FDZ-DATENREPORT

Documentation of labour market data

04|2025 EN Sample of Integrated Employer-Employee Data (SIEED) 1975-2023

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Die FDZ-Datenreporte beschreiben die Daten des FDZ im Detail. Diese Reihe hat somit eine doppelte Funktion: zum einen stellen Nutzerinnen und Nutzer fest, ob die angebotenen Daten für das Forschungsvorhaben geeignet sind, zum anderen dienen sie zur Vorbereitung der Auswertungen.

FDZ-Datenreporte (FDZ data reports) describe FDZ data in detail. As a result, this series of reports has a dual function: on the one hand, those using the reports can ascertain whether the data offered is suitable for their research task; on the other, the data can be used to prepare evaluations.

Contents

Zusammenfassung

Dieser Datenreport beschreibt die Stichprobe Integrierter Employer-Employee Daten (SIEED) 1975 - 2023.

Abstract

This data report describes the Sample of Integrated Employer-Employee Data (SIEED) 1975 - 2023.

Keywords

German administrative micro data, labour market data, data manual

Acknowledgements

Data availability

The dataset described in this document is available for use by professional researchers. Further information can be found on the website https://fdz.iab.de/en/startseite-en/.

1 Introduction and outline

1.1 Introduction

The Sample of Integrated Employer-Employee Data (Stichprobe Integrierter Employer-Employee Daten - SIEED) is a sample of the population of the Integrated Employment Biog-raphies (IEB) of the Institute for Employment Research (Institut für Arbeitsmarkt- und Berufsforschung - IAB). The IEB comprises all individuals who showed one of the following statuses at least once during the observation period:

- employment subject to social security (recorded from 1975 onwards)

- marginal part-time employment (recorded from 1999 onwards)

- receipt of benefits in accordance with Social Code Book III (recorded from 1975 onwards) or Social Code Book II (recorded from 2005 onwards)

- registered with the Federal Employment Agency (Bundesagentur für Arbeit - BA) or at an institution responsible for implementing SGB II as a jobseeker (recorded from 1997 onwards)

- participation in an employment or training measure (recorded from 2000 onwards)

These data, which come from different sources, are merged in the IEB and the statuses are depicted exact to the day.

The SIEED contains only data from the Employee History (Beschäftigtenhistorik - BeH), which is the origin of the information on employment subject to social security and marginal part-time employment. Further data sources which are part of the IEB are not included in the SIEED. The SIEED is produced at the Research Data Centre (FDZ) of the Federal Employment Agency (BA) at the IAB. The SIEED covers the employment histories of 4,115,523 individuals in 4,977,158 establishments, and their employment biographies are documented in a total of 144,862,779 lines of data.

This Datenreport describes the variables of the weakly anonymous version of the SIEED, which largely comprises the original and uncoarsened data. In order to protect the anonymity of the data subjects, some variables are classified as particularly sensitive and are only made available upon special application (see Section 1.2).

This Datenreport is structured as follows. In addition to the introduction, Chapter 1 contains information on data access as well as an outline of the data, the volume structure and a list of variables. A description of the individual data sources can be found in Chapter 2. Data preparation and data quality are discussed in Chapters 3 and 4, while the individual variables are described in Chapter 5.

1.2 Data use

1.2.1 Data access

The SIEED data in the weakly anonymous version may only be analysed in the context of a research visit at the FDZ and subsequent remote data access.

In order to be able to use the data, it is first necessary to submit an application to the FDZ. The FDZ decides on the approval of the research project on behalf of and, if necessary, in coordination with the Federal Ministry of Labour and Social Affairs (Bundesministerium für Arbeit und Soziales – BMAS). When approval has been granted, a data use agreement is concluded with the researcher's scientific institution. Details on applying for the dataset and possibilities for data processing are available on the FDZ website (https://fdz.iab.de/en/startseite-en/) .

1.2.2 Data management

The SIEED data, which include both German and English labels,[1] have a modular structure and are stored in several files. One module, which is henceforth called the Individual File, contains identifiers (individual IDs and establishment IDs), the personal variables, information on employment, benefit receipt and job search activity, variables regarding place of residence, and technical variables. A second module, the Basis Establishment File, contains the establishment number, the year, and variables regarding the place of work and economic activities in aggregate form as well as other establishment information as of the reference date of 30 June. The datasets for eastern Germany are available from 1992 onwards.

Establishment variables and individual variables are therefore organised separately, which makes the structure of the data clear and saves storage space (see Figure 1). The Basis Establishment File and the Individual File are linked via the establishment number and the year of the dataset. Please note that the variable, which is necessary for linking the two modules, "establishment number", is available in both the Individual File and the Basis Establishment File. Figure 1 also shows all file names of the SIEED 7523.

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[1] With the Stata command *label language en / label language de* labels can be switched to English or German.

Figure 1: Storage of SIEED data
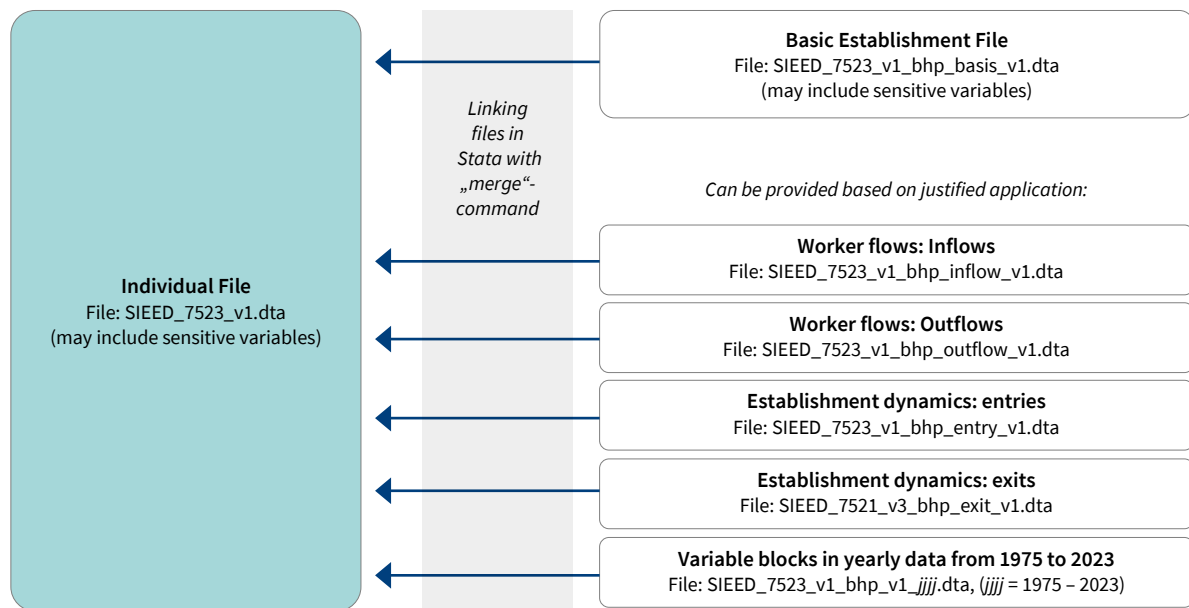
1.2.3   Sensitive variables and additional variables

Certain, so-called sensitive variables, which could facilitate the de-anonymisation of individuals or establishments, are only disclosed in the original if this is necessary for the analysis objective and is explicitly justified in the application for data access. It should be noted that the sensitive variables are usually already included in the data in a coarsened version. The sensitive variables are only made available in detail if the information in the coarsened state is insufficient to achieve the research objective. When a dataset is provided with sensitive variables, the corresponding non-sensitive variables are deleted if they can be generated by the users themselves, e.g. federal state from district information.

The variables which are particularly sensitive from the viewpoint of data protection legislation are:

Individual File:

- nationality (nation)
- month of birth (gebmon)
- occupational sub-group (beruf2010_4)
- place of residence: employment agency (wo_aa)
- place of residence: district (Kreis) (wo_kreis)

Basis Establishment File:

- place of work: district (Kreis) (ao_kreis)
- economic activity 93 – sub-class of economic activity (five-digit code) (w93_5)
- economic activity 03 - sub-class of economic activity (five-digit code) (w03_5)
- economic activity 08 - sub-class of economic activity (five-digit code) (w08_5)

Upon reasoned request, further establishment variable blocks from the Establishment History Panel (Betriebs-Historik-Panel - BHP) (see Figure 1) can be provided. In addition, the extension files

Worker flows (inflows/outflows) and Establishment dynamics (entries/exits) can be applied for with a separate justification.

These additional variable blocks or extension files are:

<u>Variable blocks from the BHP (annual waves):</u>

- General employment structure (az_ges az_f az_reg az_gf az_azubi az_atz az_vz az_tz az_f_vz az_f_tz az_reg_vz)

- Structure of employees by educational and vocational qualifications (az_gq az_mq az_hq az_gq_vz az_mq_vz az_hq_vz)

- Employee age structure (az_15_19 az_15_19_vz az_20_24 az_20_24_vz az_25_29 az_25_29_vz az_30_34 az_30_34_vz az_35_39 az_35_39_vz az_40_44 az_40_44_vz az_45_49 az_45_49_vz az_50_54 az_50_54_vz az_55_59 az_55_59_vz az_60_64 az_60_64_vz az_ab65 az_ab65_vz alter_mw alter_mw_vz)

- Research and development activities (az_ingnat)

- Number of employees with non-standard job types (az_leih az_bfr)

- Structure of employees by nationality (az_d az_d_vz az_eu)

- Structure of employees by Blossfeld occupational group (az_bf_agr az_bf_emb az_bf_edi az_bf_evb az_bf_qmb az_bf_qdi az_bf_qvb az_bf_tec az_bf_semi az_bf_ing az_bf_prof az_bf_man)

- Structure of employees by level of requirement (az_niv1 az_niv2 az_niv3 az_niv4)

- Wage structure of full-time employees (az_zens te_imp_mw te_imp_med te_imp_p25 te_imp_p75 te_imp_mw_f te_imp_med_f te_imp_med_m te_imp_mw_gq te_imp_med_gq te_imp_mw_mq te_imp_med_mq te_imp_mw_hq te_imp_med_hq te_imp_med_uq te_imp_mw_d te_imp_med_d te_imp_med_a te_imp_sum)

<u>Extension files of the BHP:</u>

- Extension file – Worker flows (ein_ges ein_f ein_reg ein_gf ein_azubi ein_vz ein_tz ein_vz_f ein_tz_f ein_reg_vz ein_wdr ein_wdr_f ein_bw ein_bw_f ein_bf_agr ein_bf_emb ein_bg_edi ein_bf_evb ein_bf_qmb az_bf_qdi ein_bf_qvb ein_bf_tec ein_bf_semi ein_bf_ing ein_bf_prof ein_bf_man ein_15_19 ein_20_24 ein_25_29 ein_30_34 ein_35_39 ein_40_44 ein_45_49 ein_50_54 ein_55_59 ein_60_64 ein_ab65 aus_ges aus_f aus_reg aus_gf aus_azubi aus_vz aus_tz aus_vz_f aus_tz_f aus_reg_vz aus_temp aus_bw aus_bw_f aus_bf_agr aus_bf_emb aus_bf_edi aus_bf_evb aus_bf_qmb aus_bf_qdi aus_bf_qvb aus_bf_tec aus_bf_semi aus_bf_ing aus_bf_prof aus_bf_man aus_15_19 aus_20_24 aus_25_29 aus_30_34 aus_35_39 aus_40_44 aus_45_49 aus_50_54 aus_55_59 aus_60_64 aus_ab65 aus_senio_1 aus_senio_2 aus_senio_3)

- Extension file – Entry and exit (eintritt besch besch_vor status_vor inflow austritt besch besch_nach status_nach outflow)

More information on the BHP can be found at https://fdz.iab.de/en/betriebsdaten/establishment-history-panel-bhp-version-7523-v1/ and in the FDZ data report 09/2024 (Ganzer et al., 2024).

In addition, person- and establishment-specific effects (AKM effects are available for the SIEED 7523 for the years 1985 to 2023. Further information can be found in the FDZ Methodenreport 03/2025 (Lochner/Wolter, 2025). The add-ons can be applied for by e-mail to iab.fdz@iab.de.

1.3 Changes as compared to SIEED 7518

1.3.1 Sample

The sample size of SIEED 7523 has been slightly reduced compared to the previous version. The basis of SIEED 7523 is now a 1% sample of all establishments in the BHP (see Section 3.3). This step was necessary to prevent an excessive increase in the dataset size.

1.3.2 Set of variables

Compared to version SIAB 7518, SIEED 7523 includes new variables on daily earnings that support the addition of one-off special payments and offer an imputation of the censored values to the right of the upper earnings threshold[2]. The underlying data work is described in Drechsler et al. (2023). Further information on the new variables can be found under "Daily wage (incl. one-off special payment) (tentgelt_bonus)" and "Daily wage (imputed) (tentgelt_imp)".

The two variables "First occurrence of establishment number (grd_dat)" and "Last occurrence of establishment number (lzt_dat)" are no longer offered from SIEED 7523 onwards, but exact-to-the-year information on the first and last occurrence of an establishment is still available.

Furthermore, the occupational characteristics (Occupational group - current/most recent (KldB 2010), 3-digit (beruf2010_3), Occupational sub-group - current/most recent (KldB 2010), 4-digit (beruf2010_4), Level of requirement - current/most recent job (KldB 2010) (niveau)) from version SIEED 7523 onwards contain the revised version of the Classification of Occupations 2010 (see Federal Employment Agency Statistics 2021). The update created two new occupational subgroups (4-digit codes) and 14 new occupational categories (5-digit codes). In addition, one occupational subgroup and one occupational category were relocated within the classification. The changes are included from 2020 onwards.

In addition, the categories of the variable "Nationality, grouped (nation_gr)" were redefined to better reflect larger nationality groups in Germany. The values of the individual characteristics were also reassigned. Further information can be found in the SIEED 7523 counts on the FDZ website.

