



Professional Development Webinars for Educators
Summer 2020



Gigi Wolf

Gigi Wolf is a Senior Economic Education Specialist for the Federal Reserve Bank of Kansas City where she assists in curriculum development, facilitates professional development for regional educators, builds partnerships with like-minded organizations, manages content for the national Federal Reserve education website and coordinates programs for teachers, students and the public.



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Steve is a senior community development advisor at the Federal Reserve Bank of Kansas City – Oklahoma City Office. Steven leads the Branch efforts to promote economic development and fair and impartial access to financial services in Oklahoma’s low- to moderate-income communities and manages the District’s workforce development program areas. In this role, Steven has lead a research and outreach initiative on the District’s unbanked market, organized national conferences on innovations in consumer financial services, asset-based approaches in rural development and workforce development strategies.



Federal Reserve Bank of Kansas City





Preparing Students for a Workforce in Transition: Insights on
Labor Market Trends and Opportunities - July 8



Didem Tüzemen

Didem is a Senior Economist at the Federal Reserve Bank of Kansas City and the Executive Director of the KC Research Data Center. Her research is at the interaction of labor economics and macroeconomics. Recently, she studied the impact of disappearing routine occupations on labor force participation of prime-age individuals and on the natural rate of unemployment in the United States. She earned her Ph.D. in Economics from the University of Maryland, College Park.

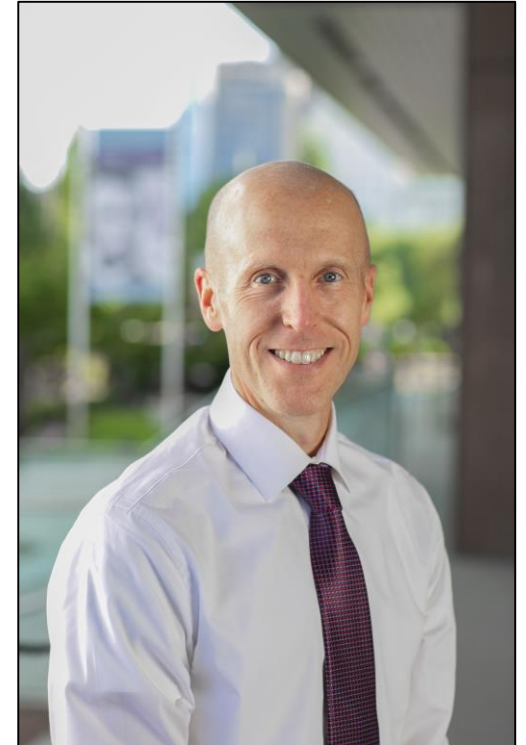


Federal Reserve Bank of Kansas City



Keith Wardrip

Keith joined the Community Development and Regional Outreach Department of the Federal Reserve Bank of Philadelphia in 2011 and has served as the community development research manager since 2013. In this role, he produces original research, supervises the work of the department's research analysts, and leads the development of the department's research agenda. His work focuses primarily on employment and post-secondary educational opportunities for low- and moderate-income populations and philanthropic support for local community and economic development.



Federal Reserve Bank of Kansas City



Long-Term Trends in the U.S. Labor Market

July 8, 2020

Didem Tuzemen

Senior Economist, Federal Reserve Bank of Kansas City



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The views expressed here are those of the presenter and do not necessarily represent the views of the Federal Reserve Bank of Kansas City or the Federal Reserve System.



Basic Labor Market Concepts

- Monthly Survey by the BLS and Census: “*Current Population Survey*” or the Household Survey
- Employed (E): someone with a job and working
- Unemployed (U): someone without a job but actively searching for a job
- Not in the labor force (N): someone without a job and not searching for a job
- Population (Pop): $E + U + N$ (Ages 16 and older)

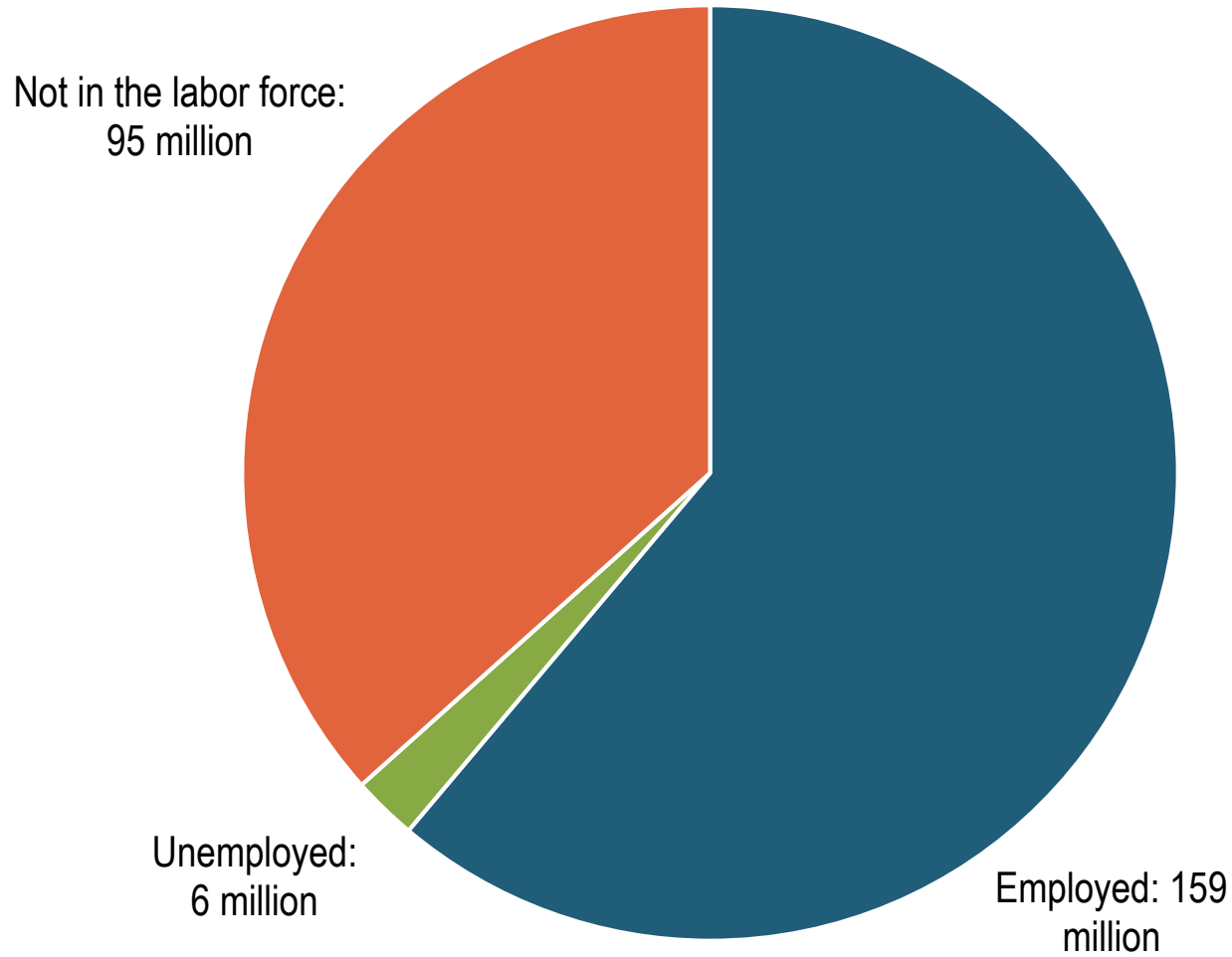


Basic Labor Market Concepts (cont.)

- Labor Force (LF) : $E + U$
- Unemployment Rate: U/LF
- Labor Force Participation Rate: LF/Pop
- Employment-to-Population Ratio: E/Pop



The Labor Market in February 2020



	Feb-20
Unemployment Rate	3.5 %
Labor Force Participation Rate	63.4 %
Employment-to-Population Ratio	61.1 %



Long-Term Changes in the U.S. Labor Market



Long-Term Changes in the U.S. Labor Market

- Changes in the labor force participation rate of prime-age (ages 25-54) individuals
- Changes in the composition of jobs – job polarization



Changing Trends in the Labor Market Outcomes of Prime-Age (Ages 25-54) Individuals

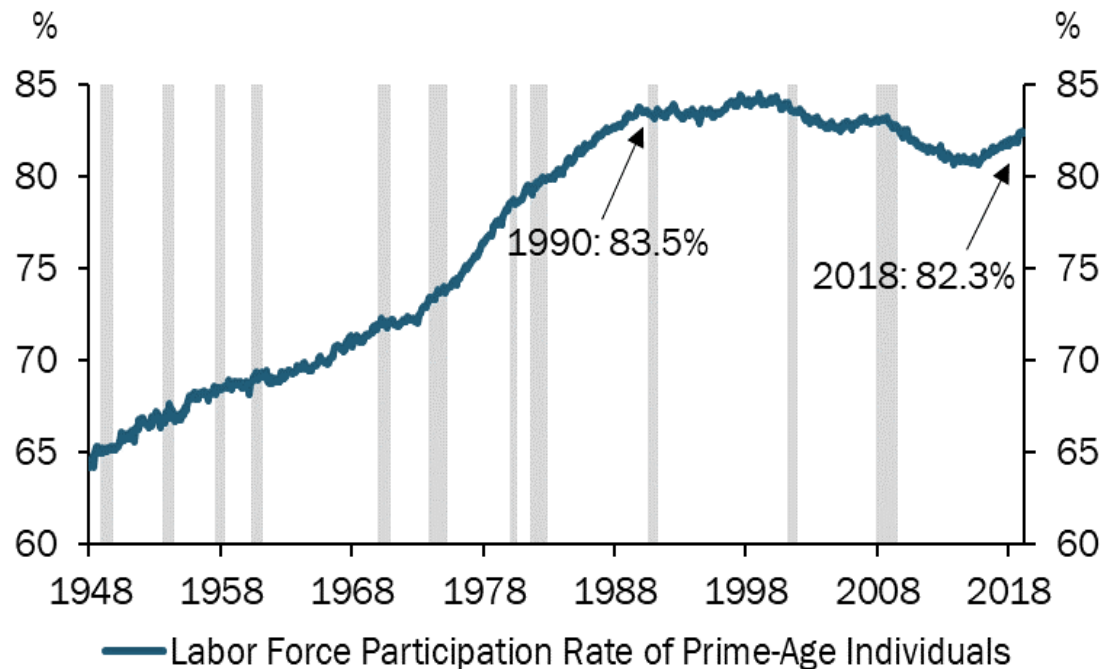


Figure 1: Prime-Age Labor Force Participation Rate, 1948-2018

Notes: BLS, Haver Analytics. Data are monthly and seasonally adjusted.

- The increase in the post-war period was due to prime-age women entering the labor force.
- The decline since the 1990s reflects the declines in the labor force participation rates for both prime-age men and women.



Changing Trends in the Labor Market Outcomes of Prime-Age (Ages 25-54) Individuals (cont.)

- A similar trend is observed for the prime-age employment-to-population ratio.
- Suggesting a close link between employment opportunities and labor force participation.

