## Introduction

The document describes the contents of the replication package for “How Workers Keep Up with Inflation” (Afrouzi et al. (2025)), revision requested in the *Quarterly Journal of Economics.* Actions needed on the replicator’s part are listed in the “Instructions to Replicators” section.

## Overview

The program files in this replication package analyzes data from multiple sources using Python, Stata, R and Julia. One main file (run\_all.py) runs the codes that

1. Generate all figures and tables in the main text and the online appendix of the paper.
2. Calculate moments to calibrate this paper’s model.

The replicator should expect the code to run about 5 minutes.

## Data Availability and Provenance Statements

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### Statement about Rights

* ☐ I certify that the author(s) of the manuscript have legitimate access to and permission to use the data used in this manuscript.
* ☐ I certify that the author(s) of the manuscript have documented permission to redistribute/publish the data contained within this replication package. Appropriate permission are documented in the [LICENSE.txt](https://social-science-data-editors.github.io/template_README/LICENSE.txt) file.

### Summary of Availability

* ☐ All data **are** publicly available.
* ☐ Some data **cannot be made** publicly available.
* ☐ **No data can be made** publicly available.
* ☐ Confidential data used in this paper and not provided as part of the public replication package will be preserved for \_\_\_ years after publication, in accordance with journal policies.

### Details on each Data Source

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data.Name | Data.Files | Location | Provided | Citation |
| “Job Openings and Labor Turnover Survey (JOLTS)” | jolts\_level.csv  jolts\_rates.csv  jolts\_industry\_level.csv  jolts\_industry\_rates.csv | data/raw/jolts | TRUE | U.S. Bureau of Labor Statistics (2025) |
| “Atlanta Fed Wage Tracker (ATL)” | atl\_fed\_wage.xlsx  atl\_fed\_wage\_raw.dta | data/raw/atl\_fed | FALSE | Federal Reserve Bank of Atlanta (2025) |
| “St. Louis Fed (FRED)” | EU.csv  UE.csv  NU.csv  NE.csv  fred\_urate.csv  fred\_emp2pop.csv  fred\_employment.csv  profit\_share.csv  CPI.csv  CPI.xls | data/raw/fred  data/moments/raw | TRUE | U.S. Bureau of Labor Statistics (2025) |
| “Employer-to-Employer Probability (FMP)” | fmp\_ee\_flow.csv | data/raw/fmp | TRUE | Fujita, Moscarini, and Postel-Vinay (2024) |
| “ADP Pay Insights (ADP)” | adp\_pay\_history.csv | data/raw/adp | TRUE | ADP (2025) |
| “Longitudinal Employer-Household Dynamics (LEHD)” | employment\_by\_  education.csv  flows\_by\_education.csv | data/raw/lehd | TRUE | U.S. Census Bureau (2025) |
| “Barnichon  Vacancy Stocks (BAR)” | barnichon\_vacancy.csv | data/raw/barnichon | TRUE | Barnichon (2010) |
| “Work From Home Measure (WFH)” | onet\_wfh\_code.csv | data/raw/dingelneiman | TRUE | Dingel and Neiman (2020) |
| “Annual Hours Employed By Industry”  (BLS) | hours\_employed  \_industry.csv | data/raw/bls | TRUE | U.S. Bureau of Labor Statistics (2025) |
| “Gallup Analytics” (GALL) | gallup\_data.xlsx | data/raw/gallup | TRUE | Gallup Poll Social Series (2025) |
| “Current Population Survey” (CPS) | cps\_00110.dat  cps\_00108.dat  cps\_00111.dat | data/moments/raw  data/raw | TRUE | Flood et al. (2024) |
|  |  |  |  |  |

Each dataset from JOLTS is publicly available and was downloaded from <https://www.bls.gov/jlt/data.htm>. Using the One Screen or Multi-Screen tools, we customized the data to extract (i) aggregate levels (jolts\_level.csv), (ii) aggregate rates (jolts\_rates.csv), (iii) levels by industry (jolts\_industry\_level.csv), and (iv) rates by industry (jolts\_industry\_rates.csv) for all measures of interest.

