about programmes that the ministry should fund were influential.

The smaller spenders, however, were more negative. They felt RCN did not have a professional understanding of the research areas of interest to them. With small sums of the order of 4 MNOK at stake, they wondered whether RCN would be prepared to make the effort to try to be proactive or strategic. Other ministries with small, specialised spends which felt that RCN had limited professional competence in areas of concern to them were less understanding. They questioned what value RCN added to the procurement process. Limited capability meant RCN could not be proactive in proposing what the ministries should fund. The knowledge needed to do this resided in the ministry, not in RCN. As a result, the value added of funding research via RCN was less than it could have been. The ministries still got benefits from working with RCN – not from only routine project procurement and administration, but also via access to multi-ministry programmes. Here, each ministry contributed a small part of the total budget, but was able to influence the direction and access the results of the whole programme. Some ministries felt they needed RCN as a sparring partner and source of critical thought, but were not convinced that RCN could provide this input in more specialised areas. Where ministries had actually commissioned state of the art reviews or knowledge overviews from RCN, they were pleased with the results.

RCN's drive to increase the size of its programmes was also a problem for the smaller funders, who felt 'their' problems became lost in the newer and larger entities.

Small funders were especially worried that their concerns were being marginalised. BFD, for example, found that its inputs to the RCN budget priorities on children and youth, gender and consumer affairs were squeezed out through the budgeting process. It was difficult to develop a research basis for tackling some of the emerging, critical problems affecting children and families, such as forced marriages and child criminality. More generally, the humanities and social sciences seemed to lose priority in RCN's budgeting, and this made it harder for BFD to develop the research community it needed in order to tackle its research priorities. However, BFD's total research spend was only about 60 MNOK, of which less than half went to RCN. Without increasing this budget it was clearly going to be hard to get much attention in the research world. While it was comparatively easy to include a research or study component in new programmes (eg *kontantstøtte*), it was hard to obtain budget increases to tackle established problems or to build a more basic understanding. Relevant basic research was under-funded because it fell outside the 1999 white paper priorities. While BFD was happy with RCN's performance in implementing the specific programmes to which it was a major contributor, there was also significant frustration caused by BFD's lack of research budget, which effectively marginalised concerns (not least about children and gender) which are central in Norwegian social policy.

There are clear tensions between areas of research policy with regional policy. Agricultural research, for example, has a strong regional component, involving sharing out activities. This fits badly with quality as the key funding criterion and with research with efficiency. Planteforsk has 14 different locations, for example, which is not rational in research terms, but appears to have been a political requirement.

More broadly, there is a systematic conflict of interest between the concerns of KRD's Regional directorate to ensure the health of regional knowledge systems and the drive to centralisation evident in mainstream research and industry policy. No serious analysis has been done of the trade-offs involved, so differences in sectoral responsibilities are resolved in the tussle of the budget process, rather than being rationally addressed.

#### 4.3 Debates on science and research

Ministries themselves tended to avoid public debate on contentious research issues, such as GM food, ethics in biotechnology and so on. Most ministries said that in their area of responsibility, such debates as arose would typically involve the media and individual researchers. RCN was not particularly visible here. However, in recent debates on gene modification, RCN had become very visible as an arena. For example, RCN had set up a debate between the prime minister and gene researchers, which had attracted a great deal of attention. RCN was a very important arena for public debate about innovation policy and aspects of industry policy, for example through the joint RCN/NHD lunchtime seminar series. There appeared to be scope for RCN to play a yet wider role as an arena for these types of debate – linking research policy into social issues.

### 5 Ministries in Governance

Ministries tended internally to co-ordinate their funding of RCN, but not of other research spending. Few had clear ways to distinguish short from long-term needs, and some ministries without formal research strategies saw a risk that short term concerns crowded out long term needs. While administrative aspects of budgeting and governance were becoming smoother, ministries continued to have incentives to specify in considerable detail the way RCN should spend their money. While the people involved know and trust each other, institutionally, the ministries trust neither each other nor RCN. The distinction between patronage and custom had largely broken down, and the governance system was locked into over-determining what RCN should do.

#### 5.1 The role of the education ministry in the governance of RCN and cross-ministry research co-ordination

RCN is an agency of the education ministry, with delegated powers. Hence, that ministry occupies a special position in RCN's governance. It writes the council's statutes. The King in council (therefore, in effect, the education minister) appoints the Executive Board. As the 'owner' of RCN, the education ministry has overall budgetary responsibility for RCN and takes the main role in approving new tasks and instruments for the council, such as the new Research Fund and the Centres of Excellence competition, currently in progress. It considers reports from RCN about progress on these and other key tasks, such as the strategic responsibility for the institute sector set out in the statutes.