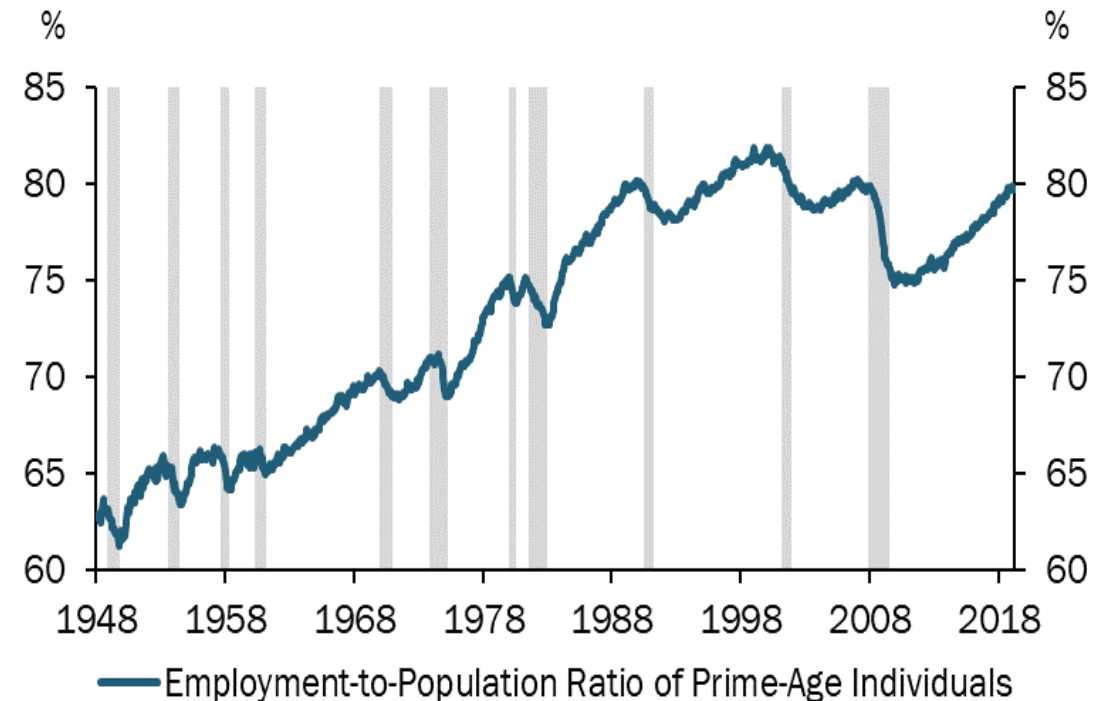


Figure 2: Prime-Age Employment-to-Population Ratio, 1948-2018

Notes: BLS, Haver Analytics. Data are monthly and seasonally adjusted.

Changes in the Composition of Jobs

- The skills demanded and types of jobs have changed dramatically over the past several decades.
 - Why? Technology, automation, increased international trade, outsourcing
- Job categories:
 - High-skill (non-routine cognitive)
 - Middle-skill (routine cognitive and routine manual)
 - Low-skill (non-routine manual)
- Middle-skill jobs are considered “routine” occupations, as workers typically perform tasks that are procedural and rule-based.



Job Polarization: Declining Routine Employment

- Since the 1990s, there has been an aggregate shift in employment away from routine occupations towards non-routine occupations, a phenomenon called “job polarization.”

	1990 (percent)	2000 (percent)	2015 (percent)	2018 (percent)
Non-routine Cognitive Occupations	(29.10)	(34.05)	(38.20)	(39.46)
Management and Business Operations & Finance	11.64	13.91	14.65	15.11
Professionals	17.46	20.14	23.55	24.35
Routine Cognitive Occupations	(28.58)	(26.37)	(23.21)	(22.00)
Sales	11.16	11.43	10.19	9.78
Office & Administrative Support	17.41	14.95	13.02	12.22
Routine Manual Occupations	(27.65)	(24.76)	(20.79)	(20.95)
Construction Trades & Extraction	5.28	5.35	4.76	5.07
Production	11.24	8.85	6.22	6.02
Installation, Maintenance & Repair	3.99	3.83	3.49	3.33
Transportation & Material Moving	7.14	6.73	6.31	6.52
Non-routine Manual Occupations	(14.67)	(14.82)	(17.80)	(17.59)
Services	14.67	14.82	17.80	17.59

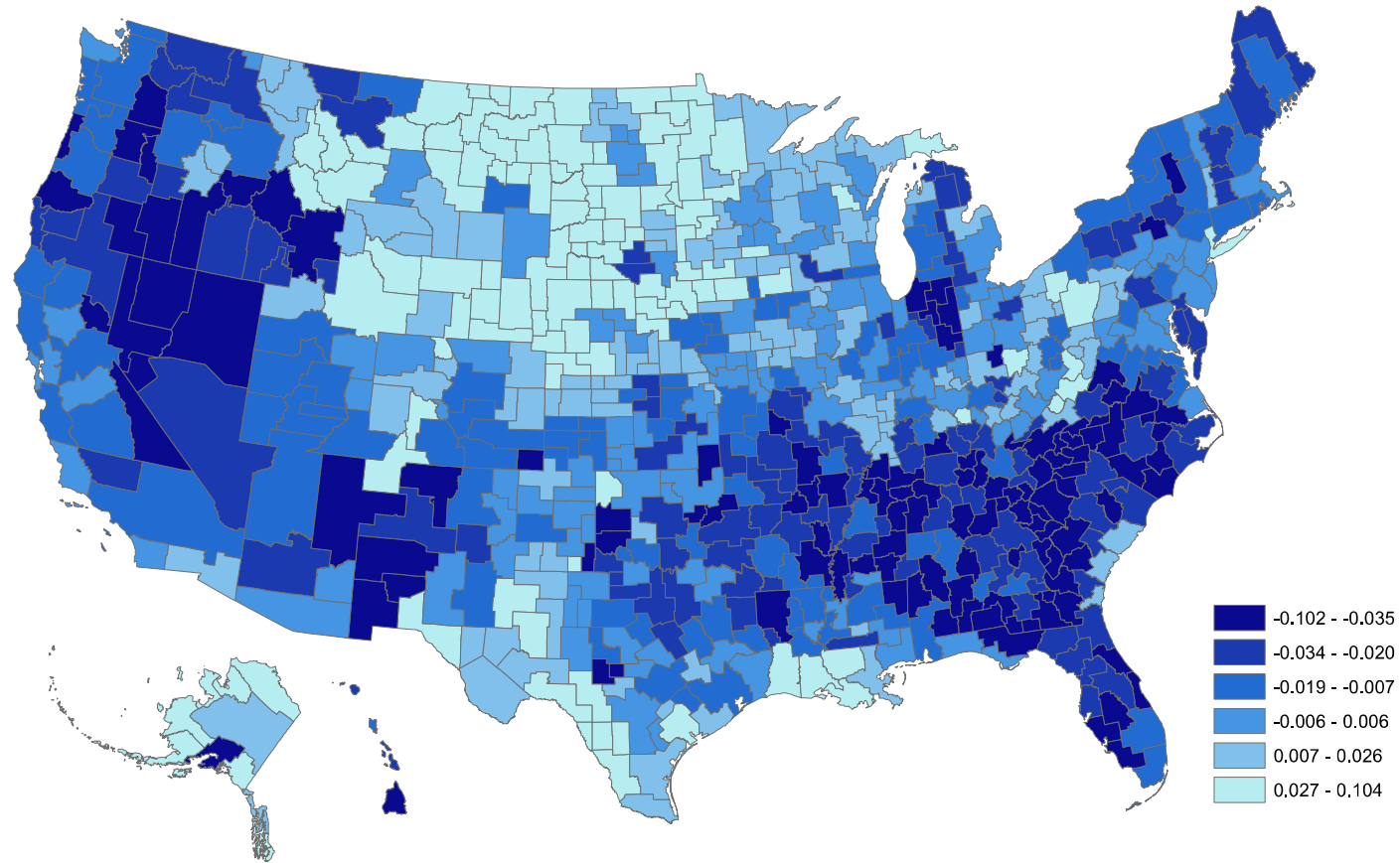
Notes: CPS data, author’s calculations. People who are in farming and armed forces occupations and industries and people who are self-employed or working without pay are excluded.



The Relationship Between Disappearing Routine Occupations and Declining Prime-Age Labor Force Participation Rate



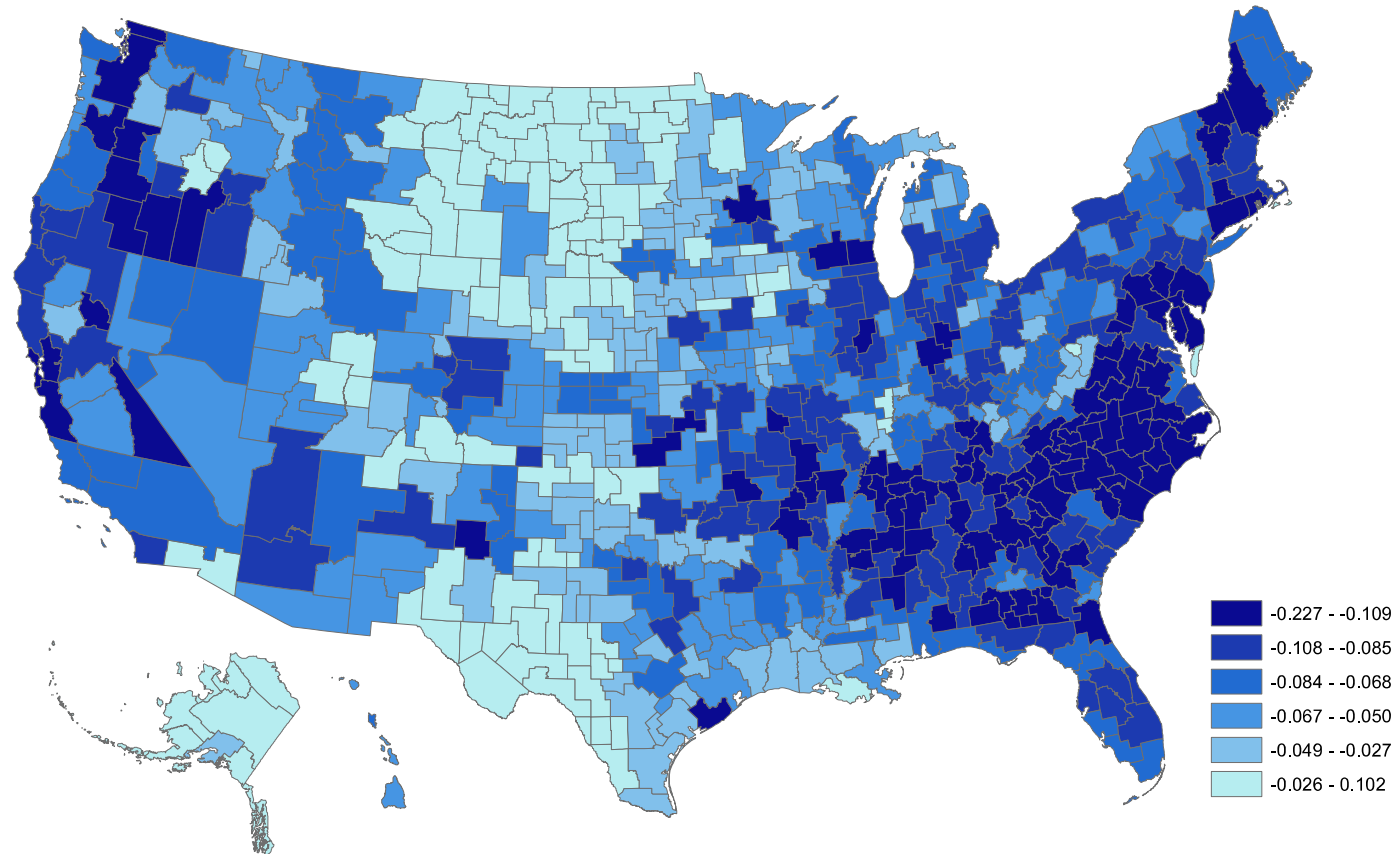
Changes in the Prime-Age LFPR Across Local Labor Markets 1990-2016



Notes: ACS and Census data, author's calculations.



