

Changing Skills

How educators and employers can address the challenges of America's future workforce

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CEWD Annual Summit

November 9th, 2018



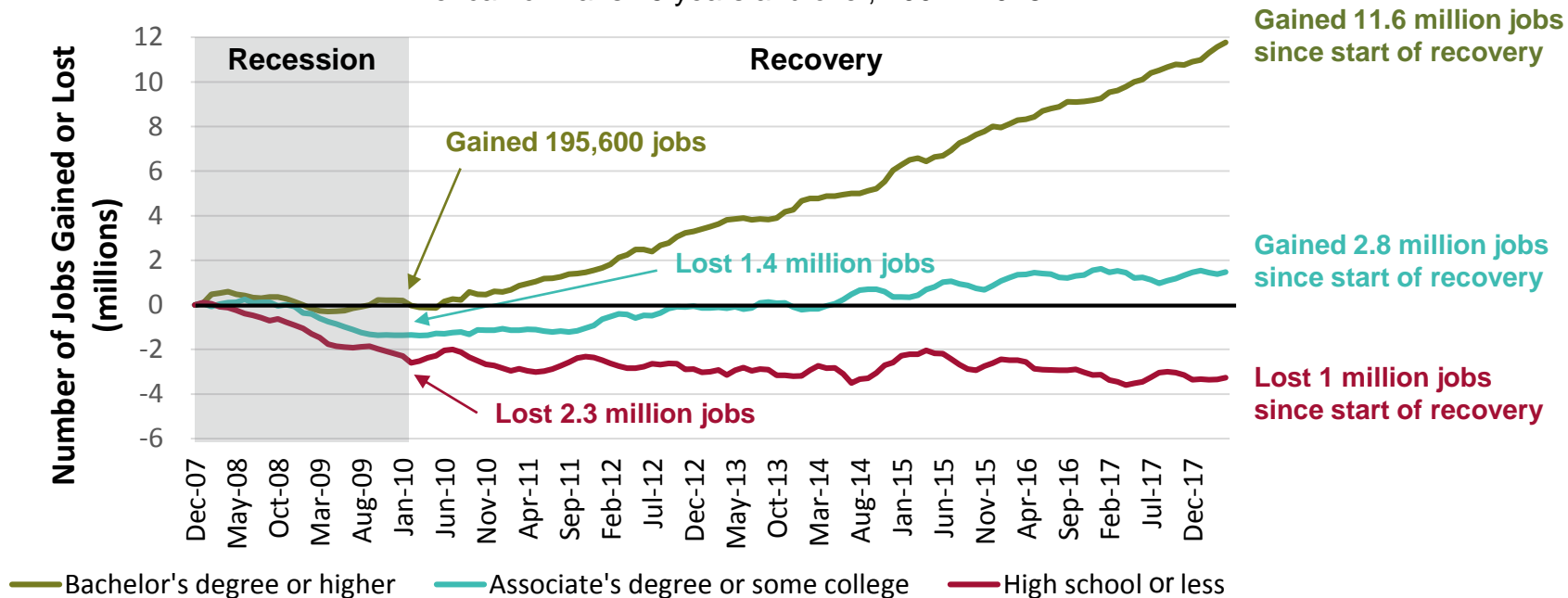
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Managing the Future of Work

