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Evaluating the extent of non-response and non-coverage bias in the Swiss European Social Survey

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Overview

- Background and motivation

- Data and research questions

- Results
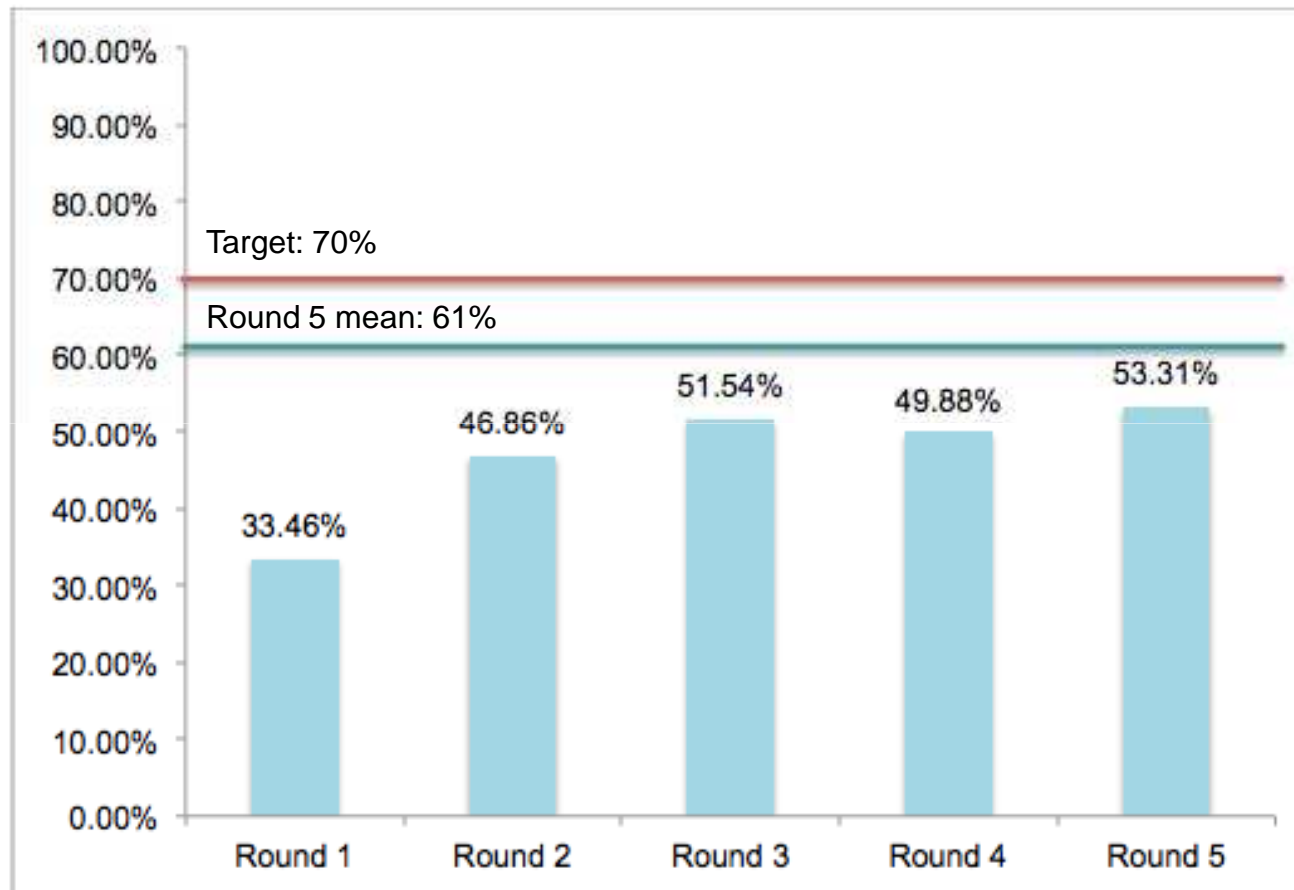
- Provisional conclusions and discussion points

Background and motivation

ESS Target Response Rates

- European Social Survey specifications for participating countries (Round 6):

"The proportion of non-contacts should not exceed 3 per cent of all sample units, and the minimum target response rate - after discounting ineligibles (and other 'deadwood', as defined by the CCT (…)) - should be 70%. As in previous rounds, this figure is likely to be exceeded in certain countries. Countries that participated in Round 5 and achieved lower response rates will still be expected to aim for the same 70% target in Round 6. Survey organisations should thus cost their surveys with this response rate in mind and consider what steps may be required to achieve it."

