

**Magnus Guldbransen**

**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

NIFU – Norsk institutt for studier  
av forskning og utdanning  
Hegdehaugsveien 31  
0352 Oslo



## 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  
*Magnus Guldbrandsen, NIFU*

**2. Bibliometric Analysis of Norwegian Research Activities.**

Background report No 2 in the evaluation of the Research Council of Norway  
*Sybille Hinze, ISI*

**3. RCN in the Dynamics of Research: A Scientist's Perspective.**

Background report No 3 in the evaluation of the Research Council of Norway  
*Frank van der Most and Barend van der Meulen, University of Twente*

**4. RCN in the Research and Higher Education Sector.**

Background report No 4 in the evaluation of the Research Council of Norway  
*Erik Arnold and Ben Thuriaux, Technopolis*

**5. RCN Divisional Reviews.**

Background report No 5 in the evaluation of the Research Council of Norway  
*Ben Thuriaux and Erik Arnold, Technopolis*

**6. RCN and international co-operation .**

Background report No 6 in the evaluation of the Research Council of Norway  
*Paul Simmonds, Sarah Teather and Alina Östling, Technopolis*

**7. RCN budgets, policy instruments and operations**

Background report No 7 in the evaluation of the Research Council of Norway  
*Egil Kallerud, Liv Langfeldt and Randi Søgne, NIFU*

**8. Internal functioning of RCN.**

Background report No 8 in the evaluation of the Research Council of Norway  
*Barend van der Meulen, University of Twente, James Stroyan, Technopolis*

**9. RCN in the Public Understanding of Science.**

Background report No 9 in the evaluation of the Research Council of Norway  
*Paul Simmonds, Sarah Teather and Alina Östling, Technopolis*

**10. Norges Forskningsråd 1989 – 1995. En dokumentanalyse om etableringen av Norges forskningsråd.**

Background report No 10 in the evaluation of the Research Council of Norway  
*Egil Kallerud, NIFU*

**11. Faithful Servant? Ministries in the governance of RCN.**

Background report No 11 in the evaluation of the Research Council of Norway  
*Erik Arnold, Technopolis*

**12. RCN in the Norwegian Research and Innovation System .**

Background report No 12 in the evaluation of the Research Council of Norway  
*Stefan Kuhlman, ISI*  
*Erik Arnold, Technopolis*

**13. User oriented R&D in the Research Council of Norway.**

Background report No 13 in the evaluation of the Research Council of Norway  
*Heidi Wiig Aslesen, Marianne Broch, Per M. Koch and Nils Henrik Solum, STEP*

**14. Evaluation at RCN.**

Background report No 14 in the evaluation of the Research Council of Norway  
*Erik Arnold, Technopolis*

**15. RCN: Needs and Strategy.**

Background report No 15 in the evaluation of the Research Council of Norway  
*Erik Arnold, Technopolis*

**16. RCN International Context.**

Background report No 16 in the evaluation of the Research Council of Norway  
*Sarah Teather and Erik Arnold, Technopolis*

# Foreword

This report is part of the contributions by NIFU to the evaluation of the Research Council of Norway (RCN) which takes place in 2001 under the leadership of Technopolis Ltd. The report presents the results of a survey among Norwegian researchers about their experiences with RCN as applicants and recipients of funds. The report is written by Magnus Gulbrandsen.

Oslo, 7 November 2001

Petter Aasen

Director

Randi Søgne

Research Director

# Table of contents

<b>FOREWORD .....</b>	<b>II</b>
<b>TABLE OF CONTENTS .....</b>	<b>III</b>
LIST OF TABLES .....	IV
LIST OF FIGURES .....	IV
<b>INTRODUCTION.....</b>	<b>1</b>
<b>THE QUESTIONNAIRE, THE SAMPLE AND THE RESPONDENTS.....</b>	<b>2</b>
FOCUS ON EXPERIENCES RATHER THAN OPINIONS .....	2
SAMPLE DRAWN FROM THE RESEARCHER PERSONNEL DATABASE .....	3
RESPONSE RATE AROUND 50 PERCENT .....	4
<i>Low response rate after the first round.....</i>	4
<i>Individual and institutional reasons for not responding .....</i>	4
ADDITIONAL BACKGROUND INFORMATION .....	5
<i>Eastern Norway and the natural sciences constitute the largest groups.....</i>	6
<i>International collaboration and group work are closely related.....</i>	6
<i>Share of men highest in universities and in the most senior positions .....</i>	7
<i>Major institutional and personnel differences in time use .....</i>	7
<i>Funding sources vary with sector and discipline.....</i>	8
<i>High regards of own research unit.....</i>	9
VIEWS ON DEVELOPMENTS OF THE NORWEGIAN RESEARCH SYSTEM .....	10
"WE WANT MORE" – BUT OF WHAT? .....	12
<b>CONTACT WITH THE RESEARCH COUNCIL .....</b>	<b>17</b>
CONTACT WITH THE COUNCIL'S DIVISIONS .....	17
<i>Multiple contacts .....</i>	18
SUCCESSFUL APPLICANTS .....	19
<i>Moderate correlation between the various interaction items.....</i>	20
<i>Mainly expected variations .....</i>	22
<i>Indicators of "Total interaction" and "Total funding".....</i>	22
<i>Categories based on interaction and funding.....</i>	25
REASONS FOR NOT APPLYING FOR FUNDING .....	29
<i>Free funds – too small grants and high rejection rates? .....</i>	29
<i>User-controlled funds – "not for everybody"? .....</i>	30
<i>Strategic programmes – not very familiar?.....</i>	31
<i>Regular programmes – too applied for some researchers?.....</i>	31
GENERAL COMMENTS ARE HIGHLY CRITICAL .....	32
<b>EXPERIENCES WITH RCN .....</b>	<b>35</b>
IMPATIENCE REGARDING THE APPLICATION PROCESS BUT ACCEPTABLE APPLICATION DOCUMENTS.....	35
ADMINISTRATIVE PROCEDURES AND SELECTION CRITERIA .....	36
FREE FUNDS – DOMINATED BY SENIORS IN UNIVERSITIES .....	38
A MIXED PICTURE OF REGULAR PROGRAMMES .....	41
USER-CONTROLLED PROGRAMMES – VERY IMPORTANT IN INSTITUTES .....	44
STRATEGIC PROGRAMMES – A POSITIVE PICTURE .....	47
A BRIEF COMPARISON OF THE FOUR FUNDING MECHANISMS .....	50
<b>SUMMARY .....</b>	<b>53</b>
THE SAMPLE AND THE RESPONDENTS.....	53
DEVELOPMENTS AND PRIORITIES IN THE NORWEGIAN RESEARCH SYSTEM.....	54
INTERACTION WITH RCN .....	54
EXPERIENCES WITH RCN .....	55
<i>Free funds.....</i>	56

<i>Regular programmes</i> .....	56
<i>User-controlled programmes</i> .....	57
<i>Strategic programmes</i> .....	57
HEALTHY SIGNS AND SOME CHALLENGES .....	58

## List of Tables

Table 1. A description of the sample.....	3
Table 2. Types of responses. ....	4
Table 3. Time spent on different activities (N=613). ....	7
Table 4. Time use and personnel/institutional differences.....	8
Table 5. Funding sources, institutional setting, fields and group work. ....	9
Table 6. Funding from multiple divisions.....	18
Table 7. Bivariate correlation matrix RCN interaction (Spearman's rho; *=p<0.01). ....	21
Table 8. Basic characteristics of the Total Funding and Total Interaction indicators. ....	23
Table 9. Characteristics of the four groups of total RCN interaction. ....	26
Table 10. Characteristics of the four groups of total RCN funding. ....	27
Table 11. Linear regression, dependent variable "Total interaction". ....	28
Table 12. Linear regression, dependent variable "Total funding". ....	28
Table 13. Who has received free funds? .....	39
Table 14. Who has received funding from regular programmes?.....	41
Table 15. Who has received funding from user-controlled programmes?.....	45
Table 16. Who has received strategic programme funding? .....	47
Table 17. Results of the four funding mechanisms.....	52

## List of Figures

Figure 1. The geographical distribution of the respondents.....	6
Figure 2. The scientific distribution of the respondents. ....	6
Figure 3. Judgements about own research unit.....	9
Figure 4. Views on developments in the Norwegian research system. ....	11
Figure 5. R&D types RCN should give more priority to.....	12
Figure 6. Relative R&D priorities and sectors. ....	13
Figure 7. Relative R&D priorities and disciplines. ....	14
Figure 8. Support types RCN should give more priority to. ....	15
Figure 9. Support types and sectors. ....	15
Figure 10. Support types and RCN Divisions. ....	16
Figure 11. Contact with the RC Divisions (N=595). ....	17
Figure 12. RC Divisions and institutional setting (N=595). ....	17
Figure 13. RC Divisions and disciplinary background (N=595). ....	18
Figure 14. Links between the RC Divisions. ....	19
Figure 15. Contact with the Research Council of Norway. ....	20
Figure 16. Scientific position, group work and RCN interaction.....	23
Figure 17. Sectors and RCN interaction .....	24
Figure 18. Disciplines and RCN interaction .....	24

Figure 19. Respondents “belonging to” RCN Divisions and RCN interaction.....	25
Figure 20. Reasons for not applying for “free funds”. .....	29
Figure 21. Reasons for not applying for “user-controlled funds”.....	30
Figure 22. Reasons for not applying for “strategic programmes” (SIP/SUP).....	31
Figure 23. Reasons for not applying for regular programme funding. ....	32
Figure 24. Mean “Negativity” scores in different fields of learning (all respondents).....	34
Figure 25. Views on the application process. ....	35
Figure 26. Views on administrative procedures and other general aspects. ....	37
Figure 27. Aspects of free funds (all respondents). ....	40
Figure 28. Aspects of free funds (only respondents with such experience included).....	40
Figure 29. Aspects of regular programmes (all respondents).....	42
Figure 30. Aspects of regular programmes (only respondents with such experience).....	43
Figure 31. Aspects of user-controlled programmes (all respondents). ....	46
Figure 32. Aspects of user-controlled programmes (only respondents with such experience).....	46
Figure 33. Questions about strategic programmes (all respondents).....	48
Figure 34. Questions about strategic programmes (only respondents with such experience).....	48
Figure 35. Funds as a stamp of quality.....	50
Figure 36. Funds as a source of good professional networks. ....	50
Figure 37. Is the competition too hard?.....	51
Figure 38. Funds as an opportunity to entering new fields .....	51
Figure 39. Is the assessment of applications thorough and just?.....	51

# Introduction

This survey is part of the evaluation of the Research Council of Norway (RCN). The intention behind the survey is to add to the evaluation of the Research Council (RC) by focusing on RC's interaction with individual researchers in the public Norwegian R&D system.

As requested by the evaluation panel, we have included the following institutions in the study:

- All four Norwegian universities (Oslo, Bergen, NTNU (Trondheim) and Tromsø)
- The main institutions classified as university colleges (the largest ones in italics): Oslo College of Architecture, *Norwegian School of Management (BI)*, The Norwegian Lutheran School of Theology, *Norwegian School of Economics and Business Administration*, *Agricultural University of Norway*, The Norwegian University of Sport and Physical Education, Norwegian Academy of Music, *The Norwegian School of Veterinary Science*.
- The 26 state colleges
- Research institutes – there are more than 130 of these in Norway. We have removed institutes that neither receive basic funding from RCN, list RCN as a source of project funding from, nor follow the public institute guidelines. This leaves around 80 institutes in the population (note that SINTEF is classified as several different institutes).

The survey was furthermore asked to focus on the four major types of RC support:

- “Free funds” (not part of a programme, e.g. travel grants, scholarships, special support to projects, equipment etc.)
- User-controlled programmes (or user-oriented, user-directed, we use the most literal translation of “brukerstyrte programmer”)
- Strategic programmes, of which there are two types: Strategic Institute Programmes (SIP's) and Strategic University Programmes (SUP's)
- Regular programmes

There have been changes in the support mechanisms (e.g. the recent Centres of Excellence initiative), but the above distinction should be relevant for the period in question (1993-2001). It is somewhat blurred, however, as some of the typical free funds support (like travel grants) also can be given as part of a programme (most respondents seemed to have a relatively clear picture of the support types, perhaps apart from the ones with no RCN interaction).

For each of these major support types, we look at various types of experiences (e.g. selection criteria, administrative procedures, results, reasons for not applying etc.). We also ask several general questions about RCN and about the respondents' view of the development in Norwegian research (and of course we ask a number of background questions).

*Due to the very short time frame of this project, the present report is mainly descriptive in nature, and several relationships are not pursued in detail. To increase readability and to utilise our resources maximally, we have also chosen to describe many relationships in the text rather than to have an overwhelming amount of figures and tables. In addition, we assume that the evaluation group will combine the results from this survey with other studies. Thus, we are careful in drawing too hard conclusions. We have not included a short “executive summary” at the beginning, but a slightly extended Summary chapter at the end. A reader with little time may go directly to this chapter (page 53).*

# The questionnaire, the sample and the respondents

In this chapter, we describe the data and methodology of the researcher survey briefly.

## Focus on experiences rather than opinions

The questionnaire can be found in Appendix A. As can be seen, it consists of 29 questions and three distinct parts. These are:

- Background information (position, sex, age, sector, discipline etc.)
- Questions about the relationship with RCN (Division, contact information, reasons for not applying for funding)
- Questions about the various RCN funding mechanisms and their organisation (the application process, administrative procedures, various experiences with free funds, strategic programmes, user-controlled programmes and regular programmes) and finally a few questions about priorities and a possibility for making additional comments.

We wanted to keep the questionnaire short due to a perceived “survey sickness” in the Norwegian research system. Comments from the evaluation panel were at several times taken into account in the design phase (mainly through adding questions/items), making the final version six pages long. A paper version was sent out to all researchers in the sample in early May (with options for web completion). A reminder round was carried out just before summer.

One main idea behind the questionnaire is to create an index based on the *degree of contact* with the RC (based primarily on question 12). The indexes and possible typologies emerging from this mapping are important starting points when analysing the experiences and attitudes connected to the various support mechanisms.

Another main idea is of course to distinguish sharply between the different *types of funding* and to have a separate set of questions about each of them. Many of the themes are nevertheless similar, allowing for comparisons for instance when it comes to opinions about the review process and effects of funding success.

A third main idea was to add questions about *the respondents’ research unit*. In the most recent version, we have used a mix of attitudinal and fact-oriented questions. This will allow us to test whether the interaction with the RC (and the attitudes towards the different funding types etc.) can be linked with (lack of) internal communication, group work, alternative funding sources, international contacts etc.

In the questions about the types of funding, we have tried to use a *mix of positive and negative formulations* to keep the respondents awake and alert. Because the funding types are so different (and have such different aims), we thought it not necessary to have exactly the same sub-questions everywhere, but rather to get more specific questions and some variations in language.

After comments from the evaluation panel, the final version of the questionnaire became relatively *strongly focused on concrete experiences* with rather than opinions on the RCN. An earlier version had more attitudinal questions. We have nevertheless tried to carefully formulate most of questions 17-28 so that both those with lots of experience and those with little experience with RCN funding instruments may answer. In the reminder round, we specifically asked those with little RCN experience to complete the background questions and some of the other questions not too dependent upon concrete RCN encounters. Our mapping



of interaction with the RC (question 12) will in any case allow us to distinguish between those who draw on their experiences and those who state more their “pub talk opinions”.

## Sample drawn from the Researcher Personnel Database

A random sample (around 15%) from the Researcher Personnel Database at NIFU was drawn, after excluding people in administrative positions and people in teaching positions (e.g. in the former colleges of nursing and engineering). The resulting database was checked for representativity regarding e.g. women/men, PhD's/Non-PhD's and institutions (like the four universities). In total, 1,567 researchers were selected, as can be seen from Table 1.

<b>Sector/other variables</b>	<b>Total #</b>	<b>Sample #</b>	<b>Sample share</b>
<b><i>Total population</i></b>	<b>10.589</b>	<b>1.567</b>	<b>100,0%</b>
Women	2.520	396	25,3%
Men	8.069	1.171	74,7%
With PhD	4.984	739	47,2%
Without PhD	5.605	828	52,8%
<b><i>Institute sector</i></b>			
<i>Total</i>	4.079	601	38,4%
Women	1.022	(28%) 170	
Men	3.057	(72%) 431	
With PhD	1.354	(34%) 203	
Without PhD	2.725	(66%) 398	
<b><i>Universities</i></b>			
<i>Total</i>	4.055	592	37,8%
Women	985	(26%) 151	
Men	3.070	(74%) 441	
With PhD	2.688	(67%) 399	
Without PhD	1.367	(33%) 193	
<b><i>University colleges</i></b>			
<i>Total</i>	841	124	7,9%
Women	162	(24%) 030	
Men	679	(76%) 094	
With PhD	481	(51%) 063	
Without PhD	360	(49%) 061	
<b><i>State colleges</i></b>			
<i>Total</i>	1.614	250	16,0%
Women	349	(18%) 045	
Men	1.265	(82%) 205	
With PhD	474	(31%) 078	
Without PhD	1.140	(69%) 172	

**Table 1. A description of the sample.**

## Response rate around 50 percent

The researchers were given the option to complete the paper version of the questionnaire or to submit their answers electronically. Unfortunately, the web version experienced some technical difficulties the first week. Later tracking (on the server) shows that less than ten people submitted forms that were not registered. Five people told in the reminder round that they had sent in their answers electronically previously (all five resubmitted).

### Low response rate after the first round

After the first round, the response rate was only 28 percent. One reason may be that many felt the questionnaire did not suit them (as a few comments indicated). Since the questionnaire is relatively strongly oriented at those with concrete experiences with RCN (rather than just having opinions about it), it is perhaps not surprising that those with few/no experience did not answer.

As can be seen from Table 2, the share of responses from state colleges is lower than expected, and the university share is higher. Institutes come out slightly higher than in the sample. In the analysis, the "other" personnel category is most often merged with the Assistant Professor/Researcher III category (the answers from these two groups are mainly very similar). The share of respondents with PhD's is much higher than in the sample (more than 60 percent as opposed to 47 percent in the sample). In total 93 envelopes were returned where we were unable to track the person. **The total response rate is 52,3 percent.** If we subtract the invalid responses, the adjusted figure is 45,0 percent (N=613).

<b>Sector/Variable</b>	<b># Respondents</b>	<b>Share</b>	<b>(Total sample)</b>
<b>Total number of responses</b>	<b>819</b>	<b>52,3%</b>	
Invalid responses due to moving, "unknown individual", death etc.	93	5,9%	
Invalid responses due to no experience with the RC etc.	113	7,2%	
<i>Total invalid responses</i>	<i>206</i>	<i>13,1%</i>	
Women	159	25,9%	(25,3%)
Men	454	74,1%	(74,7%)
Institute sector	241	39,3%	(38,4%)
Universities	251	40,9%	(37,8%)
University colleges	47	7,7%	(7,9%)
State colleges	74	12,1%	(16,0%)
Professor/Researcher I	257	41,9%	
Associate Professor/Researcher II	258	42,1%	
Assistant Professor/Researcher III	66	10,8%	
Other (e.g. post.doc., research assistant)	32	5,2%	
<i>Total valid responses</i>	<i>613</i>	<i>39,1%</i> <i>(adj.) 45,0%</i>	

**Table 2. Types of responses.**

### Individual and institutional reasons for not responding

It can be noted that the institute sector dominates both invalid categories (moved/unknown and irrelevant) with around two-thirds of the answers. This seems natural due to the higher mobility in this sector and the special missions of many institutes (much of the personnel classified as R&D personnel probably carries out many other tasks). If we look at the other sectors, the

invalid responses group is dominated by the humanities, medicine-related disciplines (both in universities and university colleges) and teacher education units (in the state colleges).

When sending out the reminder, we asked those who carried out research but had little contact with the RC to complete questions 1-11, 13-16 and 27-28. We also gave those who felt that the questionnaire was totally inappropriate for their kind of work the option to return the form with a cross on the first page. Around 70 people did that in the second round, and many of them gave a reason for it. We can distinguish between “personal” reasons and “institutional” reasons. The “personal” reasons include:

- Having just moved to the country
- Age – some are very young, born in the first half of the 1970's, others had retired
- No experience with the RC whatsoever, and little knowledge about the various funding mechanisms (e.g. “I don't know what free funds are,” “I don't know what a programme is”)
- A few people stated that they found the questionnaire “unsuited for hammering out my opinion of the RC” (“I want to be negative, but these questions don't fit!”) – some of these called or sent e-mails with comments like “This country is going down the drain, and it's (at least partly) the RC's fault” (these remarks are excluded from the analysis)
- For the above or other reasons some people from institutions with at least some interaction with the RC did not complete the questionnaire

The main institutional reasons are:

- The institute has more or less 100 percent basic funding from elsewhere (like the Defence Research Institute and several institutes/ departments in agriculture/fisheries)
- The research unit may have a basic appropriation from the RC but does not otherwise compete for RC funds (e.g. the Institute for Energy Technology)
- The research unit only does direct work for industry or other contractors/funding sources without the involvement of RC money (this seems to be the case with several SINTEF respondents and medical researchers with funding from “disease-related resources”)
- The university/college department is mainly teaching-oriented (as is the case for some, but not all, of the teacher education units of the state colleges)

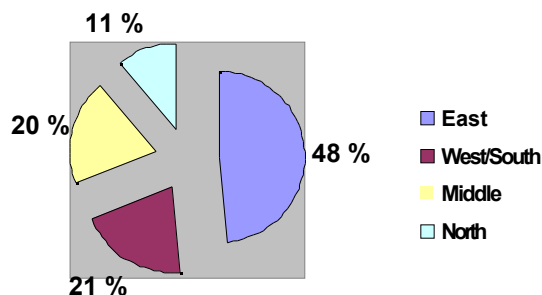
It can be claimed that “survey tiredness” or conflict with other studies does not seem very important. The questionnaire was sent out only a few weeks after the final reminder for the large-scale universities survey, and at about the same time as other investigations (evaluation of the formalised doctoral training and gathering of key data from research units). However, we received no comments on this at all, although we did receive several comments on “technical” aspects of the survey both from valid and invalid respondents (we do not know the reasons for those who did not submit answers, however). It can be noted that the response rate of the university census ended up at 60 percent (after two reminders including appeals from the leaders of the institutions), and the doctoral training evaluation has just passed 50 percent (after the first reminder).

## **Additional background information**

Here, we present variables related to age, geographical and disciplinary distribution, international collaboration, group work, personnel categories vs. other variables, time use, sources of funding and assessments regarding own research unit.

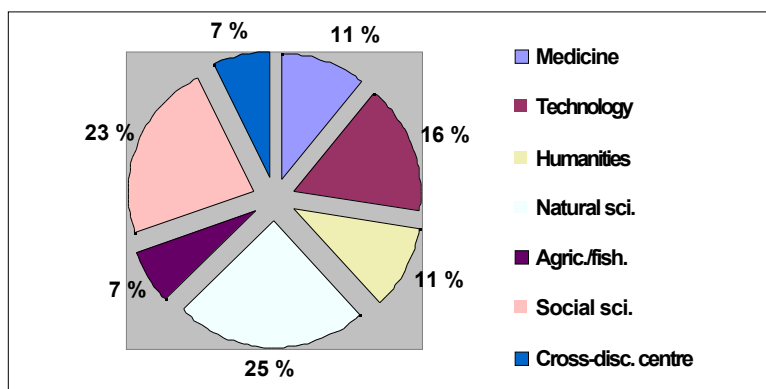
## Eastern Norway and the natural sciences constitute the largest groups

The mean age of the respondents is approximately 49 years (born in 1952) (total interval from 1931 to 1974). Figure 1 shows the geographical distribution of the respondents. It can be seen that almost half of them come from Eastern Norway (here, N=531; 82 respondents did not answer the question).



**Figure 1. The geographical distribution of the respondents.**

If we look at the scientific background, the largest group is from mathematics/natural sciences (25 percent), followed by social sciences (23 percent) and technology (16 percent). The smallest groups are those representing agriculture/fishery-related disciplines and “centres with a very high degree of cross-disciplinarity” (both 7 percent). This is shown in Figure 2 (N=613; all respondents answered this question).



**Figure 2. The scientific distribution of the respondents.**

## International collaboration and group work are closely related

458 (75 percent) of the respondents carry out some of their research activities in collaboration with colleagues in other countries. The mean (share of work carried out in international collaboration) is 26 percent, and 25 respondents stated that 100 percent of their activities are international. People in senior positions are more internationally oriented than the other personnel categories. Furthermore, international co-operation is very common in the universities and the least common in the state colleges. Institutes and university colleges fall somewhere in the middle. If we split international collaboration into five categories from “No collaboration” to “Very high degree of collaboration, almost all fields of learning spread out evenly on all the categories. The only exception is the natural sciences, where around 60 percent of the respondents fall into the two highest categories.

65 percent of the respondents work in groups. The average group size is a little less than eight (including doctoral students), with five and ten as the most common answers. Group work is closely related to international collaboration. Those in formal groups cluster at the highest end

of the collaboration scale, while the ones working more on their own are found at the opposite end of the scale. In other words, the ones working on their own do not seem to “compensate” for this by increasing their international collaboration. As expected, group work is the least common in the humanities (around two-thirds work on their own) and the social sciences (which are split in half on this issue). Group work is found most frequently in technology and agriculture/fishery-related disciplines.

## Share of men highest in universities and in the most senior positions

It should be noted that 47 percent of the male respondents are Full Professors/Researcher I, while around 50 percent of the women are Associate Professors/Researcher II. Furthermore, the largest group of the respondents from universities/university colleges is the Full Professor group, while the Associate Professors/Researcher II's constitute the largest group in the institute and state college sectors. The latter positions are also the dominant in the humanities, social sciences and the research units with a high degree of cross-disciplinarity, while the Full Professors and Researcher I's dominate in the medical and technological disciplines. These two groups are relatively equally sized in mathematics/natural science and agriculture/fishery-related disciplines. Assistant Professors, Researcher III and “Other positions” (a somewhat varied group but with many post.doc.'s) constitute a minority in all institutional and disciplinary settings (their share is largest in the social sciences at around 20 percent).

