

Help Wanted:

Projections of Jobs and Education Requirements through 2018

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GEORGETOWN UNIVERSITY

Center on Education and the Workforce

Help Wanted: Projections of Education Requirements Through 2018

Builds projections of education demand using BLS's robust employment projections, augmented with additional data on the recession, macroeconomic expectations and industry trends.

Model uses time trend information to capture changing skill requirements within occupations as well as demand changes brought about by changes in composition

Enables an analysis of:

- Education demand by occupation and industry
- Will soon be enhanced with a detailed sub-state analysis.



Our report documents a method to project educational demand

For example our projections model accounts for up-skilling such as that observed for those who were once ‘auto mechanics and repairmen’ and are now “automotive technicians”.

EXHIBIT A Distribution of education among auto mechanics in three eras.²

	1968–1971	1988–1991	2004–2007
High school dropouts	58%	29%	19%
High school graduates	34%	52%	47%
Some college/Associate’s degree	6%	16%	30%
Bachelor’s degree or better	1%	3%	4%

Author’s analysis of March CPS data, various years



The Nation



We are in coming out of a recession, should we believe in more jobs, let alone the need for more post secondary? **Yes, of course**

1. The long run trend in the United States is increasing demand for workers with postsecondary education
2. Postsecondary wages have held strong and have grown while high school wages have been flat
3. Katz and Goldin suggest we've been under-producing postsecondary degrees for at least 30 years
4. Over-qualification is not the norm. Wage analysis at our Center, supported by unpublished work of Neumark and Johnson (2010), show we do not have too many degrees.
5. Autor et al. detail work tasks are becoming more complex, our work with O*Net reinforces this