ESS Switzerland: Response Rates

Chart showing response rates:
- Target: 70%
- Round 5 mean: 61%
- Round 1: 33.46%
- Round 2: 46.86%
- Round 3: 51.54%
- Round 4: 49.88%
- Round 5: 53.31%

What impact do efforts to improve response rates have on survey quality?

A Swiss CATI 'legacy'?

- Low response rates in early ESS rounds and possible bias

- Increasing non-coverage from using the telephone directory as a sampling frame

- Use of telephone contacts as a primary contact mode may privilege sample members with telephone numbers

Do telephone contacts designed to minimize nonresponse contribute selection biases due to "non-coverage"?

New opportunities for research

1. SFSO sampling frame based on cantonal population registers of individuals now available for FORS surveys

2. Potential to reduce and investigate nonresponse and coverage errors

3. Auxiliary data for respondents and nonrespondents

4. Developing literature on R-indicators ('Representativity') – Schouten & Cobben, 2007

5. Growing debate about the value of response rates & response rate targets

6. Possibilities to reduce costs by targeting fieldwork effort?

Data and research questions

ESS5 Data

- Sample of individuals (n=2850) aged 15 and over, from the SFSO's register sampling frame (stratified by 7 NUTS regions)

- Automated matching to telephone numbers from a private database (AZ Direct): 61% with numbers

- Fieldwork by M.I.S. Trend SA – October 2010 – March 2011

- Response rate 53.3% (n=1506)

- Analysis of interview data, survey process data (contact forms and call records), frame data and data from the non-response follow-up survey

