

# Norwegian Citizen Panel

2017, Ninth Wave

Methodology report

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## TABLE OF CONTENTS

Background .....	2
Technical Aspects of the Survey.....	2
Software .....	2
Pilot – Procedure and Assessment .....	2
Randomization Procedures .....	2
Panel Recruitment.....	3
Data Collection wave 9.....	4
Responses by method of data collection .....	4
Response of Existing Panel Members Over Time .....	5
Platforms .....	5
Time Usage.....	6
Representativity .....	7
Factors Explaining Lack of Representativity .....	7
The Representativity of the Norwegian Citizen Panel .....	8
Weighting.....	10
Appendix .....	13

## BACKGROUND

This report describes the procedures of data collection in the ninth wave of The Norwegian Citizen Panel. Furthermore, the report discusses technical aspects of the data collection before turning to the representativity of the panel and how the weights are calculated.

The Norwegian Citizen Panel (NCP) is an established collaboration between several departments at the Faculty of Social Sciences at the University of Bergen and the UNI Research Rokkan Centre.

ideas2evidence is responsible for the panel recruitment, the administration of the panel, and the technical solutions regarding data collection and computing.

## TECHNICAL ASPECTS OF THE SURVEY

### SOFTWARE

The web-based research software Conconfirmit administers the surveys and the panel. Conconfirmit is a "Software-as-a-Service" solution, where all software runs on Conconfirmit's continuously monitored server park, and where survey respondents and developers interact with the system through various web-based interfaces. This software provides very high data security and operational stability. The security measures are the most stringent in the industry, and Conconfirmit guarantees 99.7 percent uptime. ideas2evidence does the programming of the survey in Conconfirmit on behalf of The Norwegian Citizen Panel.

### PILOT – PROCEDURE AND ASSESSMENT

The survey went through both large-N and small-N pilot testing before data collection. The large-N pilot was done in cooperation with the Citizen Lab. 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. On the same note, the field period is also regarded successful without any technical irregularities.

### RANDOMIZATION PROCEDURES

Each wave of NCP has an extensive use of randomization procedures. The context of each randomization procedure may vary,<sup>1</sup> but they all share some common ground that will be described in the following.

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

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

- Randomly select one value from a vector

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<sup>1</sup> Some examples: sorting respondents in different thematic subsets, randomly allocate treatment value in experiments, randomize order of an answer list/array, order a sequence of questions by random, ask a given question to a subset of the respondents.

<sup>2</sup> Please see following resource (or other internet resources):[https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global\\_Objects/Math/random](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Math/random)

<sup>3</sup> Please see following resource (or other internet resources):[https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global\\_Objects/Math/floor](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Math/floor)

- Randomly shuffle the contents of an array

The first procedure is typically used to determine a random 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 from one another. When N is large enough these two groups will be of equal size (50/50).

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

```
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 Confrimit<sup>4</sup>:

```
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

Panel members were recruited in wave 1, wave 3 and wave 8. All samples were drawn from the *National Population Registry* of Norway. This registry holds information on everyone born in Norway, as well as former and current inhabitants. The formal responsibility for this registry is held by the Norwegian Tax Administration but has partly outsourced the administration to the private IT-company Evry. Evry drew the sample on behalf of the Citizen Panel after relevant permissions were acquired from the Norwegian Tax Administration.

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

The samples consisted of people over the age of 18 that were randomly drawn from the register. The extracted information was a) last name, b) first name, c) address, d) gender, e) year of birth, and f) phone number (the latter was included in wave 3 only). The sample excluded persons without a current home address in Norway.

For a detailed description of the recruitment process in wave 1, wave 3 and wave 8, we refer to the respective methodology reports for each wave. Note, however, that there are some differences between the three recruitment processes. Please refer to table 1.

**Table 1: Summary of recruitment processes**

	Sample size	Mode	Returned letters	Response Rate (%)
Recruitment 1 (wave 1)	25 000	Postal	546	20.1 %
Recruitment 2 (wave 3)	25 000	Postal, phone/SMS	543	23.0 %
Recruitment 3 (wave 8)	22 000	Postal/SMS	479	19.4 %

## DATA COLLECTION WAVE 9

### RESPONSES BY METHOD OF DATA COLLECTION

The survey was launched May 11<sup>th</sup> 2017. It was sent to the email accounts of the panel's 14,264 members. In these e-mails, the basic information about the Citizen Panel was repeated, and the individual panel members received unique URLs that led to the questionnaire.

