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Documentation of data from the Re-structure survey
among academic staff spring 2021

Thea Eide, Linn Elise Lurås Solberg, Jeroen Huisman, Nicoline Frølich

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Preface

NIFU, CHEGG, University of Ghent and Department of Organization and Administration Theory, University of Bergen, conducted a large-scale survey among academic staff in Norwegian Higher Education Spring 2021. The survey forms part of the research-based evaluation of the structural reform, the Re-Structure Project, funded by the Research Council of Norway.

3,753 members of academic staff spent valuable time answering the survey. We are very grateful for their responses, which form an important basis for assessing the extent to which the objectives of the structural reform are or will be realized.

Oslo, 2 September 2021

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Abstract

This note on methodology describes the questionnaire, sample and data gathering process of a survey conducted by NIFU in connection to the Re-structure project, a four-year project funded by the Research Council of Norway through the FIN-NUT programme. The survey "*Working conditions in higher education*" has three objectives: To operationalize the reform goals, to investigate changes in core activities in order to measure change in the HE sector, and to measure institutional integration.

The survey was dispatched in February 2021 to a representative sample of 7,461 academic staff from 21 Norwegian universities or university colleges. This sample was drawn from the Research personnel register. Of these persons who received the survey, 3,753 finished or partly finished the survey, resulting in a response rate of 50,3%.

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1 Introduction

As a result of the structural reform that was launched in 2015, the landscape of higher education in Norway has undergone major changes. Many universities and university colleges have merged, which means that the sector is in the middle of a comprehensive re-organization process. The Re-structure project is a four-year project funded by the Research Council of Norway through the FINNUT programme. The project is a research-based evaluation of the structural reform and investigates whether the objectives of the reform are achieved. It aims to provide a nuanced and detailed image of reform effects on academic environments.

As an important part of the research-based evaluation of the Structural Reform, the team of researchers distributed a survey in February 2021 to 7,461 academic staff at Norwegian universities and university colleges. Their answers will be of great importance in assessing how the reform affects higher education.

The survey concerns – broadly speaking – the working conditions for academic staff and includes questions about teaching practice, the conditions for research activities, dissemination and the ‘third mission’. Furthermore, it gathered their experiences with administrative support, management and organizational matters. The survey was sent to academic staff at universities and colleges, regardless of the degree of change their institution has undergone as a result of the reform.

This note on methodology describes the gathering and the processing of the survey data. It includes an explanation of the questionnaire and the sample, the response rate, as well as the representativeness of the final sample.

2 The purpose and content of the survey

2.1 Questionnaire for academic staff

The questionnaire was developed by the project team between spring 2020 and January 2021. Researchers both internal and external to the survey team have tested the questionnaire several times. It contains questions about the respondent's background, including what year the respondent started working in the Norwegian HE-sector and whether they have a leadership role in their organization. Furthermore, we asked about teaching and research activities, features of the study programme, which research unit they were mostly involved with, and changes in these units over the last five years. The respondents were also given questions about third mission activities, leadership, and organizational features and how this had developed over the last five years. All in all, the questionnaire consisted of 156 questions. Some items in the survey were collected from already existing surveys used in previous studies. For instance, questions about the role of higher education were selected from Watermeyer and Shields (2020).

The first question, asking whether the respondent's position included teaching and/or research, was used to guide the survey. Only those who responded that their position included teaching were given questions about teaching activities, study programmes and changes in study programmes. Only those who responded that their position included research were given questions about research activities, research funding and change in research units. In this way, the risk of asking irrelevant questions was avoided, which could potentially discourage respondents from finishing the survey. Questions about third mission activities, change in third mission activities, organization, leadership and the role of higher education were given to all of the respondents.

The survey included several questions about the respondent's "unit" and about changes over time. To make sure it was clear what unit and what timeframe the

respondents were referring to, the survey guided the respondents. These are listed in the table below.