Progress is reviewed at agency management meetings (*etatstyringsmøter*) between the research department of the ministry and RCN's top management, normally twice per year. These provide an opportunity to review progress and exchange information

about tasks and developments in both organisations. They allow the ministry to fine-tune the instructions given to RCN in the annual allocation letter. KUF also holds annual meetings with the RCN divisional directors. As with the other ministries, the contact between RCN and the education ministry is strikingly a discussion among administrators. RCN board members are little involved. In so far as these meetings involve the ministries in explaining their requirements and receiving reports about progress, this is unproblematic. To the extent that RCN is supposed to act as a research policy advisor in addition to receiving and following orders, it means that the links among the boards formally responsible for giving advice and the administrative and political levels that should hear that advice are distant.

Where more than one ministry instructs an agency, the ‘owner’ ministry has an obligation to co-ordinate their actions (*Økonomireglementet*, 1997). While the five ministries that had previously ‘owned’ research councils were originally represented in the government’s research committee (*Regjeringens forskningsutvalg* - RFU, originally set up in 1965), each government makes its own decision about the composition of the RFU. There were twelve members in 2000, including the education minister. The education ministry therefore has overall responsibility for co-ordinating research. The education minister chairs the RFU and the department head responsible for research in the education ministry chairs the ministries’ research committee (*Departementenes forskningsutvalg* – DFU).

#### **Exhibit 7 Ministries in Research Co-ordination Committees, 2000**

<b>Ministry</b>	<b>Acronym</b>	<b>RFU</b>	<b>DFU</b>	<b>DFU Working Group</b>
Labour	AAD	X	X	
Children & Family	BFD		X	X
Finance	FIN	X	X	
Fisheries	FiD	X	X	X
Defence	FoD	X	X	
Justice	JD		X	
Church, Education & Research	KUF		X	X
Regional	KRD		X	X
Culture	KD		X	
Agriculture	LD	X	X	X
Environment	MD	X	X	X
Trade & Industry	NHD	X	X	X
Oil & Energy	OED	X	X	X
Transport & Communications	SD	X	X	
Social and Health	SHD	X	X	X
Foreign Affairs	UD		X	

Source: KUF

RFU was effectively inactive for a part of RCN’s history, but was galvanised in the preparations for the 1999 white paper on research. It took strong ownership of this document. Ministries told us that the RFU can be effective when relevant politicians are interested in research questions. At times when this is not the case, it can achieve little useful. Since the original intention to transfer general research funds from the other major research-funding ministries to the education ministry has not been realised, these four ministries’ control over general research funds has not been reduced. Rather it has continued, and their desire to ensure that these funds are spent

in ways directly useful to themselves has encouraged them to continue earmarking research funds. The education ministry, and RCN, have correspondingly less say over the way these funds are spent.

The ministries' research committee, which involves senior civil servants rather than the political level, has been less important in the period since the white paper. In the past, that committee – and especially its working group of mid-level officials – had made useful contributions to administrative issues, such as standardising the ministries' reporting requirements for RCN and encouraging the ministries to bring all their instructions to RCN in each year together into a single allocation letter (*tildelingsbrev*). However, neither DFU nor its working group was the place to set research requirements. Where ministries jointly tackled research issues, they did so bi- or multi-laterally, and outside the DFU channels. Sometimes the ministries took the initiative. On other occasions, RCN 'sold' the idea of programme participation to multiple ministries, on a 'multi-client' basis.

Ministries spending smaller sums on research are variably involved in the inter-ministerial and inter-ministry co-ordination mechanisms. In part, the assumption is that their role as customers of RCN is limited to their sectoral needs. They spend only special funds on research and they would not be useful contributors to debates about broader research policy, for example, about issues, which cut across ministries' sectoral responsibilities. During the preparations for the last research White Paper, all the ministries were invited to participate.

The education ministry's lead role in managing RCN involves weak rather than strong co-ordination. The ministry creates some of the arenas where funding ministries can talk with each other but has no authority over the other ministries. This is clear from the budget process, where the education ministry collates and summarises other ministries research budget proposals, but exerts no authority over them. The government does not decide on the research budget as a whole, but on the budgets of the funding ministries individually. This has two consequences

- It is technically difficult to achieve the ramp-up in the government component of national R&D spending about which there is cross-party agreement and which has been an expressed aim of government over the past decade and a half
- The education ministry finds itself, like all other ministries, obliged to earmark its allocation of funds to RCN, in order to defend them from the sectoral interests of the other ministries

An alternative model internationally is to establish a ministry for research, which then has to compete for budget with the other ministries. In setting up RCN in 1993, the government took the view that this would fail to embed research into the thinking of the remaining ministries, and that it would make the research budget itself more vulnerable. An intermediate solution could be for the education ministry's summary of ministries' research budgets to be the subject of a governmental decision during the annual budgeting process, forcing this component of ministries' budgets to be held constant in subsequent negotiations about sectoral budgets.



## 5.2 Buying research

In their roles as buyers of research, ministries deal with a wide range of (chiefly scientific) disciplines. While KUF provides patronage funding for the humanities, it was striking that no other ministry acts as a research customer to any significant extent for this area.

