Development of tailored fieldwork procedures in preparation of the 7th SHARE wave

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Introduction

For the sixth wave of data collection, a responsive fieldwork design was implemented in the German sub-study of the Survey of Health, Ageing and Retirement in Europe (SHARE). The aims of this design were, firstly, to improve the overall retention rate in the SHARE Germany panel and, secondly, to decrease nonresponse bias.
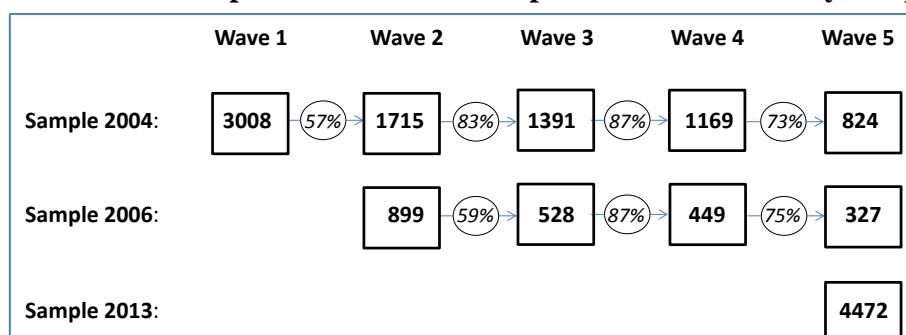
The fieldwork for the first sample batch of this wave is now finished, and the final response rates and results of the monitoring efforts can be evaluated. More specifically, Tourangeau's third paradox is relevant for our results: Giving the practical limitations we encountered in redirecting efforts during fieldwork, can we use the results of this first responsive monitoring experiment in the preparations for the next (7th) wave of SHARE data collection? Can we, on the basis of these results, develop differential fieldwork procedures for different groups of panel members, which effectively diminish nonresponse bias?

The panel study

The Survey of Health, Ageing and Retirement in Europe (SHARE) is a multidisciplinary and cross-national panel study of the process of population ageing. It studies the different ways in which people aged 50 and older live in 20 European countries from Sweden to Greece and Portugal to Estonia. Data are collected every two years, using a harmonized core questionnaire in all countries, as well as objective health measures such as hand grip strength and dried blot spots (see Börsch-Supan and Jürges 2005, for SHARE's methodological details). The study started in 2004, including 11 countries, and it is currently in its sixth wave, now including 20 countries. In many countries, the SHARE panel was built on probability samples from a population register, and refreshment samples are regularly drawn. Five complete panel waves with about 200.000 individual interviews have been completed so far, using 20 survey agencies and about 1500 interviewers. All survey data are freely available for researchers at: http://www.share-eric.eu

The German SHARE panel sample started with 3008 completed individual interviews in wave 1. Figure 1 shows the development of the German sample, and the recruitment of two refreshment samples in wave 2 (2006) and in wave 5 (2013).

Figure 1: Number of completed interviews and panel retention rate by sample cohort

The retention rate in the German panel is generally lower and refusal rates are higher than in other SHARE countries. The most likely reason for that lays in the strict German data security requirements. For instance, at the end of their first SHARE interview, all respondents have to be asked whether they would agree in writing that their addresses could be stored for future re-contact. This legal requirement did not exist in this form in any other SHARE country.

Method

SHARE wave 6 started in January 2015. The German sample for wave 6 was split into two batches in order to cleanly monitor retention: The longitudinal panel sample from 2004 / 2006 was included in the first batch, as well as a randomly drawn subsample of the sample originating from the wave 5 (2012) refreshment sample. This first batch was fielded between February and July 2014. The remainder of the wave 5 refreshment sample was allocated to the second batch, to be fielded between July and November 2015. In this paper, we only present the results of the longitudinal panel members, from the 2004 and 2006 samples.

The responsive monitoring design was part of an overall ***retention improvement program*** for SHARE Germany wave 6, to improve the long-term participation. The program implemented a combination of incentives and responsive fieldwork design.

