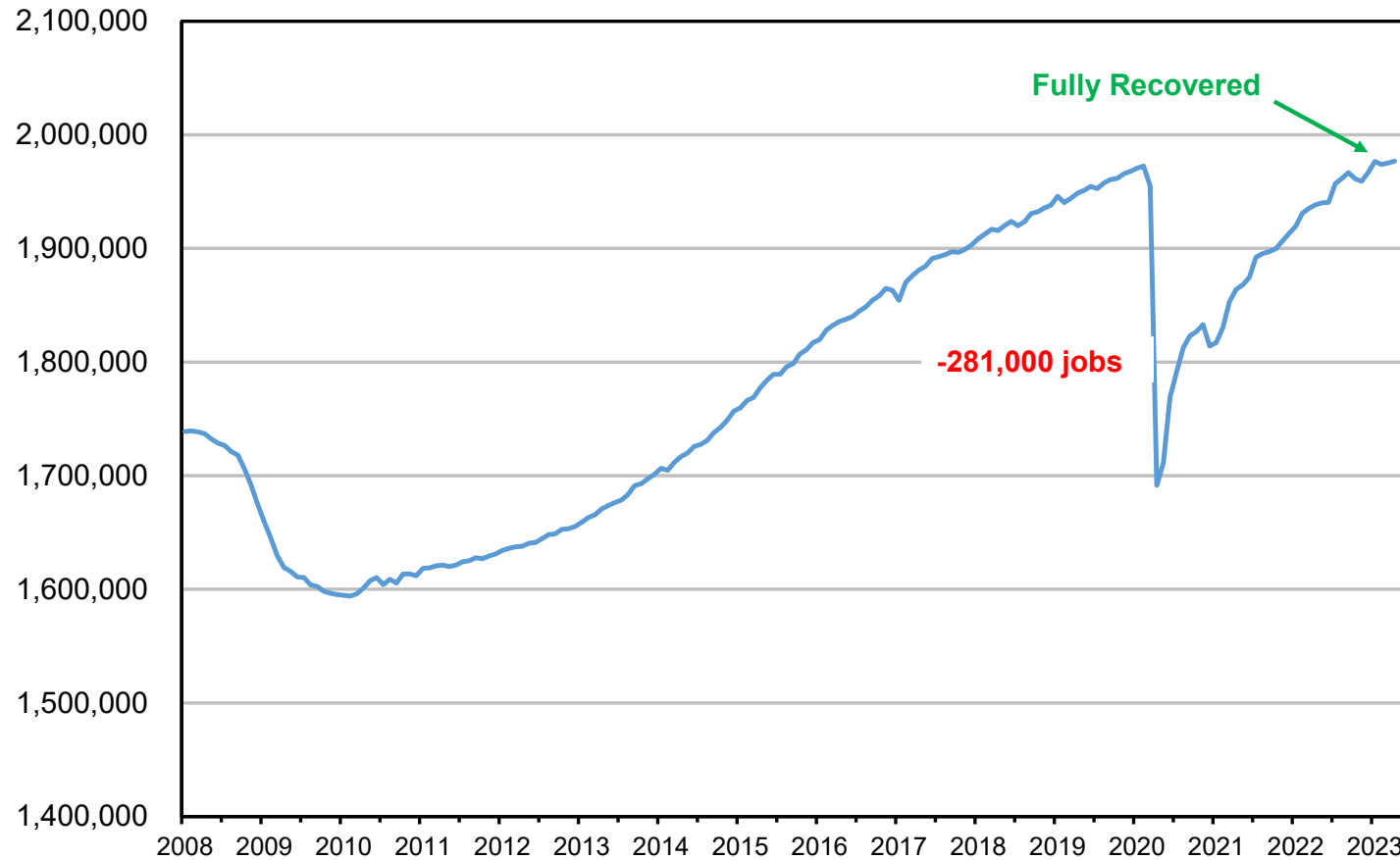


Economic Update, and High Tech in Oregon

Future Ready High Tech Consortium
June 12, 2023

Oregon has more jobs now than before the pandemic recession.

Oregon's Total Nonfarm Employment



Full jobs recovery in January

Lagging:

- Leisure and Hospitality
- Financial Activities

Leading:

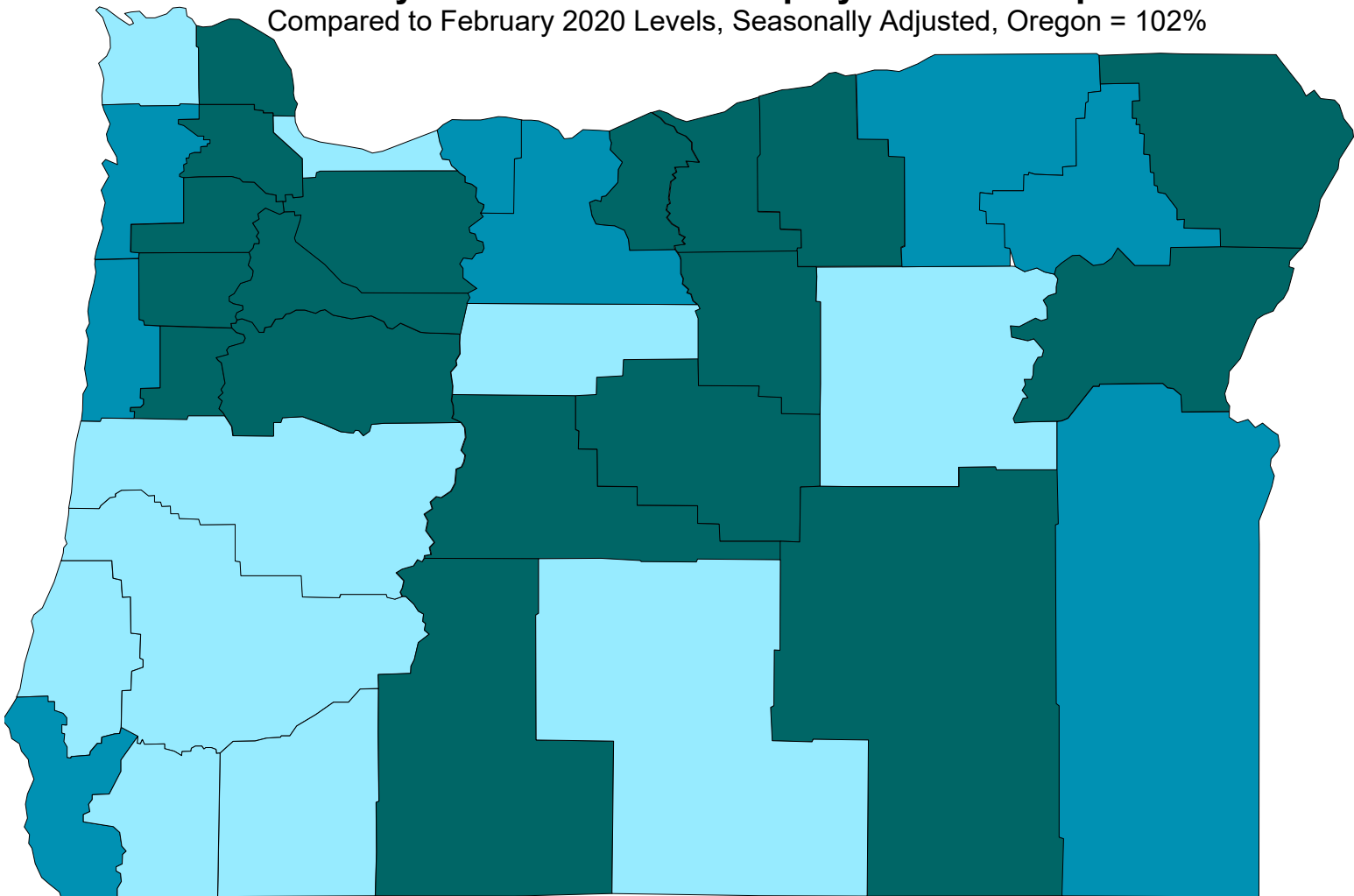
- Construction
- Professional and Business Services

Source: Oregon Employment Department

Oregon has more jobs now than before the pandemic recession.

Recovery of Total Nonfarm Employment as of April 2023

Compared to February 2020 Levels, Seasonally Adjusted, Oregon = 102%



Jobs recovery and expansion is widespread across the state:

Twenty-one counties have regained their total pandemic recession job losses.