Ministry research buyers are well qualified – usually at degree level. If anything, educational levels and the ability to deal with research issues are rising among these people, making the ministries increasingly qualified as research purchasers, even if they do not have the scale and standardised routines of a research council. We encountered routine movement of people between ministries and research institutions in the foreign (UD) and finance (FIN) ministries, but less elsewhere.

Some ministries contain a number of divisions, with varying needs for research. These typically had a research co-ordinator at staff level, responsible for collecting the ministry's needs for research to be commissioned via RCN and ensuring that these are drafted into RCN's annual allocation letter. Other research and studies were typically bought at the level of the operating division. Three ministries said they had research committees, which considered their complete set of research needs.

Research funded via RCN dealt with comparatively long run issues, or was 'patronage' research whose performance was itself the intended objective of the funding (as with KUF's funding of basic research, NHD's and KRD's funding of some types of industrial research and capability development programmes). Ministries' needs for quick answers to policy questions were rarely tackled via RCN. The supply base for shorter term policy work is broadening, with consultants becoming more important and qualified suppliers. Some ministries felt this was a further reason to keep the shorter-term work out of RCN's hands.

While RCN research might tend to be more long term than at least some of the other research bought by the ministries, few ministries systematically distinguished between short and long term needs. Most of them lacked a strategic planning function for research. Only two made use of longer term studies to identify such needs. Overall, the system lacks mechanisms for **research foresight**- either at the individual ministry level or at the collective level. The annual budgeting process discouraged longer term thinking, even if the ministries were **supposed** to be thinking in longer terms than before. In terms of policy-related research, some ministries said that short-term needs systematically crowded out longer term needs. RCN could play a useful role here, as a counterbalance. One ministry suggested that it might be useful to 'ring-fence' a portion of its research budget to be used for tackling longer term questions, even in the case of sectoral ministries which today buy only policy-related research. The focus in the interaction with RCN on annual budgets and ongoing work meant that the 'big picture' of needs and research strategy was easily missed. (This was a problem in RCN's reporting, too, which was seen by several as too fragmented to provide a good basis for understanding whether the ministry's research portfolio was adapted to future needs.)

Most ministries felt they could deal with unexpected knowledge requirements in the short term through their own research and studies budgets. Where an unexpected

policy issue comes up, which involves research input, there is not usually enough time to go through a cycle of research and reporting. Ministries have to rely on expert advice, or hasty literature reviews and evaluations, if they are to act at the speed needed. Four ministries said that they built some slack into their allocation to RCN, which allowed them to initiate new research fairly quickly. Others argued that, if it was feasible to wait the amount of time needed for research to run its course before resolving the policy question, there would also be time to incorporate new research into the RCN agenda.

### 5.3 Instructing RCN

Formally, ministries instruct RCN via an allocation letter at the end of the budget cycle (described earlier in this report). There are normally two formal meetings per year, at which the ministries and RCN discuss progress and likely future requirements. The medium and large spending ministries supplement these with less formal and more frequent meetings, as well as with a great deal of informal contact, and allowed ministry personnel to give signals about desirable developments, as did participation in Programme Boards. The ministries were universally satisfied with these arrangements. Our review of past and recent allocation letters confirms an increased standardisation of approach and the growing role of research co-ordination within the ministries, evidenced by their growing ability to reduce the number of letters to one per year. This increases the predictability and thoroughness of the budgeting and instruction process. There is a deliberate reduction of flexibility involved in this changes, which ought to encourage longer term planning and processes both within the ministries and RCN. It is not clear from what the ministries had to say that these longer term processes are yet adequately in place.

We were struck in the descriptions of the process of instructing RCN that this was about administrator – to – administrator communication. On a number of occasions we asked explicitly whether this was so, and ministry respondents agreed that it was the case. Both the divisional and the main boards appear completely absent from this dialogue. Only the RCN's 'third steering level' – the Programme Boards – is involved.

The subject of earmarking is widely discussed and is contentious, since in the Norwegian system it is the mechanism used by the ministries to specify the detailed use of funds by RCN. RCN board members and staff alike resent the amount of earmarking done by the ministries, making no distinction between general and specific or research institute funds.

Technically, 'earmarking' in such a context involves specifying that a particular part of the funding is to be used in a particular way. Ministries vary in the extent to which they earmark specific amounts of money or simply specify that certain activities or sub-activities should be undertaken. However, the disagreements about 'earmarking' actually relate to the wider question of how specific ministries' instructions should be. Should ministries instruct RCN in the very broad terms suggested by New Public Management, or in the older and more detailed style, which treats the council (in effect) as an extension of the ministries themselves? There are big differences among the ministries' positions on this question, which are fairly well reflected in **Exhibit 8**. Here, we have analysed the allocation letters

about funds for the year 2000, in order to understand how much detail the ministries use.

