



Report from the Norwegian SILC web pilot 2019

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Preface

The European Union Statistics on Income and Living Conditions (EU SILC) aims at collecting timely and comparable cross-sectional and longitudinal data on income, poverty, social exclusion and living conditions. Since 2003 Statistics Norway has collected SILC data through telephone interviews with a random sample of the Norwegian population. In June 2019 Statistics Norway carried out a pilot survey using web mode to collect SILC data, with the aim of exploring how web mode may contribute to cutting costs and increasing representativity of the data. This report describes the experiences from the data collection and adaptation of the questionnaire and presents analyses of consequences of changing the mode of data collection for data quality and representativity. The project was financed by the European Union through Grant agreement NO B2781-2018-ACTION-PLAN-SILC.

The project group consisted of Mari Lande With from the Division for income and living conditions statistics, Lise Snellingen Bye and Jan Haslund from the Division for social surveys, and Nina Berg and Katharina Rossbach from the Division for methods. Jan Haslund programmed the questionnaire in Blaise.

Statistics Norway, 27 August 2020

Ann-Kristin Brændvang

Abstract

This report describes results from the SILC web pilot conducted by Statistics Norway in June 2019. The aim of the project was to explore how using web (CAWI) mode may contribute to cutting costs and increasing representativity of the data. Whereas the regular data collection for SILC is currently conducted by telephone only (CATI), the pilot was conducted by CAWI only. In the report, pilot results are compared to results from the regular CATI SILC from 2018 and 2019.

Chapter 1 gives an overview of the project and chapter 2 describes the pilot sample and questionnaire. The pilot consisted of three subsamples with differing characteristics in terms of knowledge of the survey and contact mode. For two subsamples the data collection was done by web only, but for one sample we did a short CATI interview and then switched to CAWI (multimode). The gross sample of the survey was approximately 5,600 selected respondents aged 16 or over. One subsample had participated previously (fourth wave CATI SILC 2018).

Chapter 3 reviews results from the data collection. Although the response rate for the pilot were higher than expected (45 per cent), it is clearly lower than in the regular CATI SILC. Moreover, the gross sample in the pilot only included individuals who were registered with an email address in a government register. As e-mail coverage is low for the elderly, the pilot included very few respondents over the age of 80. In terms of response bias, the young and persons with low education and low income were underrepresented in the pilot. These are groups that are underrepresented in the regular CATI SILC as well, but the bias is larger in the web sample. We found clear differences in bias and response rates depending on our contact strategies. The highest response rate and lowest bias was obtained for the pure web subsample who had not previously participated in the SILC survey.

Chapters 4 and 5 addresses questionnaire quality by looking at break-offs, the use of don't know/refusals and by qualitative evaluations of questions. Despite an acceptable response rate, the rate of break-offs was higher than desired and clearly a larger problem than in CATI. Break-offs mainly occur when the questionnaire moves from personal questions to household mapping of work and housing cost. It is the youngest respondents who have the highest break-off rates, and the rate is also higher for respondents in households with more than one person, due to the questions about other household members. In addition to high break-off rates these groups also have poorer response quality when responding. Although the pilot included an option for young respondents to let other household members answer these questions, this did not lead to lower break-offs in the pilot.

Chapter 6 examines mode-effects. We find mode selection bias that may be difficult to adjust for using the current weighting procedure of the Norwegian SILC. Furthermore, we found evidence of mode measurement bias among the variables examined. The largest measurement bias was found for poverty indicators. Nevertheless, it seems that key SILC indicators such as AROPE are less affected.

Chapter 7 summarises findings in the project and gives recommendations for further work. We conclude that although mixed mode is a realistic option for SILC in the future, several measures should be taken before making this transition.

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1. Introduction

This document describes the pilot web survey for SILC that was carried out by Statistics Norway in June 2019. The broader aim of the pilot was to explore how using self-administered web questionnaires (CAWI) in the SILC data collection may contribute to cutting costs and increasing representativity of the data. Currently, the Norwegian SILC survey is conducted by computer assisted telephone interviews (CATI). However, the CATI data collection is expensive and time consuming. Moreover, studies show that many respondents prefer the privacy of web surveys, suggesting that introducing CAWI as a mode of data collection may contribute to reducing the response burden¹. The motivation for this action has been to explore the feasibility of a future CAWI or mixed-mode data collection design² for the Norwegian SILC. Due to time- and cost- limitations the pilot was conducted as a CAWI only data collection. A more likely scenario in the foreseeable future is that Statistics Norway develop SILC as a mixed mode survey.

It is generally acknowledged that survey data can be sensitive to the mode of data collection. Therefore, a decision about a change in the mode of data collection should take into consideration the ways this may affect both representativity, data quality, as well as costs. The term “mode effects” refers to bias in data associated with the mode of data collection (Luzi, O., et al 2019). Mode effects include both differences in the data occurring because of selection bias, that is different types of respondents participate depending on mode, and because of different types of measurement biases. Mode measurement effects can be reduced by developing well-functioning survey instruments, but are to some extent inevitable, as they relate to the degree of privacy experienced by the interviewee. An important reason to properly assess mode effects is to be able to evaluate whether such effects should be adjusted for in order to obtain accurate estimates (Luzi, O., et al 2019).

This report gives a detailed account of the pilot and presents results from analyses of the obtained data. An account of the design of the pilot is given in chapter 2, whereas chapters 3 through 6 contain results from the pilot. The analyses are divided into the following main-topics:

- Response rates and representativity of the data (chapter 3)
- Questionnaire break-offs (chapter 4)
- Usability and questionnaire quality (chapter 5)
- Mode effects (chapter 6)

The analyses address questions related to how the choice of mode affects selection and attrition from the survey, how to improve the adaption of the questionnaire to CAWI (or unimode), to what extent there are mode measurement biases associated with key SILC variables.

In chapter 7 results are summarized, and we give an assessment of challenges met and conclusions that may be drawn from this project.

2. Description of the pilot

The work on this project was conducted between February and December 2019. The team working on the project consisted of staff from Statistics Norway’s Division for Methodology – specialised in survey design, staff from the Division

¹ See Gravem et al. 2019.

² data collection, mixed mode is when more than one data collection mode is offered to the same sample to respond to a survey, and the responses from these different modes are combined (Dillman, 2014).

for Data Collection and staff from Division for Income and Living conditions, who are in charge of the SILC at Statistics Norway. We also contacted Statistics Denmark and Finland, to learn about their work with SILC web questionnaires and data collection. Moreover, we benefited from the experiences and infrastructure developed by Statistics Norway in connection with a web pilot for LFS conducted in 2018 (see Gravem et al 2019). The pilot data collection was carried out between June 3rd and June 30th, 2019.

2.1. Design

The SILC pilot was designed as a mixed-mode survey, with a gross sample of approximately 5600 individuals (see section 2.2 below). As in the regular SILC survey, we drew a random sample of persons aged 16 years or older (selected respondents³). In contrast to the regular SILC, however, the sample was drawn from the part of the population who were registered with an e-mail address in the Contact Register⁴. At the time of the survey, 88 per cent of the population aged 16 and over were registered with an e-mail address. The availability of email-addresses is correlated with population characteristics, particularly age. Among persons aged 67 – 79 years, 70 per cent have e-mail contact information, whereas the rate is only around 30 per cent among persons aged 80 years or older. Consequently, the pilot sample did not have the same cross-sectional characteristics as the regular SILC sample⁵.

The data collection for the Norwegian SILC is currently conducted as a combination of CATI and register data. All income variables are collected from registers, but register data is also used as input in the interview for the sections covering household composition, employment and place of residence. Level of education is also retrieved from registers. All other variables are collected in the CATI interview. Register data is also used to construct weights that adjust for the sample selection bias. The register variables that are used in the current weight are age, level of education, family size and gender. The same register variables were used in the pilot.

The pilot had three subsamples, one of which had previously been part of the regular SILC panel sample (last wave in 2018).

For two of the subsamples the only mode of contact was e-mail/SMS, in which respondents were asked to complete the survey in CAWI mode and received information about the survey and procedures to log in to complete the web questionnaire.

One subsample was contacted by telephone, and interviewers first conducted the household mapping in CATI mode. At the end of the CATI interview, these respondents were invited and encouraged to complete the rest of the survey in CAWI mode. Subsequently they received an e-mail/SMS with information about the web survey and how to proceed to log in to complete the survey.

³ As several other so-called register countries, Norway follows a “selected respondent” model for SILC, which means that the sample consists of individuals who are considered the household’s selected respondents. Parts of the interview is only conducted with this person, whereas parts of the questions should be asked to all household members (particularly questions about employment).

⁴ The “Norwegian Digital Contact Information Register” contains mobile phone numbers and e-mail addresses of citizens for digital communication by the Norwegian authorities.

⁵ Although it would have been possible to include people with no registered e-mail in the pilot, for instance by sending SMS or letters by post including a web-link to complete the survey, this approach has given very low response rates for the elderly in other surveys recently conducted by Statistics Norway.

No telephone interviews were conducted beyond the initial household-mapping interview. Respondents who did not want to or were not able to complete a web-survey were not interviewed beyond the household mapping, as CATI was too costly for the pilot. Furthermore, it was not considered necessary for the purpose of this pilot. In an actual mixed-mode data collection for SILC, however, a combination of CAWI and CATI may be necessary to achieve satisfactory response rates and representativeness of the data, particularly to be able to cover the elderly population.

In order to make the interview as efficient as possible, register information on workplace and the household composition was used in the web questionnaire, as in the regular CATI data collection⁶. For the subsample that had participated in the regular SILC 2018, we planned to use information from the previous interview to prefill some of the questions in the web pilot, as is done in the regular CATI data collection for work and housing sections. However, the time frame of the programming turned out to be too scarce, and there was not enough time to do this. Therefore, no information from the previous interview was used, even though it would have been possible for sample 1 (see description under section 2.2).

Because we use information from registers in the questionnaire, it was mandatory to use a two-step authentication procedure, using the Norwegian government ID portal Altinn⁷ to log in. This was necessary to ensure the protection of the personal data from registers that was prefilled in the web questionnaire. The respondents received a letter in their Altinn Inbox containing a direct link to the questionnaire.

2.2. Sample

The pilot had a gross sample of approximately 5600 individuals and made up by the following three subsamples:

- Subsample 1 consisted of approximately 2500 respondents who were part of the fourth wave subsample for SILC in 2018⁸. Respondents in this sample were familiar with the survey and many had participated previously. The sample also included individuals who did not respond in earlier waves. Subsample 1 were contacted by email / SMS exclusively.
- Subsample 2 was drawn as a new sample of approximately 1500 randomly drawn individuals. These were contacted by telephone.
- Subsample 3 was also drawn as a new sample of approximately 1500 individuals. This group was only contacted by email / SMS.

Based on previous research indicating that first contact in CATI mode boosts response rates, we expected the highest response rate for subsample 2, followed by sample 1, which consisted of individuals who were familiar with the survey from earlier waves, but who were now only contacted via SMS / email. For subsample 3, which had not participated in the SILC survey before, and was only contacted by e-mail/SMS, we expected the lowest response rate because of panel attrition. In total, we achieved a net sample of approximately 2400 respondents, which exceeded the expectation. However, our expectations regarding which contact strategies would be most efficient were not met.

⁶ The respondents are then asked to confirm or change this information in the survey.

⁷ ID-porten is the primary way to log in to Altinn and is a common log-in solution for many Norwegian public services. <https://www.skatteetaten.no/en/person/your-altinn-inbox/>

⁸ Both respondents and non-respondents from previous waves were included.

Table 2.1 Sample and response in the pilot, by subsample¹

	Gross sample	Expected response rate CAWI	Actual response rate ²	Net sample CATI	Net Sample CAWI
Subsample 1 CAWI	2 499	35%	40,2%		1 004
Subsample 2 CATI-CAWI	1 558	40%	44,4%	1 246	689
Subsample 3 CAWI	1 558	30%	53,2%		829
Total pilot sample	5 615	35%	45,0%		2 422

¹ Net sample CAWI 1: Respondents who completed at least the personal interview in the web questionnaire.

² The response rate is calculated as the proportion of the gross sample (excluding non-eligible) who completed the personal interview. Break-offs for household member's employment, childcare and housing was accepted.

Originally, sample 1 was the entire fourth wave sample from the regular SILC in 2018, a random selection of individuals 17 years and older⁹, representative of the population in 2018. However, for the purpose of the CAWI survey we dropped from the sample individuals who were not registered with an e-mail address in the Contact Register. Subsample 2 and 3 were new samples drawn from the population of individuals who have contact-information for e-mail in the register. To be able to compare response rates in the pilot with results from the regular CATI survey, only individuals with an e-mail address were included in the CATI data as well (chapter 3). For analyses of mode effects, we constructed weights to adjust for the difference between the sample and the target population (see chapter 6). As in the regular SILC, there was no upper age limit for the pilot sample. However, elderly individuals were underrepresented, both due to a lower propensity to be registered with an e-mail address, and because elderly persons had a lower response rate. Therefore, persons aged 80 and over are excluded from many of the analyses.

2.3. The Web questionnaire

We designed a unimode¹⁰ Blaise questionnaire. The regular Norwegian SILC survey is integrated with the data collection for the National survey on living conditions. However, the pilot questionnaire only included questions from the SILC 2019 survey, excluding the ad hoc module. It took respondents on average 20 minutes to complete the web form. The questionnaire was programmed in Blaise 5.

2.3.1. Questionnaire adaption to web

Adapting the survey to web, we were faced with the dilemma of ensuring comparability of the data versus concerns for the user friendliness of the survey. To be able to identify mode measurement bias, the questionnaire ideally should be as similar to the current CATI mode as possible. Although this may increase comparability, simplifying and adapting to web may reduce break-offs and also improve quality. For some questions it was necessary to make adjustments to CAWI mode, particularly for long questions, and questions where interviewers need to assist the respondent in CATI mode. When making changes, we aimed to develop a unimode questionnaire for reuse in a future mixed-mode data collection. In unimode questionnaires questions are asked in a manner that is suitable for both modes.

The project's limited time-frame and budget meant we had to focus on adapting certain parts of the questionnaire for web. Particularly the housing and work modules, which contain complex questions with detailed instruction, required changes to a mode lacking interviewer assistance. For sections that are similar in the Labour force survey (LFS) we were able to use questionnaire adaptation made

⁹ In the pilot we did not supplement subsample 1 consisting of fourth wave respondents from the regular SILC 2018 with new 16-year-olds and immigrants.

¹⁰ Terminology used for equal questionnaire or question design for all data collection modes. In unimode, answer categories and explanations should be designed equally, but not necessarily identical, across all modes so that respondents provide the same answers, independent of the mode in which the questions are asked (De Leeuw et al, 2008). An alternative to unimode is mode specific design where the unique characteristics of the data collection mode is used to enhance the question, like aural stimuli for CATI and visual aids for self-complete.

for the 2018 LFS pilot. Questions about mortgage payment were previously tested in the MIMOD, supplying input on how these questions could be adapted for web.

The household composition was not fully mapped in the pilot, particularly the relations between household-members. In the future it should be investigated further whether the household members' relationships can be mapped through linked register data, or if the web questionnaire must be developed further to cover the household grid.

In the construction of the web questionnaire we met some technical difficulties. Due to time- limitations, we were not able to make use of information about work and employment from the previous interviews, as there was not enough time to link and adapt this data in a way that we were able to use in the questionnaire. However, this will be possible in future versions of the web questionnaire.

The questionnaire was designed with a hidden "refusal" / "Don't know" option for all questions which appeared if the respondent tried to move to the next page without answering. This was intended to ensure that the respondents did not break off if they were not able to answer, but also to reduce the number of missing information which may occur if it is possible to move through the questionnaire without giving any answers at all. Some questions did not have this option. For example, among them the question where the respondent must confirm the household composition. This is because the household composition is crucial to decide which questions will appear later in the questionnaire.

The respondents in the pilot who did not complete the questionnaire at once had the opportunity to click the link again at a later point and would then return to the survey at the point where they left off the last time.

As in CATI mode, the CAWI questionnaire included warnings triggered when e.g. amounts were very high, or responses did not make sense. For example, there was a warning if the respondent reported paying more than NOK 100,000 a year (aprox. 10,000 €) in joint expenses for co-ownership of their dwelling.

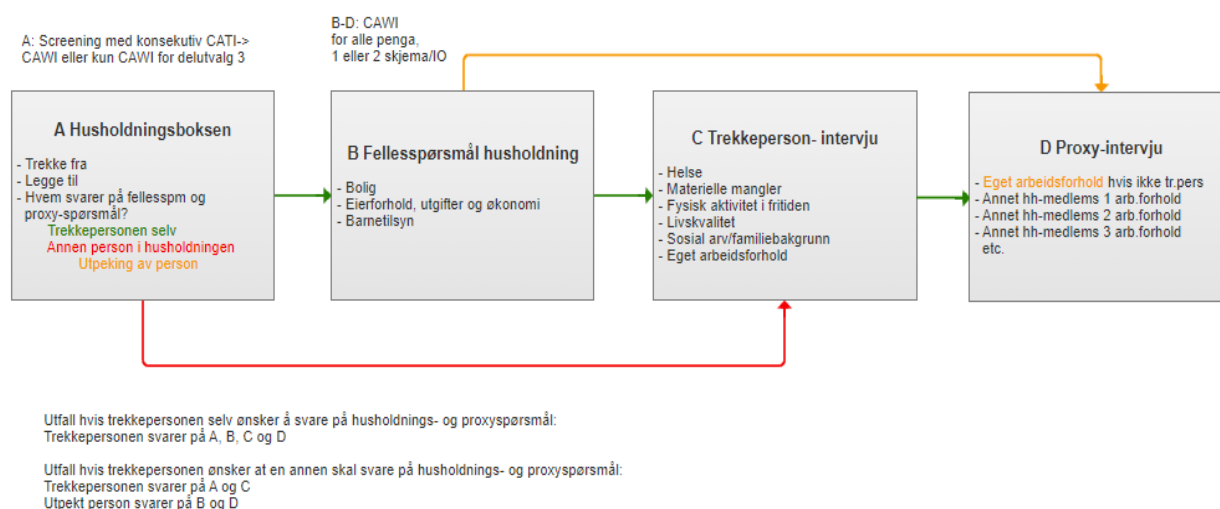
2.3.2. Sequencing

We made changes in the sequencing of the survey modules compared with the regular CATI. The intention was to start with the personal interview, which contains questions that are considered easy to answer, before moving to more demanding questions about the household, finances etc., in order to avoid break-offs resulting from respondents giving up completing the web form.

Figure 2.1 shows the different sections of the SILC questionnaire. The regular CATI interview starts with the Household mapping (A), continuing with Household questionnaire about housing, housing costs and childcare arrangements (B), followed by personal interview with selected respondent comprising questions on health, material deprivation, personal employment questions (C), and ending with a section about household member's employment (D). If the selected respondent does not feel qualified to answer sections about housing etc. (B) and family members' work (D) these questions may be skipped and then referred to a different household member either at the end of the telephone interview or as a separate telephone interview. In the pilot, we started the questionnaire started with section A (household mapping), followed by section C (Personal interview), then section D (Household members' employment) and ended with section B (Housing conditions, costs and childcare arrangements). There was no option of skipping sections and only young respondents (under 24 years) who lived with their parents

were given the opportunity to let a family member answer section D and B. This option is described in more detail below.

Figure 2.1 Flow chart questionnaire



2.3.3. Use of proxy interviews

In the regular CATI SILC survey, some parts of the interview may be answered by other household members than the selected respondents. Specifically, the housing, childcare and employment modules are subject to this. In the web questionnaire, however, the general approach was that the selected respondent must answer the whole survey. This means that information about household members' employment as a rule was gathered as proxy interviews with the selected respondent.

Because results from the regular SILC have shown that young respondents less often answer questions about their parent's employment and about housing conditions, we chose to include an option that selected respondents younger than 24 years old who were registered in the same household as their parents, could select a parent to answer the sections about household members' employment, housing conditions and childcare arrangements. Before choosing this option, the respondents were first encouraged to ask their parents to help them complete the questionnaire themselves¹¹. As a more complex setup would require extensive programming, the option to send household questions (sections B and D, see Figure 2.1) to a parent was not offered as separate choices for the different sections of the questionnaire as is currently done in CATI mode, but rather as *one* option to send the entire household segment to a parent. In this report we will, somewhat inaccurately, refer to this as "proxy interviews", here meaning that someone else than the selected respondent answered the household part of the questionnaire.

Although offering the option to send part of the questionnaire to someone else involves a higher risk of item non-response, the experience from CATI was that non-response for these questions is already an issue for this age group. If the respondent chose to send these parts of the questionnaire to one of their parents, the parent received a similar SMS/ e-mail as the selected respondent sample with their

¹¹ The instruction to the selected respondent read "If you are not responsible for housing finances yourself, you may ask someone to help you. If you do not have someone to ask at the moment, you may do so at a later point, or pass these questions on to a household member". In the CATI interview for sample 2, the interview explained that the next questions concerned housing and finances and then asked if the young respondent had knowledge about these issues.

own link to a web survey containing only the housing, childcare and employment questions.

2.3.4. Errors in the questionnaire

During the first day of data collection it was discovered that respondents in sample 2 did not receive the household section of the questionnaire, including questions about household employment, housing conditions and childcare arrangements. This was corrected the following day, but in total 135 interviews were completed before the correction was made. This group of respondents therefore have missing information on this part of the questionnaire.

A bit later, an error in the warnings for the questions of first regular job was discovered. A question about age when first employed is followed by a question about how many years the person has been employed. However, if the person had been employed continuously since their first job, she received an error-message saying this was not possible, as the programming included a fixed limit that was set one year too low. The respondents were not able to continue without changing their answer. The error also occurred for the same questions about household member's employment. This "hard control" limit was removed after eight days but may have increased the number of break-offs at this point of the questionnaire. It only affected respondents who had been employed continuously from their first regular job, who participated before June 11th, 2019.

Another error led to subsample 2 not being asked the questions about the type of dwelling they lived in. This was discovered after the data collection ended.

There was also an error in the filter for the question about interest rate on mortgage. This question should have appeared for respondents who were not able to supply information about the amount paid in interest rate each term. Incorrectly, the filter led to this question only being asked to respondents who did not know the total instalment amount of their mortgage. This means that for respondents who did not know how much of their total mortgage payment was interest, we did not get any information about mortgage interest.

3. Response rates and representativity

This section describes response rates and sample selection bias for the pilot. As a benchmark we compare results to the regular CATI data collection conducted between January and June 2019. We also examine differences between the three subsamples in the pilot, to shed light on how the different contact strategies may have affected results.

3.1. Key findings

The overall response rate in the pilot was 45 per cent. We defined "response" here as respondents completing the personal interview section of the questionnaire. This is the same definition as is used in the CATI data.

Based on previous research indicating that first contact in CATI mode boosts response rates, we expected the highest response rate for subsample 2, followed by sample 1, which consists of individuals who were familiar with the survey from earlier waves, but who were now only contacted via SMS / email. For subsample 3, which had not participated in the SILC survey before, and was only contacted by e-mail/SMS, we expected the lowest response rate. In total, we achieved a net sample of approximately 2,400 respondents, which exceeded the expectation. However,

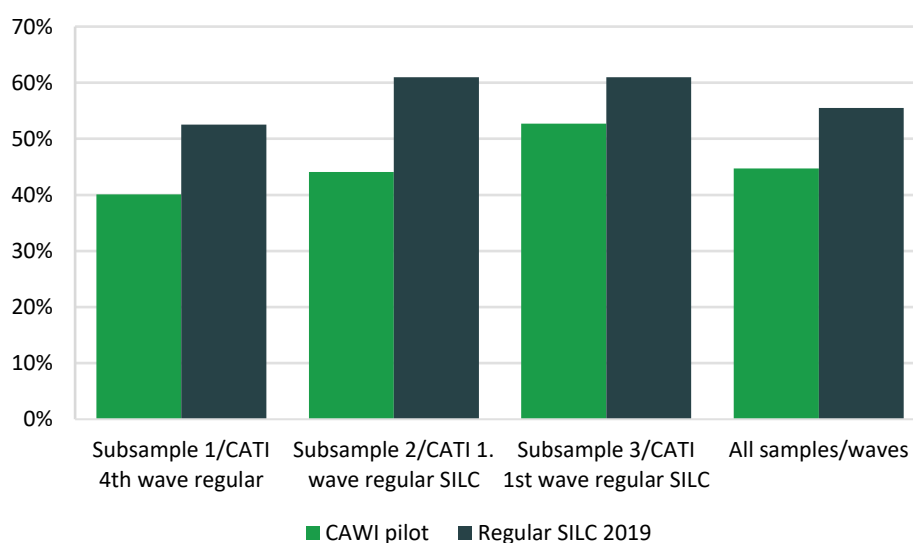
our expectations regarding which contact strategies would be most efficient were not met.

To ensure comparability, the analyses of response rates presented here use the gross samples that only include persons with a registered e-mail address for both the CAWI and the regular CATI survey. The response rate for the persons with a registered email in the regular CATI 2019 survey was 55.5 per cent. Although the response rate in the pilot was lower than for the regular CATI, it was higher than initially expected.

Contrary to our expectation, the response rate was highest in subsample 3, 53.2 per cent. This sample was only contacted by SMS/email only. For this subsample results were close to the overall response rate for regular SILC 2019. However, as this sample were new to the survey, the response rate in this sample should be compared with that of the new rotation group in the regular 2019 SILC which was 7.5 percentage points higher (see Figure 3.1).

In the subsample (1) who had been part of the CATI panel survey the previous year, the response rate was 40 per cent. One factor contributing to a relatively low response rate in this group may be panel attrition. Moreover, they have already experienced how demanding the SILC survey is. They were also previously told that the telephone interview in 2018 would be the last time they participated. Although we expected to obtain the highest response rates in the sample that was first contacted on telephone, subsample 2 obtained the lowest response rate. This contact strategy was thought to boost response rates; however, this did not succeed. As with subsample 3, sample 2 respondents were new to the survey, but only obtained a response rate of 44.4 per cent. This is 9 percentage points lower than subsample 3 and 17 percentage points lower than the response rate in the first wave sample in the regular CATI survey. One reason that CATI did not help boost response rates, is that we were not able to switch modes for persons we never got into contact with by CATI, due to difficulties related to the case management system and time constraints. Furthermore, it seems CATI interviewers were not sufficiently informed about the importance of encouraging respondents to complete the web questionnaire. While we were able to conduct the initial CATI interview with 80.3 per cent of subsample 2, 35.8 per cent completed CATI but did not continue to start the CAWI questionnaire.

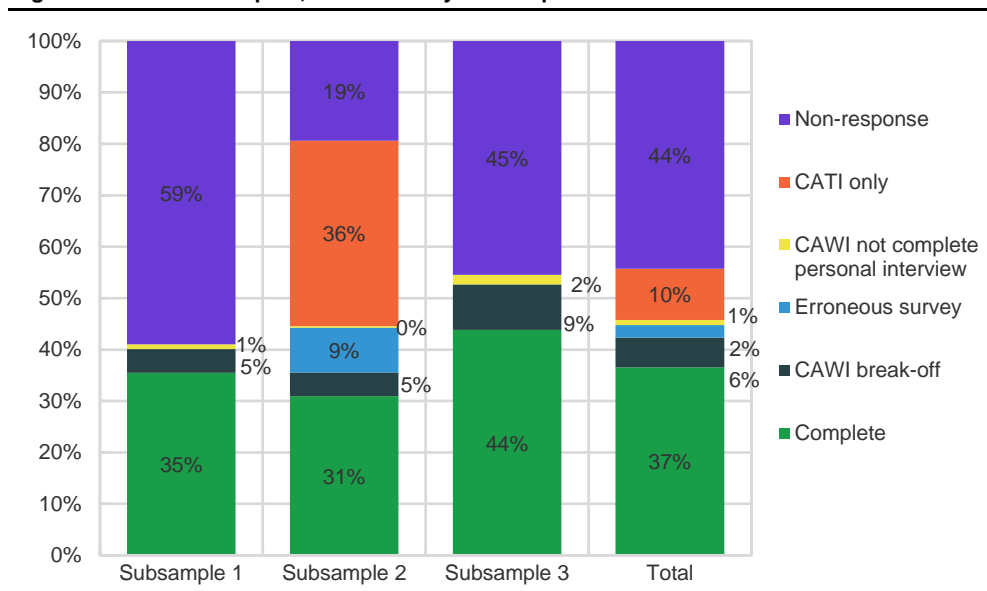
Figure 3.1 Response rates in the pilot compared with regular CATI¹



¹ Percentage of gross sample of individuals with an email-address in the Contact Register

Figure 3.2 shows the distribution of respondents on non-response, CATI only (only subsample 2), non-complete personal interviews, erroneous survey¹², break-off (after personal interview), and complete web interviews. In total, 37 per cent completed the entire survey. Although the break-off rate was higher in subsample 3, the completion rate is clearly highest in this sample. Only 23 respondents started the web questionnaire but did not complete the personal interview.

Figure 3.2 Results from pilot, overall and by subsample



3.2. Response rates and non-response

Analysing non-response, we have looked at the indicators gender, age, education level, region and centrality, immigration category and income. Results can be seen in tables A.13 to A.17 in the Appendix. Non-response is divided into the categories partial interview, refusals, other and no-contact. Partial interview consists of respondents that broke off the web questionnaire at an early stage. Refusals are those reporting to us that they are not willing to participate, either to an interviewer or through Statistics Norway's information service. The no-contacts are the respondents that we have not been able to get in touch with. They have neither picked up the telephone, not clicked on the link to the web-questionnaire or been in contact with the information service. The category "other non-response" consists of people that for various reasons can or should not participate, for example people who are ill or temporarily unavailable.