Changes in the Share of Prime-Age Individuals in Routine Occupations, Local Labor Markets, 1990-2016



Notes: ACS and Census data, author's calculations.



The Relationship

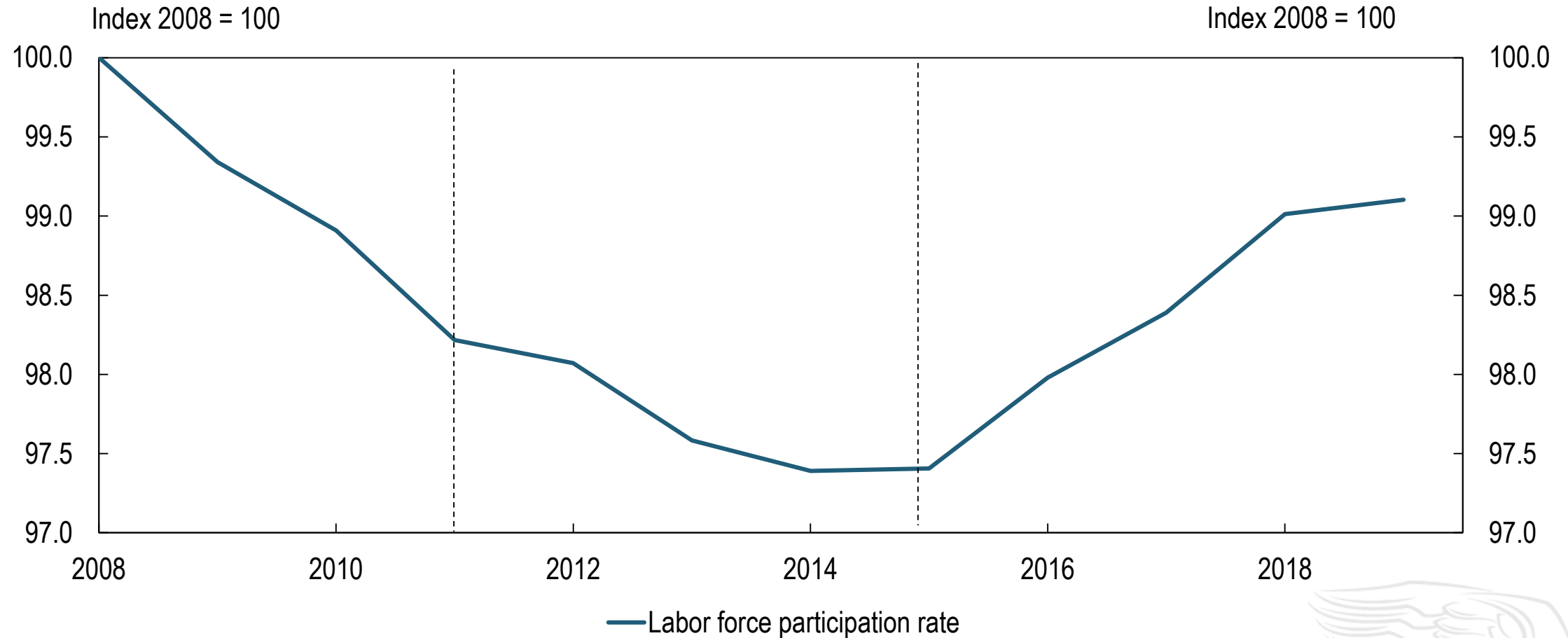
- “Disappearing Routine Occupations and Declining Prime-Age Labor Force Participation Rate,” Tuzemen, 2019.
- Main results:
 - Local labor markets with larger declines in routine employment experienced larger declines in the prime-age labor force participation rates.
 - Disappearing routine employment mostly reduced the labor force participation rates of prime-age men and women without a college (bachelor’s) degree.



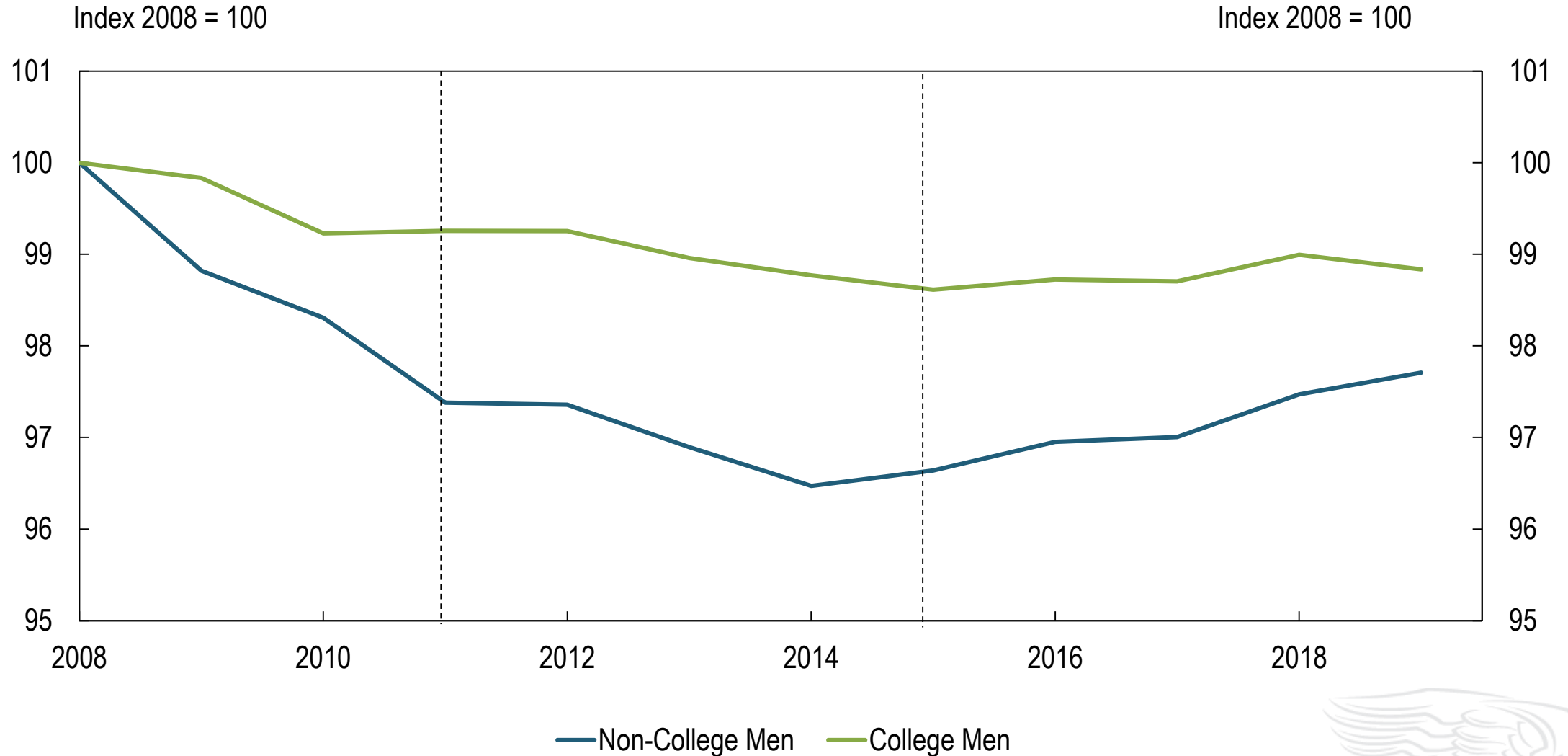
The Decline in the Prime-Age Labor Force Participation Rate During the Great Recession



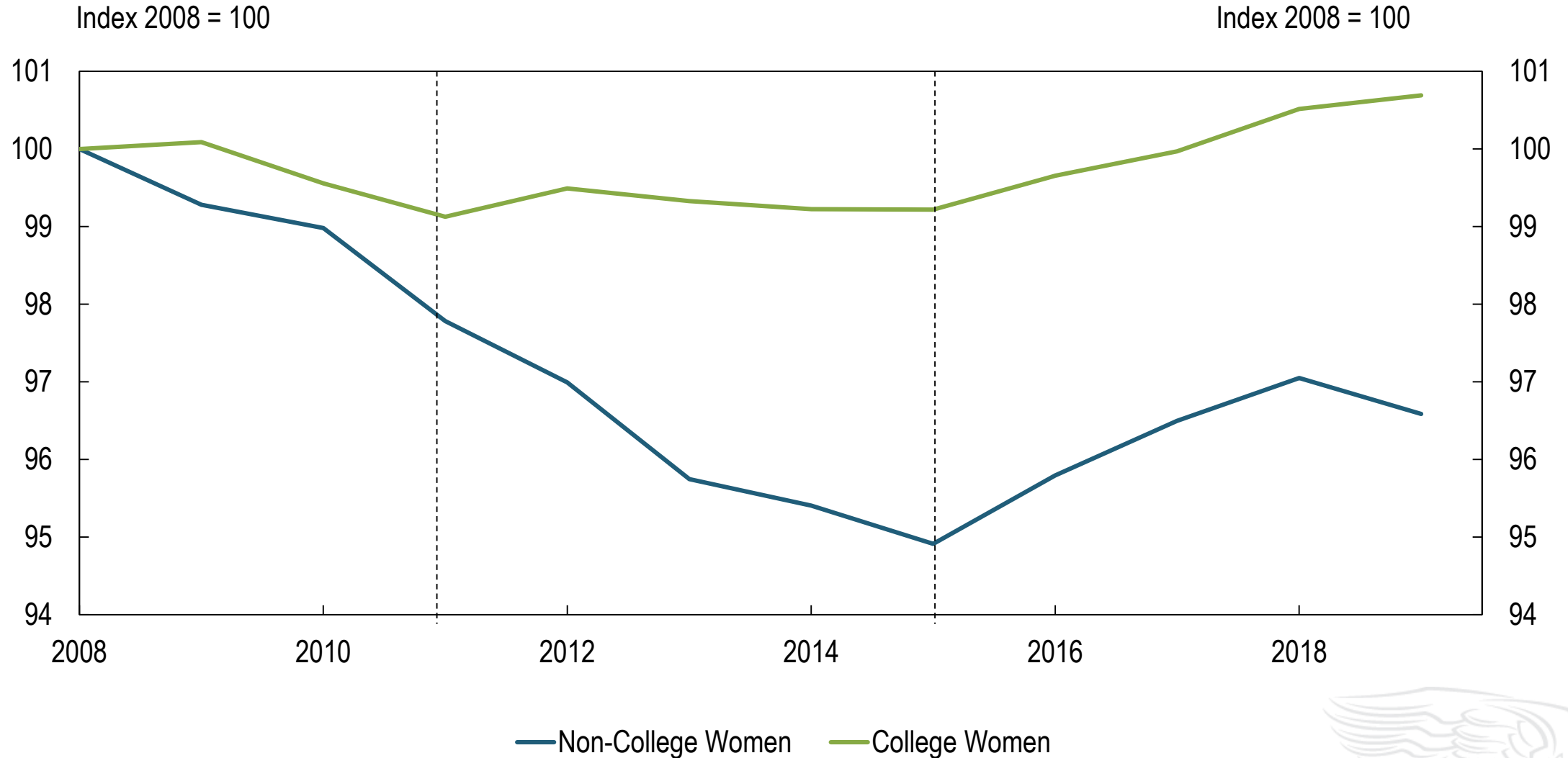
Labor Market Developments for Prime-Age Individuals since the Great Recession