The **Exhibit** shows how much money was allocated to RCN by each ministry for R&D. (We have excluded administration, the Research Fund and various special assignments.) Different ministries allocate funds to RCN on different bases. KUF and NHD, the two major funders, focus on the **type** of funding (*virkemiddel*) and talk about the themes of importance within these. The oil and energy ministry (OED, which was until fairly recently part of the industry ministry) also specifies in terms of themes. These ministries allocate large blocks of money and are comparatively ‘hands off’ in their treatment of RCN. In the **Exhibit**, ministries, which allocate **general** funds to RCN are italicised. (OED practice is changing. We return to this, below.)

### Exhibit 8 Ministries’ Earmarking Styles

	Spend with RCN	Allocation basis	No of categories	Biggest category (MNOK)	Smallest category (MNOK)	MNOK/category	No of earmarks	Smallest money earmark (MNOK)	Categories + earmarks	Degree of Earmarking
<b>KRD</b>	101	P	12	45.2	1.5	8.4	10	0.45	22	H
<i>OED</i>	<i>249</i>	<i>V</i>	<i>4</i>	<i>70.0</i>	<i>34.0</i>	<i>62.1</i>	<i>14</i>	<i>ns</i>	<i>18</i>	<i>L</i>
<b>SHD</b>	99	P	20	21.8	0.3	4.9	4	2.00	24	H
<i>LD</i>	<i>251</i>	<i>Strategy/P</i>	<i>20</i>	<i>31.8</i>	<i>0.1</i>	<i>12.5</i>	<i>32</i>	<i>1.50</i>	<i>52</i>	<i>H</i>
<i>NHD</i>	<i>848</i>	<i>V/theme</i>	<i>17</i>	<i>165.0</i>	<i>2.9</i>	<i>49.9</i>	<i>17</i>	<i>2.00</i>	<i>34</i>	<i>L</i>
<i>KUF</i>	<i>765</i>	<i>V/theme</i>	<i>8</i>	<i>208.0</i>	<i>43.0</i>	<i>95.6</i>	<i>20</i>	<i>0.85</i>	<i>28</i>	<i>L</i>
<i>FiD</i>	<i>180</i>	<i>strategy</i>	<i>47</i>	<i>24.2</i>	<i>0.1</i>	<i>3.8</i>	<i>12</i>	<i>ns</i>	<i>59</i>	<i>H</i>
<b>FIN</b>	8	P	10	3.3	0.1	0.8	1	0.05	11	L
<b>UD</b>	39	P	12	11.7	0.2	3.2	0	0.20	12	H
<b>SD</b>	53	P	4	11.0	0.3	13.2	3	1.50	7	H
<b>MD</b>	194	V	5	102.0	27.0	38.7	37	1.00	42	H
<b>Total/ Avge.</b>	2785.1		159	208.0	0.1	17.5	120	0.05	279	

**Note:** Allocation basis: P = programme; V = type of funding (*virkemiddel*). ns = not specified.

Ministries providing general funds are indicated in *italics*

**Source:** *Tildelingsbrev* 2000, except FiD, 1999 and FIN, 2001. KUF earmarks relate only to special funds

Smaller spenders tend to discuss their funding of individual programmes. Rather than **supporting** various categories of activity, they treat RCN much more like a supermarket, buying a packet of this here, a slice of that there – essentially for their own consumption. They are also much more likely to earmark **within** individual programmes, and these earmarks can relate on occasions to quite small amounts. From the allocation letters, it is clear that these earmarks represent a mixture of politically imposed requirements and ministries’ needs for very specific pieces of research.

In isolated cases, it seems that the level of control desired by the ministries is extreme, as the following extract from RCN's 2000 allocation letter from SD suggests. "On the telephone with RCN on the 17.12.99, SD was advised that RCN has decided that SIPs [Strategic Institute Programmes] on 'Holistic management and organisation of the public transport sector at the regional level' and 'Use of meta-analysis for summing up knowledge in transport research' should be launched. The Ministry repeats that its priority is 'Transport, economic growth and sustainable development' and requests RCN to make a further appraisal." [99/3372-611.2] It was not possible for us empirically to test how widespread or isolated this level of discussion is, though our impression was that it is unusual.

The agriculture (LD) and fisheries (FiD) ministries have a behaviour of their own. As former owners of research councils, they have a more developed set of internal definitions of needs than most ministries, and these are articulated in strategies. Their allocation letters refer to these strategies in a general way, but the effect is to make the instructions to RCN highly specific. It is as if their management style has not adjusted to the new situation, so that the real management of RCN's BF division is contested. The detail and complexity of the agriculture ministry's micro-management in the past is illustrated by a letter<sup>12</sup> from the general audit office to RCN, which proposed an 80-point agenda for a meeting intended to review whether RCN had complied with all the instructions contained in LD's 1999 allocation letter to the council. The environment ministry is in a somewhat similar position. While it never formally owned a research council, the Norwegian National Committee for Environmental Research had, in practice, worked as the environment ministry's research council for a period before the RCN merger. MD therefore acts in a similar way to FiD and LD, with a high degree of formalisation of its needs and with very specific earmarking of funds.