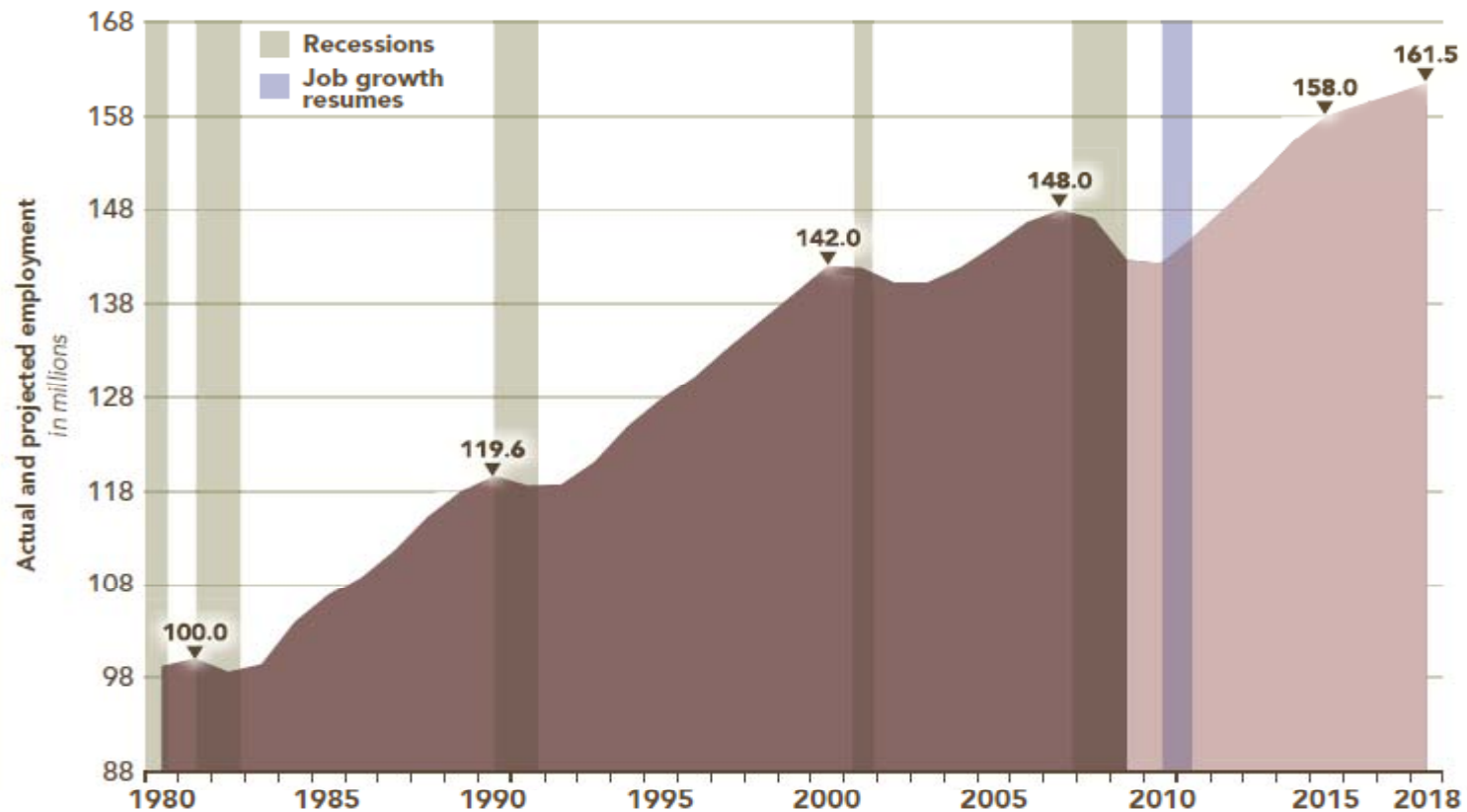


Yes it is bad but like other recessions – growth will resume

FIGURE 1.3

Employment growth is set to resume in 2011, but the economy will not reach full employment until 2015. (*non-farm payroll employment, plus self-employed*)

Source: Authors' analysis of March CPS data, various years; Center on Education and the Workforce forecast of educational demand through 2018.



What do we find? (general)

Increasing Postsecondary Education Demand

- 63% of all employment will require postsecondary education
- More than 30 million of the estimated 47 million new and replacement jobs will require postsecondary education
- Changing occupational composition benefits workers with postsecondary education
- The fastest growing occupations have some of the highest levels of postsecondary requirements

We will fall short at least 3 million postsecondary degrees

- We will need an additional 4.7 million postsecondary vocational certificates
- Estimated 1-1.5 million shy on certificates



The Midwest



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What do we find (Midwest specific)

Job Growth between 2008 and 2018

- Overall job growth in the Midwest from 2008-2018: 6%
(below national average of 10%)
- Midwest jobs will account for 27% of all jobs in the US by 2018
(down from 28% in 2008)
- Job growth in Kansas and Iowa equals national average by 2018.
- Job growth in South Dakota, Michigan and Indiana is 7 percentage points below national average by 2018
- Fastest growth in healthcare and computers and mathematical sciences occupations
- Slowest growth in production occupations



What do we find (Midwest specific)

