

The Panel of Elected Representatives

2020, Fourth Wave

Methodology report

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BACKGROUND

This report describes the procedures of data collection in the fourth wave of The Panel of Elected Representatives. Furthermore, the report describes technical aspects of the data collection as well as the representativity and continuity of the panel.

The Panel of Elected Representatives is an internet-based survey of elected representatives, on all political levels in Norway. The survey deals with matters that are important to society, representation and democracy. All elected politicians are invited to participate.

The Panel of Elected Representatives (PER) is part of The Digital Social Science Core Facility (DIGSSCORE) at the University of Bergen (UiB). The Panel of Elected Representatives is also affiliated with the Norwegian Citizen Panel (NCP). The University of Bergen is the owner and treatment manager of the Panel of Elected Representatives. ideas2evidence handles practical implementation of the survey, and is responsible for recruiting participants, as well as sending and receiving surveys to and from respondents.

The first and second waves were fielded in 2018 and 2019 respectively, with the third wave fielded in the spring of 2020. As such, this fourth wave was the second PER wave to be fielded during the Coronavirus pandemic. The wave was part of the November 2020 first wave of KODEM (Coordinated Online Panels for research on Democracy and Governance in Norway), a digital infrastructure for coordinating panel surveys directed at four sub populations. Besides the PER population, the subpopulations were: the general population, through the Norwegian citizen panel (NCP); journalists and editors, through the Norwegian Panel of Journalists (NJP); and public administrators, through the Panel of Public Administrators (NFP). While NCP and PER were established panels, with infrastructure and panel members, NJP and NFP had their first wave. We provide separate methodology reports for each of the panels.

TECHNICAL ASPECTS OF THE SURVEY

SOFTWARE

The web-based research software Confirmit is used to administer the surveys and the panel. Confirmit is a "Software-as-a-Service" solution, where all software runs on Confirmit's continuously monitored servers, and where survey respondents and developers interact with the system through various web-based interfaces. The software provides very high data security and operational stability. The security measures are the most stringent in the industry, and Confirmit guarantees 99.7 percent uptime. ideas2evidence is responsible for the programming of the survey on behalf of The Panel of Elected Representatives

PILOT AND OVERALL ASSESSMENT

The survey went through extensive small-N pilot testing before data collection. The pilot testing was done in collaboration between ideas2evidence and the involved researchers. Testing was regarded as success, and no major technical revisions were deemed necessary. The field period was executed as planned, and was completed with no technical irregularities.

RANDOMIZATION PROCEDURES

Each wave of PER has an extensive use of randomization procedures. The context of each randomization procedure may vary¹, but they all share some common characteristics that will be described in the following.

¹ Some examples: randomly allocate treatment value in experiments, randomize order of an answer list/array, order a sequence of questions by random.

All randomization procedures are executed live in the questionnaire. This means that the randomization takes place while the respondent is filling in the questionnaire, as opposed to pre-defined randomizations. Randomizations are mutually independent, unless the documentation states otherwise.

The randomization procedures are written in JavaScript. `Math.random()`² is a key function, in combination with `Math.floor()`³. These functions are used to achieve the following:

- Randomly select one value from a vector of values
- Randomly shuffle the contents of an array

The first procedure is typically used to determine a random sub-sample of respondents to i.e. a control group. Say for example we wish to create two groups of respondents: group 1 and group 2. All respondents are randomly assigned the value 1 or 2, where each randomization is independent. When N is sufficiently large, the two groups will be of equal size (50/50).

Here is an example of the JavaScript code executed in Confrontit:

```
var form = f("x1");
if(!form.toBoolean()) // If no previous randomization on x1
{
  var precodes = x1.domainValues();// Copies the length of x1
  var randomNumber : float = Math.random()*precodes.length;
  var randomIndex : int = Math.floor(randomNumber);
  var code = precodes[randomIndex];
  form.set (code) ;
}
```

The second procedure is typically used when defining the order of an answer list as random. This can be useful for example when asking for the respondent's party preference or in a list experiment. However, since i.e. a party cannot be listed twice, the procedure must take into account that the array of parties is reduced by 1 for each randomization.