The overall response rate in the pilot was 45 per cent, which is about 10 percentage points lower than in the corresponding sample in the regular SILC 2019. In addition, 10 per cent only did the short CATI interview and 0.8 per cent are break offs.

In terms of response bias, the patterns were generally similar to those of the regular CATI survey. As in the regular CATI survey, persons in the ages 45-66 have the highest response rate. Young people under 24 years have the lowest response rate in the pilot. Generally, the pilot net sample was more biased than the regular SILC net sample, particularly for age, education and income. Young people, people with low education and low income are underrepresented in the pilot. These are the same groups that are underrepresented in the regular SILC, yet they are more underrepresented in the web sample.

¹² This refers to respondents who by an error got a questionnaire with only the personal interview (135 respondents in sample 2).

People with higher education have the highest response rate across all three samples. Also, people registered with income in the two upper quartiles have better response rate than those in the lower quartiles. The difference is greatest in sample 1, where 8 percentage points separates the two upper quartiles from the two lowest. Almost the same results are found when looking at sample 1 in the 2018 telephone interview. In sample 2 and 3, quartile 2 is closer to quartile 3 and 4, whereas people in quartile 1 is still about 10 percentage points below.

As mentioned above, immigrants have lower response rates but higher non-response due to language difficulties in all samples. This is especially the case for sample 2 where an interviewer has the possibility to register this when calling. The non-immigrant population have higher response rates in all samples.

3.3. Sample bias

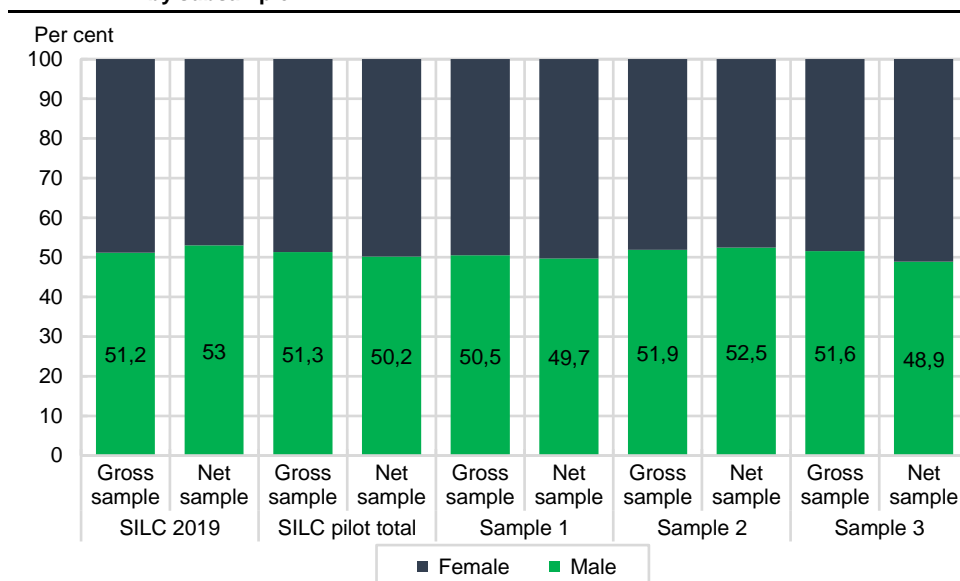
To investigate the representativeness and possible sample bias we have studied differences in net and gross sample on the indicators gender, age, education, region, immigration category and income. Full results can be seen in tables A.6 to A.12 in the Appendix.

We find that the indicators age, education and income have the highest sample bias. This is the case for all the three pilot samples, and a typical finding in social surveys in general. In sample 2, the bias is generally a little larger than in the other samples. Specifically, we observe that bias increases when transferring respondents from CATI to CAWI, especially on the indicators age and education.

Gender

Looking at the difference between net sample and gross sample, representativeness on gender is generally good in the pilot. Representativeness on gender is best for sample 2, and it is better among people that have only answered CATI than for those answering CATI + CAWI. For web only, we see that sample 1 has better representativeness on gender compared with the regular SILC 2019, but sample 3 is not. Although differences are small, it appears that women have a somewhat higher willingness to participate in web than men, while the opposite is the case in CATI (and in subsample 2 with CATI first).

Figure 3.3. Distribution of gross and net samples by gender. Regular CATI SILC and pilot 2019 by subsample¹

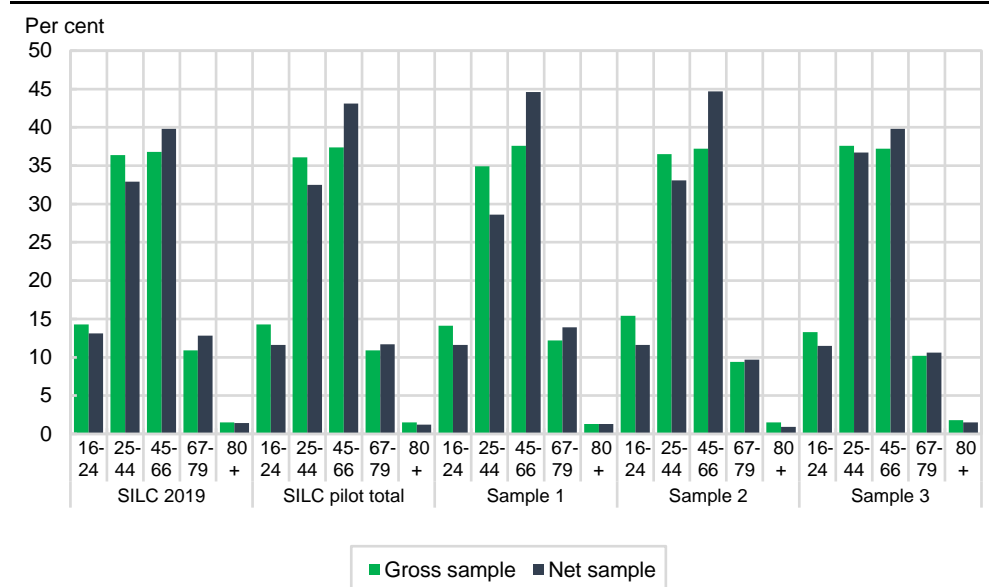


¹ Only persons with email-address in the Contact Register are included in the analyses.

Age

People in the age group 45-66 years are overrepresented in the pilot and regular SILC net samples whereas persons are most underrepresented. This is the case for all three pilot samples but varying in degree. The bias is greatest in subsamples 1 and 2. When only looking at all respondents who were recruited to CATI, the results are more representative. This indicates that it is easier to recruit young people to a short telephone survey, than to a long web-survey. It also indicates that middle-aged people are more willing to move on to web after the CATI interview than younger people are. In sample 3, the age bias is much smaller. Sample 3 also shows slightly better representativeness than the regular SILC 2019, except in the youngest age group.

Figure 3.4. Distribution of gross and net samples by age group. Regular CATI SILC and pilot 2019 by subsample¹



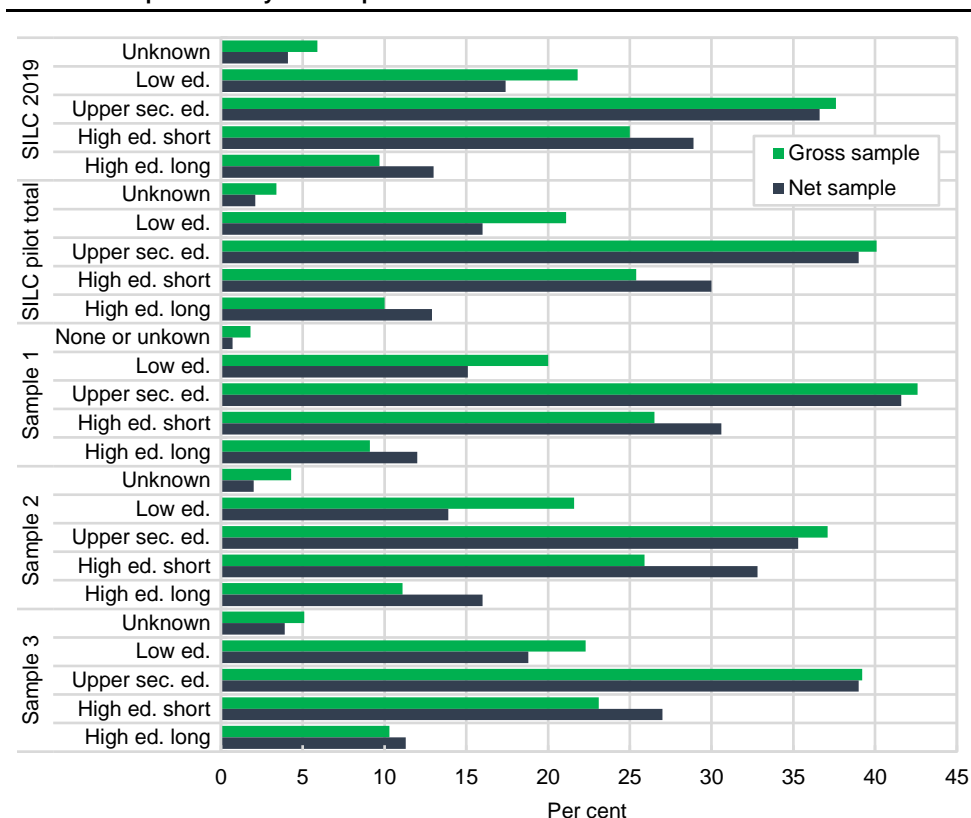
¹ Only persons with email-address in the Contact Register are included in the analyses.

Education

In all pilot samples persons with lower education are underrepresented whereas people with higher education are overrepresented. Comparing with regular SILC 2019 we see that people with lower education are less underrepresented in CATI SILC 2019 whereas people with higher university degree (4 year +) are less overrepresented in the pilot.

The bias on education is greatest in sample 2. Respondents with lower education are very underrepresented and people with higher education are equally overrepresented. On CATI differences are much smaller, but respondents with higher education appear to be more willing to move on to web than people with lower education.

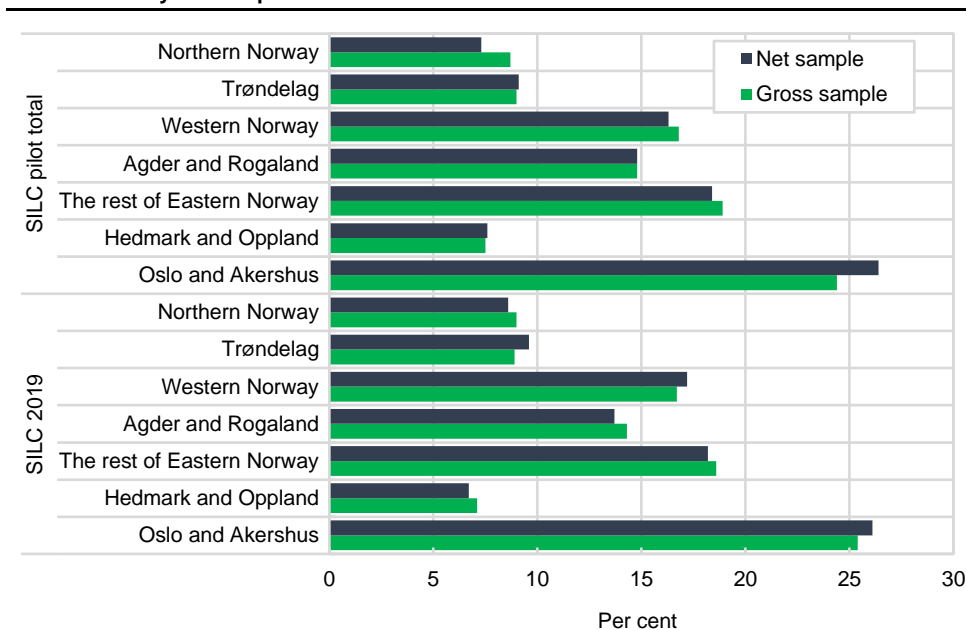
In sample 1 and 3, which are web only, the bias in respondents' educational level is smaller. Comparing with SILC 2019, representativeness on education is generally better in sample 3, especially for people with either lower education or higher education at university. Sample 1 has almost the same results on representativeness as SILC 2019.

Figure 3.5 Distribution of gross and net samples by level of education. Regular CATI SILC and pilot 2019 by subsample¹

¹ Only persons with email-address in the Contact Register are included in the analyses.

Region

Looking at representativeness by regions, the differences between net and gross samples are generally small, and there are no marked deviations from the regular SILC 2019 or other similar social surveys. The region “Oslo and Akershus” is as expected a little more overrepresented than the other regions and is slightly more overrepresented in the pilot than in the regular SILC survey.

Figure 3.6 Distribution of gross and net samples by region. Regular CATI SILC and pilot 2019 by subsample¹

¹ Only persons with email-address in the Contact Register are included in the analyses.

Immigration category

There are no obvious deviations in representativeness on immigration category. Non-immigrants are overrepresented in the net sample and immigrants are equally underrepresented.

Income

People with income in the lowest quartile are underrepresented in all samples whereas people in the upper quartile are overrepresented. The bias is greatest in sample 2. We did not have figures from 2019 on income quartile for the gross sample but comparing with SILC 2018 the difference in sample 1 was close to the result from 2018. However, persons with the highest income are more overrepresented in sample 1 than in the sample from 2018, whereas people with the lowest income are better represented.

3.4. Results from proxy interviews

Out of 245 respondents under the age of 24, a total of 165 individuals were given the opportunity to send the household-questionnaire to one of their parents (see table 4.3) This opportunity was only given to young respondents who lived with one or both parents (according to the population register). Respondents who answered the web-survey (sample 1 and 3) could choose this option after finishing the section about personal work. If they chose to send the questionnaire to their parents, they could tick off in a list which parent in the household they wanted to send the questionnaire to. The list of parents in the household was retrieved from the register. The selected respondent also had to confirm the parent's e-mail address. For sample 2 this was done at the end of the telephone interview. The interviewer asked if they wanted to send the questionnaire to their parent, ticked off which parent and confirmed the e-mail address.

Of the 165 who were given the opportunity, 70 respondents chose this option, which here is referred to as the "proxy-interview"¹³. Among these, 25 parents responded (36 per cent of those who received an invitation). The percentage who chose the proxy option is lowest for sample 2, at 25 per cent, compared with 53 and 43 per cent in sub-sample 1 and 3 respectively. As the proxy option was offered during the CATI-interview for subsample 2, this difference could suggest that interviewers encouraged respondents to answer themselves. The interviewers reported that many respondents wanted to send the questionnaire to their parents but were not sure if the parents were willing to answer.

The response rate from parents is lowest in sample 1, which may relate to this sample having already participated in the CATI interview previous years. However, note that the sample size for respondents receiving the proxy option here is not large enough to draw conclusions about this.

¹³ As mentioned in section 2.3.3 this is rather inaccurate, in that a proxy interview really refers to a person being interviewed about someone else's work etc. However, for simplicity we here use the term "proxy interview" signifying that someone other than the selected respondent have been interviewed.

Table 3.1 Number and percentage of respondents under the age of 24 who were given the option of proxy-interview for household questionnaire, percentage of those with option who accepted, and percentage of parents who responded. SILC pilot 2019

	Sample							
	Overall		1		2		3	
	Per cent	Count	Per cent	Count	Per cent	Count	Per cent	Count
Respondents with proxy option	67.3	165	62.7	64	66.7	40	73.5	61
Used proxy option (of those with option)	42.4	70	53.1	34	25.0	10	42.6	26
Parents responded (of those who were sent link)	35.7	25	29.4	10	40.0	4	42.3	11
Number of respondents <24		245		102		60		83

The option to have other household members answer parts of the questionnaire is also available in the regular CATI SILC survey. CATI respondents are asked who is best able to answer questions about work for household members and about housing conditions. The respondent may also skip sections and return later, and the options to choose that someone else in the household answers these sections is separate for each household members work sections as well as for the housing section. Therefore, the proportion who chose to have someone else answer these questions varies between these parts of the questionnaire. Moreover, this option is offered to all respondents, whereas in the pilot we only offered this to respondents under the age of 24.

In the regular SILC 2019 CATI interview, 18 per cent chose the “proxy option” for at least one household member’s employment questions, whereas 6 per cent chose this option for the housing questions (for a more, see section 4.3). Among respondents under 24 years, the corresponding rates are 41 per cent for work-questions and 37 per cent for housing questions in the regular CATI 2019.

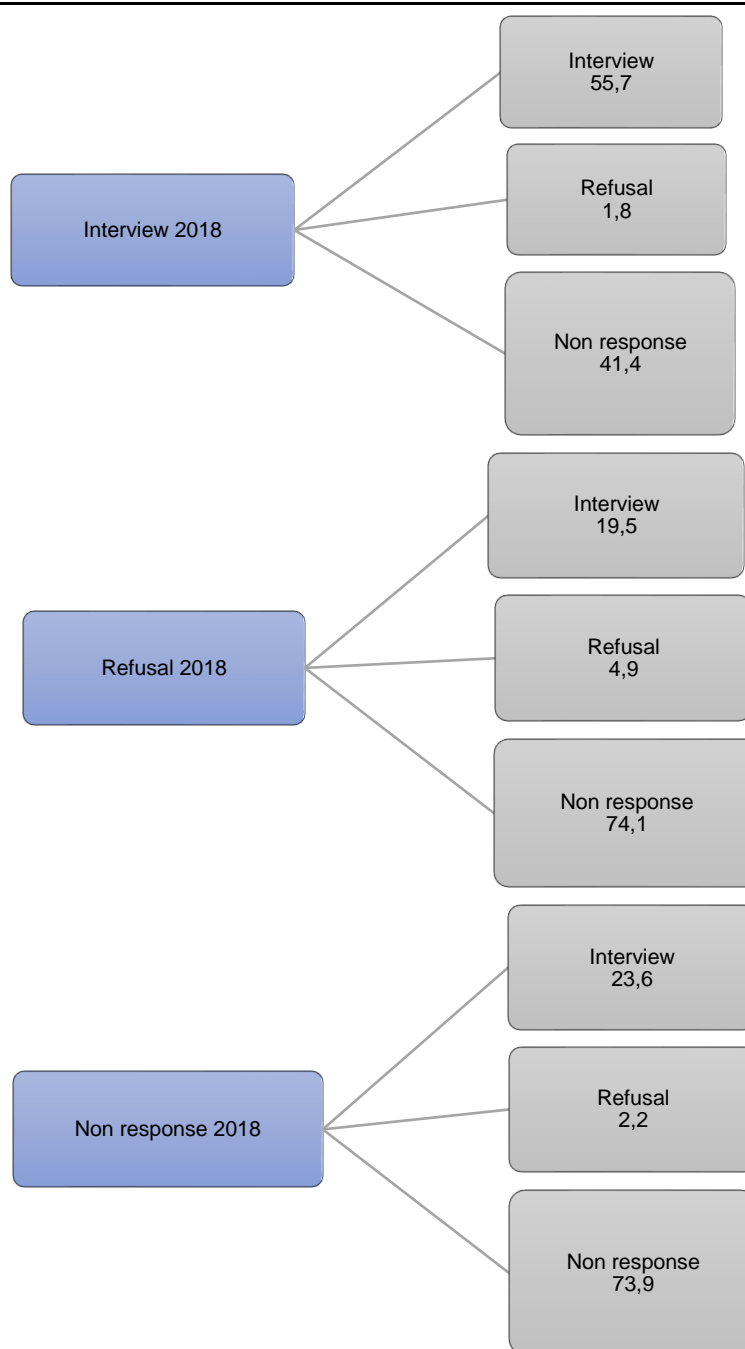
3.5. Panel response rates

Sample 1 consists of the respondents who participated for the last/fourth time in SILC 2018 - both interviews and non-response are included in the sample. People without registered e-mail were excluded from the sample to make it comparable to sample 2 and 3. In 2018 they answered the survey on telephone only. Now they were offered to answer the survey only on web. It could be of interest to see how many of the respondents who are willing to answer the same survey on web.

The response rate for sample 1 in 2018 was 53 per cent. In the pilot the response rate was 40 per cent. Most respondents interviewed in 2018 responded to the pilot survey – 58 per cent, while 43 per cent of respondents in 2018 ended up as non-response in the pilot. The fact that these respondents were told in the 2018 interview that this was their last time participating, may have contributed to this relatively high attrition.

Most of the non-respondents from 2018 are also non-respondents in the pilot survey – 78 per cent, while 22 per cent answered the survey. Splitting the non-response from 2018 into refusals and no-contact, we observe that 20 per cent of respondents refusing to participate in 2018, answered the pilot. 5 per cent still refuse to participate, while 74 per cent are no-contact. Among respondents that were no-contacts in 2018, 74 per cent is still no contact, while 24 per cent have answered the pilot survey.

These results indicate that there is some potential in offering web mode to previous CATI non-respondents - 1 in 5 are converted to interview.

Figure 3.7 Results in sample 1 in SILC 2018 and pilot 2019

Of 2498 people in sample 1, we have followed 2325 people from 2015-2019. 535 people (23 per cent) have been non-response every year. 21 per cent of these non-respondents answered the pilot web-survey. Most of these respondents are men (see Table 3.1). 85 per cent are between 25 and 66 years old. Most of them lives in eastern and southern part of Norway. 44 per cent of them have upper secondary school as their highest level of education and 7 percent are immigrants.

Table 3.2 Distribution of interviews among previous non-response in the period 2015-2018

	Interview	Number of respondents
Total	21,1	115
Gender		
Male	60,9	70
Female	39,1	45
Age		
16-24 years	6,1	7
25-44 years	40,9	47
45-66 years	43,5	50
67-79 years	8,7	10
80 years +	0,9	1
Region		
Oslo and Akershus	31,3	36
Hedmark and Oppland	8,7	10
The rest of Eastern Norway	17,4	20
Agder and Rogaland	11,3	13
Western Norway	15,7	18
Trøndelag	10,4	12
Northern Norway	5,2	6
Education		
Lower education	24,4	28
Upper secondary education	43,5	50
Higher education, short	26,1	30
Higher education, long	6,1	7
None or unknown	0,0	0
Immigration category		
Immigrants (B)	7,0	8
Other (A, C, E, F, G)	93,1	107
Income quartile		
1	21,7	25
2	22,6	26
3	32,2	37
4	23,5	27

3.6. Contact strategies and response rate

The three samples had different contact strategies.

- Sample 1: Respondents have been interviewed on telephone from 2015 to 2018. In the pilot, they received a digital letter through Altinn. Altinn is a digital platform for receiving letters and other important information from public organizations in Norway e.g. the tax administration. When presenting respondents with pre-filled sensitive information in the questionnaire we must ensure a secure login method. We therefore used Altinn which has two-step authentication in the login process. The respondents had to log on to Altinn to view the letter. The letter held information about the survey, and a link they could click on to answer the survey. In addition, they received a short SMS reminder.
- Sample 2: Respondents had not been contacted before. They were initially contacted by interviewers on telephone to conduct a short introductory interview, before being encouraged to continue to answer the survey on web. After completing the telephone interview, we sent them a digital letter through Altinn. This task was done manually every day of the data collection and required synchronizing of respondents in and out of the case management system before sending out reminders. The respondents had to log on to Altinn to view the letter. The letter held information about the survey, and a link they could click on to answer the survey. In addition, they received a short SMS reminder.
- Sample 3: Respondents had not been contacted before. We sent them a digital letter through Altinn. They had to log on to Altinn to view the letter.

The letter held information about the survey, and a link they could click on to answer the survey. In addition, they received a short SMS reminder.

- All samples got SMS-reminders throughout the data-collection. The SMS reminders said they must log on to Altinn to access the survey. Sample 1 and 3 which were web only received two reminders on SMS and two reminders in Altinn.
- We sent three SMS reminders for sample 2 with information that an interviewer will soon contact you for a short telephone interview. After finishing the telephone interview, the non-respondents on web got one additional SMS reminder and two reminders in Altinn to finish the web survey.
- For respondents choosing the proxy option, a letter through Altinn was sent to the selected parent the next day. This task was done every day of the data collection. Two reminders on SMS were sent to the proxy-parents who had not yet responded.
- Two reminders on SMS were also sent to respondents who had started to answer the survey but had broken off.

Sample 3 had the best overall response rate. Sample 1 had a much lower response rate, even though the contact strategy was the same as sample 3. The results in sample 1 may be influenced by panel attrition. The results may also be influenced by some minor technical difficulties arising in the beginning of the data collection period, connected to the application sending out SMS/e-mails. This resulted in some respondents receiving too many letters and SMS's while some respondents did not receive any letter about the survey, until the error was noticed.

There were some challenges connected to the contact strategies used in the pilot. The main challenge was that the case management for data collection is not suited for mixed mode surveys. For example, moving respondents in sample 2 from CATI to web and sending the web survey to proxy-parents required many manual operations in the case management system. The respondent's answers had to be synchronized in and out of the case management system every day before being able to send information on SMS and via Altinn out to respondents that switched mode.

The number of inquiries to Statics Norway's information service was about the same as for any other survey. The information service used less time helping people scheduling interviews than they would in a pure CATI survey, but spent more time helping people log on to the web portal. There were some technical difficulties at the beginning of the data collection (described in section 2.3.4), which generated more complaints from respondents than usual. Also, the error in the program sending out SMS described above generated some complaints as some people got too many reminders at once.

3.6.1. The contact strategy in sample 2

Sample 2 had a contact strategy involving interviewers. The respondents were contacted by interviewers to conduct a short telephone interview about composition of the household. The hypothesis was that having contact with an interviewer would motivate or oblige people to answer the web part, especially in underrepresented groups and thereby decreasing bias. The interviewers were in contact with 84 per cent of the sample. 95 per cent of these conducted the interview. The telephone interviews are equally distributed within the indicators gender, age, region, education and immigration category, so there is little bias. 55 per cent of the respondents that conducted the telephone interview answered the following web-part. Moving to web the distribution becomes less equal. Younger people, people with low education, and immigrants are underrepresented, whereas

middle aged people, people with high education, and non-immigrants were more willing to move on to web. This shows that contact with an interviewer did not motivate the most difficult groups to answer the web survey. Ideally, we would have liked to follow up the groups that are underrepresented to a greater extent. Respondents who did the telephone interview but failed to follow up on web should have been re-contacted on telephone with an offer to continue the interview on telephone and respondents with partial interviews could have been assisted on difficult questions. Another option would have been to send them the entire survey on web. Unfortunately, limitations in the case management system precluded this. There were not enough resources available in the project for a more thorough follow up of non-respondents.

3.6.2. Interviewer effects

Response rate and willingness to move on to web is affected by the interviewer's communication approach. A focus group with interviewers after the data collection period revealed that many of the interviewers did not try to motivate respondents much for the web-part of the survey, despite their instruction to do so. Their focus was primarily to recruit respondents to the short telephone interview. Some interviewers pointed to lack of information about the project as a cause. They therefore focused mostly on the part that they were actively involved in - which was the telephone interview. In mixed mode projects using interviewers, it is therefore very important to brief the interviewers thoroughly about the entire project – both the aim of the project and the actual data collection process. A written instruction may not be enough as many interviewers don't read it thoroughly enough or forgets the content.

3.7. Data collection phase and estimates on key SILC variables

In the grant application, we described potential analyses of phase capacity effects on key SILC variables. This would involve looking at how estimated variables and their standard errors change through the mixed-mode data collection to explore how to set up an effective adaptive mixed-mode design. This would also involve an examination of how different individuals/households respond to phase capacity with use of additional variables from registers. However, neither the time frame of the project as set up in the grant application and the planned budget, allowed for a full-scale mixed mode design for the pilot. Because we did not do any interviews in CATI-only mode in the pilot, we are not fully able to explore how the two modes best can be combined in an effective mixed-mode design. However, we are able to identify which respondents are most and least likely to respond to initial and final contact attempts in each of the two contact-modes we used in the pilot. This may provide a basis for implementing responsive strategies in the future.

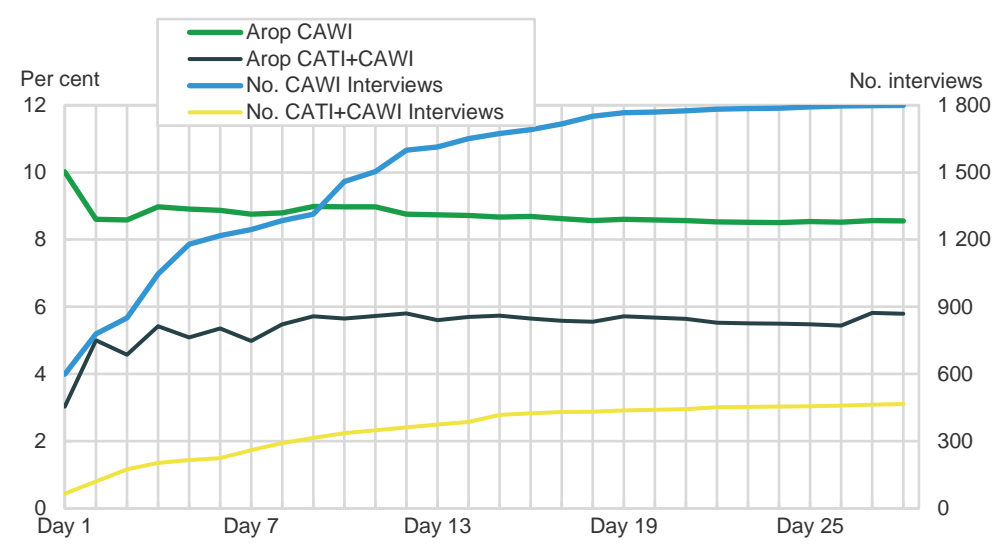
Figure 3.7 shows how the rate of persons belonging to a household at risk of poverty (AROP) changed throughout the data collection, for each of the two contact-modes in the pilot. CATI respondents who did not go on to complete the web survey are excluded from the calculation.

