

OUTLOOK FOR TECH

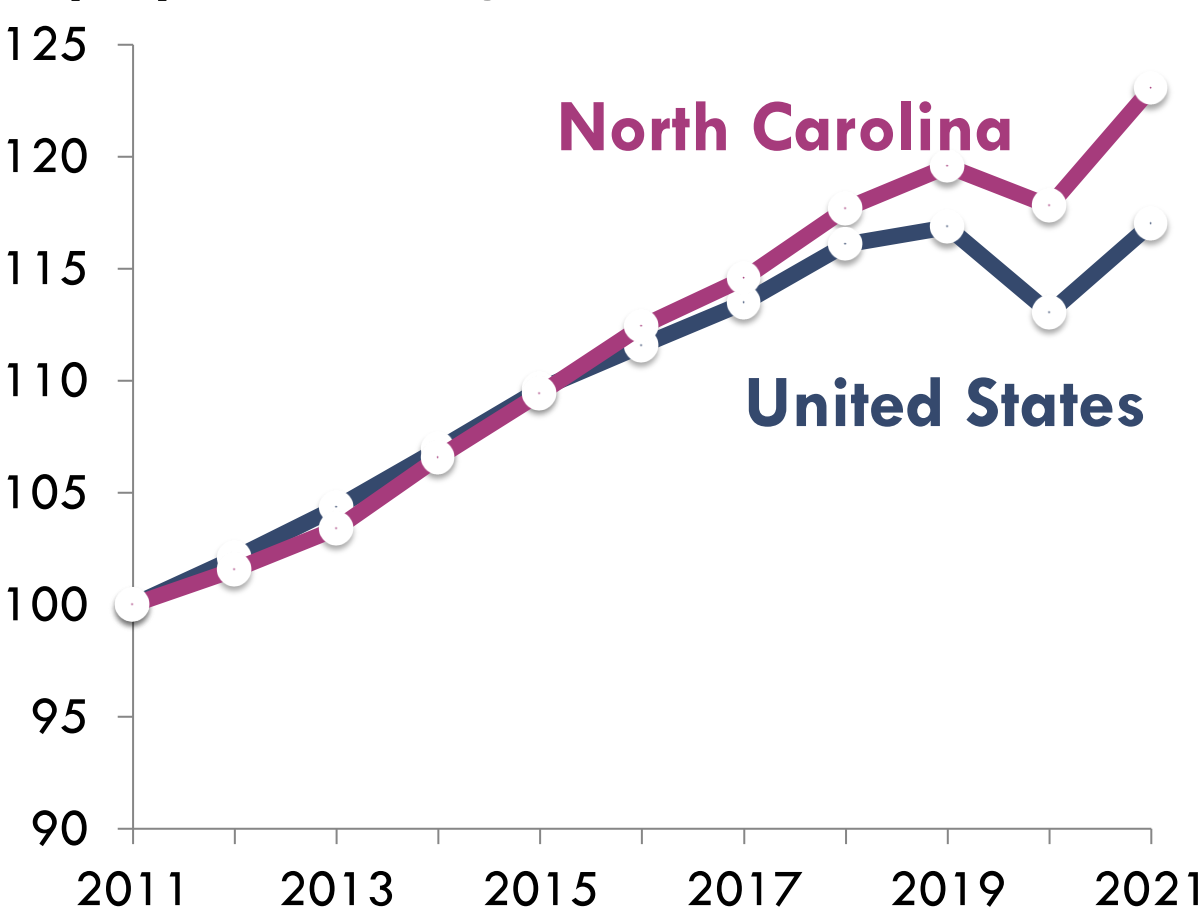
2023 PREDICTIONS STATE OF THE INDUSTRY TECH TRENDS

2|3|2023

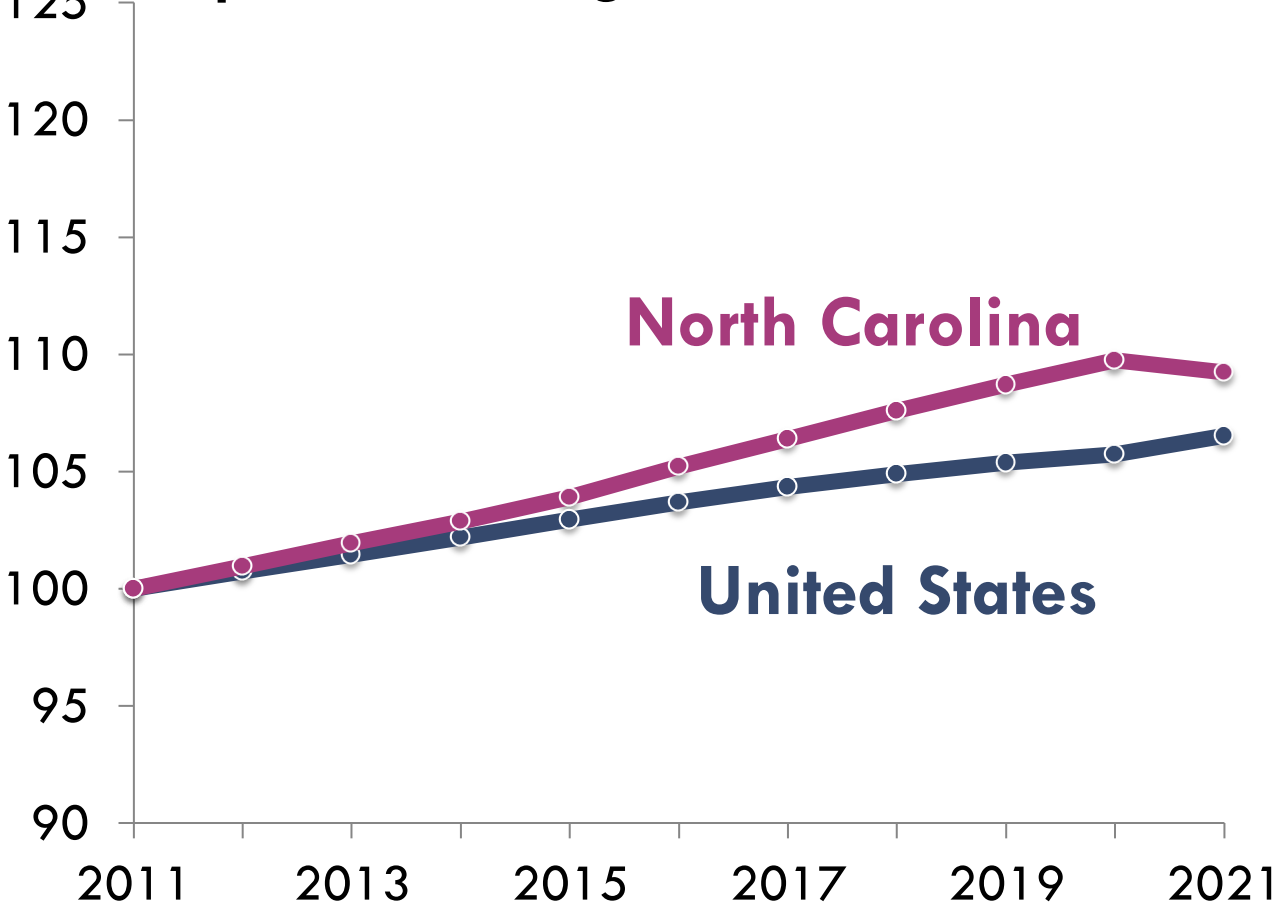
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NC Economic Overview

