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DANISH COUNCIL FOR RESEARCH AND INNOVATION POLICY

Universities for the future: Twenty years of the University Act

The Danish Council for Research and Innovation Policy

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Preface

In the past two decades, Danish universities have aroused considerable interest from politicians aiming to promote the exchange of knowledge between universities and their collaboration with society at large.

A significant turning point in the working conditions of Danish universities was the implementation of the University Act in 2003. To commemorate the Act's 20th anniversary, the DFiR project was launched to examine how well university management and financial structures are prepared to face future challenges.

The project began with the distribution of a comprehensive questionnaire to assistant professors, associate professors, and professors at Danish universities[1], a survey carried out in collaboration with The Royal Danish Society of Sciences and Letters (KVDS) aimed at all heads of departments. In addition, there were 21 stakeholder interviews. The project benefited from discussions and interim analyses conducted during the 2022 annual conference of the DFiR and other meetings. Additionally, a dialogue book has been published as part of the project, providing insights into its methods and sub-elements. The DFiR would like to express its gratitude to all contributors.

As the DFiR sees it, the University Act of 2003 has successfully strengthened the connections between universities and the outside world. During the same period, however, challenges have also emerged in terms of internal governance and the management of universities. The major concerns are the democratic culture at universities and academic freedom. The DFiR suggests that addressing these challenges requires university management to prioritize staff involvement, co-determination, job security, and academic freedom, emphasising the importance of granting universities genuine autonomy and securing their financial resilience.

The DFiR hopes that this report will stimulate a public discussion on the challenges facing our universities, a dialogue that can help us ensure optimal conditions for their future success.

Frede Blaabjerg
Chair, The Danish Council for Research and Innovation Policy

Summary and recommendations

Through the *Universities for the Future* project, the DFiR is investigating whether Danish universities have the right conditions to continue to be the foundation of Denmark as a knowledge society in the future. Universities are key knowledge and culture-bearing institutions, exchanging knowledge and skills with the society around them through research and study programmes at the highest international level.

More specifically, the DFiR believes that the governance and financing structure of universities should continue to support:

- the development and retention of free, attractive research environments;
- the recruitment of national and international talent;
- the repatriation of public and private investments; and,
- the establishment of collaborative partnerships with local, national and international agencies, both private and public.

The DFiR's analysis is primarily based on the University Act of 2003, which introduced professional boards consisting mostly of external members and also a single-tier management structure with salaried managers. This was the initial step in a series of subsequent reforms aimed at fostering university involvement in society and generating additional societal value. According to the DFiR, the University Act and the subsequent reforms have been successful in establishing a broad culture of knowledge exchange and collaboration with external partners. While there are variations across different areas, Danish universities in 2023 are indeed focused on meeting societal needs.

However, it's important to acknowledge that the reforms of the past 20 years have come at a significant cost to universities in terms of resources. Boards, management, and staff have had to navigate a wide range of changing external and political objectives, as well as lengthy implementation processes. The DFiR highlights that Danish research continues to maintain a high international standard, as evidenced by the substantial funding brought in from European research programmes. Nevertheless, the Council also observes a potential decline in the relative international impact of Danish research over the past decade.

The DFiR report suggests that while there has been progress in raising management awareness of societal needs over the past two decades, there have been some challenges to fostering a democratic culture within universities. In 2011, legislation was revised to encourage staff involvement and co-determination in the making of important decisions, but its success has been limited. Unfortunately, researchers still do not have adequate participation in the making of crucial decisions and often fear negative consequences if they voice their concerns about

management decisions. The University Act makes provision for staff involvement and co-determination, and the DFiR recognizes that certain institutions have excelled locally in promoting such involvement. Based on this, the council does not recommend reverting to the governance structure in place before the 2003 University Act. However, it is important to acknowledge that the University Act alone does not ensure staff involvement and co-determination. The report suggests that university boards and management need to make better use of the available options to address this issue.

In 2011, the University Act further stipulated that researchers may not be assigned tasks that effectively deprive them of their freedom of research. Nevertheless, the Council concludes that freedom of research is still under pressure today. This is a matter of allotting time and resources for research, but there is another matter: researchers' fear of reprisals due to their choice of research areas and the dissemination of their results.

Promoting a culture of democracy and freedom of research is a paramount responsibility for boards and university management. These tasks should ideally be achievable within the existing governance and funding frameworks. However, the report highlights that the autonomy and financial stability of universities are facing significant challenges. Political reforms and initiatives have led to a shift in focus away from core tasks, resulting in a strain on universities' autonomy and financial robustness. Ongoing cost-cutting measures and the underfunding of study programmes further exacerbate the situation. Additionally, universities have become increasingly reliant on external funding sources. Consequently, these factors collectively impact the capacity of universities to make long-term decisions regarding the development of research environments and the implementation of strategic projects. This predicament is expected to intensify in the coming years, making it increasingly challenging for universities to navigate and prioritize effectively.

Main conclusions

1. Universities have established a broadly based culture of knowledge exchange and cooperation with external partners.
2. The democratic culture of universities is being challenged. The University Act allows for staff involvement and co-determination, but it does not guarantee it, and the options available are not adequately utilised.
3. The freedom of researchers to conduct research is under pressure.
4. The autonomy of universities and their financial resilience are being challenged.

The DFiR presents three recommendations based on conclusions 2-4, Conclusion 1 being discussed in Chapter 1 without generating specific recommendations. These recommendations aim to ensure the long-term viability of the universities' governance and financing structure, while also enhancing their appeal as desirable workplaces for the future.

Fostering a democratic culture at universities

To foster a stronger democratic culture within universities, it is crucial to prioritize staff involvement and co-determination. This not only enables informed decision-making by management but also enhances staff involvement during implementation, resulting in improved quality and value creation within the universities. The DFiR finds it concerning that many researchers at Danish universities do not feel adequately involved in important decisions and, at the same time, fear potential repercussions for voicing their opinions about management choices. However, significant variations exist across institutes, indicating that here there is an opportunity for management to cultivate a healthy culture of involvement and co-determination in crucial decision-making processes.

Given the responsibility of management, it becomes imperative to reinforce the staff mandate in relation to the appointment of their managers, including extensions and reappointments of managers on fixed-term contracts.

DFiR concludes that the quality of universities can be further enhanced through the fostering of a democratic culture. This entails placing emphasis on involvement and co-determination within the board and management, supporting staff participation in important decisions, and empowering staff with greater authority in the selection of their managers.

Recommendation 1

Fostering a democratic culture at universities.

The focus of the board and management on staff involvement and co-determination may be enhanced by the following measures:

- boards monitor and evaluate staff involvement and co-determination through the university APV (Work Environment Assessment) surveys or the like;
- boards and university managements foster transparency in important decision-making processes by minimizing the use of confidentiality;
- the Minister for Higher Education and Science ensures that external board members possess real insight into research, research-based education, leadership, and financial practices within public knowledge-intensive and knowledge-producing institutions. This can be achieved through a training programme specifically designed for them;
- the Minister for Higher Education and Science prioritises staff involvement and co-determination in connection with strategic framework contracts.

To strengthen staff participation in decision-making, the following steps can be taken:

- university management, at both the university and institute levels, clearly communicates the framework for staff involvement, including who, how, and when significant strategic research decisions are made, as well as how staff can influence these decisions;
- university management ensures that the academic members of the academic forums are given the necessary administrative support and speaking time at board meetings, including in the case of confidential agenda items;
- administrative support covers cooperation between the academic forums across universities so that academic staff are able to speak with a collective voice.

The staff mandate in the appointment of their managers may be reinforced by the following actions:

- ensuring the representation of major staff groups and giving significant weight to the views of staff representatives when hiring managers on fixed-term contracts;
- consulting relevant staff forums when extending or reappointing managers on fixed-term contracts;
- in principle, fixed-term managers can only be employed for a maximum of 8-10 years.

If, within three to five years, the staff mandate in appointing their own managers is not strengthened as outlined above, their mandate should be clarified through a revision of the University Act.

Freedom of research must be ensured

Research in the short and long term is crucial for the advancement of knowledge. It is imperative that researchers have the freedom to explore research-related and politically controversial topics with adequate resources and without constraints that limit their research time.

The DFiR report concludes that the freedom of research at Danish universities is facing significant challenges. Many researchers find themselves burdened with obligations that considerably restrict the time they can devote to their research. Moreover, they often lack substantial research funding from their institutes, further limiting their freedom to pursue their research. At the same time, many researchers who tackle controversial subjects fear reprisals and experience a lack of support from their management in these cases. However, there are also some bright spots. For example, few researchers refrain from researching controversial topics or have felt pressurised to withhold or change their research results for arbitrary reasons in connection with publication.

The DFiR firmly believes that freedom of research must be better secured. This requires support for research into controversial research topics, as well as the ongoing monitoring and evaluation of freedom of research.

Recommendation 2

Freedom of research must be ensured

The freedom of research may be ensured if:

- **university managements clearly support staff who face undue pressure as a result of their research or dissemination of it, especially in the case of controversial research-related topics;**
- **university managements provide researchers with better financial resources and more time for research, thus ensuring their actual freedom to conduct research;**
- **boards monitor, evaluate, and safeguard the freedom of research through university workplace assessment surveys (APV), or similar methods.**

Universities must be guaranteed real autonomy, equal conditions and a robust economy

Stable and supportive governance and funding frameworks are crucial for university management to develop attractive universities for staff, students, and collaborators.

Compared to other countries in Europe, Danish universities have a significant level of formal autonomy and access to substantial public and private funding. However, the factual autonomy of Danish universities is challenged by numerous political reforms and initiatives. Additionally, university finances face several challenges, such as underfunded study programmes and an imbalance between core funding and external financing. In terms of indirect costs, this latter issue remains unresolved. Moreover, the application process calls for a lot of time and effort.

The DFiR believes that it is essential to ensure the genuine autonomy of universities, promote equal opportunities, and establish more robust frameworks for their finances. Furthermore, it recommends the establishment of a national research and innovation strategy.

Recommendation 3

Universities must be guaranteed real autonomy, equal conditions and a robust economy.

Universities may be guaranteed genuine autonomy by:

- the government reducing the number of reforms that unnecessarily drain resources from universities, lower the quality of education, undermine the authority of university management, and divert attention from universities' core tasks.

Universities should be guaranteed a robust economy by the following steps:

- universities and private foundations should continue their ongoing dialogue to establish a uniform model for financing indirect costs;
- the Government and the Folketing (Danish Parliament) should ensure coherence between funding for education and the corresponding costs so that basic research funding is not used to finance study programmes, and the quality of these programmes is safeguarded;
- the Government and the Folketing should allocate the research reserve through more long-term, assured grants;
- the Government and the Folketing should provide financial incentives for the acquisition of EU funding;
- the Government and the Folketing should ensure equal economic conditions for all universities, including the right to property management, considering the obligations of some universities, such as museums and laboratories.

The above recommendations should be implemented through the establishment of a commission tasked with developing a national research and innovation strategy, including proposals for a long-term and robust funding structure for universities. The commission should work towards strengthening institutional autonomy, ensuring equal framework conditions, reducing the time spent by researchers on applications, and enhancing the framework for coherent career paths.

Chapter 1
Collaboration and knowledge exchange

Knowledge has always found its way from universities to the surrounding society. However, the University Act of 2003 emphasized that this transfer should occur faster and more efficiently than before. In addition to education, universities play a role in disseminating and exchanging knowledge and skills through collaboration with public authorities and private companies. At the same time, universities are expected to support and challenge the cultural values of society and contribute to a free, factual, and critical public debate.

In this chapter, DFiR examines in more detail the state of university knowledge exchange with businesses, public institutions, and the general public.

Conclusion

Universities have established a widespread culture of collaboration and knowledge exchange with external stakeholders.

Key figures:

- 96% of researchers have been involved in at least one form of knowledge exchange or collaboration within the last two years.
- On average, a researcher at a Danish university has been involved in four research collaborations, six advisory or continuing education activities, and eight dissemination activities within the last two years.
- 78% of researchers in the natural sciences, technology, engineering, and mathematics (STEM) have engaged in research collaborations, while the same applies to 61% of researchers in social sciences and humanities (SSH). Conversely, 95% of SSH researchers have been engaged in dissemination activities, compared to 84% of STEM researchers.

Source: DFIR questionnaire distributed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022..

A widespread culture of collaboration and knowledge exchange

There are many channels for knowledge collaboration between universities and external agencies such as businesses and public institutions. These include technology transfer, spin-out companies, research collaborations, advisory services, and continuing education. Additionally, there is the dissemination of knowledge to the broader public. Technology transfer and spin-out companies receive particular political attention and are included in the commercialization statistics of the Ministry of Higher Education and Science. However, they constitute only a small part of the overall knowledge collaboration between universities (Ministry of Higher Education and Science, 2019). International experiences also indicate that private companies value collaboration with university researchers through research advisory services and commissioned or joint research more than technology transfer and that knowledge collaboration can be a prerequisite for eventual technology transfer. Universities apparently generate more revenue from research collaborations than from technology transfer (for references, see Kongsted, Tartari, Cannito, Norn, & Wohlert, 2017; Think Tank DEA, 2016; Ministry of Higher Education and Science, 2019).

Collaboration on research, advisory services, and continuing education between university researchers, private companies, and public authorities is not solely a result of the administrative and legal support provided to university researchers. It is also a result of individual researchers' decisions to invest resources in building and consolidating connections with private companies and public authorities. The decision is based on an assessment of the benefits and costs of collaboration, along with a general culture of collaboration with external partners (Kongsted, Tartari, Cannito, Norn, & Wohlert, 2017).

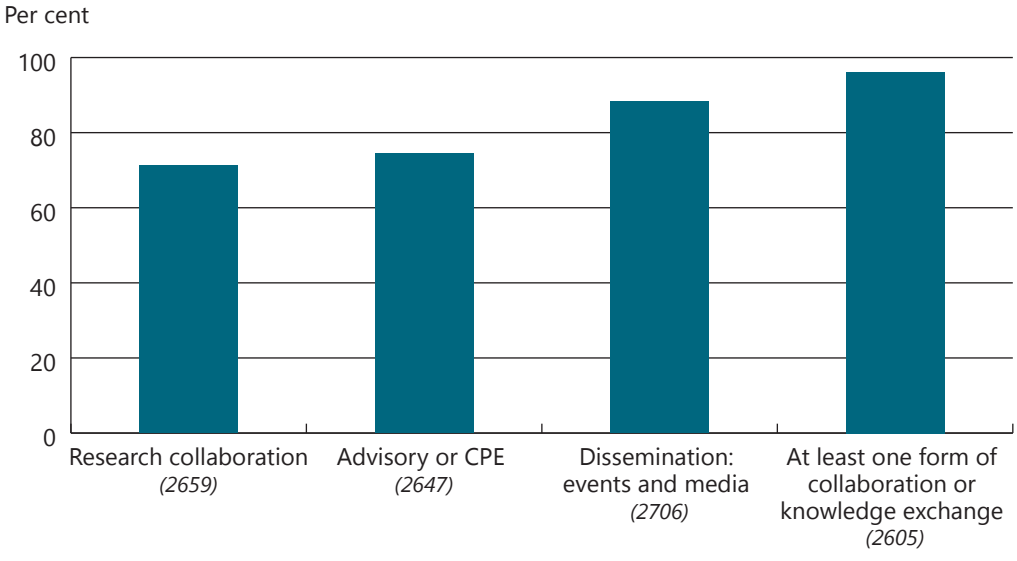
The DFiR survey distinguishes between three types of knowledge exchange and collaboration: 1) research collaboration, 2) advisory or continuing professional education (CPE) activities, and 3) dissemination activities. Particularly the latter two forms of knowledge exchange and collaboration are not systematically reported by either the universities or the Ministry of Higher Education and Science.

Based on this categorization, 96% of researchers have been involved in at least one form of knowledge exchange within the last two years, cf. Figure 1.

Dissemination and the public forum

Researchers contribute to the public debate through participation in non-academic conferences, acting as experts in news broadcasts and articles, writing opinion pieces and delivering public lectures.

Figure 1 Percentage of researchers engaged in at least one new research collaboration or contract, at least one new advisory or continuing education programme with private companies and public organizations, and at least one dissemination activity, or one of the knowledge exchange activities mentioned within the last two years. Per cent, 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses are weighted according to job category and institute. The number of respondents is in brackets.

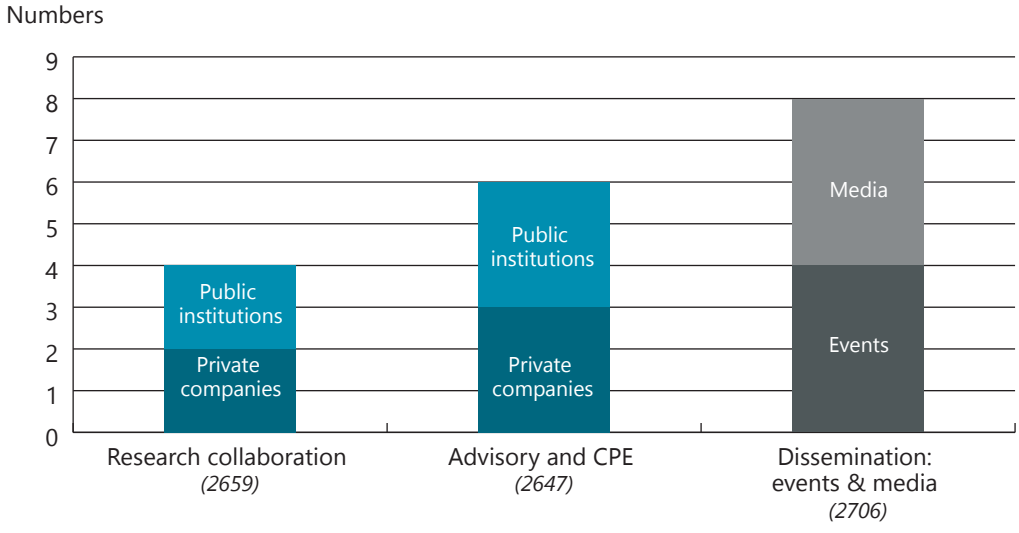
As evident from Figure 1, 88% of researchers have participated in at least one dissemination activity in the past 2 years. This indicates a significant engagement in the communication of research findings and knowledge.

Building upon this, Figure 2 illustrates that, on average, researchers have been involved in eight dissemination activities over the last two calendar years. This encompasses various forms of dissemination through different media, such as writing articles and opinion pieces in newspapers or popular science outlets, serving as an expert in the written press, TV, or radio, as well as participating in various events.

Research collaboration, advisory services, and continuing education

Generally speaking, a substantial proportion of researchers engage in partnerships with private companies and public organizations. This includes providing continuing education programmes for staff, informal advisory services, and formal research collaborations. As shown in Figure 1, the DFiR survey reveals that 71% and 74% of the researchers surveyed have been engaged in at least one new research collaboration and one advisory or continuing education activity, respectively, within the past two years. Figure 2 shows that researchers, on average, have participated in four research collaborations and six advisory or continuing education programmes within the last two years. This encompasses collaborations with both private companies and public institutions.

Figure 2 The researchers' average number of research collaborations and contracts, advisory and continuing education courses for private companies and public organisations, and dissemination activities within the last two years. Numbers. 2022.



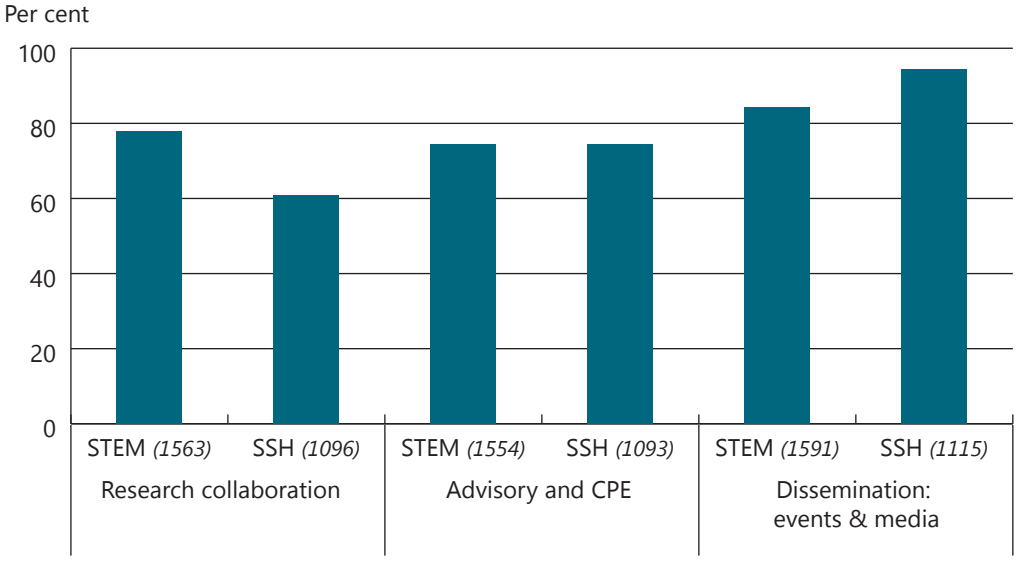
Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses are weighted according to job category and institute. The number of respondents is in brackets.