The share of women is highest in the institute sector – 31 percent. In the universities, university colleges and the state colleges the shares are 21, 26 and 22 percent, respectively. Almost 50 percent of the researchers in agriculture/fishery-related disciplines, 41 percent in the social sciences and 39 percent in the cross-disciplinary units are women. The lowest shares can be found in the technological disciplines (14 percent) and the natural sciences (16 percent). Medicine and the humanities are particularly found in the university sector, while technological and agricultural/fishery-related disciplines are dominated by the institute sector. Three out of four of the cross-disciplinary units can be found in institutes. The social and natural sciences are spread relatively evenly on all institutional settings. In the state colleges, more than 50 percent of the respondents represent the humanities and the social sciences.

## Major institutional and personnel differences in time use

The mean time spent on different activities is shown in Table 3 (the sum is slightly more than 100% because some of the respondents wanted to express that their workweek is much longer than a regular one).

Activity	Share of time
1. Research and own further education	41,8%
2. Teaching and supervision	25,8%
3. Museum activities	0,6%
4. Administration	18,6%
5. Various dissemination (seminars, textbook writing etc.)	7,0%
6. Other professional activities (consultancy, medical practice etc.)	6,5%
Sum	100,3%

**Table 3. Time spent on different activities (N=613).**

There are no significant differences between male and female researchers, except that the latter carry out more research and less teaching (natural since there are relatively more women in institutes). As expected, full professors carry out significantly more administrative work, more teaching, more dissemination, less research and less professional tasks than associate and assistant professors (and similar positions in institutes). Main institutional differences are more “professional activities” and more research in the institute sector, and more teaching in the state college sector. The differences are summarised in Table 4 (for full activity

labels cf. Table 3 above). Few of the disciplinary differences are significant, and those that are, seem to reflect institutional settings. For example, the concentration of technology in the institute sector (at least in this data material), may lie behind the higher research and lower teaching rates found in the technological disciplines.

The respondents who rate their own research unit as “world-leading in some specialities”, spend a little more time on research and significantly less time on teaching than those who grant their own unit a lower rating. Respondents that are not part of a formal group, also carry out significantly more teaching than those who work in groups.

Activity	Full professors	Associate professors	Assistant professors and others	Universities	University colleges	State colleges	Institutes
1 (Res.)	38,3%	42,2%	49,6%	35,4%	42,9%	32,0%	51,1%
2 (Teach.)	28,7%	26,8%	15,3%	36,9%	31,3%	47,0%	6,6%
3 (Mus.)	0,7%	0,6%	0,3%	1,5%	0,0%	0,0%	0,0%
4 (Adm.)	22,1%	16,8%	14,1%	18,6%	17,5%	13,1%	20,4%
5 (Dis.)	8,2%	6,3%	5,3%	6,3%	7,9%	7,0%	7,4%
6 (Prof.)	3,7%	7,5%	11,5%	3,2%	1,4%	0,7%	12,8%

**Table 4. Time use and personnel/institutional differences.**

## Funding sources vary with sector and discipline

The data on funding sources are somewhat incomplete. Some did not answer this question (a few commented that “I don’t know about such things at all”), and many reported only their “external funding” (and a few reported their basic funds and nothing else). The “Other” category was relatively frequently used as well, a few times with comments like “Our own funds” (which in some cases indicated income from licenses, software, consultancy work, further education courses etc., in other cases simply the basic funds). Table 5 shows funding sources with means and differences between institutions, fields and whether the respondents work in formal groups or not. The sum is less than 100% as missing values are set to zero (for respondents who partially reported their funding figures; there are 10 records missing completely).

Funds (Label)	Basic funds	N. Res. Council	Other N. public	Internat. (e.g. EU)	Industry	Foundations	Other sources
<b>Total (mean)</b>	<b>25,7%</b>	<b>23,5%</b>	<b>13,2%</b>	<b>6,9%</b>	<b>14,6%</b>	<b>3,3%</b>	<b>2,5%</b>
University	32,4%	25,5%	7,8%	7,9%	6,9%	5,9%	2,1%
Univ. coll.	25,9%	26,3%	10,0%	2,8%	13,8%	3,1%	1,0%
State coll.	34,4%	13,4%	12,5%	3,2%	9,0%	1,4%	2,9%
Institute	15,9%	24,0%	19,6%	7,9%	24,6%	1,3%	3,1%
Medicine	34,8%	16,0%	10,5%	4,5%	9,1%	17,9%	1,8%
Technology	11,5%	22,3%	7,5%	7,3%	39,4%	0,3%	5,0%
Humanities	44,4%	13,5%	6,8%	7,3%	2,3%	1,1%	1,4%
Natural sci.	25,5%	27,9%	9,7%	10,1%	13,7%	1,5%	2,7%
Agric./fish.	24,4%	28,3%	18,9%	4,4%	13,3%	1,6%	0,6%
Social sci.	26,5%	26,7%	19,6%	4,3%	5,7%	2,1%	2,1%
Cross-disc.	15,9%	22,3%	25,1%	9,0%	17,7%	3,6%	2,1%

Funds (Label)	Basic funds	N. Res. Council	Other N. public	Internat. (e.g. EU)	Industry	Foundations	Other sources
Group: yes	21,1%	27,0%	14,0%	8,5%	18,7%	4,1%	2,1%
Group: no	34,6%	16,5%	12,1%	3,8%	6,9%	1,4%	3,7%

**Table 5. Funding sources, institutional setting, fields and group work.**

There are no significant differences between men and women. The variations across personnel types are also small, except that Full Professors receive much more funding from foundations (most of the medical researchers are Full Professors) and the other personnel types get much more funding from “Other Norwegian public sources”. Many of the numbers in Table 5 are as expected, e.g. the lower share of basic funding and higher share of industry funding in the institute sector.

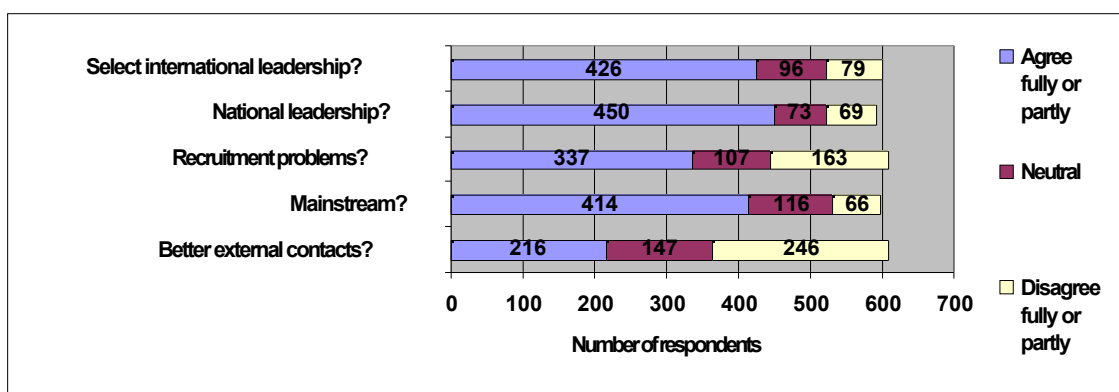
It is interesting to note that “Other Norwegian public sources” are very important to institutes and to some extent also state colleges. At least for the institutes, the numbers probably signify the close ties they have to various ministries. For the state colleges, this could be various types of regional/local funds.

The fields of learning differences are also mainly as expected – for instance the medical dominance in the “Private foundations” category. Some noteworthy figures are the relatively high share of EU (and other international public) funding in the natural sciences, the significance of Norwegian public funds to cross-disciplinary research, social science and agriculture/fishery-related fields, and the high share of industrial money in technological disciplines.

The respondents who rate their unit as world-leading in some specialities, receive slightly more RCN funds and significantly more industrial funds, than those who rate their unit lower in this respect. As shown in Table 5, there are also important differences between the researchers working in groups, and those that do not. Comparably, respondents that are part of a formal group receive more funding from RCN, international organisations, industry and private foundations, and they get less basic funds.

## High regards of own research unit

As mentioned, the respondents were asked about whether they considered their research unit to be among the leading internationally in some specialities. They were also asked about national leadership, recruitment problems, if the unit works in the mainstream of the discipline and if the external contacts are better than the internal ones. The results are summarised in Figure 3 (all respondents are included; N varies from 592 to 609 for the five items).



**Figure 3. Judgements about own research unit.**

The figure shows that more than 75 percent of the respondents rate their own unit as “one of the leading internationally in some specialities”, and an even higher share describe their unit as one of the strongest in Norway. Both these variables are significantly related to group work

(with those in groups granting a better rating to their unit), whereas the last three display no statistical relationship with group work. The highest ratings come from the technological disciplines (and from those “belonging” to the IE Division), while the humanists and the social scientists are the most modest. Furthermore, the more senior the personnel, the more positive the rating. State colleges are significantly more negative in their judgements than respondents from other settings.

As can be expected from the national policy discussion, more than 55 percent described recruitment as very or somewhat problematic in recent years. These problems are the most evident in technology and medicine (and the IE, NT and MH Divisions) and the least evident in the humanities and the social sciences (although respondents representing the MU and BF Divisions are even less worried about recruitment than those from KS). There are no differences between personnel groups and between institutional settings.

Most of the respondents state that they work within the mainstream of the discipline. This variable does not vary with field, group work or institutional setting, but Full Professors generally agree to this more than the other personnel categories.

Around one-third of the respondents agree that the contacts with external researchers are better than the contacts between the researchers in the unit (department, institute, group etc.). The score is significantly higher (e.g. better external contacts) in the medical and natural sciences (and the MH and NT Divisions), but this is probably due to the more international orientation of these fields. Respondents from research institutes disagree significantly more than the others on this question (maybe due to more group work in this sector).

## **Views on developments of the Norwegian research system**

A question with 12 items (no. 10) was added about what we can call the Norwegian research system or environment and its development in recent years.<sup>1</sup> The same questions have been asked in studies in other countries. The answers are shown in Figure 4, where the letters refer to the different items (“If you consider the last 10 years in Norway, would you say that”):

- a) Researchers in publicly funded institutions have become ‘overworked and underpaid’
- b) More funding for research is available
- c) Nationally, the core/basic funding to the research units has decreased
- d) A higher proportion of research funding is allocated through competitive bidding
- e) The procedures for obtaining national research funding have become more bureaucratic and time-consuming
- f) Research priorities are increasingly decided at the individual level
- g) Research priorities are increasingly decided at the institutional level
- h) Research priorities are increasingly decided at the national level
- i) Research priorities have become more sensitive to broader social issues
- j) Research priorities have become more sensitive to market demands
- k) The number of tenured/permanent research positions has decreased
- l) The number of temporary research positions has increased

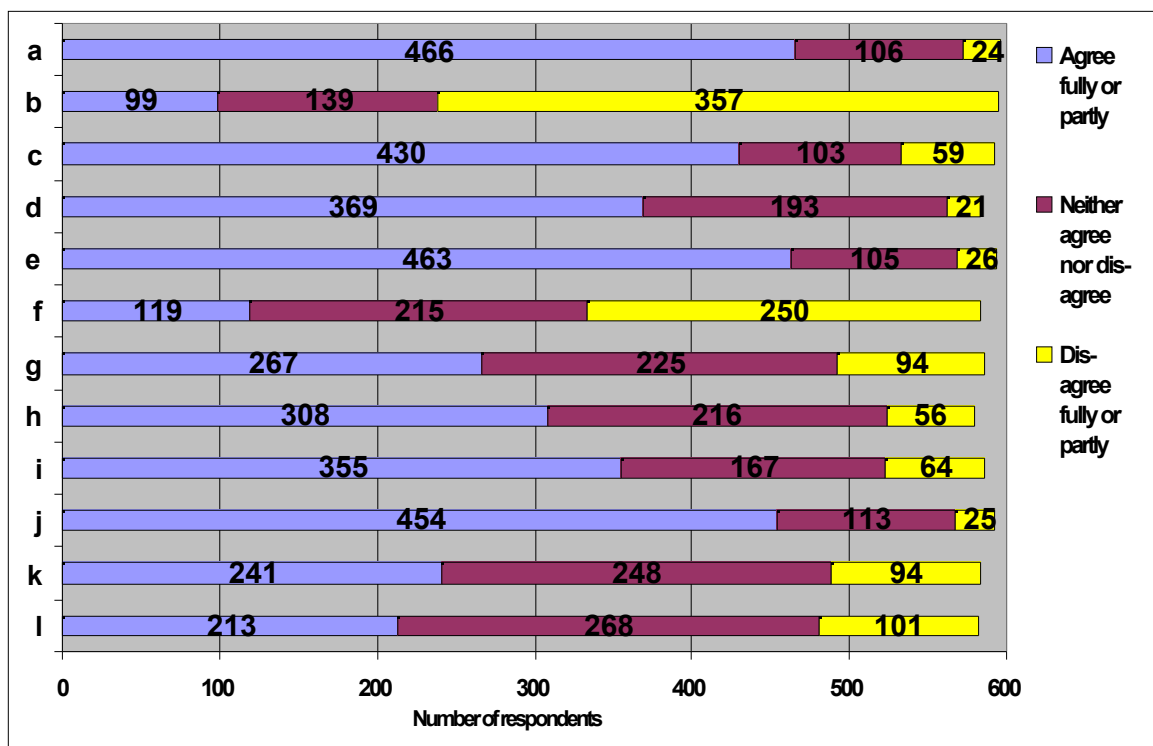
All the respondents who answered this question are included in the figure (N is a little less than 600 for all the items). The text immediately following the figure discusses statistically significant differences between respondents – this is done throughout the report. As the figure shows, the three strongest opinions are that researchers in publicly funded research units have become “overworked and underpaid”, that the procedures to get national funding have become more bureaucratic and time-consuming, and that research priorities have become

---

<sup>1</sup> We choose to include this question here as part of the “background information” rather than in a separate mini-chapter or in the RCN analysis.



more sensitive to market demand. Many also agreed that the basic funding to research units has decreased.



**Figure 4. Views on developments in the Norwegian research system.**

When looking behind these general figures, it is interesting to note that the judgements do not vary significantly<sup>2</sup> with “success” when it comes to achieving RC funding or a high degree of interaction with RCN. In the few differences found, the “successful” researchers are more “pessimistic” than their colleagues with no RC funds and/or interaction are (this concerns decreasing funding, researchers having become “overworked and underpaid”, and procedures to obtain funding having become “more bureaucratic and time-consuming”).

Group work and international collaboration do not explain any differences either, except that the group workers are a little less worried about a decrease in the overall funding volume, and that the international collaborators report a higher increase in temporary positions. There are a few significant variations between personnel categories – seniors agree more that the basic funding has decreased, that research priorities are not as much as before decided at the individual level, but rather at the institutional level. Women agree more than men do that less funding is available and that the application process is increasingly bureaucratic and time-consuming.

Some of the variations across institutions are interesting. The “overworked and underpaid” term was much more to the liking of the university scientists than the institute researchers, with the university and state colleges in between. Institutes and state colleges on the other hand agree stronger that a higher proportion of funds is available through competitive bidding. The

<sup>2</sup> This term is only used in the statistical sense throughout the report. All the “differences” discussed in the text are statistically significant at least at the 0.05 level (given the appropriate test; Chi-square, t-test etc.) unless explicitly stated otherwise. For many of the questions, there are few underlying differences in the answers, and we have chosen to analyse these mainly in the text rather than to add a large number of tables and figures that mainly show similarities between groups of respondents.

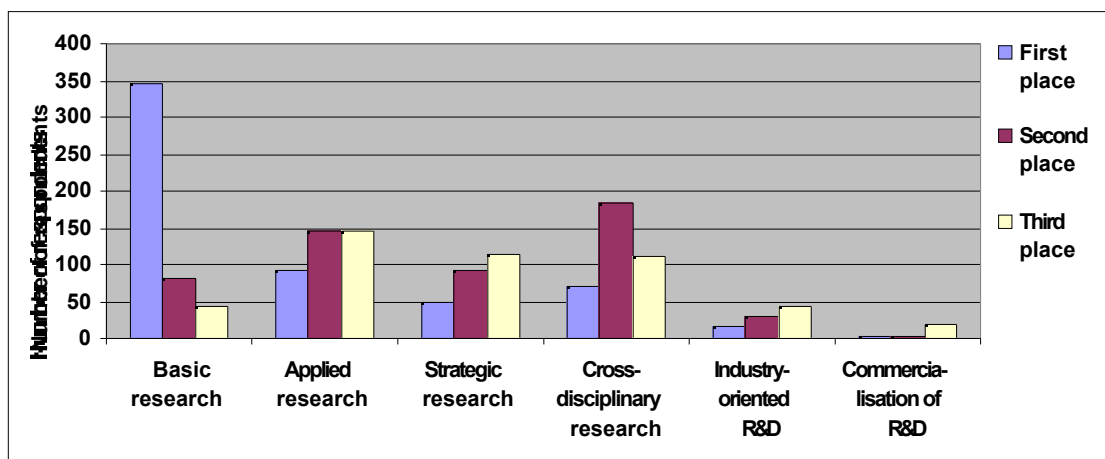
institutes may have experienced an expansion in invitations to competitions, while the state colleges have in recent years tried to increase their R&D effort, mainly by entering various competitive arenas. State colleges and institutes also disagree more than the other two institutional settings that the number of permanent R&D positions has decreased. Lack of available positions may be a particularly strong problem in universities and university colleges.

If we look at fields of learning, it can initially be remarked that the technologists (and the “IE representatives”) much less than all the others liked the term “overworked and underpaid”. The reason may be the salary policy of the technological institutes (of which many try to follow the private sector). They still fall down on the “agree” side, though. Respondents from technological and agriculture/fishery-related disciplines (IE and BF) are the most worried about the volume of funding available (item b),<sup>3</sup> while the social scientists and the humanists are the least worried (all seem worried, however). Researchers in cross-disciplinary units agree strongly that research funding is increasingly competitive, while the natural scientists and technologists agree the least strongly. The respondents from agriculture/fishery-related disciplines state the most resolutely that research priorities have become increasingly sensitive to broader social issues. The reason may be the strong desire to make the fishery industry into Norway’s “new oil industry”, and/or the emergence of “Mad Cow Disease” and similar issues. Finally, the social scientists and those in cross-disciplinary units disagree the most that the number of permanent positions has decreased.

A few comments from the end of the questionnaire also deal with general issues. Some are worried about a lack of sufficient financial support to R&D work in Norway, and others are concerned with getting enough time for research. Particularly state college respondents claim that they have little time for research, which they feel leads to vicious and virtuous circles in the research system.

## “We want more” – but of what?

At the end of the questionnaire, we asked the respondents to *rank the types of R&D they believed RCN should give more priority to*, and to *indicate the kind of support they would like to see more of*. The results for R&D type are depicted in Figure 5 (N=579).



**Figure 5. R&D types RCN should give more priority to.**

As can be seen, there is a strong call for a higher priority to basic research. This call is also made from researchers in institutes, although there are major differences between institutional settings. The high score to cross-disciplinary research is perhaps a bit surprising – this is the

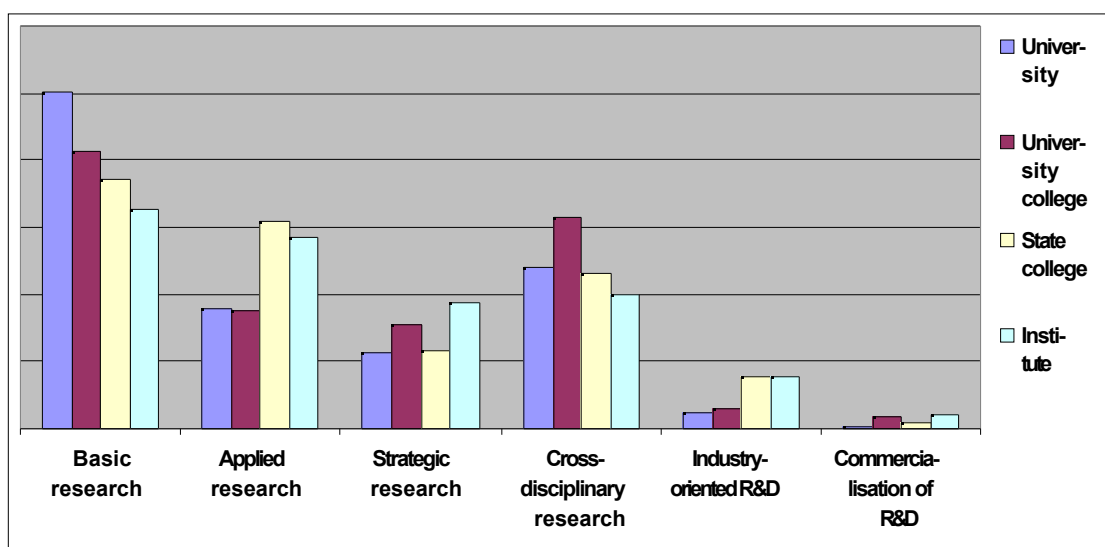
<sup>3</sup> 65 percent of these are institute researchers, although there are no statistically significant institutional differences on this item.

most popular “2<sup>nd</sup> place” answer. Some of the comments from the end of the questionnaires indicate that cross-disciplinary research may be somewhat disputed. Some (around 10) said that this is granted too much weight (in RCN or elsewhere). Others (around 5) pointed at what they saw as barriers to quality assurance of cross-disciplinary funding applications. Figure 5 also shows that very few researchers in (more or less) publicly funded R&D units consider commercialisation to be a central task for RCN.

Explanations for the strong priority given to basic research might be found in the open comments from the questionnaire’s last page. Around 15 respondents claimed that the basic level of funding in the university and college sector is frequently very low, which leads researchers from these institutions to search for money elsewhere. RCN is a “natural choice”, although many of the programmes are not primarily oriented at basic research. Three respondents wanted RCN to get more involved in artistic development work (these represented the Norwegian Academy of Music). Four state college respondents emphasised that competitions for R&D funding should be open to researchers from all settings (they felt that they had been “left out of the good company” in some instances).

A tension can be seen in the comments between those who want a set-aside for younger researchers (“to reduce malevolent effects of “generation shifts in the research system”), funds for alternative approaches and securing a basic level of competence in research units, and those who want increased concentration of resources and other more “elitist” mechanisms. The successful respondents when it comes to RCN funding are mainly in favour of “elitism” (like project funds as an automatic reward for publishing in prestigious scientific journals), although some of these also argue for a set-aside for highly original or risky applicants with no glances at past performance.<sup>4</sup>

As mentioned, there are some significant differences between sectors. Adjusted for number of respondents, the priorities are depicted in Figure 6.



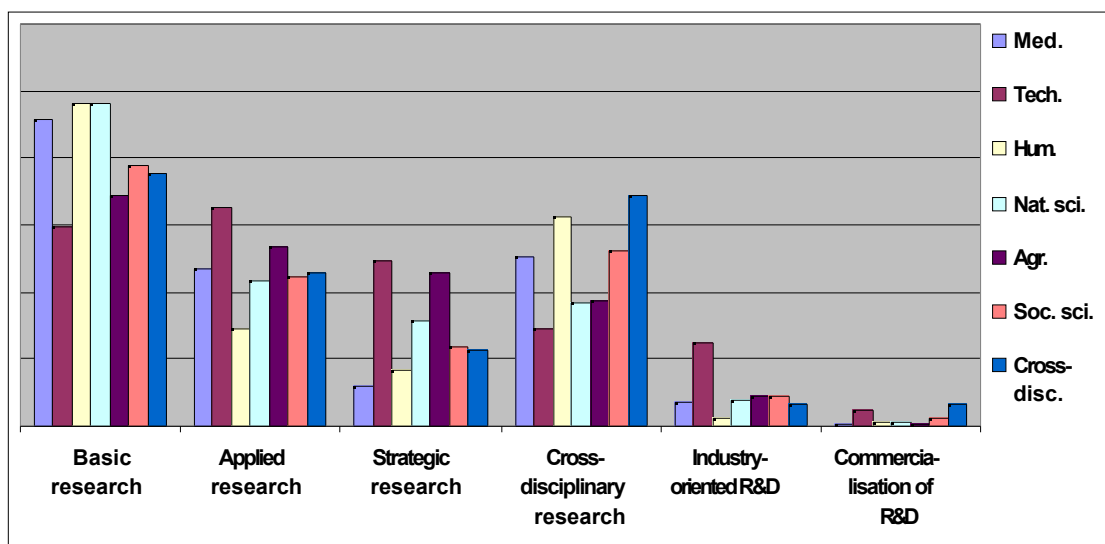
**Figure 6. Relative R&D priorities and sectors.**<sup>5</sup>

<sup>4</sup> See page 32 for a more general treatment of the open comments from the questionnaires.

<sup>5</sup> This figure is created by adding the relative scores of each item (1<sup>st</sup> place = 3, 2<sup>nd</sup> place = 2, 3<sup>rd</sup> place = 1) for each sector and dividing by the number of respondents from each sector. The intention is to make a graphical representation of relative weights within and between sectors, although the “number” in itself does not yield any useful information (the scale label is thus omitted).

Several interesting points can be made from this figure. Firstly, basic research has the highest relative score in all setting. Secondly, “strategic research” is most popular in institutes, who on the other hand have the least liking (of the sectors) for cross-disciplinary research. This is perhaps a bit surprising, given that three out of four of the respondents that come from a “unit with a very high level of cross-disciplinarity” also come from the institute sector. Applied research receives the highest score in the state college sector, where industry-oriented R&D is equally popular as in institutes.

Differences between disciplines are depicted in Figure 7.



**Figure 7. Relative R&D priorities and disciplines.**<sup>6</sup>

It can be noted that basic research scores highest in all fields except technology, where applied research is valued slightly higher and industry-oriented R&D scores much higher than in the other fields. Strategic and applied research get the highest priorities in technology and agriculture/fishery-related disciplines, while cross-disciplinary research scores highest in the humanities, social science and cross-disciplinary units (naturally).