Processed data for the Atlanta Fed Wage Tracker were downloaded from <https://www.atlantafed.org/chcs/wage-growth-tracker> and are publicly available. The underlying microdata used to construct the wage tracker are […]

Each FRED data series was obtained from publicly accessible pages. The following datasets can be downloaded directly by clicking “Download” on each respective page:

* EU.csv: <https://fred.stlouisfed.org/series/LNS17400000>
* UE.csv: <https://fred.stlouisfed.org/series/LNS17100000>
* fred\_unrate.csv: <https://fred.stlouisfed.org/series/UNRATE>
* fred\_emp2pop.csv: <https://fred.stlouisfed.org/series/LREM64TTUSM156S>
* CPI.csv: <https://fred.stlouisfed.org/series/CPIAUCSL>

The following datasets must be constructed manually using the “Edit Graph” functionality on the FRED website or by computing manually from the raw series:

* NE.csv: <https://fred.stlouisfed.org/series/LNS17200000> divided by <https://fred.stlouisfed.org/series/LNS15000000>
* NU.csv: <https://fred.stlouisfed.org/series/LNS17600000> divided by <https://fred.stlouisfed.org/series/LNS15000000>
* fred\_employment.csv: <https://fred.stlouisfed.org/series/CE16OV> merged with <https://fred.stlouisfed.org/series/UNEMPLOY> on month-year
* profit\_share.csv: <https://fred.stlouisfed.org/series/CP> divided by <https://fred.stlouisfed.org/series/GDP>

Additionally, employer-to-employer probability measure constructed by Fujita, Moscarini, and Postel-Vinay (2024) can be downloaded from a FRED website (<https://fred.stlouisfed.org/series/FMPSA3MA>) as well. FMP data can also be downloaded using <https://www.philadelphiafed.org/surveys-and-data/macroeconomic-data/employer-to-employer-transition-probability#data-download>. We note that the 3-months moving averages differ between two datasets due to the different initial time periods, and we used the series downloaded from the FRED website for our analysis.

ADP Pay Insights data can be directly downloaded from <https://payinsights.adp.com/> (Click ‘Download historical data’).

LEHD data can be downloaded from <https://ledextract.ces.census.gov/>. To download employment\_by\_education.csv, a replicator must go to ‘All QWI Measures’ page, select ‘Sex and Education’ in ‘3. Worker Characteristics’ tab, select all the education levels from E1 to E5, and select the quarters from 20161Q to 20241Q. To download flows\_by\_education.csv, the same procedure must be done in ‘Job Flows’ page.

Vacancy stock data (barnichon\_vacancy.csv) constructed as part of Barnichon (2010) can be directly downloaded by the author’s website: <https://sites.google.com/site/regisbarnichon/research>. See under ’19. Building a composite Help-Wanted Index’ and click the associated Google Sheets link to download the data.

Work from home measures (onet\_wfh\_code.csv) constructed as part of Dingel and Neiman (2020) can be directly download by the author’s publicly available Github page: <https://github.com/jdingel/DingelNeiman-workathome/tree/master/onet_to_BLS_crosswalk/output>.

Data on annual hours worked and employment by industry (hours\_employed\_industry.csv) can be downloaded from the link in the bottom paragraph from <https://www.bls.gov/productivity/technical-notes/industry-hours-and-employment.htm>.

CPS data can be downloaded from <https://cps.ipums.org/cps/>. In ‘Select Data’ tab, you can select the data filters to obtain the same datasets used for moment generation of this paper. To extract the yearly ASEC data (cps\_00110.dat), a replicator must select the yearly ‘IPUMS-CPS.ASEC’ sereis from 2015 to 2023 and select the same set of variables as detailed in /code/2\_moments/2\_0\_build.do. To extract the monthly worker flows data (cps\_00108.dat, cps\_00111.dat), a replicator must select the monthly ‘IPUMS-CPS’ series from January 2014 to June 2024.