Differences between SSH and STEM

Perhaps not surprisingly, there are differences in the types of activities that researchers in the fields of the natural sciences, technology, engineering, and mathematics (STEM) and researchers in the fields of social sciences and humanities (SSH) are engaged in, as illustrated in Figure 3. Particularly within the STEM fields, 78% of researchers have engaged in research collaborations with private companies and public organizations within the last two years. However, the percentage of researchers within the SSH field who have engaged in new research collaborations with external actors is far from insignificant, standing at 61%. On the other hand, within the SSH field, 95% of researchers are engaged in dissemination activities, while the engagement level for researchers in the STEM field is 84%. Additionally, a similar proportion, namely 75%, of researchers across both SSH and STEM fields have contributed to continuing education or informal advisory services for private and public agencies.

These findings largely align with international experiences (Kongsted, Tartari, Cannito, Norn, & Wohlert, 2017). Thus, in Denmark, there is - perhaps naturally - a division of labour between the STEM and SSH fields in terms of the dissemination and exchange of knowledge with society at large.

Figure 3 Percentage of researchers engaged in one or more new research collaborations and contracts, educational or advisory programmes and other forms of public dissemination within the last two years, separately for STEM and SSH. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses are weighted according to job category and institute. The number of respondents is in brackets.

Barriers to collaboration and knowledge exchange

Previous studies have shown that the motivation of researchers to engage in research collaborations with external partners is influenced by factors such as access to additional research funding, the development of research ideas, and access to facilities and materials. The testing of one's research and access to non-academic contacts and knowledge for teaching purposes are also significant motivating factors for broader collaboration and knowledge dissemination (Kongsted, Tartari, Cannito, Norn, & Wohlert, 2017).

On the other hand, barriers to collaboration can arise due to differences in the reasons and conditions for collaboration between the parties involved. Companies and universities are subject to different incentive structures, and legislation aimed at limiting distortions of competition through public support to private companies can lead to disagreements between the parties. Additionally, the career considerations of university researchers can pose significant barriers, including the recognition and reward for knowledge exchange within the university system.

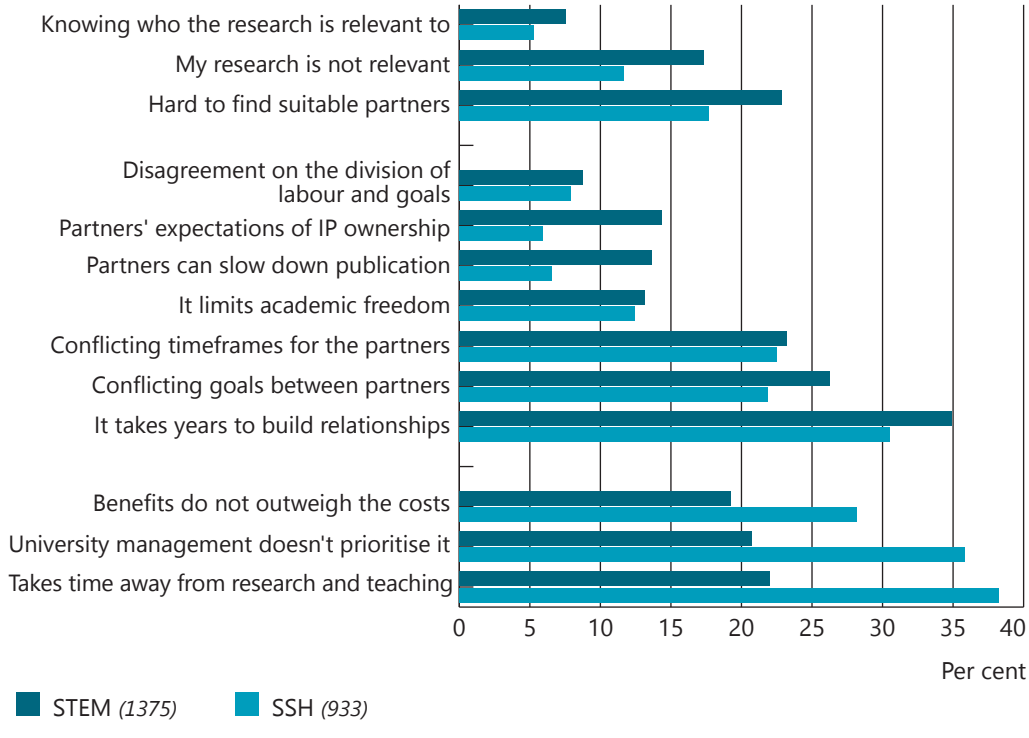
Among researchers in the SSH field, barriers primarily include the lack of recognition and rewards from university management for knowledge exchange activities, as well as the perceived imbalance between costs, time investment, and the benefits for individual research and career progression.

In the STEM and SSH fields, establishing trust-based relationships in the face of conflicting goals and timelines between industry and academia poses barriers for some research-

ers. However, relatively few researchers point to differences in approaches to the division of labour, intellectual property rights, and the publication of results as significant barriers. These aspects, however, are particularly relevant for researchers in the STEM field.

Hence, these various barriers apply across both STEM and SSH areas. However, more SSH researchers experience a less supportive environment within their organizations regarding their engagement in knowledge-sharing activities, and therefore it may seem to them that knowledge collaboration will not contribute to their career advancement. For STEM researchers, their relationship with the industrial partner plays a crucial role.

Figure 4 Proportion of researchers who encounter barriers when interacting with non-academic organisations, separately for STEM and SSH. Percent. 2022



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Calculations based on researchers who have had at least one instance of collaboration on research, informal advisory or continuing education programmes with a private company or a public authority within the last two calendar years. The number of respondents is in brackets.

Chapter 2
A democratic culture

The DFiR believes that a deeply ingrained democratic culture is essential for the quality and relevance of research efforts at Danish universities. This democratic culture necessitates the involvement of researchers in significant decisions and a healthy climate for dialogue between university management and researchers. Researchers possess in-depth knowledge of trends in international academic literature, the knowledge needs of the private and public sectors, and their working conditions. All these elements form the foundation for strategic research decisions and financial prioritization at the university.

In this chapter, the DFiR focuses on the theme of democratic culture at the eight Danish universities.

Conclusion

The democratic culture of universities is being challenged. The University Act allows for staff involvement and co-determination but it does not guarantee it, and the options available are not adequately utilised.

Key figures:

- 40% of researchers believe that their institute has developed effective ways to involve researchers.
- 70% of researchers want to be more involved in decisions regarding the institute's research profile, job advertisements, budget, and organization.
- 50% of researchers fear or have experienced, one or more forms of reprisal for expressing their views on management decisions.
- 55% of researchers feel that the information provided is insufficient or deemed confidential, hindering their genuine inclusion.
- 31% to 37% of researchers find that factors such as a lack of recognition, of decision-making authority, and administrative support at meetings and on committees act as barriers to their participation and involvement.
- 63% of researchers believe that management influence on decision-making processes limits their inclusion.
- 55% of heads of departments believe that researchers are hesitant about change and prefer to keep clear of decision-making. This view is shared by 10% of researchers.

Source: DFIR questionnaire distributed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.

The involvement and job security of researchers

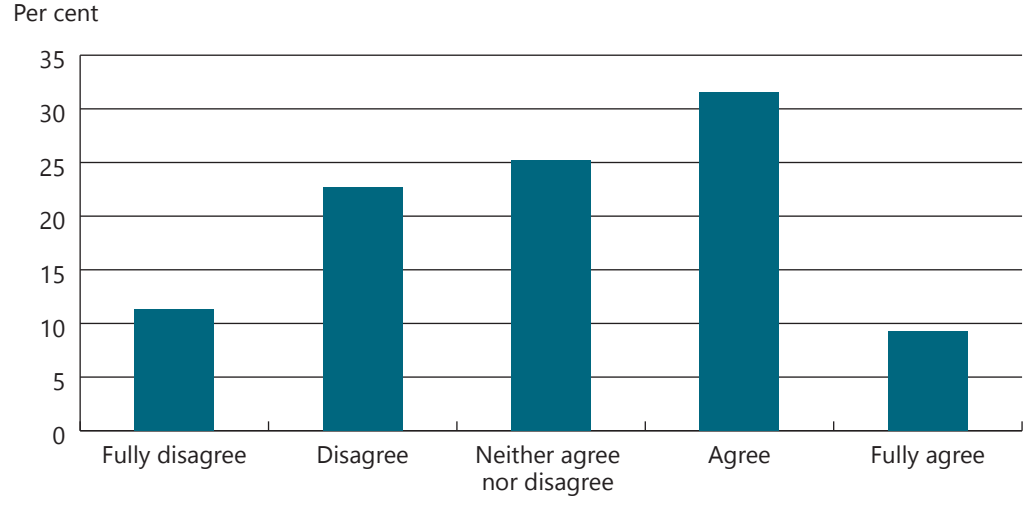
International research literature indicates a positive correlation between staff involvement and co-determination in academic settings and productivity, quality, and relevance in research and education (Ryan & Hurley, 2007; Richard, Plimmer, Fam, & Campbell, 2013; Jensen, Bjorklund, Hagberg, Aboagye, & Bodin, 2021; Antoni, Fia, & Sacconi, 2022; Brown, 2001; Aboagye, et al., 2021).

Involvement

As shown in Figure 5, one-third of researchers feel that their institute has not developed effective ways of involving the scientific staff.

In contrast, 40% believe that effective methods for involving the scientific staff have been developed.

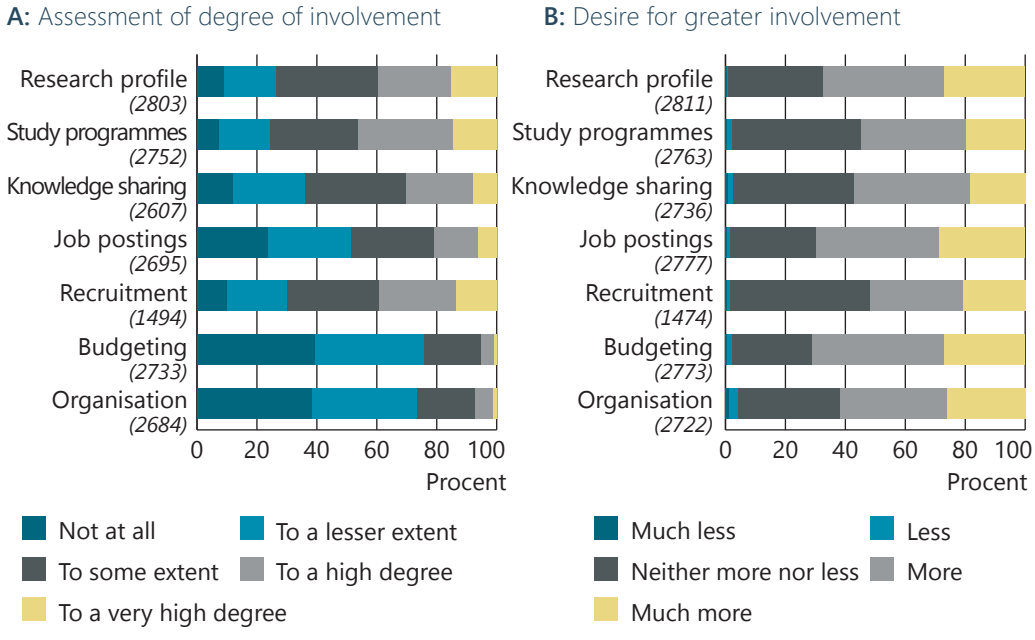
Figure 5 Researchers' perception of whether their institute has generally found good ways of involving academic staff in decision-making (N = 2896). Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses are weighted according to job category and institute.

One in four researchers feel that they are not at all, or only to a lesser extent, involved in decisions about the institute's research profile. Half feel that they are not at all or only to a lesser extent involved in decisions about the research areas in which new positions are advertised, cf. Figure 6A. Among researchers who sit on the selection committee in connection with permanent academic positions, almost one in three respond that they are not, or only to a lesser extent, involved in making decisions about the choice of candidate for a position.

Figure 6 Researchers' views on whether researchers in their job category are involved in the institute's decisions and their desire for more or less involvement - separately for selected decision-making areas. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses are weighted according to job category and institute. The number of respondents is in brackets.

Decisions regarding the institute's budget and organization also have implications for the framework within which researchers work. Three out of four researchers feel that they are either not involved, or only involved to a lesser extent, in these decisions, cf. Figure 6A. This lack of involvement contrasts with the researchers' wishes since approximately 70% of researchers want more or much more involvement in decisions regarding the institutes' research profile, job advertisements, budget, and organizational matters, cf. Figure 6B. Overall, this indicates that researchers think the general level of involvement is low. There are only small differences between assistant professors, associate professors, and professors, and there are no significant variations across different disciplines.

Job security

Job security and a healthy climate of discussion, in which staff can freely express their views on management decisions without fear of reprisals from management, colleagues, or others are prerequisites for a constructive and honest dialogue between management and staff.

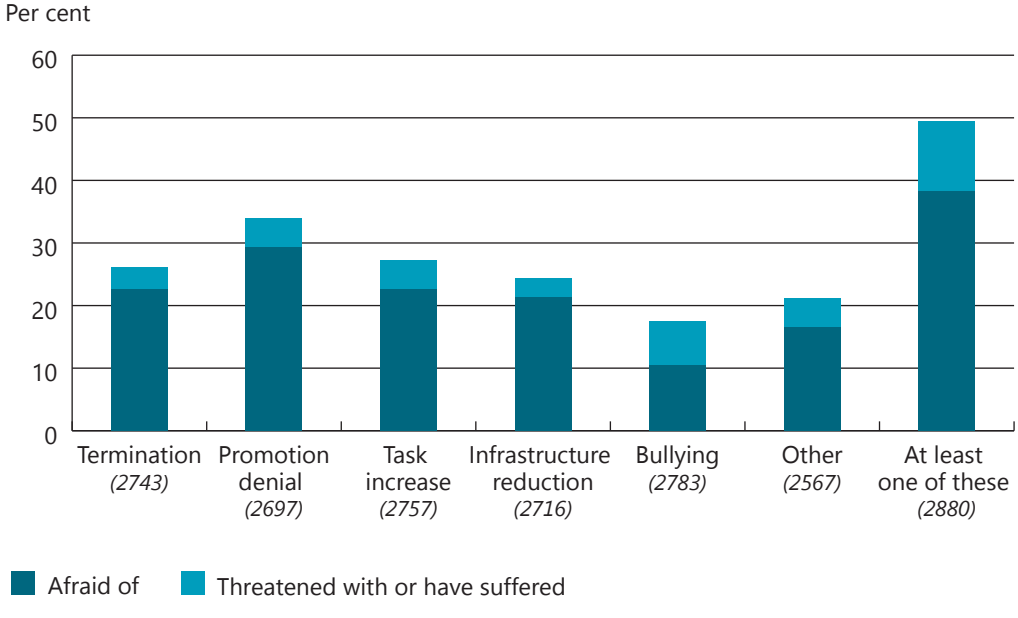
It is therefore of some concern that 50% of researchers fear, or have experienced, reprisals in one form or another for expressing their views on management decisions, cf. Figure 7. These reprisals take many forms. Some reprisals are directly influenced by the management, such as termination, denial of promotion, increased administrative and teaching tasks, and reduced ac-

cess to research infrastructure and facilities. Just under 40% of researchers fear one or more of these reprisals, and slightly over 11% have been threatened with or subjected to them. Bullying by academic colleagues is not directly influenced by the management but is nonetheless their responsibility. Just over 10% fear bullying by colleagues and 7% have experienced it.

In this case, too, there are only small differences between assistant professors, associate professors, and professors, as well as across different disciplines.

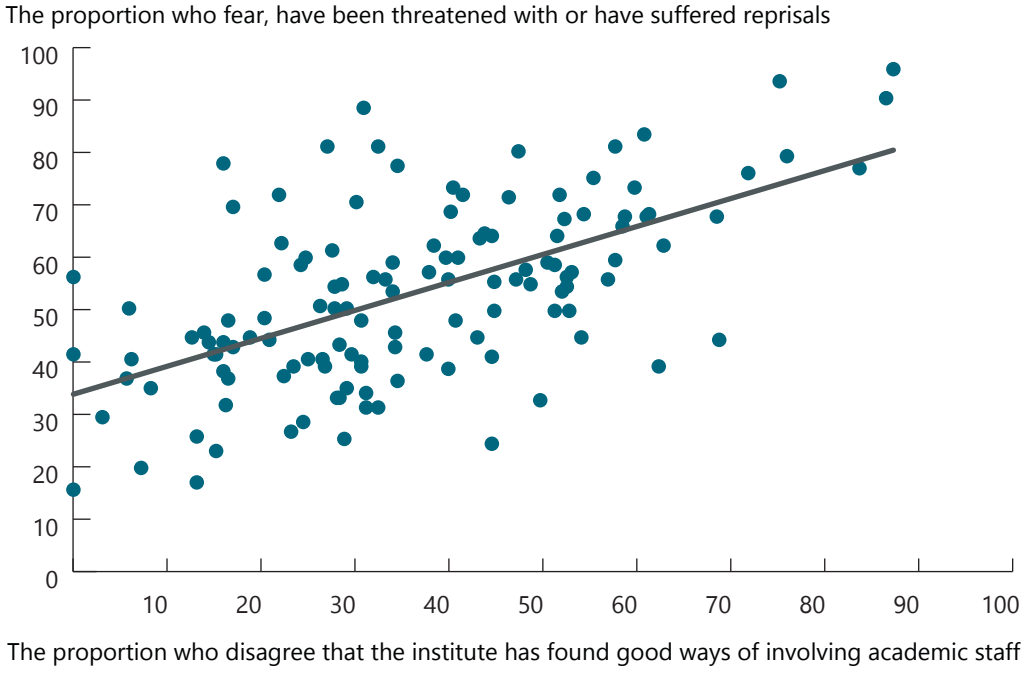
The survey also reveals a direct correlation between the proportion of researchers who feel that their institute has not developed effective procedures for involving researchers and the proportion of researchers at the same institute who fear or have experienced one or more reprisals, cf. Figure 8.

Figure 7 Proportion of researchers who are afraid of, have been threatened with or have suffered reprisals by speaking out about management decisions while in their current post. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses are weighted according to job category and institute. The number of respondents is in brackets.

Figure 8 Proportion of researchers who disagree that the institute has found good ways of involving academic staff, and the proportion of researchers who fear, have been threatened with or have suffered reprisals by speaking out about management decisions. By institute. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: This figure covers responses from institutes with at least 25 assistant professors, associate professors and professors, and where at least 15 per cent have answered the two questions. This excludes 25 institutes. The responses are weighted according to job categories. Fitted line estimated using OLS regression.

Figure 8 also illustrates that there is a significant variation between institutes in terms of involvement and the fear of reprisals. This indicates that it is possible to involve researchers within the existing legislative framework, but that the level of involvement depends on local factors, such as the internal management structure at universities, funding portfolios, and how institutes are led. This may suggest that institute-specific factors play a significant role. As mentioned in the section about the role of institute leaders, the majority of researchers, if given the choice, prefer for the institute leader to lead, support, and set the direction for the institute's research. Only a relatively small number of researchers prefer an institute leader who is personally involved in the core tasks of the institute.

