



Hellenic Statistical Authority

# *Profiling process of complex Statistical Units in Greece*

---

*28th meeting of the Wiesbaden Group on Business Registers  
Session 2: Profiling complex Statistical Units (SUs)*

*Adamantia Georgostathi  
Head of Registers and Big Enterprises Section*

# Contents

- ↪ Definition and reasons for profiling
- ↪ Organizational structure
- ↪ Data sources

---

- ↪ Work of the Large Case Unit (LCU) of ELSTAT
- ↪ Profiling process and results
- ↪ Intra-enterprise flows survey
- ↪ Consolidation method
- ↪ Impact of the implementation of the statistical unit enterprise in the SBS 2021 results
- ↪ Use of data
- ↪ Challenges
- ↪ Way forward



# Definition of profiling

**Profiling** is a method to analyse and maintain the legal, operational and accounting structure of an enterprise group at national and world level, in order to establish the statistical units within that group, their links, and the most efficient structures for the collection of statistical data (Business Registers Recommendations Manual).

Profiling process is distinguished to:

**Manual profiling**: A group is examined on an individual basis with the use of contemporary available information in order to delineate its enterprises.

**Automatic profiling**: Is based on certain algorithms and is mainly applied to small and medium sized enterprise groups.



# Reasons for profiling

- ↪ Getting a better picture of the economic structure and the perimeter of the groups and the functioning of the enterprises.

---

- ↪ Approximating better the economic concentration, the activities in the economy and getting more relevant economic data.
- ↪ Eliminating the internal flows between group's LeUs, for the non-additive variables.
- ↪ Defining observation units within the group.
- ↪ Getting a consistent cross-domain picture of the groups.



# Organizational structure

The Registers and Big Enterprises Section was established in August 2019 under the new organization chart of ELSTAT.

The responsibilities of the specific section are as follows:

- Profiling (National, European)
- Statistical Business Register
- EuroGroups Register
- Business Demography (annual and quarterly)
- Large Case Unit
- Intra-enterprise Flows Survey
- Consolidation of Structural Business Statistics non-additive variables

