

A black and white photograph of a modern university interior. The scene is dominated by large, multi-paned glass windows that let in bright light. In the foreground, several people are walking across a polished, reflective floor. One person in the center is wearing a striped shirt and dark pants. In the background, there are tables and chairs, suggesting a study or common area. The overall atmosphere is bright and open.

# THE UNIVERSITY EVALUATION 2009 Evaluation report



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Ministry of Science  
Technology and Innovation



# CONTENTS

<b>1. SAMMENFATNING</b> .....	5
1.1 Introduktion .....	5
1.2 Overordnede konklusioner .....	5
<b>1. SUMMARY</b> .....	9
1.1 Introduction .....	9
1.2 Overall conclusions .....	9
<b>2. THE EVALUATION – BACKGROUND, PURPOSE AND PROCEDURE</b> .....	13
2.1 The Terms of Reference .....	13
2.2 Procedure for the evaluation .....	14
2.3 The Evaluation Panel .....	15
<b>3. THE WIDER CONTEXT</b> .....	17
3.1 Global governance reforms .....	17
3.2 The European context .....	18
3.3 The Nordic dimension .....	20
3.4 Globalisation strategy in Denmark .....	21
3.5 Panel's evaluation perspectives .....	22
<b>4. UNIVERSITY GOVERNANCE</b> .....	27
4.1 University autonomy .....	27
4.1.1 University autonomy: a central objective .....	27
4.1.2 Continuing constraints .....	28
4.1.3 Universities' progress regarding autonomy .....	32
4.1.4 Recommendations on autonomy .....	34
4.2. Codetermination and academic freedom .....	36
4.2.1 Codetermination .....	36
4.2.1.1 Changes brought by the 2003 University Act .....	36
4.2.1.2 Experience and problems .....	37
4.2.2 Freedom of research .....	39
4.2.3 Freedom of debate .....	41
4.2.4 Recommendations on codetermination and academic freedom .....	42
<b>5. THE MERGERS</b> .....	45
5.1 Introduction .....	45
5.2 Research .....	46
5.2.1 International impact of Danish university research .....	46
5.2.2 Attracting EU funding .....	49
5.3 Education .....	53
5.3.1 Study programmes .....	53
5.3.2 Student intake, progress and completion .....	56
5.3.3 Conditions of study .....	57
5.4 Innovation and relationship to the business sector .....	58
5.4.1 Relationship to private sector companies .....	58
5.4.2 Integrating the GRIs with universities .....	60
5.5 Non-merged universities and government research institutions .....	62
5.5.1 Three non-merged universities .....	62
5.5.2 The non-merged GRIs .....	64
5.6 Food Forum .....	66
5.7 Recommendations on mergers .....	68
<b>4. ANNEXES</b> .....	72
1. Terms of reference for the evaluation .....	72
2. Proposal for minimum contents of the 2009 evaluation of 18 November 2008 .....	74
3. Brief presentation of the Evaluation Panel Members .....	77
4. Reference list of background documents for the evaluation .....	79
5. List of abbreviations used in the evaluation report .....	83
6. Meeting schedule for the evaluation, including programme for the Evaluation Panel's site visits in August 2009 .....	84
7. The Danish university sector – a factual overview .....	93



# 1

## SAMMENFATNING

### 1.1 Introduktion

Denne rapport præsenterer resultatet af 2009-evalueringen på universitetsområdet, der blev gennemført fra december 2008 til november 2009 af et uafhængigt internationalt evalueringspanel. Evalueringen blev igangsat på baggrund af Folketingets beslutning V9 af 16. november 2006 og gennemført i overensstemmelse med Kommissorium for evaluering på universitetsområdet af 2. december 2008.

Efter introduktionen følger evalueringspanelets overordnede konklusioner i kapitel 1. Kapitel 2 præsenterer baggrunden, formålet og proceduren for evalueringen.

I kapitel 3 beskriver panelet den globale, europæiske, nordiske og danske sammenhæng, som den danske universitetssektor indgår i. Kontekstbeskrivelsen leder til en kort gennemgang af de forhold, som sammen med de formelle rammer har dannet en referenceramme for panelets evaluering.

Kapitel 4 og 5 præsenterer panelets vurderinger og anbefalinger, struktureret i overensstemmelse med den referenceramme, der er beskrevet i kapitel 3.

Der er vedhæftet en række bilag til rapporten inklusive en kort faktuel beskrivelse af den danske universitetssektor i de senere år.

### 1.2 Overordnede konklusioner

Den danske universitetssektor har gennemgået væsentlige ændringer og reformer i løbet af de senere år i tråd med internationale reformtendenser på området. Panelet har brugt intentionerne bag de største reformer, universitetsloven af 2003 og sammenlægningsprocessen i 2007, som referenceramme for dets vurderinger og anbefalinger. Begge reformer har til hensigt at styrke universitetssektorens globale konkurrenceevne. Et yderligere referencepunkt er den danske Globaliseringsstrategi, der på linje med de globale tendenser er rettet mod at styrke videnstrukturen i samfundet. Globaliseringsstrategien fokuserer blandt andet på at øge andelen af unge, der gennemfører en videregående uddannelse, etablere flere ph.d.-stipendier, fremme internationaliseringen af de videregående uddannelser samt forbedre relationen mellem universiteterne og den private sektor for så vidt angår innovation. For at opnå de ønskede resultater af de forskellige reformer har Folketinget forøget de offentlige midler til forskning væsentligt.

Universiteterne har opnået større *autonomi*, og deres beslutningskapacitet er blevet forbedret. Imidlertid er denne udvikling blevet ledsaget af omfattende og i mange tilfælde meget detaljeret regulering. En egentlig forøgelse af universiteternes overordnede ansvarsområder er derfor mindre tydelig sammenlignet med centraladministrationens ansvarsområder. Det er legitimt, at universiteterne skal stå til ansvar for anvendelsen af de omfattende offentlige midler, som bliver investeret i dem. Men nogle af de nuværende regler hæmmer autonomien, medfører unødvendig administration og besværliggør universiteternes strategiske udvikling. Det nuværende sammenflettede ansvar gør de forventede effekter af styrket universitetsautonomi mindre tydelige, især på specifikke områder inden for uddannelse og ledelsesstruktur. Samtidig har universiteterne ikke fuldt ud implementeret deres opgaver og forpligtelser som ansvarlige, autonome institutioner. For at imødegå disse modsætninger anbefaler panelet en "højttillids-strategi": politikerne og de udførende myndigheder bør fastsætte de overordnede strategiske målsætninger og lade universiteterne selv fastlægge, hvordan disse målsætninger opnås. En sådan fordeling af ansvar er i overensstemmelse med intentionerne bag universitetsloven af 2003.

*Medbestemmelse* for medarbejdere og studerende er behandlet i universitetslovens bestemmelser om de interne ledelsesstrukturer, herunder universitetsbestyrelse, akademisk råd, studienævn og ph.d.-udvalg. Desuden fastlægger bemærkningerne til universitetsloven, at dekaner og institutledere er forpligtet til at sikre inddragelse af medarbejdere og studerende. Men hverken loven eller bemærkningerne indeholder en generel bestemmelse til sikring af medbestemmelse, og universiteterne har ikke indført medbestemmelse i tilstrækkelig grad. For at yde retfærdighed til de danske demokratiske traditioner og universitetslovens ånd for så vidt angår involvering af medarbejdere og studerende i relevante beslutningsprocesser, og samtidig gøre dette til et almengyldigt ansvar for universiteterne, anbefaler panelet, at der i universitetsloven eller bemærkningerne til loven indsættes en generel bestemmelse, som præciserer den individuelle universitetsbestyrelses forpligtelse til at sikre en tilfredsstillende praksis for medbestemmelse. En sådan bestemmelse bør også sikre, at universitetsbestyrelserne indfører procedurer for høj grad af gennemsigtighed ved udpegning af universitetsledere og eksterne medlemmer af universitetsbestyrelserne.

I Danmark lægges der stor vægt på såvel *forskningsfrihed* som den *frie akademiske debat*. En del af universitetsloven, nemlig paragraf 17 stk. 2, sender imidlertid et mindre hensigtsmæssigt signal, idet den kan opfattes som en indgriben i universitetsforskernes traditionelle værdier og rettigheder. Panelet anbefaler Folketinget at fjerne eller omformulere paragraf 17 stk. 2. For eksempel kunne stykket ændres til at fastsætte, at forskningsfriheden skal være garanteret inden for de rammer for videnskabelig kvalitet, såvel som de institutionelle og finansielle rammer, som den enkelte forsker arbejder inden for.

*Sammenlægningerne* mellem universiteter og mellem universiteter og sektorforskningsinstitutioner er blevet gennemført for at styrke universitets- og forskningssektoren, specielt set i et internationalt perspektiv. Sammenlægningsprocesserne har virket som igangsættere af forandring på flere måder. Der er opnået visse positive effekter, men den fulde virkning er endnu ikke opnået, især på grund af den korte periode siden sammenlægningerne. Ikke desto mindre forventer panelet, at universiteterne med tiden vil opfylde det potentiale, som sammenlægningerne har medført. Panelet anbefaler, at det diskuteres, om det nye 'landkort for universiteter og forskning' tjener det danske samfunds interesser i tilstrækkelig grad, og at yderligere justeringer af 'landskabet' overvejes. Spørgsmålet om universiteternes profiler var ikke et nøglespørgsmål på sammenlægningstidspunktet, men nu er tiden moden til at drøfte profilering. Panelet anbefaler en debat rettet mod at fastlægge, hvilken diversitet der ønskes i den danske universitetssektor. Drøftelserne kan specificere



målene vedrørende forskningsresultater og deres effekt, for sektoren som helhed såvel som for hvert enkelt universitet.

Med hensyn til *Det Nationale Fødevareforum* konkluderer panelet, at Fødevareforummet i dets nuværende form ikke fungerer tilstrækkelig effektivt. Hvis Danmark ønsker en ledende rolle inden for landbrug og fødevareindustri, kunne der formuleres en national 'fødevarestrategi', som kan påvirke og stimulere de involverede universiteter såvel som samspillet mellem landbruget, fødevareindustrien og universiteterne.



# 1

## SUMMARY

### 1.1 Introduction

This report presents the outcome of the Danish University Evaluation, carried out December 2008 – November 2009 by an independent international evaluation panel. The evaluation was initiated on the basis of the Danish Parliament resolution V9 of 16 November 2006 and carried through in accordance with the *Terms of Reference for the 2009 Danish University evaluation* of 3 December 2008.

After the introduction, a summary of the Evaluation Panel's overall conclusions is provided. Chapter 2 presents the background, purpose and procedure of the evaluation.

In chapter 3 the Panel describes the Global, European, Nordic, and Danish context of which the Danish university sector is part. The context presentation leads to a brief description of the perspectives and framework, according to which we have structured our evaluation while at the same time taking basis in the formal framework for the evaluation.

Chapters 4 and 5 present the Panel's assessments and recommendations. These are structured in correspondence with the framework described in chapter 3.

Several annexes are attached to the report, including a brief presentation of facts and later years' history of the Danish university sector.

### 1.2 Overall conclusions

In line with international reform trends in higher education, the Danish university sector has undergone substantial changes and reforms during the last years. The Panel has taken the intentions behind the main reforms, i.e. the 2003 University Act and the 2007 merger processes, as a frame of reference for its assessments and recommendations. Both are aimed at further strengthening the university sector's global competitiveness. Another reference point is the Danish Globalisation Strategy, which follows the global trends and the increasing demands in supporting the knowledge structure in society. The Globalisation Strategy, among other things, focuses on increased access to higher education, creating more PhD positions, stimulating a further intensification of the in-

ternationalisation of higher education as well as a more effective innovation relationship between universities and the private sector. For achieving the intended outcomes of the different reforms, the Danish Parliament has substantially increased the public funding of research.

More *autonomy* of the universities has been achieved and the decision-making capacity of universities has been improved. However, this development has been accompanied by a dense set of rules and regulations, many of them too detailed. An actual increase in the overall responsibilities of the university level has therefore been less evident, compared to the responsibilities of the central administration. Accountability is legitimate – the universities must account for the substantial public funding invested in them. Some of the present rules and regulations, however, are hampering autonomy, entailing unnecessary administration and interfering with strategic university processes. The present intertwined responsibility, especially with respect to certain education issues and specific features of the leadership structure, makes the expected effects of the strengthened university autonomy less obvious. At the same time the universities have not fully materialised their tasks and responsibilities as accountable autonomous institutions. To address the underlying contradictions the Panel recommends a high-trust strategy: the politicians and the implementing authorities should be expected to stick to overall strategic targets and leave to the universities to decide how to reach the targets. Such a division of responsibilities is in line with the intentions behind the 2003 University Act.

The *codetermination* for staff and students is covered by the University Act's stipulations with respect to the internal governance structures, above all the university boards, the academic councils, the study boards and the PhD-committees. In addition the explanatory notes to the Draft Bill on Universities stipulate obligations of Deans and Heads of Department to ensure involvement of staff and students. However, neither the Act nor the explanatory notes contain a general statement in support of codetermination, and the universities have not implemented codetermination to a satisfactory extent. In order to do justice to Danish democratic traditions and the spirit of the Act as regards academic staff and students' involvement in relevant decision-making processes and at the same time making this a general responsibility for the universities, the Panel recommends that a general statement stipulating the individual university board's obligation to secure adequate codetermination practices should be included in the Act or in the explanatory notes. Such an amendment should also ensure the university boards to be active in the implementation of procedures for a high degree of transparency in nominating senior executives as well as the external members of central university boards.

Regarding the *freedom of research* as well as the *freedom of debate*, the intentions and expectations in Denmark are high. One part of the University Act, though, sends a less expedient signal, namely the article 17.2, which could be regarded as an intrusion into traditional values and rights of academic university staff. The Panel recommends the Parliament to remove or reformulate article 17.2. An example of change of the Act could be to let the article stipulate that research freedom should be guaranteed within the specific financial and quality framework of the institution of the researcher.

*The mergers* between universities and between universities and government research institutions (GRIs) have been carried through in order to strengthen the university and research sector, especially in an international setting. The merger processes have in certain ways acted as change drivers. The effects of the mergers have not yet been fully materialised, even though there are certain positive effects, and the short time since

the merger decisions have not allowed for a more comprehensive implementation. Nonetheless, the Panel expects the universities to fulfil in due time the potential of the mergers. In order to be more competitive, the Panel recommends the adequacy of this new 'map of universities and research' to be discussed for serving the interests of the Danish society and economy, and the 'landscape' to be adjusted with further mergers and other adjustments. As the question of university profiles did not exist as a key issue for the mergers at the time of the merger process, it might now be time for discussing the profiling of the universities. The Panel therefore recommends a debate on university system diversity, aimed at determining what kind of diversity basis the system should have. The discussion may include possible targets for the university system as well as for each individual university when it comes to research output and impact.

Concerning the *Danish Food Forum*, the Panel concludes that the Food Forum in its current set up is not functioning effectively. Assuming that Denmark wants a leading role in agricultural and food industry, a framework for a national 'Food Strategy' might be set up, to influence and stimulate the universities concerned as well as the interaction between the food/agricultural industry and the universities.



# 2

## THE EVALUATION

### – background, purpose and procedure

This chapter presents the background for and purpose of the 2009 University Evaluation, including a brief presentation of the evaluation procedure and the Evaluation Panel. This initial presentation of the “setup” for the evaluation is followed in chapter 3 by the perspectives and framework based on which the Panel has structured its assessments, including the Panel’s description of the wider context the Danish university sector is part of.

The 2009 University Evaluation has been initiated on the basis of the Danish Parliament resolution V9 of 16 November 2006, and carried through in accordance with the *Terms of Reference for the 2009 Danish University evaluation of 3 December 2008*.

### 2.1 The Terms of Reference

As indicated in the Terms of Reference (annex 1), The Danish Parliament’s resolution V9 (Denmark’s Liberal Party, The Conservative People’s Party, and The Danish Social Democrats) of 16 November 2006 sets out the formal framework for the evaluation:

“The Danish Parliament accepts the answer from the Minister of Science, in that it:

- > Notes that the purpose of the mergers are more education, greater international impact of research, more innovation and collaboration with industry, the attraction of more research funding from the EU, as well as a continued competent service in the area of government commissioned research.
- > Notes that the institutions’ self-determination has been the core principle in the mergers of the universities and the government research institutions, which are to come into effect on January 1, 2007.
- > Underlines the importance of the university law’s provisions concerning research freedom and employees’ freedom to participate in the public debate.
- > Notes that the Minister of Science in 2009 will conduct an evaluation of the extent to which the purpose of the university mergers has been achieved.
- > Notes that the Minister of Science in 2009 furthermore will conduct an evaluation of the state of codetermination for employees and students at the universities, the free academic debate, and research freedom, under the current university law.”

The purpose of the evaluation has been to investigate the issues described in the Danish

Parliament’s resolution V9, as well as issues concerning the development of degrees of freedom (autonomy) for the universities, with the main focus on the effect of the reform of 2003 (the 2003 University Act) and the 2007 reform (the mergers of universities and government research institutions). According to the Terms of Reference, “The aim of the two reforms was to provide universities with an enhanced capacity for strategic prioritisation across their core areas of activity: education, research, and knowledge transfer, as well as with an enhanced ability to meet demands of society.”

In connection with the purpose of the evaluation, the Terms of Reference specified that: “The creation, through the reform of 2003, of a clear and transparent management structure including appointed leaders and governing boards with a majority of members from outside the university, forms the basis for the evaluation.”

With reference to the explanatory notes for “The Draft Bill to Changing the University Act (L140) of 31 January 2007”, the Terms of Reference stipulated that the evaluation should be conducted independently.

## 2.2 Procedure for the evaluation

The document “Proposal for minimum contents of the 2009 evaluation of 18 November 2008”, including amendments of 29 January 2009 (annex 2) also belongs to the formal framework for the evaluation. It comprises the following evaluation areas:

- A. Fulfilment of the purpose of university mergers
  1. More education
  2. Greater international impact of research
  3. More innovation and collaboration with industry
  4. Attraction of more EU-funding
  5. Continued competence in commissioned services to government
- B. Codetermination for employees and students
- C. The free academic debate
- D. Research freedom
- E. Degrees of freedom (Autonomy)

The Panel notes that the data available this early after the completion of the mergers will not be sufficient to establish valid causal links. Regarding the mergers the Panel therefore has had to rely to a large extent on experiences, perceptions, and interpretations.

The main objects for the evaluation were the eight Danish universities, i.e. the five universities that have undergone mergers in 2007 (University of Copenhagen (KU), Aarhus University (AU), Technical University of Denmark (DTU), University of Southern Denmark (SDU) and Aalborg University (AAU)), and the three universities that did not merge (Copenhagen Business School (CBS), Roskilde University (RUC), and IT-University of Copenhagen (ITU)). In addition, the following four government research institutions, which were not merged, have been included in the evaluation: SFI - Danish National Research Centre for Social Research; NFA - National Research Centre for the Working Environment; GEUS - Geological Survey of Denmark and Greenland; and: The Kennedy Centre. Finally, DFF – Danish Food Forum (“Det Nationale Fødevarerforum”) has been included in the evaluation. The inclusion of the latter in the evaluation was decided in connection with the foundation of DFF, which took place as a consequence of the mergers.



The evaluation has drawn upon a number of surveys and analyses conducted by private consultants, and statistical data delivered by the Ministry of Science, Technology and Innovation and the Danish University and Property Agency. The evaluation has also benefited from comprehensive written reports and statements from the individual universities as well as from Universities Denmark, the non-merged government research institutions, relevant Ministries and several other stakeholders. Furthermore, the Panel has included the recent evaluations of SFI and NFA as the basis for its investigations in relation to these two institutions. An overview of the background material is enclosed as annex 4.

In addition, the Panel has based its evaluation on information and opinions obtained from meetings with employees, students, and management representatives of the individual universities, as well as with representatives of non-merged government research institutions, relevant ministries and relevant stakeholders and collaboration partners of the universities. The meetings with the universities and other stakeholders took place during the Panel's nine days assembly in Denmark 20-28 August 2009. In addition, ahead of the August assembly, on 12 May 2009, the Panel Chair and one Panel Member met with a number of stakeholders. Programmes for the Panel's meetings with the universities and other stakeholders are enclosed in the time and work plan for the evaluation (annex 6).

The meetings were held as informal discussions on the basis of specific questions prepared in advance, aimed in particular at gaining information and viewpoints supplementary to the received background documents, focusing especially on the impact of the mergers and the university sector policy instruments (legislative, financial and dialogue based instruments).

The Panel has had several internal meetings for planning as well as for discussing its observations, assessments and recommendations (see annex 6). From August to November 2009 the Panel completed the evaluation report. The Panel's communication on the report took place via e-mail, telephone and meetings.

## 2.3 The Evaluation Panel

In accordance with the Terms of Reference, the evaluation has been conducted by an external, internationally composed evaluation panel. Annex 3 provides a brief description of the Panel which consisted of the following experts:

- > Dr. Agneta Bladh, Rector, University of Kalmar (chair)
- > Professor Elaine El-Khawas, George Washington University
- > Dr. Abrar Hasan, Independent Consultant
- > Professor Peter Maassen, University of Oslo
- > Professor Georg Winckler, Rector, University of Vienna

Pia Jørnø, M.Sc., independent consultant and science writer, served as academic secretary for the Panel. Søren Poul Nielsen, M.A., independent consultant, served as additional academic secretary during the Panel's meetings with universities and stakeholders in August. Both served independently of the Ministry of Science, Technology and Innovation.



# 3

## THE WIDER CONTEXT

The reform forces and expectations that confront universities around the world also apply to the Danish universities. Danish universities and this evaluation must take account of these contextual forces for better understanding the challenges Danish universities are facing nationally and internationally. There are, firstly, the global reform trends. With Denmark's goal of developing a world class university system that can support the global competitiveness of the country's economy, it joins a large number of other countries with similar ambitions. Countries around the world are introducing reforms aimed at creating conditions under which their universities can compete with the best universities in the world. Secondly the European context is of particular significance for Danish universities from the perspective of the development of the European Higher Education Area (as part of the Bologna Process) as well as the European Research Area. In the framework of this evaluation, especially the role of the European research funding is examined. Thirdly in the Nordic context the interconnections are strong. In this context especially common Nordic political and cultural values and traditions are of relevance. Finally, university reforms within the country take place within the context of wider socio-economic and political forces. University reforms in Denmark have been shaped by and must take account of such developments as the Government's Globalisation strategy. These four elements are discussed below as a prelude to describing the Panel's evaluation perspective, which is taken up at the end of the chapter.

### 3.1 Global governance reforms

In recent decades governments around the world have introduced major reforms of their university systems. These reforms are in general a response to changes in the socio-economic and political environments of the universities. The changes in question are requiring universities to meet a wider set of goals than the traditional provision of primary teaching and research activities. These derive from the growing policy focus on the link between education, basic research, and innovation; the continuously growing number of students enrolling in the tertiary education sector and the need for a greater diversity of provision; technological change; changing competencies and skills requirements on the labour market; and changing demographic and mobility patterns. Competition among nations is also a part of this, with the recognition that the quality of higher education and research, and its permeability in the economy, hold the key to economic growth and social inclusion.

**Two global trends: Strengthened autonomy and strengthened regulatory regimes**

Faced with these changes governments in all OECD countries are engaged in reforming their higher education system. In this, special attention is given to the governance modes with respect to higher education. This concerns both the system level governance approach and the intra-institutional governance structures. There are two clear and opposite directions of change. One, in continental European countries, and the Asian OECD countries, where levels of university autonomy were traditionally low, there is a move to expand the degree of institutional autonomy. The second orientation, visible in those countries in which universities enjoyed traditionally high degrees of autonomy, is to strengthen the regulatory regime to bring the more autonomous university sectors more in line with the requirements of the public interest.

These opposite, but complementary, trends represent the need for national governments to find an appropriate balance between system level order and the need for governmental control versus an effective level of system diversity and autonomy of the public sector institutions including universities (Olsen 2007). The two trends represent attempts to improve the governance balance between government and higher education: either through strengthening university autonomy or to reduce university autonomy in certain areas from a public interest perspective. This also implies that university autonomy is not an aim in itself, nor can be absolute. It is part of a complex governance relationship that has to be reviewed and adapted regularly in order to assure its continuous effectiveness.

Consequently, the key question governments are struggling with, when it comes to governing their university systems effectively, is the following:

*How to provide appropriate levels of institutional autonomy and, at the same time, complement institutional autonomy with an accountability regime that satisfies the public interest without becoming a constraint on universities' responsiveness and innovation?*

## 3.2 The European context

Since the second half of the 1990s there has been a growing political focus in Europe on the possible consequences of globalisation. This development was ignited by the perceived weaknesses of the European economies in comparison to the US economy and the rapid rise of China and India as important economic powers. The heads of state of the EU members have expressed their worries and presented their strategies for addressing the challenges for Europe in the so-called Lisbon 2000 Agenda, which aims at strengthening the economic competitiveness of Europe as well as improving the social cohesion of its societies.

As a consequence, there is at the beginning of the 21st century a clear political "momentum" for the university in Europe. The Lisbon Summit of 2000 has (re-)confirmed the role of the university as a central institution in the "Europe of Knowledge". Consequently, we can observe that since 2000 the Commission has become highly interested in the university as an object of European level policy-making. This is clearly inspired by the interpretation of the university's central role in connecting education, research, and innovation (the Knowledge Triangle), and the assumption that the effectiveness of this connection is considered to be of major importance for the competitiveness of Europe's economies and the level of social cohesion of its societies. In the Commission's commu-

nications and other policy papers the university has either directly or indirectly become a central concern.

The general worry about “global competitiveness” is primarily focused upon the European research-intensive university. Based on indicators and statistics, especially international rankings, but also on statistics such as the number of international students in Europe, the number of European students in Australia and the US, and the number of European academics at US universities, the view dominates that the European University is lagging behind. Reform is promoted as the means through which European universities can compete (again) with their US counterparts.

The European level reform proposals use two organisational models as their main frame of reference, namely the leading US research universities and the successful enterprise and its assumed style of organisation and governance. The first defines the crisis of the European university and is organised around the question: “Why is there no Euro-Ivy League?” (Science 2004: 951) The second presents the solution: European universities have to become more like private enterprises operating in competitive environments.

The university reform agendas that are presented at the European level focus especially on the relationship between research and innovation. The legitimacy of the European Commission to launch university reform ideas is based on its competence in the area of research policy, which has been developed since the beginning of the 1980s. The most important research policy instrument for the Commission has been the multi-annually framework programmes (FPs). The first FPs had a purely economic rationale, but they gradually expanded in disciplinary scope and funding. The attached objectives became more heterogeneous covering not only economic but also ecological, social, and political rationales.