The preferences concerning *various kinds of support* are shown in Figure 8 (here N=535). Behind the “Other” label, we find various “woolly” statements, like “good projects”, “quality” and “good ideas”. The largest share of “Other” answers is post.doc.-positions, however. PhD scholarships and international collaboration are highest on the list, and many want a focus on large projects. Stays abroad and scientific equipment are also common answers.

<sup>6</sup> See Note 5 for an explanation of how the figure is made.

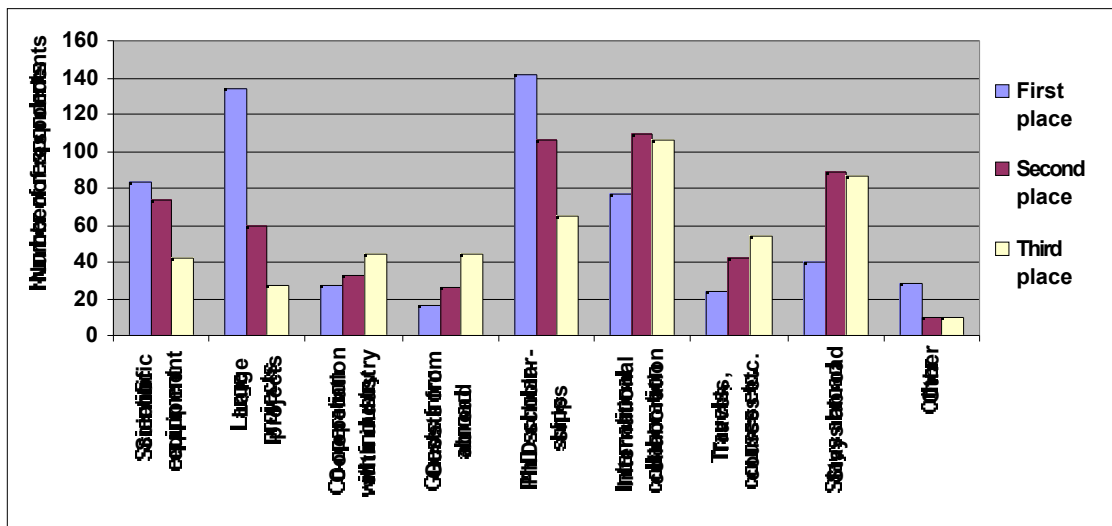


Figure 8. Support types RCN should give more priority to.

These priorities have also been rated and adjusted for number of respondents in each sector, and this is depicted in Figure 9. Some interesting differences emerge. Firstly, the institute sector calls out for more large projects. This can probably be explained if many institutes live off relatively short-term and/or small contracts. Secondly, universities give a lower score to co-operation with industry than all the other three sectors (and state colleges and university colleges have almost same score as institutes). Thirdly, universities and university colleges want a stronger focus on PhD scholarships (this also seems natural). Fourthly, the state college sector gives a higher priority to the category “Travels, courses etc.” than any of the other institutional settings. This might be explained if state colleges until now have not focused very much on R&D work, but that they are trying to change in this respect.

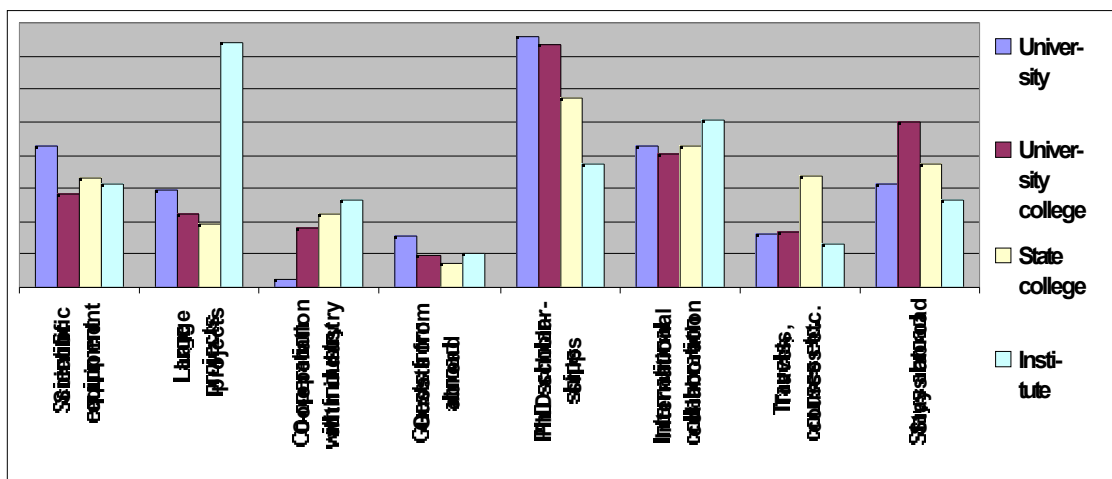
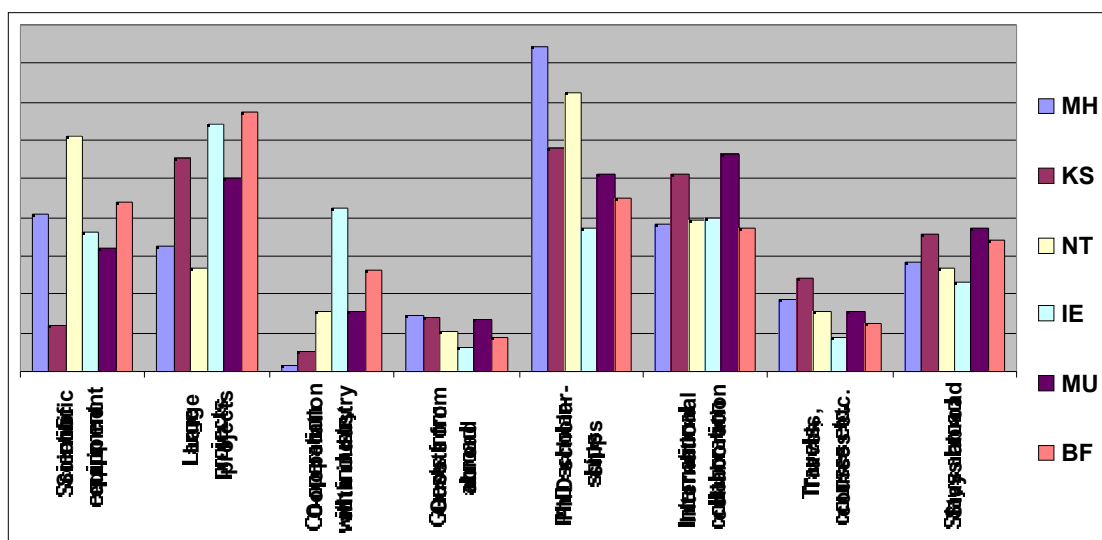


Figure 9. Support types and sectors.<sup>7</sup>

There are few significant differences between fields and RCN Divisions. This is shown in Figure 10 (here, RCN Divisions are used because this picture varies a bit more than for fields). Most of the differences seem natural, e.g. the high need for equipment in the natural sciences (NT) and the low need in the social sciences/humanities (KS). IE stands out for its focus on industry co-operation (the score of BF is also relatively high in this respect) and large projects. The scores are relatively balanced when it comes to international collaboration, stays abroad

<sup>7</sup> See Note 5 for a further description about how the figure is made.

and guests from abroad. MH has the most “basic research” profile, which is natural, since most of this Division’s respondents come from the university sector.



**Figure 10. Support types and RCN Divisions.<sup>8</sup>**

Some of the open comments at the end of the questionnaire elaborated these priorities. Five respondents from the natural sciences wanted prolonged PhD scholarships in experimental fields. Six others wanted increased “operating funds” that are granted with the scholarships because the present levels are not sufficient, particularly in technology and the natural sciences, it was claimed. There was also a call for a quicker application process and continuous possibilities for applying for PhD scholarships (not just once a year). Two professors saluted that PhD scholarships had been a priority area for a long time, but stated that RCN now needed to develop a strategy for keeping these people in the research system after they have finished their degree. As seen in Figure 8, post.doc. positions is seen as a relatively important priority in this respect.

Three pointed out that medium-priced scientific equipment (100 to 700 thousand NOK) falls between two stools in the present system, and/or that it should be easier to co-ordinate project applications with applications for equipment support. One respondent wanted a lessened focus on EU programmes, while two others wanted better co-ordination (thematically and financially) with EU R&D support.

To sum up priorities briefly, the respondents generally want a higher priority to basic research, but the wishes also vary across sectors and disciplines. There is a relatively strong positive attitude towards cross-disciplinary research (although a minority seems not to like this type of research), and the institute sector wants a focus on larger projects and international collaboration. PhD scholarships, international collaboration and stays abroad are highest on the priority list of the universities and university colleges. These are also high priorities for the state colleges, who more than the other institutional settings want a stronger focus on travels, courses etc.

<sup>8</sup> Again, cf. Note 5.

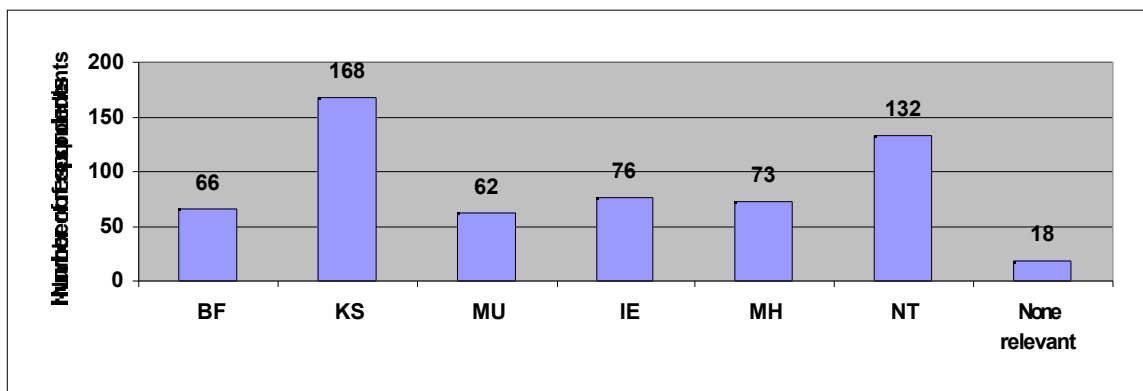
# Contact with the Research Council

In this chapter, we sketch the respondents reported contact and interaction with the Research Council. We use the Norwegian abbreviations for the RC Divisions:

- Bioproduction and Processing (BF)
- Culture and Society (KS)
- Environment and Development (MU)
- Industry and Energy (IE)
- Medicine and Health (MH)
- Science and Technology (NT)

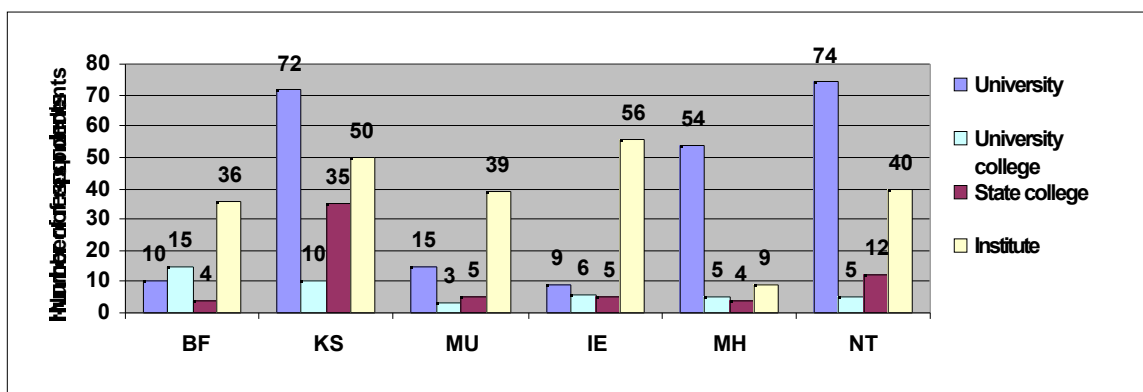
## Contact with the Council's Divisions

In question 11, we asked about the Research Division of RCN from which the respondents most often had received funding (or the most likely division in case of no funding). The results are displayed in Figure 11 (N=595; 18 missing values). Only three percent (18) of the respondents stated that none of the Divisions are relevant (only one of these respondents had ever received RC support).



**Figure 11. Contact with the RC Divisions (N=595).**

In Figure 12, we have added the institutional backgrounds. MH is particularly dominated by the universities, while IE is very important to many research institutes. KS is the main source of RC support for the state colleges. The picture emerging from Figure 12 follows naturally from the disciplinary concentration in the sectors (cf. page 7). It can be seen that some divisions are mainly oriented at one or two of the sectors (like MH, IE and to some extent MU), while others have a broader orientation (see also the section “Multiple contacts” below).



**Figure 12. RC Divisions and institutional setting (N=595).**

A similar picture is shown in Figure 13 based on the disciplinary distribution of the respondents. Here, it is interesting to note that all but one of the researchers from cross-disciplinary units “have found a home” in one of the RC Divisions. KS and MU seem to be the two most significant divisions for cross-disciplinary work, although all RC divisions are mentioned as relevant in this respect.

It can also be seen that although KS is the most important division to the social scientists, these researchers also find a fair amount of support in MU, MH, and to some extent, IE. Natural scientists have several possibilities as well, in addition to NT (and five percent of them state that none of the divisions are relevant). On the other hand, KS seems to be the only funding option for the respondents from the humanities, as MH is the more or less only option for the medical scientists. Researchers from agriculture/fishery-related fields find their main support in BF and to some extent MU.

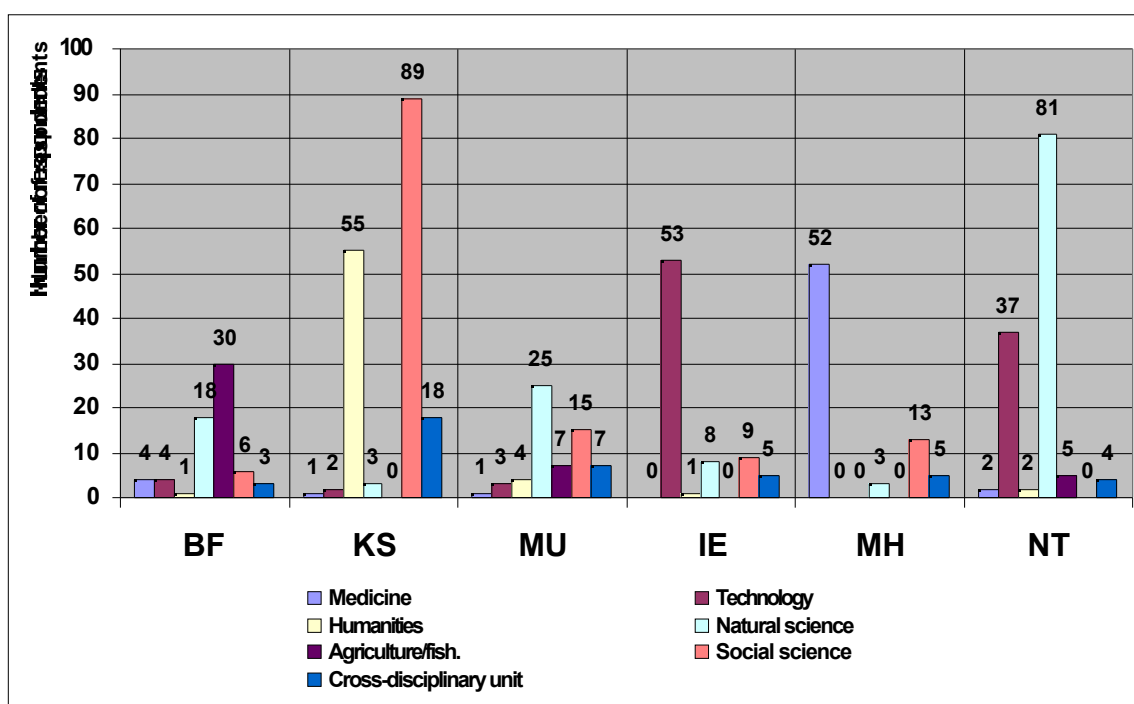


Figure 13. RC Divisions and disciplinary background (N=595).

## Multiple contacts

Although we asked the respondents to name a single division, around one out of six (a little more than 100) selected more than one. These answers give some indications about overlap (and lack of it) in the RC, and are shown in Table 6. In parentheses, we have added the sector where the overlap mainly can be found.

Divisions	NT	BF	MU	KS	MH
IE	21 (i)	2	4	9 (i)	2
NT		14 (u)	17 (u/i)	8 (i/u)	5
BF			10 (i/uc)	1	6 (u)
MU				15 (i/u)	4
KS					8 (all settings)

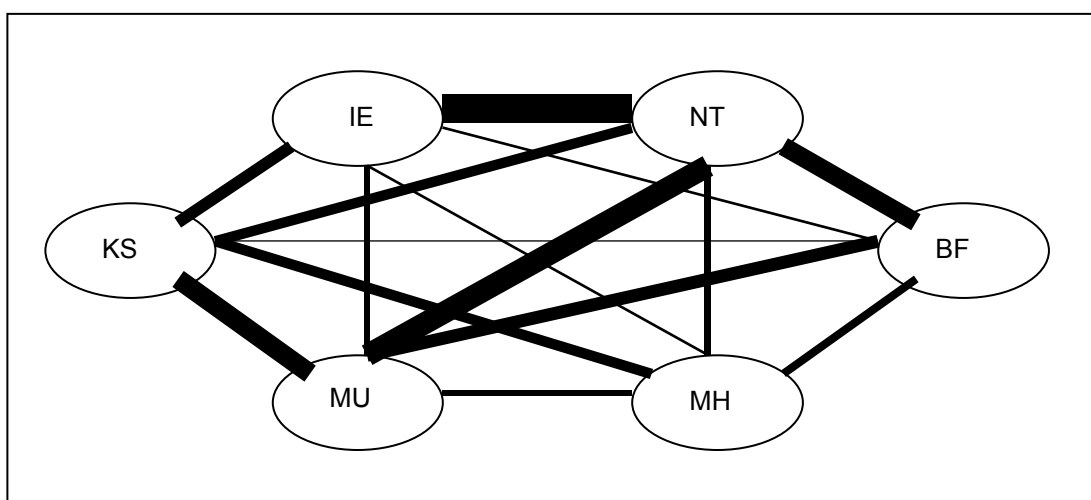
Table 6. Funding from multiple divisions.

The respondents who named multiple divisions have either very little RC funding or a very high degree of interaction with the RC. Researchers who are not familiar with RCN and its divisions,



may feel that several divisions are relevant. And, as indicated by Figure 13, the divisions do not perfectly correspond with traditional fields of learning. For instance, a social scientist (institute sector) wrote on the questionnaire that KS was her “most important” source of funding, but that IE and MU had also provided project funds. We also see some examples of respondents with a background somewhat “untypical” for their workplace (e.g. a humanist working at an industrially oriented technological institute). This can help explain why many listed several divisions, and explain why some respondents who do not “belong to” IE or BF (where the user-controlled programmes are found) have had experience with user-controlled programmes.

It can be noted that all possible links were mentioned at least once (only the BF-KS link had one occurrence). The strongest links appear between IE and NT, NT and both BF and MU, as well as MU and KS. This is depicted in Figure 14, which is simply a graphical representation of Table 6.



**Figure 14. Links between the RC Divisions.<sup>9</sup>**

The figure shows that some divisions overlap relatively much with many other divisions (e.g. NT, also KS), while others overlap mainly with one or two of the other (e.g. IE and BF). From this picture, it seems only MH has a low or moderate interaction with the other divisions. The linkages are largely institution-based, e.g. behind the IE-NT link are mainly institute answers; behind the NT-BF are university respondents (NT-MU can be found in both universities and institutes). All four institutional settings are found behind the links KS-MU, IE-NT and KS-MH.

## Successful applicants

We asked a question about “success” when it comes to receiving several types of funding, as well as engaging in other tasks in/for the RCN in the period 1993-2001 (since the start of the merged research council). A general summary is given in Figure 15. The items are:

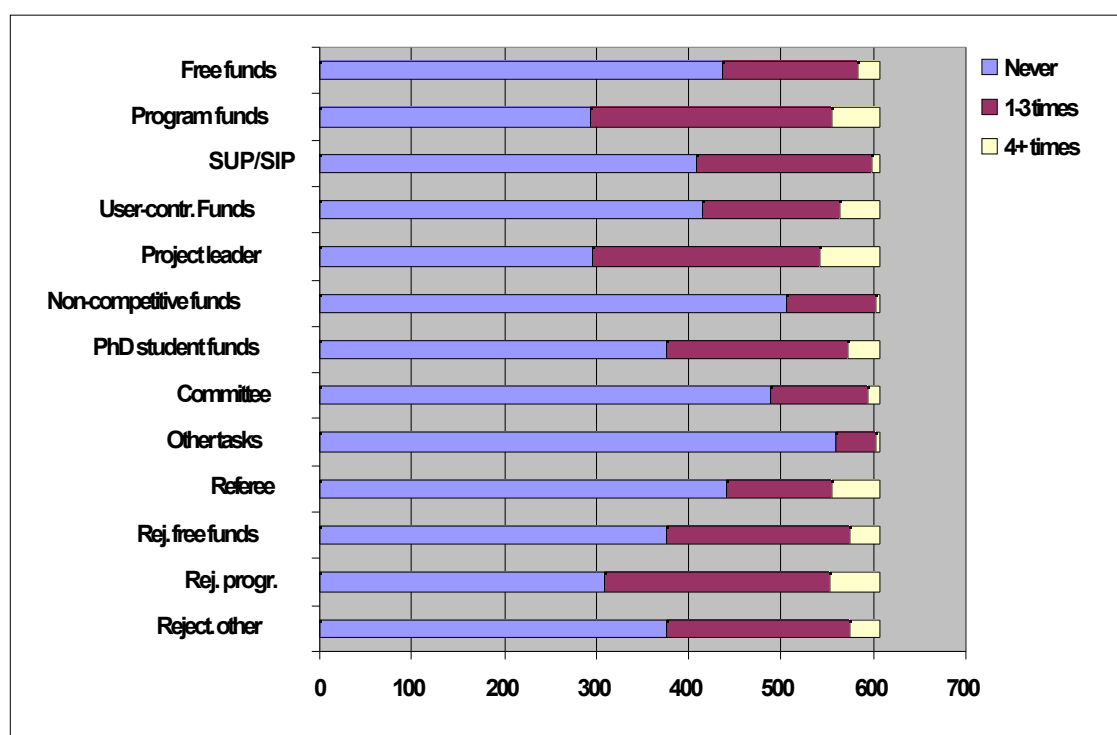
- Free funds
  - Programme funds (not user-controlled)
  - Strategic university programme (SUP) or strategic institute programme (SIP)
  - User-controlled funds
- 
- Leader for RCN-supported project

<sup>9</sup> This figure is based on Table 6, i.e. based on 126 reported “multiple contacts”. Each of the links is made into \_ pt. line width, e.g. resulting in a 10.5-pt. line depicting the IE-NT link.

- Received funding outside of regular calls for proposals/competitions
  - PhD students funded by RCN
  - Been member of program committee, disciplinary committee, control group etc.
  - Had other tasks in RCN (Division board, evaluation group etc.)
  - Referee/consultant for RCN applications
- 
- Application for free funds rejected
  - Application for programme funds rejected
  - Application for other funds rejected

## Moderate correlation between the various interaction items

The figure clearly shows that for all the funding types and interactions in the list, the majority of respondents have never received or taken part in them. Furthermore, most of those that have received funds or carried out other tasks have a relatively low degree of interaction for each type (1-3 times in the 8-year period in question). There is a small group that has a much higher degree of interaction, and as the later analysis will show, “success” in one respect often means success in many other respects as well.



**Figure 15. Contact with the Research Council of Norway.**

A bivariate correlation matrix can be found in Table 7. Here, an asterisk denotes statistical significance at the 0.01 level (Spearman's rho). N = 613 – all respondents at least partially answered this question, and when one of the items was left blank, we have assumed “0 times”. Note that all the correlation coefficients are positive with three exceptions only (free funds with strategic programmes, free funds with user-controlled programmes and free funds rejections with other tasks). The highest coefficient is 0.452 (programme funding with project leadership).

Bivariate correlation coefficient matrix	Reg. prgs.	Strat. prgs.	User-c. prgs.	Project leadership	Funds outs. prgs.	PhD stud. funds	Committee memb.	Other tasks	Referee	Rej. free funds	Rej. prgs.	Rej. other funds
Free funds	,126*	-,001	-,082	,193*	,103	,390*	,111*	,084	,156*	,443*	,086	,135*
Reg. prgs.		,242*	,128*	,452*	,211*	,316*	,174*	,200*	,198*	,091	,450*	,164*
Strat. prgs.			,352*	,325*	,080	,179*	,129*	,087	,042	,007	,238*	,239*
User-c. prgs.				,362*	,144*	,094	,163*	,085	,085	,021	,223*	,303*
Leadership					,286*	,437*	,272*	,251*	,253*	,130*	,350*	,263*
Funds x-cfp						,189*	,106*	,111*	,124*	,093	,167*	,122*
PhD sch.ships.							,213*	,218*	,259*	,232*	,237*	,142*
Committee m.								,291*	,335*	,062	,120*	,075
Oth. tasks									,250*	-,012	,172*	,044
Referee										,126*	,161*	,075
Rej. free fnds.											,296*	,268*
Rej. prgs.												,387*

**Table 7. Bivariate correlation matrix RCN interaction (Spearman's rho; \*= $p < 0.01$ ).**

The table indicates some interesting (and many obvious) relationships:

- There is a relatively strong relationship between receiving strategic programme funds and user-controlled programme funds (in both categories, the institute sector dominates, cf. next chapter). There is no significant relationship between receiving free funds on the one hand and receiving strategic and user-controlled funds on the other.
- “Success” when it comes to programme funding (all three types) is strongly correlated with project leadership (“I have been leader of a project funded by RCN”).
- For each of the main funding types, there is a relatively strong relationship between the number of times one has received funds and the number of times one’s application has been rejected.
- Funding from regular programmes is significantly related to all other items in the list except rejections of free funds applications.
- Project leadership displays a significant correlation with all the other items in the list.
- PhD students funded by RCN is also significantly correlated with all the other items in the list apart from user-controlled programme funds.
- Membership in programme committees, professional/disciplinary committees, control groups etc. is significantly positively correlated with all the types of funding and interaction (but generally with lower correlation coefficients compared to project leadership), except rejections of free funds and rejections of “other funds”. This may indicate that the “most successful” researchers are included in various control tasks in RCN. It might also be evidence that funding decisions are to some extent carried out within an “Old boys network” (around 15 respondents mentioned this in open comments). “Other tasks” (Division board member, evaluation panel member) does not display a significant correlation with attainment of free-, user-controlled and strategic funds.
- Acting as referee is *not* related to attainment of user-controlled and strategic funds, and only weakly related to success in regular programmes and free funds. This may weaken the “Old boys” notion. It should also be remarked that the referees mainly come from the university sector, while successful applicants for strategic and user-controlled funds largely represent the institute sector (see below).
- Having received RCN funding outside of regular calls for proposals is not significantly related with free and strategic funds, and moderately correlated with the remaining items. The strongest relationship is with “project leadership”, which could be an indication that such leadership may be useful for establishing good personal links with RCN personnel.