Furthermore, for internal organizational reasons, the variables for the identifiers of individuals and establishments have been renamed. The variables "betnr," "persnr," and "betnr_pan" are now called "Individual ID (persnr_sieed)", "Establishment ID (betnr_sieed)" and "Identifier panel establishment (panel)".

In SIEED 7523, the information on the Place of residence - district (Kreis) (wo_kreis), Place of residence - federal state (Bundesland) (wo_bula), Place of residence - employment agency (Arbeitsagentur) (wo_aa) and Place of residence - regional directorate (Regionaldirektion) (wo_rd)

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[2] The imputation procedure for wages contained in the scripts by Stüber et al. (2023) can now be replaced by the newly offered variables.

for the employee data is provided with validity as of the beginning of the original episode and no longer as of December 31 of the respective year (see sections 5.6.1 to 5.6.4).

In addition, the values of the variables "Reason of cancellation/notification/termination (grund)" have changed due to internal technical changes (see Section 5.5.15). The contents remain unchanged.

Table 1 provides an overview of the changes in the set of variables.

Table 1: New, omitted and changed variables in the SIEED 7523

Variable	Explanation
Individual ID (persnr)	Renamed to persnr_sieed
Establishment ID (betnr)	Renamed to betnr_sieed
Identifier panel establishment (betnr_pan)	Renamed to panel
Nationality, grouped (nation_gr)	New grouping of the original values from the variable "nation"
Reason for cancellation / notification / termination (grund)	Recoding compared to SIEED 7518 (value ranges): 10s to 100s
Occupation (beruf2010_3, beruf2010_4, niveau)	New values or labels due to the revision of the Classification of Occupations 2010
Daily wage (incl. one-off special payment) (tentgelt_bonus)	new variable
Daily wage (imputed) (tentgelt_imp)	new variable
Date of first appearance (grd_dat)	No longer available; grd_jahr still available
Date of last appearance (lzt_dat)	No longer available; ltz_jahr still available

1.3.3   Data documentation

In this data report, the descriptions for the following variables have been revised or supplemented:
- Individual ID (persnr_sieed)
- Establishment ID (betnr_sieed)
- Identifier panel establishment (panel)
- Year (jahr)
- Nationality (nation)
- Nationality, grouped (nation_gr)
- Vocational training (ausbildung)
- Daily wage/daily benefit (tentgelt)
- Daily wage (incl. one-off special payment) (tentgelt_bonus)
- Daily wage (imputed) (tentgelt_imp)
- Part-time (teilzeit)
- Reason of cancellation/notification/termination (grund)
- Occupational group - current/most recent (KldB 2010), 3-digit (beruf2010_3)
- Occupational sub-group - current/most recent (KldB 2010), 4-digit (beruf2010_4)
- Level of requirement - current/most recent job (KldB 2010) (niveau)

- Place of residence - district (Kreis) (wo_kreis)
- Place of residence - federal state (Bundesland) (wo_bula)
- Place of residence - employment agency (Arbeitsagentur) (wo_aa)
- Place of residence - regional directorate (Regionaldirektion) (wo_rd)
- Mean imputed wage all full-time employees (te_imp_mw)
- Place of work - district (Kreis) (ao_kreis)

The section '1.4 List of variables' has been deleted. The detailed overviews of the individual variables (labels, counts, missing values) in the online appendix to the data report serve as a substitute (see section 7.1). Furthermore, section 1.2.3 on the application of sensitive characteristics and additional variables has been supplemented.

1.4 Outline

Table 2: Outline

Category	Description
Topics/ groups of variables	**Employee History (Beschäftigtenhistorik - BeH):** Annual notifications and end-of-employment notifications submitted to the social security agencies for employees covered by social security and employees in marginal part-time employment.
Data units	Employees covered by social security (including marginal part-time employees from 1999 onwards), establishments
Number of cases	4,115,523 individuals 130,010,840 original observations 144,862,779 non-overlapping observations (after episode splitting)
Period covered	The period covered depends on the data source. BeH: 01.01.1975 - 31.12.2019 (until 2020: 36-months-file 2021 and 2022: 18-months-file, 2023: 6- months-file)
Time reference	exact to the day
Regional structure	German federal states (Bundesländer), districts (Kreise)
Date of territorial allocation	Territorial allocation updated as of 31.12.2023
Data collection method	Linked-Employer-Employee-Data; selection of a 1 % random sample of estab-lishments and linkage with their employees' employment biographies from pro-cess data
Institutions involved	Social security agencies, Federal Employment Agency (Bundesagentur für Arbeit), municipal institutions
Frequency of data collection	Continuous

Category	Description
File format and size	Stata; Individual File: 10.6 GB; Basis Establishment File: 1.76 GB
File architecture	The data are stored in two files. One contains individual-level information and the other establishment-related information. Further files with additional information on establishments can be provided following a justified application.
Data access	Remote desktop, on-site use or remote data access
Degree of anonymisation	Weakly anonymous
Sensitive variables	Month of birth (gebmon), Nationality (nationoccupational sub-group (beruf2010_4), place of residence: employment agency (wo_aa), place of residence: district (Kreis) (wo_kreis) place of work: district (Kreis) (ao_kreis), economic activity - sub-class of economic activity (five-digit code) (w93_5), economic activity - sub-class of economic activity (five-digit code) (w03_5), economic activity - sub-class of economic activity (five-digit code) (w08_5).
Citation of data and data documentation	**Data**: Graf, Tobias; Grießemer, Stephan; Köhler, Markus; Lehnert, Claudia; Moczall, Andreas; Oertel, Martina; Schmidtlein, Lisa; Schmucker, Alexandra; Schneider, Andreas; vom Berge, Philipp (2025): "Weakly anonymous Version of the Sample of Integrated Employer-Employee Data (SIEED) – Version 7523 v1". Research Data Centre of the Federal Employment Agency (BA) at the Institute for Employment Research (IAB). DOI 10.5164/IAB.SIEED7523.de.en.v1 The data access was provided via remote desktop/on-site use at the Research Data Centre (FDZ) of the German Federal Employment Agency (BA) at the Institute for Employment Research (IAB) and remote execution. **Data documentation**: Schmidtlein, Lisa; Schmucker, Alexandra; vom Berge, Philipp (2025): Sample of Integrated Employer-Employee Data (SIEED) 1975-2023. FDZ-Datenreport, 04/2025 (en), Nuremberg. DOI: 10.5164/IAB.FDZD.2504.en.v1
Dataset version	Weakly anonymous Version of the Sample of Integrated Employer-Employee Data (SIEED) – Version 7523 v1; DOI: 10.5164/IAB.SIEED7523.de.en.v1

1.5 Volume structure

Table 3: Volume structure

No. of cases	before splitting	after splitting
Total number of observations	130,010,840	144,862,779
Individuals	4,115,523	4,115,523
Panel establishments	114,875	114,875

2 Data sources

The administrative individual data were drawn from the Integrated Employment Biographies (IEB) of the IAB. They unite data from different data sources, each of which may contain information from different administrative procedures. In addition, some supplementary variables from these data sources, which are not part of the IEB, are incorporated into the administrative individual data. Figure 2 illustrates the data flows that lead to the SIEED and their relationship to other FDZ data products.

Figure 2: Data sources of the SIEED
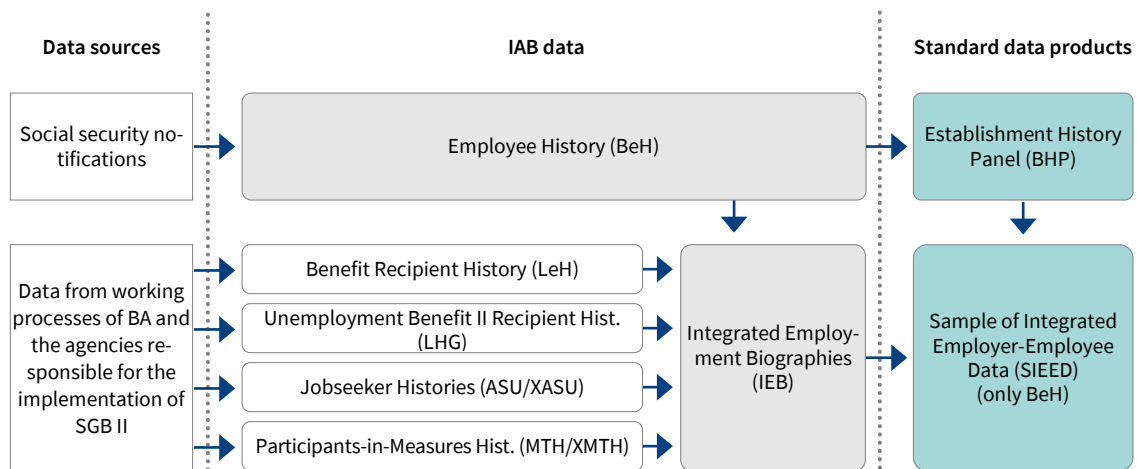
The source of data regarding employment is the Employee History (Beschäftigtenhistorik - BeH) of the IAB. The data basis is the integrated notification procedure for health, pension and unemployment insurance, which came into effect as of 1 January 1973 (and was extended to cover East Germany as of 1 January 1991) and is known by the abbreviation DEÜV (previously DEVO / DÜVO) (for further details see: Bender et al. 1996, p. 4 et seq.; Wermter /Cramer 1988). Under this procedure, employers are required to submit notifications to the responsible social security agencies concerning all of their employees covered by social security at least once a year. The BeH covers all white- and blue-collar workers as well as apprentices as long as they are not exempt from social security contributions. This means that civil servants, self-employed persons and regular students[3] (see Cramer 1985) are not recorded in the BeH in principle. Since the notification procedure was changed on 1 January 1999, employees in marginal part-time employment and unpaid family workers have also been recorded (not contained in the data until 1 April 1999). The data are recorded by the health insurance companies, collected and edited by the Federal Employment Agency (BA) and subsequently integrated into the History File by the IAB.

The employment episodes in the administrative individual data are supplemented by establishment data (Basis Establishment File and BHP Extension Files). They are taken from the Establishment History Panel (Betriebs-Historik-Panel - BHP), which is also based on the BeH. The Basic Establishment File and BHP Extension Files, which are provided with the SIEED data, comprise only information on establishments from which at least one employee is included in the

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[3] Students may still appear in the BeH if, for example, they had a marginal part-time job parallel to their degree course.

SIEED sample. Furthermore, the establishment data are limited to the years in which the employees appear in the SIEED sample.

When linking individual data with establishment data, one has to take into account that the variables in both the Basis Establishment File and the BHP Extension Files are aggregated on 30 June of a year. Unlike the data on individuals, the establishment variables are therefore not spell data but are only valid on 30 June precisely each year.[4]

The Basis Establishment File is linked with the Individual File via the programme-specific commands of the software packages used for preparing and analysing the data. In Stata, for instance, the two files can be linked using the "merge" command in connection with the relevant paths (see Box 1).

Box 1: Example code for merging individual and establishment data in Stata 17

```
use $orig/SIEED_7523_v1.dta
gen int jahr = year(begepi)
sort betnr_sieed jahr
merge m:1 betnr_sieed jahr using $orig/SIEED_7523_v1_bhp_basis_v1.dta
```

3 Data preparation and sampling procedure

3.1 Corrections and validation procedures

Before the data from the sources specified in Chapter 2 are merged to form the IEB, they undergo source-specific correction procedures (see the following Sections). The IEB as a whole undergo the following corrections:

- Observations in which the age is under 13 or over 75 are deleted.
- Observations whose end date precedes the start date are deleted.
- Inconsistent information on gender or date of birth within an account is corrected.
- Records with no information on the date of birth or on gender after the correction procedure are deleted.

No further corrections (such as the addition of presumably missing notifications, strike corrections) are performed.

The BeH data are prepared and cleaned through to the following procedures:

- To capture a person group that is as constant as possible over time, some person groups for which data are not available throughout the entire observation period are excluded. From the reporting year 2011 onwards, the BeH data originate from newly designed source data. As a result, a number of person groups have been introduced or reactivated as they are classified by the BA statistics as being subject to social security contributions. The person groups 101 -

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[4] An extreme example: an employment notification exists from 1 January 2006 to 30 May 2006; the establishment goes bankrupt in June 2006. In this case, there would be no information about this establishment in the BHP for 2006.

107, 111 - 114, 118, 119, 120, 140, 141, 142, 143, 149, 201 and 203 - 205 are therefore contained from that time onwards as well as the two groups 109 and 209, which indicate people in marginal part-time employment. Groups that are not included are, for example, people in short-term employment, i.e. person groups 110, 202 and 210.

- Person groups 123, 124 and 127 have been newly introduced in 2011.

- For data protection reasons, the person groups 107, 111, 113, 114, 127 and 204 are combined to form the person group "other workers" (599).

- From the reporting year 2012 onwards apprentices were included as the new person groups 121 and 122.

- Observations with no details on earnings, and the value 101 for the person group variable, and the value 50 for the reason for notification (annual notification) are not incorporated into the IEB.

- Gender and date of birth are taken from the Data Warehouse (DWH) of the BA. This information is harmonised across data sources.

- The territorial allocations for place of work and place of residence are updated to the status as of 31 December 2023.

3.2 Episode splitting

The administrative individual data are available with "split" episodes. If observations overlap within an account, these observations are replaced by artificial observations with new dates so that completely parallel periods and non-overlapping periods are created. This increases the number of observations (see Figure 3).

