

## Section 4

### The Research Council System

#### 1. Introduction

The Danish research advisory system plays an important role in the external funding of the Danish universities. This section describes the aims of Danish external funding policy and the structure and tasks of the existing research advisory system compared with the changes introduced in the new act.

#### 2. Distribution of funds through the research councils

In Denmark public research funds are allocated by a two-pronged approach.

1. fixed core funding of on-going research and teaching activities to universities and governmental research institutions.
2. external funds from research councils, various funds and specific programmes, the so-called "competition string" granted for a fixed period of time.

The aims of the overall funding policy are to:

1. promote, co-ordinate and strengthen research of the highest quality
2. promote the relevance of research to society and to exploit research results.

The research councils' funds can be divided into the following main activities:

- The ordinary funds and strategic funds of the individual councils
- The individual council's programme funds
- Inter-council strategy funds
- Inter-council programme funds

The distribution of the research councils' ordinary funds meet in particular the first aim, where assessment of applications and the scientific quality of applicants are based on traditional academic criteria. A much broader assessment is often required for programmes and other activities in new areas.

Table 4.1 illustrates the development in the research councils' activities. There has been a marked increase in activities, particularly in terms of individual council programmes and inter-council programmes. The introduction of inter-council strategic initiatives has led to a range of new activities.

*Table 4.1. Amount of main activities of the research Councils 1991, 1995 and 1998*

Main activity	1991	1995	1998
Ordinary funds & individual council's strategy funds	12	12	12
Individual council programmes	13	12	25
Inter-council strategic initiatives	0	13	9
Inter-council programmes	3	7	27
Total	28	44	73

*Source: Danish Research Councils*

Over the past decade, the Danish government has set aside funds for "funding packages" in the annual Appropriations Act, which has led to a considerable number of research programmes.

These programmes are mainly administered by the Board of the Danish Research Councils and by the funding councils. Some of these programmes cover only one research area. Other inter-council programmes span several research areas and are administered by programme committees set up by the Board of the Danish Research Councils.

The development of the grants to the research councils for the period 1991-1999 is illustrated in table 4.2. The table also shows appropriations divided onto types of activities in the research councils.

*Table 4.2 Appropriations to the research councils 1991-1999 divided onto types of activities (MDKK in 1997 figures).*

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Ordinary grants including strategic grants	615	622	475	675	762	743	461	392	422
Programmes covering one council	1	0	0	10	101	27	62	193	94
Programmes covering several councils	75	203	286	137	163	219	380	475	506
<b>Grants in total</b>	<b>691</b>	<b>826</b>	<b>758</b>	<b>822</b>	<b>1,026</b>	<b>989</b>	<b>903</b>	<b>1,060</b>	<b>1,022</b>

Note: The overheads for state institutions increased from 3.1% to 20% in 1995. The research councils were therefore allocated a compensation of DKK 84m. The figures for the period 1991-1994 were adjusted accordingly

Source: Ministry of Science, Technology and Innovation

Appropriations for R&D in the annual Appropriation Act as well as the share allocated to the research councils in the period 1993-2001 is shown in table 4.3.

*Table 4.3 Appropriations for R&D and share allocated to the research councils for the period 1993-2001 in MDKK and(EUR).*

	<b>1993</b>	<b>1996</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Appropriations for R&D on Appropriation Act (total)	7,026.7 (946.44)	8,577.7 (1155.34)	9,279.7 (1249.89)	9,113.9 (1227.56)	8,930.4 (1202.84)
Research councils' share	786.3 (186.3)	1,033.4 (139.19)	1,150.0 (154.90)	917,6 (123.59)	713,6 (96.12)
<b>Research councils' share in %</b>	<b>11.2%</b>	<b>12.0%</b>	<b>12.4%</b>	<b>10.1%</b>	<b>8.0%</b>

Source: Ministry of Science, Technology and Innovation

Grants allocated to specific programmes have increased considerably since 1993. In fact this has meant moving funds from the councils' ordinary funding function to that of programme funding as illustrated in Table 4.4 below.