Gallup Analytics data was accessed through the proxy server provided by the University of Chicago. The replicator may be able to access the data using their institution’s subscription.

## Dataset list

|  |  |  |  |
| --- | --- | --- | --- |
| Data file | Source | Notes | Provided |
| data/raw/adp/adp\_pay\_hitory.csv | ADP | Serves as input for Figure 2.3.A and 2.3.B. | Yes |
| data/raw/atl\_fed/atl\_fed\_wage\_raw.dta | ATL | Serves as input for Figure B.5.B, B.5.C, B.8.A, B.8.B, and B.8.C | No |
| data/raw/atl\_fed/atl\_fed\_wage.xlsx | ATL | Serves as input for Figure 1.1.B, 2.4.A, 2.4.B, B.5.A, B.6.A, B.6.B, B.7.A, B.7.B, and B.7.C | Yes |
| data/raw/barnichon/barnichon\_vacancy.xlsx | BAR | Serves as input for Figure 1.1.A, 6.1.A, and 6.1.B. | Yes |
| data/raw/bls/hours\_employed\_industry.xlsx | BLS | Serves as input for Figure B.9. | Yes |
| data/raw/dingelneiman/onet\_wfh\_code.csv | WFH | Serves as input for Figure 2.5.A, 2.5.B, and 2.5.C. | Yes |
| data/raw/fmp/fmp\_ee\_flows.csv | FMP | Serves as input for Figure 2.2.A. | Yes |
| data/raw/fred/CPI.csv | FRED | Serves as input for Figure 1.1.A, 1.1.B, 2.3.A, 2.3.B, 2.4.A, 2.4.B, 2.5.A, 2.5.B, 2.5.C, 6.1.A, 6.1.B, B.1.A, B.1.B, B.6.A, B.6.B, B.7.A, B.7.B, B.7.C, B.8.A, B.8.B, B.8.C, B.14.A, B.14.B, B.15, and Table B.4. | Yes |
| data/raw/fred/EU.csv | FRED | Serves as input for Figure B.4. | Yes |
| data/raw/fred/fred\_emp2pop.csv | FRED | Serves as input for Figure B.2.A, B.2.B, and B.2.C. | Yes |
| data/raw/fred/fred\_employment.csv | FRED | Serves as input for Figure 1.1.A, 2.2.B, 6.1.A, 6.1.B, B.2.A, B.2.B, B.2.C, B.4, and B.13. | Yes |
| data/raw/fred/fred\_urate.csv | FRED | Serves as input for Figure B.2.A, B.2.B, and B.2.C. | Yes |
| data/raw/fred/NE.csv | FRED | Serves as input for Figure B.3.A and B.3.B. | Yes |
| data/raw/fred/NU.csv | FRED | Serves as input for Figure B.3.A and B.3.B. | Yes |
| data/raw/fred/profit\_share.csv | FRED | Serves as input for Figure B.14.A, B.14.B, and B.15. | Yes |
| data/raw/fred/UE.csv | FRED | Serves as input for Figure 2.2.B, B.2.A, B.2.B, B.2.C, and B.4. | Yes |
| data/raw/jolts/jolts\_industry\_level.xlsx | FRED | Serves as input for Figure B.9. | Yes |
| data/raw/jolts/jolts\_industry\_rates.xlsx | FRED | Serves as input for Figure B.9. | Yes |
| data/raw/jolts/jolts\_level.csv | FRED | Serves as input for Figure 1.1.A, 6.1.A, 6.1.B, and B.13. | Yes |
| data/raw/jolts/jolts\_rates.csv | FRED | Serves as input for Figure 2.1, B.1.A, and B.1.B. | Yes |
| data/raw/lehd/employment\_by\_education.csv | LEHD | Serves as input for Figure B.10. | Yes |
| data/raw/lehd/flows\_by\_education.csv | LEHD | Serves as input for Figure B.10. | Yes |
| data/processed/figure\_1\_1\_A.csv | BAR, FRED, JOLTS | Combines barnichon\_vacancy, fred\_employment, jolts\_level, and CPI, serves as input for Figure 1.1.A. | Yes |
| data/processed/figure\_1\_1\_B.csv | ATL, FRED | Combines atl\_fed\_wage and CPI, serves as input for Figure 1.1.B. | Yes |
| data/processed/figure\_2\_1.csv | JOLTS | Uses jolts\_rates, serves as input for Figure 2.1.A, Figure 2.1.B, and Figure 2.1.C. | Yes |
| data/processed/figure\_2\_2\_A.csv | FMP | Uses fmp\_ee\_flow, serves as input for Figure 2.2.A. | Yes |
| data/processed/figure\_2\_2\_B.csv | FRED | Uses fred\_employment and UE, serves as input for Figure 2.2.B. | Yes |
| data/processed/figure\_2\_3.csv | ADP, FRED | Combines adp\_pay\_history and CPI, serves as input for Figure 2.3.A and 2.3.B. | Yes |
| data/processed/figure\_2\_4.csv | ATL, FRED | Combines atl\_fed\_wage and CPI, serves as input for Figure 2.4.A and 2.4.B. | Yes |
