Profiling in Germany – evaluation of the first test year

1. Introduction

German statistical offices are introducing **profiling of enterprises** as a new task of the statistical business register. Profiling in Germany aims at analysing the structure of enterprise groups in order to identify **enterprises** as defined by European law (Reg. 696/93) as autonomous parts of enterprise groups. The statistical enterprise may consist of one or several legal units.[1]

The project plan for the implementation of the profiling activities in Germany encompasses two years for testing methodology, organisation as well as IT tools and templates. Each test year is subject to thorough evaluation. Evaluations of each test cycle are used to report progress on profiling activities, to improve the methodology and to increase the work efficiency and consistency between the Statistical Offices of the Laender in Germany. Six relevant aspects of the profiling-work were identified and analysed for the evaluation. The findings were analysed in order to derive and develop concrete measures and improvements for the second profiling cycle (started in June 2018).

The organisation of profiling in Germany is briefly presented in the second chapter. The third chapter describes the evaluation of the first year of testing, including the various methods and evaluation tools. The most important findings and measures from the evaluation are presented in the fourth chapter, structured according to the evaluation aspects. The paper ends with a brief outlook in chapter five.

2. Organisation of Profiling in Germany

Structural Business Statistics (SBS) in Germany will be aligned with the EU definition of the enterprise for the 2018 reporting year.[2] The precondition for these statistics is the identification of enterprises within enterprise groups. This is the responsibility of the profiling activities, which have been integrated as a new task in the business register. Three profiling variants are being developed for analysing all enterprise groups in Germany. The 2500 largest and most complex enterprise groups are handled manually in a so-called **desktop profiling**. If there are larger problems and open questions in the desktop profiling, it should be possible to contact the enterprise group and conduct a so-called

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[1] European Union (1993): Official Journal of the European Communities, COUNCIL REGULATION (EEC) No 696 / 93, p. 5.

[2] Opfermann, R.; Beck, M.(2018): Einführung des EU-Unternehmensbegriffs, Wirtschaft und Statistik Ausgabe 1/2018, p. 66.

intensive profiling. For smaller and less complex enterprise groups, automated algorithms are used to identify enterprises (**automatic profiling**).[3]
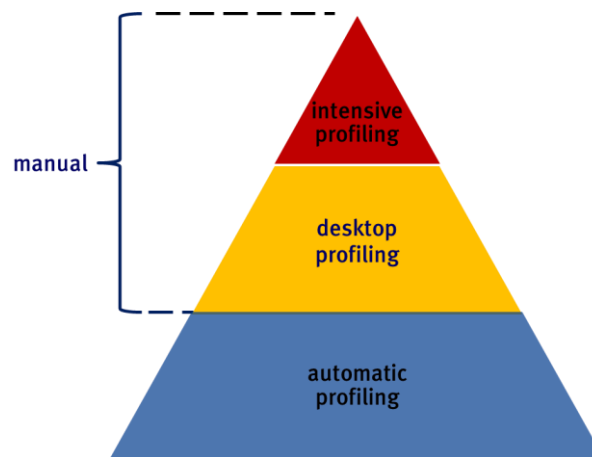

Figure 1: profiling variants

In the first test year, the focus was on desktop profiling and automatic profiling to gain experiences with the new methodology. Intensive profiling is going to be introduced in the second year, starting in summer 2018.

The staff for manual profiling consists of approx. 35 employees of the 14 Statistical Offices of the Laender. Responsibility for the whole national profiling of an enterprise group is derived from the seat of the German decision centre. Accordingly, the work is distributed very differently among the Statistical Offices of the Laender.

The tasks of the Federal Statistical Office are to coordinate, evaluate and ensure high quality of the work as well as to improve the methodology of manual profiling. A profiling service desk has been set up in the Federal Statistical Office to fulfil these tasks. The profiling service desk provides training content, helps to solve problems, coordinates and promotes communication, maintains a central data pool for profiling results ensures high quality and supports methodological development.

There is also a profiling working group with all statistical offices in Germany and some additional temporal working groups for special topics (working environment, external image of profiling and intensive profiling).

