Higher Education Task Force
Job and Talent Projections

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Idaho Department of Labor
March 17, 2017

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Happy St. Patrick's Day

- **37.2 million people in America claim Irish ancestry**
  - **7x than Ireland's population 4.6 million**

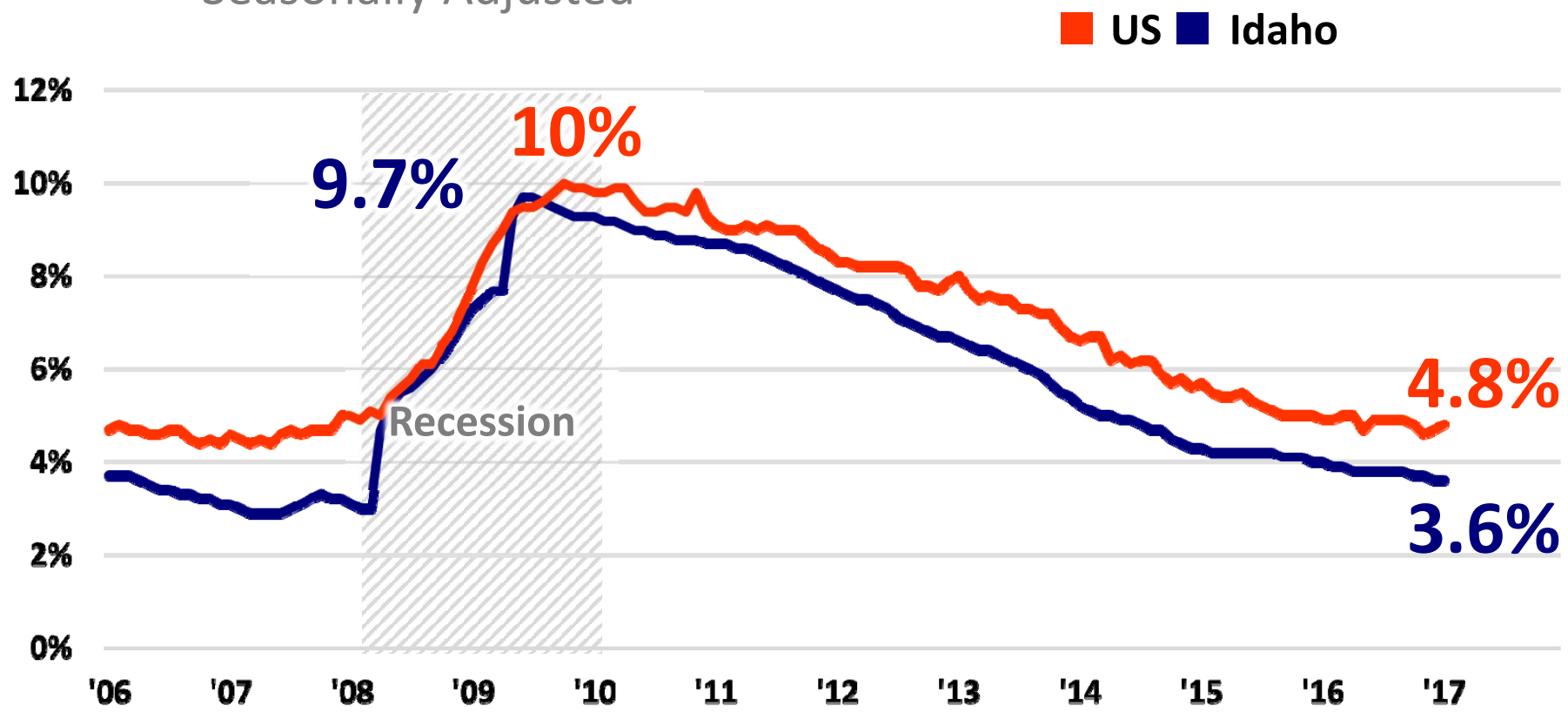
- **State with the largest Irish ancestry as percent of total?**
  1. **New Hampshire – 20.6%**
  2. **Massachusetts – 20.2%**
  3. **…..**
  4. **Idaho – 9.5%**

- **36.2% of people with Irish ancestry, age 25 or older, had a bachelor's degree or higher.**

Current Labor Market

Unemployment Rate

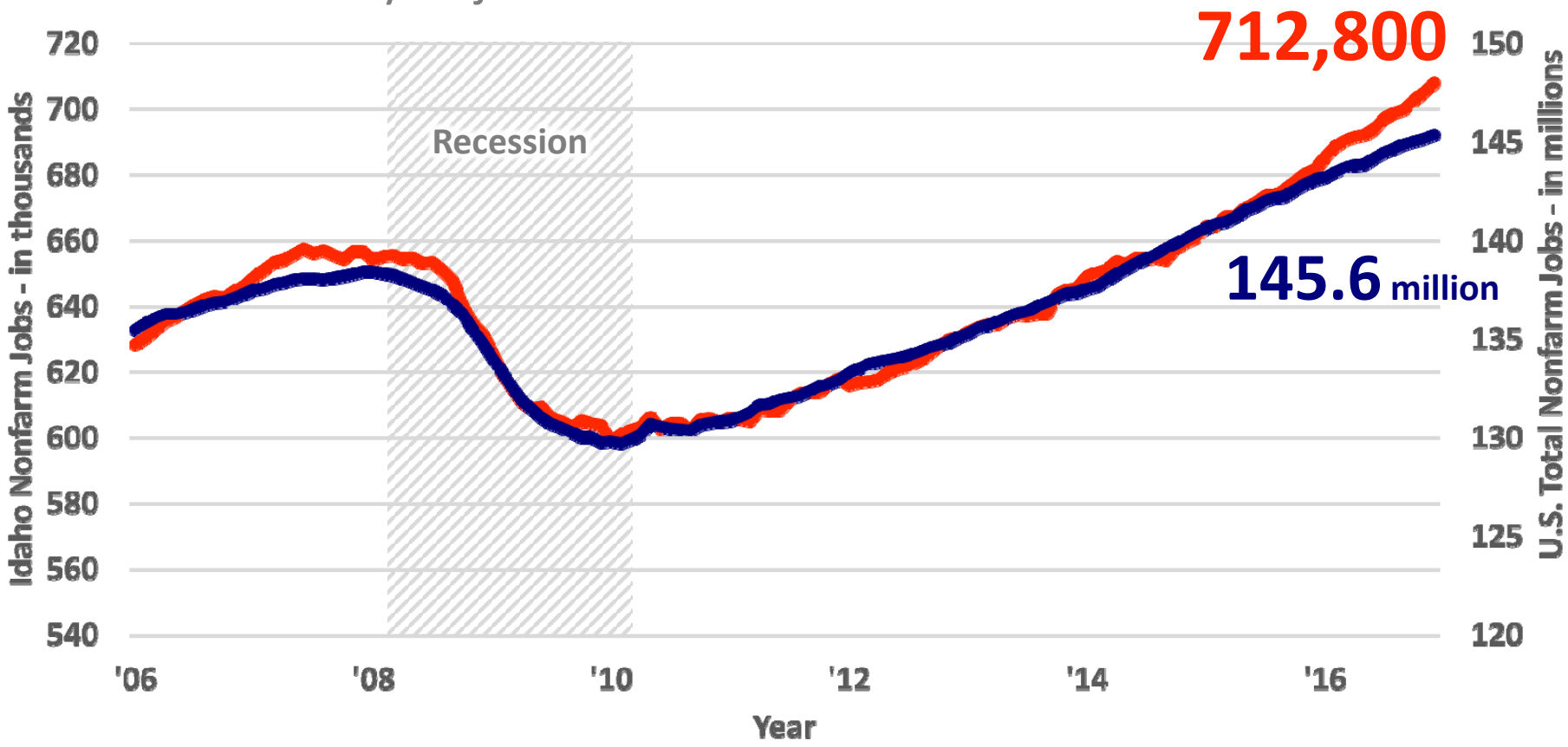
Seasonally Adjusted



Source: US Bureau of Labor Statistics, Idaho Department of Labor

Idaho's Nonfarm Jobs

Seasonally Adjusted ■ US ■ Idaho



Source: US Bureau of Labor Statistics, Idaho Department of Labor

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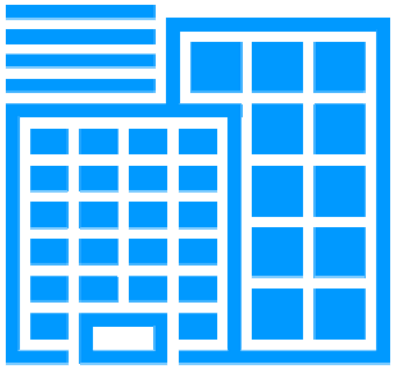
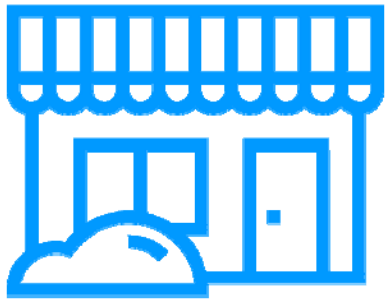
Industry Projections