Since the recession, demand has increased for educated workers

Change in total employment over time by education level

American civilians 25 years and over, 2007 - 2018



The educational pipeline has sprung many leaks

Estimated educational attainment for students entering 9th grade in 2018

Of **100** students entering 9th grade



86 will graduate from high school



20 will enroll in a two year institution immediately*



6 will graduate with an Associate's Degree or Certificate in six years



39 will enroll in a four year institution immediately*

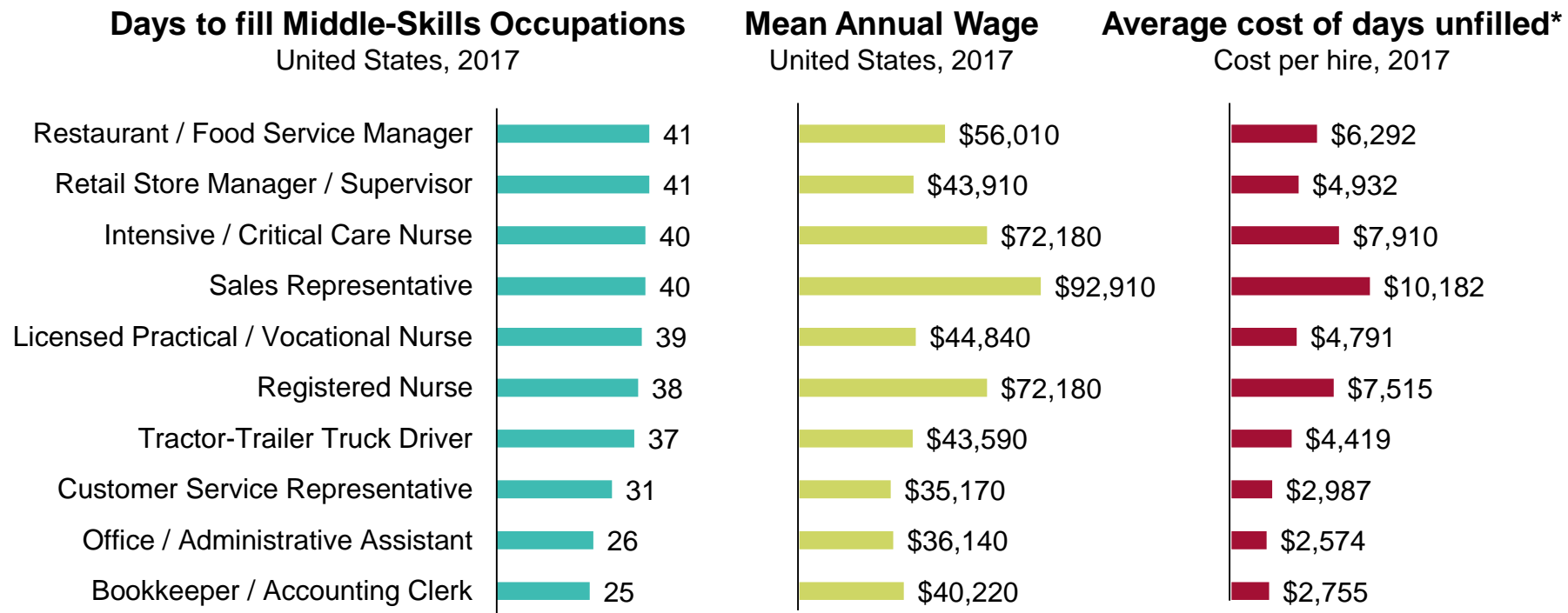


23 will graduate with a Bachelor's Degree in six years



*Immediately is defined as enrolling by October of the same year that the student graduates from high school
Sources: Author's calculations based on various enrollment and graduation data from the National Center for Education Statistics.

It takes employers a month to fill many middle-skills jobs, which creates massive hidden costs



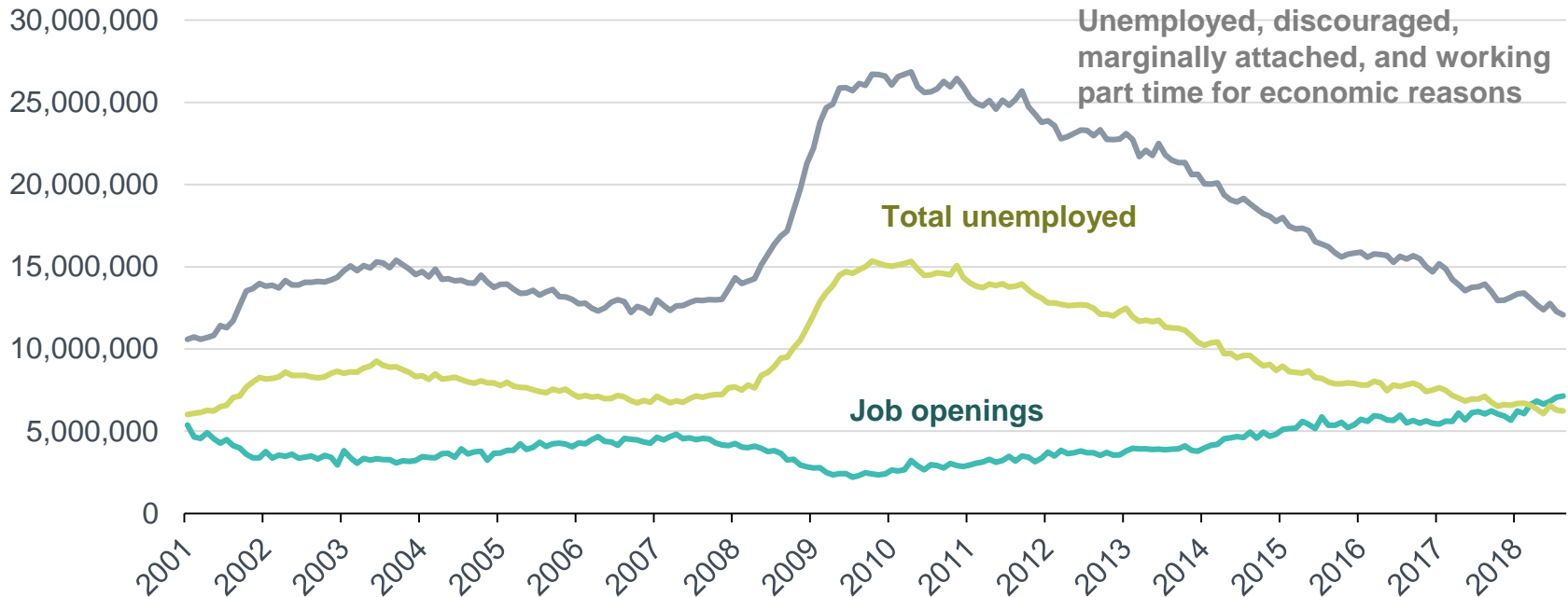
*The average cost of days unfilled is calculated by multiplying the mean daily wage for that occupation by the average number of days needed to fill that occupation.

Sources: Burning Glass Technologies Job Posting Database (2018); Bureau of Labor Statistics

To fill job vacancies, employers will need to find new ways to attract marginalized talent