Here is an example of the JavaScript code executed in Confrontit⁴:

```
Function shuffle(array) {
  var currentIndex = array.length, temporaryValue, randomIndex;
  // While there remain elements to shuffle...
  while (0 !== currentIndex) {
    // Pick a remaining element...
    randomIndex = Math.floor(Math.random() * currentIndex);
    currentIndex -= 1;

    // And swap it with the current element.
    temporaryValue = array[currentIndex];
    array[currentIndex] = array[randomIndex];
    array[randomIndex] = temporaryValue;
  }
  return array;
}
```

² Please see following resource (or other internet resources):https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Math/random

³ Please see following resource (or other internet resources):https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Math/floor

⁴ Code collected from Mike Bostocks visualization: <https://bost.ocks.org/mike/shuffle/>

PANEL RECRUITMENT WAVES ONE AND THREE

Panel members are initially invited by a postal letter and subsequent email reminders. First, letters are sent to all elected representatives. The letters contain the following information: a) a description of the project, b) the Citizen Panel's policy on privacy and measures taken to protect the anonymity of the participants, c) the time-frame of the project, d) the participants' rights to opt out of the panel at any time in the future, e) contact information for the people responsible for the project, f) a unique log-in id and the web address to the panel's web site and g) the estimated time required to complete the survey.

All elected representatives at all political levels in Norway – municipal councils, county councils, the Storting (parliament) and the Sami Parliament of Norway – are invited to participate in the Panel of Elected Representatives. The contact information is collected through Kommuneforlaget AS's registers, as well as public information from the websites of municipalities, counties, the Storting and the Sami Parliament of Norway.

The representatives were originally recruited in wave one, from a population of representatives elected in the 2015 municipal and county council elections, as well as the 2017 Storting and Sami Parliament elections. For the representatives, continued eligibility for PER is contingent on being re-elected. Elections are held every four years, setting the panel population to change every other year. As such, following every election, newly elected representatives have to be invited to participate in PER, while representatives who were not re-elected, have to be excluded from further participation. Of the 4,321 representatives recruited in wave one, 2,247 were excluded after the 2019 municipal and country election. 2,074 representatives were re-elected and therefore continued members of the panel.

In wave three, newly elected representatives from the 2019 election were recruited, following the procedure from wave one. Re-elected representatives who did not respond to the wave one recruitment effort were also invited once more to participate in wave three.

Recruitment efforts in waves one and three are summarized in table 1. The response rate in wave three were somewhat lower than in wave one, due to an overlap between the recruitment populations in wave one and wave three. The overlap consists of re-elected representatives, and some of the re-elected representatives most prone to participate were already recruited in wave one.

For a detailed account of the recruitment processes, please refer to the respective methodology reports.

Table 1: Recruitment response waves one and three

	Invitations	Contacts	Responses	Recruitment rate (%)
Wave three (2020)	7,668	5	2,557	33.3 %
Wave one (2018)	11,334	5	4,321	38.2 %

DATA COLLECTION WAVE FOUR

A total of 4,611 representatives were invited to participate in wave four.

The survey was closed on November 27th 2020. For various reasons, 7 representatives actively opted out. 59.3 percent (2,733) of the remaining 4,604 logged on and accessed the survey. 2,253 individuals completed the questionnaire, and 480 exited the questionnaire before completion. 28.5 percent of the incomplete responses are kept as a part of the survey data, while the remaining 343 incomplete responses are excluded from the survey due to lack of data. A total of 2,344 representatives are accepted as wave four respondents, leaving the overall response rate at 50.9 percent.

Invitation response from representatives is presented in table 2. Responses yielded by the initial invitation is substantially higher than all subsequent reminders.