What **Exhibit 8** and our analysis show, then, in overall terms is a considerable degree of variation in governance practice among the ministries. Differences are driven by

- The **purpose** of the funding – whether it is fundamentally paying for research to be done or whether it is paying for answers to the ministries' questions – or, in other words, whether the funding provides patronage or custom. Often, the two are not clearly distinguished
- The **scale** of the funding. Small funders trust RCN less and earmark more
- The **history** of the ministry. Those who have owned sectoral research councils in the past still deal with RCN at a level of great detail
- Intensity of **political demands** of the sector. Some (such as regional development) are simply more prone to lobbying and political interference than others
- Variations in the degree of **personal interest and competence**, especially at the level of the responsible officers in the ministries

The level and type of earmarking is in many respects a shorthand for the governance styles of the individual ministries. The diversity of styles is in conflict with wider

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<sup>12</sup> *Riksrevisjonen* letter from Per Scott and Maggi Vineshaugen Rødviik to RCN, dated 3 March 2000, reference S.2 2000/627 MVR/WSC

ambitions for simplification and reform in administrative processes. It also imposes cost and complexity on RCN, which has to be equipped to work with ministry customers both through a modern, goal-oriented style and in a more traditional and detailed style. At the minimum, this is likely to inflate administration costs, as RCN tries to live within multiple systems.

However, the high level of earmarking is also a symptom of a lack of **trust** between the ministries and RCN. The problem is not that the **people** involved fail to trust each other, but that the system itself undermines trust. Agreements can be made, and then overturned in the RCN budgeting process, the government and ministry budgeting process and in the course of implementing research programmes. As the overall level of earmarking increases, so the ‘space’ for obtaining common benefits from un-earmarked funding – especially general funds - decreases. Ministries experience this as an incursion. They respond by increasing the amount of earmarking they themselves do. Those people in the ministries who were working in the system in 1993, tend to experience the budget reduction which RCN faced in its first year as a powerful trigger for this game of ‘beggar-my-neighbour.’ Even KUF, which we would expect to do the least earmarking, given its basic science funding role, found itself driven to increased earmarking of funds in 1994, in response to the heavy earmarking of other ministries’ budgets that was triggered by the 1993 cuts. Correspondingly, there was a view among the ministries that increased R&D budgets over the coming years could create the basis for increased trust and a reduced need to intervene in the details of what RCN does.

One way to build up trust is for organisations to understand each other, through the exchange of personnel. Six of the ministries we interviewed had either recruited RCN people into research-relevant areas or had lost equivalent people to RCN. One other ministry had tried to set up a short-term staff exchange with RCN, but both sides had been overwhelmed with routine work and had therefore given up the idea. We found no use of short-term staff internships or exchanges, which would be a natural way to improve understanding and communications between the ministries and RCN.

#### 5.4 Reporting and use of results

Half the ministries expressing a view were positive about RCN’s reporting. The ministry by ministry review provided as part of the Annual Report was useful in that it provided information at a relatively detailed level about the way ministries’ money was used. The same proportion, however, said that RCN reporting failed to help them secure an overview. They wanted a professionally-based indication of the state of the art and the state of needs in their field, to understand whether progress was being made or whether knowledge gaps were opening up faster than new knowledge was won. These comments came largely from the smaller funders. We interpret them as meaning that these ministries would like RCN to help them with a more strategic overview than they have themselves, given their own lack of formalised research strategies.

Almost all the ministries used results from their RCN-funded work in policy development, regulation and in supporting Norwegian positions in international negotiations. The social policy oriented ministries, which meet regularly with

stakeholders, used these occasions also to disseminate research results. The transport and communications ministry (SD) had commissioned a research institute (TØI) to publish research-based handbooks on road safety and on the environmental impacts of transport, and these had proved a successful way to popularise some important results. The health ministry expected to sponsor increasing efforts to disseminate guidance about good and effective clinical practices. Others used results in various seminars and meetings. Generally, however, ministries felt the main responsibility for disseminating new knowledge lay with RCN and with the researchers and were not inclined themselves to devote a great deal of effort to this.

## 6 Ministry Assessments of RCN

The ministries were able to give us a number of interesting impressions of RCN's organisation. They tended to feel that RCN was unable effectively to work 'horizontally,' and break through the watertight compartments within which the individual divisions sit. They wanted RCN to be more holistic but at the same time for it to be more under their own control and did not generally recognise their own role in preventing holism RCN.

Some ministries felt that it was not possible to operate any sort of horizontal actions within RCN because of the strength of the sector principle. Ministries would all be happy for others' money to be used for their purposes, but none would be prepared to have their 'own' money applied to something they had not themselves prioritised. Others were disappointed at the way they were in effect allocated to a single Division within RCN, when they felt they needed to do business with several.