Forums promoting involvement and influence

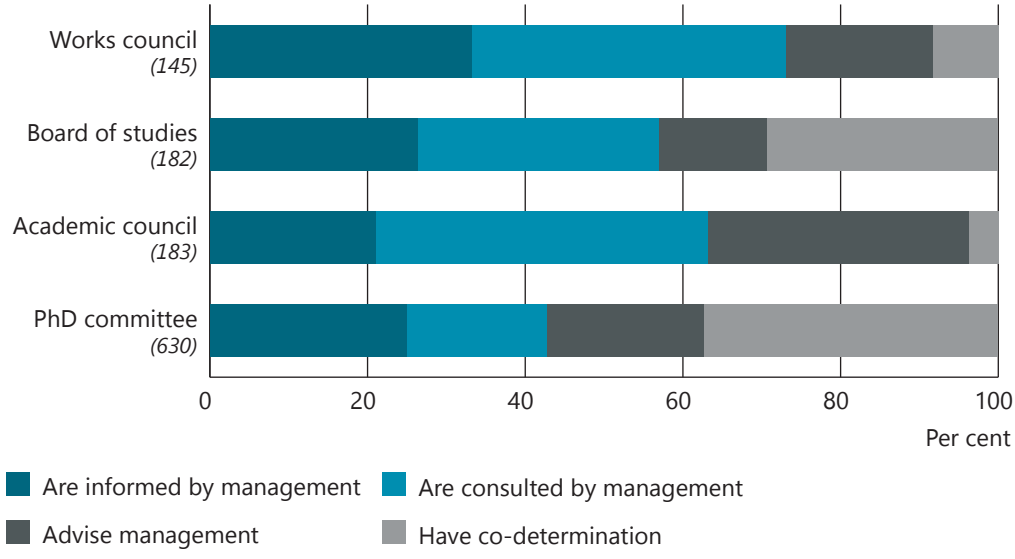
According to the University Act (LBK no. 778, 2019), staff involvement and co-determination are ensured directly through those mandatory bodies that the university can establish at the university, faculty, and institute levels. This includes the academic council, study boards, and PhD committees. Additionally, like other state institutions, universities are required to establish a works council.

Furthermore, institutes can involve staff through various non-mandatory committees and councils, such as institute councils and research committees, as well as through staff meetings.

The majority of researchers participating in the works council at the faculty or university level think that the council is primarily used to inform staff or to consult with staff, cf. Figure 9. A few find that the works council allows staff to advise the management, or enables co-determination. A similar picture emerges for the academic councils. Involvement is perceived to be higher for boards of studies and PhD committees.

Overall, more than 20% of academic members across all boards, councils, and committees at the university and faculty level believe that one-way communication is the norm: the university management simply informs researchers about their decisions.

Figure 9 Researchers' assessment of the involvement of academic staff on boards, councils and committees at the university or faculty level. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Calculations are based on researchers who have participated in the relevant boards, councils or committees. The number of respondents is in brackets.

Heads of departments can also involve researchers in the institute's decisions through works councils and boards of studies at the institute level. This can be done parallel with the involvement of researchers in similar committees and boards university or faculty level. Just over half of the researchers who sit on the works council at the institute level consider that the council is in fact used for advising management or for co-determination, cf. Figure 10.

Forums for involvement and influence

Works council

The purpose and function of the works council are not regulated by the University Act but by the Circular concerning the Agreement on Cooperation and Works Councils in State Institutions (CIR1H no. 9944, 2021). The task of the works councils is to ensure solid and trustful local collaboration for the benefit of solving the core tasks of the workplace and ensuring the well-being of staff.

Both management and staff have an obligation to provide information, and can, if desired by either party, discuss a variety of issues, including developments relating to university activities and the financial situation, the employment structure and situation, planned and expected measures and decisions by the management that may lead to significant changes in work organization and staff employment conditions, as well as anticipated decisions on tendering, re-tendering, and outsourcing.

Academic councils

Academic councils shall express opinions and advise the rector on the internal distribution of grants, key strategic research and teaching areas, and plans for knowledge exchange. They are also required to make recommendations to the rector on the composition of expert committees responsible for evaluating applicants for research positions. Additionally, universities may assign other tasks to the academic councils through the university's statutes.

The academic council is empowered to express its opinions on all academic matters of significant importance to the university's activities and is obliged to discuss those academic matters brought forward by the rector.

Board of Studies

Boards of studies consist of an equal number of representatives from the academic staff and the students. In addition to the tasks specified in the university's statutes, the board of studies is responsible for ensuring the organization, implementation, and development of study programmes and teaching, including:

- the quality assurance and development of study programmes and teaching;
- follow-up on evaluations of study programmes and teaching;
- the preparation of proposals for curricula and changes to curricula;
- the approval of the organization of teaching and examinations;
- the approval of applications for credit transfer and exemptions;
- expressing opinions on all matters of significance for study programmes and teaching within its area of responsibility.

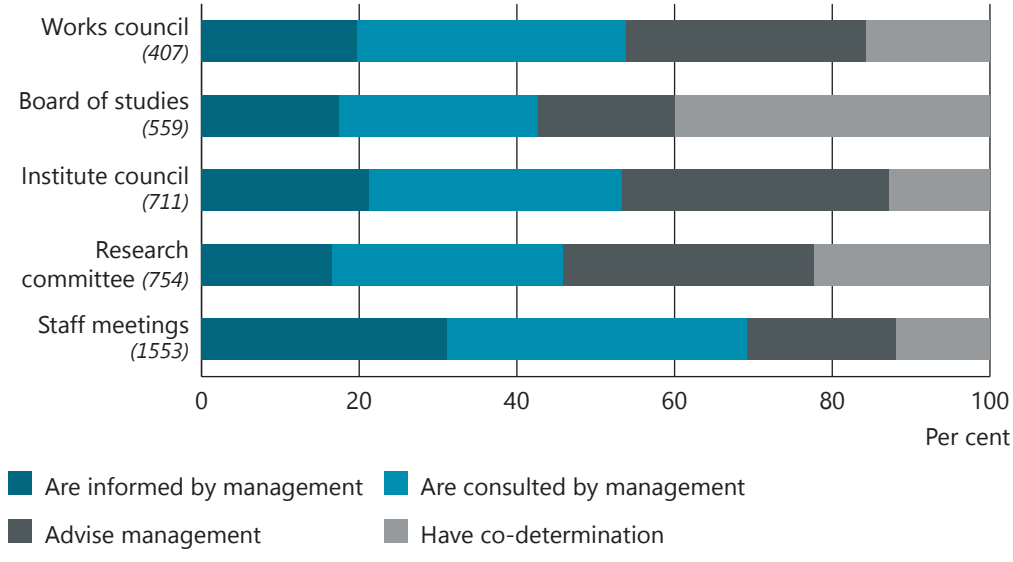
PhD Committee

The university's PhD committee consists of elected representatives from the academic staff and the PhD students and aims to ensure the influence of students and researchers on the PhD programme, including quality assurance. The PhD committee nominates (to the rector) a researcher on the committee as chairperson and according to the University Act has several functions, including:

- recommending assessment committees to the rector;
- submitting proposals for internal guidelines for the PhD course to the PhD course director;
- expressing opinions on evaluations of PhD courses and supervision to the Ph.D. course director;
- informing the Rector on all matters of significance for PhD courses and supervision;
- Approving PhD courses and applications for credit transfer and exemptions.

Similarly, a majority of the researchers sitting on boards of studies at the institute level (57%) believe that they are able to advise the institute management or exercise co-determination. Compared to their degree of involvement in similar committees at the university and faculty level, more researchers feel that they do advise the head of the department or exercise co-determination through works councils, boards of studies, institute councils and research committees at the institute level.

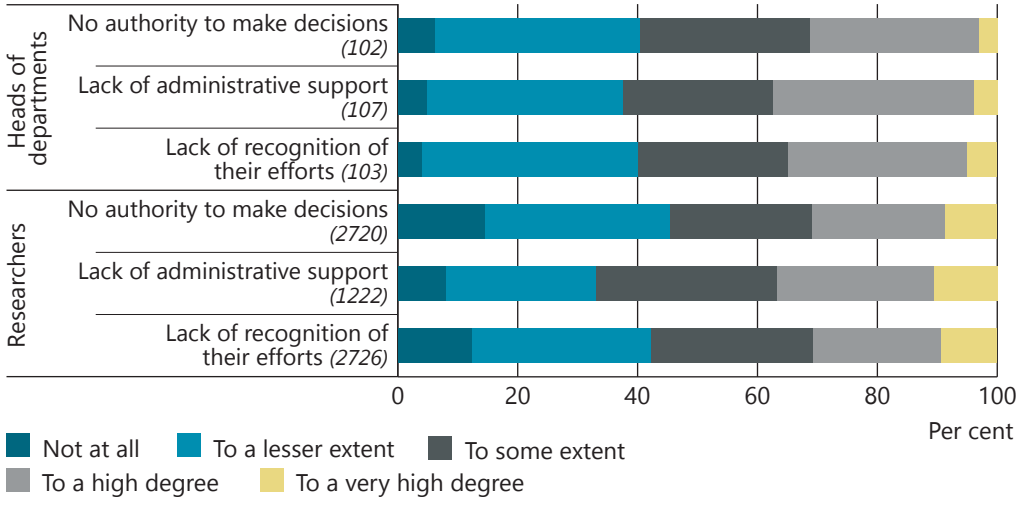
Figure 10 Researchers' assessment of the involvement of academic staff on boards, councils or committees at the institute level. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Calculations are based on researchers who have participated in the relevant boards, councils or committees. The number of respondents is in brackets.

Barriers to researchers sitting on boards, councils and committees.
Heads of departments and researchers identify several barriers to the latter sitting on boards, councils and committees. Between 31% and 37% of researchers state that their lack of decision-making authority, the absence of administrative support and a lack of recognition for their participation in collegiate bodies are barriers to their participation and involvement. The heads of department give the same answer, cf. Figure 11.

Figure 11 Assessment by heads of departments and researchers of the involvement of academic staff on boards, councils and committees. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, as well as KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.

Note: Calculations for researchers based on those who have participated in the relevant boards, councils or committees. The number of respondents is in brackets.

The role of the board

The involvement and participation of researchers in making important decisions are a management responsibility. Similarly, ensuring researchers' job security and fostering a healthy discussion climate are also management responsibilities, regardless of whatever may cause the fear of reprisals.

Mandate of the board

As the highest authority at the university, the board has the primary responsibility for ensuring that the university management involves staff, allows them to influence significant decisions, and ensures job security for them.

Currently, there are no legally binding measures to ensure that the board is kept informed and makes decisions regarding the involvement of researchers across the university's institutes. It depends on the initiative of the board and university management. Therefore, doubts may arise about the board's mandate in ensuring the involvement of researchers.

The mandate and appointment of the board

The role of the University Board
As the highest authority, the board is ultimately responsible for the administration of the university's resources and the strategic leadership of the university.

The board must approve the university's budget based on the recommendations of the rector and negotiate with the Minister for Higher Education and Science the strategic framework agreement on what tasks the university is to perform.

The board appoints and dismisses the rector and, upon the rector's recommendation, the other top-level executives of the university. According to the law, the board must also ensure that staff and students have co-determination and are involved in making significant decisions. Similarly, as the university's highest authority, the board is responsible for safeguarding the freedom of research.

Recommendation and appointment of board members

Currently, external board members are recommended by a nominating body through an open application process. The nominating body is composed of the chair of the current board, an external board member, an internal board member, and a representative from the Ministry of Higher Education and Science. Moreover, the nominating body has two additional members who are not part of the appointment body, the board or are employed by or enrolled at the university. These last two members often represent the business sector.

A selection committee of eight to ten members is formed, including five to seven members from the business sector, the civil authorities, educational institutions, etc., who are not members of the university board, employed by, or enrolled at the university. The remaining three members represent the staff, students, and external board members. Currently, there is a clear predominance of appointment bodies of individuals from the business sector, or similar backgrounds, and the authorities represented are often municipalities, regions, or other public institutions, but not educational institutions. Only a few members represent other higher education institutions.

Legitimacy of the board

The collective insight and experience of the board concerning management, funding, and the framework conditions that apply to the university sector can be crucial for the board's legitimacy and dialogue with researchers. According to the University Act, the external members of the board should collectively reflect the university's tasks and have a knowledge of research, research-based teaching, leadership, organization, and finance.

During DFiR's consultations with stakeholders, however, doubts have been raised about whether board members as a whole are properly qualified. Whether this is true or not, boards may become vulnerable to criticism: they can be portrayed as weak and hesitant if they delegate control to the rector, or as overbearing and uninformed if they assume responsibility for the university's strategic decisions without sufficient knowledge.

The lack of sufficient skills among board members may be due to several factors in the recruitment and appointment process. For example, the current board chairman, external board members, and external representatives from the business sector and public authorities have a significant influence on the recommendation and appointment of external board members. Additionally, external members are not offered sufficient courses or other ways of acquiring the skills and insights they may be lacking.

In the end, this can be detrimental to the board's legitimacy in its involvement with university researchers and its ability to ensure staff involvement and co-determination.

The roles of rectors and deans

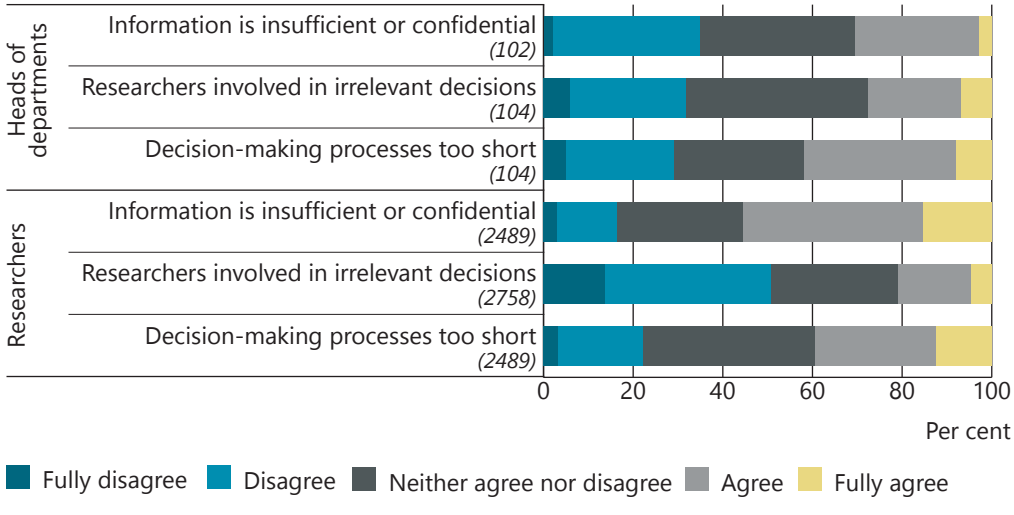
Rectors and deans have the overall daily management responsibility, including ensuring that there is a democratic culture at the university. Two of several matters influenced by top university management are discussed below: the organization of decision-making processes and the decentralisation of decision-making authority.

The organization of decision-making processes

Top university management has the power to organize decision-making processes in such a way that researchers feel sufficiently informed about the basis on which decisions are made, and that enough time is allocated for discussions. Similarly, top university management can choose to involve researchers in decisions that the latter find relevant.

As may be seen in Figure 12, more than half of the researchers regard insufficient information or claimed confidentiality as characteristics of decision-making processes that limit their involvement. This viewpoint is shared by almost one-third of the institute leaders. Approximately 40% of researchers and heads of departments agree that decision-making processes are generally too short, which restricts researcher involvement. Lastly, it is the view of 25% of heads of departments and 20% of researchers that researchers regard the decisions they are involved in as irrelevant, which affects levels of participation.

Figure 12 Assessment by heads of department and researchers of what factors hinder the involvement of researchers in decision-making processes. Per cent. 2022.

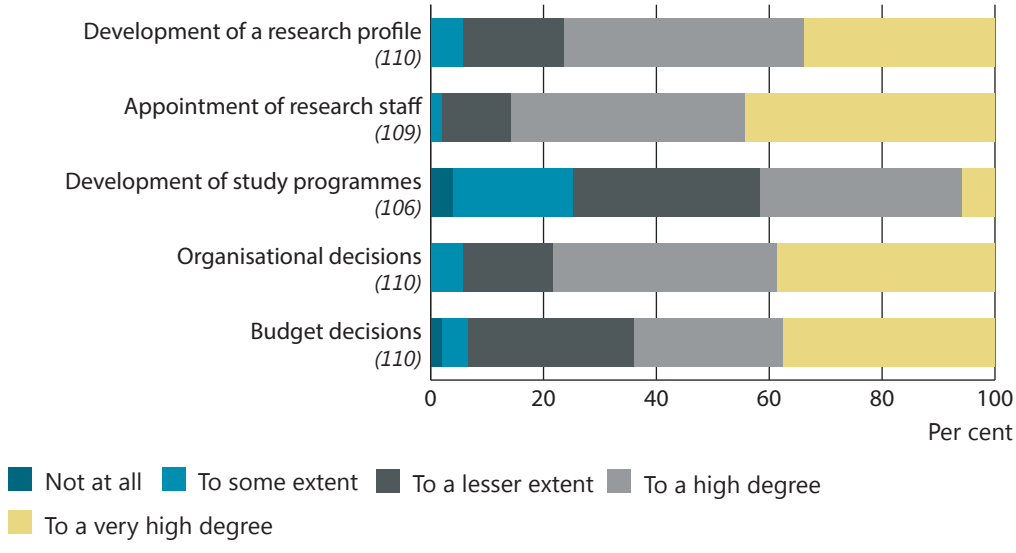


Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, as well as KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.

Note: For researchers, responses are weighted according to job category and institute. The number of respondents is in brackets.

Decentralised decision-making authority
Rectors and deans can influence the framework conditions for institutes and the scope for action of the heads of departments, thus affecting the ability of the latter to involve staff and ensure staff job security. The majority of department heads believe that they have a high or very high degree of room for manoeuvre in most areas, cf. Figure 13. This suggests that most heads of departments have extensive decision-making authority, which allows for considerable staff involvement and influence in these areas.

Figure 13 Assessment by heads of departments of their room for manoeuvre in the following areas. Per cent. 2022.



Source: KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.
Note: The number of respondents is in brackets.

The role of heads of departments

In their daily management, heads of departments carry a dual responsibility. Firstly, they must maintain the connection between researchers and university management through the hierarchical one-tier management structure. Secondly, they must ensure the involvement of staff in decisions concerning the institute. Two significant aspects influencing the involvement of researchers in institute decisions have been highlighted in the debate (The Royals Danish Academy of Sciences and Letters, 2021) and research literature (Öberg & Boberg, 2023). These are the legitimacy and loyalty of heads of departments to both university management and researchers, as well as their focus and strategy when communicating and dealing with university management decisions, including the role they assign to institute researchers in shaping the direction of the institute's research.

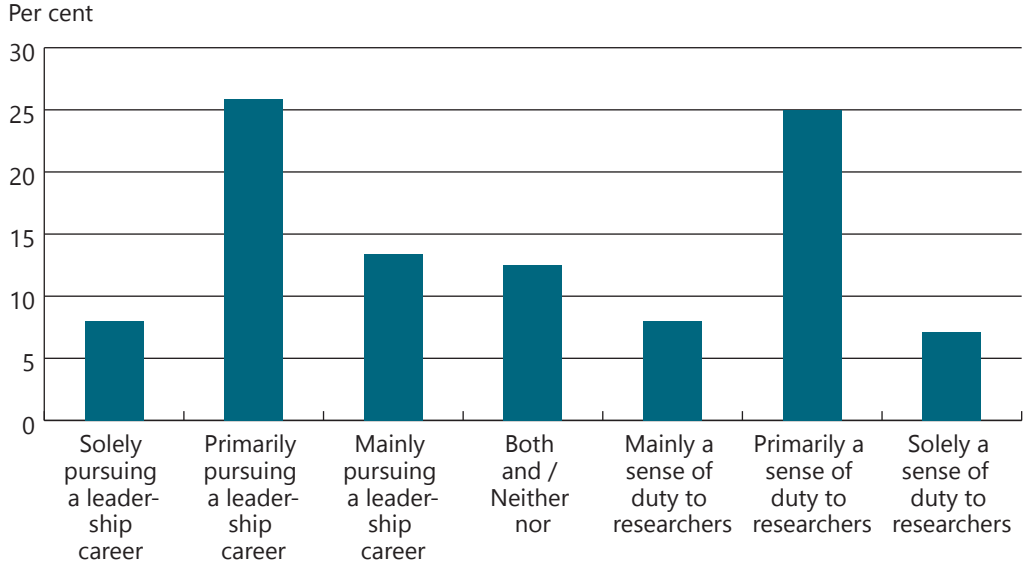
The loyalty and legitimacy of heads of departments
The loyalty of heads of departments to university management and researchers is revealed through their primary motivation

for seeking the position (Degn, 2014), as well as where they have been recruited from and the duration of their present tenure (Hansen, Lind, & Stage, 2020).

Prospective heads of departments may seek the position because they wish to pursue a leadership career, or out of a sense of duty towards the researchers at the institute. Those primarily seeking the position to pursue a leadership career and expect to move on to another leadership role after leaving their current position are expected to be more loyal to university management. On the other hand, those seeking the position out of a sense of duty towards the researchers at the institute, and who view the position as a temporary interruption of their research career, are expected to be more loyal to the institute's researchers (Degn, 2014).

As shown in Figure 14, current heads of departments are divided between these two motivations. While 47% sought the position primarily because *'it could be exciting to pursue a career in management'*, 40% sought it primarily *'out of a sense of duty towards the research staff at the institute'*. However, a small percentage, 8% and 7% respectively, sought the position solely to pursue a leadership career or out of a sense of duty towards their fellow researchers.