Tabell 2.1 Guidance for the respondents

Question	Instruction
Teaching activities	Please refer only to the current academic year and the study programme you are mostly involved with.
Study programmes	Please refer only to the study programme you are mostly involved with.
Change in the study programme	Please refer only to the study programme you are mostly involved with
Research funding	Please refer only to the last two years.
Change in research units	Please refer only to the unit (research group or equivalent) you are mostly involved with.
Change in third mission activities	Please refer only to the unit (department or equivalent) you are mostly involved with.
Organisational information and communication	Please refer only to the unit (department or equivalent) you are mostly involved with.
Organisational engagement and collaboration	Please refer only to the unit (department or equivalent) you are mostly involved with.
Organisational culture	Please refer only to the unit (department or equivalent) you are mostly involved with.
Organisational commitment	Please refer only to the unit (department or equivalent) you are mostly involved with.
Leadership	Please refer only to the unit (department or equivalent) you are mostly involved with.
Organisational change	Please refer only to the unit (department or equivalent) you are mostly involved with.
The role of higher education	Please refer only to the unit (department or equivalent) you are mostly involved with.

Depending on the questions, we used different answer scales in the questionnaire. While some questions had a scale varying from “largely agree” to “largely disagree”, questions about change had a scale varying from “became much worse” to “became much better”. They are both five-point-scales. For a number of items, respondents were allowed to tick a box “I do not know”.

3 Sample and background information

The survey was sent to a representative sample of academic staff at Norwegian universities and university colleges. To allow for comparison, staff members at both the case institution and other institutions received the survey (see 3.2 for the list of institutions). The sample was drawn from the Research personnel register. In the invitation email, we informed the respondents that we would connect the survey data to background data from the Research personnel register and the Cris-tin database. This chapter describes how the initial sample was drawn and what kind of background data were used.

3.1 Drawing the sample

The sample was drawn from the Research personnel register, updated 01.10.2019. At that time, 25,321 persons were registered as employed in academic positions at universities and university colleges. For this study, a stratified, randomized sample of 8,000 people was drawn. The sample includes both employees at the case institutions and institutions that were not directly affected by the reform.

In composing the sample, we excluded the following groups: research assistants and employees in special positions related to the professions; library staff; private university college staff; people employed at special public institutions that differ from the rest¹; employees with a less than 50% contract and people in the project or reference group. This resulted in a population of 22,352 people. Of these, 10,812 are employees at one of the six case institutions and 11,540 are in the other group. Before drawing the sample, the full set was sorted by the following parameters: type of institution ², institution, field of research/discipline, employed for at least 5 years, position, gender, department and name.

Since the register did not contain information about whether the employee was from a discipline or a profession, we added a code for sorting this based on

¹ such as Politihøgskolen, Forsvarets høyskole, UNIS and KRUS

² old university, new university, vitenskapelig høyskole, statlig høyskole

department affiliation, before we drew the sample³. We also added a parameter to determine if the person was employed at the institution in 2015. This is to make sure we got enough people that had been employed at the institution (or institutions that were merged with the institution) for at least five years. Moreover, we drew the sample using a randomizing function that picked out 8,000 respondents. From these, 5,000 were drawn from the six case-institutions and 3,000 from the control group. To prevent skewness in the sample, we checked the sample against the parameters above.

The emails were collected in two steps – first, we generated emails automatically based on the respondents' name and the institution's syntax for generating emails. The email list was thereafter controlled by research assistants at NIFU and controlled with information from the institution website. Of the 8,000, there were 523 emails that we could not find on the web pages of the institutions. 312 of them were from the case institutions (6%) and 212 from the other institutions (7%). These were primarily in temporary positions, such as doctoral fellows, postdoctoral staff and researchers. This was not surprising, considering that the research personnel register was last updated fall 2019. The dropout rate was a bit higher for two of the fields of research/disciplines – mathematics and natural sciences and technology (this applies to both samples), which is related to the number of temporary positions in these fields. Of the case institutions the dropout was highest at NTNU and UIT and in the control sample the dropout was highest at UiO and NMBU. The dropout was similar for male and female. Because of the relatively large number of respondents in total, we decided not to replace those who were removed. When importing the list of respondents to the survey tool, we found 16 duplicate observations (the same email-address). After removing these from the sample, we were left with a list of 7,461 respondents, which were imported to the survey tool.