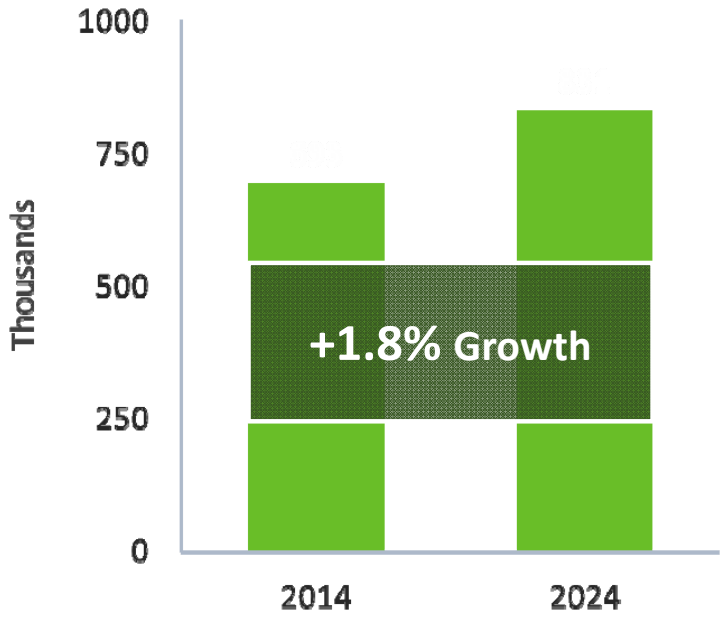
2014 - 2024



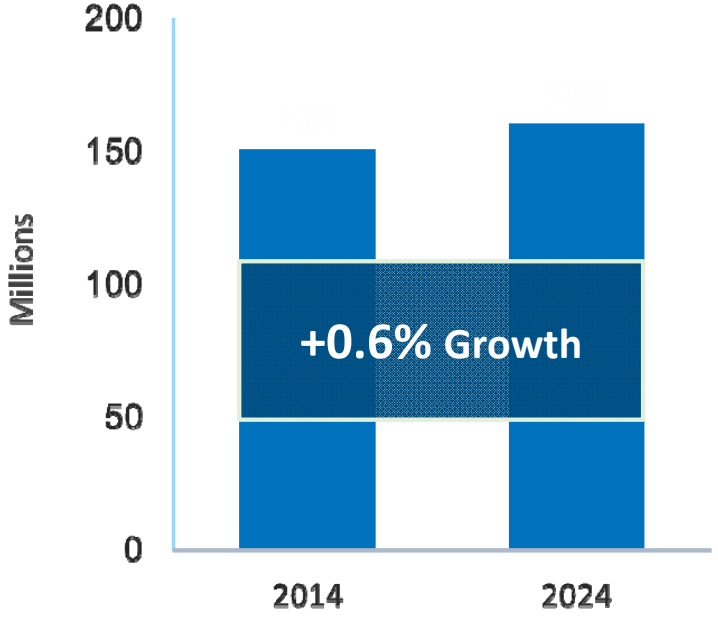


Total Employment
Projected Values

Idaho



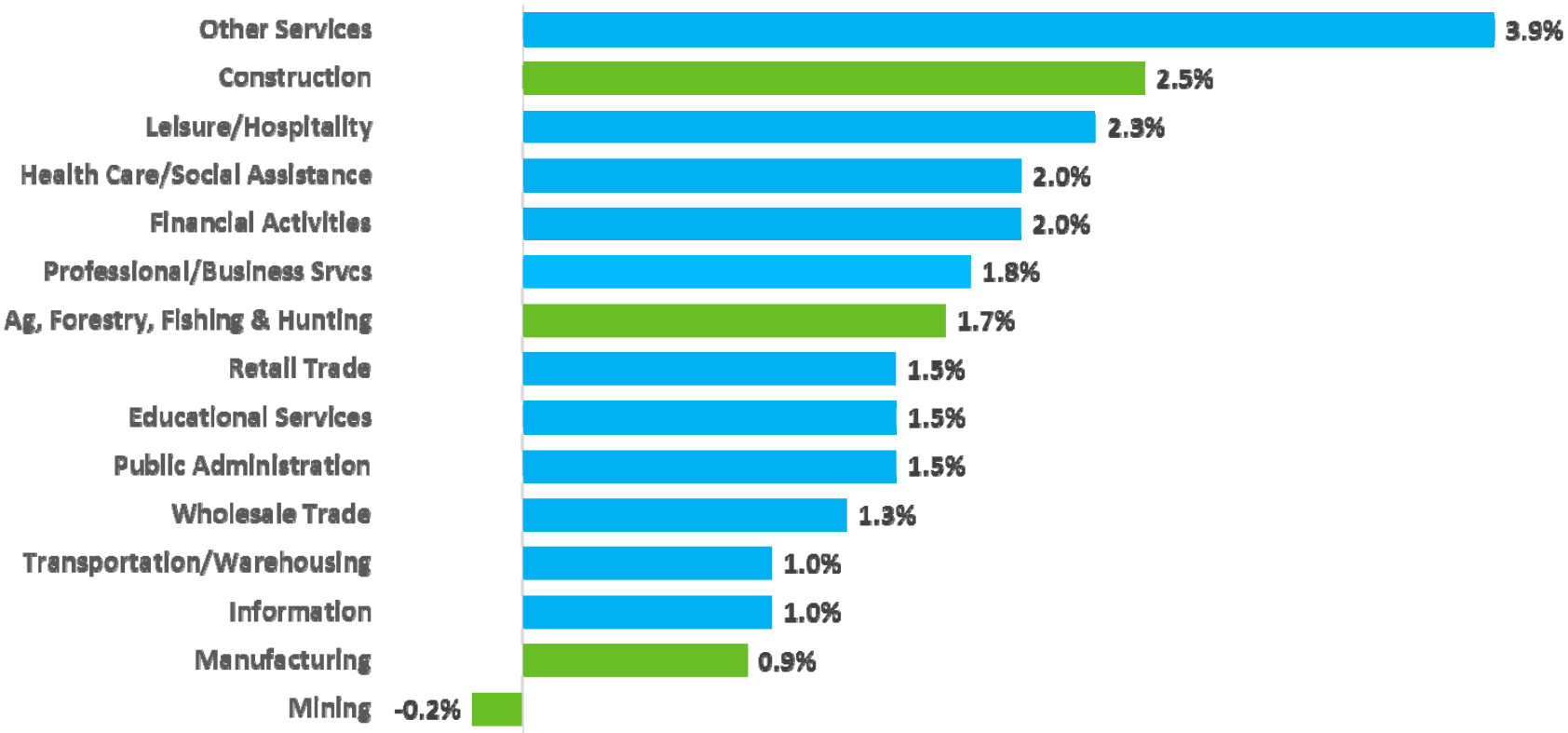
United States



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

Annual Industry Job Growth: 2014 – 2024

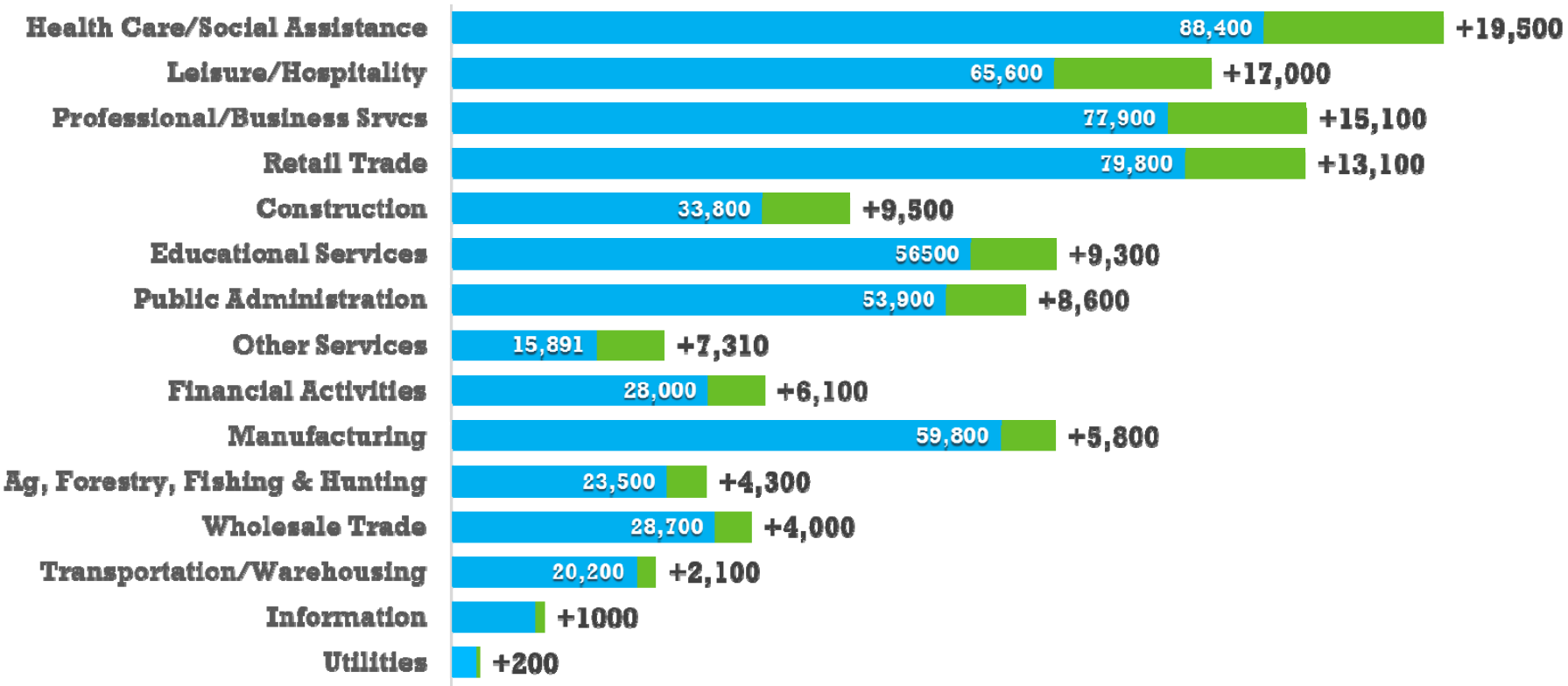
Projected Growth Rates for Service and Goods Producing Sectors



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

Industry Job Growth: 2014 – 2024

2014 Employment and Projected Growth



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

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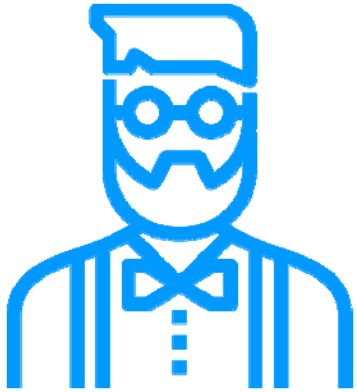
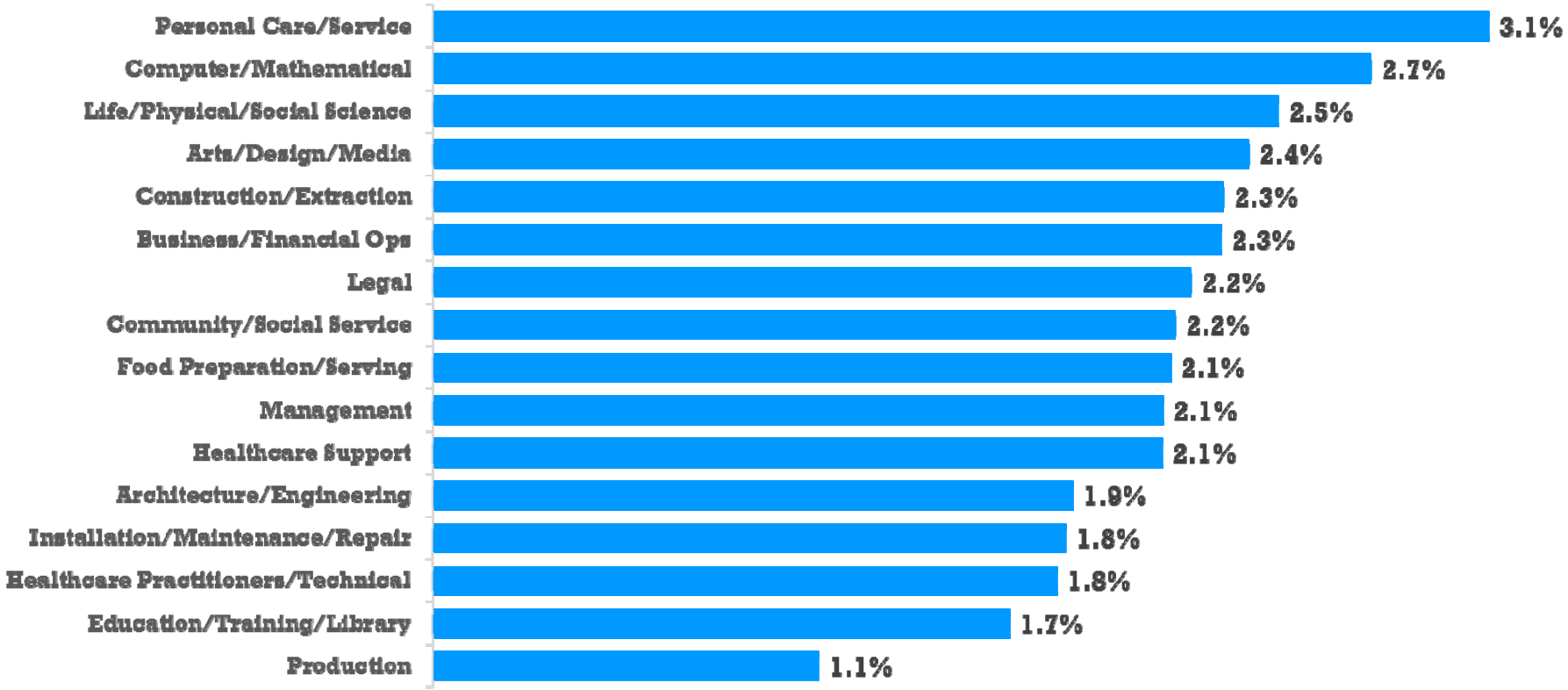
Occupations