Figure 14 The motivation of heads of departments for applying for their position: choice between pursuing a leadership career, or a sense of duty to the researchers at the institute *(N = 112)*. Per cent. 2022.

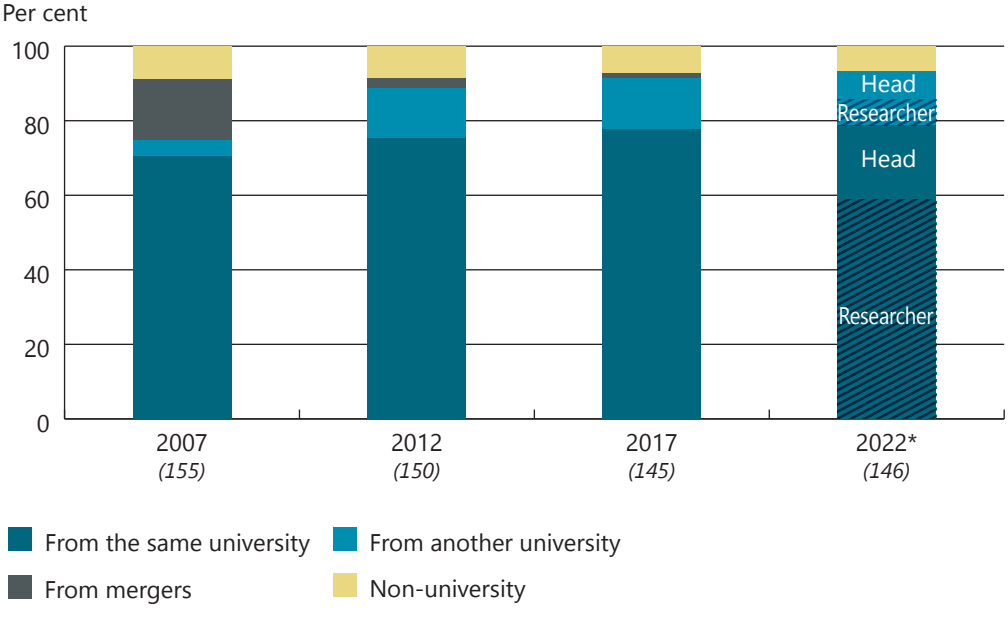


Source: KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.

Note: Categories calculated as the difference between the answers to two questions: the extent to which the desire for a leadership career and a sense of duty to researchers at the institute were part of the motivation for applying for the head of department position.

The recruitment of external researchers and managers to the position of head of the department may be seen as an expression of that person's loyalty to the university management and board since externally recruited heads of departments do not share a history and sense of community with the researchers at the institute where they are employed (Royal Danish Academy of Sciences and Letters, 2021). The latest report based on figures from Statistics Denmark (Hansen, Lind, & Stage, 2020; Hansen, Lind, & Stage, 2020) shows that in the period 2007-2017 the proportion of heads of departments recruited from among the university's staff, or from other universities, increased to just over 70% and just under 14%, respectively, cf. Figure 15. On the other hand, the proportion recruited from outside the universities has fallen to just under 7%. DFiR's study suggests that this trend has continued until the end of 2022. So, at the time of writing, 79% of heads of departments came from a position at the same university. Of these, 59% were researchers and 20% managers were at the same university. The remaining come from a position as a researcher or manager at another Danish university, or as a manager or some other position outside the universities: 7%, 8% and 7% respectively.

Figure 15 Heads of departments - previous positions. Per cent. 2007, 2012, 2017 and 2022.

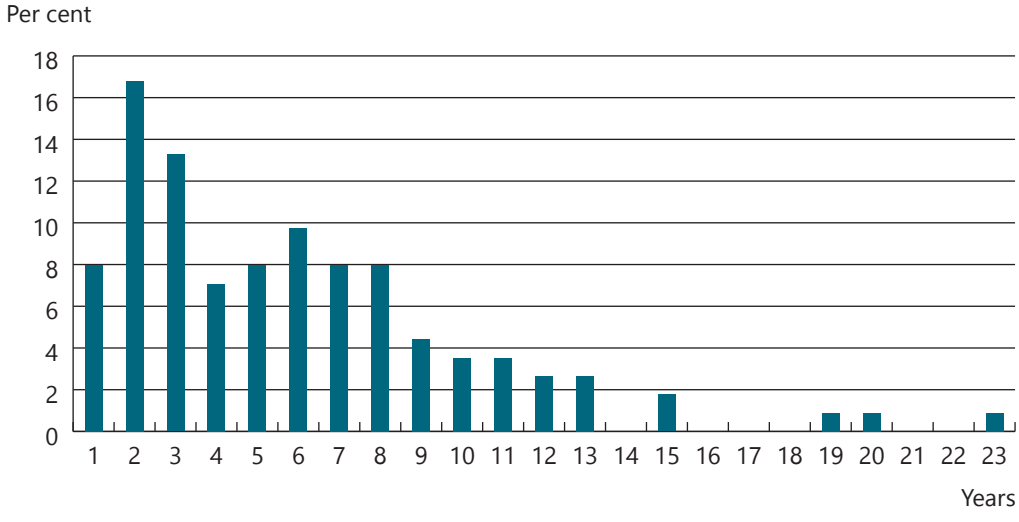


Source: (Hansen, Lind, & Stage, 2020), and KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.

Note: Figures for 2022 were calculated based on the KDVS and DFiR questionnaire survey of December 2022 and a total count of the remaining heads of department who did not respond. For the years 2007-2017, the figures are based on statistical data for staff at Danish universities. If a head of the department appears in the dataset before their employment, it is possible to determine from where they were recruited within the university sector. If the head of department does not appear in the dataset, that person was recruited from outside the Danish universities. Numbers in brackets indicate the total number of heads of departments.

A head of the department's tenure can also be seen as a marker of their career path and therefore their presumed loyalty. Half the heads of departments had held their position at the same institute for around five years, a quarter of them for six to eight years and another quarter for more than eight years, cf. Figure 16.

Figure 16 Heads of departments by number of years employed in that position at the same institute *(N = 113)*. Per cent. 2022

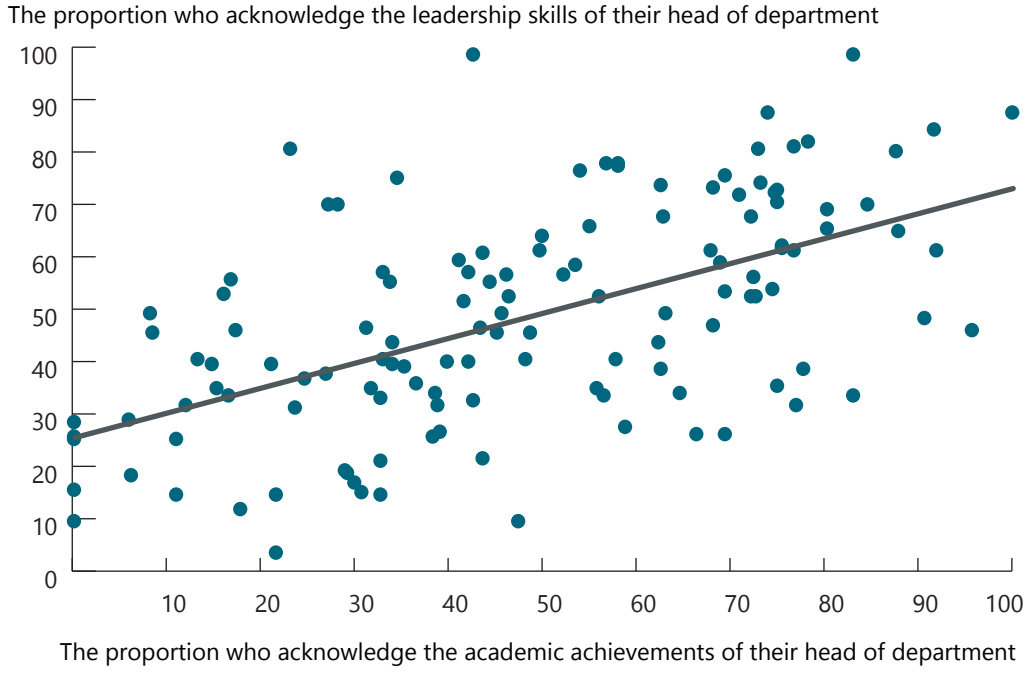


Source: KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.

The legitimacy of a head of department can be linked to the recognition by research staff of that person's achievements and leadership skills, as well as to the fact that research staff have encouraged that person to seek the position as head of department (Geschwind, Aarrevaara, Berg, & Lind, 2019).

As Figure 17 reveals, there is significant variation between institutes regarding recognition of the academic and leadership skills of department heads. Figure 17 presents the proportion of researchers at each institute who have a high or very high regard for the academic achievements of their head of department, as well as the proportion of researchers who have a high or very high regard for the leadership skills of their head of department. Some leaders enjoy widespread recognition - to a high or very high degree - for their academic achievements and/or leadership skills, while others do not.

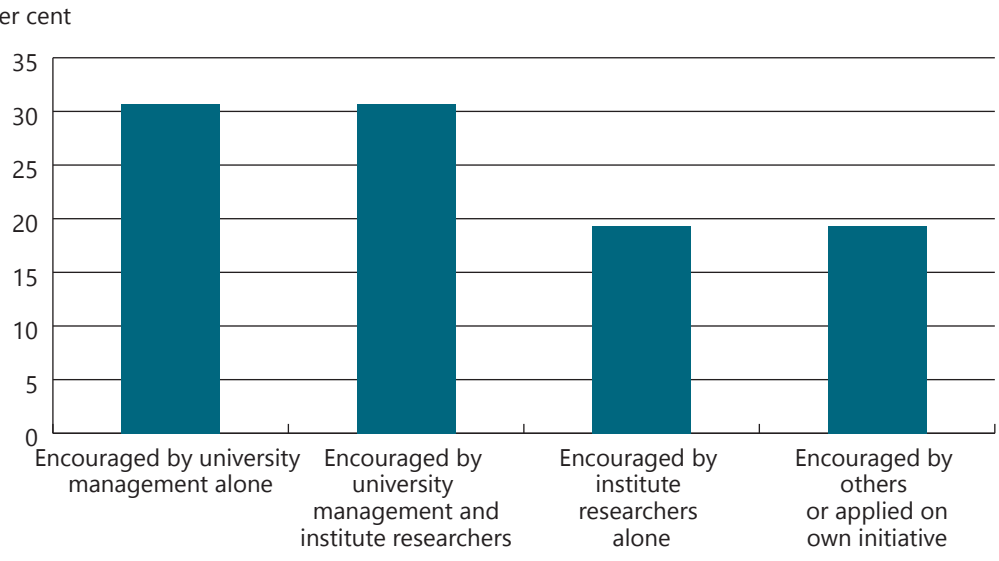
Figure 17 The proportion of researchers who acknowledge the academic achievements of their head of department to a high or very high degree, as well as the proportion of researchers who acknowledge the leadership skills of their head of department to a high or very high degree. By institute. Per cent. 2022



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: This figure covers responses from institutes with at least 25 assistant professors, associate professors and professors, and where at least 15 per cent have answered the two questions. This excludes 25 institutes. Responses are weighted according to job categories. Fitted line estimated using OLS regression.

There is a similar significant variation in whether the head of department was encouraged to apply for the position by the university management, or by one or more researchers at the institute. One-third of department heads, 31%, were encouraged to apply for the position by the university management or the former head of department, but not by researchers at the institute. Another one-third, 32%, were encouraged to apply both by the university management and researchers at the institute. In contrast, just under one-fifth, 18%, were exclusively encouraged to apply for the position by one or more researchers at the institute, but not by the university management. The remaining 20% applied on their own initiative, or upon recommendation from a recruitment agency, cf. Figure 18.

Figure 18 Heads of departments addressed according to who encouraged them to seek the post *(N = 114)*. Per cent. 2022.



Source: KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.

It is not surprising that among heads of departments recruited internally, there is a majority who have been encouraged to apply for the position by the university management, the former institute leader, or the researchers at the institute. On the other hand, the majority of heads of departments who come from a leadership position at another university applied on their own initiative. Interestingly, most of the department heads who come from a leadership position outside of universities were encouraged to apply by one or more researchers at the institute. This indicates the involvement of researchers in collaboration with external partners.

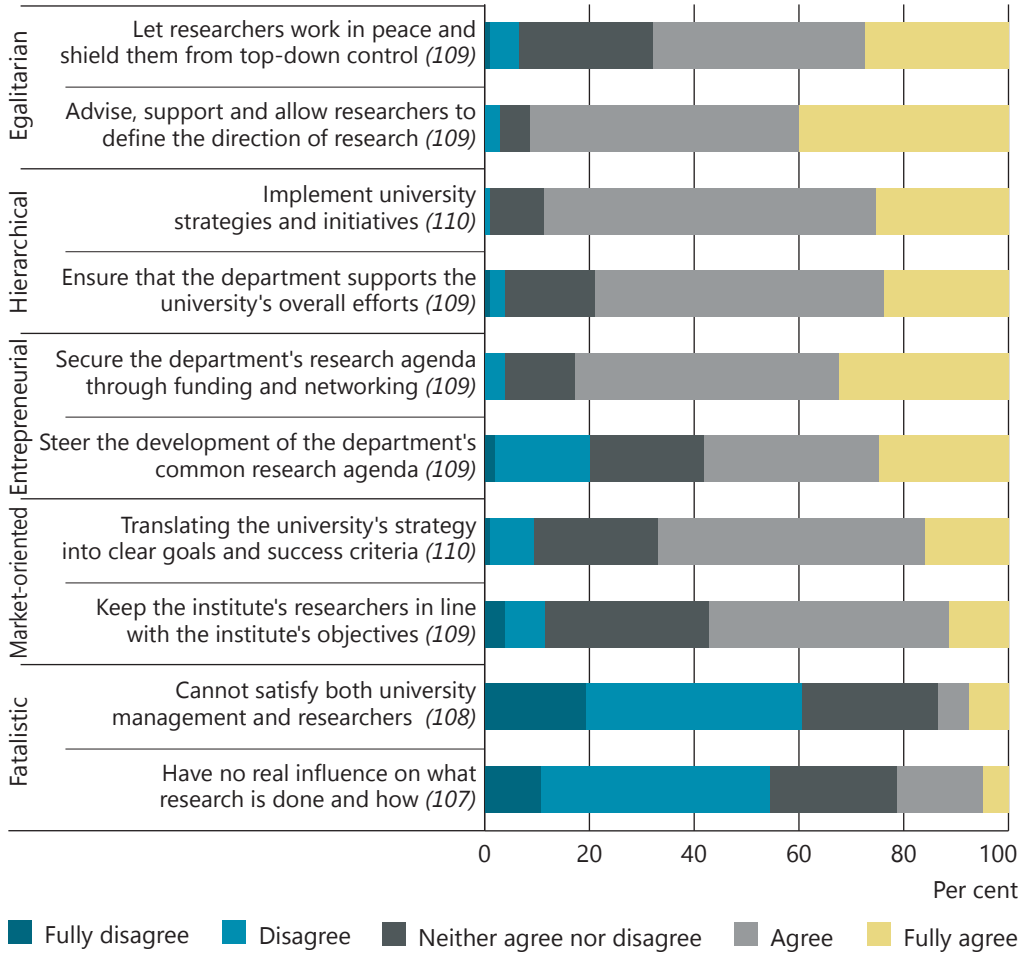
Heads of departments: their leadership focus and strategy

Heads of departments must balance multiple considerations and may have different leadership strategies (for references, see Maddock, 2023; Poulfelt, 2021). Drawing on various leadership approaches described in the literature on leadership and organizations (Cameron, Quinn, DeGraff, & Thakor, 2022; Maesschalck & Paesen, 2021), five possible approaches are highlighted here. For example, the head of department may adopt an *egalitarian approach*, allowing researchers considerable autonomy and focusing on shielding them from external control and administrative demands, while trusting in their adherence to robust shared values (Gjerde & Alvesson, 2020). However, the head of the department must also implement the strategies of the university management. This can be done using a *hierarchical approach* with internal control, or a *market-oriented approach*, translating the university's strategy into clear goals and success criteria and evaluating researchers based on their individual performance (Werr & Einola, 2021). Finally, the institute leader can adopt an *entrepreneurial approach*, focusing on establishing external relationships to secure resources for the institute, positioning it as an important development activity for the university and thereby gaining support from the university

leadership (Busk & Rasmussen, 2021). In some cases, the head of the department may find that researchers do not feel committed to the university and its management, making it difficult to comply with restrictions and meet the demands of the university management. In such situations, the head of the department may perceive the leadership task as impossible or undefined and therefore adopt a *fatalistic approach*.

As Figure 19 reveals, the majority of heads of departments agree or strongly agree with most statements about their primary role and focus. These results indicate that many department heads face multiple challenges when acting as an intermediary between university management and institute researchers and when making decisions about the direction of the institute's research. However, the results do suggest that most institute leaders believe they can meet these demands and do not perceive the task as impossible or unclear. According to Figure 19, heads of departments believe that they should shield researchers from top-down control and allow researchers to define the direction of the institute's research. At the same time, they believe they should implement the university's strategies and initiatives and ensure that the institute's research addresses societal challenges and needs. Similarly, they believe it is their job to secure sufficient funding and networks to allow them to define and pursue the development of the institute's research agenda while translating the university's research strategy into clear objectives and success criteria that researchers can align with and be held accountable for.

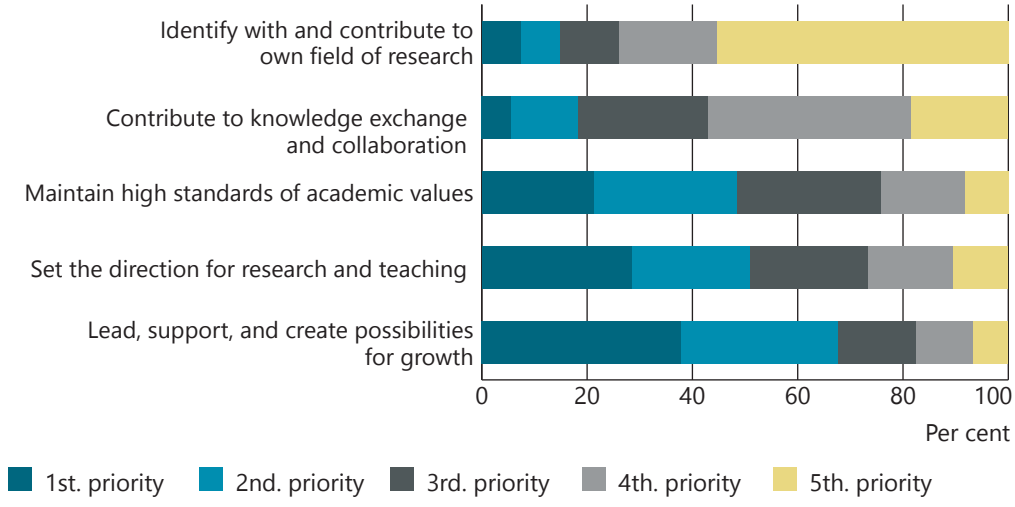
Figure 19 How department heads tackle their role as intermediary between university management and institute researchers, and when making decisions about the direction of the institute's research. Per cent. 2022.



Source: KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.
Note: The number of respondents is in brackets.

Given the choice, most researchers prefer that their institute leader should lead and support research groups, set the direction for research and teaching, design plans, systems, and support functions to achieve this, and create development opportunities for researchers, cf. Figure 20. Between 51% and 68% of researchers have this as their first or second priority. Conversely, only a few researchers, between 6% and 18%, prioritize the institute leader actively contributing to knowledge exchange, collaboration with companies, and other kinds of knowledge dissemination. Only a few, between 7% and 15%, would like the institute leader to identify with and contribute to the development of their own field as an active researcher and lecturer.

Figure 20 Researchers' prioritisation of which of the following five management tasks and roles is most important for the head of department to perform *(N = 2719)*. Per cent. 2022.