Figure 3: Episode splitting

persnr	begorig	endorig	level
4711	01.01.98	31.12.98	-
4711	01.10.98	30.06.99	-
4711	01.01.99	31.12.99	-

Episode splitting
Splitting of the time intervals into non-overlapping intervals

persnr	begepi	endepi	level
4711	01.01.98	30.09.98	0
4711	01.10.98	31.12.98	0
4711	01.10.98	31.12.98	1
4711	01.01.99	30.06.99	0
4711	01.01.99	30.06.99	1
4711	01.07.99	31.12.99	0
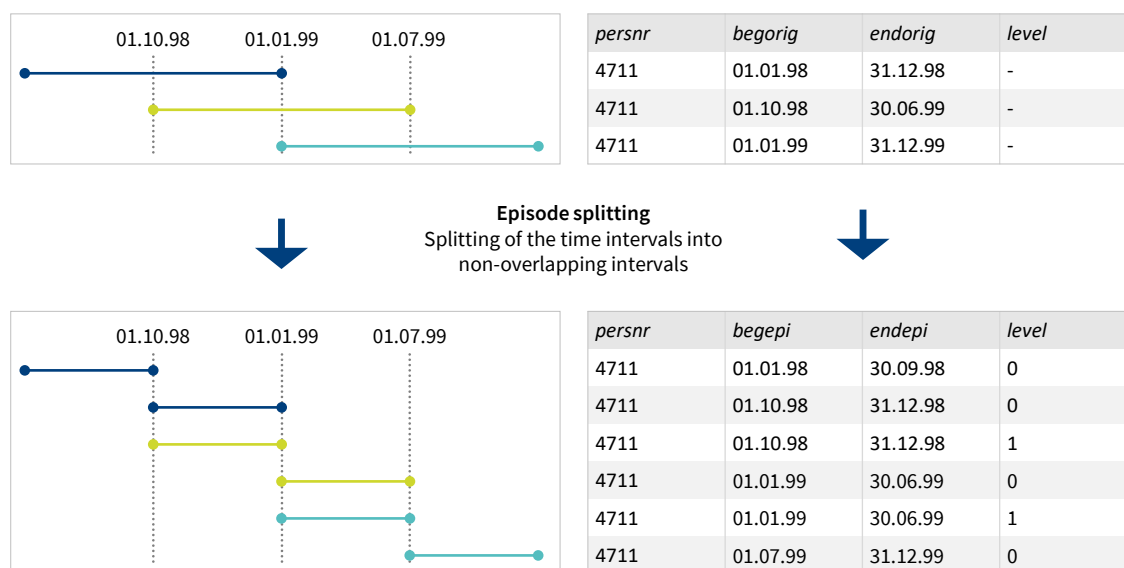
The original date variables for the beginning and the end of the original observation (begorig and endorig) are retained, the variables 'start date of the split episode' and 'end date of the split episode' (begepi and endepi) mark the beginning and the end of the split episodes. It is possible

to establish whether observations have been split by comparing the original period (begorig and endorig) with the episode period (begepi and endepi).

To restore the original data without the split episodes or to delete the episodes that were created artificially by means of episode splitting it is necessary to select all observations for which the start of the original observation is the same as the start of the split episode (begepi == begorig).

It is advisable to sort entirely parallel observations generated by the splitting procedure in a consistent manner. The variable 'observation counter per episode' (level2) that was previously contained in other data such as SIAB can be generated using the following Stata command if required (see Box 2).

Box 2: Example code to create additional observation counters in Stata 17

```
bysort persnr_sieed begepi (spell): gen byte level2 = _n-1
```

3.3 Sampling procedure

The basis of the sampling in the SIEED are the establishments of the Establishment History Panel (BHP). The BHP contains all the establishments in Germany which are covered by the IAB Employment History (BeH) on June 30th. The BeH contains information on all establishments in Germany that had at least one employee subject to social insurance contributions (recorded from 1975 onward) or marginally employed (recorded from 1999 onward) between 1975 and 2023. In the first step, a 1 % sample of all establishments is drawn from the population of establishments. In the second step, all persons are drawn from the IEB who worked for at least one day in one of these selected establishments between 1975 and 2023. In the third step, the complete employment histories for the source BeH are drawn from the IEB for these people. The employment biographies cover the period 1975 to 2023 and thus contain employment in the sampled establishments themselves as well as in other establishments that are not part of the sample.

Due to the sampling logic, evaluations based on SIEED are representative for establishments in Germany, but not for individuals. Representative statements e.g. about the population of employees in Germany should preferably be based on the Sample of Integrated Labour Market Biographies (SIAB).

3.4 Missing values

In the SIAB, missing values are coded as follows:

Term	Value	Description
No (valid) details available	.z	Values of a variable that are not systematically missing, i.e., the variable is available in principle for the data source, but no details are available for the value considered or cannot be interpreted reasonably.
Systematically not available	.n	A variable is not available in principle for a data source or is not available for a certain period.

4 Data quality and problems

4.1 Entire IEB

The IEB contains employment histories. However, not every type of employment is included in the administrative data. Some individuals with certain life courses are not represented in the IEB at all.

For evaluation purposes, it is often relevant to know gaps in the included biographies (e.g. for creating control groups, analysing life courses, etc.). The gaps listed below are defined as periods of time after the end of school education for which no data are included in the IEB. These gaps can be divided into

- gaps with no information available at all, and

- gaps for which information may be available from the 'reason for notification / reason for end of benefit receipt / reason for discontinuation of SGB II / reason for deregistration' variable of the observation immediately preceding the gap (if a corresponding observation exists).

These gaps were identified using the variables "Reason of cancellation/notification/termination" and "Employment status" in the various sources. The list in Table 4 makes no claims to be exhaustive.

Table 4: Biographical gaps and possible ways of identifying them

Biographical gap	Information on gap, potentially identifiable using the details in the "grund" variable in the preceding observation of the source[5]
Civil servants, professional soldiers, judges, employees of bodies or foundations under public law	XASU
Self-employed persons without support	LeH, ASU
Students, persons in school-based further education	LeH, LHG, ASU, XASU
Persons who are ill / not able to work for more than 6 weeks (illness during unemployment, however, is represented in the ASU source under certain circumstances, see Section 3.1.4)	BeH, LeH, ASU
Persons receiving old-age pension without employment if not a member of a benefit unit	LeH, LHG, ASU
Individuals on maternity leave / parental leave	XASU
Recipients of early retirement benefits	LeH, ASU
Trade professionals working from home	
Employees working short-time	ASU
Persons in youth welfare facilities, in vocational training centres, approved workshops or similar facilities for people with disabilities	ASU

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[5] Please be aware that the sources XASU, ASU, LeH and LHG are not available in the SIEED data set.

Biographical gap	Information on gap, potentially identifiable using the details in the "grund" variable in the preceding observation of the source[5]
Participants in programmes to support participation in working life (people in rehabilitation)	ASU
(Sideline) farmers	
Caregivers according to Section 19 SBG XI	
Conscripts	BeH, LeH, LHG, ASU, XASU
Persons in reserve duty training	BeH, LeH, LHG, ASU, XASU
Persons fulfilling community service	BeH, LeH, LHG, ASU, XASU
Persons fulfilling a voluntary social or ecological year instead of community service	
Other people not registered with the statutory pension insurance or the Federal Employment Agency (e.g. sabbatical, funding from personal assets or pensions, emigration, employment abroad, voluntary work etc.)	BeH, LeH, ASU
Strikers in cases where the strike lasts more than a month	LeH
Social assistance recipients (prior to the introduction of SGB II in 2005), recipients of welfare payments (according to SGB II)	
SGB-II recipients whose providers have experienced delivery failures	
Recipients of compensation according to FELEG (Gesetz zur Förderung der Einstellung der landwirtschaftlichen Erwerbstätigkeit, Act on Support in Case of Termination of Farming Activities)	

4.2 Employee History (BeH)

- -In a few cases (less than 1%), the employee history contains duplicates in the variables individual ID, establishment ID, employment status, original start date and original end date. The notification procedure does not provide for such duplicates. In most cases, the individual records in a duplicate group differ in the daily wage, in rarer cases also in other variables. The reason for such duplicates is probably incorrectly processed cancellations.

- Information on vocational training, the occupation/activity performed and the occupational status is transmitted by means of notifications made by the employer in accordance with the Data Collection and Transmission Regulation (DEÜV) (see Section 2) using a so-called occupation code. The new occupation code 2010 was adopted for notifications with an end date later than 30 November 2011 (for further details, see Bertat et al., 2013). The decision to switch to the new occupation code was made by the central organisations of the social security agencies as a number of facts could no longer be recorded in a way that was up-to-date and realistic using the occupation code 2003. As the notifications made by employers in accordance with DEÜV only enter the Employee History (BeH), the change of the occupation code only affects observations from this source. The measurement of the following characteristics previously reported using the occupation code 2003 is affected by this change:

working hours, occupation, occupational status and school and vocational qualification level. In addition, since the switch to the new occupation code, details are also available about whether an employment relationship is fixed-term and whether a person is employed by a temporary work agency to be hired out to other firms. The most important consequence is the switch to a new occupational classification. Instead of the previous Classification of Occupations 1988 (Klassifikation der Berufe 1988 (KldB 1988)), the more highly differentiated KldB 2010 is reported with the new occupation code.[6]

- The variable "Occupational status and working hours (stib)" is only filled for reports that were submitted before the introduction of the new occupation code. The FDZ does not extrapolate or impute for later reports. The categories of the variable stib that can be consistently observed over the whole observation period (occupational status as a trainee, distinction between part-time and full-time) are to be reproduced in the variables erwstat and teilzeit.

- The introduction of the new occupation code in 2011 led to a number of problems. For example, during the transition period granted to employers in the social security notification procedure,[7] there was a temporary increase in the number of missing details. Analyses of the BA statistics (Bertat et al., 2013, p. 10) show that in 20 to 30 percent of cases no information was available in the new or converted variables "occupation/activity performed", "working time" and "vocational education and training" after the switch. This situation began to improve significantly in the first half of 2013. In order to improve the quality of the "working time" variable in the transition period, Ludsteck/Thomsen (2016) developed an imputation procedure to replace the missing values by imputed values. The imputed data are included in the SIAB 7523. No imputation is performed regarding the gaps in the other variables.

- Due to the introduction of the employment notification procedure in the federal states of eastern Germany, the notifications for eastern Germany can only be assumed to be sufficiently complete from 1993 onwards. For the same reason, a large number of spells for 1991 have missing values for several variables (such as vocational training, employment status, and daily wage).

- The increase in the number of BeH observations from 1999 onwards is due to the introduction of the obligation to submit employment notifications for people in marginal part-time employment from 1 April 1999 onwards.

- Especially in 1999, observations of part-time employment increase significantly. This is caused by the actually observed increase in part-time work as well as by the fact that since 1999 employment notifications have been completed more correctly.

- Within the employment notification procedure, a certain time lag is unavoidable. Although changes in employment relationships have to be reported immediately, and existing employment relationships have to be confirmed annually by April (until the annual notification 2012) or mid-February (from the annual notification 2013 onwards) of the following year, some notifications actually arrive years later. The History File of the IAB is not updated continuously, however, but at certain intervals. This is done using files of

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[6] See Paulus/Matthes, 2013, for details regarding the Classification of Occupations 2010.

[7] The test programs used in the notification procedure permitted missing details in the occupation code 2010 until the end of May 2012.

employment notifications for one particular year which were submitted 36, 18, 12 or 6 months after the end of the reporting year (e.g. the 18-month file for 2013 can be created in July 2015 at the earliest). Notifications submitted more than three years late are not taken into account at the IAB, which means that a 36-month file shows a 100 % degree of completeness by definition.

- In the version of the IEB on which the SIAB 7523 is based, the year 2020 is the last year with a degree of completeness of BeH observations of 100%. For the years 2021 and 2022, the 18-month files were used, and the observations for 2023 originate from a 6-month file. It can therefore be assumed that employment notifications for 2021 and 2022 are slightly underreported in the SIAB, and that those for 2023 are underreported to a slightly higher degree. However, this should not reduce the ability to analyse the data at individual level. The missing notifications occur more frequently in a few establishments, however. This means that in individual cases the establishment data, e.g. establishment size, are grossly incorrect and will change considerably in subsequent versions.

- In 1984, a change was made in the employment notification procedure. From that time onwards, one-off payments of gross earned income were reported as part of the annual earnings subject to social security contributions, which leads to an increase in the average daily wage. In particular, the proportion of wages and salaries above the upper earnings limit increased considerably from that year onwards (see Bender et al. 1996).

- For the years 1992 until 2000, noticeable decreases and increases in the number of notifications were observed. Decreases can be observed especially for the following 10 districts: Braunschweig (03101), Wolfsburg (03103), Emden (03402), Kassel (06633), Essen (05113), Neuss (05162), Erftkreis (05362), Hersfeld-Rotenburg (06632), Miltenberg (09676) and Kempten (Allgäu) (09763). This is due to notification problems of one or more establishments in these regions.

- Considerable decreases were also observed for the districts Salzgitter (03102) and Hoyerswerda (14264).

- Concerning the notifications for full-time employment, especially the districts Main-Taunus (06436) and Alzey-Worms (07331) are noteworthy. They feature above-average rises. Also in this case, the reasons are notification problems at one or more establishments in these regions.

- In the years 1996 to 1998, the values 841-844 (doctors and pharmacies) within the 'Occupation - current/most recent (KldB 1988) (beruf)' variable are very rare compared to the neighbouring years. The reasons for this are not known.

- In the years 1975 and 1977, there were so far considerably too many employees with a place of work municipality of Lahn (district of Emsland, Lower Saxony). Instead of the expected double-digit figure, there were up to 90,000 employee registrations per year with this place of work in the population of the BeH. The reason for this is a historical misclassification of employment reports from the city of Lahn. This was a merger of the Hessian municipalities Wetzlar, Gießen, Heuchelheim, Wettenberg and Lahnau (districts of Gießen and Lahn-Dill-Kreis) which was dissolved after a short time. On the basis of these findings and assuming that there were no real company relocations between these regions, the following adjustment rule

was implemented at the level of the company number: As soon as the company location changes from the municipality of Lahn to one of the listed Hessian municipalities in the years 1975 to 1978, the former specification of the municipality of Lahn is overwritten with the later correct specification. This rule significantly reduces the overhang and the municipality of Lahn in Lower Saxony then only has less than 2,000 employees in the population of the BeH in the critical years.