The invitation, the first reminder and the second reminder were all distributed via e-mail. The third, and last reminder was, depending on whether the individual panel member has a registered mobile phone number or not, distributed via SMS and e-mail. Prior to wave 9, 85 percent of the panel was registered with a mobile phone number.

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

	Response	Cumulative Responses	Response Rate (%)	Cumulative Response Rate (%)
Invitation (11 <sup>th</sup> of May)	3,126	3,126	31.3 %	31.3 %
1 <sup>st</sup> reminder (15 <sup>th</sup> of May)	1,466	4,592	14.7 %	46.0 %
2 <sup>nd</sup> reminder (18 <sup>th</sup> of May)	1,141	5,733	11.4 %	57.4 %
3 <sup>rd</sup> reminder – email (22 <sup>nd</sup> of May)	94	5,827	0.9 %	58.4 %
3 <sup>rd</sup> reminder – SMS (22 <sup>nd</sup> of May)	1,070	6,897	10.7 %	69.1 %

In total, the questionnaire received 6,897 answers. 3,126 respondents completed the survey in the period between the invitation and the first reminder (May 11<sup>th</sup> – 15<sup>th</sup>), a response rate of 31.3 percent. The pattern is similar to earlier waves; the email invitation produces a higher number of respondents than the subsequent reminders. In total, the second and third reminder produces the same amount of responses. The third reminder manages to do this as it uses a new platform to reach the respondents. For details on the number of respondents after each reminder, we refer you to table 2.

The overall response rate, as reported in table 2, is **69.1 percent**. As before we exclude respondents that have not participated in any of the last three waves when we are calculating the response rate. This leaves us with 9,983 eligible respondents.

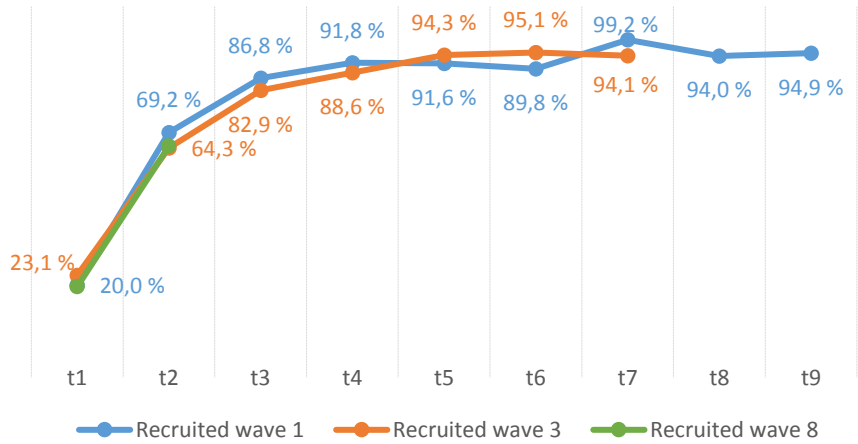
**RESPONSE OF EXISTING PANEL MEMBERS OVER TIME**

The number of respondents in this last wave is as already mentioned 6,897 – compared to 8,612 in wave 8. This gives us an overall wave-to-wave retention rate of 80.1 percent. 89.5 percent of the 6,897 also answered the questionnaire in wave 8.

As from 2017 NCP are conducting two surveys a year: two in the spring and one in the fall. Wave 9 is therefore the second time in spring 2017 that the respondents are asked to participate. This change of pace could result in a lower retention rate among the panel members recruited in wave 1 and wave 3 (figure 1). However, the retention rate is still predictable and non-volatile, which indicates that survey fatigue does not seem to be a factor as of today.

As for the new recruited in wave 8 they are very much following the pattern of the two earlier recruitment processes. Panel members recruited in wave 8 had a 64.8 percent retention rate from t1 to t2. More than 1/3 of panel members recruited in wave 8 refrained from answering in wave 9.