LFPR of Prime-Age Men



LFPR of Prime-Age Women



Sources: CPS and authors' calculations



Employment Changes Since the Great Recession

Changes in Prime-Age Employment by Sex and Education Groups

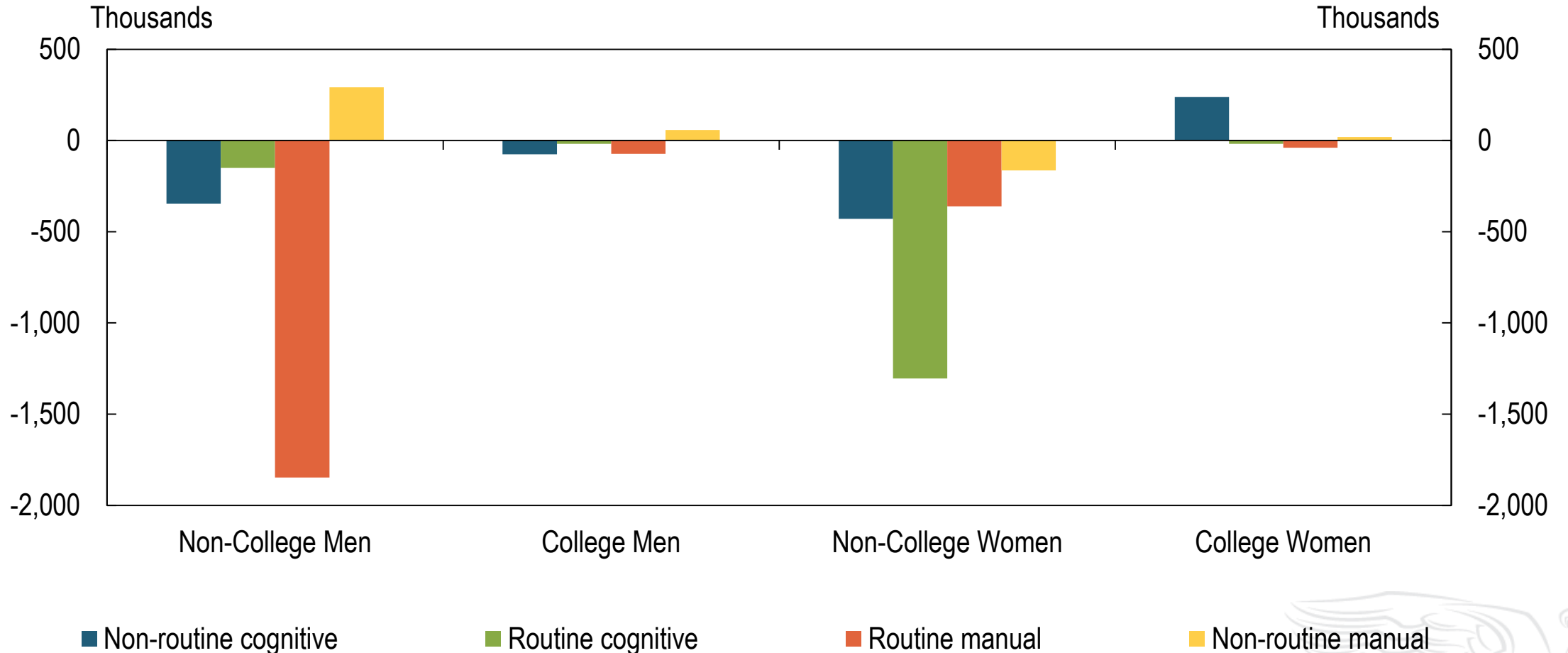
Employment changes	Non-college men	College men	Non-college women	College women
Recession (2008–11)	-2,848,038	-385,318	-2,550,715	76,456
Early recovery (2011–15)	-16,977	1,701,656	-949,029	2,316,496
Late recovery (2015–19)	-38,416	1,986,352	-815,653	2,795,598

Note: Employment changes are calculated using annual averages for the corresponding years.

Sources: CPS and authors' calculations.



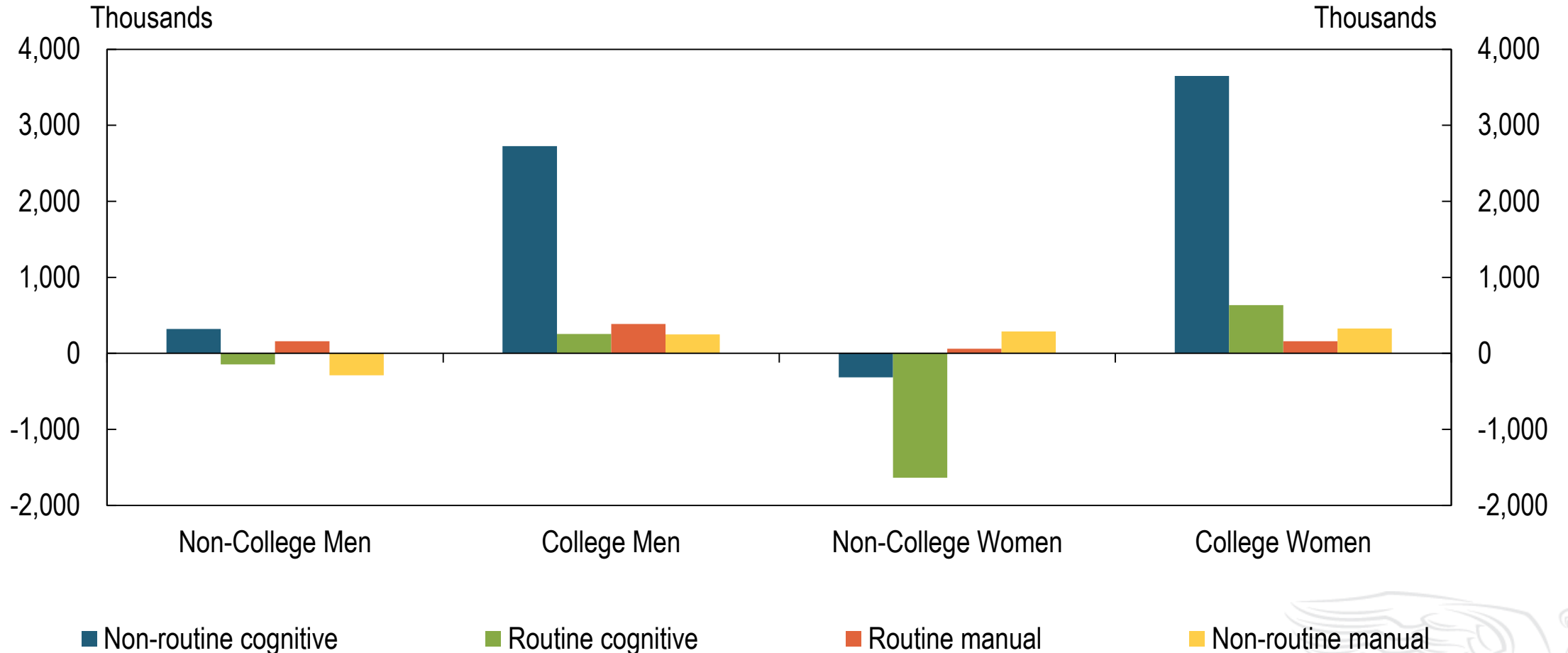
Majority of Job Losses were in Routine Occupations (2008-2011)



Sources: CPS and authors' calculations



Majority of Job Gains were in Non-Routine Cognitive Occupations (2011-2019)



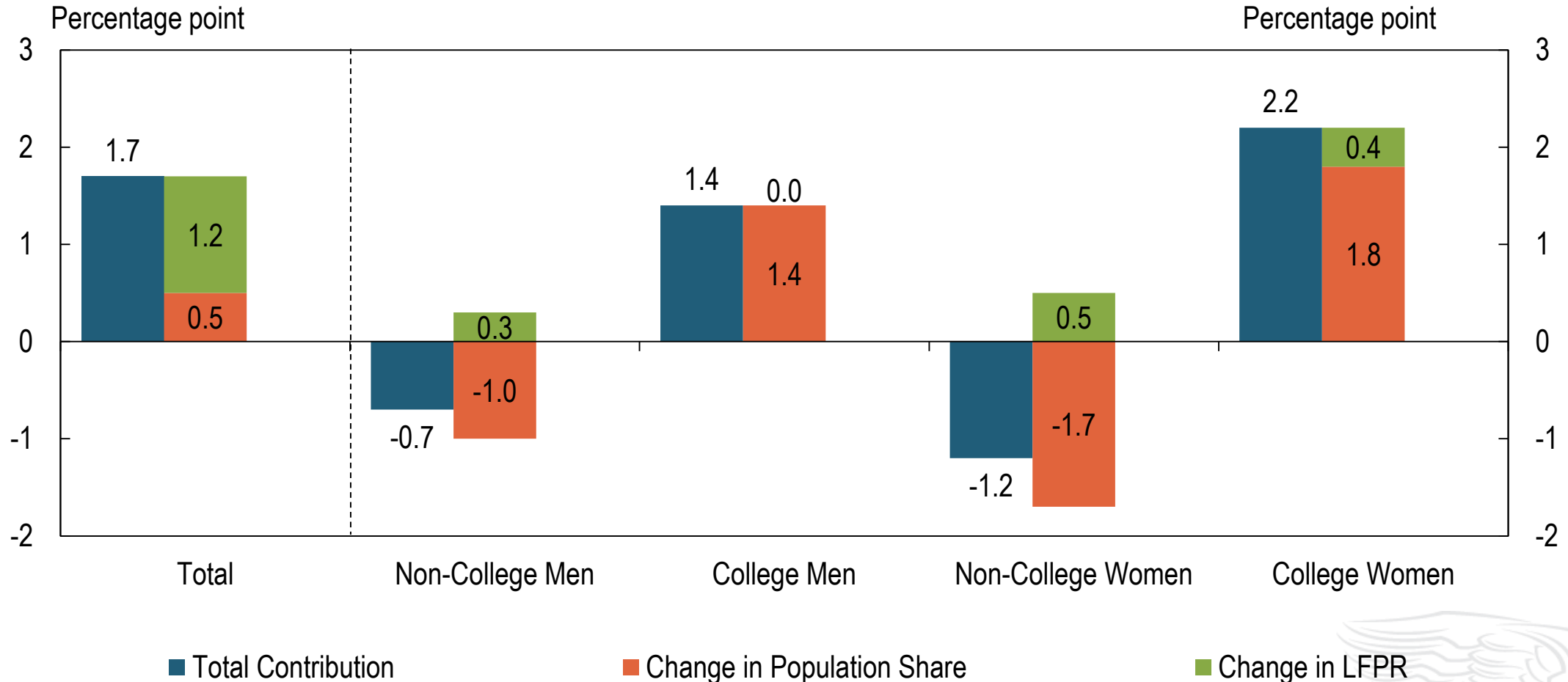
Sources: CPS and authors' calculations



The Recent Increase in the Prime-Age Labor Force Participation Rate



College Educated Women Drove the Recent Increase in the Prime-Age Labor Force Participation Rate (2015-2019)