## Mainly expected variations

The variations in the various items are mainly as expected (an in-depth treatment of the numbers related to each of the four funding mechanisms is found in the next chapter, starting with free funds on page 38). Universities are dominant in the “free funds” categories (both number of successful applications and number of rejections), while institutes and the IE Division dominate user-controlled funds. Full Professors (and similar) have a higher score than the other personnel categories on all items except strategic programmes, but the differences are greater in the committee/referee etc. items than in the funding items. Project leadership is found more often in institutes than in the other sectors (which may be natural, given that institutes also score somewhat higher on the funding items).

It is perhaps a bit surprising to see that the strategic programme category is more or less totally dominated by research institutes (these programmes also exist in the university sector). Strategic programmes are much more common in the technological and agriculture/fishery-related disciplines, in the cross-disciplinary units, and in the IE and BF Divisions. These funds are furthermore hardly ever found among the respondents that report MH as “their” RCN Division. It can be claimed that SIP’s are more important in the institute sector than SUP’s are in the university sector (cf. also the discussion on page 29 below of why people have not applied).

It is also interesting to see that more than one-fifth of the respondents have received funds outside of ordinary calls for proposals and competitions one or more times. This group of people mainly consists of senior personnel, and the score is higher in the university colleges than the other settings. There are no significant differences if we look at disciplines and RCN Divisions (the absolute score is slightly higher in the social sciences and agriculture/fishery-related disciplines and slightly lower in the natural sciences and the NT and KS divisions).

The referees largely come from the university sector, while committee membership and other tasks is found to an equal extent in institutes as in universities. In general, the state colleges have a low score on all items, significantly lower than the other three institutional settings. In fact, the highest absolute scores for the state colleges can be found on the three “rejection” items.

Senior personnel have a significantly higher number of rejections (all types), although the absolute differences in this respect are not as high as for most of the other items. Universities score higher (naturally) in the number of rejections for free funds, but institutes have a higher rejection rate when it comes to programmes and other types of funding. The cross-disciplinary scientists report a much higher number of programme funding rejections than the others, but they also have the highest funding success score (again, see also the discussion of each of the four main funding mechanisms starting on page 38).

## Indicators of “Total interaction” and “Total funding”

All the various types of funding and interaction can be combined in one or several indicators. When creating one index for “Total interaction” and another for “Total funding”, several interesting points can be seen.<sup>10</sup> Highly significant differences exist when it comes to scientific position, age, group work, sector, discipline/RCN Division and other variables. If we only

---

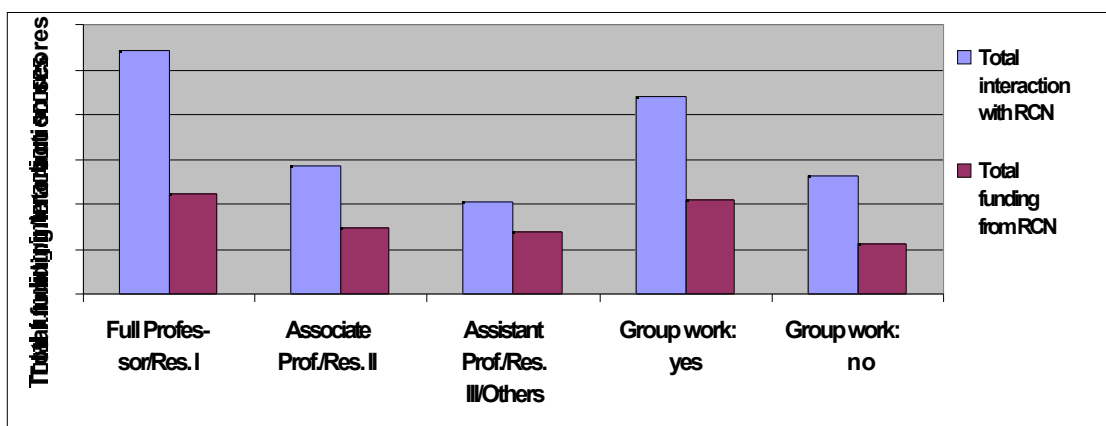
<sup>10</sup> The indicator is made simply by adding the scores for all the items of question 12 in the questionnaire – 0 times = 0, 1-3 times = 1 etc. Because of the high correlation between attainment of a specific type of funds and the number of rejections of applications for the same type of funds, we decided to exclude the three rejection items from the indicator (we did also make an indicator where these items were included, but no different relationships emerged, although the differences found were somewhat greater).

include the various funding types in the indicator,<sup>11</sup> largely the same relationships emerge. The basic statistics for the indicators are listed in Table 8. (These indexes will also be used when we try to find differences in the answers to other questions of the survey).

Indicator	Minimum	Maximum	Mean	Std. deviation
<b>Total funding</b>	0 (147 respondents)	10 (5 percent have a score 5)	1,75	1,56
<b>Total interaction</b>	0 (108 respondents)	27 (5 percent have a score 10)	3,80	3,40

**Table 8. Basic characteristics of the Total Funding and Total Interaction indicators.**

Some of the relationships are sketched in Figures 16 through 19 to give a picture of the relative differences (for some reason, Microsoft Word does not want to show number next to the vertical axis in these figures – but every horizontal line equals an additional score of 1 in the indicators).



**Figure 16. Scientific position, group work and RCN interaction.**

The clearest relationship is related to position (cf. Figure 16) – the total interaction score of the Full Professors (and similar in institutes) is almost double that of the Associate Professors and close to three times that of the Assistant Professors. If we only look at funding, the difference is not as great, and all positions other than Full Professors have about the same mean score. The age difference is not nearly as obvious (but statistically significant) – the “middle group” scores slightly higher than the oldest, and 30 percent higher than the youngest.

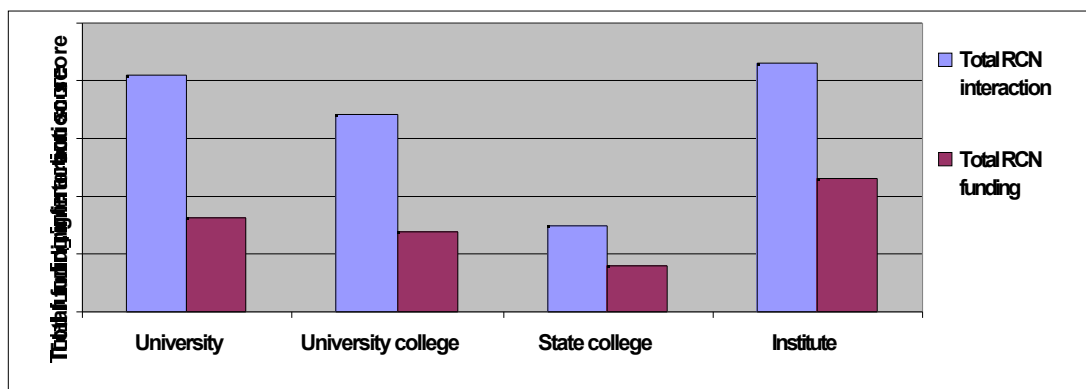
It can also be added that those who rank their unit as “internationally leading in some specialties” or as one of the “strongest in Norway”, score significantly higher than those who rate the quality of their research unit at the lower end of the scale. In addition, the respondents who state that they “work in the mainstream of the discipline”, have a significantly higher total interaction/funding score than the ones disagreeing to this statement.

Group work also emerges as a very important factor. The ones that work in formal groups, have a much higher total interaction score (mean = 4.4) than those that do not work in groups (2.6). If we only include funding variables, the relative difference is even higher.<sup>12</sup> Only the item

<sup>11</sup> Cf. Note 10 for how the indicator is made. The “Total funding” indicator includes the four first items of Figure 15.

<sup>12</sup> One reason for this strong relationship could be that the ones working in groups report a higher number of projects, as projects to a larger extent may be shared between the group members (resulting

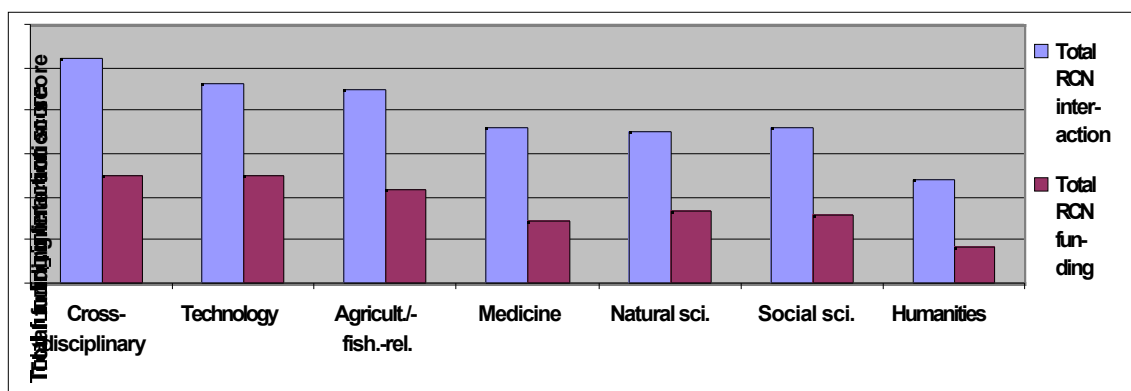
“I have received funds outside of regular competitions/calls for proposals” does not yield a significant difference between the group workers and the non-group workers. Those working on their own may have to rely more on personal contacts in the funding institutions, and their funding needs may be sufficiently small to be able to live off the money in the system not part of formal programmes and competitions.



**Figure 17. Sectors and RCN interaction**

Looking at sectors (Figure 17), institutes receive the highest total interaction score (mean = 4.3), followed by universities (4.1), university colleges (3.4) and state colleges (1.5). The differences are higher if we only look at funding. Institutes again lead the list (mean total funding score 2.3), and after that we find universities (1.6), university colleges (1.3) and state colleges (0.8).

It should be added that we asked about the number of times the respondents had received different types of funding etc., not the level of funds. As was seen from Table 5, the reported share of RCN funding is higher in universities and university colleges than in institutes (cf. page 8).

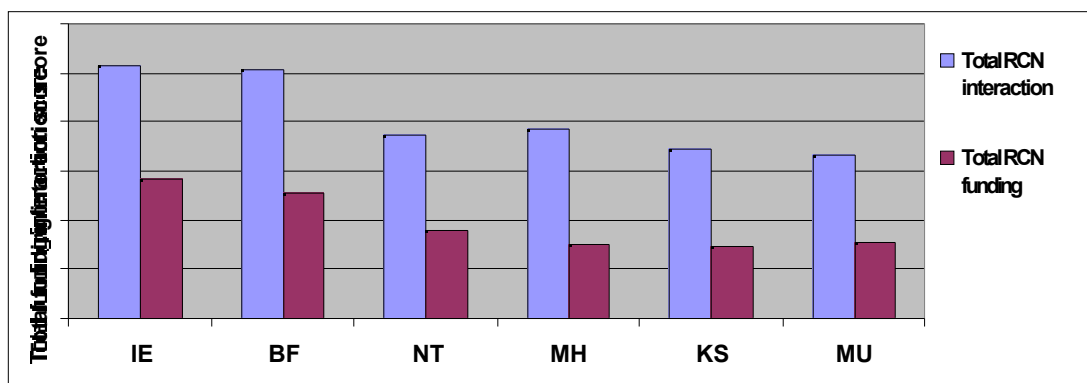


**Figure 18. Disciplines and RCN interaction**

The cross-disciplinary units are at the highest end of the discipline list (cf. Figure 18) (mean total interaction score 5.2), followed by technology (4.6), agriculture/fishery-related disciplines (4.5), medical and social sciences (both 3.6), natural sciences (3.5) and finally the humanities (2.4). On page 12, we saw that the respondents gave cross-disciplinary research a high priority when they were asked about what kind of research they would like RCN to support

in a higher number of projects for each individual). As can be seen from the questionnaire, we asked the respondents only to report projects where they had been involved personally or people they are completely responsible for (exemplified with doctoral students and research assistants).

more. Looking at Figure 18, it can be claimed that cross-disciplinary research is quite successful in RCN (and in addition, the cross-disciplinary units receive a high proportion of their funds from other Norwegian public sources, cf. Table 5 on page 8).



**Figure 19. Respondents “belonging to” RCN Divisions and RCN interaction**

A similar picture emerges when we look at RCN Divisions (Figure 19). IE and BF top this list (both with mean score 5.1), followed by MH (3.8), NT (3.7), KS (3.4) and MU (3.3). If we exclude the variables not related to money, the relative scores of IE and BF are even higher (and IE is alone at the top of the list).

The mean score of men (total interaction, total funding, total number of rejections) is slightly higher than that of women, but the standard deviation of the male researchers is much higher and the difference in means is statistically significant for interaction only (more men as reviewers, in committees etc. although the difference for each item is not statistically significant). There are no differences in any of the single items either, except rejections in applications for free funds (men have a significantly higher score). This is in fact somewhat surprising, given that the largest proportion of men are Full Professors/Researcher I, while the largest group of women are Associate Professors/Researcher II. On the other hand, there are relatively more women in the institute sector, which has the highest funding success rate. A closer inspection of the data can be seen in the analysis below.

## Categories based on interaction and funding

As was seen in Table 7, the correlation between the various items is generally relatively high (and statistically significant). For example, we saw that a high rejection rate when it comes to free funds (or programmes etc.) is strongly correlated with a high success rate in the same aspect. The ones that participate in committees and carry out other tasks are, at least to some extent, the same ones that receive funding (and rejections).

The data analysed above can be used to split the respondents into four distinct groups of roughly similar size: no interaction (score 0 and 1) and very high degree of interaction (score higher than 6), and two intermediate groups. If we look at funding, around 24 percent of the respondents have never received RC funding the last eight years, while 29 percent have a funding score of more than three (i.e. three boxes ticked with “1-3 times” or one “1-3 times” and one “4-6 times etc.”). The remaining 47 percent fall into the two intermediary categories (Medium low: 1-3 times and Medium high: 1-3 times for two different funding types or 4-6 times of one type).

The main characteristics of the four groups based on the “Total interaction” indicator are summarised in Table 9, while Table 10 is based on the “Total funding” indicator. In both tables, we use percentages; e.g. 45 percent of those in Full Professor/Researcher I positions are in

the high interaction category. In this way, we make the differences between the various groups more clear (since the groups are of different size).<sup>13</sup>

High RCN interaction (interaction score 6-27, 165 respondents in total)				Medium high interaction (interaction score 4-5, 119 respondents in total)			
<i>Position:</i>		<i>Institution:</i>		<i>Position:</i>		<i>Institution:</i>	
Full prof./Res. I:	45%	University:	33%	Full prof./Res. I:	23%	University:	20%
Assoc. p./Res. II:	16%	University coll.:	23%	Assoc. p./Res. II:	19%	University coll.:	23%
Assis. p./Res. III:	08%	State college:	07%	Assis. p./Res. III:	11%	State college:	05%
Other positions:	09%	Institute:	28%	Other positions:	09%	Institute:	22%
<i>Sex:</i>		<i>Discipline:</i>		<i>Sex:</i>		<i>Discipline:</i>	
Male:	30%	Medical science:	22%	Male:	18%	Medical science:	25%
Female:	18%	Technology:	38%	Female:	25%	Technology:	21%
		Humanities:	16%			Humanities:	09%
<i>Region (not stat. sign):</i>		Natural science:		<i>Region (not stat. sign):</i>		Natural science:	
North Norway:	27%	Agr./fish.:	31%	North Norway:	17%	Agr./fish.:	31%
Middle Norway:	35%	Social science:	25%	Middle Norway:	21%	Social science:	18%
West/South N.:	22%	Cross-disciplinary:	32%	West/South N.:	22%	Cross-disciplinary:	18%
East Norway:	26%			East Norway:	20%		
Medium low interaction (interaction score 2-3, 154 respondents in total)				Low RCN interaction (interaction score 0-1, 175 respondents in total)			
<i>Position:</i>		<i>Institution:</i>		<i>Position:</i>		<i>Institution:</i>	
Full prof./Res. I:	18%	University:	20%	Full prof./Res. I:	13%	University:	28%
Assoc. p./Res. II:	31%	University coll.:	26%	Assoc. p./Res. II:	35%	University coll.:	26%
Assis. p./Res. III:	30%	State college:	28%	Assis. p./Res. III:	52%	State college:	60%
Other positions:	25%	Institute:	30%	Other positions:	56%	Institute:	20%
<i>Sex:</i>		<i>Discipline:</i>		<i>Sex:</i>		<i>Discipline:</i>	
Male:	25%	Medical science:	21%	Male:	27%	Medical science:	31%
Female:	25%	Technology:	28%	Female:	33%	Technology:	14%
		Humanities:	19%			Humanities:	55%
<i>Region (not stat. sign):</i>		Natural science:		<i>Region (not stat. sign):</i>		Natural science:	
North Norway:	37%	Agr./fish.:	24%	North Norway:	20%	Agr./fish.:	14%
Middle Norway:	18%	Social science:	35%	Middle Norway:	26%	Social science:	23%
West/South N.:	23%	Cross-disciplinary:	23%	West/South N.:	34%	Cross-disciplinary:	27%
East Norway:	24%			East Norway:	30%		

**Table 9. Characteristics of the four groups of total RCN interaction.**

All the differences listed in Table 9 are statistically significant (at least at the 0.05 level), apart from the “Region” variable. It can be noted that men dominate in the highest category, while there are more women in the “Medium high” and the “Low” categories. The main reason is that many more men are Full professor /Researcher I, and many of the interaction items (e.g. committee and panel membership, refereeing) are dominated by people in these positions.

Around two-thirds of the Full professor level researchers can be found in the two highest categories, while more than half of the Assistant professor level researchers and more than half of those in “Other” positions are found in the “Low interaction” group. Two-thirds of the researchers in Associate professor/Researcher II positions are in the two lowest categories. From Table 9, we can also see that universities and institutes are somewhat over-represented in the High interaction group. 60 percent of the state college respondents are found in the Low interaction group.

<sup>13</sup> This of course means that large-sized groups (e.g. university respondents, Full professors, natural scientists) may “dominate” more within one category than the tables indicate. For instance, in the High interaction category, where 45 percent of the Full professors can be found, more than 70 percent of the people are Full professors. In the same category, we find 7 percent of the state college representatives, who nevertheless constitute only 3 percent of the High interaction group.



When looking at fields of learning, it can be noted that almost three-fourths of the humanities respondents are found in the two lowest categories. Respondents from agriculture/fish-related fields and technology are over-represented in the highest categories. Around one-third of the respondents from natural science and medical science are found in the Low interaction group.

High RCN funding (funding score 3-10, 178 respondents in total)				Medium high funding (funding score 2, 122 respondents in total)			
<i>Position:</i>		<i>Institution:</i>		<i>Position:</i>		<i>Institution:</i>	
Full prof./Res. I:	41%	University:	28%	Full prof./Res. I:	20%	University:	18%
Assoc. p./Res. II:	22%	University coll.:	19%	Assoc. p./Res. II:	21%	University coll.:	19%
Assis. p./Res. III:	20%	State college:	07%	Assis. p./Res. III:	18%	State college:	14%
Other positions:	16%	Institute:	39%	Other positions:	19%	Institute:	24%
<i>Sex (not stat. sign):</i>		<i>Discipline:</i>		<i>Sex (not stat. sign):</i>		<i>Discipline:</i>	
Male:	32%	Medical science:	22%	Male:	19%	Medical science:	13%
Female:	22%	Technology:	51%	Female:	23%	Technology:	20%
		Humanities:	06%			Humanities:	12%
<i>Region:</i>		Natural science: 29%		<i>Region:</i>		Natural science: 17%	
North Norway:	32%	Agr./fish.:	36%	North Norway:	22%	Agr./fish.:	33%
Middle Norway:	47%	Social science:	23%	Middle Norway:	12%	Social science:	25%
West/South N.:	23%	Cross-disciplinary:	36%	West/South N.:	19%	Cross-disciplinary:	21%
East Norway:	23%			East Norway:	24%		
Medium low funding (funding score 1, 166 respondents in total)				Low RCN funding (funding score 0, 147 respondents in total)			
<i>Position:</i>		<i>Institution:</i>		<i>Position:</i>		<i>Institution:</i>	
Full prof./Res. I:	25%	University:	28%	Full prof./Res. I:	16%	University:	26%
Assoc. p./Res. II:	28%	University coll.:	38%	Assoc. p./Res. II:	30%	University coll.:	23%
Assis. p./Res. III:	33%	State college:	28%	Assis. p./Res. III:	29%	State college:	51%
Other positions:	31%	Institute:	24%	Other positions:	34%	Institute:	13%
<i>Sex (not stat. sign):</i>		<i>Discipline:</i>		<i>Sex (not stat. sign):</i>		<i>Discipline:</i>	
Male:	25%	Medical science:	33%	Male:	24%	Medical science:	31%
Female:	32%	Technology:	18%	Female:	23%	Technology:	12%
		Humanities:	37%			Humanities:	45%
<i>Region:</i>		Natural science: 25%		<i>Region:</i>		Natural science: 29%	
North Norway:	28%	Agr./fish.:	21%	North Norway:	18%	Agr./fish.:	10%
Middle Norway:	20%	Social science:	32%	Middle Norway:	21%	Social science:	19%
West/South N.:	29%	Cross-disciplinary:	21%	West/South N.:	29%	Cross-disciplinary:	23%
East Norway:	28%			East Norway:	25%		

**Table 10. Characteristics of the four groups of total RCN funding.<sup>14</sup>**

Turning to funding rather than “Total interaction”, it should be noted that the differences between men and women are no longer statistically significant (cf. Table 10). There are more women in the high and fewer in the low categories (compared with interaction). Differences between regions are on the other hand statistically significant when looking at funding, however. The main effect is a relatively strong dominance of “Middle Norway” in the High funding group. Cross-tabulations reveal that the reason is that more than half of the technology respondents come from Middle Norway (the Trondheim region, mainly), rather than any differences in “institutional mix” between the regions.

The position differences are much smaller in Table 10 than Table 9. The share of respondents in other positions than Full professor/Researcher I in the highest category has increased. A main reason is probably again that those in the lower positions rarely act as referees, committee members, etc. It can be claimed that the first interaction with RCN for a researcher is to get some kind of funding, and the other types of tasks may come later (even though one may be called in as a referee without necessarily having had a large amount of funding, as shown by the analysis above).

<sup>14</sup> It should be emphasised that this is based on the respondents’ reported number of times they have received RCN funding, not on the actual level of funds.

Differences between types of institutions are on the other hand greater when looking at funding rather than interaction. More institute respondents are found in the High funding and Medium high funding groups, while the three other institutional settings are more evenly distributed on the four categories. The fields of learning differences are also larger. A larger share of respondents from technology, agriculture/fish.-related disciplines and cross-disciplinary units are now found in the highest category. There are even fewer humanists in the high group (when comparing with interaction), but also fewer in the lowest category. Medical, natural and social scientists are more evenly distributed on the four funding categories.

It must also be mentioned that the researchers that are members of formal groups tend to dominate in the high categories of both funding and interaction. Respondents with little or no international collaboration cluster at the low end of the spectrum.

To explore somewhat more the indicators of interaction and funding, we have used linear regression analysis (including all numerical background variables). Significant variables in the linear regression equation (total interaction) are (in order of importance): funding from RCN (naturally), age, amount of administrative work (the respondents in senior positions have much more administrative tasks), amount of industrial funds and amount of international public funds. Looking at funding, the significant variables are funding from RCN, industry funding, administrative work, share of time spent on museum and teaching activities (negative relationship), and international public funds. It can be noted that age is not a significant variable in the funding equation. These two linear regression analyses are summarised in Table 11 and Table 12.