Job Vacancies vs. Potential Labor Underutilization

United States, 2001 - 2018



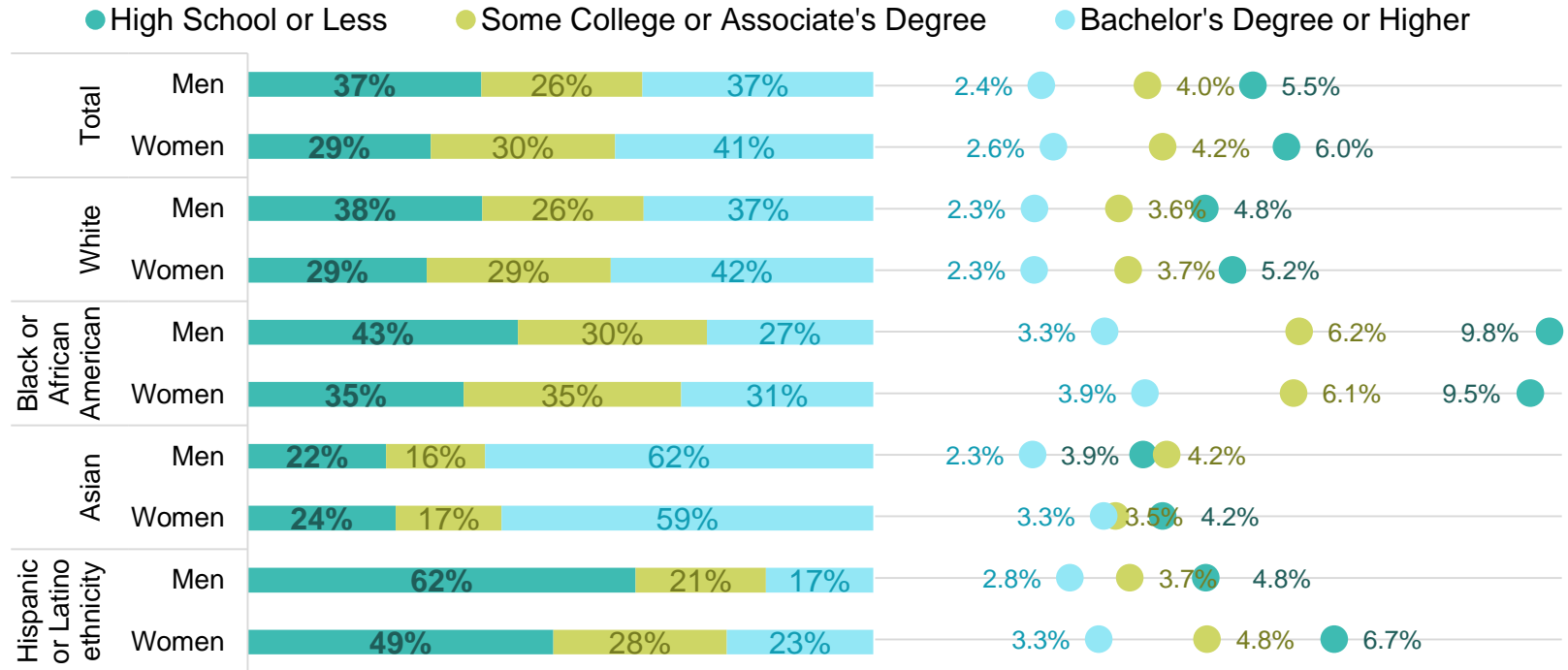
Large segments of the population are marginalized

Education levels of workforce

Percent of labor force, 2017

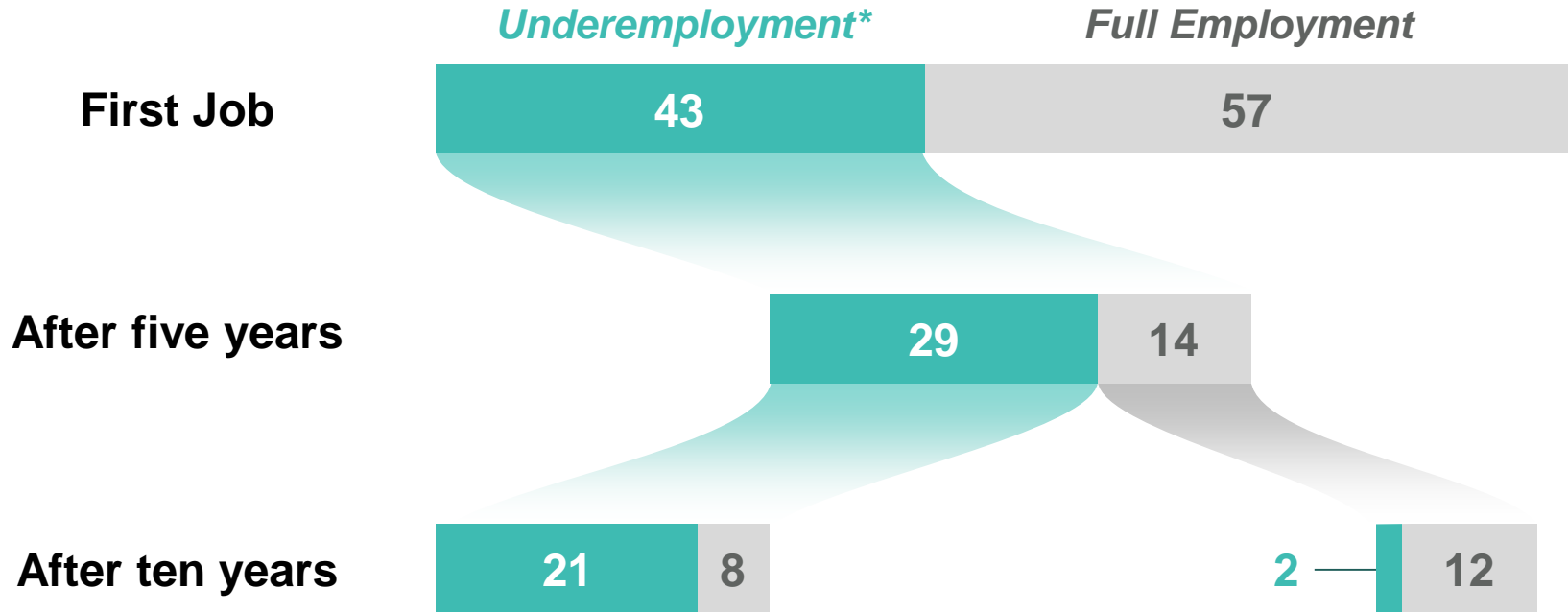
Unemployment rates by education

Percent of labor force by educational attainment, 2017



College graduates often enter the labor market underemployed – and stay that way

For every 100 people in a first job:

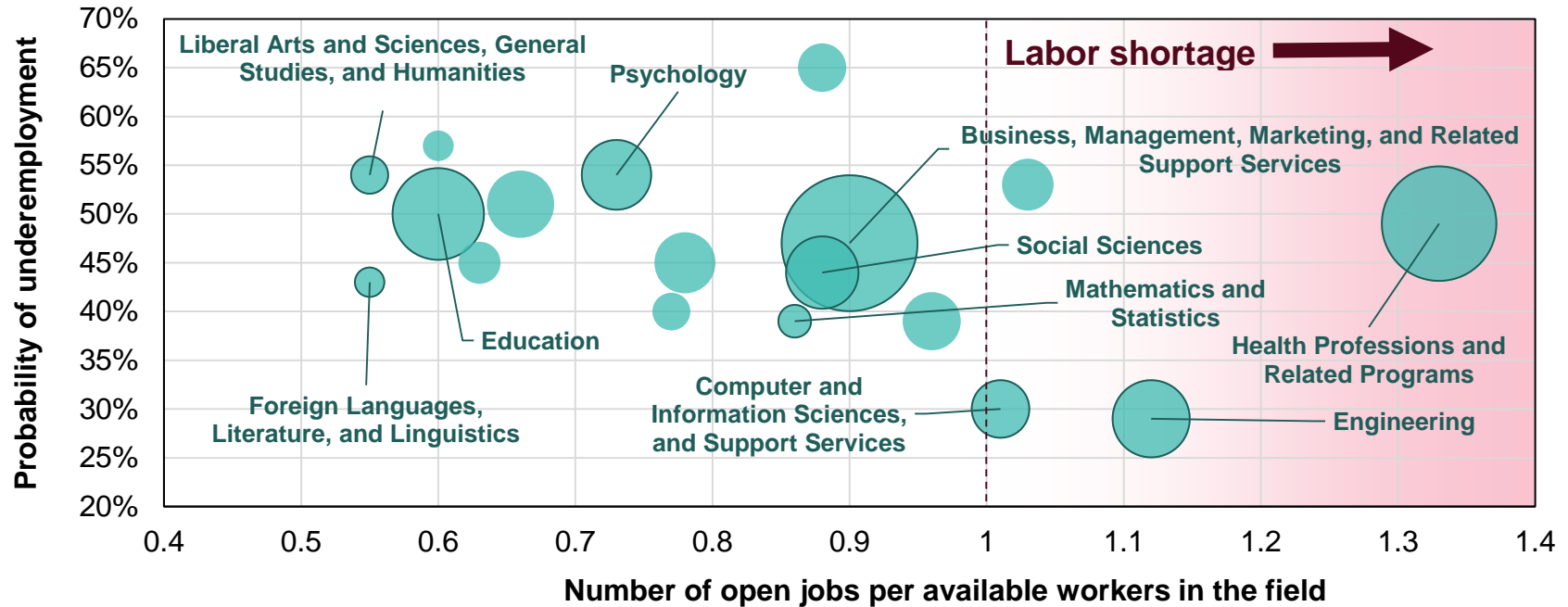


*Underemployment is defined as bachelor's degree holders working in jobs that do not require a bachelor's degree.

Source: Strada and Burning Glass Report, "The Permanent Detour: Underemployment's Long-Term Effects on the Careers of College Grads" (May, 2018)

Workers who have degrees with greater market demand tend to experience less underemployment

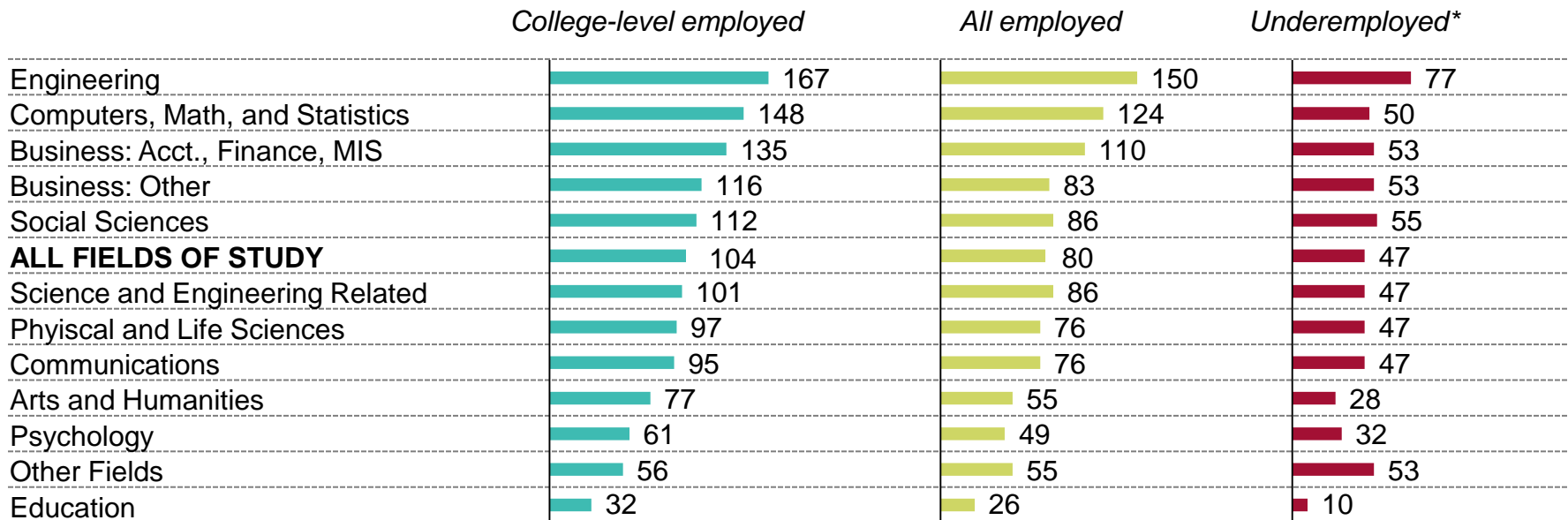
Relationship between college major, underemployment, and market demand
United States, 2012 - 2017



Sources: "Majors that Matter: Ensuring College Graduates Avoid Underemployment" report by Burning Glass Technologies and the Strada Foundation (2018); "The Permanent Detour: Underemployment's Long-term Effects on the Careers of College Graduate" Burning Glass Technologies (2018).

Wage premiums vary widely across types of college degrees and level of employment

College earning premium (%) of FTFY employed, mid-career individuals with only a Bachelor's Degree, by field of degree, versus those with only a high school education



*Moret uses the term malemployed instead of underemployed, but it has the same definition as that used by Burning Glass Technologies (college graduates working in occupations that do not require a college degree). For the purposes of consistency, this presentation uses the term "underemployed" throughout.

