

The Panel of Elected Representatives

2023, Ninth Wave

Methodology report

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BACKGROUND

This report describes the data collection in the ninth wave of The Panel of Elected Representatives, and discusses 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, the Norwegian Journalist Panel, and the Norwegian Panel of Public Administrators. The University of Bergen is the owner and responsible for the Panel of Elected Representatives. ideas2evidence is in charge of survey implementation, recruiting participants, as well as conducting the field period.

The first and second waves were fielded in 2018 and 2019 respectively, with the third wave fielded in the spring and the fourth in the fall of 2020. The fifth and sixth wave was fielded during spring and fall of 2021. The seventh wave was fielded in late winter and early spring 2022 while the eighth wave ran in November 2022. The ninth wave was fielded in early 2023. Wave four and wave nine were part of coordinated online panels for research on democracy and governance in Norway (KODEM). KODEM is the infrastructure for coordinating digital panel surveys directed at four sub populations using PER and affiliated panels at DIGSSCORE. 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 small-N pilot testing before data collection. In addition, the survey was tested extensively during the development phase by ideas2evidence and the researchers involved in the project.

The pilot testing was regarded as successful, and no major technical revisions were deemed necessary.

The field period started by inviting a random sample of respondents (soft launch). Soft launch is used in order to minimize the consequences if the questionnaire contained technical errors. No such errors were located/reported, and remaining panel members was therefore invited the following day.

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 Confirmit:

```
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 Confirmit ⁴:

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/>