*Table 4.4 Research council funds allocated to the ordinary funding function and programme activities for the period 1993-2001 in %.*

	<b>1993</b>	<b>1996</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Ordinary funding function	64.6 %	65.9 %	44.8 %	47.2 %	52.0 %
Programmes	35.4 %	34.1 %	55.2 %	52.8 %	48.0 %
<b>Total</b>	<b>100 %</b>				

Note: The ordinary funding function covers the councils' ordinary funds, while programmes cover time limited, designated programmes.

Source: Ministry of Science, Technology and Innovation

By and large the distribution of funds to specific research areas allocated via the ordinary funding function has remained unchanged over a long period of time. See Table 4.5.

Table 4.5 *Distribution scale used in the 2001 Finance Act to specific research areas.*

The Danish Natural Science Research Council	27%
The Danish Medical Research Council	21%
The Danish Agricultural and Veterinary Research Council	10%
The Danish Social Science Research Council	10%
The Danish Research Council for the Humanities	13%
The Danish Technical Research Council	19%

In fixed prices the funds allocated to the research councils through appropriations from the ministries to the research councils increased by 5% on average annually in the period 1991-99. The highest increase was for the period 1994-96. During the period 1991-99 there was a shift in the distribution of funds so that more funds were allocated to inter-council research programmes.

Figure 4.1. *Appropriations to the research councils 1991-1999 according to type of activity in MDKK (1997 figures).*

Note: The overheads for state institutions increased from 3.1% to 20% in 1995. The research councils were therefore allocated a compensation of DKK 84m. The figures for the period 1991-1994 were adjusted accordingly.

Source: Ministry of Science, Technology and Innovation.

### 3. The present research funding and advisory structure

The current Danish research advisory structure consists of a number of councils and funds with varying tasks – some have a funding function, some an advisory function and some have both (see figure 4.2):

- The Danish Council for Research Policy
- The Board of Danish Research Councils
- Six research councils
- Danish Research Training Council
- A range of public research committees set up by ministries with substantial research activities
- The Danish National Research Foundation

Figure 4.2. *The present Danish research advisory system*

### 3.1. The Danish Council for Research Policy

The Danish Council for Research Policy was established according to Act no. 120 of 4 March 1996. The Council's task is to advise the Minister for Science, Technology and Innovation on overall questions related to Danish and international research policies. The Council can do this on its own initiative. Likewise the Danish Folketing and any minister can seek advice from the council.

As part of its advisory role the Danish Council for Research Policy consults the research councils, the public research committees as well as the Council for Technology and Innovation and relevant institutions and organisations.

The Ministry of Science, Technology and Innovation acts as secretariat to the Council. The Council's statements and recommendations are available to the public.

### 3.2. The Danish Research Training Council

The Danish Research Training Council has 14 members. The Head and Deputy Head are appointed by the Minister for Science, Technology and Innovation while the remaining 12 members represent the Danish Rectors' Conference, the Joint Committee of Directors at the Governmental Research Institutes, the six national research councils, the Academy for the Technical Sciences as well as the Presidency for the National Advisory Boards for Higher Education<sup>1</sup>

The aim of the Danish Research Training Council is to further the quality and the internationalisation of Danish research training. The Council seeks to fulfil this aim through the following functions:

- *a funding function* (including doctoral schools and individual PhD fellowships)
- *an advisory function*, where the Council advises the Minister for Science, Technology and Innovation on research training within all scientific disciplines.

### 3.3. The Research Council Structure

The research council structure consists of the Board of Danish Research Councils and six research councils. The Board and the councils act as independent advisory units who have two overall tasks:

1. to distribute research grants to researchers (the funding function),
2. to give specialist advice on research to Government and Folketing (the advisory function).