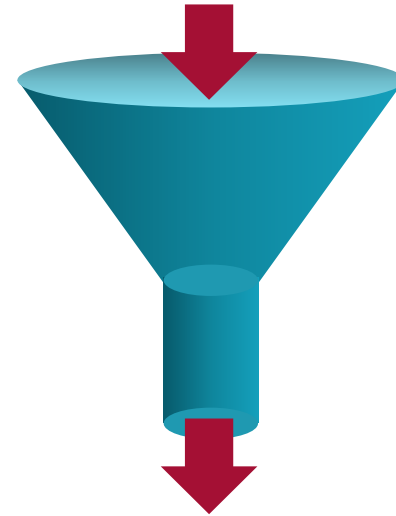
Source: "Attainment, alignment, and economic opportunity in America: Linkages between higher education and the labor market." Moret, Stephen Michael, University of Pennsylvania Dissertation, 2016.

Weak market signals among educators, employers, and workers often hamper the labor force

Broken education and workforce development system

- K-12 students often need remedial education.
- Students lack information on how to get jobs.
- Only 4% of job seekers say schools are the best source of information for job searches.
- Only 33% of business leaders think our graduates are workforce ready.
- Colleges and employers don't collaborate to train workers.

Pool of potential workers

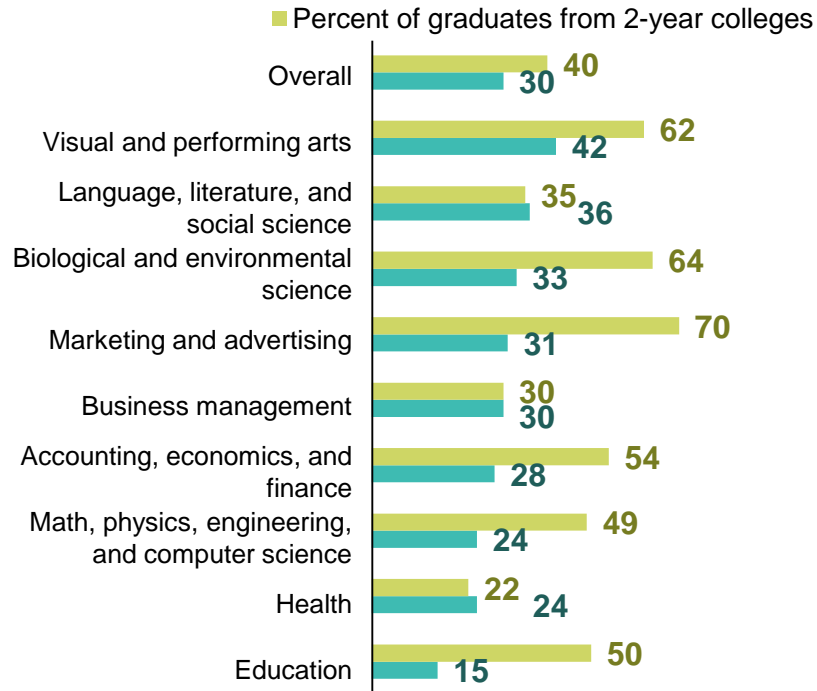


Smaller supply of employable workers

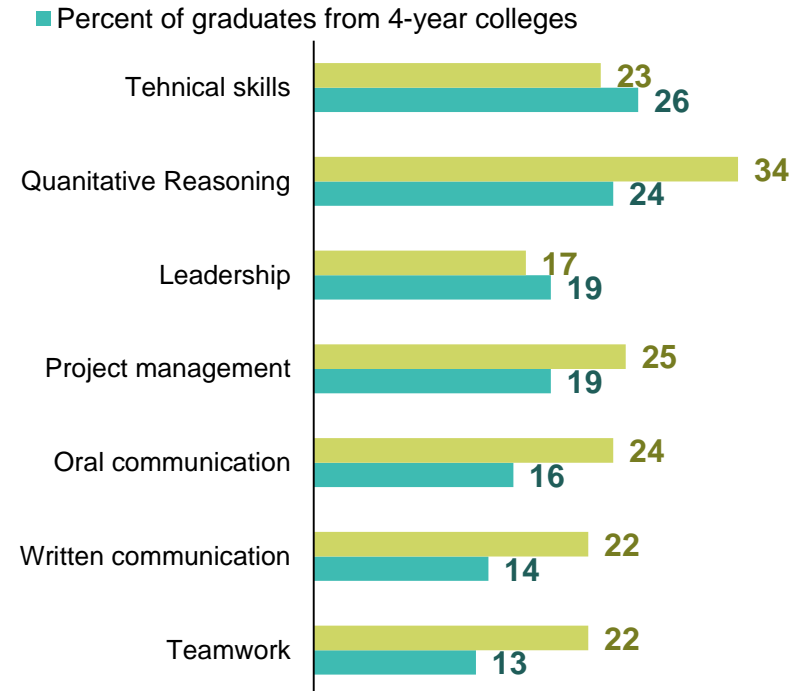
Sources: Gallup and *Inside Higher Ed*, "The 2014 *Inside Higher Ed* Survey of College and University Chief Academic Officers;" Gary Warth, "Community College Graduates Happy," *San Diego Union-Tribune*, January 6, 2015; Accenture Job Seekers Survey 2013; Accenture 2014 College Graduate Employment Survey.