The following incentives were used:

- Respondent incentives: SHARE Germany pays relatively high respondent incentives but conditional on participation. Prepaid monetary incentives are, however, controversial in Germany for legal and ethical reasons. Therefore, as a bridge between the unconditional cash incentives and non-monetary gifts, we included a postage stamp booklet as a gift with the advance letter in wave 6.

- Interviewer incentives: In close cooperation with the survey agency, we implemented a bonus system for interviewers. The critical response rate to be reached by an interviewer is 80% of the sample members assigned to the interviewer. If that rate is exceeded, the interviewer is paid extra for each completed interview. In addition, interviewers receive a bonus for each interview they conduct with a person over 80 years.

- Fieldwork agency incentive: Tied to the payment of incentives for respondents and bonuses for interviewers is the implementation of a contractual bonus/penalty payment for the fieldwork agency, depending on the attained response rates in the different samples.

The responsive fieldwork design included:

- Interviewer monitoring: SHARE central coordination exploited the SHARE electronic Sample Management System (SMS) to generate fieldwork monitoring reports which included individual interviewer contact attempts, contact rates, interview success and refusal rates. These reports were used to give immediate feedback during the fieldwork to the survey agency, highlighting which interviewers needed to be contacted and possibly re-instructed.

- Respondent monitoring: On the basis of a multilevel analysis of response rates in previous waves including both interviewer and respondent characteristics as predictor variables, we knew which groups of SHARE panel members are difficult to get or are more likely to drop out (Bristle et al, 2014). Based on the successes achieved by Kirgis and Lepkowski (2013), we programmed an analysis script that created a two-weekly "dashboard" of the response rates associated with these respondent characteristics. This allowed focused actions for specific groups, e.g. re-allocation of contact attempts for specific age groups

- Interaction of interviewer and respondent monitoring: Whenever deviant response rates were observed for specific respondent groups, we checked the relationship with interviewer performance: Was the deviance observed across all interviewers, or were a few individual interviewers responsible for / causing the deviation? In the first case, we

would give new instructions to all interviewers and the fieldwork management. In the latter case, the agency contacted individual interviewers and give them specific advices.
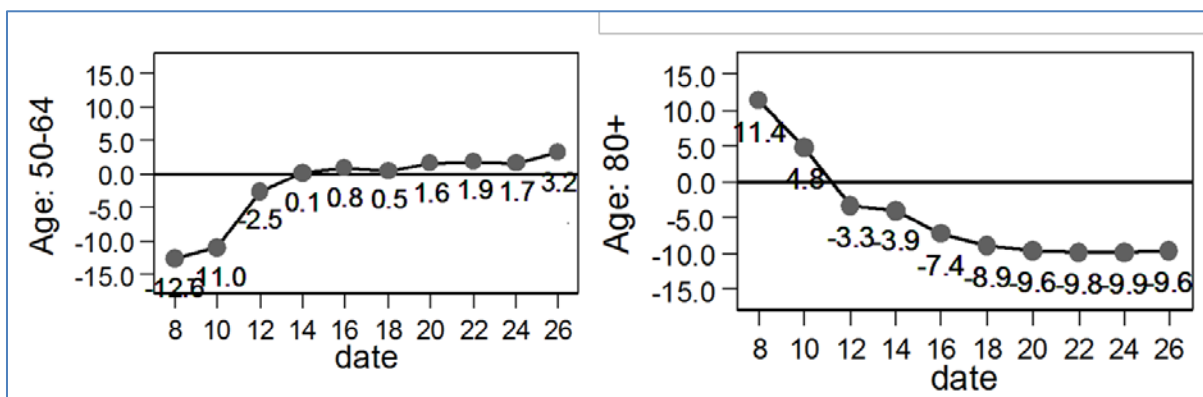
Results

For brevity, we only present the results of the longitudinal panel members, from the 2004 and 2006 samples.

