

ADDRESS BASED ONLINE SURVEYING (ABOS)

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What is ABOS?

- ABOS = Address Based Online Surveying
 - Stratified random sample of addresses is drawn from the Royal Mail's postcode address file
 - Invitation letter is sent to the address, containing username(s) and password(s) plus survey website url
 - Lots of variants possible! (see later...)

Originally conceptualised as lower cost alternative to increasingly difficult dual-frame RDD

- More flexible with regard to both size and shape than interview surveys
- Builds upon ABS designs in the US and push-to-web strategies utilised on many surveys

First test with *face-to-face* interview survey Community Life in 2012 (Cabinet Office, now DCMS)

Kantar has used it for six other clients and Ipsos uses a variant for Sport England's Active Lives



Questions about ABOS (see also article in *Social Research Practice Vol 3*)

- Q1: If the sample is of addresses, how do you convert this into a sample of individuals?
- Q2: How do you verify that the data is from the sampled individual(s)?
- Q3: How do you cover 'offline' individuals?
- Q4: What RR does the ABOS method get & what is the impact of the design features you have tested?
- Q5: How does response rate vary between subpopulations, and what (if anything) can you do about it?
- Q6: What evidence do you have for non-response bias?
- Q7: How much does it cost?



Q1: How do you convert a sample of addresses into a sample of individuals?

- No control over which household in multi-household addresses (but few of these in England)
- Initially tested last/next birthday methods but substantial non-compliance
- ESS/NatCen tested 'proper' random sampling but experienced similar problems
- Tested 'all adults' method to overcome problem
 - Clustered data but statistical value similar to sample that requires within-household sample weights
 - Lower printing/postage costs
 - Risks of 'contamination' (like most whole-household surveys) and of multiple completions by one resident
- Other options include 'take first two' (see Active Lives) and post hoc within-household sampling procedures
- Still a live topic for research



Q2: How do you verify that the data is from the sampled individual(s)?

- Verification of self-completion survey data must be *proportionate* to avoid exploding budget
- Far less control than with interview surveys
- Strategy 1: Stress the importance of data validity; explain that we use verification procedures (w/o specifying)
- Strategy 2: Construct algorithm to weed out completed questionnaires that fail on multiple criteria
- 5% exclusion rate for Community Life; up to 10% on some other surveys
- Live question whether combination of strategies 1 & 2 is *sufficient* even if it is proportionate



Q3: How do you cover offline individuals?

- 17% of the adult population in GB has either never used the internet or uses it so infrequently that they are effectively not covered by an online survey method
- Shrinking but particularly distinctive with respect to birth cohort and educational level
- Government studies can't usually miss them out!
- Most ABOS studies use paper option (usually 'on request' and in selected 2nd reminder packs)
- Paper option enforces simple questionnaire design or version limited to headline measures
- Alternative is parallel interview survey limited to offline/not-very-online
- This option costly unless rather small (& then risk of tokenism)



Q4: What response rate does the ABOS method get?

- Response rate depends on sponsor, topic, design features etc.
- In our experience, has ranged from 7% to 25%+
- Conditional incentives increase RR and tend to pay for themselves through lower printing/postage costs
- Adding paper questionnaires to one of the reminders is even stronger incentive (but not cheap)
- Government sponsor – clear on envelope! – is a major advantage
- Kantar's current focus is on limiting between-strata variance in response rate
 - Targeting reminder packs that include paper questionnaires is the single most effective tool we have
 - Varying the number of reminders also works well (some evidence for varying *type* too)
 - Varying message strategy has more limited effect



Response rate for subpopulations (Community Life 2016-17: online & on-demand paper & targeted paper)

Stratum (IMD)	Method	(Est) Person-level RR (both modes)	(Est) Person-level RR (web only)
Most deprived 20%	Paper q'res in all 2nd reminders	19%	10%
2nd quintile	Paper q'res in all 2nd reminders	22%	12%
3rd quintile	Paper q'res in 60% of 2nd reminders	24%	17%
4th quintile	No paper q'res in reminders	21%	20%
Least deprived 20%	No paper q'res in reminders	24%	23%

Q5: How does response rate vary between subpopulations?