Many college graduates feel unready to work

Graduates who did not feel that college prepared them well for employment (2013)



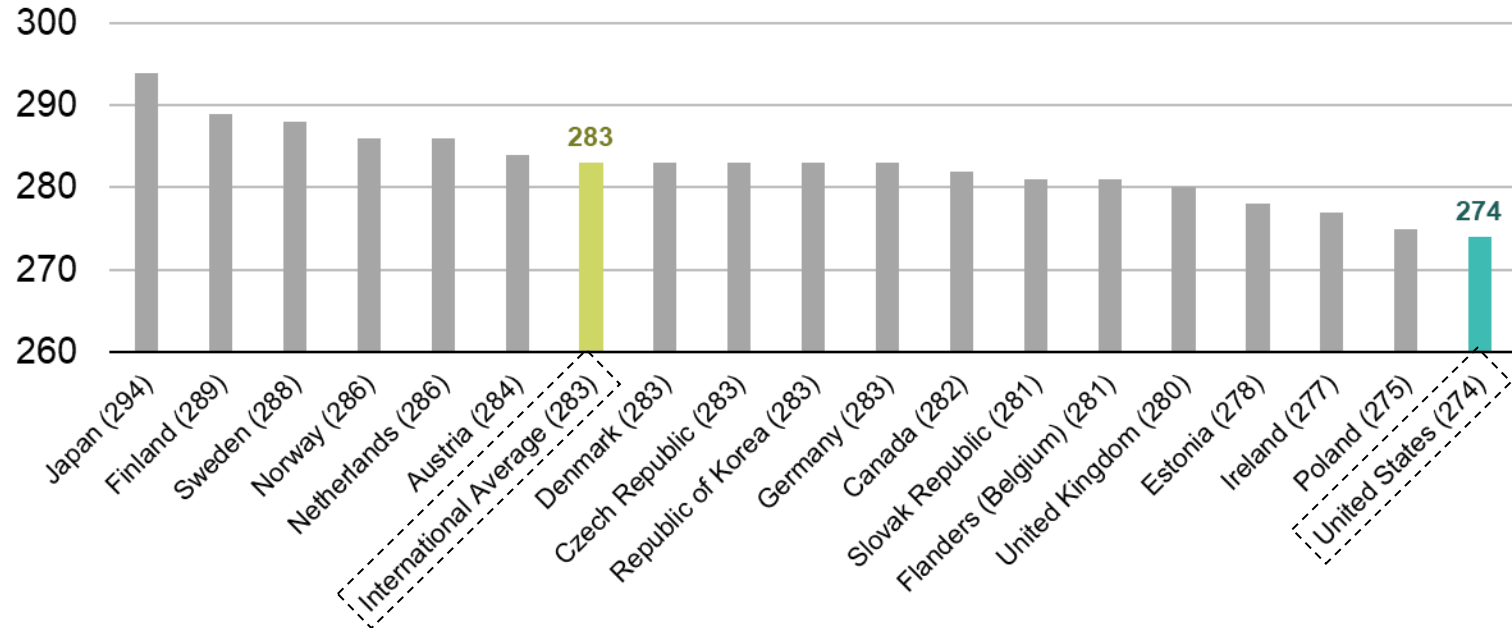
Graduates who felt underprepared in certain areas (2013)



Americans broadly trail international averages at solving problems in technology-rich environments

Average scores on problem solving in technology-rich environments

Adults aged 16-65, 2012/2014, Global

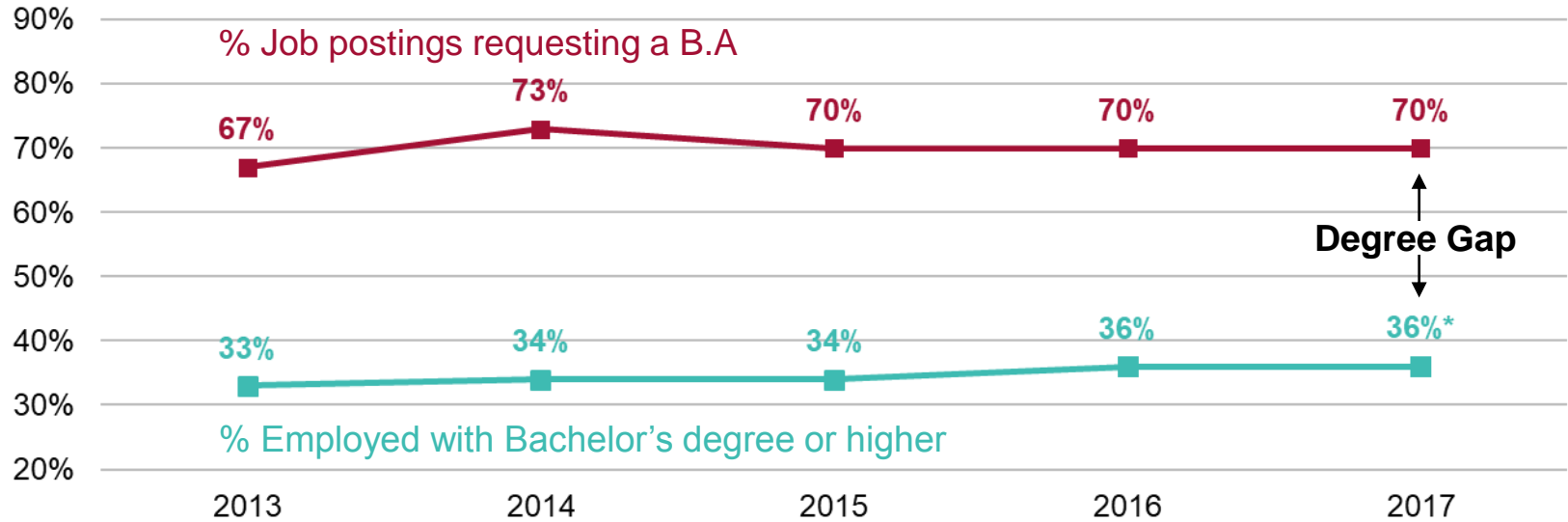


Source: "Skills of U.S. Unemployed, Young, and Older Adults in Sharper Focus: Results from the Program for the International Assessment of Adult Competencies (PIAAC) 2012/2014." U.S. Department of Education, March 2016.

There is rising demand for four-year college degrees in jobs that previously did not require one

Current and Requested Educational Levels for First-Line Supervisors of Office Workers

Analysis of national job postings and occupational data from 2013 - 2017







*American Community Survey data only extends through 2016.