```

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;
}

```

PANEL RECRUITMENT

In wave one, three, seven, and eight, panel members were 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 Panel of Elected Representatives' 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 county 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.

Wave five applied a different approach compared to previous waves. Invitations and reminders were exclusively distributed by email. Invitees included representatives who 1) who were not already registered in the panel, and 2) did not purposefully abstain from participation in wave three. Note also that wave five recruitment used the same recruitment pool as wave three as there were no changes in the target population. Previous recruitment attempts has been in the wake of an election, altering the recruitment pool (as described above), and

consequently renewed the population with representatives who might be inclined to participate. Therefore, it is reasonable to assume that wave recruitment did not reproduce recruitment rates similar to past waves as the representatives most inclined to participate already were participants. Wave seven recruited municipal and county representatives from the same pool as wave five, and the recruitment process exhibited the same features. Additionally, wave seven recruited newly elected parliamentary representatives and Sami parliamentary representatives, both by postal invitation and email reminders.

Wave 8 recruited across all levels of governance, and used postal and email as modes of contact. Postal for municipal and county representatives, and email for parliamentary and Sami parliamentary representatives for the initial contact. Results from recruitment in wave eight can be viewed below.

Table 1: Recruitment response across all waves with recruitment

	Invitations	Mode	Contacts	Responses	Recruitment rate (%)
Wave eight (2022)	3 575	Postal/email	4	218	6.9 %
Wave seven (2022)	4 034	Postal/email	4	353	8.9 %
Wave five (2021)	4 388	Email	4	407	9.3 %
Wave three (2020)	7 668	Postal/email	5	2 557	33.3 %
Wave one (2018)	11 334	Postal/email	5	4 321	38.2 %

DATA COLLECTION

A total of 5 400 representatives were invited to participate in wave nine.

