Lower-Wage Work and Occupational Mobility

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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 Philadelphia or the Federal Reserve System.
Most jobs require very little formal education

The three largest occupations in the U.S. pay very low wages

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)

Middle-wage jobs have declined since 1980...

…and real wages have fallen for noncollege workers

Student loan delinquency rates are high, particularly for borrowers in low- and moderate-income neighborhoods.

Share of Student Loan Borrowers with Severely Delinquent Debt

- **Overall**
  - U.S.: 15%
  - Pennsylvania: 14%
  - Philadelphia-Camden-Wilmington, PA-NJ-DE-MD: 14%

- **Borrowers in low- and moderate-income neighborhoods**
  - U.S.: 22%
  - Pennsylvania: 23%
  - Philadelphia-Camden-Wilmington, PA-NJ-DE-MD: 24%

The labor market offers *some* economic opportunity for noncollege workers

- Opportunity employment — defined as employment accessible to workers without a bachelor’s degree and typically paying above the national annual median wage — accounts for 21.6 percent of total employment.

- Some of the largest opportunity occupations, including a number in healthcare and the skilled trades, are expected to experience above-average growth in the coming years.

However, there are persistent and historical challenges to economic mobility.

- Stickiness of lower-wage work
- Consistent concerns over skills gaps
- Workers displaced by the pandemic
Our guiding principles, data, and methods

**Occupations Defined by Tasks and Skills**
- An occupation can be thought of as a bundle of tasks, for which a worker needs a certain set of skills.
- Occupations differ in the types of skills they require and the frequency with which those skills are required.

**Skills Described in Online Job Ads**
- We analyzed nearly 60 million online job advertisements posted between 2014 and 2018.
- Our analysis covers the 33 metro areas with at least 1 million jobs.

**Potential Transitions...**
- Occur within and between lower-wage and opportunity occupations.
- Require at least a 10 percent pay increase but not a bachelor’s degree.
- Involve destinations projected to remain stable or grow nationally between 2018 and 2028.

**Top Transitions...**
- Represent potential transitions with a similarity score greater than 0.75.

Skills can be viewed as a bridge rather than as a gap

- Overall, we find a high degree of similarity between the skills required for lower-wage occupations and the skills required for opportunity occupations.

<table>
<thead>
<tr>
<th>Skill</th>
<th>Overall intensity</th>
<th>Overall Rank</th>
<th>Lower-wage occupations Rank</th>
<th>Opportunity occupations Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication skills</td>
<td>26.9%</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Customer service</td>
<td>17.7%</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Physical abilities</td>
<td>14.3%</td>
<td>3</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Organizational skills</td>
<td>13.1%</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Teamwork/collaboration</td>
<td>11.8%</td>
<td>5</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Scheduling</td>
<td>10.9%</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Detail-oriented</td>
<td>10.2%</td>
<td>7</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Sales</td>
<td>9.9%</td>
<td>8</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Microsoft Excel</td>
<td>9.4%</td>
<td>9</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Computer literacy</td>
<td>9.3%</td>
<td>10</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Problem solving</td>
<td>8.8%</td>
<td>11</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>Writing</td>
<td>8.7%</td>
<td>12</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Repair</td>
<td>8.4%</td>
<td>13</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>English</td>
<td>8.0%</td>
<td>14</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>Microsoft Office</td>
<td>7.7%</td>
<td>15</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>Planning</td>
<td>7.7%</td>
<td>16</td>
<td>36</td>
<td>14</td>
</tr>
<tr>
<td>Cleaning</td>
<td>7.0%</td>
<td>17</td>
<td>5</td>
<td>54</td>
</tr>
<tr>
<td>Building effective relationships</td>
<td>6.7%</td>
<td>18</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Teaching</td>
<td>6.4%</td>
<td>19</td>
<td>30</td>
<td>64</td>
</tr>
<tr>
<td>Research</td>
<td>6.1%</td>
<td>20</td>
<td>47</td>
<td>19</td>
</tr>
</tbody>
</table>

Note: Ranks ≤10 shaded dark orange; ranks >30 shaded light orange.
The vast majority of potential transitions involve very different skill sets...