5 Description of variables

This chapter describes the variables contained in the data product in detail. Further detailed overviews of the individual variables (labels, counts, missing values) can be found in the online appendix to the data report (see section 7.1).

5.1 Identifiers

5.1.1 Individual ID (persnr_sieed)

Category	Description
Variable label	Individual ID
Variable name	persnr-sieed
Category	identifiers
Data type	numerical
Detailed description	The individual ID indicates which observations belong to the same person. Artificial means that it is not possible to infer any of the person's characteristics or any original identifiers from this individual ID.
	As there is no uniform individual identifier in the different data sources, the allocation of the information from different data sources (e.g., employment and benefits) to individuals is not always unambiguous. In such cases, implausible employment histories may arise.
	The formation of the individual identifier which spans all data sources is based on a heuristic developed by the BA.

5.1.2 Establishment ID (betnr_sieed)

Category	Description
Variable label	establishment ID
Variable name	betnr_sieed
Category	identifiers
Data type	numerical
Detailed description	The establishment ID indicates which observations belong to the same establishment. It is based on the establishment number allocated by the BA, which was replaced by an artificial number (further information on the allocation of establishment numbers by the BA can be found in Bender et al. (1996: p. 15 et seq. and pp. 27-30) as well as directly on the website of the establishment number service of the BA at https://www.arbeitsagentur.de/betriebsnummern-service/alles-wichtige). The establishment number and year specification can be used to merge individual and establishment information.

Category	Description
	For the establishment number, the following should be observed in general:
	If the company has only one office, or if the company has only one office in one municipality, this office is the establishment and is given an establishment number.
	If the company has **several** branch offices in **one** municipality, these establishment premises / workplaces must be merged into a single establishment under one establishment number, if they belong to the same economic class. If they do **not** belong to the same economic class, each branch office is regarded as a separate establishment and is given its own establishment number.
	If the company has **several** branch offices in **several** municipalities, each of these branch offices is an establishment and is given its own establishment number.
	In this context, the following definitions with regards to the allocation of establishment numbers as part of the notification procedure for social security must be observed:
	An **establishment** is a regionally and economically delimited unit in which employees work and which is allocated an establishment number according to the above-mentioned principles.
	A **workplace** is a unit in which employees work and which is not allocated an establishment number according to the above-mentioned principles.
	A **company** as a term combines establishment premises and workplaces belonging to the same employer.
	An **employer** is any natural person or legal entity that employs at least one employee subject to social security contributions or in marginal part-time employment.
	Establishment and establishment premises are synonyms; branch office is a synonym for subsidiary, district office, out-sourced office, workplace etc. if it is not an establishment.
Notes on quality	The establishment ID is only missing in a very small number of cases. These observations are notifications for the person group "205" (earnings notifications for casual workers). As establishment variables (place of work, economic activity, establishment size etc.) are merged via the establishment ID, they are missing in these observations.

5.2   Generated technical variables

5.2.1   Identifier panel establishment (panel)

Category	Description
Variable label	Identifier panel establishment
Variable name	panel
Category	generated technical variables
Data type	numerical
Detailed description	The identifier indicates whether an establishment belongs to the originally drawn 1% establishment sample or not. In the case of zero, this means that the establishment was only included as part of the longitudinal sampling at the individual level. For this establishment it must therefore be assumed that not all employees are necessarily included in the dataset.

5.2.2   Counter per person (spell)

Category	Description
Variable label	counter per person
Variable name	spell
Category	generated technical variables
Data type	numerical
Detailed description	The observation counter per person counts a person's observations, beginning with 1. The variable is generated during the episode splitting procedure and refers to the split observations. Using the "observation counter per person" variable, it is easy to restore the original sorting order. The observations are sorted first by the start date of the split episode and then by the data source. Within employment notifications, persons subject to social insurance contributions are sorted before marginal employment notifications and higher daily wages before lower ones. One exception is one-time payments, which are sorted backwards.

5.2.3   Year (jahr)

Category	Description
Variable label	Year
Variable name	jahr
Category	generated technical variables
Data type	numerical

Detailed description	This variable is only included in the Basis Establishment File. It indicates the year of validity of the establishment data as of the reference date of 30 June.
	
	This variable can be used together with the establishment number to link the Individual File and the Basis Establishment File.
	
	Example code with the „merge"-command in Stata 17:
	
	`use $orig/SIEED_7523_v1.dta`
	`gen int jahr = year(begepi)`
	`sort betnr_sieed jahr`
	`merge m:1 betnr_sieed jahr using`
	`$orig/SIEED_7523_v1_bhp_basis_v1.dta`

5.3   Period of validity

5.3.1   Original start date (begorig)

Category	Description
Variable label	Original start date
Variable name	begorig
Category	period of validity
Data type	date
Detailed description	The original start date of the observation corresponds to the original start date of the notification. This can differ from the start date of the episodes (begepi) (see also the comments on episode splitting in Section 3.2). Because of the rules of the notification procedure, in BeH observations the starting and ending year are always identical (obligation of the employer to submit annual

Category	Description
	employment notifications). A continuous employment relationship may therefore be distributed across several notifications.

5.3.2 Original end date (endorig)

Category	Description
Variable label	Original end date
Variable name	endorig
Category	period of validity
Data type	date
Detailed description	The original end date of the observation corresponds to the original end date of the notification. This can differ from the end date of the relevant line of data, the so-called end date of the split episode (see also the comments on episode splitting in Section 3.2).

Because of the rules of the notification procedure, in BeH observations the starting and ending year are always identical (obligation of the employer to submit annual employment notifications). A continuous employment relationship may therefore be distributed across several notifications. |

5.3.3 Episode start date (begepi)

Category	Description
Variable label	Episode start date
Variable name	begepi
Category	generated period of validity
Data type	date
Detailed description	The start date of the split episode is always equal to or greater than the start date of the original observation (see also the comments on episode splitting in Section 3.2).

5.3.4 Episode end date (endepi)

Category	Description
Variable label	Episode end date
Variable name	endepi
Category	generated period of validity
Data type	date
Detailed description	The end date of the split episode is always equal to or smaller than the end date of the original observation (see also the comments on episode splitting in Section 3.2.)

5.4 Personal information

5.4.1 Gender (frau)

Category	Description
Variable label	Gender
Variable name	frau

Category	Description
Category	personal variable
Data type	numerical
Detailed description	Gender dummy (0 - man, 1 - woman). The gender information is constant within one individual account.

5.4.2 Year of birth (gebjahr)

Category	Description
Variable label	Year of birth
Variable name	gebjahr
Category	personal variables
Data type	numerical
Detailed description	The year of birth is constant within one individual account.

5.4.3 Month of birth (gebmon)

Category	Description
Variable label	Month of birth
Variable name	gebmon
Category	personal variables
Data type	numerical

Detailed description	The month of birth is constant within one individual account.
	
	One can use the variables Year of birth (gebjahr) and Month of birth (gebmon) to generate a variable in the date format JJJJmM (e.g., 1984m6) with the following syntax in Stata:
	
	`gen int gebdat = ym(gebjahr, gebmon)`
	`format gebdat %tm`

Anonymisation	Due to its particular sensitivity with regard to data privacy, this sensitive variable is only made available on application and only in well-founded cases. By default, only the coarsened variable Year of birth (gebjahr) is provided.

5.4.4 Nationality (nation)

Category	Description
Variable label	Nationality
Variable name	nation
Category	personal variables
Data type	numerical
Detailed description	The variable contains the nation codes used by the Federal Statistical Office (Statistisches Bundesamt, 2024).
Anonymisation	Due to its particular sensitivity with regard to data privacy, this sensitive variable is only made available on application and only in well-founded cases. By default, only the coarsened variable Nationality, grouped (nation_gr)) is provided.

5.4.5 Nationality, grouped (nation_gr)

Category	Description
Variable label	Nationality, grouped
Variable name	nation_gr

Category	Description
Category	personal variables
Data type	numerical
Detailed description	The variable contains a grouped version of the nation codes used by the Federal Statistical Office (Statistisches Bundesamt, 2024). An overview of these groups can be found in the 'Overview on classifications' under the key working tools at https://fdz.iab.de/en/manuals-and-working-tools/key-working-tools/.

5.4.6 Vocational training (ausbildung)

Category	Description
Variable label	Vocational training
Variable name	ausbildung
Category	personal variables
Data type	numerical
Detailed description	The variable contains the vocational training qualification. A classification of the degrees in the International Standard Classification of Education (ISCED 2011) can be found in the key working tools of the FDZ. For observations obtained from the BeH, the variable contains the vocational education reported by the employers as part of the employment notification procedure. The following values exist: 1 Without vocational training 2 In-company voc. training/traineeship/external voc. training 11 University of applied sciences without further specifications 12 University without further specifications In notifications that rely on the new occupation code (see Section 4.2) it is no longer possible to identify graduates of universities of applied sciences clearly, as the new occupation code no longer has a separate category for this vocational qualification. They are assigned to category 12.
Notes on quality	"Changes in the vocational training status frequently occur at the same time as a change of establishment. This is because the notification data are compiled anew in the new firm. If, for example, an employee obtained a higher qualification via a part-time further training course while still working then this change of status is probably not recorded until he/she joins a new firm. It can generally be assumed that when a person is employed in a firm for a longer period, the personal data that they reported when they joined the firm is simply carried forward" (own translation of Meinken / Koch 2004, p. 63). The share of missing values increases almost continuously over time. Due to the introduction of the new occupation code in 2011, the share even temporarily strongly increased to around 51%. Since 2014, however, the proportion of missing values in the BeH has levelled off at around 40%. Missing values occur particularly frequently in the following groups: marginal part-time employees, part-time workers, foreign employees and workers from Eastern German. The reason for this is that the variable is not of particular importance as regards social security contributions (see Meinken/Koch, 2004, p. 63). The introduction of the new occupation code is associated with a break in the data that goes beyond the mere conversion of the key and can possibly be explained by updating effects during the changeover of the payroll accounting software at the reporting establishments. For the variable "Vocational training (imputed) (ausbildung_imp)"a method was applied to correct missing values or inconsistent changes of the training variable.

Category	Description
	However, this variable is only filled in the source BeH and has different categories than the variable ausbildung.

5.4.7 Vocational training (imputed) (ausbildung_imp)

Category	Description
Variable label	Vocational training (imputed)
Variable name	ausbildung_imp
Category	personal variables
Data type	numerical
Detailed description	The variable Vocational training (imputed) is a supplement to the variable Vocational training (ausbildung) and contains additional and harmonized information on the vocational training of employees for BeH spells. The variable thus offers a solution to the problems concerning the variable Vocational training (ausbildung) described in Section 5.4.8. The imputation procedure is described in Thomsen et al (2018), which is based on the work of Fitzenberger et al. (2006).
	As the variable only uses the training information from BeH notifications and because the educational categories of the old and the new occupation codes had to be harmonised for the variable Vocational training (ausbildung), the variable ausbildung_imp has other categories than the variable ausbildung.
	A classification of the degrees in the International Standard Classification of Education (ISCED 2011) can be found in the key working tools of the FDZ (https://fdz.iab.de/en/manuals-and-working-tools/key-working-tools/).
Notes on quality	Despite the imputation procedure, the share of missing data increases over time, reaching about 9% in 2019. The introduction of the new occupation code is associated with a break in the data that goes beyond the mere conversion of the key and can possibly be explained by updating effects during the changeover of the payroll accounting software at the reporting establishments.

5.4.8 School leaving qualification (schule)

Category	Description
Variable label	School leaving qualification
Variable name	schule
Category	personal variables
Data type	numerical
Detailed description	This variable contains the school leaving qualification. Different values are possible depending on the source. A classification of the degrees in the International Standard Classification of Education (ISCED 2011) can be found in the key working tools of the FDZ (https://fdz.iab.de/en/manuals-and-working-tools/key-working-tools/).
	With the switch to the new occupation code in 2011 (see Section 4.2) the possible values of the variable change. The values from the old occupation code are:
	5 Grade-/lower school certificate, intermediate school or equivalent qualification
	8 Completion of education at a specialised upper secondary school/completion of higher education at a specialised college or upper

Category	Description
	secondary school leaving certificate, A-level equivalent, qualification for university; 13 years of schooling
	9 Upper secondary school leaving certificate, A-level equivalent, qualification for university; 13 years of schooling
	With the new occupation code the values are:
	1 No school leaving certificate
	4 Lower secondary school certificate/ grade school certificate
	6 Intermediate school leaving certificate
	8 Completion of education at a specialised upper secondary school/completion of higher education at a specialised college or upper secondary school leaving certificate, A-level equivalent, qualification for university; 13 years of schooling
	The differentiation options in lower secondary education were thus expanded (1, 4, 6 instead of 5 previously), while those in upper secondary education were reduced (8 and 9 now combined under 8).
Notes on quality	The degree of completeness in the BeH has been decreasing continuously over time and seems to have levelled off at under 2/3 in recent years. The introduction of the new occupation code is associated with a break in the data that goes beyond the mere conversion of the key and can possibly be explained by updating effects during the changeover of the payroll accounting software at the reporting establishments.