Employment Change, 2011-2021

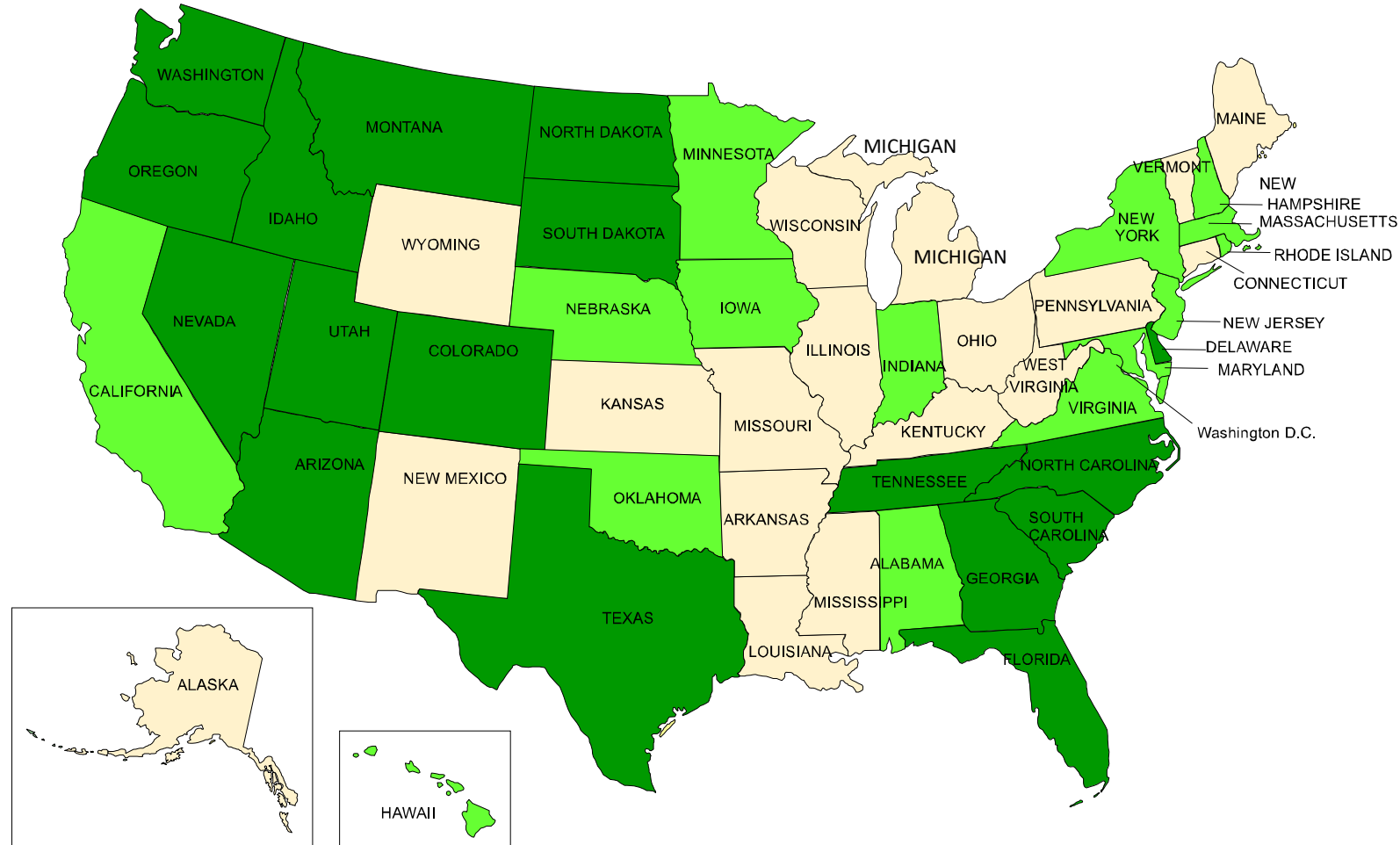


Population Change, 2011-2021



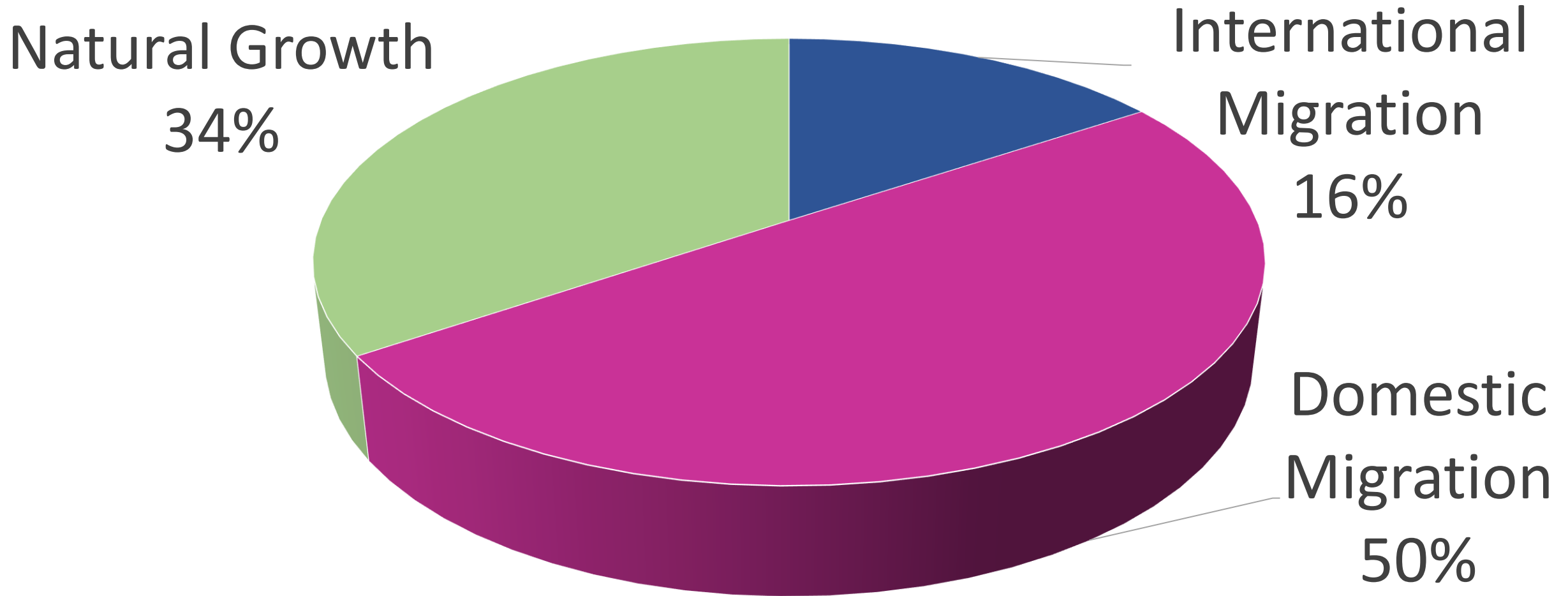
Population 10 Year Annual Growth Rate

U.S. 0.55%
N.C. 0.91%

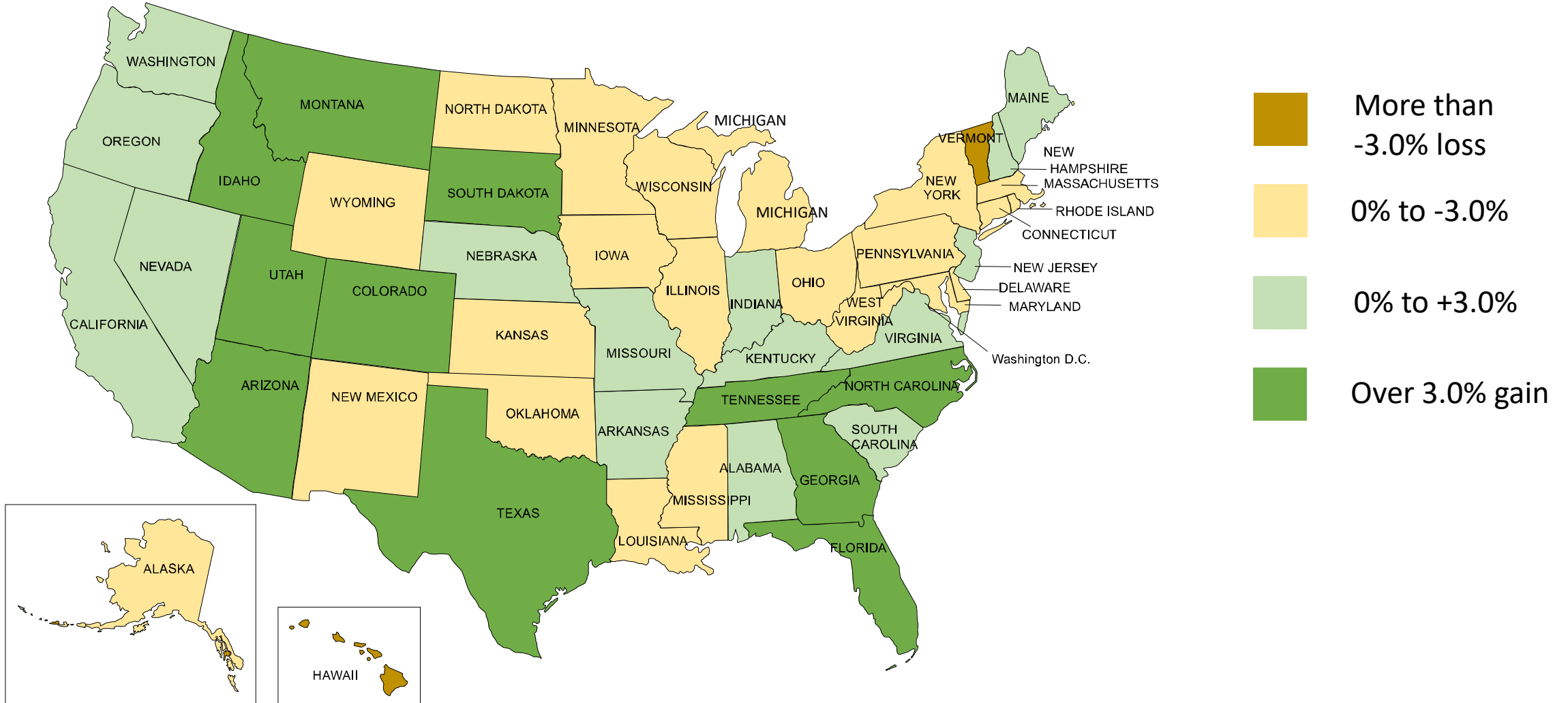


