

Panel Refreshment H49 Freight transport by road using a PPS design

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Background

- Statistics Netherlands publishes a SPPI for H49 since 1997.
- The original panel was based on a stratified random sample.
- The panel becomes gradually outdated.
- We needed an updated sample.

The sample: theory

- **Probability Proportional to Size** (Unequal Probability Sampling)
- Challenges:
 - Sampling frame
 - Variable as measurement for size: Turnover (because National Accounts uses the SPPI to deflate turnover)

The sample: practice

- Sampling frame: STS Turnover Statistics, partly based on VAT
- Population: 10,500
- Panel of 250 companies divided in:
 1. An integral part of 27 companies with a probability higher than the sampling interval.
 2. A sample of 223 companies has been drawn starting from a random point.

Practice, cont.

- Next challenge: ascertain whether the companies are actually involved in freight transport by road.
- Search on the internet and calling the companies.
- The contact person receives an email with a questionnaire asking about which share of the turnover is generated by activities in each submarket.
- And they can fill in their models and prices in an excel spreadsheet

Inner weights

Old weights:

- Related to turnover of the company

New weights:

- Integral part: $\text{turnover company} / \text{turnover submarket}$
- Sample part: $\text{companies submarket share} * (\text{turnover submarket} / \text{turnover all markets})$

Inner weights: alpha factor

- Integrating old and new sample with an Alpha-factor
- Alpha: ratio (importance) between both samples
- 3 methods:
 1. Based on own judgment (estimate manually)
 2. **Based on sample size**
 3. Based on variancy

New panel

Submarket	Old panel	Add. panel	New panel
Total N	70	91	161
Cool freight transport	12	30	42
Tank freight transport	12	11	23
Container freight transport	6	14	20
Dry bulk transport	13	15	28
Other freight transport by road	47	63	110

Q1 2014

- The new companies responded for Q4 2013 and Q1 2014
- A lot of work with follow-up calls and checking prices
- Cooperation was good
- Development at the total level deviates 0.1 off
- The data has been published and we are planning to refresh the sample and relieve the burden of a large share of the old panel
- Next: we have started refreshment for other branches