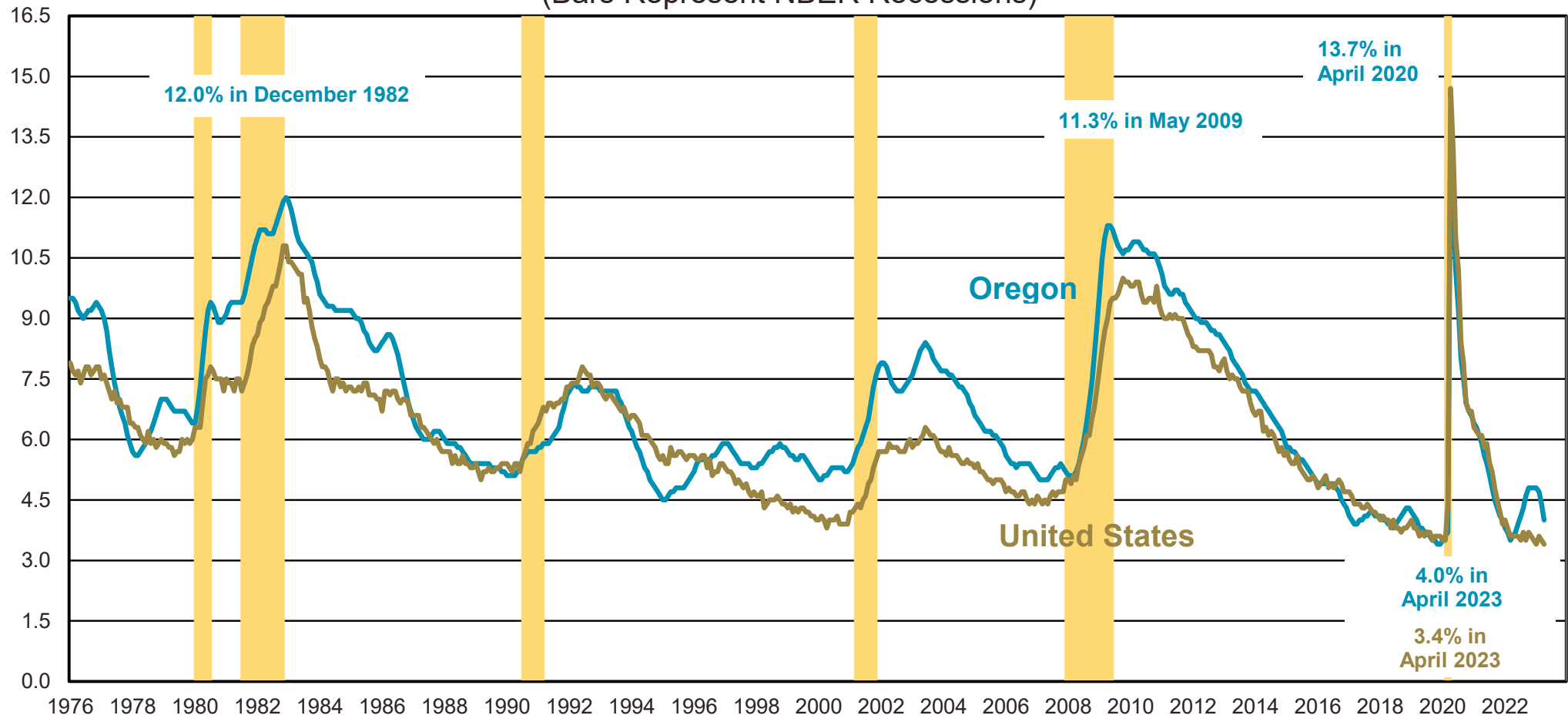
Recovery has been a bit slower in Southern Oregon.

Source: Oregon Employment Department

More jobs than before recession (100% +) **Near full jobs recovery (90% to 100%)** **Slower recovery (89% or less)**

Oregon's unemployment rate dropped to 4.0% in April.

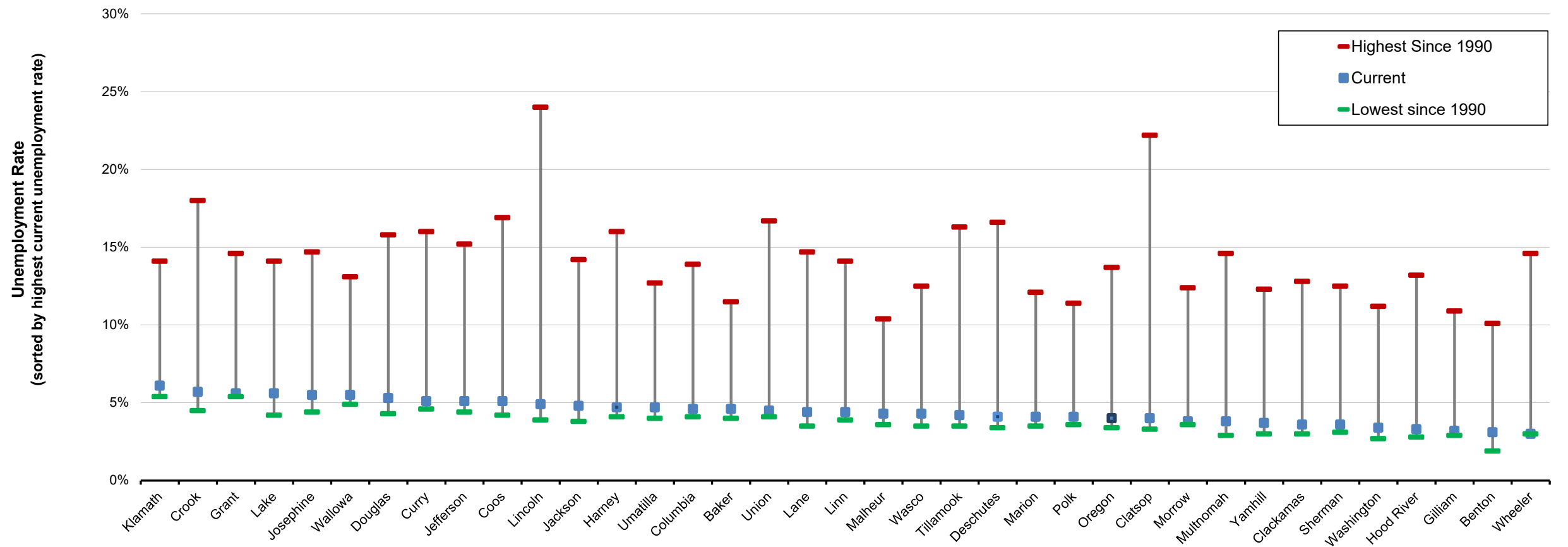
Oregon's Unemployment Rate Was 4.0% in April 2023 (Bars Represent NBER Recessions)



Source: Oregon Employment Department and National Bureau of Economic Research

Unemployment Rates in Oregon Counties

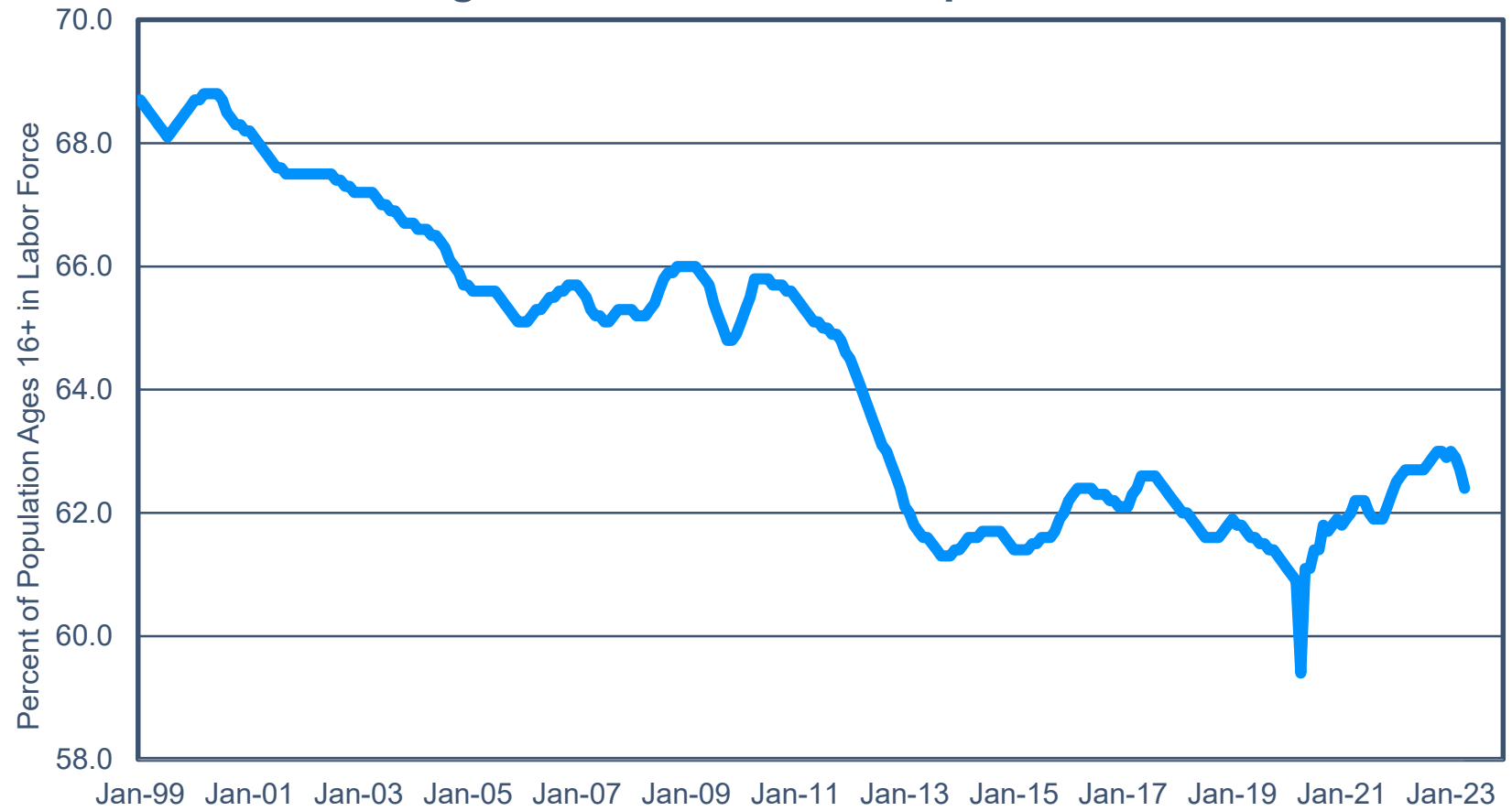
Current Rate (April 2023), Record High, and Record Low for Each County, Seasonally Adjusted



Source: Oregon Employment Department, Local Area Unemployment Statistics

Oregon's labor force participation rate was 62.4% in April.