**Figure 1: Wave-to-wave retention rate**

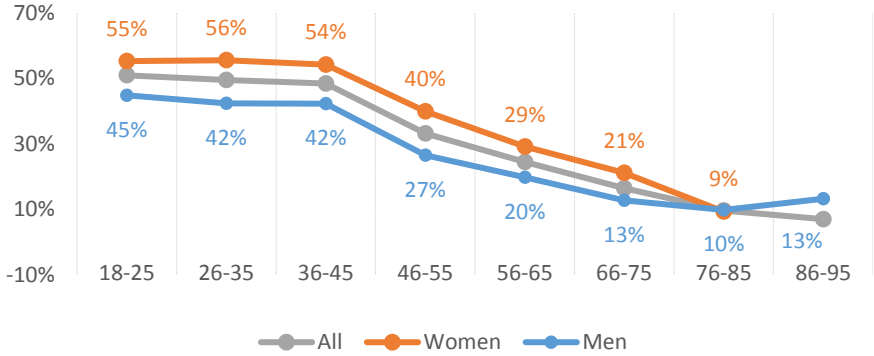


**PLATFORMS**

The questionnaire was prepared for data input via smart phones. In order to enhance the respondents’ experience with the questionnaire, mobile users got a different visual representation of some questions.

31.7 percent of all survey respondents that opened the questionnaire used a mobile phone. 10.7 percent of the mobile users did not complete to such an extent that they were classified as respondents in the wave 9. For non-mobile users the percentage was 5.2 percent. Mobile users were thus more likely to leave the questionnaire before completion. This was also the case in previous waves.

Figure 2: Share of mobile users by gender and age



Compared to wave 8, a substantially higher share of respondents between 18-55 are using mobile to answer the wave 9 survey. On average 50 percent of the respondents in this age group used mobile, while 33 percent did the same in wave 8. The reason for this increase in mobile users is that a larger share of the panel members has registered their phone number, compared to wave 8.

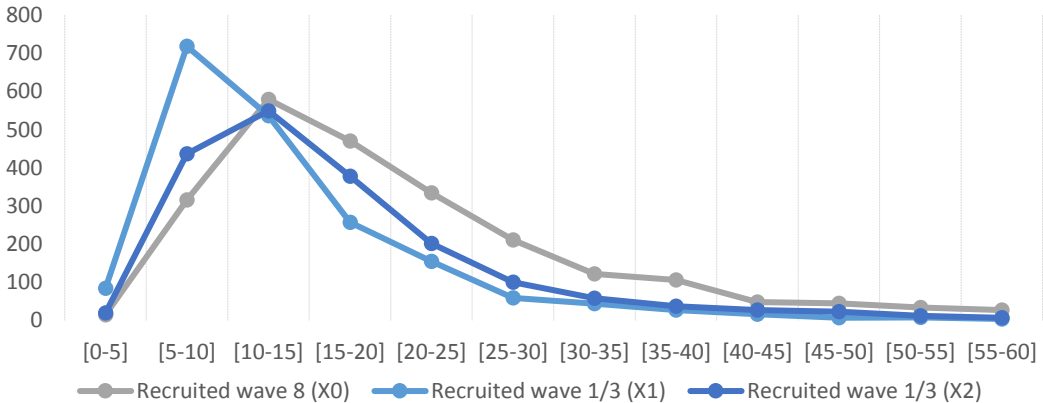
Respondents between 18 and 45 years are more inclined than others to use their mobile phone when answering the questionnaire, as shown in figure 2. Respondents from 36-45 years (both men and women) are the ones that uses their mobile most frequent. From 46 years and higher, the share of mobile users declines substantially.

As in previous waves, women are in general more inclined to use mobile to answer the questionnaire compared to men. 55 percent of women 26-35 years of age use their mobile when filling out the questionnaire, compared to 43 percent of the men in the same age group.

TIME USAGE

The average respondent used 17.5 minutes to complete the questionnaire. This is in compliance with what the respondent were told when invited. The challenge of measuring average time usage is 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. The average of 20 minutes therefore only includes the 90 percent of the respondents, which used less than, or equal to, 60 minutes.

