

## **Cross-cutting topic**

# **Croatian Experience in Updating Samples for SPPI, Including Initial Recruitment of Reporting Companies**

**The 38th Voorburg Group Meeting on Services Statistics  
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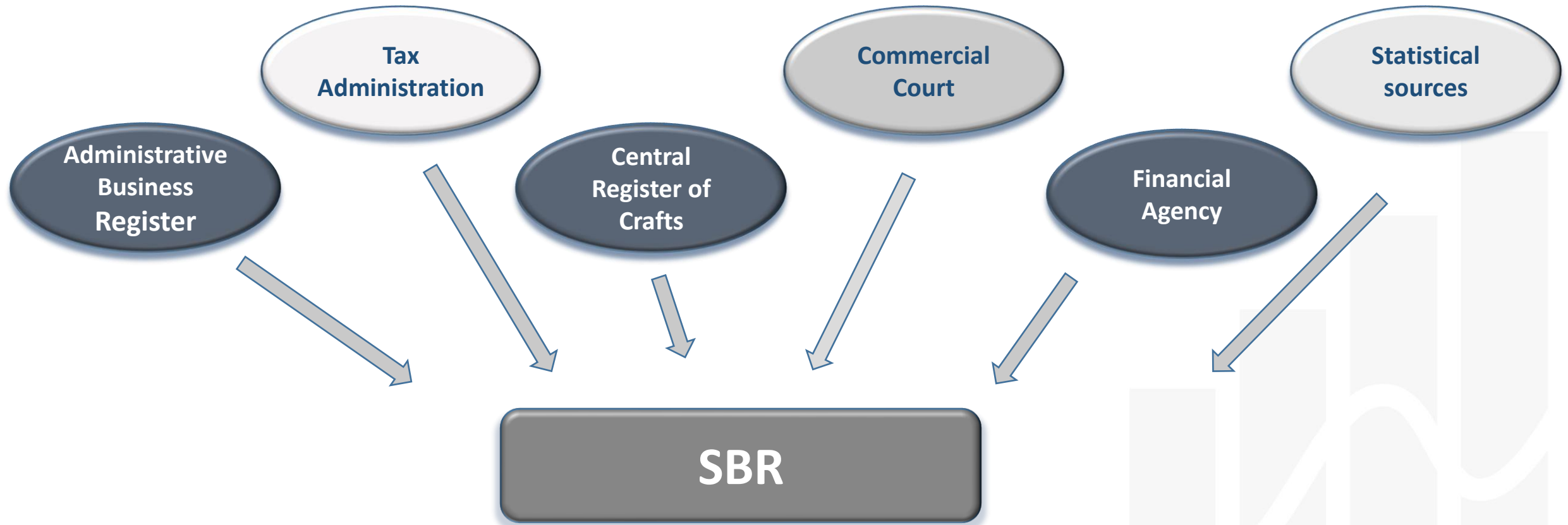
# General aspects

- **SPPI- Started in 2008**
- **Focus on the sectors required by STS Regulation**
- **Gradually introducing surveys for different services activities**
- **SPPI developed in 2022: H491, H492, H493, H495, H5221, H5222, H5223, H5229, I55, I56, J60, L68, M6910, N77 (NACE Rev. 2)**
- **SPPI developed in 2023: M74, N811, N813 (NACE Rev. 2)**
- **30 service activities collected via web questionnaire**
- **Collect prices for 4.200 items from 2 000 respondents**

