Methods

A Study of Mode-Effects
of a Change from PAPI to CAPI

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Abstract

This paper examines the implication of the move to CAPI for data quality by analyzing the conversion from PAPI to CAPI of a subsample of the German Socio-Economic Panel (SOEP) which was done within an experimental design. The paper assesses whether any mode effects are apparent for the response rate. Within the data, we examine monetary dimensions such as gross income, item and unit nonresponse rates. We were able to find some minor effects but our main results show that we have made the shift without introducing strong mode effects.

JEL Classification: C81

1. Introduction

Computer-Assisted Personal Interviewing (CAPI) is a newly developing field and an increasingly viable alternative for data collection in survey research. In CAPI, interviewers visit respondents with a portable computer and conduct a face-to-face interview using the computer. After the interview the data are sent to a central computer. This paper assesses the effect of a change from the traditional Paper-and-Pencil Interviewing (PAPI) method to Computer-Assisted Personal Interviewing (CAPI) within an ongoing panel study by means of an experimental design. This was done for the subsample E of the German Socio-Economic Panel (SOEP) from the year 1998 on.

In the survey plan the 2000 addresses for the sample E of SOEP were split into two subsamples E1 and E2 with the same structure using twin - sample points. Each of the 125 sample points contained 16 addresses (8 for E1 and 8 for E2) and had to be realized in the first wave alternately with PAPI and CAPI mode per interviewer. According to this survey plan over 80 % of the household interviews in E1 are in fact collected via PAPI and over 76 % of the household interviews in E2 are in fact collected via CAPI. Hence we can conclude that the intended method split is not assert completely in order to avoid

unit-nonresponse[1], but the partly segregation of data collection methods and interviewer clusters does allow us to analyze these components roughly separate at least in wave 1. In the second wave the proportion of PAPI interviews was 40 % and CAPI is used in 41 % of all household interviews. After the second wave the PAPI mode was partly replaced by CAPI.

2. Mode Effects on Data Quality

One reason to move from PAPI to CAPI is the expectation of data quality improvements based on several different calculations like lower item-nonresponse rates and lower rates of implausible values (Sebestik et al. 1988, Olsen 1992) mostly because interviewers cannot make routing errors. However, even in the best case the move could create survey artefacts due to mode effects in the SOEP and could create a break in time series within the longitudinal study. Furthermore the change in mode may also have an effect on respondent's acceptance to participate and his willingness to disclose sensitive information. It may be that the use of laptops increases privacy or confidentiality concerns. We use some key indicators to examine data collection mode effects in sample E. These indicators are unit-nonresponse and gross income-nonresponse.

2.1 Hypotheses

Based on recent results in the literature (Nicholls et al., 1997; Nicholls / De Leeuw, 1996; Baker et al., 1995; Tourangeau et al., 1997) and the first fieldwork experiences with the move from PAPI to CAPI of the SOEP group we derive two hypotheses:

Respondent's acceptance: In the case of unit-nonresponse, there was some concern that CAPI respondents would object to having their information stored on a computer and will refuse to participate in the survey. Nevertheless, Baker (1992) and Baker et al. (1995) describes broad respondent acceptance in the case of CAPI. Moreover, no problems about respondent's acceptance with CAPI is reported by the SOEP interviewers. We can assume that respondents who were asked to respond to the survey using CAPI, but were unhappy with this, will refuse to participate in the following wave. On this basis, we derive our first hypothesis: we can assume that there are no significant differences between PAPI and CAPI for the probability of non-participation in the following wave. However, the effect may be small.

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[1] A small amount of household interviews were collected by mail (3.6 %) an by a mixed mode (2.9 %) or were done by a self completion mode in front of the interviewer (4.5 %). Further details see Schräpler et al., 2006.

Willingness to disclose sensitive information: Baker et al. (1995) and de Leeuw (1995) report a greater willingness of respondents to disclose sensitive information for CAPI. They assume that respondents are not concerned about having their information stored on the computer. Monthly income is one of these sensitive items. Therefore we can assume that we will not find significant differences between income nonresponse rates for CAPI and PAPI. However, because there has been much public discussion about privacy issues in computer databases in Germany, there could be a significant effect here as well.