The Lisbon 2000 summit led to important innovations in the aims, organisation, and ambitions of the FPs, as well as to the introduction of the European Research Area (ERA). Through the ERA the EU intends to influence and integrate the national research policies of its member states. The ERA ambitions are, amongst other things, expressed in the joint 3 % target of GDP to be invested in research and development. In addition, in the development of the latest FP (FP7), the member states and the EU agreed upon the establishment of the European Research Council (ERC) which is a considerable institutional innovation at the European level. It is significant because it entails changing the idea and principles of research funding in Europe. To understand the innovative nature of the ERC, the following transformative dimensions are of relevance:

- > The ERC brings basic research into the heart of the EU research policy, i.e. as a separate construction within the Seventh Framework Programme (FP7).
- > The establishment of the ERC changed the definition of what kind of research is a legitimate concern at the EU level.
- > The ERC represents a break with the established principles of criteria for European research funding with the “excellence only” principle, no pre-determined research topics and no criteria of trans-nationality or even research collaboration, but highly selective funding given to individual researchers and their teams.

Currently, the EU research funding context for Danish universities consists first and foremost of the FP7, one of the largest public research programmes in human history with a budget of over € 50 billion to be distributed in the period 2007-2013. The underlying

assumption for the FP7 is that it will be a major step towards creating a world class European research environment through stimulating competition for research funding among Europe's best and most ambitious researchers; stimulating mobility of the best researchers leading to strategic concentrations of top researchers in a limited number of European universities, public non-university research institutions, and the private sector; and stimulating national research councils, ministries and university leadership to develop strategic priorities in line with the research agendas of the European Commission.

While (higher) education has traditionally been a nationally sensitive policy area in the EU, also here the Lisbon Summit marks an important beginning of more direct involvement of the European Commission in educational policies. The Erasmus Mundus programme has, for example, given a major boost to the development of international joint degree programmes in Europe.

Finally, we wish to mention the Bologna Process. Currently 46 European states participate in this intergovernmental process, documented by the communiqués of the bi-annual ministerial conferences. The Bologna Process aims at creating the European Higher Education Area (EHEA) characterised by a compatibility and comparability of national higher education systems based on a three cycle structure. As stressed in the Leuven communiqué of April 2009, the Bologna Process is “firmly embedded in the European values of institutional autonomy, academic freedom, and social equity” and requires “full participation of students and staff”. Intra-European mobility of students, early stage researchers, and staff, is one of the main concerns of the Bologna Process. The Leuven communiqué states the ambitious goal that, by 2020, “at least 20 % of those graduating in the countries of the European Higher Education Area should have had a study or training period abroad”.

Although, officially, the Bologna Process is a purely intergovernmental process among nearly all European states, it is more and more driven by various stakeholders including the European Commission, the latter successfully trying to integrate EU's education and lifelong learning policies and programs with the Bologna agenda.

### 3.3 The Nordic dimension

The Danish universities are positioned in a number of international arenas, including the Nordic region consisting of Denmark, Finland, Iceland, Norway, Sweden and the autonomous territories of Greenland, the Faroe Islands, and Åland. Nordic cooperation within higher education was established well before the current focus on the economic and societal impact of universities. While the traditional rationale for Nordic cooperation within higher education was culturally and academically based, such traditions are challenged by emerging new rationales for universities' internationalisation and relations to economy and market competition. Nonetheless, for understanding the Danish university dynamics, the Panel finds it of relevance to reflect briefly on the main dimensions of Nordic higher education.

Similar to the EU with its Lisbon Agenda, in 2000 the Nordic Council of Ministers also adopted a Nordic Agenda and a strategy for Nordic cooperation. The Nordic Agenda highlights five areas of special importance for Nordic cooperation:

- > Technological development with special reference to the information society and Nordic research.
- > Social security and the possibility for Nordic citizens to live, work, and study in another Nordic country.

- > The internal Nordic market and cooperation for abolishing border obstacles.
- > Cooperation with neighbouring countries and neighbouring regions.
- > The environment and sustainable development in energy, transport, forestry, fishery, and trade and industry.

In 2005, this Agenda was followed by a joint strategy of the Nordic Council and the Nordic Council of Ministers as presented in the report “*Norden som global vinderregion*” [The Nordic Region as a Global Winner region]. The report argues that the Nordic region is under pressure from globalisation and increased international competition from China and India, and that this raises the question of what the Nordic region should base its economy and welfare in the future.

As a consequence of the agreements reached in the Nordic Council and Nordic Council of Ministers over many years, the Nordic countries have developed a common labour market, have established common institutions in various policy areas, and have developed cooperation schemes and programmes. With respect to education this has resulted in various mobility programmes for pupils, students, teachers, and researchers (including the Nordplus programme for students and teachers); agreements for the mutual recognition of degrees and study programmes, simplified admission requirements for Nordic students throughout the region; and various expert committees for policy issues and cooperation initiatives. Further, a number of cooperation programmes have been implemented relating to research. The Nordic Science Policy council was established in 1983, and cooperation in the area of research training has existed since 1990.

The socio-economic, political, and cultural similarities between the Nordic countries form a solid foundation for their long-term cooperation, and form at the same time a good basis for a continuing bench-marking in different areas, including education and research. Although there are clear political, economic, and historical differences between the countries, policy-making in this region is often characterised as being a result of the “Nordic Model”. With respect to higher education, typical ingredients of this model are public higher education institutions with institutional autonomy in many areas, a democratic intra-university governance structure with a structured involvement of staff and students, high levels of state investments, strong emphasis on equality concerning the institutional landscape and the way in which public resources are allocated throughout the system. To complement this picture, the Nordic states have traditionally also offered quite favourable student support schemes with the aim of stimulating high participation rates in the sector.

### 3.4 Globalisation Strategy in Denmark

Denmark is one of the European countries that have developed a specific national globalisation strategy called “Progress, Innovation and Cohesion Strategy for Denmark in the Global Economy”. Responsible for this strategy was a Globalisation Council set up in 2005 and consisting of representatives of many sections of society. The strategy can be regarded as one of the most straightforward and explicit national level initiatives in Europe to handle the challenges of the global economy. In the analysis underlying the strategy a number of the Danish strengths and weaknesses have been highlighted. The strengths indicated are the strong national economy, the flexible labour market, low unemployment and a highly educated population. The indicated main weaknesses are the ageing population, the high cost and price level of the Danish economy, and the fact that the Danish

education system is not geared towards a knowledge society. The latter expresses itself in the following characteristics: Danish students begin and complete their studies late (age wise), higher education programmes have a high drop out rate, and the number of graduates in natural and engineering sciences is too low.

The Globalisation Strategy has, as such, a strong focus on education and research on the basis of the starting point that “Human knowledge, ideas and work effort are key for exploiting the opportunities of the globalisation” (In Danish: “*Menneskers viden, idérigdom og arbejdsindsats er nøglen til at bruge de muligheder, som globaliseringen giver os*”). In its implementation, this focus has even become more pronounced, implying that the globalisation strategy has become, in the first place, an education and research policy strategy.

The most important university-oriented policy goals introduced in the framework of the globalisation strategy are to:

- > raise the public investments in research from 0.75% to 1% of the Danish GDP;
- > link the basic public funding of universities more directly to the quality of their activities;
- > integrate the government research institutions (GRIs) into the universities;
- > double the number of PhD students;
- > introduce a system of accreditation for all university education programmes;
- > increase the higher education participation rate from 45 to 50%;
- > stimulate a more rapid throughput of higher education students;
- > introduce better and more structured options for Danish students for studying abroad.

To realise these policy goals a number of specific measures and reforms have been introduced in the Danish university sector, including the university merger processes. These are not isolated, but relate to the Danish political system’s overall reform efforts with respect to higher education, which include the 2003 University Act aiming at university autonomy. All these efforts are aimed at further strengthening the Danish universities and, as one of the underlying goals, enabling the universities to compete in a number of fields with the world’s best universities. The Danish Globalisation Strategy, also mirroring the trends in Europe, as well as other parts of the world, is thus an important component of the basis for this evaluation.

### 3.5 Panel’s evaluation perspectives

As indicated, the changes and expectations that confront universities around the world also apply to the Danish universities. As expressed in parliamentary resolution V9, the overall aim of the two main university reforms introduced by the Danish Government in the 2000s was to create the conditions under which the universities would be able to develop their own strategic priorities with respect to their education, research, and innovation tasks. In addition, the reforms were intended to improve the relationships between the universities and society.

The first of these two reforms, i.e. the 2003 University Act, was focused on establishing university autonomy while at the same time ensuring accountability. The new Act introduced a major change by modernising the intra-university governance structure through



moving decision making responsibilities from collegial, representative councils to appointed leaders (rector, deans, and heads of department). Further, the new Act aimed at improving the relationship between universities and society through the introduction of central university boards with a majority of external members. This reform was followed by the 2007 merger operations that led to fewer universities and a concentration of publicly funded R&D in the university sector.

The university merger processes consisted of an integration of GRIs into the university sector, which was a target of the globalisation strategy; and mergers between universities, which was initiated by the Government. The integration of GRIs had as its main aims to stimulate research synergies between until now institutionally separated sectors; to fertilise the university sector with practice oriented research leading to close contacts with societal, i.e. private and public sector agencies; and: to make additional research resources available for educational processes, leading to a strengthening of the link between higher education and research.

As such, the 2003 Act can be seen as creating the governance conditions for the profiling and strategic prioritising of universities, while the merger processes added a substantive dimension through the concentration of research capacities in selected areas in specific universities. The Panel's evaluation framework is based on the nature and aims of these two reforms.

*Consequently, the Panel has organised its evaluation and assessments along two lines, i.e. first developments with respect to university governance since 2003 (focusing on two sub-lines: university autonomy, and codetermination and academic freedom); and second the effects of the mergers on the dynamics and productivity of the university system.*

### **University governance**

The 2003 Act is in line with global reform trends aimed at modernising university management. Such reforms are not implemented in a vacuum, since the governance structures to be changed have their own traditions and characteristics that continue to have an influence long after the legal foundations for the structures have been altered. In the Danish case this means, for example, that the democratic traditions with respect to university governance, including the structured involvement of staff and students in intra-university decision-making, continue to have an influence also after the 2003 reform. As such the introduction of appointed leaders in university governance structures, and the establishment of central executive boards, have ameliorated the formal decision-making capabilities of the universities, but the demand for a democratic intra-university governance structure has also continued. As a consequence, for it to be successful and effective, the 2003 reform needs to lead to an appropriate balance in the intra-university governance structure between top-down oriented executive leadership, and a bottom-up management style, which should include an effective involvement of staff and students in academic decision making at all appropriate levels.

In addition, the framework conditions, within which the university leadership can operate autonomously, demand an "arm's length distance" from the side of the involved Ministries and the Parliament, which implies the setting of overall targets, instead of an interference through detailed regulations and control in the day-to-day responsibilities of the university management. One of the conditions for this is a high level of trust from the central au-

thorities in the capabilities of the universities to use the autonomy in the expected way. In other words, an adequate balance between autonomy and accountability of the universities should be maintained. On the one hand, the universities, in order to keep up a high, or even world-class standard, need room to operate and develop. On the other hand the authorities, representing the tax payers, have a legitimate right to demand documentation for the universities' prudent use of the substantial public funding.

Furthermore, academic freedom, including freedom of research and free academic debate, is a fundamental principle of university life, and both governments and universities must ensure respect for this fundamental requirement. To meet the needs of the world around a university, the research must be morally and intellectually independent, and it must be ensured that research issues can be freely selected, research methodology freely developed, and research results freely published in the framework of the employment conditions provided by the university and the assessments of peers from the same academic area.

### **University mergers**

While the 2003 reform created the governance framework for strategic leadership, the globalisation strategy provided the framework for making the next step, i.e. creating the academic framework conditions for strategic prioritisation and profiling by stimulating merger processes that would lead to a concentration of research capacities in universities. The mergers were also expected to strengthen education, and especially upper level education degree programmes, amongst other things, by bringing research staff from the GRI sector into the universities. Mergers were also intended to create the conditions for effective relationships between universities and the private as well as the public sector, which would contribute to economically relevant, as well as other societal, innovations. The starting point for the merger process was the assumption in the Globalisation Strategy of the benefit in merging the government research institutions (GRIs) with the universities. Subsequently, the Government also initiated a merger process between universities. The stated expectations of the Ministry of Science, Technology and Innovation were the establishment of a strongly reduced number of universities with ameliorated strength in the international setting.

### **Main evaluation issues**

Based on these perspectives, the Panel has in the first place studied and assessed the way in which specific governance aspects of the university sector have developed since 2003. In this, it has examined two specific issues:

- > How have the 2003 Act, and regulations plus various other steering instruments following the Act, influenced university autonomy, and have the universities implemented the Act fully and adequately in the given conditions and framework?
- > How has the implementation of the 2003 Act by the universities affected university democracy, more specifically the involvement of the staff and students in intra-university decision making processes; and the freedom of research and the free academic debate?

The issues of autonomy, staff and student involvement, research freedom and free academic debate are addressed in Chapter 4. In chapter 5 the Panel presents its assessment of the effects of the mergers, while recognising the methodological limitations imposed by the short period since the mergers. Mindful of this limitation, the Panel has attempted to

analyse the effects of the mergers on the key issue of strategic positioning by universities in pursuit of the goal of strengthening the university sector's global competitiveness.

- > What kind of impact of the mergers can be seen so far on the main activity areas of the universities, i.e. education, research, and innovation, on universities' relationship with the private sector, and on government-oriented research?



# 4

## UNIVERSITY GOVERNANCE

In this chapter the Panel presents its assessments and recommendations as regards the development of specific governance aspects of the Danish university sector since the introduction of the 2003 University Act and subsequent regulations. In line with the Panel's Terms of Reference, we address two main aspects. Firstly, we assess the way in which the 2003 University Act, and regulations plus various other steering instruments following the Act, have affected university autonomy. In addition, we discuss the extent to which the universities have implemented the Act effectively in the sense of university autonomy. Secondly, we assess the effects of the 2003 University Act on intra-university governance issues and the universities' implementation of the Act in the sense of intra-university governance. More specifically, we assess the involvement of staff and students in intra-university decision making processes, the freedom of research, and the free academic debate.

### 4.1 University autonomy

#### 4.1.1 University autonomy: a central objective

In line with international trends, the 2003 University Act changed the status of universities from being state institutions to autonomous bodies within the public sector. This changed the relative responsibilities of the universities and the Ministry of Science, Technology and Innovation (henceforth referred to as the Ministry) in its oversight role over the universities. The overall task of the university board under the Act is to “safeguard the university's interests as an educational and research institution and determine guidelines for its organisation, long term activities and development”. The Minister of Science, Technology and Innovation (henceforth the Minister) “is charged with formulating the framework for the universities' activities; determining society's requirements for the universities' activities, and the size of the subsidies from the Danish state to support these activities; safeguarding the operational reality facing the university management and encouraging the management to make the sensible decisions from a socio-economic perspective” [E2, p.2].

For public institutions, such as the Danish universities, it is essential to ensure an adequate balance between autonomy and accountability. In order to maintain a high, or even world-class standard, the universities need room to operate and develop, while at the same time the tax payers have a legitimate right to oversee that the universities use the

substantial public funding prudently.

The Panel finds that the 2003 Act provides for a high level of autonomy of the universities in appropriate balance with accountability. The Act itself does not constrain the universities from establishing a satisfactory level of autonomy and accountability – including the freedom to develop distinctive individual institutional profiles, while at the same time documenting for society how the public resources are spent on universities' activities and achievements.

On basis of its interviews and the submissions it has received, the Panel also concludes that within the university sector and among various stakeholders there are widespread consensus that the Danish universities have gained greater autonomy through the 2003 Act. In general, universities appear to have become more dynamic because of the newly gained autonomy. The Act is generally welcomed and by and large, the stakeholders view the 2003 Act as a big step forward in strengthening the universities' autonomous status and providing room for flexibility and innovation. The university leadership also welcomes the principle of dialogue initiated by the Minister following the 2003 Act, as well as the new auditing approaches that have been introduced.

#### 4.1.2 Continuing constraints

Nonetheless, there remain a number of important constraints on university governance, and new ones have been added following the 2003 Act, many of which are in weak compliance with the intentions of the Act and are hampering the autonomy of the universities. The Panel mainly sees these problems within the following three areas:

- > Regulations are often used as steering instruments for publicly funded institutions which are responsible for central societal tasks. At present, extensive rules interfere unnecessarily with the universities' freedom to operate, particularly with respect to educational activities and the institutional management structure, including very detailed rules, overlapping rules, and rules which entail unnecessary administrative burdens and unclear division of responsibilities.
- > Public funding is a powerful steering instrument, which can be used in a considerate manner to set incentives for achieving political goals, but can also be used in ways which impede the autonomy of the universities.
- > A structured dialogue between the universities and the central administration is important in order to ensure an optimal balance between autonomy and accountability. However, the prerequisites given in the Act for the dialogue can impede university autonomy. At present, the restrictions given to the development contracts make them less appropriate as goal setting instruments.

In the following, the Panel will address the three above topics.

##### **Overregulation / micromanagement**

A number of Orders (regulations) have been implemented since 2003, both within and outside the framework of the 2003 Act, covering the areas of education and research [see full list in background document F5], and affecting university management. Some are decided by Parliament, some by Government, and some are decided at the ministerial level, by the Ministry of Science, Technology and Innovation or other ministries. Furthermore, several regulations predate the 2003 Act but continue to operate.

It appears to the Panel that in the current national steering framework the universities' activities are to be approved *before* implementation as well as controlled *during* operation, while also the output is monitored – via orders, accreditation criteria and procedures, supervisory bodies, development contracts, evaluations, etc. The Panel finds this to be an unnecessary duplication of control, which is not only hampering university autonomy but also wastes university resources that could be used more effectively.

Many of the external constraints are an intrusion into areas of competence, which should be the responsibility of the universities themselves. The constraints amount to a level, which may be called micro-management, and limit the university leadership's room to manoeuvre and flexibility in its strategic decisionmaking and positioning. Some procedures, while not limiting university autonomy, are excessively bureaucratic and generate inefficiencies in university operations. Considerable administrative resources are demanded of the universities for reporting and applying for approval. This may very well impede the strategic and visionary management of the universities. This may arise due to a duplication of oversight, when more than one tool is used for the same purpose, or if the monitoring procedures employed are overly resource-consuming for the universities.

### **Examples of inconsiderate regulations**

Regulations in the area of education are particularly limiting the universities' autonomy, as they are wide-ranging, covering decision areas such as study programmes, admission, and enrolment procedures; awarding of parallel and joint degrees; and: arrangements for credit transfer, exams, grading scale, guidance and counselling, and quality assurance procedures.

#### *Speeding up enrolment and graduation*

As implied, the Panel has observed that several tools are used by the authorities and politicians to achieve the same goals. For example, in some cases, development contracts, taximeter rules, recruitment rules and rules on student counselling, are all geared, in part, to speed up enrolment and graduation. One unintended consequence is administrative inefficiency because responding to overlapping demands ties down resources of the universities and the commitment of such resources reduces universities' room to manoeuvre in substantive areas.

#### *Student intake and exams*

Another example is that universities cannot decide on the criteria or procedure for student intake on their own. Student enrolment to bachelor's programmes is controlled centrally through an Order (issued in 2008). The objective of the changes introduced in 2008 and 2009 was to expand enrolment in Quota 1 at the expense of Quota 2. Likewise, it was introduced that applicants applying no later than two years after having completed their upper secondary will have the average of their secondary school grades multiplied by 1.08 to raise eligibility.

The Government as well as the Parliament have passed specific decisions on matters that can be expected to lie in the competence of the universities, such as the abolishment of group exams, and the introduction of very detailed rules regarding re-examination within a short time after students' failed passing of the "regular" exam. Also, detailed rules for students' rights to complain are demanding excessive resources of the universities.

#### *Study programme accreditation process*

The Panel is concerned that the current practice of regulations and procedures regarding

the development of new or adaptation of existing study programmes can have negative effects. Quality control of study programmes is necessary, and it is important that universities function within an agreed national quality assurance framework. The difficulty with the current regulations is that in addition to regular external quality control of established study programmes, the Danish universities must obtain accreditation of new study programmes *in advance* from ACE Denmark (the accreditation institution for higher education). The requested resource commitments reduce the universities' preparedness in responding rapidly to emerging demands for new skills and competences of master's and bachelor's programme graduates.

The Panel supports the general idea of the establishment of an independent institution under the Danish Accreditation Act. It provides an arm's length approach to assuring the quality and relevance of the university study programmes, which replaced the previous system where the development of new study programmes was directly controlled by the Ministry on the basis of macro-efficiency concerns and criteria. In the new system, programme accreditation is based on an overall assessment of study programmes and a combined weighting of all the criteria of the Accreditation Order (such as demand in the labour market, research-based teaching, depth of education, results of the study programme). The Minister still determines the subsidy status, title, specific admission requirements for bachelor's programmes, the prescribed study period, and any limit on student intake, before the Accreditation Council can approve a study programme. Through an amendment to the Act in 2007, universities are under obligation, as of January 2008, to set up recruitment panels for study programmes involving industry representatives.

There is universal complaint among the universities against the resource costs and inefficiency of the in-advance accreditation process. The Panel finds the lengthy process from an idea for a new programme to the actual start of the programme as hampering universities' quick response to changing socio-economic knowledge, skills, and competences needs. From that perspective, it would be preferable to use also in Denmark the internationally dominant ex-post evaluation procedure instead of the current ex-ante accreditation practice.

#### *Joint degrees, international collaboration on study programmes*

In terms of the increasing internationalisation of education, the Danish regulations appear inflexible and are impeding the development towards an increase of Danish students going abroad for a shorter or longer period. For example, the cases of parallel and joint degrees are handled by a separate Order that lays down conditions for approval. These regulations take little account of the international environment in which Danish universities are operating. Furthermore, Danish regulations limit the international marketing of Danish study programmes, the establishment of joint degrees, and Danish universities' participation in the Erasmus Mundus programme. For the latter, there has been a retrograde step in that initially the retention of the taximeter scheme for Erasmus Mundus students was achieved, but has subsequently been discarded (as of March 2009).

#### *Top positions*

While several areas of decision making regarding staffing have been transferred to the universities in recent years, constraints remain in place as universities are part of the public sector financial and labour market regulations. For example, the number of management positions of pay grade 37 and above (E2, p.12) is limited, and determined by the Ministry of Finance. The cap on the number of professorships was abolished in 2008, but with respect to *experienced professors* (pay grade 38) the Ministry of Finance has set a maximum



of 255 positions for the university sector as a whole. The appointment of a rector or pro-rector or any of the designated *academic administrative positions*, including deans and heads of departments, is subject to an externally fixed total number per university of such positions. With regard to staff remuneration, universities do have freedom in topping up the public-sector bargained minimum scale for employees *in pay grades lower than 37*. In addition, there are upper limits on salaries for the different leadership positions, from rector to heads of department, which must not be exceeded without the approval of the Ministry of Finance. As regards budgeting, while universities are free to draw up their own budgets, and to save and build up equity, they are not permitted to raise loans without prior authorisation from the Ministry of Finance [E2]. A majority of the Danish universities do not own their teaching and research facilities but rent them from the State, an issue that has been opened up for negotiations by the 2003 Act.

### **Sufficient instruments for strategic development?**

Funding arrangements, as well as development contracts, are important steering instruments available to the government. They can be tools for strategic steering, without resorting to direct operational intervention, or they can be used to limit university flexibility. Much depends on how they are shaped and implemented in practice.

#### *Funding*

The funding tracks for research in Denmark, as well as in comparable countries, are formed in several ways which influence the quality and effectiveness of research and promote research in fields especially important for the country. In the present funding system in Denmark, *the direct funding* consists of both free funding (the basic funding, also called the appropriation funding) and funding to fulfil the research-based public-sector services. *The indirect funding* track consists both of schemes which distribute funding on a competitive non-targeted basis with research quality as the main indicator and of schemes with pre-set targets for the research to be funded, in Danish often called “free schemes” and “strategic schemes” respectively.

The universities must have sufficient basic funding for developing their research strategies and prioritisations as well as for financing high quality research-based education at PhD, master’s and bachelor’s levels. The basic funding component has increased considerably since 2003 (see figure 2 in annex 7), but the amount available by the competitive funding schemes have also increased, some schemes of which demand co-financing. The external “free funding”, received by individual researchers or research groups in competition especially from national and international funding councils, might also be used by the universities as a basis for prioritising top quality research activities which are, or in the longer term may develop into, knowledge areas of importance for society. This peer reviewed research may thus contribute to the (further) profiling of the university. Funding received from competitive “strategic schemes”, even though the research is restricted to certain fields, may also give the universities a framework for further strategic prioritisation decisions.

According to annex 7, table 4, the overall share of basic funding of the total funding for research has dropped from 64% (2003) to 56% (2009). Nonetheless, as mentioned, in absolute terms the amount of basic funding has increased during the later years, and the question whether the universities have sufficient room for deciding on strategic prioritisations of their own within the present financing conditions is not an easy one. It also depends on the extent to which basic funding is used for co-financing external funding. The Panel finds

that the universities' internal considerations for outlining an institutional strategy or profile, amongst other things, are dependent on the quality and competitiveness of their academic staff, and the effectiveness of the institutions' personnel policies.

#### *Development contracts*

The development contracts [described in background document E7] could be used as individual, helpful tools for the universities' strategic development and profiling, as well as for realising important targets, such as speeding up graduation and specific enrolment targets. However, we do not find the development contracts in their current practice effective enough as such steering instruments, as the explanatory notes to the University Act make them less appropriate for this role. The development contracts have become too detailed and process-oriented. In practice they consist of a list of indicators, on which universities provide data.

For an overview of the university sector, the Parliament, as well as the Ministry, obviously needs comprehensive information and statistics on the universities' performance. This information is necessary and can be developed in dialogue with the universities, but it does not necessarily belong in a development contract.

#### **Corrective action taken so far**

Recognising the constraints placed on university flexibility, the Minister has initiated several committees and working groups to identify areas where university autonomy could be strengthened and where the rules do not correspond with requirements in the explanatory notes to the Draft Bill for the 2003 University Act. Many university-Ministry issues have been resolved through this mechanism and the Ministry is continuing to look into areas where regulation can be simplified or scrapped. At the time of the decision on the 2003 University Act, the political parties behind the Act listed ten degrees of freedom which should be sought established. Nine of these areas were implemented [E2, p.3]. The tenth, an increase in the maximum amount which can be earmarked for university construction without separate application to the Finance Committee, has been approved recently. However, it is the impression of the Panel that the universities do not see these degrees of freedom as the core of institutional autonomy. In 2007, the Minister appointed a committee which has come up with an additional ten areas where further de-regulation is being considered [E2, p.3]. Eight of these areas have reportedly been implemented in 2008 – 2009.

