Professional Development Webinars for Educators
Summer 2020
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.
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.
Long-Term Trends in the U.S. Labor Market

July 8, 2020

Didem Tuzemen
Senior Economist, Federal Reserve Bank of Kansas City
Disclaimer

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

- Employed: 159 million
- Unemployed: 6 million
- Not in the labor force: 95 million

<table>
<thead>
<tr>
<th>Metric</th>
<th>Feb-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment Rate</td>
<td>3.5 %</td>
</tr>
<tr>
<td>Labor Force Participation Rate</td>
<td>63.4 %</td>
</tr>
<tr>
<td>Employment-to-Population Ratio</td>
<td>61.1 %</td>
</tr>
</tbody>
</table>

Sources: BLS, Haver Analytics
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

- 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.

Figure 1: Prime-Age Labor Force Participation Rate, 1948-2018
Notes: BLS, Haver Analytics. Data are monthly and seasonally adjusted.
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.”

<table>
<thead>
<tr>
<th></th>
<th>1990 (percent)</th>
<th>2000 (percent)</th>
<th>2015 (percent)</th>
<th>2018 (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-routine Cognitive Occupations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management and Business Operations &amp; Finance</td>
<td>11.64</td>
<td>13.91</td>
<td>14.65</td>
<td>15.11</td>
</tr>
<tr>
<td>Professionals</td>
<td>17.46</td>
<td>20.14</td>
<td>23.55</td>
<td>24.35</td>
</tr>
<tr>
<td><strong>Routine Cognitive Occupations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>11.16</td>
<td>11.43</td>
<td>10.19</td>
<td>9.78</td>
</tr>
<tr>
<td>Office &amp; Administrative Support</td>
<td>17.41</td>
<td>14.95</td>
<td>13.02</td>
<td>12.22</td>
</tr>
<tr>
<td><strong>Routine Manual Occupations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Trades &amp; Extraction</td>
<td>5.28</td>
<td>5.35</td>
<td>4.76</td>
<td>5.07</td>
</tr>
<tr>
<td>Production</td>
<td>11.24</td>
<td>8.85</td>
<td>6.22</td>
<td>6.02</td>
</tr>
<tr>
<td>Installation, Maintenance &amp; Repair</td>
<td>3.99</td>
<td>3.83</td>
<td>3.49</td>
<td>3.33</td>
</tr>
<tr>
<td>Transportation &amp; Material Moving</td>
<td>7.14</td>
<td>6.73</td>
<td>6.31</td>
<td>6.52</td>
</tr>
<tr>
<td><strong>Non-routine Manual Occupations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>14.67</td>
<td>14.82</td>
<td>17.80</td>
<td>17.59</td>
</tr>
</tbody>
</table>

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


• 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

Sources: CPS and authors’ calculations
LFPR of Prime-Age Men

Index 2008 = 100

Sources: CPS and authors’ calculations
LFPR of Prime-Age Women

Index 2008 = 100

Sources: CPS and authors' calculations
Employment Changes Since the Great Recession

## Changes in Prime-Age Employment by Sex and Education Groups

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

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

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

Sources: CPS and authors’ calculations
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.
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
The views expressed here are those of the presenter and do not necessarily represent the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.
The Landscape of Low-Wage Employment
Employment by typical entry-level education

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.

**Fast food workers ($10.93/hour)**

**Cashiers ($11.37/hour)**

**Retail salespersons ($12.14/hour)**

Declining middle-wage employment

Declining wages for noncollege workers

Difficulty repaying student loans

Share of Student Loan Borrowers with Severely Delinquent Debt

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Borrowers in low- and moderate-income neighborhoods</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>15%</td>
<td>22%</td>
</tr>
<tr>
<td>Kansas</td>
<td>14%</td>
<td>24%</td>
</tr>
<tr>
<td>Kansas City, MO-KS</td>
<td>14%</td>
<td>22%</td>
</tr>
</tbody>
</table>

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
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

An occupation characterized by work that frequently meets the definition of opportunity employment
What level of education do employers want? How much do they pay relative to the national annual median wage? For a given occupation in a given metro area, how many jobs are there?
How is employment distributed across the largest metro areas?

- **Lower Wages**: 50.8%
- **Higher Wages, Bachelor's Degree Required**: 27.7%
- **Opportunity Employment**: 21.6%

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.

Mid-America’s metro areas

- Boulder
- Wichita
- Omaha
- Kansas City
- Springfield
- Colorado Springs
- Oklahoma City
- Tulsa
- Fayetteville
Is there opportunity in mid-America’s metros?

<table>
<thead>
<tr>
<th>Location</th>
<th>Opportunity Employment</th>
<th>Higher Wages, Bachelor's Degree Required</th>
<th>Lower Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas City, MO</td>
<td>30%</td>
<td>27%</td>
<td>43%</td>
</tr>
<tr>
<td>Wichita, KS</td>
<td>28%</td>
<td>21%</td>
<td>51%</td>
</tr>
<tr>
<td>Tulsa, OK</td>
<td>28%</td>
<td>22%</td>
<td>50%</td>
</tr>
<tr>
<td>Springfield, MO</td>
<td>26%</td>
<td>18%</td>
<td>56%</td>
</tr>
<tr>
<td>Omaha, NE</td>
<td>26%</td>
<td>26%</td>
<td>47%</td>
</tr>
<tr>
<td>Oklahoma City, OK</td>
<td>26%</td>
<td>25%</td>
<td>49%</td>
</tr>
<tr>
<td>Fayetteville, AR</td>
<td>25%</td>
<td>24%</td>
<td>52%</td>
</tr>
<tr>
<td>All 121 metros</td>
<td>22%</td>
<td>28%</td>
<td>51%</td>
</tr>
<tr>
<td>Denver, CO</td>
<td>21%</td>
<td>32%</td>
<td>47%</td>
</tr>
<tr>
<td>Colorado Springs, CO</td>
<td>19%</td>
<td>28%</td>
<td>52%</td>
</tr>
<tr>
<td>Boulder, CO</td>
<td>17%</td>
<td>39%</td>
<td>44%</td>
</tr>
</tbody>
</table>

Which are the most prevalent opportunity occupations?

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

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

https://www.investinwork.org/opportunity-occupations
• 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
  o Skills-based hiring
  o Work-based learning
  o Incumbent worker training
Thank you

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