2014 - 2024



Occupations in Idaho: 2014 – 2024

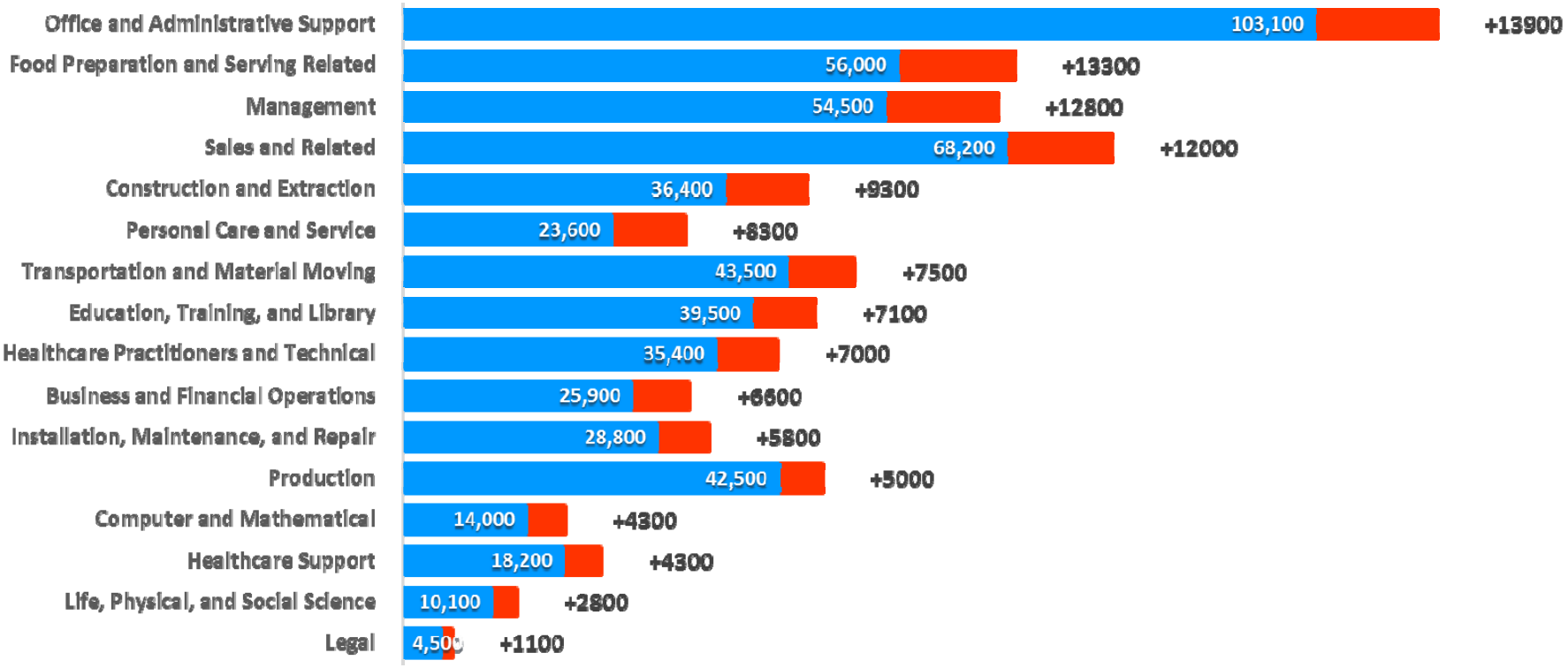
Projected Annual Growth Rates



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

Occupations in Idaho: 2014 – 2024

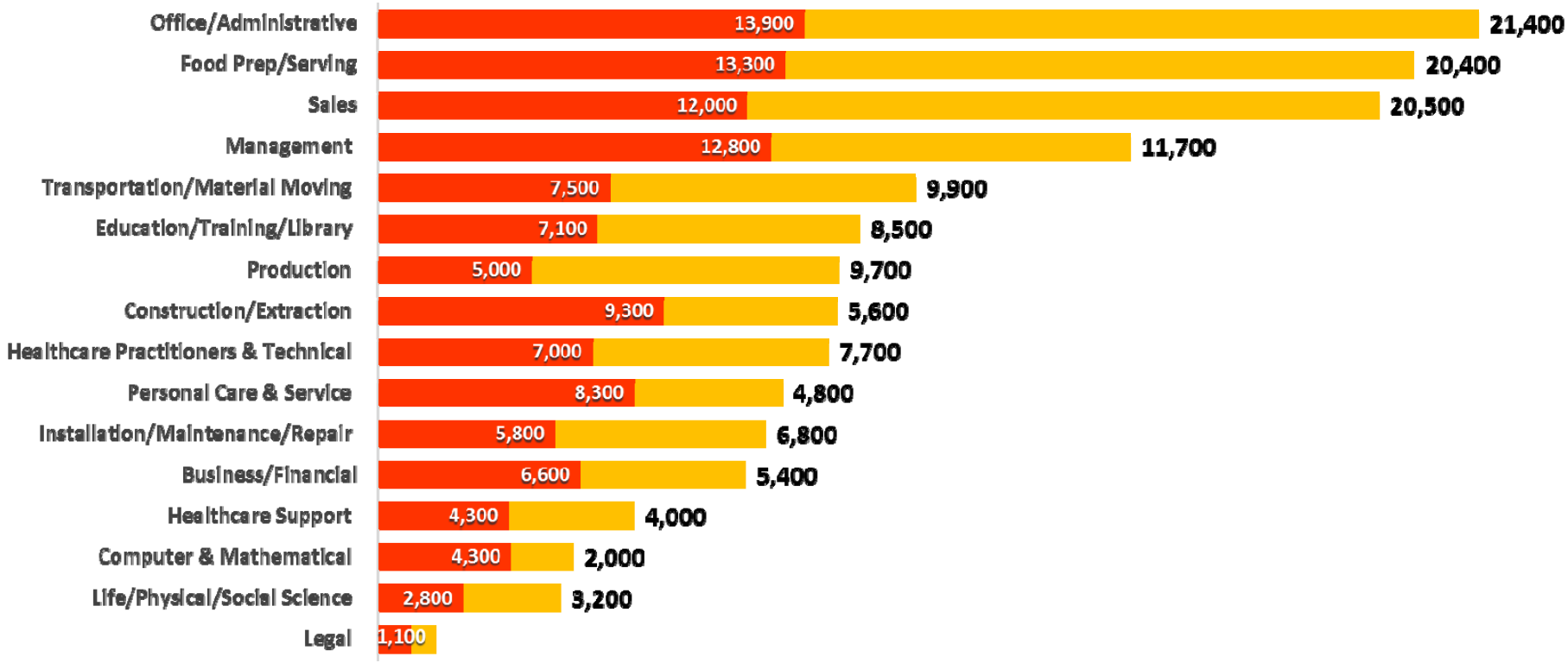
Current Employment and Projected Growth



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

Occupations in Idaho: 2014 – 2024

Projected Openings Due to Growth and Replacements



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

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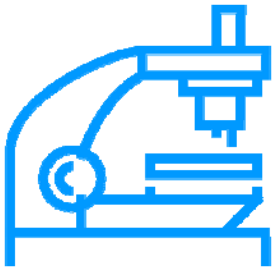
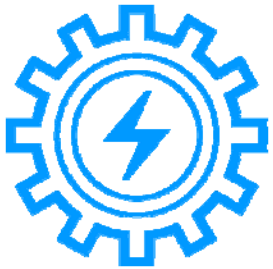
STEM Occupations

2014 - 2024

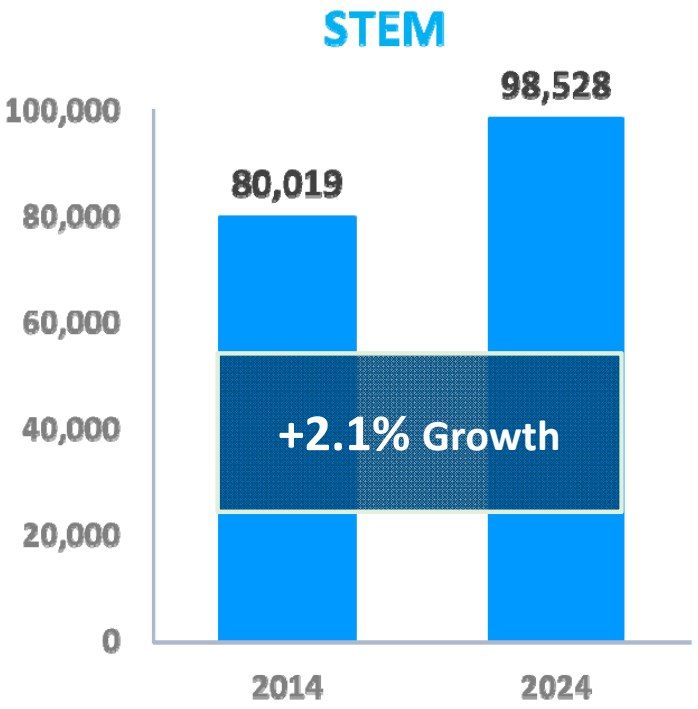
Science ***Technology*** ***Engineering*** ***Mathematics***

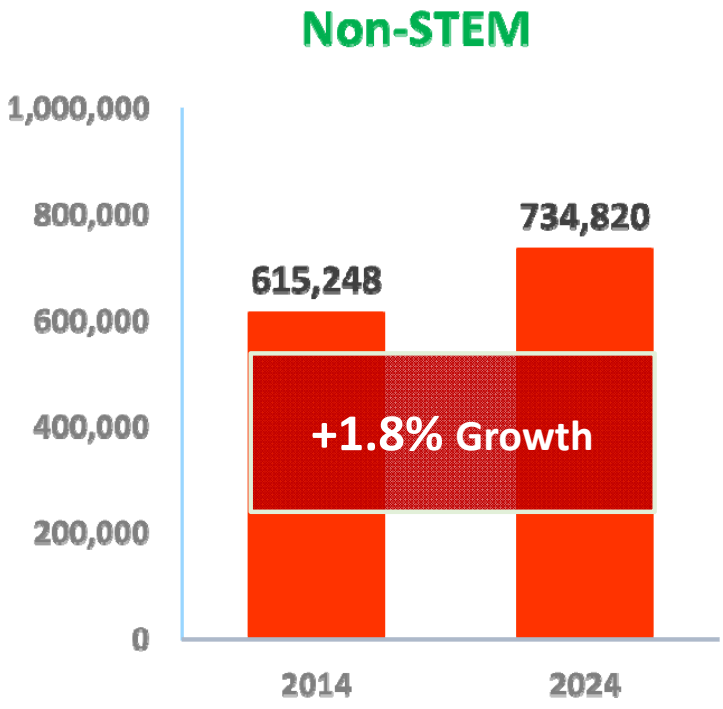




Idaho Total Employment

Projected Values

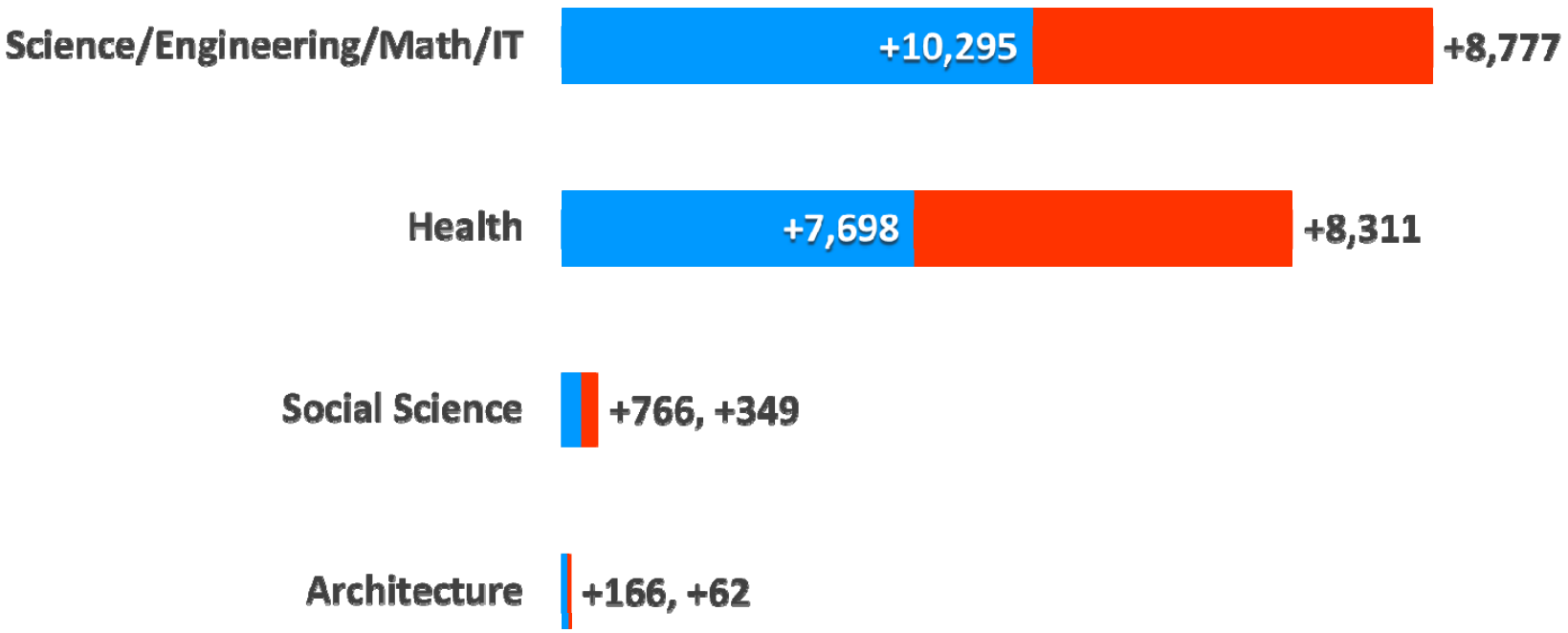




Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

STEM Occupations: 2014 – 2024

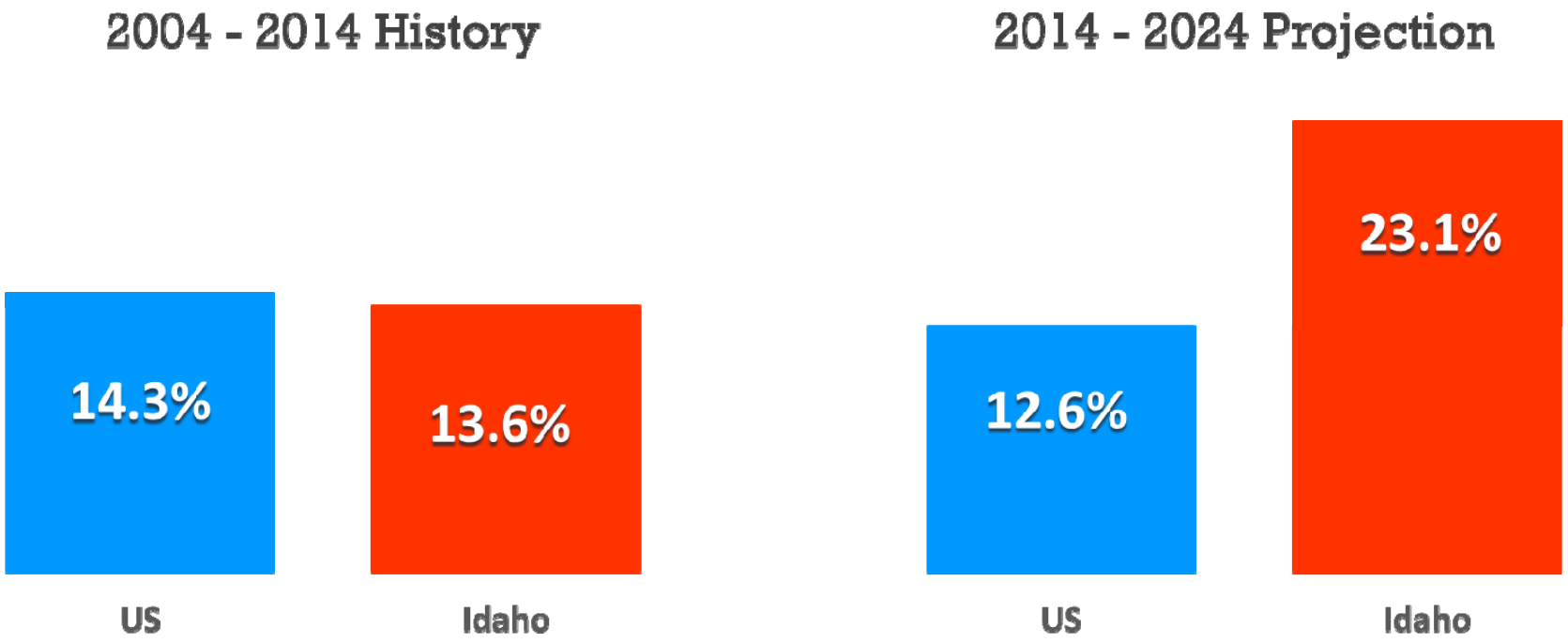
Projected Openings from Growth and Replacements