Although AROP is a key SILC indicator, in this pilot is retrieved from the income register¹⁴, and thus can be compared to the level of this indicator in the gross sample. For individuals in the gross sample (with a registered email address) the AROP rate is 10.9, which may be considered the “true” rate for the sample. Figure 3.7 shows how the AROP rate changes throughout the data collection for the CAWI

¹⁴ In regular EU-SILC deliveries AROP is calculated on the bases of register income for all household members, based on the information retrieved in the interview. In the pilot, the time frame did not allow for a similarly complex treatment of the data. For simplicity we use the register household's equivalized income.

only sub samples (1 and 3) and for the sub sample recruited on CATI (sample 2). The AROP rates in both groups are significantly lower than in the gross sample (ending on 8,6 in the CAWI sample and 5,8 in the CATI-CAWI sample). It is in line with our previous analyses of response bias, that the AROP rate is lowest in subsample 2, who were recruited on telephone. There is little indication that the AROP rate approaches the true rate as the data collection moves from initial phase to follow-up mode. For the CAWI samples the results indicate that the AROP rates decreases when the number of interviews increases, whereas for the CATI-CAWI sample there is some evidence of an increase in the beginning of the data collection.

Figure 3.8 Development in AROP rate by day of data collection, and total number of interviews obtained. CAWI only (subsample 1 and 3) and CATI-CAWI (subsample 2) (results are not weighted)



3.8. Key findings and recommendations response rate and sample bias

The overall response rate for the pilot was 45 per cent of individuals with a registered e-mail. This is lower than in the regular CATI survey conducted the same year, where we obtained interviews with 55,5 per cent of individuals with a registered e-mail. Although the response rate in the pilot is lower than for the regular CATI SILC, it is higher than initially expected. This is due to a high response rate (53 per cent) among respondents in the new subsample who were contacted by SMS/email (sample 3). For this subsample results were close to the overall response rate for regular SILC 2019. This was not the case for the sample who had previously been part of the regular SILC panel survey although this sample also answered on web only.

For the sample (1) who have been contacted on phone previous years, the response rate was 40 per cent. One factor contributing to a low response rate in this sample may be that they have participated on telephone four times already. They have already experienced how demanding the SILC survey is. In addition, they were told in the last telephone interview that they were finished.

Perhaps the results would have been better if they were not fourth-wave participants or if they had been notified in the last interview that next time they will be offered a web survey.

Although we hypothesised that we would obtain the highest response rates in the samples that were first contacted on telephone, this was not the case. The lowest

response rates were obtained for the subsample (2) that were first contacted on telephone to do a short household mapping interview and then encouraged to follow up on web (multimode). Although this contact strategy was thought to boost response rates, it did not succeed. One reason for this is that we were not able to switch modes for persons we never got into contact with by CATI.

Generally, the net web sample is more biased than the regular SILC net sample, particularly for age, education and income. Young people, people with low education and low income are underrepresented in the pilot. These are the same groups that are underrepresented in the regular SILC, yet they are more underrepresented in the web sample. The pure web sample also obtained the highest representativeness. The multimode approach starting with CATI and finishing on web (subsample 2) also revealed some challenges in terms of representativity. The hypothesis was that interviewers would motivate respondents and they would feel obliged to follow up on web. This was however not the case as only the most eager and interested respondents followed up on web, which increased the bias in the net sample. The underrepresented groups are easier to recruit on CATI but fail to follow up on web. They may need a different contact strategy or follow up-strategy to be motivated for completing the survey.

For the sample with respondents who had previously been part of the regular SILC panel, we did obtain interviews with 21 percent of respondents who had never participated before. This group contained more men, and more persons with education at upper secondary level than the gross SILC sample. This could suggest that there is some potential for increasing response rates when combining CAWI and CATI in a mixed mode design.

In this pilot we chose not to include people without registered e-mail in the Contact Register. The availability of registered e-mail is highly correlated with age. For those over 80 the rate is only about 30 per cent. As SILC has no upper age limit, it is difficult to imagine a scenario where a pure web SILC would be able to cover the elderly population. More research on how to preserve the elderly respondents is needed if the SILC survey in the future will make use of more web.

In the pilot we used interviewers only in the recruitment process to do a short start-up interview. We did 1 246 short interviews, and on this we used about 450 hours. In total we obtained 2 225 interviews. However, the response rate and representativeness in the net sample were not satisfying. A rough estimate indicates that collecting these interviews using only CATI would have required about 3000 hours. On the other hand, the response rate and representativeness would have been better. A better approach that would be both cost saving and minimizing bias would perhaps be a mixed mode approach where for example everyone is offered web, but non-respondents or selected target groups can be followed up on telephone. This requires a case management system and programming software that can handle mixed mode surveys, otherwise the costs saved on interviewing will be spent on extensive programming, planning and administering. The resources spent on information service in the pilot was about the same as any other survey.

4. Questionnaire break-offs and item non-response

In this chapter we examine break-offs and item nonresponse. For this purpose, we look at all respondents who have started filling in the pilot web questionnaire. Only respondents who have completed the entire questionnaire, including the household employment, housing and childcare questions, will be referred to as “complete” interviews here¹⁵.

Examining break-offs is useful for assessing whether and to what extent the sample bias observed in the previous chapter increases when analysing different variables from the questionnaire.

Moreover, it provides information we can use to assess questionnaire quality. The assumption is that break-offs *may* indicate problems with questionnaire design such as question length; topic; concept; or questions types that we need to examine further and improve. Questionnaire quality is further addressed in chapter 50.

4.1. Break-offs for non-proxy respondents

“Break-off” refers to respondents that have started filling out the questionnaire but stopped before the end. Table 4.1 shows break-offs during the questionnaire by sub sample, independent of interview status as defined in section 4.1. Thus, we look at break-offs among all respondents who have responded to some or all of the web-questionnaire. Respondents in sample 2 who received the erroneous questionnaire during the first days of data collection are not included in this analysis, as they were not able to answer the household section of the questionnaire (see section 2.3.4). Moreover, young respondents who were given the option to send a link to the household questionnaire to their parent (“proxy option”), are also excluded from the initial analyses of questionnaire break-offs. Break-off is analysed separately for this group.

Table 4.1 Break-offs during web questionnaire SILC pilot 2019, by sub-sample. Number and percentage of respondents who have started web questionnaire. Excluding respondents who received erroneous questionnaire and respondents with proxy option

	Sub-sample							
	Total		1		2		3	
	Per cent	Count	Per cent	Count	Per cent	Count	Per cent	Count
Total started	100	2362	100	991	100	547	100	824
Break-off health section	0.0	0	0.0	0	0.0	0	0.0	0
Break-off material deprivation	0.0	0	0.0	0	0.0	0	0.0	0
Break-off personal work	2.4	57	2.3	23	0.9	5	3.5	29
Break-off household work	5.2	122	4	40	4.9	27	6.7	55
Break-off housing conditions	0.7	16	0.1	1	0.9	5	1.2	10
Break-off housing costs	5.0	118	4.4	44	4.4	24	6.1	50
Break-off household finances	0.9	21	0.7	7	1.6	9	0.6	5
Break-off childcare arrangements	0.1	3	0.0	0	0.0	0	0.4	3
Complete	85.7	2025	88.4	876	87.2	477	81.6	672
Sum Break-offs	14.3	337	11.6	115	12.8	70	18.4	152

Among respondents with break-off during the personal interview (those counted as non-respondents in the analyses of response rates in chapter 3), no break-offs occurred during the health or material deprivation sections of the personal interview, whereas all break-offs occurred during the personal work-section of the interview¹⁶.

¹⁵ This differs from the definition of a “complete interview” used when analysing response rates in chapter 3. In that context an interview was defined as respondents having completed the personal interview. This is the same definition as is used in the regular CATI survey.

¹⁶ Note that the numbers presented in this chapter and chapter 3 have a small discrepancy in the number of respondents who were counted in the group with complete interview and the number who broke off during the personal work-section. This is due to the possibility to skip the last questions

The largest break-off rates are found between the personal section and the household section of the questionnaire (household employment section), followed by the section about housing costs. On average, 5 per cent left the web questionnaire during each of these sections. The break-off rate is somewhat higher in sub-sample 3 for both sections.

In total, 14 per cent of those who answered the web questionnaire broke off before completing the questionnaire. This break-off rate is largest in sub-sample 3, 18 per cent of the respondents in this sub-sample did not complete the survey, compared with 12 per cent in sub-sample 1 and 13 per cent in sub-sample 2. Sub-sample 3 had the highest response rate (for the personal interview), but as we see here, also the highest break-off rates. One possible explanation for this is that sub-sample 1 was more prepared for the level of difficulty of the questions in the survey, as they belonged to the regular panel from 2018. This may have reduced their propensity to part-take in the survey, making those who did participate a more select and motivated sample. Sub-sample 2 on the other hand, were recruited in CATI mode, which may have had an impact on the respondent's preparedness and sense of obligation to complete the questionnaire. As sub-sample 3 was web only and without previous knowledge of the survey (as opposed to sub-sample 1) and no preparations by telephone interviewers (as opposed to sub-sample 2) and no follow-up strategy any of the sub-samples it may not be surprising that the break-off rate is highest in this subsample.

Table 4.2. Break-offs during web questionnaire SILC pilot 2019, by age-group. Number and percentage of respondents who have started web questionnaire. Excluding respondents who received erroneous questionnaire and respondents with proxy option

	16-24 y.o.	25-44 y.o.	45-66 y.o.	67-79 y.o.	>=80 y.o.
Total started	100	100	100	100	100
Break-off health section	0.0	0.0	0.0	0.0	0.0
Break-off material deprivation	0.0	0.0	0.0	0.0	0.0
Break-off personal work	5.0	2.9	2.0	0.4	2.6
Break-off household work	17.9	4.9	4.0	0.7	2.6
Break-off housing conditions	1.4	0.9	0.4	0.4	2.6
Break-off housing costs	3.2	5.1	5.2	4.1	12.8
Break-off household finances	1.4	1	1.0	0.0	0.0
Break-off childcare arrangements	0.0	0.1	0.1	0.4	0.0
Complete	71.1	85.1	87.4	94.1	79.5
Sum Break-offs	28.9	14.9	12.6	5.9	20.5
N	218	799	1037	269	39

Table 4.2 shows how break-offs vary among respondents in different age-groups. The break-off rate is highest among respondents aged 16-24, at 29 per cent. Note that this table does not include the young respondents who were given the option to send part of the questionnaire to a parent (for whom the break-off rate is even higher, see section 4.2). The break-off rate is lowest for respondents aged 67-79 years. A comparably high proportion of the youngest respondents drop out during personal work (5 per cent), and to a much larger extent during household work than what is observed among older respondents. The oldest respondents (80 years +) have a higher break-off rate on household costs than the younger but note that there are only 39 respondents in this age- group.

Table 4.3 shows break-offs by household size. As single individuals did not face the issue of having to answer questions about other household members' employment or not being in charge household finances, one should expect lower break-offs for this group. Although the total break-off rate is in fact lower for persons belonging to one-person households, the rate is almost as high for housing costs as among persons in larger households. However, the total percentage with

about activity status in the last year without giving a "refusal/don't know" answer. 13 respondents who skipped this question are counted as break-offs during the personal work section in Table 4.1, but were still counted among respondents with complete personal interview in chapter 3.

missing information on these questions will be lower for singles, as the percentage who broke off earlier in the questionnaire and never was asked these questions is lower than for larger households.

Table 4.3 Break-offs during web questionnaire SILC pilot 2019, by household size. Number and percentage of respondents who have started web questionnaire. Excluding respondents who received erroneous questionnaire and respondents with proxy option

	Household size			
	Single		2 or more persons	
	Per cent	Count	Per cent	Count
Total started	100	501	100	1861
Break-off health section	0.0	0	0.0	0
Break-off material deprivation	0.0	0	0.0	0
Break-off personal work	2.4	12	2.4	45
Break-off household work	0.0	0	6.2	115
Break-off housing conditions	2.6	13	0.5	10
Break-off housing costs	4.6	23	5.1	95
Break-off household finances	1.2	6	0.8	15
Break-off childcare arrangements	0.0	0	0.2	3
Complete	89.2	447	84.8	1578
Sum Break-offs	10.8	54	15.2	283

4.2. Break-offs for young respondents with the “proxy option”

Table 4.4 shows break-offs among respondents who were given the option that a parent answers the household parts of the questionnaire, a “proxy-interview”¹⁷. This option was only available to respondents under the age of 24 who lived with at least one parent according to the population register. In the table, we distinguish between respondents who were offered the option but completed the interview themselves, and those who accepted the option to have someone else complete the household section of the questionnaire. Out of the 70 respondents who forwarded the link to one of their parents, 45 parents did not participate, and 1 selected respondent did not complete the personal interview (although the parent did complete the household questionnaire)¹⁸. In sum, this resulted in a total break-off rate of 66 per cent, compared to 41 per cent of the respondents in the same age-group who did not send the household questionnaire to a parent, and 29 per cent among respondents aged 16-24 who were not given the proxy-option (Table 4.2).

Because the option was only available to respondents who resided with their parents according to the population register, it is possible that some of the young respondents who were not given this option, also live with their parents. This may explain the relatively high break-off rate in the household employment section for this group.

¹⁷ The term “proxy interview” is used for simplicity although rather inaccurate. See section 2.3.3 for a discussion.

¹⁸ This was only possible in sub-sample 2, where the opportunity to forward household questionnaire was offered during the CATI interview. For sub-sample 1 and 3 the option to forward household questions to their parents was only offered after completion of the personal interview.

Table 4.4 Break-offs during web questionnaire SILC pilot 2019, respondents under 24 y.o. who were offered the option to send household questionnaire to a parent

	Sent survey to parents				N
	No		Yes		
	Per cent	Count	Per cent	Count	
Total	100	95	100	70	165
Break-off health section	0.0	0	0.0	0	0
Break-off material deprivation	0.0	0	0.0	0	0
Break-off personal work	7.4	7	0.0	0	7
Break-off household work	24.2	23	64.3	45	68
Break-off housing conditions	2.1	2	0.0	0	2
Break-off housing costs	5.3	5	0.0	0	5
Break-off household finances	2.1	2	0.0	0	2
Break-off childcare arrangements	0.0	0	0.0	0	0
Only parents	0.0	0	1.4	1	1
Complete	58.9	56	34.3	24	80
Sum Break-offs	41.1	39	65.7	46	85

4.3. Comparison of break-offs in the pilot and the regular CATI survey

It is not straightforward to compare non-response for questionnaire sections between modes because the CATI questionnaire used here is more flexible than the CAWI questionnaire used in the pilot. CATI offers the option to skip sections and return later, as well as the separate options to skip the personal work section, work sections for household members and housing section, and refer each of these sections to other household members separately. Thus, if the interviewer fails to achieve an interview about e.g. housing conditions, she may still be able to complete all other sections of the interview. In the pilot the respondents could not skip sections and only young respondents were allowed to send questions about household work and housing to a parent. The pilot did offer the option to return to complete the survey at a later point, recommencing at the point where the respondent broke off. In the regular CATI survey interviewers carry out several attempt to obtain interviews with household members to avoid break-off. In CAWI only two SMS reminders were sent as follow-up to parents who were asked to do the proxy-interviews.

Generally, complete break-offs are rare in CATI mode, as interviewers do a crucial job of convincing respondents to carry on when questions are challenging. The typical pattern in the CATI data is that we observe non-response for parts of the interviews where the selected respondent wanted a household member to respond. Thus, to compare the pilot and the regular CATI survey, we cannot simply look at break-offs, but must compare non-response for the questions about housing conditions and employment in the two modes.

Table 4.5 shows that non-response for both the work and the housing sections is higher in CAWI than CATI. In total, 9 percent of CAWI mode respondents, including those with proxy option, did not complete the work section of the questionnaire, compared to 3.6 percent of CATI respondents. In both modes, non-response is highest among young respondents, but break-offs are clearly more common in the pilot. However, the break-off rate among young respondents seems to be related to household composition as non-response is significantly higher among families with children and non- typical households ("other").

Note that in the pilot, non-response necessarily is higher for housing than for work questions, because respondents breaking off during the work section never received the housing questions. In CATI mode non-response is somewhat higher for the work section¹⁹ than for the housing section, but still much lower than in CAWI.

¹⁹ Non-response for work section is defined as respondents lacking responses about employment for at least one member of the household 16 years or older.

In CAWI mode non-response is somewhat higher among women than among men, whereas there is almost no gender difference in CATI mode. This may be related to the more flexible “proxy interview” options in CATI mode, allowing all respondents to ask someone else in the household to complete these parts of the questionnaire.

Table 4.5 Partial non-response for questions about work and housing, Pilot and CATI 2019, by respondents age, gender and household type. Including all partial interviews¹ and proxy-interviews

	Non-response work		Non-response housing		Pilot 2019 N	CATI 2019 N
	Pilot 2019 Per cent	CATI 2019 Per cent	Pilot 2019 Per cent	CATI 2019 Per cent		
Total	9.2	3.6	14.7	1.3	2432	6115
Age (SR)						
16-24 y.o.	33.0	9.2	36.5	7.7	288	754
25-44 y.o.	7.8	2.9	13.8	0.6	799	1851
45-66 y.o.	6.0	3.4	11.6	0.3	1037	2337
67-79 y.o.	1.1	1.5	5.6	0.2	269	941
>=80 y.o.	5.1	2.6	20.5	0.9	39	232
Gender (SR)						
Men	8.6	3.6	12.9	1.2	1226	3202
Women	9.9	3.6	16.6	1.4	1206	2913
Type of household						
Living alone 16-44 yrs	4.7	0.8	8.9	0.6	236	653
Living alone 45-66 yrs	3.2	1.0	9.7	0.6	185	510
Living alone 67 yrs and over	2.5	1.4	11.3	0.2	80	426
Couples w.o. children, 16-44 yrs	11.3	3.9	13.3	0.3	150	382
Couples w.o. children, 45-66 yrs	4.6	2.3	10.4	0.2	367	894
Couples w.o. children, 67 yrs and over	1.4	1.7	5.9	0.4	220	714
Couples w. children 0-6 yrs	10.5	2.3	16.5	0.7	333	746
Couples w. children 7-19 yrs	14.9	6.2	22.0	2.0	423	893
Couples w. children 20 yrs +	17.2	7.0	20.7	3.6	227	415
Lone parent w. children 0-19 yrs	9.6	9.3	14.0	4.9	114	247
Other	20.6	14.0	28.9	6.8	97	235

¹ The pilot data excludes respondents who received the erroneous questionnaire without these sections as well as CATI only interviews.

Table 4.6 shows the number and rate of proxy-interviews for the pilot and for CATI. In the pilot the proxy rate was 42 per cent for the eligible group. In CATI, the corresponding rate is 18 per cent for household employment and 5.6 per cent for housing.

Table 4.6 Number and percentage of respondents who chose the proxy-option. Household employment and housing sections. Pilot and SILC 2019

	Pilot			CATI				
	Chose proxy option househ. empl. and housing		N	Chose proxy option househ. empl.		Chose proxyoption housing		N
	Per cent	Count		Per cent	Count	Per cent	Count	
Total	42.4	70	165	18.0	1 098	5.6	344	6 115
Age								
16-23	42.4	70	165	40.9	272	37.1	247	665
24-44				14.8	287	2.1	41	1 940
45-69				15.5	400	1.5	38	2 580
>=70				14.9	139	1.9	18	930
Gender								
Men	47.6	40	84	16.6	531	4.6	148	3 202
Women	37.0	30	81	19.5	567	6.7	196	2 913

Table 4.7 shows the break-off rates for the proxy interviews for the pilot and the regular SILC CATI 2019. Whereas break-off in CAWI mode means that the respondent has left the questionnaire and not returned, this works a little differently in CATI. In CATI, what is here referred to as break-off is rather non-response to

sections of the questionnaire which occurs when the selected respondent has asked that someone else in the household answer the work/housing sections while the interviewer has not succeeded to conduct an interview with the household member. The break-off rate in the pilot is 64 per cent of those who used the proxy option. In CATI, the break-off rate is lower: For 18.5 per cent of the respondents who chose the “proxy-option”, an interview about employment was not obtained for at least one household member. The corresponding percentage for housing section was 23 per cent. Although the break-off rate for proxy-interviews is quite high for CATI as well, it is less frequent, resulting in an even lower total break-off rate for these sections compared to the pilot (as seen in Table 4.5).

Table 4.7 Number and percentage of break-offs for respondents who chose the proxy-option. Household employment and housing sections. Pilot and regular SILC 2019

	Pilot		CATI			
	Break-off proxy housing and househ. empl		Break-off proxy household empl.		Break-off proxy. housing	
	Per cent	Count	Per cent	Count	Per cent	Count
Total	64.3	45	18.5	203	23.3	80
Age						
16-23	64.3	45	22.1	60	22.3	55
24-44			19.2	55	34.1	14
45-69			20.0	80	21.1	8
>=70			5.8	8	16.7	3
Gender						
Men	70.0	28	20.5	109	25.7	38
Women	56.7	17	16.6	94	21.4	42

4.4. Summary break-offs

Generally, the break-off rate is higher in the pilot and the regular SILC CATI survey. We also found that although subsample 3 have the highest response rates, they also have the highest break-off rates. Sample three still have a clearly higher percentage of complete interviews than the other subsamples. Generally, young respondents have the highest break-off rate, a group that is already underrepresented in the pilot data. Although there are similar issues regarding response rates and break-offs among young respondents in the regular CATI survey as well, these issues are larger in the pilot.

The break-off rate is also higher for respondents who do not live alone, due to the demanding nature of the questions about other household members. While the option to let someone else in the household answer these questions could redeem this issue, it is clear that we have not succeeded with this in the pilot. The break-off rate for the proxy interview is hardly encouraging, yet more could have been done to improve this in terms of reminders etc. to motivate the household members to answer the forwarded web questionnaire. This should be explored further.

5. Usability and questionnaire quality

In this section we evaluate questionnaire quality from a user-perspective. Our approach is interdisciplinary, and we look at both quantitative and qualitative response behaviour measures to study usability. Qualitative response behaviour data is normally obtained through usability and cognitive tests. We do not have such tests from the pilot, but selected questions have recently been user tested in

Norway the MIMOD ESSnet project²⁰ and in a national pilot survey on well-being²¹ that we can draw on²².

Quantitative response behaviour data can be found in survey data, but more often in paradata^{23,23}. These are data about the survey describing the data collection process like response rate, interview length etc. and click behaviour data describing activities or events on the web page or for a question item. We have all these data sources available from the pilot, but we do not have good systems for aggregating and analysing click behaviour data. We are testing new systems like SRO Blaise AuditTrail Parser from University of Michigan (Piskowski, Simonson, Yoder, Zhou, 2018) as a mean to structure our future work in this area. Due to technical capacity issues, we have only been able to study one pilot sample (sample 3 – CAWI/new sample). We will comment these findings in the case studies later in this section, but we are not able to produce statistics on click data yet. In the future we hope to utilize also click behaviour data in a quantitative manner.

User perspective

When studying usability and how humans respond to a web questionnaire, a user perspective is key to understanding and assessing questionnaire quality. We want to understand how respondents perceive the questionnaire and its questions to understand their response behaviour. We use Tourangeau's survey response model based on psychological perception theory, to distinguish between how a respondent cognitively interprets; recalls or collects response; assesses appropriate responses; and formulates responses to questions or questionnaire (Tourangeau, R. et al. 2000). We support our assessment of usability on user and cognitive tests where such knowledge is available.

Figure 5.1 Model of the Cognitive Processes Involved in Responding to a Survey Item



Quantitative measures to improve quality

Looking at quantitative data to understand response behaviour, we are particularly interested in break-offs or item nonresponse; length of interview time; number of error messages activated; level of item missing; click behaviour to edit response; and don't knows. High levels of any of these can be an alert to usability issues. These indicators are often used to describe data quality and the success of data collection and case management, but we can also use them as performance indicators of usability or how well a questionnaire or question performs. Note that a high rate of don't knows is not necessarily a problem. In some cases, it can be a perfectly valid answer, but in other cases it is an alert to do further qualitative tests to assess whether there is a problem and how we can improve the questionnaire or

²⁰ MIMOD - Mixed Mode Designs for Social Survey, 2017-2019, ESSnet grant. About 30 usability and cognitive tests (with Eye tracker) and a pilot for the national Labour Force Survey done in Norway.

²¹ Expert evaluation of questionnaire and about 30 Usability and cognitive tests and a web pilot. <https://www.ssb.no/sosiale-forhold-og-kriminalitet/artikler-og-publikasjoner/evaluerer-og-testing-av-sporreundersokelse-om-livskvalitet>

²² See List of evaluated variables in Appendix with an overview of which questions/variables have been evaluated in which project.

²³ We often distinguish between 1) Survey data the answers from the respondents, 2) Metadata – the “data about data” like the format of variables and the data set and 3) Paradata or the process data, contain information about the primary data collection process e.g. survey duration, interim status of a sample unit/case, navigational errors, and behaviour on web site or so called click behaviour.

questions further and thus the data quality. In instrument development we redesign and test again, often several times in an iterative process, to achieve a more user-friendly result.

Theoretical framework for assessing question type

To identify problematic questions to be studied in in-depth case studies, we have used the fitness criteria approach from the ESSnet MIMOD project (Gravem 2019). The ESSnet MIMOD project applied usability criteria of what may lead to possible measurement errors and/or mode bias based on the classification work of Körner et al. (2013) and Campanelli et al. (2013).

Campanelli et al.'s classifies questionnaires/questions by content and format. Content is typically divided into facts, behaviour, attitudes, satisfaction, etc., whether questions are sensitive or not, and whether a topic is difficult due to concept, comprehension recall etc. Format is divided into 1) type of task, that is whether a question is structured as open or closed, and what kind of restraints and how the answer is organised, 2) characteristic of task, which is whether the answer is organized with intervals, middle categories, full/end labels, branching etc., and 3) whether questions are implemented with instructions, clarification, and whether edit checks and don't knows/refusal are explicit or implicit. Campanelli et al. also provide previous findings in support of their assessment of different type of question characteristics and mode recommendation. (See Appendix for overview of typology.)

Based on this framework, the MIMOD project developed a set of fitness criteria to identify whether a questionnaire/question is suitable for online data collection (See Fitness criteria in Appendix (Schouten 2019)). Central features are screen size, touch navigation and interview length, and subjective assessment of fitness criteria of survey according to 1) Burden – is the survey topic(-s) burdensome to the respondents in terms of time or cognitive efforts, 2) Centrality – the survey topic is non-central if the respondents do not understand the question or do not know the answer, and 3) Non-survey type – the survey topic does not lend themselves to a survey question-answer approach. In our analyses, we have used this framework to describe question types and identify questions with usability issues that may cause mode effects and hence measurement errors.

5.1. General assessment of questionnaire

Description of questionnaire

The pilot questionnaire covered the regular SILC 2019 survey without the ad hoc module and the questions pertaining to the national survey on living conditions that the regular Norwegian CATI survey includes. The survey topic is living conditions; stretching from personal information on work, material deprivation and health to household mapping of work, childcare arrangements, housing conditions, expenses, loans etc. The length of the pilot survey is approx. 20 minutes, while the duration of the regular CATI survey in 2019 was 30 minutes on average. The questions are factual and mostly non-sensitive, though some questions about personal health and financial situation can be considered sensitive. Several questions are assessed as cognitively difficult or representing a recall challenge, like e.g. calculation of mortgage instalment and electricity and heating payments. The format of the questionnaire is appropriate all in all. A few questions have answer labels that are unclear (numeric open-ends), and some that may lack intuitive or appropriate answer alternatives. In respect to implementation, several questions require a recall process and the cognitive ability to calculate a response.

Qualitative assessment of usability

Many of the questions in SILC are factual and have a format that is suitable for mobile adaption/screen size. The longer questions with cognitive challenges are more dubious and will often be considered best for interviewer assisted data collection in order to achieve good response rates. The questionnaire includes several questions with instructions and clarifications, and questions with difficult implementation of answers that can be challenging without interviewer assistance. Examples would be questions about hours of weekly work, amount of mortgage that depends on demanding instructions or delineation and questions about profession and workplace that is hard to label and classify. On the other hand, the sensitive questions about health issues and material deprivation are better fit for self-complete. All in all, maybe a multi-mode strategy²⁴ were telephone and web can be used for different sections of the survey to utilize each data collection mode's strength: Telephone interviewers to recruit, remind and assist with difficult questions and self-complete online for questions that are sensitive.

We also note that the MIMOD project assessed the SILC questionnaire to be 1) burdensome due to the range of topics and the longitudinal nature; 2) non-central to part of the population due to the detailed questions about income and living conditions, and 3) hard to measure through surveys and requiring a wide range of questions for the main statistics about living conditions, poverty and deprivation. Schouten et al. (2019) concluded that the possibility to use mobile device sensor data should be assessed to see if response burden could be reduced and survey made less non-central to respondents. It is for the future to answer if other data sources like sensor data can contribute to reduce response burden for SILC.

Questionnaire adaptations for web pilot

For the web pilot we converted the SILC questionnaire from telephone to web. As described in section 2.3, the section sequence is not identical to the regular CATI SILC. For web we moved the section with mapping of household work and housing cost, which we know are demanding, towards the end of the interview to avoid early break-offs. We also tested out an option for young respondents to forward the household questions to parents. In respect to the questions we tried to achieve a web version comparable to the CATI questionnaire; so-called unimode. With regards to screen size, the layout philosophy was "mobile first". We did not have time to make screen specific adaptations for lap top screens. Standard adaptations for instructions and read-outs from CATI were done for online to compensate for the lack of an interviewer and aural instructions. Other tests have shown that these are adaptations that allow questionnaire instruments to produce the same measurements in both modes. This is generally true, but not for all question types.

During the field period we experienced some errors that have previously been described. In retrospect we see that mixed mode requires more time for testing and quality checks to avoid errors and secure good data compared to when only running one method.