Top Third – over 0.8% Middle Third – 0.4% to 0.8% Bottom Third – under 0.4%

Since 2000, NC Growth 2.5 Million People

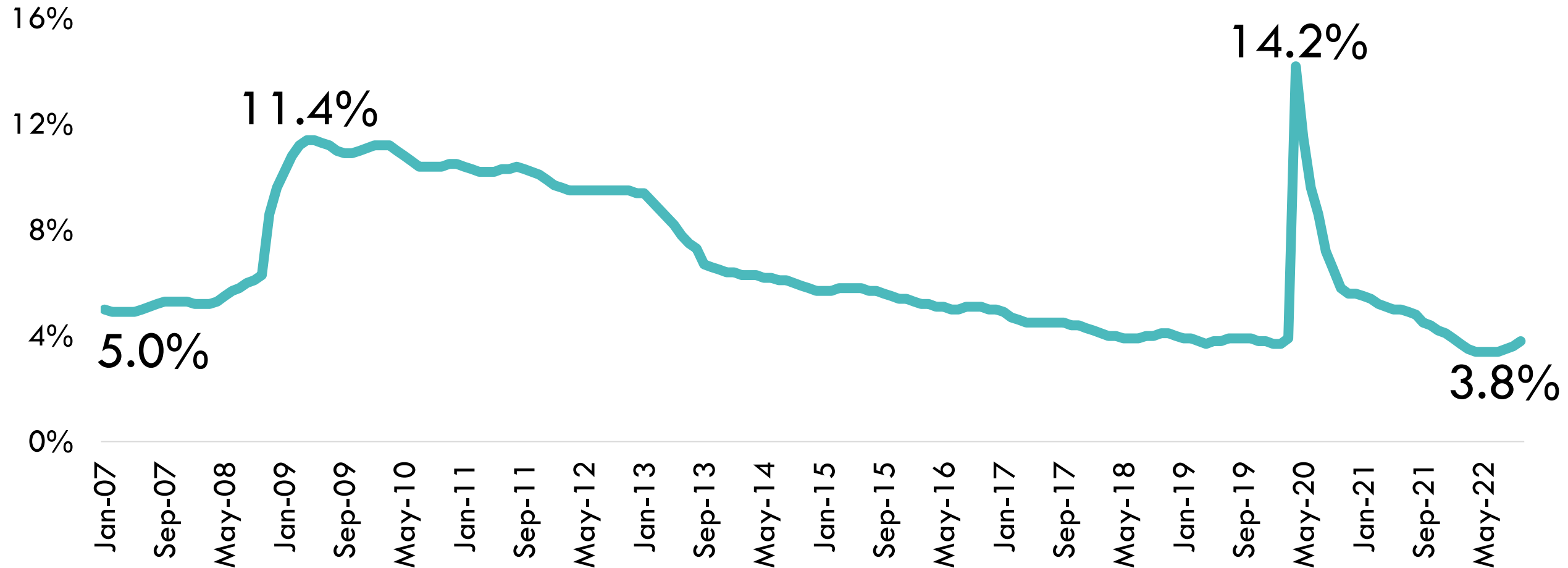


Nonfarm Employment Since Start of Covid



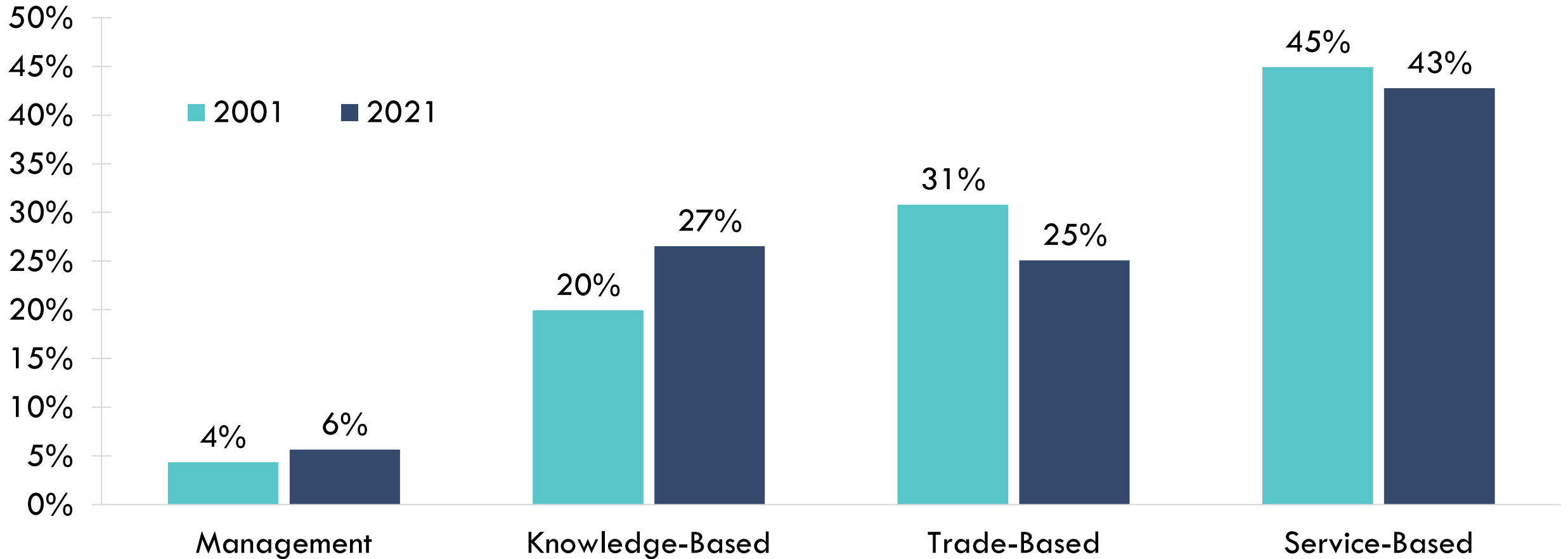