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

Total STEM: 2004–2014 and 2014-2024

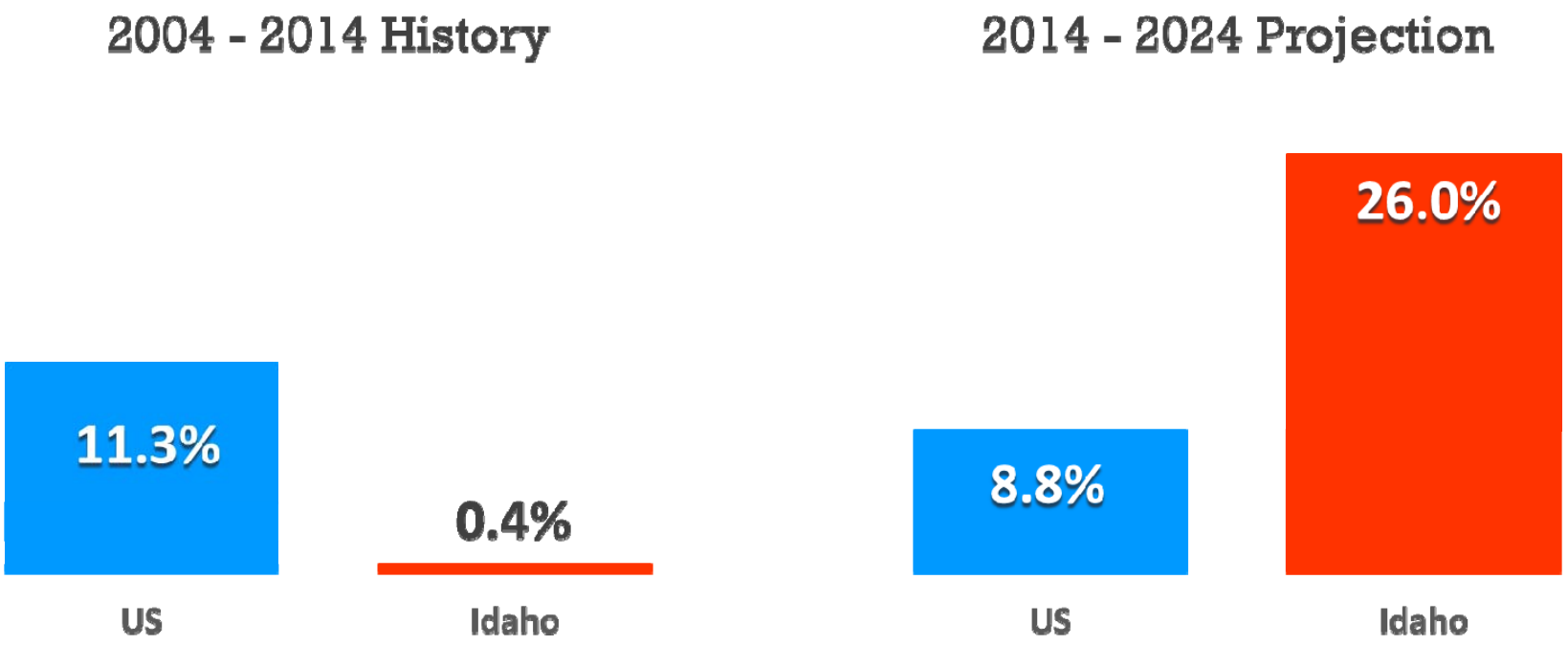
STEM Science, Engineering, Math, IT, Architecture, Social Science & Health



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

STEM Tech: 2004–2014 and 2014-2024

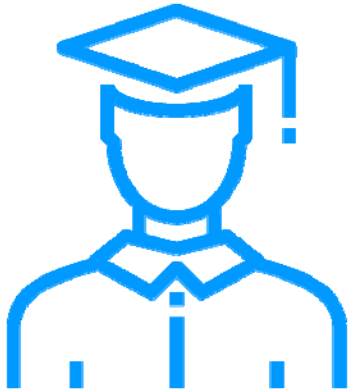
STEM Science, Engineering, Math, IT



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

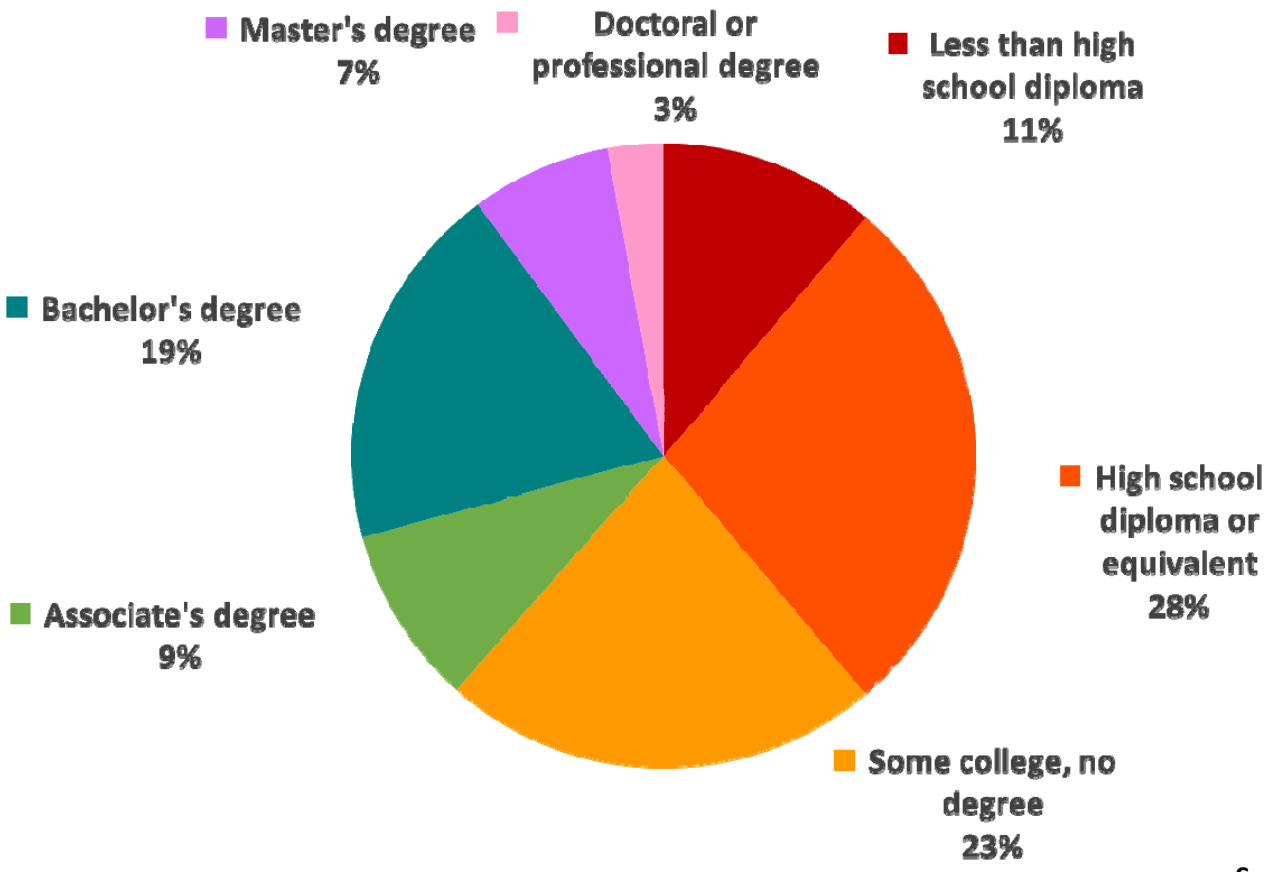
Educational Attainment

2014 - 2024



Workforce Education

Projected Educational Attainment in 2024



By 2024…

- 61% of workers are projected to have a greater than high school education.
- 29% are projected to have a bachelor's degree or higher.
- 39% are projected to have a high school diploma or less.

Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

Idaho's Hot Jobs

Occupational Projections from 2014 to 2024

Rank	Shift	Occupation Title	2024 Employment	Annual Openings	Percent Change	2014 Median Wage	Typical Entry Level Education
1	↑3	Software Developers	6,969	259	36.8%	$36.35	Bachelor's
2	↑74	Lawyers	3,315	109	27.2%	$37.04	Doctoral
3	↑23	Management Analysts	2,959	106	34.4%	$29.26	Bachelor's
4	↑22	Accountants and Auditors	5,385	229	27.5%	$29.33	Bachelor's
5	↑19	Civil Engineers	2,133	96	28.3%	$35.31	Bachelor's
6	↑25	Personal Financial Advisors	1,141	53	39.3%	$33.82	Bachelor's
7	↑40	Business Operations Specialists, All Other	3,229	99	26.8%	$30.03	Bachelor's
8	↓5	Physical Therapists	1,347	59	29.8%	$37.64	Doctoral
9	↑10	Health Specialties Teachers, Postsecondary	1,209	45	30.4%	$39.33	Doctoral
10	↓1	Market Research Analysts and Marketing Specialists	1,949	71	38.3%	$24.76	Bachelor's

Hot jobs are defined as occupations that are numerous, fast-growing and well-paying.
Source: Idaho Department of Labor and the U.S. Bureau of Labor Statistics

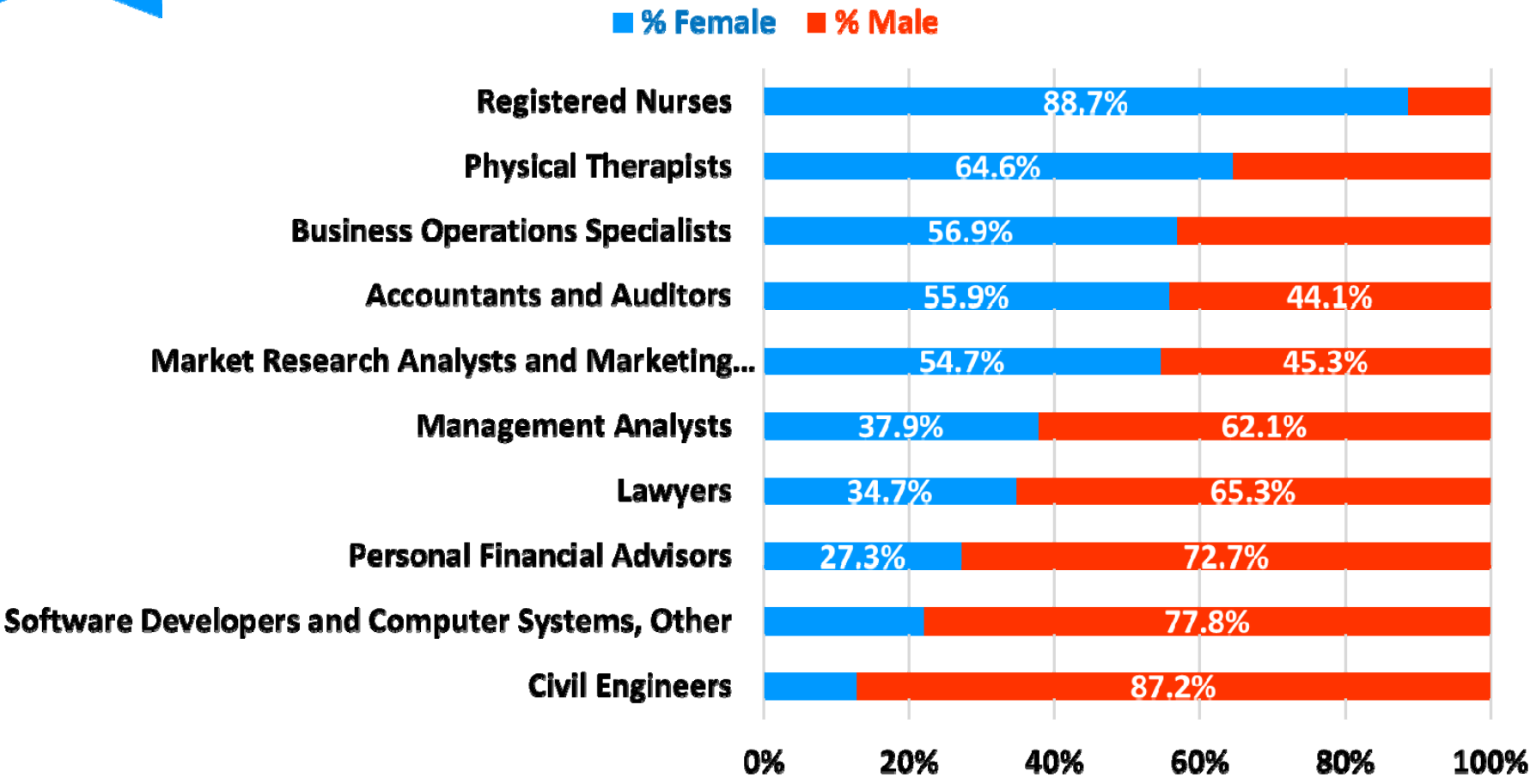
Idaho's Hot Jobs

Occupational Projections from 2014 to 2024

Rank	Shift	Occupation Title	2024 Employment	Annual Openings	Percent Change	2014 Median Wage	Typical Entry Level Education
11	↓9	Registered Nurses	14,357	242	20.3%	$29.30	Bachelor's
12	↓2	Nurse Practitioners	752	18	32.4%	$44.52	Master's
13	↓7	Industrial Machinery Mechanics	2040	50	32.3%	$23.36	High School
14	↑124	Veterinarians	745	18	31.4%	$39.45	Doctoral
15	↓10	Physician Assistants	760	17	28.6%	$45.17	Master's
16	↑207	Public Relations Specialists	805	22	37.8%	$28.33	Bachelor's
17	↑80	Network and Computer Systems Administrators	1,857	36	24.3%	$29.28	Bachelor's
18	↑315	Conservation Scientists	519	18	54.9%	$28.82	Bachelor's
19	↑21	Operations Research Analysts	572	18	44.1%	$29.90	Bachelor's
20	↑73	Web Developers	1,466	50	52.1%	$18.31	Associates