Job vacancies

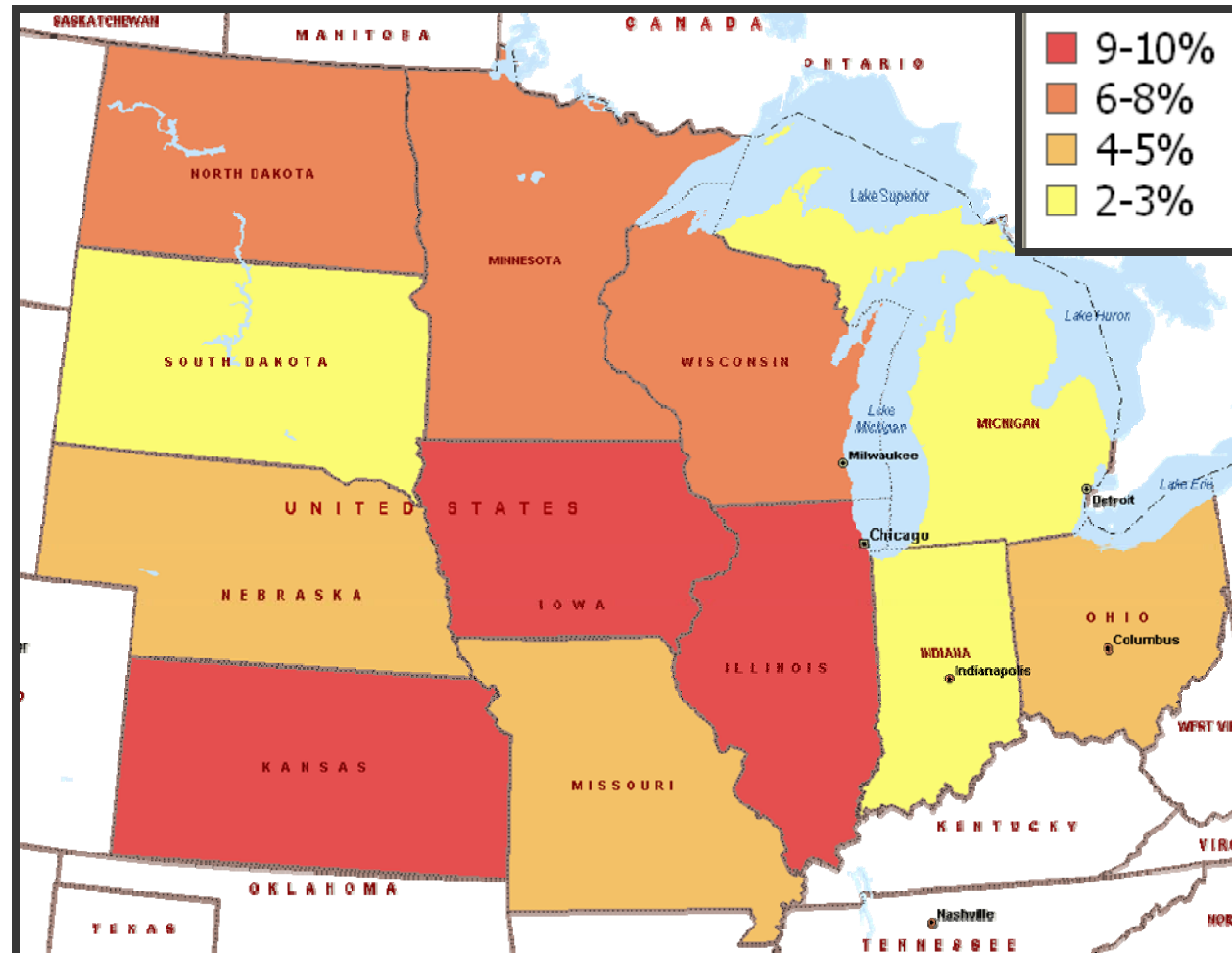
- 46.8 million new job vacancies in the nation
- 22% vacancies will be in Midwest states (10.3 million job openings due baby boom retirement and those permanently leaving the workforce).

Demand for postsecondary education