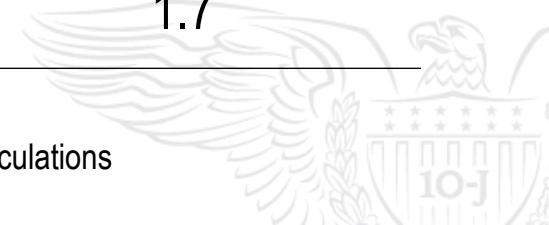


Sources: CPS and authors' calculations



Prime-Age Women's Labor Force Participation Rates Remain Lower than Their Male Counterparts

Labor force participation rate	2008 (percent)	2015 (percent)	2019 (percent)	Change 2008-2019 (percentage point)	Change 2015-2019 (percentage point)
Aggregate	83.1	80.9	82.6	-0.5	1.7
Non-college men	88.4	85.5	86.4	-2.0	0.9
College men	95.2	93.9	94.1	-1.1	0.2
Non-college women	72.4	68.7	70.4	-2.0	1.7
College women	83.1	82.4	84.1	1.0	1.7



Conclusion

- Disappearing routine occupations have negatively impacted employment and labor force participation among prime-age men and women without a college degree.
- College-educated women have been driving the increase in the prime-age labor force participation rate in 2015-2019.
- Although labor force participation rates have been increasing among prime-age women, they still remain below those of their male counterparts.







FEDERAL RESERVE BANK OF PHILADELPHIA

Preparing Students for a Workforce in Transition: Insights on Labor Market Trends and Opportunities

Keith Wardrip

Community Development Research Manager

Federal Reserve Bank of Philadelphia

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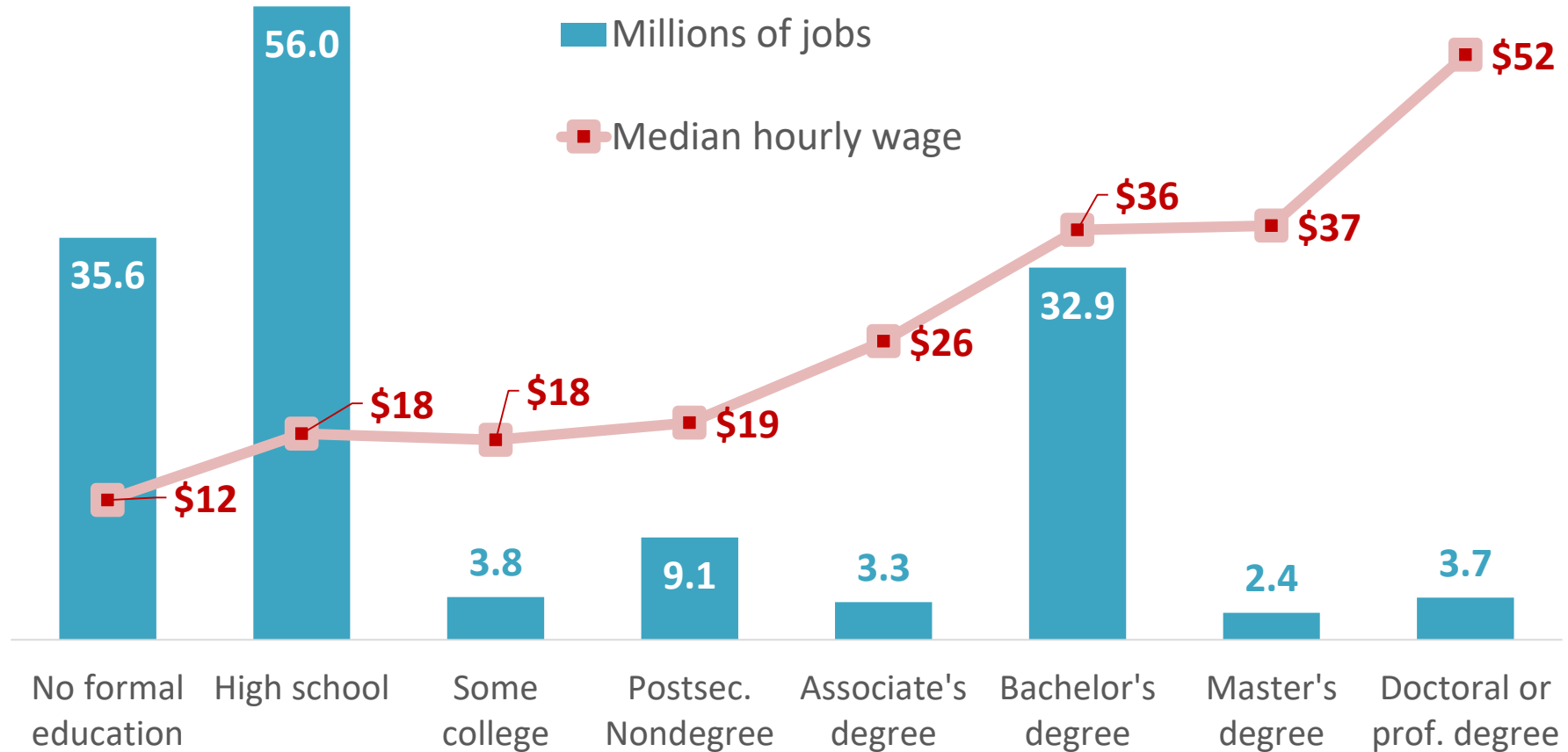
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The Landscape of Low-Wage Employment



Employment by typical entry-level education



Source: Employment and median hourly wage by typical entry-level educational requirement from BLS Occupational Employment Statistics (May 2019), available at <https://www.bls.gov/oes/additional.htm>.



The three largest occupations in the U.S.

Totaling 11.9 million jobs, these three occupations account for **more than three times** the number of jobs requiring a doctoral degree.

Retail salespersons (\$12.14/hour)



Fast food workers (\$10.93/hour)



Cashiers (\$11.37/hour)

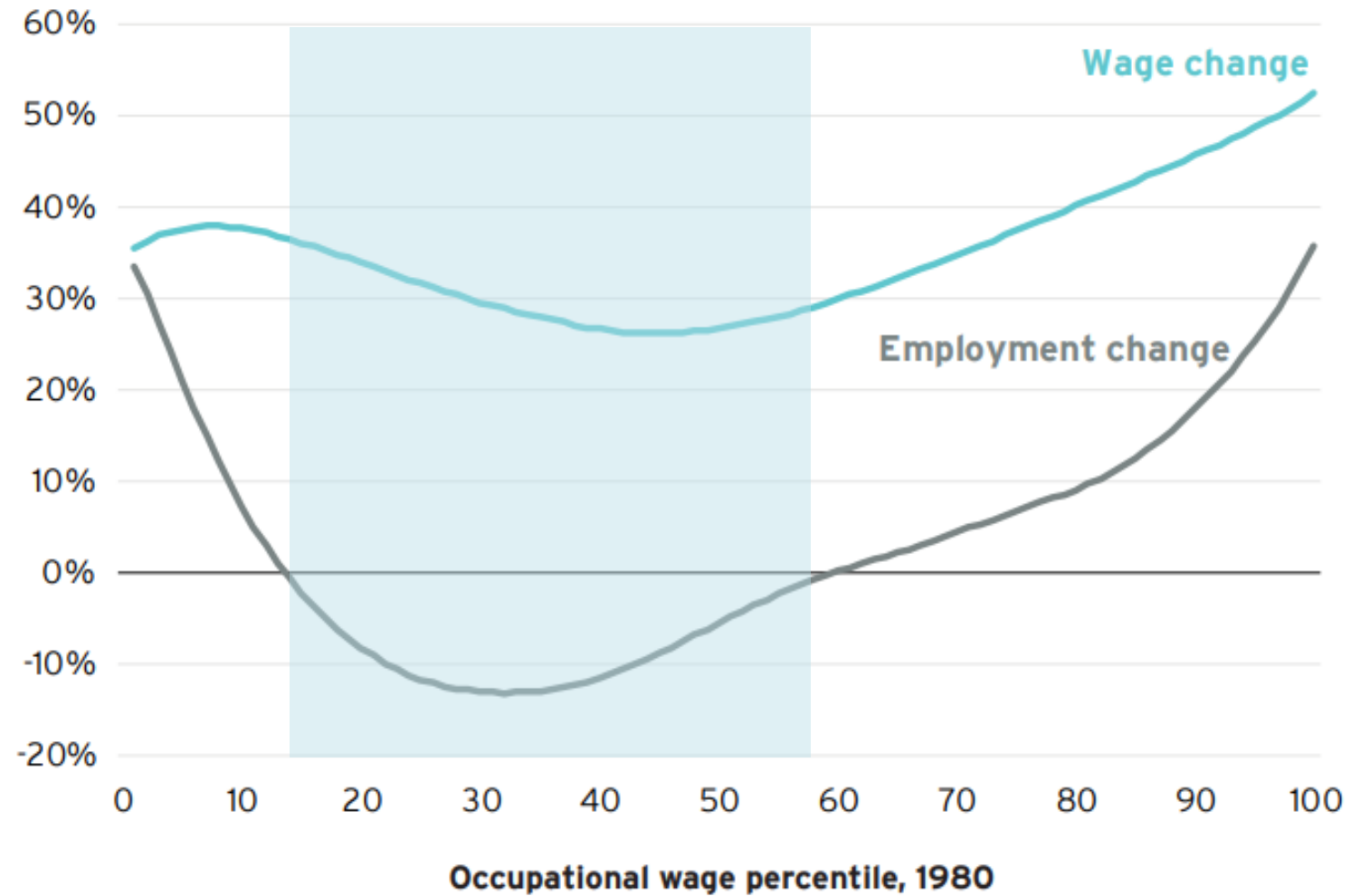


Source: BLS Occupational Employment Statistics (May 2019).