The survey was closed on the 27th of March 2023. For various reasons, 76 representatives actively opted out. 49 percent (2 609) of the remaining invitees logged on and accessed the survey. 1 878 individuals completed the questionnaire, and 731 exited the questionnaire before completion. 3.4 percent of the incomplete responses are kept as a part of the survey data, while the remaining incomplete responses are excluded from the survey due to lack of data. A total of 1 898 representatives are accepted as wave nine respondents, leaving the overall response rate at 35.6 percent.

Response is presented in table 2. The invitation generated the most amount of responses, along with the second reminder, as can be seen below. Wave nine used one more reminder than previous waves, and used text message as a mode of contact for the last reminder for those who had registered a cell number and had not opened the link provided in previous contacts. This is the first time using SMS as a mode of contact for PER. Overall, the relative response for the fourth reminder is on par with the third reminder with approximately 270 responses. However, the number of responses yielded from using SMS as mode is low when compared to the number of responses from using email.

Table 2: Number of responses from previously recruited panel members, by number of contacts

	Responses	Cumulative Responses	Response rate	Cumulative response rate
Invitation (February 16th)	714	714	13.4 %	13.4 %
Reminder 1 (February 28th)	369	1 083	6.9 %	20.3 %
Reminder 2 (March 6th)	278	1 361	5.2 %	25.6 %
Reminder 3 (March 9th)	266	1 627	5.0 %	30.6 %
Reminder 4 - Email (March 15th)	240	1 867	4.5 %	35.1 %
Reminder 4 - SMS (March 15th)	31	1 898	0.6 % ⁵	35.6 %

RESPONSE OF PANEL MEMBERS OVER TIME

We will now examine panel retention; the rate at which the panel members continue responding to survey waves after the initial wave in which they were recruited. When recruited, the representatives become panel members,

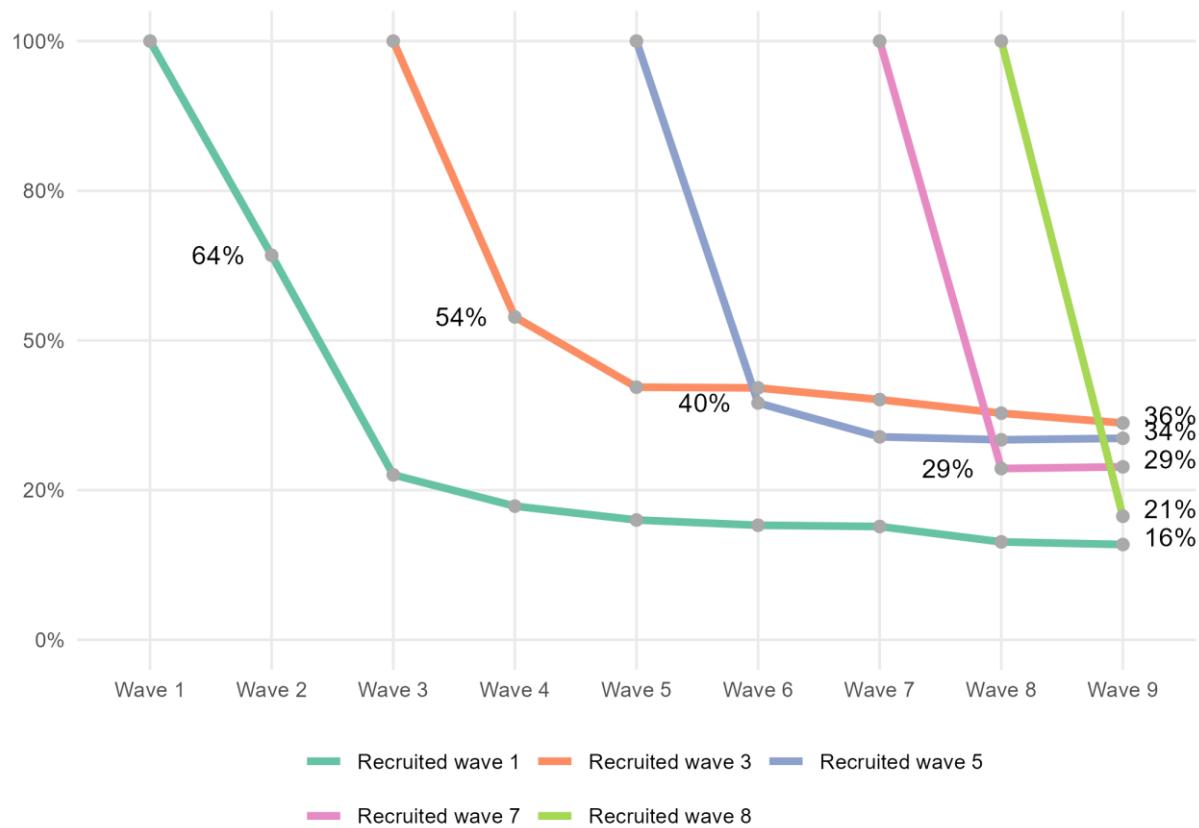
⁵ 558 panel members were registered with a phone number prior to the survey being launched.

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.

The retention rate is at its lowest in the respondent's second wave before retention flattens out. 64 percent of the respondents recruited in wave 1, also participated in wave 2. Correspondingly, 54 percent of the respondents recruited in wave 3, also participated in wave 4. In subsequent waves, the retention rate increases when compared to the first drop-off. For instance, among those recruited in wave 3, who also responded in wave 4, 78 percent are respondents in wave 5. Among representatives recruited in wave 1, 16 percent of them participated in wave nine.