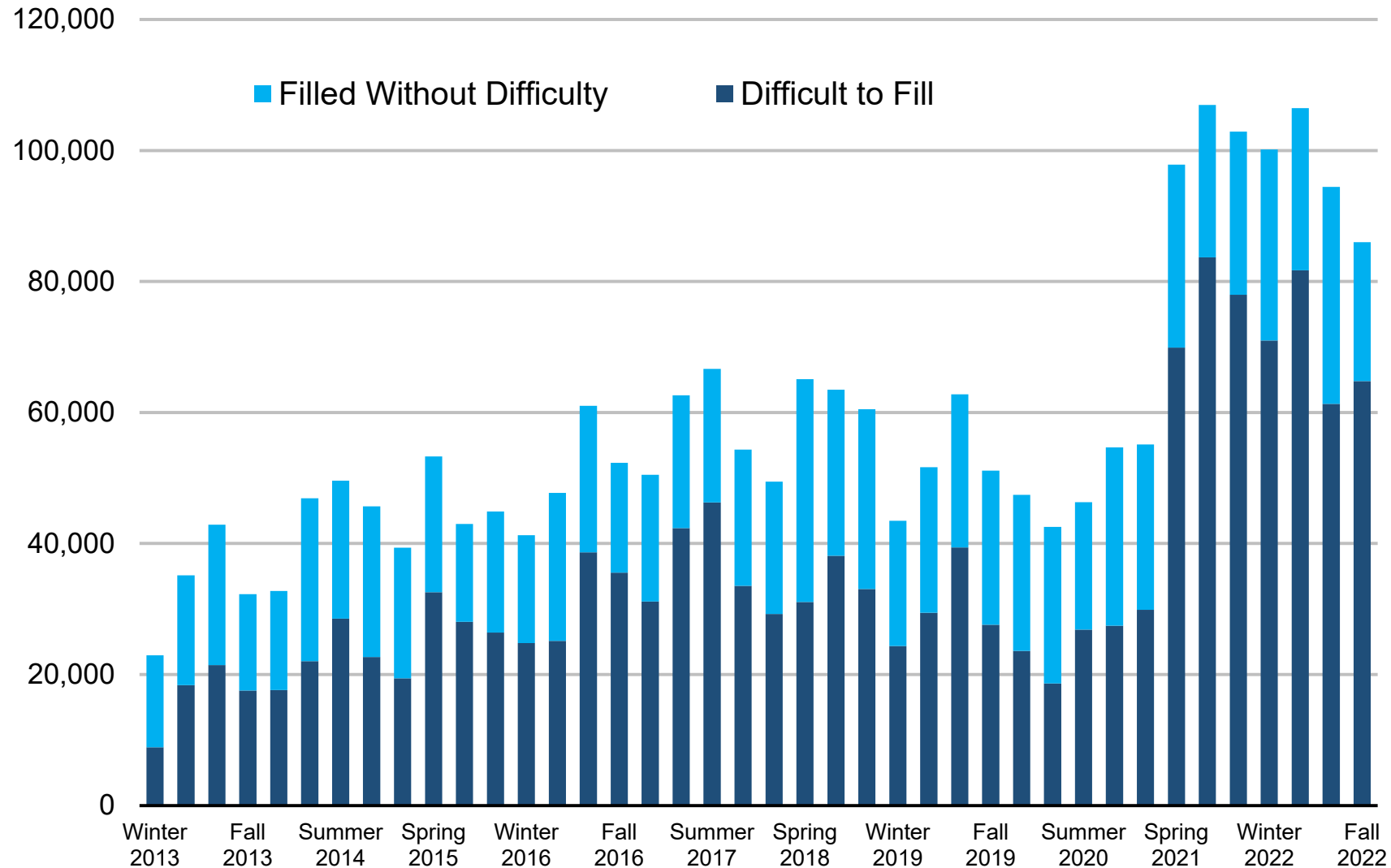
Oregon Labor Force Participation Rate



Source: Oregon Employment Department, Local Area Unemployment

Difficulty Finding Workers

Oregon Job Vacancies Reached Record Levels in 2022



Source: Oregon Employment Department, Oregon Job Vacancy Survey

High Tech In Oregon

Definition, Trends, Demographics

What Makes 'High Tech' High Tech?

- Classification is based on the percentage of jobs in an industry that are in Science, Technology, Engineering, or Math (STEM).
- The average STEM concentration of an industry in the United States is around 6%.
- Industries with a concentration 5 times above and higher were designated as core high tech, and industries with a concentration 2.5 times and above this level were designated as peripheral high tech.

Core High Tech

2022 Core High Tech Employment and Wages in Oregon

Industry Sector	Employment	Payroll	Annual Avg. Wage
Total Core High-Tech Employment	102,149	\$13,613,731,498	\$133,274
Pharmaceutical and Medicine Manufacturing	1,250	\$98,344,090	\$78,670
Computer and Peripheral Equipment Manufacturing	1,197	\$110,066,765	\$91,971
Communications Equipment Manufacturing	441	\$39,923,584	\$90,495
Audio and Video Equipment Manufacturing	752	\$60,214,750	\$80,126
Semiconductor and Other Electronic Component Manufacturing	33,839	\$5,467,870,360	\$161,584
Navigational, Measuring, Electromedical, and Control Instruments Mfg.	4,797	\$495,812,752	\$103,366
Aerospace Product and Parts Manufacturing	3,050	\$277,515,645	\$90,976
Software Publishers	14,260	\$2,114,516,969	\$148,282
Architectural, Engineering, and Related Services	18,420	\$1,722,711,309	\$93,526
Computer Systems Design and Related Services	17,706	\$2,488,740,456	\$140,560
Scientific Research and Development Services	6,437	\$738,014,818	\$114,648

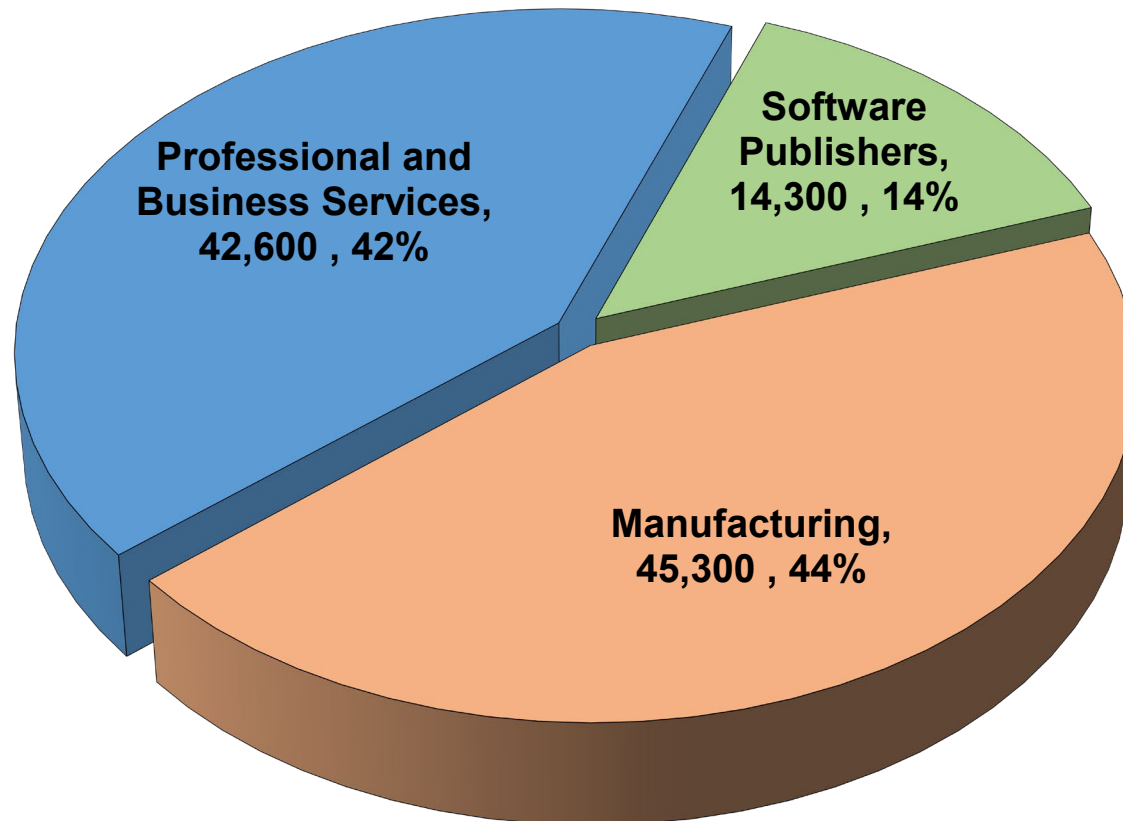
Core high tech makes up 6.1% of total private-sector employment in Oregon, and 12.4% of total payroll.

Wages are twice the statewide average (\$65,389).