Figure 3: Time usage of survey respondents in wave 9



As in earlier waves, the NCP questionnaire is divided into different subsets. Wave 9 consisted of three subsets that are called (X0-X2). Figure 3 and table 3 shows that respondents that answered questions in the X0 subset spent more time on the questionnaire, compared to the X1 and X2 subsets.

Table 3: Average time usage (minutes) in each subset in wave 9

	All respondents	X0-respondents	X1-respondents	X2-respondents
All users	17.5	20.7	14.1	17.1
Non-mobile users	18.2	21.8	14.5	17.9
Mobile users	16.0	18.7	12.8	15.1

As before, mobile users on average use substantially less time on the survey than non-mobile users. The documentation report from wave 7 showed that mobile users spend less time writing text on open text questions. Mobile users write on average 42 characters in the open text questions, while users answering on non-mobile platforms on average write 62 characters.

The same report also noted that mobile users spend considerable less time answering some of the more complex questions in the questionnaire (i.e. questions with long and/or high degree of complexity in the vignettes). This could imply that users on mobile platforms spend less time reading vignettes before answering the questions. 65 percent of the respondents answering “don’t know” on one specific, complex question in the wave 7 survey were mobile users, a significantly higher number than expected when we take into account that the percentage of respondents answering the survey on a mobile phone is 26 percent of the total sample. Our numbers show that mobile users on average spent less time than non-mobile users on 85 percent of the questions in the seventh wave.

## REPRESENTATIVITY

In this section, we describe the representativity of the panel as a whole. Please see appendix for isolated statistics on respondents recruited in wave eight. First, we will discuss factors explaining representativity. Thereafter we apply demographic variables to present data on representativity by different strata. The data on representativity is the foundation for the section on weighting.

### FACTORS EXPLAINING LACK OF REPRESENTATIVITY

There are two main points that can serve as explanations to non-response and lack of representativity:

- ◆ access to and familiarity with the internet (given that a web-based questionnaire was the only response mode made available)
- ◆ the motivation and interest of the respondents

The first challenge is strongly related to the age composition of the survey respondents. Although Norway has a very high computer and internet density, the probability of having an e-mail address, and the skills required to access and fill in an online questionnaire, normally decreases with increasing age. The second challenge, motivation and interest, is often explained by the respondents’ level of education. In addition to age and education, we added the variables of geography and gender in order to test the representativity of the survey respondents. The variables have the following categories:

- ◆ Age: 19-29 years, 30-59 years, 60 and above.
- ◆ Highest completed education: no education/elementary school, upper secondary, university/university college.
- ◆ Geography: Oslo/Akershus, Eastern Norway, Southern Norway, Western Norway, Trøndelag, Northern Norway.



## THE REPRESENTATIVITY OF THE NORWEGIAN CITIZEN PANEL

The sampling frame of the survey equals to the Norwegian population above the age of 18, comprising a population of approximately 4,1 million individuals. Earlier reports have documented a systematic underrepresentation of respondents belonging to the two lowest educational groups, independent of gender and age. The underrepresentation is particularly strong for young men. As expected, individuals with education from universities or university colleges are overrepresented. All of these observations are still true for wave 9.

**Table 4: Age distribution in the population and the net sample of wave 9**

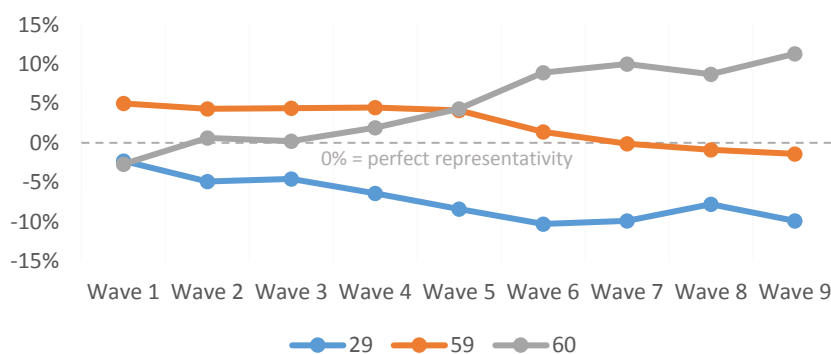
	18-29 years	30-59 years	60 years and above
Population	20.3 %	51.1 %	28.6 %
Net sample - w08	10.4 %	49.7 %	39.9 %

From the age distribution presented in table 4, we see that 18-29 year olds are underrepresented in the net sample of wave 9. The representation of the age group 30-59 years in the net sample is more or less on par with the age distribution in the population, while respondents aged 60 years and above are clearly overrepresented.