Table 2: Responses and response rate for panel members by the different stages of data collection

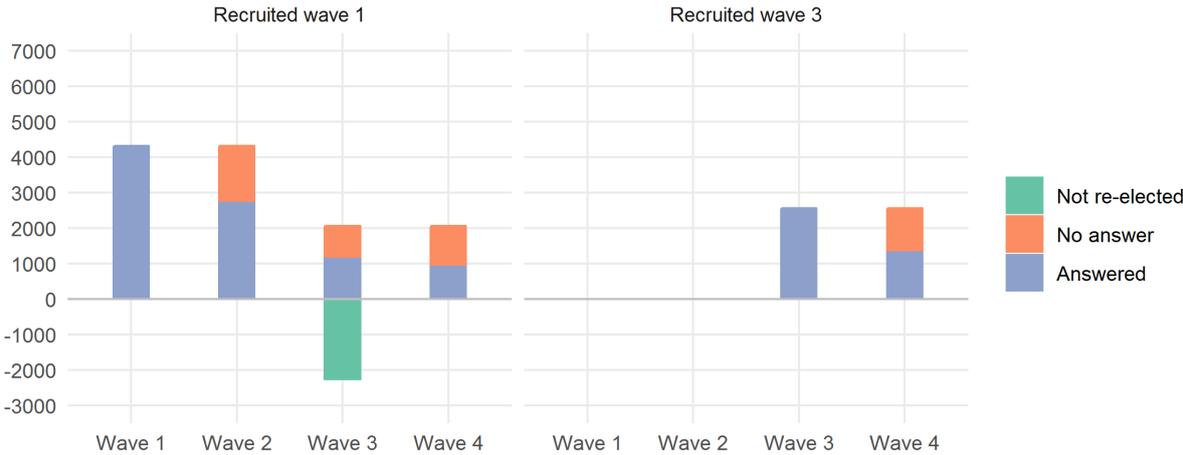
	Responses	Cumulative Responses	Response rate	Cumulative response rate
Invitation (2nd and 3rd of November)	1,022	1,022	22.2 %	22.2 %
Reminder 1 (e-mail) (10th of November)	603	1,625	13.1 %	35.3 %
Reminder 2 (e-mail) (13th of November)	398	2,023	8.6 %	43.9 %
Reminder 2 (e-mail) (19th of November)	321	2,344	7.0 %	50.9 %

RESPONSE OF PANEL MEMBERS OVER TIME

When recruited, the representatives become panel members, and are invited to the following wave. For every wave, panel members can choose to opt out of their membership. Panel members losing their seat in elections, are excluded from subsequent waves. As such, PER members must be expected to leave the panel in quite large numbers for every election.

We will now examine the panel retention, the rate at which the panel members continue responding to the survey waves. Retention rates are shown in figure 1. 64 percent of wave one respondents also responded to wave two. In wave 3, 52 percent of the municipal and county representatives recruited in wave one were not re-elected, and therefore excluded from the panel in wave 3. Simultaneously, 2,557 new municipal and county respondents were recruited.

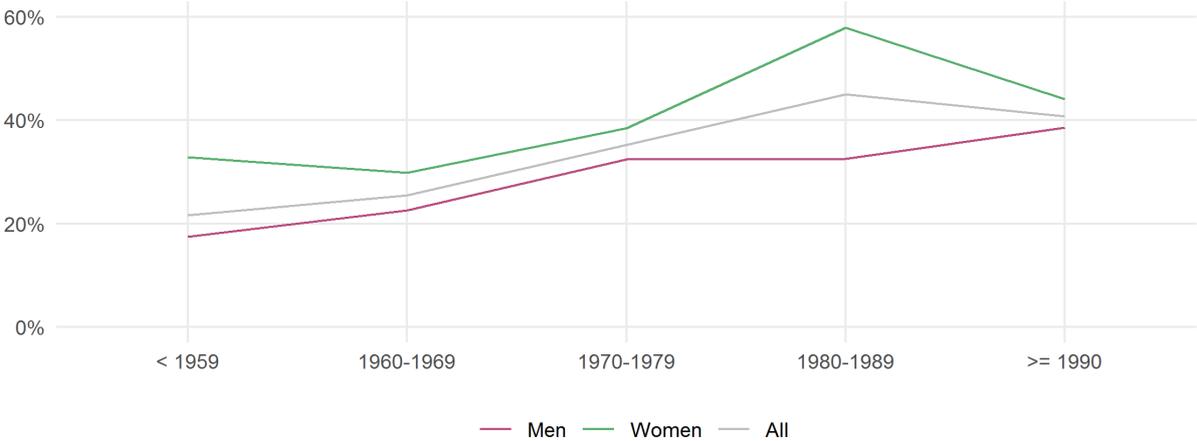
Figure 1: Panel history of PER respondents



