

# Challenges in the production of business demography statistics

## In the indication of the EBS regulation

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Independent statistics for evidence-based decision making

# Status Quo in Business Demography (BD) methodology

## Coverage, consistency and coherence of BD, SBR and SBS

- Until reporting year 2020, the business registers of Statistics Austria (business register for administrative purposes (ABR) and business register for statistical purposes) form central data basis BD statistics (Statistics Austria, 2022).
- Additionally, the following administrative data sources are used:
  - Tax data (VAT, income tax and supplements, corporate tax and supplements)
  - Employers and employee's data from the Umbrella Association of Austrian Social Insurance Institutions.
  - Austrian Economic Chambers (Austrian Economic Chambers, 2022) memberships and activity data
  - Austrian Commercial register (registered legal units, information on legal events concerning the unit)

# Status Quo in Business Demography (BD) methodology

## Coverage, consistency and coherence of BD, SBR and SBS

- The main purposes for the use of sources additional to SBR include:
  - To complete the coverage of the SBR especially concerning small business owners and enterprises in the NACE-sections P-R
  - To complement missing characteristics
  - To determine more exact demarcations of demographic events, e.g. for identification of mergers, takeovers

# Status Quo in Business Demography (BD) methodology

## Coverage, consistency and coherence of BD, SBR and SBS

### Differences between SBS, BD and SBR, reporting year 2020, by economic activity (NACE sections B-N)

NACE SECTION		SBS	BD	SBR (market oriented)
B	Mining and Quarrying	307	363	299
C	Manufacturing	25,727	29,661	25,591
D	Electricity, Gas, Steam and Air Conditioning Supply	2,429	3,769	2,529
E	Water Supply; Sewerage, Waste Management and Remediation Activities	2,126	2,902	2,778
F	Construction	37,261	40,946	37,007
G	Wholesale and Retail Trade	76,938	93,757	76,878
H	Transportation and Storage	13,799	16,532	13,694
I	Accommodation and Food Service Activities	44,291	50,669	43,244
J	Information and Communication	21,760	28,500	22,240
K	Financial and Insurance Activities	6,582	10,440	8,480
L	Real Estate Activities	18,083	20,474	19,812
M	Professional, Scientific and Technical Activities	68,516	95,253	70,562
N	Administrative and Support Service Activities	17,911	25,024	18,776
TOTAL		335,730	418,290	341,890

# Business demography, reporting year 2021

## Main goals in rise of the EBS regulation

- In order to cope with the new European regulation for business statistics (EBS), STAT pursues a new revision of the BD statistics with the following goals:
  - Small and micro enterprises should be included in SBR.
  - Both SBS and BD should use a common data frame exclusively based on SBR.
  - Both SBS and BD should use the statistical enterprise implemented in SBR.

# Business demography, reporting year 2021

## Strengthening the backbone – SBR adaptations

- In order to provide a solid basis for coherent business statistics, a lot of effort went into overcoming the before mentioned issues in the SBR:
  - Statistical units - inclusion of enterprise groups and statistical enterprises as new entities in the SBR
  - Coverage - lower turnover thresholds for active enterprises in SBR to (almost) zero
  - New data sources - including new data sources such as supplement data on turnover from income- and corporate tax returns
  - Implementing a new concept of estimating the end of economic activity
- Throughout this process, about 120,000 new enterprises were included in the SBR. Moreover, a stricter end-of-activity estimation is now widely in line with the SBS requirements for active enterprises.