<b>Regression</b>	<b>R</b>	<b>R Square</b>	<b>Adj R Square</b>	<b>Std. Error of Estimate</b>	
<b>Tot. interaction</b>	.494	.244	.223	.30551	
	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Regression	1616.799	15	107.787	11.548	.000
Residual	5002.721	536	9.333		
Total	6619.520	551			
	<i>Unstandardised coefficients</i>		<i>Stand. coeff.</i>		
Model	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
(Constant)	-1.03900	1.158		-.897	.370
RCN funding	.00488	.006	.351	8.095	.000
Age	.00675	.009	.188	4.518	.000
Adm. work	.00390	.010	.198	3.888	.000
Industrial funds	.00249	.007	.174	3.788	.000
Internat. funds	.00278	.011	.112	2.459	.014

**Table 11. Linear regression, dependent variable "Total interaction".**

<b>Regression</b>	<b>R</b>	<b>R Square</b>	<b>Adj R Square</b>	<b>Std. Error of Estimate</b>	
<b>Total funding</b>	.490	.240	.219	1.3981	
	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Regression	331.098	15	22.073	11.292	.000
Residual	1047.771	536	1.955		
Total	1378.870	551			
	<i>Unstandardised coefficients</i>		<i>Stand. coeff.</i>		
Model	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
(Constant)	.05970	.530		1.126	.261
RCN funding	.00196	.003	.309	7.101	.000
Industrial funds	.00161	.003	.246	5.352	.000
Adm. work	.00155	.005	.173	3.382	.001
Museum work	-.00282	.012	-.095	-2.422	.016
Teaching	-.00090	.004	-.129	-.2130	.034
Internat. funds	.00105	.005	.093	2.032	.043

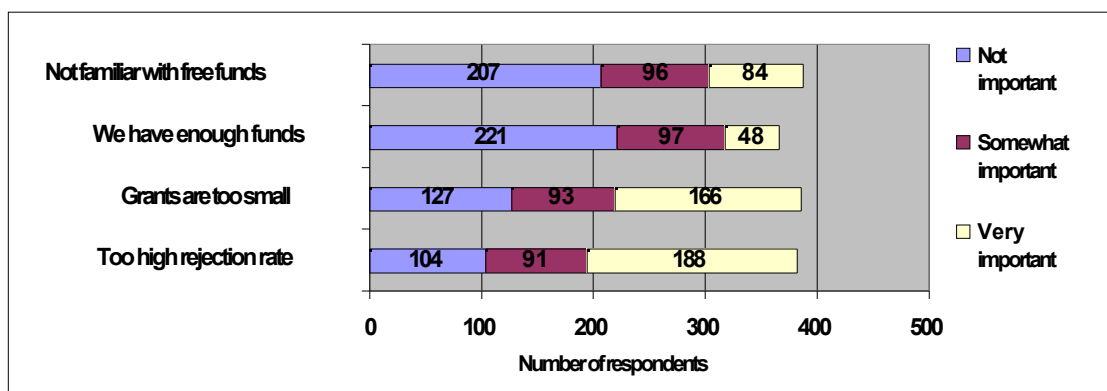
**Table 12. Linear regression, dependent variable "Total funding".**

We have also tried these linear regression models within each institutional setting. In the university sector, the significant variables are RCN funding, age and museum work (negative). None of the variables are found significant in the university college sector, while the only significant variable in the state colleges is time spent on research (probably natural here, since many state college departments are relatively strongly focused on teaching). In the institute sector, RCN funding, age, administrative work, industrial funds, international collaboration (negative, not clear why) and time spent teaching (which may indicate good relations to the university/college sector?) are significant.

## Reasons for not applying for funding

Those who had not applied for the various types of funding the last three years were asked to sketch their reasons for this. The general results are displayed in Figures 20-23 (all respondents who answered the various items are included; in the question, we asked only those who had not applied for the specific type of funding the last three years to answer the questions). There are no differences between men and women and between group workers and non-group workers in any of these questions/items. Furthermore, few differences can be found between those with much international collaboration and those with no international collaboration.

### Free funds – too small grants and high rejection rates?



**Figure 20. Reasons for not applying for “free funds”.**

As the figure shows, the two most important reasons viz. free funds are the perceived high rejection rate and the small size of the grants. It is perhaps a bit surprising that 40 percent stated that “We have sufficient funding from other sources” was somewhat or very important (the same can be seen in the three following figures, although the share is a little lower there). In other words, there are quite good opportunities for R&D funding for many of the respondents outside of the RC. Another reason may be that free funds are the most important to the humanities, where the basic funding proportion is the highest (compared to the other fields).

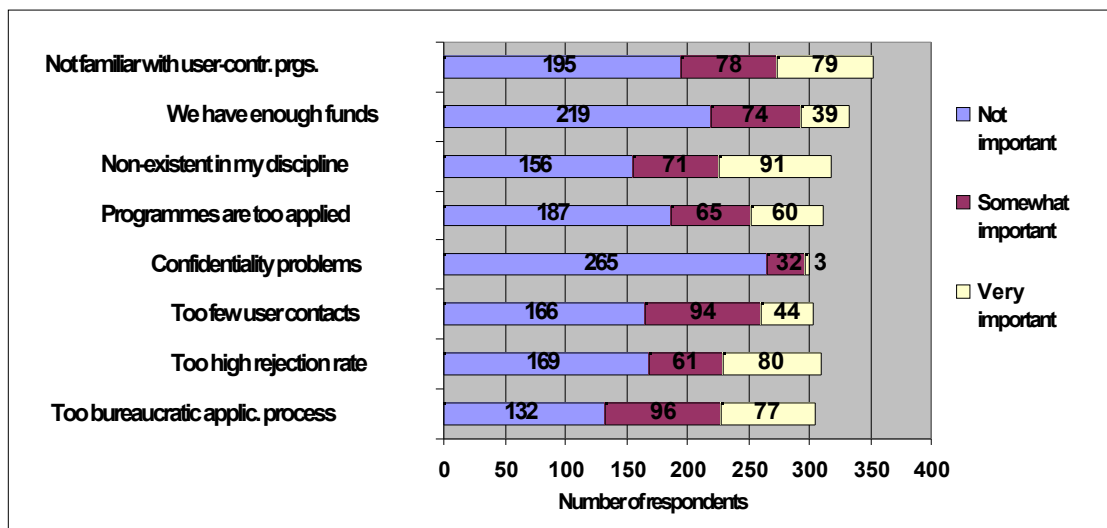
Respondents from universities are more familiar with free funds than the others, particularly those from university colleges. Technology and agriculture/fishery researchers (and those belonging to IE and BF) are less familiar with this type of funds than all the other respondents.<sup>15</sup>

<sup>15</sup> It bears repeating that all the differences discussed in the text are statistically significant at least at the 0.05 level unless otherwise specified.

There is no significant correlation between lack of familiarity and the other three items. The correlation is high between the two last items (too small grants and too high rejection rate), and a moderate correlation between “We have enough funds” and “Too high rejection rate”.

## User-controlled funds – “not for everybody”?

The most important reason for not applying for user-controlled funds (cf. Figure 21) seems to be “too bureaucratic application process”, although it may have been the term “bureaucratic” that appealed to many of the respondents (rather than this being a particular problem with user-controlled programmes). Respondents from the humanities and cross-disciplinary units were more concerned with bureaucracy, as were those from universities and institutes.



**Figure 21. Reasons for not applying for “user-controlled funds”.**

A moderately important reason is that user-controlled programmes do not exist for all disciplines. This is the most common answer in the universities as well as in medicine/MH and the humanities/KS (both mainly found in universities). Other moderately important reasons are that the research unit does not have the required user contacts, and the rejection rate is seen as high (but it is seen as much higher by those who do not interact with the RC). A technology professor stated that user-controlled programmes exist in his discipline, but that the users do not.

It should be noted that confidentiality/openness requirements do not seem to be problematic issues (although researchers from technology and cross-disciplinary units were more worried than the others). Respondents from universities and university colleges often state that user-controlled programmes are “too applied”, while state college and institute (and technology) representatives are much less “worried” about this. Those that have received other types of funding from the RC are also less negative about user-controlled programmes being too applied. Researchers from state colleges are more negative about the rejection rate than those from the other sectors.

The correlation between the two last items (too high rejection rate and too bureaucratic application process) is very high ( $>0.70$ ). The correlation between “non-existent in my discipline” and “programmes are too applied” is also high. There is a moderate (yet statistically significant at the 0.01 level) correlation between lack of familiarity and the items “non-existent in my discipline” and “too few user contacts”. Researchers who state that the programmes are too applied is a somewhat or very important reason for their not applying for user-controlled funds, also tend to state that they have too few user contacts.

## Strategic programmes – not very familiar?

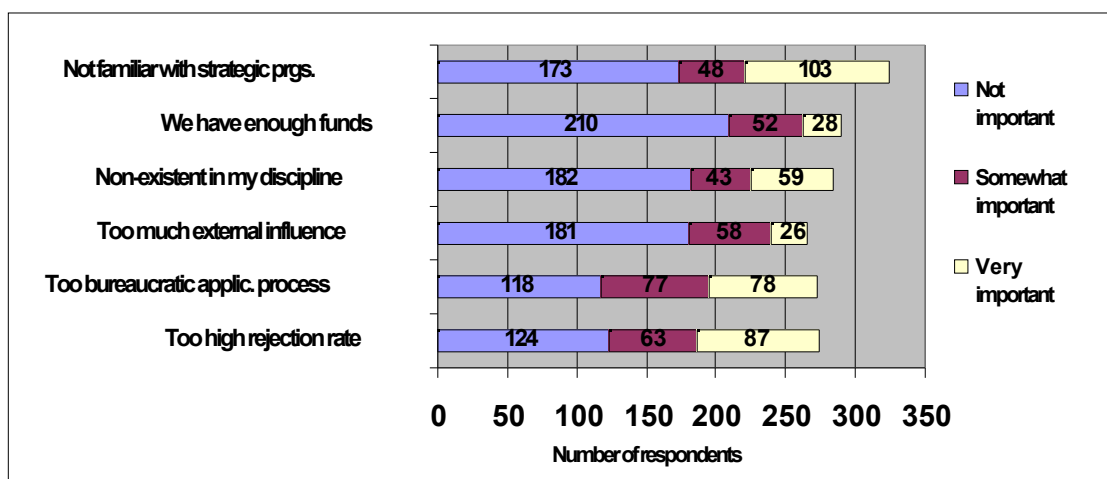


Figure 22. Reasons for not applying for “strategic programmes” (SIP/SUP).

For strategic programmes, again, bureaucracy in the application process and the rejection rate emerge as the most important reasons for not applying. Respondents affiliated with MU or with none of the RC Divisions are particularly negative about the rejection rate. It is interesting to note that the ones who have a high and moderate degree of interaction with the RC are much more concerned with bureaucracy than those with no interaction.

Almost 50 percent stated that lack of familiarity with strategic programmes is a somewhat or very important reason for not applying (this statement is over-represented in medicine/MH and the humanities/KS, while IE/BF respondents are familiar with the programmes). This is probably natural, as SIP's and SUP's do not exist in the whole research system (e.g. not in the state colleges). Institute researchers are much more familiar with these programmes than others, and they are less likely to say that they have enough funding from other sources. As the success data described (see above), SIP's are obviously very important to the institute sector.

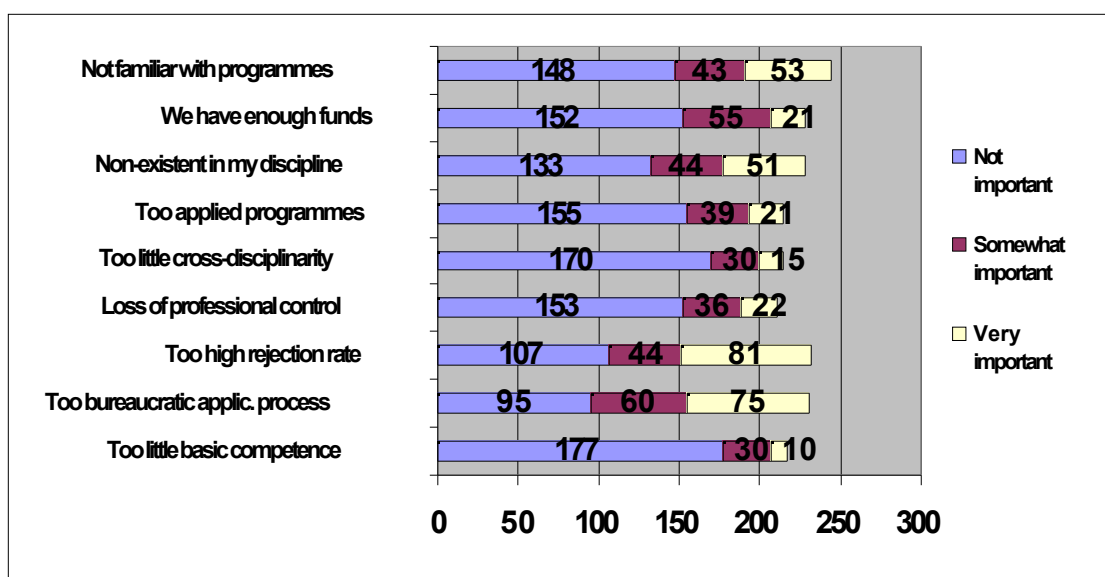
More university professors than representatives from the other institutional settings state that strategic programmes do not exist in their discipline. Senior personnel (i.e. Full Professors and similar in institutes) are furthermore much more “worried” about too much external influence than junior personnel.

Again, the correlation between “bureaucratic application process” and “too high rejection rate” is very high (0.77). The ones that state that “too much external influence” is a somewhat or very important reason for not applying for strategic programmes, also tend to think that the application process is too bureaucratic and the rejection rate too high. Lack of familiarity is not significantly correlated with any of the other reasons, apart from “too much external influence” (moderate correlation).

## Regular programmes – too applied for some researchers?

Figure 23 shows that the reasons for not applying for regular programme funding are similar to the ones for the other types of programmes. Bureaucratic application process, high rejection rate and non-existing in the discipline are the most important reasons given. It can be noted that “too little cross-disciplinarity” is not seen as a problem by the non-applicants.

Only a small share felt that their own research unit lacks the theoretical/basic competence needed for an application. Three-fourths of the respondents do not see programmes as too applied (the ones who do largely represent universities and university colleges). Institute and IE-affiliated researchers are not worried at all about “too applied” or loss of control over professional/scholarly decisions, neither are respondents from agriculture/fishery-related and technological disciplines and from cross-disciplinary centres.



**Figure 23. Reasons for not applying for regular programme funding.**

The correlation between “too high rejection rate” and “too bureaucratic application process” is again very high (0.77). “Lack of familiarity” is moderately correlated with “too little basic competence” and “too little cross-disciplinarity”. The ones that give “too applied programmes” as a reason for not applying, also tend to answer that “loss of professional control” is a somewhat or very important reason.

Some interesting points emerge when we look at all four funding mechanisms simultaneously. The correlation between the “lack of familiarity” items is generally very high (it varies from 0.42 between free funds and strategic programmes to 0.64 between user-controlled and regular programmes). This indicates that some researchers in the Norwegian research community lack familiarity with all the main RCN funding mechanisms. It can be added that the items “we have enough funds from elsewhere” is not significantly correlated with any of the other items (apart from “too high rejection rate” of free funds).

It is furthermore noteworthy that all the items about bureaucracy in the application process and too high rejection rate display strong intercorrelation. (e.g. 0,80 between bureaucracy related to strategic programmes and bureaucracy related to regular programmes). These items may be “popular” for researchers with a negative view of RCN. It can be added that “bureaucracy” in the application process received quite a few (around 15) open comments in the questionnaire – the general message being that the amount of work put into an application does not always correspond with the amount of resources granted. Around five people discussed rejection rates, mainly claiming that it is problematic that a large amount of good project applications do not get funded.

To conclude, it can be stated that familiarity does not seem to be a big problem, with a possible exception for the strategic programmes. In addition, those that have received one type of funding also have significantly more knowledge about the other ones. It is interesting to see that the researchers that have not applied for funding believe that the rejection rate is high and that the application process is bureaucratic. Since the ones with a lot of experience with the RCN are significantly less negative in these respects, this could mean that some people are prejudiced towards RCN.

## General comments are highly critical

In 110 questionnaires, the “open comment” space on the final page was used. Two comments were very positive (“RCN does a lot of interesting work”; “RCN is efficient in its use of funds”).

Six other comments were negative but blamed RCN's framework conditions ("RCN's problem is a lack of overall funding", "RCN is subject to too much political control and detailed guidelines from various Ministries" etc.). The remaining 102 comments are somewhat mixed or very negative towards different aspects of RCN.<sup>16</sup> For a few, the "solution" is to "dissolve RCN and give the money directly to the researchers". The majority does not seem to think this is a good idea, however, and their critical comments may be seen as suggestions for improvement (we try to treat them as such in the report). Some statements are of the type "Down with the RCN", "Down with the programmes" and "Away with that terrible bureaucracy", and most of these straightforward remarks come from university professors who have had little or no interaction with RCN (the medical sciences are over-represented).

However, almost half of the (negative) comments come from the respondents with the highest RCN interaction/funding scores. Below (and in the report as such), we mainly include statements from researchers that have a high degree of interaction with RCN (assuming they to a larger extent "know what they are talking about").

Some claims are repeated in relatively many questionnaires. These are bureaucracy, conventionality, lack of qualifications among RCN personnel, too much attention to non-scientific criteria (this is treated on page 36), and lack of continuity. In addition, around five university representatives claimed RCN focuses too much on institutes and industry. A few institute representatives, on the other hand, wants RCN to remove "unfair" competitive disadvantages in the research system due to university applicants having cheap student labour and low overhead rates.

"Bureaucracy" was rarely elaborated, although around 40 respondents used the term. The few who did elaborate, talked about e.g. "too much top-down control" and "blurred power structure and many conflicts of authority" in RCN. Around 20 statements were made using negative terms like "lack of originality", "small thinking", "mediocrity" and "conventionality". Some of the harshest comments in this respect come from researchers with very high interaction and funding scores. The same applies to the (around 20) negative remarks about the RCN personnel. Lack of researcher competence and lack of trust between the research community and RCN staff were the most frequent accusations.

To explore somewhat further if these negative attitudes and/or experiences are representative, are found in only parts of the research system etc., we have developed a "negativity" indicator. The indicator is based on question 17 (all items), question 18 (items a, d, e, f and k) and items 19e, 21h, 23g and 25f. A "positive" answer (agree or disagree completely) yields a score of 1, and a "negative" answer a score of 5. The theoretical minimum (most positive) is 14, while the theoretical maximum (most negative) is 70. In practice, the indicator varies from 24 to 64, i.e. utilising a wide range of the possible values.

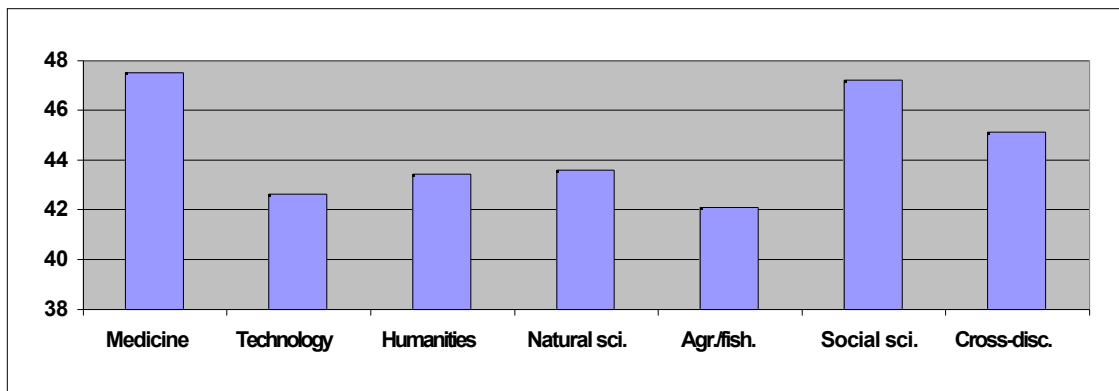
There are very few significant variations between various groups of researchers. There are no differences in "negativity" between the following groups:

- Scientific position
- Males/females
- Group work/no group work
- International collaboration
- Institution (university, institute etc.)
- Funding/interaction category (cf. Table 9 and 10)

---

<sup>16</sup> Because of the wide range of issues in the comments (from very general remarks about RCN to very specific experiences with certain programmes), they cannot be said to be statistically representative. We do not know whether these are the opinions/experiences of many or of an "angry few". Still, we choose to include some of these remarks in the report to allow for an "analytical representativity" when the results of this survey are compared with the results of other investigations that are part of the RCN evaluation.

There is a tendency that the ones who have received a particular type of funds (free, user-controlled etc.) are slightly more “positive” than those who have not received funds, but the differences are not statistically significant. Only the variables field of learning/RCN division and region (which may be explained by field of learning differences) emerge as significant. The field of learning differences are depicted in Figure 24.



**Figure 24. Mean “Negativity” scores in different fields of learning (all respondents).**

As the figure shows, the “most negative” ones are found in medicine and the social sciences, while the “most positive” ones are found in agriculture/fish.-related disciplines and technology. A similar picture emerges when looking at RCN divisions – the MH division stands out on the negative side, while the respondents belonging to the IE and BF divisions can be found at the most positive end of the scale (note also that the absolute differences in means are not very large). This is reflected in the region differences – respondents from technology-dominated Middle Norway emerge as “more positive”.

Still, we generally find indications that people with critical attitudes and/or negative experiences may be relatively evenly distributed in the Norwegian research system. It could also be added that the many beneficial effects of RCN funding described above and below are evidence of positive attitudes/experiences, but that these respondents to a lesser extent used the open comment space.

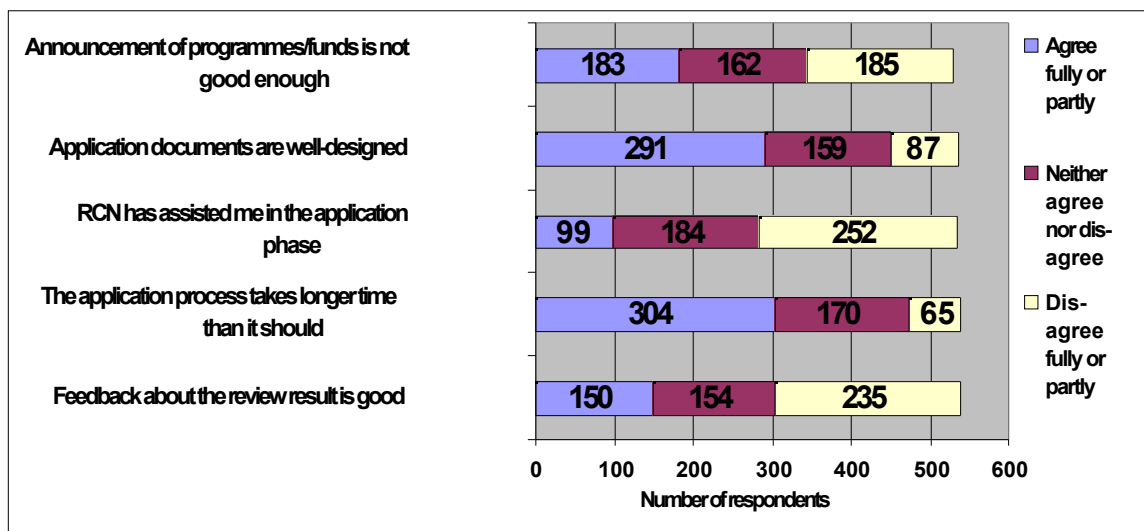


# Experiences with RCN

In this chapter, we describe the respondents' experiences with RCN when it comes to the application process, administrative procedures and the various types of funding.

## Impatience regarding the application process but acceptable application documents

A question with five items was asked about the application process, and the answers are summarised in Figure 25 (all respondents who answered are included).



**Figure 25. Views on the application process.**

The general picture is somewhat critical towards various aspects of the application process, but not extremely so. With two exceptions (application documents and RCN support), there are no differences between those with a high degree of RCN funding/interaction and those with no funding/interaction. Furthermore, there are no age, group work or sector differences.<sup>17</sup>

A large majority agrees (or is neutral) that “the application documents are well-designed”, but those with no interaction at all with RCN are significantly more “negative” than the others are. This is possibly a form of prejudice, or it could be that the documents themselves might lead people to not applying. Senior personnel (Full Professors) agree more strongly than the other personnel categories, women agree more than men, and respondents belonging to BF, MU and MH are more pleased with the application documents. Some open comments elaborate negative aspects of the documents. Three stated that too much information is needed even for very small projects. Two felt uncomfortable because in their opinion, applicants have to “overdo it” and brag about the project’s importance. Two institute respondents said it was problematic that all applications need to go through the head of the institute. Around 15 made comments about the time required to complete an application, particularly taking into account low success rates and the size of funds. The suggested solution was mainly to decrease the level of detail for applications in an “early phase” or to grant reimbursements for application costs.

<sup>17</sup> Again, all “differences” referred to in the text are statistically significant at least at the 0.05 level.

Almost two-thirds agreed (or agreed partly) that the announcement of programmes/funds is good enough (cf. Figure 25, first item), and there are no significant differences between categories of respondents. Those with little RCN interaction were much less pleased with the announcement than the ones with a high interaction score.

People are the most critical about the duration of the application process (fourth item in Figure 25). Women are more so than men, and the most impatient respondents are found in the IE, BF and MH Divisions. The most patient ones are in NT. Five commented that it ought to be possible to apply for funding two, three or four times a year.

Almost half the respondents disagree with the statement “the feedback about the review result is good” (no significant variation between different types of respondents, however). This point also received some (around 10) comments at the end of the questionnaire. A natural science professor wanted increased opportunities for resolving misunderstandings and factual faults before the programme committees made their application priorities. Two institute researchers asked for a written communication about rejection, including referee comments, and two others wanted access to the referee statements for successful applications.

Less than 20 percent of the respondents agree that they have received RCN assistance in the application phase. Those with a high “funding score” are a little more “positive” on this item. IE respondents seem to have received significantly more RCN assistance than representatives of all the other divisions. Some made suggestions for improvement involving formalised personnel training, better formal guidelines and more day-to-day interaction (at a project level) between research units and RCN representatives.