| data/processed/figure\_2\_5\_temp1.csv  data/processed/figure\_2\_5\_temp2.csv | ATL, WFH | Combine atl\_wage\_data\_raw and onet\_wfh\_code, serves as input for figure\_2\_5 | Yes |
| data/processed/figure\_2\_5.csv | ATL, WFH, CPI | Combines figure\_2\_5\_temp1, figure\_2\_5\_temp2, and CPI, serves as input for Figure 2.5.A, 2.5.B, and 2.5.C | Yes |
| data/processed/figure\_6\_1.csv | BAR, FRED, JOLTS | Combines barnichon\_vacancy, fred\_employment, jolts\_level, and CPI, serves as input for Figure 6.1.A and 6.1.B. | Yes |
| data/processed/figure\_B\_1.csv | JOLTS, FRED | Combines jolts\_rates and CPI, serves as input for Figure B.1.A and Figure B.1.B | Yes |
| data/processed/figure\_B\_2.csv | FRED | Combines fred\_employment, UE, fred\_urate, and fred\_emp2pop, serves as input for Figure B.2.A, B.2.B, and B.2.C | Yes |
| data/processed/figure\_B\_3.csv | FRED | Combines NE and NU, serves as input for Figure B.3.A and Figure B.3.B. | Yes |
| data/processed/figure\_B\_4.csv | FRED | Combines fred\_employment, EU, and UE, serves as input for Figure B.4. | Yes |
| data/processed/figure\_B\_5\_A.csv | ATL | Uses atl\_fed\_wage, serves as input for Figure B.5.A. | Yes |
| data/processed/figure\_B\_5\_B\_C.csv | ATL | Uses atl\_fed\_wage\_raw, serves as input for Figure B.5.B and Figure B.5.C. | Yes |
| data/processed/figure\_B\_6.csv | ATL, FRED | Combines atl\_fed\_wage and CPI, serves as input for Figure B.6.A and B.6.B. | Yes |
| data/processed/figure\_B\_7.csv | ATL, FRED | Combines atl\_fed\_wage and CPI, serves as input for Figure B.7.A, B.7.B and B.7.C. | Yes |
| data/processed/figure\_B\_8\_temp1.csv  data/processed/figure\_B\_8\_temp2.csv | ATL | Uses atl\_fed\_wage\_raw, serves as input for figure\_B\_8 | Yes |
| data/processed/figure\_B\_8.csv | ATL, FRED | Combines figure\_B\_8\_temp1, figure\_B\_8\_temp2, and CPI, serves as input for Figure B.8.A, B.8.B, B.8.C. | Yes |
| data/processed/figure\_B\_9.csv | BLS, JOLTS | Combines hours\_employed\_industry,  jolts\_industry\_level, and jolts\_industry\_rates, serves as input for Figure B.9. | Yes |
| data/processed/figure\_B\_10.csv | LEHD | Combines flows\_by\_education and employment\_by\_education, serves as input for Figure B.10. | Yes |
| data/processed/figure\_B\_12.csv | GALL | Uses gallup\_data,  serves as input for Figure B.12. | Yes |
| data/processed/figure\_B\_13.csv | JOLTS, FRED | Combines jolts\_level and fred\_employment, serves as input for Figure B.13. | Yes |
| data/processed/figure\_B\_14\_A.csv | FRED, BAR, JOLTS | Combines CPI, profit\_share and figure\_1\_1\_A, serves as input for Figure B.14.A. | Yes |
| data/processed/figure\_B\_14\_B.csv | FRED, BAR, JOLTS | Combines CPI, profit\_share and figure\_1\_1\_A, serves as input for Figure B.14.B. | Yes |
| data/processed/figure\_B\_15.csv | FRED, BAR, JOLTS | Combines CPI, profit\_share and figure\_1\_1\_A, serves as input for Figure B.15 and Table B.4. | Yes |
| data/moments/raw/CPI.xls | FRED | Same data as CPI.csv |  |
| data/moments/raw/cps\_00108.dat | CPS | Serves as input for flow\_moments.csv |  |
| data/moments/raw/cps\_00110.dat | CPS | Serves as input for flow\_moments.csv and wkly\_earn\_moments.dta |  |
| data/moments/raw/ee\_monthly.csv | FMP | Same data as figure\_2\_2\_A |  |
| data/moments/raw/shimer\_decomposition\_  data.csv | FRED | Same data as figure\_B\_4 |  |
| data/moments/output/flow\_moments.csv | FRED, CPS, FMP |  |  |
| data/moments/output/wkly\_earn\_  moments.dta | FRED,  CPS, FMP |  |  |