PLATFORMS

The questionnaire was prepared for data input via smart phones. 27.7 percent of survey respondents that opened the questionnaire used a mobile phone. 9 percent of the mobile users did not complete to such an extent that they were classified as respondents. For a comparison, 16.2 percent of the non-mobile users left the questionnaire without being included as respondents.

Figure 2: Percentage of mobile users by gender and year of birth. Due to small numbers of respondents, older respondents are excluded from the graph.



The general tendency is that younger respondents are more inclined to use their mobile phone when answering the questionnaire (figure 2). Female representatives born between 1980 and 1989 are the most frequent users of mobile devices. Women use mobile devices to answer the questionnaire more often than men. The gap, however, is pretty small for respondents born between 1960 and 1979, and respondents born 1990 or later.

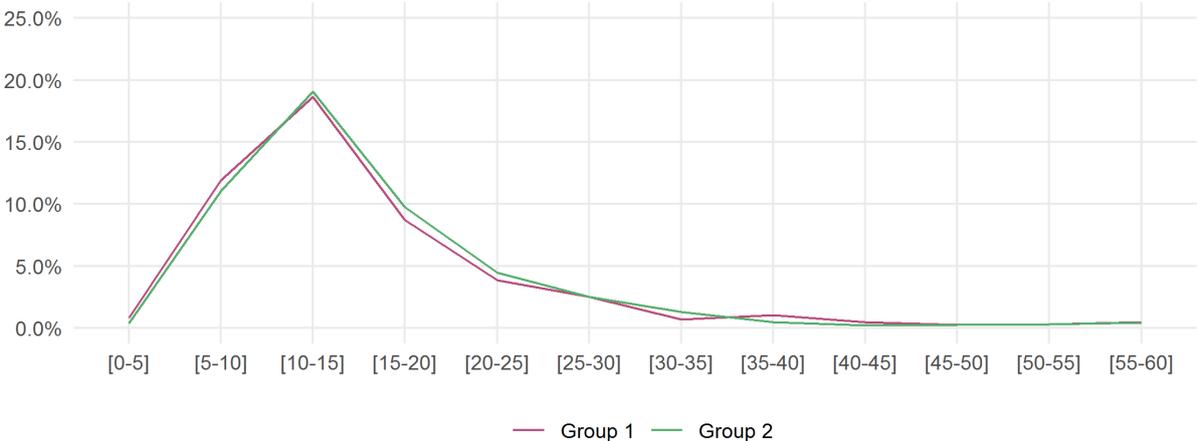
TIME USAGE

In the survey invitation, an estimated duration of the survey is included. For wave four, the estimate was of 10-15 minutes. We will now examine the time actually spent by the respondents filling out the questionnaire.

Measuring average time usage poses a challenge, namely that respondents may leave the questionnaire open in order to complete the survey later. This idle time causes an artificially high average for completing the survey. In an attempt to reduce noise in the data, respondents using more than 60 minutes are excluded from the calculation. In this subsample, the average response time is 16 minutes (table 4).

Wave four respondents were randomly assigned to one of two groups, each consisting primarily of survey questions that were also given to all four KODEM populations. Distributed response times are shown in figure 3.