Source: Oregon Employment Department, Quarterly Census of Employment & Wages

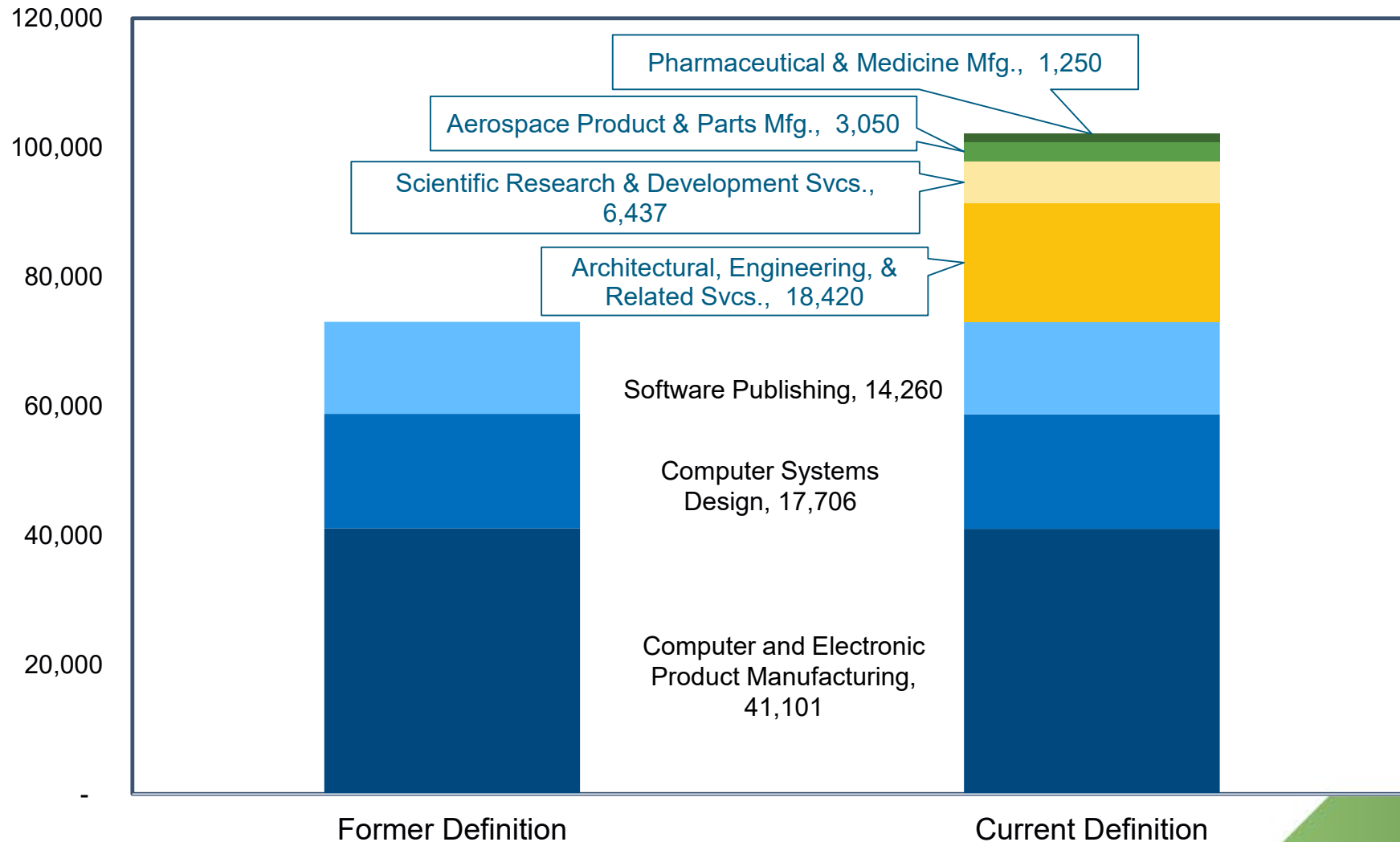
Three main components

Core High Tech Employment by Broad Industry, Oregon (2022)



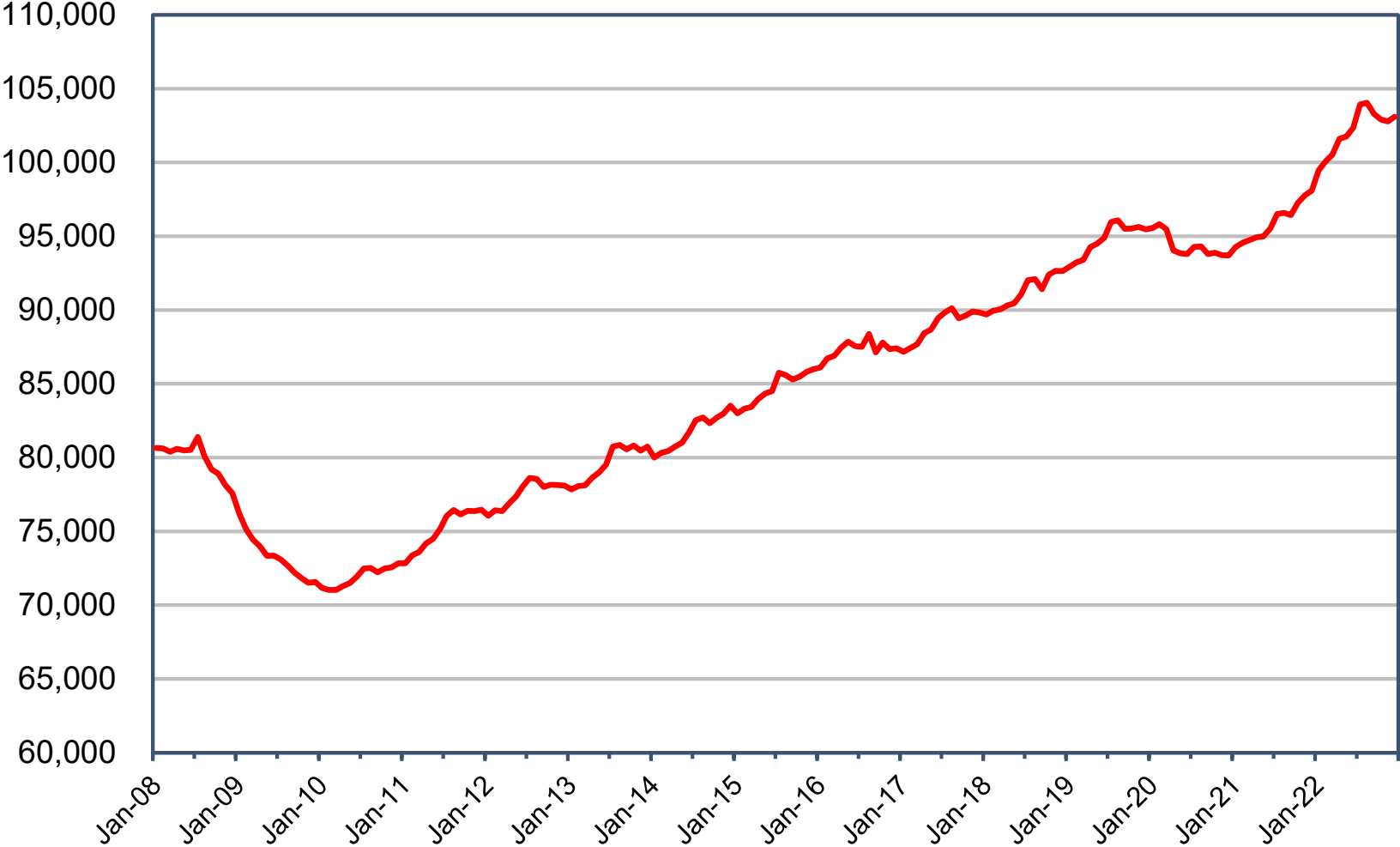
High Tech Industry: Former and Current Definition

Oregon Employment, 2022



More inclusive:
102,000 jobs vs.
73,000.

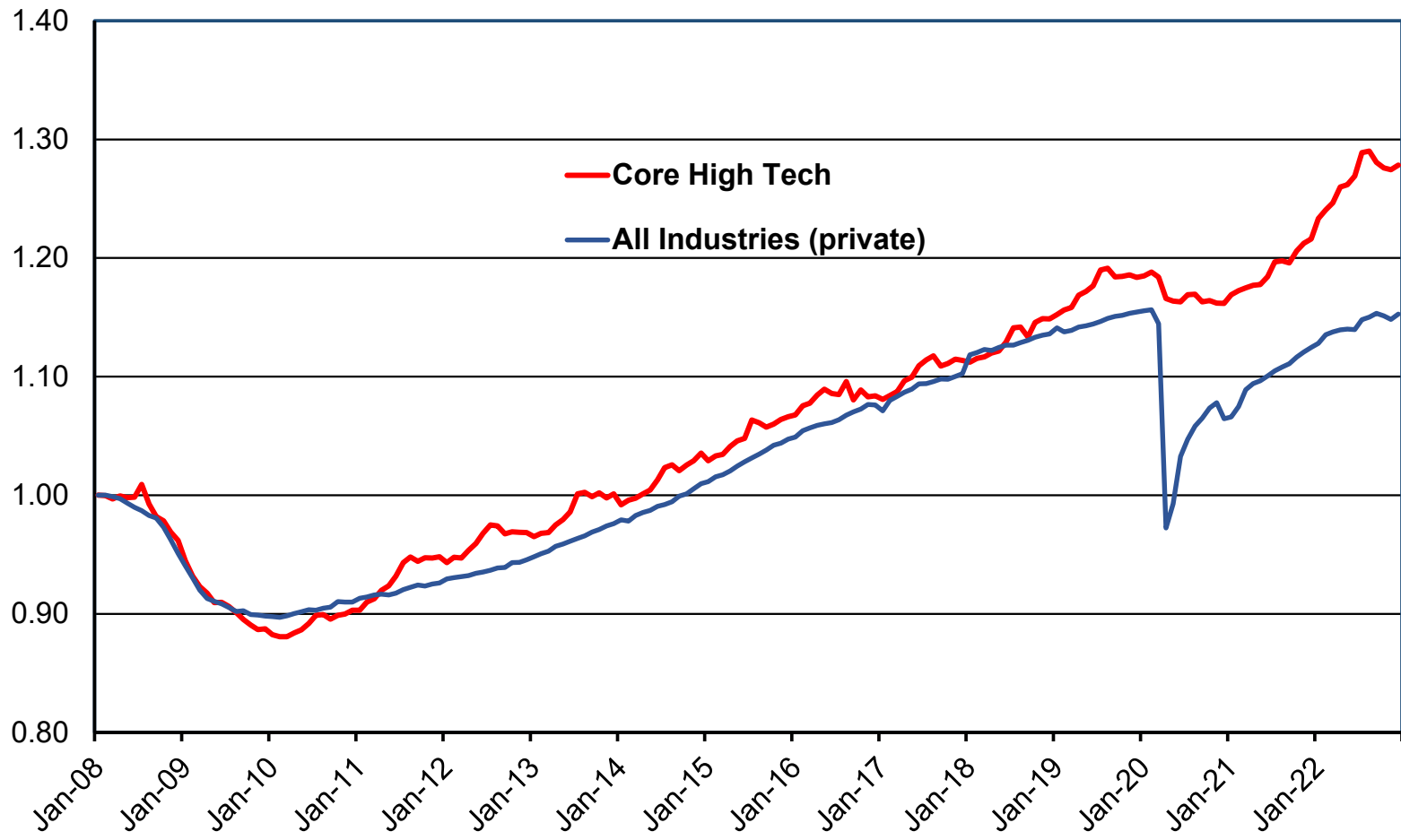
Oregon's Core High-Tech Employment



Source: Oregon Employment Department, Quarterly Census of Employment & Wages

Core High Tech job growth outperforms All Industries over time.