2.2 Respondent's Acceptance – Unit Nonresponse

First we examine the probability to participate in the next wave after a CAPI interview took place. Unit nonresponse (non-participation) is given when respondents are unable (ill, deceased, or moved abroad) or unwilling (refusing) to participate in the survey. A few households could not be found during the fieldwork. Interviewers classify over 80 percent of this attrition as unwilling respondents and refusals (see Schräpler et al., 2006). Note that we restrict our non-response analysis to respondents who participate in at least 1 wave.

For the explanation of unit nonresponse and the impact of the interview mode we estimate multilevel logit regression models. Survey data have a hierarchical structure: In any year, the respondents are nested within interviewers. The appropriate method of analysis is to use multilevel models that estimate both variance and the effects of explanatory variables measured at both the interviewer an the respondent levels. Level 1 consists of i respondents and level 2 represents the aggregate level, which is formed by j interviewers.

A detailed description of these models can be found in the longer version of this paper in Schräpler et al. (2006).

2.2.1 Estimates

Table 1 on page shows estimates of two univariate logit models for waves 1 to 4. Model 1 is a random intercept model where only the intercept is allowed to vary across the interviewers. Model 2 is a random coefficient model, where we allow this variation also for the slope for CAPI. The sample contains a total of 1,583 respondents who participated in wave 1, with 110 interviewers. The samples in waves 2 to 4 decline due to attrition.

The estimates of model 1 and 2 show in the first wave no significant effects of respondent characteristics on unit-nonresponse. But we find a strong positive significant effect on unit-nonresponse for moving respondents (move) and also for the change of the interviewer (change of int.).

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Table 1: **Multilevel Logit-model for Unit Nonresponse in the Following Wave, Model 1 – Random Intercept Model, Model 2 – Random Coefficient Model**

| | wave 1 | | | | wave 2 | | | |
| | model 1 | | model 2 | | model 1 | | model 2 | |
	$\hat{\beta}$	s.e.	$\hat{\beta}$	s.e.	$\hat{\beta}$	s.e.	$\hat{\beta}$	s.e.
Fixed								
Intercept	–2.099***	0.63	–2.012***	0.67	1.215	1.43	–1.125	1.52
(1 – men)	–0.044	0.15	–0.061	0.16	–0.013	0.22	0.001	0.24
age (year)	0.005	0.01	–0.004	0.01	–0.022**	0.01	–0.020**	0.01
not empl. (ref)								
low occup.	–0.364	0.56	–0.343	0.6	–1.859*	1.05	–1.930*	1.09
med occup.	–0.278	0.51	–0.299	0.53	–0.902	0.87	–0.998	0.92
high occup.	–0.167	0.55	–0.102	0.57	–1.86	0.97	–1.899*	1.02
Trainees	0.189	0.66	0.032	0.69	–0.198	0.96	–0.399	1.02
self-empl.	–0.27	0.59	–0.138	0.62	–0.822	0.93	–0.823	0.97
Milit./civi. serv.	–0.327	0.51	–0.297	0.54	–1.061	0.89	–1.167	0.93
size of HH	–0.077	0.07	–0.088	0.07	–0.291**	0.11	–0.267**	0.13
Move ($t+1$)	1.290***	0.43	1.468***	0.44	1.933***	0.5	2.154***	0.56
Interviewer								
isex (1 – men)	0.946***	0.27	1.032***	0.28	–0.31	0.36	-0.35	0.39
Situation								
change of int. ($t+1$)	0.468*	0.29	0.438	0.3	2.318***	0.36	2.266***	0.39
sum of part.					0.573	0.52	0.36	0.56
Papi (ref)								
Capi	–0.244	0.17	–0.341	0.27	–0.022	0.25	0.182	0.41
self completed	–0.037	0.32	–0.092	0.34	–0.03	0.39	–0.279	0.47
Mixed	–0.145	0.34	–0.294	0.36	0.508	0.6	0.345	0.66
Random – *Respond. level*								
σ_u^2	$\frac{\pi^2}{3}$		$\frac{\pi^2}{3}$		$\frac{\pi^2}{3}$		$\frac{\pi^2}{3}$	
Interv. Level								
σ_v^2	0.913***	0.22	1.293***	0.35	1.433***	0.41	3.075***	0.96
$\sigma_{v(capi)}^2$			**2.799*****	0.88			**5.572*****	1.93
$\sigma_{v,capi0}$			–1.265**	0.47			–3.396***	1.22
Interviewer	110		110		115		115	
Persons	1583		1583		1477		1477	