A few respondent characteristics included in our monitoring dashboard, urbanization, education, and income quartile, showed little or no differential effects on the response rates at any point in time during the fieldwork. Other characteristics showed significant effects at a certain time point or during the entire fieldwork period. Examples are: age, working status of respondents, household size, subjective health, activities, and answer behaviour in previous waves.

The effects of some variables varied a lot during the fieldwork period and even reverses over time, as is illustrated in figure 2. Both graphs in figure 2 show on the y-axis the deviation in response rate (in percentage points) of a specific age group compared to the mean response rate and on the x-axis the calendar weeks of the fieldwork. The graph on the left of figure 2 shows that the youngest age group, between 50 and 64 years old, had a remarkably low response rate (12.6 to 11 percentage points lower than average) in the first four weeks of the fieldwork but then started to catch up. Eventually the effect reversed and this group ended with the highest response rate of all age groups. The opposite pattern is seen for the oldest age group, of 80 years or older, in the graph on the right of figure 2: These oldest old started with a surprisingly high response rate, perhaps due to the interviewer bonus incentive for interviews with persons over 80 years, but they were then passed by the other age groups, ending with the lowest response rate of all age groups.

Figure 2: Age group deviations from observed overall response probability

The two graphs in figure 2 illustrate a risk of responsive monitoring during fieldwork: Responding to the observations in the first month of monitoring, we invested extra efforts to increase the response in the youngest age group, for example by re-allocating contact attempts in this group to the evenings. However, such efforts in early stages of the fieldwork might lead to overrepresentation in the end, if the response pattern we observed actually reflects the normal course of fieldwork progress for this group. Since we had no experimental design including a control group, we could not estimate the effect of our extra efforts on the response rates in comparison to the normal pattern, but an indication can be found in the fieldwork results of the previous wave of SHARE Germany (wave 5). Although no responsive fieldwork design was implemented in wave 5, and hence no extra efforts were focused on the youngest age group, the final response rate obtained in this group was also about 2.5 percentage points

higher than the mean response rate[1], hence the same end result as we found in wave 6 (figure 2).

Figure 3: Deviations from observed overall response probability for respondents in poor health and with income item missing
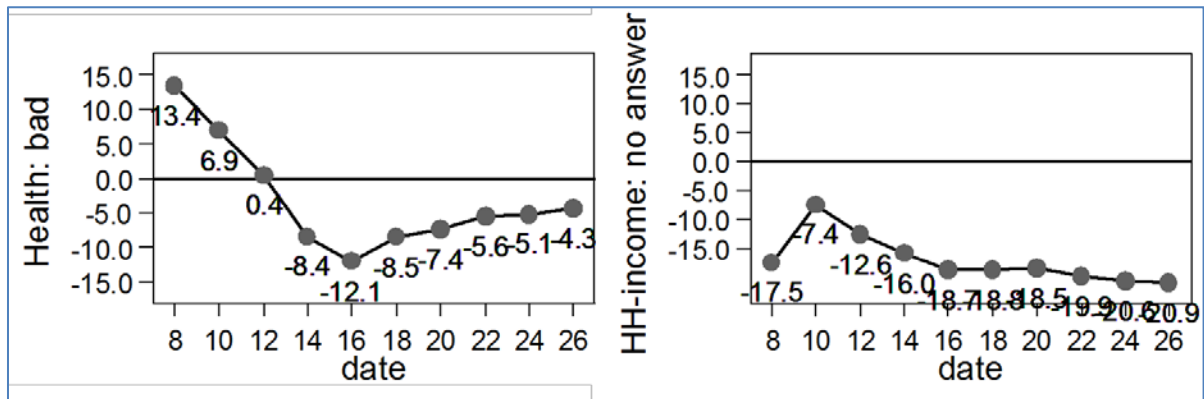