Retention after first wave among respondents who were recruited in recent waves is low when compared to the retention rate for respondents recruited in wave 1 and wave 3. As noted previously, recruitment in the three last waves occurred in special circumstances considering the pool of representatives available despite the small addition of new parliamentary and Sami parliamentary representatives in wave 7.

Figure 1: Current retention rate of PER respondents grouped by recruitment wave

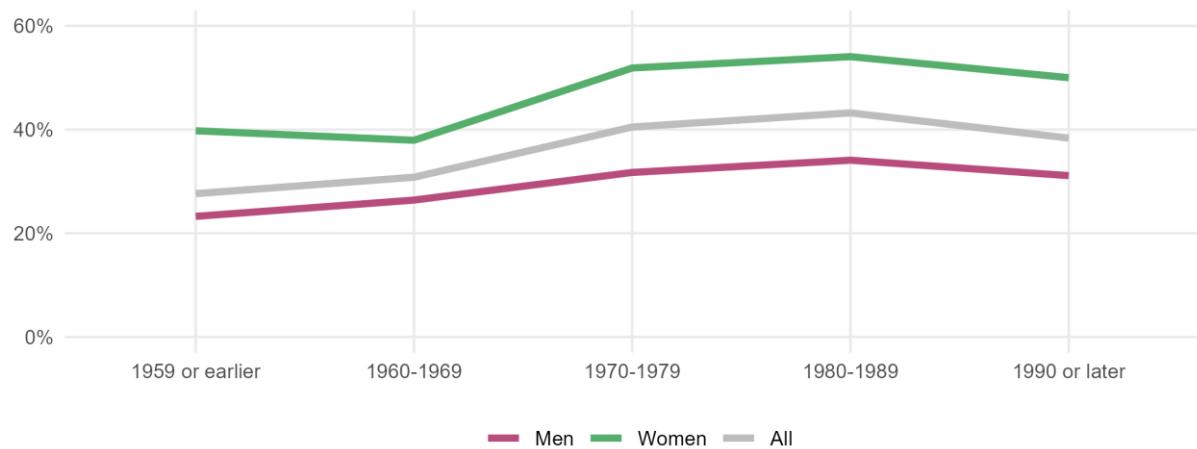


When compared, the retention rate in the wave after initial recruitment has decreased over time. As the figure above shows, the share of respondents who participate in the wave after recruitment are lower than for respondents who were recruited in waves 1 and 3. In other words, the retention rate is progressively worsening for newly recruited respondents for each additional wave where recruitment is conducted. It is likely to be related to the issue that the remaining pool of eligible representatives is shrinking for each wave, and representatives who are less likely to be recruited as panel members are also less likely to remain respondents over time when they are initially convinced to participate. The issue is further discussed under 'Panel Recruitment' above.

PLATFORMS

The questionnaire was prepared for data input via smart phones. 27.3 percent of survey respondents that opened the questionnaire used a mobile phone. 11.2 percent of the mobile users did not complete to such an extent that they were classified as respondents. To compare, 33.3 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



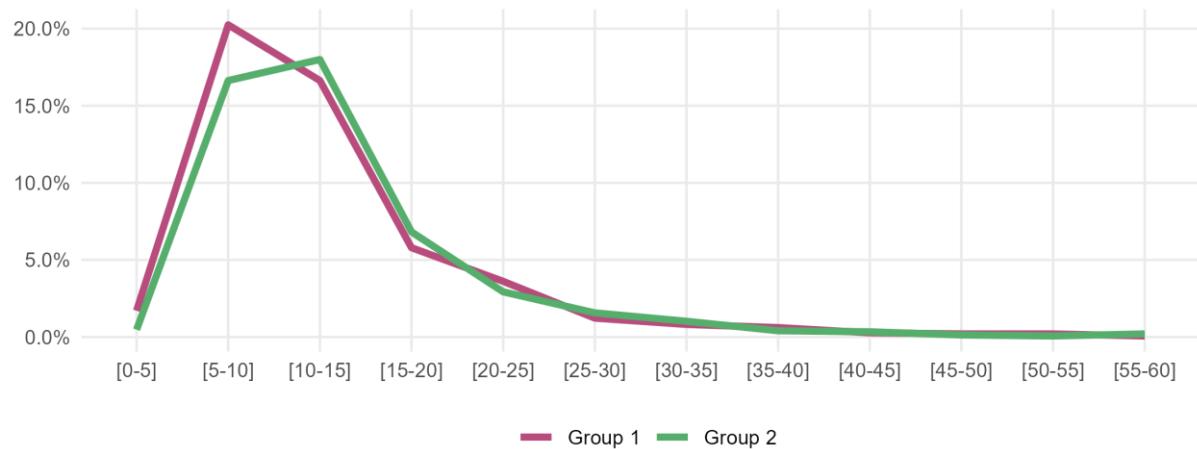
The general tendency is that younger respondents are more inclined to use their mobile phone when answering the questionnaire. Young female representatives are the most frequent users of mobile devices.

TIME USAGE

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

Measuring average time usage poses a challenge as 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 this effect, respondents using more than 60 minutes are excluded from the calculation. In this subsample, the average response time is 13.8 minutes as can be seen in table 3.

Figure 3: Time usage of survey respondents



