



## **Differential survey strategies based on R-indicators.**

A mixed mode pilot at Statistics Netherlands

Annemieke Luiten and Willem Wetzels



# The pilot in the Netherlands

- Using R-indicators
  - To determine differential fieldwork strategy prior to fieldwork
  - To evaluate impact of manipulations on results
- Aim: augment representativeness of sample realisation, against minimally equal, but ideally less, costs and with minimally equal, but ideally higher, response rates.
- (NB., we did all that!)

# Vehicle = Survey of Consumer Confidence

- CATI (registered telephone owners only)
- Address sample
- Monthly survey: first ten workdays
- Uniform calling strategy:
  - Same treatment for all addresses
  - No incentives
  - No refusal conversion

# Design

- Experiment parallel to regular SCC
  - Same fieldwork period
  - Same interviewers
  - Same interviewer capacity
  - Same sampling procedure
- Manipulation of
  - Mode
  - Chance of contact
  - Chance of cooperation

# Step 1: propensity estimation

- Linking sample with registries

<i>Variable</i>	<i>Categories</i>
<i>Household level</i>	
Ethnic Group	Native, Moroccan, Turkish, Suriname / Netherlands Antilles, other non-western, other western, mixed and unknown. For the present analyses aggregated to native, foreign, mixed and unknown
Gender	all male, all female, mixed, unknown
Average age of household core	15-30;31-44;45-65; over 65, unknown
Type of Household	Single, partners without children, partners with children, single parents, unknown
<i>Postal code area level</i>	
Degree of urbanization	very strong, strong, moderate, low, not urban, unknown
percentage non-western non-natives	very high, high, average, low, very low, unknown
average monthly income	quartiles

- Determining contact propensity (low, medium, high)
- Determining cooperation propensity (low, medium, high)
  - in CATI
  - in Web / mail

## Low cooperation propensity:

- Western and non-western foreigners
- First generation foreigners
- Lowest income quartile
- Age 65 and over
- Single households
- Household type unknown

<b>Sum Score</b>	<b>Cooperation CATI</b>	<b>N</b>	<b>Cooperation WEB</b>
<b>0</b>	<b>78,5</b>	<b>8650</b>	<b>31,3</b>
<b>1</b>	<b>72,5</b>	<b>3101</b>	<b>21,6</b>
<b>2</b>	<b>67,5</b>	<b>2544</b>	<b>13,9</b>
<b>&gt;=3</b>	<b>57,5</b>	<b>2645</b>	<b>8,3</b>

## High non-contact propensity:

- Age 30 or younger and single, or in partnership without children
- Very urban areas
- Western and non-western foreigners
- First generation non-western foreigners
- Living in an area with the highest quartile of ethnic minorities

Sum Score	Non-contact	N
0	4,3	10306
1	5,8	4875
2	7,5	1989
>=3	11,5	735

## Step 2: experimental manipulations

### Web/mail wave

- High cooperation propensity: web survey
- Medium cooperation: choice between web and mail
- Low cooperation: mail survey

One reminder

CATI follow-up of nonresponse



# Telephone wave

1. Stimulate chance of contact for units with low contact propensity
  - One call in every shift
  - Calls every day
  - Start at day 1 of fieldwork period
  - Priority in each day batch
2. Dampen chance of contact for units with high contact propensity
  - Start fieldwork in second week of FWP
  - One evening call only
  - Remainder of calls during daytime

3. Stimulate cooperation for units with low cooperation propensity
  - Numbers were assigned to the best interviewers
  - Soft appointments were assigned to best interviewers
4. Dampen cooperation for units with high cooperation propensity
  - Numbers were assigned to lesser interviewers

## Results: Response

<i>Results</i>	<i>Pilot</i>		<i>SCC</i>	
	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>
Ineligible	144	4,8	225	7,5
Non-contact	183	6,1	196	6,5
Not present during fieldwork period	62	2,1	73	2,4
Not able (ill, dementia)	122	4,1	115	3,8
Language problems	26	0,9	40	1,3
Refusal	548	18,3	467	15,6
Response	1915	63,8	1884	62,8
Response WEB-PAPI	1081	36,0		
Response CATI	834	27,8		

## Results: Representativeness

	SCC	ESCC
	R (CI)	R (CI)
Eligible	83.9 (80.9-87.0)	88.0 (85.1-91.0)
Contacted	82.9 (79.6-86.2)	86.8 (83.6-90.0)
Able	85.8 (83.0-88.6)	85.5 (82.7-88.2)
Participating	87.0 (83.7-90.1)	88.6 (85.7-91.6)
Response	77.1 (73.8-80.4)	84.7 (81.6-87.7)

# Results: partial R-indicators

## Unconditional Partial R-Indicators

	SCC				Pilot				
	eligible	contact	coop- eration	response	response web/mail	eligible	contact	coop- eration	response
<b>Gender</b>	93	88	30	156	81	69	65	49	91
Male(s)	-18	-37	-1	-43	13	-5	-30	25	-3
Mixed	21	27	7	54	2	15	20	-9	30
Female(s)	-2	-8	-13	-38	0	-1	-5	-4	-28
no information available	-51	-27	5	-53	-28	-37	-9	0	-34

## Conditional Partial R-Indicators

	SCC				Pilot				
	eligible	contact	coop- eration	response	response web/mail	eligible	contact	coop- eration	response
<b>Gender</b>	14	13	10	31	15	3	14	21	12
Male(s)	9	9	4	40	15	0	11	21	6
Mixed	7	4	3	27	1	0	1	2	1
Female(s)	5	5	4	26	6	0	7	21	8
no information available	0	0	0	0	0	0	0	0	0

## Results: Costs

- 22% less costs as a result of:
  - Web / mail first round
  - More calls during day time

# Concluding

- By using partial R-indicators to identify under-represented groups,
- by using this knowledge to develop differential fieldwork strategies,
- we were able to attain
  - A comparable response rate
  - With a better representation of the sample
  - Against 22% lower costs
- R-indicators and partial R-indicators allowed to monitor the effects of the manipulations in each step
- Ease of computation, wealth of information and consise presentation make this a valuable tool for monitoring, both prior, during and after fieldwork.