Quantitative assessment of questionnaire flow – Break-offs and click behaviour

The high break-off rates identified earlier indicates a potential problem with interview length, mode, difficulty of topic, task, or format. From experience data we consider the length manageable, but we should keep in mind that it is in the upper end for web surveys in Norway. Regarding the topic, living conditions is a subject many respondents immediately find interesting and are willing to take part in, but the break-offs during the survey indicates that many respondents find it more tedious and demanding than expected and dropout.

²⁴ Terminology used when data collection involves collecting information from survey respondents using more than one survey instrument and combining the responses, e.g. data from both a background survey and a diary.

Our analyses of break-offs support MIMODs assessment that the wide range of topics and details demanded are in breach with online fitness criteria. We see that break-offs mainly occur when questionnaire moves from personal questions to household mapping of work and housing cost. We have also found that break-offs are higher among the youngest, particularly young respondents living at home with their parents. There are several reasons for this. Respondents might not have the information and are not willing to check up on the data or forward section to a household member with better knowledge. Moreover, they might not understand the questions, not find them relevant, tired of the task or have something better to do.

Our click behaviour data also supports the notion that respondents struggle with certain questions when they go back, sometimes change response, or suppress push warning control warnings, see “list of variables with most push warning controls suppressed” in the Appendix. This suggests that respondents do not read questions and instructions thoroughly and that they struggle to understand and interpret some of the questions (i.e. the definition of what is included and excluded in a concept); remember the facts; and respond correctly to the level of details asked.

5.2. Case studies of selected questions

We have selected specific questions for an in-depth study in this chapter, based on question characteristics known to possibly increase measurement errors. We used the theoretical framework collected by the ESSnet MIMOD project to identify questions likely to be in breach with central fitness criteria. This could be questions that are long; have a complex layout/design; ask about information that is not compiled or readily available or easy to recall; are cognitively challenging or sensitive to answer and so on. For SILC, the most central questions in breach with the fitness criteria are questions about household economy; personal work; and health conditions. We assess quality from a user perspective studying layout, previous user and cognitive tests²⁵, and available response data, and then give our recommendation for improvement and further testing.

We cleaned the data set for possible “noise” when studying response behaviour. First, respondents older than 79 years were filtered out, as we know that an online sample is not representative for this age group. We also excluded answers from parents on economic questions or persons work of other household members, as we wanted to study the response from the selected respondents. For sample 2, we excluded respondents who did not get the complete questionnaire. In our analysis we only included respondents who were new to the survey (sample 2 and 3). We have not included results from sample 1, that is old SILC panel, because we do not want to include respondents with prior experience with the questionnaire to avoid learning effects. When comparing results from the

Table 5.1 Data cleaning for response behaviour analysis

Pilot 2019 - Data cleaning for response behaviour analysis	Sample 1	Sample 2	Sample 3	Total pilot (sample 1-3)	SUM New sample (2-3)
Net sample	1 025	1 251	850	3 126	2 101
Instrument Error	-	92	-	92	92
80 years >	19	25	17	61	42
Parents Answer for 24 year olds<	10	5	11	26	16
Missing (.) for question Hels1	-	560	-	560	560
Net Sample cleaned	996	680	822	2 498	1 502

NB! Net sample 2 cleaned does not sum as some of the respondents are in more than one subgroup, like both instrument error, 80 years>, and missing etc.

²⁵ See list of variables tested in this project or in previous studies in Appendix.

web pilot with telephone, we used the new panel (1W) from SILC 2018. Also note that our analysis of response behaviour is based on unweighted figures

5.2.1. Case 1: SILC questions about mortgage, repayment, and interest rate (HH071/Laan1a to LRent8_3)

Description of question

The SILC questions about mortgage repayment (SILC HH071) comprises the following questions: 1) Do you have a mortgage (yes/no), 2) How many mortgages do you have (number), 3) How much is left of the total mortgage (amount), 4) How much do you pay per month minus how much you pay in interest amount equals automatic calculation of principal instalments (amount), 5) And if you do not know: How much is the interest in percentage. If you have more than one mortgage, the last questions about mortgage amount, instalments, and interest are asked for the second and for the third largest mortgage as well, in a loop, see Figure 5.2.

Figure 5.2 Question loop

Har du boliglån eller annet lån med sikkerhet i boligen nå?
Regn med alle lån med sikkerhet i boligen du bor i.
Regn ikke med fellesgjeld.

Ja
Nei

Forrige	Neste
---------	-------

Hvor mange slike lån har du?

Forrige	Neste
---------	-------

(Loan 1)

Vi starter med det største lånet
Hvor mye gjenstår av lånet?

Skriv et tall. Kroner

Forrige	Neste
---------	-------

Hvor mye betaler du for dette lånet per måned?
Oppgi 0 dersom du ikke betaler på lånet.
Regn med eventuelle lån til innskudd, andel, aksje
eller andre overtakelsesbeløp.
Regn ikke med nedbetaling av fellesgjeld over
husleien.

Skriv et tall. Kroner per måned

Skriv et tall. Hvorav renter

0 Avdrag

Forrige	Neste
---------	-------

Each question requires an answer. If you select *next* to move forward without an answer, don't know or do not want to answer (/refusal) is displayed as additional answer options in grey-out. The intention is that the grey-out options are not

desired answer categories. Programming allows respondents to go back and change answers.

If you do not know (DK) or do not want to answer (R for refusal) how many mortgages (number) you have, you are directed to the next sequence of questions. If you do not answer monthly total payment in the calculation sequence, an answer is demanded. For interest amount it is not possible to enter a number that is higher than the monthly payment. If you select DK/R for monthly total payment, you are asked about interest rate in per cent, see Flow diagram of routing for the mortgage question sequence (HH077) in Appendix. Interest rate in per cent was intended as an alternative if the respondent could not answer interest amount. Unfortunately, programming only displayed interest rate in per cent if you selected DK/R for monthly payment. Interest rate in amount did not require an answer and it did not have DK/R as options. This programming error gives the pilot lower number of answers on interest amount and interest rate in per cent than regular SILC.

Figure 5.3 Illustration of filter error in question about interest rate. Interest rate in per cent was only asked if monthly payment was DK/R

Hvor mye betaler dere for dette lånet per måned?
 Oppgi 0 dersom du ikke betaler på lånet.
 Regn med eventuelle lån til innskudd, andel, aksje
 eller andre overtakelsesbeløp.
 Regn ikke med nedbetaling av fellesgjeld over
 husleien.

Kroner per måned

☒ Vet ikke
☐ Ønsker ikke å svare

Hvorav renter

Avdrag

Hva er rentesatsen for dette lånet?
 %

Classification of question type

Based on Campanelli's et al. model (2013), the SILC questions about monthly mortgage repayment (HH071) is a factual and non-sensitive question with use of instructions and clarifications and open-ends with fill-in of numbers and challenging implementation of answer (visualized with a calculation). Some respondents will be uncertain about the concepts and labels and not recall what their monthly mortgage payment is. It might require checking against transaction records and compute calculations to answer. Visual aid with automatic calculation of principal instalment is used (subtracted from amount paid each month minus interest amount) to aid respondents as a replacement for the assistance telephone interviewers represent, see Figure 5.4. All in all, this is a question that raises issues both in relation to content, format and labels. In regard to data collection, the question's complexity requires interviewer assistance, but as it is, it is not suitable for any mode.

Figure 5.4 Automatic calculation gives respondent visual aid

Hvor mye betaler du for dette lånet per måned?
 Oppgi 0 dersom du ikke betaler på lånet.
 Regn med eventuelle lån til innskudd, andel, aksje
 eller andre overtakelsesbeløp.
 Regn ikke med nedbetaling av fellesgjeld over
 husleien.

Kroner per måned

Hvorav renter

Avdrag

Usability assessment and response behaviour

The same question sequence was tested in the MIMOD grant (Gravem 2019). The user tests showed that it is questionable whether the test persons read all the questions and instructions. It was clear that most knew approximately what they pay a month, but not what the instalment and the interest is, though several had an idea what the approximation was. This creates uncertainty whether the response is for loans with security in home, and whether the figures are accurate.

The layout with automatic calculation of monthly principal instalment is inspired by business statistics where this kind of automatization is considered to replace interviewer assistance and reduce response burden. The MIMOD usability and cognitive tests, done by telephone and web with the same respondents, indicated that this is not so in a non-business sample, as many are not familiar with accounting concepts and calculation. Some respondents found it to be confusing and of no help. Instead it added to the response burden. This supports Campanelli's alert to be careful with visual layout for this kind of question type. The question is if asking respondents to divide monthly mortgage payment in instalment and interest rate will give us good quality answers.

In addition, we saw in the MIMOD user tests of online modus that some respondents went back in the question loop and changed their answer on number of mortgages to one. This is a behaviour our response data (click behaviour data) also show. Not many did this, but more or less all that went back and corrected, lowered the number. We see two reasons for this; either that they wanted to correct their response or to finish the survey faster or simpler way - survey satisficing²⁶. As all but one changed to a lower number of mortgages, which obviously gives less questions and shorter length of interview, we think the latter is the most likely hypothesis.

Regarding web designs for questions with open end for numbers, like number of mortgage and how much you have left of payment, the number entered was aligned to the left. This layout is contrary to accounting standard and the expectations of most respondents. It is a Blaise unimode standard and came about to facilitate mobile response and responsive screen size adaption, see "Responsive design Blaise5" in Appendix. As we see it, it is not suitable for any screen size, particularly not laptops. This is not a big problem in itself, but without thousand separators it makes numbers with more than six digits difficult to enter correctly. That is a concern for the question about amount of mortgage left to pay which is often a number with more than 5 or 6 digits. When you move to the next question in the sequence or hit next the thousands separator shows. As can be seen from the

²⁶ Survey satisficing occurs when participants respond to survey questions rapidly without carefully reading or comprehending them, but simply provide a satisfactory answer to proceed (Krosnick, J. A. (1991)). This is a larger concern for self-complete and online questionnaires than telephone.

behavioural data, some respondents go back and change number of zeros/digits. We also note that a smaller number of respondents entered a value outside of the logic range and got a control message or push warning to confirm whether the entered value was correct. This also supports the notion that the question and question layout can be improved for web.

Quantitative assessment

From earlier usability tests done for MIMOD and from our evaluation of question types we consider the mortgage question sequence to have a high risk of don't knows (DK) and refusals (R). The rates in the pilot are not alarming for first mortgage or loan, but increases throughout the question sequence, and from first to latter mortgages. The questions about interest amount and interest rate in percent was not programmed correctly (see section 2.3.4). The question about amount of monthly interest payment did not have the requirement to answer and the option of DK/Rs as it should have had. With correct programming the DK/R-level would have been higher, and more respondents would have gotten the question about interest rate in percent if they did not know interest amount.

Table 5.2 HH071 – Share of DKs/Rs in the pilot 2019

Pilot 2019 - Mortgage (HH071/Laan1a - LRent8_3)	Laan1a Have mortgage	Laan1b Numbers of mortgages	Laan2 Total amount of mortgage	Lutg2 Mth payment	LRent1 Mth interest (amount)	LRent8 Interest rate (%)
Loan 1						
n	1 059	834	810	807	807	24
% DK&R	1,1 %	2,6 %	5,1 %	7,4 %	0,0 %	91,7 %
Loan 2						
n			158	154	154	6
% DK&R			7,0 %	10,4 %	0,0 %	66,7 %
Loan 3						
n			19	19	19	1
% DK&R			5,3 %	10,5 %	0,0 %	100,0 %

Note: LRent1 and LRent8 is in red due to programming error for filter.

The level of DK and/or R is at an acceptable level till we get to the “calculation question” (Lutg2) where we ask about monthly payment and interest. When we get to interest rate in amount or per cent we cannot comment as programming was not correct for the pilot. In respect to number of mortgages there seems to be an increase in DK/R from one to several mortgages. We note that few respondents have more than one mortgage and we should be careful drawing conclusions here.

Previous research has reported higher DK-levels for factual non-sensitive questions in online data collection. There are two reasons for this: DK/R are not “read out” as answer options in telephone interviews and the interviewers are trained to probe to get a response. DKs/Rs are not displayed upfront in web surveys either, not until the respondent selects “next” when an answer is required. Then DKs/Rs are displayed in grey-out like a visual simulation of the aural telephone practice of “do not read out”, but web does not have interviewer probing for other answers than DKs. Sensitive questions normally get higher DK-level by telephone, as respondents tend to rather choose DK/R than give socially unacceptable answers to an interviewer.

When we look at DK/R-level for the question sequence at large it is not that different between telephone and online for the first loan. However, for the key questions it varies which mode has the highest level of DK/R. For total amount left of mortgage (Laan2), telephone is slightly higher than online contrary to what we would expect. While monthly payment (Lutg2) is slightly higher for online like expected. For number of mortgages (Laan1b) we also see lower DK-/R-level for telephone like expected for factual non-sensitive questions. That mortgage amount

deviates from our general rule for data collection mode could indicate that it is a more sensitive question than we first assessed it to be.

Table 5.3 HH071 – Share of DKs/Rs in the pilot 2019 and SILC 2018

DK/R - Mortgage	Laan1a Have mortgage		Laan1b Numbers of mortgages		Laan2 Total amount of mortgage		Lutg2 Mth payment		LRent1 Mth payment interest (amount)		LRent8 Interest rate (%)	
	EU-SILC	Pilot	EU-SILC	Pilot	EU-SILC	Pilot	EU-SILC	Pilot	EU-SILC	Pilot	EU-SILC	Pilot
Loan 1	1,9 %	1,1 %	1,0 %	2,6 %	8,0 %	5,1 %	5,9 %	7,4 %	39,0 %	0,0 %	50,7 %	91,7 %
Loan 2					7,7 %	7,0 %	11,6 %	10,4 %	60,5 %	0,0 %	35,3 %	66,7 %
Loan 3					0,0 %	5,3 %	100,0 %	10,5 %	.	0,0 %	100,0 %	100,0 %

Unfortunately, we do not have comparable figures for interest amount and rate from the pilot due to programming error. In SILC, 39 per cent answered DKs/Rs on interest amount and 50,7 per cent answered DKs/Rs on interest rate in per cent for first loan. This is a clear indication that asking about interest does not give accurate and reliable answers.

Evaluation and recommendation

From previous user tests we know that recall and knowledge is the core challenge of the mortgage questions. From other tests and voluntary web surveys, we know respondents rarely check other sources to deliver more accurate answers. Therefore; it is preferable to use questions that do not require assistance from other sources. We often attempt to solve this by addressing the person with the most appropriate knowledge of subject, like the section about household work and economy can be forwarded to other household members, or we subside to ask about ballpark instead of factual numbers.

We have seen above that the question sequence received an alerting number of DKs/Rs, as expected. Still, it is at an acceptable level for number of mortgages; size of loan; and monthly payment, and hence we will conclude that these questions can continue to be asked. While instalment and interest rate, and details for the second and third largest mortgage should be reconsidered judging from high DK/R-levels.

Further to this notion, we have seen in previous tests that the layout with calculation of instalment and interest rate, like in business surveys, does not work in social surveys. Respondents struggle to divide monthly payment in instalment and interest rate. We suggest testing the mortgage questions further to assess if the question sequence can be made more intuitive or drop some of the details to aim at a more accurate measurement for our statistics. From earlier works we have rejected setting questions up as a grid for loan 1, 2, and 3. With more recent empiric evidence it might be worth testing this for SILC, to see if it will deliver better data. It could also be an idea to test the concept of the largest, second largest, and third largest mortgage versus total mortgage versus only the largest mortgage.

We also see that the instruction could benefit from a clean-up and further testing. Information valid for most should be listed first. That means that the instruction to add “0” if you do not pay any mortgage should not show first, as this is not a rule for most respondents. Further, only relevant information should be shown. Filters could be used to achieve this. For instances could instructions about expenses to co-ownership bill only go to people that receive this bill. The most optimal online display should be tested and examined for this.

Figure 5.5 Further tests of instruction and use of calculation aid

Hvor mye betaler dere for dette lånet per måned?
 Oppgi 0 dersom du ikke betaler på lånet.
 Regn med eventuelle lån til innskudd, andel, aksje eller andre overtakelsesbeløp.
 Regn ikke med nedbetaling av fellesgjeld over husleien.

Er utgifter til renter/avdrag på 0 kr pr. måned?

Kroner per måned

Hvorav renter

Avdrag

5.2.2. Case 2: SILC question about electricity bill (EIUtg1 and 2)

Description of question

The question about electricity expenses (EIUtg1/2) looks like one question, see Figure 5.6. All respondents are to answer this question unless electricity is covered by rent. The question text is: “How much do your household pay for electricity and solid or liquid fuel?”. It has two additional instructions to the question text. Unfortunately, the instructions carry over CATI and are “read out” by interviewers but they should still make sense for respondents. The instructions say: “If respondent do not know exact amount, ask for best judgement.” And “If the rent bill covers some of it, only calculate the additional amount.” The amount given depends on period. There is valid range for a 5-digit amount from 0-5999. If no number is entered, you are required to answer DK/R on amount. You are also required to answer DK/R on period if you have DK/R on amount. This is not an ideal solution, as layout gives the impression that this is one question, and it seems odd to be forced to answer DK/R twice. There are no checks for period, if you enter a number for amount.

Figure 5.6 Question layout for periodic electricity bill (EIUtg1/2)

Statistisk sentralbyrå
 Statistics Norway

Hvor mye betaler dere for elektrisitet og fast eller flytende brensel?

Dersom ikke IO vet nøyaktig beløp, be om et overslag
 Dersom dere har noe dekket gjennom husleien, regn bare med det som kommer i tillegg.

Kroner

☐ Vet ikke

☐ Ønsker ikke å svare

Classification of question type

Like the mortgage question, this household question about electricity and fuel or heating expenses is difficult due to concept, long instructions, and conditions for answer. Heating expenses could be included in rent if you rent your home, and in co-ownership pay if you own your own home. For co-owners heating is often included in bill, while electricity is not, but it varies. If you do not rent or own in a co-ownership, it is not covered by other payments. Period for payment of electricity pay can also vary. It used to be quarterly for most, while monthly is becoming more common today. Respondents must recall bill, assess what to include/exclude in payment for preferable period, deduct amount possibly covered by co-ownership pay, and check correct period amount is given for. For many respondents this will be a challenging task with high response burden. In regard to data collection the question's need for clarification requires interviewer assistance, hence it is not suitable for online.

Usability assessment and response behaviour

This question was user tested for CATI and CAWI in the MIMOD project 2019. Independent of mode the test persons said they pay electricity monthly and all reported a reasonable amount. In the retrospect interview they said it was hard to give a correct replay, as the billing amount changes with seasons and temperature. Most gave an estimated average per month, and when probed did not think it would be easier to calculate a yearly sum instead.

When analysing DK/Rs it is not straight forward, as this question/-s was not administrated in a unimode. For CATI it was administrated as two questions: First what period was most suitable to report by, and then amount of paid per period. While for CAWI this was displayed as one question for amount with check of for which period this is valid, like we have described above. This means that all that answered DK/R or paid by rent payment was routed passed the question about amount

on CATI, but not CAWI. This is the reason we see significantly higher DK/Rs for CAWI then CATI when we compare the two modes, see Table 5.4. This difference is eliminated (from 10.6 per cent to 3.1 per cent) if we adjust for routing differences.

Table 5.4 EIUtg1 and 2 - Share of DKs/Rs in the pilot 2019 and SILC 2018

% DK/R - Electricity expenses (EIUtq1/2)	EIUtq1		EIUtq2	
	EU-SILC	Pilot	EU-SILC	Pilot
Don't know	106	53	52	83
Refusal	7	29	1	42
n	1 442	1 182	1 295	1 182
% DK&R	7,8 %	6,9 %	4,1 %	10,6 %

We also note a few suppressed push warnings for amount, see Appendix for "List of variables with most push waring control suppressed". Which indicates that some respondents are either outside of valid range for amount or go back when they consider amount in relation to period. This implies that the question is not straight forward for all respondents.

Evaluation and recommendation

The question text is unnecessary long, concept is not intuitive, and calculation of amount is hard to do independent of mode. First, respondents must comprehend what to include and exclude in amount, and then they have to calculate how much they pay for electricity and heating fuel and select an appropriate period. In respect to the question text "electricity and solid or liquid fuel" are two concepts and not always one bill for all respondents. If some have heating expenses as a separate bill

it is not necessarily intuitive or exhaustive to call this “solid or liquid fuel”. This makes the question a cognitive difficult task. We should test how we can improve this task to better assist the respondents and improve what we measure. We also notice that if/when we run mixed-mode, the instrument needs to be unimode with identical routing to achieve measurement accuracy.

5.2.3. Case 3: SILC question about yearly municipal taxes (AVG2)

Description of question

The SILC question about yearly municipal tax for your household (AVG2) is one question, presented to all that own their own home. The question text is long and has three concepts that the respondents must be familiar with: Municipal tax, property tax, and co-ownership bill. To clarify the numeric open-end question, there is an instruction text to enter “0” if your municipal tax is included in the co-ownership bill. It is possible to enter values up till 99 988 kroner. Valid range is from 0-30 000. Outside of this range, the respondents have to suppress a push warning to proceed. Like in the mortgage questions thousands separator does not show till respondent move the cursor away from number entered in open field. Since municipal tax is a maximum five-digit number up till 23 000 (at present), visual assistance is not critical here. DK/R follows programming standard and does not show till respondents click next without giving an answer, see Figure 5.7.

Figure 5.7 Question layout for yearly municipal tax expense (AVG2)

Hvor mye betaler dere i kommunale avgifter og evt. eiendomsskatt pr. år ?
 Tast 0 hvis kommunale avgifter er inkludert i fellesutgifter.

Vennligst velg et svar

Kroner

☐ Vet ikke

☐ Ønsker ikke å svare

Classification of question type

Municipal tax is a bill that covers different services from the municipalities, and it varies from municipality to municipality which services it covers, like water, drains, renovation, property tax etc. Billing period varies from once a month to yearly, with quarterly being most common. All respondents owning their own home got this question. If you own an apartment and are part of a co-ownership of building o.a., municipal tax is often, but not always, included in the overhead expenses or co-ownership bill. This makes yearly municipal tax (AVG2) an expense which is hard to define and measure in a survey question, as cognitive interpretation of question; recall and calculation of delineated amount; and conversion to correct period can be challenging for respondents.

Like the mortgage questions and the electricity bill, we will classify yearly municipal tax expense (AVG2) as a factual non-sensitive type of question with a numeric open-end implementation which make the question challenging. In regard to data collection the question delineation requires interviewer assistance and hence is not optimal online.

Usability assessment and response behaviour

The question asks what the yearly municipal tax and the property tax (which can be optionally) is in addition to the co-ownership bill. The respondents need to understand all three concepts and most likely will calculate period. Inherent in such a complex question is an instruction, that often is an additional cognitive challenge. In this case you are asked to enter “0” for municipal tax if you pay it through your co-ownership bill, which should be simple if you read the instruction and know the answer. We have no qualitative tests of this, but it is fair to assume that length of question and instructions might add to uncertainty around interpretation of respondents’ response, particularly the value “0”, ref. Campanelli et al. classifications.

Looking at DKs/Rs we see it is higher than desired for both the web pilot (14 per cent) and for regular SILC 2018 by telephone (21,3 per cent), see Table 5.5. This supports that it is a difficult question independent of mode, which may affect measurement accuracy. In addition, we note from our paradata a slightly raised occurrence of push warnings for invalid values (occurs for values higher than NOK 30,000), which also is an indication that respondents struggle with this question.

We have checked DK/R-level against owning a home in co-ownership or not, since we expected it to be easier to answer municipal tax for homeowners without co-ownership, but there were no significant differences.

Table 5.5 Share of DKs/Rs for yearly municipal tax expense (AVG2) in pilot and SILC

% DK/R - Municipal tax expenses (AVG2)	Municipal tax	
	EU-SILC	Pilot
Don't know	97	241
Refusal	26	9
n	877	1 175
% DK&R	14,0 %	21,3 %

Like the mortgage questions the DK/R-level is significantly higher for municipal tax expense collected by web than telephone. This is expected for a factual question like this. That the level is higher than desired for the regular telephone interviews, indicates that a number of respondents do not actually know the answer, or it might be an effect of survey satisficing.

Evaluation and recommendation

We do not have previous qualitative tests to show to, but both DK/R-level and the limited paradata we have, suggest that this is a question that should be tested and improved. The core problem is the concept that municipal tax can be covered in the co-owner bill and the connecting instruction, plus the calculation of payment for one year.

We know that all crucial information for respondents’ answer need to be in the question text, as inclination to read instructions are low. In this case it makes the question long and complex as it covers three concepts: Municipal tax, property tax, and co-ownership bill plus an instruction. We suggest assessing if it is necessary to include “and possible property tax” in the question text since it is one of many municipal services and it varies what services are charged and what is included or not in each municipality. This should be tested together with the need for the instruction to enter “0” if municipal tax is covered in co-ownership pay. Besides, we could test this instruction against an alternative with an additional answer; like “Municipal tax is paid in co-ownership pay” or “do not pay municipal tax”.

5.2.4. Case 4: Numeric open ends and click behaviour (Age first regular job (Arb24) & Lowest income (End2))

We have seen earlier (for the mortgage questions e.g.) that layout of alignment and use of thousand separators is important for large numbers to be entered in open ends. We wanted to study this further through click behaviour and have looked at two additional questions with high numbers of suppressed push warnings to examine respondents' behaviour closer. We selected the two questions after monthly mortgage payment with most suppressed push warnings (see «List of variables with most push-controls suppressed» in Appendix), which was the question about first regular job (Arb24) and the one about lowest income a household estimate they can live on (End2).

Description of questions

Question: first regular job (Arb24)

The question about first regular job (Arb24) asks “How old were you when you started your first regular job or started your own business?”. The question has a longer additional pull-down instruction text of 50 words defining what the concept “first regular job” is. Valid range is a 2-digit number from 15 – 64 years old. If the respondent enters a value outside of valid range a push warning pops up e.g. “Were you 9 years old”, see Figure 5.10. There is no requirement to answer a number/age. However, if you do not answer a number/age, you have to select DK/R to continue.

Figure 5.8 Question layout for first regular job (Arb24)

Hvor gammel var du da du begynte i din første vanlige jobb eller startet i egen virksomhet?

[Forklaring](#)

☐

☐ Vet ikke

☐ Ønsker ikke å svare

Figure 5.9 Instruction (Arb24)

Hvor gammel var du da du begynte i din første vanlige jobb eller startet i egen virksomhet?

[Forklaring](#)

Første vanlige jobb er den første jobben med minst 15 timers arbeidsuke. Jobben må ha vart i minst 6 måneder, eller til du gikk over i en annen jobb eventuelt hadde en periode med arbeidsløshet. Ekstrajobb som du eventuelt har/hadde ved siden av skolegang eller studier skal ikke regnes med.

☐

☐ Vet ikke

☐ Ønsker ikke å svare

Figure 5.10 Validation check (Arb24)

Hvor gammel var du da du begynte i din første vanlige jobb eller startet i egen virksomhet?

Forklaring

Var du 9 år?

Gå videre

9

Forrige

Neste

Classification, usability, assessment

According to our classification system, this is also a factual, non-sensitive question with numeric open-end implementation. The length of the question text is OK, but the concept “regular job” is not intuitive, and the pull-down instruction is in breach with fitness criteria both in respect to length (it is 50 words and two/three messages that in the layout look like one instruction), and that it is not present on the screen unless it is pulled down.

Instruction defines “regular job” with three criteria: 1) “must have been the first job with at least 15 hours workweek”, 2) “lasted at least 6 months, or till you switched to another job or possibly had a period with unemployment”, and 3) “extra jobs you have or had next to school or studies are not to be counted.” In the instruction the three conditions are not separated and with the long clarification text it is likely that respondents do not read it and answer according to what they think they are asked.

From our fitness criteria we know that length and the cognitive challenging task makes this a difficult question disposed for problems. It is likely that respondents answer without understanding the definition of “regular” job. It is one of the questions with highest key value on push warnings for age. 25 respondents in sample 3 confirmed push warning that entered age between 12-14 years was correct. This could be their correct age, but it is not likely for a high number as all citizens below 65 years have had obligatory school when they were this age. Therefore, we do not think they read the instruction, which is in line with empiric results from other tests with pull down clarifications.

In regard to data collection, the question is in breach with both complex concept and long clarification which does not make it suitable for self-complete, but we think it is possible to improve the question text and thereby the need for clarification to make it more appropriate for online.

Question: Lowest income (End2)

End2 «In your opinion, what is the lowest net income you/your household must have per month to make ends meet? With instruction that “Net income is after tax”. Valid range is a 5-digit number from 0 – 99 999 kr. There is no requirement to answer a number, but if you don’t, you have to select DK/R to continue.

Figure 5.11 Question layout lowest income household can live on (End2)

Hva er etter din mening den aller laveste
nettoinntekt husholdningen din må ha i måneden for
å få endene til å møtes?
Nettoinntekt er etter skatt

Kroner

Forrige

Neste

Classification and usability

The question type is similar to Arb24: It is a non-sensitive question with numeric open-end with challenging answer format (definition of net income per month). It is not factual but asks for a subjective assumption. The length of the question text is OK, though it is long, and we suspect that not all note that they are asked to give net income per month. The instruction about net income is short, and it is displayed fixed below the question, which is in line with our fitness standard. Still, not all household members will know what this is. The numeric open-end label only says currency (NOK), not that amount is per month.

Both the definition and the subjective quality of the concept “to make ends meet” is a cognitive challenge for certain groups. In relation to the pilot for Well-being in Norway 2018, we did cognitive tests that showed that younger test persons and persons with immigrant background were uncertain about interpretation. The concept is subjective, and we know from these kinds of studies that perception of what is lowest required income is relative. As such, it is also exposed for socially acceptable answers in meeting with an interviewer. Hence, self-complete is the most appropriate data collection method to get the most honest answer.