| | wave 3 | | | | wave 4 | | | |
| | model 1 | | model 2 | | model 1 | | model 2 | |
	$\hat{\beta}$	s.e.	$\hat{\beta}$	s.e.	$\hat{\beta}$	s.e.	$\hat{\beta}$	s.e.
Fixed								
Intercept	–1.204	1.61	–0.952	1.43	–0.619	1.35	–0.761	1.361
(1 – men)	0.219	0.28	0.13	0.24	0.139	0.25	0.159	0.253
age (year)	–0.028**	0.01	–0.022**	0.01	–0.017*	0.01	–0.017*	0.001
not empl. (ref)								
low occup.	–1.398	1.25	–1.254	1.1	–0.802	1.11	–0.817	1.118
med occup.	–1.834*	1.13	–1.532	0.99	–2.152*	1.06	–2.154*	1.067
high occup.	–1.251	1.2	–0.941	1.04	–1.557	1.11	–1.536	1.121
Trainees	–2.174*	1.35	–1.847*	1.19	–1.551	1.16	–1.545	1.179
self-empl.	–0.799	1.19	–0.734	1.05	–1.29	1.11	–1.294	1.118
Milit./civi. serv.	–0.867	1.12	–0.748	0.99	–1.875*	1.07	–1.863*	1.07
size of HH	–0.470***	0.15	–0.422***	0.13	0.309***	0.11	0.307***	0.115
Move $(t+1)$	3.014***	0.49	2.761***	0.45	1.457***	0.61	1.542***	0.627
Interviewer								
isex (1 – men)	0.717	0.52	0.477	0.36	0.204	0.39	0.169	0.387
Situation								
change of int. $(t+1)$	3.831***	0.4	3.311***	0.32	3.973***	0.4	3.911**	0.407
sum of part.	0.133	0.34	0.083	0.3	–0.184	0.17	–0.19	0.174
Papi (ref)								
Capi	–0.564	0.46	–0.295	0.44	**–1.000**	**0.4**	**–0.802**	**0.443**
self completed	0.505	0.59	0.304	0.56	–0.24	0.48	0.01	0.501
Mixed	1.561***	0.67	1.313**	0.64	–2.559**	1.55	–2.358	1.557
Random – *Respond. level*								
σ_u^2	$\frac{\pi^2}{3}$		$\frac{\pi^2}{3}$		$\frac{\pi^2}{3}$		$\frac{\pi^2}{3}$	
Interv. Level								
σ_v^2	2.953***	0.79	3.279***	1.08	1.602***	0.48	1.891**	0.806
$\sigma_{v(capi)}^2$			0.659	1.13			3.104	2.112
$\sigma_{v,capi0}$			–1.645	0.96			–1.589	1.214
Interviewer	129		129		134		134	
Persons	1420		1420		1340		1340	

Source: SOEP Sample E, individual questionnaire, 1998 –2002; significance: * 10 %; ** 5 %; ***1 %.

We were interested mainly in mode effects. Our first hypothesis states that we will not find significant differences between the coefficients for PAPI and CAPI. Although the coefficient for CAPI is negative in all waves it seems that this mode does not perform significantly better than the reference category PAPI in the first three waves. An exception is the significant negative effect of CAPI for wave 4, where the PAPI mode has the worst attrition rate of all interview modes. In addition to this main effect we find that the CAPI coefficient varies significantly between the interviewers in the random coefficient model 2 ($\sigma^2_{v,capi}$) in waves 1 and 2. This means that the impact of the CAPI mode at time t on the participation in the following wave $t+1$ depends on interviewer's performance especially in the first two waves where the method split is almost realized. We can assume that this finding is caused by interviewer's skill in managing the new data collection method. Interviewers who are confident with the new technique may act in a more trustworthy manner than interviewers who are lack expertise in the use of CAPI.

Furthermore we find a gender effect in interviewers: male interviewers lost significantly more respondents after the first wave than female interviewers. Besides this identifiable systematic effect we find significant interviewer/area variances σ^2_v in all waves and significant covariances $\sigma_{v,capi0}$ between the interviewer and the CAPI variance $\sigma^2_{v,capi}$ in the first two waves.