5.5 Information on employment

5.5.1 Daily wage/daily benefit (tentgelt)

Category	Description
Variable label	Daily wage/daily benefit
Variable name	tentgelt
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	In BeH observations, this variable shows the employee's gross daily wage. It is calculated from the fixed-period wages reported by the employer and the duration of the (unsplit) original notification period in calendar days. The daily wage is shown in euros.
	Until 1998, employers in principle only reported the earnings which were subject to social security contributions. Earnings below the marginal part-time income threshold were not reported. Earnings exceeding the upper earnings limit for statutory pension insurance are only reported up to this limit. There are two upper earnings limits in the statutory pension insurance scheme. The earnings limit of the miners' pension insurance is generally higher than the earnings limit of the pension insurance for wage and salary earners. However, it is not possible to differentiate between these two insurance providers in the data.
	Since the inclusion of marginal part-time employees in the employment notification procedure on 1 April 1999, earnings below the marginal part-time income threshold have also been recorded; the upper earnings limit still applies as the upper ceiling. In some cases, however, the reported earnings nonetheless exceed the upper earnings limit. Generally, this can probably be attributed to the payment of annual bonuses which the employer can add to the regular earnings in the annual, employment interruption or end of employment notifications. In this

Category	Description
	case, it is irrelevant whether the upper earnings limit in the statutory pension insurance which is decisive for the notification period is exceeded as a result of this addition. However, such earnings notifications could also be due to incorrect details in the employment period. (The earnings in-formation, however, may be considered less error-prone due to its insurance relevance.) The marginal part-time income threshold and the upper earnings limit for statutory pension insurance differ from year to year as well as between eastern and western Germany (the decisive factor is the location of the establishment). An overview of these limits and thresholds can be found under the key working tools (https://fdz.iab.de/en/manuals-and-working-tools/key-working-tools/).
	A daily wage reported as 0 euros can be put down to "employment interruption notifications". During these periods, the employment relation-ship continues to exist in legal terms, but without pay. This is the case for periods of illness after the end of continued payment of wages, for periods of maternity leave and for sabbaticals.
	From 2013 onwards, the number of notifications with a reason for deregistration of 54 (notification of a one-off special payment) increases sharply (see Section 5.5.15). It is likely that special payments which were reported with the annual declarations before 2013 are now reported separately. It is therefore advisable to add these variable one-time payments to the corresponding wages for simultaneous employment episodes within the same establishment when analysing wages over time (see variable Daily wage (incl. lump sum payment)).
	The daily wage is shown with two decimal places. All values greater than 0 and smaller than 0.01 were rounded up to 0.01. This makes it possible to identify the above-mentioned employment interruption notifications with the condition daily wage = 0.

5.5.2   Daily wage (incl. one-off special payment) (tentgelt_bonus)

Category	Description
Variable label	Daily wage (incl. one-off special payment)
Variable name	tentgelt_bonus
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The variable Daily wage (incl. one-off special payment) is a supplement to the variable Daily wage/daily benefit (tentgelt) and contains harmonised information on daily wage supplemented by one-off payments/special payments for BeH spells. The procedure is described in chapter 4.1 of Drechsler et al (2023).
Notes on quality	The variable is not available for all observations from the BeH source. On the one hand, episodes with notification on one-off payments/special payments (154) are not taken into account, on the other hand, Drechsler et al. (2023) clean up multiple employment for the same period in the same establishment in advance, not useing it to generate the variable.These episodes are still included in the data product presented here.

5.5.3   Daily wage (imputed) (tentgelt_imp)

Category	Description
Variable label	Daily wage (imputed)
Variable name	tentgelt_imp

Category	Description
Category	information on employment, benefit receipt and job search
Origin	BeH
Data type	numerical
Detailed description	The variable 'Daily wage' (imputed) is an additional variable to the variable Daily wage/daily benefit (tentgelt) and contains imputed daily wages for BeH notifications of full-time employees aged between 14 and 64 (excluding trainees) if these are censored in the notification data because they exceed the upper earnings limit. The variable is based on the variable Daily wage (incl. one-off special payment) (tentgelt_bonus). This means that the daily wages of this subpopulation that do not exceed the upper earning limits are taken from 'tentgelt_bonus'. Details of the imputation procedure are described in Drechsler et al. (2023) and Drechsler/Ludsteck (2025).
Notes on quality	Drechsler et al. (2023, Chapter 5) warn against using the variable in analyses without further test steps. In particular, it should always be checked how high the proportion of censored wages is in the respective model and whether all regressors of the model have also found their way into the imputation model either directly or through sufficiently good proxies. It is therefore recommended that you familiarise yourself with the assumptions and limitations of the procedure before using it.

5.5.4 Occupation - current/most recent (KldB 1988) (beruf)

Category	Description
Variable label	Occupation – current/most recent (KldB 1988)
Variable name	beruf
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The occupational title of the job performed by the employee during the notification period is a component of the 'employment details' submitted by the employer. If more than one job title with different classification codes applies to one employee, the employer is required to select the job title that best defines the main activity performed (see BA 2005, p. V). For this, the employer encodes the employee's job in accordance with the "Classification of Occupations. Systematic and Alphabetical Directory of Job Titles" (published by the Federal Employment Agency, Nuremberg, 1988), which contains approx. 25,000 job titles. The occupational classification consists of a 3-digit code and comprises about 330 values. Employment notifications with an end date later than 30 November 2011 are reported using the new occupation code 2010 (KldB2010) (see Section 4.2). These values are transcoded to the KldB1988 via a priority switch. This results in inaccuracies.
Notes on quality	There is a considerable increase in the number of missing values in 2011 due to the change in the occupation code. A similar accumulation of missing values occurs in 1991 due to reunification. The introduction of the new occupation code is associated with a break in the data that goes beyond the mere conversion of the key and can possibly be explained by updating effects during the changeover of the payroll accounting software at the reporting establishments.

5.5.5 Occupational group - current/most recent (KldB 2010), 3-digit (beruf2010_3)

Category	Description
Variable label	Occupational group - current/most recent (KldB 2010), 3-digit
Variable name	beruf2010_3
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The occupational title of the job performed by the employee during the notification period is a component of the 'employment details' submitted by the employer. If more than one job title with different classification codes apply for one employee, the employer is required to select the job title that best defines the main activity performed (see Bundesagentur für Arbeit, 2005, p. V).
	For this the employer encodes the employee's job in accordance with the "Classification of Occupations 2010" (Klassifikation der Berufe 2010, KldB2010, Bundesagentur für Arbeit, 2021). The occupational class consists of a 5-digit code and comprises about 1300 values. The less detailed occupational group is recorded by the first three digits of the code. The skill level required for a job, which is recorded in the fifth digit of the codes in the KldB2010, is made available separately in the variable 'Level of requirement - current/most recent job (KldB 2010) (niveau)'.
	Employment notifications with an end date earlier than 30 November 2011 are reported using the old occupation code 1988 (KldB 1988) (see Section 4.2). These values are recoded to the KldB2010 by transferring the key area. As the new occupation code is considerably more detailed than the old one, this results in substantial inaccuracies. This must be taken into account when analysing the data.
	The KldB2010 was updated in 2020. Two new occupational subgroups (4-digit) and 14 new occupational categories (5-digit) were created. In addition, one occupational subgroup and one occupational class were moved within the classification.
	The BeH source contains the changes from 2020 onwards.
	The occupational group can be assigned to the occupational sectors and occupational segments according to the classification of the Federal Employment Agency and the IAB via the main occupational group (first two digits of the key). A classification can be found in the key working tools of the FDZ (https://fdz.iab.de/en/manuals-and-working-tools/key-working-tools/).
Notes on quality	There is a considerable increase in the number of missing values in 2011 due to the change in the occupation code. A similar accumulation of missing values occurs in 1991 due to reunification. The introduction of the new occupation code is associated with a break in the data that goes beyond the mere conversion of the key and can possibly be explained by updating effects during the changeover of the payroll accounting software at the reporting establishments.

5.5.6 Occupational sub-group - current/most recent (KldB 2010), 4-digit (beruf2010_4)

Category	Description
Variable label	Occupational sub-group - current/most recent (KldB 2010), 4-digit
Variable name	beruf2010_4
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The occupational title of the job performed by the employee during the notification period is a component of the 'employment details' submitted by the employer. If more than one job title with different classification codes apply for one employee,

Category	Description
	the employer is required to select the job title that best defines the main activity performed (see Bundesagentur für Arbeit, 2005, p. V).
	For this the employer encodes the employee's job in accordance with the "Classification of Occupations 2010" (Klassifikation der Berufe 2010, KldB2010, Bundesagentur für Arbeit, 2021). The occupational class consists of a 5-digit code and comprises about 1300 values. The less detailed occupational sub-group is recorded by the first four digits of the code. The skill level required for a job, which is recorded in the fifth digit of the codes in the KldB2010, is made available separately in the variable 'Level of requirement - current/most recent job (KldB 2010) (niveau)'.
	Employment notifications with an end date earlier than 30 November 2011 are reported using the old occupation code 1988 (KldB 1988) (see Section 4.2). These values are recoded to the KldB2010 by transferring the key area. As the new occupation code is considerably more detailed than the old one, this results in substantial inaccuracies. This must be taken into account when analysing the data.
	The KldB2010 was updated in 2020. Two new occupational subgroups (4-digit) and 14 new occupational categories (5-digit) were created. In addition, one occupational subgroup and one occupational class were moved within the classification.
	The BeH source contains the changes from 2020 onwards.
	The occupational group can be assigned to the occupational sectors and occupational segments according to the classification of the Federal Employment Agency and the IAB via the main occupational group (first two digits of the key). A classification can be found in the key working tools of the FDZ (https://fdz.iab.de/en/manuals-and-working-tools/key-working-tools/). Employees working as master craftsmen can be identified, with a few exceptions in the transport, trade and personal service occupations (beruf2010_3: 514, 621, 632, 633, 713, 714, 732, 813, 831, 832, 921, 944 and 946), by combining the value 9 in the fourth position (occupational subgroup) with the value 3 in the level of requirement (niveau).
Notes on quality	There is a considerable increase in the number of missing values in 2011 due to the change in the occupation code. A similar accumulation of missing values occurs in 1991 due to the reunification. The introduction of the new occupation code is associated with a break in the data that goes beyond the mere conversion of the key and can possibly be explained by updating effects during the changeover of the payroll accounting software at the reporting establishments.
Anonymisation	Due to its particular sensitivity with regard to data privacy, this sensitive variable is only made available on application and only in well-founded cases. By default, only the coarsened variable (beruf2010_3) is provided.

5.5.7 Level of requirement - current/most recent job (KldB 2010) (niveau)

Category	Description
Variable label	Level of requirement - current/most recent (KldB 2010)
Variable name	niveau
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The occupational title of the job performed by the employee during the notification period is a component of the 'employment details' submitted by the employer. If more than one job title with different classification codes apply for one employee,

Category	Description
	the employer is required to select the job title that best defines the main activity performed (see Bundesagentur für Arbeit, 2005, p. V).
	For this the employer encodes the employee's job in accordance with the "Classification of Occupations 2010" (Klassifikation der Berufe 2010, KldB2010, Bundesagentur für Arbeit, 2011). The occupational class consists of a 5-digit code and comprises about 1300 values. The less detailed occupational sub-group is recorded by the first four digits of the code. The skill level required for a job, which is recorded in the fifth digit of the codes in the KldB2010, is made available separately in the variable 'level of requirement' (niveau).
	Employment notifications with an end date earlier than 30 November 2011 are reported using the old occupation code 1988 (KldB 1988) (see Section 4.2). These values are recoded to the KldB2010 by transferring the key area. As the new occupation code is considerably more detailed than the old one, this results in substantial inaccuracies. This must be taken into account when analysing the data.
	The KldB2010 was updated in 2020. Two new occupational subgroups (4-digit) and 14 new occupational categories (5-digit) were created. In addition, one occupational subgroup and one occupational class were moved within the classification.
	The BeH source contains the changes from 2020 onwards.
Notes on quality	There is a considerable increase in the number of missing values in 2011 due to the change in the occupation code. A similar accumulation of missing values occurs in 1991 due to the reunification. The introduction of the new occupation code is associated with a break in the data that goes beyond the mere conversion of the key and can possibly be explained by updating effects during the changeover of the payroll accounting software at the reporting establishments.

5.5.8   Part-time (teilzeit)

Category	Description
Variable label	Part-time
Variable name	teilzeit
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The variable "Part-time" (teilzeit) distinguishes between full-time and part-time employees. The decisive factor is the ratio between the contracted hours and the usual working hours in the establishment.
Notes on quality	There is a considerable increase in the number of missing values in 2011 due to the change in the reporting procedure. In order to reduce this problem, the working hours were imputed at the IAB for the period in question. Further information about the procedure can be found in Ludsteck/Thomsen (2016). A similar accumulation of missing values occurs in 1991 due to the reunification. No imputation is performed here.
	The introduction of the new occupation code is associated with a break in the data that goes beyond the mere conversion of the key and can possibly be explained by updating effects during the changeover of the payroll accounting software at the reporting establishments.
	For a more detailed discussion of the problem and a possible corrective approach, see Fitzenberger/Seidlitz (2020).

5.5.9 Occupational status and working hours (stib)

Category	Description
Variable label	Occupational status and working hours
Variable name	stib
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The employee's occupational status during the notification period is reported by the employer as part of the "employment details". The variable "occupational status and working hours" distinguishes between full-time and part-time employees. The decisive factor for this differentiation is the ratio between the contracted hours and the usual working hours in the establishment. For part-time employees the variable only indicates whether their working hours exceed a certain threshold. Until 1978, this threshold was 20 hours of work per week, between 1979 and 1987 it was 15 hours per week and since 1988 it is 18 hours per week.

The variable only provides information regarding the occupational status for full-time employees, distinguishing among other things between blue-collar and white-collar employees in full-time employment and apprentices. The distinction between (full-time) blue-collar and white-collar employees is solely based on the type of compulsory pension insurance (Federal Social Insurance Office for Salaried Employees – BfA – for white collar workers, and State Social Insurance Office – LVA – for blue-collar workers). Master craftsmen and foremen are only included in a separate category if they are compulsorily insured in the workers' pension insurance. The assignment of a master craftsman or foreman to the blue-collar or white-collar employees can only be made via the respective pension provider. The "employees in vocational training" category covers not only apprentices, volunteers and interns but also semi-skilled trainees, students at colleges for health occupations and participants in subsidised further vocational training, retraining and induction training.

If more than one code is eligible for an employee, the employer is required to classify the job according to the activity which is predominantly performed. If this cannot be determined clearly, the code of the higher occupational status is to be entered (see BA 2005, p. VI).