On average, mobile respondents use slightly less time than respondents using non-mobile devices. When compared to previous waves of PER, the difference in time spent in the questionnaire between the two groups is less subtle.

Table 3: Average time spent on questionnaire in minutes

	All	Group 1	Group 2
All users	13.8	13.4	14.2
Non-mobile users	14.4	14.2	14.7
Mobile users	12.6	12.1	13.2

The survey is comprised of several question types, and it is assumed that time spent on a question is dependent on question type which can range from single questions to grids with multiple questions. Although not analysed for the Panel of Elected Representatives, the documentation report from wave 20 of the Norwegian Citizen Panel show that respondents spend significantly less time completing single questions compared to grid and open-ended questions. This is in line with expectations, as there is less information to consider for the respondent. There is little variance between mobile and non-mobile users for single and grid questions, with quite a lot of platform variance for open-ended questions. On average, mobile users write fewer characters on open-ended questions when compared to desktop-users.

REPRESENTATIVITY

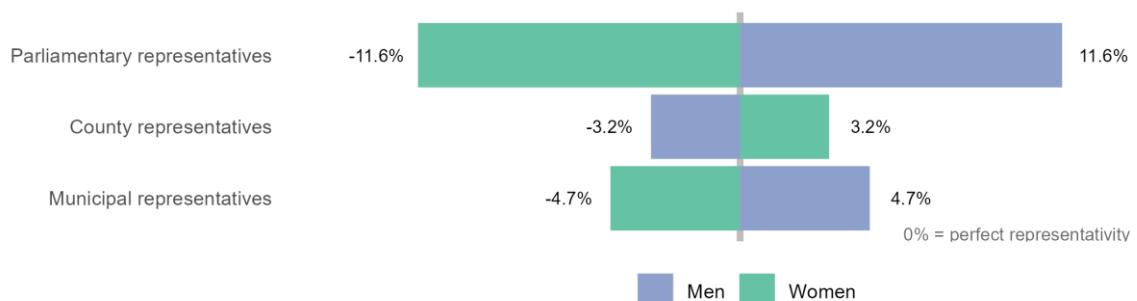
All respondents of the panel are representatives elected to office at different level of administration. Norway's four levels of administration are municipalities, counties, the Sami parliament and the national parliament. In this section, we examine how well different demographics are represented in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

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.

REPRESENTATIVITY OF THE PANEL OF ELECTED REPRESENTATIVES

Figure 4 shows how the proportion of men and women in the panel compares to the proportion in the target population. Men are overrepresented among municipal and parliamentary representatives, while women are overrepresented among county representatives. It should be noted that the total number of participating county and parliamentary representatives are comparatively low to the number of participating municipal representatives and over- or underrepresentation is more subject to be fluctuant between waves.

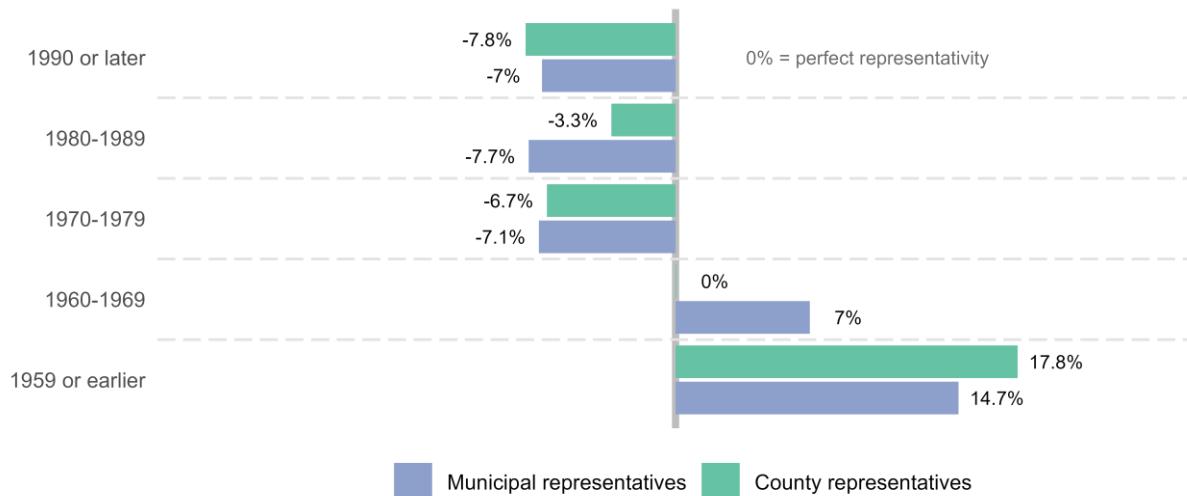
Figure 4: Representativity of gender



The oldest representatives are overrepresented in the panel, as shown in figure 5. While the bias is mostly directionally similar for county and municipal levels, it differs on representatives born in 1960-1969 where municipal representatives are overrepresented and county representatives are neither over- or underrepresented.