## Computational requirements

### Software Requirements

* ☐ The replication package contains one or more programs to install all dependencies and set up the necessary directory structure.
* Stata (code was last run with version 19)
* Python (code was last run with version 3.13.5 with the installed dependencies listed below.)
  + pandas 2.3.1
  + numpy 2.3.1.
  + matplotlib 3.10.3
  + sckit-learn 1.7.0
  + statsmodels 0.14.5
  + openpyxl 3.1.5
* Julia (code was last run with version 1.11 with the installed dependencies listed below.)
  + Binscatters v0.4.0
  + CSV v0.10.15
  + CategoricalArrays v0.10.8
  + DataFrames v1.7.0
  + DataFramesMeta v0.15.4
  + DelimitedFiles v1.9.1
  + FileIO v1.17.0
  + LaTeXStrings v1.4.0
  + PGFPlotsX v1.6.2
  + PanelDataTools v0.3.0
  + PeriodicalDates v2.0.0
  + Plots v1.40.16
  + Revise v3.8.0
  + Dates v1.11.0
* R
  + ipumsr 0.9.0
  + tidyverse 2.0.0
  + ggplot2 3.5.2
  + writexl 1.5.4
  + haven 2.5.5
* STATA
  + esttab
  + egenmore

### Controlled Randomness

* ☐ Random seed is set at line \_\_\_\_\_ of program \_\_\_\_\_\_
* ☐ No Pseudo random generator is used in the analysis described here.