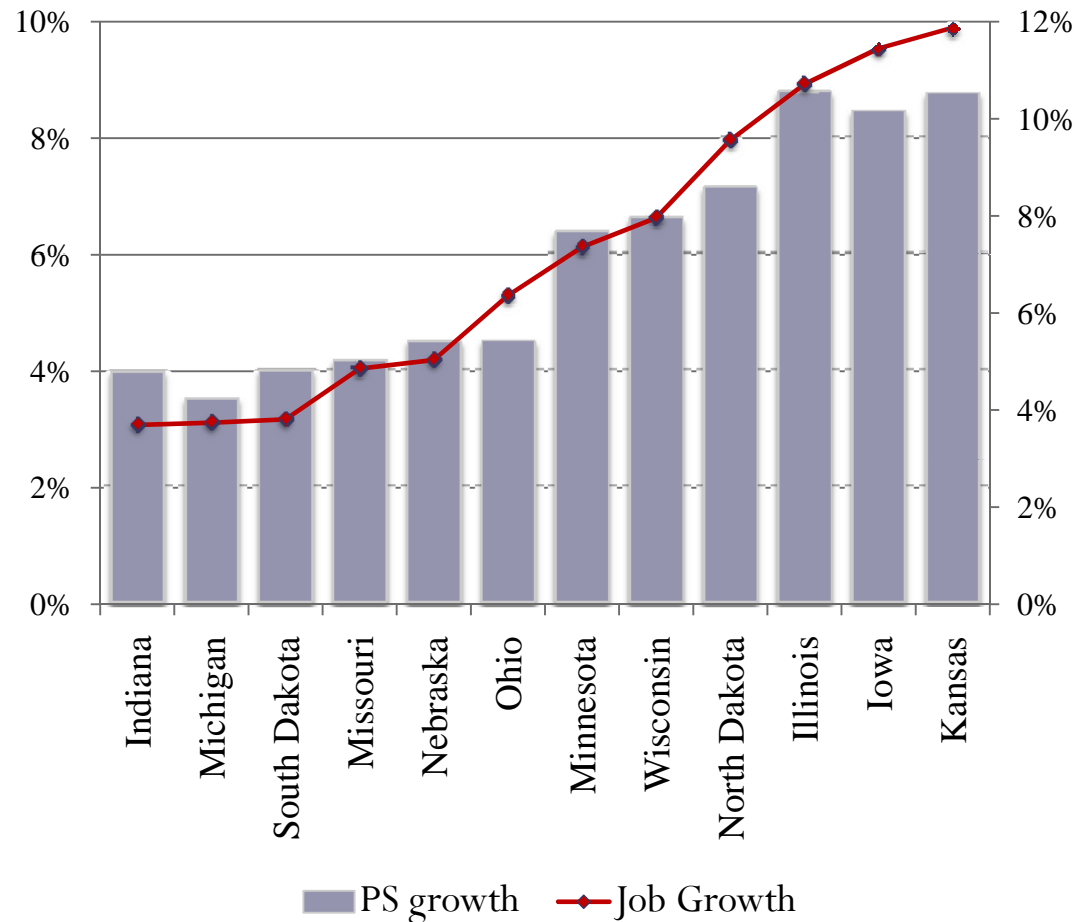
- 61% of all jobs in Midwest states will require postsecondary education and training in 2018
- 5 Midwest states will exceed national average of 63%, in proportion of jobs requiring postsecondary education by 2018