Hot jobs are defined as occupations that are numerous, fast-growing and well-paying.
Source: Idaho Department of Labor and the U.S. Bureau of Labor Statistics

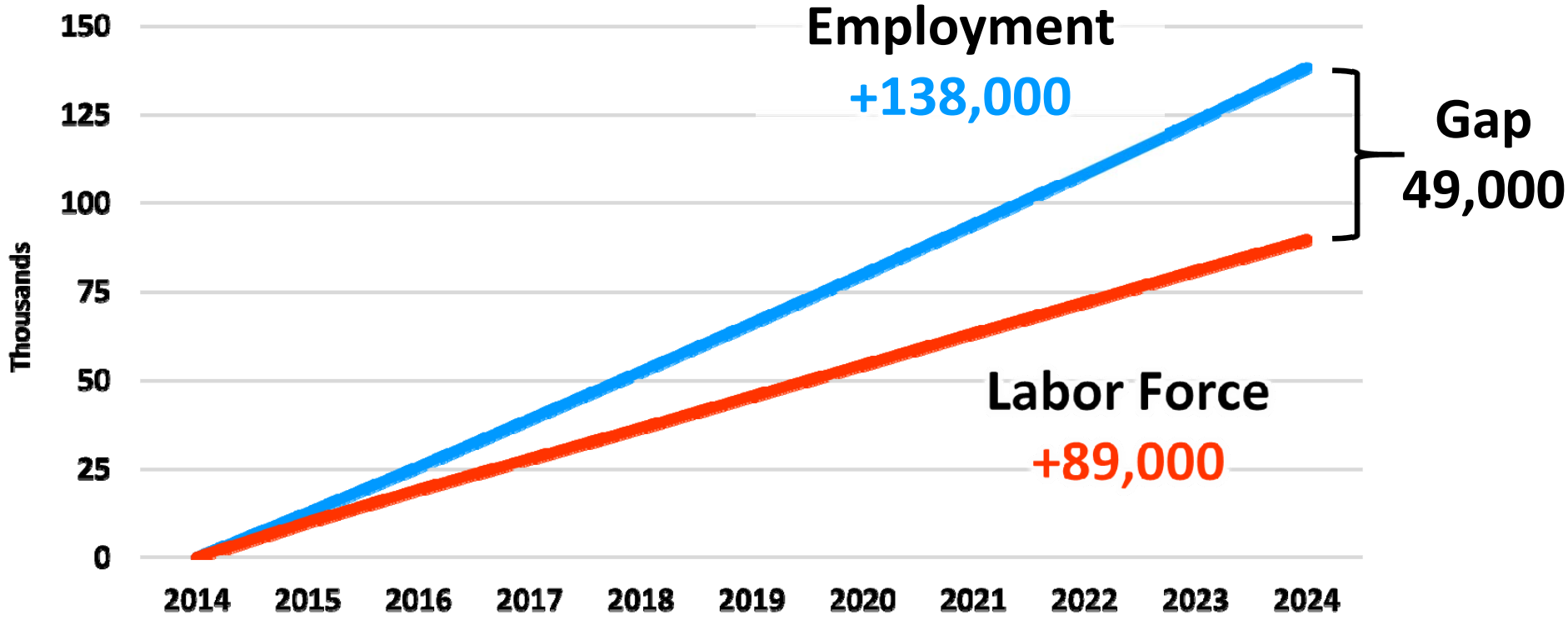
Idaho's Hot Jobs by Gender



Source: U.S. Department of Labor, Idaho Department of Labor, EMSI

Long Term Projections

Projected 2014-2024 Net Growth in Thousands



Source: Idaho Department of Labor

Idaho's Most Numerous Jobs

Occupational Projections from 2014 to 2024

Rank	Occupation Title	2024 Employment	Annual Openings	Percent Change	2014 Median Wage
1	Retail Salespersons	26,814	447	19.9%	$10.68
2	Personal Care Aides	12,421	361	40.1%	$9.440
3	Food Preparation and Serving Workers	14,538	346	31.2%	$8.650
4	Customer Service Representatives	19,646	338	20.8%	$12.84
5	Heavy and Tractor-Trailer Truck Drivers	16,322	277	20.4%	$17.70
6	Registered Nurses	14,357	242	20.3%	$29.30
7	Waiters and Waitresses	13,145	241	22.5%	$8.83
8	Office Clerks	17,409	233	15.5%	$13.46
9	Restaurant Cooks	7,908	212	36.6%	$10.42
10	Cashiers	16,825	182	12.1%	$9.15

Hot jobs are defined as occupations that are numerous, fast-growing and well-paying.
Source: Idaho Department of Labor and the U.S. Bureau of Labor Statistics

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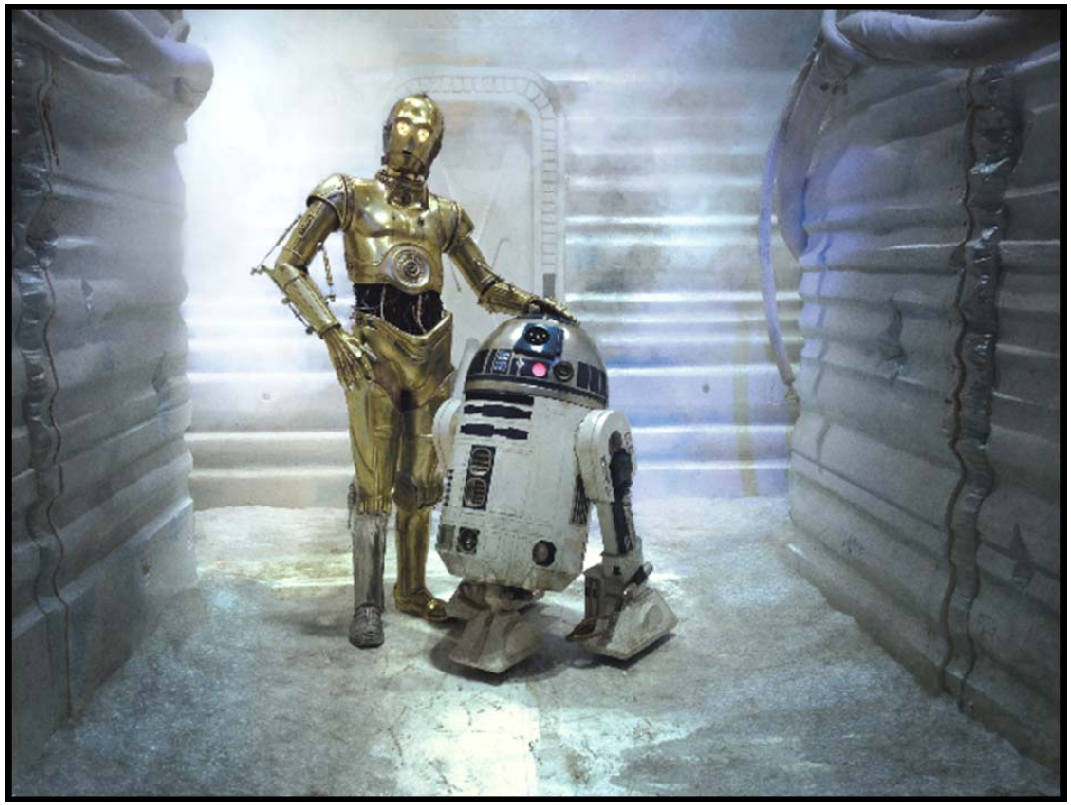
Challenge: Automation



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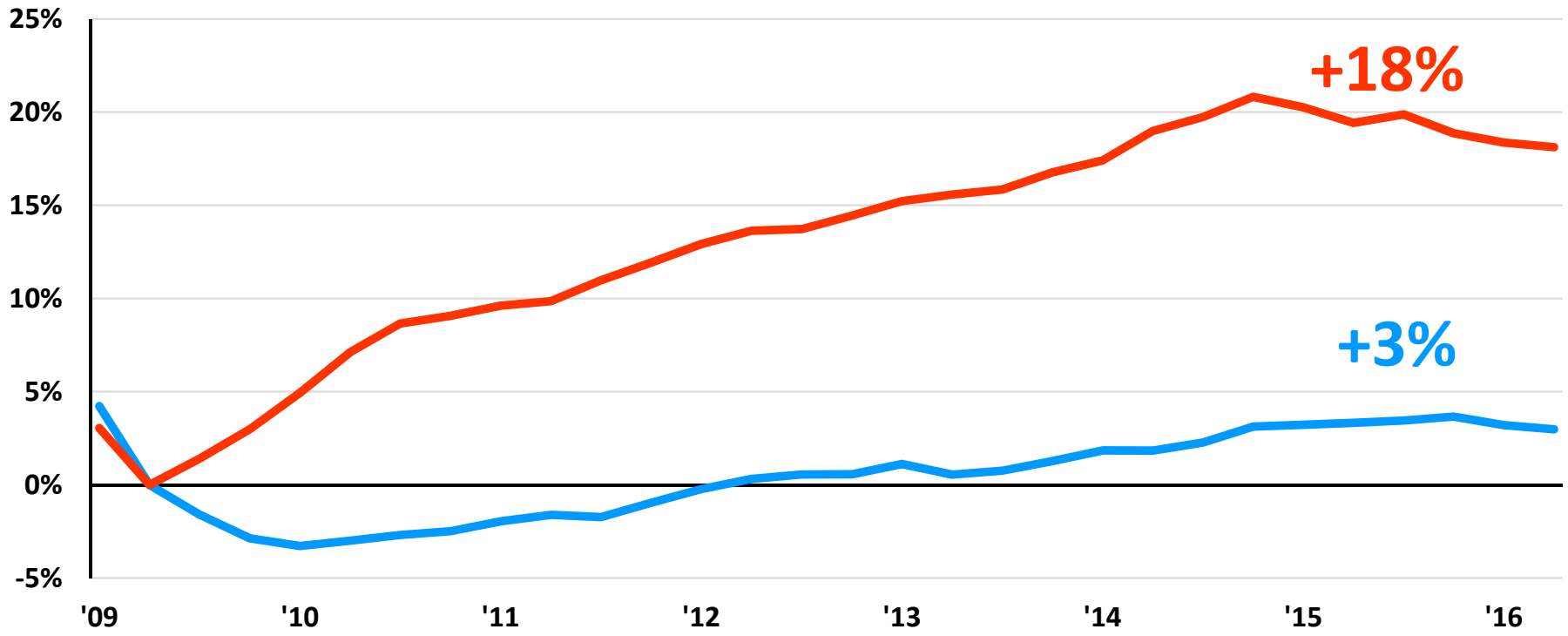
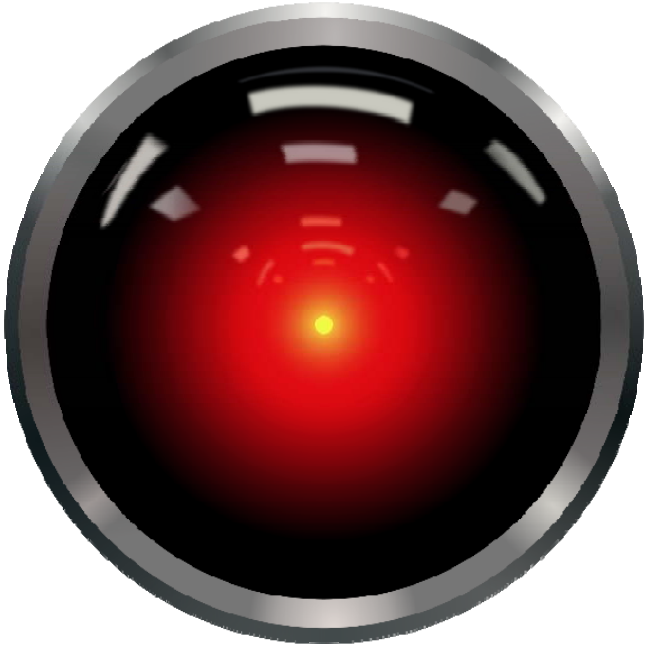
American Manufacturing