Figure 3: Time usage of survey respondents in wave 4



On average, mobile respondents use slightly less time than respondents using non-mobile devices. The difference is smaller than what is documented in the Norwegian Citizen Panel questionnaires, which can be explained by the fact that NCP questionnaires has a more extensive use of complex survey experiments and open ended questions.

Table 3: Average time spent on questionnaire (minutes)

	All	Group 1	Group 2
All users	16.1	16.0	16.1
Non-mobile users	16.3	16.2	16.3
Mobile users	15.6	15.6	15.6

REPRESENTATIVITY

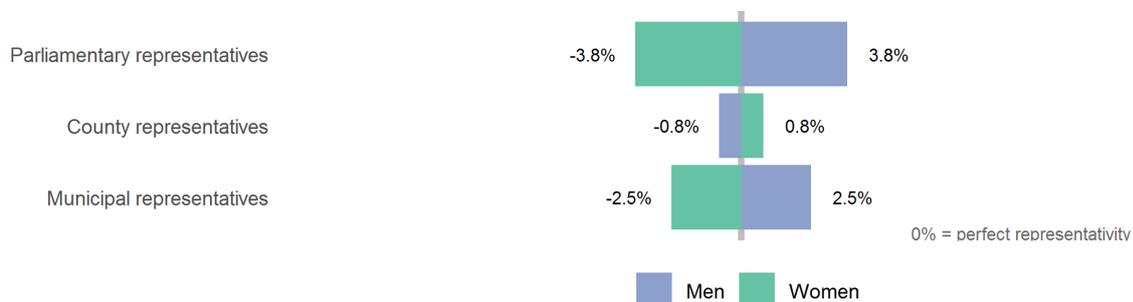
All respondents of the panel are representatives elected to office at different level of administration. Norway's four levels of administration are municipalities, counties, the Sami parliament and the national parliament. In this section, we examine how well different demographics are represented in the panel, compared to their representation in the panel population. We check for biases by gender, age, level of education, county of residence and party affiliation. Analyses are executed using registry data from Statistics Norway as well as data from wave four of PER.

As the number of representatives on each level varies widely, the different levels of administration are examined separately. Data access and anonymity both pose challenges to the analyses. Some numbers are therefore reported only on county and municipal levels, and the Sami parliament is left out altogether.

THE REPRESENTATIVITY OF THE PANEL OF ELECTED REPRESENTATIVES

Figure 3 shows how the proportion of men and women in the panel compares to the proportion in the target population. While county council representatives is on par with the population concerning representation of gender, men are somewhat overrepresented at both the municipal and parliamentary level.

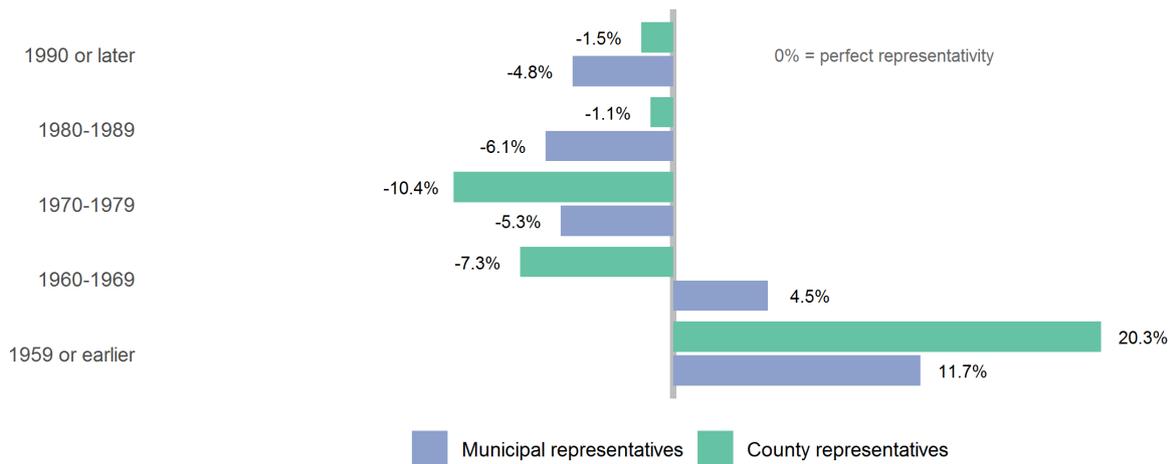
Figure 4: Representativity of genders.