2.3 Willingness to Disclose Sensitive Information – Income Nonresponse

In this section we explore if the CAPI mode has a significant effect on respondents' decisions to reveal their earnings. A detail conceptual and empirical explanation of the reasons for income nonresponse is given in Schräpler (2004, 2006). Our comparative study reveals that it is important to distinguish between refusals and don't knows. We do not want to repeat our conceptual framework and empirical results, but do have to repeat some statistical procedures.

Table 2 shows the income nonresponse rate for the gross income question of employed persons in sample E. We exclude in our analysis self-employed persons and trainees. The nonresponse rate is, at 23.7% highest in the first wave, declines to 15.4% in the second wave and then remains relatively constant between 14% and 15%.

Table 3 shows the income nonresponse rate by the applied data collection mode. We see that CAPI interviews have the highest rates of all modes in the first two waves. This finding suggests that respondents have some reservations regarding computer-based interviewing on their first encounter with it. Moreover, CAPI interviews have always higher rates than face-to-face interviews.

Table 2

Item Nonresponse Rates for the Gross Income Question Among Employed Persons in the SOEP, Sample E (in percent)

wave	including self-employed and trainees			excluding self-employed and trainees		
	employed respondents	missing	%	selected respondents	missing	%
1	1032	272	26.4	870	206	23.7
2	886	167	18.8	736	113	15.4
3	858	151	17.6	716	106	14.8
4	805	153	19.0	658	95	14.4
5	746	131	17.6	613	89	14.5
total	4327	874	20.2	3593	609	16.9

Source: SOEP, Sample E, 1998 – 2002 (own calc.)

Table 3

Gross Income Nonresponse Rate by Data Collection Method in Sample E, Employed Persons

method	Wave					N
	1	2	3	4	5	
Face-to-face	21.4	13.0	12.9	4.1	8.3	864
Mixed	14.6	12.5	14.8	28.6	23.0	173
Self-completed	22.8	12.9	8.9	12.1	1.6	546
Mail	22.2	15.0	23.3	16.2	22.1	305
CAPI	27.2	18.6	15.5	16.9	16.0	1676
N	870	736	716	658	613	3593

Source: SOEP, Sample E, 1998 – 2002 (own calc.)

Because refusals are not distinguished from don't knows in the SOEP, we have to use the same approach as described in Schäpler 2004 in the following. Table 4 shows the cross-tabulation of missing gross and net income, pooled over five waves. We have already established that it is reasonable to assume that respondents who do not state their gross income but do state their net income have recall problems in the majority of cases, and that we can classify this behavior as a "don't know" answer. In cases where respondents state neither their gross nor their net income, it is reasonable to assume that they are more or less uncooperative and that we can classify this as a refusal (see Schräpler, 2006).

Table 4 shows that – under these presumptions – the refusals are, at 10 %, slightly higher than the don't knows, at 7 %.

Table 4

Missing Gross and Net Income in Sample E, Wave 1 – 5

gross-income	net-income				total	%
	valid		missing			
	N	%	N	%		
valid	2831	78.8	149	4.2	2980	83.0
missing	249	7.0	360	10.0	609	17.0
total	3080	85.8	509	14.2	3589	100.0

Source: SOEP, Sample E, 1998 – 2002 (own calc.)

Modeling income-nonresponse. We estimate two logit models separately for waves 1 and 2. First an univariate logit model for the indicator income nonresponse and second, a multivariate logit model with three response variables refuse, don't know and unit response in the following wave.[2] Again we account for the hierarchical structure of the survey data and use a multilevel model. Level 1 represents the different response variables in the multivariate model, level 2 represents j respondents and level 3 consists of k interviewers. Hence we estimate a multivariate logit model with three levels:

For respondent j and interviewer k one dichotomous variable y_{ijk} is observed:

$$y_{ijk} = \pi_{ijk} + u_{ijk}$$

(1) $$y_{1jk} = \begin{cases} 1, & \text{if } y^*_{1jk} > 0, \text{ refuse} \\ 0, & \text{otherwise} \end{cases}$$

(2) $$y_{2jk} = \begin{cases} 1, & \text{if } y^*_{2jk} > 0, \text{ don't know} \\ 0, & \text{otherwise} \end{cases}$$

(3) $$y_{3jk} = \begin{cases} 1, & \text{if } y^*_{3jk} > 0, \text{ unit-response (next wave)} \\ 0, & \text{otherwise} \end{cases}$$

Again, the detailed description of these models can be found in Schräpler et al. (2006).