### Memory, Runtime, Storage Requirements

#### Summary

Approximate time needed to reproduce the analyses on a standard (2025) desktop machine:

* ☐ <10 minutes
* ☐ 10-60 minutes
* ☐ 1-2 hours
* ☐ 2-8 hours
* ☐ 8-24 hours
* ☐ 1-3 days
* ☐ 3-14 days
* ☐ > 14 days

Approximate storage space needed:

* ☐ < 25 MBytes
* ☐ 25 MB - 250 MB
* ☐ 250 MB - 2 GB
* ☐ 2 GB - 25 GB
* ☐ 25 GB - 250 GB
* ☐ > 250 GB
* ☐ Not feasible to run on a desktop machine, as described below.

#### Details

## The code was last run on a 14-inch MacBook Pro (2021) with an Apple M1 Pro chip, 16 GB of unified memory, macOS Sequoia 15.5, and 1 TB of free space.

## Description of programs/code

* code/run\_all.py will run all the dependencies described below. The default paths will be automatically adjusted for the replicator.
* Programs in code/1\_process will process the primitive data in data/raw and save the processed data in data/processed.
* Programs in code/1\_figures will use the processed data in data/processed and generate the outputs in output/figures and output/tables.
* Programs in code/2\_moments will calculate the model moments using the primitive data in data/moments/raw and save the output in data/moments/output.

## Instructions to Replicators

* Download the data files referenced above. Each data must be stored in the prepared subdirectories inside data folder. Unzip the data files and rename them as referenced above.
* Run files in 0\_setup to ensure that the required packages are installed.
* Edit the the top lines of run\_all.py to adjust the executable paths for Stata, Julia and R.
* Run run\_all.py to run all steps in sequence.

### Details

* Scripts provided in the setup/ folder will be automatically run to install the required packages for each programming language. Otherwise, the replicator must install the required packages to run the replication codes.