3.2 Institutions

We sent the survey to academic staff at 21 different institutions. Six of the institutions were selected as case institutions. The case-selection was based on their status as merged institutions, as a result of the structural reform. The survey was also sent to academic staff working at other HEIs in Norway, which enables us to compare the answers given by staff at the institutions most affected by the reform to the rest of the sector.

³ The profession educations, such as teacher, engineering and nursing education, are commonly gathered in one department.

Table 3.1 shows the number of staff at each institution receiving the survey. This table also contains the Norwegian abbreviations.

Tabell 3.1 Institutions included in the sample. Case institutions in bold text.

Institution		Number of academic staff	%
The Oslo school of Architecture and Design	AHO	28	0.4
Molde University College	HiM	43	0.6
Østfold University College	HiOF	102	1.4
Volda University College	HiV	70	0.9
Western Norway University of Applied Sciences	HVL	509	6.8
Inland Norway University of Applied Sciences	HINN	284	3.8
Oslo National Academy of the Arts	KHIO	27	0.4
NHH Norwegian School of Economics	NHH	60	0.8
Norwegian School of Sport Sciences	NIH	30	0.4
Norwegian University of Life Sciences	NMBU	205	2.8
Norwegian Academy of Music	NMH	43	0.6
Nord University	Nord	379	5.1
Norwegian University of Science and Technology	NTNU	2,063	27.7
Oslo Metropolitan University	Oslomet	347	4.7
Sami University of Applied Sciences	Samiskhs	15	0.2
University of Agder	UiA	220	3
University of Bergen	UiB	541	7.3
University of Oslo	UiO	814	10.9
University of Stavanger	UiS	230	3.1
UiT The Arctic University of Norway	UiT	929	12.5
University of South-Eastern Norway	USN	522	7
Total		7,461	100

3.3 Information from the research personnel register and Cristin

For the analysis, we connected data from the research personnel register and Cristin database to the survey data. The respondents were informed of this when they received the email with the invitation to participate in the survey.

The Research personnel register

We received information from the Research personnel register about the following variables: gender, department, position, field of research/discipline, whether the person was from a profession, and institution.

The field of research/discipline-variable is based on department affiliation. Every second year, NIFU gathers FOU statistics on demand from the Norwegian research council (NRC), where the departments are asked to report the distribution of their R&D activity on discipline or field of research. If a department reports more than half of their activity within one discipline/field of research, the department will be placed in that discipline/field of research. All the employees in the department will have the same discipline/field of research code. There are six different codes: Humanities and art, Social science, Mathematics and natural science, Technology, Medicine and health and Agriculture-, fisheries and Veterinary medicine.

Cristin database/bibliometric data

We supplemented the survey data with bibliometric background variables to use in the analysis. The table below shows the variables. We have bibliometric data for each person for each year between 2011-2019. The data exclusively include publications that are accepted according to the criteria for academic publications and that are awarded in the result-based financing system. Additionally, the data contain publications of all Norwegian institutions, including institutions where the respondents worked previous to their present institution, but not publications from foreign institutions. Thus, persons that are recruited from foreign countries will not have their previous “foreign” publications registered.