Notes: First-Line Supervisors of Office workers: 1.4 million employed in 2015. 171,000 total job postings in 2015. SOC: 43-1011

Sources: Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment Statistics; Burning Glass Technologies' database of online job postings for 2010-2015; both sources accessed via Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool," February 2, 2017. Also includes data from U.S. Census Bureau, American Community Survey, 2010 – 2015 1-year estimates; IPUMS-USA, University of Minnesota, www.ipums.org

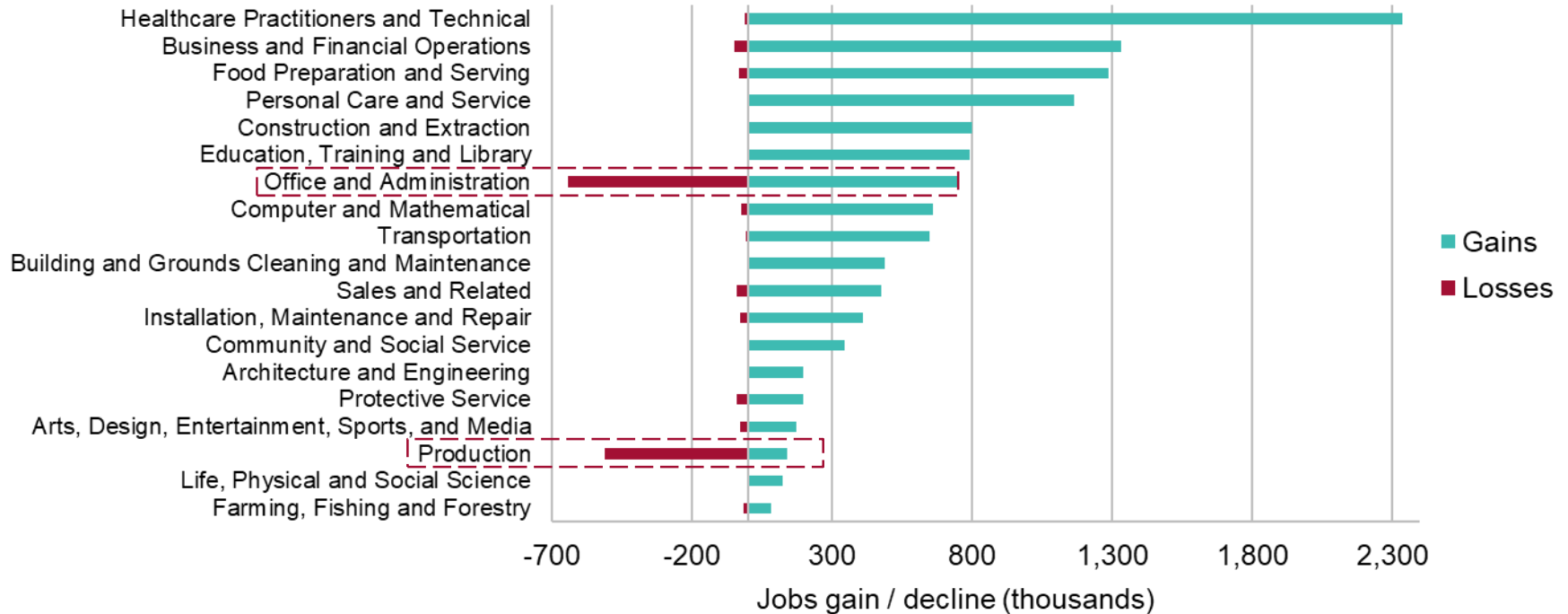
Surveyed employers see little difference in productivity between graduates and non-degree workers

Evaluated worker attributes	Recent college graduates	Both groups equally likely	Non-degree workers with experience	Don't know
				
 Positive attributes	 Negative attributes			
Higher levels of productivity	31%	49%	19%	0%
Higher rates of retention / longer tenure with company	29%	40%	31%	0%
Faster time to reach full productivity	37%	44%	19%	0%
Higher salary expectations	59%	30%	11%	1%
Likely to leave for a competitor	49%	38%	12%	1%
Likely to feel unengaged or underutilized	40%	35%	23%	2%

Source: 2016-2017 Accenture, Grads of Life and HBS Project on Managing the Future of Work, Hiring and Talent Management Survey.

Office, administration, and production workers will likely lose their jobs to automation in the future