Overview of fieldwork efforts
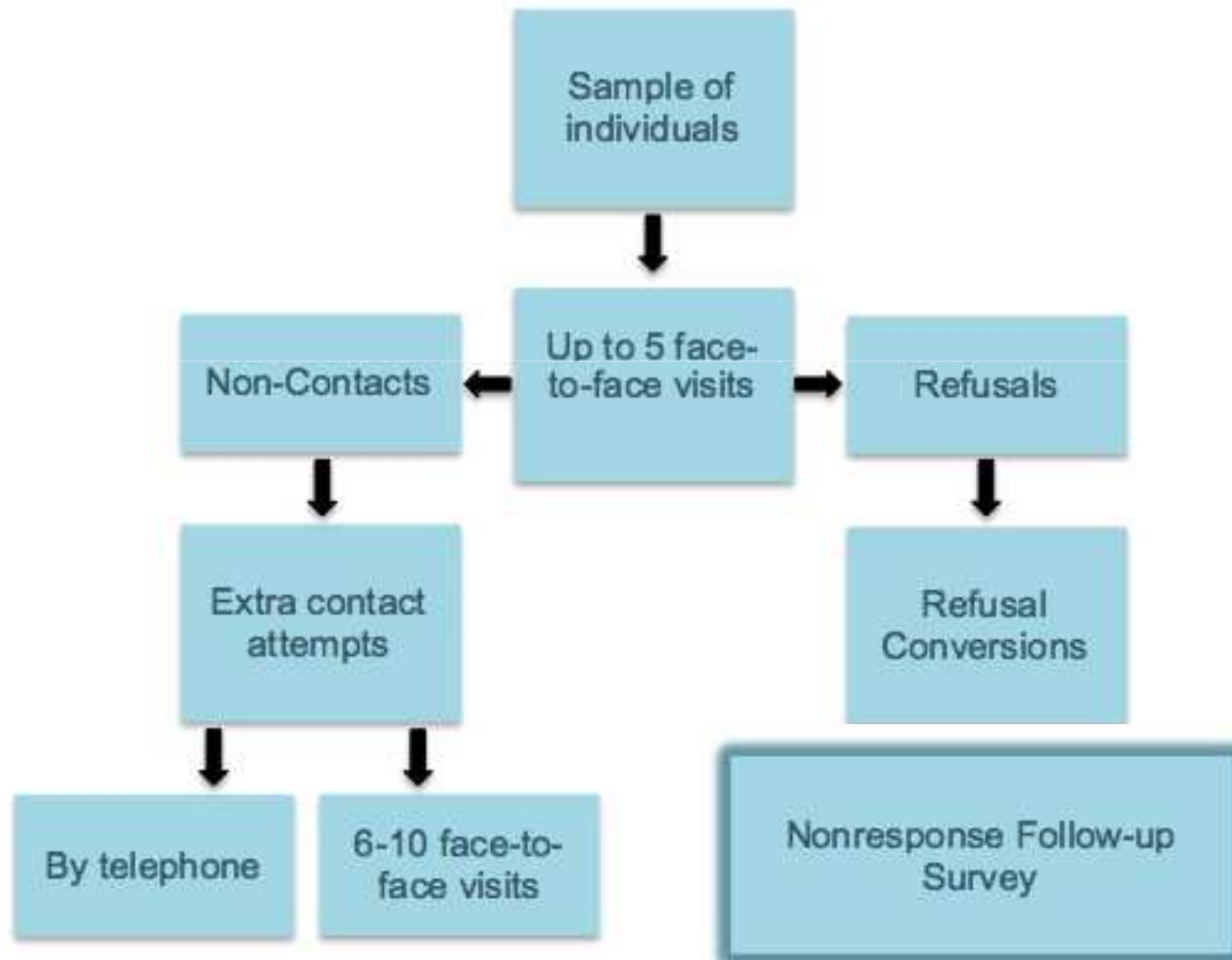