Estimates. Tables 5 – 6 on pages 122 – 123 show estimates of the univariate and the multivariate logit models for waves 1 and 2. The sample in wave 1 contains a total of 702 employed respondents from 106 interviewers. In wave

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[2] A similar model for income nonresponse with a probit specification can be found in Schräpler 2004.

2 the sample size declines to 656 employed respondents caused by the attrition process. The number of interviewers increases to 110 in wave 2.

The first column (0) in the tables refers to the univariate logit model (model 1) with gross income nonresponse as response variable. In this model we can recognize in wave 1 and 2 a consistent significant positive effect for CAPI in the fixed part of the model. This means that the CAPI mode produces more missing values for gross-income than a face-to-face mode. Furthermore, in model 2 these missing values are separated in "refuse" (missings for gross and net income) and "don't know" (missing for gross and valid answer for net income). The estimates show that in the two waves the CAPI mode has a strong positive effect on the category "refuse" but no significant effect on "don't know". Interviewers that use computer assisted personal interviewing in sample E of the SOEP have a higher probability that respondents will refuse to state their gross- and net-income than interviewers that use the traditional PAPI mode. This finding rejects our second hypothesis and is also not in line with previous findings of Baker (1995) and de Leeuw (1995). It seems that CAPI respondents in sample E have at least in the very first contacts more problems to disclose their income statement than in the case of PAPI.

Beside these definite CAPI effects we find another mode effect: respondents who used a self-completion mode and filled out their questionnaires by themselves in front of the interviewer more often refused than in situations where the interviewers asked them orally. The self-completion mode partly reduces the interviewer's control over the interview situation and makes it easier for the respondent to skip embarrassing questions. Respondents in low earning positions have significantly more don't knows and in high earning positions more refusals than in medium positions.

The interviewer variances in the random part of the model are more than three times their standard error and indicate interviewer or area influences on all three response categories.[3] Nevertheless, we could not find any identifiable influence of an interviewer gender or age effect. It may be that the interviewer variance is caused by unmeasured interviewer characteristics such as overall performance and skill of the interviewer.

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[3] We don't significance with stars because the used software program MLwiN uses quasilikelihood estimation. In this case significance tests based on standard errors are only indicative for the random part (Longford, 1999, see also Pickery / Loosveldt, 2002).

Table 5

**Multivariate Multilevel Logit Model for Income Nonresponse,
Sample E, Wave 1**

	model 1 – w1 (0) itemnonresponse		model 2 – w1 (1) Refuse		(2) Don't Know		(3) Unit-Response $(t+1)$	
	$\hat{\beta}$	s.e.	$\hat{\beta}_1$	s.e.	$\hat{\beta}_1$	s.e.	$\hat{\beta}_1$	s.e.
Fixed								
Intercept	−0.912	0.839	−1.007	1.008	−3.368***	1.257	1.575*	0.899
respondent								
sex (1 – men)	−0.223	0.181	−0.083	0.202	−0.496***	0.206	−0.271	0.193
age (year)	0.008	0.009	0.005	0.010	0.013	0.010	−0.002	0.009
med occup. (ref)								
low occup.	0.355	0.260	−0.171	0.319	0.854***	0.274	0.058	0.284
high occup.	0.159	0.228	0.521***	0.239	−0.602**	0.310	−0.089	0.239
size of HH	0.014	0.079	0.079	0.087	−0.047	0.095	0.190**	0.083
move	−0.313	0.786	0.122	0.743	0.000	0.000	−1.722***	0.577
interviewer								
isex (1 – men)	0.016	0.293	−0.015	0.349	0.129	0.491	−1.126***	0.339
situation								
change of interviewer	0.137	0.373	0.565	0.408	−0.480	0.452	−0.194	0.358
face (ref)								
capi	0.460**	0.202	0.463**	0.228	0.362	0.236	−0.063	0.209
self completed	0.331	0.347	0.816***	0.363	−1.054**	0.590	0.063	0.377
Random								
respondent level	u1		u1		u2		u3	
u1	0.802	0.046	0.654	0.037				
u2			0.000°	0.000	0.413	0.024		
u3			−0.079	0.028	−0.019	0.022	0.716	0.041
interviewer level	v1		v1		v2		v3	
v1	0.975	0.269	1.437	0.381				
v2			−0.608	0.398	2.951	0.716		
v3			0.054	0.258	0.194	0.359	1.224	0.324
interviewer cluster	106				106			
persons	702				702			
−2 * LogLikelih.	−526.09				−792.9			

Note: ° constrained to zero; Significance: * 10 %; ** 5 %; ***1 %.