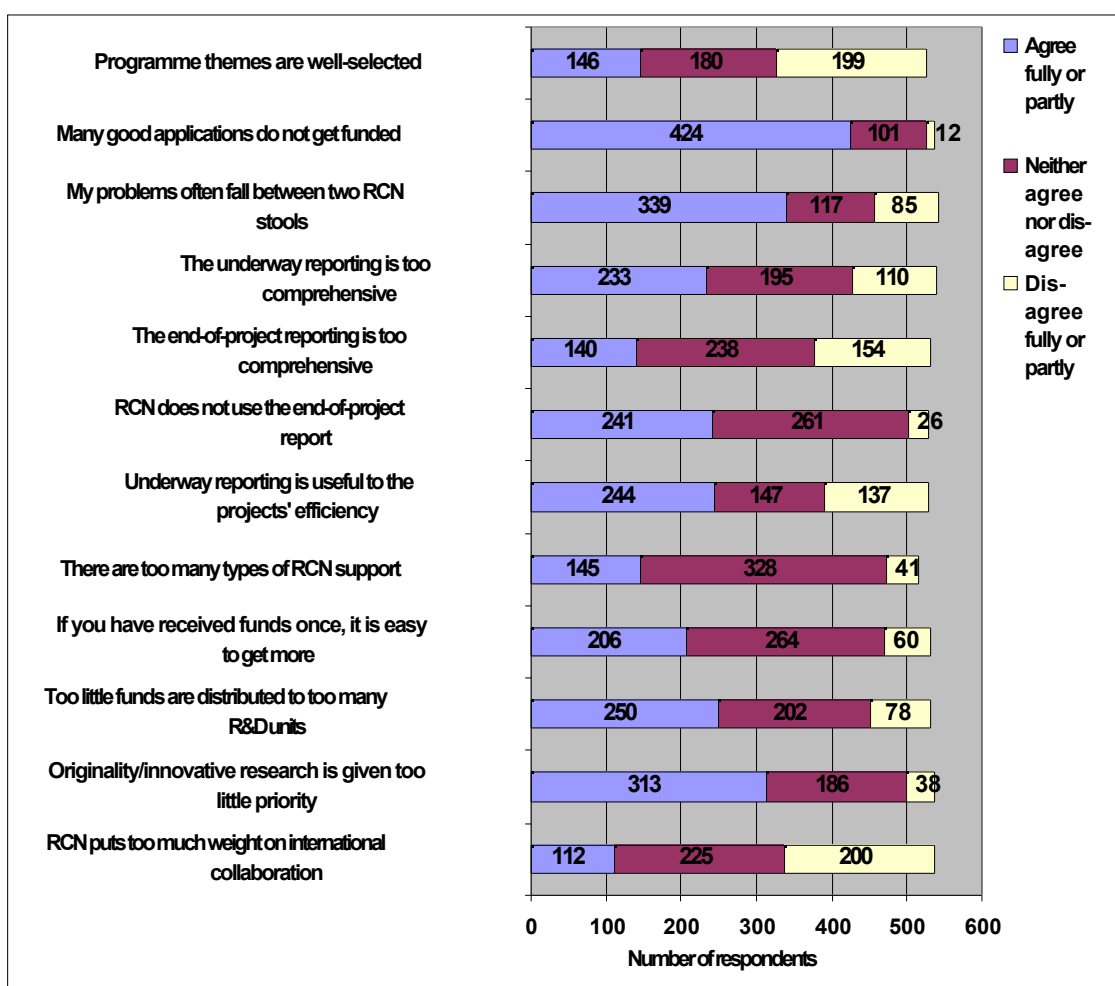
The review process in general received many comments (around 50) at the end of the questionnaire. Two problems in particular were pointed at – various types of bias or favouritism and the inclusion of criteria that were perceived as irrelevant in the assessment of an R&D project proposal. Some talked about an “Old Boy’s Club” (or an “Old Girl’s Club” in a couple of instances), but no concrete examples were given (the majority of the respondents who made such claim also has a low degree of interaction with RCN). Few solutions are offered, but a few respondents called out for reduced opportunities for “lobbying” and a set-aside for “dark horses” and/or not-too-established research units. It may be added that the high correlation between number of accepted funding applications and the number of rejections (cf. previous chapter) can be seen as a sign that the RCN system is relatively “healthy” in this respect.

“Geography” (or geographical “balance”, “democracy”) was the most frequently mentioned of the irrelevant criteria. A few of the respondents gave concrete examples of projects that had been rejected with the explanation that “somebody else is already doing this [at another institution]” or “We have accepted two proposals from this university already, so we cannot accept another.” All solutions point at a better selection of programme committee members.

## **Administrative procedures and selection criteria**

A question with 12 items was asked about administrative procedures and some other overall aspects of RCN. The answers are summarised in Figure 26.

It can be noted that for many of these items, the “neither agree nor disagree” category was frequently used. Those with no RCN interaction often ticked these boxes. The highest proportion of this middle category can be found related to the statement “There are too many types of RCN support”. For this and many of the other items, there are few variations between respondent categories (and no differences at all viz. group work, sex and scientific position).



**Figure 26. Views on administrative procedures and other general aspects.**

Regarding the item about whether programme themes are well selected, the answers are relatively balanced with a mean towards the “disagree” side. The respondents with the highest degree of international collaboration disagree more than the other ones are. This can be explained by the field of learning variable – the most negative ones are from the medical sciences, where the degree of international collaboration is the highest. Respondents from state colleges and (to some degree) institutes are much more pleased with programme theme selection. This is perhaps a classical dividing line between basic and applied research and problem selection.

The highest share of “agree” can be found related to the statement “Many good applications do not get funded”. For some reason, the respondents with no RCN experience disagreed significantly more than the experienced ones did. Around 60 percent of the researchers agreed that “My problems often fall between two RCN stools”. No patterns can be found in the data material (maybe the formulation was irresistible for respondents with a very or somewhat critical attitude towards RCN?).

It is perhaps a bit surprising that there are no sector differences regarding the views of underway and end-of-project reporting (with one exception, see below). Generally, the respondents are more “negative” towards the underway reports. Two commented that these are not very flexible and rarely take into account changed schedules etc. Almost half the respondents agreed that underway reporting is useful to the project’s efficiency, however. All sectors apart from the universities fall down on the “agree” side. BF/agriculture/fishery and IE/technology respondents agree the most.

The answers are quite balanced regarding end-of-project reports. Successful researchers when it comes to RCN funding accept these reports much more than the unsuccessful ones. On the other hand, the more experience with RCN funds, the more critical the respondents get about the research council's *use* of the end-of-project reports. This received around five comments on the questionnaire's last page. Older researchers also accept end-of-project reports more than younger ones do (this is the only item where age plays a significant role), and the highest proportion of "agree" (that the end-of-project reporting is too comprehensive) can be found in the universities and the MH and NT divisions. Two suggested that the end-of-project reports should be used more actively in promotion and design of new programmes.

It is interesting to see that the more experience with RCN funds, the more the respondents disagreed with the statement "If you have received funds once, it is easy to get more". The successful researchers may have seen that this is not an automatic process (as noted previously, they also have a higher number of rejections), or they want to subdue the impression that RCN is an "Old Boys' Club".<sup>18</sup>

Almost half of the respondents agreed that too little funds are distributed to too many R&D units, and the successful ones agreed the most (it is perhaps natural that the "winners" are more "elitist"). This can also be seen in the sector variable. Research institute respondents (the sector with the highest "RCN interaction") are significantly more oriented at a concentration of resources than respondents from the state colleges (who have the lowest RCN interaction). IE and BF respondents (who have the highest RCN interaction scores compared to respondents from other Divisions) are also more "elitist".

"Too little priority is given to original/innovative research" also received a large share of "agree" and "agree partly" (around two-thirds of the respondents). The state college representatives disagreed the most to this statement. The item about international collaboration is also quite balanced. Not surprisingly, there is a clear linear relationship here: the more international collaboration a respondent reports, the more she disagrees that RCN puts too much weight on such collaboration. For some reason, MH-related respondents agreed significantly more (than the others did) that RCN's criteria are too international. This might indicate special criteria used in MH or special characteristics of the medical disciplines (e.g. they are already highly internationalised even before formal activities of internationalisation?).

Below we analyse the specific questions related to the major funding mechanisms: Free funds, regular programmes, user-controlled programmes and strategic programmes (often referred to as SIP's and SUP's). For each of these, we asked a number of questions about the respondents' experiences and about the most important results of projects based on that particular type of funds, in addition to the item about how many times they have received funding. Many used the middle category ("Neither agree nor disagree") when answering, which in many cases indicates a lack of experience/knowledge (some ticked the middle boxes throughout). In the analysis below, we try to include all respondents who answered the questions but nevertheless explicate the answers of the experienced ones (the ones who have not received a particular type of funding may be knowledgeable about it, and the differences are in any case interesting).

## Free funds – dominated by seniors in universities

In question 12, we asked about how many times the respondents have received free funds in the period 1993-2001. As was seen in Figure 15, the majority has never been successful in this respect (this also holds for the other funding mechanisms). In the analysis, we therefore distinguish between the ones who have never received a certain type of funding, the ones who have been "successful" 1-3 times in the period in question, and the ones who have been

---

<sup>18</sup> This cannot be tested with the present data.

successful four times or more. The groups viz. free funds are summarised in Table 13 (numbers in parentheses in first column refer to share of total number of respondents; activities and funding sources that are not statistically significant at the 0.01 level are excluded from the table).<sup>19</sup>

Variable/category	Never	1-3 times	4 times or more
Number of people	440	149	24
Share of Full Prof./Res. I (41,9%)	35,2%	54,4%	87,5%
Share of Assoc. Prof./Res. II (42,1%)	45,7%	36,2%	12,5%
Share from universities (40,9%)	31,4%	65,1%	66,7%
Share from university colleges (7,7%)	8,6%	4,7%	8,3%
Share from state colleges (12,1%)	14,3%	7,4%	0%
Share from institutes (39,3%)	45,7%	22,8%	25,0%
Share from medicine (11%)	8,6%	14,8%	29,2%
Share from technology (16%)	18,9%	10,1%	12,5%
Share from the humanities (11%)	9,5%	16,1%	4,2%
Share from natural science (25%)	21,6%	32,2%	29,2%
Share from agriculture/fish. (7%)	7,0%	6,7%	4,2%
Share from social science (23%)	26,4%	16,8%	4,2%
Share from cross-disc. units (7%)	8,0%	3,4%	16,7%
<i>Share of time spent on:</i>			
Research	43,7%	37,4%	33,4%
Administrative work	18,0%	18,2%	35,0%
Other professional activities	7,7%	3,9%	0,5%
<i>Share of funding from:</i>			
RCN	21,4%	29,5%	30,7%
Other public sources	14,8%	9,1%	5,5%

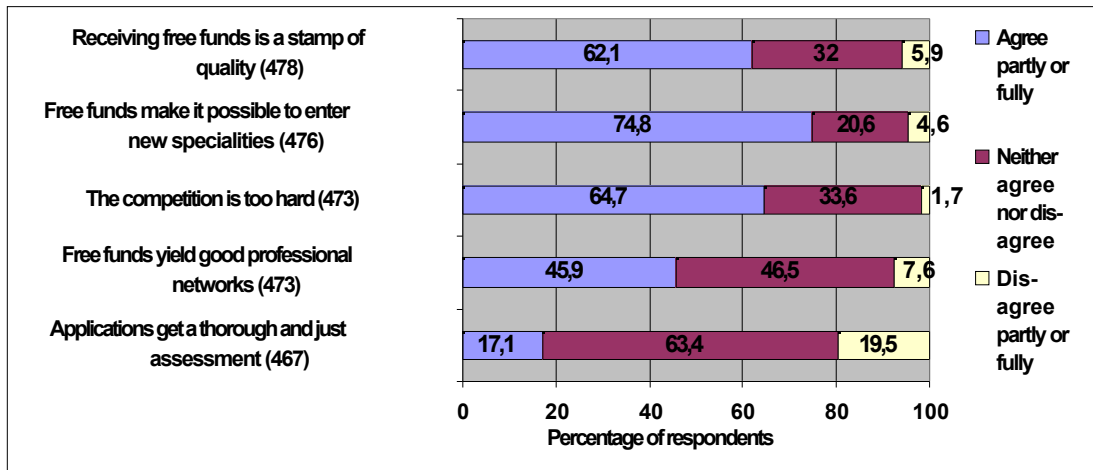
**Table 13. Who has received free funds?**

It can be noted that respondents in Full professor/Researcher I positions are over-represented, as are the universities and the medical and natural sciences. Free funds are more common among the MH and NT respondents.<sup>20</sup> Furthermore, the more free funds, the less time is spent on research and professional activities (as a doctor, lawyer, technical consultant etc.) and the more time is spent on administrative work. Successful free funds applicants also receive more RCN funding and less money from other (Norwegian) public sources. Finally, the less frequently a respondent has received free funds, the more she agrees that underway reporting is useful to the projects' efficiency (item 18g in the questionnaire). There are no other statistically significant differences in the questions about the application process and administrative procedures between the various free funds groups.

The experiences related to free funds are summarised in Figure 27. Here, all respondents who answered the question are included – the exact number is written in parentheses after the question (as can be seen, N varies from 467 to 478 for these five items). In Figure 28, we have only included respondents who have received and/or applied for free funds.

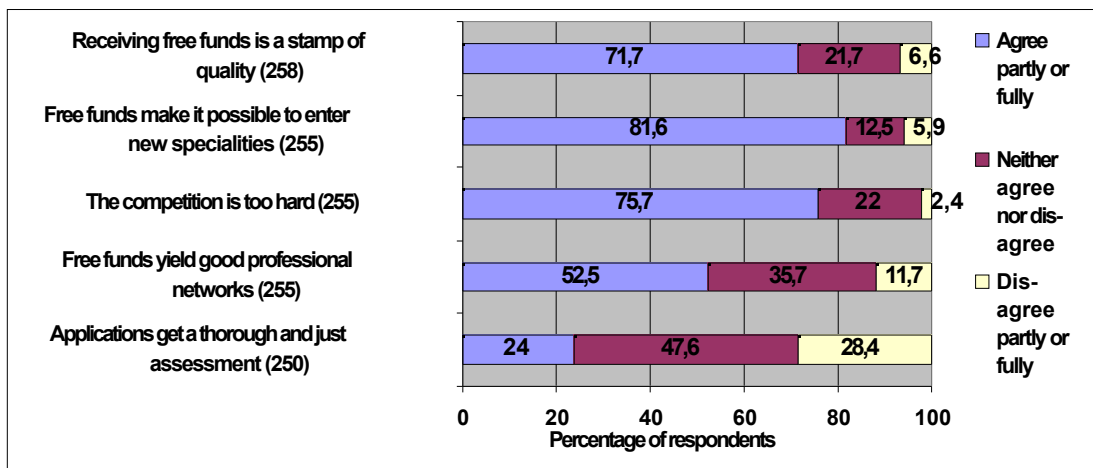
<sup>19</sup> We exclude the junior and "other" positions from the tables as they are mainly found in the "Never" group for all the types of funding involved. We also exclude museum activities as there are no significant differences found regarding this variable (and the share of time spent on such activities is generally very low). Finally, we exclude "region" as there are no statistically significant differences based on this variable either.

<sup>20</sup> We prefer to use the "field of learning" variable instead of the "RCN division" variable, as many respondents (more than 100, cf. also Table 6) reported several RCN divisions but only a handful reported more than one field of learning, making the latter a more reliable indicator of differences.



**Figure 27. Aspects of free funds (all respondents).**

It can be seen that the respondents are generally very positive when it comes to free funds' enabling the researchers to enter new fields/specialities. More than 60 percent agree that the competition is too hard and that these funds are a stamp of quality. More people disagreed than agreed to the statement "Free funds applications get a thorough and just assessment", although the number of "neutral" answers is large here.



**Figure 28. Aspects of free funds (only respondents with such experience included).**

When we compare Figures 27 and 28, it can be seen that when the ones with no free funds experience are excluded the "Neither agree or disagree" shares are much reduced, while both the "agree/agree partly" and "disagree/disagree partly" shares increase for most of the items. It can for instance be noted that almost one-fourth of the experienced respondents disagree that applications get a thorough and just assessment (compared to 19.5 percent of all that answered). There are few systematic differences in the data material (e.g. regarding discipline, sector, RCN Division etc.).

It can be mentioned that those who have had their application(s) rejected are more sceptical about the assessment. Researchers with no RCN interaction generally disagree more with "positive" statements about the benefits of free funds and their status. Respondents that have received free funds agree more that they are a stamp of quality, that the competition is too hard and that good professional networks are a result. In general, open comments reveal a very positive attitude towards free funds, and the respondents want more of it (perhaps the name is also appealing, since a few of those who are not familiar with this funding type also want more).

The most common results of free funds are (numbers in parentheses states the number of respondents who mentioned this aspect; only respondents who have actually received free funds are included – N=173):

- Scientific publications (127)
- Development of new knowledge (93)
- Training of young researchers (93)
- International contacts (49)
- Development of research capacity (28)
- Development of research methodology (27)
- Exploitation of knowledge (20)

## A mixed picture of regular programmes

The groups viz. “success” when it comes to regular programme funding are summarised in Table 14 (for technical explanation refer to Table 13).

Variable/category	Never	1-3 times	4 times or more
Number of people	297	263	53
Share of Full Prof./Res. I (41,9%)	36,0%	44,9%	60,4%
Share of Assoc. Prof./Res. II (42,1%)	44,1%	42,6%	28,3%
Share from universities (40,9%)	42,8%	37,6%	47,2%
Share from university colleges (7,7%)	6,7%	9,9%	1,9%
Share from state colleges (12,1%)	16,5%	9,5%	0%
Share from institutes (39,3%)	34,0%	43,0%	50,9%
Share from medicine (11%)	13,1%	9,1%	7,5%
Share from technology (16%)	16,2%	18,3%	9,4%
Share from the humanities (11%)	17,2%	6,1%	0%
Share from natural science (25%)	27,3%	19,0%	35,8%
Share from agriculture/fish. (7%)	4,7%	9,5%	5,7%
Share from social science (23%)	15,5%	31,6%	24,5%
Share from cross-disc. units (7%)	6,1%	6,5%	17,0%
Share of time spent on: Research	38,9%	44,6%	43,8%
Share of funding from: RCN	15,4%	29,7%	41,3%
Basic funds	30,4%	21,7%	18,7%
International public sources	5,1%	7,9%	12,2%

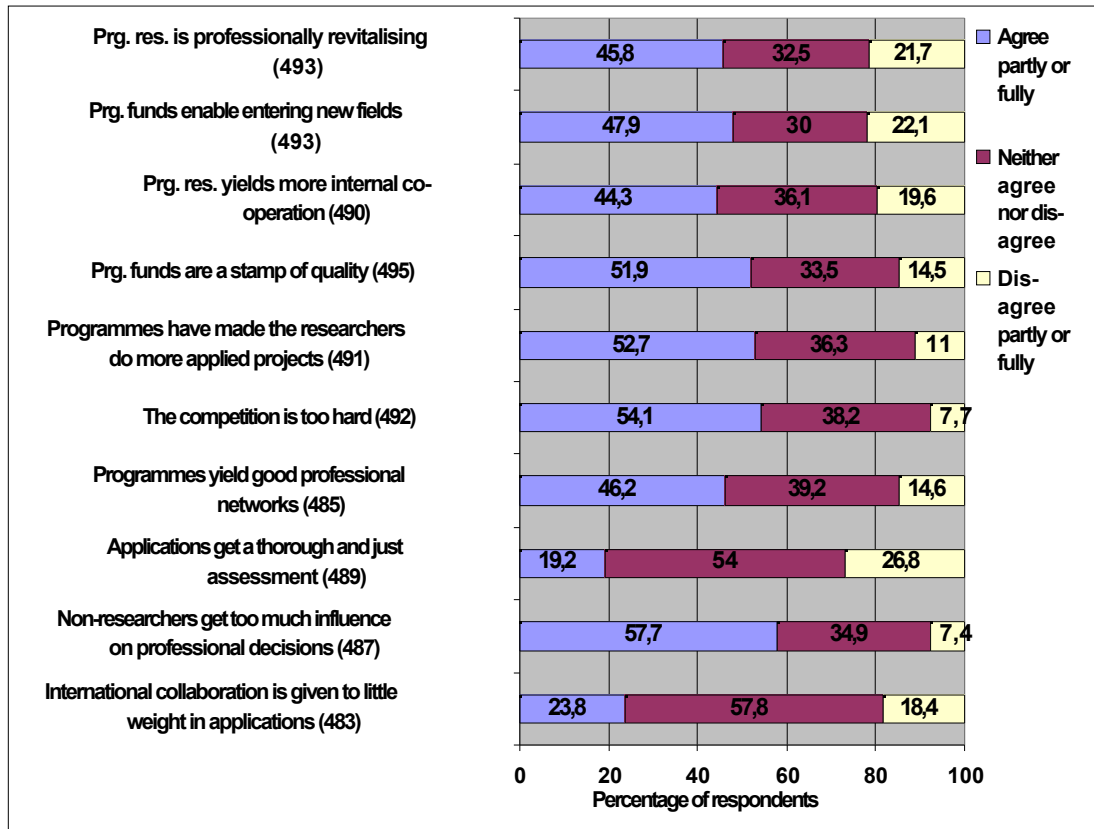
**Table 14. Who has received funding from regular programmes?**

It can be noted that people in senior positions figure prominently in the table, particularly in the “most successful” group. University colleges are over-represented among the respondents who have received regular programme funding 1-3 times in the period 1993-2001, but the “4 times or more” category is split almost equally between researchers from the university and the institute sector. The “success” categories also contain relatively few humanists, medical scientists and technologists (esp. in the 4 times or more group), while the natural scientists, social scientists, respondents from agriculture/fish.-related disciplines and cross-disciplinary units are over-represented. Successful regular programme applicants furthermore spent slightly more time on research compared to the ones without such funds.

Looking at the funding figures reported by the respondents, it can be claimed that the ones with regular programme funds depend more upon RCN. Their share of RCN funding is high, and their basic funds are relatively low. It can also be noticed that the more regular programme funds, the more money from international public sources (EU, Nordic Council of Ministers etc.). It may seem that “success” in one type of programme could have beneficial effects on other applications (at least possible barriers towards this kind of competition can be reduced). Finally, the more regular programme funds, the more the respondents:

- Agree that the application documents are well-designed
- Agree that programme themes are well-selected
- Disagree that the end-of-project reporting is too comprehensive
- Disagree that once you have received funds once, it is easier to get more
- Disagree that international collaboration is given too much priority by RCN

The general answers about experiences are shown in Figure 29 (all respondents) and Figure 30 (only respondents with concrete experience with regular programmes).



**Figure 29. Aspects of regular programmes (all respondents).**

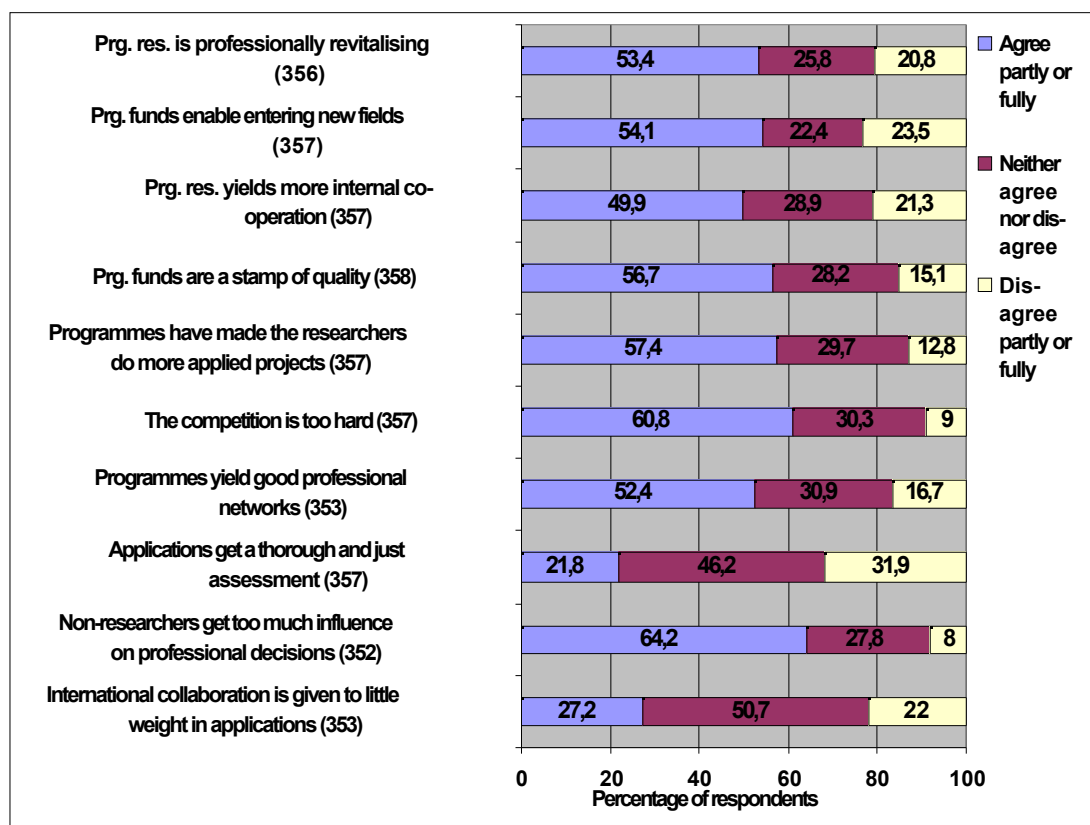
More people agree than disagree for most of the positively formulated items – programmes are revitalising, enable entering new fields, yields more internal co-operation and good professional networks (and the disagree shares are generally very low) – although there are a few exceptions. Firstly, almost 60 percent of the respondents agree that non-researchers get too much influence on professional decisions in programmes. Secondly, the share that disagrees that the application assessment is thorough and just is almost 50 percent higher than the share that agrees. Thirdly, more than 50 percent of the respondents agree that projects funded by regular programmes have made the researchers do more applied work.<sup>21</sup> It should also be added that the “Agree fully” boxes were rarely used; most of the respondents falling down on the agree side ticked the “Agree partly” boxes.

Thus, in total, the picture of regular programmes is somewhat mixed. On the one hand, they are said to be revitalising, they make it possible to enter new fields, they yield more internal co-operation and improved networks, and they are stamps of quality for successful applicants. On

<sup>21</sup> This is of course not negative in itself, but the many comments this issue received in the questionnaire (as well as knowledge of the general policy debate on this issue) leads us to define this as a statement that is somewhat critical towards RCN.



the other hand, however, programmes may lead to “too much” external influence and a larger share of applied rather than basic work (cf. Note 21).



**Figure 30. Aspects of regular programmes (only respondents with such experience).**

Some of this “mixed picture” can be explained by looking at other variables. University respondents are markedly more “negative” than the others. They do not think that programme research is revitalising, they do not see such funds as a stamp of quality, they do not think the competition is too hard, and they are apparently worried about external influence. This is probably a classic distinction between the sectors, although it is interesting to see that universities stand out on their own – there are no significant differences between institutes, state colleges and university colleges.