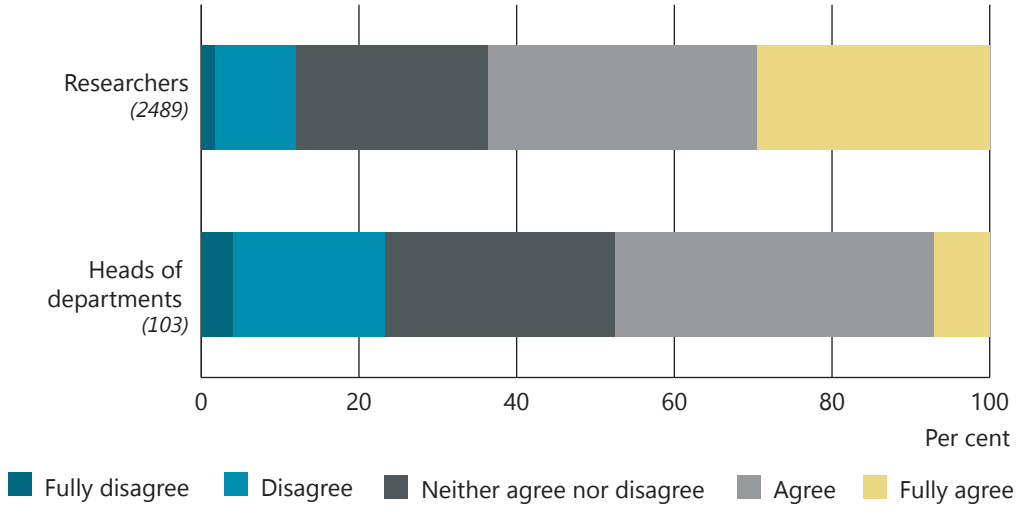


Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Calculations are based on researchers who have sat on the relevant boards, councils or committees. Numbers of respondents as per the figures after the columns.

University administration

Administrative management decisions can also limit the involvement of researchers and their influence on the conditions for their own research and the direction of the institutes' research (Stage & de Jong, 2023). In the debate about these matters, some subscribe to the narrative that administrative management decisions clearly and directly restrict the influence of researchers (Ginsberg, 2011; The Royal Danish Academy of Sciences and Letters, 2021). Others argue that the administration has an indirect influence on research, education, and knowledge exchange through the kind of support offered by researchers and the administration's interpretation of external requirements (Stage & de Jong, 2023). Additionally, some have argued that university administration is a parallel and detached process without any real influence on the direction of research (Maassen & Stensaker, 2019). A majority of both institute leaders and researchers (cf. Figure 21) think that the influence of administration on decision-making processes hinders the involvement of research staff.

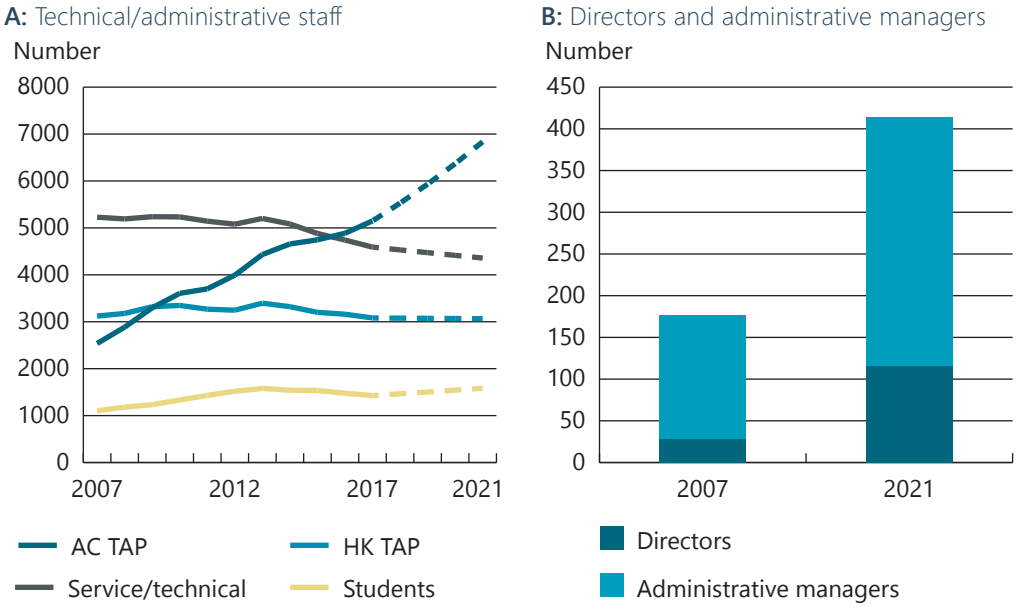
Figure 21 Views of department heads and researchers on whether the administration's influence on decision-making processes hinders the involvement of academic staff. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, as well as KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.
Note: For researchers, responses are weighted according to job category and institute. The number of respondents is in brackets.

An important argument for unhitching the link between administrative management decisions and institute research environments, a link which directly or indirectly restricts the involvement and influence of researchers, is the centralization of the university administration. There are no records of the number of full-time equivalent positions in the shared administration of universities and their faculties, but the results from previous studies for the period 1999 to 2017 (Stage & Aagaard, 2020; Stage & de Jong, 2023) can be interpreted as an indication that there has been a significant centralization of administration. The proportion of administrative staff with long-term, higher education qualifications has increased significantly over the past 15 years, cf. Figure 22A. At the same time, the number of directors and administrative managers is estimated to have more than doubled, cf. Figure 22B. It may also be assumed that the number of senior consultants, who also function as managers, has similarly increased.

Figure 22 Number of FTEs for student employees, service and technical staff, HK and AC (TAP) employees in the period 2007-2021 and estimated number administrative managers and directors in 2007 and 2021 at the eight Danish universities. Numbers. 2007-2021.



Source: Stage & Aagaard (2020); Stage & de Jong (2023), Universities Denmark Statistics Service and own calculations.

Note: Service and technical staff comprise service staff, library and study guidance, laboratory technicians, IT support, craftsmen, technicians and clinical staff. HK staff include administrative managers, consultants and coordinators, clerical staff and other staff without higher education qualifications. AC-TAP staff include administrative managers, consultants and coordinators, clerical staff and other staff with a long-term higher education qualification. The number of FTEs for technical and administrative staff in the years 2018 to 2021 is calculated as the average annual change in the proportion of technical and administrative staff in the preceding 10 years and the change in the total technical and administrative staff in the year in question, as reported by the Danish Universities Statistics Service. The number of administrative managers and directors has been calculated from the average annual growth rate for the period 1999 to 2017 by Stage & de Jong (2023).

One possible explanation for the increase in the number of AC-TAP staff is that the responsibilities of professors and associate professors have increasingly been formalised in procedures, rules and job functions. The numerous and extensive reforms, administrative management requirements, dependence on external funding, and new expectations of how universities should fulfil their tasks increase the need for administrative support functions, so as not to add new tasks to professors and associate professors. See Stage & de Jong (2023) for examples of this.

Researcher involvement

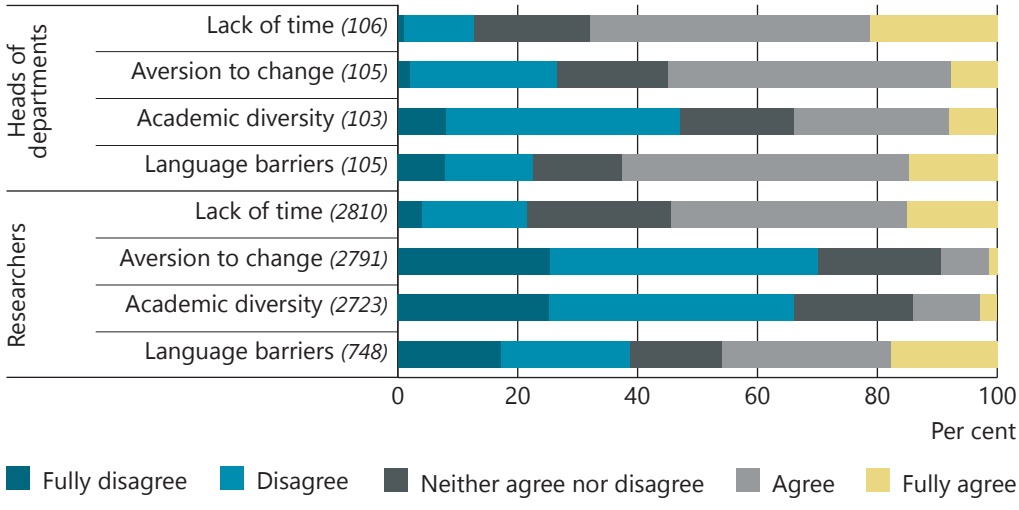
Engagement in decision-making processes is, of course, a prerequisite for staff involvement. As shown in Figure 23, department heads and researchers hold different views on the barriers to researcher participation.

55% of heads of departments believe that researchers are reluctant to change and prefer to stay out of decision-making. 10 % of researchers agree with this. Similarly, 34% of department heads believe that the diverse academic backgrounds of institute research-

ers make it difficult to reach common decisions and consensus, a view shared by 14% of researchers.

Among researchers, 54% point to a lack of time as a limiting factor for their participation in significant decisions. This sentiment is shared by 68% of department heads. Similarly, 46% of researchers with foreign citizenship perceive language barriers as a significant obstacle, a view shared by 64% of department heads.

Figure 23 How heads of departments and researchers assess barriers to researcher participation. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, as well as KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.
Note: For researchers, responses weighted according to job category and institute. The number of respondents is in brackets.

The lack of time reported by researchers emphasises to a large extent the importance of administrative support for their participation on boards, councils and committees. Similarly, the proportion of researchers and heads of department who find that language barriers limit the researchers' participation can be interpreted as an expression of a lack of administrative support in terms of translating the necessary information material, and the appropriate chairing of meetings.

Recommendations

The focus of the board and management on staff involvement and co-determination may be enhanced by the following measures:

- boards monitor and evaluate staff involvement and co-determination through the universities' APV (Work Environment Assessment) surveys or the like;
- boards and university managements foster transparency in important decision-making processes by minimizing the appeal to confidentiality;
- the Minister for Higher Education and Science ensures that external board members possess real insight into research, research-based education, leadership, and financial practices within knowledge-intensive and knowledge-producing public institutions. This can be achieved through a training programme specifically designed for them;
- the Minister for Higher Education and Science prioritises staff involvement and co-determination in connection with strategic framework contracts.

To strengthen staff participation in decision-making, the following steps can be taken:

- university management, at both the university and institute levels, clearly communicates the framework for staff involvement, including who, how, and when significant strategic research decisions are made, as well as how staff can influence these decisions;
- university management ensures that the academic members of the academic forums are given the necessary administrative support and speaking time at board meetings, including in the case of confidential agenda items;
- administrative support covers cooperation between the academic forums across universities so that academic staff are able to speak with a collective voice.

The staff mandate in the appointment of their managers may be reinforced by the following actions:

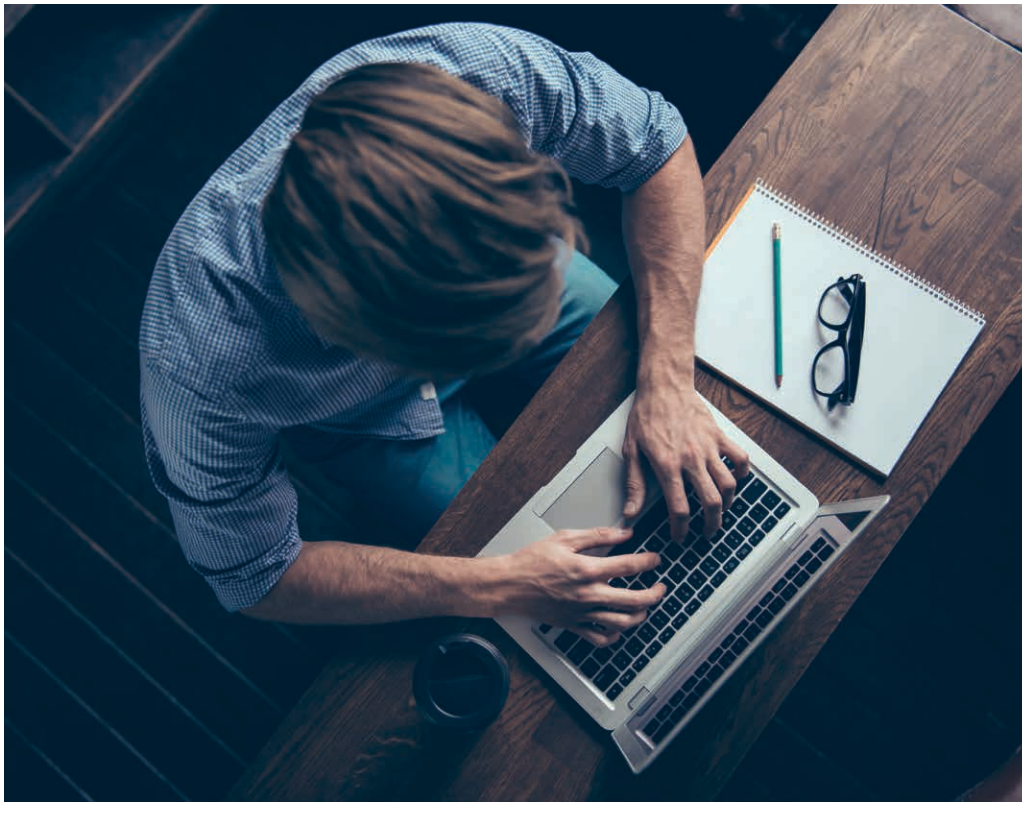
- ensuring the representation of major staff groups and giving significant weight to the views of staff representatives when hiring managers on fixed-term contracts;
- consulting relevant staff forums when extending or reappointing managers on fixed-term contracts;
- in principle, fixed-term managers can only be employed for a maximum of eight years.

If, within three to five years, the staff mandate in appointing their own managers is not strengthened as outlined above, their mandate should be clarified through a revision of the University Act.

Chapter 3
Freedom of research

It is widely recognized that freedom of research is the foundation for producing high-quality knowledge that is relevant to future generations and society as a whole (Royal Danish Academy of Sciences and Letters, 2019). In its purest form, freedom of research means that researchers are free to choose their subjects and methods and publish their research results without undue influence or interference. However, universities and researchers today must balance various conflicting interests (Olsen, 2007). Academic is freedom influenced by these conflicting considerations, and is therefore constantly to be negotiated.

In this chapter, DFiR takes a closer look at the state of freedom of research for researchers at the eight Danish universities.



Conclusion

Freedom of research is under pressure.

Central statistics

- 18% of researchers believe that academic freedom is under pressure at their institute.
- Within the last two years, 30% of researchers have spent less than 20% of their working time on research.
- Within the last two years, 3% of researchers have refrained from researching controversial topics out of fear of reprisals.
- 24% of Danish researchers are currently engaged in or considering researching controversial topics. Among this group, 71% fear or have experienced threats or reprisals.
- 18% of researchers believe that their institute's management does not unequivocally support research on controversial topics, while 12% believe that their institute's management does not unequivocally support research on politically sensitive topics.
- Within the last two years, between 5% and 7% of researchers have been pressured to delay publication, omit or change parts of their results, or refrain from publishing their results altogether.

Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.

What is freedom of research?

Freedom of research encompasses several elements. Firstly, it relates to the freedom to choose research topics, methods, and the freedom to publish. Topic freedom refers to the freedom to question new and established knowledge and special interests. Method freedom grants researchers the right to choose materials and methods to find answers to their questions. Publishing freedom allows researchers to publicly present their hypotheses, results, and reasoning.

Secondly, researchers must be given a minimum amount of time and resources for their research. Freedom of research is not only defined by freedom from interference or coercion by others but also by the freedom to conduct the research one desires (Andersen, 2017). This includes resources and the conditions necessary to carry out the research, which expands the concept of research freedom. Under current university legislation, researchers are formally guaranteed full research freedom within the university's overall research profile, limited only by the time allocated for other tasks by the university's management, including administrative duties and teaching responsibilities (LBK no. 778, 2019). Universities cannot assign tasks to researchers that occupy their entire working time for an extended period, thus effectively depriving them of their freedom of research. However, universities are not obliged to finance researchers' actual research. Therefore, financial conditions can also significantly limit researchers' research time, their funding, and thus their freedom of research.

The Danish University Act obliges university management to protect the freedom of research, and Danish universities, like many other universities in Europe, have signed up to the European Magna Charta (The Observatory Magna Charta Universitatum, 2023). In the European debate, the involvement of researchers in the university's priorities and their job security are seen as essential prerequisites for researchers' real freedom of research (Karran, Beiter, & Appiagyei-Atua, 2017; Karran, Beiter, & Mallinson, 2023), as these factors allow researchers to influence the framework conditions and direction of their own research and not fear reprisals for their research. The institutional autonomy and financial independence of universities are fundamental prerequisites for the freedom of research, ensuring that universities are protected from direct interference by special political and economic interests. It is also important to note that researchers have an interest in engaging in dialogue with external parties, as they can contribute to the quality and relevance of research results. However, in some cases, dialogue and debate may be used as a means to influence what research is conducted, how research results are to be interpreted, and whether they can be published.

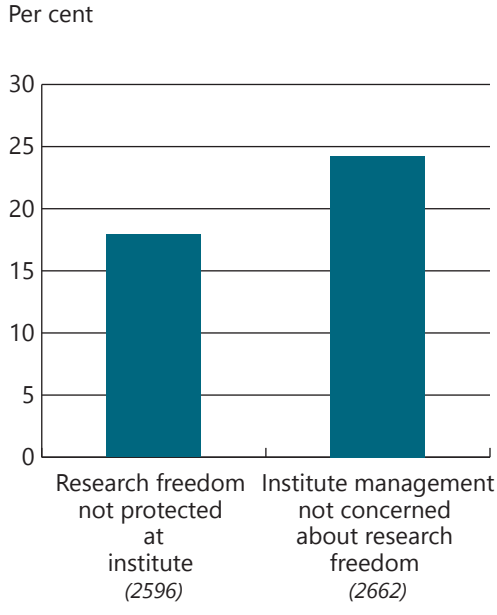
Management commitment to the freedom of research

It is difficult to establish clear indicators for when researchers' freedom of research is under pressure. For this reason, DFiR's survey is based on researchers' own experiences. A significant minority of 18% of researchers state that research freedom at their institute is to some extent unprotected, cf. Figure 24A.

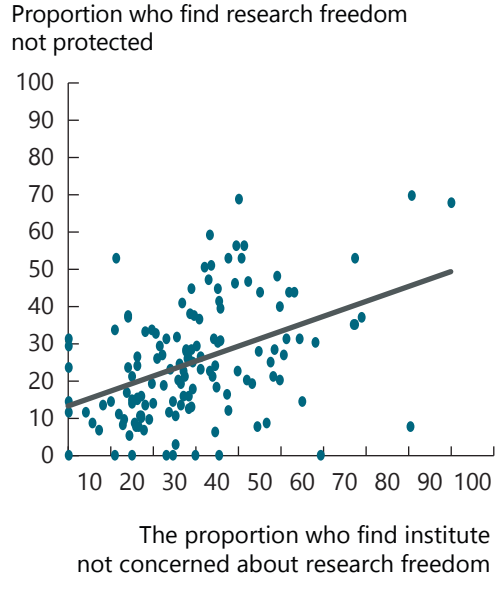
A slightly larger proportion, namely 25%, reply that their institute management is not deeply concerned with matters related to freedom of research. There is a significant difference between institutes, as those institutes where more researchers regard the management as disengaged have a higher proportion of researchers who regard their freedom of research as unprotected. This suggests that institute management can make a difference in protecting the freedom of research, cf. Figure 24B.

Figure 24 Proportion of researchers who think that freedom of research is not protected in their institute and that the institute management is not deeply concerned with issues related to freedom of research. Overall and separately for institutes. Per cent. 2022.

A: Overall



B: Per institute



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.

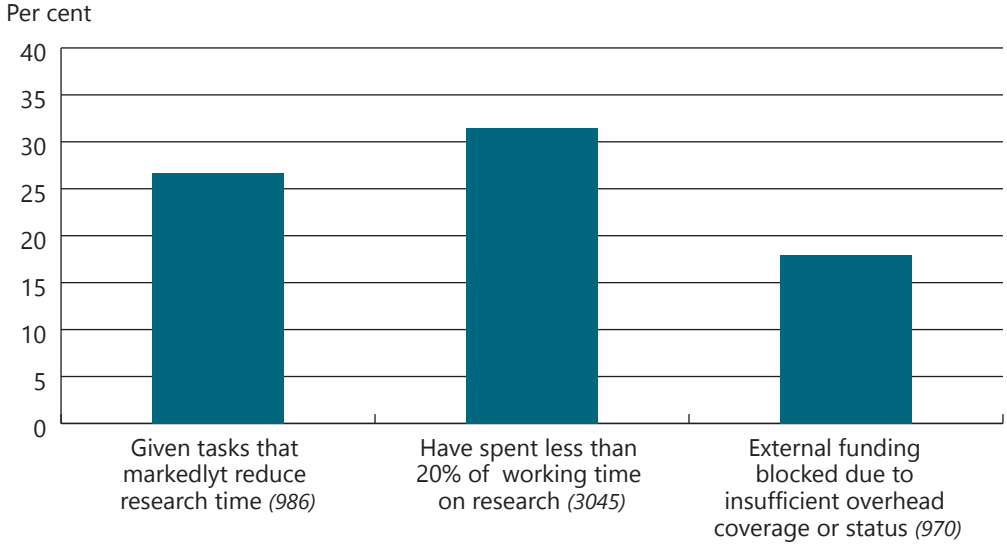
Note: In Figure A, the responses are weighted according to job category and department; the number of respondents is in brackets. Figure B includes responses from institutes with at least 25 assistant professors, associate professors and professors, where a minimum of 15 per cent have answered the two questions. This excludes 37 institutes. The fitted line was estimated using a TOBIT regression. Responses weighted according to job categories.