Several ministries commented that the RCN programme planning process is lengthy and seems to be becoming longer still. Ministries funding comparatively small amounts of research were especially concerned about what they saw as the bureaucratisation of RCN and its inability to act flexibly. "RCN is becoming as stuck in the mud as we are." "RCN is stodgy and bureaucratic ... and not **dangerous** enough." "They have a complicated and bureaucratic decision structure." Smaller spending ministries felt RCN was too **big**. Their issues became a very small part of the whole and lost priority. Its large size also meant that RCN had an important 'internal life' and that this took up a great deal of staff time, which could otherwise be spent on research administration. Some ministries questioned whether RCN was administratively efficient, compared with its predecessors.

Ministries funding small amounts of research were also concerned at the way RCN was increasing the size of its programmes, trying to impose minimum programme sizes. They experienced a loss of control as their own programmes were merged into larger entities, and continued to rely on earmarking as a way to guarantee that their interests were still served.

Fragmentation among RCN's divisions was a widely perceived problem. These divisions have different histories and cultures. There was little internally-generated horizontal interaction within RCN. Area by area management of the Research Institutes impeded horizontal actions, too, by creating incentives for each division to defend 'its' institutes. Issues like regional development, gender equality and equality of opportunity, immigration and environment tended to get lost, rather than

being treated in all divisions. One ministry was trying to fund a 12 MNOK programme across RCN divisions, and felt it had to “push the money down their throats.” RCN has not become the kind of holistic council the ministries had expected, integrating across disciplines, basic and applied research. LD, however, felt that within RCN’s BF division, there had been real progress in merging some of LD’s and FiD’s concerns.

At the same time, ministries tended to recognise that the pre-RCN research council structure was also problematic when tackling ‘horizontal’ issues. For example, it was more difficult to take a co-ordinated approach to Health and Safety at Work questions under the old structure than under the new. RCN has provided a distinct improvement here. The kind of high-level prioritisation done in the last research white paper (1999) would have been harder to imagine under the old structure, even if this kind of decision has to be made above the ministries’ heads in order to make it feasible.

Ministries which formerly ‘owned’ research councils continue to resent the reduction in control represented by RCN, and would clearly prefer to have their own captive councils. One said that, unless RCN was able to handle its needs better, it would itself have to increase its research buying competence and take over the role it had delegated to RCN. Both LD and FiD felt that co-managing their research in RCN’s BF division had been useful, but also felt that their individual concerns tended to get lost in the large RCN organisation. The fisheries ministry, which before the RCN merger had its own research council, was particularly skeptical of the benefits of the fusion

- Once BF was set up, fisheries-related research in other divisions tended to dry up, as was the case with IE’s fishing technology funding
- Comparative lack of funding for the fisheries research institutes meant they were slower to adjust to changes than the agricultural ones
- The proliferation of research suppliers complicated research management for FiD
- Strategic Institute Programmes began to be allocated based on the overall BF divisional view of needs, rather than the narrower set of fisheries related needs
- ‘Free’ and ‘seedcorn’ projects at the fisheries research institutes disappeared in the early days of RCN, reducing flexibility and development opportunities

FiD actively uses earmarking and liaison to maximise its control over research activities. FiD was strongly opposed to the proliferation of research suppliers in its area, however, ideally wanting to have a single supplier, to which it could relate. FiD has a clear vision of the industry structure in Norwegian fisheries changing towards there being perhaps 5 20 BNOK companies, with much higher R&D capabilities than their equivalents today. As this R&D capability grows, the companies should be playing an increased role in state research governance and management.

## **7 Breaking the mould?**

RCN is seen by many as having difficulty in taking big steps in research resource allocation. Some recent initiatives have bypassed RCN, and launched discussions about major state research funding in other arenas. While RCN has managed to

‘capture’ the implementation work for some of these, these events bring into question its ability to act as a research policy arena and change agent under the current framework conditions.

The recent past has seen a number of major academic research initiatives, notably the FUGE functional genomics programme initiated by the University of Oslo, which deliberately attempted to bypass RCN and to appeal to ministries or the government for funding. There is, of course, a strong tradition in Norway of lobbying government or parliament with a wide range of requests for special treatment (some of which then become visible in earmarks on RCN budgets). However, based on our interviews with protagonists, it appears that the new initiatives in functional genomics and materials appear have chosen to bypass RCN out of a frustration that RCN cannot function as an arena for proposing and discussing radical shifts in research policy. That is certainly consistent with our diagnosis of the budgeting process and the description of the ministries’ roles in the governance of RCN, above.

In parallel with these new academically-inspired initiatives, the oil and energy ministry (OED) has launched an important initiative to improve the yield from available reserves and to promote the further development of a petroleum cluster in Norway. The old agreement whereby companies awarded licences to exploit offshore concessions were required to fund research in Norway was very effective in creating national oil and gas R&D capabilities but expired in 1994. One recent result of this effort to raise national capabilities has been the ability to attract a Shell R&D unit to establish itself in Norway. However, following the end of the period of foreign-sponsored R&D, fewer national resources have been devoted to oil and energy research. With less money at stake, OED has been unable to obtain as much priority for these questions within RCN as before. Both OED and key members of the industry appear frustrated with this development, and have launched two Research, Development and Demonstration (RD&D) initiatives which bypass RCN’s normal programme planning processes.