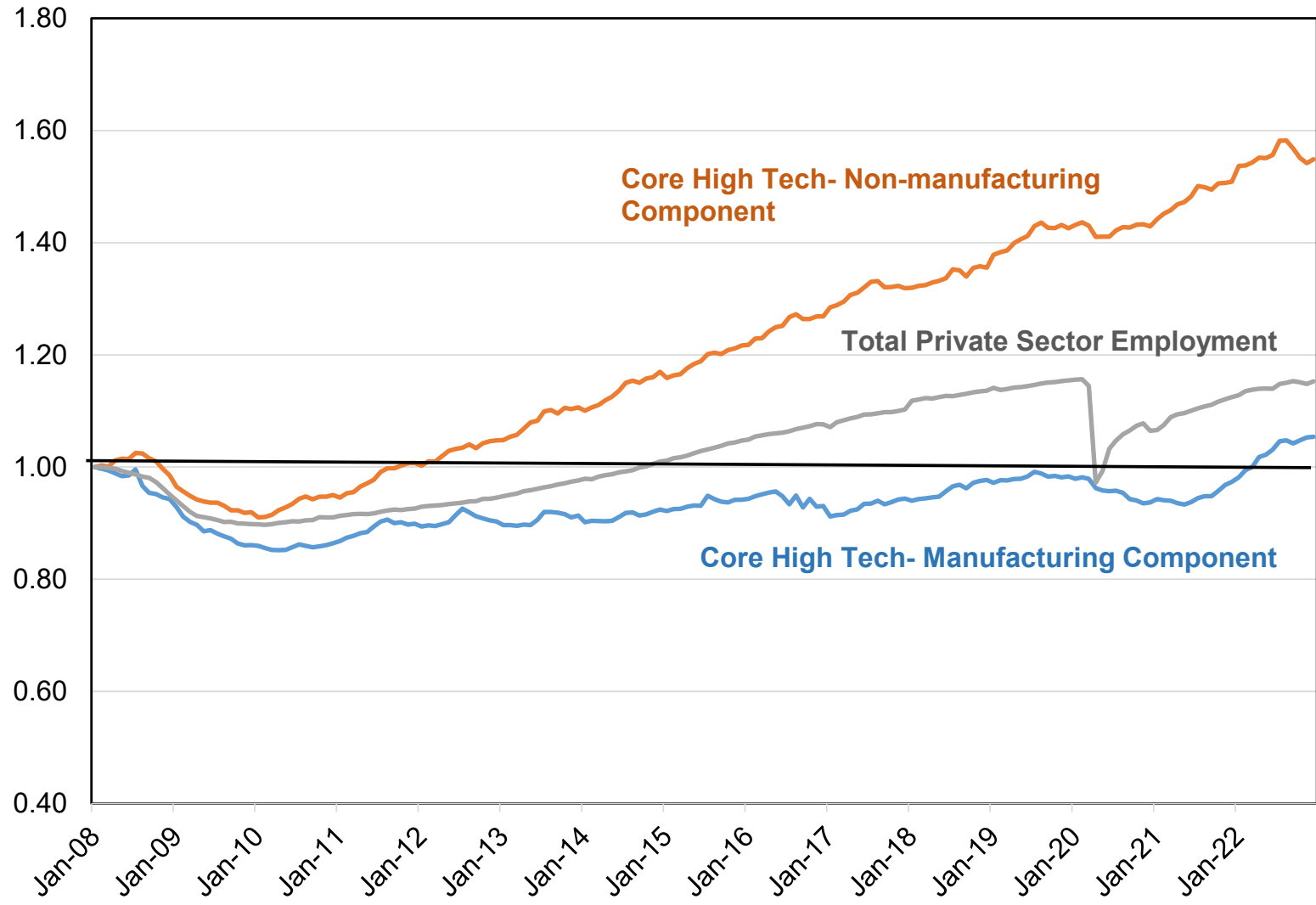
Core High Tech Compared to All Industries: Oregon 2008 indexed to 1



Source: Oregon Employment Department, Quarterly Census of Employment & Wages and Current Employment Statistics

Core High Tech job growth outperforms All Industries over time.

Components of Core High Tech Compared to All Industries

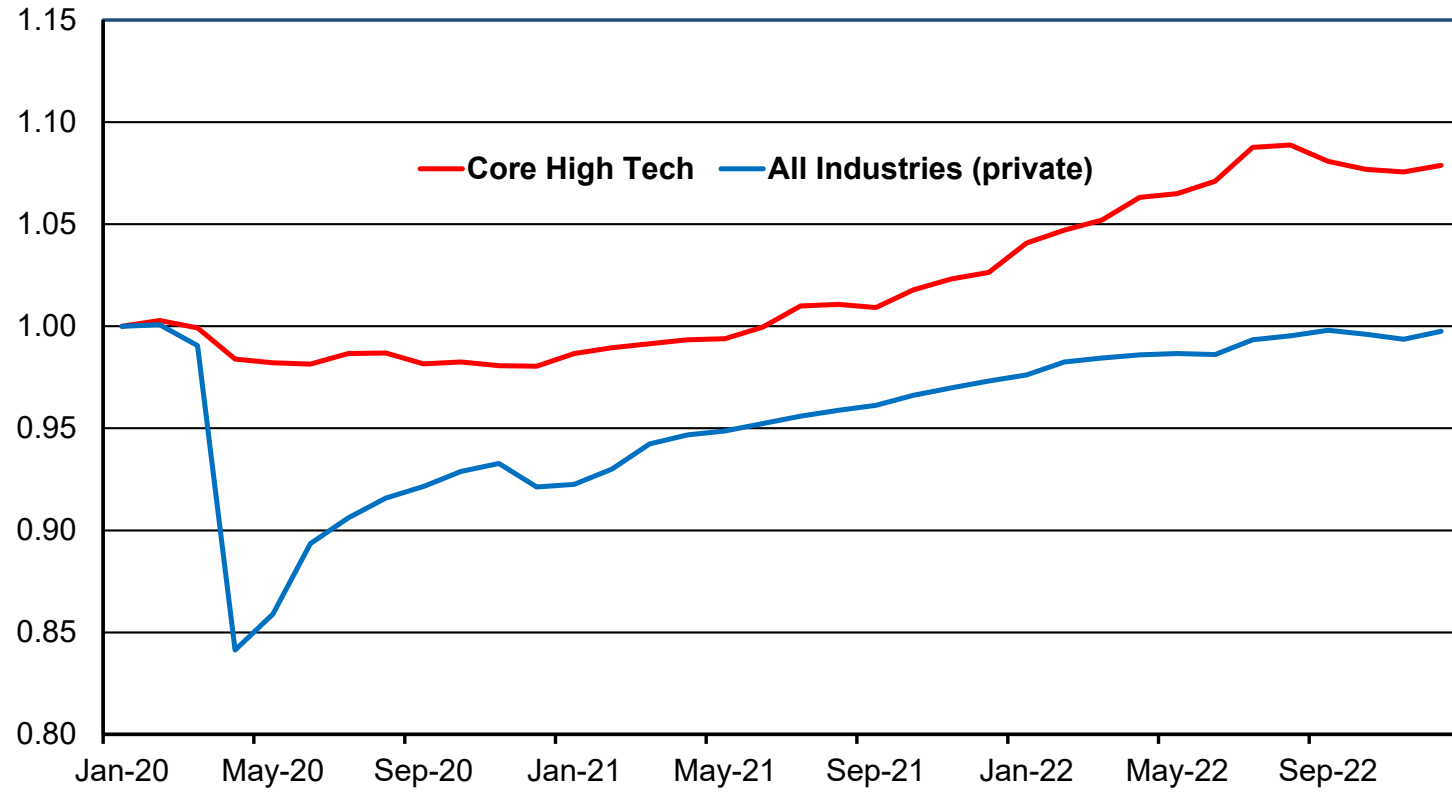


The non-manufacturing components of core high tech have propelled much of the growth over the past 15 years.

The manufacturing component is at a recent all-time high (through 2022).

Core High Tech is fully recovered from pandemic recession.

Core High Tech Compared to All Industries: Oregon 2020 indexed to 1



Core High Tech lost 1,800 jobs in the first few months of the pandemic, or -1.9%

No real recovery for nearly a year

Full recovery in June 2021, 7,600 new jobs since (+8%)

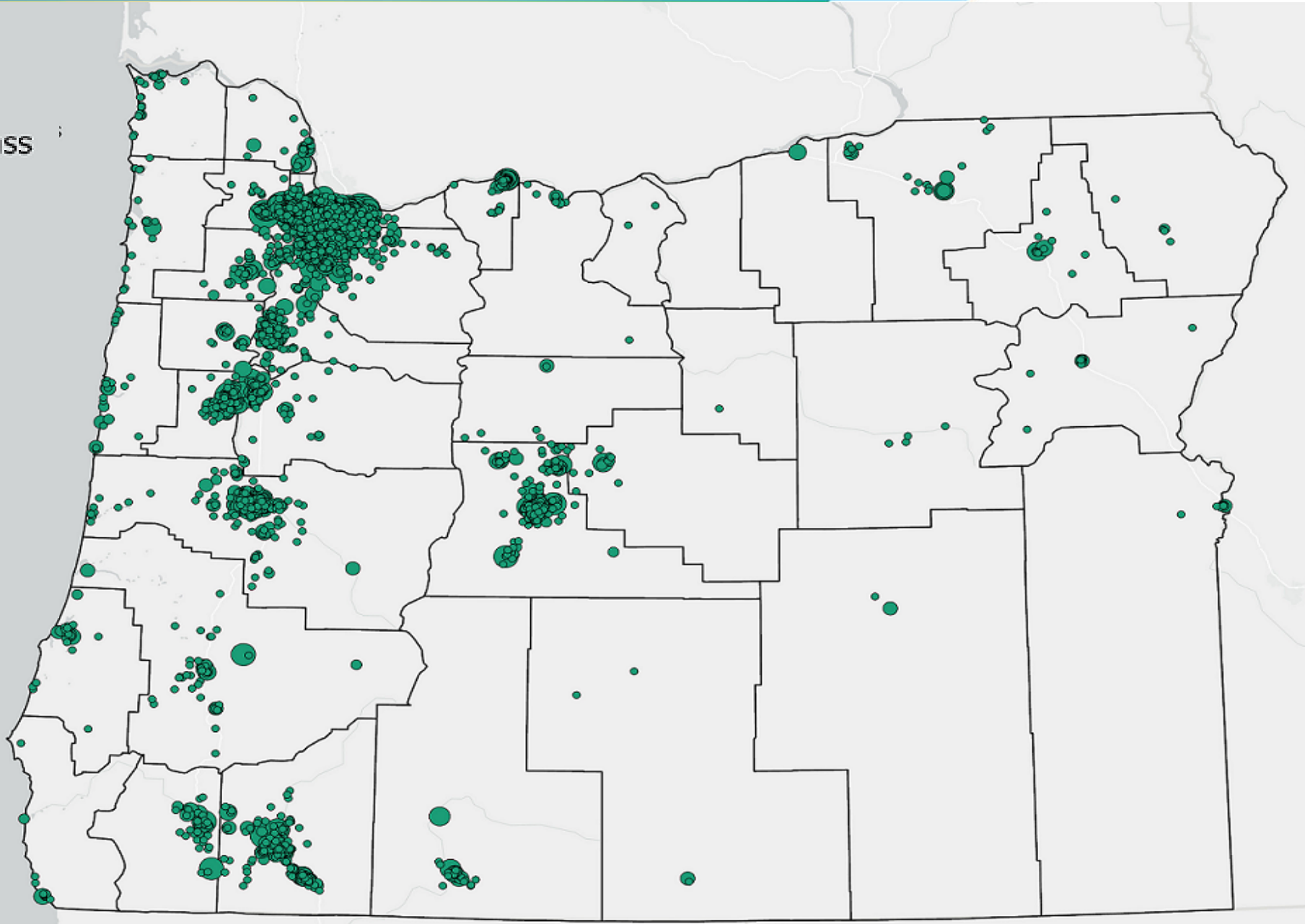
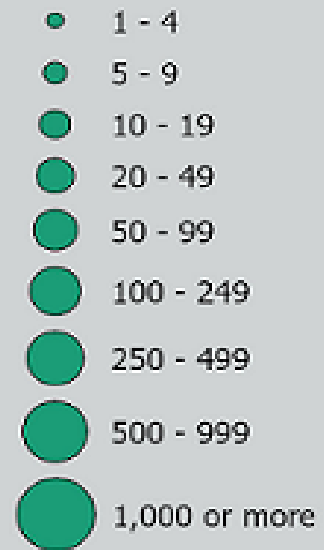
Peaked last August (2022)