### 3.4. The Board of the Danish Research Councils

The Board of the Danish Research Councils co-ordinates across the six Danish research councils. The Board has a total of 13 members, who are appointed by the Minister for Science, Technology and Innovation. The Chair and six members are appointed on the basis of personal merits. The remaining six members represent each of the six research councils.

#### Tasks of The Board of the Danish Research Councils:

##### *Funding function*

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<sup>1</sup> In Danish: Uddannelsesrådenes formandskollegium

The Board co-ordinates the work regarding strategies for the councils' activities and also produces a strategy for activities covering more than one council.

The Board distributes government appropriations either to the individual councils or by setting up ad hoc programme committees that administer programmes within a limited area such as food technology, biotechnology, material research or similar.

#### *Advisory function*

In connection with its advisory function, the Board co-ordinates the professional advisory role in questions related to several research councils.

### **3.5. The six research councils**

The six research councils are:

- The Danish Natural Science Research Council
- The Danish Medical Research Council
- The Danish Agricultural and Veterinary Research Council
- The Danish Social Science Research Council
- The Danish Research Council for the Humanities
- The Danish Technical Research Council

Each of the six councils have 15 members in total 90 members. The members are active researchers who have been appointed on the basis of their in-depth knowledge of the application of research to important sectors of society. The Minister for Science, Technology and Innovation appoints all members in their personal capacity, for a period of 4 years with a possible extension for another 2 years.

#### Tasks of the Danish research councils:

#### *Funding function*

The research councils offer financial support for research within their respective areas to support important research tasks and to strengthen the efficiency, the quality and international collaboration as well as dissemination of research results.

Financial support is granted according to scientific quality and in open competition upon application submitted by individual researchers or on the council's own initiative.

The financial support must be granted on the basis of strengthening a number of aspects; viz. the quality and relevance to society, the relevance in relation to the overall Danish research efforts, the dissemination and commercialisation of research as well as the research infrastructure.

Each of the six research councils produces strategic plans describing challenges faced by the specific research area, funding priorities and the role the council wishes to play in the coming years. The present strategies cover the period 2003 - 2007.

The research councils offer important support to international research collaboration through their funding function. The councils also participate in a range of international research organisations, primarily at Nordic and European levels.

#### *Advisory function*

The research councils advise the Minister for Science, Technology and Innovation, the other ministers and the Folketing in terms of questions related to research. The councils offer their advice upon request or on their own initiative. The research councils also advise the Danish Council for Research Policy upon request as well as the public research committees and public and private funds and institutions.

### **3.7. Public research committees**

Each ministry can establish public research committees as set out in Act no. 120 of 4 March 1996. The existing public research committees are typically based in ministries carrying out large amounts of research (for example the Ministry of Food, Agriculture and Fisheries, Ministry of Environment and Energy, Ministry of Health and the Interior, Ministry of Culture and Ministry of Social Affairs).

A public research committee advises the minister who established the committee and can plan and execute research programmes in collaboration with the Danish research councils according to the terms of reference set by the individual minister.

## **4. The new research advisory system**

The Danish Research Commission, set up in 2000 by the then Minister of Information Technology and Research, recently put forward recommendations for a reform of the research system. The eight political parties of the Danish Folketing agreed in the autumn of 2002 on a simplified structure for the distribution of research grants. The system will undergo major changes during 2003. Some of the proposed changes are described below.

The current reform has the following overall objectives:

- To ensure the quality of research through open competition for all public research grants (except those grants which are part of the basic funding of research institutions).
- To simplify the organisation and structure of councils and committees to provide applicants (the researchers) with a better overview of available grants.
- To introduce a new research council system with a strengthened management structure to ensure the implementation of strategic research and emphasis on inter-disciplinary efforts.
- To ensure comprehensive support for basic research.
- To ensure comprehensive support for strategic, applied and business-oriented research.
- To provide a clear distinction between the body that offers advice on general research policy matters and the bodies that distribute grants.