Demo 2000 was a programme for full-scale demonstration of new sea-bottom technologies for oil production. There was no research content. It was intended to reinvigorate the oil cluster by raising its development expenditures towards previous levels. Launched by a government-industry committee, Demo 2000 used RCN only as a secretariat. Funding decisions were made by the committee, not RCN. OED allocated additional resources to the programme, over and above its normal grants to RCN for strategic and user-oriented research. However, efforts were fragmented, into a total of eighty different projects with limited synergies.

In 2001, OED launched a new technology strategy initiative – Oil and Gas 21 (OG21) – with a much wider remit, from strategic research through to demonstration. The aim was to bring together and stimulate the cluster to design and operate a national oil and gas strategy, which at once increases competitiveness and tackles some of the key greenhouse gas challenges faced by the industry. A key ambition is to raise state R&D funding in the industry to 600 MNOK (compared with 180 MNOK spent via RCN in 2001, plus 50 MNOK for Demo 2000). This is expected to stimulate a large increase in business-funded R&D, raising the total to 4 BNOK, of which OED expects to fund about 15%.



While RCN's NT and IE divisions are involved in the management structure of OG21, they are positioned at the level of implementation. Industry is to be firmly in charge of the strategy as a whole. While RCN will be key in the implementation of OG21 – provided, of course, that the budget required is actually provided through OG21 – it is also clear that RCN does not function as the strategic arena here, but as an implementor within a much bigger arena.

Forecasting is always difficult, especially about the future. Our impression is nonetheless that these developments, which seize the research policy initiative and take it away from RCN, will not be the last. Nor are they a bad thing – individually, they represent important efforts by motivated people to change research policy in healthy directions.

RCN reacted astutely to the FUGE initiative, embracing it and eventually succeeding in internalising it. At the time of writing, there were continuing efforts to avoid running it within the existing divisions but to create a special entity answering to the Main Board – in effect, a new FUGE division. Demo 2000 and OG21 have been placed within the Industry and Energy division for administrative purposes, but are separated from the normal RCN decision-making structures. It is not difficult to imagine that, say, the ministry of fisheries – which is deeply dissatisfied with RCN as a means to implement a coherent fisheries research policy – could be among the next candidates for a unilateral declaration of independence.

The results of this kind of trend would be for a time a reinvigoration of research policy, quickly followed by a decline into an ad hoc choice of policy directions and a set of fragmented implementation mechanisms that are complex, confusing and expensive.

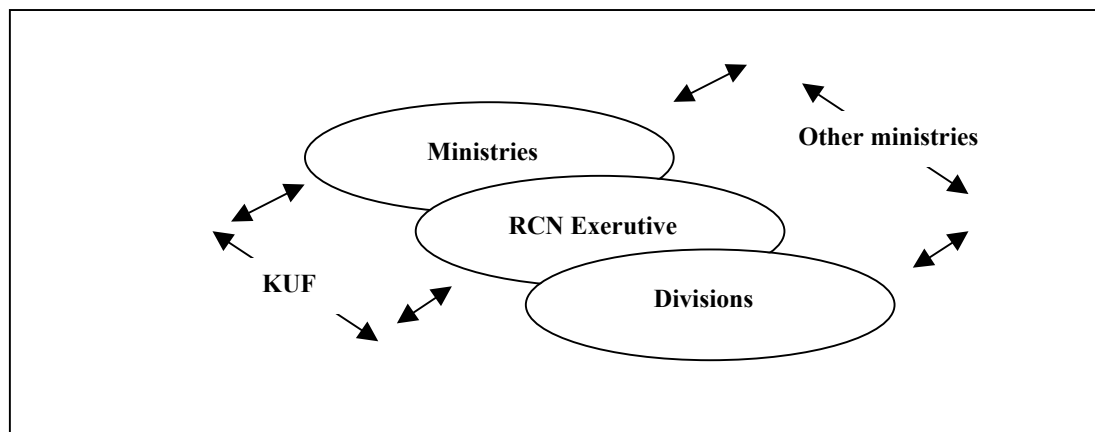
## **8 Conclusions and Recommendations**

It is for the overall report of the RCN evaluation to draw conclusions and recommendations based on the full set of evidence available. Here, we have a much narrower set. It nonetheless seems useful to set out conclusions and recommendations based on this narrower view, not least because the implications of the evidence reviewed here are quite far-reaching.

In

**Exhibit 1**, we illustrated an hierarchical model of performance contracts linking taxpayers to research projects. In **Exhibit 9** we illustrate in simplified form the way such performance contracts implicitly work between the ministries and RCN. Rather than a single, simple set of hierarchical relations, there are parallel communication channels, with many ministries effectively bypassing the executive (Executive Board and managing director) level in RCN in order to deal directly with the divisions. Bypassing the global level, their interaction with RCN does not have to take account of cross-divisional concerns. At the same time, the education ministry in its role as owner of RCN focuses on the executive level. These external communication patterns mirror the rupture in communications between the RCN divisions and the executive. Given the weak co-ordination among the ministries, the point at which real co-ordination is attempted in RCN is therefore in the relationship between executive level (including the strategy function) and the divisions.