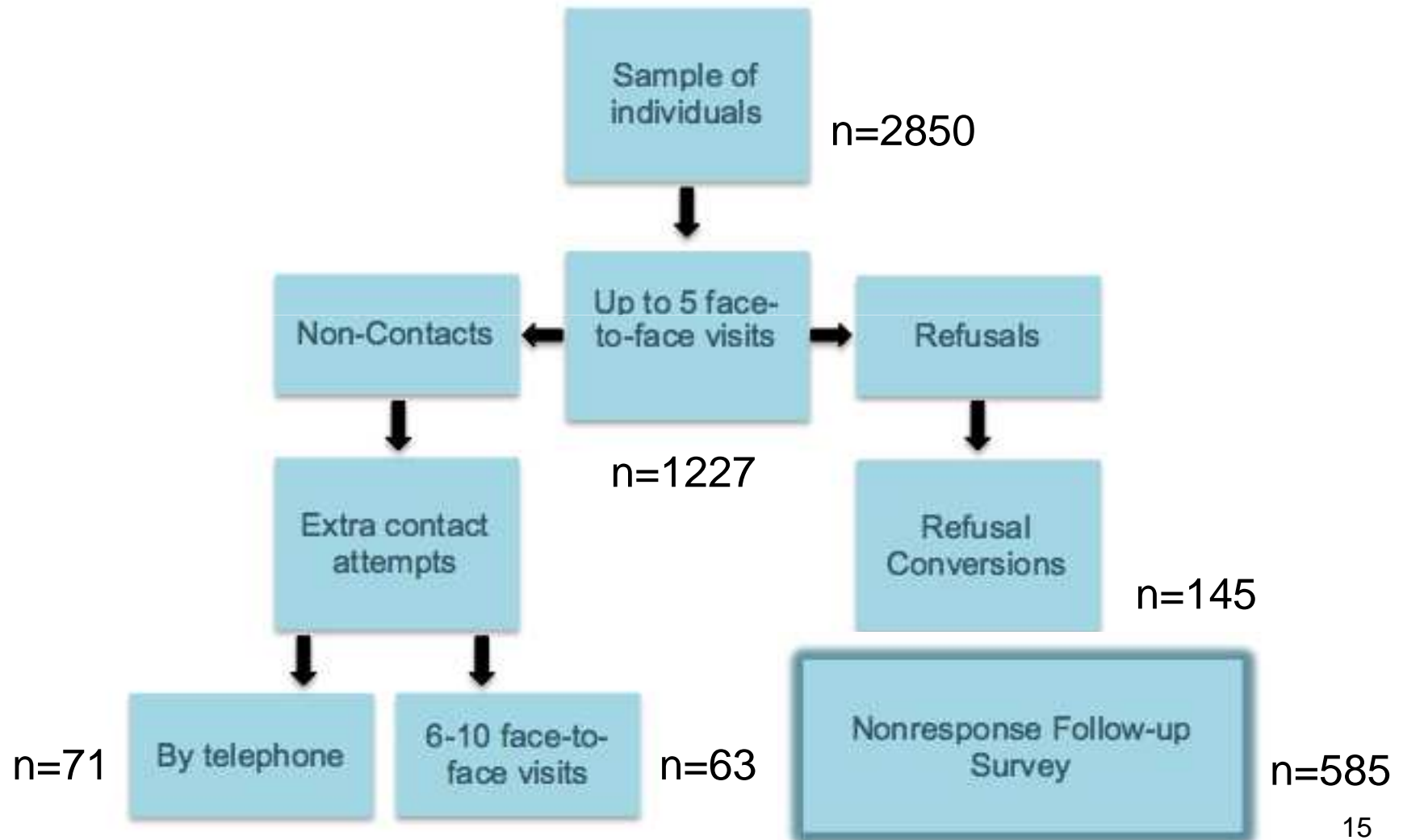
Research Questions