### **4.1.3 Universities' progress regarding autonomy**

The development of university autonomy in the period after 2003 was dependent on the extent to which the universities have been able to use the opportunities offered by the University Act for becoming strategic actors and develop more direct and effective relationships with society, including the private sector and the international research community. As discussed in the previous sections, the Panel has observed that to some extent the universities have been hampered in the development of their strategic capacities by a dense set of government regulations. Nonetheless, this situation does not mean that the universities have been paralyzed and have had no room to manoeuvre at all.

Therefore, in this section, the Panel generally discusses how the universities have used the opportunities for autonomy offered by the 2003 University Act. Has the university sector as a whole become more strategic and diverse? Are there signs of differences between the universities with respect to the ways in which the 2003 University Act has been implemented?

The Panel has conducted its evaluation in the transition from what has been called the first generation university management to the second generation. The first generation of university managers has in many respects had to get used to the new responsibilities as well as opportunities offered by the University Act. At the same time, the university Boards have had to find their role in stimulating the strategic positioning of the universities. As indicated, the universities have been hampered by the Ministry and Parliament who have interfered in many ways in the details of the day-to-day operations of the universities. In addition, as will be discussed in following sections, overall the university managers have also had difficulties in finding the right balance between an executive leadership style and the need to involve staff and students in academic and administrative decision making processes.

University autonomy is not an aim in itself. In the Danish case, the reforms of the 2000s were expected, amongst other things, to lead to more intra-sector diversity through university profiling. There are a number of indications that suggest that the universities are becoming more strategically oriented and are taking the responsibilities seriously that have been transferred to them. A first indication consists of the strategic plans that most of the universities have produced. Even though there are differences between these plans when it comes to strategic focus and the clarity and consistency of the strategic goals included, they nonetheless show that the universities are in a process of becoming strategic actors. A second indication can be found in the careful attempts of a number of the universities to develop an explicit institutional profile, amongst other things, by using part of the basic funding to stimulate research programmes in areas where they have a strong track record. In addition, some universities have begun to proactively support researchers or research units in their applications to strategic research funds, e.g. the ERC. The university Boards have played an important role in this. Overall, the Board members whom the Panel met during its visits in August 2009 have emphasized the importance of further strengthening the relationships of the universities to society in the coming period. Developing a clearer institutional profile was regarded as a core element in this.

Many countries around the world, e.g. Australia, Finland, Germany, Japan, the Netherlands, and the UK, are adapting their university governance approach in order to create the conditions under which their universities can compete at world class level. If the Danish university system is to become a genuine world class system, two basic governance conditions have to be fulfilled. Firstly, the Government and Parliament have to shift their university governance approach from detailed regulation to ‘steering at a distance’. Secondly, the universities have to become more proactive and focused in developing strategic priority areas and activities. Only the universities themselves are able to determine in which areas they can and want to compete at world-class level, even if external peer reviews are helpful for their decisions. In the abovementioned institutional strategic plans, confirmed in the Panel’s visits, the contours of these university priority areas carefully become visible. In most cases an important first step has been made, though a lot of work still needs to be done within the universities.

The first years after 2003 can be regarded as a learning period for all involved in university management in Denmark. The Panel points in this report to changes which are recommendable in the governance approach with respect to higher education. The recommended approach can be summarised as moving from detailed government regulation to ‘steering at a distance’, based on a high level of trust in the capacities of the universities to use the institutional autonomy in the expected way. Obviously, such a trust has to be ‘earned’ by the universities. They have to show that they are capable of operating as strategic ac-

tors. This can be regarded as one of the core challenges for the second generation university management in Denmark: The need to create the conditions and take the decisions that will allow their university to develop an appropriate institutional profile. This has to be in line with the university's academic strengths, and make it possible for the university to participate in the global knowledge competition in such a way that it contributes to further strengthening the global competitiveness of the Danish economy.

#### 4.1.4 Recommendations on autonomy

In the Panel's evaluation framework (chapter 3) a main issue is whether the 2003 University Act and other steering instruments following the Act, have influenced university autonomy and to what extent the universities operate as autonomous and accountable public institutions.

The Panel concludes that the universities have gained greater autonomy through the 2003 University Act and have become more dynamic because of the newly found autonomy. Notwithstanding these developments, there remain many constraints on university autonomy. In the Panel's opinion, these are an expression by the Parliament, Government and ministries of low trust in the current capacity or willingness of the newly autonomous universities to deliver on national strategic goals set for them. Many regulations and dialogue-based demands placed on the universities go beyond their expected role as general steering strategies in pursuit of the politically set system-wide objectives. Instead they encroach on the university management prerogatives – they intrude on university decision-making regarding “how best to achieve” the overall targets of the political system.

#### → Recommendations: Implementing a high-trust strategy

In the Panel's opinion the way forward is to develop a high-trust strategy that stimulates the universities to deliver on mutually agreed missions by allowing them to operate in practice under higher levels of autonomy than is currently the case. The approach is to find less intrusive accountability mechanisms that would go hand in hand with new de-regulations and would require changes on the part of the Parliament, the ministries as well as the universities.

To this end, the Panel offers the following two recommendations, which may require adjustment of the explanatory notes to the bill for the University Act:

- > The Parliament and the Ministry of Science, Technology and Innovation should consider reviewing current regulations and reconsidering those that curtail universities' freedom in their fields of competence.

The Panel recommends that the Ministry of Science, Technology and Innovation in collaboration with the universities actively examines all relevant regulations, including those from other Ministries, with a view to determine their continued use, or undertake actions for scrapping them or replacing them by other instruments. The decision should be based on the Minister's task [as identified in the background document E2] as “formulating the framework for the universities' activities; determining society's requirements for the universities' activities and the size of the subsidies from the Danish state to support these activities”. Regulations that infringe on the task of the universities to “safeguard the university's interests as an educational and research institution

and determine guidelines for its organisation, long term activities and development” should be removed. This may require an adjusted explanatory note to the University Act.

Thus a clear distinction should be drawn between what constitutes “strategic objectives” for the sector, the determination of which should be the province of the Parliament and the Ministry, and what constitutes “how to” achieve those objectives, which properly lies within the competence of the universities. Only those regulations that deal with setting the strategic objectives should be considered for retaining, while with respect to those regulations that deal with the areas where the universities can be expected to have the expertise and experience “to know best” removal should be considered.

Dialogue between the universities and the Ministry should be used to deal with system-wide objectives. The issue of reducing drop-out rates is an example: rather than the Parliament introducing a regulation for this purpose, it should engage in a dialogue with the universities to come to a decision concerning the actions the universities can take themselves. The taximeter system is a good example of a tool, which can be used to provide incentives for achieving system-wide goals.

Compared to the structures for quality assurance of university study programmes in other countries, the current Danish accreditation system is heavily prescriptive and in advance control-oriented. It symbolises a lack of trust in the universities since the quality and relevance of programmes offered by Danish universities do not seem to warrant any general concern. The present control is taking place ex-ante, while the experience elsewhere suggests that ex-post control is much more effective. The Panel proposes that the overall directions of ACE Denmark should be reviewed to make them consistent with broad policy directions aimed at further strengthening university autonomy and consistent with governmental steering from a distance. An alternative model should be considered, which puts responsibility on each university to maintain rigorous internal quality review processes and allows a flexible response to the competence needs of society.

- > The Parliament and the Ministry of Science, Technology and Innovation should consider to define the development contracts as goal steering instruments.

As various autonomy issues arose following the implementation of the University Act, the Minister set up committees and working groups, composed of Ministry and university officials, to discuss emerging problems and propose their resolution. Setting up these mechanisms is a clear signal of the Ministry’s commitment to enhancing university autonomy. The Panel recommends this confidence-building, positive approach.

However, the development contracts and the “rules” for them laid down in the explanatory notes to the University Act, need to be carefully scrutinised in order to make the development contracts individual, helpful tools for the universities’ strategic development and profiling as well as tools for important governmental targets. The Panel recommends the development contracts to become more evident goal steering instruments. In order to fulfil such a role, the development contracts have to be re-oriented to focus on overall targets, specific for each university, and without detailed process targets. This may well include system-wide issues which at present are tackled by regu-

lations. For the universities' use of the contracts as strategic development and profiling tools, the universities will have to contribute with information on their strategic goals.

Furthermore, statistical data and other information for maintaining overview of the proceedings of the whole university sector should not be handled within the framework of the development contracts. Developing a system-wide knowledge base on the universities is a worthy objective, but the construction of indicators, especially those for monitoring purposes, should be developed in agreement with the universities. They should be linked to a process of self-monitoring by the universities.

## 4.2 Codetermination and academic freedom

### 4.2.1 Codetermination

As explained in Chapter 3, codetermination of employees and students at Danish universities is an important element of the Danish university reforms, closely linked to the issue of university autonomy. The Danish tradition places high value on codetermination based on the general expectation in the country and on modern management practice for knowledge organisations such as universities. The Panel views codetermination at the Danish universities as involvement of academic staff in the decision-making processes regarding research and education matters, involvement of students in issues related to education and study programmes, involvement of administrative staff in the decision-making processes on administrative issues, and involvement of technical staff in the decision-making processes concerning technical matters.

We find that such codetermination at the universities is important for securing the best possible environment for education and research. We are therefore of the opinion that this area requires serious attention.

#### 4.2.1.1 Changes brought by the 2003 University Act

The 2003 University Act has changed the framework for the involvement of staff and students in university decision making processes. Prior to the Act, university leaders were elected by the employees and the students. The Act introduced a range of changes to the organisation of university leadership, including a university board and appointed leaders, and left internal organisational issues in the hands of the new leadership subject to the general directions provided by the Act. The Act stipulates rules for participation of staff and students in the university board and various decision making and advisory bodies of the university. In addition, the explanatory notes to the bill for the Act stipulate obligations of deans and heads of department to ensure involvement of staff and students.

Under the 2003 Act, university boards include representatives from the academic staff (at least one), the technical and administrative staff (one) and the students (two). The academic council and the PhD committee at university or faculty level have representatives from academic staff and students. Study boards operate at department or faculty level with academic staff and student participation.

Under the new hierarchical, unitary management system, the board appoints and dis-

misses the rector, and appoints and dismisses the pro-rectors and the university directors, following recommendations from the rector. The rector appoints the deans (in the institutions where there are deans), who in turn appoint the heads of department and, where this applies, heads of the PhD schools as well as directors of studies, based on recommendations from study boards. This system replaces the previous system of elections to these positions in which the staff and the students participated.

The 2003 University Act does not spell out internal decision-making procedures in detail; these are left to the individual university to decide. The Act also requires for each university that academic councils are set up composed of academic staff and students, while technical staff can participate as observers. The composition of the study boards has remained unchanged since the 1970 Higher Education Act. Study board members comprise in equal measure of elected staff and student representatives. Through an amendment in 2007, the University Act now includes clauses for setting up PhD committees, with equal participation from academic staff and PhD students, to give PhD students a say in matters with respect to their study programmes and other aspects of relevance to their employment situation. As implied in the beginning of the section, the explanatory notes to the University Act indicate that the Dean also is to set up an organisation that is able to manage all tasks of the main academic area by involvement of students and the academic, technical and administrative staff and that the Head of Department is to organise the department so that it is able to manage all relevant tasks by involvement of the students and the academic, technical and administrative staff.

Furthermore, within the general labour market rules in Denmark, collaboration committees are set up at the universities, which have the objective of bringing together staff (academic and technical/administrative staff) and leadership on issues of staff policy and working conditions, matters concerning long-term development as well as routine matters affecting the work environment. It is up to each university to form such committees. Provision for shop stewards (who are elected), Safety Committee and Workplace assessments (WPA) are also included in the general labour market framework.

#### 4.2.1.2 Experience and problems

Panel interviews and findings of the Capacent Survey paint a mixed picture of how co-determination is working out in Danish universities. There is high variety in the degree of satisfaction expressed with the present codetermination processes, across institutions, staff categories (academic staff, technical and administrative staff, students) and levels of decision-making.

During its visits, the Panel heard strong voices of dissatisfaction with the experienced lack of effective codetermination, especially among the academic staff. The academic councils, for example, are seen mostly as non-influential. Among the technical and administrative staff, the Panel got the impression that there is dissatisfaction due to insufficient involvement in the decision-making processes at department and faculty level. Among students, the study boards and PhD-committees are seen as important bodies. Students e.g. readily referred to study boards, as a way to discuss problems with education programmes, but several objected to the limited influence of study boards and said, for example, that deans hold decision powers that study boards should have.

Overall, the Panel thus heard of perceptions of a decrease in involvement of academic staff and students in the decision-making processes. Most people interviewed relate the

problem not in the first place to the hierarchical management provisions of the University Act as such, but see it rather resulting from a lack of commitment to codetermination on the part of the leadership, and lack of managerial skills for establishing intra-university structures and procedures for involvement. The Panel gained the impression, though, that in some, but not all, institutions the leadership has attempted seriously to develop an organisational culture in support of codetermination.

The Panel observes that current weaknesses in the codetermination structures and processes are also recognised by several stakeholders, including the Danish Confederation of Professional Associations (AC), Universities Denmark and the university top leadership. These stakeholders have expressed to the Panel that they consider the period since 2003 as representing “first-generation university management”, which includes an insufficient level of codetermination. The stakeholders see a challenge in the need to move university governance to the next stage – *second-generation university management* – i.e. modern management adequate for knowledge-intensive institutions like universities. This would, among other things, include a satisfactory level of academic staff and student involvement in the intra-university decision-making processes.

It is the Panel’s impression that the university top leaders find it a challenge to recruit qualified leaders, particularly at the department level. Many of the present Heads of Department are the same as before 2003. Many of them are experienced within research and education, but not in the area of university management. We find it particularly important that the leaders have experience and skills in both research and education, and in management. However, according to the top managers of the universities, the market of persons who at the same time have leadership and management qualifications, and experience at a senior level in academic research and education is still small. This aspect has to be taken seriously by the universities, and they should take steps to develop adequate leadership career structures as well as adequate leadership training. Professional leadership training programmes for university leaders at all levels as well as actual and potential Board members are very important. The issue of codetermination should form an important element of such training.

Overall, the Panel finds that the decision-making ability has been strengthened through the new executive leadership provisions of the 2003 University Act. However, at the same time the Panel is of the opinion that the involvement of academic staff and students in the decision-making processes in Danish universities is in need of specific improvements. As the management structure introduced in the 2003 University Act forms the basis for the decision-making at universities, it has to be connected with a greater involvement of academic staff and students in academic and educational issues. The notes to the bill stipulate obligations of deans and heads of department with respect to involvement of staff and students, but we find that this has not been implemented by the universities to a sufficient extent. There is thus need for an improvement of the culture in the universities in support of good structures and procedures for involvement of staff and students in decision-making processes. Improvements in this area cannot be left to leadership sensitivity on the issue, and ways should be found for holding management accountable for their performance regarding codetermination. This is a system-wide and strategic issue that deserves attention at national political level.

We recommend therefore that the University Act, or the explanatory notes to the Act, should be amended to include a statement directed towards the university boards in order to ensure that the universities implement effective involvement of staff and students. To



this effect, the university Board should require senior leaders at all levels in the university to develop, in collaboration with staff and students, procedures and organisational mechanisms for ensuring effective involvement of staff and students in compliance with modern management practice in knowledge organisations and the Nordic traditions in the university sector. The Board should also ensure implementation of procedures for a high degree of transparency in nominating university top managers, including the external members of the Board.

#### 4.2.2 Freedom of research

Freedom of research is a fundamental principle of university life, and both governments and universities must ensure respect for this fundamental requirement. This is, among other things, stated in the Magna Charta Universitatum, a declaration, signed in 1988 by a few hundred rectors from European universities. Since then, many more university rectors and their equivalents, also from outside Europe, have signed the Magna Charta. As indicated in this declaration, to meet the needs of the world around it, university research must be morally and intellectually independent.

The concept of freedom of research is often used very broadly. Clearly, this is not unlimited, as researchers have to do research in the field of their employment and function within the quality standards of their specific academic field. Within these constraints, the general principles often invoke to give the concept a functional definition that researchers should be allowed to freely select their research topics, freely develop their research methodology and be free to publish their research results.

In the Danish university sector the topic ‘freedom of research’ is a complicated issue that has various legal, political and economic dimensions. One of the core dimensions with legal and political connotations concerns article 17.2 of the 2003 University Act. This article is seen by many academic staff members of the universities as a major symbol of the controversies around the Act, as it gives the institutional leadership the formal power to tell individual staff members which academic tasks to perform. The article could be regarded as an intrusion into traditional values and rights of academic university staff.

During the university visits the Panel heard very strong views on this article from many members of academic staff. These are mainly driven by a fear of possible infringements of the individual staff members’ traditional freedom to determine the nature and focus of their own teaching and research activities. On the other hand, many academic staff members did not view article 17.2 as a real problem. In their view practically all university staff members can in practice determine their own research agenda and choice of methodology within the specific strategic, scientific quality and financial frameworks of their institution.

Although the Panel has heard about only a few examples of the explicit use of the article in practice, we find that the question can be raised whether article 17.2 in all its details fits the Danish and European traditions with respect to academic freedom. In addition, the strong controversies around the article, even though the issue may be mainly symbolic, have a negative impact on the intra-university governance relationships and the effectiveness of the university leadership.

Taking these considerations into account, the Panel recommends the Parliament to remove or reformulate the article 17.2.

Funding is another important dimension in relation to research freedom. According to the Capacent survey, “researchers generally believe that both individual and institutional freedom has been weakened since 2003, and that the individual freedom has been weakened the most. However, the researchers are generally satisfied with the conditions of their own research freedom despite the increasing limitations of research freedom. This tendency is also supported by the qualitative interviews.”

The individual research freedom is, according to the participants in the survey, mainly threatened by the changes in the public research funding system during the latest years. A majority of the respondents find that in the overall public research funding, the relative share of competitive and targeted funding has increased at the expense of a decreasing share of basic funding. This is felt to have had a negative impact on the individual freedom of research. As discussed above (in section 4.1.2), the overall share of basic funding in the total public funding of research has dropped from 64% (2003) to 56% (2009), although the total amount of basic funding has increased. However, the figures do not allow for a more careful analysis of the development in the amounts of basic research funding per university, nor of the influence of the mergers on the balance between basic and targeted/competitive research funding per university.

Internationally, there are two separate approaches when it comes to national strategies for stimulating excellent research through public funding investments. The first concerns a focus on supporting a limited number of centres of research excellence through nationally organised competitions. This approach implies that the universities themselves have little influence on the selection of the national centres that in general are selected by research councils, usually in a close alignment with the national science ministry. The other approach consists of making a large amount of ‘free research funding’ directly available to the universities, thereby allowing them to determine how they themselves want to stimulate research excellence within their institution. Each approach leads to a specific kind of research dynamics, each with its own pros and cons. The Danish research funding mechanism has certain elements in line with the second approach. As a consequence, the amount of direct ‘free research funding’ (basic funding) available within the Danish universities for strategic research investments is relative large in comparison with most other European countries, e.g. the Nordic neighbours Norway and Sweden.

To the extent that the competitive funding is ‘free’, i.e. independent of pre-set research disciplines, as is the funding of the Danish Independent Research Councils and the European Research Council, it even plays a role for promoting freedom of research in the sense that it is granted to individual researchers with new ideas which may not find intra-institutional funding despite high quality. At the same time, the Panel finds it natural in national and international context to have funding schemes with strategically pre-set research disciplines, for e.g. finding solutions for particular societal needs or problems. Such schemes have, of course, a potential for impeding the research freedom, at least if they constitute a too large share of the total research funding.

All in all, the Panel finds it important with a balanced funding system which includes a substantial share of basic funding directly to the universities, but also contains substantial competitive funding schemes – some for “free” research and some for research with politically/strategically pre-set research fields.

The Panel is aware that an increased demand for applying to external funds contributes to the reported growing time pressure experienced by the academic staff. In the surveys

available to the Panel, many academic staff members have indicated that the growing time pressure has had a negative effect on their ability to do the research they would like to do. The Panel is also aware of the negative effects of growing time pressure, such as stress and decreased working efficiency, and we acknowledge that the combined effects of these may contribute to a situation in which less time is available to the academic staff for conducting research, while a certain amount of time must be available for being able to carry out research. However, it is the question whether this can be regarded as an aspect of ‘freedom of research’, since the Panel find that the latter concerns freedom to select research issues, freedom to develop research methodology and freedom to publish results, rather than with the question of available time for conducting research.

### 4.2.3 Freedom of debate

One of the themes of the evaluation concerns the status of the free academic debate at the Danish universities, including the framework conditions under which the academic debate takes place. The Panel gained the clear impression that there are no essential problems with freedom of academic debate in Denmark. Our observation is supported by the results of the Capacent survey, which show that the responding academics do not see this as a big issue. During our visits, we *did* hear of a few cases where freedom for debating was said to have been hampered, but these are few and incidental, and it is thus our overall conclusion that the Danish researchers in general are allowed to publish and participate in the academic and public debate, of course under certain ethical restrictions as well as restrictions laid down in laws on freedom of speech.

During the Panel’s visits, the engagement from staff and students to give their opinion to us shows a sound basic condition for possibilities to make one’s voice heard. There were plenty of opinions put forward to us, as is customary in universities, especially on academic freedom and on the academic leaders, but to a certain extent also on the issue of free academic debate. Even though the Panel was told about specific occasions where the free expression in internal university magazines or newspapers reportedly had been denied, it has not been on the Panel’s agenda to further examine these occasions. Nevertheless, the internal criticism has been voiced, which is important.

Another area of discussion has been that the existence of government commissioned research inside the universities may contribute to a decrease in the free academic debate. As understood by the Panel, the free academic debate still exists at the Danish universities and has expanded to cover the merged GRIs. This extension is important to the Danish society.

The result from the Capacent survey shows that academics more frequently take part in the internal academic debate than in the public debate. There is a possibility that this result shows a tendency not to be as active in the society outside the university walls as one might expect. The burden on academics in a competing academic world might contribute to this tendency.

The awareness of the importance of a free academic debate is high in Denmark, and therefore, the slightest restrictions one might suspect will be heavily and openly criticised. This is a good sign of a healthy community. The universities are important institutions in contributing to an open debate and new knowledge in society and are thereby also a fundamental part of a democratic society. The free press contributes to this. It is the opinion of the Panel that the universities in Denmark fulfil their obligation to the Danish society in this regard. It is also the opinion of the Panel that the present legislation in Denmark,

concerning universities and free academic debate, is appropriate. The integration of the four non-merged GRIs into universities could contribute to an open debate in all areas of knowledge development connected to the Danish Government.

It is important that the Danish political system, including the different involved ministries, are aware of the long-term importance for the Danish society of a free academic debate

#### 4.2.4 Recommendations on codetermination and academic freedom

In the evaluation framework (chapter 3), the Panel raised the issue of what impact the regulatory internal organisation, including the executive leadership, has had on the democratic and codetermination processes, as well as on freedom of research and the free academic debate.

##### → Recommendations: Strengthening of codetermination

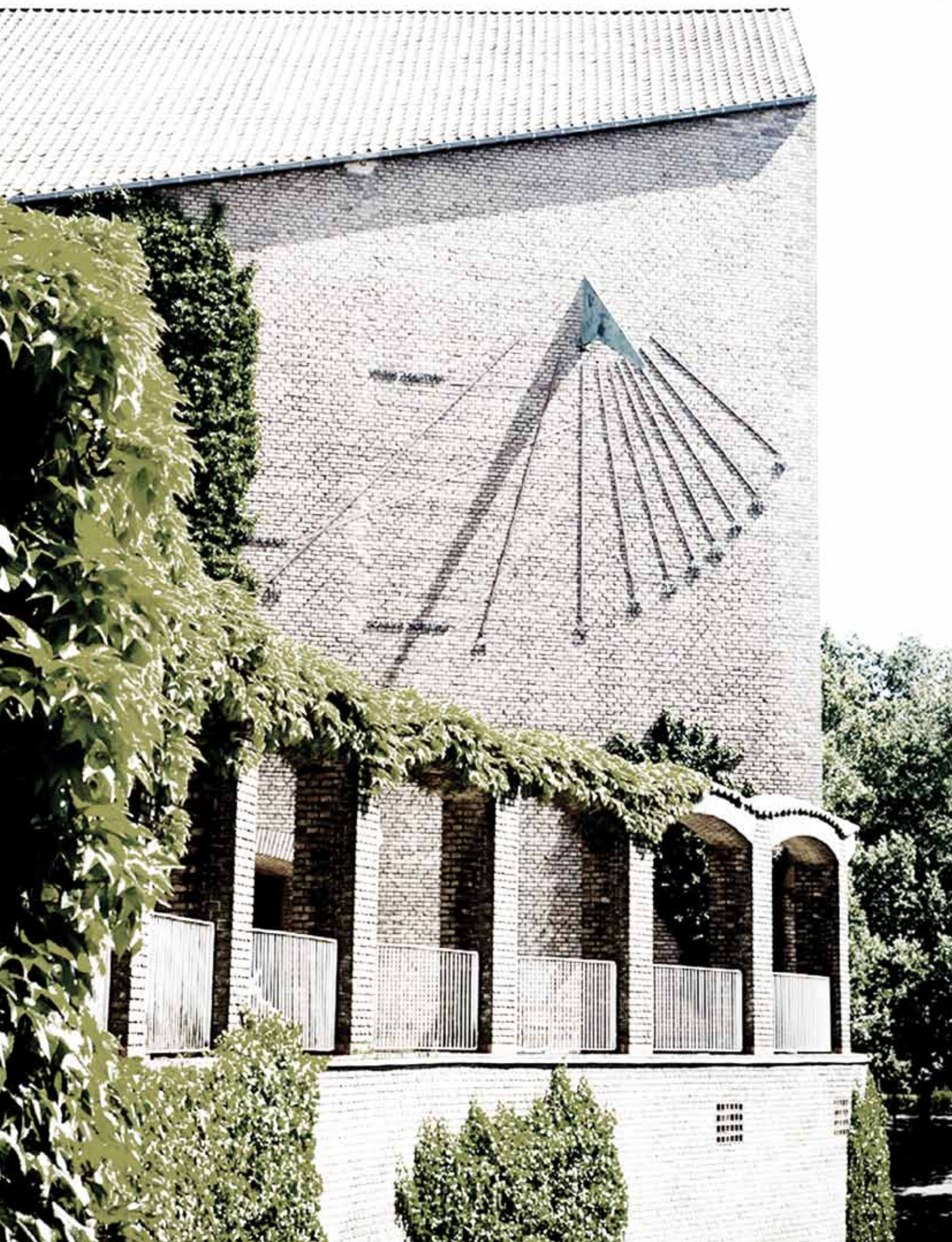
The Panel finds that the universities have not implemented codetermination procedures and structures to a sufficient extent. The involvement of academic staff and students in the university decision-making processes needs improvements, even though there is a high variability in the degree of satisfaction with the codetermination possibilities. As the governance and leadership structure introduced in the 2003 University Act and the explanatory notes to the Act form the basis for the decision-making processes at universities and for the staff and student involvement in these, we find that it should be adapted to support improved involvement of staff and students in academic issues. This could meet the present need for a change in the culture in the universities in support of structures and procedures that stimulate involvement wherever appropriate. Improvements in this area may be outlined for holding university leadership accountable for their performance regarding codetermination. This is a system-wide and strategic issue that deserves attention from the university Boards as well as from the national political level.