North Carolina Unemployment Rate

January 2007 – October 2022

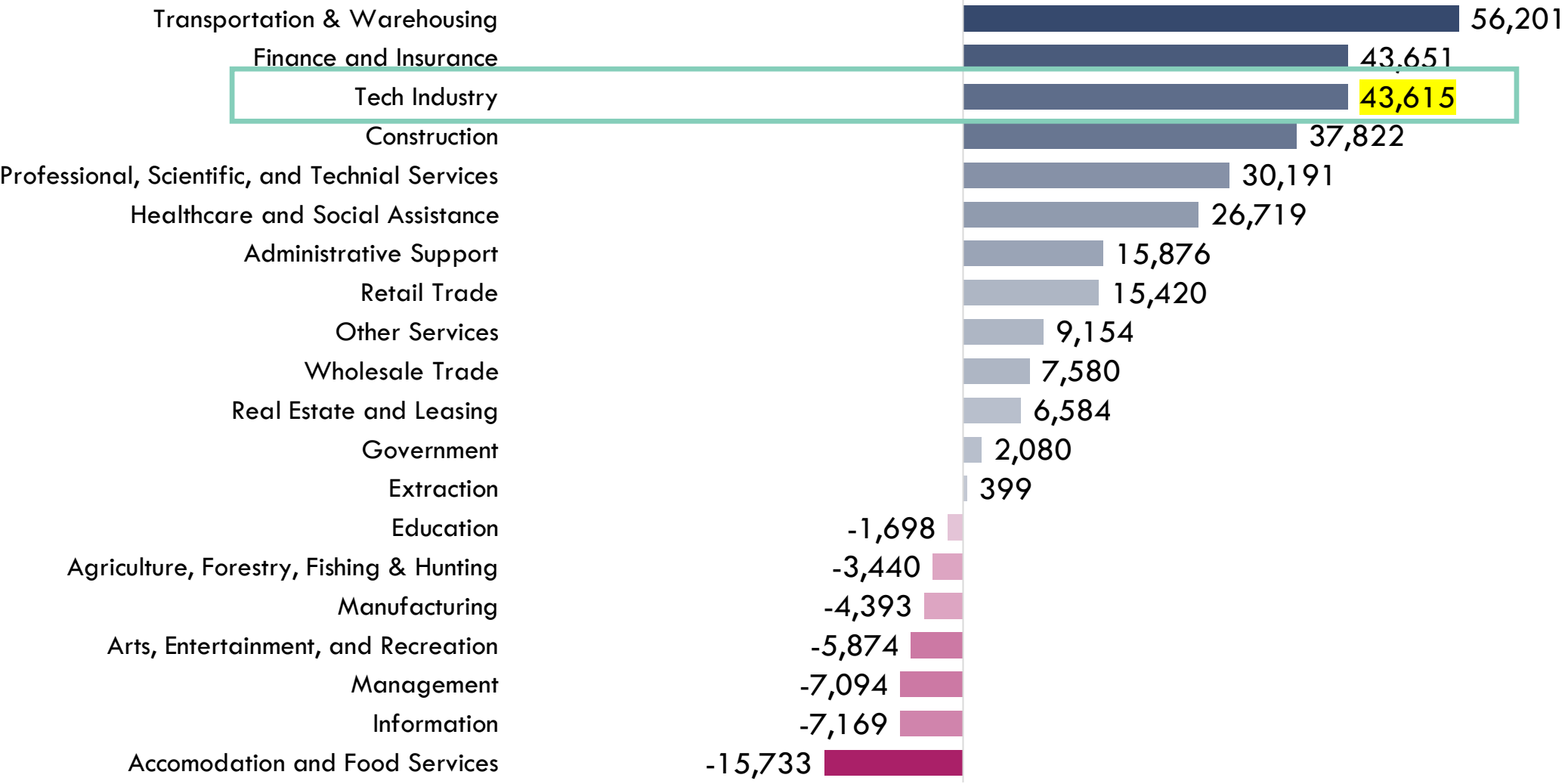


NC Economic Overview

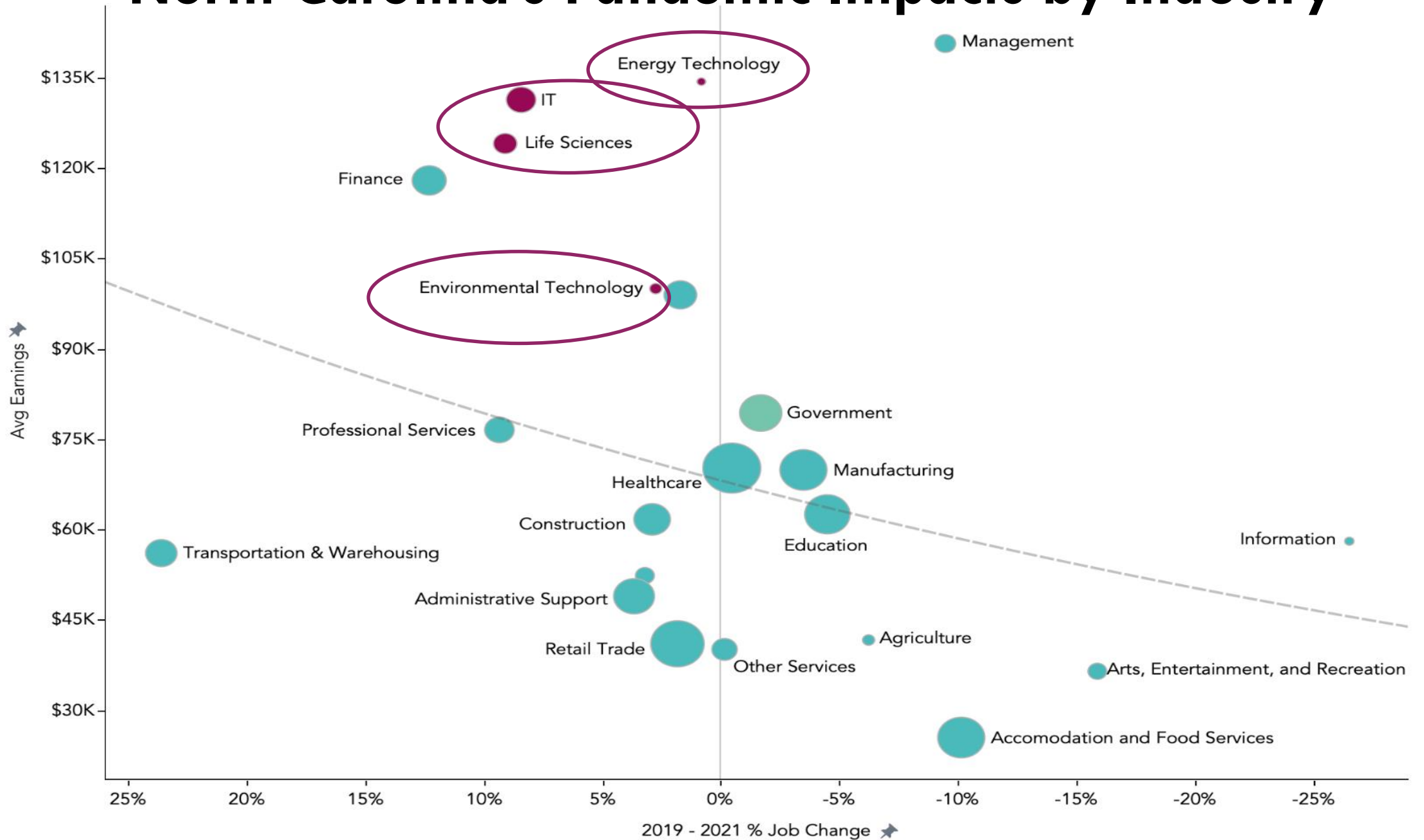
Occupational Share of North Carolina's Economy, 2001 vs 2021



