Replication files for „Financial constraints, wages, and macroeconomic implications“, *Journal of Money, Credit and Banking*

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The paper provides empirical results and results from model simulations. We present how to replicate both parts in the following. The replication files are structured in two parts:

i) Empirical results
ii) Model results

The empirical results are partly based on publicly available data and partly on confidential data that can be accessed by researchers upon application to the relevant institutions (information follows below). The results are obtained using Matlab and Stata.

Empirical results

a) Information about data availability and data access

The main empirical results are constructed from the ORBIS-ADIAB dataset of the Institute for Employment research (IAB). The dataset links administrative data on establishments and employee biographies with information on firms' balance sheets from ORBIS as provided by Bureau van Dijk. The dataset was constructed by the Research Data Center of the Institute for Employment Research (IAB) of the Federal Employment Agency Germany (see Antoni et al., 2018).

The data is confidential but can be accessed by researchers upon application through the Research Data Center (FDZ) of the German Federal Employment Agency (BA) at the Institute for Employment Research (IAB) (iab.fdz@iab.de).

In addition to ORBIS-ADIAB, publicly available data is used in the estimation and can be found in the subfolder empirics/data_raw. This data includes county and occupation specific tightness, obtained from the Data Warehouse of the German Federal Employment Agency (Bundesagentur für Arbeit), access via Statistik der Bundesagentur für Arbeit (tightness_by_county.xls and tightness_occ.xls). It also includes county-level export shares from INKAR (Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR) im Bundesamt für Bauwesen und Raumordnung (BBR), Bonn, https://www.inkar.de/ and http://www.bbsr.bund.de). These data are contained in inkar_data.xls.

b) Stata codes for data preparation and results

The replication package includes six Stata do-files (created with Stata/SE 18.0) in empirics/do_files.

The raw data on the ORBIS-ADIAB should be provided in the subfolder empirics/data_raw before running the code. Next to the firm data (BvD), it consists of establishment information (BHP) and worker information (SIAB).

The output tables are saved in empirics/tables_out and empirics/log.

a. 00master.do
   - Run this file to set up and call the files b to f

b. 01create_data.do

- Merge Orbis to IAB establishments (BHP), prepare firm data and compute firm descriptives

c. 02merge_bvd_siab.do

- Merge firm data to worker data (SIAB) and prepare worker data
- Merge to county and occupation specific tightness

d. 03tightness.do

- Prepares county and occupation specific tightness data

e. 04reg.do

- This file makes descriptive statistics (Table 2) and creates the regression output, in particular Table 3.

f. 05reg_export.do

- Prepares the data on county-level export shares and runs the corresponding regressions

Model results

a) Model calibration

The model calibration uses moments computed from the estimation sample and from publicly available sources. All moments and sources are mentioned in the paper together with Table 4. Two key targets in the calibration are the elasticities of wages and labor market tightness to business cycle fluctuations. These are computed by regressing the cyclical component of these variables on the cyclical component of lagged productivity.
The time series data used for this estimation are publicly available from the German national accounts from the German Federal Statistics Office (Destatis), the German Federal Employment Agency and FRED. The data and computation are contained in the subfolder “Wage and Tightness elasticities for calibration”. The original series were downloaded in 2019 and have been seasonally adjusted with the U.S. Census X-12 ARIMA method.

b) Model simulation

The model replication folder is structured in subfolders. Each subfolder independently reproduces specific quantitative simulation results of the paper. The name of each subfolder indicates the table(s) or figure(s) in the paper that the folder is designed to replicate (e.g. Tables 5 & 7 – Figure 2, Table 11).

Within each subfolder, there is a folder-specific README that explains the contents of that folder and provides instructions for running the corresponding Matlab codes. The codes require the open-source software package Dynare (in our case, version 5.4, Adjemian et al., 2026).

References

Stéphane Adjemian, Michel Juillard, Frédéric Karamé, Willi Mutschler, Johannes Pfeifer, Marco Ratto, Normann Rion and Sébastien Villemot (2026), “Dynare: Reference Manual, Version 7,”Dynare Working Papers, 87, CEPREMAP.

Antoni, M., K. Koller, M.-C. Laible, and F. Zimmermann (2018). Orbis-ADIAB: From record linkage key to research dataset: Combining commercial company data with administrative employer employee data. *FDZ Methodenreport 04/2018*.