The challenge of profiling is to identify enterprises that work economically autonomous within an enterprise group.[4] Three criteria must be met in order to validate the autonomy of an enterprise:

- ✓ an enterprise has accounts at its disposal

- ✓ the operations of an enterprise are managed in an integrated manner

- ✓ market operation of an enterprise

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[3] Sturm, R.; Redecker, M. (2016): Das EU-Konzept des Unternehmens, Wirtschaft und Statistik Ausgabe 3/2016, p. 70.

[4] Redecker, M.; Sturm, R. (2017): Profiling von Unternehmen, Wirtschaft und Statistik Ausgabe 6/2017, p. 16.

In desktop profiling the profiler starts with describing the structure and the activities of an enterprise group. Sources for this descriptive part are annual reports, websites, news articles, data bases (business register, commercial data bases) and further web research. The second part of the desktop profiling work is to analyse the structure and activities to identify the enterprises that meet all three criteria for autonomy. At the end of the profiling case, each legal unit must be assigned to an (single or complex) enterprise.

All the descriptions, results and findings of a profiling case are documented in a text-based profiling report and a data-based excel-application. The graphic below shows the whole data processing and interfaces in profiling case work.
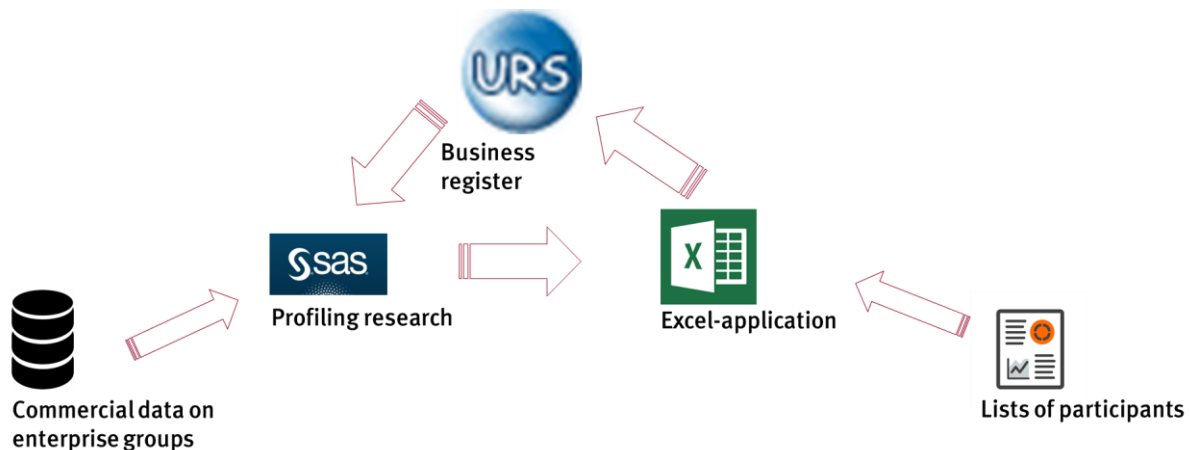

Figure 2: profiling data processing

A working group of German Profilers and Structural Business Statisticians develops the algorithm for automatic profiling. The Federal Statistical Office executes the outputs of the automatic profiling centrally at the end of a profiling-year for all enterprise groups that were not profiled manually.

3. Evaluation of the first test year

Aspects

The evaluation of the first profiling test year covers different aspects of the process **profiling of enterprises:**

- organisational matters
- methodology of manual profiling
- analysis of the results
- IT-tools and templates
- profiling service desk
- unified external image of profiling

The first test year of national profiling in Germany was concluded and evaluated in spring 2018. The evaluation was carried out jointly by the profiling working group of the Federal Statistical Office and the Statistical Offices of the Laender.

Methods

The evaluation required different methods and tools to generate findings in the evaluation of the first profiling year.

Guideline-based **interviews** were conducted with one member of the profiling working group from each of the Statistical Offices of the Laender. The interviews were moderated and documented by two employees from the Federal Statistical Office. A total of twelve interviews were conducted and analysed.

In a **survey**, all profilers were asked extensively about the various evaluation aspects. In comparison to the interviews, the survey dealt more intensively with the actual case handling and asked more detailed questions aiming at the further development of the methodology.