Accordingly, the Panel makes the following recommendations regarding *codetermination*:

- > The universities should implement codetermination procedures and structures to a sufficient extent, in accordance with the intentions laid down in the University Act.
- > The University Act, or the explanatory notes to the Act, should be amended to include a statement directed towards the university boards to ensure intra-institutional implementation of procedures and structures of codetermination.
- > The university Boards should require senior leaders of the university to develop, in collaboration with academic staff and students, procedures and organisational mechanisms for ensuring effective involvement of staff and students in compliance with modern management practice in knowledge organisations and the Danish (and Nordic) traditions in the university sector.
- > The university Boards should ensure implementation of procedures for a high degree of transparency in nominating university top managers, including the external members of the Board.
- > Professional leadership training programmes should be established for university leaders at all levels as well as actual and potential Board members, and the issue of codetermination should form an important element of such training. This could be taken up by Universities Denmark as well as the individual universities, since it is in the first place the responsibility of the universities themselves.

→ **Recommendation: Removal or reformulation of article 17.2**

The Panel recommends the article 17.2 in the University Act to be removed or reformulated even though the Panel has not found clear evidence of severe restrictions on the individual conditions for freedom of research at the Danish universities, in terms of free selection of research issues, free development of research methodology and free publishing of results.



# 5

## THE MERGERS

### 5.1 Introduction

The university merger processes consisted of integration of government research institutions (GRIs) into the university sector, which were a target directly embedded in the Globalisation Strategy; and mergers between universities, which were initiated by the government subsequent to the decision on the Globalisation Strategy. The integration of GRIs had as its main aims: to stimulate research synergies between until now institutionally separated sectors, to fertilise the university sector with practice oriented research leading to close contacts with societal, i.e. private and public sector agencies, and to make additional research resources available for educational processes, leading to a strengthening of the link between higher education and research.

The mergers were voluntary as regards the universities; forced mergers would only have been possible through a change in the existing University Act - a change for which there was no majority in Parliament. As regards the GRIs the merging decision should preferably be supported by the boards of the GRIs. While the Ministry of Science, Technology and Innovation hinted at a preferred overall result of 6 universities, the actual result of the merger processes was a new university sector consisting of 8 universities, while also some of the government research institutions remained independent.

The *mergers* were overall expected to stimulate:

- > more interdisciplinary cooperation in education;
- > more flexible and relevant offerings of degree programmes for the Danish students;
- > greater success for Danish universities in their applications for EU research funding;
- > higher quality (in the sense of impact) of the Danish university research output;
- > better cooperation between the universities and the private sector with respect to innovation;
- > more effective knowledge relationship between the public research sector and the sector ministries.

In accordance with the Panel's evaluation framework, the mergers may be seen as a means to create stronger universities, especially in research, and thereby give prerequisites for strengthening university profiles. Furthermore, the mergers between universities and GRIs are meant to support the universities in their response to the needs of society, including creating better conditions for the universities contributing to economically relevant

innovations in the private sector. The mergers were also expected to strengthen education, by bringing research staff from the GRI sector into the universities. In all cases, the critical mass of knowledge production were supposed to be improved.

The effects of the mergers are still too early to be clearly identified, as the merger decisions have taken place only three years ago. Obviously, the Panel has observed that the implementation phase is still going on and in some cases needs to be accelerated in order to realise the intended contributions to stronger profiles. Nonetheless, the Panel has got the clear impression that at most universities the merger processes have acted in certain ways as change drivers. This concerns in the first place changes at those universities that have been involved in mergers. Even though at these institutions it was in general indicated by the academic staff that the mergers have had limited influence and had no direct impact on their research activities as such, many staff members still felt that the mergers had either strengthened pre-merger research collaborations, created new intra-institutional cooperation structures or other structural innovations, or had led to new intra-university research funding initiatives.

## 5.2 Research

Concerning the area of research the mergers had a specific twofold goal, i.e. creating the conditions under which firstly the impact of the Danish university research output would be further strengthened, and secondly the Danish universities would be more successful in their applications for EU research funding. Consequently, in this section the focus is on the extent to which these two goals have been realised.

### 5.2.1 International impact of Danish university research

#### **Strong starting position**

It is difficult to relate the effects on the international impact of research to the mergers. In addition to the general methodological problem resulting from the recent date of the implementation of the mergers, there is much overall confusion about the actual nature of the goals set by the Danish political system. "Impact of university research" is not operationalised clearly, implying that the Panel is not sure what is expected of the Danish universities. What is e.g. meant by world class? Does it mean that one Danish university should be among the 10 best in the world, among the 20 best? Or should all Danish universities become world leaders in at least one disciplinary area? What are the indicators to be used? The use of global university rankings is, for example, connected with severe problems, as they are heavily criticised for methodological inconsistencies. In addition, the starting point for the evaluation is not a university sector in crisis. The research performance of Danish universities was in 2007 in many respects good to excellent, and there are no indications that it is deteriorating.

Data on research performance show that Denmark is among the most productive countries in the world. When it comes to the number of scientific articles per inhabitant (see table 1) only Switzerland and Sweden are performing better than Denmark, and the productivity of Switzerland is clearly influenced by the high output of CERN staff. Also the growth of the productivity of the Danish universities is satisfying, and concerning the research impact Denmark is among the best performing countries in the world, with Switzerland being the only country performing better than Denmark (table 2).



These data concern the research productivity and impact of Denmark as a country. Discipline-specific data<sup>1</sup> concerning the publication profile of Danish researchers and the number of citations per article show a diverse picture with Danish research belonging to the world frontier in certain fields and performing less than average in others. Nonetheless, the overall productivity and impact of Danish research is impressive.

Table 1: Scientific publication in 2006/08 in selected countries

Country	Number of articles 2006	% of World production		Nr of articles per 1000 inhabitants	average annual change in nr of articles 02-06 (06/08) In %
		2006	2008		
USA	293 254	25.8	24.3	0.99	3.8
UK	77 056	6.8	6.5	1.28	3.4
Germany	72 236	6.4	6.1	0.88	3.0
Japan	71 143	6.3	5.8	0.56	0.8
China	69 664	6.1	7.3	0.05	19.9
France	51 591	4.5	4.4	0.83	3.1
Canada	44 119	3.9	3.7	1.37	7.2
Italy	39 522	3.5	3.5	0.68	5.4
Spain	30 785	2.7	2.8	0.71	7.1
Australia	27 515	2.4	2.4	1.35	6.3
India	25 672	2.3	2.4	0.02	10.1
Netherlands	23 417	2.1	2.0	1.44	5.4
Switzerland	16 947	1.5	1.5	2.26	6.2
Sweden	16 572	1.5	1.4	1.84	2.7 (2.1)
Denmark	8 866	0.8	0.8	1.64	4.1 (4.6)
Austria	8 357	0.7	0.7	1.02	3.6
Finland	8 321	0.7	0.7	1.59	3.4 (3.9)
Norway	6 751	0.6	0.6	1.46	7.9 (9.2)

Source: National Science Indicators /Thomson Scientific/NIFU STEP

Table 2: Relative citation index for selected countries, total numbers for five-year period 2002-2006 (world average = 100)

Country	Index	Country	Index
Switzerland	145	France	110
USA	135	Australia	108
Denmark	135	Italy	107
The Netherlands	132	Spain	101
UK	125	Japan	91
Sweden	123	China	73
Belgium	122	Brazil	67
Finland	120	India	60
Germany	119		
Norway	118	World average	100
Austria	117	OECD average	109
Canada	116	EU average	106

Note: Based on publications in the period 2002-2006 and citations of these publications in the same period. Index for each country is weighed on the basis of the country's relative field distribution of articles.

Source: National Science Indicators/Thomson Scientific/NIFU STEP

<sup>1</sup> See: Forskningsbarometer 2009 – Dansk forskning i internationalt perspektiv. København: Ministeriet for Videnskab, Teknologi og Udvikling; section 2.4 publikationer og citationer; figures 2.20, 2.21 and 2.22.

Concerning the rankings of Danish universities a distinction has to be made between academic and commercial rankings. The academic rankings attempt to use academic indicators in a consistent way. Here one can in general see a rather stable list of universities (or university programmes) from year to year, but a general criticism towards these rankings concerns their methodology, e.g. the weight of specific indicators. An example of an academic ranking is the Shanghai Jiao Tong University ranking of the top 500 research universities in the world. Commercial rankings are in general published by magazines and have a tendency to change the criteria regularly, leading to large shifts up and down the list of the selected universities. An example of this kind of ranking is the Times Higher Education ranking. Several commercial rankings of universities are national only.

Here, we refer to the academic rankings. In general the four largest Danish universities (KU, AU, DTU and SDU) are ranked among the best research universities in the world when it comes to institutional rankings, such as the Shanghai Jiao Tong ranking. We find it a striking feature that KU and AU are among the few universities that have improved their position considerably in the Shanghai ranking over the last years, which could be a result of the mergers. According to the disciplinary ranking produced by the German *Centrum für Hochschulentwicklung* (CHE)<sup>2</sup>, which identifies the very best European graduate programmes in a number of fields<sup>3</sup>, KU belongs in five of the seven included disciplines to the very best universities in Europe, while AU belongs in one discipline to the Europe scientific top. The other Danish universities are not included in the main academic rankings. The diversity in research performance per discipline and university is confirmed by data presented in the latest *Forskningsbarometer 2009*.

Furthermore, Danish universities are performing well to very well compared to other OECD countries when it comes to attracting international research funds from other sources than the EU. This goes for funding from other research councils, such as the NIH and NSF in the USA, as for funding from foundations and other non-profit organisations.<sup>4</sup>

#### **Policy issue: University profiles emerging?**

The Panel finds that, by and large the Danish universities have explicit research strategies, but with different ambition levels showing clearly that not all universities aim at performing as world class research universities in all areas. This is one of the aspects that should be included in a further development of the system diversity in Danish higher education. One diversity aspect seems to be given, i.e. the strict separation of the roles of universities and university colleges (professionshøjskoler), with the latter not being expected to do basic research or offer research-based master and PhD programmes. However, as indicated such a binary divide does not imply that all universities can be expected to have identical research missions and perform at the same level.

As we have implied above, the political intention to further improve the research impact of Danish universities has been driven neither by a crisis nor by perceived problems related to the current quantity and quality of the research performance of Danish universities. The Danish universities' research performance is in many respects impressive. Also the public financing of academic research has been increased quite strongly as part of the

<sup>2</sup> See: [http://www.che.de/downloads/CHE\\_AP124\\_ExcellenceRanking\\_2009.pdf](http://www.che.de/downloads/CHE_AP124_ExcellenceRanking_2009.pdf)

<sup>3</sup> Encompassing biology, chemistry, economics, mathematics, physics, political science and psychology

<sup>4</sup> See: *Forskningsbarometer 2009 – Dansk forskning i internationalt perspektiv*. København: Ministeriet for Videnskab, Teknologi og Udvikling; section 1.2 international konkurrence om forskningsmidler, pp. 20-28.

implementation of the Danish Globalisation Strategy. The government obviously intends to stick at least for the coming three years to its intentions to invest public funds at a level of around 1% of the Danish GDP in research, despite the financial crisis.

The report has noted above all an absence of clarity about the aimed at research targets of the Danish universities and the university reform processes. This calls for a more explicit debate on the role, profile and mission of each university which can be expected to be beneficial for the Danish university sector. The reported diversity in the research productivity and impact suggests that the development of a strategic institutional profile could be anchored, amongst other things, in the disciplines, fields and areas where the university in question is performing better than world average.

The mergers offered potentially another element in the further development of institutional profiles in the sense that they allowed for a concentration of research staff, facilities and resources in specific disciplines, fields and areas. However, given that there were several other factors influencing the final outcomes of the mergers, the resulting institutional profiles were not as distinct as might have been targeted at. Therefore, even though the mergers have contributed to the further development of university profiles, the Panel can identify two important policy issues, which are unclear to us, and which we feel need to be debated:

First: Have the reforms, and especially the merger processes, led to the development of the institutional research strategies, performance and innovations that were expected? In other words, what were the expected features of the strategic institutional profiles, and is the new Danish university landscape moving in that direction?

Second: What kind of university system diversity is preferred? For example, should the system move into the direction of a 'University of Denmark' system, with agreed profiles and roles for each university? Or is a more open competition (nationally and internationally) preferable in which the universities' profiles and roles are less the result of mutual agreements, and more of institutional decisions on investments, academic staff quality, and research and teaching facilities?

## 5.2.2 Attracting EU funding

### Observations

One of the main expectations of the mergers was that Danish universities would become more successful in attaining EU research funding. In this the establishment of the European Research Council (ERC) in 2007 is an important benchmark for Danish universities, since the aim of the ERC is to create a 'Champions League' of European investigator-driven 'frontier' research. In order to get an indication of the success rate of Danish universities in applying for EU funding the Panel has focused on the results of the seventh Framework Programme (FP7), which also includes the ERC.

FP7 started 1 January 2007 and will expire in 2013. It has a budget of over € 50 billion, and it is as such the largest publicly funded research programme ever established<sup>5</sup>.

<sup>5</sup> FP7 is organised in four programmes, called Cooperation, Ideas, People and Capacities. The Cooperation programme supports international collaborative projects and networks in ten areas, i.e. health; knowledge based bio-economy (KBBE: food, agriculture, and fisheries, and biotechnology); information and communication technologies (ICT); nanosciences, nanotechnologies, materials & new production technologies (NMP); energy; environment (incl. climate change); transport (incl. aeronautics); socio-economic sciences and the humanities; space; and security. It has a budget of over € 32 billion, implying that it represents nearly 2/3 of the overall FP7

A first examination of the results of Danish applicants in the first period (around 2.5 years) of FP7 shows that the overall level of Danish participation in FP7 is high for the Cooperation programme and the infrastructure part of the Capacities programme, and relatively low for the remainder of the Capacities programme and the entire People programme, especially when it comes to the coordination of Marie Curie Initial Training Networks. Nonetheless, overall the level of Danish participation in these three FP7 programmes implies that Danish researchers receive more funding from these three FP7 programmes than the level of the net return rate for Denmark. This implies that Denmark ‘receives more funding from FP7 than it invests.’

However, despite the high overall participation rate in the Cooperation programme and the research infrastructure part of the Capacities programme in FP7, the general picture is that Danish universities like to participate in projects but not to coordinate them. This can be illustrated by the following figures: while around 17 % of all projects in the FP7 Cooperation programme have one or more Danish partner, only around 1 % of all FP7 Cooperation projects is coordinated by a Danish university.

This raises some questions among the Panel. Given the high productivity and quality of Danish university research one might have expected a somewhat different balance between participation and coordination. In a number of areas Danish universities are at the global research forefront, and the merger-related aim to increase the success of Danish universities in EU research funding can be regarded as an expression of the connection made in the research policy arena between research quality and EU research funding<sup>6</sup>. This is based on the assumption that the competition for EU funding is tougher than for national competitive research funding, and the quality of Danish research might lead to the expectation that Danish universities would be more active in applying as FP7 funded project coordinators than is currently the case.

Why is it necessary to point to the different performance of Danish universities in FP7 project coordination compared to project participation? Is the high level of participation of Danish universities not satisfying enough? What would be the advantage of a higher number of projects coordinated by a Danish university? A possible answer to these questions is that a project coordinator has more influence on and control over the nature and focus of the research activities undertaken in an FP7 project. This is confirmed by a recent study from NIFU STEP that suggests that the level of satisfaction with project outcomes, effects and follow up action is significantly higher for project coordinators in the Cooperation programme than for project participants.

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budget. The Ideas programme of FP7 is implemented by the ERC, with a budget of around € 7.5 billion. The ERC has been established under FP7 and consists of an independent scientific committee and an executive agency responsible for its administration. The People programme is aimed at making Europe more attractive for the world’s best researchers. It includes the Marie Curie actions, and has a budget of over € 4.7 billion. Finally, the Capacities programme wants to enhance research and innovation capacities throughout Europe and ensure their optimal use. It has a budget of almost € 4.1 billion and supports, amongst other things, research for the benefit of SMEs and research infrastructure.

<sup>6</sup> In its most recent research barometer (*Forskningsbarometer 2009 – Dansk forskning i internationalt perspektiv*. København: Ministeriet for Videnskab, Teknologi og Udvikling, p. 19) the Danish Ministry of Science, Technology and Innovation has presented the following arguments concerning the use of the EU’s FP7 as an indicator for research quality: ”Bevillingsstatistik fra EU’s 7. rammeprogram er anvendt som kvalitetsindikator i barometeret, fordi konkurrence om forskningsmidler generelt antages at være kvalitetsfremmende. Hertil kommer flere analyser, der identificerer sammenhæng mellem forskningskvalitet og rammeprogramdeltagelse. En nylig bibliometrisk analyse af forskere fra forskningsprojekter finansieret af EU’s 6. Rammeprogram har således påvist, at de pågældende forskere lå bedre, hvad angik publikationer og citationer end deres respektive fagfæller. Den nylige evaluering af Sveriges deltagelse i EU’s rammeprogrammer konkluderer tilsvarende med henvisning til nationale svenske forskningsfinansierende organer, som har vurderet kvaliteten af EU-finansierede forskningsprojekter, at projekter finansieret via EU’s rammeprogrammer generelt er af høj kvalitet.”

During the visits to the universities the Panel heard a number of explanations for the relative low number of FP7 projects and networks coordinated by Danish universities. The main explanations heard were first the overall Danish scepticism against the EU in general; second the ineffective or even lack of lobbying in Brussels for inclusion of research themes (especially in FP/ Cooperation) of relevance for Danish researchers and Denmark in general; third the reluctance among Danish researchers to invest in bureaucratic FP7 application procedures; fourth the administrative burden of coordinating an EU project; and fifth the relative abundance of research funding in Denmark.

The Panel did hear some worries or even complaints about the intra-university support structures for academic staff wanting to apply for EU funding. The evidence gathered during the visits is not convincing enough to come to a final conclusion in this. But overall the Panel would like to recommend the Danish universities to carefully review the effectiveness of their EU funding support structure. Nonetheless, the Panel did not get the impression that problems with the support structure was among the main reasons for the relative underperformance of Danish universities when it comes to coordinating EU projects.

The overall observation the Panel made is that despite the high level of participation of Danish researchers in projects funded by FP7, with respect to application for EU funding there is a gap between the political/ministerial expectations and the formal universities strategies on the one hand and the experiences, capacities, actions and perceptions of academic university staff on the other hand.

In this the Panel recommends the university leadership to assess the appropriateness of their research strategy when it comes to attracting EU funding. An active research strategy implies a proactive and not a reactive approach. As a consequence, it could be argued that part of the process of attracting EU funding should be a top down process through the identification of institutional top researchers, followed by stimulating and supporting them in their application for EU funding, instead of a bottom up process in which researchers are expected to ask their administration for support before action is undertaken.

#### *ERC – the Ideas FP7 programme*

The fourth FP7 programme, 'Ideas', is implemented by the ERC. The objective of the specific programme 'Ideas' is to reinforce excellence, dynamism and creativity in European research and improve the attractiveness of Europe for the best researchers from both European and third countries, as well as for industrial research investment, by providing a Europe-wide competitive funding structure, in addition to and not replacing national funding, for 'frontier research' executed by individual teams. Contrary to the 'Cooperation' programme, the ERC is aimed at funding individual researchers and their project teams, instead of collaborative trans-national projects or networks. In this the ERC awards grants to two types of researchers, i.e. Starting and Advanced researchers. In addition, in the ERC selection procedure scientific excellence is the sole evaluation criterion.

The ERC was established in 2007. Until now the results of two rounds for awarding Starting researcher grants (in 2007 and 2009) and one for awarding Advanced researcher grants (in 2008) have been published. In the first rounds of both the Starting and the Advanced grants four grants were awarded to researchers employed by Danish universities, leading to a total of eight grants (out of a total of 573  $\approx$  1.4 %) awarded to researchers at two Danish universities, i.e. AU (5 grants), and KU (3 grants). This result can be regarded as rather disappointing, also in comparison to the performance of other 'small' countries, such as Switzerland (43 grants), Sweden (29 grants) and Finland (15 grants).

Given the ERC aims, the straightforward application procedure, which is much less bureaucratic than the application procedure for the other FP7 programmes, and the limited requirements for administrating the ERC grants, some of the main arguments put forward for explaining the relative underperformance of Danish universities in the coordination of FP7 projects in the other three FP7 programmes, do not apply to the relative lack of success of Danish researchers in the first two ERC rounds. An additional argument heard during the university visits, i.e. that Danish researchers are not motivated to apply because of the overall low success rates of applicants. In our view this argument is not valid, especially given the high quality of Danish university research.

The second round for awarding Starting researcher grants (in 2009) shows a somewhat different picture. In this round among the selected applicants 7 researchers are working at Danish universities (out of a total of 237 selected applicants = around 3 %, implying a doubling compared to the first two rounds). The selected researchers are working at KU (3), DTU (1), and AU (1). In addition, a researcher employed at Statens Serum Institute and a researcher working at a specialised hospital, but also employed at AU, have been selected. An additional positive aspect is that Danish researchers have been selected in all three disciplinary areas of the Starting grant programme, i.e. Life sciences; Physical sciences and engineering; and Social sciences and humanities. In this round Swedish and Finnish researchers performed less well, with 5 Swedish and 6 Finnish researchers being selected.

#### **Policy issue: Stimulate EU funded research**

There is a gap between, on the one side political and university leadership's expectations with respect to the role and importance of EU research funding, and on the other side the perceptions and experiences of researchers. One of the consequences is that Danish researchers give the impression (also being confirmed by FP7 results) of not being as active in taking leadership roles in the EU research community through coordination of projects and networks as could be expected on the basis of the quality of their research output. The underlying reasons for and consequences of this gap should be addressed in an open and transparent way. The Government, the Danish research councils as well as the university leadership need to clarify and explain their arguments for putting so much emphasis on EU funding.

In addition, the way in which Danish research interests are promoted in Brussels needs to be carefully evaluated. There are clear indications that these research interests are seriously underrepresented in the EU's decision making with respect to the EU's research strategies and thematic focus areas, especially in the FP7 Cooperation programme.



#### **Recommendations: Stimulate participation in EU funded research**

- > More explicit national and institutional targets with respect to EU research funding should be developed.
- > The institutional leadership should more proactively stimulate the processes of academic university staff applying for EU research funding, including more university-internal administrative support to application and project coordination tasks.
- > Institutional and national strategies should be established for promoting the ERC as a new, non-bureaucratic basic research council to Danish researchers. In the formulation of these strategies successful Danish applicants of ERC grants should be involved.

## 5.3 Education

In this section, the Panel will refer to the goals of the mergers related to education. One of the goals of the mergers was to make additional research resources available for educational processes, leading to a strengthening of the link between higher education and research. Another expectation was that the mergers would lead to more interdisciplinary cooperation in education and more flexible and relevant degree programmes. In addition, important policy goals to strengthen education were introduced in connection with the globalisation strategy. The Panel will therefore also refer to some of these goals in this section, including the following goals: to double the number of PhD students, to increase higher education participation from 45 to 50 % of the age group, to stimulate faster study completion of higher education students and to introduce better and more structured options for Danish students for studying abroad.

As noted earlier, it is too early after the merger process to assess definitive effects on education. The Panel's observations and assessments in this section are based on several sources – university statements; available data; and Panel's meetings with stakeholders – keeping in mind that the effects of mergers are intertwined with those of other policy reforms introduced over the last few years, as indicated in the first paragraph. Three areas are examined: study programmes, student intakes and study progression, and conditions of study. A sense of momentum is clearly evident. New study programmes and subject offerings are in place or being developed, and there is evidence that the universities have strengthened their capacity to offer research-based education and career-relevant study programmes that fit Denmark's needs for highly skilled labour.

### 5.3.1 Study programmes

#### **New offerings**

New study programmes and new subject offerings have been introduced by the Danish universities over the last few years [A9]. The university leaders with whom we met typically offered a strategic explanation for their choices of new programmes, aware of their overall strengths and how their programmes are attractive to students and to the labour market.

The Panel also was told about new offerings that were directly linked to the mergers. New programmes, for example, have been designed around student projects in laboratories of the previous GRIs. New subject areas have been established that combine the strengths of two merged units to offer study programmes responsive to emerging research areas or employer needs. Some academic staff noted that merger conversations resulted in new collaborations on study programmes among two universities even if a merger did not occur. Some academics, especially at non-merged universities, reported that the merger process had hindered their previous partnerships with GRIs that were merged. Others noted that their departments and programmes had not yet been affected.

University statements and our visits also offered examples of interdisciplinary programmes resulting from the mergers among universities or with former GRIs. On the whole, such developments still have limited scope, and are found in some universities more than in others. Most universities have working groups that are developing such programmes, and universities offered examples of new combinations of subjects that they are considering.

Researchers from the merged GRIs have become involved in teaching of both master's and bachelor's students and in supervision of PhD students, typically with specific assistance and support offered by the university's departments. In several universities both master's and PhD students have more access to sophisticated research laboratories.

The relevance of study programmes – generally judged by their fit with the needs of future employers – is given direct attention by all universities when they review existing programmes or design new programmes. “Market” or “user” needs appear to have become a routine part of university deliberations about new programmes. A number of mechanisms support this perspective. Regular surveys of employers' views and of recent graduates offer universities up-to-date information on labour market needs and whether graduates have the skills they need. External members of the Board offer valuable perspective, as do members of advisory councils or participants in partnerships and other collaborations with business, industry, local communities or practitioner groups. For many universities, still further opportunities for closer links with industry and with practitioners have been made possible by the mergers with the GRIs.