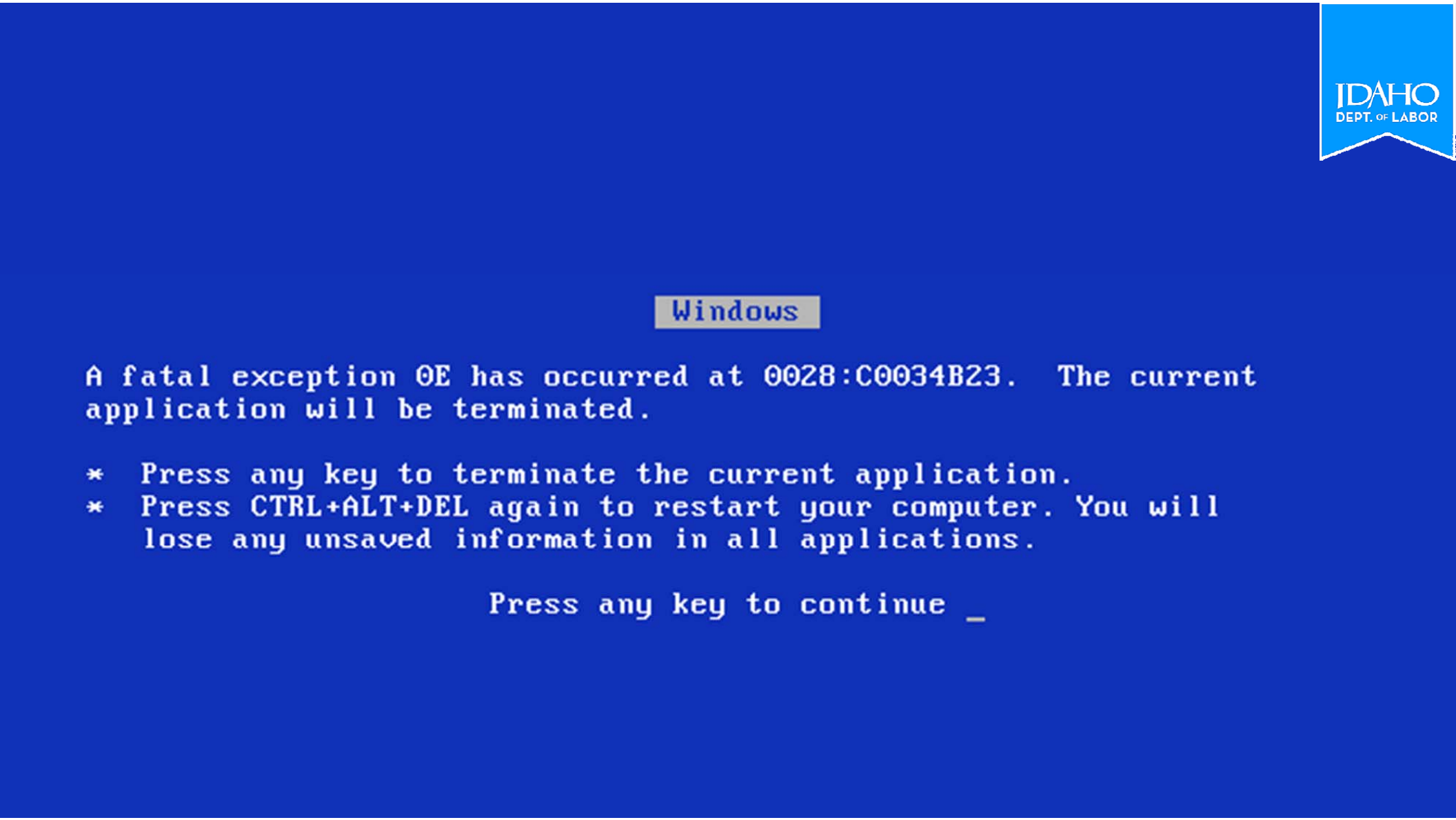
Percentage Change for Employment and Production



Source: Federal Reserve Bank of St. Louis – American Industrial Production Index



“I’m sorry Dave, I’m afraid I can’t do that.”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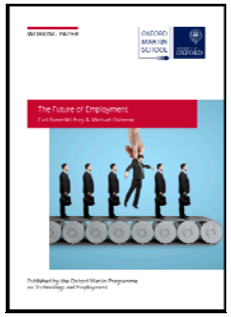
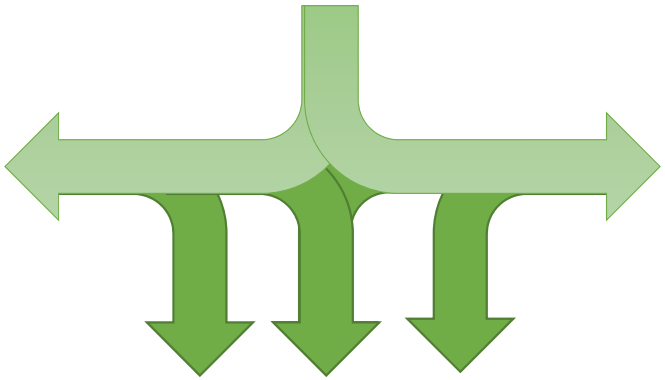
Windows
A fatal exception 0E has occurred at 0028:C0034B23. The current application will be terminated.
* Press any key to terminate the current application.
* Press CTRL+ALT+DEL again to restart your computer. You will lose any unsaved information in all applications.
Press any key to continue _

Technological trends



- Artificial Intelligence
- Big Data
- Cloud Computing

Machine Learning

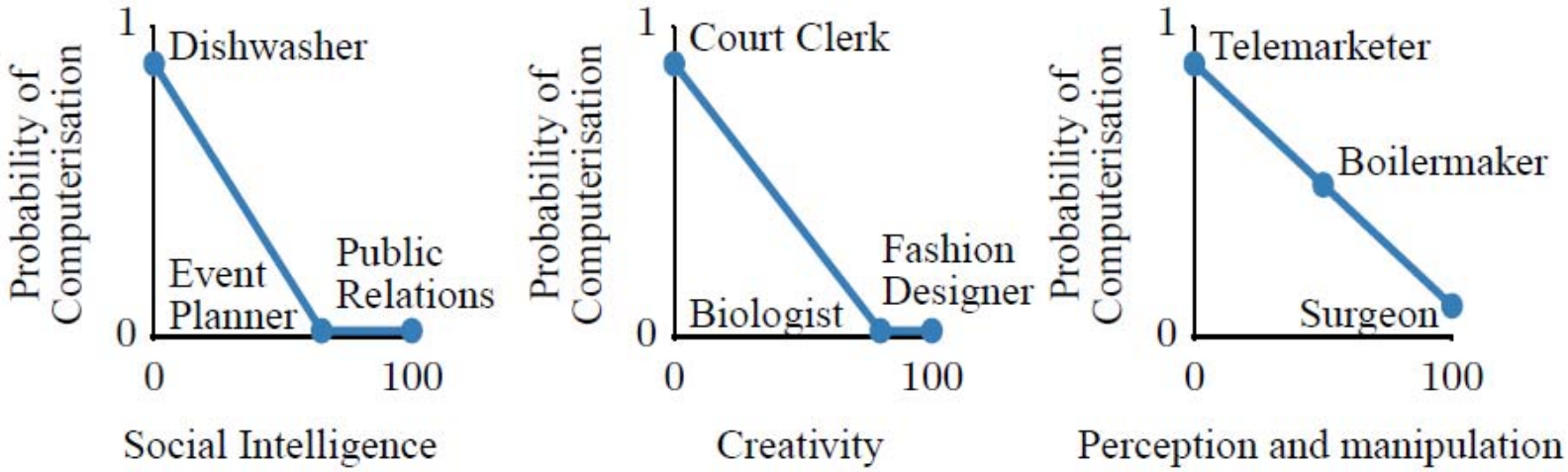


Machine Robotics

Cognitive and Non-Routine Task Automation

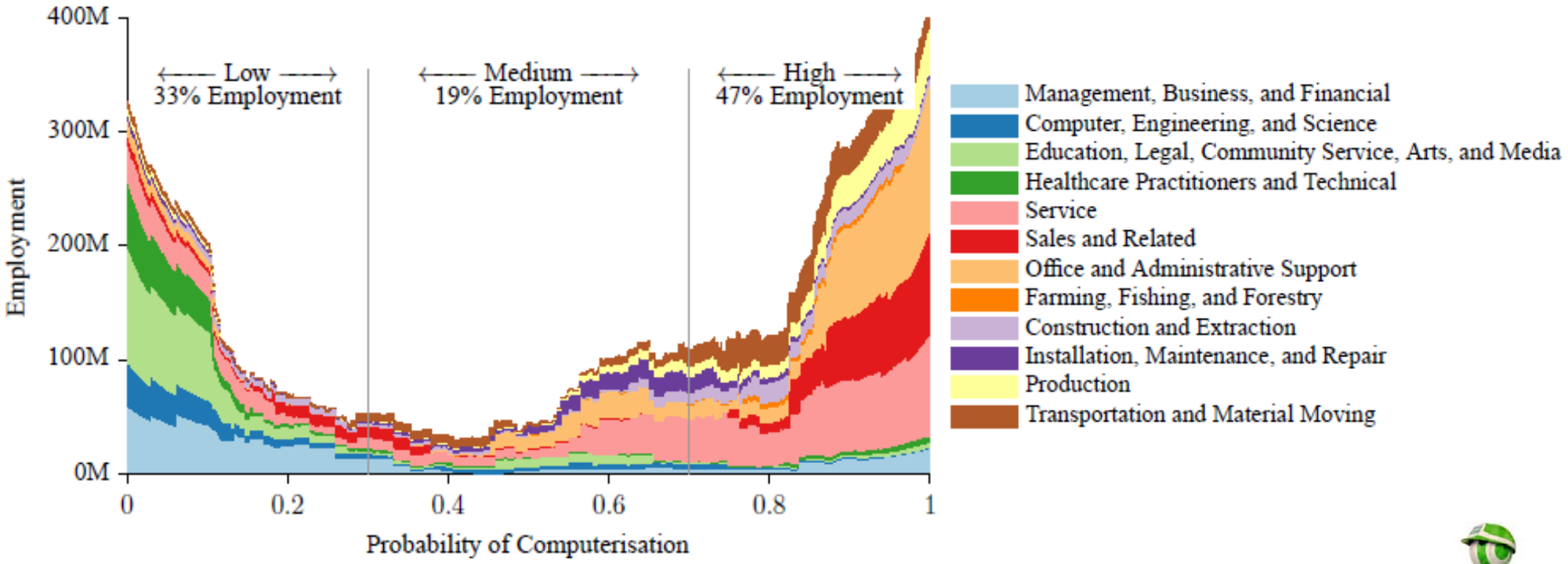
Source: Frey & Osborne, Oxford Martin School, 2013

Automation Bottleneck Traits



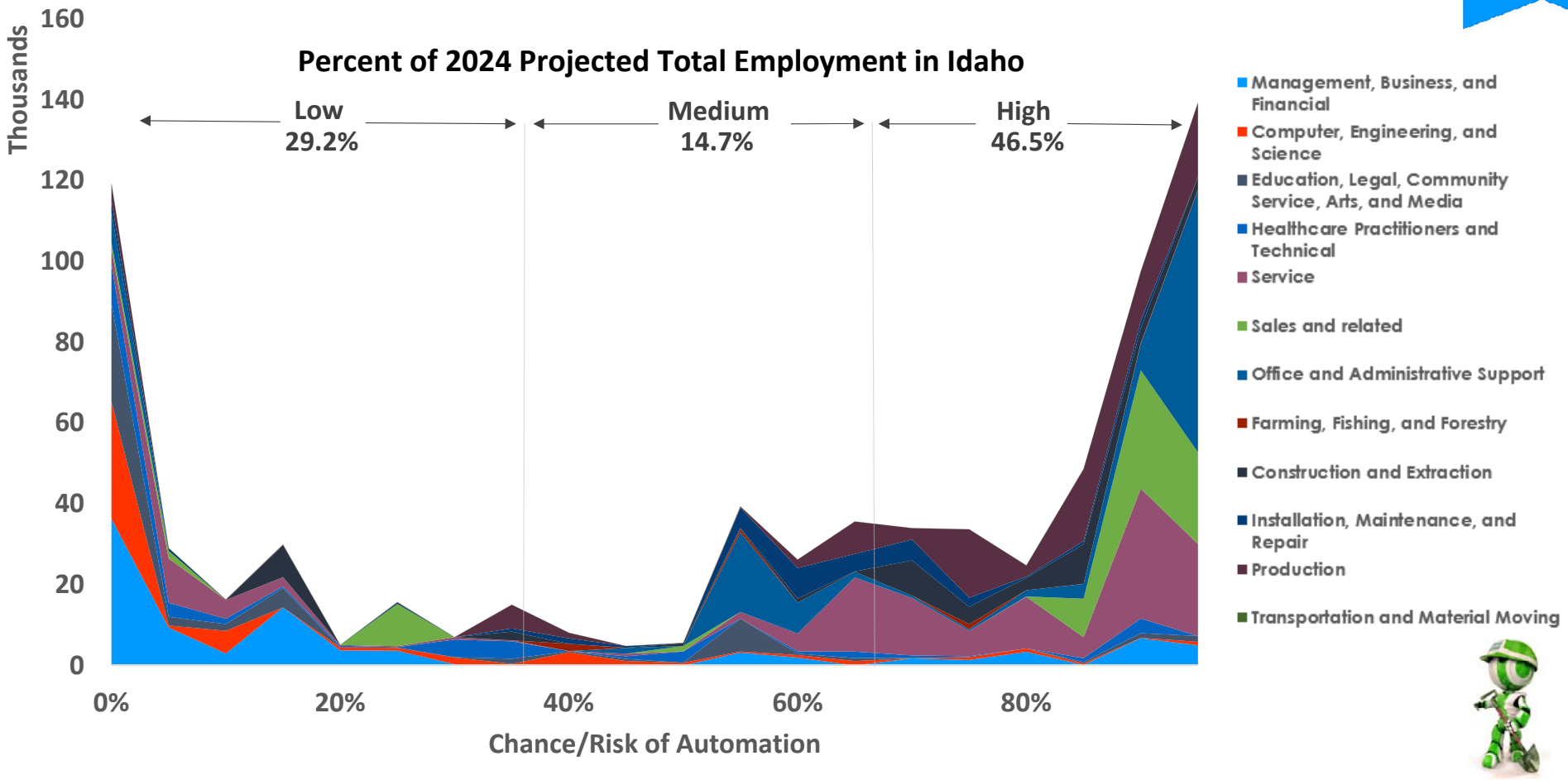
Source: Frey & Osborne, Oxford Martin School, 2013