The **documentations** and experiences gained by the profiling service desk in the first cycle and the **discussions** in the profiling working group were used to gather information and evaluate it.

All results from manual profiling (profiling report and excel-application) were prepared and **analysed** for evaluation. The **data** from the profiling cases were combined and analysed for this purpose.
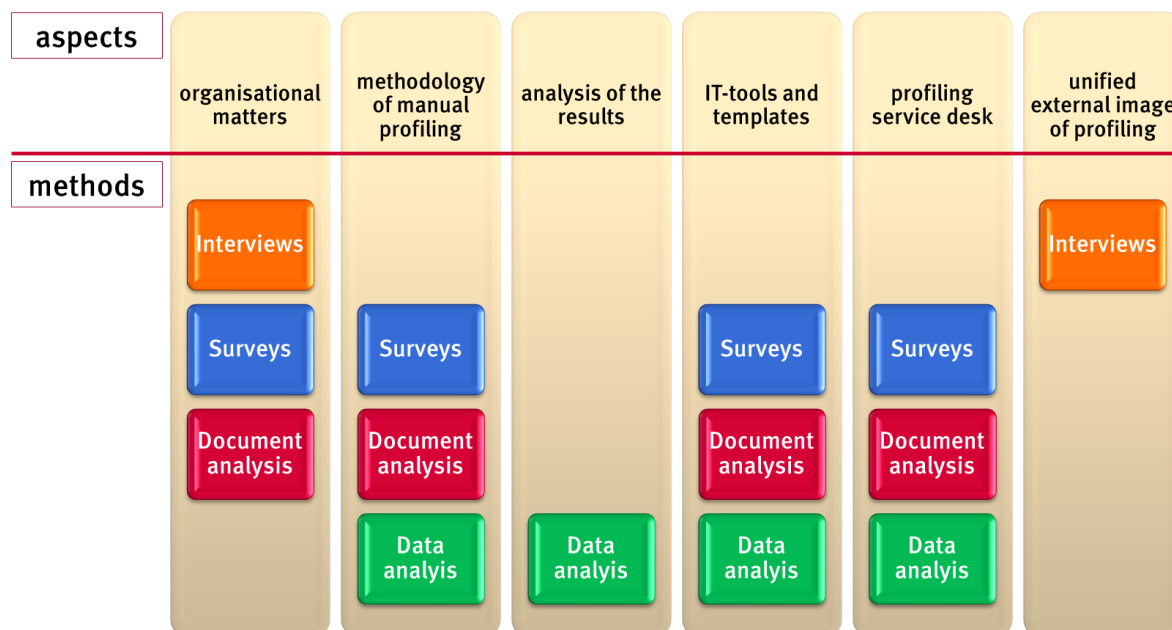

Figure 3: aspects and methods of evaluation

Chapter four describes and presents the findings that were obtained with the help of the evaluation methods mentioned above.

4. Key findings

The findings of the evaluation were collected in an internal evaluation report. Based on them the methodology, organisation, IT tools and templates has been and will be updated and improved. Therefore, the Federal Statistical Office directly addressed the responsible decision making bodies for the different aspects. This paper describes the highlights of the findings and the resulting measures that are either implemented or planned.