Source: Oregon Employment Department, Quarterly Census of Employment & Wages and Current Employment Statistics

Where is Core High Tech?

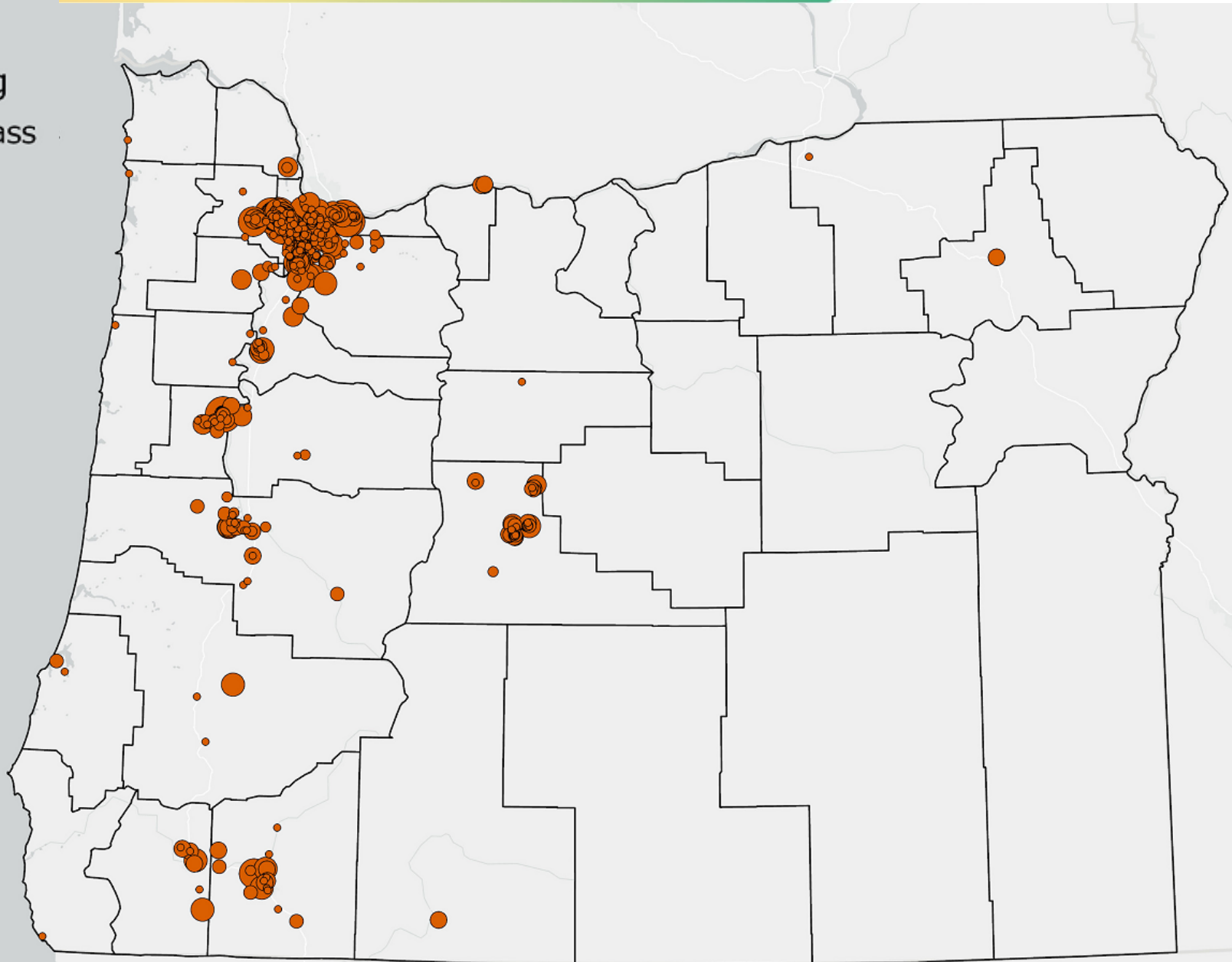
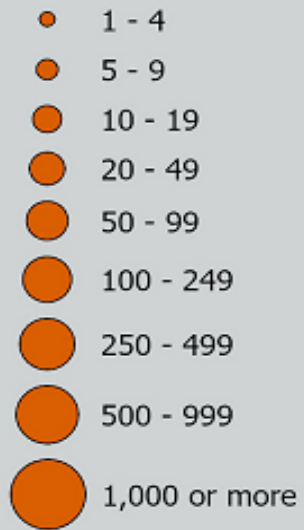
High Tech Companies

Employment Class Size



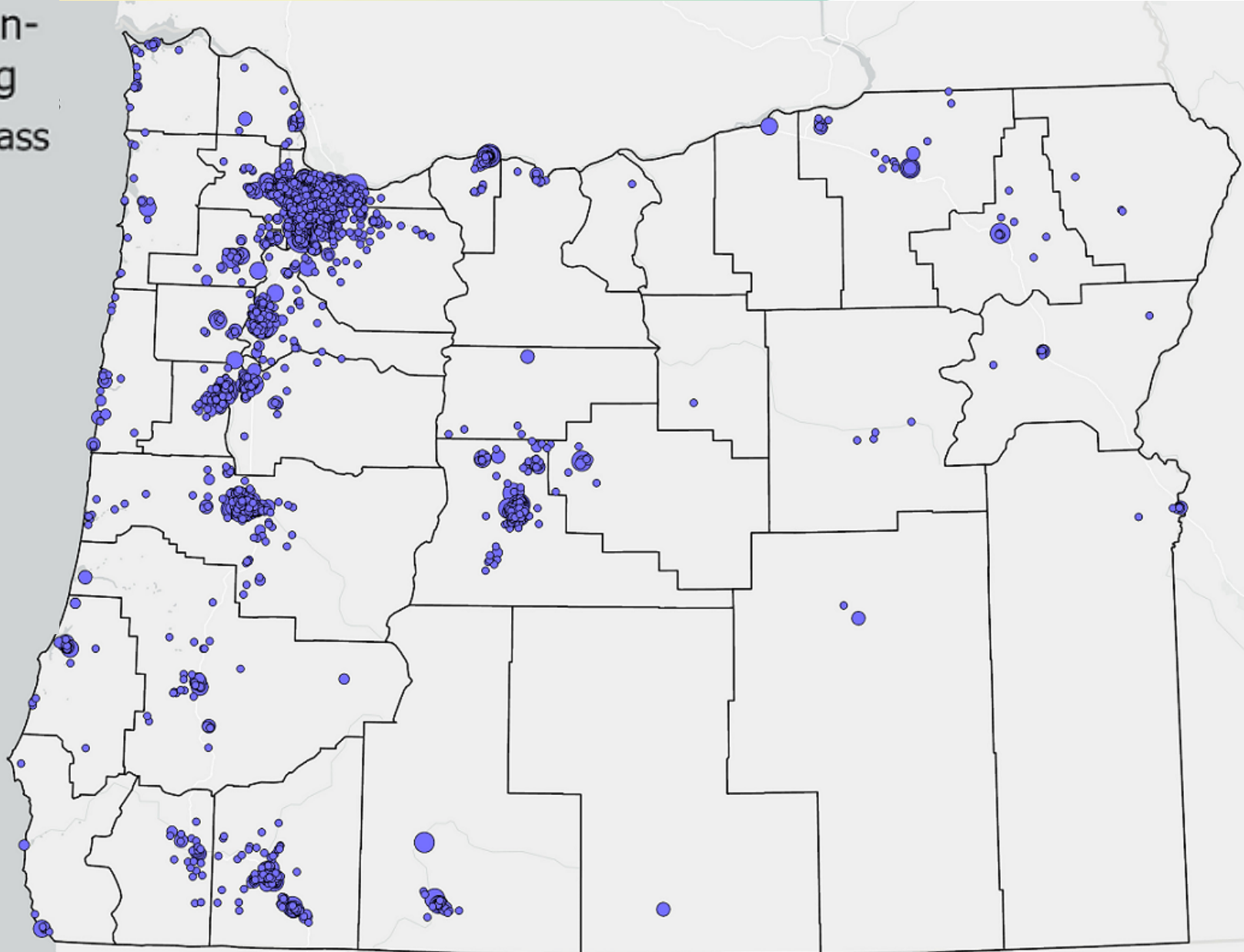
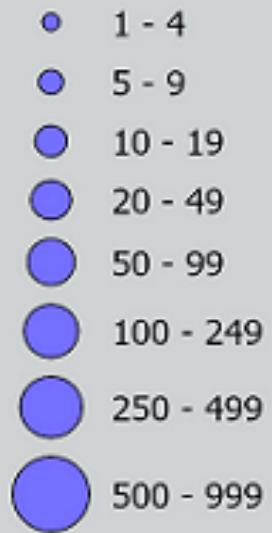
Where is Core High Tech Manufacturing?