1. How effective are different methods at improving response rates, non-contact and refusal rates?

    - What difference does a telephone number make?

2. How does fieldwork effort affect sample representativeness and bias on key survey variables?

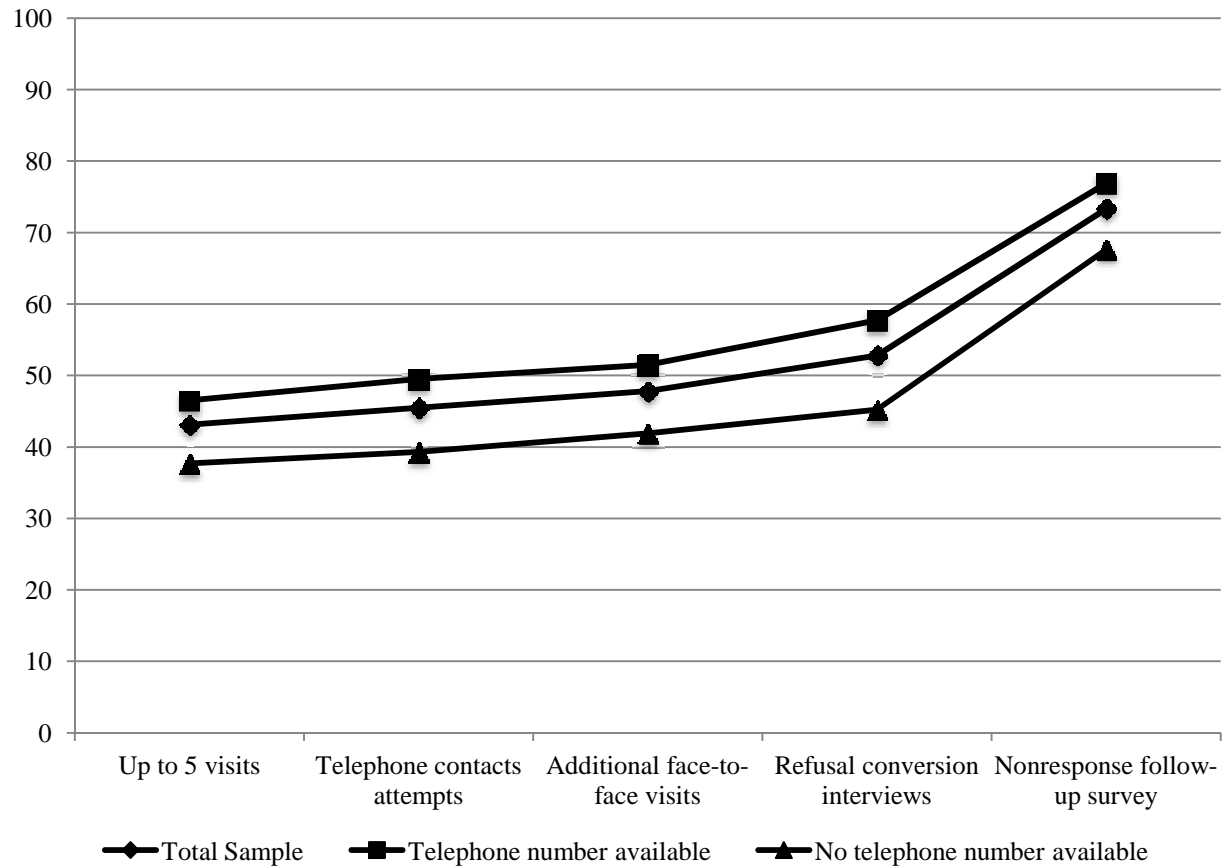   - What can the R-indicator tell us?