Also, this question gained one of the highest numbers of push warnings. Due to the high value of amount entered, we assume that some respondents entered yearly salary or gross income instead of net income per month. Also, since several respondents changed their entered number after receiving the push warning by removing a "0", we assume that respondents had difficulties with the visual layout, i.e. that thousand separators were not immediately visible.

Evaluation and recommendation

In three questions (Laan2/Arb24/End2) we have seen that the numeric open-ends can be challenging and possibly create response burden and inaccurate measurement. In order to reduce these challenges, first we use layout that assist correct perception. For big figures, we can align amount to the right and use thousand separators. Next, we can make sure all questions and instructions are short and precise, and labels of numeric open ends should be exhaustive. The biggest challenge and most important one is to keep the concepts to be measured factual and simple, so we can deliver good questionnaires and high-quality statistics.

5.3. Young respondents, the proxy option and quality of answers for questions about housing expenses

Thus far, we have observed that there is a higher rate of break-off and non-response in the pilot than in CATI mode. In this chapter, we have addressed the quality of responses given by *respondents who have given an answer*. In this

section, the quality of answers is seen in relation to the use of the «proxy option», and to respondents' gender and age. As a case, we look at the rate of don't know/refusals for questions about mortgages and compare this across age-groups, gender and proxy/non-proxy respondents. For the pilot, the total number of proxy answers is on the low side to draw conclusions about quality (N=25), however we do present results for this group as well.

Table 5.6 gives an overview of the quality of responses about housing expenses / mortgages in CATI and CAWI mode, as indicated by the rate of don't know/refusal for different questions about this subject. As seen above, the rate of missing information about mortgages is high in both modes: 25 per cent of owners with a mortgage in the CAWI pilot, and 16 per cent in CATI 2019 lack some information about their mortgage payment (or about whether they have a mortgage)²⁷. In both modes, the don't know/refusal rate is highest for questions about how much interest the household pays on mortgages per term. 39 per cent in CATI mode did not give an amount, which is higher than in CAWI at 25 per cent. However, in CATI, a question about interest rate was asked to respondents who had not given an answer to the question about interest amount, resulting in a lower net missing information on interest. In the pilot, an error resulted in the question about interest rate only being asked to respondent who did not know the total instalment amount for their mortgage, and therefore did not supply any useful information. Thus, a total of 25 per cent of owners with a mortgage did not contribute any information about mortgage interest in the CAWI pilot. In CATI mode, the corresponding percentage is 14.

Generally, the rate of don't know/refusals for mortgages is highest among young respondents in both modes, and for most questions clearly lower in interviews where young selected respondents did not respond themselves. Nevertheless, in the pilot the rate of missing information is as high for proxy respondents as for selected respondents in the same age-group for the question about interest on mortgage, resulting in an equally high total missing rate for mortgage payment for these groups. Note that the number of persons in the pilot in these groups are too low to draw conclusions about this.

In the pilot, the option to let another household member respond to these questions was only given to respondents under the age of 24 who lived with their parents. In CATI mode this option is available to all respondents (who do not live alone). There is however, very little difference in the rate of don't know/refusals in the questions about mortgage payment between answers given by the selected respondents and household members when the selected respondent is over the age of 24. This does not necessarily mean that the selected respondent who did not want to answer these questions would have been able to give an equally qualified answer than the household member who did answer. Note also that the number of CATI household members responding instead of selected respondents aged 24 or over, is very low (ca. 1 per cent).

The don't know/refusal rate is higher among women than among men in both modes.

²⁷ The percentage of total missing information about mortgage payment is calculated as a share of owners with a mortgage or who do not know if they have a mortgage.

Table 5.6. Rate of don't know/refusal or missing information about mortgages among house owners in CAWI Pilot and CATI 2019¹

	DK/R Do you have mortgage		DK/R Number of mortgages		DK/R 1. mortgage amount		DK/R installment 1. mortgage		M/DK/R interest amount 1. mortgage		DK/R interest rate 1. mortgage		M/ DK/R interest amount +rate 1mortgage		M/ DK/R mortgage Payment total s		N owner	
	Pilot	CATI	Pilot	CATI	Pilot	CATI	Pilot	CATI	Pilot	CATI	Pilot	CATI	Pilot	CATI	Pilot	CATI	Pilot	CATI
Total	1.1	1.1	2.5	0.9	4.7	5.2	8.0	3.7	25.1	38.9	3.3	18.2	24.9	14.4	25.2	16.1	1914	4944
Age																		
16-23	12.4	10.2	15.7	8.2	11.9	14.0	6.8	5.0	27.1	39.3	5.1	26.1	27.1	16.4	33.7	24.6	99	354
24-44	1.0	0.6	2.0	0.4	5.7	5.3	9.6	3.2	28.8	40.9	4.0	17.6	28.4	14.2	28.6	15.2	608	1424
45-69	0.3	0.3	1.7	0.3	3.3	3.8	7.1	3.8	22.7	39.0	2.8	18.2	22.6	14.8	22.4	15.9	1020	2322
>=70	0.0	0.1	2.6	0.0	5.6	4.8	5.8	4.0	21.7	28.7	1.4	15.0	21.7	12.1	19.7	12.8	187	844
Gender																		
Men	1.1	1.2	1.6	0.9	3.6	4.4	6.7	3.3	21.8	37.4	2.1	14.7	21.3	11.7	22.2	13.9	957	2579
Women	1.2	0.9	3.4	0.9	5.8	6.0	9.2	4.1	28.6	40.5	4.5	22.0	28.6	17.5	28.2	18.5	957	2365
Who answered																		
SR <24 y.o.	16.7	20.2	22.4	19.2	18.4	28.6	7.9	12.3	23.7	52.6	7.9	49.4	23.7	28.1	33.9	38.6	74	178
Other <24 y.o.	0.0	0.0	0.0	0.7	0.0	5.9	4.8	2.1	33.3	34.0	0.0	13.2	33.3	11.8	33.3	11.8	25	176
SR >=24 y.o.	0.5	0.4	1.9	0.3	4.4	4.5	8.0	3.5	25.1	38.9	3.2	17.7	24.8	14.3	24.7	15.3	1815	4526
Other >=24 y.o.	-	0.0	-	0.0	-	4.3	-	8.9	-	37.8	-	12.8	-	11.1	-	17.0	-	64

¹ M=Missing, DK=Don't know, R=Refusal. All percentages are calculated as a share of respondents who were supposed to answer each question, therefore the denominator varies between questions.

5.4. Findings and recommendations for questionnaire improvement

General assessment

Our analyses indicate that the questionnaire format is mainly, but not always, agreeable with a user perspective, while the length of the questionnaire and the level of detail and commendable recall is not. We support the conclusion from the MIMOD project that SILC is burdensome, sometimes lack intuitive relevance for the participants and is vulnerable for inaccurate measurements for some of the most complex and sensitive questions on expenses and deprivation. We also support the notion that some of the complex questions need improvement independent of data collection mode.

The adaption of the questionnaire from CATI to CAWI was done to achieve unimode. In retrospect, we see that more time and resources should have been dedicated to this process to avoid errors and dysfunctional layouts. We think further adaption to online is necessary with an unimode approach, as mixed mode data collection most likely will be the way forward in Norway.

In our analyses we have tried to confirm or refute our qualitative assessments with quantitative data. Our break-off analysis and our click behavior data indicates a burdensome task. We cannot know if this is due to interview length or demanding questions, but most likely both. From break-off points in the questionnaire (highest when moving from personal to household question and increasingly so when

asking about housing costs) and click behavior data we see respondents need to go back and read or change previous responses. This supports that parts of the questionnaire or some of its sections can be improved to increase usability.

From our qualitative work we selected a few specific questions to study them in depth, both qualitatively and quantitatively, and to assess them from a user perspective. In general, we found that our qualitative and quantitative assessments corresponded. We saw that some of the factual non-sensitive questions with difficult concepts/instructions, like the questions about mortgage, electricity and heating, and municipal tax payment, did not work optimal in either CATI nor CAWI and would benefit from improvement to achieve better user-friendliness and retain declining response rates.

Mortgage payment

From previous user tests we know that recall and knowledge is the core challenge of the mortgage payment questions. From our qualitative assessment and the data from the web pilot we confirm usability issues and uncertainty around data recorded. We also noted that instructions could be cleaned and only clarification pertinent to respective respondents should show on screen. Our conclusion is that questions about mortgage instalment and interest rate are difficult for many respondents, and so is giving detailed information about mortgage two and three. Our finding clearly indicates that this question sequence needs improvements and we should consider only asking about main mortgage and drop details about instalment and interest rate.

Electricity and heating expenses

The question text for electricity and heating expenses is not intuitive or exhaustive, and the task is perceived as demanding. Earlier user tests have shown that respondents struggle to estimate electricity and heating expenses as it varies throughout the year and respondents have to assess what to include and exclude in the amount.

Unfortunately, the question was not administrated in an optimal way, and as it is, it does not function as unimode. We recommend the question to be tested further, aiming for a unimode version, as that is a condition when we want to check mode effects and measurement quality.

Municipal tax payment

The question about municipal tax pay is long and has three concepts that the respondents must be familiar with: Municipal tax, property tax, and co-ownership bill, and the task is numeric open-end. We do not have user tests to describe if respondents find it easy or difficult to answer, but it is obviously challenging with cognitive interpretation of the question; recall and calculation of delineated amount; and conversion to correct period for several respondents.

It is hard to design a good question about municipal tax expenses, as what services are included varies from municipality to municipality and so does invoice period. For home self-owners and co-owners, it varies what expenses are covered in which pay. This also makes the question hard to define and measure in a survey question. Our quantitative results also support that this is a difficult question.

We suggest to user test the question and assess if we can improve the question. We could test if we need to include “and *possible* property tax” in the question text since it is one of many municipal services and it varies what services are charged and included or not in each municipality. And we should test if it is better with a response box for “pay no taxes” than an instruction to enter 0 if you pay no taxes.

“Age first regular job” and “lowest income to make ends meet”

We used click-behaviour data to study more in depth the challenges we saw with layout of numeric open ends in the mortgage questions. For instance, the two questions with highest account of suppressed push warnings in addition to mortgage payment were the question about age at first regular job and the question about lowest household income to make ends meet.

The core of the problem for “age first regular job” is the concept “regular job” which most likely is not intuitive for many respondents, and the very long and not visually clarifying instruction which is pull down. We saw high numbers of very young age to start first regular job that conflicts with compulsory school age in Norway indicating that many of the answers could be incorrect.

For the other question checked, “lowest income level to make ends meet”, the length of the question and the instruction is OK, but the question text has the idiom “to make ends meet” which most likely is a cognitive challenge for many. From the number of push warning for high values possibly entered outside of range, we suspect that many respondents did not read that the question was about monthly net income and not gross or yearly income.

What we learned from this is that in order to reduce push warnings and uncertainty about our measurements we need to use layout that assist correct perception. For big figures, we can align amount to the right and use thousand separators up front. Next, we can make sure all questions and instructions are short, precise and exhaustive, and end labels should be exhaustive. The biggest challenge and most important one is to keep the concepts to be measured factual and simple, so we can deliver good questionnaires and high-quality statistics.

Questions we did not get to

We also planned to study other central SILC questions like number of rooms in dwelling, and more sensitive questions about health and/or material deprivation, but as we were short on time these questions were not prioritized as they did not score high enough on our list of questions with most problems. In the future we would like to also include these and see if these kinds of questions are burdensome for the respondents and see if click behavior data can confirm or refute this hypothesis.

Young respondents from a questionnaire perspective

Break-offs during the questionnaire for young respondents is a known problem for SILC, especially when questionnaire goes from personal questions to household question about other household member’s employment and housing conditions and costs. From our analysis we have seen that nonresponse and break-offs are even higher online than telephone. Furthermore, break-off rates were higher among young respondent and large households, and clearly lower for proxy interviews where other household members should answer for young, selected household respondent.

In addition to having higher break-off rates, young respondents also more often give Don’t know/refusal answer to questions about mortgage. This is also the case for women. Generally, when young respondents ask someone else to answer household questions this improves the quality of the answers (lessens the DK/R rates), yet the option to ask someone else answer parts of the questionnaire leads to higher level of break-offs. This dilemma should be addressed carefully in future attempts on multimode for SILC. One possibility is to allow for follow-up of household- members in both modes.

6. Mode effects

The term “mode effects” refers to bias in data associated with the mode of data collection (Luzi, O., et al 2019). Although mode effects are accentuated when combining different modes in one data collection, they are present even in single mode data collections. The term “mode effects” may be differentiated into bias caused by differences in selection to participate / non-response in varying modes, termed “mode selection effects” and bias resulting from the instrument itself, i.e. respondents giving different responses depending on mode. The latter may be referred to as “mode measurement effects” and is often termed “pure mode effects”. Previous studies indicate that the largest mode *measurement* differences arise between interviewer assisted data collection methods (face-to-face, telephone) and self-administered modes (web, post) (Cernat, Couper and Ofstedal 2016).

This section addresses mode measurement effects, focussing on how this affects key SILC indicators. We examine differences in measurement bias in the pilot (CAWI) and CATI by comparing the pilot results on to results from the regular CATI SILC survey conducted in 2019. Both *mode selection effects* and *mode measurement effects* may contribute to differing results between the pilot and the ordinary SILC CATI data. Although selection bias is a common issue in surveys generally, there is an additional issue related to mixed mode surveys in that the selection of respondents to different modes systematically differs. As we have seen in chapter 3, the pilot data are more skewed in terms of age, educational level and income than the CATI data.

While it is difficult to separate mode selection effects from mode measurement effects, there are several possible approaches at hand. Here we use the following three approaches:

- Respondents over the age of 79 are excluded from the mode effect analyses, both from the pilot data and from the comparison data (SILC CATI 2018 and 2019).
- We weigh results from the pilot to reflect the characteristics of the gross sample of the comparison data (SILC 2019). Only respondents with complete interviews are included²⁸. The CATI data uses the same weighting procedure. These weights adjust for age, gender, register family size and level of education obtained for the gross sample from administrative registers.
- Additional analyses are done on matched data sets from the pilot and CATI 2019. Matching data is an approach that approximates randomised experiments by reducing the differences between the compared samples (see Iacus et al. 2012, Schork et al. 2018). The matching procedure involves finding a person in the CATI data that have the exact same characteristics as each person in the pilot data set, on variables that are highly correlated with the analysis variables. The data were matched on age (1-year age groups), household composition (single, couple, couple with children, single with children, other), gender, level of education and income group (student, lowest two deciles, other). Pilot respondents without a matching individual in the comparison data are dropped from the matched data set, and vice versa with the matched CATI data. These data are no longer representative of the target population, but results will be more comparable across data sets than the weighted data that are not able to take into account selection effects to the same degree as the matched data.

²⁸ One reason to exclude partial interviews here is that the break-off rate is quite high and there is a risk that the weighting will not be able to take into account the degree of bias that may be associated with break-offs.

- Some supplemental analyses are conducted on a subsample in the pilot consisting of respondents that also participated in the ordinary SILC 2018 CATI survey (Pilot subsample 1).

6.1. Mode measurement bias on descriptive variables

Before examining effects of mode on key SILC variables we have looked at whether the mode influences respondents reporting on descriptive characteristics of the household (Table 6.1). Specifically, we examine household composition, number of persons in the household, tenure status for the dwelling, and employment status of the selected respondent (SR). These are variables that are based on questions that are fairly easy to answer and that one may expect to have a relatively low social desirability bias.

The differences in unweighted results from the CAWI pilot and the regular CATI SILC (first two columns) may be caused both by selection and measurement biases. The percentage employed and the percentage who own their dwelling are significantly higher in the pilot according to these unadjusted estimates. The average number of household members is also slightly higher in the pilot. As non-response in the pilot is more skewed in terms of respondents' income and level of education, factors that are typically associated with employment and ownership, these differences may result from selection bias. When using weights to adjust for non-response bias, there is no difference in the percentage employed, while the percentage homeowners is reduced, but still significantly higher in the pilot. Whereas the weights do not adjust for income, the matched data does take differences in respondents' income into account. There are no significant differences in the matched results for any of the variables in Table 6.1, indicating that when removing selection bias, no measurement bias remains in the reported number of household members, in the proportion SRs who report to be employed, nor for the proportion reporting to belong to a household that owns the dwelling.

Table 6.1 Descriptive variables, comparison of results from pilot (CAWI 2019) and CATI 2019 for selected respondents aged 16-79. Per cent and mean/median.

	Pilot, unweighted	CATI 2019 unweighted	z-test	Pilot, weighted	CATI 2019 weighted	z-test	Pilot, matched	CATI 2019 matched	z-test
No. Household members (Mean)	2.6	2.5	***	2.5	2.4		2.6	2.6	
SD	1.283	1.286		2.959	1.765		1.296	1.283	
No. Household members (Median)	2.0	2.0		2.0	2.0		2.0	2.0	
Employed (per cent)	74.4	69.9	***	69.2	69.5		74.4	74.8	
Houseowners (per cent)	85.2	81.9	***	81.7	79.0	***	87.3	86.3	
N	2060	5834		2060	5834		1631	1631	

*** p<0.01, ** p<0.05, * p<0.1

6.2. Mode measurement bias on key SILC variables

Table 6.2 shows differences between the pilot and the regular SILC CATI survey from 2019 for selected SILC indicators. Most of the indicators differ in the unweighted results, however only some differences appear to remain when selection effects are handled through weighting or matching.

The largest measurement effects appear to exist in the reported levels of material deprivation and financial difficulties. Respondents in the pilot report higher levels of deprivation for all indicators except not being able to afford a car. In the matched data, there is no significant difference in the percentage who cannot afford

to keep their house warm, nor the rate of severely materially deprived. Note that the size of the matched samples is smaller than the full samples, making it more difficult to detect biases. Another feature characterising the matched samples is that they are more selected in terms of the respondent's social status. As shown in Table 6.1 and Table 6.2 there is a higher proportion in the matched samples who are homeowners and who are employed, whereas the proportion with low income is clearly lower. It may be of particular concern when analysing mode effects on poverty indicators that the matched data does not include data from the most marginalised respondents. Nevertheless, it seems reasonable to conclude that there is evidence of measurement bias for the indicators of material deprivation. A plausible explanation is that poverty is associated with a negative social bias, making it more difficult to admit to in a conversation with an interviewer than when completing a web form.

Table 6.2 Selected key SILC indicators, comparison of results from pilot (CAWI 2019) and CATI 2019 for selected respondents aged 16-79. Per cent

	Pilot, unweighted	CATI 2019, unweighted	z-test	Pilot, weighted	CATI 2019, weighted	z-test	Pilot, matched	CATI 2019 matched	z-test
Severely materially deprived	2.7	1.8	**	3.4	2.1	***	1.9	1.5	
Materially deprived	6.2	4.0	***	7.9	5.0	***	5.2	3.0	***
Difficult paying rent	2.9	1.7	***	3.4	2.1	***	2.3	1.3	**
Difficult paying mortgage	2.3	1.2	***	2.0	1.3	**	2.3	1.2	**
Difficult paying housing bills	4.6	2.6	***	5.1	3.0	***	4.2	1.8	***
Difficult paying other loans	3.6	1.5	***	4.2	1.7	***	3.1	1.0	***
Cannot afford holiday	7.1	5.6	**	8.4	6.6	***	6.0	4.4	**
Cannot afford meals	4.1	2.5	***	5.2	2.9	***	3.2	1.7	***
Cannot cover unforeseen expense	26.8	21.2	***	29.6	23.9	***	24.6	18.0	***
Cannot keep house warm	2.0	0.9	***	2.5	1.1	***	1.5	0.9	
Cannot afford car	5.2	5.3		5.9	6.1		4.4	3.6	
AROP (registerbased)	7.7	9.4	**	10.3	10.6		6.2	6.1	
Low work intensity	5.7	6.5		7.1	7.3		4.3	5.3	
AROPE	12.1	13.4		15.3	15.1		9.7	9.8	
Overcrowded dwelling	8.9	5.8	***	10.7	6.5	***	8.3	5.4	***
N	2060	5834		2060	5834		1631	1631	
N work intensity	1575	4181		1575	4181		1206	1183	

*** p<0.01, ** p<0.05, * p<0.1

Although the level of material deprivation is higher in the CAWI data, we arrive at almost identical percentage of persons who belong to a household at risk of poverty or social exclusion (AROPE). This is firstly because the most important component of AROPE is AROP, which is solely based on income information from registers and is not affected by social measurement bias. Secondly, the other components, “severe material deprivation” and “low work intensity”, are only marginally different in the two samples. Moreover, while the level of severe material deprivation is somewhat higher in the pilot, the rate of low work intensity households is slightly lower than in the CATI sample, even when adjusting for selection bias. One issue concerning this variable however, is the number of respondents without data on this indicator. We have excluded respondents with missing information on activity status for household members from the sample when calculating this variable. If missing data is associated with lower levels of work intensity this particularly reduces the reliability of this indicator.

The indicators “overcrowded dwelling” and “work intensity” differ somewhat from the other indicators in terms of how they are constructed. Both are based on several variables combining information on the household composition and the age of household members as well as questions

about the number of rooms in the dwelling (overcrowding) and employment status throughout the year for all household members (work intensity). These questions do not require the use of complex discretion, which may lead to a lower risk of measurement error due to social desirability bias.

Nevertheless, we observe a significantly higher percentage of respondents who belong to an overcrowded household in the pilot than in the regular CATI sample, a difference which remains large when adjusting for selection bias. Although this could be related to differences in household size, we have already seen that there is no difference in the number of household members (Table 6.1) and the difference in overcrowding remains even when controlling for household size (not shown here).

Because having a sufficiently large home could be associated with social desirability bias, the higher rate of overcrowding in the pilot could be caused by respondents adjusting their CATI answers to what they find socially desirable. However, analyses on panel data show that a large proportion of respondents in the pilot report a different number of rooms in the pilot than they did the previous year when interviewed by phone, and that there is no clear pattern of underreporting in CATI mode in relation to CAWI (see Table 6.3). As many as 50 per cent of pilot respondents who have not moved have changed their answer regarding the number of rooms in their dwelling. This suggests that the explanation for the higher rate of overcrowding in the pilot is rather due to technical issues associated with filling out the question (the question had “buttons” to increase or decrease the number of rooms) or with the level of difficulty associated with how the question is formulated. The question is “How many rooms do you/your household dispose of for your own use? Do not include kitchen, bathrooms, hallway, laundry room or other small rooms under 6 square meters”²⁹. Both the complex delineation of the concept “room” available for “your own use”, the generally complex language of the question, as well as the detailed information included for clarification makes this question cognitively challenging, and possibly easier to handle in an interviewer assisted questionnaire. Among respondents interviewed in CATI mode both years, only four per cent of respondents living in the same dwelling reported a change in the number of rooms from 2018 to 2019. However, in the CATI questionnaire information from the previous interview was used as input in the interview with the interviewer referring to the answer from last year and then asking if the number is correct. This means that even if the question is difficult to answer correctly, and even if the answer may be wrong, there is a strong bias towards reporting the same number of rooms each year. Using information from the previous interview is an option for a future CAWI questionnaire as well, yet it does not solve the issue suggested here, that the wording of the question may give inaccurate results. This should be examined further.

Table 6.3 Number of rooms in the dwelling, as reported in the regular SILC 2018 (CATI) and CAWI pilot 2019 and regular SILC 2019 (CATI). Panel respondents (CATI 2018-CAWI 2019 or CATI 2018-CATI 2019) who have not moved to a new house in the last two years

	CATI 18-CAWI 19		CATI 18-CATI 19	
	Per cent	Count	Per cent	Count
Same number of rooms	50.0	275	96.3	2765
More rooms CATI 2018	25.3	139	1.5	44
Fewer rooms CATI 2018	24.7	136	2.1	61
Total	100	550	100	2870

We have also taken a closer look at self-reported health status, which is a variable that may be susceptible to social desirability bias. Table 6.4 shows that a somewhat larger percentage of respondents claim to be in very good health in the CATI interview. This difference remains when data is weighted, but the difference in proportions is no longer statistically significant in the matched data. For some reason this difference was markedly larger if comparing with the regular EU-SILC 2018, and significant even for the matched data. This suggests that there may be

²⁹ Norwegian: «Hvor mange rom disponerer [du/husholdningen din] til eget bruk? Ta ikke med kjøkken, bad, entre, vaskerom eller små rom under 6 kvadratmeter.»

reason to conclude that although differences are not significant, there is some mode measurement bias towards respondents reporting somewhat poorer health in CAWI than in CATI. However, it is also worth mentioning that we made a slight change in the question in the pilot, using a more common Norwegian word for “all in all” than is used in CATI. We do not know if this affected responses to the questions.

Table 6.4 Self-reported health status, comparison of results from pilot (CAWI 2019) and CATI 2019 for selected respondents aged 16-79. Per cent

	Pilot, CATI 2019, unweighted			Pilot, CATI 2019, weighted			Pilot, CATI 2019, matched		
	unweighted	unweighted	z-test	weighted	weighted	z-test	matched	matched	z-test
Very good	24.7	27.1	**	23.0	26.4	***	25.1	26.8	
Good	50.8	49.5		51.5	49.3	*	51.8	52.4	
Fair	16.8	16.1		17.2	16.3		16.2	14.9	
Bad	6.8	6.4		7.3	6.9		6.1	5.2	
Very bad	0.8	1.0		0.9	1.1		0.7	0.7	
Total	100	100		100	100		100	100	
N	2060	5838		2060	5838		1631	1631	

*** p<0.01, ** p<0.05, * p<0.1

6.3. Key findings: Data collection mode and measurement bias

This chapter has shown that there are significant selection effects associated with modes that are difficult to adjust for using the current weighting procedure of the Norwegian SILC. Moreover, we found evidence of mode measurement effects on the variables examined here. The largest effects were found for poverty indicators such as financial difficulties and material deprivation.

Nevertheless, it seems that key SILC indicators such as work-intensity and AROPE are not affected, likely due to the more “objective” nature of their most influential components. Further analyses on mode effects should be conducted. For instance, this report has not examined how variables associated with housing expenses are affected by mode, although analyses from previous chapters indicate it may be particularly difficult to obtain reliable data on this topic using CAWI. There is need for more testing and improvement in this section of the CAWI questionnaire before implementing a mixed mode data collection. The analyses of mode effects also suggest that the question about number of rooms in the dwelling should be revised, as there is indication of technical or questionnaire design related issue with this variable.

7. Summary and conclusions

The broader aim for carrying out this project was to explore how using web mode in the SILC data collection may contribute to cutting costs and increasing representativity of the data. The pilot was conducted as a CAWI only survey, and results from the pilot were compared to results from the regular CATI SILC from 2018 and 2019. The pilot has contributed a large amount of data on how CAWI may work as a future mode of data collection. In this report we have started the analyses of the data collected in order to advise future actions, but there are still issues that should be explored further, both using the current pilot data and through additional tests. This chapter summarizes key findings presented in the report. Chapter 1 and 2 presented the project and gave an account of the pilot design and development. The pilot consisted of three subsamples with differing characteristics in terms of knowledge of the survey and contact mode. For two subsamples the data collection was done by web only, but for one sample we did a short CATI interview and then switched to CAWI (multimode). The gross sample of the survey was approximately 5,600 selected respondents aged 16 or over. One subsample had participated previously (fourth wave 2018).

In chapter 3 we reviewed results from the data collection. We observed that response rates for the CAWI pilot were higher than expected, but clearly lower than in the regular CATI SILC. The overall pilot response rate was 45 per cent, giving a net sample of roughly 2400 individuals.

It is important to note that the gross sample in the pilot only includes individuals who were registered with an email address in the Contact Register. The coverage for e-mail addresses is about 90 per cent for the population 16 years and older, but the availability of registered e-mail is highly correlated with age. For those over 80 the rate drops to about 30 per cent.

In terms of response bias, the net web sample is more biased than the net sample from the regular CATI SILC, particularly for age, education and income. Young people, people with low education and low income are underrepresented in the pilot. These are the same groups that are underrepresented in the regular SILC, yet they are more underrepresented in the web sample. To ensure comparability, only persons with a registered e-mail were included, when analysing response bias in the regular CATI SILC as well.

Of the pilot subsamples, the highest response rate was obtained in the sample that were new to the survey and who were offered web only (sample 3). This was surprising given that we expected that prior knowledge of the survey / prior CATI contact would boost response rates. Representativity in terms of education, age and income was also close to that of the regular SILC for this sub-sample.

The response rate was somewhat lower for the regular SILC panel sample that were only offered CAWI mode in the pilot (sample 1). Generally, for this subsample representativity was similar to that of the regular SILC and sample 3. We expected it to be easier to recruit respondents who were familiar with the survey, but this expectation was not met. One factor contributing to a low response rate in this sample may be panel attrition, the fact that they have already experienced how demanding the SILC survey is. Furthermore, they were told in the last telephone interview that they were finished. The response rate was lowest for the sample with CATI recruitment /multi-mode (sample 2). The hypothesis was that initial contact with an interviewer would motivate or oblige people to answer the web questionnaire, especially in underrepresented groups and thereby reduce bias. 80 per cent did the telephone interview, and these results were representative in terms of respondent characteristics. However, analysis showed a high level of attrition from CATI to CAWI mode, and that the respondents who continued the survey on web were those who traditionally are more overrepresented in social surveys - middle aged people and people with higher education and high income. Thus, this contact strategy seems to have increased bias.

Chapters 4 and 5 addressed questionnaire quality in terms of break-offs, the use of don't know/refusals and general usability. Despite an acceptable response rate, the rate of break-offs was higher than desired and clearly a larger problem than in CATI (although some item non-response issues are present in CATI mode, particularly for young selected respondents). In total, 14 per cent of those who answered the pilot web questionnaire broke off before completing the questionnaire.