High Tech Manufacturing Employment Class Size



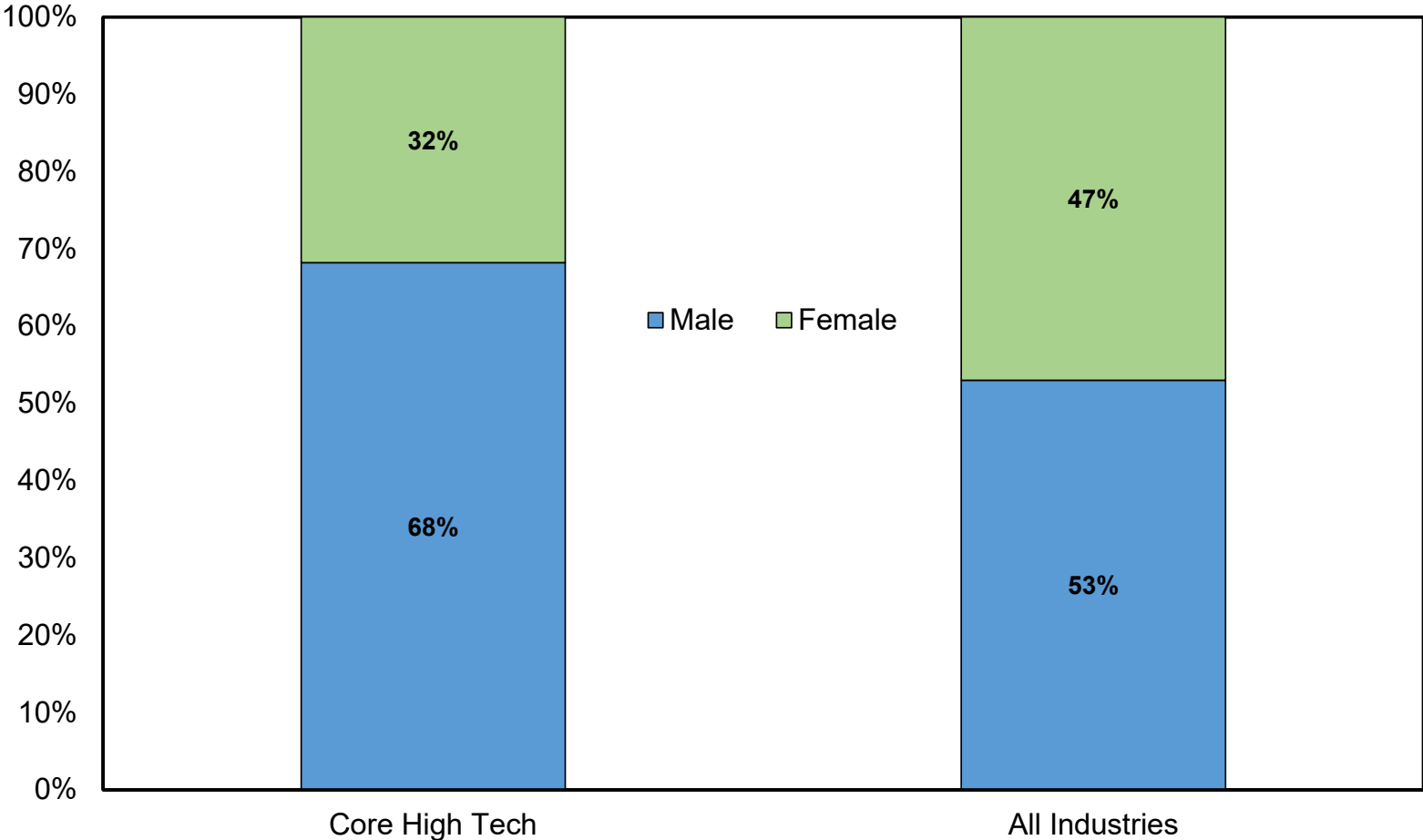
Where is Core High Tech Non-manufacturing?