Figure 4.3. *The new research advisory system*

The new research council system will consist of six new elements:

#### **4.1. Support for strategic research**

**Now:** In the present system, grants for the research programmes defined by the Danish Folketing have to be distributed by the existing research councils. This requires contact through the Board of Danish Research Councils, which can choose to set up programme committees or place the grant in the existing councils. The procedure has proven to be difficult and time-consuming. Also, it has led to a large number of programme committees resulting in lack of transparency in the system.

**New:** Grants from the Danish Folketing for strategic research efforts will be distributed through a mission-oriented research council. Moreover, in the future research funding from other ministries will be granted in open competition according to quality criteria. This strategic research council will be able to set up a very limited number of expert programme committees or place a programme in one of the research specific councils. It is important to emphasize, however, that evaluation of applications under the strategic research council is based on quality of the research as well as societal considerations defined by Government.

#### **4.2. Support for basic research**

**Now:** The Danish National Research Foundation has not undergone major changes. Grants to research councils consist both of funds for basic research and research as a result of a researcher's application as well as of strategic research defined in the political system. This has in some instances caused confusion in the research community as to the priority of basic research.

**New:** Support for basic research is ensured in the new system through the Danish National Research Foundation and through both the science-oriented and the mission-oriented research councils. The science-oriented research council will only deal with applications from researchers based on their own ideas, i.e. a bottom-up system. The mission-oriented research council is a top-down system, where applications have to fit into the research programmes defined by the Folketing. Apart from this, however, both councils support basic research.

#### **4.3. Open competition for all funds**

**Now:** Many research programme funds are distributed through the ministries' own research committees according to various criteria.

**New:** All research funds – except core funding of universities and other research institutes – will be offered in open competition, be it grants from the research councils or programme funds from the individual ministries. Quality assessments will be effected in the research councils. A mission-oriented research council will facilitate the qualitative framework of the distribution of funds in order to ensure that all research funds are distributed in open competition.

#### 4. 4. Co-ordination

**Now:** It has proven difficult in the present research system to ensure co-ordination between the various initiatives.

**New:** A co-ordinating body will be introduced and will range across the science-oriented research council, the mission-oriented research council, the Danish National Research Foundation and the rest of the research system. A new co-ordinating body will ensure reciprocal co-ordination and collaboration in the system. This new body will consist of:

- the three chairs of the research advisory system,
- two members appointed by the Danish Rectors' Conference<sup>2</sup>,
- a member appointed by the Joint Committee of Directors at the Governmental Research Institutes<sup>3</sup>, and
- a member appointed by the Council for Technology and Innovation.

The advisory tasks regarding funds for Danish research training, which were previously based in the Danish Research Training Council, will be moved to the co-ordinating body.

#### 4. 5. Simplification

**Now:** For applicants the current system has many entries:

- The Danish National Research Foundation
- The Board of the Danish Research Councils<sup>4</sup>
- Danish Natural Sciences Research Council
- Danish Medical Research Council
- Danish Agricultural and Veterinary Research Council
- Danish Social Science Research Council
- Danish Research Council for the Humanities
- Danish Technical Research Council
- Danish Council for Research Training
- Programme Committees (1-20)
- Research Committees in individual ministries

**New:** The system will be simplified. In the new system there will be four entries for applicants to the whole research advisory system:

- The Danish National Research Foundation
- The Science-oriented Research Council
- The Mission-oriented Research Council
- The Co-ordinating Committee (including research training)

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<sup>2</sup> In Danish: Rektorkollegiet

<sup>3</sup> In Danish: Sektorforskningens Direktørkollegium

<sup>4</sup> In Danish: Forskningsforum

#### **4.6. Strengthened management structure**

**Now:** In the present system it was the intention that the Board (Forum) should have the overall management responsibility. The Board has taken on some management tasks but this has been difficult since all six research councils have a representative on the Board.

**New:** The Science-oriented Research Council and the Mission-oriented Research Council will each have a board consisting of 9 members. The members of the boards are not allowed to be member of any of the other boards or councils in the advisory system (with the exception of the Co-ordination Committee).