The break-off rate was largest in sub-sample 3, which had the highest response rates. 18 per cent of the respondents in this sub-sample did not complete the survey, compared with 12 per cent of CAWI only respondents who had previously been part of the regular SILC panel (subsample 1) and 13 per cent in the multimode sample (subsample 2). One possible explanation for these differences in

break-off rates may be that sub-sample 1 was more prepared for the level of difficulty of the questions in the survey, as they had previously been part of the regular SILC sample. This may have reduced their propensity to part-take in the survey, and at the same time making those who did participate a more select and motivated sample. For subsample 2, the initial CATI interview may have increased the respondents' preparedness and sense of duty to complete the questionnaire. However, it is unclear whether preparedness or selection are the most important mechanisms leading to lower break-off rates in these subsamples, compared with subsample 3.

We observed that break-offs mainly occur when the questionnaire moves from personal questions to household mapping of work and housing cost. There are several reasons for this. Respondents might not recall or have the information nor willing to check up on the data or forward the section to a household member with better overview. Moreover, respondents may not understand the questions, not find them relevant, be tired of the task or have something better to do. The analyses identified several issues related to the usability and quality of the questionnaire which are likely to cause break-off and reduced data quality, particularly related to housing expenses and mortgage. The analyses focused on selected parts of the questionnaire, and before an actual SILC data collection it is recommended that a thorough analysis is done also for other parts of the questionnaire.

Generally, it is the youngest respondents who have the highest break-off rates, and the rate is also higher for respondents in households with more than one person, due to the questions about other household members. In addition to high break-off rates these groups also have poorer response quality when responding. Although including the option for young respondents to let other household members answer these questions could redeem these issues to some degree, it is clear that we have not succeeded with this in the pilot. While the break-off rate for the other household members hardly is encouraging, there was done relatively little to improve this in terms of reminders etc. in order to motivate the household members to answer the forwarded web questionnaire. This topic should be explored further and should be tested for respondents older than 24 years as well.

Note that the issue with partial non-response for questions about household members' employment and housing conditions is also very much present in the CATI data, particularly in the case of young selected respondents. Hence, there is room for improvement of the quality of CATI data as well.

In chapter 6 we examined to what extent the SILC questionnaire is sensitive to mode-effects. We observed that *mode selection bias* may be difficult to adjust for using the current weighting procedure of the Norwegian SILC. Furthermore, we found evidence of *mode measurement bias* among the variables examined. The largest measurement bias effects were found for poverty indicators such as financial difficulties and material deprivation. Nevertheless, it seems that key SILC indicators such as work-intensity and AROPE are less affected, likely due to the more "objective" nature of their most influential components. Further analyses on mode effects should be conducted. Mode effects should also be examined for different respondent groups, e.g. age, gender etc.

Furthermore, several variables have not been analysed. Moreover, we have not taken into consideration how or whether the final SILC data from a mixed mode data collection should be adjusted for mode measurement bias.

7.1. Challenges and recommendations

A central aim of the project was to examine how CAWI may contribute to cutting costs as CATI is generally both time consuming and expensive. In the pilot we used interviewers only in the recruitment process to do a short start-up interview. In the pilot interviewers used approximately 450 hours on the initial CATI interviews. In total we obtained 2422 interviews. A rough estimate indicates that collecting these interviews using only CATI would have required about 3000 hours. Moreover, we did not find that the use of CATI for one entire subsample helped boost response rates, suggesting that these resources should be allocated differently in an actual mixed mode data collection.

A second aim of the project was to consider whether CAWI affects data quality. Generally, we found that the pilot data is more socially skewed than the regular CATI SILC, suggesting that would be a loss of data quality associated with a pure web data collection. The evaluation of questionnaire quality also showed that the complexity of the topics in the survey requires a better adaption to unimode to improve quality of both CATI and CAWI data. One should also consider how or whether mixed mode data should be adjusted for mode effects.

As SILC has no upper age limit, we consider that a pure web survey is not a viable option in the foreseeable future. Low coverage of e-mail addresses in the elderly population lead to very few persons over the age of 80 being included in the pilot. Coverage in the email-register may also be socially skewed. This issue has not been explored here.

In addition to cutting costs, it is likely that a mixed mode design will contribute to a more time efficient data collection. Currently, the CATI data collection is conducted during the first six months of the year, but this period can be significantly reduced in a mixed mode data collection. In the pilot we obtained a net sample which is over one third of the CATI net sample using one sixth of the time of a regular CATI data collection. We also obtained interviews with some individuals from the regular SILC panel that had never participated before. This could suggest that there is some potential for increasing response rates when combining CAWI and CATI in a mixed mode design. A design combining CAWI and follow-up in CATI mode may be a feasible approach to ensure cost-cutting combined with a satisfactory response-rates and coverage of the population.

Although our results suggest that Statistics Norway should consider changing from CATI only to mixed mode (CATI+CAWI) for SILC, there are several issues that should be resolved before making this transition. Firstly, this requires a case management system and programming software that can handle mixed mode surveys. Using mixed mode in data collection requires a case management system that can handle the switch between modes. For example, it should be possible for a respondent to start answering the survey in one mode and continue in another, or to send respondents from CATI to follow up on web in an efficient manner. As the pilot study revealed difficulties connected to the case management system, it seems to be a prerequisite that the case management system is adapted for mixed mode/multimode and the possibility of interviewing more than one household member, before converting the SILC survey to a mixed mode survey. Otherwise it will require many manual operations and the resources saved on CAWI will be spent in extensive planning, programming and administering.

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Appendix A: Pilot questionnaire

SILC pilot - webskjema

Husholdningskartlegging

Innledning: Tusen takk for at du deltar! Dine svar er viktige for å få god kunnskap om levekår i Norge. Du vil få spørsmål om bolig, arbeid, helse og økonomi.

Ved å svare på skjemaet, samtykker du til at opplysningene kan brukes til å lage statistikk i tråd med gjeldende personvernregler.

->Personvernregler

Nye

Vi har registrert at følgende ^AntReg personer tilhører husholdningen. Til husholdningen regner vi alle personer som er fast bosatt i boligen, og som har felles matbudsjett. Personer som er fast bosatt i boligen, men som er borte fra hjemmet, f.eks. på grunn av arbeid skal regnes med.

Stemmer dette?

(LISTE OVER HUSHOLDNINGSMEDLEMMER)

1. JA, HUSHOLDNINGEN STEMMER
2. NEI, MÅ LEGGE TIL PERSONER
3. NEI, MÅ FJERNE PERSONER
4. NEI, MÅ BÅDE LEGGE TIL OG FJERNE

Hvis Nye=2

Hvor mange personer vil du legge til?

- _____+

Du legger nå til person nummer 1

Hva heter personen?

Når er <person 1> født?

KALENDER

Er <person 1> mann eller kvinne?

- 1.Mann
- 2.Kvinne

Slekt

Hvilket familieforhold har <person1> til <IO>?

Ektefeller Samboer
 Barn (eget og/eller partners barn) Søsken
 Foreldre (også stepforeldre)
 Annen slektning (inkludert svigerfamilie)
 Annen ikke-slektning

(Denne lista er mer spesifikk på CATI, p.g.a. vanskelig å endre programmeringen. Koder i etterkant slik at den blir lik kodene i lista ovenfor).

Hvis Nye=3

Husholdningen består av:

LISTE OVER HUSH.MEDLEMMER OG NÅR DE ER FØDT.

Hvem vil du fjerne?

*BoksKlar

Husholdningen består nå av

OPPDATERT LISTE OVER HUSHOLDNINGSMEDLEMMER OG
FØDSELSDATO.

**Hvis dette stemmer merker du av for ferdig. Hvis ikke må du gå tilbake og
rette opp.**

Ja, det er korrekt.

Fravaer

**Er det noen i husholdningen som vil være borte fra hjemmet i hele perioden
mellom januar og juni 2019?**

Ja Nei

Hvis Fravaer= ja

Hvilke personer gjelder dette? Flere kryss mulig
LISTE OVER HUSHOLDNINGSMEDLEMMER

MidlerT

**I løpet av 2018, har det bodd noen i din husholdning som ikke er nevnt til nå
og ikke bodde der <DATO FORRIGE INTERVJU>?**

JA

NEI

Hvis MidlerT=Ja

**Hvor mange personer gjelder dette? Heretter kalles disse personene 'Person
A', 'Person B' osv.**

- _____+

InnAar

Fra hvilket år har du bodd sammen med Person A?

InnMnd

Fra hvilken måned i <årstall> har du bodd sammen med Person A?

Januar
Februar
mars
april
mai
juni
juli
august
september
oktober
november
desember

Hvis Ut:

Bor <navn> i utlandet, i annen privat husholdning i Norge, eller i en institusjon eller et kollektiv i Norge?

Utlandet

Privat husholdning i Norge Institusjon eller kollektiv i Norge Personen døde

UtAar

Fra og med hvilket år tilhørte ikke du og <navn> samme husholdning?

UtMnd

Fra og med hvilken måned tilhørte ikke du og <navn> samme husholdning?

Januar
Februar
mars
april
mai
juni
juli
august
september
oktober
november
desember

MidAktiv

Var <navn> yrkesaktiv, arbeidsledig, pensjonert, under utdanning eller annet mesteparten av 2018

Yrkesaktiv
Arbeidsledig
Pensjonert
Under utdanning
Annet

Personlig del

SvarPersonlig

Nå følger noen spørsmål om din helse.

H13

Hvordan vurderer du alt i alt din egen helse?

Svært god

God

Verken god eller dårlig

Dårlig

Svært dårlig

H14

Har du noen langvarige sykdommer eller helseproblemer?

Ta også med sykdommer eller problemer som er sesongbetonte eller som kommer og går.

Ja

Nei

H15

Har du funksjonshemming eller har du plager som følger av skade?

Vi tenker også på plager som kommer og går.

Ja

Nei

Hvis H14=1 og/eller H15=1:

Skaper noe av dette begrensninger i å utføre vanlige hverdagsaktiviteter?

Ja

Nei

Hvis Ja

H17

Har disse begrensningene vart i seks måneder eller mer?

Ja

Nei

Hels3b

Vil du si du opplever store begrensninger eller noen begrensninger?

1. Store begrensninger

2. Noen begrensninger

Hels4a

Har du i løpet av de siste 12 måneder hatt behov for å gå til lege uten å gjøre det?

Ja/Nei

Hvis Ja

Hels4b

Hva var hovedgrunnen til at du ikke gikk til lege?

1. Økonomiske årsaker
2. Hadde ikke tid (~~arbeid, omsorgsforpliktelser~~)
3. Problemer med transport
4. Lang venteliste
5. Redd for lege/sykehusundersøkelse/behandling
6. Ville se om problemet ble bedre av seg selv
7. Kjente ikke noen god lege/behandler
8. Andre årsaker

Hels5a

Har du noen gang i løpet av de siste 12 måneder hatt behov for å gå til tannlege uten å gjøre det?

Ja/Nei

Hvis Ja

Hels5b

Hva var hovedgrunnen til at du ikke gikk til tannlege?

1. Økonomiske årsaker
2. Hadde ikke tid (arbeid, omsorgsforpliktelser)
3. Problemer med transport
4. Lang venteliste
5. Redd for tannlege/undersøkelse/behandling
6. Ville se om problemet ble bedre av seg selv
7. Kjente ikke noen god tannlege/behandler
8. Andre årsaker

Hvis Hels5a = Ja

Hels5c1

Har du ved noen annen anledning vært hos tannlege i løpet av de siste 12 månedene?

Ja/Nei

Hvis Hels5a = Nei

Hels5c2

Har du i løpet av de siste 12 månedene vært hos tannlege?

Ja/Nei

Introutg

Nå kommer noen spørsmål om tilgang til materielle goder.

P_disp3a

Kan du erstatte utslitte klær med nye klær?

Regn ikke med klær anskaffet i bruktbutikk, loppemarked eller liknende

Ja

Nei

Hvis P_disp3a = nei:

P_disp3b

Er det økonomiske årsaker til at du ikke har mulighet til å erstatte utslitte klær med nye?

Ja

Nei

P_disp2a

Har du minst to par sko som passer, inkludert et par vintersko?

Ja

Nei

Hvis P_disp2a = nei:

P_disp2b

Er det økonomiske årsaker til at du ikke har to par sko som passer?

Ja

Nei

P_disp4a

Har du mulighet til å gå ut med familie og/eller venner for å spise eller drikke noe minst en gang i måneden? Kan være bare en kopp kaffe eller lignende.

Ja

Nei

Hvis P_disp4a = nei:

P_disp4b

Er det økonomiske årsaker til at du ikke kan gjøre det?

1.Ja

2.Nei

P_disp6a

Har du noen regelmessige fritidsaktiviteter som for eksempel å gå på kino, konsert eller lignende, trene eller delta i organisasjoner eller foreninger av noe slag?

Ja

Nei

Hvis P_disp6a = nei:

P_disp6b

Er det økonomiske årsaker til at du ikke kan gjøre det?

1.Ja

2.Nei

P_disp7a (For personer med flere i husholdningen)

Har du mulighet til å bruke litt penger på deg selv minst en gang i uken [, uten å trenge å snakke med andre i husholdningen om det først]? Det kan være penger til å kjøpe et blad, en liten gave, noe godt å spise eller liknende.

1.Ja

2.Nei

Hvis P_disp7a = nei:

P_disp7b

Er det økonomiske årsaker til at du ikke kan gjøre det?

1.Ja

2.Nei

Arbeidsforhold

Eget arbeidsforhold

Nå går vi over til noen spørsmål om arbeid.

Arb1

Hadde du noe inntektsgivende arbeid forrige uke?

Ta med alt arbeid, selv om det bare dreide seg om noen få timer.

1.Ja

2.Nei

Hvis Arb1=nei

Arb2

Har du noe inntektsgivende arbeid som du var borte fra forrige uke?

Ja

Nei

Hvis Arb1 og Arb2 = Nei og Alder < 67 år

Arb3

Forsøkte du i løpet av perioden [konkret periode, eks. mandag 1. januar til søndag 28. januar] å få arbeid?

Hvis Arb3 = Ja

Arb4

Kunne du ha påtatt deg noe arbeid i løpet av de neste to ukene?

Ja/Nei

Arb8/sys7regb

Ifølge våre registeropplysninger arbeider du i [prefill arbeidssteds navn og adresse]. Er dette riktig?

Ja/Nei

Arb8p

Sist du ble intervjuet ble du registrert med følgende arbeidssted:

[ARBEIDSSTEDETS NAVN] Stemmer dette fremdeles?

1. Ja
2. Nei, har annen arbeidsgiver
3. Nei, arbeidsgiver har annet navn pga. Oppkjøp, fusjon eller lignende
4. Arbeidsgiver har endret adresse

Hvis Arb8 eller Arb8p = 2 eller ikke opplysninger fra register: (Arb8a-Arb8Sp)

Arb8a

Hvor arbeider du til vanlig?

Skriv inn navnet på bedriften

Arb8aa

Hvilken avdeling?

Hvis Arb8 = 4 stilles Arb8b og Arb8c

Arb8b

Skriv inn gate- eller postboksadressen til bedriften.

Arb8c

Oppgi postnummer og poststed.

Skriv 9999 dersom postnummeret er ukjent.

Hvis Arb9a <> Ja (Arb9-Arb9Oppg)

**Arb9*

Hva er ditt yrke i denne bedriften?

Gi om mulig en detaljert yrkestittel/beskrivelse. For eksempel 'forskalingssnekker' i stedet for snekker, eller 'økonomikonsulent' i stedet for konsulent.

**Arb9oppg/SYS21a*

Hva er dine viktigste arbeidsoppgaver?

Gi om mulig en detaljert beskrivelse som utfyller informasjonen om yrke i forrige spørsmål.

Skriv punktum dersom det klart framgår av yrkestittelen hva arbeidsoppgavene er.

Til alle sysselsatte hvis Arb1 = Ja eller Arb2 = Ja:

Arb10/sys6

Arbeider du som:

Ansatt

Selvstendig næringsdrivende

Familiemedlem uten fast avtalt lønn

Hvis Arb10/sys6 = Selvstendig

Arb11

Har du noen ansatte?

1. Ja
2. Nei

Til IO hvis (Arb10/sys6 = ansatt eller familiemedlem) eller Arb11 = Ja

Arb12a/SYS24a

Hvor mange sysselsatte er det i denne bedriften?

Hvis virksomheten er spredt på flere steder eller enheter, ønsker vi antall personer på samme sted eller i samme enhet som du arbeider.

1. 1 - 10 personer
2. 11- 19 personer
3. 20- 49 personer
4. 50- 99 personer
5. 100-199 personer
6. 200 eller flere
7. Varierende

Hvis Arb12a = 1

Arb12b

Hva er det presise antallet?

_____ +

Hvis Arb12a = 7

**Arb12c*

Er det vanligvis mer enn 10 sysselsatte?

1. Ja, mer enn 10
2. Nei, mindre enn 11

Hvis Arb1 = Ja eller Arb2 = Ja

Arb13

Hvor mange timer pr. uke arbeider du vanligvis i alt i ditt hovedyrke?

Regn også med betalte overtidstimer og ekstraarbeid hjemme.

Hvis arbeidstiden varierer mye fra uke til uke, anslå et gjennomsnitt for de fire siste ukene.

Rund av oppover til nærmeste hele time.

Hvis Arb13 < 32 timer, Arb3 = Nei eller Arb4 = Nei. Andre går til Arb16

**Arb14/H91*

Betrakter du deg hovedsakelig som ...

1. Yrkesaktiv, medregnet arbeid som lærling
2. Selvstendig næringsdrivende
3. Arbeidsledig
4. Skoleelev eller student
5. Alders- eller førtidspensjonist
6. Arbeidsufør
7. På arbeidsavklaringspenger
8. Vernepliktig, sivilarbeider

- 9. Hjemmearbeidende
- 10. Annet, spesifiser

Hvis Arb14 = 1 eller 2
Arb14b

Betrakter du deg som heltids eller deltids yrkesaktiv?

- 1. Heltid
- 2. Deltid

Hvis Arb1_ = Nei og Arb2_ = Nei.
Arb7a

Har du noen gang hatt inntektsgivende arbeid?

Ja/Nei

Hvis Arb7a = ja
Arb7b

Tenk på den siste hovedjobben [hun/han/du] hadde. Hvilket yrke hadde [hun/han/du] da? Skriv inn yrke så detaljert som mulig.

Arb7bOppg

Tenk på den siste hovedjobben [hun/han/du] hadde.

Hva var de viktigste arbeidsoppgaver?

Skriv punktum dersom det klart framgår av yrkestittelen hva arbeidsoppgavene er

Arb7c

Tenk på den siste hovedjobben [hun/han/du] hadde.

Arbeidet du som ansatt, som selvstendig eller som familiemedlem uten fast avtalt lønn?

- 1. Ansatt
- 2. Selvstendig næringsdrivende
- 3. Familiemedlem uten fast avtalt lønn

Hvis Arb7c = selvstendig

Arb7d

Tenk på den siste hovedjobben [hun/han/du] hadde.

Hadde du noen ansatte?

Ja
Nei

Hvis Arb7a = ja og Arb7c = 1 (ansatt)

Arb7f

Hva slags type ansettelse hadde du?

- 1. Fast ansettelse
- 2. Midlertidig ansettelse med kontrakt
- 3. Ansettelse uten kontrakt
- 4. Annen type ansettelse

Hvis Arb7c = 1

Arb7g

Arbeidet andre under din ledelse eller var [din/hans/hennes] stilling på en annen måte en overordnet stilling?

Ja/Nei

Hvis Arb7g = Ja

Hvis Arb1=Ja eller Arb2=Ja og IO svarer selv og Arb10= 1 (Ansatt)

**Arb16*

Har du fast ansettelse, har du midlertidig ansettelse på tidsbegrenset kontrakt, arbeider du uten kontrakt eller har du annen type ansettelse?

1. Fast
2. Midlertidig med kontrakt
3. Arbeidet uten kontrakt
4. Annen type ansettelse

Arb17

Arbeider andre under din ledelse eller er [din/hans/hennes] stilling på en annen måte en overordnet stilling?

Ja/Nei

Til nye

Arb19

Har du skiftet eller fått ny arbeidsgiver siste 12 måneder ?

1.Ja/2.Nei

Hvis Arb19 = Ja eller Arb8a = 2 eller Arb8p = 2

Arb21b

Hvor mange timer pr. uke arbeider [du/han/hun] vanligvis i alt i [sine/dine] bijobber?

Regn også med betalte overtidstimer og ekstraarbeid hjemme.

Hvis arbeidstiden varierer mye fra uke til uke, anslå et gjennomsnitt for de fire siste ukene.

Rund av oppover til nærmeste hele time.

Hvis Arb13 + Arb21b < 30 (Arbeidstid i hoved- og bijobber under 30 timer i uka).

Andre går til Arb23a

Arb22

Hva er viktigste grunnen til at du arbeider mindre enn 30 timer i uka?

1. I utdanning, opplæring
2. Helsemessige årsaker
3. Ønsker å arbeide lenger, men får ikke jobb med lengre arbeidstid eller arbeide flere timer i nåværende jobb
4. Ønsker ikke å arbeide lenger
5. Betrakter nåværende samlede arbeidstid som heltidsjobb
6. Husarbeid, omsorg for barn eller andre
7. Annen grunn, spesifiser

Til alle husholdningsmedlemmer: Hvis Arb14 ≠ 4

Arb23a

Går du på skole eller studerer?

Ja/Nei

Hvis (Arb13 = 32 timer eller mer) ELLER (Arb14 = 1 eller 2) ELLER (Arb7a = JA). Andre går til Arb26a

**Arb24*

Hvor gammel var du da du begynte i din første vanlige jobb eller startet i egen virksomhet?

:5..65"

**Arb25*

Omtrent hvor mange år etter det har du vært yrkesaktiv?

:0..65"

Til alle

**Arb26a*

Hva var din hovedaktivitet i januar i fjor (2018)?

Var det ...

1. ..heltidsansatt
2. ..deltidsansatt
3. ..selvstendig, heltid
4. ..selvstendig, deltid
5. ..arbeidsledig
6. ..pensjonist
7. ..uføretrygdet
8. ..skoleelev, student
9. ..hjemmearbeidende
10. ..annen ikke-yrkesaktiv
11. ..i verneplikt- eller sivilarbeidertjeneste

Arb26

Var hovedaktiviteten den samme i hele 2018?

Ja

Nei

Hvis Arb26=Nei

Arb26b- Arb26l

Hva var din hovedaktivitet i februar [, mars ... desember] 2018?

Var du...

1. ..heltidsansatt
2. ..deltidsansatt
3. ..selvstendig, heltid
4. ..selvstendig, deltid
5. ..arbeidsledig
6. ..pensjonist
7. ..uføretrygdet
8. ..skoleelev, student
9. ..hjemmearbeidende
10. ..annen ikke-yrkesaktiv
11. ..i verneplikt- eller sivilarbeidertjeneste

Andres arbeidsforhold

Hvis under 24 år og bosatt hos foresatte (proxy)

Vi trenger også informasjon om boligen, boligøkonomi og arbeidsforhold til andre i husholdningen din. Kan du svare på disse spørsmålene?

Dersom du ikke selv er ansvarlig for boligøkonomien og betalinger, kan du spørre andre om hjelp. Har du ikke noen til å hjelpe deg nå, kan du gjøre det senere eller vi kan sende spørsmålene videre til en annen i husholdningen.

Hvis nei på proxy ->

Merk av den som kan svare best på spørsmålene om bolig, boligøkonomi og arbeidsforhold til de andre i husholdningen.

Vedkommende vil i løpet av kort tid få en melding i Altinn med informasjon og lenke til å svare på disse spørsmålene. De vil ikke kunne se dine svar.

<navn>

<navn>

Det var alle spørsmålene takk for hjelpen.

Hvis ja på proxy -> gå videre med arbeid og bolig

Hvis flere personer i husholdningen

Vi trenger også opplysninger om arbeidsforhold for andre personer i husholdningen.

Du kan gjerne be dem om hjelp til å svare.

Vi trenger opplysninger om følgende person(er):

<navn>

<navn>

<navn>

<navn>

Trykk neste for å gå videre

Vi starter med noen spørsmål om <navn>.

Arbeidsbolken på nytt

Bolig

De neste spørsmålene handler om boligen du bor i nå.

HvemBolig

Hvem i husholdningen er det som eier eller leier boligen?

Merk av inntil to personer på listen

<navn>

<navn>

<navn>

<navn>

Til alle panel IO:

**SamBol*

Bor [du/IOs navn] i samme bolig som ved forrige intervju, den [dato], eller har [du/han/hun] flyttet til ny bolig?

1. Bor i samme bolig

2. Bor i ny bolig

Til alle nye + Hvis SamBol = 2 eller SamBol2 = Nei:

"Innledning hvis SamBol2 = Nei:

Hva slags hustype bor [du/dere] i?

1. Frittliggende hus
2. Rekke- eller kjedehus
3. To-, tre-, eller firemannsbolig
4. Boligblokk, bygård eller lignende
5. Kombinert bolig- og næringsbygg
6. Bor i båt, campingvogn eller bil"

Hvis Hus = 3

**Hus3*

Hva slags to-, tre- eller firemannsbolig?

1. Vertikaldelt tomannsbolig
2. Horisontaldelt tomannsbolig
3. Tre- eller firemannsbolig o.l.
4. Terrassehus

Hvis Hus = 4 eller 5

Hus6

Er det færre eller flere enn 10 leiligheter i huset [du/dere] bor i?

1. Færre enn 10
2. 10 eller flere

Hvis SamBol = 1 (ikke flyttere i panelet)

Bol1a

Vi har registrert tidligere at [du/husholdningen] har [Bol1 fra siste intervju] rom. Stemmer det fortsatt?

Kjøkken, bad, entre, vaskerom eller små rom under 6 kvadratmeter er ikke tatt med.

1. Ja
2. Nei

Til nye + Hvis SamBol = 2 eller SamBol2 = Nei, eller Bol1a <> 1:

**Bol1*

Hvor mange rom disponerer [du/husholdningen din] til eget bruk? Ta ikke med kjøkken, bad, entre, vaskerom eller små rom under 6 kvadratmeter.

:1..50

_____ +

Hvis SamBol = 1 (ikke flyttere i panelet)

Bol19a

Vi har registrert tidligere at boligen er omtrent [Bo19 fra siste intervju] kvadratmeter? Stemmer det fortsatt?

Bare beboelsesrom i kjeller og loft er med.

Ja, det stemmer

Nei, det stemmer ikke

Til nye + Hvis SamBol = 2 eller SamBol2 = Nei, eller Bo19a <> 1:

Bo19

Omtrent hvor mange kvadratmeter er boligen?

I kjeller og loft skal bare beboelsesrom regnes med.

_____ kvadratmeter

Til nye + Hvis Bol3 = Nei ved siste intervju + Sambol = 2

Bol3

Har boligen badekar eller dusj?

Ja

Nei

Til alle

Bol4

Leier [du/dere] for tiden ut rom som har felles inngang med [din/deres] bolig?

1.Ja

2.Nei

Hvis bol4=ja

Bol4c

Disponerer leietakeren[e] eget bad?

1. Ja

2. Deler med husholdningen

3. Leietaker disponerer ikke bad

Til alle

Bol6a - Bol6f [GRID på stor skjerm, ett og ett spm. på mobil]

Har [du/dere] problemer med...?

1. Råte i vinduer eller i gulv

Ja

Nei

2. Tak som lekker, fukt i vegger eller i gulv

Ja

Nei

3. For lite dagslys

Ja

Nei

4. Støy fra naboer eller annen støy utenfra

Ja

Nei

5. Støv, lukt eller annen forurensning i området rundt boligen på grunn av trafikk, industri eller bedrifter

Ja

Nei

6. Kriminalitet, vold eller hærverk i boområdet

Ja

Nei

Eieforhold, utgifter og økonomi

introutg

Nå kommer noen spørsmål om boligutgifter.

Trykk neste for å gå videre.

Til ikke-flyttere panel IO hvis SamBol=1

EndrEie

I det forrige intervjuet fikk vi opplyst at husholdningen [eierforhold sist] boligen.

Gjelder det fortsatt?

1. Ja

2. Nei ->Eie

Til nye og Hvis EndrEie <> Ja eller SamBol <> 1

**Eie*

Eier eller leier [du/dere] boligen?

eier som selveier

eier gjennom borettslag, boligaksjeselskap

Leier eller disponerer på annen måte

Hvis Eie=3(leier)

**Leie*

Leier [du/dere] som...

1. vanlig leieboer

2.

3. tjenestebolig, personalbolig, vaktmesterbolig o.l.

4. trygdebolig, omsorgsbolig, aldersbolig

5. kårbolig

6. på framleie

7. låner boligen

8. ...Annet

Hvis Bol1 = 1 eller 2 og Eie = 3 (leietakere med ett eller to rom)

BO_hybl

Bor [du/dere] i hybel i hybelbygg eller i hybel uten egen inngang?

1. Ja, hybel i hybelbygg

2. Ja, hybel uten egen inngang

3. Nei

Hvis BO_hybl = 1 eller 2 (bor på hybel)

BO_kontr

Har [DU/DERE] en leiekontrakt eller leieavtale?

Ja

Nei

Hvis BO_kontr = ja

Aar_leie

Hvilket år skrev [DU/DERE] leiekontrakt for boligen?

Trykk 'Enter' dersom ikke leiekontrakt

Til nye + flyttere + endret eierforhold (Aar_inn - Bol2)

Aar_inn

Hvilket år flyttet [^IOs navn/du] inn i boligen?

Hvis Eie = 1(eier) eller 2(borettslag), eller Leie = 2(obligasjon)

Aar_eie

Hvilket år ble [du/dere] eier(e) av boligen?