Results

How effective are different methods at improving response rates, non-contact and refusal rates?

What difference does a telephone number make?

Completed interviews by fieldwork effort

Sample of individuals — n=2850

Up to 5 face-to-face visits — n=1227

Non-Contacts

Refusals

Extra contact attempts

Refusal Conversions — n=145

By telephone — n=71

6-10 face-to-face visits — n=63

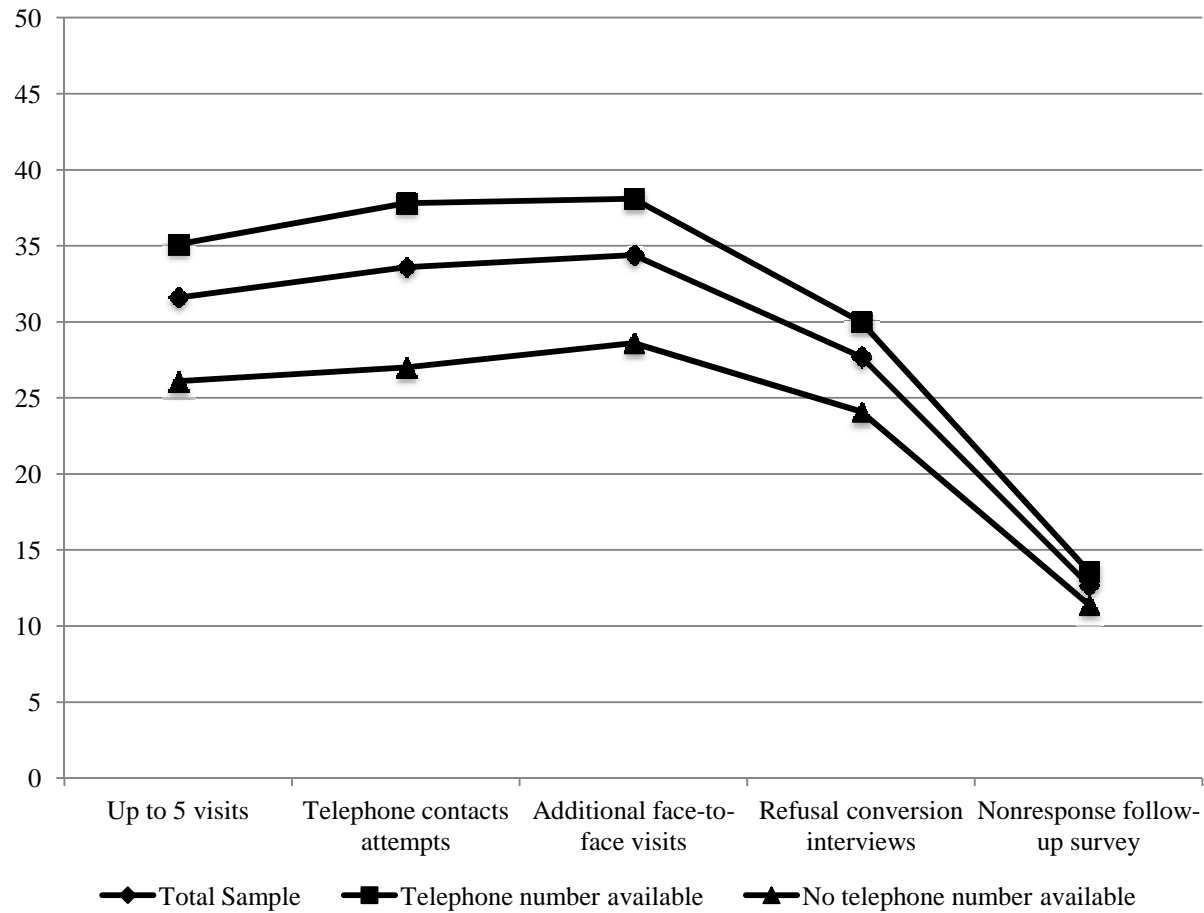Nonresponse Follow-up Survey — n=585

Completed interview rate by fieldwork effort

Noncontact rate by fieldwork effort
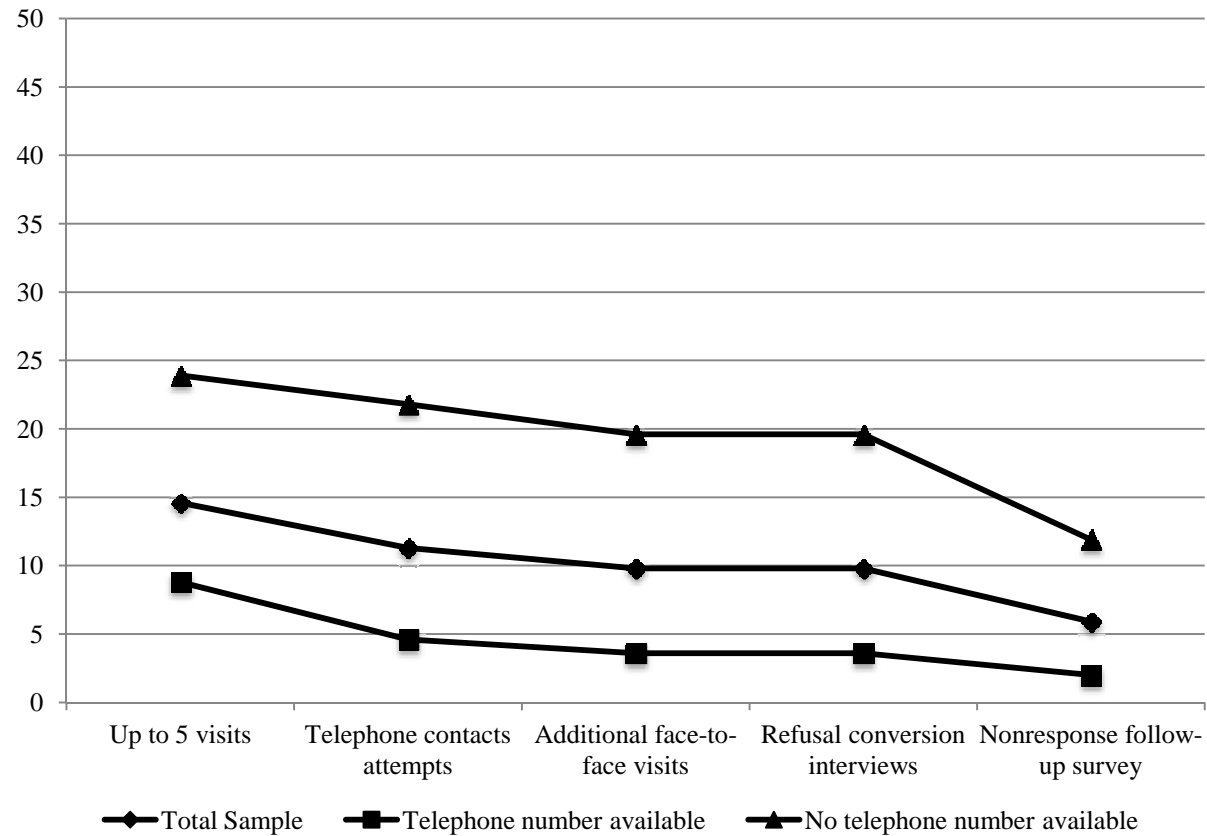
Refusal rate by fieldwork effort