**Exhibit 9 Governance Relationships Among Ministries and RCN**



This structure of relationships undermines the principles of delegation through objectives, which are central to the new public management.

We draw some significant conclusions for the RCN evaluation from the analysis in this report

- The degree of detailed management of RCN by funding ministries is inconsistent with good administrative practice. While the Norwegian system is in principle committed to administrative reform, a nit-picking bureaucracy appears to co-exist with the rhetoric of New Public Management
- A key reason why these styles co-exist is lack of clarity about the ministries' roles as patrons of research and customers for research. This is made worse by the fact that responsibility for maintaining research capabilities in specialist areas relevant to sector ministries is not clearly allocated to those ministries, and that – except where they have 'captive' research institutes or other research performers – there is no clear implementation mechanism for such responsibilities
- Sectoral divisions among the ministries help prevent RCN from realising its potential as a cross-sectoral and holistic funder in the Norwegian knowledge

production system, preventing it from fulfilling the vision that lay behind the 1993 merger

- While we do not attempt to quantify the effects, the fragmentation that results leads to duplication of administrative activities between ministries and RCN, and to too-high administrative costs within RCN
- Equally, RCN's multi-divisional character adds little value in relation to ministries' research needs, since working across divisional boundaries is very difficult
- While RCN is wisely trying to reduce internal complexity, and with it administrative costs, the current funding structure gives no incentive to ministries to do so. KUF pays the administration bill, no matter how complex the other ministries make the administrative process through micro-management
- From the governance perspective, RCN today appears to add little value in its supposed role as a single, holistic organisation. Its upper Boards and its strategic capabilities are largely by-passed, and RCN's potential to function as a change agent is largely squeezed out by the rigidities that result from tight ministry control and limited budgets
- Similarly, the co-ordination role of KUF is weakened by the absence of a national research budget
- For reasons of scale, RCN struggles to add its own research insight into ministry research policy in specialised areas. A decision is lacking about whether ministries or the research council should maintain this oversight capability, and who should pay for it
- Notwithstanding the requirement set out fairly recently for the ministries to develop research strategies, few have done so in practice and the ministries have limited ability to consider and plan for longer term research requirements
- More generally, a foresight function is conspicuously lacking from the Norwegian research system
- The Research Fund is a key innovation, providing RCN with the budgetary 'breathing space' necessary to develop as an holistic research council and to add value over and above implementing the sector principle

It is clear from this analysis that a number of apparent shortcomings in RCN itself have roots in the system of governance within which it lives. Improving RCN performance will be difficult without addressing these aspects of governance. A number of recommendations follow

- A national foresight exercise is needed, which can also jump-start foresight capability in the ministries themselves, and provide a way to think outside the administratively over-determined channels described in this report. An aspect of this exercise should involve taking a zero-based view of different ministries' research needs, so as to decide what the rational level of research effort should be, in each case
- The overall level of government spend on R&D should be decided early in the budgeting process, and not allowed to become a residual following on from decisions about sector spending
- Our analysis distinguished among ministries, which act as patrons for R&D (KUF, NHD, OED), and those which act more as customers. There is an

intermediate set of ministries – FiD, LD and MD – which allocate general funds to RCN, but which earmark these quite heavily, so that they function more like special funds than general funds. In both these intermediate cases and in a number of other ministries there is a lack of clarity about the extent and the meaning of the ministry’s responsibility to maintain research communities able to serve their sectoral needs. At the same time, there is nothing in the way KUF or NHD handle their large block allocations to RCN to suggest that they are responsible for other sector ministries’ long term needs. If it is desirable to maintain such communities, then an implementation mechanism is needed. All ministries should review their needs for national research capabilities and allocate appropriate general funds to RCN for their maintenance. Beyond identifying the broad purposes for which these funds should be spent, ministries should not be allowed to earmark them

- The corollary is that ministries should be free to use RCN and other suppliers or intermediaries in order to find the best and most appropriate sources of research and knowledge for solving problems. This corresponds to their role as customers today, and to the intended role of special funds. To the extent that the freedom to spend special funds anywhere within the knowledge system depends on the community-building role performed by the general funds, it could be useful to link the two by a formula. Spending special funds would create an obligation to allocate general funds
- Since ministry instructions generate administrative cost at RCN, each ministry should contribute to administration *pro rata* its research allocations. For KUF to continue to cross-subsidise administrative costs at RCN generated by other ministries distorts the incentive system, encouraging unnecessary fragmentation and inefficiency
- Research Fund resources need to continue to be available at a comparatively large scale in RCN, if it is to meet the objectives set down for it by government