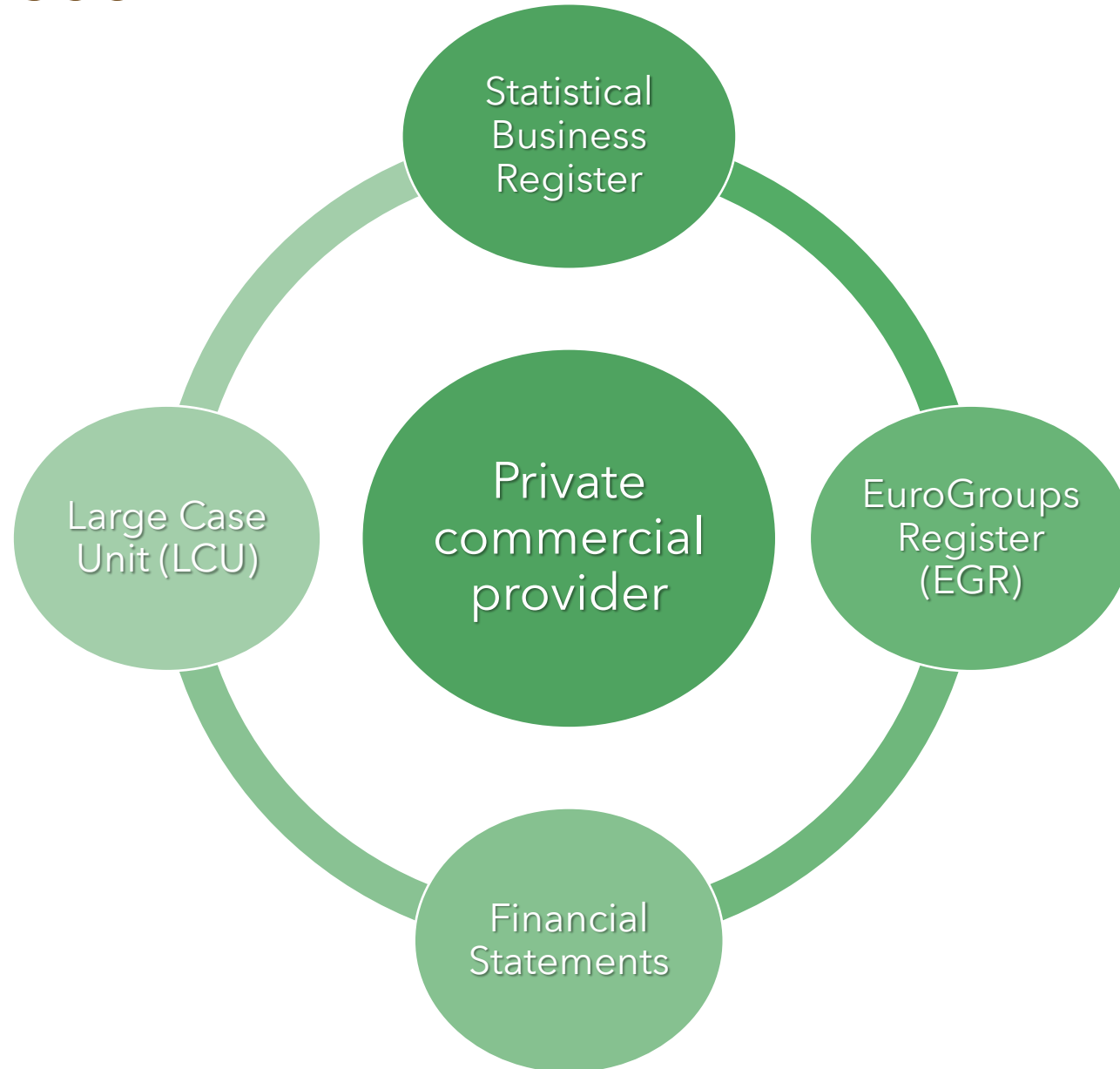


# Organizational structure (2)

- The Registers and Big Enterprises Section is under the Business Statistics Division
- It is staffed with seven (7) persons with different academic and professional backgrounds:
  - 3 profilers have studied economics and have a long experience in accounting and compilation of statistics of large groups (SBS, FATS, Tourism statistics)
  - 3 employees have a statistical background and an in-depth knowledge of handling large databases and programming
  - 1 employee is an expert on Oracle databases
- They have received additional training:
  - From an external financial auditor - accountant, specialized in large groups
  - In the framework of the supporting activities of ESS members coordinated by Eurostat for the establishment and operation of LCU
  - Through specialized in the profiling and handling of MNEs seminars of the European Statistical Training Programme (ESTP)



# Data sources



# Work of the Large Case Unit (LCU) of ELSTAT

**Under LCU 36 enterprise groups are examined.** The specific groups have been selected on the basis of the following criteria:

1. The impact they have in specific economic activities at national level
2. The complexity of their operational and legal structure
3. The coverage of needs of other divisions, such as National Accounts

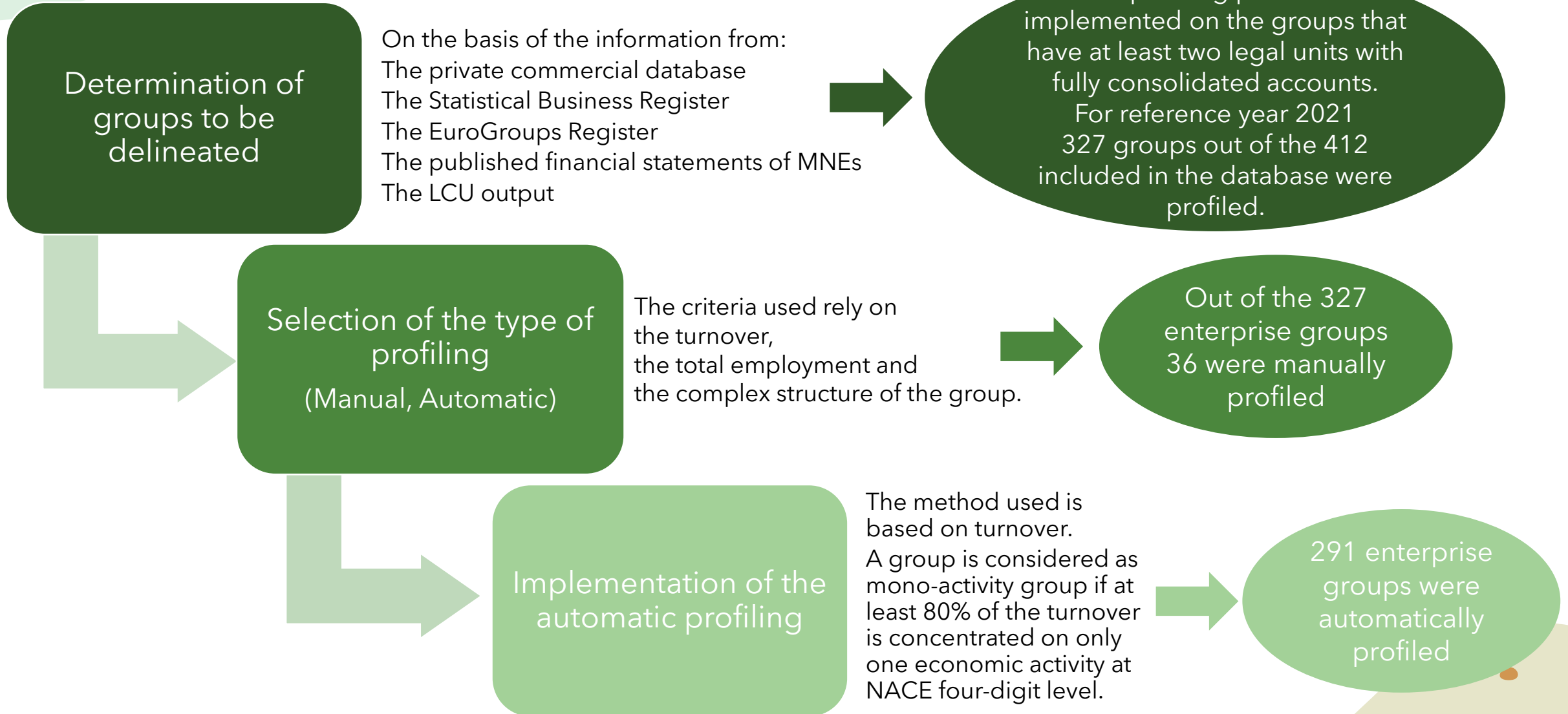
Emphasis is given in the examination of the specific units, as regards, the legal units consisting each of them, the consolidation methods applied and the addition of new economic activities.

