NPSO discussion meeting
Adaptive Survey Designs

March 20, CBS, The Hague

Programme

13:00 – 13:10 uur	Opening – What are adaptive survey designs? Barry Schouten (CBS)
13:10 – 13:30 uur	What one needs for successful adaptive survey designs Jannes Hartkamp (DESAN)
13:30 – 14:00 uur	How to minimize survey errors in adaptive survey designs? Melania Calinescu (VU Amsterdam)
14:00 – 14:30 uur	Adaptive survey design in panels: useful or not? Robbert Zandvliet (TNS-NIPO)
14:30 – 15:00 uur	Break
15:00 – 15:30 uur	Aspects of Responsive Design with Applications to the Swedish Living Conditions Survey? Peter Lundquist en Carl-Erik Särndal (Statistics Sweden)
15:30 – 16:15 uur	Panel discussion Jelke Bethlehem (CBS), Koen Beullens (KU Leuven), presenters
16:15 uur	Borrel

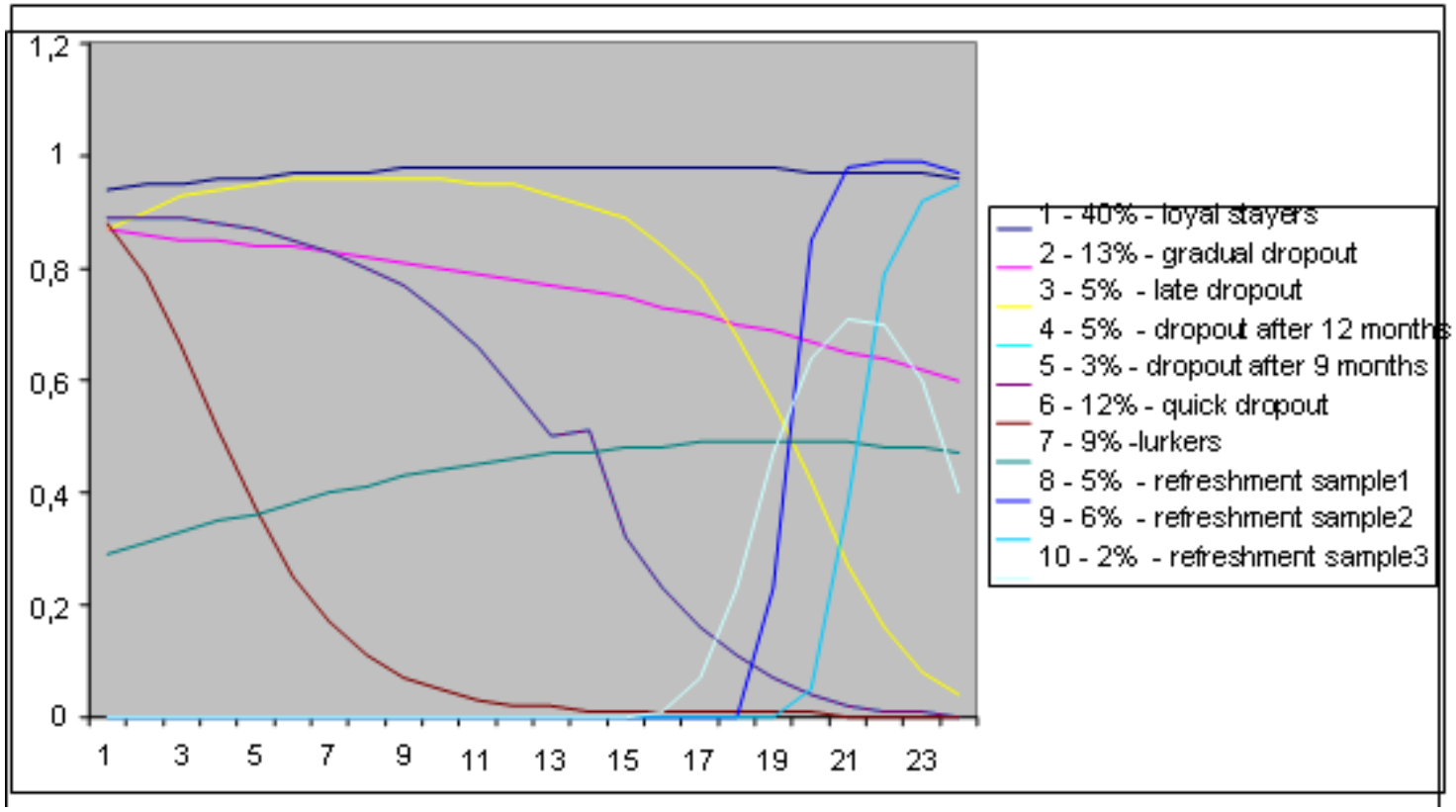
What are adaptive survey designs?

Integrated Survey on Living Conditions (POLS) 1998
Two months data collection, CAPI and CATI follow-up

Variable	Response mean		Adjusted mean	
	After 1 month	After 2 months	After 1 month	After 2 months
Employed	48.6%	50.4%	49.6%	50.6%
Owns a house	63.0%	63.3%	59.1%	59.4%
Owns a pc	59.6%	59.8%	57.3%	57.2%
Social allowance (12.1%)	10.5%	10.4%	11.6%	11.4%
Is non-native (15.0%)	12.9%	12.5%	14.6%	14.4%

What are adaptive survey designs?

Respondent profiles LISS-panel (Lugtig et al 2010)



What are adaptive survey designs?

General idea: Different population subgroups react differently to different combinations of survey design features. Gain in efficiency is possible by explicit trade-off between cost and quality.

Motivation: Pressure on budgets, pressure on response rates and web as a candidate survey mode

ASD`s may be viewed as extensions to sampling designs; they extend to non-sampling errors and to multiple candidate strategies.

What are adaptive survey designs?

Static design: Employs registry and frame data only

Dynamic design: Employs (also) paradata observations

Dynamic adaptive survey designs have a close resemblance to responsive survey designs, but:

- RSD originates from the setting where little is known in advance or response is unpredictable
- RSD`s have multiple design phases. Each phase may be an ASD
- RSD`s learn during data collection and have stopping rules while ASD`s fix strategies in advance

What are adaptive survey designs?

Steps:

1. Choose quality and cost functions
2. Identify candidate strategies
3. Identify population subgroups
4. Estimate cost and quality parameters
5. Optimize allocation of subgroups to strategies:
   - either, maximize quality given constraints on cost and other quality aspects
   - or, minimize cost given constraints on quality and other cost aspects
6. Monitor data collection closely, and possibly repeat steps

See also “Responsive Design in Telephone Survey Data Collection”, Peytchev (2010)

What are adaptive survey designs?

Ingredients:

- Strategies (mode, number and timing of calls, reminders)
- Subgroups (paradata observations or registry/frame data)
- Quality functions
- Cost functions
- Historic survey data