As a result of recruiting new panel members in wave 8, the representation of different age groups was marginally improved in wave 8 compared to wave 7 (figure 5). In wave 9 however, the underrepresentation of young respondents is somewhat more prominent and the overrepresentation of respondents above the age of 60 is higher than in any of the previous waves.

Loyalty to the panel explains the development of the oldest age group in figure 4; they started out as underrepresented in wave 1, but thereafter they have become increasingly overrepresented. A less sense of loyalty/interest explains the development of 18-29 years old as they started out as underrepresented - an underrepresentation that has only increased.

**Figure 4: Representativity of age groups from wave 1- wave 9**



New patterns emerge when adding gender in table 5; young men are more underrepresented than young women are. In the oldest age group, men are clearly overrepresented, more so than women. Lastly, the middle-aged men in the net sample are underrepresented, while women in this age bracket are overrepresented.

**Table 5: Combined distribution of age and gender in the population and the net sample of wave 9**

	18-29 years		30-59 years		60 years and above	
	Men	Women	Men	Women	Men	Women
Population	10.4 %	9.9 %	26.3 %	24.8 %	13.4 %	15.2 %
Net sample - w08	4.4 %	6.0 %	24.1 %	25.6 %	21.9 %	18.0 %

The inclusion of educational level in table 6 reveals a systematic underrepresentation of respondents with little or no education, independent of age and gender. As discussed in relation to table 4, the underrepresentation is strong for young respondents. The underrepresentation is also strong for middle-aged respondents with little or

no education. There is also some underrepresentation of respondents aged 60 and above with little or no education, except for the men who is on par with the distribution in the population.

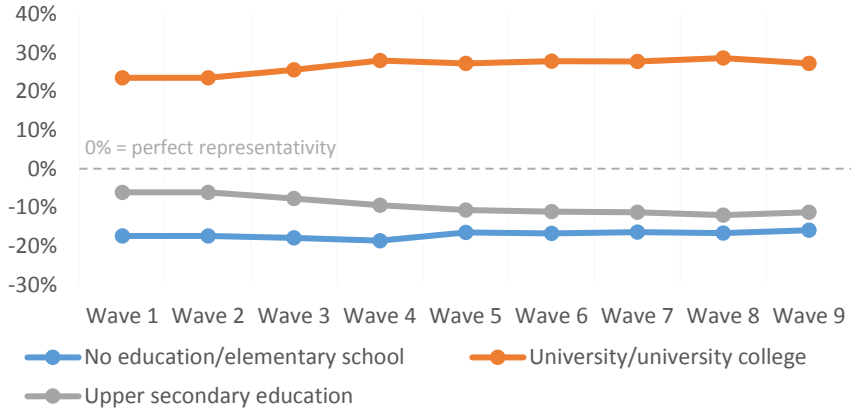
Respondents that have upper secondary education as their highest completed education are somewhat underrepresented in most groups. Those who have university or university college education are clearly overrepresented in the two oldest age brackets, independent of gender.

**Table 6: Combined distribution of age, gender and education in the population and the net sample of wave 9**

		Population		Net sample - w08	
		Men	Women	Men	Women
No education/elementary school	18-29 years	4.1 %	3.1 %	0.4 %	0.5 %
Upper secondary education		4.1 %	3.2 %	2.1 %	2.2 %
University/university college		2.3 %	3.6 %	1.8 %	3.3 %
No education/elementary school	30-59 years	5.5 %	4.7 %	1.2 %	1.0 %
Upper secondary education		11.6 %	8.3 %	8.4 %	6.8 %
University/university college		9.2 %	11.8 %	14.7 %	18.0 %
No education/elementary school	60 and above	3.2 %	4.6 %	3.2 %	3.1 %
Upper secondary education		6.7 %	7.3 %	5.9 %	4.6 %
University/university college		3.6 %	3.3 %	12.8 %	10.2 %

Figure 5 illustrates the representation of education groups since wave 1. The general trend is that the highly educated are overrepresented compared to those with less or no education. Recruiting new respondents in wave 8 corrected somewhat the underrepresentation of respondents with upper secondary education. However, the level of underrepresentation of respondents with no education/elementary education remains the same.