Figure 3 shows some other significant response deviations over time. The graph on the left of figure 3 represents the subgroup of respondents who in the previous wave reported to have poor health. Similar to the group of 80 years and older, and partly overlapping with that group, they started with somewhat higher response rates than average, but dropped substantially below the response rates obtained in the other age groups after calendar week 14. The drop in relative response rates for the oldest old (80 years and older) and the respondents in poor health during the fieldwork lead us to responsive actions such as putting in more field management support for contacting respondents who had moved to nursing homes, and reminding the interviewers of the extra bonus they would earn for interviewing the oldest. However, this did not lead to a higher response probability in these groups, and the final deviation in response rate for the oldest old was almost equal to that obtained in the previous wave (wave 5), even though the absolute response rate was higher now (see discussion section). As we suspect, and also infer from the interviewer´s observations, an important reason for the attrition in these groups is inability to further participate, due to old age cognitive or physical impairments.

The graph on the right of figure 3 represents the relationship between preceding answer behaviour and participation: Respondents who did not give an answer to the question about their income in wave 5 have a significantly lower unit response probability in wave 6. Although we continuously observed this effect over the entire fieldwork period, we did not implement a tailored fieldwork measure in response to it, because it was unclear what the common cause was for this item nonresponse and unit nonresponse. If the cause is a concern about data protection and privacy, the appropriate action would be very different then when the underlying cause is demotivation /disinterest or incapacity to respond to cognitive demands.

Discussion points

1. Did we succeed in our aims to, firstly, improve the overall retention rate in the SHARE Germany panel and, secondly, to decrease nonresponse bias?
   In fact, our results confirm the first paradox given by Tourangeau. The overall household response rate in the long-term panel sample (excluding the wave 5 refreshment sample)

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[1] For the longitudinal panel members (excluding the wave 5 refreshment sample)

increased from 79.6% in wave 5 to 87.7% in wave 6. Hence, the first aim of our retention improvement program was attained. However, we must conclude that the second aim has not been attained: The final wave 6 response probabilities are not more equal across the respondent subgroups that were monitored than the probabilities obtained in wave 5. For example, the wave 6 final response rate of the oldest old is still about 10 percentage points lower than average, which is exactly what it was in the final response results of wave 5, even though the overall response in this group, as in all groups, has increased.

2. Can we further improve our adaptive design in preparation for wave 7, to attain the second goal?
The extensive monitoring of interviewer contact and success rates has proven to be useful and to lead to better overall response rates in combination with the incentives program. However, in line with Tourangeau´s third paradox, the respondent characteristics we included in the responsive design were of limited use for response bias reduction. The largest differences in response probabilities were caused by characteristics that cannot be counteracted by common fieldwork reactions such as bonus incentives, tailored letters or re-scheduled contact attempts. Specifically related to the target population of the SHARE survey is the (cognitive or physical) inability to participate caused by old age and poor health. In addition, the relationship between income item nonresponse and wave nonresponse is likely to be specifically related to the research domain of the SHARE survey.

3. What else can we do?
Our intention is to also study the size of the attrition bias in a selection of the SHARE core research variables over waves, and find how this relates to /interacts with the respondent characteristics included in our fieldwork monitoring.

References

Börsch-Supan, A. and H. Jürges (2005): *The Survey of Health, Ageing and Retirement in Europe. Methodology*, Mannheim: MEA.

Bristle, J., Celidoni, M., Dal Bianco, C., Weber, G. (2014). The contribution of paradata to panel cooperation in SHARE. SHARE Working Paper Series 19-2014. Accessible at: http://www.share- project.org/uploads/tx_sharepublications/ WP_Series_19_2014_Bristle_Celidoni_DalBianco_Weber.pdf

Kirgis, N, & Lepkowski, J.M. (2013). Design and Management Strategies for Paradata Driven Responsive Design: Illustrations from the 2006-2010 National Survey of Family Growth. In: Kreuter, F. (Ed). *Improving Surveys with Paradata: Analytic Use of Process Data*. NewYork: J.W. Wiley & Sons.