It appears that the universities have smoothly completed the transformation to Bologna study structures. Students report, for example, a clear understanding of the bachelor's to master's progression, speak readily about the ECTS system, appreciate the flexibility of course choices that are available, especially in master's programmes, and are fully aware of credit transfer options and procedures. Several universities noted that they have worked hard to establish an internal education market. This often involved holding multiple meetings to communicate the changes to students.

#### **Internationalisation of education**

International study is of interest to students, and available data suggest that a good number of Danish students are studying in other countries. The data also show some increase in the number of students coming to Danish universities from other countries. Danish students we met with were quite aware of international exchange opportunities, were open to such study when it meshed with their educational goals, and thought clearly about how such study could augment their Danish coursework. As is true in other countries, it remains difficult for students to coordinate the time they can study in EU or other settings with their own programme requirements, especially in bachelor's programmes. This is an EU-wide problem, as there is limited overlap in term of calendars among countries.

International exchange of academic staff also takes place in both directions. Universities frequently reported problems in trying to offer attractive salaries to incoming academics, however. Students expressed no concerns about having instruction by academics from other countries. They noted that master's level courses are taught in English but had no complaints.

As addressed in our assessments regarding autonomy (section 4.1), Danish regulations limit the international marketing of Danish study programmes, the establishment of joint degrees, and Danish universities' participation in the Erasmus Mundus programme.

Nevertheless, figures from the Ministry of Science, Technology and Innovation concerning bachelor's and master's level students show that the number of foreign exchange students enrolled in Danish universities has increased consistently over the period 2001-2007, from almost 3,000 to a little over 5,000. The number of Danish exchange students spending



study time at a foreign higher education institution has only increased moderately over the same period, from 3,342 to 3,678.

### PhD Education

Conditions for PhD study appear to have been strengthened during the latest years. Several universities have established new PhD schools. The Panel notes that the 2007 change of the University Act stipulated establishment of further PhD schools, and this development may therefore well be caused by the 2007 change of the University Act rather than being a direct consequence of the mergers. Data from the Ministry also point to increased PhD intake over the last several years. The total number of new PhD students in 2007 was about 1,800 and was 2,423 in 2009, a significant increase compared to 2005 (1,352). Funding of PhD fellowships remains vitally important. Several academics noted that funding has led to greater growth in “wet” fields<sup>7</sup> than in “dry” fields. The Government’s announced goal of doubling the number of PhD fellowships by 2010 seems to be much needed, and may not be enough. Academic staff in many locations reported that they could accept and supervise more PhD students.

An important indicator for measuring the international attractiveness of the Danish universities is the number of their foreign PhD students. Data from the Ministry<sup>8</sup> show that the number has increased by almost 150 % in the period 2000 – 2008.

Table 3: International full time PhD students in Denmark 2000-2008

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Humanities	16	16	12	17	21	20	21	17	23
Natural Science	77	87	87	91	102	106	109	143	208
Social Science	22	27	30	32	29	27	25	31	52
Health Science	27	20	23	30	42	42	43	47	58
Technical Science	105	128	126	136	142	140	139	181	275
<b>Total</b>	<b>247</b>	<b>278</b>	<b>278</b>	<b>306</b>	<b>336</b>	<b>335</b>	<b>337</b>	<b>419</b>	<b>616</b>

Source: DUPA's calculations on the basis of information from Statistics Denmark



### Recommendation: Stimulate development of new study programmes

- > Consider funding a one-time scheme for the development and early evaluation of new study programmes. In general, Danish universities are at an early stage in exploiting the opportunities created by the mergers, and further development of new study programmes can be expected. It should be recognized that good planning takes time and resources. Interdisciplinary programmes have special problems of integration and coherence, and may need “piloting” and revision. In many countries, universities expect academic staff to simply add such planning duties to their other assignments. However, some allocate separate funds for summer stipends or short-term “release” time from teaching duties to allow for planning. The combined effects of the Danish taximeter system and research funding may make it especially difficult to fund such planning adequately in certain fields. While this could be construed as a problem for university

<sup>7</sup> “Wet” fields are Natural, Technical and Health Sciences, whereas “dry” fields are humanities and social sciences.

<sup>8</sup> See: <http://www.ubst.dk/uddannelse-og-forskning/uddannelsesstatistik/ph-d-uddannelsen>

leaders to solve, the Panel believes that it would be useful for the political system to consider a one-time funding scheme aimed at “speeding up” desired improvements of study programmes and serve Denmark well as an investment in greater variety and stronger quality in new study programmes.

### 5.3.2 Student intake, progress and completion

Available data and university reports all document increasing enrolment in Danish universities at each level, (except for a drop in 2008 which reportedly was due to new demands for admission and a favourable situation on the labour market). The two-year master’s programmes have seen significant enrolment growth. This appears to be a good development, with no reports of overcrowding or disarray with growth. Universities reported plans for increased enrolment that reflect strategy choices and new recruitment initiatives. The upward trend fits with political goals, but cannot be narrowly termed a “merger effect.” Other factors – including economic uncertainties affecting employers and increased numbers in the youth age group – may have played a role.

The Panel obtained limited information with respect to the overall political goal of increasing the higher education graduation rate of the age group to 50 % by 2015. Data from the Ministry indicated that, in 2006, 45 % of a youth group completed a higher education programme, suggesting that the 50 % goal is achievable. International experience is that gains are made slowly but cannot be assumed to occur.

On-time study completion is currently an important priority in Denmark and other countries. The Danish government has set financial incentives to promote greater efficiency in this area. Data from Statistics Denmark and the Ministry show positive trends on two indicators: steadily improving rates of on-time plus one year completion and some decline in the average time spent on study through the master’s level. Such data always have a time lag, however, as the information for 1999 through 2007 actually involves students who began university study in 2003 or earlier. EU data we received for average age of completion were for an earlier year, 2005. Since the time reflected in such data, Danish universities have experienced a transitional period, as mergers were put into effect, as the Bologna structures were established, and as students experienced greater opportunities for transfer.

On these policy areas – promoting increased enrolment, a higher percentage of youth completing tertiary education, and on-time study completion – available data provide a limited perspective on any effects of the mergers. However, the general trend is favourable and Danish universities report a range of initiatives that offer a basis for expecting progress. In most countries, slow progress is most realistic to expect, given the many factors that affect overall completion. Most countries also experience differences between subject areas in average completion times, but factors vary and are best addressed within universities rather than by governmental or Parliamentary actions. The Panel has heard of examples that the change of taximeter financing for shortening completion times has made the universities introduce rules aiming at increasing completion time, including stricter rules of completion of Master’s theses.

On-time study completion also might be enhanced by allowing greater flexibility for students who change study programmes. The “lost” time reported by such students may be educationally sound, rather than a problem, as some “catch-up” work should be expected when they enter a new study field. Nonetheless, universities might review their transfer

rules to ensure a fair evaluation of how courses taken at other institutions fit with a student's new study programme.

### → Recommendations: Increased efforts for higher enrolment

- > Each university should prepare an enrolment strategy in view of the stated goal for the whole tertiary sector.
- > Sector-wide goals require co-ordination across the Ministries of Education and of Science, Technology and Innovation. Denmark should examine how its universities, university colleges and other tertiary institutions share the role of increasing access and wider participation.
- > Increased coordination between universities and university colleges would be needed to improve participation rates.

### 5.3.3 Conditions of study

The Panel's meetings with students focused in part on their experiences with study programmes and possible effects of the mergers. Overall, students reported few negative effects of the merger on education, often cited positive results, and expressed satisfaction, both for themselves and for other students. However, the Panel has not found clear evidence of particular effects of the mergers on the conditions of study.

Most students displayed a strong sense of ownership in their universities and their education. A pedagogical focus on project work, both individual and in groups, was strongly valued.

Student representatives reported that their universities offer ample sources of careers guidance. Representatives also reported that students are generally aware of a range of university services and use them when they want such assistance. The universities offer careers counselling, seminars, job fairs for different study areas, and information on their websites regarding job opportunities. Some universities offer careers guidance in the early years of university study, as well as for those nearing study completion.

Students readily referred to study boards, organised for each department or study programme, as a way to discuss problems with education programmes. However, as also indicated in section 4.2.1.2, students often objected to the limited influence of the study boards.

Online course evaluations are conducted each term, allowing university leaders and study boards to monitor and correct problems that arise. Students understand the ECTS system of credits, plan according to it, and appear to appreciate the more flexible course choices that are now built into most study programmes. At some universities, students felt that programme requirements in some subjects were quite restrictive, making it difficult to pursue related courses or study abroad.

Most student groups we met with expressed concern with the ban on group exams. Some argued persuasively that the strong emphasis on group projects in Danish universities calls for a style of examining consistent with this group orientation. Some suggested that the different styles of examining lead to differences in how students prepare for exams and what they learn.

→ **Recommendation: Deregulation of conditions of study**

- > Universities themselves should decide issues related to conditions of study, which thus should not be subject of detailed Government regulations. For example, it should be the universities themselves who should decide whether they want to practice group exams or not.

## 5.4 Innovation and relationship to the business sector

The current dominant political use of the term innovation has emerged from an economic debate, stressing the importance of product and process innovation for growth and jobs in a globalised world. Universities participate in this debate and pursue different ways how to link education and research to innovation activities in the economy and in society.

For some years, firms have increasingly practiced “open innovation”. They use “external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology” (Chesbrough 2006). For example, large international companies, when locating their research facilities, search for sites near universities so that they can best practice “open innovation”. Firms look for locations with strong frontier research, with a general competence base, with open-mindedness, and with flexibility.

When engaging in innovation activities, it will be important for universities not only to better exploit existing knowledge, but also to develop upstream strategies. Upstream strategies should look for building up new knowledge in emerging fields by hiring world class people and by investing in the appropriate infrastructure. This implies institutional strategies, which should include the shifting of human and non-human resources “out of old fields and into new fields”. It also implies changing curricula in order to attract students in areas where new jobs are created and growth occurs. Upstream strategies are especially needed in the fields of pharmaceuticals, energy, environment, e-health, transport, and logistics, where there are and will be a strong innovation demand (Aho-Report 2006).

Innovation-oriented collaboration of universities can be studied, amongst other things, by looking at research-financing by private sources (see section 5.4.1). The integration of GRIs into universities (see section 5.4.2) is supposed to strengthen the universities in such a way that they can play a more important role in innovation activities, in private sector companies as well as public sector organisations.

### 5.4.1 Relationship to private sector companies

The Danish policy goals regarding innovation have been operationalised in an ‘Innovation Action Plan’ published in 2007 by the Danish Council for Technology and Innovation. The main objectives of the Plan are to make all Danish enterprises, including SMEs, more innovative. The action plan intends to turn 5,000 SMEs into innovative enterprises and to encourage an additional 2,000 SMEs to employ workers with higher educational qualifications. Knowledge transfer and collaboration between research and private enterprises are intended to be strengthened. Key targets are the doubling of the number of industrial PhDs to 500 a year and to establish 500 new knowledge transfer projects between private enterprises and knowledge institutions.

As shown in table 4, the Danish university sector receives a much higher share of the public national R&D expenditures than the universities in many comparable countries. Only the Netherlands shows a higher value for HERD than Denmark. However, the Danish figure of 26.1% in 2006 is obviously not including the results of the mergers of 2007. If only half of the Danish governmental research (GOVRD) reported in 2006 is included in HERD, Danish universities would receive the highest share of all countries reported in the list.

Yet, when it comes to financing university research by business enterprises, Danish universities are situated at the lowest end of comparable countries. The last column in table 4 indicates that the share of private companies in financing public research is, comparatively speaking, very low, only 2.3%.

Table 4: Private and public shares of research financing for selected countries

	R&D share of GDP	Business research as share of total R&D	University research as share of total R&D (HERD)	Governmental research as share of total R&D (GOV RD)	HERD+GOVRD financed by business enterprise
Denmark	2.43%	66.6%	26.1%	6.7%	2.3%
Sweden	3.73%	74.9%	20.4%	4.5%	4.5%
Finland	3.37%	71.5%	18.7%	9.7%	8.6%
Germany	2.53%	69.9%	16.3%	13.8%	12.2%
UK	1.78%	61.7%	26.1%	10.0%	5.9%
USA	2.61%	70.3%	14.3%	11.1%	2.7%
Netherlands	1.67%	57.6%	28.2%	14.1%	10.0%
Switzerland	2.90%	73.7%	22.9%	1.1%	8.3%

Source: European Commission, Science, Technology and Competitiveness. Key Figures. Report 2008/2009, Brussels 2008, pp 35-37. All data refer to 2006, latest data available

The low share is confirmed by a recently published report of the Ministry of Science, Technology and Innovation<sup>9</sup>. According to this report, around 2.3% of university research is funded by private companies. This figure implies that Danish universities are ranked at the 27<sup>th</sup> position among a total of 34 OECD, EU and BRIC countries when it comes to the proportion of university research that is funded by private sector. Regarding this issue, Danish university research is thus far away from those countries where universities have the highest level of external research funds from the private sector. Among the most research intensive OECD countries, South Korea and Germany are ranked highest with about 14% of university research funded by the private sector. A comparison among Nordic countries shows that Danish universities, with 2.3% of their research funded by private companies, are below the level of Sweden and Norway (resp. 5% and 4%), Finland (7%) and Iceland (11%).

The quantitative implication of private financing to universities is underlined by the following scenario: If Denmark had a situation comparable to Germany, the Netherlands, Switzerland or Finland (around 10% of university research financed by the private sector, instead of the present 2.3-2.5%), universities in Denmark could raise an amount of up to € 100 million per year from the private sector as a financial contribution to their research.

<sup>9</sup> Forskningsbarometer 2009 – Dansk forskning i internationalt perspektiv. København: Ministeriet for Videnskab, Teknologi og Udvikling, pp. 25, 28,

A first possible explanation for the low ratio of private financing of Danish university research could be that Danish university research is rather irrelevant to private companies. It may be too academic for business or concentrated in areas with low business interest. However, another and probably more likely explanation, is the tradition in Denmark for a high ratio of public funding of university research combined with the high level of Danish taxes. This tradition would imply that university research is regarded to be the responsibility of the State and that publicly financed university research is considered to be a public good, from which the Danish enterprises may benefit.

The expectation of high public financing of university research is underlined by the particular Danish industry structure, which is dominated by small and medium sized enterprises with only a few large companies. The Danish SMEs have less tradition and much less means for financing university research than the large companies.

Furthermore, the low business financing percentage only shows the *direct* industry financing to universities. It does not include the financing to university research from large independent foundations established by large Danish companies, such as Carlsberg, Novo Nordisk, Lundbeck, Velux, Rockwool, Realdania and many others.

#### → Recommendation: Develop a strategy regarding university-industry collaboration

Despite the various explanations contributing to the particularly low Danish percentage of private financing for universities compared with other countries, it is the overall impression of the Panel that the private financing for Danish universities is much lower than in comparable countries. It is highly likely that the low percentage reflects a much lower level of university-industry collaboration in Denmark than in comparable countries. We find this a matter of concern in relation to the policy goals of strengthened innovation in the Danish society and industry.

- > The Ministry of Science, Technology and Innovation, together with the universities and the business sector, should develop a strategy for how to intensify the relation of universities with the business sector. The strategy could for example be based on the Danish 'Innovation Action Plan', and on further investigations regarding Danish university-industry collaboration and private funding of university research, including an assessment on the appropriate balance between public and private financing of university research in the context of the Danish system.
- > The universities should intensify their relations with the business sector.
- > Danish business should be ready to treat the outcome of university research not just as a public good. The government may help Danish firms by granting special tax deductions. The issue, of course, is where to fix the borderline between the production of public and of private goods.

### 5.4.2 Integrating the GRIs with universities

A decision taken in the framework of the Danish Globalisation Strategy consisted in integrating Government Research Institutions (GRIs) into universities. The overall goals were to create research synergies that would strengthen public research, to fertilise university research with close contacts with the professions and the public sector, as well as to im-

prove the quality and relevance of higher education by making research resources available for strengthening the research basis of educational activities. Our assessments related to these goals are addressed in previous sections. In addition, it was a goal to strengthen the collaboration between universities and industry in order to increase innovation in Danish industry. We have addressed the industrial innovation and universities' relation to private sector in section 5.4.1.

Here, we focus on the strengthening of the universities' contribution to public innovation and their relation to public authorities as a consequence of the mergers between universities and GRIs. Although no guiding model or "master plan" was provided by the government, two principles guided the integration of GRIs in universities: (1) the integration should preferably be supported by the boards of the GRIs, which had an advisory role towards the responsible minister and (2) individual GRIs should not be divided into small units or be divided between different universities [A2].

### **Strengthening of education activities as well as of research at universities**

During its visits, the Panel observed that the goals of strengthening education as well as research at universities are increasingly met. Researchers of the merged-in GRIs seem to be satisfied with finding teaching opportunities, and students appear to appreciate the tendency of further and broadened study programmes. We heard it suggested, though, that the training opportunities in teaching for the integrated previous GRI-researchers should be widened.

Although there appeared to have been an initial scepticism on how the more service oriented research of GRIs would get along with the more scholarship type of research at universities, a constructive dialogue between the two sides of research seems to have been initiated. This constructive dialogue paves the way for new research opportunities within the merged institutions.



### **Recommendations: Strengthening of university profiles**

- > Support the further development of appropriate university profiles. The voluntary character of the mergers as well as the decision not to accept any division of a GRI between various universities raises the question whether the mergers have provided sufficient support for developing appropriate university profiles. From that perspective it can be recommended that the development in the long run of those mergers where geography (distance) or substantive differences might lead to diminishing synergies should be monitored carefully.
- > The broad research strength of the universities should be further elaborated for further strengthening research areas and profiles of universities. This work would benefit from becoming linked with the considerations recommended in section 5.5.2 on integrating still non-merged GRIs into universities.
- > Secure that the research basis for the government commissioned services at universities is sustainable. The Panel recommends perseverance and long-term planning for the research basis of the universities' provision of the government commissioned services, even if public calls for some of the services will be introduced.

## 5.5 Non-merged universities and government research institutions

### 5.5.1 Three non-merged universities

The Panel's schedule included visits to the three Danish universities that were not merged: Copenhagen Business School, IT University, and Roskilde University. Each had considered some forms of merger during the planning process, but at this point remain stand-alone universities. Each has a distinctive profile. CBS has a large student body, with more than 12,000 students in 2007, spread evenly between bachelor's and master's students, and with 168 PhD students. It offers 22 bachelor's programmes and 27 master's programmes, generally in business and related subjects (e.g., law, economics, communications), and has an international profile, including international accrediting credentials, a large number of partnerships with foreign universities, and a sizeable international student population. ITU, founded in 2003, had a student body of about 1,000 students in 2007, primarily master's students but also including 43 PhD students and 46 students admitted to the first bachelor's programme at ITU, which was opened by 2007. ITU offers 7 master's programmes, including e-Business. Roskilde University had a student body of about 7,300 students in 2007, including 4,000 for bachelor's programmes, another 3,300 in master's programmes, and 246 PhD students. Its largest programmes are in the social sciences and humanities, along with communication and related fields.

The Danish Government obviously expects each of these non-merged universities to contribute to the broad goals announced as part of the merger process, including strengthened education and research. The recent period undoubtedly created some uncertainties for each of these universities.

While all three expressed positive views about their non-merged status, each faces special challenges in the changed university landscape in Denmark. For CBS, the Panel recognises its ambition to be a top-level business school acknowledged across Europe and globally, and notes its strong record in attracting international students and in arranging study abroad opportunities for its Danish students. CBS, in its written statement, indicated that in 2008 it was successful with 8 out of 19 FP7 applications, and that it has set further improvement in such funding as a priority.

Roskilde University also has a distinctive profile and contribution within Denmark. It is well known for its interdisciplinary research and education, including a project- and problem-oriented approach that is much valued by its students and graduates.

IT University, the newest university in Denmark, is distinctive for its emphasis on several IT study fields and its pedagogical approach that allows bachelor's degree students from other study fields to begin IT study at the master's level.

The Panel notes that both CBS and Roskilde University share some special challenges related to their current profiles. Both enrol most of their students in study fields that receive the lowest taximeter rates and both state that historically they have received lower levels of public research funding. As can be seen in Table 5 in Annex 7, CBS still receives by far the lowest level of basic research funding as part of its overall budget. As they report, they thus suffer from modest overall funding on an ongoing basis. Both universities have plans to expand and diversify their other sources of funding. CBS, for example, has decided to



build its tuition fee income from foreign students and to increase its international research funding.

ITU, as a new institution with students primarily enrolled in a higher taximeter tier, does not share these challenges but, due to its small size, faces other challenges. As noted in the Research section of this report, ITU has not, as yet, been successful in winning EU research funding in the Cooperation programme of FP7. This is all the more striking since AAU has been highly successful in winning research funding in the IT sub-programme of FP7 Cooperation. In addition, the ITU has not established a record of strong commercialisation of its research.

The Panel also has concern that ITU's educational programmes are vulnerable, not only because the programmes are small but also because the administrative and academic infrastructure is quite small. With a limited number of full professors and associate professors at ITU, they must share a heavy burden of serving on committees, as heads of studies, as PhD supervisors, or administrators and, consequently, are less available for teaching. It is difficult for small programmes with relatively few instructors to provide the sustained education quality and coherence that is needed to ensure successful completion of studies over the long term. We were told that, for some study programmes, teaching is carried out largely by professors affiliated with other universities. The e-Business programme is, for example, taught by professors from the Copenhagen Business School. ITU students regularly take courses offered by the University of Copenhagen or other universities. This raises the question of whether the distinctive pedagogical approach and philosophy espoused by the ITU experiment can be executed effectively under the vulnerable situation of ITU. It should also be noted that ITU's initial objective and distinctive approach can now be found in other universities.

The small size of ITU's academic staff also creates vulnerability for PhD education. PhD students need to have close, continuing supervision on a very specific research area from a supervisor with expertise in that area, yet ITU can provide only a limited range of expertise to support PhD research. Because ITU has relatively few professors, some with ties to business or industry that might draw them away, there is a further risk for maintaining the continuity of supervision needed by PhD students. In addition, at our visit in August some of the industry representatives indicated that they realise the enormous efforts necessary for attaining the critical mass needed to develop ITU into a sustainable university, and that they no longer insist on a separate IT university. ITU has apparently not been able to develop a sufficiently broad research platform to support a sustainable PhD education structure of its own nor been able to sufficiently satisfy the expectations of private sector companies operating in the IT areas covered by ITU.

### → **Recommendation: Dialogue on the future position of ITU**

- > The Ministry of Science, Technology and Innovation should start a dialogue with ITU for determining ITU's future position in the Danish university landscape. The aim of this dialogue should be to identify one or more possible merger partners for ITU. The three non-merged universities all have distinctive institutional profiles. The Panel finds, though, that the situation of ITU clearly differs from the situation of the other two non-merged universities. The IT University is overall too small and vulnerable to be able to operate in a satisfying way as a stand-alone university. Amongst other things, the vulnerability of the PhD education of ITU is high and the institutional basic research

platform to support the PhD education, as well as the relationship to industry, is not sufficiently strong.

## 5.5.2 The non-merged GRIs

### *Background and institutional profiles*

In January 2007, nine public GRIs were integrated into universities, in the form of faculties, departments or professional units. The overall positive experience of the merged GRIs was discussed in section 5.4.2. Here the focus is on the four GRIs which were not merged: NFA (National Research Centre for the Working Environment, under the Ministry of Employment); the Danish National Centre for Social Research (SFI, under the Ministry of Interior and Social Affairs); the Kennedy Centre (under the Ministry of Health and Prevention); and the Geological Survey of Denmark and Greenland (GEUS, under the Ministry of Climate and Energy). The Statens Serum Institut was not part of the evaluation on the grounds that this GRI holds particular national responsibilities, amongst other things, for preventing epidemics/pandemics. Furthermore 80-90 percent of the institution's turnover is generated from commercial sales of vaccines, serums, etc.

The Panel met with representatives of the four non-merged GRIs and officials of the responsible Ministries. The four GRIs have very different profiles and face very different situations. The Geological Survey is the largest with an annual turnover of 280 million DKK and over 300 full time staff. Its main tasks are geological mapping, data collection and storage, carrying out research projects, giving advice and disseminating geo-scientific knowledge. It supports administrative and legislative work in Danish Ministries and the Greenland Home Rule Authority. At the same time, it participates in cooperative arrangements with the University of Copenhagen (Departments of Geography and Geology, and the Geology Museum) as part of Geocenter Denmark, which numbers 500 employees and 1,000 graduate and PhD students.

NFA has a staff of 154 and had in 2007 a total budget of approximately 105 million DKK, of which 63 % was basic government grants. As a national institute for working environment research, NFA is dedicated to promoting a safe, healthy and progressive working environment. It conducts strategic research, especially in support of companies' efforts to improve working environment, and monitors and coordinates Danish work environment research. There is teaching and PhD mentoring.

The SFI has a full time staff of 140 (60 researchers) and an annual income of over 115 million DKK, 70 % of which is allocated to research and evaluation projects. SFI's main objective is to supply relevant knowledge for shaping and evaluating Danish social welfare policies. It pursues these objectives through two main arms: SFI Survey collects and processes data for use by researchers, public authorities, private organisations and enterprises. SFI CAMPBELL conducts multi-disciplinary research on the impact of social programmes. SFI has bilateral co-operation agreements with the universities of Copenhagen, Aarhus and Aalborg, and with Universities Denmark. 11 of SFI's researchers teach at four universities and SFI staff supervises 35 MSc students and are primary and secondary supervisors to 12 PhD students.

The Kennedy Centre is a national research and advisory centre on genetics, visual impairment, and mental retardation. Its staff numbers approximately 85 and it has an annual income of 70 million DKK. This institution has been involved in a special process. The Government had aimed to integrate this institution into Region Copenhagen and associate

it with Glostrup Hospital and the Copenhagen University Hospital. However, the final status of the institution has not been decided by the Government yet [A5, 8 June 2009].

#### *Issues and Options*

The nine GRI mergers raise the question of the continued usefulness and viability of the still non-merged part of the research-based public service sector in Denmark. The Government should face the question whether the four non-merged GRIs should be maintained as independent organisations or be merged as well, whether with a university or another institution. One consideration is that where previously the GRIs formed a specific sector with their own legal foundation and labour conditions, the remaining GRIs are too few in number and small in size to legitimately still be able to be regarded as a separate sector.