In the first profiling test year 288 profiling cases (or 288 enterprise groups) were resolved in Germany. On average, 48 hours were spent on a profiling case to finish it.
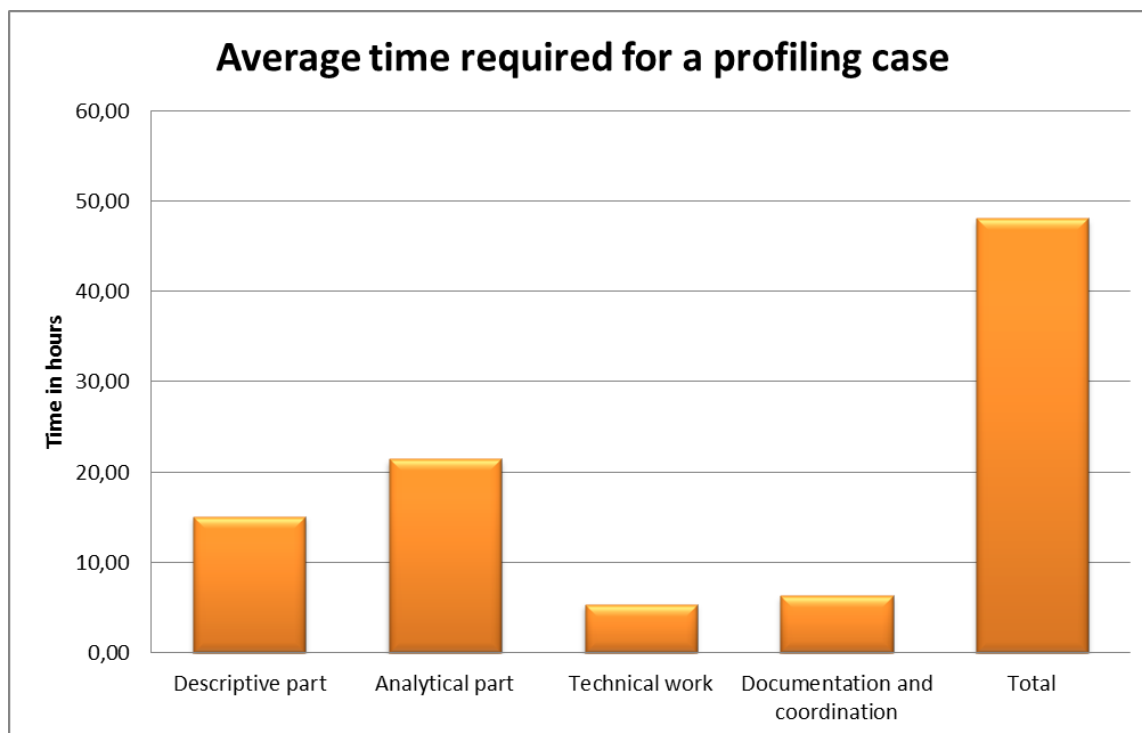

Figure 4: manual profiling

Organisational matters

In the first year, many profilers assessed the **organisation** of work in the federal statistical system as basically functioning well. It is very important to enable good communication channels for all profiling employees in Germany. As in the first test year, an exchange platform will be set up on which data can be stored, communicated via a forum, tutorials can be played, glossaries can be maintained and contacts can be found. In addition to the online, e-mail and telephone communication, regular workshops on profiling topics were rated as extremely instructive and important.

For the profiling working group with 15 offices it is a big challenge to find a good balance between case processing and methodological development for manual and automated profiling. The additional organisation into smaller task-related working groups was therefore considered to be very useful. For example, the intensive profiling method is developed and tested in the second test year by a team of seven offices. In the coming months and years, good communication about the profiling results with the structure business statistics (as the users of these results) will become increasingly important. To achieve this, all results are made available centrally and transparently and a project group works together with all participants.

Methodology of manual profiling

Consolidated financial statements of the corporate group are a very relevant source of research in **methodology** of manual profiling. The table below shows the number and type of consolidated financial statements available for the enterprise groups that have been profiled.

	profilings	percent
No consolidated financial statements	5	1,8
IFRS	119	41,6
HGB	155	52,8
US-GAAP	7	2,5
Total	286	100

Table 1: consolidated financial statements

The consolidated financial statements according to IFRS (International Financial Reporting Standards) or HGB (commercial code) were often a good starting point for the top-down approach in manual profiling. However, when a regional subdivision of segments (or business units) is used, these are often not helpful for identifying statistical enterprises. There are a very large number of enterprise groups in which the controlled legal units of an enterprise group and consolidated units in the corporate group are not exactly identical. It is a complex challenge to handle these constellations. The default is always to profile the whole enterprise group (with all controlled legal units) and to make a decision for each legal unit.

Some enterprise groups publish their consolidated financial statements very late, so that no consolidated financial statements are available for the current profiling year. In these cases, experience has shown that the structure can also be analysed very well with the help of the previous year's consolidated financial statements and information from the website and other sources, and that there are no major difficulties in identifying enterprises. Even if no consolidated financial statements are available, websites and other sources become even more important. In addition, other sources in manual profiling were rated as very helpful, such as content in social media, free and commercial online databases, press articles (archives), public financial and business websites.