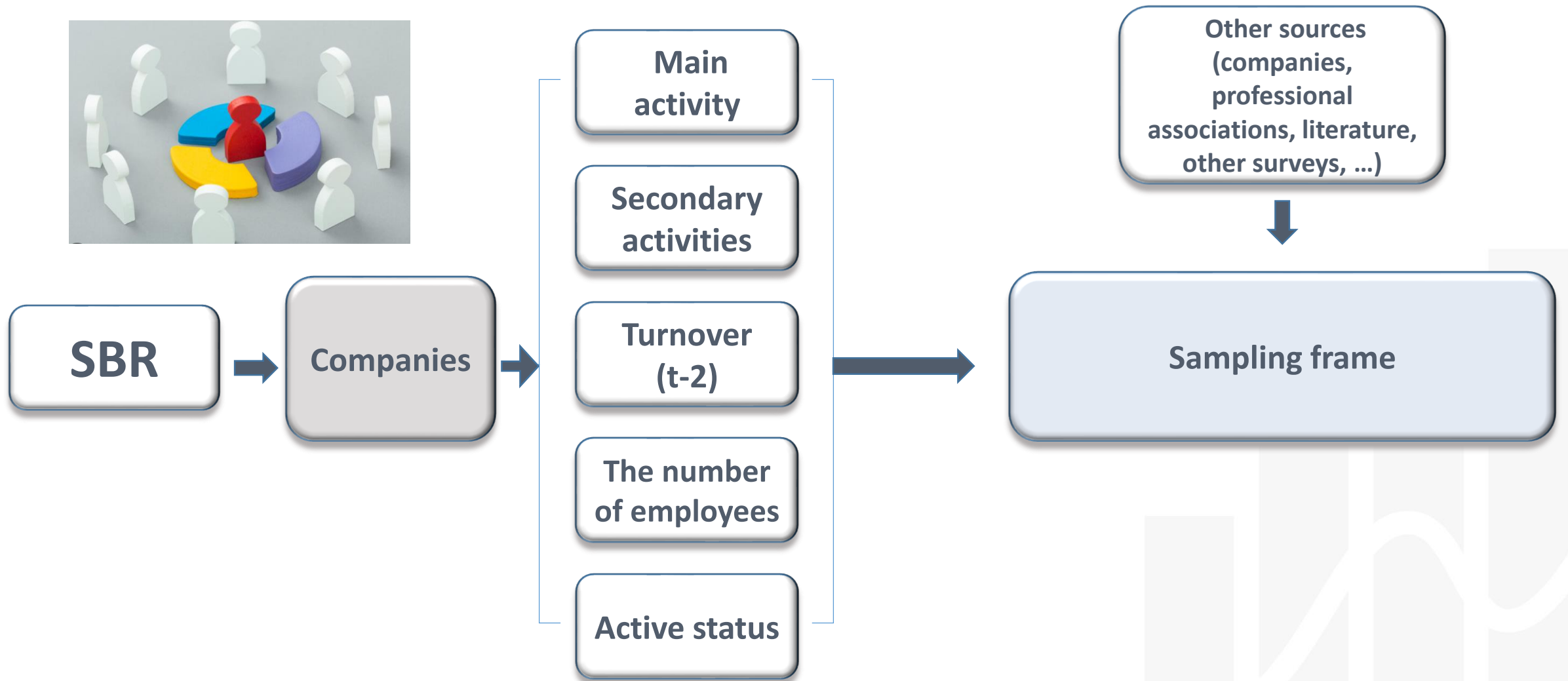


# Selection of companies (reporting units)

- Information on companies - **Statistical Business Register (SBR)**



# Sampling frame



# Sampling methods

1. A **Cut-off method** according to the turnover and employees in NACE classes within industry

2. If the dominance of small enterprises in service activity is significant, sample design is conceived as combination of **Probability sampling** (for small enterprises) **with census** (for medium-sized and large enterprises)

Separate sample developed for every SPPI service activity



24 service activities –  
Cut-off method

6 service activities –  
Probability sampling  
with census

## Cut-off method

NACE Rev. 2	Title of service activity survey	Sample size in 2023
H 49 ex 494	Land transport and transport via pipelines excluding Freight transport by road	65
H 502	Sea and coastal freight water transport services	6
H 521	Warehousing and storage services	12
H 522 ex 5224	Support services for transportation excluding Cargo handling services	54
H 5224	Cargo handling services	6
H 53	Postal and courier activities	20
I 55	Accommodation	77
J 58	Publishing activities	47
J 59	Motion picture, video and television programme production, sound recording and music publishing activities	42
J 60	Programming and broadcasting activities	25
J 62	Computer programming, consultancy and related activities	124
J 63	Information service activities	18
L 68	Real estate activities	90
M 691 L	Legal services – lawyers	138
M 712	Technical testing and analysis services	35
M 732	Market research and public opinion polling services	28
M 74	Other professional, scientific and technical services	82
N 77	Rental and leasing activities	106
N 78	Employment activities	66
N 79	Travel agency, tour operator reservation services and related activities	86
N 80	Security and investigation activities	22
N 81 ex 812	Services to buildings and landscape excluding Cleaning activities	55
N 812	Cleaning activities	97
N 82	Office administrative, office support and other business support activities	158