The background documentation provided by the four unmerged institutions and the interviews with their representatives made a case for maintaining the status quo. The arguments differed because of the differing circumstances of the GRIs.

GEUS argued that parts of its services to the government are of a confidential nature, which could be compromised if it was part of a university. In any event, through participation in Geocenter it has good synergies with the University of Copenhagen. The Board of Governors of NFA recommends the Institute's continued independence on the grounds that it is fully meeting the goals of the Globalisation Strategy regarding research-based ministerial preparedness, research quality, and internationalisation. It has good quality (justified to some extent on the basis of a recent evaluation), benefits from synergies with universities, and responds well to societal demands. NFA argues that the multi-disciplinary OSH (occupational safety and health) research would be hard to maintain within a university setting. In addition, it is argued that OSH needs to be close to the practitioners in the industry and the Ministry. Similar arguments have been advanced by the Kennedy Centre: Health care is not usually a part of the universities. The Centre provides a way of capturing the synergies between care and treatment on the one hand and research on the other, which would be lost in a university setting. SFI's Board argued that the Centre serves as a network that brings researchers from universities and research institutions together in multidisciplinary teams, and that this pivotal role will be lost with a university merger. One SFI representative put the case strongly: if SFI is merged with a university, it will need to be reinvented. In any event, according to SFI, there is already good co-operation with the university sector.

The Panel has thus heard the arguments put forward by the unmerged GRIs for continued independence. In most cases we do not find these arguments persuasive, but find that they need to be assessed on the basis of clearly articulated criteria for decision making on whether or not a merger should be pursued.

Several elements of the criteria need to be considered. But first two general observations: Whether or not a specific GRI should be merged depends in the first place on the possibility of a good match with a university. The Panel does for example not find that the confidentiality argument raised by GEUS is particularly strong in justifying its continuous independence. Arrangements for confidential research can be made with the universities, just as it can be with a government research institution.

The most important elements of the decision criteria concern the impact of a merger on quality. Defined broadly, it includes the following elements: contribution to strategic profiling of the merged institutions through creation of a critical mass; synergies in research; contribution to education and relating existing teaching and tutoring in a controlled uni-

versity setting; quality of service to the government; and strengthening connections with industry and society.

The potential impact of a merger based on these criteria may be illustrated with a few examples. Assuming that there is a positive match, a merger can potentially improve strategic profiling of a university by strengthening specialisation in a particular area. A pooling of resources that a merger can bring about should assist in developing a critical mass in more areas, contrary to a dilution of resources, as NFA argues would be the case. In fact, the independent evaluation of NFA carried out in 2008 recommended a reduced number of research priorities (from seven to four) precisely because of a lack of a critical mass in those areas. With regard to the impact on quality of service to the government, a post-merger agreement for competition-based contracts for those services offers a means for improved quality. With regard to linkages with industry, the applied nature of the research done by the GRIs can potentially strengthen this aspect of the universities, which is at present relatively weak in Denmark. Similarly, the Panel does not find SFI's arguments – that it already co-operates with the universities and that its critical role as a network coordinator would be lost if it was located within a university – persuasive. On the contrary we think that there can be significant benefits from a merger with a university in developing synergies in both education and research through building stronger multi-disciplinary critical mass and in being subject to more stringent quality demands. A merger would be an appropriate solution to the two major obstacles faced by SFI, as identified by a 2009 evaluation of the institution: a methodological divide of qualitative and quantitative work, with insufficient use made of its surveys; and a “two-box” divide between basic research and evaluation research [Evaluation of SFI 2009].

### → **Recommendation: Reconsider integration of the non-merged GRIs into universities**

- > The government should reconsider the position of the non-merged GRIs as separate institutions outside the university sector. The main arguments for integrating them in universities are enhanced quality as regards research, research based education, new educational opportunities for students and new links to other parts of society. The international position of Denmark in the research areas concerned could also be improved by an integration of the non-merged GRIs with universities.

## 5.6 Food Forum

In the framework of the merger processes the Danish agriculture and food industry made a plea for the establishment of one strong university for agricultural and food sciences; a plea that was not realised. Instead, the agricultural and food sciences have been placed in three universities, and the Danish Food Forum was established with a mandate to coordinate between the agricultural and food industry, the agricultural sector and the university sector. From the beginning the Food Forum was in a rather disadvantageous position since its terms of reference were rather unclear, and the Forum did not receive a sufficient budget of its own. This position is also reflected in the opinions of those involved with the Forum, ranging from strong support (“if the Forum did not exist it should be invented”), indifference, to strong criticism, and the suggestion to abandon it.

It is the impression of the Panel that the involved parties find that the mergers as such have not had a positive impact on the cooperation between the food and agricultural industry and the universities, partly as a result of the lack of coordination and cooperation between the

post-merger universities. Instead of cooperation, the specific areas covered by the Food Forum are characterised by more competition apparently making it difficult to initiate projects that would require the involvement of more than one university. An evaluation by the LMC (Centre for Advanced Food Studies) International Advisory Board has even drawn the conclusion that the inter-university competition might jeopardize the leading international position of the Danish food industry. Also the dissatisfying results of the Danish universities, especially in the KBBE part of the EU's FP7<sup>10</sup>, are partly blamed on the limited post-merger coordination between universities, agricultural sector, and industry. Furthermore the universities have not been able to increase the number of students in the programmes of direct relevance for the food and agricultural industry, while also the cooperation between the universities and Danish university colleges was seen as insufficient. Finally, there seems to be a lack of coordination with respect to the PhD schools in the areas in question.

All in all the Panel got the impression that, first, many of the participants are dissatisfied with the functioning of the Food Forum; second, the expectations with respect to the positive effects of the Food Forum and the university mergers on the number of students in food (and agricultural) related fields (especially in master's programmes), and on food (and agricultural) research (including an increase in EU funding) have not been realised.

From that starting point the Panel wonders whether the main underlying national issue is whether Denmark wants to maintain if not strengthen its leading role in agricultural and food industry production and export. Assuming that this is the case, the food and agricultural industry (and agricultural export) related university education and research activities can be supported and stimulated more effectively and transparently in the framework of a national 'Food strategy', including health and sustainable agriculture aspects (not unlike the Globalisation Strategy).



### **Recommendation: Develop a national food strategy**

- > Consider setting up a working group for the development of a national strategy addressing a national food strategy. The mandate of such a working group should also include the development of a more effective 'meeting point' for the food/agricultural industry interests and the universities (and other knowledge organisations) involved in teaching and research activities in food/agricultural fields.

From the observations the Panel has made it can be concluded that the Food Forum in its current set up is not functioning effectively. If the Danish Government wants to make the interaction between the food/agricultural industry and the public sector on the one side and the universities on the other side more effective, it could consider setting up a working group for the development of a national strategy addressing the above questions. The mandate of such a working group should also include the development of a more effective 'meeting point' for the food/agricultural industry interests and the universities (and other knowledge organisations) involved in teaching and research activities in food/agricultural fields.

The Danish food industry is a world leader, based on long traditions, and represents many important national interests. Consequently, the knowledge, skills and competence base for the food industry is a national strategic issue. If the leadership position of the Danish food

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<sup>10</sup> See note 5.

industry is to be maintained in the future, it is important to develop a national strategy for food industry and food industry related research and innovation. The main questions in this include first with respect to research and innovation:

- > What are the food and agricultural areas where Denmark is/wants to be world leader?
- > What kind of knowledge basis is needed? Is the current knowledge basis satisfying?
- > Which universities/university units are the nodes in the Danish food and agricultural industry focused knowledge basis? How can this basis be maintained and strengthened?
- > Is the research / knowledge production and application capacity sufficient (qualitatively and quantitatively)?
- > How does the Danish food and agricultural industry research capacity relate to international knowledge and research nodes?
- > How successful are Danish universities (and other units) in attracting competitive research funding, nationally and internationally (especially in the EU's FP7)?

Second, with respect to the education and training of people working as researchers in / leading the food and agricultural industry, as well as related areas such as food control, and agricultural sustainability, the main questions include:

- > What kind of master/PhD programmes does Denmark have?
- > What are the student behaviour factors that influence the enrolment level in these programmes?
- > How do the programmes relate to the training needs of industry?
- > Do the universities have satisfying lifelong learning structures?

## 5.7 Recommendations on mergers

In chapter 3 the Panel has posed the question whether the new Danish landscape of universities and research is adequate for best serving the interests of the Danish society and economy and whether the mergers have created a basis for stronger university profiles.

- > With respect to the individual universities, though the mergers are not yet fully materialised, the Panel finds overall positive effects from the integration of the GRIs and universities as well as the mergers between universities. The mergers have been change drivers for the universities. The Panel has found that the mergers have created an input for stronger university profiles and thereby improved the universities' capacity for strategic prioritising. As the question of university profiles did not exist as a key issue for the mergers, it might now be time for discussing the advantages and disadvantages of profiling the universities. The Panel therefore recommends a debate on university system diversity, aimed at determining what kind of diversity basis the system should have. The discussion may include possible targets for the university system as well as for each individual university when it comes to research output and impact. Such targets may be included in the development contracts and should be based on proposals from the universities.
- > The mergers have created a new Danish 'map of universities and research'. The Panel's overall impression is that this new landscape offers a potentially diverse research basis of both basic and applied research for the diverse educational programmes developed in recent years. Nevertheless, we recommend the adequacy of this new landscape to be discussed for serving the interests of the Danish society and economy. The Panel recommends the landscape to be adjusted with further mergers and other adjustments.

- > The three non-merged universities all have distinctive institutional profiles. The Panel finds, though, that the situation of ITU clearly differs from the situation of the other two non-merged universities. The IT University is overall too small and vulnerable to be able to operate in a satisfying way as a stand-alone university. Amongst other things, the vulnerability of the PhD education of ITU is high and the institutional basic research platform to support the PhD education, as well as the relationship to industry, is not sufficiently strong. The Panel therefore recommends the Ministry of Science, Technology and Innovation to start a dialogue with ITU for determining its future position in the Danish university landscape. The aim of this dialogue should be to identify one or more possible merger partners for ITU.
- > Concerning the still non-merged GRIs, the Panel recommends the government to reconsider the position of them as separate institutions outside the university sector. The Panel does not consider it within its competence to identify specific merger matches for the remaining unmerged GRIs. These decisions should be made on the basis of clear and transparent criteria in order to strengthen certain research areas, research based education and improved relations to other parts of society. The Ministry of Science, Technology and Innovation should develop criteria for strategic decision regarding the unmerged GRIs.
- > In recognising the methodological limitations, imposed by the very short period since the mergers, the evaluation framework also addresses the possible effects of the mergers on education, research, and innovation, as well as the universities' relationship with the private sector and with government-oriented research. The Panel finds it difficult to relate the international impact of research to the mergers, not only regarding the mentioned limitations, but also as "impact on research" is not operationalised clearly. The Panel recommends EU-funding to be further stimulated, especially regarding ERC and by taking leadership roles through coordination of Cooperation projects and networks.
- > The Panel has seen some new offerings in education as a result of the mergers and the competence from the GRIs has to some extent been introduced in study programmes. We recommend further exploitation of the opportunities created by the mergers, as well as regular reviews of programmes. In addition, we recommend an evaluation of the challenges and difficulties the Danish universities face in comparison with other European universities in developing and maintaining international collaborations in education, e.g. in the area of joint degree programmes.
- > As regards university relation to the private sector, the Panel recommends the Ministry of Science, Technology and Innovation, in collaboration with the universities, to initiate further investigations and develop a strategy regarding the Danish university-industry collaboration and the private sector funding of university research. The further strategy planning could take basis in the 2007 Innovation Action Plan, and should include specific actions to strengthen university-private sector collaboration, including private sector funding of university research.
- > The Panel recommends the Danish Government to make the interaction between the food/agricultural industry and the universities more effective. This may be based on the development of a national strategy, for instance, by setting up a working group. The mandate of such a working group should include an evaluation of the earlier mergers involving food/ agricultural institutions in order to develop a more effective arena for the food/agricultural industry interests and the universities and other knowledge organisations involved in teaching and research activities in food/agricultural fields.





## 6. ANNEXES

1. Terms of reference for the evaluation .....	72
2. Proposal for minimum contents of the 2009 evaluation of 18 November 2008.....	74
3. Brief presentation of the Evaluation Panel Members .....	77
4. Reference list of background documents for the evaluation.....	79
5. List of abbreviations used in the evaluation report.....	83
6. Meeting schedule for the evaluation, including programme for the Evaluation Panel's site visits in August.....	84
7. The Danish university sector – a factual overview .....	93



## ANNEX 1 TERMS OF REFERENCE FOR THE 2009 DANISH UNIVERSITY EVALUATION

### **Preamble**

With the changes of the university law in 2003 a comprehensive reform of the university management structure and a new status as self governing institutions for universities were implemented.

In 2007 this was followed by the merging of 12 universities and 13 government research institutions into 8 universities and 4 government research institutions.

The aim of the reforms in the university area was to provide universities with an enhanced capacity for strategic prioritization across their core areas of activity: education, research, and knowledge transfer, as well as with an enhanced ability to meet demands of society.

The purpose of the evaluation is to investigate the issues described in the Danish Parliament's resolution V9, as well as issues concerning the development of degrees of freedom for the universities, cf. below.

The creation, through the reform of 2003, of a clear and transparent management structure including appointed leaders and government boards with a majority of members from outside the university, forms the basis for the evaluation.

### **The content of the evaluation**

The Danish Parliament's resolution V9 (Denmark's Liberal Party, The Conservative People's Party, and The Danish Social Democrats) of November 16, 2006 sets out the framework for the evaluation:

"The Danish Parliament accepts the answer from the Minister of Science, in that it:

- > Notes that the purpose of the mergers are more education, greater international impact of research, more innovation and collaboration with industry, the attraction of more research funding from the EU, as well as a continued competent service in the area of government commissioned research.
- > Notes that the institutions' self-determination has been the core principle in the mergers of the universities and the government research institutions, which are to come into effect on January 1, 2007.
- > Underlines the importance of the university law's provisions concerning research freedom and employees' freedom to participate in the public debate.
- > Notes that the Minister of Science in 2009 will conduct an evaluation of the extent to which the purpose of the university mergers has been achieved.
- > Notes that the Minister of Science in 2009 furthermore will conduct an evaluation of the state of codetermination for employees and students at the universities, the free academic debate, and research freedom, under the current university law."

In addition the development of degrees of freedom for the universities will be included in

the evaluation. This will entail an investigation of the development and effect of both the regulatory framework for universities and the regulation of universities through financial instruments.

Relevant stakeholders within the different subject areas of the evaluation, including employees, students, and management representatives from different levels of the university organizations, will be consulted as part of the evaluation process.

The evaluation will be commenced in the autumn of 2008 and finalized before the end of 2009.

#### **Evaluation panel**

The evaluation will be conducted independently, cf. the explanatory notes for *The Draft Bill to Changing the University Act (L140) of 31 January 2007*.

The evaluation will be organized and undertaken by an independent panel of experts appointed by the minister of science. The panel can request analysis and studies from the Ministry of Science, Technology and Innovation or private consultants. Private consultants will be chosen on the basis of a public tender. The panel will be given secretary assistance independently of the Ministry of Science, Technology and Innovation.

## ANNEX 2 PROPOSAL FOR MINIMUM CONTENTS OF THE 2009 EVALUATION OF 18 NOVEMBER 2008

Based on the Danish Parliament's resolution V9 (Denmark's Liberal Party, Conservatives, The Social Democrats) of November 16, 2006 as well as the wish to examine the status of the development of degrees of freedom for the universities, the independent evaluation in the university area, which the minister of science must undertake in 2009, will focus on five main areas.

- A. Fulfillment of the purpose of university mergers
  - 1. More education
  - 2. Greater international impact of research
  - 3. More innovation and collaboration with industry
  - 4. Attraction of more EU-funding
  - 5. Continued competence in commissioned services to government
- B. Codetermination for employees and students
- C. The free academic debate
- D. Research freedom
- E. Degrees of freedom

### **Expected surveys and analysis**

The evaluation will be based on a number of surveys and analysis. Where requested data is already available, as is the case for most statistical data, UBST will be responsible for the analysis. Where new material needs to be produced, e.g. in interviews and surveys, private consultants will be responsible.

In addition to the following analysis and surveys, the evaluation panel will also be provided with statements from the universities concerned with substantial issues related to the evaluation's subject areas.

### *Area A*

- 1. The effect of the mergers on university education will be examined. This will include data on the establishment of new education programs, student recruitment, and the development of new subject areas.
- 2. The effect of the mergers on the international impact of research will be examined. This will include data on university publication activities, the attraction of foreign research funding, university ranking, the international recruitment of students, as well as statements from the universities.
- 3. The effect of the mergers on universities' performance within innovation and collaboration with industry will be examined. This will include statistical material on university-industry links as well as on patenting.
- 4. The attraction of EU-funding will be examined based on the success-rate of Danish universities in EU-applications.
- 5. The state of Danish universities activities in the area of government commissioned services will be examined through the analysis of statistics on the number and size of contracts between government ministries and universities.

*Area B*

The status of codetermination for employees and students at the Danish universities will be examined. This will be done through a survey of the actual organization of codetermination at all levels of the different universities. Included in this will be an overview over the internal organization of each university, an analysis of the content of the different committees' work based on agendas and minutes, and interviews with leaders from all levels of the universities, as well as student and employees, and including members of study councils and academic councils.

*Area C*

The state of the free academic debate at Danish universities will be examined. This will be done through an examination of the legal and organizational framework for the academic debate, through the analysis of statistics on the participation of researchers in the public debate, and through conducting a survey among researchers.

*Area D*

The state of research freedom at the Danish universities will be examined both in relation to government commissioned research and university research in general. Both the overall academic freedom of the universities as described in article 2.2 of the university law, and the research freedom of the individual researcher as described in article 16a.7 and article 17.2. The analysis will include statistics on university financing and a survey among researchers.

*Area E*

The development of degrees of freedom for the universities will be examined. The analysis will include analysis of the development of the regulatory framework for universities - including the regulation of university education - as well as financial incentives, which universities respond to. Further more, leaders at all level of the university will be interviewed.

Universities, which were not part of the merger process, will be included in all areas of the evaluation. Government research institutions that were not part of the merger process will be included when relevant.

**Evaluation panel**

The evaluation will be organized and carried out by an international panel of experts.

The panel can request further studies and analysis to use in the evaluation.

The evaluation panel will have secretary assistance independently of the Ministry of Science, Technology and Innovation. The secretary assistance will include practical and organizational tasks, as well as help in producing the panel's final report.

## Appendix 1 Draft list of expected analysis for the 2009-evaluation

Analysis	Subject area	Quantitative data	Qualitative data	Conducted by
A1	Education	Number of new education programs Number of enrolled students Development of new subjects		Danish University and Property Agency (UBST)
A2	International impact of research	Bibliometrics / citations Publications Ranking International research funding Ph.D.-school enrollment		UBST
A2	International reputation of institutions		Statement from universities	
A3	Innovation and collaboration with industry	Collaboration with industry FI's entrepreneurship barometer DEA's industry-research barometer Statistics on innovation Patents		UBST
A4	Attraction of EU funding	Application success rate		UBST
A5	Competence in the area of government commissioned research	Number and size of reports delivered to state agencies	Statement from universities	
A5	Competence in the area of government commissioned research		Interviews with researchers Interviews with "costumers"	Consultant
B	Co-determination	Organizational framework at particular universities	Statement from universities	
B	Co-determination		Interviews with students and employees, including members of study councils and academic councils. Analysis of meeting agendas and minutes.	Consultant
C	Free academic debate - framework and statistics	Description of framework. Statistics on researchers' media appearances.	Statement from universities	UBST Consultant
C	Free academic debate - perceived experience		Survey among researchers	Consultant
D	Research freedom for universities	The relative proportions of basic funding and competitive funding.	Statement from universities	
D	Research freedom for researchers		Survey among researchers Interviews with researchers regarding perceived experience	Consultant
E	Degrees of freedom	Overview of financial instruments regulating universities, the use of development contracts in regulating universities, and the regulatory framework of university education. The development in each of above areas in recent years.		UBST
E	Degrees of freedom		Interviews with rectors, deans and heads of department.	Consultant

## ANNEX 3 BRIEF PRESENTATION OF THE EVALUATION PANEL MEMBERS



From left to right: Georg Winckler, Elaine El-Khawas, Peter Maassen, Agneta Bladh and Abrar Hasan

Brief presentations of the Panel Members are indicated in the following:

### **Agneta Bladh (Panel Chair)**

Agneta Bladh holds a PhD in Political Science. She has been rector at University of Kalmar since 2004. She has a background as Director General at the Swedish National Agency for Higher Education 1995-1998 and as State Secretary at the Swedish Ministry of Education and Science 1998-2004. Agneta Bladh was a member of the recent Norwegian government commission on higher education (Stjernö-utvalget). Agneta Bladh has also been member of the OECD review teams on tertiary education in Denmark (1997) and China (2000). She was a member of the Nordic Science Policy Council 1995-98. Since 2008, Agneta Bladh is a member of the Administrative Board of the International Association of Universities (IAU).

### **Elaine El-Khawas**

Elaine El-Khawas is a professor of education policy at George Washington University. She has been a consultant and advisor for UNESCO and OECD. She participated in the evaluation of the Danish university policies in 2003 and in the evaluation of research and development in the field of education in Denmark in 2004.

### **Abrar Hasan**

Abrar Hasan holds a PhD in Economics. Currently a policy consultant to governments and international organisations, Dr Hasan is a Consultant Fellow at International Institute for Educational Planning at UNESCO in Paris. In 2007 he retired from the OECD after serving as Head of Education and Training Policy Division since 1992. Dr Hasan has conducted comparative education and labour market policy studies for over thirty years, focusing primarily on the OECD countries but also covering many developing countries. He is currently writing a book for Springer on comparative education policy in OECD countries, covering the period 1990 - 2007.

### **Peter Maassen**

Peter Maassen is professor in Higher Education Studies, and member of the Department Board with responsibility for research, at the Institute for Educational Research, Faculty

of Education, University of Oslo. He is currently a member of the Board of University College Oslo (Høyskole i Oslo), and of the Board of the Centrum für Hochschulentwicklung (CHE). Previously he has been the director of the Center for Higher Education Policy Studies (CHEPS), University of Twente, the Netherlands. He has been a member of the recent Norwegian governmental commission on higher education (Stjernö-utvalget), as well as of OECD review teams of Japan and Finland. He has produced over 100 international publications on higher education policy issues.

**Georg Winckler**

Prof. Georg Winckler studied economics at Princeton University and at the University of Vienna, PhD 1968. Since 1978 he has been Professor of Economics and since 1999 Rector of the University of Vienna (reelected 2003 and 2007). From 2000 to 2005 he was President of the Austrian Rectors' Conference. From 2004 to 2007 he was a member of EURAB (European Union Research Advisory Board). Prof. Winckler was Vice President of the EUA (European University Association) from 2001-2005 and President of the EUA from 2005-2009. Since April 2008 he has been a member of ERAB (European Research Area Board) and, since February 2009, Member of the PEOPLE Advisory Group, European Commission, Brussels.



