

Documentation of the code for
“Missing growth measurement in Germany”, to appear in GER
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Data and data access

In this paper, we used the Establishment History Panel of the Research Data Centre (FDZ) of the German Federal Employment Agency at the Institute for Employment Research. We only had remote data access. Information about data access can be found here.

To calculate the weights of the sectoral results, we added the necessary data. They can be found in the folder with the replication code. The data for the weights of West Germany before 1990 are taken from the OECD (Dataset: 6. Value added and its components by activity, SNA93) and the data for unified Germany since 1998 are taken from destatis (Fachserie 18 Reihe 1.4, sheet 3.2.1).

Structure of the do-files and paths

The FDZ specifies a specific structure of the do-files. There has to be one main file called “master.do”, which is executed. In our “master.do”-file, we set the specifications (i.e., type of proxy, number of lag k , etc.) of our analysis, and chose the programs that we wanted to execute. To execute a program, one has to set it on (in our code “ein”) and if the program should not be executed, it has to be set off (in our code “aus”).

Once the do-files are successfully executed, the FDZ does a censoring. One key aspect is that only results that were computed with a sufficiently large number of observations are allowed. For the FDZ to be able to check that, the researcher always has to report the case numbers (“Fallzahlen”). In addition, every results needs to be explained. The researcher then receives the censored result as log-files.

Following the regulations of the FDZ, the paths of the original data, the processed data, the do-files and the log-files are specified globally in a STATA profile.

Replication of all graphs and figures

- To replicate Table 1, execute the program “benchmark” and find the information about raw data in xtsum in 01_dataprep.log and the information about processed selection in xtsum in 3_dataclean.log.
- The descriptive statistics is executed via the program “descstat”, all results can be found in the corresponding log-file 04_descstat.log. This replicates Table 2 and Figures 1-4. The entry, exit and net entry rates are calculated manually using the absolute numbers.
- To replicate Figure 5, execute the program “benchmark” and find the results for unified Germany in 06_mgcalc.log. These results are also used in Figures 6, 8 and 9. The results for East and West Germany are obtained by executing the program “Regionenanalyse”, find the results in 10_region.log.

- In addition to the MG results, Figure 6 uses standard national accounts GDP data (VGR lange Reihen Inlandsprodukt, Fachserie 18 Reihe 1.5).
- To replicate the results for creative destruction in the different sectors and the different departments (“Bundesländer), execute the the program “creades”. Find the yearly total amount of establishments, establishment exits, and entries in 11_creades.log, and calculate the level of creative destruction (CD) manually using the following formula.

$$CD_t = \frac{0.5[(exiters)_t + (entrants)_{t-k}]}{(total\ establishments)_t}$$

- The program “WZweiganalyse” replicates sectoral missing growth in Table 3, and weighted sectoral MG in Figures 8 and 9. MG with sector specific σ in the fifth column of Table 3, in Figures 7 and 8 is calculated manually. As mentioned above, the value added weights are taken from external data.
- The benchmark proxy is headcount, the MG results for the two other proxies full-time equivalent and payroll in Figures 8 and 9 are calculated in the program “Proxyrobustness”, and the results can be found in 09_proxy.log.
- The robustness analysis with respect to k in Figure 10 is executed with the program “Krobustness”, and results can be found in 08_k.log. Note that MG can only be calculated since 1975+1+k, so for $k = 5$, the result of 1980 has to be removed.
- The MG results for different values of σ in Figure 11 are caculated manually.
- The MG results for different departments (“Bundesländer”) in Figure 13 is calculated with the program “bundeslaender”, and the results can be found in 12_bundesland.log. The results are also displayed in Table 4, combined with the results of creative destruction explained above.
- For the open-economy correction in Figure 12 the following time series from the German Statistical Agency Destatis are used as inputs:
 - Domestic sales: Inlandsumsatz, “Beschäftigte und Umsatz der Betriebe im Verarbeitenden Gewerbe: Deutschland, Jahre, Wirtschaftszweige (WZ2008 Hauptgruppen und Aggregate)”, Abgrenzung “Verarbeitendes Gewerbe”.
 - Imports: Import, “Außenhandel Zusammenfassende Übersichten für den Außenhandel (Endgültige Ergebnisse) 2019” (published 2020), Table 1.12.2, calculated from: Gewerbliche Wirtschaft “Zusammen” minus “Rohstoffe”, equivalent to “Fertig- plus Halbwaren”.
 - Import prices: Index der Einfuhrpreise nach dem Systematischen Güterverzeichnis für Produktionsstatistiken, Ausgabe 2009, - Lange Reihen der Fachserie 17, Reihe 8.1 von Januar 2005 bis September 2021 -, Tabelle für Erzeugnisse des Verarbeitenden Gewerbes, GP 10-32
 - Export prices: Index der Ausführpreise nach dem Systematischen Güterverzeichnis für Produktionsstatistiken, Ausgabe 2009 - Lange Reihen der Fachserie 17, Reihe 8.2 von Januar 2005 bis September 2021-, Tabelle für Erzeugnisse des Verarbeitenden Gewerbes, GP 10-33
- Table 5 is manually calculated.