Table 3.2 List of bibliometric variables

NVI Number of publications
NVI Sum Author shares
NVI Number of publications Level 2
NVI Avg number of authors per publication
NVI Number of publications with international collaboration
NVI Number of publications in Norwegian lang
NCR Number of articles
NCR Avg number of authors per article
NCR Number of publications with international collaboration
NCR Avg number of citations per article
NCR Citation index - field normalized
NCR Citation index - Norway normalized
NCR Citation index - journal normalized
NCR Journal profile
NCR Number of articles 10 percentile
NCR Number of articles 1 percentile
NIB Number of articles
NIB Avg number of citations per article
NIB Citation index - field normalized
NIB Number of articles 10 percentile
NIB Number of articles 1 percentile
NIB Citation index - Norway normalized

4 Data gathering and response rates

The data gathering was conducted through the survey tool SurveyXact. It was possible to answer the questionnaire from PC, tablet and smartphone. The respondents received an email with information concerning the project, the reason for their requested participation, how the data would be handled, their rights as participants, as well as a unique link to the survey. Both the questionnaire and the information in the email was available in English and Norwegian, where the language option was given on the first page of the questionnaire. The respondents could change their answers at any time during the response period: only the last version was saved. It was not possible to submit more than one questionnaire for each invited staff member.

We started by sending it to a pilot group of 87 people on February 23rd, to test whether the survey worked. We did not receive feedback from the pilot group that it did not. The rest of the respondents (7,374 received the survey) on February 25th. 1,578 respondents answered the survey (partly or fully) in the first round. To achieve a higher response rate, 4 reminders were dispatched the following weeks. The first reminder was sent to 5,883 respondents on March 8th. 947 respondents answered the survey (partly or fully) after this reminder. The second reminder was sent to 4,936 respondents on March 15th. 712 respondents answered the survey after this reminder. The third reminder was sent to 4,224 respondents on March 24th and led to another 444 respondents answering the survey. The fourth and last reminder was sent out on April 4th to 3,780 respondents. We also sent out a reminder to those who had partially answered the questionnaire. Figure 1 shows the development in response rate over the data gathering period.

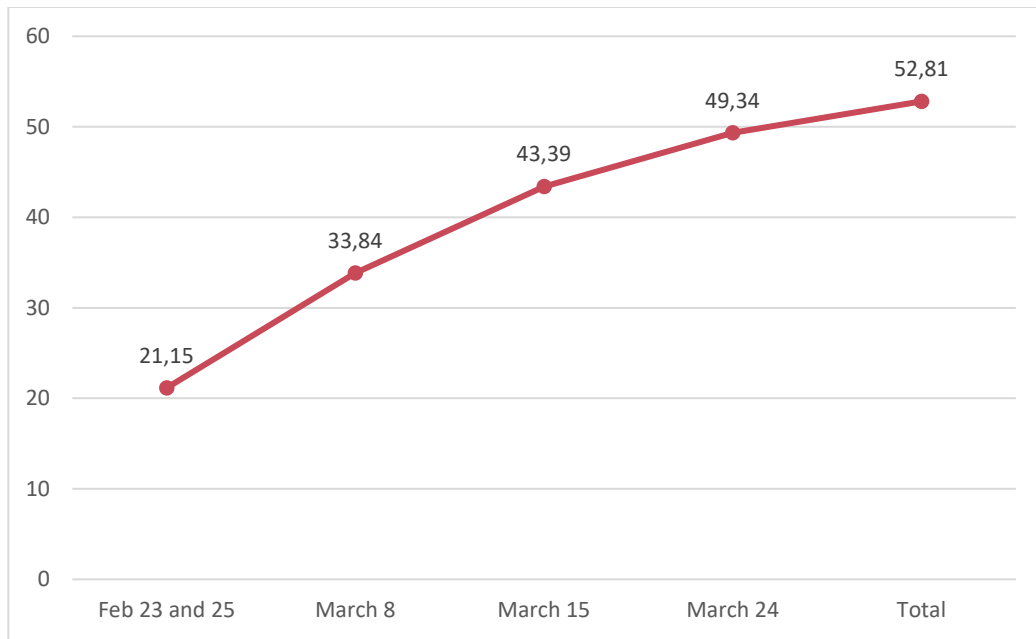


Figure 4.1 Response rate achieved after each reminder.