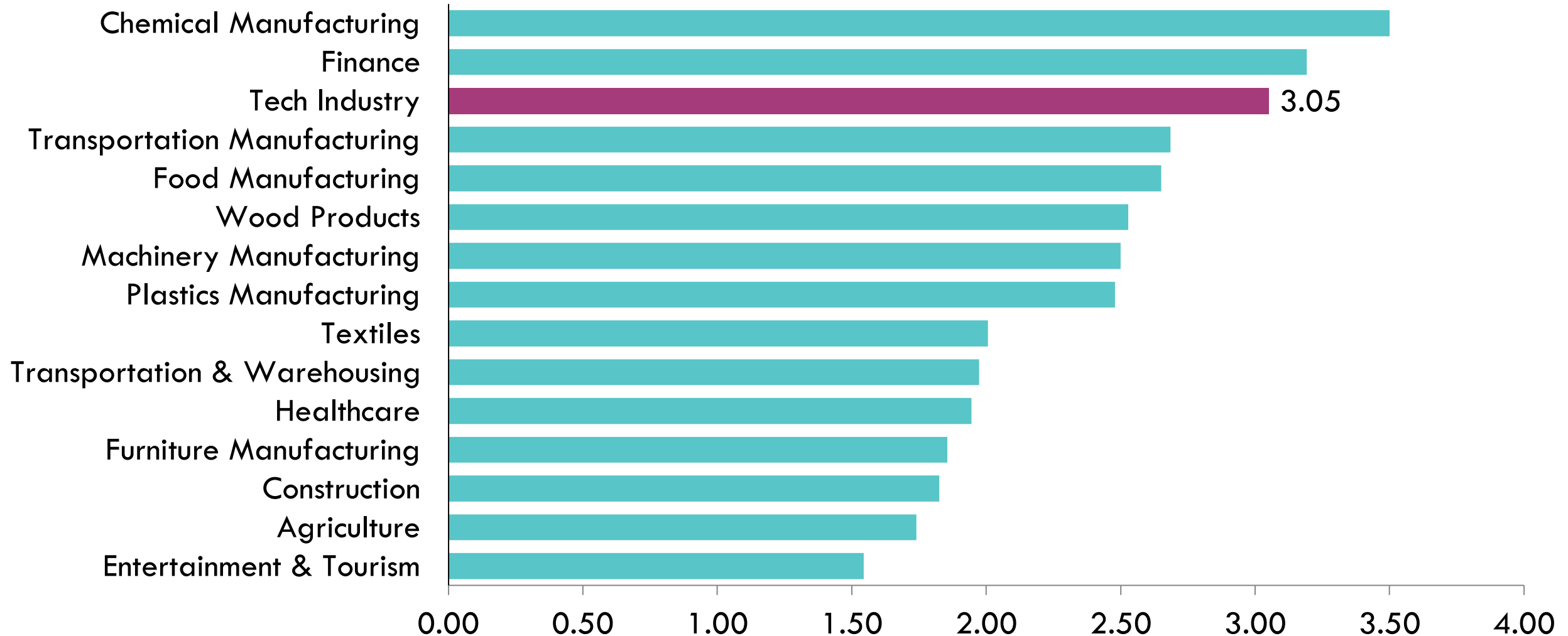
Net Jobs Change in North Carolina by Industry, 2016-2021



North Carolina's Pandemic Impacts by Industry



North Carolina Job Multiplier by Selected Industries, 2021



North Carolina

STATE OF TECHNOLOGY

2023 Industry Report + State Rankings



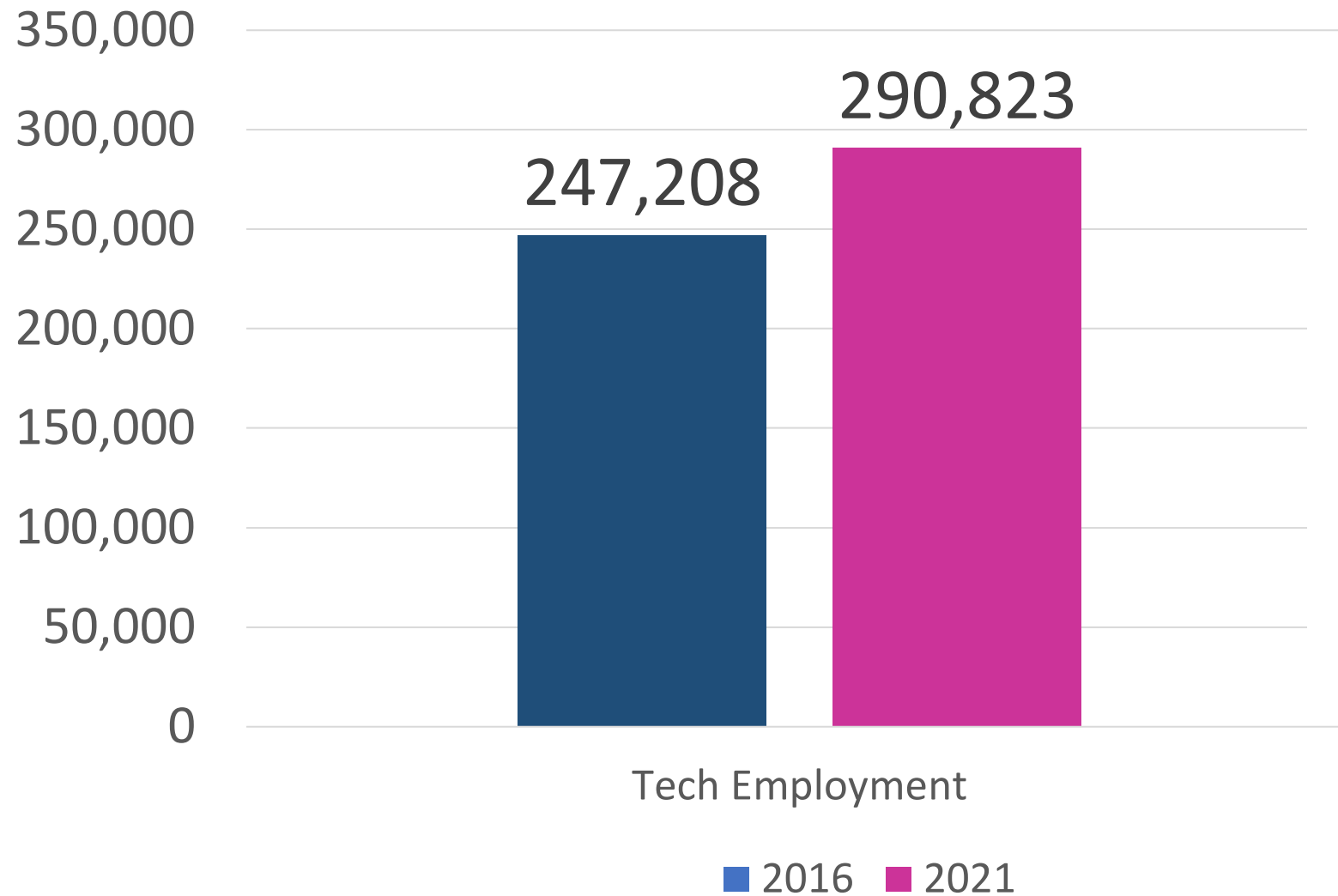
Methodology

- 88 separate 6-digit NAICS code sectors to characterize the Total Technology Sector
- The Total Technology Sector was further broken down into four sub-categories:
 - **Energy Technology**
 - **Environmental Technology**
 - **Life Sciences**
 - **IT, Telecom, Hardware & Software (Tech Core)**
- 85 separate 5-digit Standard Occupational Classification (SOC) codes
- Lightcast (formerly EMSI Burning Glass), based on the Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages

North Carolina Tech Industry Summary Statistics, 2021

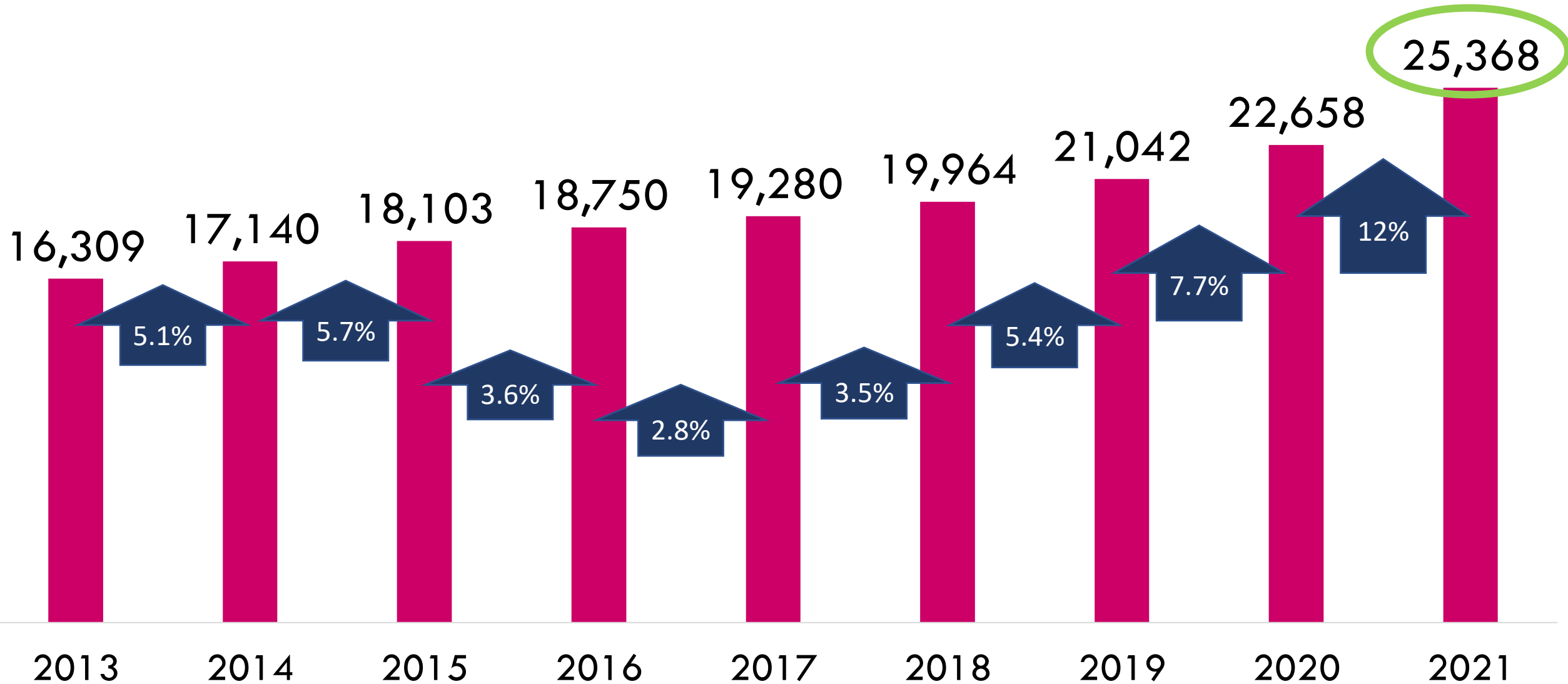
Indicator	Technology Industry	State Total	State Total Percentage
Employees	290,823	4,509,160	6.4%
Establishments	25,368	315,071	8.1%
Wages (millions)	\$36,714	\$303,468	12.1%

North Carolina Tech Industry Employment



North Carolina Total Tech Establishments, 2013-2021

9,059 NET New Tech Establishments Over the Past 9 Years



North Carolina's Tech Industry by Sub-Categories, 2021

Technology Categories	Employment, 2021	Employment Change, 2019-2021	Employment Change, 2016-2021	Establishments, 2021
Energy Tech	13,444	0.8%	1.8%	576
Environmental Tech	25,976	2.8%	14.2%	1,705
Life Sciences	98,124	9.1%	27.1%	5,814
IT	153,279	8.4%	14.4%	17,273

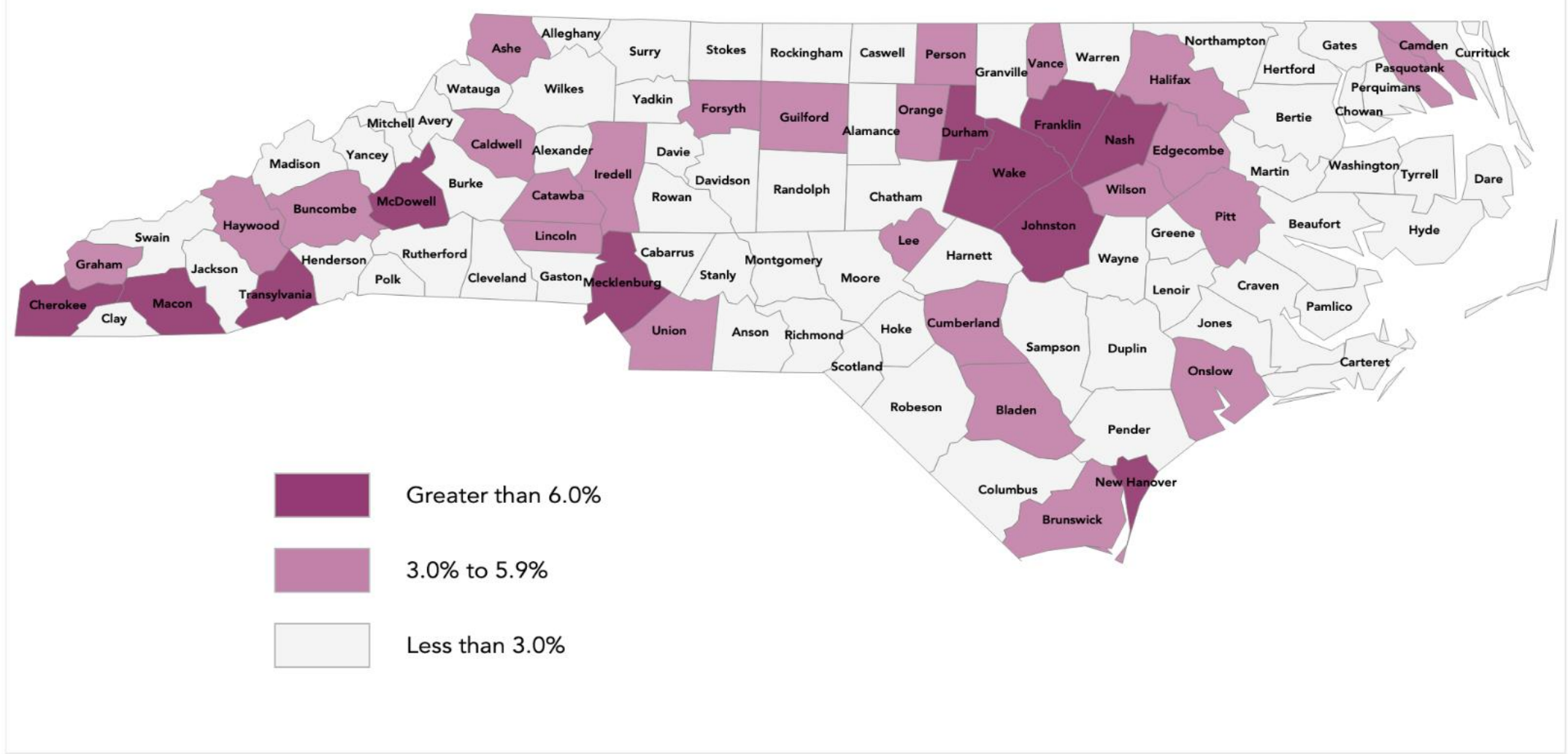
Average Annual Earnings per Worker by Sub-Industry, 2021