Hvis Eie = 1(eier) eller 2(borettslag), eller Leie = 2(obligasjon). Andre går til

Husleie1

**Laan1a*

Har [du/dere] boliglån eller annet lån med sikkerhet i boligen nå?

Regn med alle lån med sikkerhet i boligen du bor i.

Regn ikke med fellesgjeld.

1. Ja

2. Nei

Hvis Laan1a = Ja

Laan1b

Hvor mange slike lån har [du/dere]?

:1..10"

Innledningstekst for alle spørsmål hvis Laan1b > 1

Vi starter med det største lånet/

Vi fortsetter med det nest største lånet/

Vi avslutter med det tredje største lånet

Laan2

Hvor mye gjenstår av lånet?

:1..100 000 000 Kroner

LUtg1

Hvor mye betaler [du/dere] for dette lånet per måned?

Oppgi 0 dersom du ikke betaler ned lånet.

Regn med eventuelt lån til innskudd, andel, aksje eller andre overtagelsesbeløp.

Regn ikke med nedbetaling av fellesgjeld over husleien.

[_____] Kroner per måned

-

[_____] Hvorav renter

=

[_____] Avdrag

Hvis panel og Husleie 1 = Ja ved siste intervju:

Husleie1a

Ved forrige intervju ble det oppgitt at [du/husholdningen] betalte [Husleie4 fra sist] kroner per [Husleie3 fra sist] i husleie eller fellesutgifter.

Stemmer dette fremdeles?

1. Husleien er den samme

2. Husleien er endret

3. Opplysningen fra sist stemmer ikke

Hvis Husleie1 = Ja eller Husleie1a = 2 (Husleie2 - Husleie7)

Husleie2

Betaler du vanlig markedsleie?

Ja

Nei

Hvis Husleie2 = 2

Husleie2b

Hva er årsaken til at du ikke betaler vanlig markedsleie?

1. Leier av venner eller familie
2. Leier av det offentlige
3. Utleier får offentlig støtte
4. Arbeidsgiver betaler eller bidrar
5. Andre grunner

Husleie4/Husleie5/Husleie6/Husleie7

Hvor mye betaler [du/dere] i husleie eller fellesutgifter pr. måned?

Vet du ikke nøyaktig beløp, gi et overslag.

[_____] kroner per måned

Omfatter husleien/fellesutgiftene ...

	Ja	Nei
... elektrisitet?	<input type="radio"/>	<input type="radio"/>
... annen oppvarming?	<input type="radio"/>	<input type="radio"/>
... varmtvann?	<input type="radio"/>	<input type="radio"/>

Til alle

ElUtg1 /ElUtg2

Hvor mye betaler [du/dere] for elektrisitet og fast eller flytende brensel?

Vet du ikke nøyaktig beløp, gi et overslag.

Dersom dere har noe dekket gjennom husleien, regn bare med det som kommer i tillegg.

[_____] kroner
per måned
per kvartal
per år
inkludert i husleien

Hvis panel og Futg = Ja ved siste intervju

FUtg1b

Ved forrige intervju ble det oppgitt at [du/husholdningen] betaler [FUtg3] kroner pr. [FUtg2] i fellesutgifter.

Stemmer dette fremdeles?

1. Fellesutgiftene er de samme
2. Fellesutgiftene er endret
3. Opplysningen fra sist stemmer ikke

Hvis ny og Eie = 1(Selveier)

FUtg1

Har [du/dere] fellesutgifter?

Ja

Nei

Hvis Futg1 = Ja eller FUtg1b <> 1

FUtg2/FUtg3

Hvor mye betaler [du/dere] i fellesutgifter?

[] kroner

per måned

per kvartal

per år

*Hvis Eie = 1 (Selveier) og (Futg1 = Ja eller Futg = Ja ved siste intervju)**FUtg4***Inkluderer fellesutgiftene boligforsikring?**

Ja

Nei

*Hvis Eie = 1 (selveier) og Futg4 ≠ Ja**Avg1***Hvor mye betaler [du/dere] i forsikringspremie hvert år for boligen du/dere bor i?**

Innboforsikring regnes ikke med om mulig.

[] kroner i året

*Hvis Avg1 <> 0 og (Hus1 = 1 eller Hus=5 eller Hus4=2)**Avg1b***Omfatter premien også driftsbygning eller bedriftslokale?**

1.Ja

2.Nei

*Hvis Eie = 1(eier)**Avg2***Hvor mye betaler [du/dere] i kommunale avgifter og evt. eiendomsskatt per år [i tillegg til fellesutgifter]?**

Tast 0 hvis kommunale avgifter er inkludert i fellesutgifter.

[] kroner i året

*Til alle**Avg3a***Har [du/dere] i løpet av de siste 12 månedene hatt utgifter til vedlikehold, reparasjoner eller oppussing av boligen?**

Ta ikke med utgifter til nybygg eller påbygg.

Ta ikke med utgifter borettslaget dekker.

1.Ja

2.Nei

*Hvis Avg3a= ja***Avg3b***Hvor store utgifter hadde dere til materialer, frakt eller arbeidskostnader siste 12 måneder?**

(1..10 000 000 Kroner)

_____ NOK

*Til alle**Tyng***I hvilken grad tynger de samlede boutgiftene husholdningens økonomi?****Vil du si at de er...**

1. svært tyngende

2. noe tyngende, eller

3. ikke tyngende i det hele tatt

Til alle

**Disp3*

Har [du/husholdningen] PC?

Ja

Nei

Hvis Disp3 = nei:

Disp3a

Er det økonomiske årsaker til at [du/husholdningen] ikke har PC?

Ja

Nei

Disp5

Disponerer [du/husholdningen] bil til privat bruk?

Ja

Nei

Hvis Disp5 = nei:

Disp5a

Er det økonomiske årsaker til at [du/husholdningen] ikke disponerer bil?

Ja

Nei

**AndLaan1*

Har du [eller andre i husholdningen] noen lån som ikke har sikkerhet i hovedboligen?

Ja

Nei

Hvis AndLaan1 = ja:

AndLaan2

I hvilken grad tynger utgiftene til renter og avdrag på slike lån husholdningens økonomi? Vil du si at de er...

1. Svært tyngende

2. Noe tyngende

3. Ikke tyngende i det hele tatt

4. Ikke relevant. Lån som ikke betales på enda (f.eks. studielån)

Hvis Husleie1 = Ja eller FUtg1 = Ja

**Prob1*

Har det i løpet av de siste 12 måneder hendt at husholdningen har vært ute av stand til å betale [husleie/fellesutgifter] ved forfall?

Ja

Nei

Hvis Prob1=Ja

Prob1b

Hvor mange ganger har dette skjedd?

1. En gang

2. To eller flere ganger

Hvis Laan = Ja

**Prob2*

Har det i løpet av de siste 12 måneder hendt at husholdningen har vært ute av stand til å betale utgifter til boliglån ved forfall?

Ja

Nei

Hvis Prob2=Ja

Prob2b

Hvor mange ganger har dette skjedd?

1. En gang
2. To eller flere ganger

Hvis Eie = 1(Selveier) eller Husleie5 = Nei

**Prob3*

Har det i løpet av de siste 12 måneder hendt at husholdningen har vært ute av stand til å betale regninger for elektrisitet [og kommunale avgifter] ved forfall?

- Ja
- Nei

Hvis Prob3=Ja

Prob3b

Hvor mange ganger har dette skjedd?

1. En gang
2. To eller flere ganger

Hvis AndLaan1 = Ja

**Prob4*

Har det i løpet av de siste 12 måneder hendt at husholdningen har vært ute av stand til å betale regninger for andre lån enn boliglån, herunder avbetalingslån ved forfall?

- Ja
- Nei

Hvis Prob4=Ja

Prob4b

Hvor mange ganger har dette skjedd?

1. En gang
2. To eller flere ganger

End3b/H37

Har [du/husholdningen] mulighet til å klare en uforutsett utgift på 18 000 kroner i løpet av en måned, uten å måtte ta opp ekstra lån, selge eiendeler eller motta hjelp fra andre?

1. Ja
2. Nei

End1/H38

Tenk på din samlede inntekt (Dersom flere i HS:

Tenk på den samlede inntekten til alle i husholdningen.)

Hvor lett eller vanskelig er det for [deg/dere] å få pengene til å strekke til i det daglige med denne inntekten?

1. Svært vanskelig
2. Vanskelig
3. Forholdsvis vanskelig
4. Forholdsvis lett
5. Lett
6. Svært lett

End2

Hva er etter din mening den aller laveste nettoinntekt [du/din husholdning] må ha i måneden for å få endene til å møtes? Nettoinntekt er etter skatt.
:0..9 999 997 Kroner

Fjernet filter: Hvis *End1* = svært vanskelig, vanskelig eller forholdsvis vanskelig (*raad1-raad5*)

Raad1-Raad5 (slått sammen disse variablene i web-skjema)

Har [du/dere] råd til...

å betale for en ukes ferie utenfor hjemmet i året. Omfatter også opphold på hytte eller hos familie og venner.

Ja

Nei

å spise kjøtt eller fisk annenhver dag

Ja

Nei

å holde boligen passe varm

Ja

Nei

å bytte ut møbler dersom de er utslitte

Ja

Ja, har råd, men lar være av andre grunner

Nei

Barnepass

Hvis det er barn i husholdningen født f.o.m. 2007 t.o.m. 2019

Tils1_innled

I husholdningen bor det altså [antall] barn født i 2006 eller seinere. Vi vil nå stille noen spørsmål om ulike former for barnetilsyn. Tenk på en vanlig uke i perioden fra januar til nå.

For barn under skolepliktig alder - født f.o.m. 2014 t.o.m. 2019

Tils1a

Har [barnets navn] regelmessig tilsyn av andre enn foreldre/foresatte?

1. Ja

2. Nei

For barn i skolepliktig alder - født f.o.m. 2007 t.o.m. 2013

Tils1c

Har [barnets navn] regelmessig tilsyn av andre enn foreldre eller foresatte utenom skoletiden? Regn ikke med fritidsaktiviteter

1. Ja

2. Nei

Hvis Tils1a eller Tils1c = ja:

Stilles for hvert barn under skolealder 0-6: (født 2014 eller senere)

Tils2

Hvilke ordninger har [du/dere] for [barnets navn] i den tiden [han/hun] passes av andre enn foreldre eller foresatte?

Flere svar mulig

1. Slektninger/nære kjente, ubetalt
2. Slektninger/nære kjente, betalt
3. Praktikant, barnepike, dagmamma
5. Barnehage/familiebarnehage/ barnepark
9. Avlastningsordning (for barn med funksjonshemming)

Stilles for hvert barn i skolealder (6-12 år): (født 2007-2013)

Hvilke ordninger har [du/dere] for [barnets navn] i den tiden [han/hun] passes av andre enn foreldre eller foresatte?

Flere svar mulig

1. Slektninger/nære kjente, ubetalt
2. Slektninger/nære kjente, betalt
3. Praktikant, barnepike
8. Skolefritidsordning (SFO) - aktivitetsskole
9. Avlastningsordning (for barn med funksjonshemming)

Hvis Til2=1

Tils3a

Hvor mange timer per uke er [han/hun] vanligvis under tilsyn av slektninger eller nære kjente?

:1..50 Timer

Hvis Til2=8

Tils3b

Hvor mange timer per uke er [han/hun] vanligvis i skolefritidsordning, SFO eller på aktivitetsskole?

:1..50 Timer

Hvis Til2=3

Tils3c

Hvor mange timer per uke er [han/hun] vanligvis under tilsyn av dagmamma eller lignende?

:1..50 Timer

Hvis Til2=5

Tils3d

Hvor mange timer per uke er [han/hun] vanligvis i familiebarnehage, barnehage, barnepark?

:1..50 Timer

Hvis Til2=9

Tils3f

Hvor mange timer per uke er [han/hun] vanligvis på avlastning?

:1..50 Timer

List of evaluated variables

The list of variables that shows what variables have been tested qualitatively in usability and/or cognitive tests in Norway in either the:

1. EU SILC pilot 2019,
2. the ESSnet grant MIMOD work package 2019 or
3. the development of a national Well-being survey (2018) / Well-being pilot in Hallingdal 2019.

Variable	Label	SILC pilot 2019	MIMOD	Well-being in Norway
IO_nr	Skriv inn brukernavn.			
kjonn_1	Kjønn			
alder_01	Alder			
slekt_1	Familieforhold			
spmstemmer	^stemmertxt1 Til Husholdningen regner vi alle personer som er fast bosatt i boligen, og som har felles matbudsjett. Personer som er fast bosatt i boligen , men er borte fra hjemmet, fe			
mobilantall	Hvor mange personer vil du legge til?			
avslutt	Husholdningen består nå av ^SpmSkjema.SpmHushold.Personer.person[1].navn^fodt2 ^SpmSkjema.SpmHushold.Personer.person[2].n			
Slutt_antall	Antall personer i husholdningen etter at den er ferdig			
ant_etter_leggtil	SpmSkjema.SpmHushold.ant_etter_leggtil			
Fravaer	Er det noen i husholdningen som vil være borte fra hjemmet i hele perioden mellom januar og juni 2019?			
FravHvem_1	Hvilke personer gjelder dette?			
FravHvem_2	Hvilke personer gjelder dette?			
FravHvem_3	Hvilke personer gjelder dette?			
hvor_02	Hvor flyttet vedkommende			
UtAar_02	Årstall ut av husholdningen			
UtMnd_02	Årstall inn i husholdningen			
MidAktiv_02	Aktivitet mesteparten av fjoråret			
Hels1	Vurdering av egen helse			(SKH8 og 9/fysisk & psykisk helse)
Hels2a	Langvarige sykdommer eller helseproblemer			OH11
Hels2b	Funksjonshemming eller plager som følger av skade			OH12
Hels3a1	Fører helseplager eller funksjonshemminger til begrensninger i forhold til å utføre alminnelige hverdagsaktiviteter			OH13
Hels3a2	Begrensninger seks måneder			OH14
Hels3b	Store begrensninger pga. helse?			OH15
Hels4a	Behov for å gå til lege			
Hels4b	Grunn til ikke å gå til lege			
Hels5a	Behov for å gå til tannlege			OH42
Hels5b	Grunn til ikke søke tannlege			OH43

Variable	Label	SILC pilot 2019	MIMOD	Well-being in Norway
Hels5c1	Vært hos tannlege siste år ved annen anledning			
Hels5c2	Vært hos tannlege siste år			
P_disp3a	Kan erstatte utslitte klær med nye			
P_disp3b	Økonomiske årsaker			
P_disp2a	Minst et par sko			
P_disp2b	Økonomiske årsaker			
P_disp4a	Mulighet til å gå ut med familie eller venner for å spise og drikke			
P_disp4b	Økonomiske årsaker			
P_disp6a	Regelmessige fritidsaktiviteter			
P_disp6b	Økonomiske årsaker			
P_disp7a	Mulighet til å bruke penger på seg selv minst en gang i uken uten å snakke med andre i husholdningen			
P_disp7b	Økonomiske årsaker			
InnlArb	Kan arbeidsspørsmålene besvares nå?			
Arb1_	Utført inntektsgiv. arb. forrige uke			OH77
Arb2_	Fraværende fra inntektsgiv. arb. forrige uke			OH77
Arb3_	Forsøker å få arbeid			
Arb4_	Kan påta arbeid innen 2 uker			
Arb7a	Tidligere yrkesaktiv			
Arb7b	Siste yrke			
Arb7bOppg	IOs viktigste arbeidsoppgaver			
Arb7c	IOs ansettelsesforhold			
Arb7d	Hadde ansatte			
Arb7f	Type ansettelse			
Arb7g	Arbeidet andre under din ledelse			
Arb8_	Opplysninger om arbeidssted er riktige			
Arb8a	Navn på arbeidssted			
Arb8b	Adresse til arbeidssted			
Arb8Sp	Virksomhetens art			
Arb9_	IOs hovedyrke i bedriften			
Arb9_Oppg	IOs viktigste arbeidsoppgaver			
Arb10_	IOs ansettelsesforhold			
Arb11_	Har ansatte			
Arb12a	Hvor mange sysselsatte i denne bedriften?			
Arb12b	Hva er det presise antallet?			
Arb12c	Mer enn 10 sysselsatte			
Arb13_	IOs vanlige ukentlige arbeidstid i hovedyrket			
Arb14_	Betrakter seg som...			
Arb14b	Heltid - eller deltid yrkesaktiv			
Arb14_Sp	Spesifiser annet			
Arb16_	Type ansettelse			
Arb17_	Overordnet stilling			

Variable	Label	SILC pilot 2019	MIMOD	Well-being in Norway
Arb19_	Skiftet hovedjobb			
Arb20_	Viktigste grunn til å slutte			
Arb21a	Har biyrker			
Arb21b	Timer i biyrke			
Timer	Antall timer pr uke		(LFS, # t. sist uke & per uke)	
Arb22_	Viktigste grunn til å arbeide deltid			
Arb23a	Går på skole/studerer			(OH31)
Arb24_	Alder i første jobb	x		
Arb25_	Antall år yrkesaktiv			
Arb26a	Hovedaktivitet - januar i fjor			
Arb26b	Hovedaktivitet - februar i fjor			
Arb26c	Hovedaktivitet - mars i fjor			
Arb26d	Hovedaktivitet - april i fjor			
Arb26e	Hovedaktivitet - mai i fjor			
Arb26f	Hovedaktivitet - juni i fjor			
Arb26g	Hovedaktivitet - juli i fjor			
Arb26h	Hovedaktivitet - aug. i fjor			
Arb26i	Hovedaktivitet - sept. i fjor			
Arb26j	Hovedaktivitet - okt. i fjor			
Arb26k	Hovedaktivitet - nov. i fjor			
Arb26l	Hovedaktivitet - des. i fjor			
Arb8c	Postnummer og poststed arbeidssted			
Velgforeldre_1	Merk av den som kan svare best på spørsmålene om bolig, boligøkonomi og arbeidsforhold til de andre i husholdningen. Vedkommende vil i løpet av kort tid få en melding i Altinn med informasjon og lenke til å svar			
HvemBolig_1	Hvem eier boligen			
HvemSvarBolig	Hvem svarer på spørsmål om boligen?			
Hus	Hustype			
Hus3	Type to-, tre- eller firemannsbolig			
Hus62	Antall leiligheter i huset			
Bol1	Antall rom husholdningen disponerer			
BO19	Kvadratmeter boareal			
Bol3	Boligen har badekar/dusj			
Bol4	Leier ut rom med felles inngang			
Bol4c	Disponerer leietakeren eget bad?			
Eie	Eie/leieforhold for bolig		x	OH38
Leie	Leieform		x	
Bo_hybl	Bor ^dudere i hybel i hybelbygg eller i hybel uten egen inngang?			
BO_kontr	Har du/dere en leiekontrakt eller leieavtale?			
Aar_leie	Hvilket år skrev ^dudere leiekontrakt for boligen?			

Variable	Label	SILC pilot 2019	MIMOD	Well-being in Norway
Aar_inn	Årstall flyttet inn			
Aar_innA	IO har alltid bodd her			
Aar_eie	Årstall overtok			
Laan1a	Har ^dudere boliglån eller annet lån med sikkerhet i boligen nå? Regn med alle lån med sikkerhet i boligen du bor i. Regn ikke med fellesgjeld.	x	x	
Laan1b	Hvor mange slike lån har ^dudere?	x	x	
Laan2_1	^LaanTxt Hvor mye gjenstår av lånet?	x	x	
Lutg2_1	Beløp-Renter/avdrag pr. mnd	x	x	
LRent1_1	Hvor mye er renter?	x	x	
LAvdrag1_1	Hvor mye er Avdrag?	x	x	
Renter_1	Renter pr. år	x	x	
Rene_1	Rene renter til boligformål pr år	x	x	
LRent8_1	Rentesats	x	x	
Laan2_2	^LaanTxt Hvor mye gjenstår av lånet?	x	x	
Lutg2_2	Beløp-Renter/avdrag pr. mnd	x	x	
LRent1_2	Hvor mye er renter?	x	x	
LAvdrag1_2	Hvor mye er Avdrag?	x	x	
Renter_2	Renter pr. år	x	x	
Rene_2	Rene renter til boligformål pr år	x	x	
Laan2_3	^LaanTxt Hvor mye gjenstår av lånet?	x	x	
Lutg2_3	Beløp-Renter/avdrag pr. mnd	x	x	
LRent1_3	Hvor mye er renter?	x	x	
LAvdrag1_3	Hvor mye er Avdrag?	x	x	
Renter_3	Renter pr. år	x	x	
Rene_3	Rene renter til boligformål pr år	x	x	
LRent8_3	Rentesats	x	x	
Husleie1	Betaler husleie			
Husleie2	Betaler markedsleie			
Husleie2b	Årsaken til at dudere ikke betaler vanlig markedsleie			
FUtg1	Har fellesutgifter		x	
FellesUtg	Fellesutgifter pr. år		x	
Avg1	Årlig forsikringspremie - bolig			
Avg1b	Omfatter premien også driftsbygning eller bedriftslokale?			
Avg2	Kommunale avgifter	x		
Avg3a	Har hatt utgifter til oppussing			
Avg3b	Utgifter til oppussing			
Tyng	Tyngende boutgifter			
Disp3	Tilgang på PC			
Disp5	Tilgang på privatbil			
Disp3a	Grunn til ikke å ha PC			
Disp5a	Grunn til ikke å ha privatbil			

Variable	Label	SILC pilot 2019	MIMOD	Well-being in Norway
AndLaan1	Andre lån			
AndLaan2	Tyngende utgifter på andre lån			
Prob1	Problemer med å betale husleie			
Prob1b	Hvor mange ganger har dette skjedd?			
Prob2	Problemer med å betale utgifter til boliglån			
Prob2b	Hvor mange ganger har dette skjedd?			
Prob3	Problemer med å betale regninger for elektrisitet og kommunale avgifter			
Prob3b	Hvor mange ganger har dette skjedd?			
Prob4	Problemer med å betale regninger for andre lån, herunder avbetalingslån			
Prob4b	Hvor mange ganger har dette skjedd?			
End1	Vanskelig å få endene til å møtes			OM7
End2	Laveste nettoinntekt for at endene skal møtes	x		
End3b	Kan klare uforutsett utgift på 18 000 kr			OH32 (kr 15')
Bol6a	Problemer med råte			
Bol6b	Problemer med fukt			
Bol6c	Problemer med lys			
Bol6d	Problemer med støy fra naboer eller annen støy utefra, f.eks. fra trafikk, industri eller anlegg?			
Bol6e	Har dere problemer med støv, lukt eller annen forurensning i området rundt boligen på grunn av trafikk, industri eller bedrifter?			
Bol6f	Problemer med kriminalitet og vold			
Husleie4	Beløp - Husleie pr. mnd		x	
Husleie5	Elektrisitet inkl.		x	
Husleie6	Annen oppvarming inkl.		x	
Husleie7	Varmtvann inkl.		x	
ElUtg1	Vi ønsker å vite hvor mye ^dudere betaler for elektrisitet og fast eller flytende brensel. Er det lettest for deg å oppgi svaret... Dersom ^dudere har noe dekket gjennom husleien, regn bare med det som kommer i tillegg	x	x	
ElUtg2	Hvor mye betaler ^dudere for elektrisitet og fast eller flytende brensel ^ElUtg1? Dersom ikke IO vet nøyaktig beløp, be om et overslag Dersom ^dudere har noe dekket gjennom husleien, regn bare med det som	x		
Futg4	Inkluderer fellesutgiftene boligforsikring?			
FUtg2	Termin fellesutg.			
FUtg3	Fellesutgifter			
Raad1	Råd til å betale for en ukes ferie utenfor hjemmet i året			OH34
Raad2	Råd til å spise, kjøtt, kylling eller fisk annen hver dag			OH35
Raad4	Råd til å holde boligen passe varm			OH36
Raad5	Råd til bytte ut møbler dersom de er utslitte			OH37
Tils1a_01	Regelmessig tilsyn av andre enn foreldre			
Tils1a_02	Regelmessig tilsyn av andre enn foreldre			
Tils1c_02	Regelmessig tilsyn utenom skoletiden			

Variable	Label	SILC pilot 2019	MIMOD	Well-being in Norway
Til2A_02	Barnet er under tilsyn av slektninger/nære kjente, ubetalt			
Til2B_02	Barnet er under tilsyn av slektninger/nære kjente, betalt			
Til2C_02	Barnet er under tilsyn av hushjelp, praktikant, barnepike			
Til2E_02	Barnet er i familiebarnehage (kommunal dagmamma)			
Til2H_02	Barnet er i skolefritidsordning (SFO)			
Tils3a_02	Timer under tilsyn av slektninger eller nære kjente			
Tils3b_02	Timer i skolefritidsordning, SFO			
Tils3c_02	Timer under tilsyn av dagmamma eller lignende			
Tils3d_02	Timer i barnehage			
Tils1a_03	Regelmessig tilsyn av andre enn foreldre			
Tils1c_03	Regelmessig tilsyn utenom skoletiden			
Til2A_03	Barnet er under tilsyn av slektninger/nære kjente, ubetalt			
Til2B_03	Barnet er under tilsyn av slektninger/nære kjente, betalt			
Til2C_03	Barnet er under tilsyn av hushjelp, praktikant, barnepike			
Til2E_03	Barnet er i familiebarnehage (kommunal dagmamma)			
Til2H_03	Barnet er i skolefritidsordning (SFO)			
Til2I_03	Barnet er på avlastningsordning (for barn med funksjonshemming)			
Tils3a_03	Timer under tilsyn av slektninger eller nære kjente			
Tils3b_03	Timer i skolefritidsordning, SFO			
Tils3c_03	Timer under tilsyn av dagmamma eller lignende			
Tils3d_03	Timer i barnehage			
Tils3f_03	Timer på avlastning			
Tils1a_04	Regelmessig tilsyn av andre enn foreldre			
Tils1c_04	Regelmessig tilsyn utenom skoletiden			
Til2A_04	Barnet er under tilsyn av slektninger/nære kjente, ubetalt			
Til2B_04	Barnet er under tilsyn av slektninger/nære kjente, betalt			
Til2C_04	Barnet er under tilsyn av hushjelp, praktikant, barnepike			
Til2E_04	Barnet er i familiebarnehage (kommunal dagmamma)			
Til2H_04	Barnet er i skolefritidsordning (SFO)			
Tils3a_04	Timer under tilsyn av slektninger eller nære kjente			
Tils3b_04	Timer i skolefritidsordning, SFO			
Tils3c_04	Timer under tilsyn av dagmamma eller lignende			
Tils3d_04	Timer i barnehage			
Tils1a_05	Regelmessig tilsyn av andre enn foreldre			
Tils1c_05	Regelmessig tilsyn utenom skoletiden			
Til2A_05	Barnet er under tilsyn av slektninger/nære kjente, ubetalt			
Til2C_05	Barnet er under tilsyn av hushjelp, praktikant, barnepike			
Til2E_05	Barnet er i familiebarnehage (kommunal dagmamma)			
Til2H_05	Barnet er i skolefritidsordning (SFO)			
Tils3a_05	Timer under tilsyn av slektninger eller nære kjente			
Tils3b_05	Timer i skolefritidsordning, SFO			

Variable	Label	SILC pilot 2019	MIMOD	Well-being in Norway
Tils3c_05	Timer under tilsyn av dagmamma eller lignende			
Tils3d_05	Timer i barnehage			
Tils1a_06	Regelmessig tilsyn av andre enn foreldre			
Tils1c_06	Regelmessig tilsyn utenom skoletiden			
Til2A_06	Barnet er under tilsyn av slektninger/nære kjente, ubetalt			
Til2E_06	Barnet er i familiebarnehage (kommunal dagmamma)			
Til2H_06	Barnet er i skolefritidsordning (SFO)			
Tils3a_06	Timer under tilsyn av slektninger eller nære kjente			
Tils3b_06	Timer i skolefritidsordning, SFO			
Tils3d_06	Timer i barnehage			
Tils1a_07	Regelmessig tilsyn av andre enn foreldre			
Tils1a_08	Regelmessig tilsyn av andre enn foreldre			
Tils1c_08	Regelmessig tilsyn utenom skoletiden			
Tils1a_09	Regelmessig tilsyn av andre enn foreldre			
Tils1c_09	Regelmessig tilsyn utenom skoletiden			
Tils1a_10	Regelmessig tilsyn av andre enn foreldre			
Tils1c_10	Regelmessig tilsyn utenom skoletiden			

Overview of Campanelli et al.'s classification system (Campanelli et al. 2013)

Question content					
<ul style="list-style-type: none"> • Topic: behaviour, other factual, attitude, satisfaction, other subjective • Sensitivity • Inherent difficulty: conceptual, comprehension, recall 					
Question format					
	Open		Ratio/interval	Closed	
				Ordinal	Nominal
Type of task	<ul style="list-style-type: none"> • Number • Date • Short textual/ verbal 	<ul style="list-style-type: none"> • Unconstrained textual/ verbal 	<ul style="list-style-type: none"> • Visual analogue scale 	<ul style="list-style-type: none"> • Agree/disagree • Rating-unipolar • Rating-bipolar • Numeric bands • Battery of rating scales 	<ul style="list-style-type: none"> • Yes/no • Mark all • Ranking
Characteristics of the task				<ul style="list-style-type: none"> • Number of categories 	
				<ul style="list-style-type: none"> • Middle categories • Full/end labels • Branching 	
Implementation of question	<ul style="list-style-type: none"> • Use of instructions, probes, clarification, etc. • Edit checks • DK/refused explicit or implicit 				
	<ul style="list-style-type: none"> • Formatting of response boxes • Labelling of response boxes 	<ul style="list-style-type: none"> • Size of answer box / text field • Delineation of answer space 	<ul style="list-style-type: none"> • Formatting of response lists 		
				<ul style="list-style-type: none"> • Showcards 	

See Campanelli et al. (2013)

Smartphone fitness criteria (adapted to single questions)

Dimension	Criterion	Operationalization
Screen size	Introductions	Number of items with introductions Number of items with instructions included
	Grid questions	Number of grid questions Average number of items per grid
	Question text	Number of items with > 20 words (excluding introduction text)
	# answer cat's	Number of items with > 5 answer categories
	Answer text	Number of items with > 10 words in at least one category
Touch Navigation	Open question	Number of open questions
	Many answers	Number of items with > 25 answer categories
Duration	# of items	Total number of items Average duration of survey per respondent
	Household	Is survey a household survey? Yes/no
	Database	Does survey require interaction with a database? Yes/no
	Complexity	Number of (anticipated) items that require calculations by a average respondent Number of (anticipated) items that require consultation of personal documentation by a average respondent
	Enjoyment Relevance & Burden	Response rate to traditional online devices

See Schouten et al. (2019), *Smartphone fitness of ESS surveys – case studies on the ICT survey and the LFS*.