136 respondents were removed for various reasons: the email could not be delivered, the receiver had retired and did therefore not consider themselves as a part of the target group, the receiver was no longer employed at the institutions, the receiver did not want to participate or an automatic reply stated the receiver was on longer leaves of absence and did not read their email. In total, 2,623 respondents finished the questionnaire, while 1,318 respondents partly finished it. We coded the respondents who had answered 10 questions or less (188 respondents) as not responded, since they had only filled out the background questions. Table 4.1 shows the distribution after this recoding.

Tabell 4.1 Answer status

Answer status	Frequency	Percentage
Finished	2,621	35,1
Partly finished	1,132	15,2
Not responded	3,572	47,9
Removed	1,36	1,82
Total	7,461	100

When we combined those who finished and those who partly finished the survey, we ended up with a response rate of 50,3 percent, which we consider satisfactory. These 3,753 respondents constituted the final sample, on which further analyses will be based.

4.1 Representativity of the final sample

To get an indication whether the final sample is representative of the sample originally drawn from the research personnel register, we compared the distribution on the different background variables for the final sample (those who answered the survey) and the original sample (those who received the survey). These background variables are gender, year of employment, employed at case-institution, profession, field/discipline, position, and non-case institutions.

The results are shown in Table 4.2. We see that females, respondents who were employed in the sector by 2015, respondents belonging to the professions, respondents from the social sciences and associate professors are slightly overrepresented in the final sample. We are, however, not concerned that this will affect the analysis significantly considering the large sample size. We see that respondents from NTNU make up a large part of both samples (27.7 percent in the original sample and 26.7 percent in the final sample). This is due to the size of the institution, but it should be kept in mind when further analyzing the data.

Tabell 4.2 Representativeness of the final sample

	Original sample	Final sample
Female	49.5	53.1
Male	50.5	46.9
Employed in 2015	64.8	68.0
From case-institution	62.8	62.7
Profession	40.2	42.4
Field of research/discipline		
Humanities and art	12.7	13.2
Social science	34.9	37.5
Mathematics and natural science	15.7	14.1
Technology	15.8	14.3
Medicine and health	19.9	20.1
Agriculture-, fisheries and veterinary medicine	1.0	0.8
Position		
Full professor	17.4	18.5
Professor (Nor: Dosent)	0.8	0.9
Leader	2.3	2.5
Associate professor (Nor: Førsteamanuensis)	19.9	21.8
Associate professor (Nor: Førstelektor)	4.4	5.3
Other academic staff (Nor: Øvrig fastvit)	16.0	16.4
Postdoctoral fellow (Nor: Postdoktor)	6.3	5.3

	Original sample	Final sample
Researcher	6.9	6.3
Research fellow (Nor: Stipendiat)	24.8	22.1
University College teacher (Nor: Høgskolelærer)	1.2	0.9
Institution		
UIB	7.3	7.1
UIO	10.9	10.0
UIT	12.5	11.4
NMBU	2.8	2.6
NHH	0.8	0.6
AHO	0.4	0.4
NIH	0.4	0.5
NMH	0.6	0.6
UIS	3.1	3.2
UIA	3.0	3.0
HIVOLDA	0.9	1.0
HIMOLDE	0.6	0.7
SAMISKHS	0.2	0.1
NORD	5.1	5.0
HIOF	1.4	1.4
NTNU	27.7	26.7
KHIO	0.4	0.4
OSLOMET	4.7	5.7
USN	7.0	7.7
HVL	6.8	7.9
HINN	3.8	4.1
Total (N=100%)	7461	3753

Because 1,318 out of 2,623 respondents partly finished the survey, we compared the final sample with a sample containing respondents who had answered >40 questions and a sample containing respondents who had answered >50 questions, including response rates. This comparison was based on the same distribution of the background variables used in the comparison between the final and the original sample. We did not observe any substantive differences between these samples, which meant that the final sample was representative regardless of the number of questions answered.

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