Time and resources for one's own research

Researchers' freedom of research is primarily limited by a lack of time and resources for their research activities. It is largely the responsibility of management to ensure that researchers have research time and funding, including providing opportunities for researchers to seek external funding. This can be challenging due to the universities' framework conditions and the institutes' finances, as discussed in Chapter 5.

As shown in Figure 25, a little over a quarter of researchers report that within the last two years, they have been assigned tasks that have significantly limited their research time. Almost a third report that within the last two years, they have spent less than 20% of their working time on research. This indicates that universities have not exempted a significant minority of researchers from tasks that significantly restrict their research time. Furthermore, within the last two years, nearly one-fifth of the researchers have experienced obstacles in seeking external funding, necessary because grants do not sufficiently cover ancillary costs.

Figure 25 Percentage of researchers who within the last 2 years have been assigned other tasks that significantly limit their research time, have spent less than 20% of their working time on research, and have seen external funding blocked, due to insufficient coverage of ancillary costs or status. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.

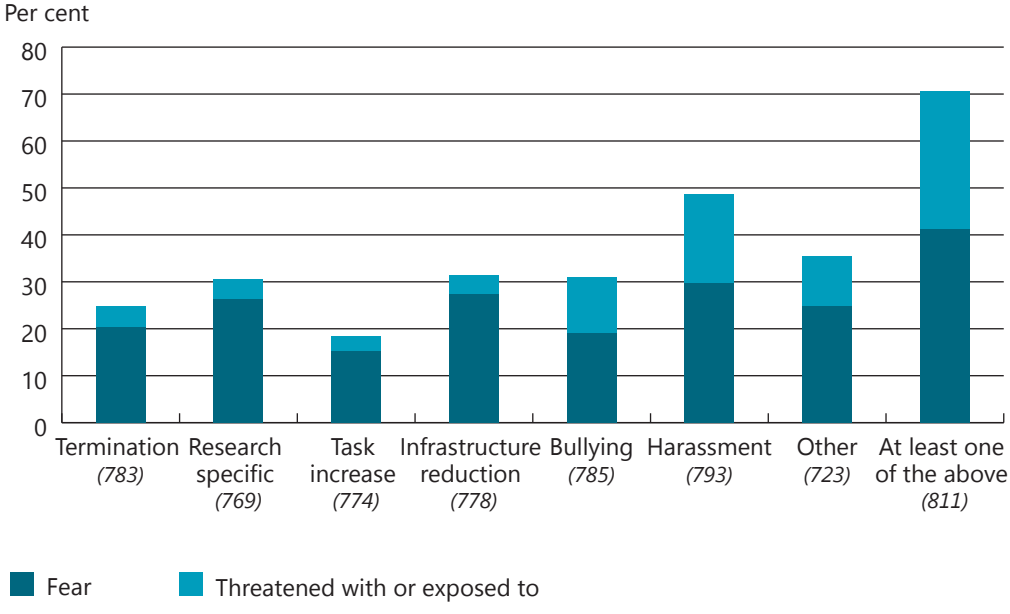
Note: Responses weighted by job category and institute. Number of respondents is in brackets. The low number of respondents to the questions about tasks assigned and blocking of external funding is due to a coding error in those two questions, resulting in the exclusion of the responses from 1772 and 1691 respondents, respectively, who completed the questionnaire before the error was corrected.

Repercussions for research on controversial topics

Freedom of research is restricted in cases where researchers refrain from working on controversial research topics for fear of repercussions. However, only 3 per cent of researchers have refrained from researching controversial topics in the last two years for fear of reprisals.

The situation is more worrying, however, when we take a closer look at the 24% of researchers who are working, or considering working, on controversial research topics. In this case, 71% fear, have been threatened with, or have been subjected to reprisals, cf. Figure 26. This figure reports both the fear of repercussions, as well as threats and instances of repercussions. When it comes to threats and instances, harassment from external parties and bullying from colleagues are the most common scenarios.

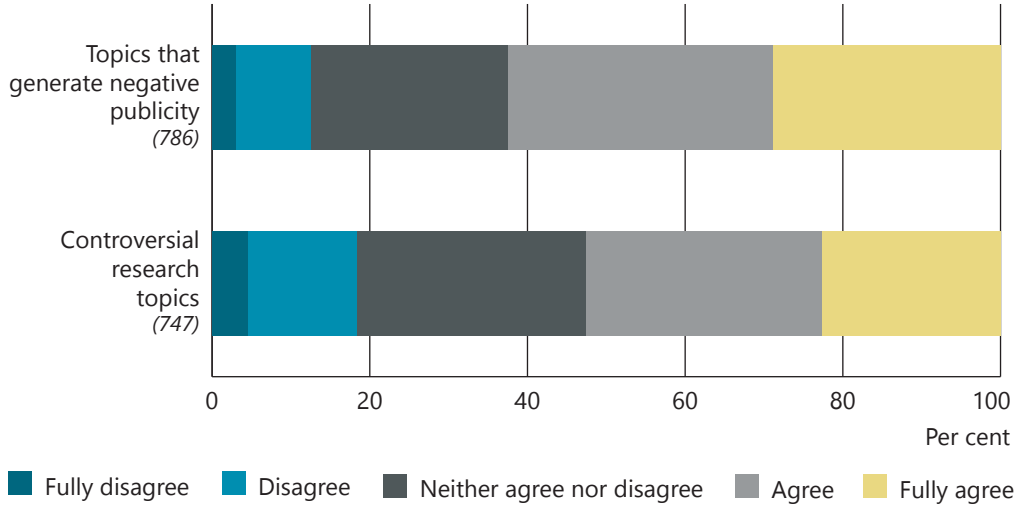
Figure 26 Percentage of researchers who fear, have been threatened with, or have been subjected to reprisals. Based on researchers who are working, or considering working, on controversial research topics.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses weighted by job category and institute. Number of respondents is in brackets.

Over half of the researchers (53%) feel that their institute leadership supports controversial research topics and theories that receive negative public attention. However, around 18% of researchers have a different opinion. A larger proportion (62%) agree or strongly agree that the institute leadership consistently supports politically controversial topics that attract negative public attention. On the other hand, only 12% of researchers disagree or strongly disagree with this statement, cf. Figure 27. It is important to consider this result in the context of recent debates and instances where certain research communities and researchers have faced political criticism.

Figure 27 Researchers' assessments of whether their institute management offers unequivocal support for the use, discussion, elucidation and dissemination of topics and theories that are controversial from a research perspective, or topics and theories that generate negative publicity. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.

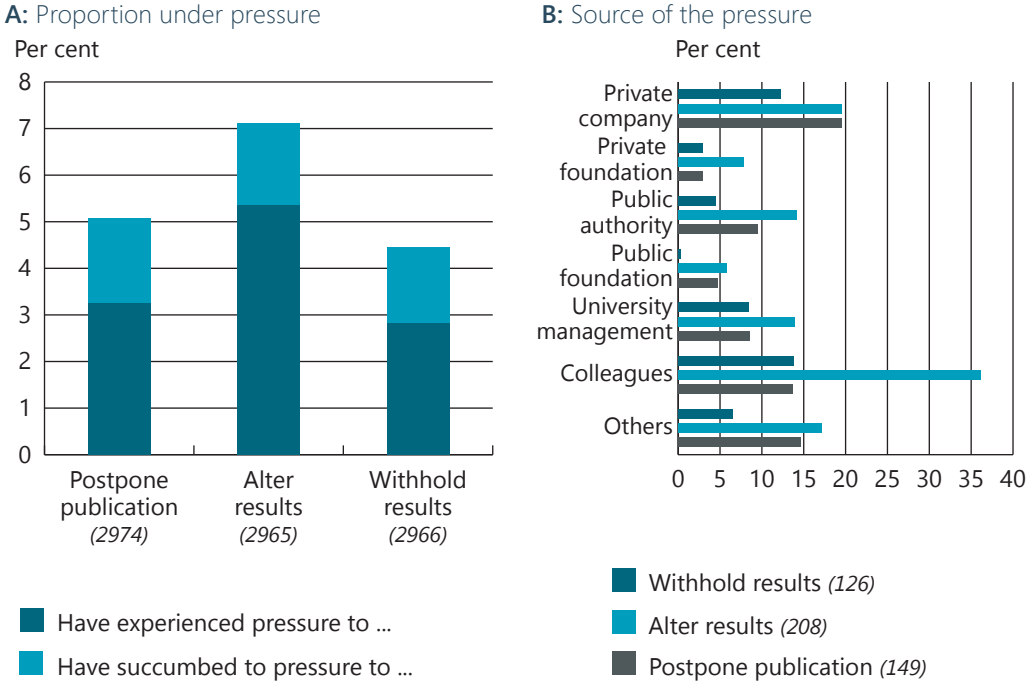
Note: Responses weighted by job category and institute. Number of respondents is in brackets. The low number of respondents to the questions about tasks assigned and blocking of external funding is due to a coding error in those two questions, resulting in the exclusion of responses from 1760 and 1914 respondents who completed the questionnaire before the error was corrected.

Pressure to change or withhold research results

Researchers can face pressure to modify or withhold their research results. As shown in Figure 28A, between 5% and 7% of researchers have been pressured in the past two years to delay publication, omit or alter parts of their results, or completely refrain from publishing them.

Figure 28B examines the proportion of researchers who have experienced or been subjected to pressure in the past two years. Based on this data, we can observe that the pressure to delay publication, alter results, or withhold findings primarily originates from fellow researchers and private companies.

Figure 28 The proportion of researchers who, within the last two years, have experienced or succumbed to pressure to postpone publication, alter or omit results or withhold results from publication, and the source of this pressure. Per cent. 2022.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: In Figure A responses weighted by job category and institute. Number of respondents is in brackets.

Recommendations

Freedom of research can be ensured if:

- **university management supports staff who face undue pressure as a result of their research or research dissemination, particularly in relation to controversial research topics;**
- **university management provides researchers with better financial resources and more time for research, thus ensuring real freedom of research.**
- **boards monitor and evaluate freedom of research through occupational health and safety (APV) surveys or similar methods.**

Chapter 4
Management and funding frameworks

Danish universities are state-funded, self-governing institutions under public administration. The state finances the universities' educational activities and a significant portion of their research activities. Compared to other countries in Europe, Danish universities have extensive formal autonomy and access to research funding, which represents a significant proportion of Denmark's GDP. However, several factors limit the real autonomy of universities and weaken their financial resilience.

Stable and supportive management and financing frameworks are crucial if university leaders are to develop universities attractive to researchers and collaborators. In this chapter, the DFiR examines the current management and financing frameworks.

Conclusion

The autonomy and financial robustness of universities are being challenged.

Key statistics

- 59% of heads of departments consider state control to be harmful or very harmful;
- 19% of researchers spend more than 40% of their time on research;
- within the last two years, 74% of researchers have received less than DKK 50,000 from their university to cover research expenses
- within the last 2 years, 24% of researchers have received funding neither from the university to cover research expenses, nor external funding as a PI or local PI.

Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022..

Statutory institutional autonomy of universities

The concept of institutional autonomy is often referred to in discussions about university management and funding models. This is to be understood as the universities' freedom from state control, including the freedom to choose their organization and management, make decisions regarding the staff profile, and allocate funds for teaching and research. A certain degree of autonomy is considered a prerequisite for modern universities to develop their institutional profile and fulfil their mission (Pruvot, Estermann, & Popkhadze, 2023). Drawing on the EUA's *University Autonomy Scoreboard*, university autonomy is assessed based on four dimensions:

1. **Organisational autonomy,** including the appointment and dismissal of rectors, the academic structure with faculties and institutes, and the universities' ability to establish their own legal entities, such as technology transfer offices.

2. **Financial autonomy,** including the budget horizon and type of public funding, the ability to retain surplus as equity, borrow money, own buildings, and charge tuition fees.

3. **Personnel autonomy,** including employment procedures, salaries, promotion, and the dismissal of academic and administrative staff.

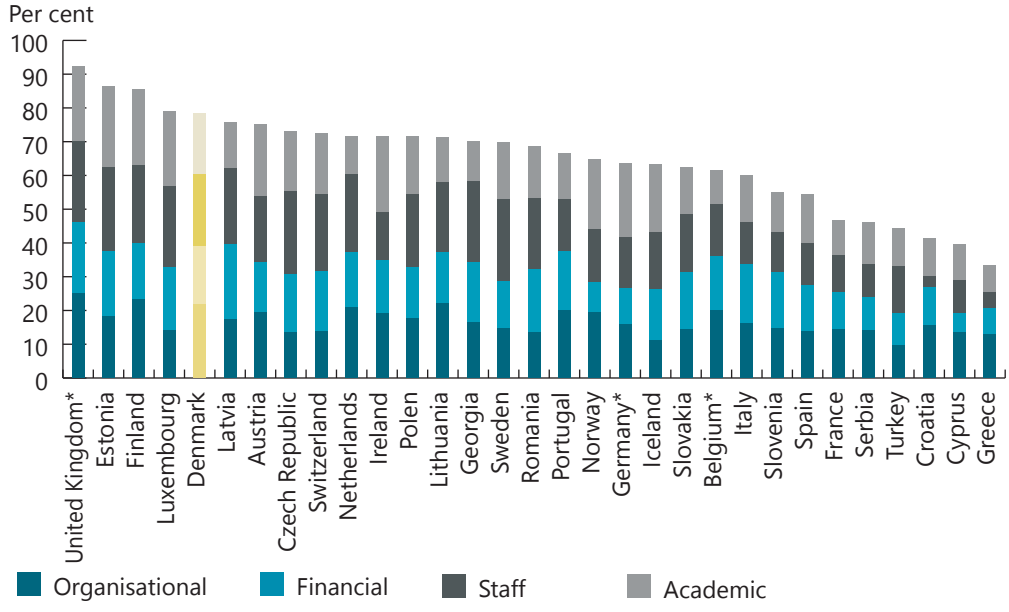
4. **Academic autonomy,** including decisions regarding the provision and content of teaching programmes, as well as the initiation and termination of research programmes.

The four dimensions each encompass a range of indicators used collectively to assess the extent to which existing national legislation provides universities with autonomy *de jure*, but not whether universities are ensured autonomy *de facto*.[2] In this light, Danish universities are considered to have a high degree of institutional autonomy compared to universities in other European countries, cf. Figure 29.

There can be good reasons to safeguard and expand institutional autonomy, also from a competitive standpoint, as a positive correlation has been identified between institutional autonomy and scientific productivity (Aghion, et al., 2010). Figure 30 compares overall institutional autonomy with an increase in the number of the top 10% most cited research articles per million inhabitants. There is a clear correlation between high institutional autonomy and the growth in the number of widely cited articles. Denmark performs well on both parameters.

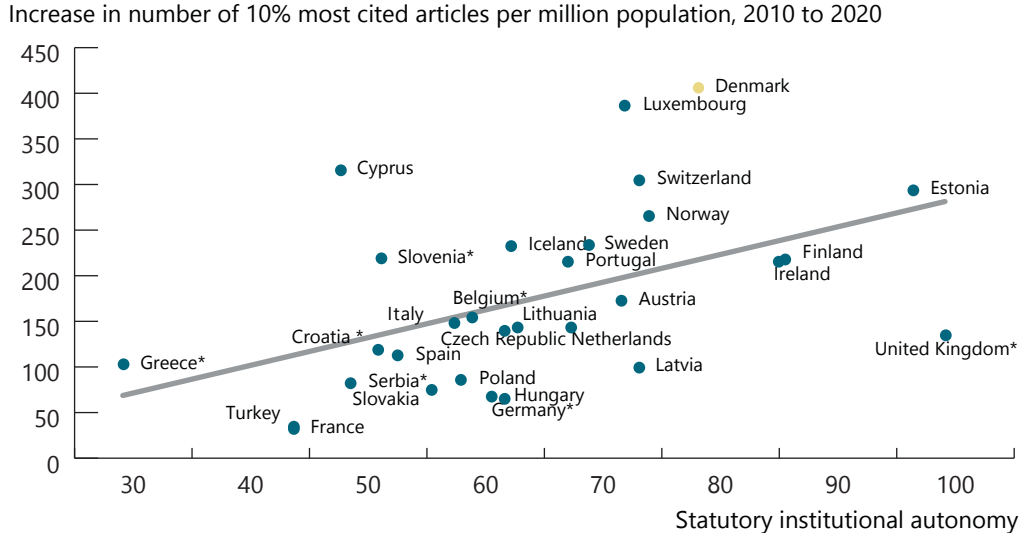
In the future, there will still be a need for significant autonomy in the university sector both in Denmark and in Europe as a whole. This is due, not least, to a range of challenges, each of which will require extensive and ongoing adaptation on the part of individual universities.

Figure 29 Statutory institutional autonomy of universities in Europe, 2022



Source: Pruvot, Estermann, & Popkhadze (2023).
Note: *Figures for Belgium, the United Kingdom and Germany in 2022 calculated as the average score for the regions.

Figure 30 The university sector's statutory institutional autonomy in 2011 compared with an increase in the number of the 10% most cited research articles per million inhabitants from 2010 to 2020.



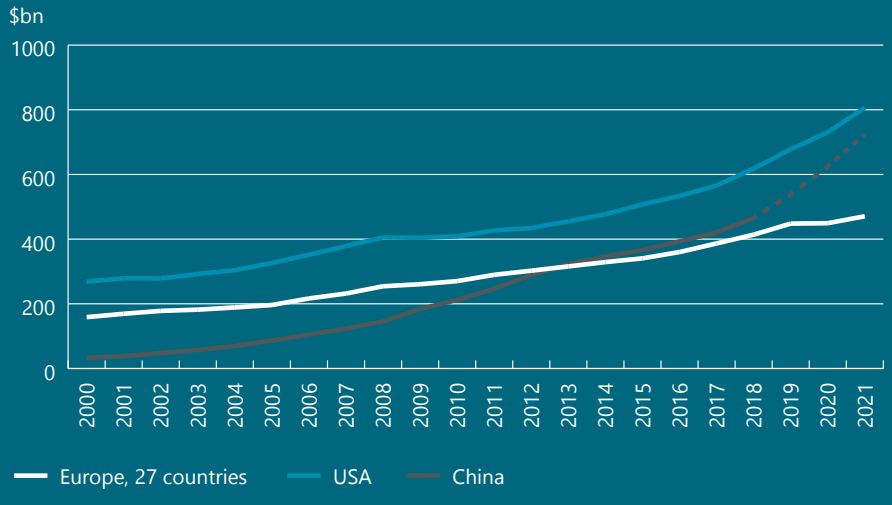
Source: Estermann, Nokkala, & Steinel (2011), Pruvot & Estermann (2017), Scopus-database based on SciVal, Elsevier B. V. (2022) and own calculations.
Note: Figures for institutional autonomy in Belgium and Germany are calculated as the average score of the regions. Figures for institutional autonomy in Belgium, Croatia, Serbia and Slovenia from 2017. Fitted line estimated using OLS regression.

Challenges facing universities

Global investments and the competition for talent
On a global scale, the level of investments in research and development is steadily increasing, an increase driven by both public and private sectors, with a particular focus on life sciences and green technologies, cf. Figure A.

Denmark's position in the international knowledge community is challenged by the global competition for both new and established research talents. Danish universities must make themselves attractive to compete with foreign universities or private companies that can offer better working conditions to their staff, including salaries, work-life balance, and overall research time.

Figure A. Expansion of public and private investments in R&D in Europe, the USA, and China. $bn. 2000-2021.



Source: OECD and own calculations
Note: Public and private investments in R&D in China for the years 2019-2021 are estimates based on the average annual growth rate for the period 2000 to 2018.

Security policy and the security situation
Research and innovation cooperation have increasingly become a matter of security. According to Western intelligence services, foreign states, particularly China and Russia, are attempting to illicitly acquire knowledge about technologies and products that are important for the competitiveness and security of Western countries (Danish Defence Intelligence Service, 2022; Centre for Cyber Security, 2022; Danish Security and Intelligence Service, 2022). This means that research and innovation are linked to national security, values, and economic considerations.