## ANNEX 4 REFERENCE LIST OF BACKGROUND DOCUMENTS FOR THE EVALUATION

Encl. no	Overview of enclosures
A1	DUPA: Fulfilment of the purpose of the mergers
A2	DUPA: The merger process
A3	DUPA: Fact sheet on the Danish universities
A4	DUPA: Fact sheet on present and former government research institutions
A5	DUPA: The process regarding The Kennedy Centre
A6	DUPA: International tendencies regarding university mergers
A7	DUPA: The Danish quality assurance system
A8	ACE-Denmark: The development of the Danish quality assurance system
A9	DUPA: Trend and background note on the educational area
A10	DUPA: Trend and background note on the research area
A11	DUPA: Trend and background note on the innovation area
A12	DASTI: Trend and background note on the EU-funding area
A13	DUPA: Trend and background note of the research-based public-sector services
A14	DUPA: The National Food Forum
B1	DUPA: Codetermination for employees and students
B2	DUPA: The existing institutional and legal framework for codetermination
B3	DUPA: Participation in elections at the universities
C1	DUPA: Free academic debate
C2	DUPA: The existing institutional and legal framework for the academic debate
C3	DUPA: Researchers participation in public and academic debate
D1	DUPA: Research freedom
D2	DUPA: The existing institutional and legal framework for the research freedom
D3	DUPA: Research financing analysis
D4	DASTI: Description of the Danish public research financing system
D5	DUPA: Development in the taximeter for education
E1	DUPA: Autonomy
E2	DUPA: Theme paper on levels of autonomy
E3	DUPA's reply to universities' response regarding levels of autonomy
E4	DUPA: International debate on autonomy
E5	DUPA: The financial regulation of the Danish Universities
E6	DUPA: The legal regulation of the Danish Universities
E7	DUPA: Development contracts
E8	DUPA: Academic Staff at the universities
E9	DUPA: Factual changes to the theme paper on autonomy
F1	Previous evaluations (not available on the Evaluation web site)
F2	DUPA: Independent institutions in the public sector administration
F3	DUPA: Equity and liquidity
F4	DUPA: Analyses of the universities' and the Government Research Institutions' financing and organisation
F5	DUPA: Overview of legal acts on the universities (Danish)
F6	DASTI: Research evaluation guidelines
F7	DASTI: Action plan for research evaluation
G1a	Aalborg University – Statement
G1b	Aalborg University - Statement regarding autonomy
G1c	Aalborg University - Reply regarding autonomy
G2a	University of Aarhus - Statement

Encl. no	Overview of enclosures
G2b	University of Aarhus - Statement regarding autonomy
G2c	University of Aarhus - Statement reply regarding autonomy
G2d	University of Aarhus - Strategy 2008-2012
G3a	Copenhagen Business School – Statement
G3b	Copenhagen Business School - Statement regarding autonomy
G3c	Copenhagen Business School - Statement reply regarding autonomy
G4a	IT-University – Statement
G4b	IT-University - Statement regarding autonomy
G5a	Roskilde University - Statement
G5b	Roskilde University - Statement regarding autonomy
G6a	Technical University of Denmark (DTU) - Statement
G6b	DTU - Statement regarding autonomy
G6c	DTU - Strategy 2008-2013
G6d	DTU – from the DTU newspaper (in Danish)
G6e	DTU – new master programs (in Danish)
G6f	DTU – new further education degrees (in Danish)
G6g	DTU – statutes (in Danish)
G6h	DTU – rector’s speeches (in Danish)
G7a	University of Copenhagen (KU) - Statement
G7b	University of Copenhagen (KU) - Statement regarding autonomy
G7c	University of Copenhagen (KU) - Statement reply regarding autonomy
G7d	KU - Appendix 1 – method and process
G7e	KU - Appendix 2 – Strategy for University of Copenhagen
G7f	KU – Appendix 3 – merger basis 2006 (in Danish)
G7g	KU – Appendix 4 – merger finances (in Danish)
G7h	KU – Appendix 5 – interdisciplinary research
G7i	KU – Appendix 8 – organisation chart
G7j	KU - Appendix 7 – Report on Academic Councils (in Danish)
G7k	KU – Appendix 8 – organisation of faculties (in Danish)
G7l	KU – Appendix 9 – Section 17.2 in the university law (in Danish)
G8a	University of Southern Denmark (SDU) – Statement
G8b	University of Southern Denmark (SDU) - Statement regarding autonomy
G8c	SDU – Attachment 1 – slide with presentation of merger
G8d	SDU – outcome of consultation at Faculty of Engineering
G8e	SDU – outcome of consultation at Faculty of Health Science
G8f	SDU – outcome of consultation at Faculty of Humanities
G8g	SDU – outcome of consultation at the University Library
H1	Universities Denmark: Autonomy
H2	Universities Denmark: Position papers on autonomy
H3	Universities Denmark: Report: Research-based public-sector services
H4	Universities Denmark: Autonomy –reply
H5	Universities Denmark: Forum for Research-based public-sector services 090809
I1a	Statement from EUS - The Geological Survey of Denmark and Greenland
I1b	Statement from GEUS
I1c	GEUS publication catalogue 2008
I1d	GEUS: Evaluation report - Water resources - 2007
I1f	GEUS: Evaluation of Oil and Gas related Research - 2001
I1g	GEUS: Evaluation report - programme area 4
I1h	GEUS: Evaluation Report - programme area 5
I1i	GEUS: Act 536 on GEUS.
I1j	GEUS: Bill for GEUS act with comments as introduced
I1k	GEUS: Statutes for Geocenter Danmark

Encl. no	Overview of enclosures
I1l	GEUS: Executive order on evaluation of research at GEUS
I1m	GEUS: List of members of the GEUS board of directors
I2a	NFA – The National Centre for Working Environment - cover letter
I2b	NFA - Statement
I3a	SFI – The Danish National Centre for Social Research – Statement
I3b	SFI evaluation cover letter to panel
I3c	SFI: Evaluation report
I4	The Kennedy Centre - Statement
J1a	Ministry of Climate and Energy - Statement
J1b	Ministry of Climate and Energy – Danish Energy Agency-statement
J1c	Ministry of Climate and Energy – Danish North Sea Partner-statement
J1d	Ministry of Climate and Energy – Ministry of Environment – statement
J1e	Ministry of Climate and Energy – Ministry of Science etc. – statement
J1f	Ministry of Climate and Energy – Bureau of Minerals etc. – statement
J1g	Ministry of Climate and Energy – GEUS science evaluation
J1h	Ministry of Climate and Energy – Minister's letter to GEUS
J2	Ministry of Economic and Business Affairs – Statement
J3a	Ministry of Employment – Statement
J3b	Ministry of Employment – cover letter
J3c	Ministry of Employment – international evaluation of NFA
J4a	Ministry of Environment – Statement
J4b	Ministry of Environment – toxicology statement
J4c	Ministry of Environment – geodesy and mapping statement
J5a	Ministry of Food, Agriculture and Fisheries - Statement
J5b	Contract between Aarhus University and the Ministry of Food etc.
J5c	Appendix 1a to the contract between Aarhus University and the Ministry of Food etc.
J5d	Appendix 1b to the contract between Aarhus University and the Ministry of Food etc.
J5e	Appendix 2 to the contract between Aarhus University and the Ministry of Food etc.
J5f	Appendix 3 to the contract between Aarhus University and the Ministry of Food etc.
J5g	Appendix 4 to the contract between Aarhus University and the Ministry of Food etc.
J5h	Framework agreement between Ministry of Food etc. and Technical University of DK
J5i	Performance Agreement between Ministry of Food etc. and DTU
J5j	Performance Agreement - Danish Veterinary and Food Adm. and DTU Food
J5k	Performance Agreement - Danish Veterinary and Food Adm. and DTU Veterinary Inst.
J6a	Ministry of Health and Prevention
J6b	Ministry of Health and Prevention – framework agreement between Ministry of Health etc. and University of Southern Denmark
J6c	Publications 2003 Statens Institut for Folkesundhed (Danish)
J6d	Publications 2004 Statens Institut for Folkesundhed (Danish)
J6e	Publications 2005 Statens Institut for Folkesundhed (Danish)
J6f	Publications 2006-2008 Statens Institut for Folkesundhed (Danish)
J6g	Ministry of Health and Prevention - statement of Kennedy Centre
J6h	The Kennedy Centre Annual Report (in Danish) 2008
J7	Ministry of Social Welfare – Statement
J8	Ministry of Transport – Statement
K1	Danish Association of the Pharmaceutical Industry
K2	Danish Consumer Council
K3	DI – Confederation of Danish Industry
K4	The Agricultural Council of Denmark
L1	Consultancy Report: Research-based public-sector services
L2	Consultancy Report: Co-determination
L3	Consultancy Report: Academic freedom

Encl. no	Overview of enclosures
L4	Consultancy Report: Freedom of research
L5	Consultancy Report: Levels of autonomy
L6	Consultancy Report: Joint appendix to all reports
M1	AC - Danish Confederation of Professional Associations
M2	Representatives of students and university teachers
M3	Confederation of Danish Industry
M4	Danish Chamber of Commerce
M5a	Petition for a new University Act
M5b	Petition – press release (Danish)
M5c	Petition – all signatures (Danish – not public)
M5d	Petition – article (Danish)
M5e	Petition – distribution of signatures
M5f	Petition (Danish)
M6	DJOEF – Danish Association of Lawyers and Economists
M7	Academic Council of the Faculty of Social Sciences, Aarhus University – statement

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## ANNEX 5 LIST OF ABBREVIATIONS USED IN THE EVALUATION REPORT

Abbreviation	
AAU	Aalborg University
AC	Danish Confederation of Professional Associations
ACE Denmark	Accreditation Agency for Higher Education
ASB	Aarhus School of Business
AU	Aarhus University
BRIC	Brazil, Russia, India, and China
CBS	Copenhagen Business School
CERN	European Organization for Nuclear Research
CHE	Centrum für Hochschulentwicklung
DFF	Danish Food Forum
DTU	Technical University of Denmark
DUPA	Danish University and Property Agency
ECTS	European Credit Transfer and Accumulation System
EHEA	European Higher Education Area
ERA	European Research Area
ERC	European Research Council
EU	European Union
FP	Framework Programme
FP7	Seventh Framework Programme
GDP	Gross Domestic Product
GEUS	Geological Survey of Denmark and Greenland
GOVRD	Government Research and Development
GRI	Government Research Institute
HERD	Higher Education Research and Development
ITU	IT University of Copenhagen
KBBE (FP7)	Knowledge Based Bio-Economy (food, agriculture and fisheries, biotechnology)
KU	University of Copenhagen
LMC	Centre for Advanced Food Studies
NFA	National Research Centre for the Working Environment
NIFU-STEP	Norsk institutt for studier av innovasjon, forskning og utdanning
NIH	National Institutes of Health
NSF	National Science Foundation
OECD	Organisation for Economic Co-operation and Development
OSH	Occupational Safety and Health
R&D	Research and Development
RUC	Roskilde University
SBI	Danish Building Research Institute
SDU	University of Southern Denmark
SFI	Danish National Centre for Social Research
SMEs	Small and Medium sized Enterprises
UK	United Kingdom
US	United States of America
WPA	Workplace Assessments

## ANNEX 6 MEETING SCHEDULE FOR THE EVALUATION, INCLUDING PROGRAMME FOR THE EVALUATION PANEL'S SITE VISITS IN AUGUST.

### Panel's Meeting schedule

All Panel meetings have taken place in Copenhagen, except the 4<sup>th</sup> meeting. The tour was to all Danish Universities.

1 <sup>st</sup> Panel meeting	10 <sup>th</sup> December 2008 (Copenhagen)
2 <sup>nd</sup> Panel meeting	30 <sup>th</sup> April 2009 (Copenhagen)
Meeting with stakeholders	12 <sup>th</sup> May 2009 (Copenhagen)
3 <sup>rd</sup> Panel meeting	14 <sup>th</sup> -15 <sup>th</sup> June 2009 (Copenhagen)
Tour at universities and meetings with stakeholders	20 <sup>th</sup> -28 <sup>th</sup> August 2009 (Copenhagen, Aalborg, Aarhus, Odense)
4 <sup>th</sup> Panel meeting	4 <sup>th</sup> -5 <sup>th</sup> October 2009 (Vienna)
5 <sup>th</sup> Panel meeting	1 <sup>st</sup> -2 <sup>nd</sup> November 2009 (Copenhagen)

### Programme for the Evaluation Panel's Tour at the Danish Universities and meetings with other stakeholders 20<sup>th</sup>-28<sup>th</sup> August 2009

Version 19th August 2009

#### Thursday 20th August 2009

10.00 - 10.30	<b>Panel meeting with the DUPA secretariat</b> Meeting room B Ministry of Science, Technology and Innovation, Bredgade 43
10.30 - 13.15	<b>Panel meeting</b> Meeting room B
13.15 - 14.00	<b>Lunch</b> - panel and internal secretariat Meeting room A
14.00 - 15.30	<b>Ministries commissioning research at universities</b> Meeting room B Ministry of Science, Technology and Innovation, Bredgade 43 <u>Ministry of Environment</u> Deputy Director General Helle Pilsgaard, Agency for Spatial and Environmental Planning Special Adviser Susanne Martens

Ministry of Food, Agriculture and Fisheries

Head of Division Morten Ejrnæs

Ministry of Economic and Business Affairs

Head of Division Lasse Sundahl, Danish Enterprise and Construction Agency (arrives 14.45)

Ministry of Transport

Head of Division Tine Lund Jensen

Head of Section Anne Louise Kristiansen

Ministry of Health and Prevention

Head of Division Katrine Schjønning

**15.30 - 17.00 Non-merged institutions and their ministries**

Meeting room B

Ministry of Science, Technology and Innovation, Bredgade 43

Ministry of Climate and Energy

Head of Section Line Skou Hauschildt

GEUS – The Geological Survey of Denmark and Greenland

Chair of Board Per Buch Andreasen

Director Johnny Fredericia

Deputy Director Bjørn Kaare Jensen

Deputy Director Getruer Christiansen

Ministry of Employment

Head of Division Søren Kryhmand

NFA – The National Centre for Working Environment

Director Palle Ørbæk

Ministry of Interior and Social Affairs

Head of Division Jens Kristian Poulsen

Head of Section Carsten Skovgaard Nielsen

Head of Section Palle Dam Leegaard

SFI – The Danish National Centre for Social Research

Chair of Board Peter Nannestad

Director Jørgen Søndergaard

Ministry of Health and Prevention

Head of Division John Erik Pedersen

Special Adviser Jacob Studsgaard

The Kennedy Centre

Director Karen Brøndum-Nielsen

Deputy Director Inger Marie Bruun-Vierø

Research Professor Zeynep Tümer

**17.00 - 18.00 The Danish Confederation of Professional Associations's negotiation preparatory committee on the university and research area (AC/FUF)**

Meeting room B

Danish Ministry of Science, Technology and Innovation, Bredgade 43

Ingrid Stage, chair of AC/FUF and chair of DM, Dansk Magisterforening

Associate Professor Ole Sonne, Danish Medical Association's representative in AC/FUF

Associate Professor Leif Søndergaard, Member of Board in DM

Senior Adviser Philip Nordentoft, AC

**Friday 21st August 2009**

8.30 - 12.15	<b>University of Copenhagen</b> Udvalgsværelse 3 og 4, Nørregade 10, opgang N	
8.30 - 8.45	<b>Management</b> Chair of Board Bodil Nyboe Andersen Rector Ralf Hemmingsen Pro-rector Lykke Friis University Director Jørgen Honoré Chief Adviser Torben Rytter Kristensen	
8.45 - 10.00	<b>Academic staff 1</b> Appointed by collaboration committee Associate Professor Henrik prebensen Associate Professor Leif Søndergaard Associate Professor Thomas Vils Pedersen	<b>Academic staff 2</b> Appointed by deans Professor Margit Warburg Professor Peter Gundelach Associate Professor Ylva Hellsten Professor, dr. scient. Harald S. Hansen Professor Merete Fredholm Professor Kirsten Busch Nielsen Associate Professor Mikael Rask Madsen Professor, dr. med. Niels Tommerup
10.00 - 10.15	<b>Break</b>	
10.15 - 11.15	<b>Students</b> Jan Nejd Rasmussen Louise Lipczak Ronnie Taarnborg Catherine Lind  All participants are members of The Students Council at University of Copenhagen	<b>Technical and administrative staff</b> Appointed by deans Special Adviser Katja Sander Johansen Head of Section Sune Germann Jensen Department administrator Maja Puk Nielsen Laboratory coordinator Anette L. Eriksen Department administrator Margit Bendtsen Head of Section Peter Haugegaard Laugesen Research Adviser Hans Christian Køie Poulsen Special Adviser Maj Hendin Leth-Espensen  Appointed by collaboration committee Laboratory technician Joan Lykkeaa Librarian Lene Kaad Ingrid Kryhlmand
11.15 - 12.15	<b>Management</b> Chair of Board Bodil Nyboe Andersen Rector Ralf Hemmingsen Pro-rector Lykke Friis University Director Jørgen Honoré Chief Adviser Torben Rytter	
14.00 - 17.00	<b>Roskilde University</b>	
14.00 - 14.30	<b>Welcome by rectorat</b> Rector Henning Salling Olesen Pro-rector Jørgen Ole Bærenholdt	
14.30 - 15.45	<b>Members of academic council, liaison committee</b> Associate Professor Leif Emil Hansen Associate Professor Niels Christian Juul	<b>Academic forum and student representatives</b>  Professor Mogens Niss Laboratory Senior Assistant Marianne



	Laboratory Senior Assistant Anne-Grete Winding Student Kirstine Fabricius Student Torben Holm-Lauritzen	Lauridsen
15.45 - 17.00	<b>Board and management</b> Chair of Board Christian Nissen Member of Board Helge Hvid, internal member Member of Board Rector Henning Salling Olesen Pro-rector Jørgen Ole Bærenholdt University Director Peter Laurizen Heads of department Special Advisor Maria Volf Lindhardt	

**Monday 24th August 2009**

8.00 - 10.00	<b>IT-University of Copenhagen</b>	
8.00 - 8.35	<b>Academic staff</b> Professor Jakob Bardram Visiting Professor Randi Markussen Associate Professor Kasper Østerbye	
8.35 - 8.40	Break	
8.40 - 9.15	<b>Students</b> Kasper Videbæk Nielsen Mads Ravn Signe Geckler Jørgensen	<b>Technical and administrative staff</b> Academic Staff Malene De Bruin Special Adviser Hanne Sørensen
9.15 - 9.20	Break	
9.20 - 10.00	<b>Board and management</b> Chair of Board Mogens Munk-Rasmussen Member of Board Jon Wulff Petersen Member of Board Lisbeth Zornig Andersen Rector Mads Tofte Pro-rector Jørgen Staunstrup Head of Department Jens Christian Godskesen	

13.00 - 16.00	<b>Aalborg University</b> Konsistorialesalen på 1. sal i Studenterhuset, Gammeltorv 10	
13.00 - 13.45	<b>Board and management</b> Chair of Board Frank Jensen Deputy Chair of Board Birgitte Possing Academic Representative Kenn Steger-Jensen Rector Finn Kjærdsdam Pro-rector Hanne Kathrine Krogstrup University Director Peter Plenge Dean Frede Blaabjerg, The Faculties of Engineering, Science and Medicine Dean Allan Næs Gjerding, Faculty of Social Sciences Dean Lone Dirckinck-Holmfeld, Faculty of Humanities	

	Chief Librarian Niels-Henrik Gylstorff, Aalborg University Library Director Thorkild Ærø, Danish Building Research Institute (SBI) Head of Secretariat Lene Krogh-Jørgensen, Management Secretariat Special Adviser Niels Dahl Thellufsen, Management Secretariat	
13.45 - 14.30	<b>Academic staff I</b> Senior Researcher Jacob Norvig Associate Professor Jesper Lindgaard Christensen Professor Peter Kragh Jespersen	<b>Academic staff 2</b> Associate Professor Lars Bo Henriksen Associate Professor Lars Andersen Associate Professor Jens Kirk
14.30 - 15.15	<b>Students</b> Chair Thea Kristensen, Studentersamfundet (Student organisation at AAU) Lasse Brunø Morten Tychsen	<b>Technical and administrative staff</b> Assistant Engineer Per Knudsen Head of Division Lisbeth Rosted
15.15 - 16.00	<b>Management</b> Rector Finn Kjærdsdam Pro-rector Hanne Kathrine Krogstrup University Director Peter Plenge Head of Secretariat Lene Krogh-Jørgensen, Management Secretariat Special Consultant Niels Dahl Thellufsen, Management Secretariat	

**Tuesday 25th August 2009**8.15 **Departure hotel**

8.30 - 12.15	<b>Aarhus University</b> Rektoratets mødelokale, bygn. 1430, 1. etage	
8.30 - 9.30	<b>Board and management</b> Chair of Board Jens Bigum Rector Lauritz B. Holm-Nielsen Pro-rector of the strategic area Søren Elkjær Frandsen University Director Jørgen Jørgensen	
9.30 - 10.30	<b>Academic staff 1 – old Aarhus University</b> Associate Professor Søren Pold Professor John Michael Hasenkam Associate Professor Tonny Brems Knudsen Professor Per Ingeman Professor Klaus Mølmer Professor Dion Sommer Associate Associate Professor Finn Folkmann Associate Professor Per Dahl	<b>Academic staff 2 – merged institutions</b> Research Professor Bent Tolstrup Christensen Senior Researcher Rasmus Ejrnæs Professor Paul Krüger Andersen Research Programme Manager Steen Høyrup Pedersen Professor Susan Wright Researcher Helle Ørsted Nielsen Senior Researcher Jacob Sehested
10.30 - 11.30	<b>Students</b> Svend Dyrholm Maja Viola Buskbjerg Anna Bagger Ronni Mikkelsen Rasmus Kerrn Thea Frederiksen Mette Tovsigs	<b>Technical and administrative staff</b> Biomedical Scientist Anne Marie Bundsgaard HK Joint Union Representative Anna Louise Plaskett TAP Joint Union Representative Aase Pedersen Buildings Manager Uffe Pilegaard Larsen International Students Adviser Steen Weisner Member of technical and administrative staff Michael Stjernholm

11.30 - 12.00	<b>Management</b> Chair of Board Jens Bigum Rector Lauritz B. Holm-Nielsen Pro-rector of the strategic area Søren Elkjær Frandsen University Director Jørgen Jørgensen
15.00 - 16.30	<b>The Danish Confederation of Professional Associations (AC)</b> Rectors meeting room Campusvej 55, Odense Chair of AC Erik Jylling Director Martin Teilmann Chief analyser Birgit Bangskjær
16.30 - 18.00	<b>Universities Denmark</b> Rectors meeting room, Campusvej 55, Odense Rector Jens Oddershede, University of Southern Denmark Rector Lauritz Holm-Nielsen, Aarhus University Rector Ralf Hemmingsen, University of Copenhagen
19.00 -	<b>Dinner with Universities Denmark</b> Participants Universities Denmark Rector Jens Oddershede, University of Southern Denmark Rector Lauritz Holm-Nielsen, Aarhus University Rector Ralf Hemmingsen, University of Copenhagen  Participants Panel members, internal secretariat and Pernille Meyn Milthers

**Wednesday 26<sup>th</sup> August 2009**

9.00 - 12.00	<b>University of Southern Denmark</b>	
9.00 - 10.15	<b>Board and management</b> Room O 77 Member of Board C.C. Nielsen Member of Board Karsten Ohrt Rector Jens Oddershede Pro-rector Bjarne Graabech Sørensen University Director Per Overgaard Nielsen	
10.20 - 11.10	<b>Academic staff 1</b> Room O 77 Professor Anne-Marie Mai Professor Ewa Roos Professor Ole G. Mouritsen Head of Department Lars Dyhr Professor Dannie Kjeldgaard	<b>Academic Staff 2</b> Room O 79 Professor, Head of Research Morten Grønbæk Associate Professor Bjarne Andersen ph.d.-student Marie Kruse ph.d.-student Bjarke Liboriussen
11.15 - 12.05	<b>Students</b> Room O 77 Jens Theil Jesper Nielsen Krogh	<b>Technical and administrative staff</b> Room O 79 Member of Board, senior assistant Bodil Kjærsgaard

Lasse Rahn Freja Brandhøj Maren Astrup Nadja Frederiksen	Special Adviser Hjørdis Albrektsen Chief Adviser, Deputy Head Annette Schmidt Correspondent Inger Rose Hansen Laboratory Technician Irene Mose Andersen Administrative Officer Kirsten Zachariassen
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15.30 - 17.30	<b>Danish Ministry of Science, Technology and Innovation</b> Meeting room B Danish Ministry of Science, Technology and Innovation, Bredgade 43 Permanent Secretary Uffe Toudal Pedersen Director General Jens Peter Jacobsen Director General Inge Mærkedahl Head of Division Jacob Fuchs Special Adviser Gitte Bække Special Adviser Pernille Meyn Milthers
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17.30 - 19.00	<b>Ministry of Finance</b> Meeting room B Danish Ministry of Science, Technology and Innovation, Bredgade 43 Head of Division Andreas Berggreen Chief Adviser Peter Barslund Special Adviser Nanna Meilbak
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**Thursday 27<sup>th</sup> August 2009**

08.15 - 12.00	<b>Technical University of Denmark</b>	
8.15 - 9.00	<b>Management</b> Room 3 (101) Chair of Board Sten Scheibye Rector Lars Pallesen Vice-director Dan Jensen Chief Adviser Henrik Täckholm	
9.00 - 9.15	Break	
9.15 - 10.00	<b>Academic staff 1</b> Professor Knut Conradsen, prorector Professor Ole Hassager Associate Professor Niels Engholm Henriksen Professor Dorte Juul Jensen Professor Jens Kehlet-Nørskov Professor Jens Juul Rasmussen Room 3 (101)	<b>Academic staff 2</b> Professor Anders Bjarklev Professor Anne Meyer Associate Professor Bo Friis Nielsen Professor Kim Pilegaard Professor Carsten Rode
10.00 - 10.15	Break	
10.15 - 11.15	<b>Students</b> President Torben Schmidt Ommen, Polyteknisk Forening Stinne Marie Præstegaard Chair Thomas Krüger, DSE (The Students Business Contact)	<b>Technical and administrative staff</b> Librarian Helle Warburg Machine operator Jan Horne Hansen Laboratory Technician Mogens Hulmose Kristensen Administrative Officer Janne Kofod Lassen

	President Johan Grundtvig, BEST (Board of European students of Technology) Room 3 (101)	Research Technician Søren Robert Nimb
11.15 - 11.30	Break	
11.30 - 12.00	<b>Visit to DTU-Mecanics</b> Bus transports all to the visit at DTU-Mecanics Head of Department Henrik Carlsen, Professor Professor Preben Terndrup Pedersen Professor Jens Nørkær Sørensen Rector Lars Pallesen	

13.30 - 14.30	<b>HK (trade union for commercial and clerical employees)</b> Meeting room 21 Chair of HK/State Thora Petersen Chair of the National Association for Higher Educational Institutions in HK/State Aase Pedersen Specialist Secretary Hans-Henrik Nielsen, HK/State	
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15.00 - 18.00	<b>Copenhagen Business School</b>	
15.00 - 15.10	<b>Welcome</b> by Johan Roos, rector of CBS Augustinus Fonden board meeting Room	
15.10 - 16.00	<b>Academic staff 1</b> Room: Hans Cavalli Professor Niels Bjørn-Andersen Professor Morten Ougaard	<b>Academic staff 2</b> Room: Augustinus Fonden board meeting room Associate Professor and Director Lise Lyck Associate Professor Ole Helmersen Associate Professor Anne Reff Petersen
16.00 - 16.45	<b>Students</b> Room Hans Cavalli Ditte-Marie Winther Thomas Edvardsen Nicki Brøchner Nielsen	<b>Technical and administrative staff</b> Room: Ledergruppen Senior Adviser Lars Thorsen Head of Secretariat Henrik Hermansen Senior Assistant Daniel Rotenberg Programme Secretary Pia Clasen
16.45 - 18.00	<b>Board and daily management</b> Chair of Board Anders Knutsen Member of Board Eva Berneke Member of Board Thomas Plenborg, internally elected Member of Board Uffe Arnesen Gade, internally elected Member of Board Patrick Gram, internally elected Rector Johan Roos Dean of Research Alan Irwin Dean of Education Jan Molin Dean CBS Executive Christer Karlsson University Director Peter Pietras	

**Friday 28<sup>th</sup> August 2009**

8.00 - 9.15	<b>Business Associations</b> Meeting room B, Ministry of Science, Technology and Innovation, Bredgade 43
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Agricultural Council of Denmark (Landbrug og Fødevarer)

Director of Foodstuff and Research Annette Toft

Director of Food & Veterinary Relationship Erik Bisgaard Madsen

Confederation of Danish Industry

Head of Educational Policy Bjarne Lundager

Consultant Katrine DiBona

The Danish Chamber of Commerce

Head of Research Policy Jannik Schack Linnemann

9.15 - 10.00

**Forum for research-based public-sector services**

meeting room B

Danish Ministry of Science, Technology and Innovation, Bredgade 43

Rector Lars Pallesen, Technical University of Denmark (Chairman of the forum)

Rector Lauritz B. Holm-Nielsen, University of Aarhus

Pro-rector Søren E Frandsen, University of Aarhus

Head of Public Sector Consultancy Jakob Fritz Hansen, Technical University of Denmark

Special Adviser Charlotte Richardt, Universities Denmark

10.00 - 11.00

**Student organisations**

Conservative Students

Lisa Mette Tønder

Mette Hjøllund

Sacha Erhardtsen

Free Forum – Social Democratic Students

Student Policy Spokesperson Max Genske

Liberal students

National Chair Tej F. Egefjord

National Vice Chair Anne Gæmelke

The National Union of Students in Denmark (DSF)

Educational Policy Spokesperson, Vice Chair Nils Wiese

Maja Viola Buskbjerg, Aarhus University

Jan Nejd Rasmussen, University of Copenhagen

11.00 - 12.00

**National Food Forum**

Chair, Director General Leo Larsen

Pro-rector Søren E. Frandsen, Aarhus University

Pro-rector Knut Conradsen, Technical University of Denmark

Director of Foodstuff and Research Annette Toft, Agricultural Council of Denmark

Head of Division Jacob Fuchs, Danish University and Property Agency

13.15 - 15.30

**Summing up**

15.30 - 16.30

**Summing up and adjourn (with the secretariat)**

## ANNEX 7 THE DANISH UNIVERSITY SECTOR – A FACTUAL OVERVIEW

### 1. Organisational structure of the university sector

Denmark has eight universities – University of Copenhagen, Aarhus University, Technical University of Denmark, University of Southern Denmark, Aalborg University, Roskilde University, Copenhagen Business School, and the IT University. The universities varies in size but are all regulated by the University Act.