Owing to the introduction of the new occupation code (see Section 4.2), however, this distinction is no longer possible. The variable „stib" is therefore only filled for notifications which date back to before the introduction of the new occupation code. However, it is possible to identify occupations that require master craftsman training using the KldB 2010. For more information, see the variable "Occupational sub-group - current/most recent (KldB 2010), 4-digit (beruf2010_4)". |
| Notes on quality | There is a considerable increase in the number of missing values in 2011 due to the change in the reporting procedure. In order to reduce this problem, the working hours were imputed at the IAB for the period in question. Further information about the procedure can be found in Ludsteck/Thomsen (2016). An extended application of the correction approach is discussed and offered in Fitzenberger/Seidlitz (2020). A similar accumulation of missing values occurs in 1991 due to the reunification. No imputation is performed here. |

5.5.10 Employment status (erwstat)

Category	Description
Variable label	Employment status
Variable name	erwstat

Category	Description
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	For BeH observations, the variable 'employment status' corresponds to the person group recorded in the new notification procedure (DEÜV) from 1 January 1999 onwards. It indicates contribution- or benefit-related particularities of the employment relationship.
	If multiple codes apply to an employment notification, the smallest must be indicated by the reporting employer. The majority of these cases are employment relationships subject to social security contributions without any distinctive characteristics, which are recorded under code number 101. Accordingly, it is possible that these employment relationships are slightly overestimated.
	The notification procedure stipulates that changes in the employment status - e.g., when an apprentice is taken on by his/her training company after completing his/her vocational training - must be indicated by a new notification.
	The person group can be contained in employment notifications that refer to the years prior to 1999 but were not received until 1999 or later. For notifications which were received before 1999, an attempt is made to allocate the notifications to the person groups on the basis of certain rules and with the aid of the vocational education and training', 'occupational status and working hours' and 'occupation' variables as well as other information. In many cases, however, conclusive allocations are not possible. These remaining notifications were assigned to the group of persons "Employees subject to social security contributions without any distinctive characteristics" (101).
	Since 1 April 1999, employees in marginal part-time employment have also been recorded in the DEÜV notification procedure. This person group can be distinguished via the values 109 and 209. For employees in marginal part-time employment, no data prior to the introduction of the notification obligation in 1999 could be collected.

5.5.11 Transition zone (gleitz)

Category	Description
Variable label	Transition zone
Variable name	gleitz
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	This variable is only available from 2003 onwards and only for BeH observations. It indicates whether the employment notification relates to employment in the low-wage sector, within the so-called transition zone (in German "Gleitzone", since July 2019 "Uebergangsbereich"), (so-called midi jobs). Employee only have to pay a reduced overall social security contribution. As employees with earnings in the transition zone can voluntarily pay the "regular" social security contribution, not all employees with corresponding earnings are automatically classified as being in the transition zone.
	The transition zone is based on gross pay and changes over time:
	01.04.2003 to 31.12.2012: € 400.01 to € 800.00
	01.01.2013 to 30.06.2019: € 450.01 to € 850.00
	01.07.2019 to 30.09.2022: € 450.01 to €1,300.00
	01.10.2022 to 31.12.2022: € 520.01 to €1,600
	From 01.01.2023: € 520.01 to € 2,000

Category	Description
	Different lower limits exist for trainees and employees in voluntary services. In the case of several employment relationships, assignment to the transition zone is based on the total gross pay.
	The corresponding legislation has been in force since 1 April 2003.

5.5.12 Temporary agency work (leih)

Category	Description
Variable label	Temporary agency work
Variable name	leih
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The variable reports whether the person's employment is a temporary job via an employment agency. The employee is recorded with the establishment that provides the social security notifications and this is the establishment which leases out the employee (not the establishment that the employee physically works in).. The variable is derived from the occupation code 2010 and is only available for notifications with an end date later than 30 November 2011.
Notes on quality	There is a considerable increase in the number of missing values in 2011 due to the change in the reporting procedure. By 2012, the share of missing values is down to about 3% and decreases below 1% until 2019.

5.5.13 Fixed-term contract (befrist)

Category	Description
Variable label	Fixed-term contract
Variable name	befrist
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The variable reports whether the person's employment relationship is fixed-term or permanent. The variable is derived from the occupation code 2010 and is only available for notifications with an end date later than 30.11.2011.
Notes on quality	There is a considerable increase in the number of missing values in 2011 due to the change in the reporting procedure. By 2012, the share of missing values is down to about 3% and decreases under 1% until 2019.

5.5.14 Reason of cancellation/notification/termination (grund)

Category	Description
Variable label	Reason of cancellation/notification/termination
Variable name	grund
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	In BeH observations, the ' Reason of cancellation/ notification/ termination ' variable indicates the reason why the employer submitted the employment notification in question to the social security agencies. However, not all of the possible reasons for submitting a notification that may occur in the context of the notification procedure are available in the IEB. For instance, the IEB only includes notifications that have information on earnings (i.e., annual, employment interruption and end of employment notifications), while initial registrations are

Category	Description
	not contained as they contain no information on earnings. However, this does not involve a loss of information, as the details from a registration are transmitted again with the following annual, employment interruption or end of employment notification.
	The reasons for submitting employment notifications are encoded according to the regulations of the notification procedure, which has been in effect since 1 January 1999 (in accordance with DEÜV) with a leading "1". To obtain the original coding, the value "100" must be subtracted from the coding in the variable.
Notes on quality	From 2013 onwards, the number of notifications with a reason for deregistration of 54 (notification of a one-off special payment) increases sharply. As long as an employment relationship exists, special payments that are paid out by March of the following year can be included into the usual notifications (mostly annual notifications) for the previous year. A separate notification with a reason for deregistration of 54 is then not required. Until 2012, the annual notifications could be submitted until mid-April; since 2013, they must now be submitted by mid-February at the latest. Special payments made in February and March must now be reported separately.

5.5.15 Duration of unemployment (alo_dau)

Category	Description
Variable label	Duration of unemployment
Variable name	alo_dau
Category	information on employment, benefit receipt and job search
Data type	numerical
Detailed description	The variable reports the duration (in days) of an uninterrupted sequence of periods of unemployment and is valid at the beginning of the observation (begepi) . It is calculated using further sources on benefit receipt, job search and participation-in-measures (see Schmucker and vom Berge, 2025).
	The following gaps do not result in an interruption of the period of unemployment:
	• any gap lasting seven days or less
	• periods of illness lasting up to 42 days
	However, when calculating the duration these gaps are not considered. Therefore, the duration in this variable may differ from the result of the duration calculation based on the "Start date of unemployment".
	Prior to 1997, the value "0" does not mean that the individual was not unemployed, as the ASU/XASU sources are not available here.

5.6 Location data

5.6.1 Place of residence - district (Kreis) (wo_kreis)

Category	Description
Variable label	Place of residence - district (Kreis)
Variable name	wo_kreis
Category	location data
Data type	numerical
Hierarchy	federal state | district

Category	Description
Detailed description	In BeH observations, the place of residence at district level is only available for the years from 1999 onwards. The variable indicates the district (urban district or rural district) in which the social security contributor lives. The first two digits of the 5-digit district code (Kreisschlüssel) show the code for the federal state (Bundesland, NUTS 1), and positions 1-3 indicate the regional authority (Regierungsbezirk, NUTS 2). Federal states without a regional authority have a 0 in the third position. In the NUTS classification (Nomenclature des unités territoriales statistiques) of the European Union, districts correspond to the level NUTS 3.
	For the BeH the variable contains the place of residence at the beginning of the original period of time. This means that the longer the spell lasts, the higher the risk that the place of residence will become obsolete and that the information given for later dates will be incorrect.
	In order to guarantee consistent regional allocations across the entire observation period, the information on the district was recoded with reference to the territorial allocation of 31 December 2023 for all sources, i.e. in all calendar years, a place of residence is assigned to a district in accordance with the boundaries that the district had on 31 December 2023. As the district boundaries have changed over time, cases would occur in which the district code changes without the individual concerned having relocated if the territorial allocations of the districts were not updated.
Notes on quality	There are inaccuracies in the information provided in the BeH for some employees with regard to where they live. The reporting requirement does not clarify which residence - main or secondary residence with predominant residence - is to be reported by the employer. In the employment history, this can lead to the impression of "long-distance commuters" between the registered main residence and the place of work, even though the person is in fact employed at the secondary residence, i.e. does not actually commute.
	In the year 2015, the BeH data show a reduction in the change of residence of approx. 10-15% compared to the usual level of the surrounding years, with regional differences occurring. It has not yet been possible to determine the exact reason for this deviation.
Anonymisation	Due to its particular sensitivity with regard to data privacy, this sensitive variable is only made available on application and only in well-founded cases. By default, only the coarsened variable Place of residence - federal state (Bundesland) (wo_bula) is provided.

5.6.2   Place of residence - federal state (Bundesland) (wo_bula)

Category	Description
Variable label	Place of residence - federal state (Bundesland)
Variable name	wo_bula
Category	location data
Data type	numerical
Hierarchy	federal state | district
Detailed description	This variable is an aggregation of the "district" variable to the 16 German federal states.
	In BeH observations, the federal state of the place of residence is only available for the years from 1999 onwards. Further information on the district of the place of residence can be found under Place of residence - district (Kreis) (wo_kreis).

5.6.3 Place of residence - employment agency (Arbeitsagentur) (wo_aa)

Category	Description
Variable label	Place of residence - employment agency (Arbeitsagentur)
Variable name	wo_aa
Category	location data
Data type	numerical
Hierarchy	regional directorate | employment agency
Detailed description	From 1999 onwards, this variable contains the agency district of the employment agency that is responsible for the employee's / BA client's place of residence. This information is determined from the residence address..For the BeH data, the variable contains the place of residence at the start of the period of unemployment or job search. Accordingly, the longer the spell lasts, the higher the risk that the place of residence will become obsolete and that the information given for later dates will be incorrect. For the BeH it is available from 1999 onwards.
	In order to guarantee consistent regional allocations across the entire observation period, the information on the agency district was recoded to the territorial allocation of 31 December 2023 for all data sources, i.e. in all calendar years, a place of residence is assigned to an agency district in accordance with the boundaries that the agency district had on 31 December 2023. As the boundaries of the agency district have changed over time, cases would occur in which a person's employment agency area changes without him/her having relocated if the territorial allocations were not updated.
	Berlin constitutes a problematic case with regard to updating territorial allocations, however: The boundaries of Berlin's employment agency areas have been changed repeatedly over the years, which could not be fully corrected even by recoding the territorial allocations. Berlin should preferably be analysed as a unit and not separately for East and West, because since the territorial reform of the employment offices in Berlin on 1 July 1997 their clear allocation to East and West is no longer possible. The BA statistics uniformly assigns Berlin to the East.
Anonymisation	Owing to its particular sensitivity with regard to data privacy, this variable is only made available in non-aggregated form on application and only in well-founded cases. Otherwise, only the area of the regional directorate in which the social security contributor's place of residence is located is shown (Place of residence - regional directorate (Regionaldirektion) (wo_rd))

5.6.4 Place of residence - regional directorate (Regionaldirektion) (wo_rd)

Category	Description
Variable label	Place of residence - regional directorate (Regionaldirektion)
Variable name	wo_rd
Category	location data
Data type	numerical
Hierarchy	regional directorate | employment agency
Detailed description	This variable is an aggregation of the variable 'Place of residence - employment agency (Arbeitsagentur) (wo_aa)' at the level of the regional directorates. Further information can be found there.

5.7 Establishment variables

5.7.1 Classification of economic activities 73 (w73_3)

Category	Description
Variable label	Classification of economic activities 73
Variable name	w73_3
Category	establishment variables
Origin	BHP
Data type	numerical
Hierarchy	division (1-digit code) | group (2-digit code) | class (3-digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 3-digit code in accordance with the WS73 classification and is available from 1975 up to and including 2002.
	WS73 stands for the "Classification of Economic Activities for the Statistics of the Federal Employment Services, edition 1973" ("Klassifikation der Wirtschaftszweige für die Statistik der Bundesanstalt für Arbeit, Ausgabe 1973"). Using a 3-digit code, the classification distinguishes between 269 classes of economic activity, whereby the first digit of the code defines the division of economic activity of a total of 10, and the first two digits together define the particular group of economic activity of a total of 95.
	Each establishment is only assigned one code. The assignment to the relevant class of economic activity is carried out under consideration of the institutional orientation of the establishment.

5.7.2 Classification of economic activities 93, sub-classes (w93_5)

Category	Description
Variable label	Classification of economic activities 93, sub-classes
Variable name	w93_5
Category	establishment variables
Origin	BHP
Data type	numerical
Hierarchy	section (1-digit code) | division (2-digit code) | group (3-digit code) | class (4-digit code) | sub-class (5 digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 5-digit code in accordance with the WZ93 classification and is available from 1999 up to and including 2003. WZ93 stands for the "Classification of Economic Activities for the Statistics of the Federal Employment Services, edition 1993" ("Klassifikation der Wirtschaftszweige für die Statistik der Bundesanstalt für Arbeit, Ausgabe 1993"). The WZ93 is based on the Statistical Classification of Economic Activities in the European Community NACE Rev. 1 ("Nomenclature génerale des activités économiques dans les communautés européennes") which has four levels the first two of which are based on the international standard ISIC Rev. 3 ("International Standard Industrial Classification of All Economic Activities").
	Each establishment is only assigned one code. If an establishment is active in different economic sectors, the main economic activity should be reflected.
Anonymisation	Owing to its particular sensitivity with regard to data protection legislation, this variable is only made available in non-aggregated form on application and only in well-founded cases. Otherwise, the economic activity is only shown as the 3-digit code (w93_3).