## Probability proportional to size with census

NACE Rev. 2	Title of service activity survey	Sample size in 2023
H 494	Freight transport by road	181
H 501	Sea and coastal passenger water transport services	71
M 692	Accounting, bookkeeping and auditing services; tax consulting services	139
M 702	Management consultancy activities	129
M 711	Architectural and engineering services and related technical consulting services	160
M 731	Advertising services	79

## Other methods

NACE Rev. 2	Title of service activity survey	Description
H 51	Air transport	One reporting unit (80% of total turnover)
I 56	Food and beverage service activities	CPI
J 61	Telecommunications	Administrative data source
M 691	Legal services – notaries	Administrative data source



# Updating cut-off samples

- 60% – 70% coverage on average in terms of turnover in combination with the number of employees (usually 20 and more)
- all classes within the industry are included (except classes that comprise less than 0.5 percent of total output in the observed service industry)
- **CBS updates cut-off samples every year (SBR (y-2))**



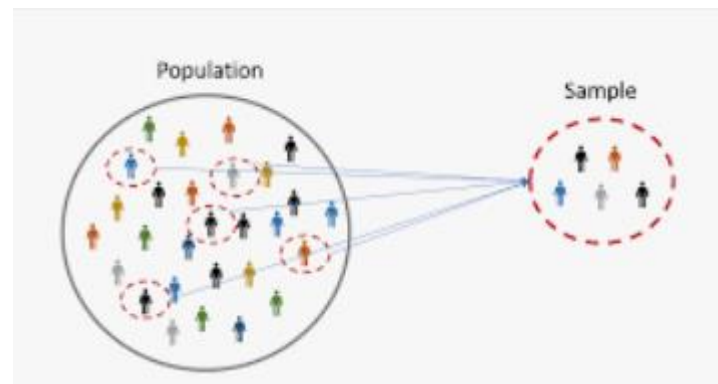
## Main reasons:

- The universe from which the samples are taken is changing over time
  - Samples becomes depleted as the company stops producing or change observed activity
  - Some companies may resent the burden of responding and leave the panel or provide poor quality data