- The average similarity score for the roughly 685,000 potential transitions analyzed is 0.25.

...but top transitions exist in every metro area

- In the 33 metro areas analyzed, we find 4,097 top transitions (similarity score >0.75).

Nearly half of lower-wage employment can be paired with a top transition.

- The same is true for 29 percent of the jobs classified as opportunity occupations.

Top transitions can represent substantial wage gains

- Overall, top transitions would represent an increase in average annual median wages of 49%, from around $30,000 to just under $45,000.

<table>
<thead>
<tr>
<th>Type of transition</th>
<th>Origin occupations</th>
<th>Destination occupations</th>
<th>Increase</th>
<th>Percent increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower-wage occupation to lower-wage occupation</td>
<td>$21,508</td>
<td>$26,367</td>
<td>$6,859</td>
<td>32%</td>
</tr>
<tr>
<td>Lower-wage occupation to opportunity occupation</td>
<td>$28,547</td>
<td>$50,672</td>
<td>$22,125</td>
<td>78%</td>
</tr>
<tr>
<td>Opportunity occupation to opportunity occupation</td>
<td>$53,426</td>
<td>$76,128</td>
<td>$22,703</td>
<td>42%</td>
</tr>
<tr>
<td>Overall</td>
<td>$30,100</td>
<td>$44,974</td>
<td>$14,873</td>
<td>49%</td>
</tr>
</tbody>
</table>

Some destination occupations are commonly associated with a bachelor’s degree.

Philadelphia’s ten highest-scoring top transitions span the occupational landscape

<table>
<thead>
<tr>
<th>Origin occupation</th>
<th>Origin annual median wages</th>
<th>Destination occupation</th>
<th>Destination annual median wages</th>
<th>Percent wage increase</th>
<th>Similarity score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Assistants</td>
<td>$25,410</td>
<td>Preschool Teachers, Except Special Education</td>
<td>$28,101</td>
<td>11%</td>
<td>0.93</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair Workers, All Other</td>
<td>$41,683</td>
<td>Industrial Machinery Mechanics</td>
<td>$57,408</td>
<td>38%</td>
<td>0.92</td>
</tr>
<tr>
<td>Mental Health and Substance Abuse Social Workers</td>
<td>$40,248</td>
<td>Substance Abuse, Behavioral Disorder, and Mental Health Counselors</td>
<td>$44,824</td>
<td>11%</td>
<td>0.92</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair Workers, All Other</td>
<td>$41,683</td>
<td>Industrial Engineering Technicians</td>
<td>$58,240</td>
<td>40%</td>
<td>0.91</td>
</tr>
<tr>
<td>Bill and Account Collectors</td>
<td>$37,939</td>
<td>Credit Counselors</td>
<td>$54,933</td>
<td>45%</td>
<td>0.90</td>
</tr>
<tr>
<td>Receptionists and Information Clerks</td>
<td>$30,202</td>
<td>Medical Secretaries</td>
<td>$38,210</td>
<td>27%</td>
<td>0.90</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>$43,493</td>
<td>Life, Physical, and Social Science Technicians, All Other</td>
<td>$53,976</td>
<td>24%</td>
<td>0.89</td>
</tr>
<tr>
<td>Insurance Claims and Policy Processing Clerks</td>
<td>$43,347</td>
<td>Claims Adjusters, Examiners, and Investigators</td>
<td>$70,533</td>
<td>63%</td>
<td>0.89</td>
</tr>
<tr>
<td>Office Clerks, General</td>
<td>$35,859</td>
<td>Human Resources Assistants, Except Payroll and Timekeeping</td>
<td>$41,850</td>
<td>17%</td>
<td>0.88</td>
</tr>
<tr>
<td>Computer-Controlled Machine Tool Operators, Metal and Plastic</td>
<td>$44,221</td>
<td>Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic</td>
<td>$55,640</td>
<td>26%</td>
<td>0.87</td>
</tr>
</tbody>
</table>

A below-average share of Philadelphia’s lower-wage employment can be paired with a top transition, but potential wage gains are substantial.