5.7.3 Classification of economic activities 93, groups (w93_3)

Category	Description
Variable label	Classification of economic activities 93, groups
Variable name	w93_3
Category	establishment variables
Origin	BHP
Data type	numerical
Hierarchy	section (1-digit code) | division (2-digit code) | group (3-digit code) | class (4-digit code) | sub-class (5 digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 3-digit code in accordance with the WZ93 classification and is available from 1999 up to and including 2003. WZ93 stands for the "Classification of Economic Activities for the Statistics of the Federal Employment Services, edition 1993" ("Klassifikation der Wirtschaftszweige für die Statistik der Bundesanstalt für Arbeit, Ausgabe 1993"). The WZ93 is based on the Statistical Classification of Economic Activities in the European Community NACE Rev. 1 („Nomenclature génerale des activités économiques dans les communautés européennes") which has four levels the first two of which are based on the international standard ISIC Rev. 3 („International Standard Industrial Classification of All Economic Activities"). Each establishment is only assigned one code. If an establishment is active in different economic sectors, the main economic activity should be reflected.

5.7.4 Classification of economic activities 03, sub-classes (w03_5)

Category	Description
Variable label	Classification of economic activities 03, sub-classes
Variable name	w03_5
Category	establishment variables
Origin	BHP
Data type	numerical
Hierarchy	section (1-digit code) | division (2-digit code) | group (3-digit code) | class (4-digit code) | sub-class (5-digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 5-digit code in accordance with the WZ03 classification and is available from 2003 up to 2008. WZ03 stands for the "Classification of Economic Activities, Edition 2003" ("Klassifikation der Wirtschaftszweige Ausgabe 2003") of the Federal Statistical Office (eds.). Like the WZ93, the WZ03 is based on the Statistical Classification of Economic Activities in the European Community NACE Rev. 1 (see description of variables w93_3, w93_5). The classifications of the economic activity have been updated, but the structure of the WZ93 has been largely retained. Each establishment is only assigned one code. If an establishment is active in different economic sectors, the main economic activity should be reflected.
Anonymisation	Owing to its particular sensitivity with regard to data protection legislation, this variable is only made available in non-aggregated form on application and only in well-founded cases. Otherwise, the economic activity is only shown as the 3-digit code (w03_3).

5.7.5 Classification of economic activities 03, groups (w03_3)

Category	Description
Variable label	Classification of economic activities 03, groups
Variable name	w03_3
Category	establishment variables
Origin	BHP
Data type	numerical
Hierarchy	section (1-digit code) | division (2-digit code) | group (3-digit code) | class (4-digit code) | sub-class (5 digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 3-digit code in accordance with the WZ03 classification and is available from 2003 up to 2008. WZ03 stands for the "Classification of Economic Activities, Edition 2003" ("Klassifikation der Wirtschaftszweige Ausgabe 2003") of the Federal Statistical Office (eds.). Like the WZ93, the WZ03 is based on the Statistical Classification of Economic Activities in the European Community NACE Rev. 1 (see description of variables w93_3, w93_5). The classifications of the economic activity have been updated, but the structure of the WZ93 has been largely retained. Each establishment is only assigned one code. If an establishment is active in different economic sectors, the main economic activity should be reflected.

5.7.6 Classification of economic activities 08, sub-classes (w08_5)

Category	Description
Variable label	Classification of economic activities 08, sub-classes
Variable name	w08_5
Category	establishment variables
Origin	BHP
Data type	numerical
Hierarchy	section (1-digit code) | division (2-digit code) | group (3-digit code) | class (4-digit code) | sub-class (5-digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 5-digit code in accordance with the WZ08 classification and is available from 2008 onwards. WZ08 stands for the "Classification of Economic Activities, Edition 2008" ("Klassifikation der Wirtschaftszweige Ausgabe 2008") of the Federal Statistical Office (eds.). The WZ08 is based on the Statistical Classification of Economic Activities in the European Community NACE Rev. 2. Each establishment is only assigned one code. If an establishment is active in different economic sectors, the main economic activity should be reflected.
Anonymisation	Owing to its particular sensitivity with regard to data protection legislation, this variable is only made available in non-aggregated form on application and only in well-founded cases. Otherwise the economic activity is only shown as the 3-digit code (w08_3).

5.7.7 Classification of economic activities 08, groups (w08_3)

Category	Description
Variable label	Classification of economic activities 08, groups
Variable name	w08_3
Category	establishment variables

Category	Description
Origin	BHP
Data type	numerical
Hierarchy	section (1-digit code)	division (2-digit code)	group (3-digit code)	class (4-digit code)	sub-class (5 digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 3-digit code in accordance with the WZ08 classification and is available for the years since 2008. WZ08 stands for the "Classification of Economic Activities, Edition 2008" ("Klassifikation der Wirtschaftszweige Ausgabe 2008") of the Federal Statistical Office (eds.). The WZ08 is based on the Statistical Classification of Economic Activities in the European Community NACE Rev. 2.

Each establishment is only assigned one code. If an establishment is active in different economic sectors, the main economic activity should be reflected. |

5.7.8   w73_3 completed by extrapolation/imputation (w73_3_gen)

Category	Description
Variable label	w73_3 completed by extrapolation/imputation
Variable name	w73_3_gen
Category	establishment variables
Origin	BHP
Data type	numerical
Hierarchy	division (1-digit code)	group (2-digit code)	class (3-digit code)
Detailed description	This variable indicates the economic activity as a 3-digit code in accordance with the WZ73 classification. From 1975 up to and including 2002, the variable contains the original values from w73_3. From 2003 onwards, the information is either continued or replaced with the help of recoding tables. Thus the variable provides time-consistent information on the economic activity based on the economic activity classification WS73. A detailed description can be found in Eberle et al. (2011).

Further information on the WS73 classification can be found in the description of variable w73_3. |

5.7.9   Type of imputation w73_3 (group_w73_3)

Category	Description
Variable label	Type of imputation w73_3
Variable name	group_w73_3
Category	establishment variables
Origin	BHP
Data type	numerical
Detailed description	This variable indicates the type of completion for the w73_3_gen variable. It reports whether the respective value in w73_3_gen is consistent with the original value from w73_3, still missing / extrapolated or imputed based on recording tables.

A detailed description of the procedure can be found in Eberle et al. (2011). |

5.7.10 w93_3 completed by extrapolation/imputation (w93_3_gen)

Category	Description
Variable label	w93_3 completed by extrapolation/imputation
Variable name	w93_3_gen
Category	establishment variables
Origin	BHP
Data type	numerical
Hierarchy	section (1-digit code) | division (2-digit code) | group (3-digit code) | class (4-digit code) | sub-class (5 digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 3-digit code in accordance with the WZ93 classification. From 1998 up to and including 2003, the variable contains the original values from w93_3. Before 1998 and after 2003, the information is either written back / continued or replaced with the help of recoding tables, so that the variable contains time-consistent information on the economic activity based on the economic activity classification WZ93. A detailed description can be found in Eberle et al. (2011).
	Further information on the WZ93 classification can be found in the description of variable w93_3.

5.7.11 Type of imputation w93_3 (group_w93_3)

Category	Description
Variable label	Type of imputation w93_3
Variable name	group_w93_3
Category	establishment variables
Origin	BHP
Data type	numerical
Detailed description	This variable indicates the type of completion for the w93_3_gen variable. It reports whether the respective value in w93_3_gen is consistent with the original value from w93_3, still missing / extrapolated or imputed based on recording tables.
	A detailed description of the procedure can be found in Eberle et al. (2011).

5.7.12 w08_3 completed by extrapolation/imputation (w08_3_gen)

Category	Description
Variable label	w08_3 completed by extrapolation/imputation
Variable name	w08_3_gen
Category	establishment variables
Origin	BHP
Data type	Numerical
Hierarchy	section (1-digit code) | division (2-digit code) | group (3-digit code) | class (4-digit code) | sub-class (5-digit code) of economic activity
Detailed description	This variable indicates the economic activity as a 3-digit code in accordance with the WZ08 classification and is available from 2008 onwards. From 2008 up to and including 2017, the variable contains the original values from w08_3. Before 2008, the information is either written back or replaced with the help of recoding tables, so that the variable contains time-consistent information on the economic activity

Category	Description
	based on the economic activity classification WZ08. A detailed description can be found in Eberle et al. (2011).
	Further information on the WZ08 classification can be found in the description of variable w08_3.

5.7.13   Type of imputation w08_3 (group_w08_3)

Category	Description
Variable label	Type of imputation w08_3
Variable name	group_w08_3
Category	establishment variables
Origin	BHP
Data type	numerical
Detailed description	This variable indicates the type of completion for the w08_3_gen variable. It reports whether the respective value in w08_3_gen is consistent with the original value from w08_3, still missing / extrapolated or imputed based on recording tables.
	A detailed description of the procedure can be found in Eberle et al. (2011).

5.7.14   Year of first appearance (grd_jahr)

Category	Description
Variable label	Year of first appearance
Variable name	grd_jahr
Category	establishment variables
Origin	BHP
Data type	numerical
Detailed description	This variable indicates the first appearance of the establishment number in the dataset. If an establishment number in western Germany is only determined for the first time after 1975 (or after 1992 in eastern Germany), this variable could indicate the date when the respective establishment was founded. However, it could also be an establishment that has been in existence for a longer time but has been allocated a new establishment number following a change of owner or a change in the legal form of the establishment. (For the allocation of establishment numbers see Bundesagentur für Arbeit 2007, pp. 9-11). It is also possible that the establishment already existed before, but had no employees subject to social security, or from 1999 onwards, no marginal part-time workers.
	An establishment does not necessarily have to be included in the BHP in the year of its first appearance, since only the key date June 30 is relevant for this inclusion. If the establishment has no employees on June 30 of its year of foundation, it consequently does not appear in the BHP in that year.

5.7.15   Year of last appearance (lzt_jahr)

Category	Description
Variable label	Year of last appearance
Variable name	lzt_jahr
Category	establishment variables
Origin	BHP
Data type	numerical

Category	Description
Detailed description	This variable indicates the last appearance of the establishment number in the dataset (see Bender et. al. 1996). If the existence of an establishment number in the BHP already ends before 2023, it could indicate the closure of the establishment. However, other possible reasons for this are an "arbitrary change of the establishment number following a change of owner or a change in the legal form of the establishment", the "outsourcing of parts of the firm under a new establishment number" or other administrative changes (see Bender et. al. 1996 or Bundesagentur für Arbeit 2007, pp. 9-11).
	An establishment does not necessarily have to be included in the BHP in the year of its last appearance, since only the key date June 30 is relevant for this inclusion. If the establishment has no employees on June 30 of its year of closure, it consequently does not appear in the BHP in that year.

5.7.16 Total number of employees (az_ges)

Category	Description
Variable label	No. employees total
Variable name	az_ges
Category	generated establishment variables
Origin	BHP
Data type	numerical
Detailed description	This variable contains the total number of an establishment's employees reported to the social security agencies as of 30 June of a year. Since the introduction of the new notification regulations in 1999, people in marginal part-time employment have also been recorded. Dormant employment relationships (daily wage of zero) are not included.

5.7.17 Number of full-time employees (regular workers + others) (az_vz)

Category	Description
Variable label	No. full-time (regular workers + others)
Variable name	az_vz
Category	generated establishment variables
Origin	BHP
Data type	numerical
Detailed description	This variable contains the number of people in the establishment who are reported on 30 June of a year as full-time employees under the person group codes 101, 140, 143, 105, 106, 112, 113, 114, 118, 119, 120, 149, 201, 203, 205, 999 and YYY. Apprentices, marginally part-time employees and individuals participating in partial retirement schemes are not considered.

5.7.18 Number of employees in marginal part-time employment (az_gf)

Category	Description
Variable label	No. marginal part-time workers
Variable name	az_gf
Category	generated establishment variables
Origin	BHP
Data type	numerical

Category	Description
Detailed description	The number of employees in marginal part-time employment is generated using the person group code – values 109 and 209. This variable has only been contained in the dataset since 1999 as it has only been included in the social security notification procedure since that year.

5.7.19 Mean imputed wage all full-time employees (te_imp_mw)

Category	Description
Variable label	Mean imp. wage all full-time employees
Variable name	te_imp_mw
Category	generated establishment variables
Origin	BHP
Data type	numerical
Detailed description	This variable contains the mean imputed gross daily wage of the full-time employees in an establishment. It does not include the wages of marginally part-time staff, apprentices or individuals participating in partial retirement schemes.
	The values are reported in euros for all years.
	According to the social security notification regulations, employers must indicate the employee's gross wage subject to social security contributions for a certain period of time (fixed period wage). Until the end of 1998, employers had to report the gross wage subject to social security contributions only. So only wages above the marginal part-time income threshold and below the contribution assessment ceiling were recorded. Since 1999, wages below the marginal part-time income threshold have also been recorded as part of the new notification procedure. Gross wages above the contribution assessment ceiling, however, are still cut.
	In order to calculate the gross daily wage, the fixed period wage is divided by the number of calendar days in the period. To calculate the mean, these censored wages were imputed (see Section 3.1.3.3 in Ganzer et al. 2020). These data were then aggregated at establishment level. The values are rounded to two decimal places. However, due to the "storage type" in Stata, additional decimal places are displayed that are not correct.

5.7.20 Place of work - district (Kreis) (ao_kreis)

Category	Description
Variable label	Place of work - district (Kreis)
Variable name	ao_kreis
Category	location data
Origin	BHP
Data type	numerical
Hierarchy	federal state | district
Detailed description	The variable indicates the district (urban district or rural district) in which the employee's establishment is located. The first two digits of the 5-digit district code (Kreisschlüssel) show the code for the federal state (Bundesland, NUTS 1), positions 1-3 indicate the regional authority (Regierungsbezirk, NUTS 2). Federal states without a regional authority have a 0 in the third position. In the NUTS classification (Nomenclature des unités territoriales statistiques) of the European Union, districts correspond to the level NUTS 3.

