



Where Is the Low-Wage Workforce?

Technical Appendix

Joe Peck, William Congdon, and Kate Bahn

OCTOBER 2023



Where Is the Low-Wage Workforce?

Data Sources

This feature uses data from the Current Population Survey (CPS) Annual Supplement of Economic Conditions (ASEC) 2022 and the American Community Survey (ACS) 2017–21 five-year sample, both accessed through the Integrated Public Use Microdata Series (IPUMS) database.¹

Low-Wage Definition

We define low-wage workers as those earning less than two-thirds of the median wage, following a commonly used, relative threshold used for characterizing low-wage work relative to the full wage distribution. For calculating this threshold, we first compute the median wage of the full sample of prime-age workers using the CPS and then multiply the resulting figure by two-thirds.²

Note that while other ways of defining low-wage work have been considered in practice and the research literature, for this data feature, we use two-thirds of the median wage of all workers as our preferred definition and threshold for clarity, simplicity, and comparability with other applications.³

Low-Wage Sample

Our sample of low-wage workers is made up of individuals ages 25–54, what economists refer to as prime-age workers, in the labor force who were employed at some point during the prior year. The sample includes both full- and part-time workers.

Variable Construction and Analysis

After calculating our low-wage threshold using the CPS, our analyses use the American Community Survey 2017–21 five-year sample. Public Use Microdata Areas, while not a colloquial unit, offer the most informative wage and industry estimates in the tradeoff between reliability and geographic specificity. PUMAs provide a tractable way to show at a

fine level of geographic detail. However, they are a more useful metric for showing where low-wage workers live, rather than providing a useful metric for understanding the spatial distribution of jobs or understanding the size of local labor markets, which are often larger than these PUMAs. We create a unique identifier for each PUMA by using a combination of STATEFIP and PUMA variables.

The ACS data do not include hourly wage amounts, so we calculate these by dividing individuals' annual wage and salary amounts by their total number of hours worked, calculated as usual number of hours worked in a week ([UHRSWORK](#)) multiplied by weeks worked last year ([WKSWORK2](#)). As this is a categorical variable detailing a range of hours (i.e., “27–39 weeks”), we treat all workers as if they worked at the middle point of this range (i.e., “33”). All dollar amounts across the five-year ACS sample are automatically adjusted for inflation to reflect 2021 dollars. These ACS calculations use the appropriate person-level weight ([PERWT](#)).

The ACS provides information using the 2017 North American Industry Classification System (NAICS) industry codes (Appendix 1).⁴ These are given with the IPUMS ACS variable [INDNAICS](#). The names listed in the data feature are the first sub-division of the NAICS categories (i.e., “Arts, Entertainment, and Recreation”). These names are not the umbrella categories in this framework (i.e., “Arts, Entertainment, and Recreation, and Accommodation and Food Services”) or the most specific (i.e., “Bowling centers”) but strike a balance between the general and the specific that is most easily comprehensible. Where subcategories do not exist but umbrella categories do (i.e., “Wholesale trade”) the name for the umbrella category is used. We concentrate our analysis on the concentration of low-wage workers as opposed to the frequency of low-wage workers within these industries, in part because these industries are not equal in size.

Notes

¹ Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, and Michael Westberry, *Integrated Public Use Microdata Series, Current Population Survey*, Version 10.0, 2022, <https://doi.org/10.18128/D030.V10.0>.

² We decided to use the CPS ASEC data as opposed to the CPS Merged Outgoing Rotation Group (MORG) Earnings Data because of the extra information it provides about health insurance coverage and pension coverage. As we were interested in a snapshot of the low-wage labor force as opposed to understanding wage dynamics through time, the inclusion of these variables outweighed the benefits afforded by the longer-running MORG data.

³ “Wage levels,” OECD Data, accessed, July 20, 2023, <https://data.oecd.org/earnwage/wage-levels.htm>; Claus Schnabel, “Low-Wage Employment,” 2021. <https://wol.iza.org/articles/low-wage-employment/long>.

⁴ Washington Department of Revenue, “SIC and NAICS Codes,” Washington State Department of Revenue, 2022, accessed July 18, 2023, <https://dor.wa.gov/about/statistics-reports/sic-and-naics-codes>.

Acknowledgments

This research was funded by the WorkRise funder collaborative. We are grateful to them and to all our funders, who make it possible for Urban to advance their mission.

The views expressed are those of the author/s and should not be attributed to WorkRise, the Urban Institute, its trustees, or its funders. Funders do not determine research findings or the insights and recommendations of Urban experts. Further information on the Urban Institute’s funding principles is available at urban.org/fundingprinciples.

For more information on this project, see *Where Is the Low-Wage Workforce?*



WorkRise

www.workrise.urban.org

WorkRise connects workers, employers, researchers and advocates to generate ideas that can be turned into policies and practices that bring economic stability and upward mobility for all US workers—opening new opportunities for workers to thrive at work and in life.

Copyright © October 2023. WorkRise, a project of the Urban Institute. Permission is granted to reproduce this file with attribution to WorkRise.