Declining middle-wage employment

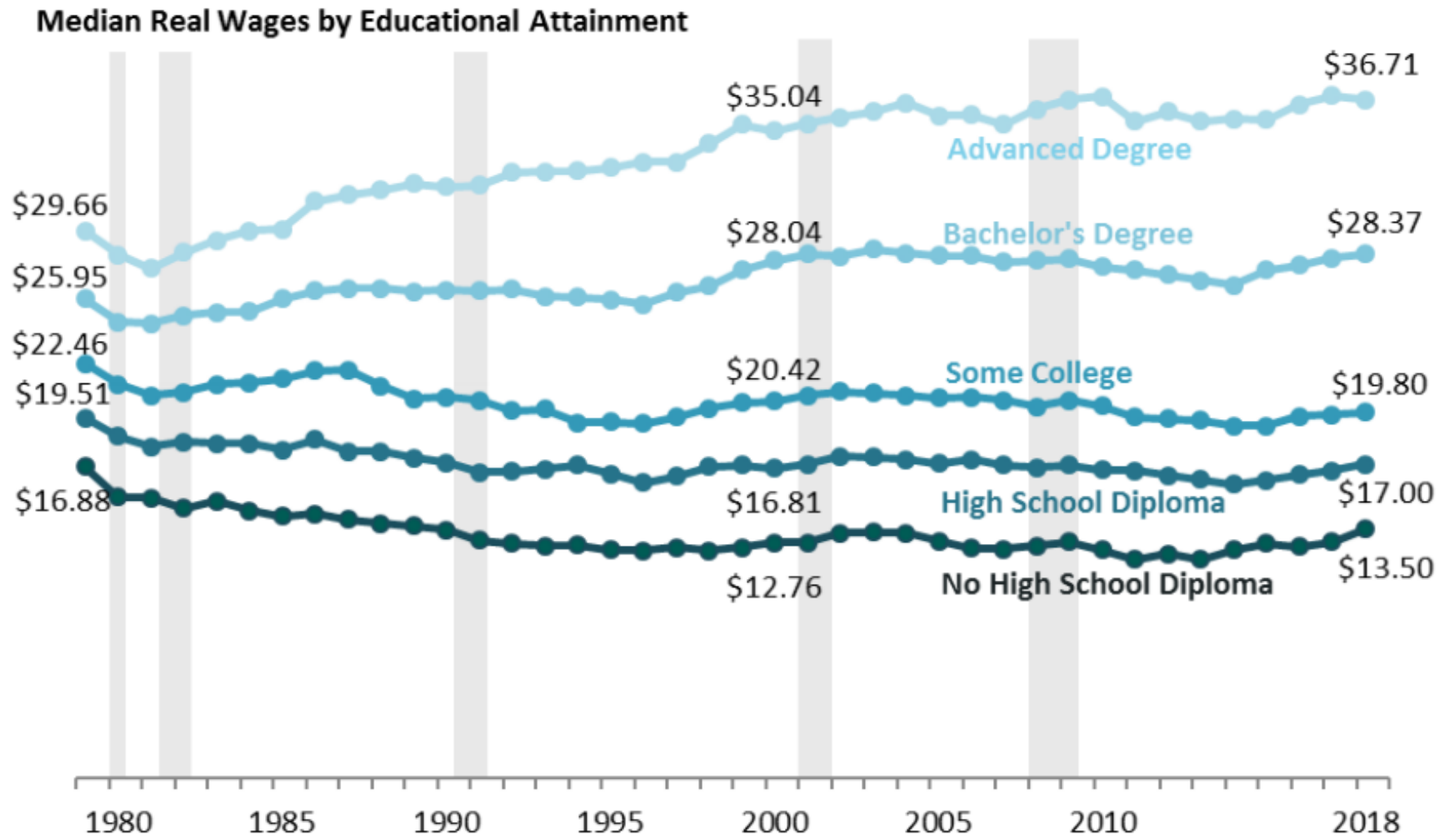
Percent change, United States, 1980-2016



Source: Chart from Mark Muro, Robert Maxim, and Jacob Whiton, *Automation and Artificial Intelligence: How Machines Are Affecting People and Places*, Washington, DC: Metropolitan Policy Program at Brookings, 2019.



Declining wages for noncollege workers

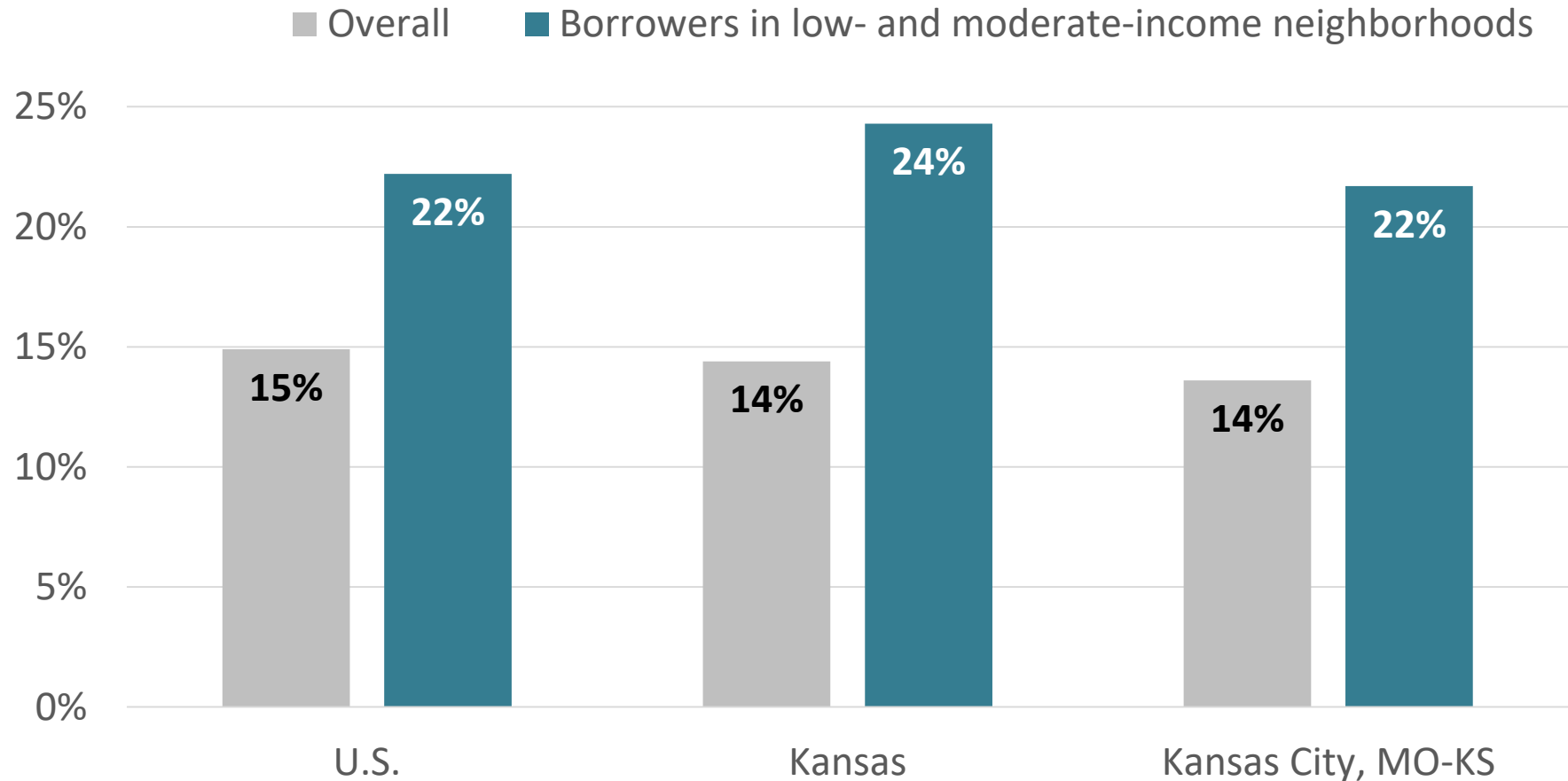


Sources: Chart from Congressional Research Service, "Real Wage Trends, 1979 to 2018," *CRS Report R45090-Version 12-Updated*, 2019; created using Current Population Survey Outgoing Rotation Group data (1979–2018).



Difficulty repaying student loans

Share of Student Loan Borrowers with Severely Delinquent Debt



Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel (December 1, 2019), tabulated by the Federal Reserve Banks of Philadelphia and Minneapolis and accessed via the Consumer Credit Explorer (accessed June 22, 2020).



Recap

- The majority of jobs in the U.S. do not typically require an entry-level education greater than a high school diploma.
 - These jobs do not generally pay well.
- Middle-wage jobs declined over the last several decades, shifting some workers without a college education into low-wage work.
- Noncollege workers have seen their real wages decline over the same time period.
- As it's currently priced and financed, college is clearly not working for a substantial share of learners.
- The economic fallout from the covid-19 pandemic has exacerbated existing inequalities in the labor market.



Opportunity Occupations in Mid-America's Metro Areas



Background

Opportunity Employment

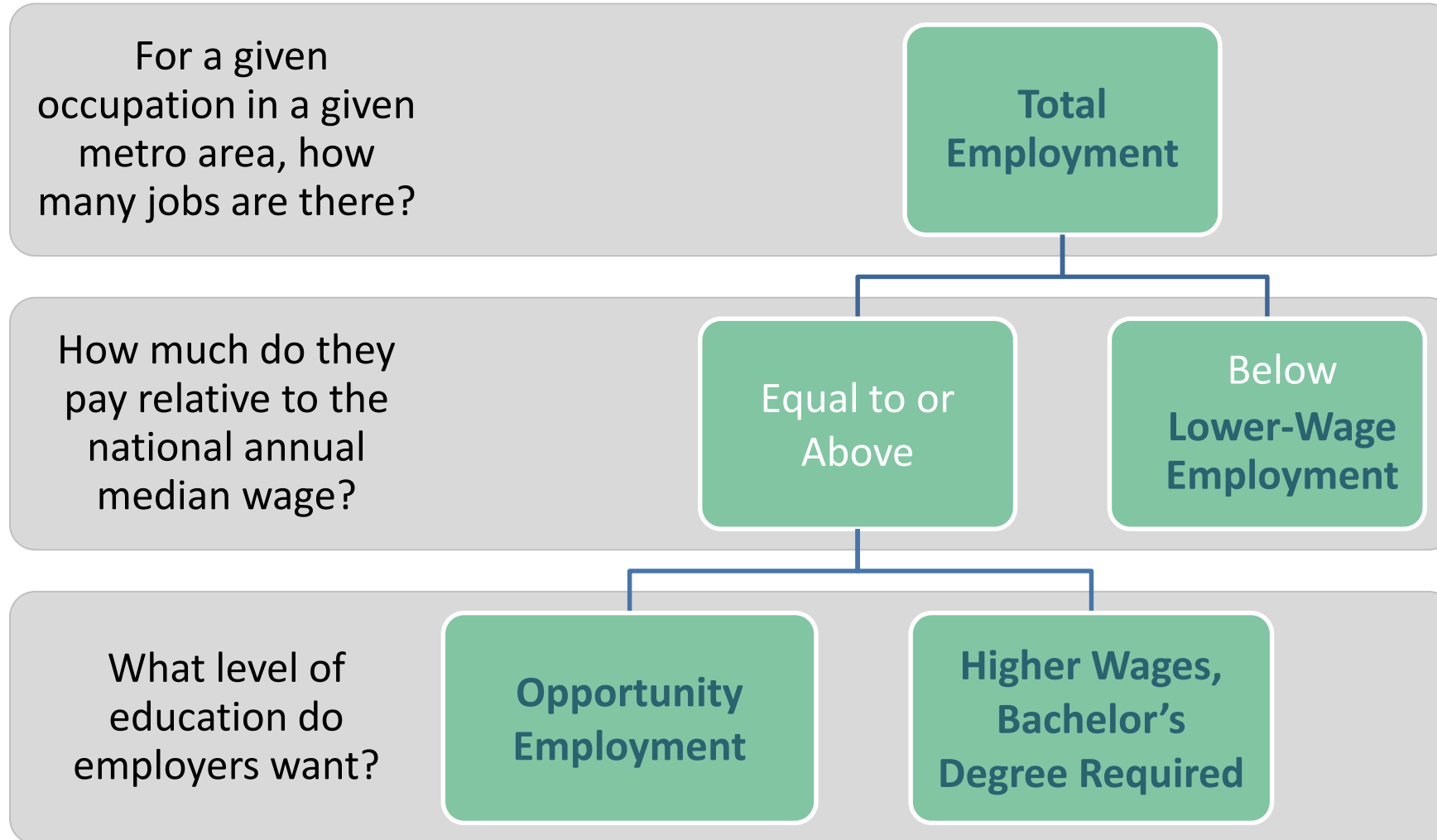
- Employment accessible to workers without a bachelor's degree and typically paying above the national annual median wage (\$37,690), adjusted for cost-of-living differences