Category	Description
	In order to guarantee consistent regional allocations across the entire observation period, the information on the district was recoded to the territorial allocation of 31 December 2023, i.e. in all calendar years, a place of work is assigned to a district in accordance with the boundaries that the district had on 31 December 2023. As the district boundaries have changed over time, cases would occur in which the district code of the location of the establishment would change without the establishment concerned having relocated, if the territorial allocations were not updated.
Anonymisation	Owing to its particular sensitivity with regard to data protection legislation, this variable is only made available in non-aggregated form on application and only in well-founded cases. Otherwise, only the Place of work - federal state (Bundesland) (ao_bula) is shown as regional information.

5.7.21 Place of work - federal state (Bundesland) (ao_bula)

Category	Description
Variable label	Place of work - federal state (Bundesland)
Variable name	ao_bula
Category	location data
Origin	BHP
Data type	numerical
Hierarchy	federal state | district
Detailed description	The variable indicates the federal state in which the establishment is located. This variable is generated from the district code Place of work - district (Kreis) (ao_kreis). The first two positions of the district code indicate the federal state (NUTS 1).

6 References

Bender, Stefan / Hilzendegen, Jürgen / Rohwer, Götz / Rudolph, Helmut (1996): Die IAB-Beschäftigtenstichprobe 1975-1990. Beiträge zur Arbeitsmarkt- und Berufsforschung 197, Nuremberg.

Bertat, Thomas / Dundler, Agnes / Grimm, Christopher / Kiewitt, Jochen / Schomaker, Christine / Schridde, Dr. Henning / Zemann, Dr. Christian (2013): Neue Erhebungsinhalte 'Arbeitszeit', 'ausgeübte Tätigkeit' sowie 'Schul- und Berufsabschluss' in der Beschäftigungsstatistik. Methodenbericht, Bundesagentur für Arbeit – Statistik, URL: https://statistik.arbeitsagentur.de/DE/Statischer-Content/Grundlagen/Methodik-Qualitaet/Methodenberichte/Beschaeftigungsstatistik/Generische-Publikationen/MB-Arbeitszeit-ausgeuebte-Taetigkeit-Schul-und-Berufsabschluss.pdf?__blob=publicationFile&v=4 (accessed: 10 March 2025).

Bundesagentur für Arbeit (ed.) (2005): Schlüsselverzeichnis für die Angaben zur Tätigkeit in den Meldungen zur Sozialversicherung. Issue January 2005, Nuremberg.

Bundesagentur für Arbeit (ed.) (2007): Handbuch für die Betriebsnummernvergabe und –pflege im Rahmen des Meldeverfahrens zur Sozialversicherung. Issue December 2007, Nuremberg.

Bundesagentur für Arbeit (2009): Klassifikation der Wirtschaftszweige 1973, Nuremberg. URL: https://statistik.arbeitsagentur.de/DE/Statischer-Content/Grundlagen/Klassifikationen/Klassifikation-der-Wirtschaftszweige/Klassifikation-der-Wirtschaftszweige-1973-2003/Generische-Publikationen/WS-1973-Excel.xlsx?__blob=publicationFile&v=6 (accessed: 10 March 2025)

Bundesagentur für Arbeit (2021): Klassifikation der Berufe 2010 – überarbeitete Fassung 2020 Band 1: Systematischer und alphabetischer Teil mit Erläuterungen. Nürnberg. URL: https://statistik.arbeitsagentur.de/DE/Statischer-Content/Grundlagen/Klassifikationen/Klassifikation-der-Berufe/KldB2010-Fassung2020/Printausgabe-KldB-2010-Fassung2020/Generische-Publikationen/KldB2010-PDF-Version-Band1-Fassung2020.pdf?__blob=publicationFile&v=21). accessed: 10 March 2025).

Bundesanstalt für Arbeit (1988): Klassifikation der Berufe – Systematisches und Alphabetisches Verzeichnis der Berufsbenennung, Nuremberg. URL https://statistik.arbeitsagentur.de/DE/Statischer-Content/Grundlagen/Klassifikationen/Klassifikation-der-Berufe/KldB1975-1992/Generische-Publikationen/KldB1988-Systematisches-und-alphabetisches-Verzeichnis-der-Berufsbenennungen-PDF.pdf?__blob=publicationFile&v=12 (accessed: 10 March 2025)

Cramer, Ulrich (1985): Probleme der Genauigkeit der Beschäftigtenstatistik. In: Allgemeines Statistisches Archiv 69: pp. 56-68.

Drechsler, Jörg/ Ludsteck, Johannes (2025): Imputation Strategies for Rightcensored Wages in Longitudinal Datasets, arXiv:2502.12967v1.

Drechsler, Jörg/ Ludsteck, Johannes/ Moczall, Andreas (2023): Imputation der rechtszensierten Tagesentgelte für die BeH. FDZ-Methodenreport 05/2023 (de), Nürnberg, DOI:10.5164/IAB.FDZM.2305.de.v1

Eberle, Johanna/ Jacobebbinghaus, Peter/ Ludsteck, Johannes/ Witter, Julia (2011): Generation of time-consistent industry codes in the face of classification changes * Simple heuristic based on the Establishment History Panel (BHP). FDZ Methodenreport, 05/2011 (en), Nuremberg.

Fitzenberger, Bernd/ Osikominu, Aderonke/ Völter, Robert (2006): Imputation rules to improve the education variable in the IAB employment subsample. In: Schmollers Jahrbuch. Zeitschrift für Wirtschafts- und Sozialwissenschaften, vol. 126, issue 3, pp. 405-436.

Fitzenberger, Bernd/ Seidlitz, Arnim (2020): The 2011 break in the part-time indicator and the evolution of wage inequality in Germany. Journal for Labour Market Research 01/2020.

Ganzer, Andreas/ Schmucker, Alexandra/ Wolter, Stefanie (2024): Establishment History Panel 1975–2023. FDZ-Datenreport 09/2024 (en), Nürnberg. DOI: 10.5164/IAB.FDZD.2409.en.v1

Lochner, Ben; Wolter, Stefanie (2025): AKM effects for German labour market data 1985-2023. (FDZ-Methodenreport, 03/2025 (en)), Nürnberg, 13 S.

Meinken, Holger/ Koch, Iris (2004): BA-Beschäftigtenpanel 1998-2002. Codebuch, Nuremberg.

Paulus, Wiebke/ Matthes, Britta (2013): The German Classification of Occupations 2010 – Structure, Coding and Conversion Table. FDZ-Methodenreport, 08/2013 (en), Nuremberg.

Schmucker, Alexandra/ vom Berge, Philipp (2025): Sample of Integrated Labour Market Biographies (SIAB) 1975-2023. FDZ-Datenreport, 02/2023 (en), Nuremberg. DOI: 10.5164/IAB.FDZD.2502.en.v1

Statistisches Bundesamt (2002): Klassifikation der Wirtschaftszweige, Ausgabe 1993 (WZ 93), Wiesbaden. URL: https://www.destatis.de/DE/Methoden/Klassifikationen/Gueter-Wirtschaftsklassifikationen/Downloads/klassifikation-wz-1993.html (accessed: 10 March 2025).

Statistisches Bundesamt (2003): Klassifikation der Wirtschaftszweige, Ausgabe 2003 (WZ 2003), Wiesbaden. URL: https://www.destatis.de/DE/Methoden/Klassifikationen/Gueter-Wirtschaftsklassifikationen/Downloads/klassifikation-wz-2003-erlaeuterung.pdf?__blob=publicationFile (accessed: 10 March 2025).

Statistisches Bundesamt (2008): Klassifikation der Wirtschaftszweige, Ausgabe 2008 (WZ 2008), Wiesbaden. URL: https://www.destatis.de/DE/Methoden/Klassifikationen/Gueter-Wirtschaftsklassifikationen/klassifikation-wz-2008.html (accessed: 10 March 2025)

Statistisches Bundesamt (2024): Staats- und Gebietssystematik, Wiesbaden. URL: https://www.destatis.de/DE/Methoden/Klassifikationen/Staat-Gebietsystematik/Staatsangehoerigkeitsgebietsschluessel_pdf.pdf?__blob=publicationFile&v=5 (accessed: 10 March 2025)

Statistik der Bundesagentur für Arbeit (2021): Grundlagen: Methodenbericht – Einführung der „Klassifikation der Berufe 2010 – über-arbeitete Fassung 2020" in die Arbeitsmarktstatistiken, Nürnberg. URL: https://statistik.arbeitsagentur.de/DE/Statischer-Content/Grundlagen/Methodik-Qualitaet/Methodenberichte/Uebergreifend/Generische-

Publikationen/Methodenbericht-Klassifikation-Berufe-ueberarbeitete-Fassung.pdf?__blob=publicationFile&v=4 (accessed: 10 March 2025).

Stüber, Heiko/ Dauth, Wolfgang/ Eppelsheimer, Johann (2023): A guide to preparing the sample of integrated labour market biographies (SIAB, version 7519 v1) for scientific analysis. Journal for Labour Market Research, Volume 57, Article number: 7. https://doi.org/10.1186/s12651-023-00335-w.

Thomsen, Ulrich/ Ludsteck, Johannes/ Schmucker, Alexandra (2018): Skilled or unskilled - Improving the information on qualification for employee data in the IAB Employee Biography. FDZ-Methodenreport, 09/2018 (en), Nuremberg.

Wermter, Winfried/ Cramer, Ulrich (1988): Wie hoch war der Beschäftigenanstieg seit 1983? – Ein Diskussionsbeitrag aus der Sicht der Beschäftigtenstatistik der Bundesanstalt für Arbeit. In: Mitteilungen aus der Arbeitsmarkt – und Berufsforschung 4/88, pp. 468-482.

7 Appendix

7.1 Labels, frequency tables and missing values

The online appendix to the data report provides detailed overviews of the individual variables in the data product. It contains label lists of the individual categories, counts and overviews of the proportion of missing values broken down by data source. You can find the appendix in separate files in German and English at: https://fdz.iab.de/

- https://doku.iab.de/fdz/reporte/2025/DR_04-25_frequencies_labels_de.zip

- https://doku.iab.de/fdz/reporte/2025/DR_04-25_frequencies_labels_en.zip

7.2 List of abbreviations

AA	Agentur für Arbeit / Arbeitsamt	employment agency / employment office
ALG	Arbeitslosengeld	unemployment benefit
ARGE	Arbeitsgemeinschaft	cooperation of employment agencies and municipalities
ASU	Arbeitsuchendenhistorik	Jobseeker History
A2LL	Arbeitslosengeld II – Leistungen zum Lebensunterhalt	unemployment benefit II - benefits to secure a livelihood
BA	Bundesagentur für Arbeit	Federal Employment Agency
BeH	Beschäftigtenhistorik	Employee History
BfA	Bundesversicherungsanstalt für Angestellte	Federal Social Insurance Office for Salaried Employees
BG	Bedarfsgemeinschaft	Benefit unit
BHP	Betriebs-Historik-Panel	Establishment History Panel
BMAS	Bundesministerium für Arbeit und Soziales	Federal Ministry of Labour and Social Affairs
coArb	Computerunterstützte Arbeitsvermittlung (operatives Verfahren zur Verwaltung der Vermittlung (Altverfahren))	computer-aided job placement (procedure for the administration of job placements – old procedure)
DEÜV	Verordnung über die Erfassung und Übermittlung von Daten für die Träger der Sozialversicherung – Datenerfassungs- und –übermittlungsverordnung	Data Collection and Transmission Regulation - regulation on the collection and transmission of data for the social security agencies
DEVO	Zweite VO über die Erfassung von Daten für die Träger der Sozialversicherung und für die BA – Datenerfassungs-Verordnung –	Data Collection Regulation - second regulation on the collection of data for the social security agencies and for the Federal Employment Agency
DIM	Daten- und IT-Management	Data and IT Management
DÜVO	Zweite VO über die Datenübermittlung auf maschinell verwertbaren Datenträgern im Bereich der Sozialversicherung und der BA – Datenübermittlungs-Verordnung –	Data Transmission Regulation - second regulation on the transfer of data on machine-readable data media in the field of social security and the BA

EDV	Elektronische Datenverarbeitung	Electronic data processing
FDZ	Forschungsdatenzentrum	Research Data Centre
FELEG	Gesetz zur Förderung der Einstellung der landwirtschaftlichen Erwerbstätigkeit	Act on the Support in Case of Termination of Farming Activities
gAw	Träger mit getrennter Aufgabenwahrnehmung	Municipalities exercising their duties separately
gE	Gemeinsame Einrichtung	Joint facility
gT	Getrennte Trägerschaft	Separated responsibilities
IAB	Institut für Arbeitsmarkt- und Berufsforschung	Institute for Employment Research
IEB	Integrierte Erwerbsbiographien	Integrated Employment Biographies
ISIC	International Standard Industrial Classification of All Economic Activities	International Standard Industrial Classification of All Economic Activities
KldB	Klassifikation der Berufe	Classification of Occupations
LeH	Leistungsempfängerhistorik	Benefit Recipient History
LHG	Leistungshistorik Grundsicherung	Unemployment Benefit II Recipient History
LVA	Landesversicherungsanstalt	Land Social Insurance Office
MTH	Maßnahmeteilnahmehistorik	Participants-in-Measures History File
NACE	Nomenclature génerale des activités économiques dans les communautés européennes	Nomenclature génerale des activités économiques dans les communautés européennes
NUTS	Nomenclature des unités territoriales statistiques	Nomenclature des unités territoriales statistiques
SGB	Sozialgesetzbuch	German Social Code
SIEED	Stichprobe der Integrierten Arbeitsmarktbiographien	Sample of Integrated Labour Market Biographies
SIAB	Stichprobe der Integrierten Arbeitsmarktbiographien	Sample of Integrated Labour Market Biographies
VerBIS	Vermittlungs- und Beratungsinformationssystems	Information System for Placement and Counselling
XASU	Arbeitsuchendenhistorik aus XSozial-BA-SGB II	Jobseeker History from XSozial-BA-SGB II
XMTH	Maßnahmeteilnahmehistorik aus XSozial-BA-SGB II	Participants-in-Measures History File from XSozial-BA-SGB II
zkT	Zugelassene kommunale Träger	Authorised municipalities

Imprint

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