# Business demography, reporting year 2021

## Strengthening the backbone – SBR adaptations

### Additionally registered enterprises in February 2021 above and below 10,000 Euro turnover by economic activity (NACE sections B-S)

NACE SECTION		At least EUR 10,000 T/O	Below EUR 10,000 T/O
B	Mining and Quarrying	5	5
C	Manufacturing	901	2,302
D	Electricity, Gas, Steam and Air Conditioning Supply	29	157
E	Water Supply; Sewerage, Waste Management and Remediation Activities	9	12
F	Construction	684	655
G	Wholesale and Retail Trade	2,672	5,309
H	Transportation and Storage	287	481
I	Accommodation and Food Service Activities	407	353
J	Information and Communication	1,086	2,395
K	Financial and Insurance Activities	415	990
L	Real Estate Activities	95	162
M	Professional, Scientific and Technical Activities	4,347	9,451
N	Administrative and Support Service Activities	2,994	4,604
P	Education	2,864	8,931
Q	Human Health and Social Work Activities	21,090	17,101
R	Arts, Entertainment and Recreation	3,873	8,080
S	Other Service Activities	6,502	10,477
TOTAL		48,260	71,465

# Business demography, reporting year 2021

## The new Business Demography methodology

The purpose of commencement- and cessation dates in the SBR deviates in some ways from the needs in BD.

- It's of course designed to display the begin and end of activity of a present enterprise.
- However, the longitudinal continuity follows the leading legal unit in terms of employment and turnover. Restructuring in groups and enterprises often lead to “new” enterprises in the SBR.



# Business demography, reporting year 2021

## The new Business Demography methodology

- Challenges include:
  - Volatile longitudinal enterprise development – e.g., within an enterprise group, change of activity of a single legal unit has impact on at least 2 enterprises in the group
  - Groups are frequently restructured based on information from commercial register and the European group register.
  - SBR enterprise profiling has focus on giving a correct transverse image of the present reporting year, whereas BD is interested in the biography (temporal start- and endpoint) of the underlying production factors regardless of possible legal restructurings such as mergers, takeovers and break-ups (see section 3.3.2).

# Business demography, reporting year 2021

## The new Business Demography methodology

- Therefore:
  - Continuity of enterprises in the BD-sense goes beyond the enterprise definition in the SBR
  - Dates of commencement and cessation from SBR are regarded as the starting point in determining enterprise demographic events and need to establish longitudinal year-to-year relations between SBR-enterprises.

# Business demography, reporting year 2021

## Identifying relations between enterprises

- A birth amounts to the creation of a combination of production factors with the restriction that no other enterprises are involved in the event. To display continuity, it is therefore crucial to display relations between enterprises that might share production factors.

Common types of relations include:

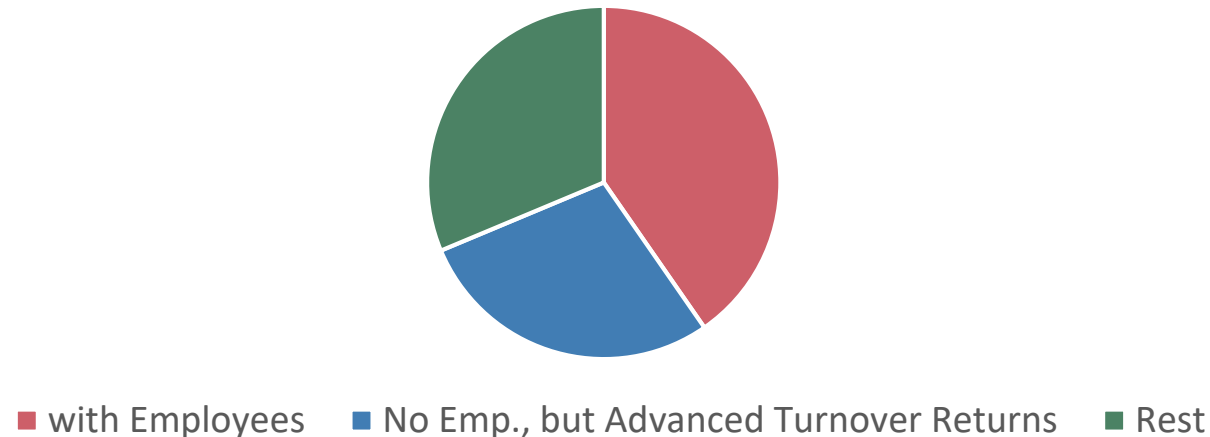
- Predecessor-Successor – maintained within SBR
- Enterprise and group restructurings – recorded in SBR
- Mergers, Takeovers... - additional information from Austrian Commercial Register