Distribution of Risk



Sources: Frey & Osborne, Oxford Martin School, 2013; U.S. Bureau of Labor Statistics: 2010 Occupational Employment

Distribution of Risk in Idaho



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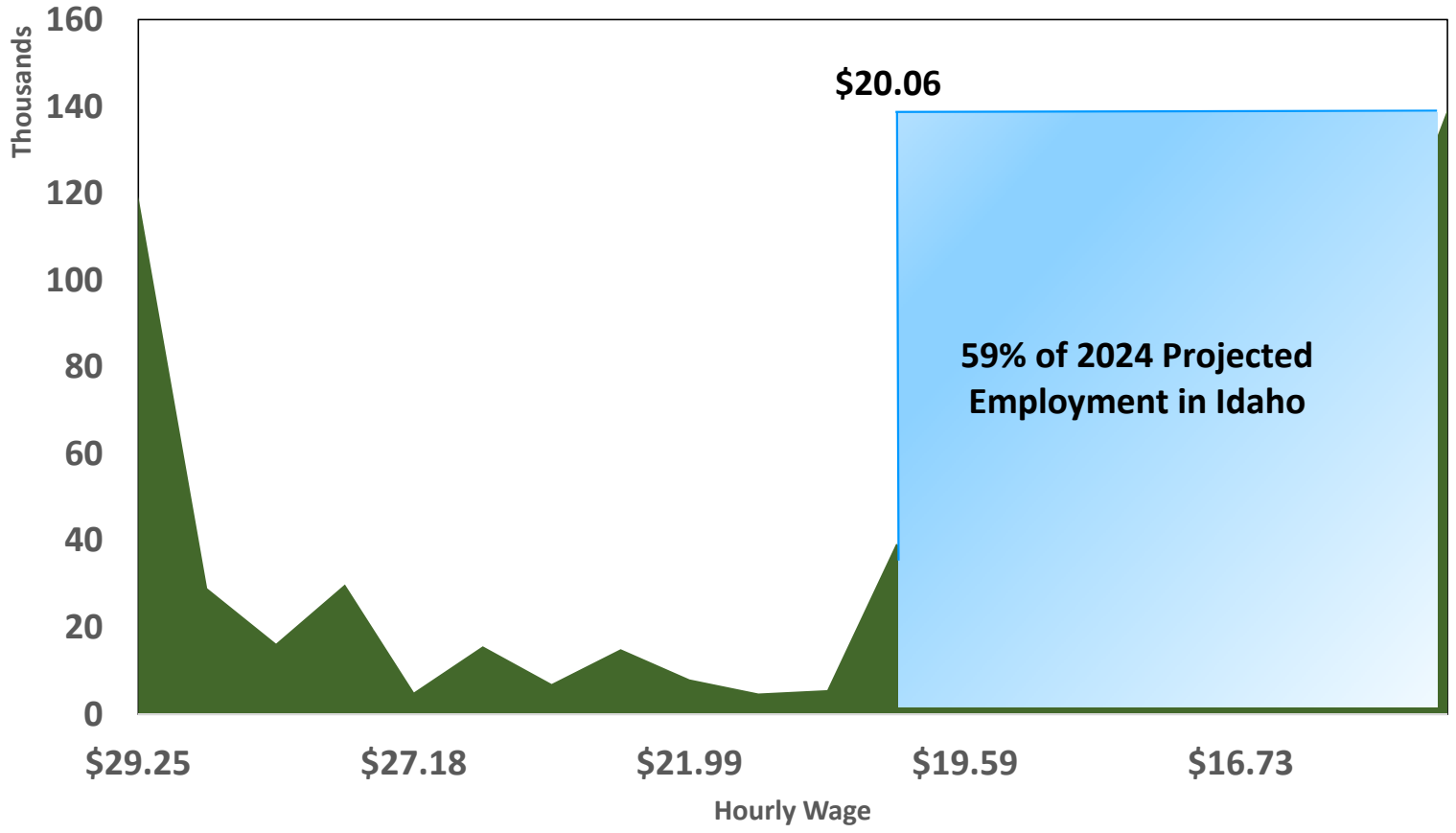
Distribution of Risk in Idaho



Sources: Frey & Osborne, Oxford Martin School, 2013; U.S. Bureau of Labor Statistics, Idaho Department of Labor

Occupation Risk

Least Susceptible

Rank	Occupation	Low Risk	Medium Risk	High Risk
1	Computer, Engineering, and Science	81.6%	12.5%	5.9%
2	Education, Legal, Community Service, Arts, and Media	74.4%	20.0%	5.6%
3	Management, Business, and Financial	68.8%	7.2%	24.0%
4	Healthcare Practitioners and Technical	60.3%	30.8%	8.9%
5	Construction and Extraction	19.1%	11.4%	69.5%
6	Sales and related	14.5%	5.4%	80.2%
7	Installation, Maintenance, and Repair	12.0%	57.1%	30.9%
8	Service	11.7%	20.1%	68.3%
9	Production	7.5%	14.2%	78.3%
10	Office and Administrative Support	6.4%	25.3%	68.4%

Sources: Frey & Osborne, Oxford Martin School, 2013; U.S. Bureau of Labor Statistics: 2010 Occupational Employment

Occupation Risk

Top Ten Most Susceptible

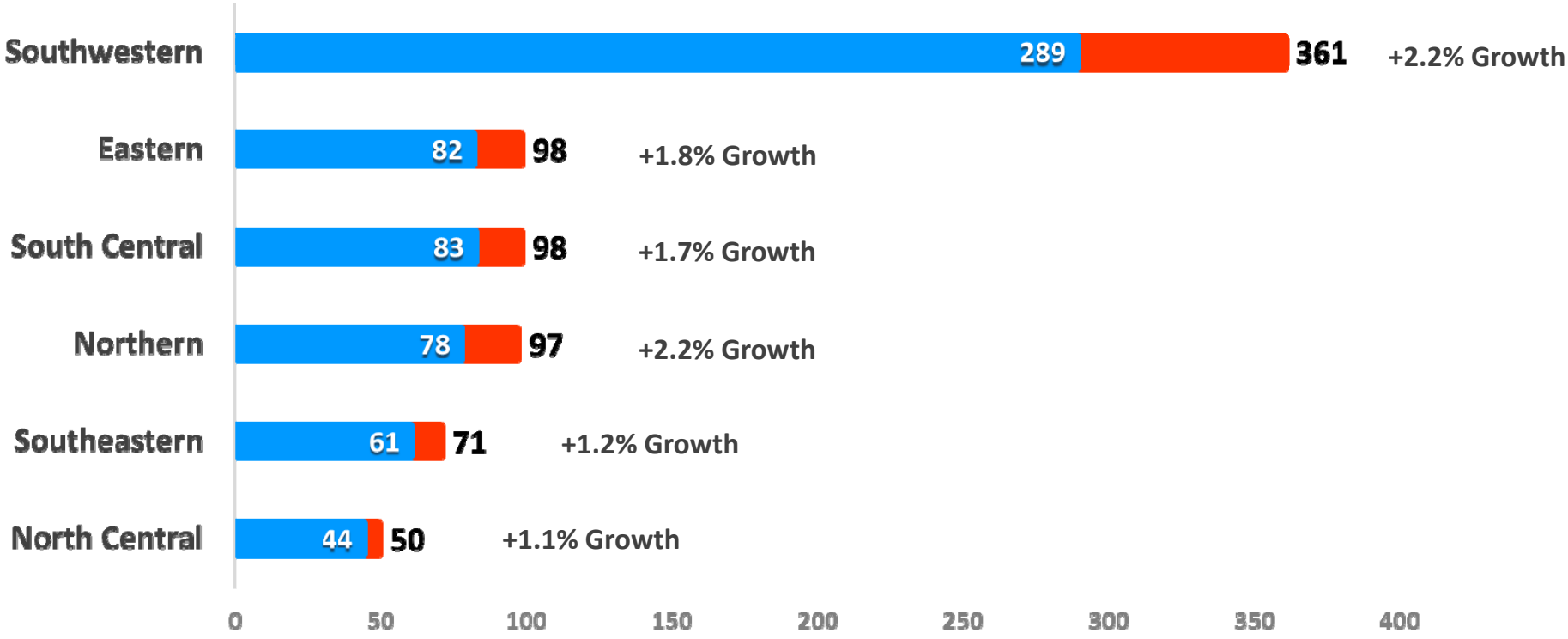
Rank	Occupation	Low Risk	Medium Risk	High Risk
1	Sales and related	14.5%	5.4%	80.2%
2	Production	7.5%	14.2%	78.3%
3	Transportation and Material Moving	2.4%	22.2%	75.4%
4	Construction and Extraction	19.1%	11.4%	69.5%
5	Office and Administrative Support	6.4%	25.3%	68.4%
6	Service	11.7%	20.1%	68.3%
7	Installation, Maintenance, and Repair	12.0%	57.1%	30.9%
8	Management, Business, and Financial	68.8%	7.2%	24.0%
9	Farming, Fishing, and Forestry	0.0%	77.7%	22.3%
10	Healthcare Practitioners and Technical	60.3%	30.8%	8.9%

Sources: Frey & Osborne, Oxford Martin School, 2013; U.S. Bureau of Labor Statistics: 2010 Occupational Employment

Challenge: Urban and Rural

Regional Job Growth: 2014 – 2024

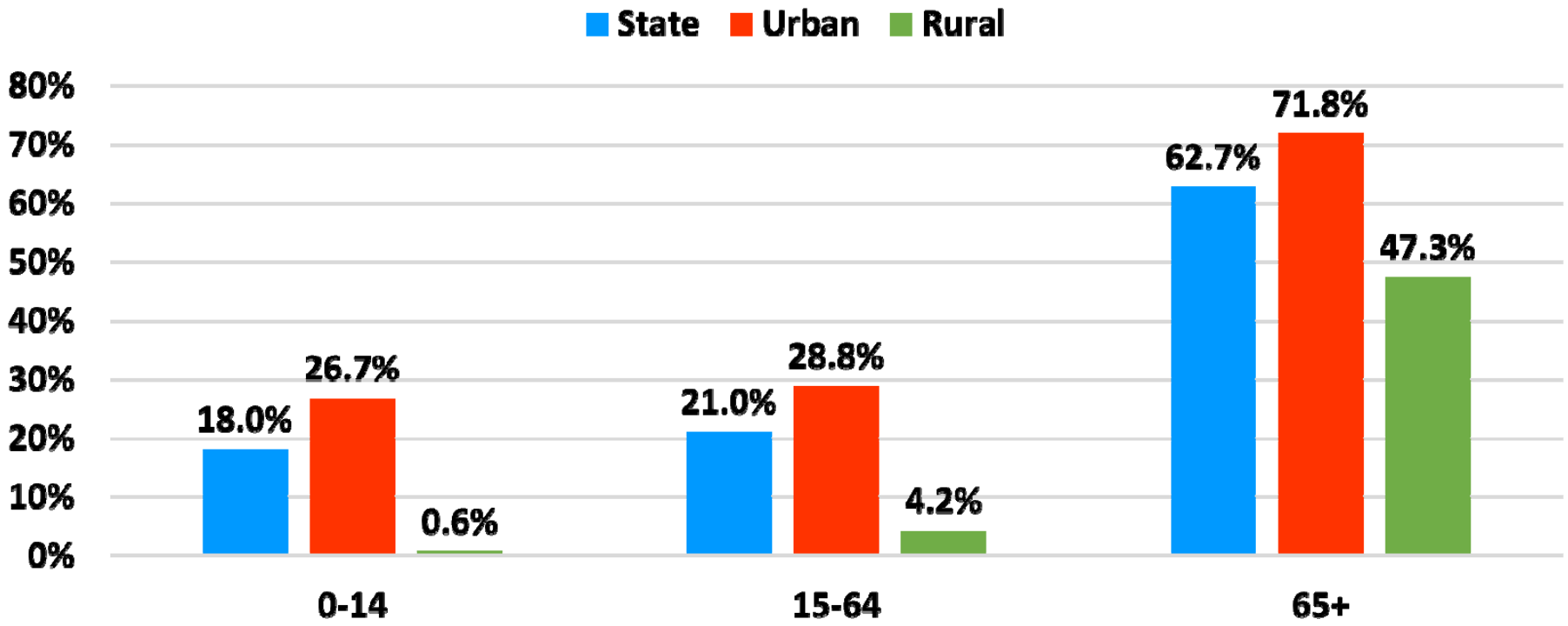
2014 Employment and Projected 2024 Employment in thousands



Source: U.S. Bureau of Labor Statistics, Idaho Department of Labor

Idaho Population Growth

By Age Group, 2001 to 2015



Source: US Census Bureau

Questions and Discussion?