Technology Categories	North Carolina	North Carolina (Purchasing Power)	National Average
Energy Tech	\$143,700	\$156,400	\$166,900
Environmental Tech	\$103,900	\$113,100	\$91,800
Life Sciences	\$128,700	\$140,200	\$145,400
IT	\$143,400	\$156,200	\$181,300
All Categories	North Carolina	North Carolina (Purchasing Power)	National Average
Tech Services	\$133,100	\$144,900	\$162,300
Tech Manufacturing	\$141,200	\$153,700	\$161,900
TOTAL TECH INDUSTRY	\$135,000	\$147,000	\$162,200

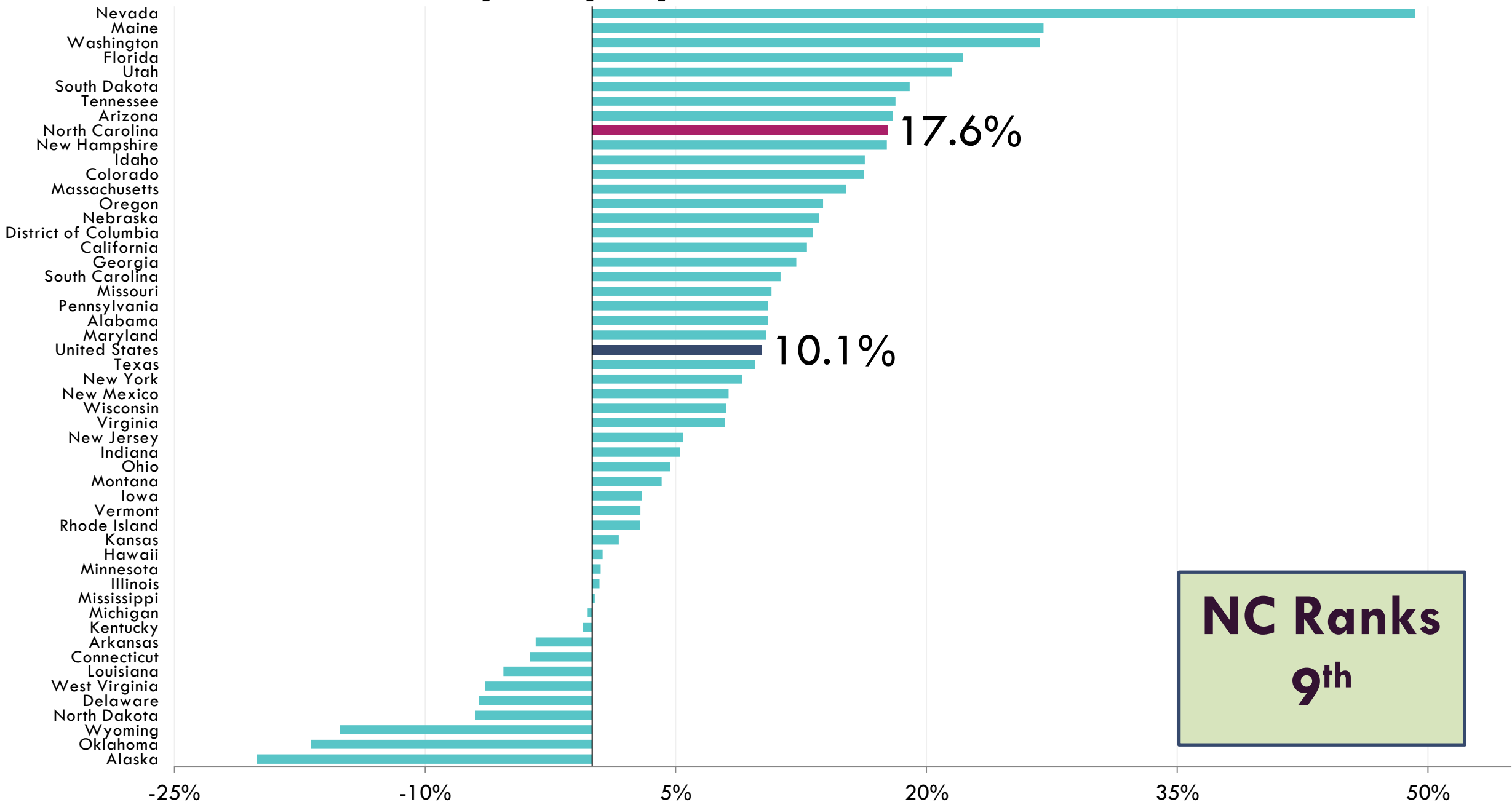
North Carolina's Tech Industry by Super Sub-Industries, 2021

Sub-Industries	2021 Employment	Employment Change (2016-2021)	Establishments (2021)	National Location Quotient
Software	88,592	33.0%	14,023	0.99
Engineering, Environmental, & Clean Tech	41,800	23.9%	3,398	1.00
Internet & Telecommunications	38,701	-7.6%	2,945	0.90
R&D and Testing	37,196	38.1%	2,758	1.05
Life Sciences Manufacturing	32,230	10.8%	316	1.44
Electronics Hardware	25,985	1.6%	306	0.93
Remediation and Waste Management	12,875	26.3%	1,048	0.89
Other Energy and Power Generation	12,700	-2.6%	522	0.45
Renewable Energy	745	334.6%	55	1.22
TOTAL TECH INDUSTRY	290,823	17.6%	25,368	0.96

