MAINTAINING REPRESENTATIVE TURNOVER AND SPPI:

Re-stratification, Resampling, Rebasing and Updating Weights

Overview

- Principles for revision and rotation

- Appropriateness of sample size, number of first aggregates and price observations

- Analysis of first aggregates

- Sample design for rotation

Principles for revision and rotation

- Reweighting and rebasing of SPPIs every 5 years

- Revision of index results for the time span between new base year and publication

- Weighting schemes derived from various sources

- Rotation of reporting units starts after the revision process

- Samples drawn from business register at lowest possible industry level

- Review of the „census stratum" every year

Appropriateness of sample size, elementary indices and price observations

Industry	Sample size in 2006	Approriate sample size	Maximum sample size
Freight rail transport	62	5	5
⋮	⋮	⋮	⋮
Storage and warehousing	125	57	80
⋮	⋮	⋮	⋮
Management consultancy acitivies	150	149	209
Total	2833	2011	2800

Appropriateness of sample size, elementary indices and price observations

Industry	# of prices in 2006	Inter-aggregate heterogeneity	Intra-aggregate heterogeneity
Freight rail transport	834	1.3	1.3
⋮	⋮	⋮	⋮
Storage and warehousing	390	1.6	0.7
⋮	⋮	⋮	⋮
Management consultancy acitivies	1008	0.5	1.0
Total or average	13,419	1.0	1.0

Analysis of first aggregates

ISIC 7020 „management consultancy activities:

- **5 service products**:
  „coporate management, operational and organizational structure", „strategy", „IT-consultancy", „human resources", „travel expenses"

- **2 size classes of enterprises**:
  turnover between 50,000 and 5 mill €, more than 5 mill €

- **fees for 4 different functions of employees:**
  proprietor, project manager, senior advisor, junior advisor

Altogether 33 first aggregates with a minimum of 2 price observations and a maximum of 67 price observation

Analysis of first aggregates

Questions to be answered:

- Abandon product „human resources consultancy"?

- Rise the cut-off-limit to 250,000 €?

- Abandon the functions of project manager and junior advisor?

- Reduction of price observations in the „well stuffed" aggregates?

Analysis of first aggregates

Product „Strategy" (weight in 2006: 27,10 %)		# of prices in 2006	# of prices in 2010	„Strategy" (weight in 2010: 24,63 %)	
50,000 ‹ turnover ‹ 5 Mill	Proprietor	31	22	Proprietor	**250,000** ‹ turnover ‹ 5 Mill
	Proj. manager	26			
	Senior advisor	24	35	Senior advisor	
	Junior advisor	19			
Turnover ›= 5 Mill	proprietor	63	32	Proprietor	Turnover ›= 5 Mill
	Proj. manager	62	31	Proj. manager	
	Senior advisor	64	32	Senior advisor	
	Junior advisor	60	30	Junior advisor	

Analysis of first aggregates

Results:

- First aggregates are decreased from 33 to 24.

- Number of price observations is decreased from 1008 to 623.

- These gains in efficiency are expected not to influence the overall index.

- The number of aggregates which might have been sensible to outliers is reduced to 0.

- Replacement of price observations within the aggregates is supposed to be simplefied.

- The sub-index of „human resources consultancy" is supplemented by commissions derived from ISIC 781.

Sample design

Management consultancy activities

size classes	entities (according to SBS)	sample size	
		intended	incl. surplus entities
below cut-off limit	42053	0	0
250,000 € <= turnover < 5 Mill €	9359	113	226
turnover >= 5 Mill €	33	32	32
Total	**51445**	**145**	**258**

THANK YOU FOR YOUR KIND ATTENTION!

Dorothee Blang

Telephone: +49 (0) 611 75 -2319

dorothee.blang@destatis.de

www.destatis.de