Kansas, Illinois and Iowa lead job growth through 2018



The growth in the demand for postsecondary education is on par with job growth

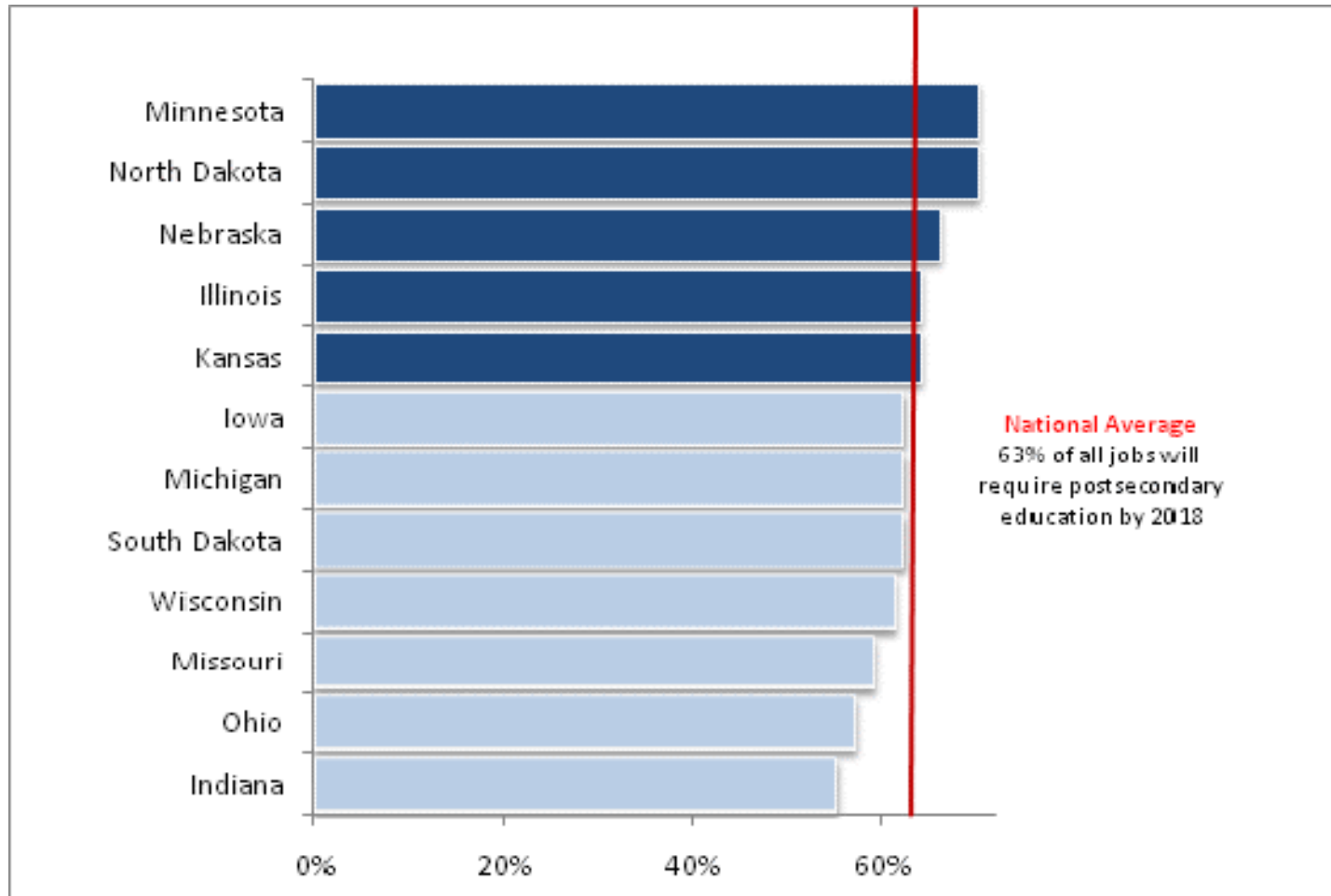


There is a high degree of correlation between job growth and the growth in the demand for postsecondary education

	Job Growth	PS growth
Kansas	10%	11%
Iowa	10%	10%
Illinois	9%	11%
North Dakota	8%	9%
Wisconsin	7%	8%
Minnesota	6%	8%
Ohio	5%	5%
Nebraska	4%	5%
Missouri	4%	5%
South Dakota	3%	5%
Michigan	3%	4%
Indiana	3%	5%



5 Midwestern states will exceed national average in proportion of jobs requiring postsecondary education by 2018



Where are the jobs?

Fastest and slowest growing occupations (Detail)



Healthcare and STEM occupations continue to dominate, Manufacturing and Natural Resource industries lose ground

Fastest growth

Illinois	Healthcare Professional and Technical Occupations	24%
	Computer and Mathematical Science Occupations	28%
	Healthcare Support Occupations	29%
Indiana	Computer and Mathematical Science Occupations	18%
	Community and Social Services Occupations	18%
	Healthcare Support Occupations	19%
Iowa	Personal Care Occupations	20%
	Computer and Mathematical Science Occupations	22%
	Healthcare Support Occupations	22%

Slowest growth

Illinois	Production Occupations	-6%
	Farming, Fishing and Forestry Occupations	-2%
	Construction and Extraction Occupations	-2%
Indiana	Production Occupations	-10%
	Construction and Extraction Occupations	-4%
	Management Occupations	-3%
Iowa	Management Occupations	-5%
	Production Occupations	3%
	Construction and Extraction Occupations	4%



Healthcare and STEM occupations continue to dominate, Manufacturing and Natural Resource industries lose ground

Fastest growth

Kansas	Farming, Fishing and Forestry Occupations	20%
	Community and Social Services Occupations	21%
	Computer and Mathematical Science Occupations	22%
Michigan	Community and Social Services Occupations	14%
	Healthcare Professional and Technical Occupations	15%
	Healthcare Support Occupations	20%
Minnesota	Healthcare Professional and Technical Occupations	22%
	Healthcare Support Occupations	28%
	Community and Social Services Occupations	28%

Slowest growth

Kansas	Management Occupations	-1%
	Production Occupations	0%
	Architects and Technicians Occupations	3%
Michigan	Architects and Technicians Occupations	-16%
	Production Occupations	-8%
	Construction and Extraction Occupations	-4%
Minnesota	Production Occupations	-8%
	Transportation and Material Moving Occupations	-5%
	Farming, Fishing and Forestry Occupations	-2%



Healthcare and STEM occupations continue to dominate, Manufacturing and Natural Resource industries lose ground