Source: SOEP, Sample E, 1998, employed respondents without self-employed and trainees, without mail interviews (own calc.)

Table 6

Multivariate Multilevel Logit Model for Income Nonresponse, Sample E, Wave 2

	model 1 – w1 (0) itemnonresponse		model 2 – w1 (1) Refuse		(2) Don't Know		(3) Unit-Response $(t+1)$	
	$\hat{\beta}$	s.e.	$\hat{\beta}_1$	s.e.	$\hat{\beta}_1$	s.e.	$\hat{\beta}_1$	s.e.
Fixed								
Intercept	−1.566	1.264	−2.202	1.414	−5.120**	2.090	0.178	1.218
respondent								
sex (1 - men)	0.016	0.203	0.004	0.216	−0.190	0.232	0.001	0.233
age (year)	0.018*	0.010	0.001	0.010	0.048***	0.011	0.024**	0.011
med occup. (ref)								
low occup.	−0.249	0.326	−0.072	0.361	−0.743***	0.336	0.715*	0.427
high occup.	−0.151	0.263	0.136	0.276	−0.931***	0.332	0.777**	0.347
size of HH	−0.029	0.095	−0.012	0.104	0.000	0.107	0.112	0.114
move	1.302**	0.636	1.344**	0.593	0.000	0.000	−1.647***	0.564
interviewer								
isex (1 – men)	0.265	0.430	0.020	0.476	0.427	0.781	0.114	0.405
situation								
change of interviewer	−0.493	0.557	−0.489	0.544	−1.360	1.232	−1.607***	0.456
face (ref)								
capi	0.921***	0.236	1.339***	0.264	0.380	0.268	0.256	0.269
self completed	0.584*	0.351	1.293***	0.381	−0.783*	0.425	−0.435	0.373
Random								
respondent level	u1		u1		u2		u3	
u1	0.551	0.033	0.430	0.026				
u2			0.000°	0.000	0.224	0.013		
u3			−0.036	0.020	0.008	0.014	0.516	0.030
interviewer level	v1		v1		v2		v3	
v1	2.835	0.613	3.474	0.754				
v2			0.371	0.866	6.372	1.753		
v3			0.140	0.470	2.229	0.810	1.897	0.518
interviewer cluster	110				110			
persons	656				656			
−2 * LogLikelih.	−244.7				−3921.9			

Note: ° constrained to zero; Significance: * 1 %; ** 5 %; *** 1 %.

Source: SOEP, Sample E, 1999, employed respondents without self-employed and trainees, without mail interviews (own calc.)

3. Summary and Conclusion

Our first hypothesis is that we will not find a CAPI mode effect on unit nonresponse (non participation) in the following wave. We use random coefficient multilevel logit models to explore mode effects. The estimates show only in wave 4 a direct negative effect of CAPI on unit nonresponse in the following wave. But in the first two waves we find a significant interviewer variation of the CAPI coefficient. This finding suggests that the impact of the CAPI mode at time t on the participation in the following wave $t + 1$ depends on interviewer's skill in managing the data collection method especially in the first waves.

The second hypothesis is that CAPI respondents do not have greater reservations about providing sensitive information such as gross income than respondents in the traditional PAPI mode. To explore this assumption we classify the missing values into two components: refusals and don't knows. The estimates of the multivariate multilevel logit models show that in the first two waves CAPI interviews have a significantly higher probability of refusals (missing gross and net income) than PAPI interviews. One possible explanation is that the use of laptops increases privacy or confidentiality concerns. This result is important because we can expect that in a few years the computer assisted personal interviewing method will increasingly replace the traditional paper-and-pencil method. In our study we have investigated only the gross income statement, but further research is needed to reinforce this finding. However, one general conclusion of our analysis is that it is crucial to address this problem, and to work to decrease possible mistrust of the new data collection technology.

Our findings about the differences between CAPI and PAPI pertain primarily the first wave of the survey. Because the intended method split in the survey plan was almost realized in wave 1 we can reasonable assume that we have controlled the interviewer effects in the mode effects at least in the first wave. In the other cases we might have estimated combined effects.

References

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