Projected structural changes in the US job market by 2026

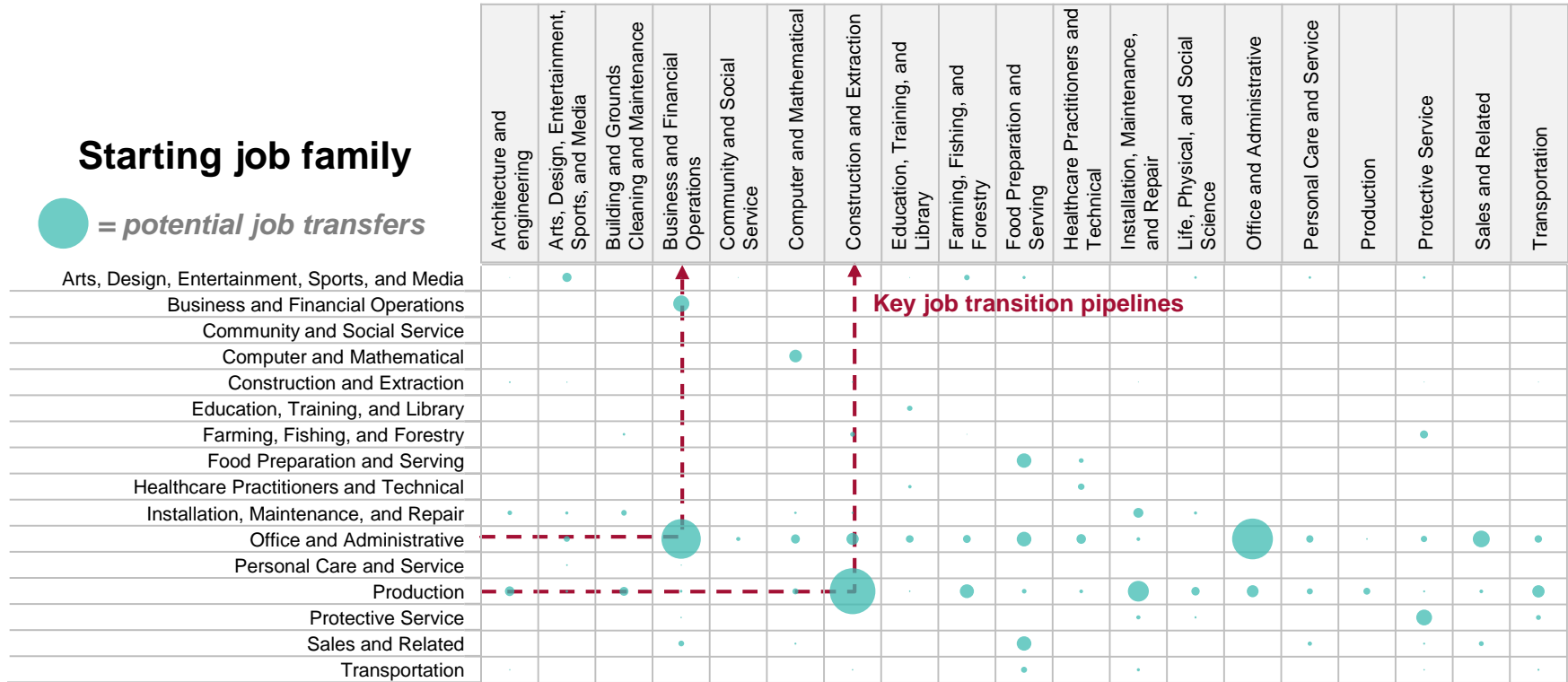


Those occupations can transition to similar roles

Starting job family

 = potential job transfers

Target job family

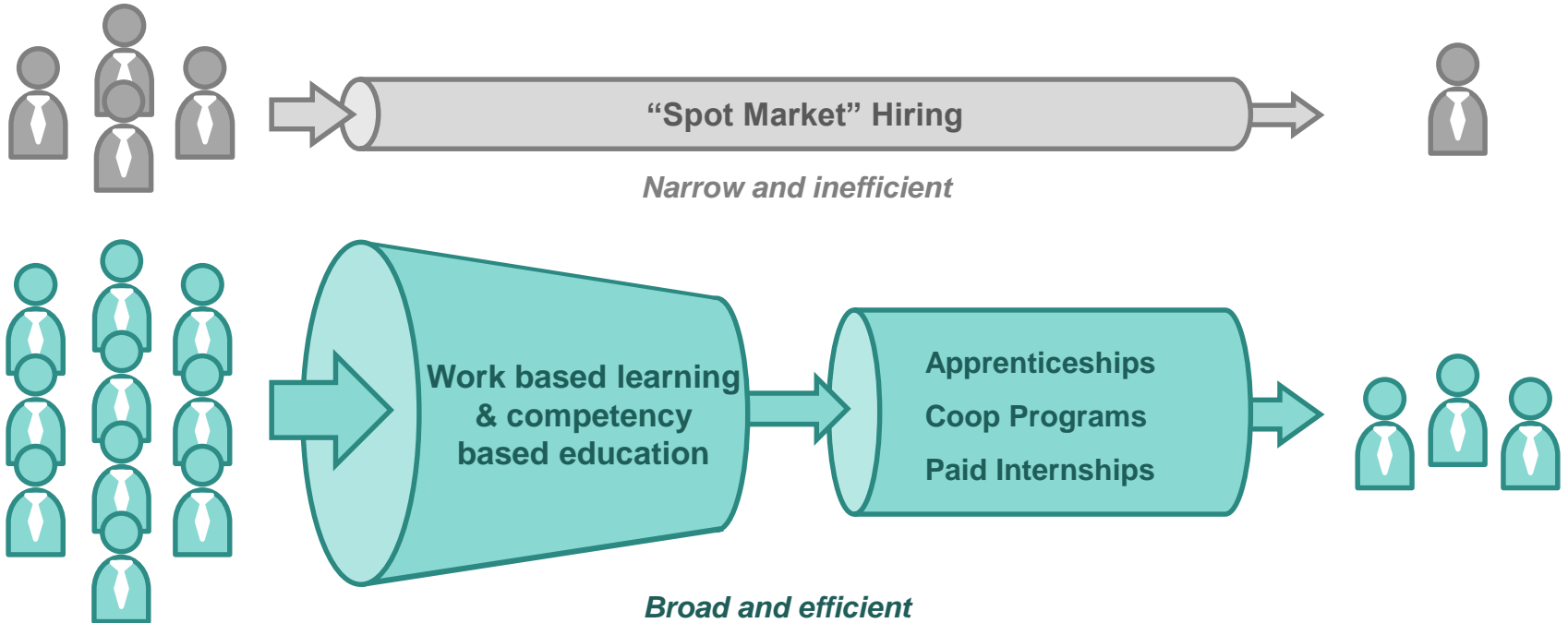


Companies can tap into the labor pool more effectively by developing alternative talent development pipelines

Pool of Workers

Pipelines for Developing Talent

Developed Talent



Managing the Future of Work Project

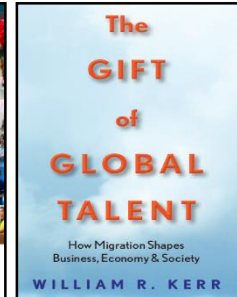
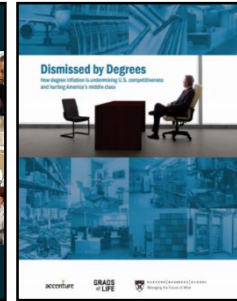
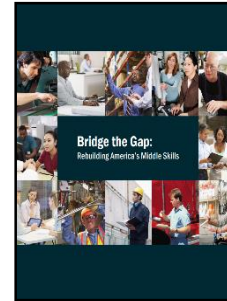
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