• Skills-based hiring practices could expand applicant pools to include workers who do not have a bachelor’s degree – but who do have many of the skills required to do the job.

• Targeted training could provide otherwise qualified workers with the skills necessary to make a successful transition.

• Collaboration between employers, education providers, and workforce development organizations can ensure training meets local demand.
Thank you

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THE FUTURE OF WORK IS HERE, AND IT’S HUMAN

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Founder
Humanature
The Future of Jobs and Job Training

PEW RESEARCH

A focus on nurturing unique human skills that artificial intelligence (AI) and machines seem unable to replicate: creativity, collaborative activity, abstract and systems thinking, complex communication, and the ability to thrive in diverse environments.
WHAT MAKES US HUMAN?
Environments
The Human Dimension
BIO-Psychological-Social-Spiritual Development
COMPLEX EMOTIONAL LANDSCAPE
BIO-
PSYCHO-
SOCIAL-
SPIRITUAL
DEVELOPMENT
**Examples of Chronic Stressors**

1. Intergenerational caregiving
2. Living with a chronic illness
3. Caregiving for someone with a chronic illness
4. Parenting alone
5. Caring for a loved one with any form of a disAbility
UNDERSTANDING TRAUMA

TRAUMA INVOLVES A [PERCEIVED OR LITERAL] THREAT TO ONE’S PHYSICAL OR EMOTIONAL WELL-BEING, AND ELICITS INTENSE FEELINGS OF HELPLESSNESS, TERROR, AND LACK OF CONTROL.”

(APA, 2000)
THE NOT-SO-SWEET SPOT

CHRONIC STRESSORS

EXPOENTIAL TOXICITY

TRAUMATIC EXPERIENCES
WORKFORCE DEVELOPMENT
Prioritizing the growth of Soft Skills

- Lack of fear of failure
- Drive to achieve and grow
- Has perspective and sense of humor
- Interpersonality supporting
- Reliability, High standards
- Integrity, Building of trust
- Tenacity, Persistence in problem solving
- Quick learner, Patient teacher
- Courage
- Future mindedness
- Optimism
- Interpersonal skills
- Work Ethic
- Honesty
- Perseverance
- Insight
The Future of Jobs and Job Training

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BIO-
PSYCHO-
SOCIAL-
SPIRITUAL
DEVELOPMENT
EMOTIONAL EXPERIENCES

Lack of Control or Powerlessness
Disoriented or Confused
Minimized or Diminished
Fear of Failing or Hopelessness
Embarrassment or Shame

BRIDGES TO EMPATHY


**Two Core Problems**

**The Future of Work**

- Automation
- the Gig Economy

**The Reality of Trauma and Chronic Stress**

Contributing factors: Generated within and outside of the workplace

- Historical and Modern-Day Trauma
- Climate Disasters
- Disparities in Wealth
- Displacement

**Increasing need for**

"Soft Skills"

Behavioral Skills
Customers are requesting consulting support for:

**JOBS AND JOB-READINESS**
- “Soft Skill” Development
- Code-Switching
- Addressing trauma w/o clinical expertise

**MARGINALIZED POPULATIONS**
such as:
- Opportunity Youth
- Veterans
- People in recovery
- People experiencing homelessness

**ORGANIZATIONAL CULTURE CHANGE**
- Conflict Management
- Inclusiveness and Belonging
This means that, whether we like it or not:

- Work is a place where we practice and learn human skills.
- We must define, design, and iterate what inclusivity, belongingness, equity, and justice looks like on a systems level.
- We are all learners.
THE FUTURE OF WORK IS HERE, AND IT’S HUMAN

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Federal Reserve Bank of Philadelphia

THURSDAY
JULY 9, 2020
2:00 PM EDT
Alternative Slides Follow
EMPATHY

YOU

WE

ME
Lack of Control or Powerlessness  
Disoriented or Confused  
Minimized or Diminished  
Fear of Failing or Hopelessness  
Embarrassment or Shame