## List of tables and programs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Figure/Table # | Program | Line Number | Output file | Note |
| Figure 1.1, Panel A | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_1\_1\_A.csv  figure\_1\_1\_A.pdf |  |
| Figure 1.1, Panel B | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_1\_1\_B.csv  figure\_1\_1\_B.pdf |  |
| Figure 2.1, Panel A | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_1.csv  figure\_2\_1\_A.pdf |  |
| Figure 2.1, Panel B | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_1.csv  figure\_2\_1\_B.pdf |  |
| Figure 2.1, Panel C | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_1.csv  figure\_2\_1\_C.pdf |  |
| Figure 2.2, Panel A | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_2\_A.csv  figure\_2\_2\_A.pdf |  |
| Figure 2.2, Panel B | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_2\_B.csv  figure\_2\_2\_B.pdf |  |
| Figure 2.3, Panel A | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_3.csv  figure\_2\_3\_A.pdf |  |
| Figure 2.3, Panel B | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_3.csv  figure\_2\_3\_B.pdf |  |
| Figure 2.4, Panel A | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_4.csv  figure\_2\_4\_A.pdf |  |
| Figure 2.4, Panel B | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_4.csv  figure\_2\_4\_B.pdf |  |
| Figure 2.5, Panel A | 0\_process/0\_0\_process\_main.do  0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_5\_temp1.csv  figure\_2\_5\_temp2.csv  figure\_2\_5.csv  figure\_2\_5\_A.pdf |  |
| Figure 2.5, Panel B | 0\_process/0\_0\_process\_main.do  0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_5\_temp1.csv  figure\_2\_5\_temp2.csv  figure\_2\_5.csv  figure\_2\_5\_B.pdf |  |
| Figure 2.5, Panel C | 0\_process/0\_0\_process\_main.do  0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_2\_5\_temp1.csv  figure\_2\_5\_temp2.csv  figure\_2\_5.csv  figure\_2\_5\_C.pdf |  |
| Figure 6.1, Panel A | 0\_process/0\_1\_process\_main.py  1\_figures/1\_0\_figures\_main.jl |  | figure\_6\_1.csv  figure\_6\_1\_A.pdf |  |
| Figure 6.1, Panel B | 0\_process/0\_1\_process\_main.py  1\_figures/1\_1\_figures\_main.py |  | figure\_6\_1.csv  figure\_6\_1\_B.pdf |  |
| Figure B.1, Panel A | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_1.csv  figure\_B\_1\_A.pdf |  |
| Figure B.1, Panel B | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_1.csv  figure\_B\_1\_B.pdf |  |
| Figure B.2, Panel A | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_2.csv  figure\_B\_2\_A.pdf |  |
| Figure B.2, Panel B | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_2.csv  figure\_B\_2\_B.pdf |  |
| Figure B.2, Panel C | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_2.csv  figure\_B\_2\_C.pdf |  |
| Figure B.3, Panel A | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_3.csv  figure\_B\_3\_A.pdf |  |
| Figure B.3, Panel B | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_3.csv  figure\_B\_3\_B.pdf |  |
| Figure B.4 | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_4.csv  figure\_B\_4.pdf |  |
| Figure B.5, Panel A | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_5\_A.csv  figure\_B\_5\_A.pdf |  |
| Figure B.5, Panel B | 0\_process/0\_2\_process\_appendix.do  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_5\_B\_C\_.csv  figure\_B\_5\_B.pdf |  |
| Figure B.5, Panel C | 0\_process/0\_2\_process\_appendix.do  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_5\_B\_C.csv  figure\_B\_5\_C.pdf |  |
| Figure B.6, Panel A | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.jl |  | figure\_B\_6.csv  figure\_B\_6\_A.pdf |  |
| Figure B.6, Panel B | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_2\_figures\_appendix.jl |  | figure\_B\_6.csv  figure\_B\_6\_B.pdf |  |
| Figure B.7, Panel A | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_7.csv  figure\_B\_7\_A.pdf |  |
| Figure B.7, Panel B | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_7.csv  figure\_B\_7\_B.pdf |  |
| Figure B.7, Panel C | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_7.csv  figure\_B\_7\_C.pdf |  |
| Figure B.8, Panel A | 0\_process/0\_2\_process\_appendix.do  0\_process/0\_3\_process\_appendix.py  1\_figures/1\_2\_figures\_appendix.jl |  | figure\_B\_8\_temp1.csv  figure\_B\_8\_temp2.csv  figure\_B\_8.csv  figure\_B\_8\_A.pdf |  |
| Figure B.8, Panel B | 0\_process/0\_2\_process\_appendix.do  0\_process/0\_3\_process\_appendix.py  1\_figures/1\_2\_figures\_appendix.jl |  | figure\_B\_8\_temp1.csv  figure\_B\_8\_temp2.csv  figure\_B\_8.csv  figure\_B\_8\_B.pdf |  |
| Figure B.8, Panel C | 0\_process/0\_2\_process\_appendix.do  0\_process/0\_3\_process\_appendix.py  1\_figures/1\_2\_figures\_appendix.jl |  | figure\_B\_8\_temp1.csv  figure\_B\_8\_temp2.csv  figure\_B\_8.csv  figure\_B\_8\_C.pdf |  |
| Figure B.9 | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_9.csv  figure\_B\_9.pdf |  |
| Figure B.10, Panel A | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_10.csv  figure\_B\_10\_A.pdf |  |
| Figure B.10, Panel B | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_10.csv  figure\_B\_10\_B.pdf |  |
| Figure B.12 | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_12.csv  figure\_B\_12.pdf |  |
| Figure B.13 | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_13.csv  figure\_B\_13.pdf |  |
| Figure B.14, Panel A | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_2\_figures\_appendix.jl |  | figure\_B\_14\_A.csv  figure\_B\_14\_A.pdf |  |
| Figure B.14, Panel B | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_14\_B.csv  figure\_B\_14\_B.pdf |  |
| Figure B.15 | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_15.csv  figure\_B\_15.pdf |  |
| Table 4 | 0\_process/0\_1\_process\_main.py  1\_process/1\_1\_figures\_main.py |  | figure\_6\_1.csv  table\_4.tex |  |
| Table B.1 |  |  | table\_B\_1.tex |  |
| Table B.2 |  |  | table\_B\_2.tex |  |
| Table B.3 |  |  | table\_B\_3.tex |  |
| Table B.4 | 0\_process/0\_3\_process\_appendix.py  1\_figures/1\_3\_figures\_appendix.py |  | figure\_B\_14\_B.csv  table\_B\_4.tex |  |

## References

ADP Research Institute. (2025, June). ADP® Pay Insights. Retrieved July 21, 2025.