# Updating cut-off samples-cont.

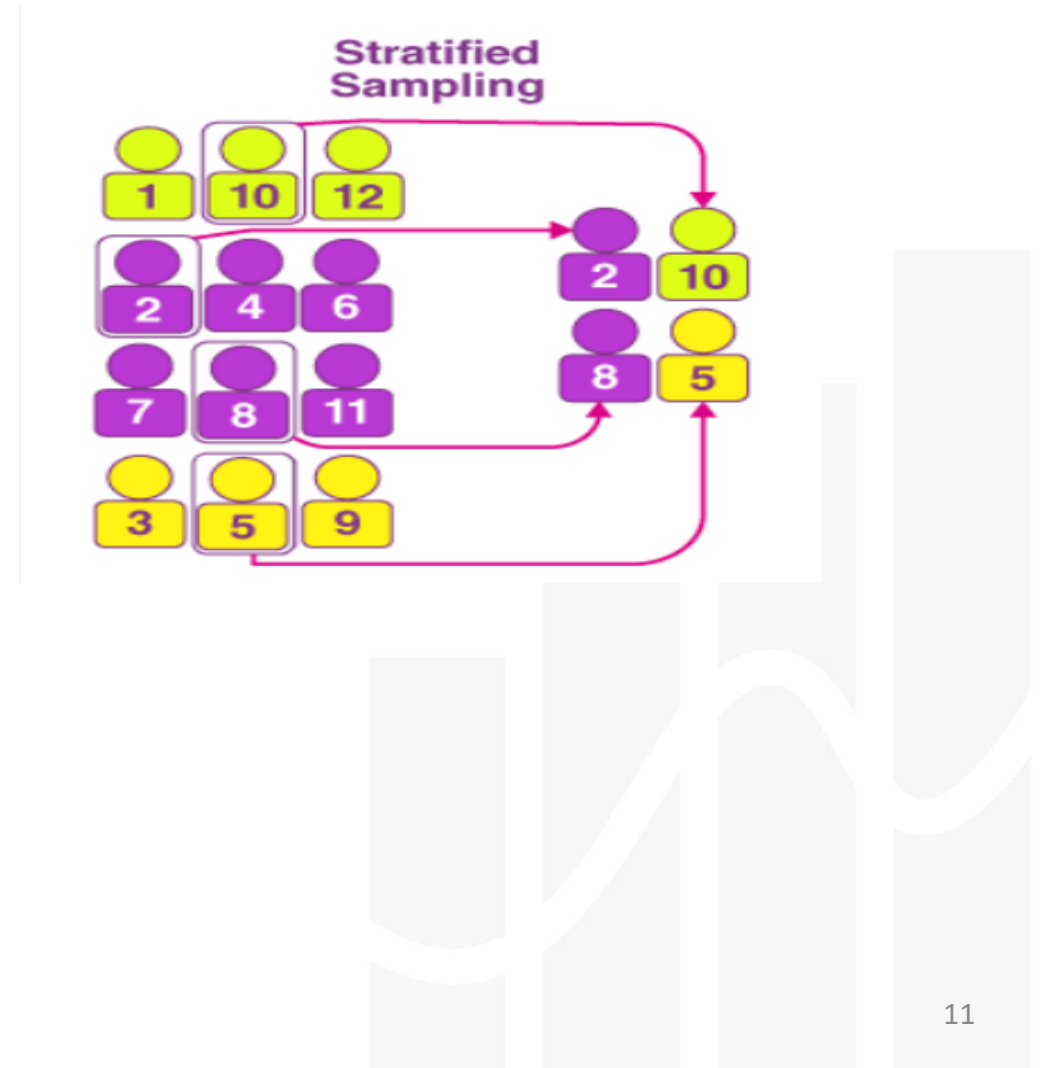
## Updating the list of reporting units

- Units that are non-active, misclassified, in dormant or bankruptcy → **excluded from the sample** → information is sent to SBR
- Units that did not cooperate → **inviting them again to cooperate**
- Inclusion of the newly created reporting units above the threshold
- Inclusion of additional substitute reporting units to maintain the same sample size



# Updating Probabilistic sampling with census

- Due to the significance of small enterprises in some service activities, sample design set-up as a combination of probability sampling for small enterprises and census (take-all approach) for large enterprises (20 and more employees)
- The random sample of small units - selected by using the stratified one-stage sampling → stratified according to the NACE class (4-digit code)
- Selected by using systematic probability proportional to size (PPS) sampling
- Number of employed persons - used for implicit stratification
- Turnover - used as a size variable in PPS approach
- Two types of weights in SPPI compilation for small units:
  1. **basic weights** - weights based on turnover data from every reporting unit fulfilled in the questionnaire form
  2. **modified weights** - obtained by combining basic weights and the random sample grossing-up factors calculated by strata (increase relative importance of smaller, randomly selected units)



# Updating Probabilistic sampling with census – cont.

- **Selection of the sample- largely dependent on the sample from the previous year**

## The rules applied in renewal procedure:

1. Large units from the last year's sample that were designated as eligible units (also non-responding units) remained in the sample
2. New large units that appeared in the new frame - included in the sample
3. Small units from the last year's sample that responded in the survey were retained in the sample (3 years)
4. Additional part of new small units was randomly selected in order to get the same sample size as we had last year
5. Every three years, a complete sample rotation of small units is done



# Recruiting establishments

- Recruiting establishments - done mostly via e-mailed official notification
- Launching of a regular survey introduced by an invitation letter submitted to all units that are included in the survey

## Purpose of an invitation letter

- a) to inform the respondents on the purpose of the SPPI survey, data confidentiality and their role in its implementation
- b) to ask the selected units for contact details of persons who will be in charge of completing the web questionnaire

## After receiving the required information by e –mail

- an automated message (directly from the application) is sent containing the user account data (username and password)
- alert messages are sent every quarter to respondents with information on the beginning of data collection for the respective quarter and on deadlines



# Challenges

- **difficulty to establish contacts with associations and large companies → lack of understanding of the topic**
- **companies perceive statistics as a big burden and are reluctant to deal with statistical questionnaires, especially small units**
- **the CBS has not yet established the practice of prosecution for reporting units that refuse to cooperate (only in certain exceptional cases), although the Official Statistics Act provides for this possibility**
- **persons from professional associations or companies sometimes have problems with comprehending statistical concepts and the rationale of statistical production**
- **the accuracy of the Business Register is a permanent problem when it comes to choosing a sample frame**
- **despite of all challenges, the overall response rate for SPPI surveys is rather high – it amounts up to 80% on average**

# Thank you!

## Contact information

Maja Dozet  
dozetm@dzs.hr  
+385 1 4806 268