Opportunity Occupation

- An occupation characterized by work that frequently meets the definition of opportunity employment

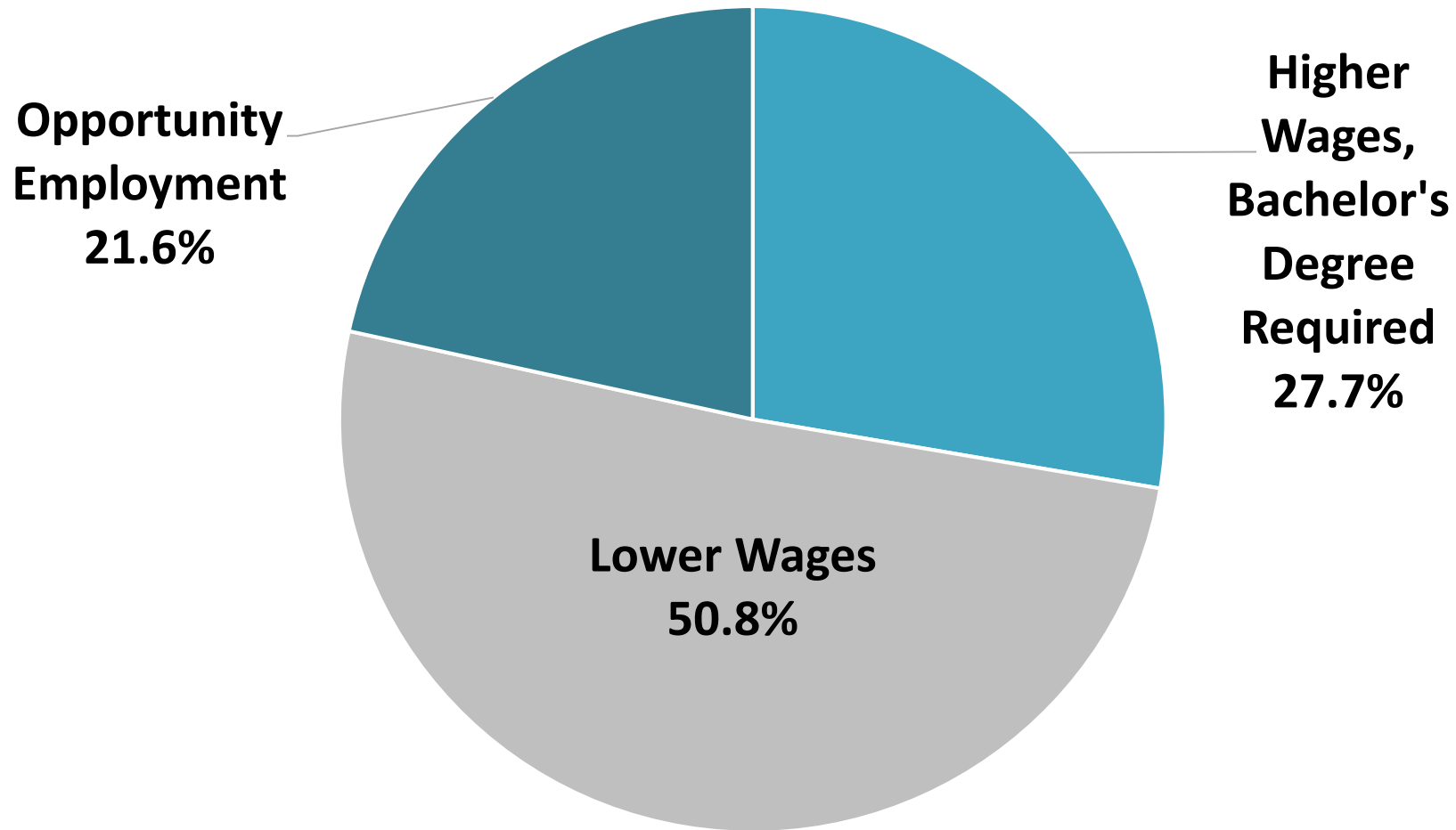


Classifying an occupation's employment





How is employment distributed across the largest metro areas?



Source: Kyle Fee, Keith Wardrip, and Lisa Nelson, *Opportunity Occupations Revisited: Exploring Employment for Sub-Baccalaureate Workers Across Metros and Over Time*, Federal Reserve Banks of Cleveland and Philadelphia, 2019.



Is opportunity employment evenly distributed across metro areas?

We find generally higher levels of opportunity employment in smaller, Midwestern metros...

...and lower levels in larger, high-cost places as well as in economies dominated by low-wage work.

Toledo, OH



New York City



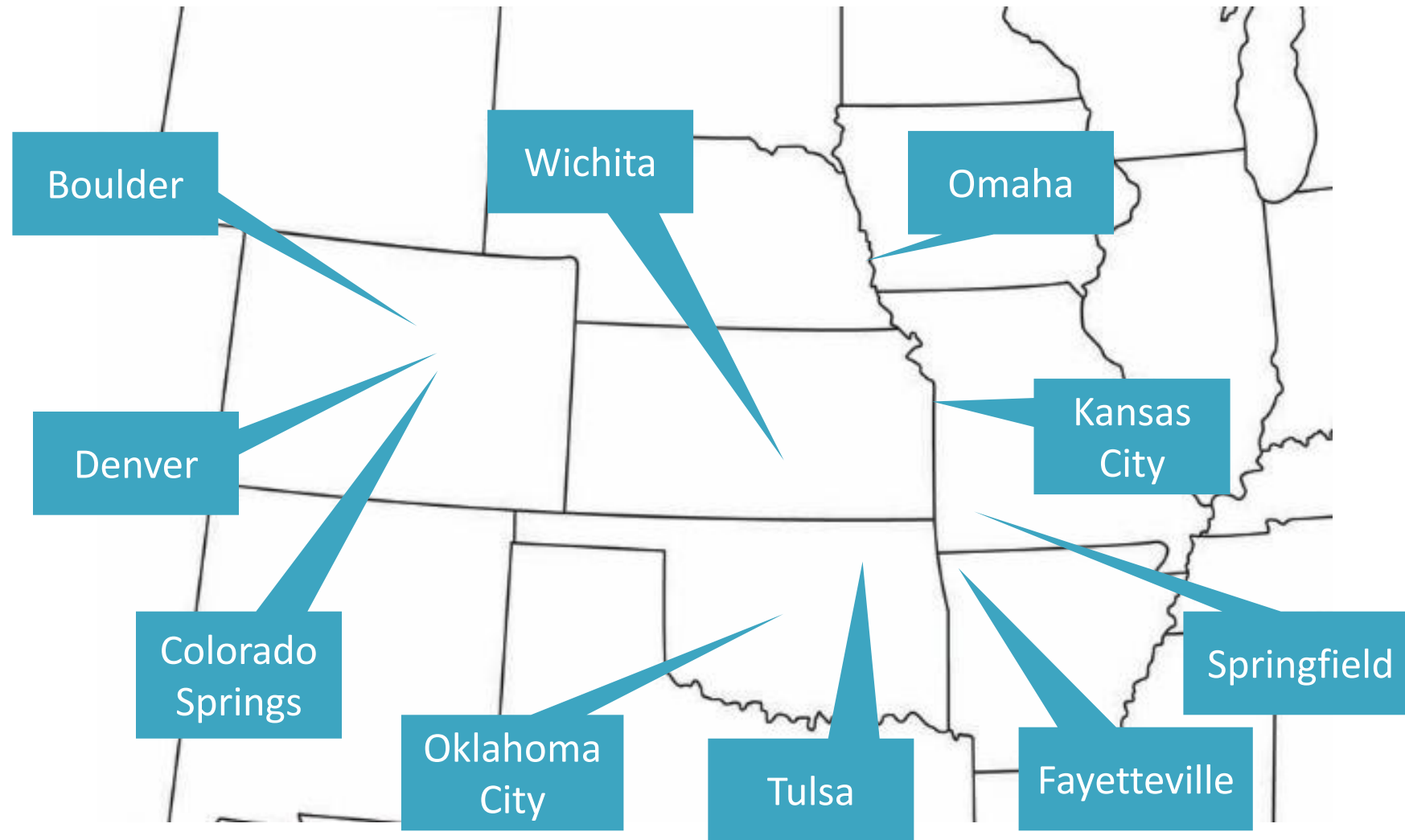
Myrtle Beach, SC



Source: Kyle Fee, Keith Wardrip, and Lisa Nelson, *Opportunity Occupations Revisited: Exploring Employment for Sub-Baccalaureate Workers Across Metros and Over Time*, Federal Reserve Banks of Cleveland and Philadelphia, 2019.