Barnichon, R. (2010): “Building a composite Help-Wanted Index,” Economics Letters, 109(3), 175–178.

Bureau of Labor Statistics, Office of Productivity and Technology. Annual Hours Worked and Employment: Detailed Industries. Data released April 24, 2025. Retrieved July 21, 2025.

Dingel, J. I., and B. Neiman (2020): “How many jobs can be done at home?,” Journal of public economics, 189, 104235.

Federal Reserve Bank of Atlanta, Wage Growth Tracker, https://www.atlantafed.org/chcs/wage-growth-tracker (accessed July 21, 2025)

Federal Reserve Bank of Philadelphia, 3-Month Moving Average of Average Probability of U.S. Workers Making Employer to Employer Transitions [FMPSA3MA], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/FMPSA3MA, July 21, 2025.

Gallup Poll Social Series (2025). Gallup Analytics Campus Portal. <https://analyticscampus-gallup-com.proxy.uchicago.edu/Tables>.

Organization for Economic Co-operation and Development, Infra-Annual Labor Statistics: Employment Rate Total: From 15 to 64 Years for United States [LREM64TTUSM156S], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/LREM64TTUSM156S, July 21, 2025.

Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. IPUMS CPS: Version 12.0 [dataset]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D030.V12.0>

U.S. Bureau of Labor Statistics, U.S. Department of Labor, Job Openings and Labor Turnover Survey (JOLTS), Retrieved July 21, 2025

U.S. Bureau of Labor Statistics, Not in Labor Force [LNS15000000], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/LNS15000000, July 21, 2025.

U.S. Bureau of Labor Statistics, Labor Force Flows Unemployed to Employed [LNS17100000], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/LNS17100000, July 21, 2025.

U.S. Bureau of Labor Statistics, Labor Force Flows Not in Labor Force to Employed [LNS17200000], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/LNS17200000, July 21, 2025.

U.S. Bureau of Labor Statistics, Labor Force Flows Employed to Unemployed [LNS17400000], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/LNS17400000, July 21, 2025.

U.S. Bureau of Labor Statistics, Labor Force Flows Not in Labor Force to Unemployed [LNS17600000], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/LNS17600000, July 21, 2025.

U.S. Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers: All Items in U.S. City Average [CPIAUCSL], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CPIAUCSL, July 21, 2025.

U.S. Bureau of Labor Statistics, Unemployment Rate [UNRATE], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/UNRATE, July 21, 2025.

U.S. Bureau of Labor Statistics, Employment Level [CE16OV], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CE16OV, July 21, 2025.

U.S. Bureau of Labor Statistics, Unemployment Level [UNEMPLOY], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/UNEMPLOY, July 21, 2025.

U.S. Bureau of Labor Statistics, U.S. Department of Labor, Industry Hours and Employment: Technical Notes, https://www.bls.gov/productivity/technical-notes/industry-hours-and-employment.htm (accessed July 21, 2025)

U.S. Bureau of Economic Analysis, Corporate Profits After Tax (without IVA and CCAdj) [CP], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CP, July 21, 2025.

U.S. Bureau of Economic Analysis, Gross Domestic Product [GDP], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/GDP, July 21, 2025.

U.S. Census Bureau, Center for Economic Studies, LEHD, https://ledextract.ces.census.gov/, accessed on July 21, 2025

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