**Figure 5: Representativity of education groups from wave 1- wave 9**



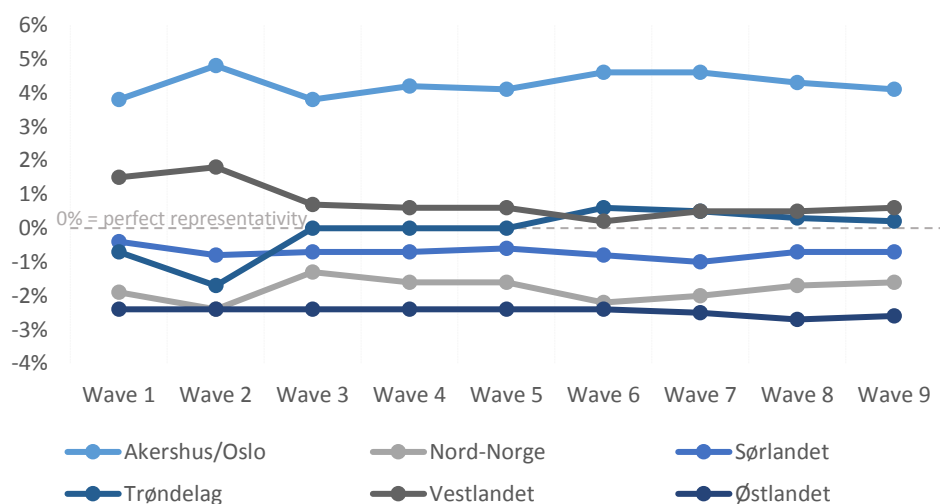
In regards to geography, (table 7) we observe that Western Norway and Trøndelag are on level with the population, while the capital area – the counties of Oslo and Akershus – is clearly overrepresented. Northern Norway, Eastern Norway and Southern Norway meanwhile are underrepresented among the respondents in the eight wave.

The clearly most overrepresented group are men and women aged 60 years and above living in the capital area. This group accounts for 5.8 percent of the population but 10.5 percent of the respondents in wave 9 belongs to this demography. The most underrepresented groups are middle aged and young men in Eastern Norway, and young men and women in Western Norway.

Table 7: Combined distribution of age, gender and geography in the population and the net sample of wave 9

		Population			Net sample - w08		
		Men	Women	Total	Men	Women	Total
Akershus/Oslo	18-29 years	2.5 %	2.6 %	5.2 %	1.3 %	1.9 %	3.2 %
	30-59 years	6.8 %	6.4 %	13.2 %	6.8 %	7.7 %	14.5 %
	60 and above	2.7 %	3.1 %	5.8 %	5.6 %	4.9 %	10.5 %
	In total	12.0 %	12.2 %	<b>24.1 %</b>	13.7 %	14.5 %	<b>28.2 %</b>
Eastern Norway	18-29 years	2.5 %	2.3 %	4.8 %	0.9 %	1.4 %	2.3 %
	30-59 years	6.7 %	6.5 %	13.2 %	5.0 %	5.9 %	10.9 %
	60 and above	4.0 %	4.6 %	8.6 %	6.2 %	4.7 %	10.9 %
	In total	13.2 %	13.4 %	<b>26.5 %</b>	12.1 %	12.0 %	<b>24.1 %</b>
Southern Norway	18-29 years	0.6 %	0.6 %	1.2 %	0.2 %	0.2 %	0.4 %
	30-59 years	1.4 %	1.4 %	2.8 %	1.1 %	1.4 %	2.5 %
	60 and above	0.8 %	0.9 %	1.6 %	1.0 %	0.9 %	1.9 %
	In total	2.8 %	2.8 %	<b>5.6 %</b>	2.3 %	2.5 %	<b>4.8 %</b>
Western Norway	18-29 years	2.8 %	2.6 %	5.4 %	1.2 %	1.6 %	2.8 %
	30-59 years	6.8 %	6.3 %	13.1 %	6.6 %	6.7 %	13.3 %
	60 and above	3.4 %	3.8 %	7.2 %	5.6 %	4.7 %	10.3 %
	In total	13.0 %	12.7 %	<b>25.7 %</b>	13.4 %	13.0 %	<b>26.4 %</b>
Trøndelag	18-29 years	1.0 %	0.9 %	1.9 %	0.7 %	0.5 %	1.2 %
	30-59 years	2.2 %	2.1 %	4.2 %	2.3 %	2.2 %	4.5 %
	60 and above	1.2 %	1.3 %	2.5 %	1.8 %	1.5 %	3.3 %
	In total	4.4 %	4.3 %	<b>8.7 %</b>	4.8 %	4.2 %	<b>9.0 %</b>
Northern Norway	18-29 years	1.0 %	0.9 %	1.9 %	0.2 %	0.4 %	0.6 %
	30-59 years	2.3 %	2.2 %	4.5 %	2.2 %	1.8 %	4.0 %
	60 and above	1.4 %	1.5 %	2.9 %	1.7 %	1.4 %	3.1 %
	In total	4.7 %	4.6 %	<b>9.3 %</b>	4.1 %	3.6 %	<b>7.7 %</b>