For some reason, respondents from the humanities are more positive about the assessment than the rest, and the researchers from cross-disciplinary units, medicine and the social sciences are markedly more negative. IE respondents agree that programme research is revitalising, while MH respondents disagree.

There are also some significant differences between those who have received programme funds and those who have not. The “successful ones” agree that programme research is revitalising, enables entering new fields, and yields more internal co-operation and good professional networks. In other words, the researchers who are experienced in this respect have had a number of positive benefits from regular programme funding. There are no differences (between the “successful ones” and the ones without programme funding) when it comes to issues like external influence, thorough/just assessments and the possible drift towards more applied work. Those that have had a programme proposal rejected, generally think the competition is too hard and that the assessment process is not thorough/just.

If we look at the differences between Figure 29 and 30, it can be noted that when only respondents with regular programme experience are included, the picture becomes somewhat more “polarised”, i.e. the shares of “agree” and “disagree” both increase. The beneficial effects of programmes become clearer, but some of the critical remarks are more visible as well, e.g.

the fact that around one-third of the experienced researchers disagree that applications get a thorough and just assessment.

The most common results of projects funded by regular programmes are reported to be (only respondents with regular programme funding included, N = 316):

- Scientific publications (181)
- Development of new knowledge (151)
- Training of young researchers (119)
- New interaction with colleagues (77)
- Exploitation of knowledge (60)
- Development of research capacity (57)
- Knowledge transfer to users (48)
- Development of research methodology (43)
- New interaction with users (39)
- International contacts (39)

The top three in this list are the same as in the free funds list, but the less common results differ more. “Regular programmes” is probably a relatively wide category (even excluding user-controlled funds and strategic programmes) which can explain the many more different types of effects of regular programmes.

Comments regarding regular programmes (around 25 in all) generally deal with previously mentioned problems – the introduction of non-scientific criteria, too low researcher competence in the programme committees, and a too “safe” or “unoriginal” selection of themes. A few respondents gave long examples (two of them over several pages) of programmes that had been very problematic in one or several respects. One of them added that this programme had been an exception, his other experiences with programmes were positive.<sup>22</sup> Some suggestions for improvement are a “better” selection of programme committee members (higher demands to researcher competencies), that all programmes should do a thorough “knowledge status report” before they start and that some of them should run for more than ten years before any changes are made. The respondents who mention the issue disagree when it comes to continuing programmes – two state that themes are too easily continued in a new programme, while two others claim that themes and priorities change too frequently.

## User-controlled programmes – very important in institutes

Table 15 shows the three groups for user-controlled funding, similar to Table 14 and 13.

Variable/category	Never	1-3 times	4 times or more
Number of people	418	150	45
Share of Full Prof./Res. I (41,9%)	38,3%	47,3%	57,8%
Share of Assoc. Prof./Res. II (42,1%)	44,3%	39,3%	31,1%
Share from universities (40,9%)	47,1%	32,0%	13,3%
Share from university colleges (7,7%)	7,4%	9,3%	4,4%
Share from state colleges (12,1%)	15,3%	6,7%	0%
Share from institutes (39,3%)	30,1%	52,0%	82,2%
Share from medicine (11%)	12,4%	9,3%	2,2%
Share from technology (16%)	7,2%	30,7%	55,6%
Share from the humanities (11%)	14,8%	3,3%	0%
Share from natural science (25%)	28,0%	17,3%	15,6%

<sup>22</sup> This may indicate that the respondents used the open comments space to make remarks about aspects and experiences that have been “negative” in one way or another, but not to make remarks about more “positive” experiences.

Variable/category	Never	1-3 times	4 times or more
Share from agriculture/fish. (7%)	5,0%	12,0%	6,7%
Share from social science (23%)	25,4%	22,0%	6,7%
Share from cross-disc. units (7%)	7,2%	5,3%	13,3%
<i>Share of time spent on:</i>			
Research	40,8%	45,6%	37,5%
Teaching	28,8%	21,5%	11,1%
Administrative work	17,8%	18,5%	28,2%
Professional activities	5,0%	9,1%	11,9%
<i>Share of funding from:</i>			
Basic funds	29,2%	20,7%	9,2%
Industry	8,4%	22,6%	44,0%

**Table 15. Who has received funding from user-controlled programmes?**

As the table shows, also the user-controlled funds are dominated by senior personnel. More than 80 percent of the respondents in the “4 times or more” category come from institutes, who also constitute more than half of the “1-3 times” category. It can be noted that in the latter group, the university colleges are over-represented (this is mainly the Norwegian School of Veterinary Science and the Agricultural University of Norway). University respondents with user-controlled funds mainly represent the Norwegian University of Science and Technology in Trondheim. Not unexpectedly, the respondents from technology tower above the rest in the field of learning list of researchers with user-controlled funds. There are also relatively many from agriculture/fish.-related disciplines and from cross-disciplinary units. It can be noted that 22 percent of the respondents who have received user-controlled funds 1-3 times represent the social sciences. Few humanists and medical scientists have this type of funding.

Looking at the respondents’ use of time, the picture in the table reveals a profile relatively typical of many research institutes. The more user-controlled funds, the less time is spent on teaching and the more time is spent on “professional activities”. The “successful” applicants to user-controlled programmes spend slightly less time on research and more time on administration. Significant differences in funding figures are quite typical of industry-oriented institutes as well. The more user-controlled funds, the more funds from industry (which probably also signifies good user contacts) and the less basic funds.

Finally, the more user -controlled funds, the more the respondents:

- Agree that the application process takes longer time than it should
- Agree that RCN does not use the end-of-project reports
- Disagree that the end-of-project reporting is too comprehensive
- Agree that too little funds are distributed to too many research units

The general results about experiences with user-controlled programmes are depicted in Figure 31 (all respondents who answered) and 32 (only respondents with user-controlled funds included). As with the other types of funding described above, the exclusion of respondents without “hands-on” experience makes the “Neither agree nor disagree” shares go down and both the “Agree” and “Disagree” shares go up.

The general picture is quite “positive”. 41 percent (of the experienced respondents) agree that user-controlled funds enable entering new fields, almost 50 percent agree that they are a good source of competence increases, and more than half agree that they yield good professional networks. On the other hand, almost two-thirds agree that users rarely have the competence to control research activities, and a similar share agrees that it is difficult to find a good balance between research and development work in projects funded by user-controlled programmes. The more times a respondent has user-controlled funds, the more he agrees that the competition is too hard and that good professional networks are a result, and the more he disagrees that user-controlled funds enable entering new fields. Researchers in university colleges and state colleges are significantly more positive about user-controlled funds as a

stamp of quality than researchers in institutes and universities. University professors do not believe the competition is too hard, and they are also sceptical about positive network effects.

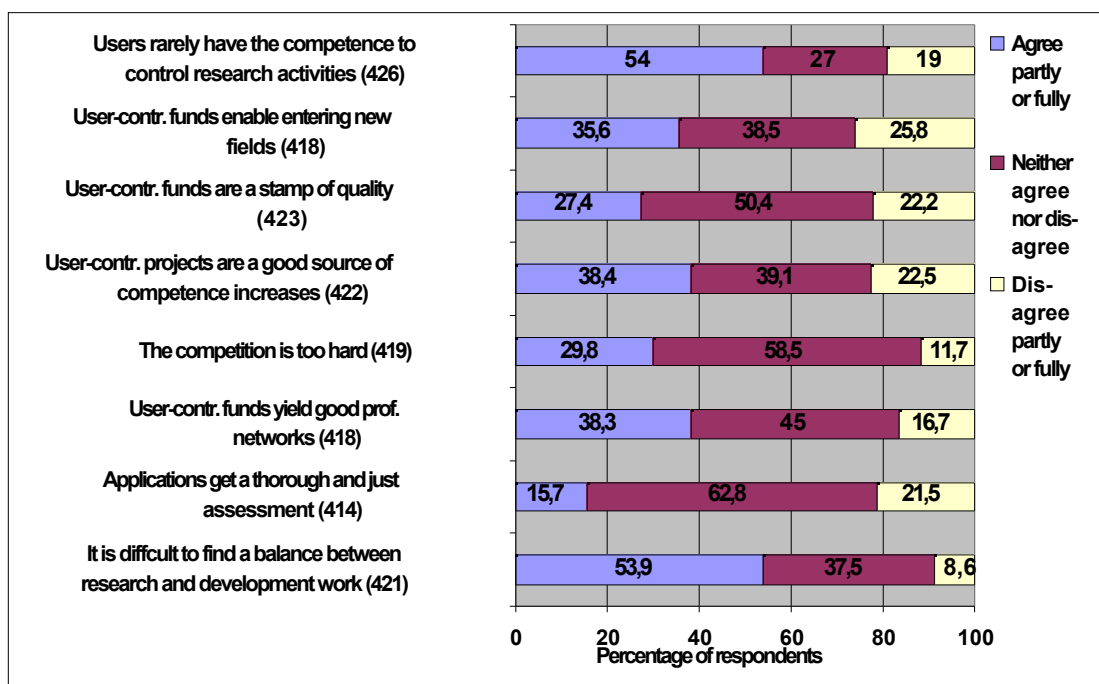


Figure 31. Aspects of user-controlled programmes (all respondents).

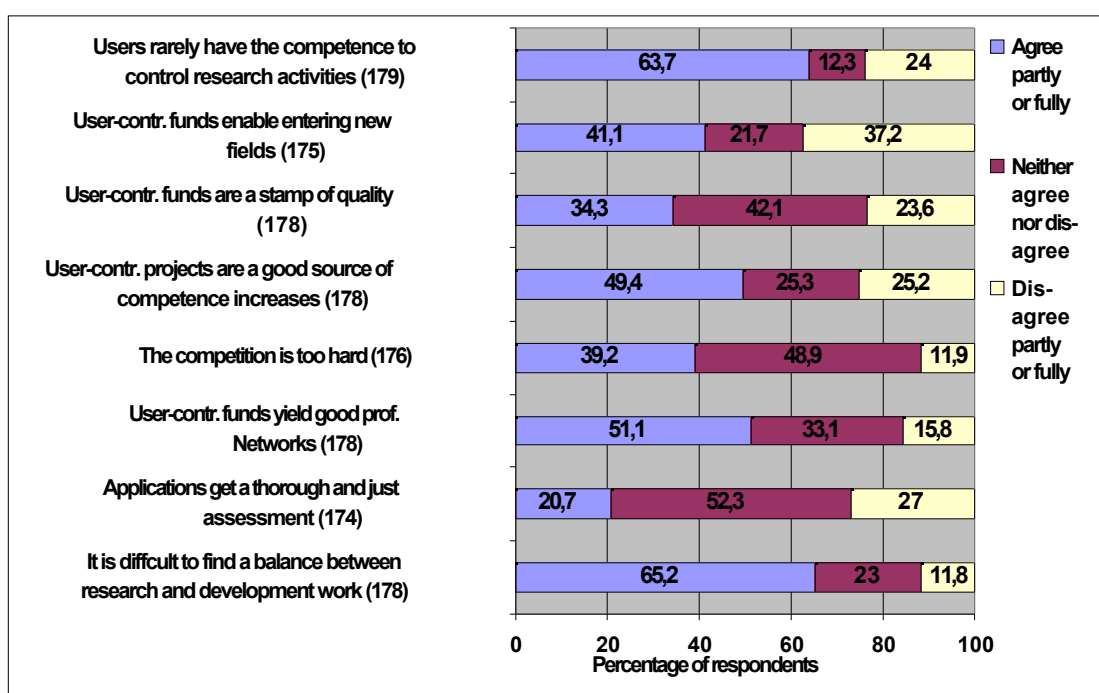


Figure 32. Aspects of user-controlled programmes (only respondents with such experience).

There are a few interesting disciplinary differences. Respondents from medicine (where user-controlled funds barely exist) are positive about the opportunities for entering new fields. Technologists, on the other hand (who as mentioned are the most experienced with this type of funding) are at the opposite end, generally falling a little on the “disagree” side of the scale. Both medical and technological respondents agree that user-controlled funds are a stamp of quality. Social scientists and researchers from agriculture/fishery-related disciplines disagree with this. The disciplines with the highest experience with user-controlled programmes (technology and agriculture/fish.) are also the ones who agree the most strongly that it is difficult to

find a good balance between research and development work in projects. These differences mainly disappear if we switch to looking at RCN Divisions. IE respondents agree strongly that user-controlled funds are a stamp of quality and a source of professional networks, though.

User competence and similar issues received around 15 comments at the end of the questionnaire (all from technological researchers, most of them from the institute sector, and all with much experience from user-controlled programmes). Most remarks were about what can be termed the core dilemmas in such a funding mechanism: the importance of having user control yet the apparently difficult task of finding users with broad competencies and not too narrow time perspectives who are strongly involved in the programme/projects. Two discussed costs and benefits of relatively quick application processes and brief applications. Two others complained about an increasing “short-termism” in user-controlled programmes in recent years, with too strict demands for documenting (concrete rather than potential) utility value *ex ante*.

The most common results of projects in user-controlled programmes are said to be (N = 195 – only those with funding from user-controlled programmes are included):

- Knowledge transfer to users (92)
- Development of new knowledge (75)
- Exploitation of knowledge (72)
- New interaction with users (71)
- Development of new products (45)
- Scientific publications (40)
- Training of young researchers (30)

This list contains many expected items, although it is perhaps a bit surprising that the three top items from free funds and regular programmes figure prominently in the list. Development of prototypes and development of new practice were mentioned by more than 20 respondents.

## Strategic programmes – a positive picture

Table 16 shows the three groups for strategic programmes, similar to Table 15, 14 and 13.

Variable/category	Never	1-3 times	4 times or more
Number of people	412	191	10
Share of Full Prof./Res. I (41,9%)	41,3%	41,9%	70,0%
Share of Assoc. Prof./Res. II (42,1%)	43,9%	38,7%	30,0%
Share from universities (40,9%)	49,0%	25,7%	0%
Share from university colleges (7,7%)	9,5%	3,7%	10,0%
Share from state colleges (12,1%)	15,3%	5,8%	0%
Share from institutes (39,3%)	26,2%	64,9%	90,0%
Share from medicine (11%)	15,0%	2,1%	10,0%
Share from technology (16%)	10,7%	27,7%	40,0%
Share from the humanities (11%)	14,8%	3,1%	0%
Share from natural science (25%)	26,2%	20,9%	20,0%
Share from agriculture/fish. (7%)	4,9%	11,5%	0%
Share from social science (23%)	22,6%	25,1%	10,0%
Share from cross-disc. units (7%)	5,8%	9,4%	10,0%
<i>Share of time spent on:</i>			
Teaching	29,9%	17,3%	12,5%
Administrative work	17,8%	19,9%	38,0%
<i>Share of funding from:</i>			
RCN	20,3%	30,7%	31,1%
Basic funds	29,7%	17,5%	14,9%
Industry	10,5%	21,8%	40,4%

**Table 16. Who has received strategic programme funding?**

It can be noted that the “4 times or more” category has fewer respondents than what was the case for the three other funding mechanisms. This category is dominated by senior personnel, but the “1-3 times” group does contain any differences based on scientific position. Institutes are the most frequent recipients of strategic funds, although they are found in the three other institutional settings as well. Technology, agriculture/fish.-related disciplines, social sciences and cross-disciplinary research is over-represented among the recipients, while the medical sciences, humanities and natural sciences are under-represented. “Successful” respondents spend less time on teaching and more time on administrative tasks, and they receive more RCN funding, less basic funds and more money from industry. It may thus be argued that for the recipients, strategic programmes are an important part of their portfolio. Finally, the more strategic funds, the more the respondents agree that the application process takes longer time than it should and that too little funds are distributed to too many research units (the latter probably reflects research institutes’ wish for larger projects and higher basic funding).

The answers regarding experiences with strategic programmes are depicted in Figure 33 (all respondents) and 34 (only respondents with such funds included). It can be noted that the agree shares are higher in Table 34, but not the disagree shares (as was the case for the three other funding mechanisms).

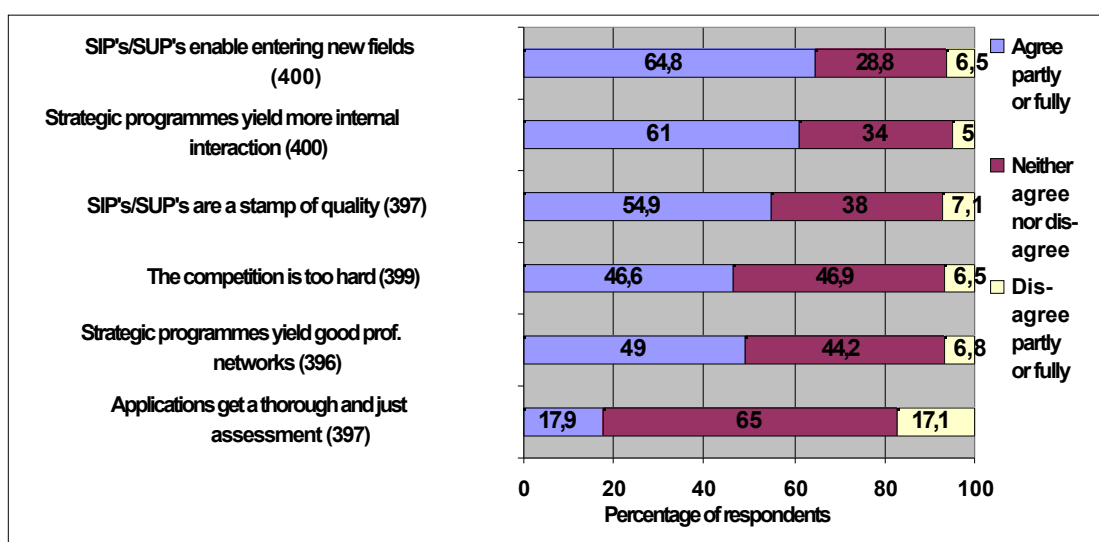


Figure 33. Questions about strategic programmes (all respondents).

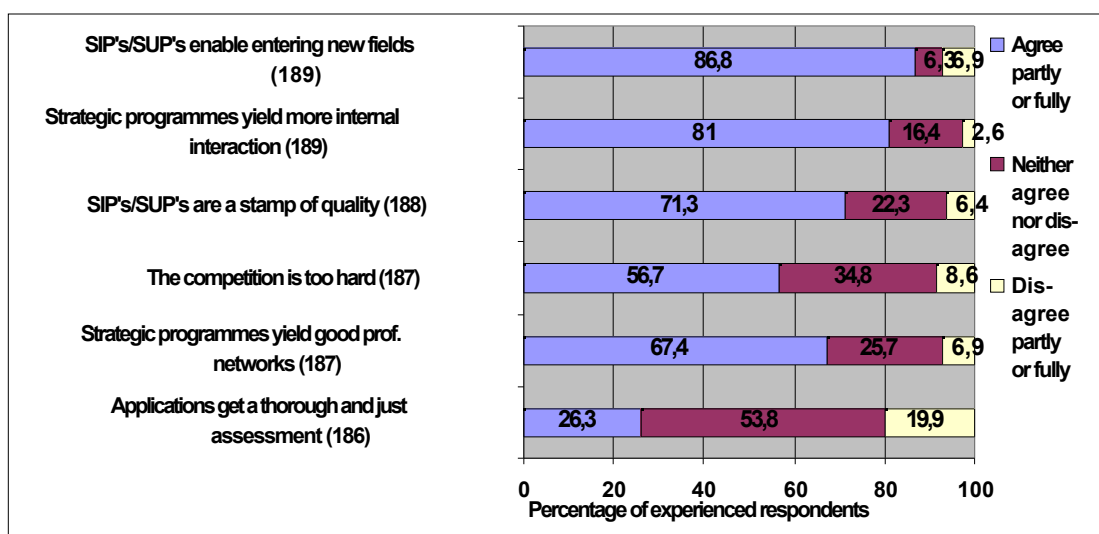


Figure 34. Questions about strategic programmes (only respondents with such experience).

Apart from the relatively balanced view of the quality of the assessments, the general picture is very positive. 86 percent agree that strategic programmes enable entering new fields, 81 percent agree that they yield more internal interaction, 71 percent agree that they are a stamp of quality and 67 percent agree that they yield good professional networks. The more strategic funds, the stronger the “Agree” side on all items.

Respondents from the institute sector agree significantly more positive than the others (as was seen above, this is also the sector where these programmes are the most important and well-known). Medical researchers are much more “negative” than the rest (for a few items joined by the humanities), and respondents from technology and agriculture/fishery-related disciplines are much more positive. This picture is even more clear when looking at RCN divisions – the ones representing MH disagree, and the ones from IE and BF agree, to the positively formulated statements. The only exception is the competition item – the KS and MU respondents do not think the competition is too hard.

It is perhaps a bit surprising that many agreed to statements about the competition and the review process, since many strategic programmes are part of a framework agreement between RCN and an institute/university and not subject to regular competition between several institutions. The answers may reflect experiences with internal and/or external negotiation processes. In the same sense, it is also a bit surprising that SIP's/SUP's are seen as a stamp of quality if they are granted as part of a “framework agreement” with an institution.

Open comments are also very positive in general. The respondents (around 10 in total) state that SIP's/SUP's are often well integrated, they provide opportunities for in-depth work, the “operating funds” that follow them are satisfactory even in the experimental disciplines, and they “relieve” the researchers for writing (many) applications for a period of several years.<sup>23</sup> Some suggested that all strategic programmes should have a reference group. One saw the programmes as a model for regular and user-controlled programmes, another wanted the possibility to suggest an SIP/SUP within another type of programme.

The respondents state that the most common results of strategic programmes are (N = 201; only researchers with strategic programme funding are included):

- Development of new knowledge (126)
- Scientific publications (102)
- Training of young researchers (91)
- Development of research capacity (54)
- New collegial interaction (51)
- Development of research methodology (39)
- International contacts (23)
- Exploitation of knowledge (22)

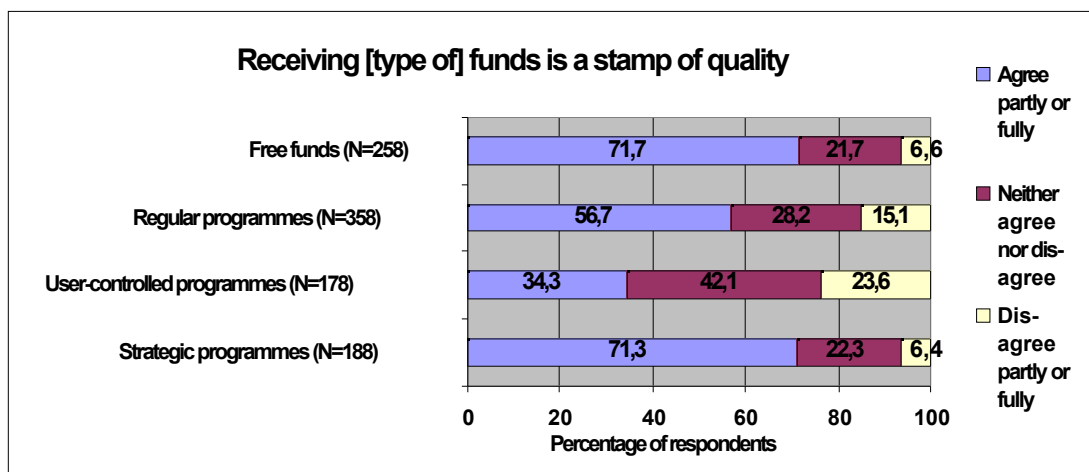
This list is quite similar to regular programmes and free funds. It could perhaps be claimed that strategic programmes are to the institute sector what free funds are for the universities – an opportunity for developing new knowledge and research capacity and for professional dissemination and interaction. In addition, it bears repeating that SUP's are also found in universities, university colleges and state colleges (cf. Table 16).

---

<sup>23</sup> It can be noted that even these positive statements mainly were formulated as criticisms, e.g. “RCN focuses too little on strategic programmes, which are well integrated etc.” and “Regular programmes often have X and Y problems; they should be organised more like an SIP.”

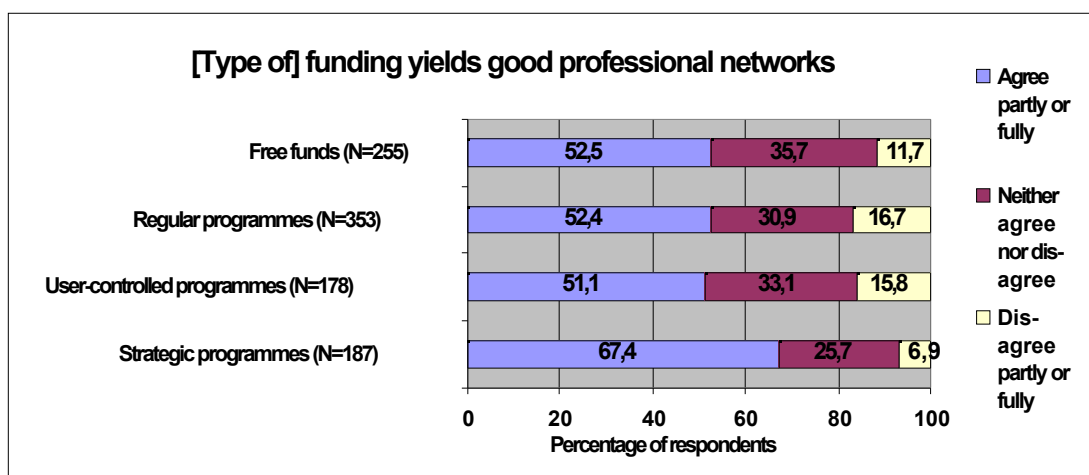
## A brief comparison of the four funding mechanisms

As can be seen from Figures 27-34, several items in the questionnaire were similar for the different types of funding: funds as a stamp of quality, network effects, too hard competition, possibilities for entering new fields, and whether applications receive a thorough and just assessment. These answers are summarised in Figures 35-38 to give a comparison of the four main funding mechanisms. We have only included respondents who have had experience with a particular type of funding (i.e. using Figures 28, 30, 32 and 34).