- Online respondents more educated than average and less likely to rent
- Online response lowest in deprived areas and in other areas with lots of flats
- Paper questionnaires *definitely* bring in more people aged 60+ and especially those aged 75+
- *Probably* bring in u60s who have long-term illnesses or disabilities and/or live in social rent accommodation
- Overall, ABOS profiles less accurate than face-to-face interview (RP) profiles but similar to dual-frame RDD
- Critical to survey sufficient numbers of each type for multi-dimensional post-stratification to work
- Modest design effects due to multi-dimensional weighting suggest reasonable raw sample balance
- Worth assessing 'weighting efficiency' for each marginal subpopulation in the weighting matrix



Weighting efficiency for subpopulations (example A; f2f interviews used as secondary mode)

	Subpopulation	Weighting efficiency
Gender	Male	71%
	Female	74%
Age group	18-24	64%
	25-29	83%
	30-34	82%
	35-39	83%
	40-44	81%
	45-49	84%
	50-54	82%
	55-59	69%
	60-64	63%
	65-69	68%
	70-74	60%
75-79	68%	
	80+	76%

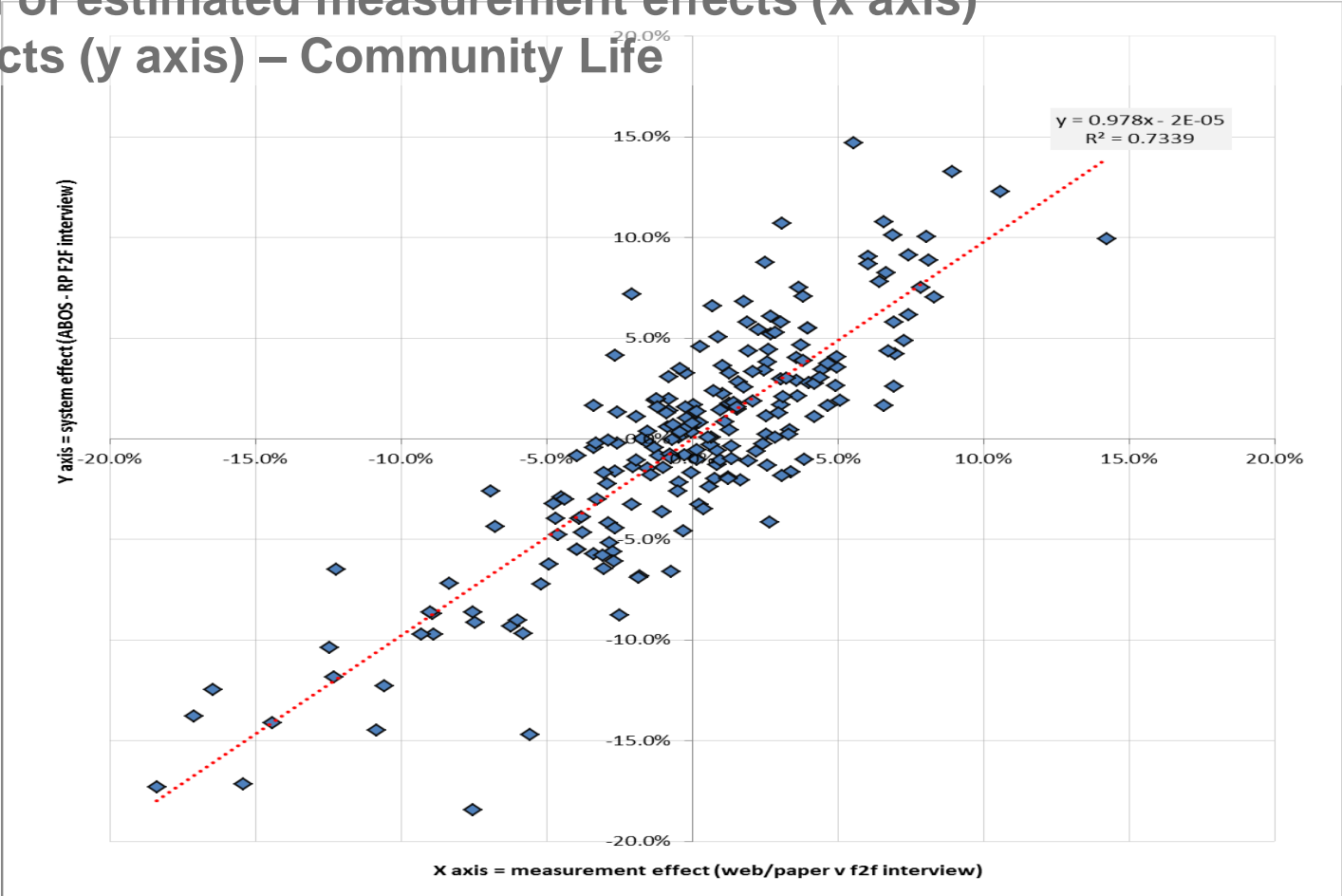
- Weighting variables:
 - Gender*age group
 - Employment status*age group
 - Highest qualification*age group
 - Housing tenure
 - Household structure
 - Region