**The turnover of the LCU groups** in 2021 was **51,284 million €** and their **employment 106,119 persons**. They represented 14,7% of the Greek economy in terms of turnover and 2,3% in terms of employment.





# Profiling process and results

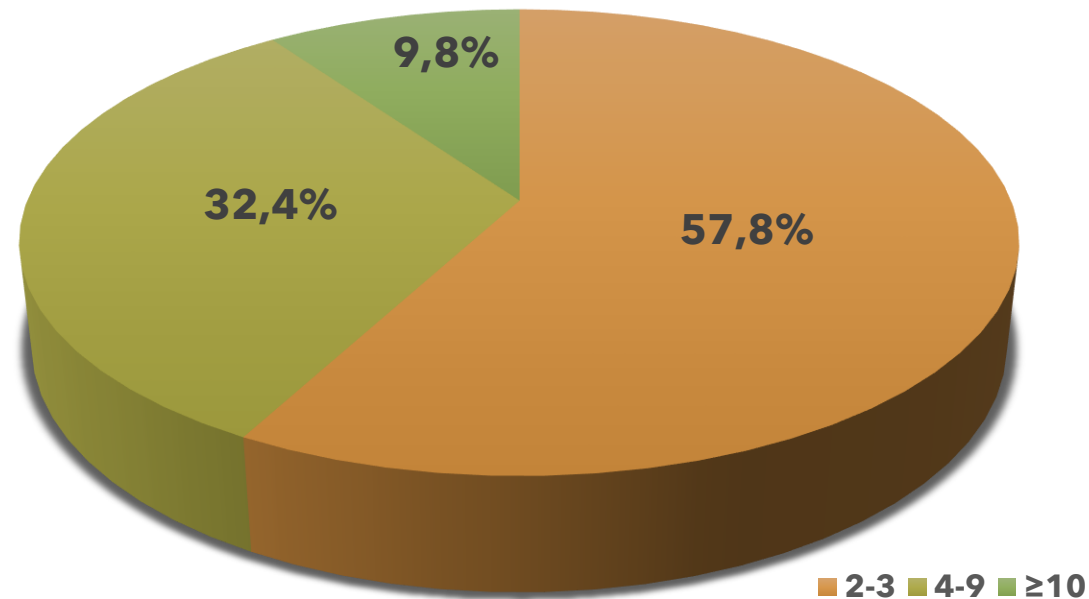


# Profiling process and results (2)

The total turnover of **the 327 enterprise groups that are profiled** amounts to 87,524.79 million euro corresponding to 25.1% of the total turnover of the Greek economy, while their total employment is 294,246 persons which corresponds to 6.4% of the total employment.

