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THE UK HOUSEHOLD LONGITUDINAL STUDY

Going online with a face-to-face household panel: Initial results from an experiment on the UK Household Longitudinal Study Innovation Panel

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An initiative by the Economic and Social Research Council, with scientific leadership by the Institute for Social and Economic Research, University of Essex, and survey delivery by the National Centre for Social Research.

Survey Modes

- Long history:
  - use of different modes;
  - interest and research into differences between them;
  - focus first on measurement; later on nonresponse and sampling;
  - driven mainly by cost and convenience

- Recent history:
  - more systematic and regular mixing of modes;
  - introduction of web as 4th main mode

Recent Developments

- Constraints and opportunities:
  - increasing web penetration;
  - increasing familiarity and regular use of web;
  - advent of mobile web, esp. smartphones;
  - reducing landline coverage;
  - reducing face-to-face response rates

- Technology:
  - multi-platform survey software;
  - web questionnaire software

A Distinction

- **Multi-mode** (or multiple mode) data collection: Different modes used for different survey items, e.g.
  - CASI component within a CAPI survey;
  - CATI follow-up to a mail questionnaire;
  - etc

- **Mixed mode** data collection: The same survey items can be collected by different modes for different sample members:
  - sequential;
  - concurrent selective;
  - concurrent with respondent choice; etc

Why Incorporate Web?

- Reduce Costs (compared to interviewer-administered)
- OR
- Increase Response Rates and/or Reduce Non-Response Bias
- BUT, it is proving very hard (maybe impossible?) to achieve both aims simultaneously

(Janssen, 2006: Lagerstrøm, 2008; Leesti, 2010; Martin & Lynn, 2011; Millar & Dillman, 2011; Olson et al, 2012; Smyth et al, 2010; Souren 2012)

Important Context

- Longitudinal
  - Extra opportunities: to collect email addresses; to target web based on known characteristics;
  - Extra importance of response rates

- Household
  - Need to interview all household members: major cost saving accrues only when no interviewer visit is needed

- Existing single-mode (CAPI) survey
  - Respondent expectations and precedent;
  - measurement constraints

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- Samples of persons;
- All members of the household of each sample person interviewed
- Between-wave interval 12 months
- New panel, started in 2009, incorporated BHPS sample (since 1991)
- 100,000 persons; ethnic minority boost; broader content, including biomarkers
- Pressure on budget
- Includes an Innovation Panel (3,000 persons), for methodological development and testing

Context I

ESRC ITT for waves 6 – 8:

"There is a critical expectation that mixed modes of data collection will be introduced to the main study by wave 7. The proposal will include a SWOT analysis of the proposed new modes, plans for transition (including with fieldwork collection agencies) and identify potential cost savings in the short, medium and long term."

Context II

ISER Response:

"proposed design uses modes sequentially…. sample members are initially invited to complete the survey by web; non-respondents to the web survey are issued to face-to-face interviewing; in a final stage non-contacted or refusal cases are issued to telephone interviews.

The conditions for implementing the mixed modes strategy on the main survey are 1) that the approach used does not significantly raise overall attrition compared with using face-to-face interviewing only; 2) that the approach used leads to significant cost savings at least in medium term, and 3) that it maintains data quality comparable with face-to-face interviewing. "

Context III

ISER Response, continued:

"If these conditions are met, mixed modes could be introduced on the main survey in stages:

- *Wave 5 (2013-14) could start using telephone follow-up of non-respondents to reduce attrition, subject to available budget;*
- *Wave 6 (2014-15): could start making a web version of (all or part of) the survey available for a subsample, conditional on the outcomes of the Innovation Panel experiments*
- *Wave 7 (2015-16): Full implementation of mixed modes, using a strategy based on testing procedures."*

IP5 Design I

Two components:

- Original sample, for whom this was the 5th wave;
- Refreshment sample, for whom this was the 2nd wave.

Households randomly assigned to one of two treatment groups:

- Face-to-face (one-third of each sample);
- Mixed mode (two-thirds of each sample).

Mixed modes treatment:

- Letter with URL and ID. Sent also by email where available;
- Hhd grid (first respondent only), hhd qre (first householder), individual qre
- 3 email reminders at 3-day intervals; After 14 days, reminder letter + face-to-face visits began

IP5 Design II

Two additional experiments within mixed-mode treatment:

- Additional conditional incentive (versus none): if all hhd members completed web survey, each receive extra £5;
- Day of week of mailing: timed to arrive Friday *vs*. Monday.

Telephone validation of web household grid data:

- 200 web-respondent households
- Asked independently of web responses, with respect to date at which web grid completed

Households Responding Completely by Web I

Proportion of households (*n*)	Original sample			Refreshment sample
	Total sample	Wave 4 respondent households	Wave 4 non-respondent households	Total sample
Total sample	18.8 (731)	21.0 (621)	5.1 (110)	34.4 (315)

Households Responding Completely by Web I

Proportion of households (*n*)	Original sample			Refreshment sample
	Total sample	Wave 4 respondent households	Wave 4 non-respondent households	Total sample
Total sample	18.8 (731)	21.0 (621)	5.1 (110)	34.4 (315)
£5	17.8 (389)	19.5 (330)	7.7 (59)	
£10	21.5 (311)	24.7 (263)	2.3 (48)	23.0 (87)
£20				37.1 (105)
£30				43.2 (111)