Q6: What evidence do you have for non-response bias?

- Most survey data lack benchmarks which makes (non-demographic) bias hard to quantify
- For some variables, interviews and s/c questionnaires would produce very different distributions from the same sample so high RR surveys are not *necessarily* suitable benchmarks for ABOS studies
- Three year parallel run with Community Life provided an opportunity to assess 'whole system' effects
- System effects of variable size but sometimes large, especially if rating scales used
- ABOS-style follow-up of interview respondents suggested that most (not all) system effects are due to measurement differences rather than differences in sample characteristics
- These sorts of study are very valuable when considering a new data collection system like ABOS

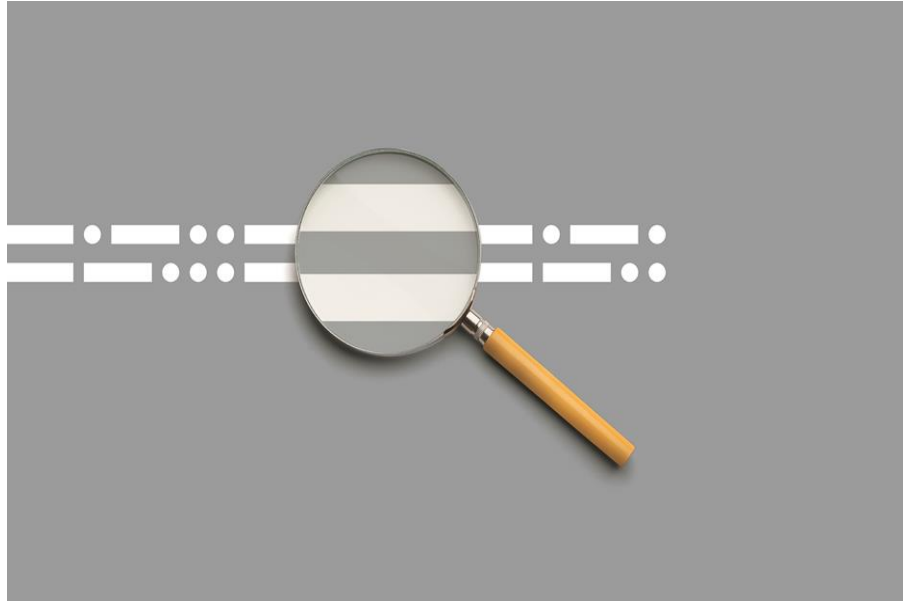


Scatter-graph of estimated measurement effects (x axis) v system effects (y axis) – Community Life



Q7: How much does it cost?

- Specific combination of design features that is adopted will influence cost (of course!)
- For general population surveys, costs have (so far) been smaller than for dual-frame RDD but not by much
- Surveys of subpopulations more expensive per *eligible* complete but sometimes able to use auxiliary address data to improve efficiency
 - Community Life now incorporates an ethnic minority population boost purely through applying different sample fractions for different strata
 - Potential to use address-level admin data - or data from vendors like Experian/CACI - to improve efficiency
- Piloting essential until this method is more established



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