The oldest representatives are overrepresented in the panel, as shown in figure 4. While the bias is quite similar for the county and municipal levels, it differs on representatives born in 1960-1969 where municipal representatives are overrepresented and county representatives are underrepresented.

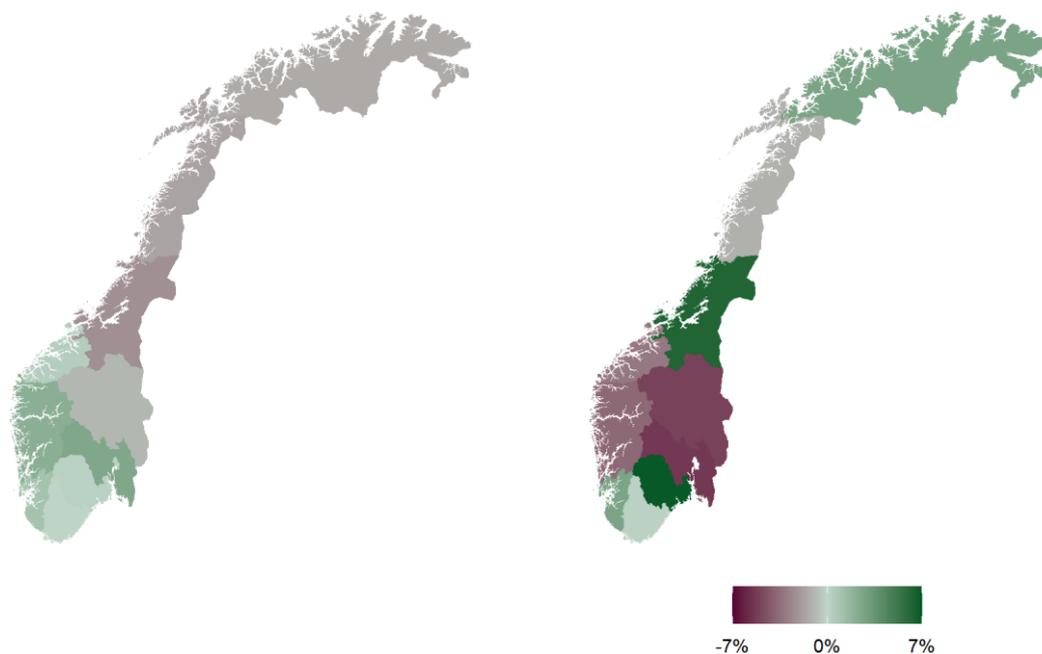
County level representatives has a more pronounced bias among older representatives (born 1970 or earlier). Especially in the case of the oldest representatives, born in 1959 or earlier, who are overrepresented by 20.3 percentage points at the county level. Conversely, the municipal representatives has the most prominent bias among the youngest representatives (born 1980 or earlier).

Figure 5: Representativity of age groups



Shown in figure 5, is a comparison of wave four respondents to the target population, based on county where the representative is elected.⁵ Biases are rather small on the municipal level, and more pronounced on the county level. An important explanation for this, is that the N is much lower on the county level, and consequently more sensitive to variation. At the municipal level, there is a clear north-south dimension. Counties in southern Norway are somewhat overrepresented, and conversely are counties in northern Norway somewhat underrepresented.