# Business demography, reporting year 2021

## Activity in the years after the reporting year

- At the time of publication, there are no turnover data available apart from the advanced turnover tax returns. These are mandatory only for enterprises that exceed a taxable annual turnover of 30,000 Euro. In the BD 2020, more than 30% of active enterprises neither payed advanced VAT nor had they employees.

Active Enterprises in BD 2020



# Business demography, reporting year 2021

## Activity in the years after the reporting year

- Consequently, additional activity markers are necessary to determine if an enterprise has ended its activity in the reporting year.
- An active enterprise is not a (preliminary) enterprise death unless:
  - There is a zero or negative value reported in one of the turnover variables for the subsequent years
  - Administrative Cessation:
    - For sole proprietors: End of self-employed social insurance
    - End of membership at chamber of commerce
    - End of entry in commercial register
  - Advance turnover tax returns or positive number of employees in reporting year (but not in the subsequent years)
- Number of enterprise deaths is routinely revised in the subsequent year.

# Business demography, reporting year 2021

## The production process – establishing enterprise birth, death and survival

- Incorporating the above issues, we formulate the main production process and distinguish initial production from the computations in subsequent reporting years.
  - First year:
    1. Take active enterprises from SBR – identical to SBS enterprises
    2. Take date of enterprise commencement and cessation from SBR
    3. Establish relations to units of old BD for all active enterprises
    4. Compute potential birth- and death year for all active enterprises
    5. Identify mergers, takeovers, break-ups and restructurings for all active enterprises
    6. Reconsider birth and death year

# Business demography, reporting year 2021

## The production process – establishing enterprise birth, death and survival

- Incorporating the above issues, we formulate the main production process and distinguish initial production from the computations in subsequent reporting years.
  - Future reporting years:
    1. Take active enterprises from SBR – identical to SBS enterprises
    2. Join information of the preceding two years
    3. Adopt existing birth years
    4. Mark enterprise deaths from preceding years as reactivations
    5. Mark enterprises not occurring in preceding years as potential enterprise births
    6. Identify mergers, takeovers, etc.
    7. Reconsider birth and death year

# Results

## Unpublished results for the reporting year 2020

Differences between new (preliminary data) and old (published) BD, reporting year 2020, by economic activity (NACE sections)

NACE SECTION		BD new			BD old		
		Active Enterprises	Births	Deaths	Active Enterprises	Births	Deaths
B	Mining and Quarrying	313	2	10	363	8	9
C	Manufacturing	29,500	1,265	1,195	29,661	1,268	923
D	Electricity, Gas, Steam and Air Conditioning Supply	3,548	106	146	3,769	145	87
E	Water Supply; Sewerage, Waste Management and Remediation Activities	2,835	46	100	2,902	66	54
F	Construction	38,136	1,658	1,917	40,946	2,337	1,417
G	Wholesale and Retail Trade	88,615	4,772	5,050	93,757	5,809	4,178
H	Transportation and Storage	15,244	865	1,150	16,532	1,180	1,050
I	Accommodation and Food Service Activities	46,572	1,967	3,621	50,669	2,655	2,548
J	Information and Communication	26,651	1,576	1,626	28,500	1,855	1,040
K	Financial and Insurance Activities	10,426	390	507	10,440	485	532
L	Real Estate Activities	19,656	801	899	20,474	510	501
M	Professional, Scientific and Technical Activities	83,710	4,071	4,482	95,253	4,295	3,471
N	Administrative and Support Service Activities	24,738	1,805	1,372	25,024	2,021	1,458
TOTAL		389,944	19,324	22,075	418,290	22,634	17,268



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