Fastest growth

Missouri	Healthcare Support Occupations	12%
	Community and Social Services Occupations	13%
	Computer and Mathematical Science Occupations	16%
Nebraska	Community and Social Services Occupations	18%
	Computer and Mathematical Science Occupations	18%
	Healthcare Support Occupations	20%
North Dakota	Healthcare Support Occupations	11%
	Engineers and Technicians Occupations	16%
	Computer and Mathematical Science Occupations	26%

Slowest growth

Missouri	Management Occupations	-6%
	Production Occupations	-5%
	Architects and Technicians Occupations	-4%
Nebraska	Management Occupations	-8%
	Legal Occupations	-2%
	Production Occupations	-2%
North Dakota	Management Occupations	-11%
	Legal Occupations	-3%
	Transportation and Material Moving Occupations	0%



Healthcare and STEM occupations continue to dominate, Manufacturing and Natural Resource industries lose ground

Fastest growth

Ohio	Community and Social Services Occupations	17%
	Computer and Mathematical Science Occupations	18%
	Healthcare Support Occupations	25%
South Dakota	Healthcare Support Occupations	21%
	Healthcare Professional and Technical Occupations	22%
	Community and Social Services Occupations	23%
Wisconsin	Computer and Mathematical Science Occupations	22%
	Healthcare Professional and Technical Occupations	23%
	Healthcare Support Occupations	25%

Slowest growth

Ohio	Production Occupations	-15%
	Farming, Fishing and Forestry Occupations	-4%
	Transportation and Material Moving Occupations	-4%
South Dakota	Management Occupations	-10%
	Architects and Technicians Occupations	-2%
	Farming, Fishing and Forestry Occupations	1%
Wisconsin	Production Occupations	-3%
	Management Occupations	-2%
	Farming, Fishing and Forestry Occupations	-1%



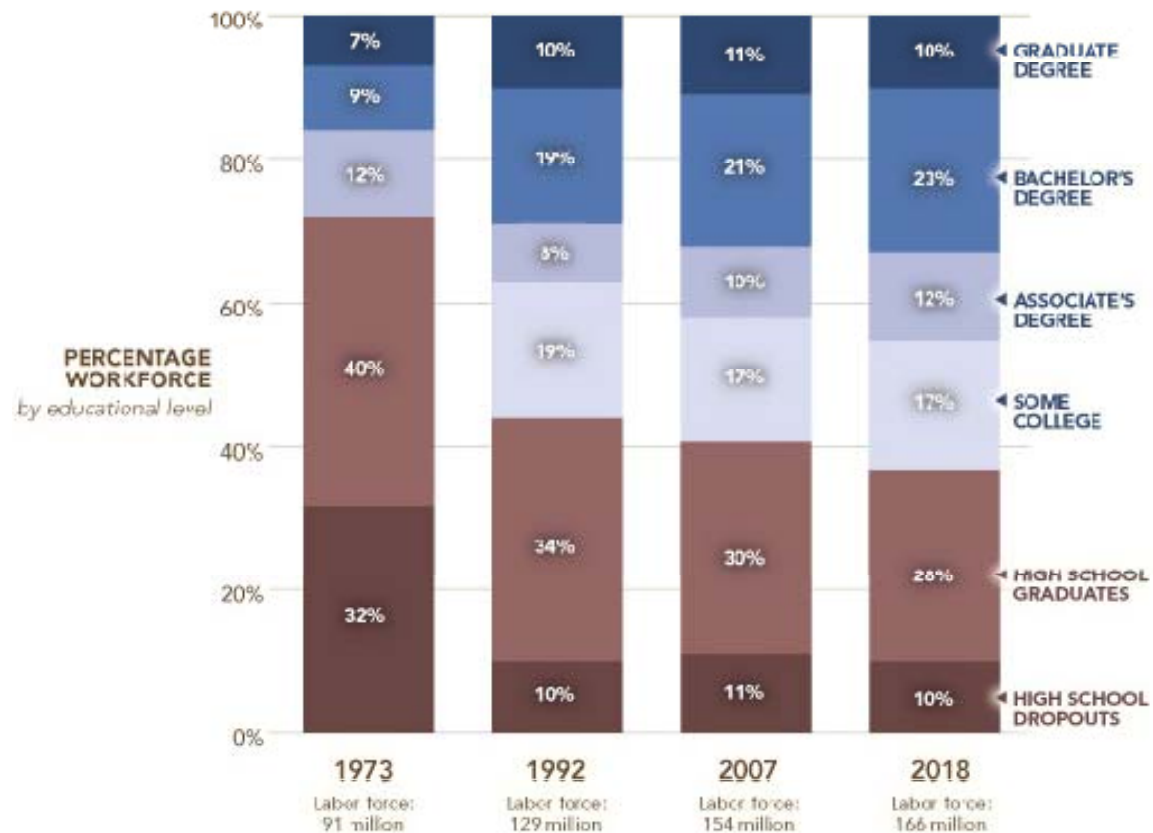
Postsecondary education is the key to middle class
The armor for the 21st century economy