In the methodical assessment of the autonomy of enterprises the accounting criterion was assessed as the most problematic and uncertain, as it often is difficult to prove because no financial data are published but can be assumed internally. For this purpose, the methodology is to be revised and the experience gained from intensive profiling in the current test year will also help. The assessment of three autonomy criteria takes a lot of time and it is a huge challenge to ensure a consistently high quality and comparability of this methodical validation of autonomy in all profiling results. To achieve this goal, a smaller working group of five statistical offices developed standardised validation tables for the identification of statistical enterprises.

Another essentials task in manual profiling is to assign NACE[5]-Codes for the main activity of enterprises, which requires a high level of expertise and good training of profilers. A side effect of this work is that often the quality of the NACE-Codes of legal units in the business register can also be improved. The same applies to the quality of the enterprise group information in the business register. By comparing all legal units from the business register with the list of participations and intensive research into the assignment of legal units to enterprises, the quality of group information at national level can be improved. Profiling will become a more important source there.

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[5] Statistical classification of economic activities in the European Community

Analysis of the results

All **results** of the profiling cycle (manual and automatic) were **analysed** internally and made available to the structural business statisticians for test calculations. For further analysis of the effects of profiling on statistics, additional studies in the field of structural business statistics will be necessary in the future.

IT-tools and templates

All profilers and some structural business statisticians were included in the evaluation of the **IT tools and templates**. The profiling report was generally rated as a very helpful tool for case processing and for the presentation and documentation of the results. Compared to version 1.0 of the template for the profiling report, the following changes were made to the tool for the second test year:

- The chapter structure has been revised so that the contents of the chapters are always filled in in a more precise and similar manner.

- In the descriptive part of the profiling report the enterprise should be described in a much shorter and more focused way in the second year. With the experience of the first year, profilers can better assess the relevance of descriptive information.

- The analytical part was often very heterogeneous in detail, so that this part should be more comparable and of the highest possible quality.

- In the end, the profiling report should have a clear focus on the results and not present a progress report.

The profiling excel-application is programmed in VBA (visual basic for applications) and supports the entire data processing for a manual profiling case. The IT tool was rated very well in the first year and for the second profiling year extended modules, functions and improvements were implemented. For example, even more manual work steps could be automated, graphics added, plausibility checks implemented and the interfaces to the business register and profiling report optimised. As a further template, the processing time for all profiling cases was documented; this was considered important and useful, especially in the two test years for steering and evaluating the whole profiling project in Germany.

Profiling service desk

The **profiling service desk** is responsible for coordinating all profiling work in Germany and for filtering relevant information for methodological development. The conception and organisation of the areas of responsibility of the profiling service desk was rated as good and helpful. The exchange platform is particularly important for training content, communication, forum discussions, tutorials, webinars and FAQs. The profiling working group agreed in the second year to intensify the exchange via the online forums. The activities in the area of problem solving and quality assurance of the profiling service desk were very well evaluated in the first year and the quality of profiling cases can thus be increased. A data pool with the profiling results will also be available centrally in the business register in the second year. From the activities of the profiling service desk, the methodology could be optimally refined and further developed with practical examples and problems, so that it is very important to collect and document all findings and problems from the case work.

Unified external image of profiling

For the **unified external image of profiling**, flyers, website content, presentation materials with external and internal information were created in a smaller working group and assessed as very helpful in the evaluation. These materials and online information will become even more important with the introduction of intensive profiling.

5. Outlook

The evaluation presented in this paper is intended to make systematic use of the experience and findings from the first year of testing profiling. Many of these measures were mentioned and presented in the fourth chapter. Overall, the quality of the manual profiling method is to be further improved by all measures taken and the prerequisites for the 'go live' of profiling will be created in June 2019. For this reason, the second year of testing will be re-evaluated and analysed again.

Furthermore, the intensive profiling method will be developed, tested and evaluated in the second year. Before this method will be introduced into continuous operation, the profiling staff will be trained in the first half of the year 2019. In addition, knowledge gained from manual (desktop and intensive) profiling of the first and the second year will be used for further developments and for optimisation of the delineation rules in automatic profiling.

6. References

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