**Figure 35. Funds as a stamp of quality.**

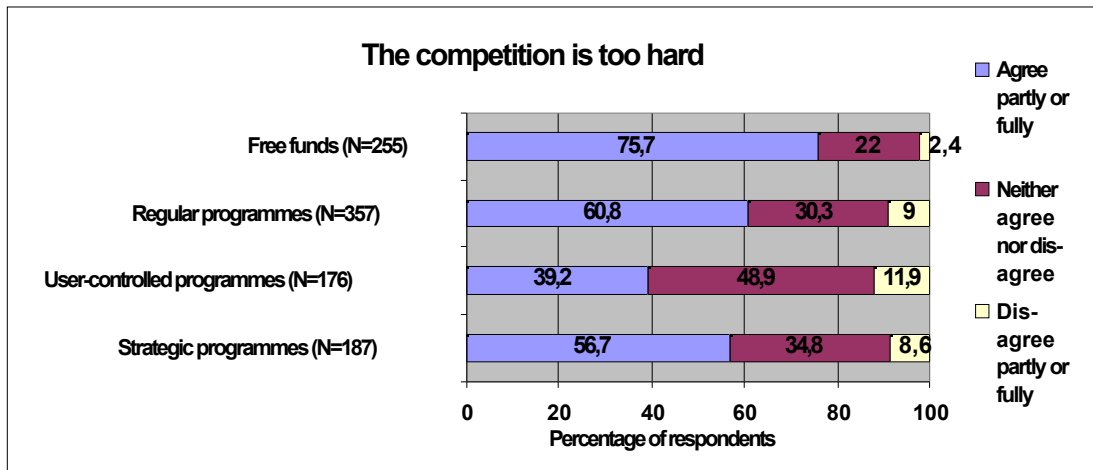
The figure shows that free funds and strategic programmes seem to enjoy the highest “status” in the research community. For free funds, the reason may be that the rejection rate is known to be generally very high, while the reason for the status of strategic programmes is less clear (cf. discussion on previous page). Regular and user-controlled programmes do not seem to enjoy the same status, although the “disagree” shares are quite small in both instances.



**Figure 36. Funds as a source of good professional networks.**

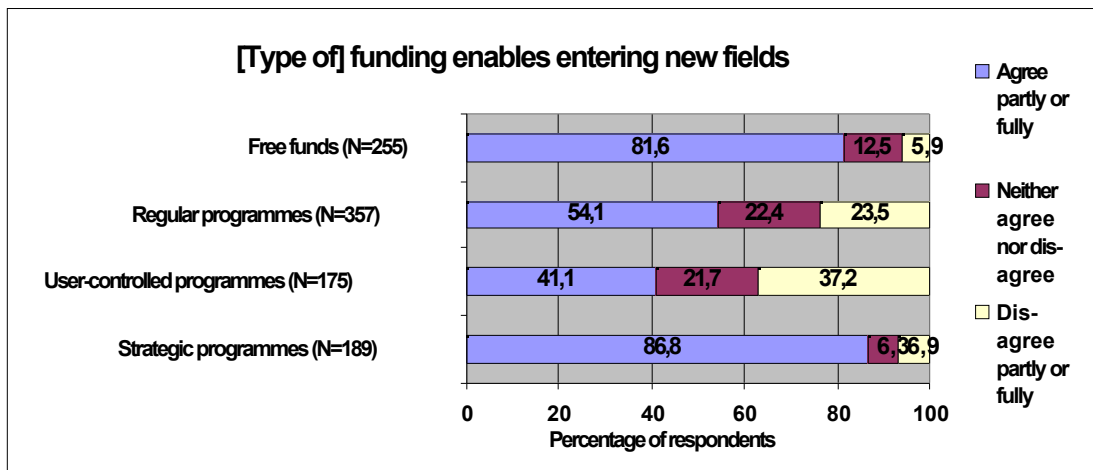
Strategic programmes seem to be judged a slightly better source of professional networks than the other three funding types, although all receive a good (and very similar) judgement in this respect.



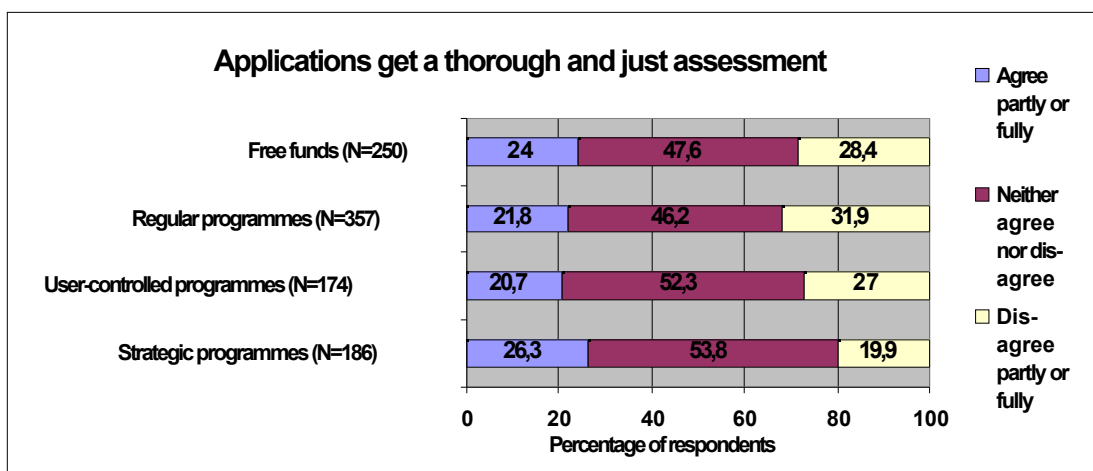


**Figure 37. Is the competition too hard?**

The judgements about whether the competition is too hard are quite different for the four types of funding. The highest share of agree can be found related to free funds (more than 75 percent), and the lowest related to user-controlled programmes (39 percent). Still, it should be noted that the “disagree” shares are low for all four funding mechanisms.



**Figure 38. Funds as an opportunity to entering new fields**



**Figure 39. Is the assessment of applications thorough and just?**

Figure 39 shows that more than 80 percent of the respondents agreed that free funds and strategic programmes make it possible to enter new fields (or “specialities”, another possible translation of the word used in the questionnaire). The “disagree” share is almost as high as the “agree” share for the user-controlled programmes (it may of course be argued that entering new fields is not a main goal of these initiatives). The somewhat mixed picture of regular programmes could again indicate that this is a relatively wide category.

The question about the assessment of application reveals a less positive picture than the other aspects. Excluding the strategic programmes, the share of respondents that disagrees that applications receive a thorough and just assessment is higher than the share that agrees. The lowest disagree shares are found related to the strategic and the user-controlled funds. Still, all these questions received a very large number of “Neither agree nor disagree” answers (by respondents with funding). This may indicate that the respondents do not know whether the assessment process is thorough and just. Still, given the large number of open comments about the review process, this is perhaps the most critical message that stands out to RCN amidst the generally positive experiences with the four funding mechanisms, the application process and the administrative procedures.

Finally, to give a comparison between the different funding mechanisms, we have listed the reported results in Table 17 (as a percentage share of all respondents with the relevant type of funds).

<b>Result</b>	<b>Type</b>	<b>Free funds (N = 173)</b>	<b>Regular prg. (N = 316)</b>	<b>User-contr. prg. (N = 195)</b>	<b>Strategic prg. (N = 201)</b>
Scientific publications		73,4%	57,3%	20,5%	50,7%
Training of (young) res.		53,8%	37,7%	15,4%	45,3%
New collegial interaction		6,9%	24,4%	10,3%	25,4%
New user interaction		2,3%	12,3%	36,4%	4,5%
Dev. of research capacity		16,2%	18,0%	6,7%	26,9%
Knowledge transfer to users		4,6%	15,2%	47,2%	4,5%
Exploitation of knowledge		11,6%	19,0%	36,9%	10,9%
Develop. of new knowledge		53,8%	47,8%	38,5%	62,7%
Data gath./data base build.		1,2%	4,1%	2,1%	3,0%
Dev. of research methods		15,6%	13,6%	4,6%	19,4%
Develop. of new products		2,3%	3,2%	23,1%	2,0%
International contacts		28,3%	12,3%	3,1%	11,4%
Development of software		0,6%	2,2%	2,6%	2,0%
Develop. of prototypes etc.		0,6%	1,9%	10,8%	4,5%
Develop. of new practice		1,7%	3,2%	10,8%	5,0%

**Table 17. Results of the four funding mechanisms.**

The table shows that the “results profile” of the four funding mechanisms fits quite well with what can be termed their intention. For example, strategic programmes are focused more than the other types on development of research capacity, development of research methodology and new collegial interaction. User-controlled programmes are strongly oriented at new user interaction, knowledge transfer to users, exploitation of knowledge and development of new products. It could also be remarked that all funding types contain an element of training, and that all of them also have some element of exploitation of knowledge and user interaction. None of the cells in the table are blank!

# Summary

The intention of this survey is to map the experiences with and opinions of the Research Council of Norway (RCN) among Norwegian researchers. A six-page questionnaire was made after several rounds of comments from NIFU staff and the evaluation panel. Due to the very short time frame of this project, the present report is mainly descriptive in nature, and several relationships are not pursued in detail. To increase readability and to utilise our resources maximally, we have also chosen to describe many relationships in the text rather than to have an overwhelming amount of figures and tables. In addition, we assume that the evaluation group will combine the results from this survey with other studies that are part of the RCN evaluation. For all these reasons, we are careful in drawing too hard conclusions.

## The sample and the respondents

A random sample was drawn from the NIFU Researcher Personnel Database including all public institutional settings (universities, university colleges, institutes and state colleges). After a reminder round, the final *response rate* clocked in at 52,3% (N=819), 45% when adjusting for the 206 invalid answers (leaving N=613). This is considered acceptable compared with similar investigations. The questionnaire's relatively strong weight towards concrete experiences instead of opinions can probably explain some of the lack of responses (as well as many of the invalid answers). The population, sample and responses are summarised in the table below. Universities and researchers with PhD's are particularly over-represented in the data.

Variable	Population	Sample	% (N=1567)	Responses	% (N=612)
Universities	4 055	592	37,8	251	40,9
University colleges	841	124	7,9	47	7,7
Institutes	4 079	601	38,4	241	39,3
State colleges	1 614	250	16,0	74	12,1
<b>Total</b>	<b>10 589</b>	<b>1 567</b>	<b>100,0</b>	<b>613</b>	<b>100,0</b>

Almost half the respondents come from institutions in Eastern Norway. The largest fields of learning are the natural sciences/mathematics (25 percent), the social sciences (23 percent) and technology (16 percent). The smallest groups are those representing agriculture/fishery-related disciplines and "centres with a very high degree of cross-disciplinarity" (both 7 percent). The distribution of time and funding sources on sectors is shown in the table below. Fields of learning differences are mainly as expected, e.g. the high level of "Foundation" money in the medical sciences and the high share of "Professional" work in the technological disciplines.

(Share of time/funding)	University	Univ. college	State coll.	Institutes
<i>Activities</i>				
Research	35,4%	42,9%	32,0%	51,1%
Teaching	36,9%	31,3%	47,0%	6,6%
Museum activities	1,5%	0,0%	0,0%	0,0%
Administration	18,6%	17,5%	13,1%	20,4%
Dissemination etc.	6,3%	7,9%	7,0%	7,4%
Professional activities	3,2%	1,4%	0,7%	12,8%
<i>Funding sources</i>				
Basic funds	32,4%	25,9%	34,4%	15,9%
RCN	25,5%	26,3%	13,4%	24,0%
Other Norw. public	7,8%	10,0%	12,5%	19,6%
International (EU etc.)	7,9%	2,8%	3,2%	7,9%
Industry	6,9%	13,8%	9,0%	24,6%
Foundations	5,9%	3,1%	1,4%	1,3%
Other sources	2,1%	1,0%	2,9%	3,1%

## Developments and priorities in the Norwegian research system

In the opinion-oriented questions about *developments in the Norwegian research system* in recent years, the respondents strongly agreed that:

- researchers in publicly funded research units have become “overworked and underpaid”,
- the procedures to get national funding have become “more bureaucratic and time-consuming”, and
- research priorities have become “more sensitive to market demands”.

University researchers agreed markedly more to the “negative” statements than the rest of the respondents. Researchers with a high degree of funding from and interaction with RCN are also more pessimistic in some respects (this concerns decreased total funding, researchers having become “overworked and underpaid”, and procedures to obtain funding having become “more bureaucratic and time-consuming”).

There is a strong general call for a higher priority to basic research, but some sector variation. Cross-disciplinary research is very popular as well (the least in institutes), but also somewhat disputed. The term “strategic research” was particularly approved among institute researchers. State college respondents are as oriented at applied work as the institute respondents are.

When asked about “support types RCN should give preference to”, PhD scholarships and international collaboration are highest on the list. Many respondents, particularly institute researchers, also want larger projects, and the state college respondents give a particularly high priority to “travels, courses etc.”.

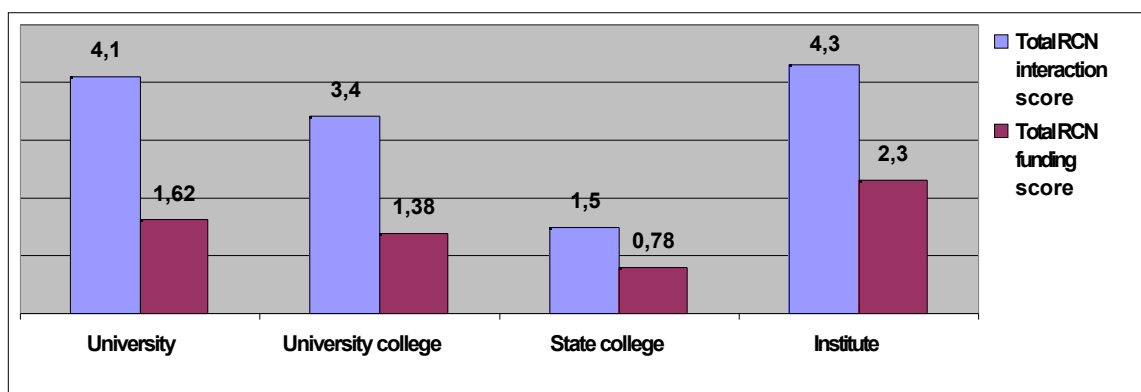
## Interaction with RCN

If we look at which *RCN Division* the respondents view as most relevant, KS has the highest representation (28 percent), followed by NT (22 percent). The other four Divisions are about equal size with a little over 10 percent of the respondents. MH is dominated by universities and IE by institutes. KS is the main source for the state colleges, BF for the university colleges. Based on the respondents that listed several Divisions, it seems that some Divisions overlap relatively much with many of the others (NT and KS the most). IE and BF overlap mainly with one or two of the others, while MH has a low or moderate interaction with all the others.

The majority of respondents have *never received/taken part in* the studied funding types (free funds, regular programmes, user-controlled programmes and strategic programmes) and interactions (referee, project leadership, membership in various committees, PhD scholarships and rejected proposals). That is, for each of these types of funding/interaction, the “Never” group is the largest one. Furthermore, most of those who have received funds or carried out other tasks have a relatively low degree of interaction for each type (1-3 times in the 8-year period in question). A small group has a high degree of interaction, and “success” (received funding or carried out other tasks) in one respect often means “success” in other respects as well. The strongest funding relationship is between strategic programme funding and user-controlled programme funding (correlation 0.352).

*Variations across disciplines, institutional settings, RCN Divisions* etc. are mainly expected, e.g. the dominance of universities in the “free funds” and “referee” categories and the institutes’ and IE (and to some extent BF) dominance in user-controlled programmes. It is perhaps somewhat surprising to see that more than two-thirds of the strategic programme recipients come from institutes. One-fifth of the respondents has received funds outside of ordinary calls for proposals and competitions. Senior personnel and the university colleges are over-represented in this group. In general, the state colleges have a low score on all items (their highest absolute scores are in the “rejection” items). Respondents with a high success in one type of funding also have a higher rejection rate than others.

When we combine the various funding and interaction items into indicators of “*Total interaction*” and “*Total funding*”, several clear relationships stand out. In the “high” (“success”) end of the distributions, we find those in Full Professor/Researcher I positions, institute researchers, respondents from technological and agriculture/fishery-related disciplines and cross-disciplinary units (and the IE/BF Divisions), researchers with a high degree of international collaboration, and members of formal groups. At the low end of the scale, we find Assistant Professors/Researcher III’s, the state colleges, the humanities and researchers with no formal group membership and/or little international contact. The differences between sectors are shown in the figure below (numbers refer to “total interaction score” and “total funding score”). For a more in-depth treatment of differences, cf. Table 9 p. 26 and Table 10 p. 27).



The data indicate that interaction with RCN usually starts with receiving funding (strategic programmes have the highest participation rates among the more junior positions compared with the other three funding mechanisms). Other tasks (committee membership, refereeing) come later as the researchers become more experienced and have acted as leaders for RCN-financed projects. Refereeing is also common without necessarily having received much funds from RCN.

It is not easy to get a clear picture of *reasons for not applying*. “Too bureaucratic application process” and “Too high rejection rate were frequent answers. Still, it also seems obvious that research units frequently have other important funding sources. More than one-third of the respondents stated that “We have sufficient funds from other sources” was a very or somewhat important reason for not applying for a particular type of RCN funds. Familiarity does not emerge as an important problem, with a possible exception for the strategic programmes. Researchers who have received one type of funding also have more knowledge about the other sources of RCN money. In addition, the ones who have never applied for funding are the ones who most strongly claimed that the “rejection rate is too high” and that the “application process is too bureaucratic” (the experienced ones are generally more “positive”). This may indicate a kind of “prejudice” towards RCN.

## Experiences with RCN

Some “prejudices” also emerge when analysing the questions that deal with experiences with the application process, administrative procedures and the various funding mechanisms. Respondents with no or little RCN experience are significantly more negative about the application documents, feedback about review results and end-of-project reports. With a few exceptions, researchers who have not received a particular type of funding are also more negative about its benefits, status and organisation.

Looking at *the application process*, the overall picture is somewhat mixed – the appraisal of the application documents is positive, but many expressed that the application process takes longer time than it should and that they have not received any assistance in the application phase.

More than half of the respondents agree (or agree partly, these two categories of answers are merged throughout) that the application documents are well-designed (16 percent disagree). 35 percent disagree and 35 percent agree that "Announcement of programmes/funds is not good enough" (those with high RCN interaction are the most comfortable with the announcement). Almost 50 percent disagree with the statement "RCN has assisted me in the application phase". Respondents belonging to IE are much more pleased with the assistance than respondents belonging to the other divisions. A little less than 60 percent agree that the application process takes longer time than it should (in addition, more than 30 percent are "neutral"). The most "impatient" ones are found in the IE, BF and MH divisions. Almost half the respondents express dissatisfaction with the feedback about the review results.

When turning the attention to *administrative procedures and selection criteria*, the picture is somewhat mixed as well with slightly positive experiences with the reporting but critical remarks about too little focus on originality.

The respondents with actual RCN experience (at least having applied once for funding) disagree that the underway and end-of-project reporting are too comprehensive (they are slightly more pleased with the latter), and more than half agreed that underway reporting may be useful to the projects' efficiency. On the other hand, the experienced respondents agree relatively strongly that "RCN does not use the end-of-project reports". Almost 80 percent agree that many good applications do not get funded (only 2 percent disagree), while 60 percent agree that "originality/innovative research is given too little priority" (7 percent disagree). Finally, more than 60 percent agree to the statement "my problems often fall between two RCN stools", and almost 50 percent agree that too little funds are distributed to too many research units. Respondents with success in obtaining RCN funds agree more strongly to the latter, as do respondents from the institute sector in general.

## Free funds

Researchers in a Full Professor/Researcher I position are over-represented among the recipients of free funds, as are the medical and natural science (and the MH and NT respondents). *The general picture emerging from the analysis of the experiences with free funds is very positive.* The successful applicants strongly agree (between 72 and 82 percent of them) that free funds are a stamp of quality, that they make it possible to enter new specialities and that the competition is too hard. A little over 50 percent of them agree that free funds yield good professional networks, but less than one-fourth agree that applications get a thorough and just assessment (28 percent disagree).

The most common results of free funds are scientific publications, development of new knowledge and training of (young) researchers. All the 15 possible results in the questionnaire (cf. Table 17 on p. 52) were mentioned at least once.

## Regular programmes

People in senior positions are also dominant among the recipients of regular programme funds, and the most successful ones (funding four times or more in the period 1993-2001) mainly come from universities and institutes. Successful applicants consist of relatively few humanists, medical scientists and technologists, and relatively many respondents from natural science, social science, agriculture/fish.-related disciplines and cross-disciplinary units. Researchers with regular programme funding seem to depend more upon RCN – their share of RCN funding is high and their basic funds are relatively low. Furthermore, the more money from regular programmes, the more money the researchers report from international public sources (EU, Nordic Council of Ministers, etc.).

*The overall picture of experiences is positive.* Of the recipients of regular programme funds, 50 percent or more agree that programme research is professionally revitalising, enables entering new fields, yields more internal co-operation, constitutes a stamp of quality and yields good professional networks. However, some possible problems are also pointed at. 64 percent

agree that “non-researchers get too much influence on professional decisions”, 57 percent agree that “programmes have made the researchers do more applied projects”, and almost one-third disagree that applications get a thorough and just assessment. The more times a respondent has received regular programme funding, the more she generally agrees both to the “positive” and to the “negative” statements.

The most common results of regular programme funds are scientific publications, development of new knowledge and training of (young) researchers. Many more types of results were mentioned by a large share of the respondents. The reason is probably that “regular programmes” is a relatively wide category, which may also explain the somewhat “mixed picture” emerging from the experience questions.

## **User-controlled programmes**

Institutes receive user-controlled programme funding much more frequently than researchers in the other three institutional settings – more than 60 percent of the recipients of such funds come from the institute sector. Not surprisingly, technologists are dominant, and researchers from agriculture/fish.-related disciplines and cross-disciplinary units are over-represented as well. The more funds from user-controlled funds, the higher the proportion of funding from industry (and the lower the basic funds). Recipients of user-controlled funds also spend more time on “professional activities” (as a doctor, lawyer, technical consultant etc.).

*The general picture of experiences with user-controlled programmes is positive as well, but with some critical remarks.* 41 percent agree that such funds enable entering new fields, 49 percent that they are a good source of competence increases, and 51 percent that they yield good professional networks. The shares that agree to beneficial effects and other positive statements (network effects, opportunities for entering new fields, funds as a stamp of quality, hard competition) are lower than for the other three main funding mechanisms, however. 27 percent disagree (and 20 percent agree) that applications get a thorough and just assessment.

Almost two-thirds of the recipients of user-controlled funds agree that “users rarely have the competence to control research activities” and that “it is difficult to find a good balance between research and development work”. The issue of finding competent and highly involved users also received open comments, although few seem to be opposed to user control as a general principle. In line with their intention, the main results of user-controlled programmes are reported to be knowledge transfer to users, development of new knowledge, exploitation of knowledge and new interaction with users.

## **Strategic programmes**

Strategic University programmes (SUP's) and Strategic Institute Programmes (SIP's) are less dominated by senior personnel than the other funding mechanisms. Two-thirds of the recipients come from the institute sector. Technology, agriculture/fish.-related disciplines, social science and cross-disciplinary units are over-represented as well.

*The overall picture based on analysis of experiences is very positive.* Of all the funding mechanisms, strategic programmes receive the highest scores when it comes to “status” (funding as a “stamp of quality”) and beneficial effects like possibilities for entering new fields and the creation of new professional networks. More than 80 percent of the recipients also report that strategic programmes yield more internal interaction.

The most frequently mentioned results were development of new knowledge, scientific publications, training of (young) researchers, development of research capacity and new collegial interaction.

## Healthy signs and some challenges

In total, it can be claimed that the survey has revealed a number of “healthy signs” regarding RCN and its four main funding mechanisms. Some examples are:

- Many beneficial effects of the various types of funding have been described, and the ones who have had concrete interaction with RCN are generally more positive about the application process, administrative procedures and benefits.
- The ones who have received funds also generally have the largest number of rejections, which indicates that you do not “automatically” get (more) funding once you are “on the inside” of the system.
- Cross-disciplinary research is high on the priority list of Norwegian researchers, but respondents from cross-disciplinary units also have a high degree of success when it comes to RCN funding and interaction. This, as well as the linkages indicated between the RCN divisions, indicates that there is a continuing development of new specialities and focus areas in the intersection between traditional dividing lines.
- Although there is a fairly large group (more than one-sixth of the respondents) who has never had anything to do with RCN, the data on funding and interaction shows a broad involvement of disciplines, institutions and regions in the various funding schemes. The data furthermore point to the centrality of the institute sector in the Norwegian R&D system. It can be added that respondents who have not received RCN funding, quite often report that they have alternative sources of money.
- There are fewer women in the most senior positions (and fewer women in the researcher population in general), but women are not under-represented as recipients of RCN funding.
- The “results profile” of the four main funding mechanisms indicate that they function differently (as intended) and are to some extent aimed at different parts of the research system.

Still, a number of critical remarks have emerged as well, in addition to a somewhat pessimistic view of general developments in the Norwegian research system the last decade. Perhaps the most serious message is the low share of respondents that agree that applications receive a thorough and just assessment. Many (around 50) open comments in the questionnaire dealt with this issue, and there are frequent complaints that “irrelevant” criteria too often play a role in project (and programme theme) selection, e.g. geographical and institutional “fairness” or “representativity”. Ensuring legitimacy of the review system may be a great challenge for RCN.

In addition, there is a strong call for a higher priority to basic research. Some questionnaire items indicate that programme research makes the researchers do more applied projects, and open comments are generally critical about the priority granted to basic research by RCN. This may nevertheless be a difficult issue, as the data clearly show that there are important institutional and disciplinary dividing lines in the Norwegian research community. No matter what “profile” RCN develops in its funding mechanisms and administrative procedures, it will probably be impossible to make all researchers satisfied.