Figure 6: Representativity of regions from wave 1- wave 9



The representativity of regions has more or less gone unchanged from wave 1 through wave 9 (figure 6 above). Once recruited it does not seem that geography has an important role in determining the loyalty of the respondent. At least not at the same level as age and education.

## WEIGHTING

To compensate for the observed biases, we have calculated a set of weights. The weights are equal to the relation between a given strata in the population and the total population, divided by the relation between a given strata in the net sample and the total net sample.<sup>5</sup> This procedure returns values around 1, but above 0. Respondents belonging to a stratum that is underrepresented will receive a weight above 1 and respondents belonging to an overrepresented stratum will receive a weight below 1. We have listed the weights of the different strata in table 10 in the appendix.

When calculating the weights, information regarding the respondents' geographical location, gender and age is based on registry data. Information on these variables was included in the sample file we received from the Norwegian National Registry. Information regarding the level of education is from the survey. 4 percent of the seventh wave net sample have not answered the question about level of education. Because of this, two different weights have been calculated:

- ◆ **Weight 1** is based on demographic variables only (age, gender and geography)
- ◆ **Weight 2** combines the demographic variables with education. Respondents with missing data on the education variable are only weighted on demography (the education component of the weight is in these cases set to 1).

The variables have the following categories:

- ◆ **Age:** 19-29 years, 30-59 years, 60 and above.
- ◆ **Highest completed education:** no education/elementary school, upper secondary, university/university college.
- ◆ **Geography:** Oslo/Akershus, Eastern Norway, Southern Norway, Western Norway, Trøndelag, Northern Norway.

The method for calculating weights is equal to that of previous waves.

When applied, both weights will provide a weighted N equal to the number of respondents in the dataset.

As shown in the discussion above, of the factors considered, level of education creates the most bias. We therefore strongly recommend using weight 2 in most statistical analyses, as this weight provides the most accurate compensation for the various sources of bias in the net sample. Table 8 shows the effects of weight 2 on the distribution of self-reported level of education in the net sample. As we can observe, the weight gives the sample a perfect distribution compared to the population. It is however important to stress that the distribution when not weighted is far from ideal, with a clear underrepresentation of the population with low levels of education.

**Table 8: Effect of weight 2 on self-reported level of education**

	Sample - not weighted	Sample - weighted	Population	Difference between sample and population	Difference between weighted sample and population
No education/elementary school	9.30 %	25.20 %	25.20 %	-15.90 %	0.00 %
Upper secondary education	29.90 %	41.20 %	41.20 %	-11.30 %	0.00 %
University/university college	60.80 %	33.60 %	33.60 %	27.20 %	0.00 %

<sup>5</sup> The applied formula for weight  $w_i$  for element  $i$ , in strata  $h$  is:  $w_i = \frac{N_h/N}{n_h/n}$

Furthermore, literature on surveys has shown that individuals who are interested in politics are more likely to participate in surveys than individuals who are not. This particularly holds true for surveys with politics as a topic.<sup>6</sup>