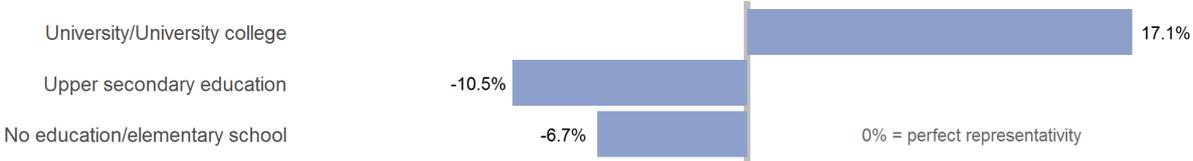
Figure 6: Representativity of municipal (left) and county (right) representatives – by 2020 counties



⁵ Please note that the distribution is calculated by head counts. It does not take into account that the municipal councils vary in size and form.

Similar to what is observed in the Norwegian Citizen Panel, and in earlier waves of PER, representatives having completed higher levels of education are overrepresented among the panel members on the municipal level (figure 6).

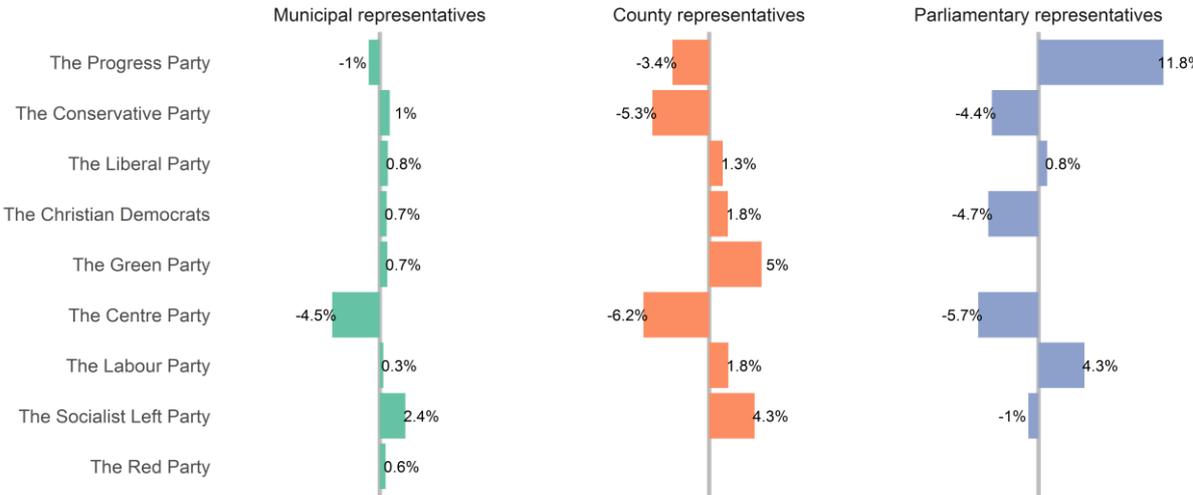
Figure 7: Representativity of levels of education. Calculated for municipal representatives only.



Lastly, we check for biases by party affiliation. Note that calculation is done by head count, and does not take into account how the council seats are allocated in the different municipalities and counties. Note also that smaller parties are excluded from reporting, and that figure 7 only displays results for parties represented in the national parliament. When a party has fewer than five representatives on a given level of administration, as is the case for the Red Party and the Green Party, no result is displayed.

Most notably, no party is systematically under or overrepresented on all political levels, except for The Centre Party. Nor do we observe biases along the classic left-right party axis. Parties at the municipal level, are more or less on par with the population. The most pronounced bias is The Centre Party which is underrepresented by 4.5 percentage points.

Figure 8: Representativity of parties from left on party axis (bottom) to right (top).



The bias is stronger, and more fluctuant, at the county and parliamentary level. Low N is an important contributor, rendering the numbers more sensitive to variation. The Conservative Party is underrepresented at the two highest levels of governance. Conversely the Labour Party is overrepresented. The strongest bias is observed for parliamentary representatives from the Progress Party, who are overrepresented by 11.8 percentage points.