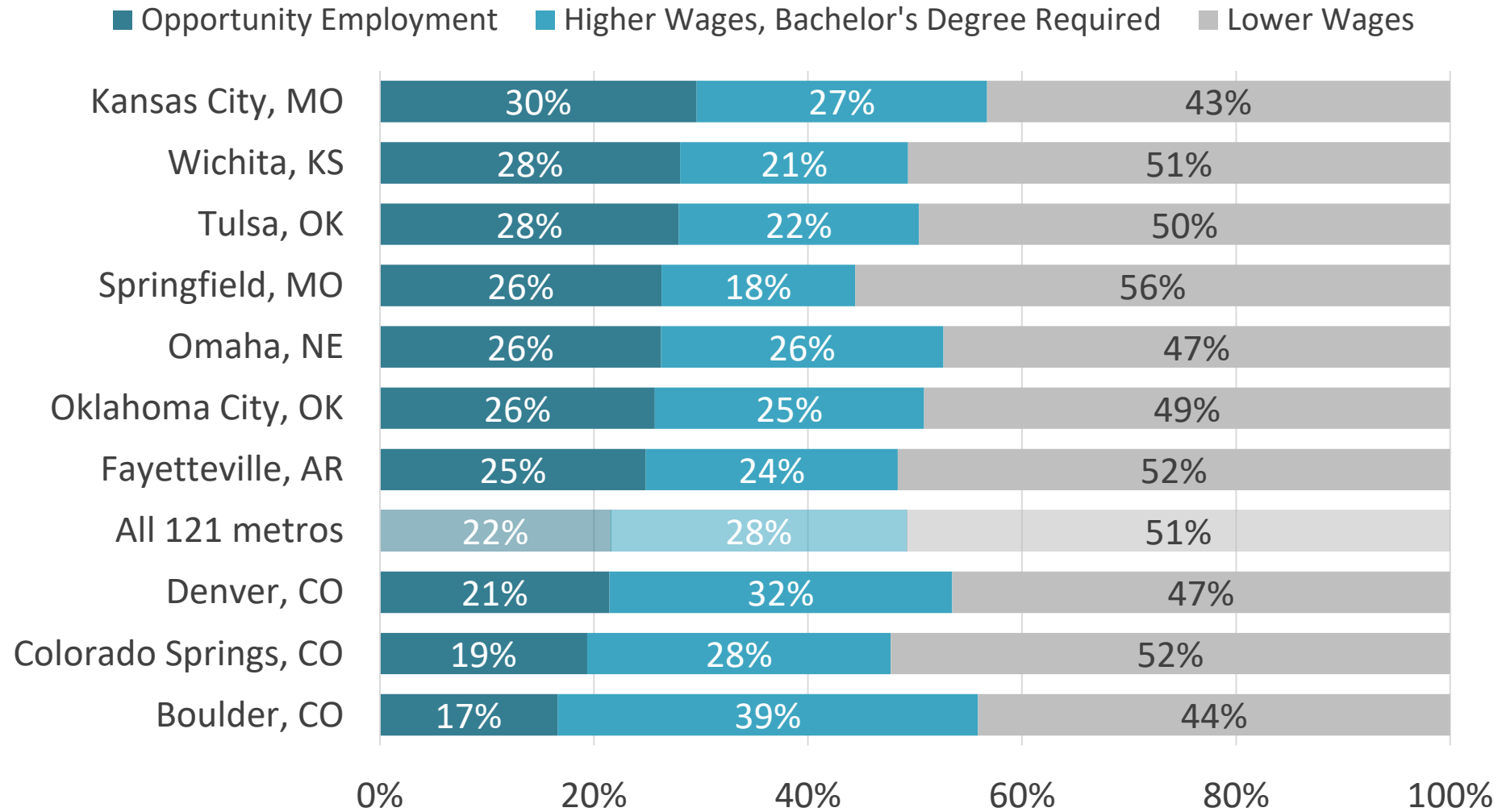


Mid-America's metro areas





Is there opportunity in mid-America's metros?



Source: Kyle Fee, Keith Wardrip, and Lisa Nelson, *Opportunity Occupations Revisited: Exploring Employment for Sub-Baccalaureate Workers Across Metros and Over Time*, Federal Reserve Banks of Cleveland and Philadelphia, 2019.



Which are the most prevalent opportunity occupations?

Largest Opportunity Occupations in 10 Mid-America Metro Areas	Opportunity Employment	Mid-America Rank	National Rank	Difference
Heavy and Tractor-Trailer Truck Drivers	77,370	1	2	+1
Registered Nurses	72,787	2	1	-1
Bookkeeping, Accounting, and Auditing Clerks	36,560	3	3	0
Supervisors of Retail Sales Workers	30,438	4	13	+9
Sales Representatives, Services	26,631	5	12	+7
General and Operations Managers	26,420	6	9	+3
Electricians	25,120	7	6	-1
Sales Representatives, Wholesale and Mfg.	24,289	8	10	+2
Automotive Service Technicians	23,450	9	14	+5
Carpenters	23,180	10	5	-5
Supervisors of Office Workers	22,724	11	8	-3
Licensed Practical Nurses	20,380	12	7	-5
Maintenance and Repair Workers	19,970	13	4	-9
Plumbers, Pipefitters, and Steamfitters	18,440	14	15	+1
Secretaries and Administrative Assistants	18,023	15	16	+1

Sources: Author's calculations using data from BLS Occupational Employment Statistics (May 2017), Burning Glass Technologies (2015–2017), BEA Regional Price Parities (2016), and American Community Survey Five-Year Public Use Microdata Sample (2012–2016).



Shameless plug

Fact sheets for each of the 121 metro areas in our analysis can be found at:

<https://www.investinwork.org/opportunity-occupations>

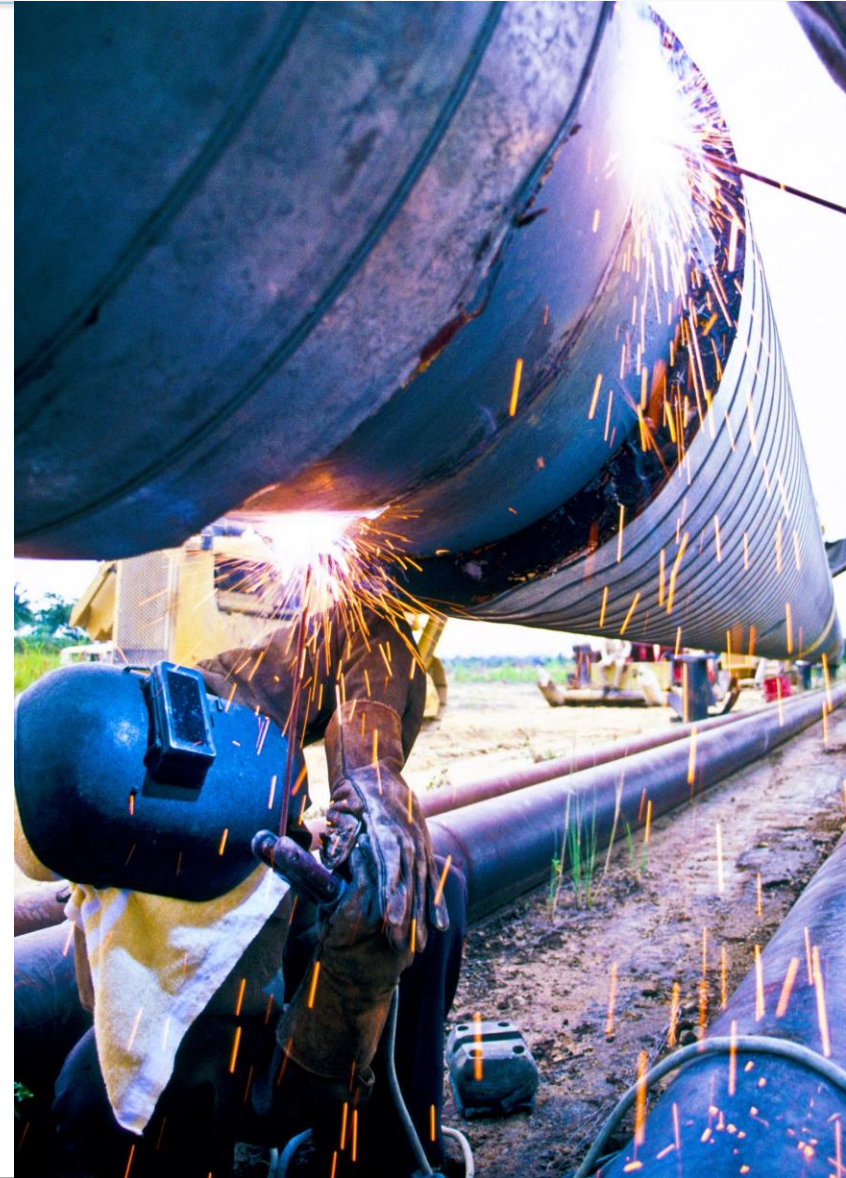




Brief summary

- Low-wage work is a dominant and growing segment of the U.S. economy.
- A four-year college education — or more — is justifiably required by scores of professions.
- Automation and technological change have the potential to further reduce the supply of middle-skills jobs.
- Even so, roughly one in five jobs in metropolitan economies today do not require a bachelor's degree and still pay a decent wage.

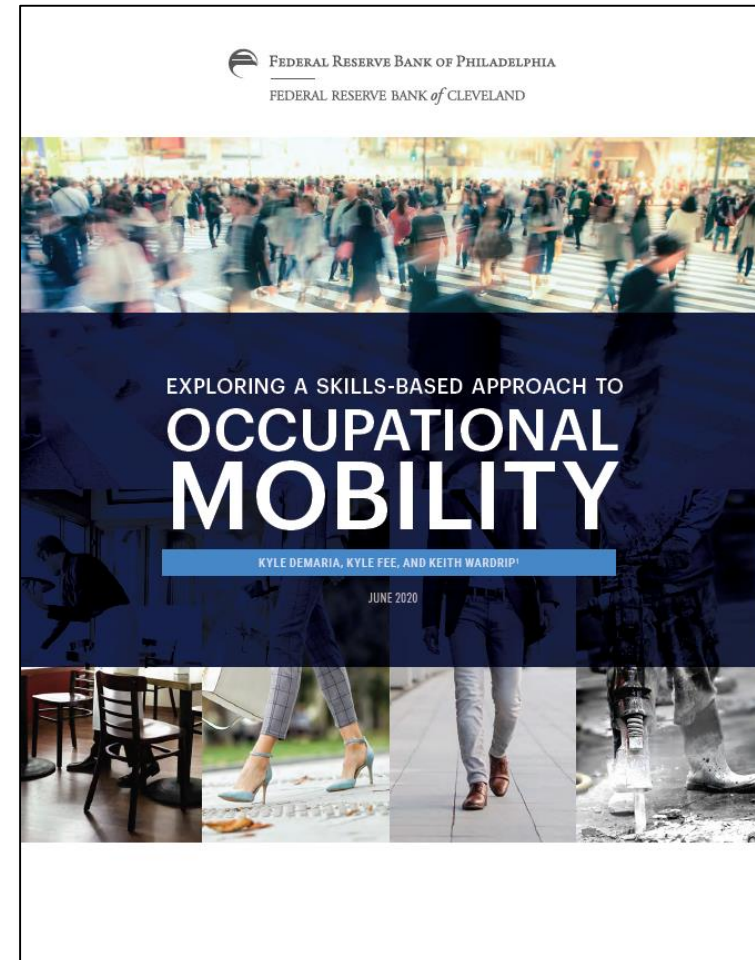
What strategies are best suited to increase a region's level of opportunity employment and to create a pipeline of workers to fill these jobs?





Ideas for consideration

- Using targeted economic development strategies
- Pursuing a skills-based approach to occupational mobility
 - Skills-based hiring
 - Work-based learning
 - Incumbent worker training



Kyle DeMaria, Kyle Fee, and Keith Wardrip. *Exploring a Skills-Based Approach to Occupational Mobility*. Federal Reserve Banks of Philadelphia and Cleveland, 2020.



Thank you

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QUESTIONS



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