Households Responding Completely by Web II

Prob (complete HH by web)		Original sample: Predicted probability	Original sample: *P*-value	Refreshment sample: Predicted probability	Refreshment sample: *P*-value
HH internet:	No	6.9		22.4	
	Yes	20.8	0.005	35.1	0.144
Web users in HH:	None*	8.6		8.2	
	Some	19.7		35.5	
	All	26.9		43.4	
	Yes+missing	12.7	0.002	31.8	0.000
Number of eligible adults:	1	17.1		29.3	
	2	19.7		38.8	
	3+	23.3	0.484	24.7	0.035
Emails for HH members:	None	10.0		24.3	
	Some	15.1		29.5	
	All	26.4	0.000	44.1	0.055
N		666		304	

Household Response Rates

	Original sample						Refreshment sample		
	IP4 responding			IP4 non-responding					
	F2F	MM	*P*	F2F	MM	*P*	F2F	MM	*P*
HH response rate	84.1	81.1	*0.29*	32.6	40.4	*0.38*	85.1	82.2	*0.49*
Complete HHs	63.9	55.7	*0.02*	14.0	22.2	*0.30*	60.1	66.2	*0.25*
Partial HHs	20.3	25.4	*0.07*	18.6	18.2	*0.95*	25.0	15.9	*0.01*
Non-contact	5.6	2.9	*0.04*	16.3	13.1	*0.63*	5.4	6.4	*0.71*
Refusal	8.7	14.1	*0.05*	46.5	40.4	*0.48*	8.3	9.6	*0.68*
N	322	621		43	99		168	315	

Individual Response Rates

	Original sample						Refreshment sample		
	IP4 responding			IP4 non-responding					
	F2F	MM	*P*	F2F	MM	*P*	F2F	MM	*P*
Full interview	82.8	75.8	*0.04*	18.5	24.8	*0.11*	69.8	72.0	*0.60*
Proxy interview	2.6	2.0	*0.50*	20.2	9.6	*0.00*	5.5	1.9	*0.00*
Partial interview	0.0	1.2	*0.01*	0.0	0.5	*0.34*	0.0	1.4	*0.03*
Non-contact	3.4	2.9	*0.65*	18.0	10.6	*0.05*	5.7	6.8	*0.68*
Refusal	8.5	14.1	*0.08*	41.0	43.0	*0.66*	12.9	11.1	*0.60*
Other NR	2.6	4.0	*0.34*	2.2	11.4	*0.00*	6.0	6.9	*0.62*
N	495	934		178	395		348	592	

Effects of Incentives

Refreshment sample	£10 incentive F2F	£10 incentive MM	*P*	£20 incentive F2F	£20 incentive MM	*P*	£30 incentive F2F	£30 incentive MM	*P*
HH response rate	87.5	74.7	*0.11*	87.0	81.9	*0.45*	90.3	92.8	*0.59*
Complete HHs	57.5	52.9	*0.66*	61.1	68.6	*0.40*	64.5	78.4	*0.08*
Partial HHs	30.0	21.8	*0.39*	25.9	13.3	*0.08*	25.8	14.4	*0.10*
Non-contact	0.0	5.7	*0.11*	3.7	3.8	*0.97*	3.2	4.5	*0.68*
Refusal	12.5	18.4	*0.38*	9.3	12.4	*0.59*	3.2	0.9	*0.27*
Other NR	0.0	1.1	*0.50*	0.0	1.9	*0.31*	3.2	1.8	*0.55*
N	40	87		54	105		62	111	

Subgroup Response Rates

Households less likely to be fully-responding with mixed modes (and more likely to be partially responding):

- Households containing children;
- Households in which all adults are regular web users.

Differences in individual response propensities:

- Face-to-face response rates higher in rural areas than urban; mixed mode higher in urban than rural;
- Face-to-face those who said they would not complete a web survey were most likely to respond; mixed mode they were the least likely

We have not been able to identify <u>any</u> subgroup that is more likely to respond with mixed modes than with face-to-face

Increasing Take-Up of Web

	Original sample								
	IP4 responding			IP4 non-responding			Refreshment sample		
	%	*P*	*N*	%	*P*	*N*	%	*P*	*N*
No bonus	17.7		*295*	4.2		*55*	35.5		*152*
Bonus	25.8	0.01	*298*	6.3	0.66	*52*	35.1	0.93	*151*
Monday	21.0		*292*	4.0		*56*	34.7		*150*
Friday	22.6	0.61	*301*	6.5	0.57	*51*	35.9	0.80	*153*

% = proportion of households fully responding by web

Item Non-Response

	Original sample			Refreshment sample		
	F2F	MM	*P*	F2F	MM	*P*
Mean Item non-response (%)	0.13	0.19	*0.014*	0.14	0.17	*0.137*
N	*459*	*856*		*243*	*435*	
Gross pay Item non-response (%)	10.0	17.5	*0.022*	8.0	18.0	*0.027*
N	*229*	*411*		*112*	*205*	

P: *P*-values from Wald tests of means adjusted for sample design

Next Steps I

Further experimentation at IP6:

- Allocation to same treatments, primarily to study effects on attrition;
- Larger unconditional and conditional incentives:
  - £10 unconditional (only)
  - £10 unconditional + £20 conditional
  - £30 unconditional
- Reducing item non-response (for 6 key items):
  - reactive control (as for IP5 and other items at IP6);
  - reactive treatment (emphasises importance and confidentiality);
  - final mop-up (single item at end of questionnaire emphasising importance and confidentiality)

Next Steps II

Publication of Initial IP5 findings as working paper
(http://research.understandingsociety.org.uk/publications)

Analysis of household grid validation data

Analysis of measurement differences

Ongoing overall review of pros and cons for the study, leading to a decision about design of each wave

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