The historic trend in the US is increasing demand for education and training beyond high school.

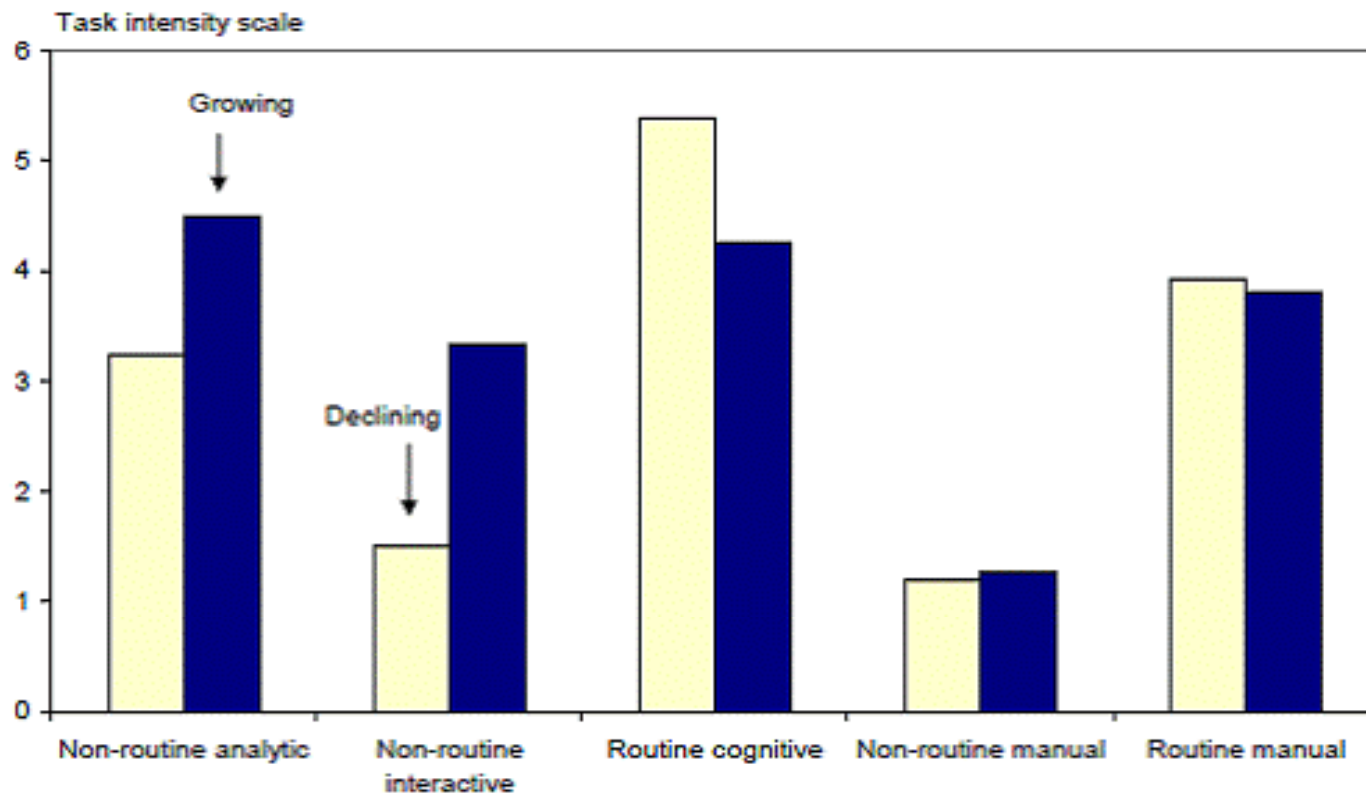
Why should we be surprised that the future is similar?