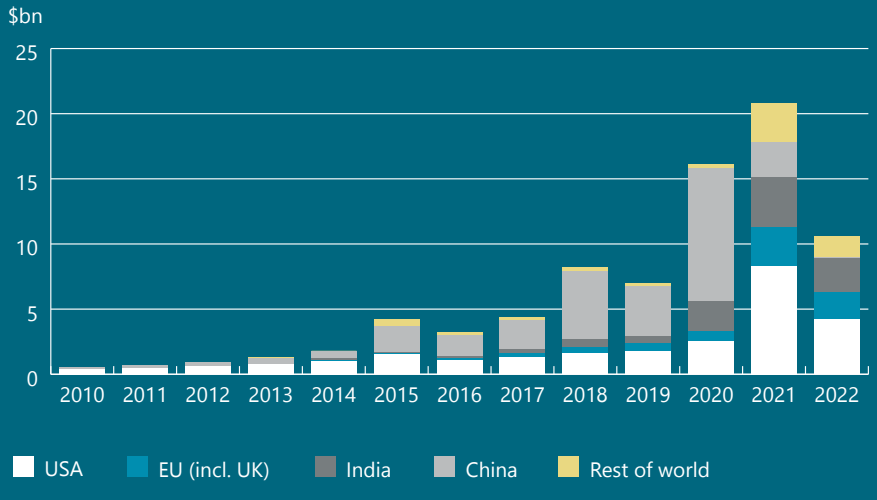
An increased focus on security policy will create bureaucratic barriers for scientific collaboration and will challenge the open culture of universities expressed through cooperation and knowledge exchange. At the same time, it may intensify competition for international talent among Western countries; many countries, led by the USA and the UK, have previously recruited many young researchers from China.

Digitalization and declining youth cohorts
Taken together, declining youth cohorts in coming years and an increased need for new hands with a variety of educational backgrounds are expected to reduce the flow of new students to universities. At the same time, competition from other digital learning platforms is expected to rise. Today, large technology companies are already offering certified courses in specific skills. Global private investments in new educational technology have

significantly increased until the first quarter of 2022, amounting to $20.8 billion in 2021, as shown in Figure B. Additionally, artificial intelligence and digitalization will transform the labour market as we know it today. One possible scenario is that this transformation will increase the need for a focus on lifelong learning and acquiring knowledge rather than specific skills. In such a case, universities will need to engage in reskilling and upskilling as part of comprehensive strategies for lifelong learning at the national level and within the EU.

Artificial intelligence and automation may also lead to a reduction in the total number of job functions for individuals with a university education, either in the short or long term. This could diminish the value of education and, consequently, the role of universities in the education landscape.

Figure B. The development of public and private investments in educational technology. $bn. 2000-2002



Source: HoloniQ

Distrust and misinformation

The role of Danish universities is to support and challenge society's cultural values through the general education of students and graduates. They also contribute to a free, objective, and critical public debate through the broader dissemination of knowledge. However, this role is being challenged by the increasing public mistrust of researchers and other knowledge authorities. This mistrust is part of a general crisis of trust, the political system is particularly targeted, though it also affects Danish universities, which contribute to political processes through their advisory services. Furthermore, the whole information culture is challenged, as misinformation spreads faster and wider on social media platforms. The extent of misinformation is expected to increase in the coming years. It will become more difficult to distinguish between truth and falsehood as artificial intelligence becomes more widespread and is used in the dissemination of misinformation. A distrust in research and widespread misinformation can ultimately lead to a democratic crisis and increased polarization in society. Danish universities will need to navigate this landscape and ensure that their researchers and the knowledge they generate will continue to support democratic values.

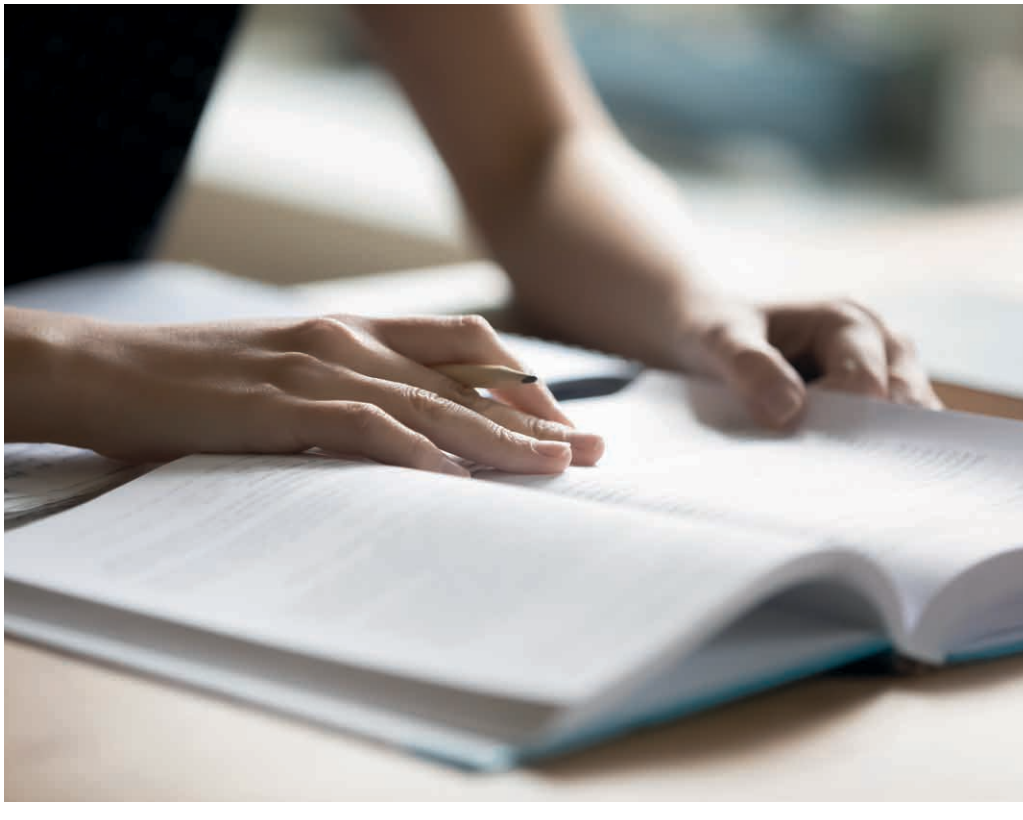
Threats to the autonomy of universities

Despite Denmark's satisfactory ranking on the EUA's University Autonomy Scoreboard, some factors pose the question as to whether Danish universities could be further strengthened by increasing their institutional autonomy, including their financial robustness.

Political reform efforts erode institutional autonomy

Danish universities have been subject to significant political interest over the past 20 years. The University Act of 2003 changed the management structure of universities. In 2006, the Globalization Strategy led to increased funding, followed by a series of institutional mergers in 2007. In 2011, staff involvement and co-determination were added to the management provisions of the University Act. Since the 2010s, there has been a political focus on university education in particular, with the 'study progress reform', student enrolment limits, the tertiary education ceiling, reduction in places for international students, the geographical relocation of study programmes, and the ongoing negotiations for a reform of master's degree programs.

Several reforms have aimed to strengthen the universities' core tasks: teaching and research. Other reforms have been driven by different political considerations, such as achieving a better balance between cities and rural areas, improving the labour supply, or limiting student financial support (SU) for foreigners.



Reforms and legislative changes since 2002

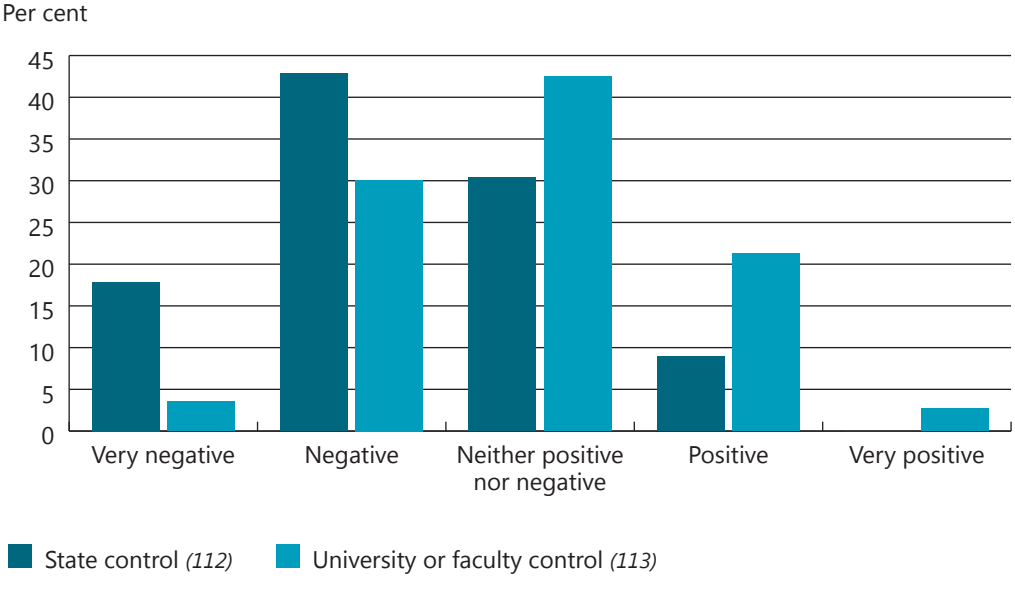
2003: The University Act.
2006: Globalisation strategy.
2007: Mergers of research institutions, accreditation and employer panels.
2009: Change in research funding via BFI points.
2011: Amendment to the University Act (involvement and co-determination added, and freedom of research further specified, including requirements for research time)
2013: Internationalisation strategy, institute accreditation, reform of the student grants scheme (SU) and the 'study progress reform'
2014: Student enrolment limits.
2016: Adjustments to the study progress reform and tertiary education ceiling.
2017: Amendment to the University Act (clarification of the role and responsibility of the board) and a new funding system.
2018: Limitation on the number of international students.
2019: Institutional accreditation 2.0
2022: Geographical relocation of study places.
2023: Proposed changes to master's degree programmes

These extensive reforms have stretched university resources. Before any reform, there is a public debate in which university managements participate. They bring attention to the interests of their institution and shed light on any potential issues. This kind of lobbying requires access to administrative resources that can analyse how the reforms will affect each institution, and effectively make their specific interests heard in the political forum.

Once a reform is passed, the implementation phase begins. In the teaching context, reforms may require the existence of two parallel administrative systems, as some students need to complete their studies under the old regulations, while new students follow the new regulations. Such processes are administratively demanding and create an increased need for administrative support. This is probably one of the reasons behind the increasing numbers of administrative personnel, discussed in the section on University Administration in Chapter 2.

Furthermore, researchers tend to experience a growing sense of powerlessness and meaninglessness. In line with this, 61% of heads of departments think that state control has harmful or very harmful effects, cf. Figure 31.

Figure 31 Opinions of heads of departments as to whether control by state, university or faculty has a positive or negative impact on the department's administrative tasks (e.g., in terms of procedural or reporting requirements, etc.). Per cent. 2022.



Source: KVDS & DFIR questionnaire addressed to heads of departments at the eight Danish universities, December 2022.
Note: The number of respondents is in brackets.

Challenges to the financial resilience of universities

Compared to other public institutions, Danish universities have extensive financial autonomy. For example, universities have the opportunity, albeit limited, to carry forward any surplus to future years. However, several factors raise concerns about the financial resilience of Danish universities. These factors are discussed below.

Imbalances in research funding at universities

Danish universities have relied on two sources of research funding for many years. One source is the block grant for research, which universities have the discretion to allocate as they see fit. The other source is competitive, external funding that university researchers can apply for through open competitions.

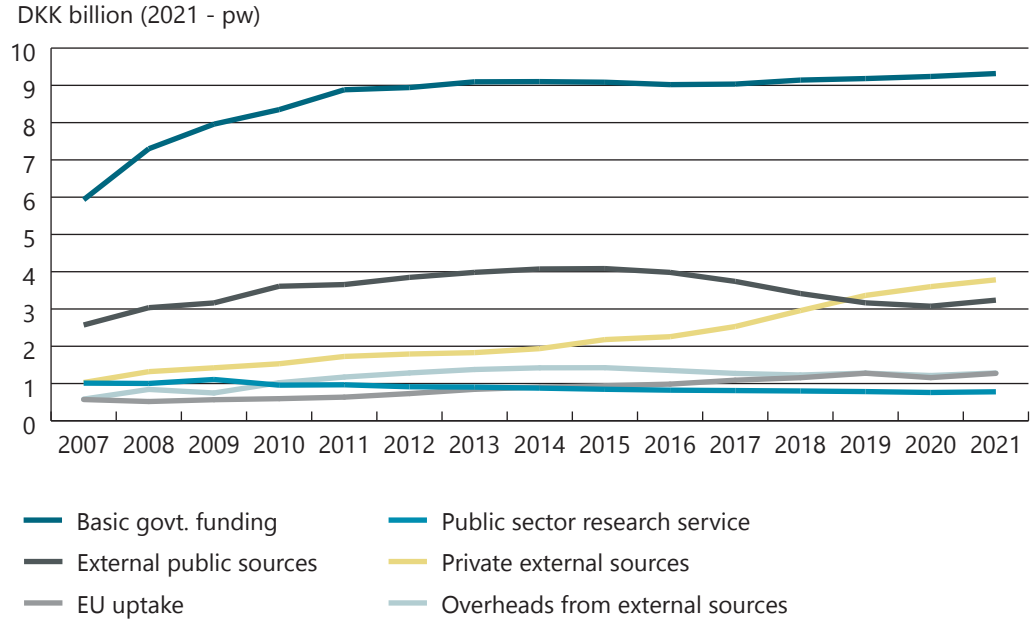
The block grant for research at universities amounted to DKK 9.3 billion in 2021. The purpose of this block grant is to ensure financial stability, and thereby support universities in pursuing their research strategies. For example, an institute's research profile may support research-oriented courses.

Competitive, external funding includes national foundations and associations, EU grants, other international organizations, Danish and foreign private foundations, and both domestic and foreign companies. In 2021, competitive funding amounted to DKK 3.8 billion from private Danish sources and DKK 4.5 billion from public sources and EU grants, cf. Figure 32.

Competitive funding aims to promote dynamic thinking, encouraging the choice of strategic priorities that stimulate change, and fostering progress in Danish research by ensuring that the best talents are supported no matter what. The purpose of the competition is to strengthen the quality and relevance of research and ensure a fair and transparent distribution of research funds.
Denmark is in a privileged position compared to other countries, as private foundations contribute significant funding to Danish research and innovation. However, the balance between the block grant and competitive funding is crucial for the research and innovation system to function as intended.

It would appear that in Denmark the balance has shifted. Consequently, the universities' strategic room for manoeuvre has shrunk, funds are distributed too unilaterally, and research staff have to spend too much of their research time applying for and administering external grants.

Figure 32 Universities: basic research funding and external funding. DKK bn 2021- adjusted for prices and wages (pw), 2007-2021.



Source: Universities Denmark Statistics Service

The universities' strategic room for financial manoeuvre has shrunk, limiting their ability to prioritize strategic research initiatives and maintain the breadth of their research profile. This is because obtaining external grants is associated with extra costs, so universities' block grant for research is being used to co-finance externally funded research projects, reducing the non-specific basic funding available for research.

Furthermore, the DFiR survey reveals that within the last 2 years, approximately 75% of researchers have received less than DKK 50,000 from their university to cover research expenses. This means that many researchers rely on external funding to conduct their research, cf. Table 1. However, 23% of researchers have not obtained external funding either, which means they have neither received university funding to cover research expenses nor secured external funding as principal investigators (PIs), in effect leaving them without research funding.

Table 1 Researchers' statement of the amount received in external funding (incl. overhead) as PI or local PI, and the amount received in internal funding from their university to cover research expenses (N = 2560). Per cent. 2022.

Internal sources in DKK	External sources in DKK as PI or local PI				
	None	Under 1m	1-2.99m	3m or more	Total
Under 50.000	23.7	12.3	13.4	25.1	74.5
50 - 499.000	2.4	4.0	4.5	8.8	19.6
500.000. eller mere	0.6	0.7	0.6	4.0	5.9
Total	26.6	17.1	18.5	37.9	100.0

Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses weighted by job category and institute.

In accordance with previous findings, it has been shown that competitive research grants are concentrated in the hands of a few (Aagaard, Schneider, & Andersen, 2019). The top 20% of grant recipients receive 90% of the competitive external research funding. This lop-sidedness is further reinforced by the fact that the universities' block grant contributes to the co-financing of external research grants. Consequently, the breadth of the overall Danish research profile is reduced.

Administrative obligations and the need to seek external funding are also part of the reason why less than 20% of researchers devote more than 40% of their time to research, cf. Figure 33. Around 60% of researchers spend more than 40% of their time on teaching. Additionally, nearly 40% of researchers spend more than 10% of their time on external funding activities, and another 40% spend more than 10% on administrative tasks. This suggests that many researchers allocate a significant portion of their working hours to matters only indirectly related to their core responsibilities of research, teaching, and knowledge exchange. Moreover, the low success rates of public funds, such as the Independent Research Fund Denmark, or Innovation Fund Denmark, have an impact on the effectiveness of the university sector and also affect researchers' job satisfaction.

What we expect of future external funding
The imbalance between core funding and external financing is expected to grow in the coming years. This is primarily due to the anticipated increase in research grants from private foundations. It is therefore important for universities and private foundations to continue their ongoing dialogue to establish a standardized model for financing indirect costs.

Additionally, if the current political system of allocating the public research budget is maintained, competitive and strategic research funding is expected to play an increasing role. The Danish goal is to have the public research budget represent 1% of GDP. This is currently achieved by tweaking the annual research reserve, instead of making changes to the university's baseline funding, which operates with a three-year budget horizon. On the other hand, the research reserve is primarily allocated through competitive and strategic funding, the greater part of which is expected to go to universities.

The specific areas that will benefit from this funding are negotiated between the political parties in the Danish Parliament. In 2023, DKK 2.6 billion will be allocated through the research reserve (Ministry of Higher Education and Science, 2023).

Both the research reserve and the university's baseline funding are part of that portion of the public research budget that the government has control over, namely the state research budget.[3] It is expected that the state research budget will increase in the coming years due to GDP growth (Ministry of Finance, 2022). As a result, the current political practice will increase the proportion of public competitive and strategic research funding in relation to the universities' research funding. Conversely, the growth in the state research budget can serve as the basis for a national strategy for the way we finance universities, aiming to ensure a more sustainable and robust economy for all.

Offsetting of EU returns in the public research budget

With a budget of approximately €95.5 billion, the EU's research and innovation programme, Horizon Europe, is the largest public European source of funding for research and development (R&D). Danish researchers, private companies, and public research institutions can apply for funding in open competition at the European level. Denmark's EU returns are generally on a par with or higher than the returns of countries we usually compare ourselves to, a favourable comparison that illustrates the quality of Danish R&D. In recent years, the research and innovation policy debate in Denmark has focused on the fact that Denmark's EU returns are offset in the country's public research budget. This offsetting is due to the practice that since 2016 the target of the public research budget being at least 1% of GDP has been understood as both a 'floor' and a 'ceiling'. The public research budget must therefore hit the 1% mark. As a result, that part of the expected EU returns that exceed the calculated EU contribution elsewhere in the public research budget is accordingly deducted. The expected EU returns were adjusted negatively in 2021, but are still higher than Denmark's calculated EU contribution. The current model for administering the public research budget, and all the discussion about it, create a lot of frustration in Danish research and innovation communities and may well dampen the incentive to seek EU funding.

Educational cuts and rent payments to the State threaten research

The overall financial robustness of universities also includes other economic factors that affect their ability to create attractive research environments.