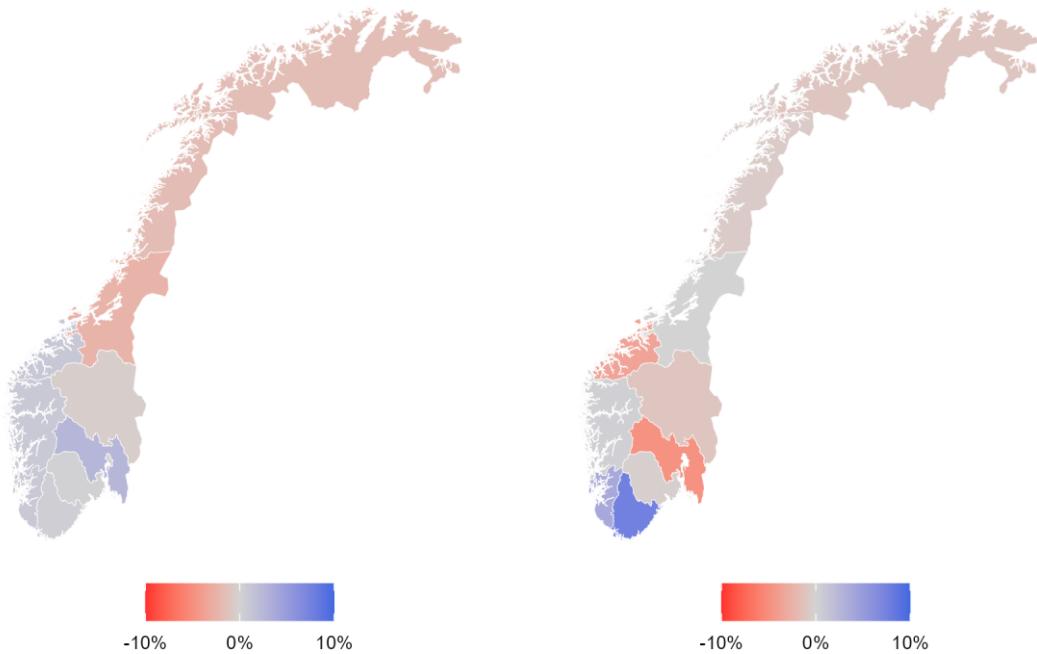
The most pronounced bias can be found among the elder representatives, particularly those born in 1959 or earlier. These respondents are overrepresented by nearly 18 percent at the county level, and 15 percent at the municipal level.

Figure 5: Representativity of age groups



A comparison of wave nine respondents to the target population is shown in figure 6, based on county where the representative is elected.⁶ Biases are rather small on the municipal level, and more pronounced on the county level. An important explanation for this, is that the number of eligible respondents is much lower on the county level, and consequently more sensitive to variation. At the municipal level, there is a clear north-south bias dimension, although not severe. Under- and overrepresentation exhibit less of a pattern at the county level.

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



⁶ 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 as can be seen in figure 7.

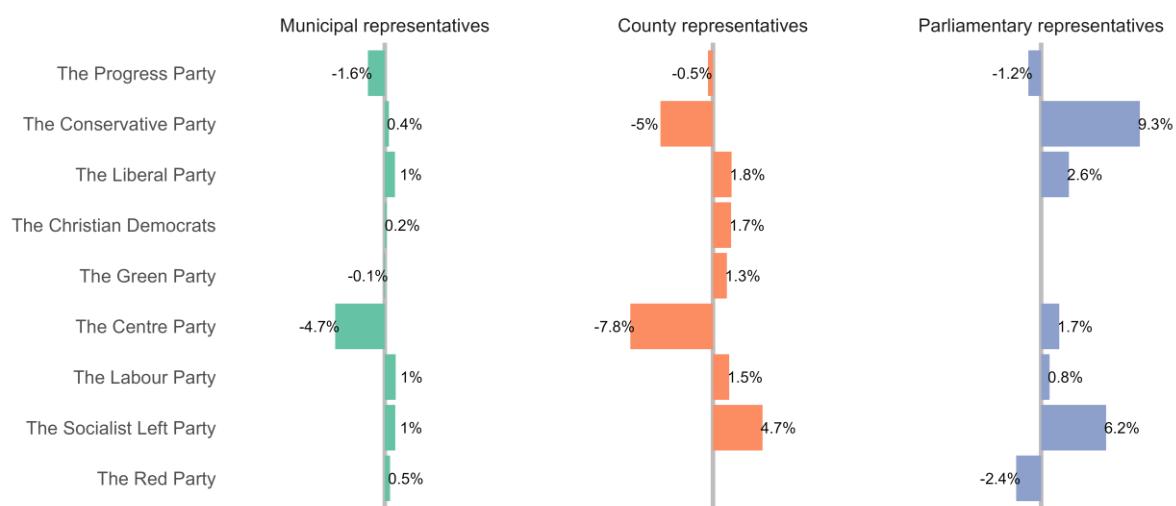
Figure 7: Representativity of levels of education. Calculated for municipal representatives only.



Lastly, party affiliation bias is examined. 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 8 only displays results for major 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, the Green Party, and The Christian Democrats, no result is displayed.

Most notably, most parties are not systematically under- or overrepresented across level. For parties that do exhibit some systematic over- or underrepresentation it is in most cases not extreme. The most significant systematic overrepresentation is for The Socialist Left Party, while the most significant underrepresentation is for the Centre party, although not at the parliamentary level. Both the Liberal party and the Socialist Left party are somewhat overrepresented at all political levels, while the Centre party is comparatively heavily underrepresented at the municipal and county levels. Moreover, we do not observe biases along the classic left-right party axis.

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. A low number of observations is an important contributor, rendering the results more sensitive to variation. The strongest bias is observed for parliamentary representatives from the Conservative Party.