To the institutional structure for research and education belong also five government research institutions (GRIs) which are placed under four different government ministries. The five institutions are: The National Research Centre for the Working Environment (NFA), The Geological Survey of Denmark and Greenland (GEUS), the Kennedy Center, The Danish National Centre for Social Research (SFI) and Statens Serum Institut.

The present “map of universities and research” was implemented in the Danish university sector with effect from 1 January 2007. New universities were established on basis of mergers between some universities and GRIs. Before the merger there existed a total of 25 institutions – 12 universities and 13 GRIs.

Figure 1 shows the present “map of universities and research”. For each of the eight universities, the figure also lists the institutions with which the university merged.

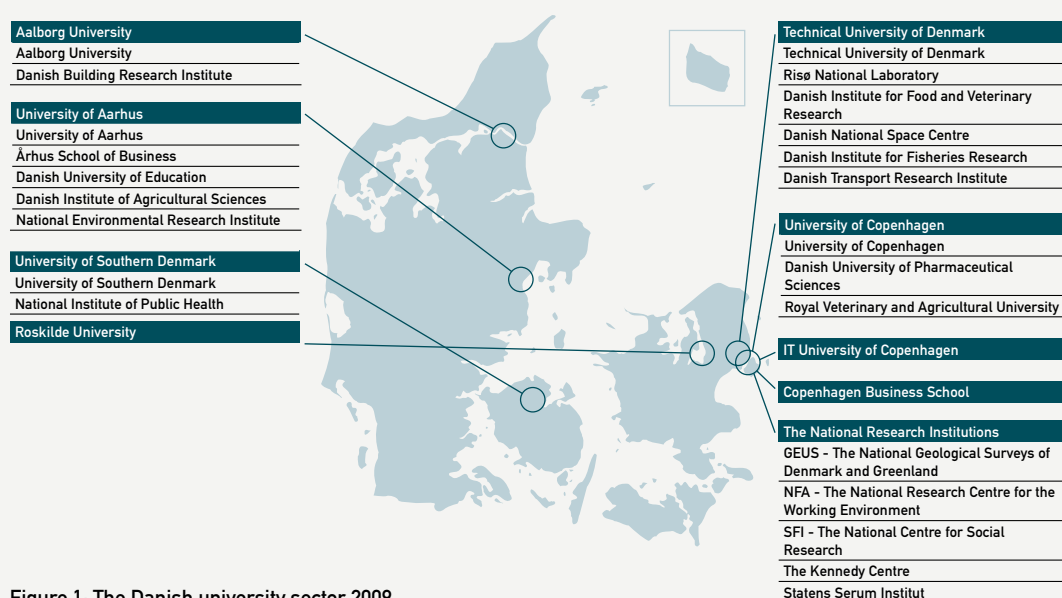


Figure 1: The Danish university sector 2009

Before the mergers there were twelve universities, two of which merged with University of Copenhagen (the Danish University of Pharmaceutical Sciences and the Royal Veterinary and Agricultural University). Two universities merged with Aarhus University (the Aarhus School of Business and the Danish University of Education).

A total of nine GRIs merged with universities. Five GRIs were merged with the Technical University of Denmark, namely Risoe National Laboratory, the Danish Institute for Food and Veterinary Research, the Danish Institute for Fisheries Research, the Danish National Space Centre and the Danish Transport Research Institute.

Aarhus University merged with two GRIs – the Danish Institute of Agricultural Sciences and the National Environmental Research Institute – while the National Institute of Public Health was integrated into the University of Southern Denmark and The Danish Building Research Institute was integrated into Aalborg University.

The GRIs were integrated into the universities in the form of faculties, departments or professional units. The mergers resulted in significant alterations in profiles or task structures, which were mirrored in the new university boards appointed. At several universities new management structures were introduced concurrently with the mergers.

## 2. Activities of the university sector

The main functions of the eight universities are education and research as well as exchange and dissemination of knowledge. Following the mergers with GRIs the university sector moreover has competence in the area of research-based public-sector services as the sector now delivers research-based public-sector services to some of the ministries.

The aim of this broadened university competence is to conduct research and related services directed at aiding the decision making of the authorities. The universities thereby, like the remaining GRIs contribute to development of knowledge to be used by public authorities in the political and administrative decision process and public debate, in innovation in private enterprises and for research based education. In addition, the universities conduct a range of services related to statistics, to supervisory and advisory functions, and to authorities that are important to society. Moreover, the universities train researchers and graduates.

Table 1 shows the respective turnovers and numbers of bachelor, master and PhD students at the eight universities. Table 2 shows the numbers of researchers (divided over different positions) at the universities. In section 3.5 and 3.6, further key figures on the activities and financing of the universities as well as of the GRIs are presented.

Table 1: Turnovers (2009)\* and numbers (2007)\*\* of bachelor, master and PhD students

University	Turnover MDKK	BA	MA	PhD	Total number of students
Aalborg University	1,813	7,159	3,813	629	10,972
Aarhus University	5,140	14,564	14,758	1,194	29,550
Copenhagen Business School	1,040	6,670	6,194	168	12,864
Technical University of Denmark	3,527	3,748	2,422	798	6,170
IT-University	189	42	997	43	1,039
University of Copenhagen	6,291	21,152	16,470	2,168	37,796
Roskilde University	682	4,003	3,337	246	7,340
University of Southern Denmark	2,102	8,146	6,075	544	14,252
<b>Total</b>	<b>20,784</b>	<b>65,484</b>	<b>54,066</b>	<b>5,790</b>	<b>119,983</b>

\*Figures from the Appropriations Act 2009.

\*\*Source: Rektorkollegiet: Universiteternes statistiske beredskab 2007



Table 2: Numbers of researchers at the universities, 2<sup>nd</sup> quarter 2008

University	Professors	Associate Professors	Assistant Professors/ Post docs	Total
University of Copenhagen	578	1,765	950	3,293
Aarhus University	446	1,602	771	2,819
University of Southern Denmark	210	750	256	1,216
Roskilde University	72	235	74	381
Aalborg University	172	524	256	952
Technical University of Denmark	180	738	610	1,528
Copenhagen Business School	144	194	102	440
IT-University	4	29	22	55
<b>Total</b>	<b>1,806</b>	<b>5,837</b>	<b>3,041</b>	<b>10,684</b>

Source: Negotiating-Database of Ministry of Finance, 2<sup>nd</sup> quarter 2008

### 3. The legal/regulatory framework for the sector

The eight universities operate within the framework of the 2003 University Act (Act no 403 of 28.05.2003) with amendments (Act no.538 of 12.06.2009). The aim of the 2003 Act was to strengthen university research, education and knowledge exchange based on a strengthening of the institutional framework of the universities. The Act entailed changes in the institutional area, with the aim to increase the universities' prioritisation and decision-making capacity within a framework in which the academic self-government was maintained and where the universities could remain independent from special interests.

With the 2003 University Act, the status of the universities changed from government institutions into "independent institutions under the public-sector administration". The universities thus perform their activities within the framework set out in the University Act. The extent and scope of the self-government can be changed pursuant to amendments implemented in the University Act. The Minister for Science, Technology and Innovation is under a duty to supervise the activities of the universities.

The self-governing status entails that the universities are institutions within the public law domain. They are, however, entities with legal and procedural capacity, i.e. they can have rights and obligations and can institute proceedings before the courts – e.g. against the Danish state – to settle disputes.

The universities are to a wide extent subject to the rules applying to government institutions (certain staff issues, financial rules of disposal, accounting regulations etc.). Furthermore, in a number of areas, a set of rules has been laid down governing issues pertaining to the academic activities of the universities.

The universities are furthermore covered by the Danish Public Administration Act (*Forvaltningsloven*), the Danish Access to Public Administration Files Act (*Lov om offentliggjort i forvaltningen*), the Danish Ombudsman Act (*Ombudsmandsloven*) etc.

The universities can abolish themselves or merge with other institutions subject to approval by the Minister for Science, Technology and Innovation. If the Danish state wishes to abolish a university, and it is not possible to obtain the Board's endorsement of this, such an abolishment requires adoption by the Danish Parliament.

The eight universities are protected against competition for state funding from foreign and non-public Danish universities. There is no prohibition against such institutions establishing themselves, but they will not, for example, be able to offer study programmes with educational taximeter funding.

GRI generally function within the framework of the “Act on Government research institutions” (Act 326 of 5 May 2004), which states that a GRI conducts research of the highest international standard with the following purposes:

- > Offer counselling within its area
- > Carry out research-based public-sector services
- > Carry out development work with a clear societal focus
- > Disseminate research results to relevant private and public stakeholders
- > Maintain an operational capacity related to the activities mentioned

#### *The development contracts*

Besides the legal instruments, the individual universities are regulated via dialogue between the university and the Ministry of Science. The most important of the dialogue-based instruments are the development contracts.

The universities draft proposals for their development contract. The contract is finalised following negotiations with the Ministry of Science, Technology and Innovation. The Ministry does not have the authority to impose specific targets on the university, nor does it have the instruments to sanction any underperformance, since this would demand a change of the 2003 University Act.

The development contracts were first introduced in connection with a revision of the University Act in spring 1999, where each university was offered a development contract. There was no obligation on the universities to enter into contracts. Each university that wished to participate had to prepare a framework and formulate a proposal in which it stated its values and targets and what it intended to achieve in a four year period.

The second-generation university development contracts were introduced in 2004 aiming at a stronger focus on quantitative targets and indicators. Like the first generation the second-generation contracts were not legally binding documents. The contracts were supposed to serve as the university board’s tool to monitor overall qualitative targets and simple quantitative targets.

In 2007, the third generation of development contracts – for the period 2008-2010 – was introduced. The change was mainly reasoned by the mergers in 2007, since they resulted in significant changes to the map of the research and university area. In the 2008-2010 development contracts, targets for the activities of the university must be set regarding research, education, dissemination of knowledge and – where appropriate – research-based public-sector services. All development contracts include targets for 16 activities which were considered relevant in establishing the basic targets for the performance of the universities.

#### 4. University management

##### *The University Board*

The Board is the highest authority of the university. The tasks of the Board comprise, among others: approving the university's budget, approving the accounts, entering into a development contract with the Minister and employing and dismissing the rector. The Board has no authority in individual cases regarding other employees of the university or students.

The Board comprises a majority of external members, i.e. persons who are not employed within the university. The Board elects a chair from among its external members. The internal members of the Board are elected by and from the academic staff of the university, including PhD students, the technical and administrative staff and the students. Students must be represented by a minimum of two members.

The external members are selected on the merit of their personal qualifications. The board members are appointed for a period of four years (students one year term). The members may be re-appointed to serve an additional four-year period.

The University Act stipulates that, together, the members of the Board must contribute to the promotion of the university's strategic aims to ensure a composition of the Board which is so broad-based as to avoid a one-sided representation of specific competencies, interests and experience.

##### *Executive management*

The Rector is employed by the Board. The Rector's overall tasks are set out in the University Act. The Rector has the overall responsibility of the management of the university and makes recommendations to the Board regarding the appointment and dismissal of the other members of the university's executive management.

The Rector employs and dismisses deans at universities which have a structure with several academic areas.

Pursuant to the Act, the dean manages a main academic area and ensures the interaction between research, study programmes and research-based public-sector consultancy services within the main academic area. The dean (or the rector at universities without a main academic area structure) employs and dismisses heads of department, appoints and removes heads of studies and appoints and dismisses heads of PhD schools.

Research and teaching are normally the responsibility – as prescribed by the Act – of the departments. The head of department undertakes the day-to-day management of the department. In consultancy with the study board and the head of studies, the head of department must follow up on evaluations of study programmes and teaching.

##### *Employee and student co-determination*

The basis for decision-making at the universities is the university Board and the appointed leaders, from rector to other leaders for parts of the institutions. The influence from staff and students follows two tracks. One is outlined in the University Act, the other is the same as for other public institutions having a minimum of 25 employees.

The University Act does not have a general paragraph on the importance of co-determination for staff and students, but it points out three special bodies, the Academy Council, the Study Board and the PhD-committee. The remarks to the bill for the University Act say that Academy Council is empowered to safeguard academic freedom and that study boards are empowered to safeguard student's influence (sections 15 and 16).

The Academy Council consists of academic staff members, including PhD students, students, and a chairman representing Rector or Dean, depending on the level at which the council is established. The Academy Council has decision-making authority with respect to the award of PhD and doctoral degrees, and otherwise an advisory function on research and educational issues.

The dean sets up "the necessary number" of study boards with equal representation of academic staff and students. The study board selects from among its members a chairperson from the representatives of the academic staff and a vice-chairperson from the student representatives. The study board must ensure the organisation, realisation and development of the study programme and teaching.

In order to guarantee students' influence on the PhD process, the deans must set up PhD committees. The PhD committee issues pronouncements within its area on all issues of importance for the PhD programme and PhD supervision. The PhD committee consists of representatives of the academic staff and of the PhD students.

The other track of influence is based on the general rules in the Danish labour market. Each university is required to set up a number of collaboration committees and an overall collaboration committee in the institution. The framework for the joint collaboration committees is determined in agreements set up between the Danish state and the trade unions. The tasks of the joint collaboration committees concern general matters which belong under the employer's managerial rights.

## **5. The financial framework for the sector**

As a main principle, the financing basis of the universities is based on two sources:

1. State funding earmarked for the universities in the annual Danish Appropriations Act (Finansloven) under Section 19(2) – the so-called basic funding
2. Other income from public research councils, the EU, private donors etc.

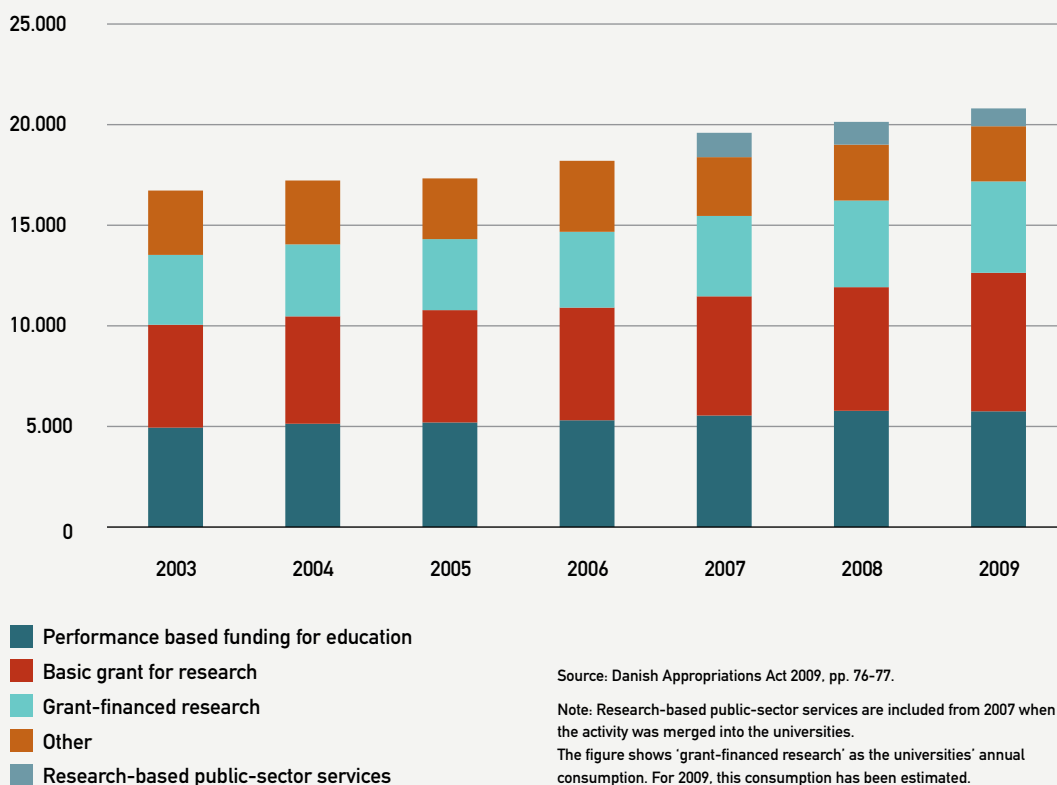
State funding is generally distributed through four channels:

1. Funding for education (taximeter funding)
2. Basic grants for research
3. Competitive research funding from the State, foundations etc.
4. Research-based public-sector services funding

The Ministry of Science, Technology and Innovation provides grants for the universities' general activities through three of the four channels (1, 2 and 3) within the areas listed under the individual universities' account under the Danish Appropriations Act. According to the University Act the university has at its free disposal – within its scope – subsidies, income and capital as a whole. The third channel differs significantly in this respect, since universities grant conditions relating to competitive funds will typically be described in detail in terms of both purpose and disposition. The fourth type of funding – for research bases public sector services – is provided by the different commissioning ministries.

The total turnover of the universities increased from DKK 16.7 billion in 2003 to DKK 20.8 billion in 2009, which corresponds to an increase of 24 per cent, *cf. figure 2*.

Figure 2: Development in university turnover 2003-2009 (DKK billion in 2009 prices)



University basic funding is allocated to the main objectives – education, research and other purposes. Table 3 (below) shows the development in university basic funding since 2006.

The two GRIs Danish Space Research Centre and Risø are included in table 3, whereas the financing of the other GRIs is not included. The latter is due to that the financing for these GRIs is not basic funding but government commissioned services financing.

Table 3: Development in the financial basis of the universities 2006-2010

million DKK, 2010 prices	2006	2007	2008	2009	2010***
Education	4,806	5,130	5,180	5,391	5,355
- taximeter (ordinary)	4,420	4,639	4,580	4,678	4,668
- completion bonus	263	296	401	471	532
- other*	123	195	199	242	155
Research	6,010	6,349	6,692	7,043	6,871
Other purposes etc.	1,473	1,320	1,235	1,163	1,119
Total basic funding**	12,289	12,799	13,107	13,597	13,345
Restructuring fund				96	215

Source: Suggestion for Appropriations Act 2010.

\* Concerns funds granted to the universities on the basis of the number of international exchange students as well as a development grant for education allocated under the globalisation agreement in 2006.

\*\* Basic funds earmarked for the universities in the annual Appropriations Act.

\*\*\* Suggestion 2010

In the last 20 years, university education funding has been based on output control, and this principle has partly been introduced for the allocation of research funding also, during the past ten years. The main tendency is that university basic funding is to be increasingly subject to incentive administration focusing on university output.

Table 4 shows that the share of basic funding related to the total financing of the universities has decreased.

Table 4: Distribution 2003–2006 between basic funding for university research and competitive funding for the universities.

Research Resources	2003	2006	2007	2008	2009
Basic funding	64 %	62 %	58 %	55 %	56 %
Research income from competitive tendering (public and private sources)	36 %	38 %	42 %	45 %	44 %
Public R&D of GDP	0.78 %	0.77 %	0.83 %	0.89 %	0.94 %
Private R&D of GDP	1.78 %	1.65 %			

Source: VTU Key Figures, March 2009

Table 5 shows that the shares of basic funding for research, as well as performance based funding for research for each university, varies significantly amongst the universities.

Table 5: Distribution (2009) between basic funding and performance based funding for research as percentage of total turnovers at the individual universities.

University	Performance based funding for research, percent of turnover	Basic funding, percent of turnover	Turnover MDKK*
University of Copenhagen	20	47	6.291
Aarhus University	29	31	5.140
Technical University of Denmark	27	39	3.527
University of Southern Denmark	18	37	2.102
Aalborg University	17	36	1.813
Copenhagen Business School	8	29	1.040
Roskilde University	12	38	682
IT University of Copenhagen	11	47	189

\*Figures from the Appropriations Act 2009.

Table 6 and 7 show the funding of numbers of staff, turnovers and financing of the GRIs.

Table 6: Government Research Institutions funding (Million DKK), 2009

National Research Institution	Core funding mio DKK		
	2008	2009	2010
Statens Serum Institut	98,7	104,7	103,8
NFA - The National Research Centre for the Working Environment	79,6	80,2	76,9
SFI - The National Centre for Social Research	36	48,3	46,3
The Kennedy Centre	45,8	48,4	44
GEUS - The National Geological Surveys of Denmark and Greenland	128,3	139,6	138,5
<b>Total</b>	<b>388,4</b>	<b>421,2</b>	<b>409,5</b>

Source: Suggestion for Appropriations Act 2010.

Table 7: Research-based public-sector services funding (Million DKK), 2009

University	Research-based public-sector services		
	2008	2009	2010
University of Copenhagen	8,0	8,0	8,0
Aarhus University	479,0	486,0	522,0
Technical University of Denmark	361,0	356,0	347,0
University of Southern Denmark	20,0	17,0	16,0
Aalborg University	47,0	35,0	29,0
Copenhagen Business School	-	-	-
Roskilde University	-	-	-
IT University of Copenhagen	-	-	-
<b>Total</b>	<b>915,0</b>	<b>902,0</b>	<b>922,0</b>

Source: Suggestion for Appropriations Act 2010..

## 6. Key data regarding university education

Table 8 shows the development in total number of students and the average taximeter financing over the later years. The number of students has increased over the years except for a drop in 2008. This drop is due to change of admission rules (eg. stricter demands for the mathematic merits achieved in the pre-university education (in the “gymnasium”).

The taximeter financing per student has decreased from 2004 to 2006, followed by a significant increase from 2006 to 2007. The increase from 2007 to 2009 is less significant.

Table 8: Development in number of university students and taximeter financing per full time equivalent student

University education	2004	2005	2006	2007	2008	2009
Intake*	17,255	17,971	18,244	18,997	16,718	19,183
# Students*	106,242	106,765	109,073	111,361	111,529	-
Student full time equivalents	66,242	68,175	70,028	70,881	73,926	73,495
DKK per student full time equivalents	67,100	66,500	65,700	69,300	69,300	69,700

\* Data calculated per Oct. 1<sup>st</sup> the relevant year

Source: Denmark's Statistics, numbers calculated by the Danish University and Property Agency, September 2009 and VTU Key Figures, March 2009

Table 9 shows that the number of Danish students abroad has stayed at an almost unchanged level from 2002 to 2007, whereas the number of foreign students in Danish universities has increased significantly.

Table 9: Development in student internationalisation

Internationalisation	2002	2003	2004	2005	2006	2007
Danish students abroad	3,399	3,455	3,506	3,436	3,504	-
Foreign students in DK	3,629	3,913	4,357	4,442	4,541	-

Source: VTU Key Figures, March 2009

Table 10 shows the number of bachelor and master intake and completion at the individual universities in 2007.

Table 10: Bachelor and master intake and completion, 2008

University	Intake BA	Intake MA	Completion BA	Completion MA
AAU	1,763	1,458	1,345	1,489
AU	4,869	3,748	2,764	3,087
CBS	2,384	2,424	1,621	1,216
DTU	1,224	771	391	755
ITU	46	268	0	237
KU	5,175	4,153	3,461	3,590
RUC	1,356	1,074	892	680
SDU	2,519	1,377	1,901	1,192
<b>Total</b>	<b>19,336</b>	<b>15,273</b>	<b>12,375</b>	<b>12,246</b>

Source: Rektorkollegiet: Universiteternes statistiske beredskab 2008

## 7. Danish performance in the EU's 7th Framework Programme (Cooperation and Ideas programmes)

Table 11 shows the participation of the individual Danish universities in projects that are funded under the Cooperation Programme of the the 7<sup>th</sup> Framework Programme.

Table 11: The total participation of the Danish universities\* in FP7 Cooperation projects (per 15 November 2009)

Universities	Number of FP7 Cooperation projects in which a Danish university is coordinator	Number of FP7 Cooperation projects in which one or more Danish universities is partner	Total number of FP7 Cooperation projects in which one or more Danish universities participates
DTU	4	72	76
KU	4	45	49
AU	2	31	33
AAU	6	22	28
SDU	2	12	14
CBS	1	05	06
RUC	0	03	03
ITU	0	00	00
<b>Total</b>	<b>19</b>	<b>190</b>	<b>209</b>
<b>Share of total number of FP7 Cooperation projects</b>	<b>1 %</b>	<b>10.2 %</b>	<b>11.3 %</b>

The *total* number of FP7 Cooperation projects with one or more Danish partners is 324, which constitutes 17.5% of the total number of FP7 Cooperation projects. Besides universities, institutions such as university hospitals, GRIs (i.e. GEUS and State Serum Institute) and private companies participate in the Cooperation programme.

Table 12 shows the total Danish participation in the Cooperation programme in comparison with other Nordic countries.

Table 12: Overview of participation in FP7 Cooperation per Nordic country

Countries	Number of FP7 Cooperation projects coordinated per country	Total number of FP7 Cooperation projects with one or more participants from selected countries (incl. coordinating institutions)
Denmark	37	324
Finland	57	310
Norway	35	213
Sweden	80	550



Table 13 shows Grants awarded to Danish institutions, as well as to institutions of selected countries, from the European Research Council (ERC) in EU's FP7 Ideas Programme.

Table 13: The total number of ERC Grants awarded to researchers working in Denmark and a number of selected countries (FP7 Ideas Programme)

	Number of Starting Researcher Grants 2007	Number of Advanced Researcher Grants 2008	Number of Starting Researchers Grants 2009	Total number of ERC Grants awarded in period 2007-2009 (total = 819 Grants)
Denmark	4	4	7	15
KU	1	2	3	6
AU	3	2	2*	7
DTU	0	0	1	1
Staten Serum Institute	0	0	1	1
Finland	7	8	6	21
Sweden	11	18	5	34
The Netherlands	28	19	15	62
Switzerland	15	28	17	60
United Kingdom	59	58	41	158

\* = One researcher working jointly at AU and a specialised hospital

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