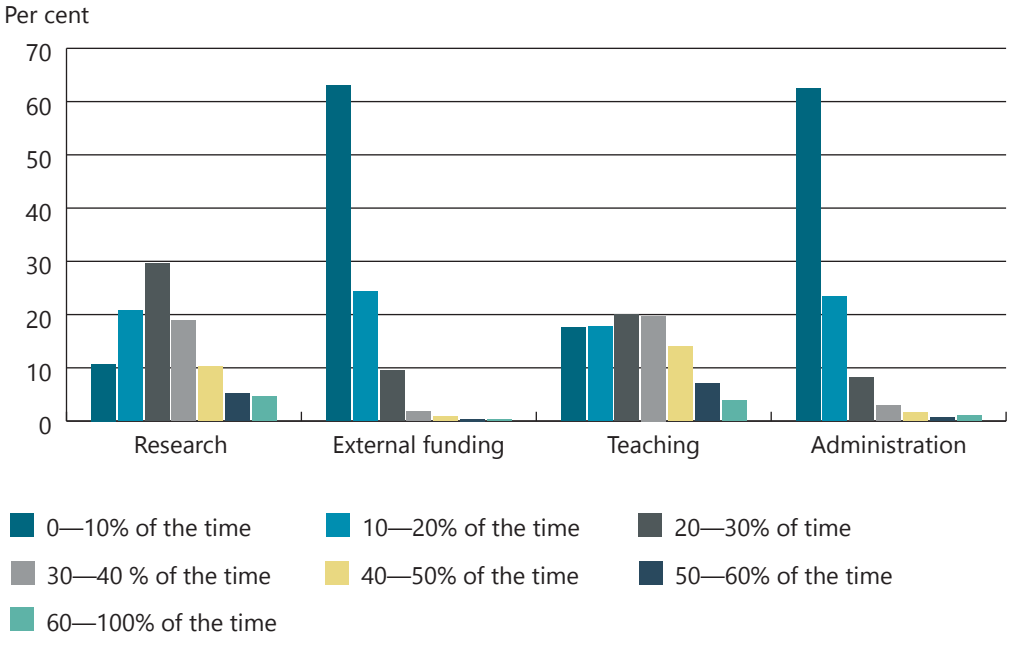
Structural cuts in education and public authority services

In Denmark, university programmes and research services for public authorities have been subject to structural cuts of 2% over several years. This means that currently, fewer resources are allocated per student in higher education compared to the OECD average. Denmark spends significantly less, especially compared to the United States and the United Kingdom (Danish Universities, 2021). This may indicate that the universities' research funds are used to subsidize educational activities, including the physical relocation of teaching programmes.

Equal conditions and ownership of buildings

The universities' right to purchase, sell, and build facilities and premises erects a framework around their financial autonomy, and therefore their ability to develop and execute research strategies.

Figure 33 Researchers' estimates of how they divide their time between research, seeking and administering external funding, teaching and general administration over the course of a year *(N=3045)*.



Source: DFIR questionnaire addressed to assistant professors, associate professors, and professors at the eight Danish universities, December 2022.
Note: Responses weighted by job category and institute.

In Denmark, the ownership of buildings remains a contentious issue. Only the Technical University of Denmark (DTU) and Copenhagen Business School own their buildings. However, DTU also has a share of buildings owned by the state following its merger with the Risø Research Centre. The remaining Danish universities use buildings owned by the state. The universities pay rent to the state for the lease of these buildings through the State Property Administration Scheme (SEA scheme), introduced in 2001. In 2021, the universities spent around DKK 2.2 billion on rent (Ministry of Finance, 2021) out of a total income of around DKK 20 billion, excluding competitive research funding (Danish Universities, 2023). According to the universities themselves, the rent often exceeds what would be charged on the private market.

The model has also proven problematic in connection with new construction projects. Universities are required to cover any budget overruns and delays in the form of increased rental charges but have no control over the construction process. There are several examples of budget overruns.

If the university rents are set too high due to budget overruns and high returns requirements, resources will be diverted from their core activities. Rent payments are included in the fulfilment of the 1% target.

Rent paid by universities

The rent for educational and research institutions is cost-based and determined as a fixed percentage of the property's value. Universities pay 6.02% of the property value for capital costs, administration, insurance, and losses, DKK 80 per square meter (2019 prices) for maintenance, 5.5% of the value of the land built on, and 5% of the value of agricultural and experimental areas. The rent is adjusted annually based on the consumer price index.

Laboratories are depreciated over 15 years, starting from the year of delivery according to the AB-92 construction contract, and the rent is reduced by 75% after 15 years. When reinvesting in laboratories or similarly specialized buildings, the rent basis is adjusted in relation to the value of the reinvestment. In a reinvestment scenario, the rent basis can be reduced to a maximum of 25% of the current rent basis. Depreciation costs are financed through appropriations and do not affect the rent level.

Source: Danish Building and Property Agency, 2023.

The ownership of buildings would provide universities with the opportunity and incentive to engage in long-term planning regarding depreciation, reinvestments, and loans, which are all crucial management tools. It would offer universities the ability to accumulate equity and thus enjoy greater flexibility and resilience. Additionally, building ownership would allow for swift and clear decision-making processes, enabling universities to seize new opportunities, attract international researchers, ensure campus development, and foster collaboration with the surrounding community.

Reforming building ownership should be part of a broader reform of university finances, considering their core funding, specific obligations such as museums, international collaboration, and ambitions in the field of innovation. The goal is to ensure equal framework conditions for all Danish universities.

Recommendations

To ensure genuine autonomy for universities:

- **The government should reduce the number of reforms that divert unnecessary resources from universities, compromise the quality and undermine the authority of university management, and distract from core tasks.**

Universities should be guaranteed a robust economy by the following steps:

- **universities and private foundations should continue their ongoing dialogue to establish a consistent model for financing indirect costs;**
- **the Government and Parliament should ensure coherence between the funding for university education and what it actually costs, so that block research grants are not used to finance study programmes, thus safeguarding the quality of these programmes;**
- **the Government and Parliament should allocate the research reserve in the form of more long-term and stable grants;**
- **the Government and Parliament should financially reward the acquisition of EU funds;**
- **the Government and Parliament should ensure equal financial conditions for universities, including the right to building ownership, considering the differing obligations of universities, such as museums and laboratories.**

The above recommendations should be implemented through the establishment of a commission tasked with developing a national research and innovation strategy, including proposals for a long-term and robust funding structure for universities. The commission should work towards strengthening institutional autonomy, ensuring equal conditions, reducing researchers' time spent on applications, and enhancing the framework needed to offer coherent career paths.

Chapter 5
Background and method

The university sector is complex and extensive. The eight Danish universities administer around DKK 30 billion each year, employ 33,500 staff, and have 150,500 enrolled students. They collaborate with a wide range of national and international companies and other research institutions.

The sector's management and financing structure must balance many considerations in the short and long term. Therefore, the DFiR has found it relevant to examine whether the sector's management and financing structure is future-proof, especially on the eve of the 20th anniversary of the University Act in 2023.

The project was launched with the aim of providing recommendations that can help universities build and maintain free and attractive research environments, attract national and international talent, secure public and private investments, and set up collaborative ventures with local, national, international, private and public partners.

Project components

Based on the internal single-tier management structure of the universities, the increasing prominence of competitive and strategic research funding, and the question of university autonomy, the DFiR focused on the following project components:

1. Future global challenges faced by the universities.
2. The academic freedom of researchers, their involvement in making significant decisions, and their job security
3. The development and broad dissemination of knowledge by researchers, and their collaboration with others.

In this exploratory project work, the DFiR examined dilemmas and issues related to the internal single-tier management structure, the increasing prominence of competitive and strategic research funding, and university autonomy. The recommendations of the council are primarily based on the following project elements:

- A literature review of national and international reports and research literature.
- A study trip to the Netherlands in September 2022.
- Stakeholder discussions with 21 key agencies involved in the Danish university sector.
- A survey involving university researchers and heads of departments.
- A DFiR conference, 'Universities for the Future', held on 2 November 2022.

Study Trip to the Netherlands

In September 2022, the DFiR visited the Netherlands seeking inspiration from a research and innovation system that closely resembles the Danish system, with world-class universities and a strong research impact.

The DFiR observed that Dutch universities have a high proportion of international researchers, strong research profiles, and university alliances focused on shared areas of strength. The universities also have a strong tradition of public-private collaboration through joint appointments and government-funded programmes. As in Denmark, universities and researchers in the Netherlands have been under increasing pressure in recent years. In response to this, the Dutch government is implementing an ambitious investment plan aimed at significantly increasing competitive research funding and improving working conditions for academic staff over a period of time. Furthermore, the Netherlands is working on the development of a new 'reward and recognition' system that, in addition to citations, impact, and rankings, includes descriptions of individual researchers' contributions to team science and open science.

The DFiR's Annual Conference 2022
The DFiR's annual conference on November 2, 2022, was entitled 'Universities for the Future'. The conference addressed future global challenges facing the sector, staff involvement within the existing management and funding structure, the university as a cultural institution, and the involvement of researchers in public debate and the exchange of knowledge with the business sector. It was pointed out that the law itself is not a barrier to good management, and good management is already evident in many places. However, the University Act does not include effective provisions that oblige boards and management to ensure staff involvement and co-determination.

DFiR Brief 34: Is the University Act future-proof?
Summarizes the insights gathered from the conference.

Dialogues with stakeholders
In 2022, as part of the project, DFiR conducted 21 dialogues with stakeholder representatives, including 1) members of Parliament, 2) external board members, 3) rectors, 4) heads of departments, 5) academic staff and their advocacy groups, 6) private and public bodies that fund research, and 7) stakeholders from the private sector. The dialogues covered various topics, including future global challenges facing the sector, universities as cultural institutions, sound principles for management and research funding, external collaboration with private and public companies and organizations, and competition and collaboration within the university sector. Selected quotes from these dialogues are summarized in the project's dialogue book.

Questionnaire surveys
Based on the extensive literature search and the stakeholder dialogues, the DFiR developed and conducted two surveys. In mid-December 2022, the first survey was sent to 9,578 researchers, including assistant professors, associate professors, and professors at all 8 universities in the country. Contact information for each member of staff was provided by each university. The survey was closed in early February 2023, and including partial responses the response rate was 35%, cf. Table 2. In the survey, researchers were asked about their involvement in university and departmental decision-making, the barriers they face, their perception of the freedom of research and factors that limit it, research funding and time consumption, as well as the extent of, and barriers to, their knowledge exchange activities. The analyses in the report focus solely on assistant professors, associate professors, and professors affiliated with an institute at one of the country's eight universities. The survey was also sent to clinical associate professors and professors affiliated with an institute. The unweighted results for all respondents and

questions, as well as the exact wording of the questions, may be found in the background report entitled 'Universities for the Future - Survey Results.

The second survey was conducted in collaboration with the Royal Danish Academy of Sciences and Letters. It included 146 department heads at all eight universities in the country. Contact information for each member of staff was provided by the university concerned. The survey was distributed in late December 2022 and closed in early February 2023. The response rate was 80%, including partial responses, cf. Table 2. Heads of departments were asked about their background, their motivation for seeking the position and career aspirations, their leadership focus, their approach to staff involvement, the limitations on their strategic and financial flexibility, and their management of externally funded competitive research grants. The results for all questions, as well as the exact wording of the questions, can be found in the background report entitled 'Universities for the Future - Survey Results.

The DFiR concludes that all universities, main areas, and job categories are well represented in both the heads of department survey and the researcher survey. The responses in the researcher survey have been weighted according to job category and department. It is therefore assumed that the respondents' answers are representative of all researchers in the same job category employed at the same institute.

The DFiR Working Group

The working group behind 'Universities for the Future under the DFiR consisted of:

- Anna Haldrup (Chair of the working group)
- Kristine Niss
- Mette Birkedal Bruun
- Søren Bech
- Thomas Sinkjær

Table 2 Response rate for the heads of departments and researcher questionnaire, separately for universities, main academic fields and job categories. Per cent.

	Survey of department heads	Survey of researchers
University		
Copenhagen University	84.21	34.58
Aarhus University	80.00	36.24
University of Southern Denmark	69.23	27.58
Roskilde University	75.00	48.50
Aalborg University	94.00	39.71
Technical University of Denmark	81.25	33.01
IT University of Copenhagen	66.67	66.66
Copenhagen Business School	72.73	30.69
Main academic fields		
Natural Sciences	86.05	35.82
Technical Sciences	80.00	29.76
Health Sciences	71.43	33.84
Agricultural and Veterinary Sciences	100.00	35.22
Social Sciences	80.95	35.83
Humanities	66.67	38.52
Job categories		
Assistant Professor	-	30.61
Associate Professor	-	32.68
Professor	-	41.54
Head of Department	80.14	-
Total	**80.14**	**34.67**
Population	**146**	**9,578**

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References

Aboagye, E., Jensen, I., Bergström, G., Brämberg, E. B., Pico-Espinosa, O. J., & Björklund, C. (2021). Investigating the association between publication performance and the work environment of university research academics: a systematic review. *Scientometrics, 126*, s. 3283–3301.

Aghion, P., Dewatripont, M., Hoxby, C., Mas-Colell, A., Sapir, A., & Jacobs, B. (2010). The governance and performance of universities: evidence from Europe and the US. *Economic Policy, 25(61)*, s. 7-59.

Andersen, H. (2017). *Forskningsfrihed – ideal og virkelighed*. Hans Reitzels Forlag.

Antoni, G. D., Fia, M., & Sacconi, L. (2022). Specific investments, cognitive resources, and specialized nature of research production in academic institutions: Why shared governance matters for performance. *Journal of Institutional Economics, 18(4)*, s. 655-676.

Brown, W. O. (2001). Faculty participation in university governance and the effects on university performance. *Journal of Economic Behavior & Organization, 44(2)*, s. 129-143.

Busk, A. J., & Rasmussen, S. B. (2021). Chapter 4: The head of department as the key transformational leader. I A. Lindgreen, A. Irwin, F. Poulfelt, & T. U. Thomsen, *How to Lead Academic Departments Successfully* (s. 29–51). Edward Elgar Publishing.

Bygningsstyrelsen. (2023). https://bygst.dk/om-os/hvad-laver-bygningsstyrelsen/sea-ordningen/uddannelse-og-forskning/

Cameron, K. S., Quinn, R. E., DeGraff, J., & Thakor, A. V. (2022). *Competing Values Leadership*. Eward Elgar Publishing.

Center for Cybersikkerhed. (2022). *Cybertruslen mod Danmark 2021*.

Danske Universiteter. (2021). *Tal om Danske Universiteter*.

Danske Universiteter. (2023). *Danske Universiteters Statistike Beredskab*. Hentet fra https://dkuni.dk/tal-og-fakta/beredskab/.

Degn, L. (2014). Identity constructions and sensemaking in higher education – a case study of Danish higher education department heads. *Studies in Higher Education*.

Det Kongelige Danske Videnskabernes Selskab. (2021). *Ledelse og styring af danske universiteter - i international sammenligning*.

Det Kongelige Videnskabernes Selskab. (2019). *Fri Forskning*. Det Kongelige Videnskabernes Selskab.

Emmanuel Aboagye, Irene Jensen, Gunnar Bergström, Elisabeth Björk Brämberg,. Investigating the association between publication performance and the work environment of university research academics: a systematic review. Scientometrics 126, 3283–3301 (2021). (u.d.).

Finansministeriet. (2021). *Finansloven 2022*. Finansministeriet.

Forsvarets Efterretningstjeneste. (2022). *Udsyn 2021*.

Geschwind, L., Aarrevaara, T., Berg, L., & Lind, J. (2019). The Changing Roles of Academic Leaders: Decision-Making, Power, and Performance. I L. G. Rómulo Pinheiro, *Reforms, organizational change and performance in higher education - A comparative account from the nordic countries* (s. 181-210). Springer Nature Switzerland AG.

Ginsberg, B. (2011). *The Fall of the Faculty and the rise of the all-administrative university and why it matters*. Oxford University Press.

Gjerde, S., & Alvesson, M. (2020). Sandwiched: Exploring role and identity of middle managers in the genuine middle. *Human Relations, 73(1)*, s. 124-151.

Hansen, H. F., Lind, J. K., & Stage, A. K. (2020). Changing managerial roles in Danish universities. *Science and Public Policy, 47(4)*, s. 447-457.

Jensen, I., Bjorklund, C., Hagberg, J., Aboagye, E., & Bodin, L. (2021). An overlooked key to excellence in research: a longitudinal cohort study on the association between the psycho-social work environment and research performance. *Studies in Higher Education, 46(12)*, s. 2610-2628.

Karran, T., Beiter, K., & Appiagyei-Atua, K. (2017). Measuring academic freedom in Europe: a criterion referenced approach. *Policy Reviews in Higher Education, 1(2)*, s. 209–239.

Karran, T., Beiter, K., & Mallinson, L. (2023). Academic freedom in Scandinavia: has the Nordic model survived? *Nordic Journal of Studies in Educational Policy, 9(1)*, s. 4-19.

Kongsted, H. C., Tartari, V., Cannito, D., Norn, M. T., & Wohlert, J. (2017). *University researchers' engagement with industry, the public sector and society — Results from a 2017 survey of university researchers in Denmark*. https://www.datocms-assets.com/22590/1586203309-university-researchers-engagement-with-industry-the-public-sector-and-society.pdf: Copenhagen Business School (CBS) og Tænketanken DEA.

LBK nr 778. (2019). *https://www.retsinformation.dk/eli/lta/2019/778*. Hentet fra Bekendtgørelse af lov om universiteter (universitetsloven).

Maddock, L. C. (2023). Academic middle leaders, middle leading and middle leadership of university learning and teaching: A systematic review of the higher education literature. *Journal of Higher Education Policy and Management*.

Maesschalck, J., & Paesen, H. (2021). Profiling Organizational Culture: Using Grid-Group Cultural Theory as a Lens to Take a Snapshot of an Organization's Culture. *Sage Open, 11(4)*, s. 1-11.

Maassen, P., & Stensaker, B. (2019). From organised anarchy to de-coupled bureaucracy: The transformation of university organisation. *Higher Education Quarterly, 73(4)*, s. 456–468.

Olsen, J. (2007). The Institutional Dynamics of the European University. I P. Maassen, & J. Olsen, *University Dynamics and European Integration. Higher Education Dynamics, vol. 19*. Springer.

Politiets Efterretningstjeneste. (2022). *Vurdering af spionagetruslen mod Danmark*.

Poulfelt, F. (2021). "Chapter 1: On the particular challenges of managing professionals".

I A. Lindgreen, A. Irwin, F. Poulfelt, & T. U. Thomsen, *How to Lead Academic Departments Successfully* (s. 3–13). UK: Edward Elgar Publishing.

Pruvot, E. B., Estermann, T., & Popkhadze, N. (2023). *University Autonomy in Europe IV - The Scorecard 2023*. European University Association.

Richard, J. E., Plimmer, G., Fam, K.-S., & Campbell, C. (2013). Publishing success of marketing academics: Antecedents and outcomes. *European Journal of Marketing, 49(1/2)*, s. 123-145.

Ryan, J. C., & Hurley, J. (2007). An empirical examination of the relationship between scientists' work environment and research performance. *R&D Management, 37(4)*, s. 345-354.

Stage, A. K., & de Jong, S. (2023). Non-academic staff's part in transforming academia: As irrelevant as their label suggests? I *Research Handbook on Transformation of Higher Education*. Edward Elgar Publishing.

Stage, A. K., & Aagaard, K. (2020). National policies as drivers of organizational change in universities: A string of reinforcing reforms. *Quantitative Science Studies, 2(1)*, s. 849–871.

The Observatory Magna Charta Universitatum. (April 2023). *The Observatory Magna Charta Universitatum*. Hentet fra https://www.magna-charta.org/.

Tænketanken DEA. (2016). *What lies beneath the surface? A review of the litterature on university-industry collaboration.* https://dea.nu/publikationer/what-lies-beneath-the-surface-a-review-of-the-litterature-on-university-industry/: Tænketanken DEA.

Uddannelses- og Forskningsministeriet. (2019). *Styrket teknologioverførsel fra universiteterne - Eftersyn af regler og praksis*. https://ufm.dk/publikationer/2019/filer/styrket-teknologioverforsel-fra-universiteterne.pdf.

Werr, A., & Einola, K. (2021). Chapter 7: Individual performance management: enabler or threat to academic performance? I A. Lindgreen, A. Irwin, F. Poulfelt, & T. U. Thomsen, *How to Lead Academic Departments Successfully* (s. 79–97). Edward Elgar Publishing.

Öberg, S. A., & Boberg, J. (2023). The decollegialization of higher education institutions in Sweden. *Nordic Journal of Studies in Educational Policy*.

Aagaard, K., Schneider, J. W., & Andersen, J. P. (2019). *Koncentration eller spredning? Fordeling af konkurrenceudsatte forskningsmidler på tværs af danske bevillingsorganer*. Danish Centre for Studies in Research and Research Policy.

Notes

1 To facilitate readability, various terms are used to refer to the staff categories 'Assistant Professors, Associate Professors and Professors', such as 'researchers' and 'academic staff'.

2 The assessment is based on interviews with the national organization(s) safeguarding the interests of universities in each country and reflects an overall assessment of the often divergent national legal frameworks under which universities operate in the respective countries. Not all national universities have the same level of autonomy as stated at the national level.

3 The state block research grant is part of the national research budget. The national research budget also includes the research budgets of municipalities and regions, as well as the international funding obtained by universities. The national research budget amounts to 1% of GDP. The state block research grant includes basic research funding for universities, research and development funding for higher artistic and vocational education, funding for GTS institutes (Danish Research and Technology Organizations), Danish contributions to international programmes such as the European Organization for Nuclear Research (CERN), Innovation Fund Denmark, the Independent Research Fund Denmark, public service research, development and demonstration programmes, and other sources of research funding.

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