High Tech Non-
Manufacturing
Employment Class
Size



Core High Tech Industry Workforce Demographics: Gender

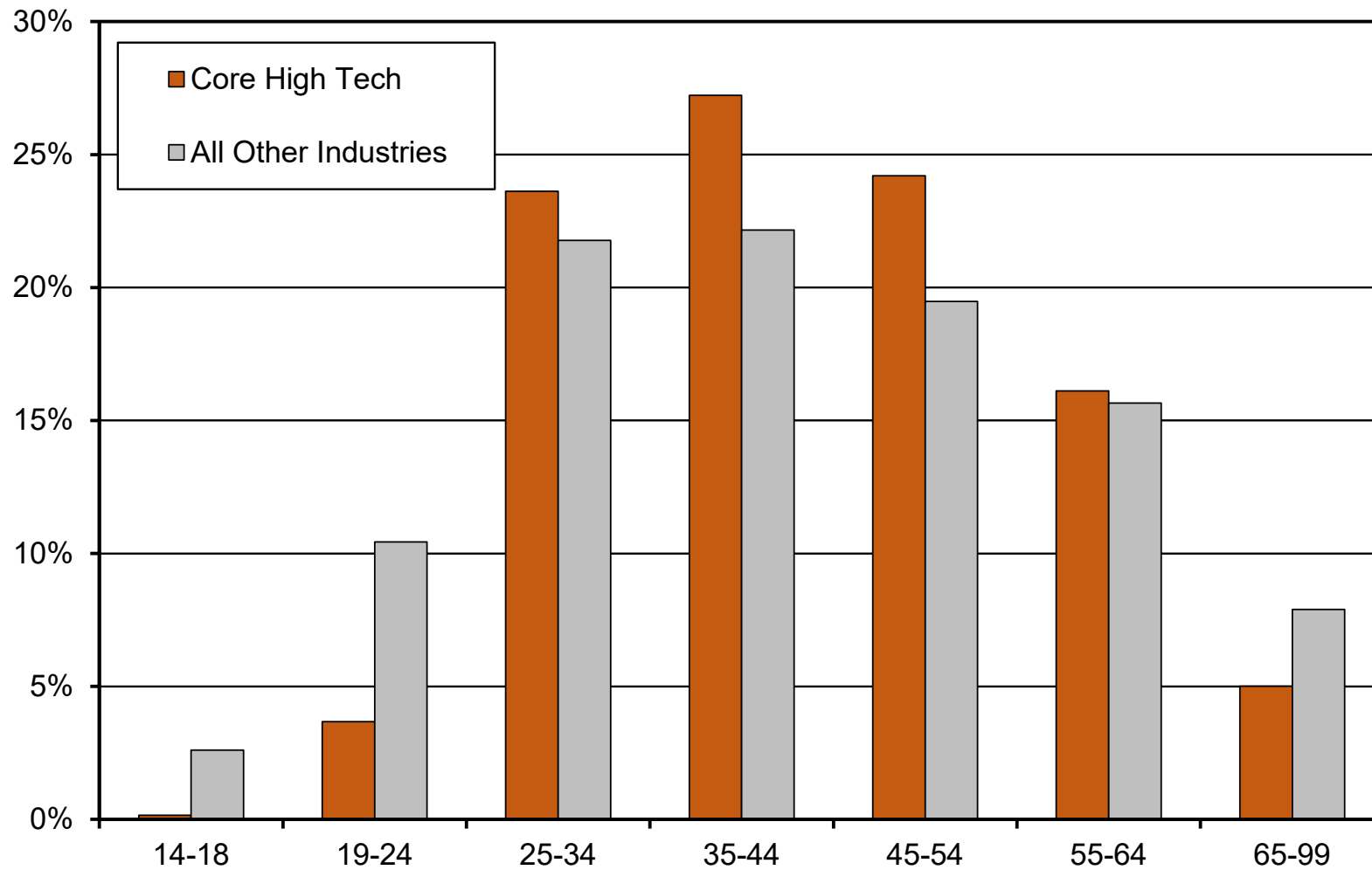
Oregon Employment by Gender



Source: U.S. Census Bureau, Quarterly Workforce Indicators, 2021

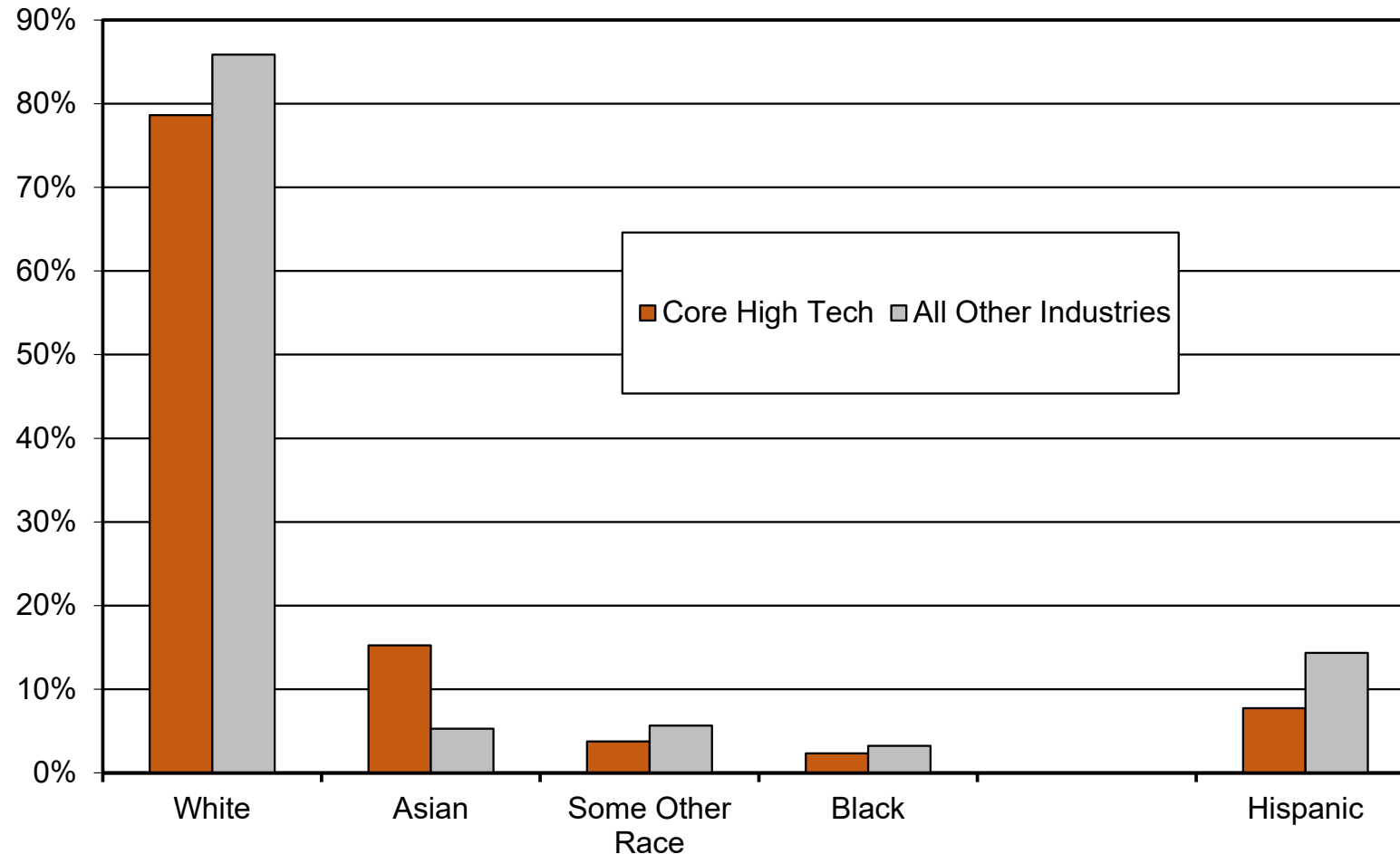
Core High Tech Industry Workforce Demographics: Age

Core High Tech Employment by Age Oregon, 2022



Source: U.S. Census Bureau; Longitudinal Employer-Household Dynamics

Core High Tech Employment by Race and Ethnicity Oregon, 2022



Source: U.S. Census Bureau; Longitudinal Employer-Household Dynamics

Largest Occupations in Core High Tech

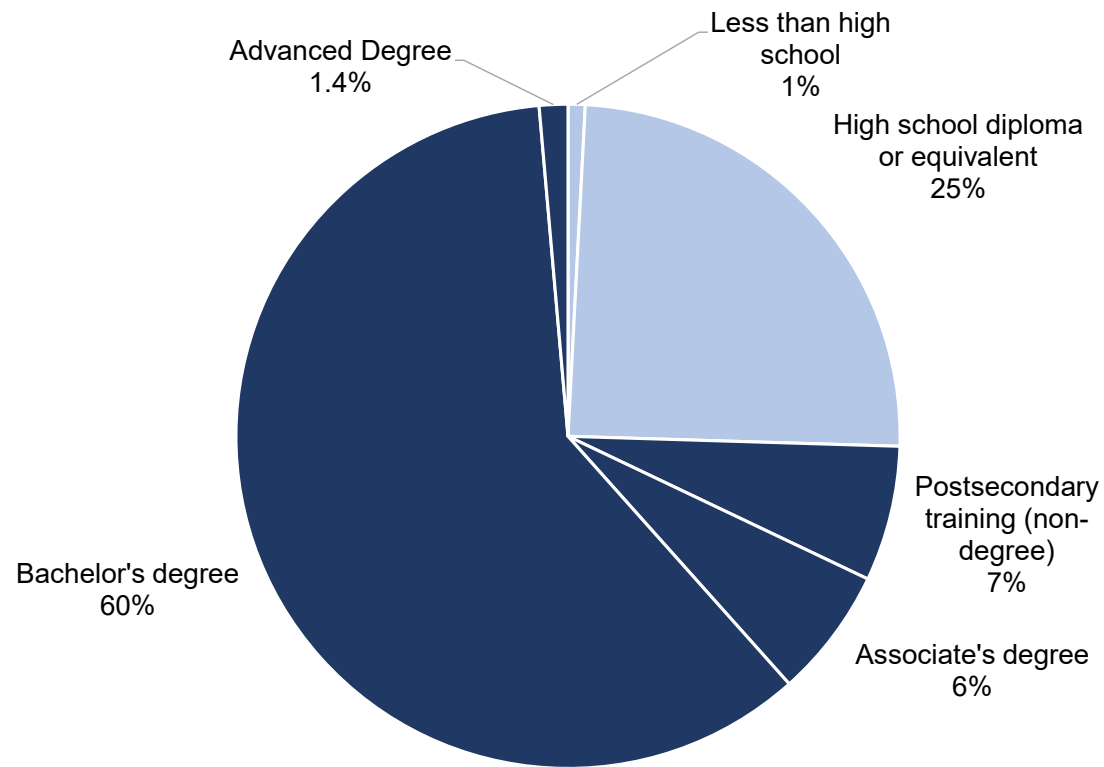
Largest Occupations in Core High Tech

Title	Employment (2021)	Wages (2022)
Software Developers and Software Quality Assurance Analysts and Testers	10,100	\$56.46
Electronics Engineers, Except Computer	4,500	\$48.63
Semiconductor Processing Technicians	4,300	\$25.78
Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	2,700	\$20.68
Civil Engineers	2,600	\$45.87
Architectural and Engineering Managers	2,400	\$74.31
Project Management Specialists and Business Operations Specialists, All Other	2,400	
Computer User Support Specialists	2,300	\$29.07
Industrial Engineers	2,300	\$49.65
Computer and Information Systems Managers	2,200	\$71.81
<i>All Occupations, All Industries</i>		\$30.14

Source: Oregon Employment Department

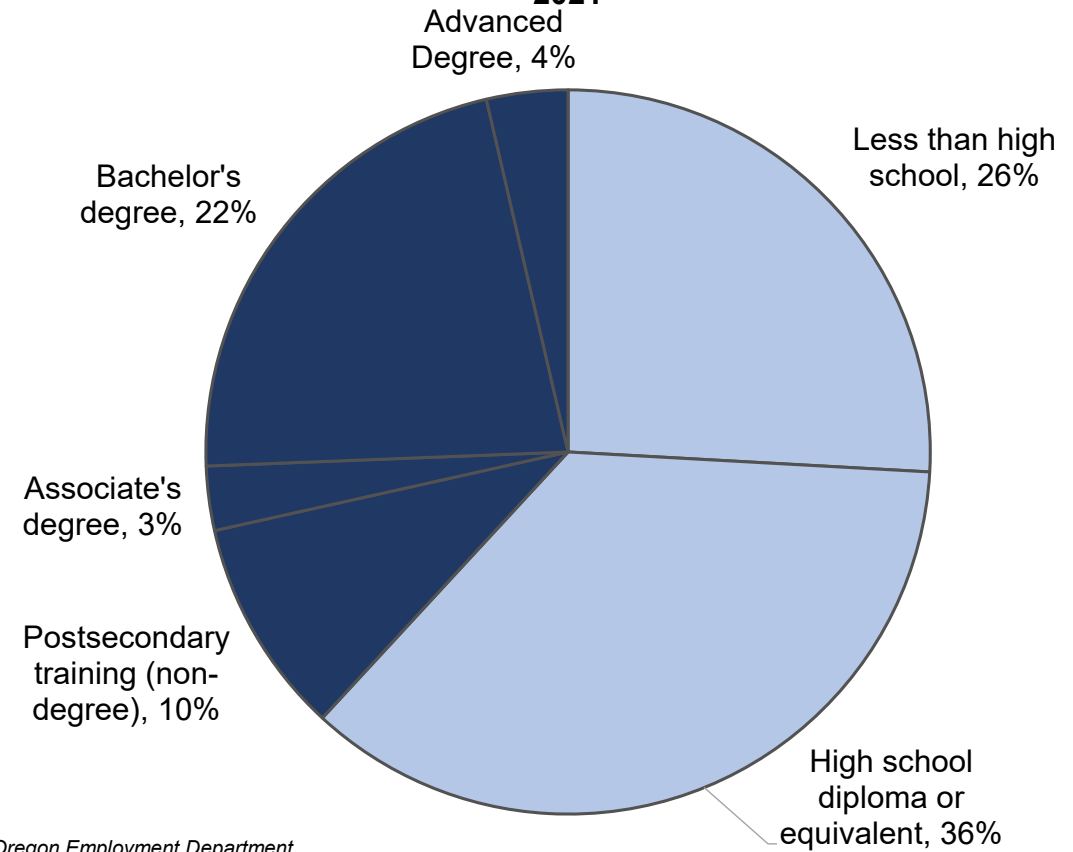
Core High Tech Jobs More Likely to Require Higher Education

Typical Entry-Level Education Requirements for Core High Tech Jobs in Oregon, 2021



Source: Oregon Employment Department, Occupational Employment Projections 2021-2031

Typical Entry-Level Education Requirements for All Jobs in Oregon, 2021



Source: Oregon Employment Department, Occupational Employment Projections 2021-2031

Oregon's 2022 Job Vacancies: Focus on 10 Top Core High Tech Occupations

	Largest 10 Core HighTech Occupations	All Industries
Vacancies	2,243	103,977
Average Hourly Wage	\$39.26	\$21.66
Full-time Positions	94%	81%
Permanent Positions	97%	94%
High School	69%	29%
Requiring Previous Experience	88%	52%
Open 60+ Days	30%	33%
Difficult to Fill	68%	72%

Job vacancies in the ten largest core high tech occupations are far more likely to require previous experience and education than vacancies across the entire economy.

They also pay higher wages than the overall average.

Source: Oregon Employment Department

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