BY 2018, 30 MILLION NEW AND REPLACEMENT JOBS WILL REQUIRE SOME COLLEGE OR ABOVE



Growth in the US economy dovetails with the increasing complexity of work

Figure 5: Task Intensity of Declining vs Growing Occupations, 1992 - 2002



Source: CEA calculations using data on task intensity from Autor, Levy, and Murnane (2003) and CPS data.

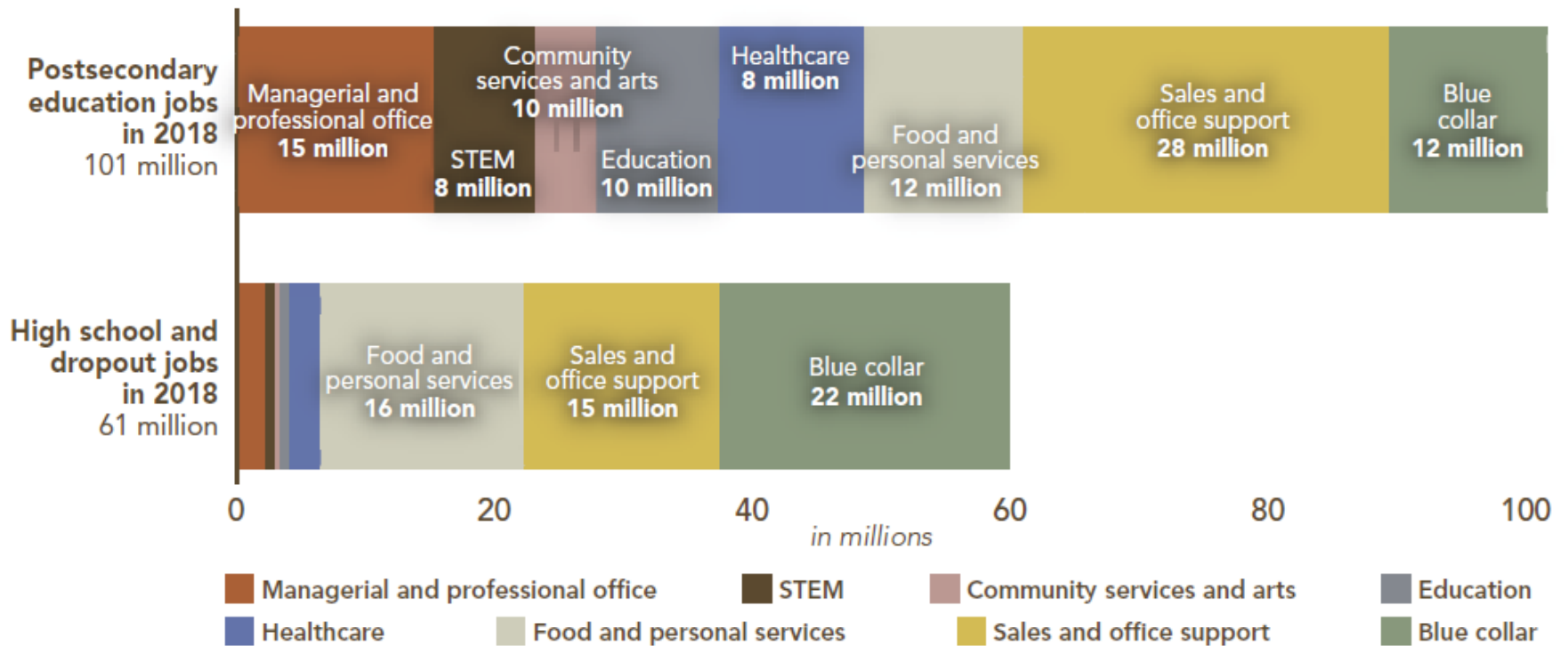


Workers with high school and less will continue concentrate in declining occupations or those paying low wages; or both

FIGURE 1

Postsecondary education provides access to occupations across the economy, while workers with a high school diploma or less are largely limited to three occupational clusters that are either declining or pay low wages.

Source: Authors' analysis of March CPS data, various years; Center on Education and the Workforce forecast of educational demand to 2018



For more information

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<http://cew.georgetown.edu/jobs2018>