The delineation of the statistical unit "enterprise" resulted in the creation of a total of **358 complex enterprises**, which consisted of two or more legal units.

Distribution of complex enterprises by number of legal units



# Intra-enterprise flows survey

For the consolidation of non-additive variables at the level of the statistical unit enterprise ELSTAT decided to proceed to the direct collection of information from enterprises on their intra-enterprise flows through a dedicated survey.

An electronic questionnaire was drafted including questions on intra-flows data that are necessary for the calculation of the main non-additive SBS variables:

1. Net turnover
2. Production value
3. Total purchases of Goods and Services
4. Total purchases of goods and services for resale at the same condition
5. Total investments



# Intra-enterprise flows survey (2)

- ✓ The questionnaire was customized for each delineated enterprise of every group by including its individual linked legal units.

---

- ✓ Through the questionnaire, the enterprise groups are also asked to confirm the delineation made by ELSTAT, by adding or removing linked legal units.
- ✓ For the reference year 2021, the questionnaire was sent to **358 enterprises. More than 237 groups-enterprises responded** to the survey by providing data (**response rate over 66%**).



# Intra-enterprise flows survey (3)

- ✓ For the non-respondents, the utilization of administrative data on intra-group transactions between the entities that make up the groups is examined by ELSTAT.  

---

These data will also be used to cross-check the information received in the framework of the intra-enterprise flows survey.
- ✓ The collected data on intra-flows were treated by the profiling team. In case further clarifications were needed communication with the contact point of the enterprise group took place.



# Consolidation of main non-additive SBS variables

From a non-additive variable (e.g. Turnover - 250101) of a legal unit, the respective intra-enterprise flows that the specific legal unit has with the other legal units of the statistical unit "enterprise" to which it belongs are subtracted and the net value of the non-additive variable is obtained.

The net value of the variable (e.g. C\_250101) at the enterprise level is obtained by summing up the net values of all legal units comprising the enterprise:

$$C_{ENT} = \sum_{I=1}^a C_{LU}$$



# Consolidation of the remaining non-additive SBS variables

The remaining non-additive SBS variables are subtotals of the main non-additive SBS ones, or they are conceptually related.

To this end, the consolidated value of the former ones is calculated on the basis of the ratio ( $R = \frac{C_{LU}}{V_{LU}}$ ) of the consolidated to the initial value of the main non-additive SBS variables.

The consolidated value of the remaining non-additive SBS variables is then calculated by the following formula.

$$C_{ENT} = \sum_{i=1}^a R * V_{LU}$$



# Impact of the implementation of the statistical unit enterprise in the SBS 2021 results

Non-additive SBS Variables	Legal Unit Level	Enterprise Level	Impact of the implementation of the SU enterprise
Number of enterprises	881,717	880,349	-1,368
Net Turnover	321,206,385	314,154,314	-7,052,071
Production Value	204,615,916	204,370,376	-245,540
Total Purchases of Goods and Services	261,656,436	254,369,109	-7,287,327
Total purchases of goods and services for resale at the same condition	129,105,600	125,873,815	-3,231,785
Total investments	7,969,189	7,962,201	-6,988

*Note: The values are in thousand euro*





# Use of data

Statistical Business Register (SBR)

EuroGroups Register (EGR) - European Profiling

Structural Business Statistics (SBS)

Determination of sampling frame for surveys on enterprises

Bank of Greece - Foreign Affiliates of EU enterprises, International Trade in Services Statistics





## Challenges

## Challenges

1. Investigation of all possible data sources for the identification of enterprises consisting of more than one legal unit on the basis of the following criteria:
  - Level of coverage, completeness and accuracy of the large multinational groups
  - Provision of data on a regular basis
  - Provision of data in a specific format
2. Selection of the best methodology for the delineation of the statistical unit "enterprise"
3. Drafting of the communication strategy with the large enterprise groups and arrangement of in person meetings with their representatives.



# Way forward

Development of a  
software  
application

Compilation of a  
methodological  
manual on profiling

In person  
meetings with  
the large groups

Recruitment of  
additional staff



# Profiling process of complex Statistical Units in Greece

*Thank  
you*



**Adamantia GEORGOSTATHI**

Head of Registers and Big Enterprises Section  
Hellenic Statistical Authority (ELSTAT)

☎ +30 213 135 2043

✉ [a.georgostathi@statistics.gr](mailto:a.georgostathi@statistics.gr)

✓ <http://www.statistics.gr>



Hellenic Statistical Authority