Figure 7: Effect of weight 2 on self-reported political interest

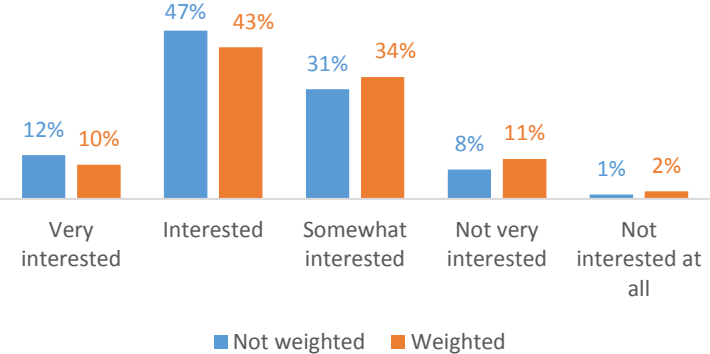


Figure 7 displays the distribution of level of political interest, weighted and not weighted. Respondents who self-identify as interested in politics (very interested and interested) make up 57 percent in the not weighted distribution. 33 percent are somewhat interested, meaning that 9 percent of the respondent’s report being somewhat or not interested in politics. In the weighted statistics, the share of respondents who self-identify as being interested in politics reaches 51 percent. Those who report not being interested (not very interested and not interested at all) in politics make up 14 percent.

6 Groves, Robert M., Stanley Presser and Sarah Dipko (2004): “The Role of Topic Interest in Survey Participation Decisions”. *Public Opinion Quarterly*. Vol. 68, No. 1:2-31

## APPENDIX

Table 9: Weights applied to different strata (weight 2)

			Men	Women				Men	Women
Oslo/Akershus	18-29 years	No education/elementary school	6.4	5.7	Western Norway	18-29 years	No education/elementary school	8.8	4.5
		Upper secondary education	1.7	1.5			Upper secondary education	2.3	1.7
		University/university college	1.3	1.0			University/university college	1.0	1.1
	30-59 years	No education/elementary school	7.3	3.5		30-59 years	No education/elementary school	3.6	7.6
		Upper secondary education	1.4	1.2			Upper secondary education	1.3	1.1
		University/university college	0.6	0.6			University/university college	0.6	0.7
	60 and above	No education/elementary school	0.8	1.2		60 and above	No education/elementary school	0.9	1.5
		Upper secondary education	0.9	1.0			Upper secondary education	1.1	1.5
		University/university college	0.3	0.3			University/university college	0.3	0.3
Eastern Norway	18-29 years	No education/elementary school	18.7	8.1	Trøndelag	18-29 years	No education/elementary school	6.1	18.0
		Upper secondary education	2.1	1.3			Upper secondary education	1.0	1.3
		University/university college	1.3	1.0			University/university college	1.1	1.4
	30-59 years	No education/elementary school	5.5	4.5		30-59 years	No education/elementary school	2.5	3.7
		Upper secondary education	1.6	1.4			Upper secondary education	1.3	1.2
		University/university college	0.7	0.7			University/university college	0.6	0.7
	60 and above	No education/elementary school	1.1	1.5		60 and above	No education/elementary school	0.9	1.8
		Upper secondary education	1.1	1.9			Upper secondary education	1.2	2.0
		University/university college	0.3	0.3			University/university college	0.3	0.3
Southern Norway	18-29 years	No education/elementary school	16.4	12.9	Northern Norway	18-29 years	No education/elementary school	7.7	11.1
		Upper secondary education	1.9	2.6			Upper secondary education	4.3	1.3
		University/university college	1.4	1.4			University/university college	3.6	1.7
	30-59 years	No education/elementary school	6.4	9.5		30-59 years	No education/elementary school	3.9	7.2
		Upper secondary education	1.6	1.0			Upper secondary education	1.3	1.3
		University/university college	0.7	0.7			University/university college	0.6	0.9
	60 and above	No education/elementary school	1.1	1.3		60 and above	No education/elementary school	1.3	1.9
		Upper secondary education	1.8	3.0			Upper secondary education	1.7	1.9
		University/university college	0.3	0.3			University/university college	0.3	0.3