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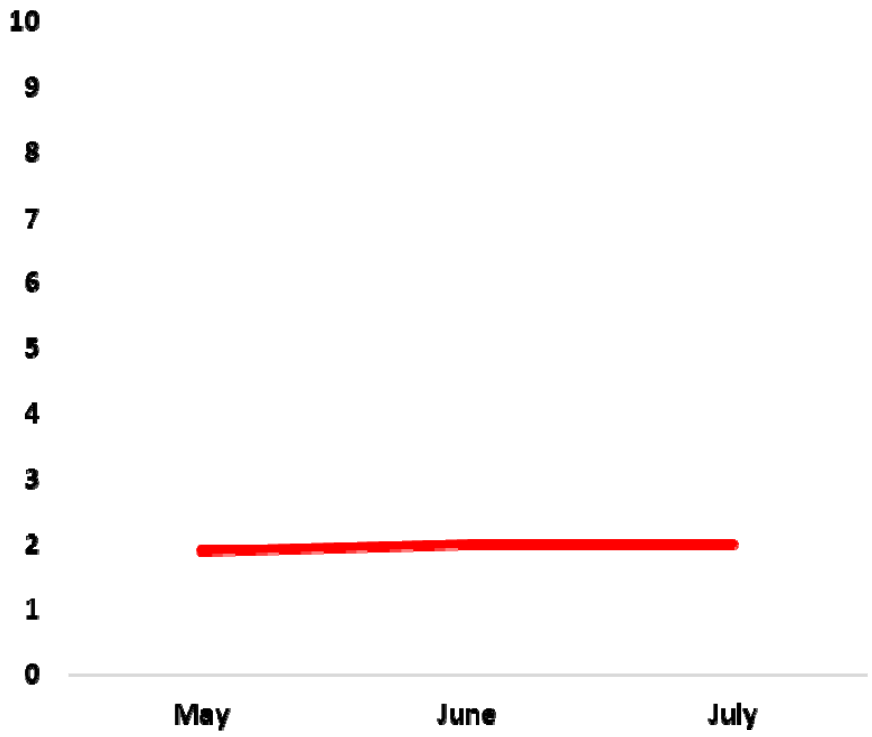
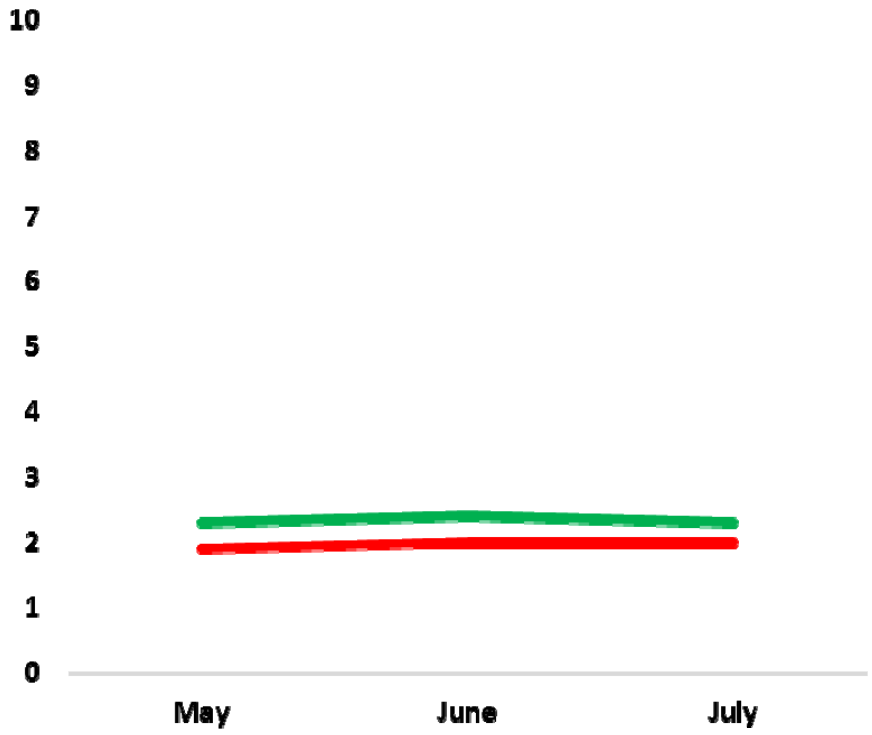
Defining Unemployment



U-1: Long Term Unemployed

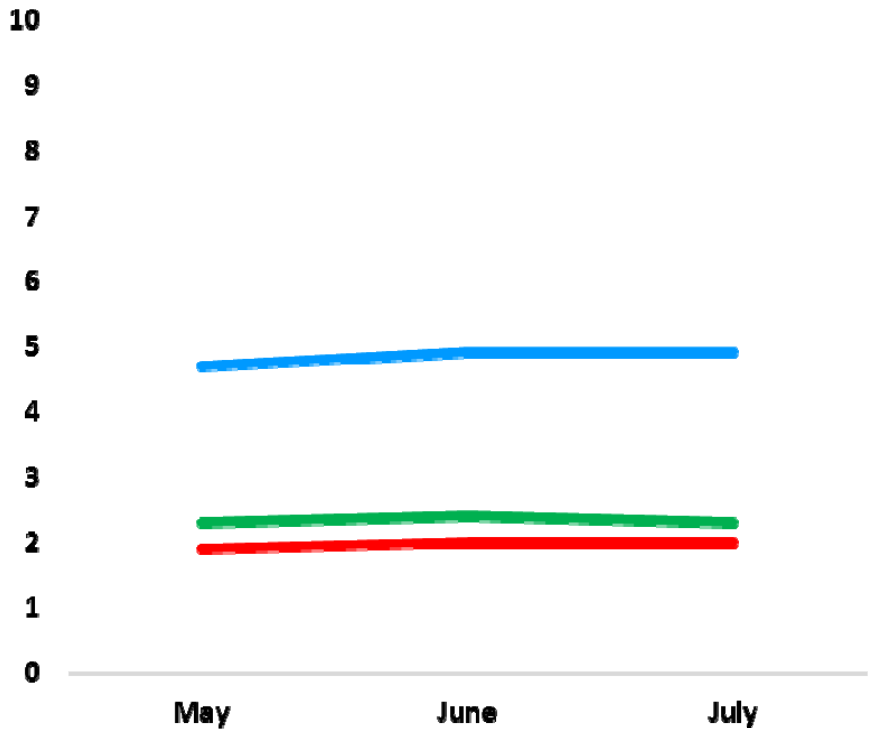
Defining Unemployment



U-1: Long Term Unemployed

U-2: Recently Unemployed

Defining Unemployment

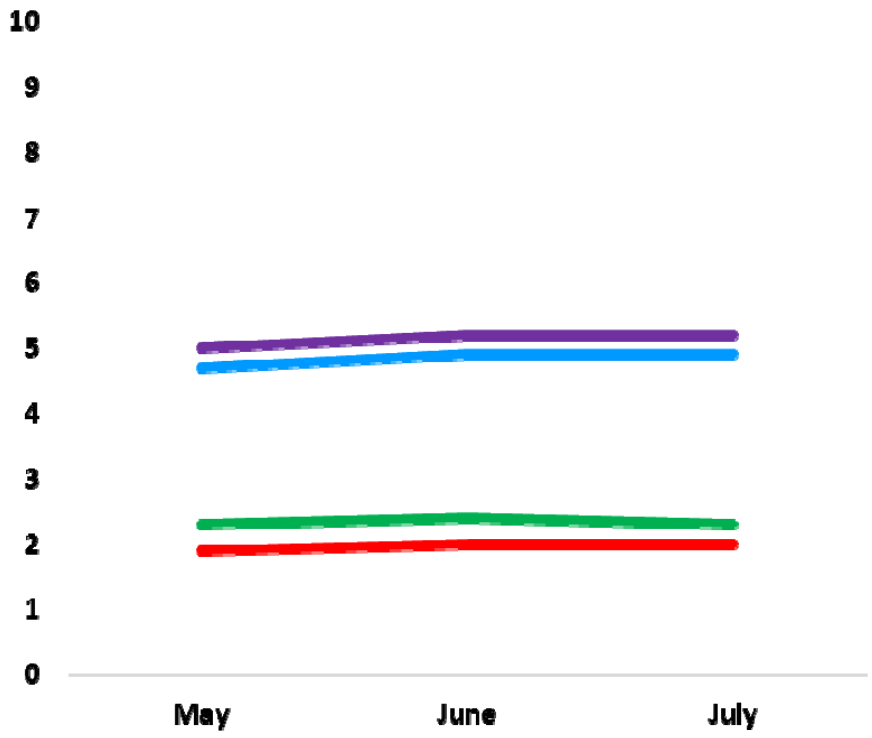


U-1: Long Term Unemployed

U-2: Recently Unemployed

U-3: All Unemployed

Defining Unemployment



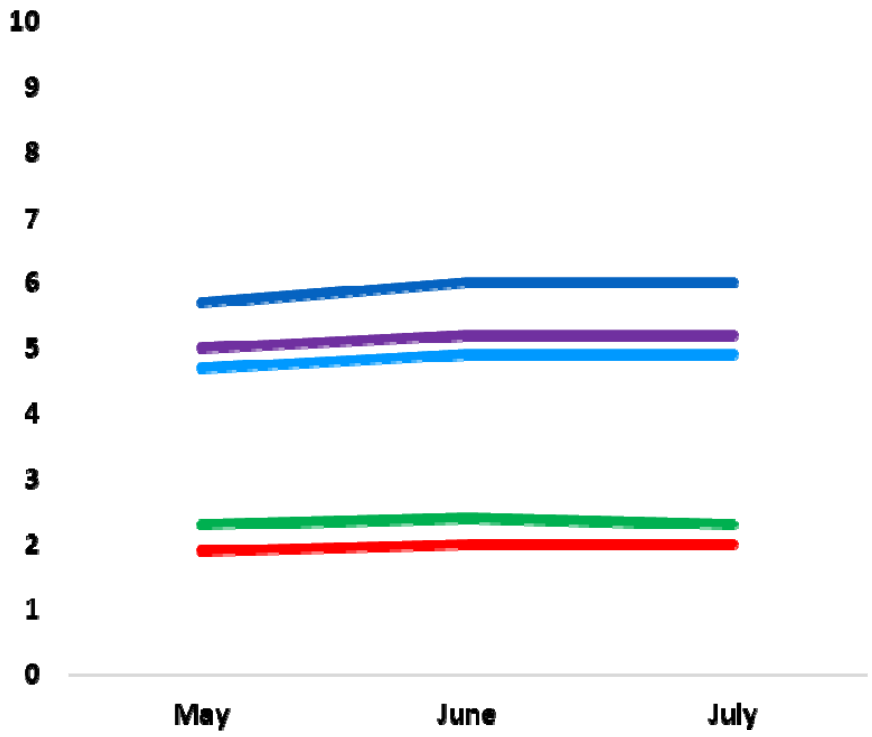
U-1: Long Term Unemployed

U-2: Recently Unemployed

U-3: All Unemployed

U-4: All Unemployed, plus discouraged workers

Defining Unemployment



U-1: Long Term Unemployed

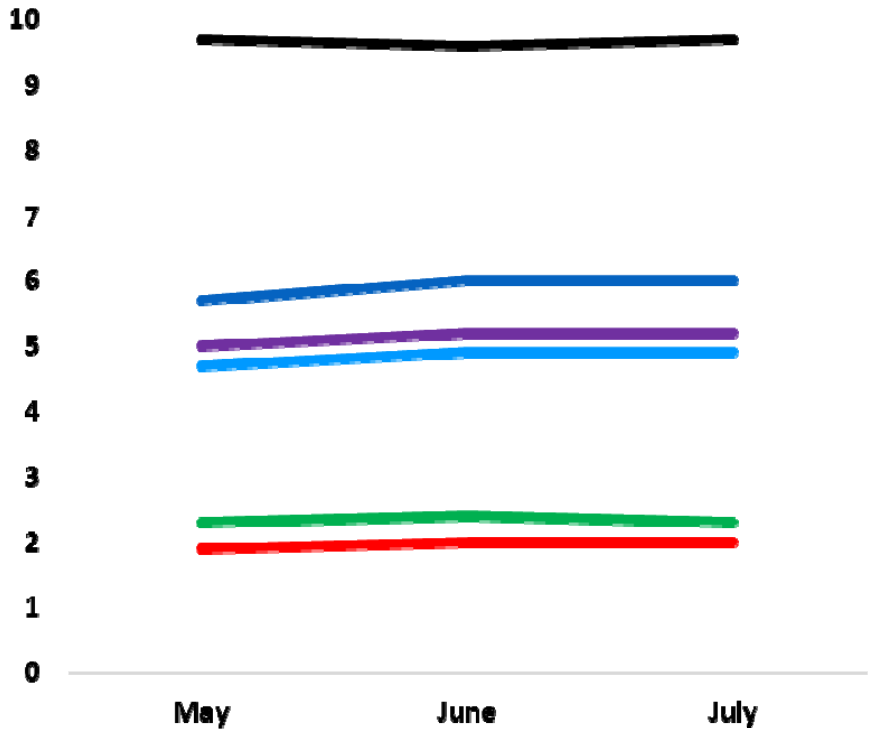
U-2: Recently Unemployed

U-3: All Unemployed

U-4: All Unemployed, plus discouraged workers

U-5: All unemployed, plus discouraged workers, plus marginally attatched

Defining Unemployment



U-1: Long Term Unemployed

U-2: Recently Unemployed

U-3: All Unemployed

U-4: U-3, plus discouraged workers

U-5: U-4, plus marginally attatched

U-6: U-5, plus economic part-timers