Responsive design Blaise5

Illustration of responsive design for PC/tablet vs mobile screen:

Question/Type of dwelling (SamBol) - PC screen

Hva slags hustype bor dere i?

Frittliggende hus
Rekke- eller kjedehus
To, tre- eller firemannsbolig, o.l.
Boligblokk, bygård eller lignende
Kombinert bolig- og næringsbygg
Bor i båt, campingvogn eller bil

Forrige Neste

Question/Type of dwelling (SamBol) - Mobile screen

Hva slags hustype bor dere i?

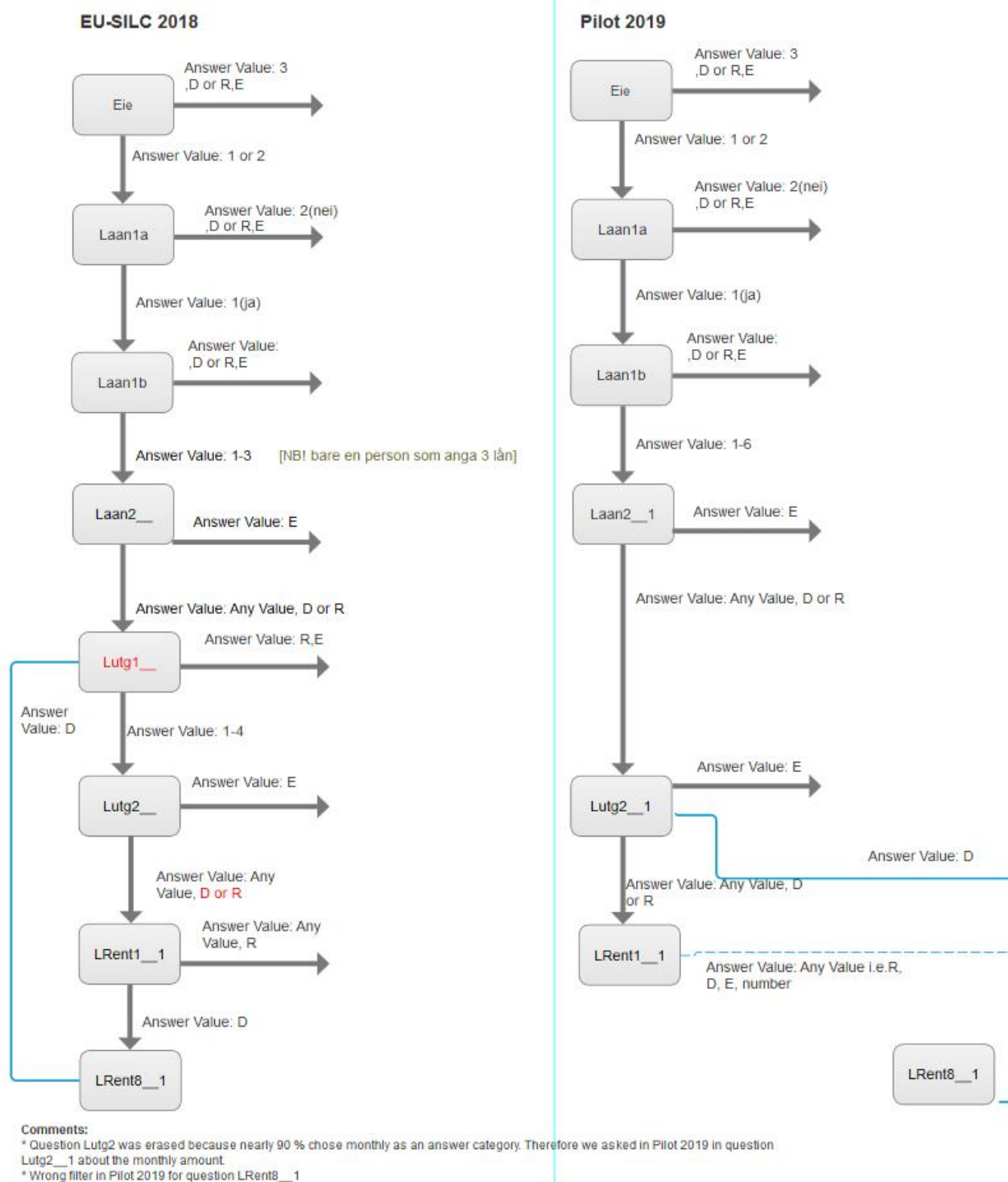
Frittliggende hus
Rekke- eller kjedehus
To, tre- eller firemannsbolig, o.l.
Boligblokk, bygård eller lignende
Kombinert bolig- og næringsbygg
Bor i båt, campingvogn eller bil

Forrige Neste

List of variables with most push warning controls suppressed

No. of push controls suppressed Pilot sub-sample 3	No. suppressed	No. paradata file	No. cleaned data file
Variable:			
Lutg2_	35		Answer value is often 0
SpmBolig.End2	27	26 selected 100 000 or more	8 persons has value 100 000 or more
Arb24_	25	26 selected between 12 and 14	20 has value 14 or less
Avg3b	20		
FUtg2	18		
Arb13	15		
Avg2	10		
Elutg1	9		
Bo19	9		
Arb14	8		
Arb3b	6		
Lrent1	6		
Bol1	5		
Elutg2	4		
Arb24	4		
Husleie4	4		

Flow diagram of routing in the mortgage question sequence (HH077)



Tables: Response rates and sample bias

Table A.1: Key results SILC pilot 2019

	Number	Percent
Overall response rate	2 522	45.0
Response rate sample 1	1004	40.2
Response rate sample 3	829	53.2
Response rate sample 2 – CATI + CAWI	689	44.4
Response rate sample 2 - total CATI	1 246	80.3
Non-response sample 1	1 473	59.8
Non-response sample 3	708	46.7
Non-response sample 2	305	55.5
Partial interview sample 1	21	0.8
Partial interview sample 3	21	1.3
Partial interview sample 2 – only CATI	555	35.8
Partial interview sample 2 – completed CATI, partial web	2	0.1
Data collection period	3.June-30.June	

Table A.2: Response rates regular SILC 2019. Only people with registered e-mail.

	Number	Percent
Response rate	5 513	55.5
Response rate 1. wave sample	1 623	61.0
Response rate 2.-4. wave samples	3 890	53.5
Response rate last wave sample	1 323	52.5

Table A.3: Key results pilot sample 1

	Number	Per cent
Key findings		
Sample	2 899	
Sample with e-mail	2 499	
Non-eligible (dead, lived outside Norway or at an institution)	1	0.0
Gross sample	2 498	100
Net sample (number of interviews)	1 004	40.2
Partial non-response	21	0.8
Other Non-response	1 473	59.0

Table A.4: Key results pilot sample 2

	Number	Per cent
Key findings		
Sample	1 558	
Non-eligible (dead, lived outside Norway or at an institution)	6	0.4
Gross sample	1 552	100
Net sample (number of interviews)	689	44.4
Partial non-response (only CATI)	555	35.8
Partial non-response (started web)	2	0.1
Other Non-response	305	19.7
CATI total	1 246	80.3

Table A.5: Key results pilot sample 3

	Number	Per cent
Key findings		
Sample	1 558	
Non-eligible (dead, lived outside Norway or at an institution)	0	0,0
Gross sample	1 558	100
Net sample (number of interviews)	829	53,2
Partial non-response	21	1,3
Other Non-response	708	45,4

Table A.6: Gross sample, non-response and net sample. Percentage by gender

	Gross sample	Net sample	Difference net - gross
SILC 2019			
Male	51.2	53.0	1.8
Female	48.8	47.0	-1.8
SILC pilot total			
Male	51.3	50.2	-1.1
Female	48.8	49.8	1.0
Sample 1			
Male	50.5	49.7	-0.8
Female	49.5	50.3	0.8
Sample 2 – CAWI			
Male	51.9	52.5	0.6
Female	48.1	47.5	-0.6
Sample 2 – only answered CATI			
Male	51.9	52.3	0.4
Female	48.1	47.8	-0.4
Sample 2 – total CATI			
Male	51.9	52.4	0.5
Female	48.1	47.6	-0.5
Sample 3			
Male	51.6	48.9	-2.7
Female	48.4	51.2	2.8

Table A.7: Gross sample, non-response and net sample. Percentage by age group

	Gross sample	Net sample	Difference net - gross
SILC 2019			
16-24 years	14.3	13.1	-1.2
25-44 years	36.4	32.9	-3.5
45-66 years	36.8	39.8	3.0
67-79 years	10.9	12.8	1.9
80 years +	1.5	1.4	-0.1
SILC pilot total			
16-24 years	14.3	11.6	-2.7
25-44 years	36.1	32.5	-3.6
45-66 years	37.4	43.1	5.7
67-79 years	10.9	11.7	0.8
80 years +	1.5	1.2	-0.3
Sample 1			
16-24 years	14.1	11.6	-2.5
25-44 years	34.9	28.6	-6.3
45-66 years	37.6	44.6	7.0
67-79 years	12.2	13.9	1.7
80 years +	1.3	1.3	0.0
Sample 2 – CAWI			
16-24 years	15.4	11.6	-3.8
25-44 years	36.5	33.1	-3.4
45-66 years	37.2	44.7	7.5
67-79 years	9.4	9.7	0.3
80 years +	1.5	0.9	-0.6
Sample 2 – only answered CATI			
16-24 years	15.4	18.9	3.5
25-44 years	36.5	37.8	1.3
45-66 years	37.2	28.5	-8.7
67-79 years	9.4	12.3	2.9
80 years +	1.5	2.5	1.0
Sample 2 – total CATI			
16-24 years	15.4	14.9	-0.5
25-44 years	36.5	35.2	-1.3
45-66 years	37.2	37.5	0.3
67-79 years	9.4	10.8	1.4
80 years +	1.5	1.6	0.1
Sample 3			
16-24 years	13.3	11.5	-1.8
25-44 years	37.6	36.7	-0.9
45-66 years	37.2	39.8	2.6
67-79 years	10.2	10.6	0.4
80 years +	1.8	1.5	-0.3

Table A.8: Gross sample, non-response and net sample. Percentage by education level

	Gross sample	Net sample	Difference net - gross
SILC 2019			
Lower education	21.8	17.4	-4.4
Upper secondary education	37.6	36.6	-1.0
Higher education, short	25.0	28.9	3.9
Higher education, long	9.7	13.0	3.3
None or unknown	5.9	4.1	-1.8
SILC pilot total			
Lower education	21.1	16.0	-5.1
Upper secondary education	40.1	39.0	-1.1
Higher education, short	25.4	30.0	4.6
Higher education, long	10.0	12.9	2.9
None or unknown	3.4	2.1	-1.3
Sample 1			
Lower education			
Lower education	20.0	15.1	-4.9
Upper secondary education	42.6	41.6	-1.0
Higher education, short	26.5	30.6	4.1
Higher education, long	9.1	12.0	2.9
None or unknown	1.8	0.7	-1.1
Sample 2 – CAWI			
Lower education	21.6	13.9	-7.7
Upper secondary education	37.1	35.3	-1.8
Higher education, short	25.9	32.8	6.9
Higher education, long	11.1	16.0	4.9
None or unknown	4.3	2.0	-2.3
Sample 2 – only answered CATI			
Lower education	21.6	29.1	7.5
Upper secondary education	37.1	37.1	0.0
Higher education, short	25.9	20.2	-5.7
Higher education, long	11.1	8.7	-2.4
None or unknown	4.3	5.1	0.8
Sample 2 – total CATI			
Lower education	21.6	20.6	-1.0
Upper secondary education	37.1	36.2	-0.9
Higher education, short	25.9	27.1	1.2
Higher education, long	11.1	12.7	1.6
None or unknown	4.3	3.4	-0.9
Sample 3			
Lower education	22.3	18.8	-3.5
Upper secondary education	39.2	39.0	-0.2
Higher education, short	23.1	27.0	3.9
Higher education, long	10.3	11.3	1.0
None or unknown	5.1	3.9	-1.2

Table A.9: Gross sample, non-response and net sample. Percentage by region

	Gross sample	Net sample	Difference net - gross
SILC 2019			
Oslo and Akershus	25.4	26.1	0.7
Hedmark and Oppland	7.1	6.7	-0.4
The rest of Eastern Norway	18.6	18.2	-0.4
Agder and Rogaland	14.3	13.7	-0.6
Western Norway	16.7	17.2	0.5
Trøndelag	8.9	9.6	0.7
Northern Norway	9.0	8.6	-0.4
SILC pilot total			
Oslo and Akershus	24.4	26.4	2.0
Hedmark and Oppland	7.5	7.6	0.1
The rest of Eastern Norway	18.9	18.4	-0.5
Agder and Rogaland	14.8	14.8	0.0
Western Norway	16.8	16.3	-0.5
Trøndelag	9.0	9.1	0.1
Northern Norway	8.7	7.3	-1.4
Sample 1			
Oslo and Akershus	24.1	26.8	2.7
Hedmark and Oppland	8.1	7.5	-0.6
The rest of Eastern Norway	18.9	20.0	1.1
Agder and Rogaland	14.2	13.6	-0.6
Western Norway	16.6	15.8	-0.8
Trøndelag	8.8	8.5	-0.3
Northern Norway	9.3	7.8	-1.5
Sample 2 – CAWI			
Oslo and Akershus	25.6	27.3	1.7
Hedmark and Oppland	6.3	5.8	-0.5
The rest of Eastern Norway	19.1	18.0	-1.1
Agder and Rogaland	15.2	15.5	0.3
Western Norway	17.8	18.4	0.6
Trøndelag	8.7	9.9	1.2
Northern Norway	7.1	5.1	-2.0
Sample 2 – only answered CATI			
Oslo and Akershus	25.6	26.1	0.5
Hedmark and Oppland	6.3	6.0	-0.3
The rest of Eastern Norway	19.1	19.8	0.7
Agder and Rogaland	15.2	15.0	-0.2
Western Norway	17.8	17.3	-0.5
Trøndelag	8.7	7.8	-0.9
Northern Norway	7.1	8.1	1.0
Sample 2 – total CATI			
Oslo and Akershus	25.6	26.7	1.1
Hedmark and Oppland	6.3	6.0	-0.3
The rest of Eastern Norway	19.1	18.8	-0.3
Agder and Rogaland	15.2	15.2	0.0
Western Norway	17.8	17.9	0.1
Trøndelag	8.7	8.9	0.2
Northern Norway	7.1	6.4	-0.7
Sample 3			
Oslo and Akershus	23.7	25.2	1.5
Hedmark and Oppland	8.0	9.2	1.2
The rest of Eastern Norway	18.7	16.8	-1.9
Agder and Rogaland	15.2	15.7	0.5
Western Norway	15.7	15.2	-0.5
Trøndelag	9.4	9.3	-0.1
Northern Norway	9.2	8.6	-0.6
Unknown	0.1	0.1	0.0

Table A.10: Gross sample, non-response and net sample. Percentage by centrality

	Gross sample	Net sample	Difference net - gross
SILC 2019			
Urban	18.2	18.2	0.0
Rural	81.8	81.8	0.0
SILC pilot total			
Urban	81.5	82.1	0.6
Rural	18.4	17.9	-0.5
Sample 1			
Urban	80.8	81.0	0.2
Rural	19.3	19.0	-0.3
Sample 2 – CAWI			
Urban	82.1	82.6	0.5
Rural	16.8	17.2	0.4
Unknown	1.1	0.3	-0.8
Sample 2 – only answered CATI			
Urban	82.1	81.6	-0.5
Rural	16.8	16.9	0.1
Unknown	1.1	1.4	0.3
Sample 2 – total CATI			
Urban	82.1	82.2	0.1
Rural	16.8	17.0	0.2
Unknown	1.1	0.8	-0.3
Sample 3			
Urban	81.4	82.9	1.5
Rural	18.5	17.3	-1.2
Unknown	0.1	0.0	-0.1

Table A.11: Gross sample, non-response and net sample. Percentage by immigration category

	Gross sample	Net sample	Difference net - gross
SILC pilot total			
Immigrants (B)	12.4	10.9	-1.5
Other (A,C,E,F,G)	87.7	89.2	1.5
Sample 1			
Immigrants (B)	7.2	5.8	-1.4
Other (A,C,E,F,G)	92.9	94.4	1.5
Sample 2 – CAWI			
Immigrants (B)	15.0	11.8	-3.2
Other (A,C,E,F,G)	85.1	88.2	-3.1
Sample 2 – only answered CATI			
Immigrants (B)	15.0	16.2	1.2
Other (A,C,E,F,G)	85.1	83.7	-1.4
Sample 2 – total CATI			
Immigrants (B)	15.0	13.8	-1.2
Other (A,C,E,F,G)	85.1	86.2	1.1
Sample 3			
Immigrants (B)	18.3	16.2	-2.1
Other (A,C,E,F,G)	81.7	83.8	2.1

Table A.12: Gross sample, non-response and net sample. Percentage by income quartile

	Gross sample	Net sample	Difference net - gross
SILC pilot total			
1	20.4	16.0	-4.4
2	23.9	21.9	-2.0
3	28.1	29.2	1.1
4	27.6	32.9	5.3
Sample 1			
1	19.9	15.9	-4.0
2	23.1	19.5	-3.6
3	27.8	29.2	1.4
4	29.3	35.4	6.1
Sample 2 – CAWI			
1	19.7	13.4	-6.3
2	25.1	23.4	-1.7
3	28.5	29.9	1.4
4	26.7	33.3	6.6
Sample 2 – only answered CATI			
1	19.7	24.0	4.3
2	25.1	27.2	2.1
3	28.5	27.1	-1.4
4	26.7	21.8	-4.9
Sample 2 – total CATI			
1	19.7	17.4	-2.3
2	25.1	25.2	0.1
3	28.5	28.9	0.4
4	26.7	28.5	1.8
Sample 3			
1	22.1	18.4	-3.7
2	24.0	23.5	-0.5
3	28.2	28.8	0.6
4	25.8	29.4	3.6

Table A.13: Non-response by gender, age, region, centrality, education, immigration category and income in regular SILC survey 2019

	Interview	Refusal	Other	No contact	Number
Total	55.5	24.2	5.2	15.0	9 930
Gender					
Male	57.5	23.0	4.7	14.8	5 086
Female	53.5	25.4	5.8	15.3	4 844
Age					
16-24 years	51.4	27.6	2.1	18.8	1 408
25-44 years	50.2	24.8	5.6	19.4	3 609
45-66 years	59.5	23.1	4.9	12.6	3 686
67-79 years	65.0	22.4	6.8	5.8	1 086
80 years +	55.3	17.0	24.1	3.6	141
Region					
Oslo and Akershus	57.8	22.3	5.9	14.1	2 769
Hedmark and Oppland	51.5	26.1	4.5	17.8	858
The rest of Eastern Norway	54.3	26.2	5.7	13.9	2 194
Agder and Rogaland	52.9	27.6	5.0	14.5	1 633
Western Norway	57.0	22.8	4.8	15.4	1 921
Trøndelag	59.3	21.7	4.4	14.6	1 029
Northern Norway	52.7	23.3	5.1	18.9	1 050
Centrality					
Urban	55.7	21.0	5.4	15.0	8 039
Rural	54.9	25.6	4.0	15.7	1 812
Unknown	54.4	7.6	21.5	16.5	79
Education level					
Lower education	41.0	29.1	9.5	20.4	2 766
Upper secondary education	52.1	27.5	5.4	15.1	4 390
Higher education	66.2	18.7	3.0	12.1	3 661
Unknown	36.7	13.7	22.4	27.2	637

Table A.14: Non-response by gender, age, region, centrality, education, immigration category and income in SILC pilot survey 2019

	Interview	Only CATI	Partial web interview	Refusal	Other	No contact	Number
Total	45.0	9.9	0.8	1.7	1.0	41.8	5 608
Gender							
Male	43.9	10.1	0.9	1.4	1.0	42.6	2 872
Female	45.8	9.7	0.7	2.1	0.9	40.8	2 736
Age							
16-24 years	35.9	13.2	0.9	1.8	0.6	47.6	798
25-44 years	40.5	10.4	1.0	1.0	1.4	45.8	2 022
45-66 years	51.7	7.5	0.8	2.2	0.5	37.2	2 096
67-79 years	48.2	11.2	0.0	2.3	1.2	37.2	610
80 years +	37.8	17.1	1.2	2.4	3.7	37.8	82
Region							
Oslo and Akershus	48.4	10.6	1.2	2.3	1.1	36.5	1 369
Hedmark and Oppland	45.0	7.8	0.7	1.2	1.2	44.1	422
The rest of Eastern Norway	43.7	10.4	0.8	1.2	0.9	43.1	1 059
Agder and Rogaland	44.9	10.0	0.6	2.5	1.0	40.9	828
Western Norway	43.9	10.3	1.0	1.6	1.0	42.4	937
Trøndelag	45.8	8.6	0.4	1.2	0.6	43.4	502
Northern Norway	37.7	9.2	0.2	1.4	0.8	50.6	488
Centrality							
Urban	45.3	10.0	0.8	1.0	0.7	44.7	1 027
Rural	43.5	9.1	1.0	1.2	1.0	41.2	4 549
Unknown	0.0	0.0	0.0	0.0	0.0	100.0	2
Education level							
Lower education	33.9	13.6	0.4	2.0	0.7	49.4	1 182
Upper secondary education	43.5	9.1	1.0	2.0	0.6	43.8	2 254
Higher education, short	53.1	7.9	0.7	1.3	0.8	36.3	1 423
Higher education, long	57.9	8.6	1.1	1.4	0.9	30.2	560
None or unknown	28.0	14.8	0.5	2.1	9.0	45.5	189
Immigration category							
Immigrants (B)	39.4	13.0	1.3	1.0	2.9	42.4	693
Other (A,C,E,F,G)	45.6	9.5	0.7	1.9	0.7	41.7	4 912
Income quartile							
1	35.2	11.5	0.7	1.5	1.9	49.2	1 138
2	41.3	11.2	0.7	1.7	1.1	44.0	1 331
3	45.8	9.4	0.8	2.2	0.5	40.4	1 568
4	53.4	7.7	1.0	1.6	0.5	35.9	1 541

Table A.15: Non-response by gender, age, region, centrality, education, immigration category and income in sample 1

	Interview	Partial interview	Refusal	Other	No contact	Number
Total	40.2	0.8	2.3	0.6	56.2	2 498
Gender						
Male	39.5	1.0	2.1	0.8	56.8	1262
Female	40.7	0.7	2.6	0.4	55.6	1236
Age						
16-24 years	33.0	0.6	1.1	0.6	64.5	351
25-44 years	32.8	1.2	1.6	0.9	63.5	871
45-66 years	47.5	1.0	3.2	0.1	48.2	939
67-79 years	45.6	0.0	3.0	1.0	50.5	305
80 years +	40.6	0.0	3.1	3.1	53.1	32
Region						
Oslo and Akershus	44.4	1.2	3.8	0.7	49.9	603
Hedmark and Oppland	37.1	0.5	1.5	2.0	58.9	202
The rest of Eastern Norway	42.4	1.1	1.5	0.9	54.0	472
Agder and Rogaland	38.4	0.3	2.5	0.6	58.2	354
Western Norway	38.1	1.2	2.2	0.2	58.3	415
Trøndelag	38.6	0.9	1.8	0.0	58.6	220
Northern Norway	33.5	0.0	1.3	0.0	65.2	233
Centrality						
Urban	40.1	0.8	2.5	0.6	55.9	480
Rural	39.6	0.3	1.5	0.4	57.6	2018
Education level						
Lower education	30.2	0.2	2.2	0.4	67.0	500
Upper secondary education	39.1	1.3	2.5	0.3	56.8	1065
Higher education, short	46.3	0.6	1.8	0.6	50.7	661
Higher education, long	52.9	0.4	3.1	0.9	42.7	227
None or unknown	15.6	2.2	2.2	8.9	71.1	45
Immigration category						
Immigrants (B)	32.4	1.7	0.6	2.2	63.1	179
Other (A,C,E,F,G)	40.5	0.8	2.4	0.5	55.5	2 328
Income quartile						
1	32.2	1.0	1.4	1.2	64.2	495
2	33.8	0.7	2.1	1.0	62.4	577
3	42.1	0.9	3.5	0.1	53.5	694
4	48.4	0.8	2.1	0.3	48.5	732

Table A.16: Non-response by gender, age, region, centrality, education, immigration category and income in sample 2

	Interview	Only CATI	Partial web interview	Refusal	Other	No contact	Number
Total	44.4	35.8	0.1	2.5	1.4	16.1	1 552
Gender							
Male	44.5	36.0	0.1	1.7	1.6	16.0	806
Female	43.7	35.5	0.1	3.2	1.2	16.2	746
Age							
16-24 years	31.7	43.8	0.4	4.2	0.4	19.6	240
25-44 years	40.3	37.1	0.0	1.2	2.1	19.3	566
45-66 years	53.3	27.3	0.2	2.8	0.9	15.6	578
67-79 years	45.9	46.6	0.0	3.4	1.4	2.7	145
80 years +	26.1	60.9	0.0	0.0	8.7	0.0	22
Region							
Oslo and Akershus	46.8	36.5	0.0	1.8	1.8	13.1	397
Hedmark and Oppland	40.6	34.4	2.1	1.0	1.0	20.8	96
The rest of Eastern Norway	41.9	37.2	0.0	2.0	1.4	17.6	296
Agder and Rogaland	44.7	35.0	0.0	5.1	0.8	14.4	237
Western Norway	45.7	34.5	0.0	2.2	1.8	15.8	278
Trøndelag	50.0	31.6	0.0	1.5	1.5	15.4	136
Northern Norway	31.5	40.5	0.0	3.6	0.9	23.4	111
Centrality							
Urban	44.5	35.6	0.2	2.8	1.3	15.7	1274
Rural	44.4	36.0	0.0	0.8	1.1	17.6	261
Education level							
Lower education	28.1	48.2	0.0	3.6	0.3	19.8	334
Upper secondary education	41.7	35.6	0.4	2.8	1.2	18.3	578
Higher education, short	56.2	27.9	0.0	1.5	1.0	13.4	402
Higher education, long	63.6	27.8	0.0	0.6	0.6	7.5	173
None or unknown	21.5	43.1	0.0	4.6	13.8	16.9	65
Immigration category							
Immigrants (B)	35.2	39.1	0.4	2.6	4.4	18.3	230
Other (A,C,E,F,G)	45.7	35.2	0.1	2.4	0.9	15.7	1 321
Income quartile							
1	30.1	43.4	0.3	3.0	3.0	20.2	302
2	41.9	38.8	0.0	2.9	2.1	14.3	384
3	46.6	33.8	0.0	2.1	0.2	17.4	438
4	55.2	29.0	0.2	2.2	0.2	13.1	411

Table A.17: Non-response by gender, age, region, centrality, education, immigration category and income in sample 3

	Interview	Partial interview	Refusal	Other	No contact	Number
Total	53.2	1.3	0.1	1.1	44.2	1 558
Gender						
Male	50.4	1.5	0.0	0.9	47.3	804
Female	56.2	1.2	0.3	1.3	41.0	754
Age						
16-24 years	45.9	1.9	0.0	1.0	51.2	207
25-44 years	52.0	1.7	0.0	1.4	45.0	585
45-66 years	57.0	1.0	0.2	0.9	40.9	579
67-79 years	55.3	0.0	0.0	1.3	43.4	159
80 years +	42.9	3.6	3.6	0.0	50.0	28
Region						
Oslo and Akershus	56.6	2.4	0.3	1.1	39.6	369
Hedmark and Oppland	61.3	0.0	0.8	0.0	37.9	124
The rest of Eastern Norway	47.6	1.0	0.0	0.3	51.0	292
Agder and Rogaland	54.9	1.7	0.0	1.7	41.8	237
Western Norway	51.6	1.6	0.0	1.2	45.5	244
Trøndelag	52.7	0.0	0.0	0.7	46.6	146
Northern Norway	49.3	0.7	0.0	2.1	47.9	144
Centrality						
Urban	54.3	1.2	0.1	1.1	43.4	1257
Rural	49.3	2.2	0.4	0.7	47.6	286
Education level						
Lower education	44.8	1.2	0.0	1.4	52.6	348
Upper secondary education	52.9	1.0	0.3	0.5	45.3	611
Higher education, short	62.2	1.7	0.0	0.8	35.3	360
Higher education, long	58.8	3.1	0.0	1.3	36.9	160
None or unknown	40.5	0.0	0.0	5.1	54.4	79
Immigration category						
Immigrants (B)	47.2	1.8	0.0	2.1	48.9	284
Other (A,C,E,F,G)	54.6	1.3	0.2	0.8	43.2	1 272
Income quartile						
1	44.3	0.6	0.3	1.8	53.1	341
2	52.2	1.4	0.0	0.3	46.2	370
3	54.4	1.4	0.2	1.2	42.9	436
4	60.7	2.0	0.0	1.0	36.2	398