How does fieldwork effort affect sample representativeness and bias on key survey variables?

Building the R-indicator

- Available variables from the sampling frame and survey specific variables:
    - sex, age*** (<30, 31-44, 45-64, 65+), marital status** (not married, married or legal partner), nationality*** (Swiss, border country, other), linguistic region' (German, French, Italian), Urbanization ***(urban, rural)
    - Whether respondent received conditional or unconditional incentive**
    - Whether telephone number was obtained from matching***

- Nagelkerke R^2 of the logistic regression only 0.07

Fieldwork effort & representativeness

	Up to 5 visits	Telephone contacts	Extra visits	Refusal Converts	NRFU
Response Rate	43.1%	45.5%	47.8%	52.8%	73.3%
R-indicator	0.79	0.78	0.78	0.78	0.81
Confidence Interval	(0.75-0.82)	(0.75-0.82)	(0.75-0.82)	(0.74-0.81)	(0.78-0.85)
Maximal Absolute Bias	0.25	0.24	0.23	0.21	0.13
N	1227	1298	1361	2506	2089

(R-indicator based on logistic regression using frame & survey variables described earlier)

Response rates, R-indicators and Max Absolute Bias
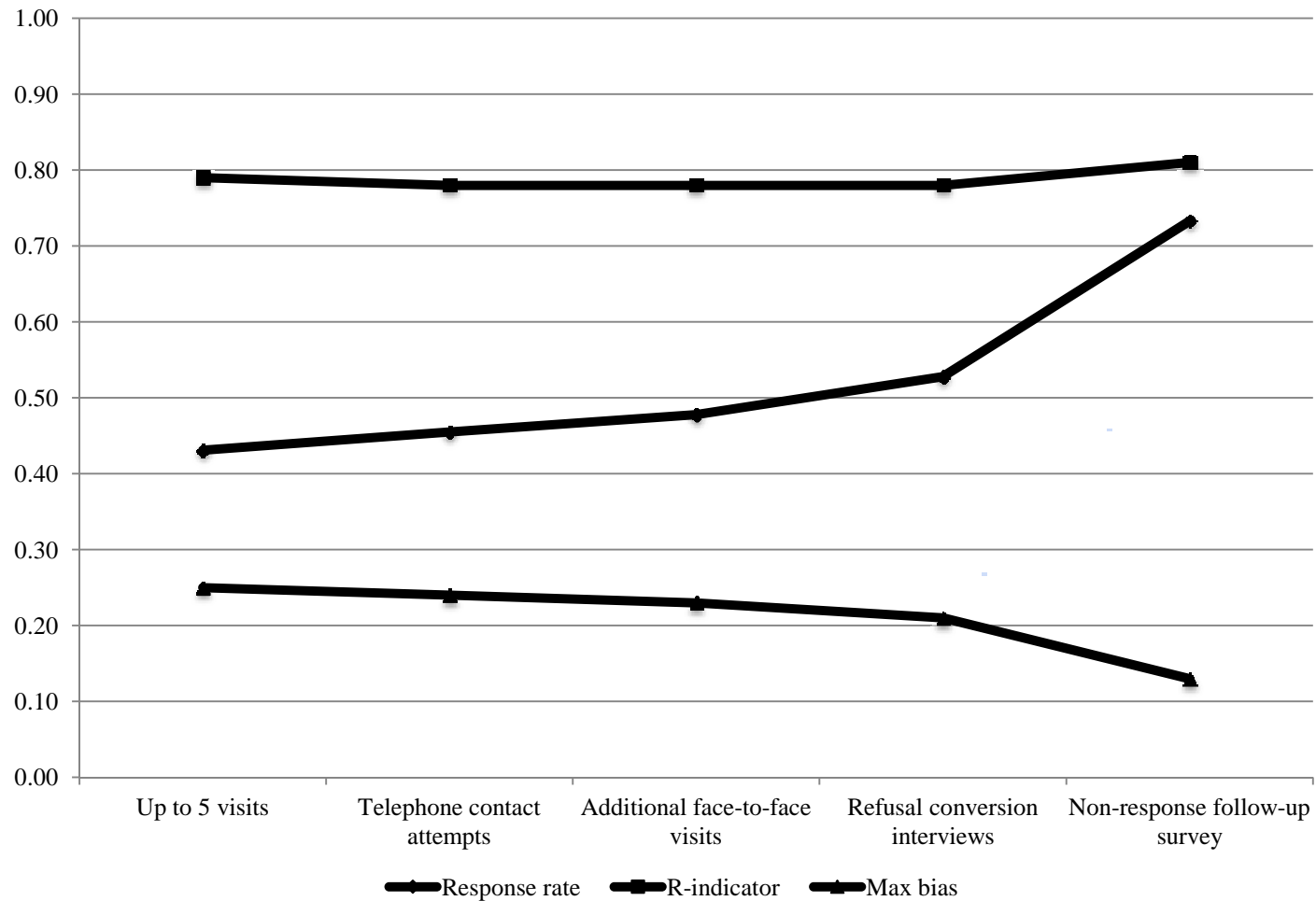
Actual bias?

	Up to 5 visits	Telephone contacts	Extra visits	Refusal Conversions	NRFU
Children in HH	0.45**	0.46**	0.45**	0.45**	0.58
People in HH	2.78*	2.79**	2.77*	2.75*	2.60
Extremely happy	89.3***	89.4***	89.3***	89.2**	80.0
Meets people socially frequently	52.8***	53.2***	53.0***	52.3***	43.1
Satisfied with democracy	69.5***	69.6***	69.8***	69.7***	57.5
Science can solve environment	40.6*	40.6*	40.6*	40.7*	45.8
Feels safe after dark	85.6***	85.8***	86.2***	85.6***	73.6
Complete trust in justice	54.3**	54.5**	54.6**	53.8**	46.8

Cumulative means & %; compares all effort types with the NRFU.

Correlations with response propensity

	n	r	z	p
Children in HH	1,506	-.04		'
People in HH	1,506	.16		***
Extremely happy	1,506	.16	3.68	***
Meets people socially frequently	1,506	.03	1.01	
Satisfied with democracy	1,473	.06	1.72	'
Science can solve environment	1,480	-.16	-4.92	***
Feels safe after dark	1505	.12	2.93	**
Complete trust in justice	1469	-.00	-0.09	

Correlation coefficients: Pearson's r, biserial & point biserial

Summary

- People with telephone participate more

- Telephone contacts and refusal conversion bring in more of the same people

- Response rates increase, R-indicators stay the same, Max Bias reduces

- Extra fieldwork effort does not reduce the bias

Further research

- Look at partial R-indicators to understand in more details what is going on at each effort levels

- Look at R-indicators for telephone/no telephone subgroups to assess non-coverage effects in previous round of ESS

- Can we build a better R-indicator?

- High R-indicator means good representativeness of the sample, does high correlation with response propensity mean less bias and low correlation more bias?

Thank you!

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