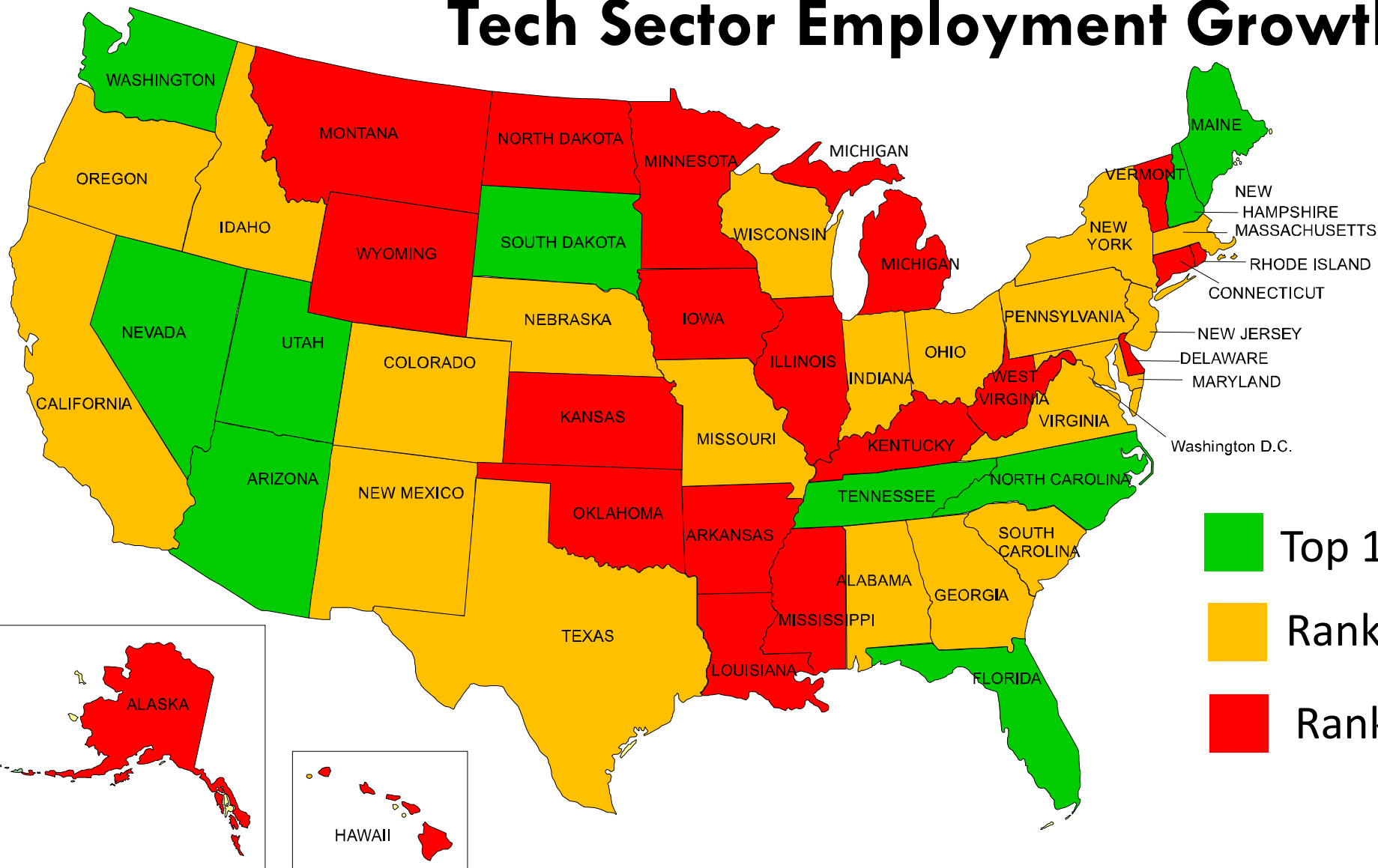
Tech Industry Jobs as a Percentage of Total Jobs, 2021



Tech Industry Employment Growth, 2016-2021



Tech Sector Employment Growth, 2016-2021

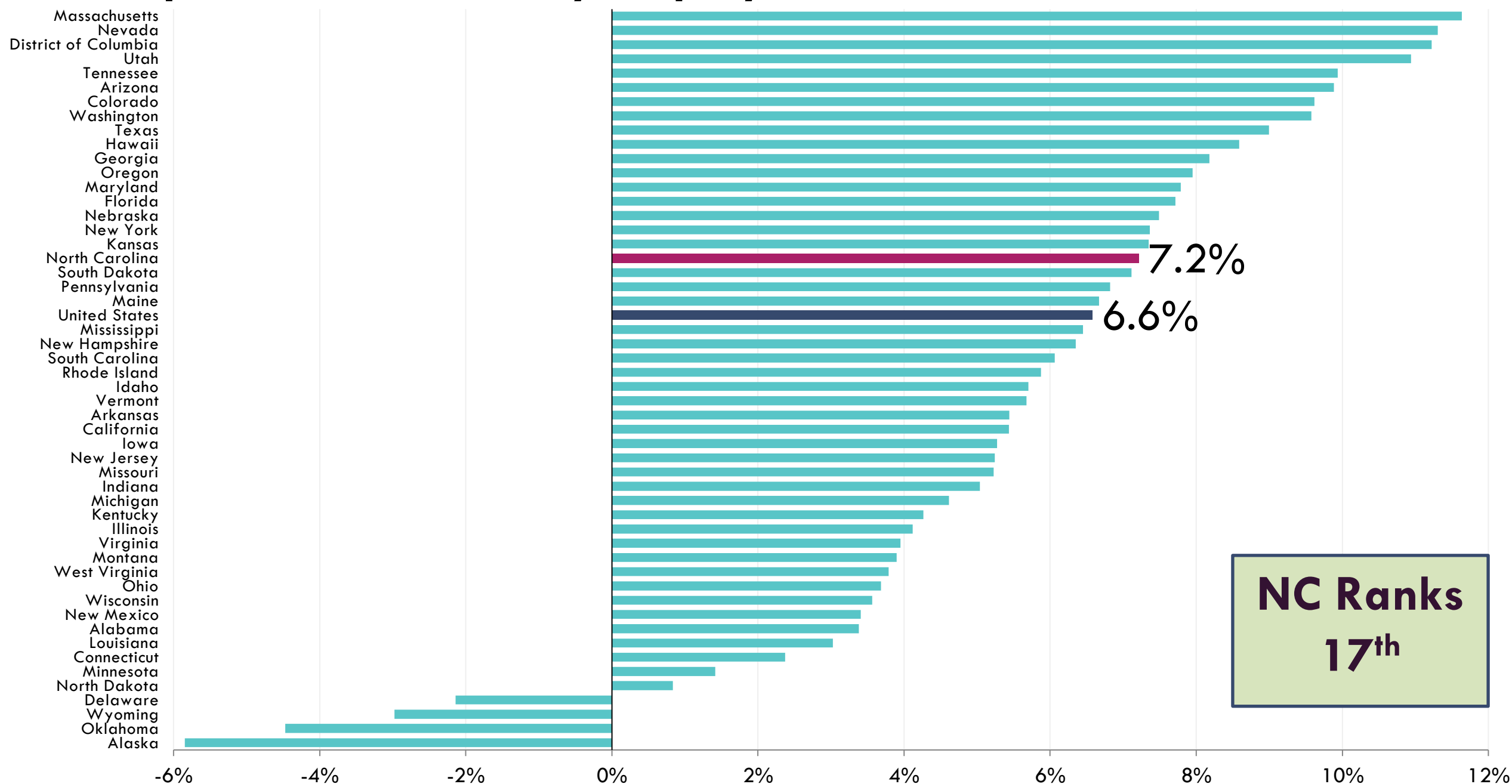


■ Top 10 (Percentage growth)

Ranked 11 - 30

Ranked 31 - 50

Expected Tech Industry Employment Growth, 2022-2027



Expected Tech Sector Employment C

WASHINGTON

OREGON

IDAHO

MONTANA

NORTH DAKOTA

MINNESOTA

MICHIGAN

VERMONT

NEW HAMPSHIRE

MAINE

MASSACHUSETTS

RHODE ISLAND

CONNECTICUT

NEW YORK

PENNSYLVANIA

NEW JERSEY

DELAWARE

MARYLAND

WASHINGTON D.C.

NEVADA

UTAH

COLORADO

KANSAS

ARIZONA

NEW MEXICO

OKLAHOMA

MISSOURI

ILLINOIS

INDIANA

OHIO

WEST VIRGINIA

VIRGINIA

KENTUCKY

TENNESSEE

NORTH CAROLINA

SOUTH CAROLINA

GEORGIA

FLORIDA

MISSISSIPPI

ALABAMA

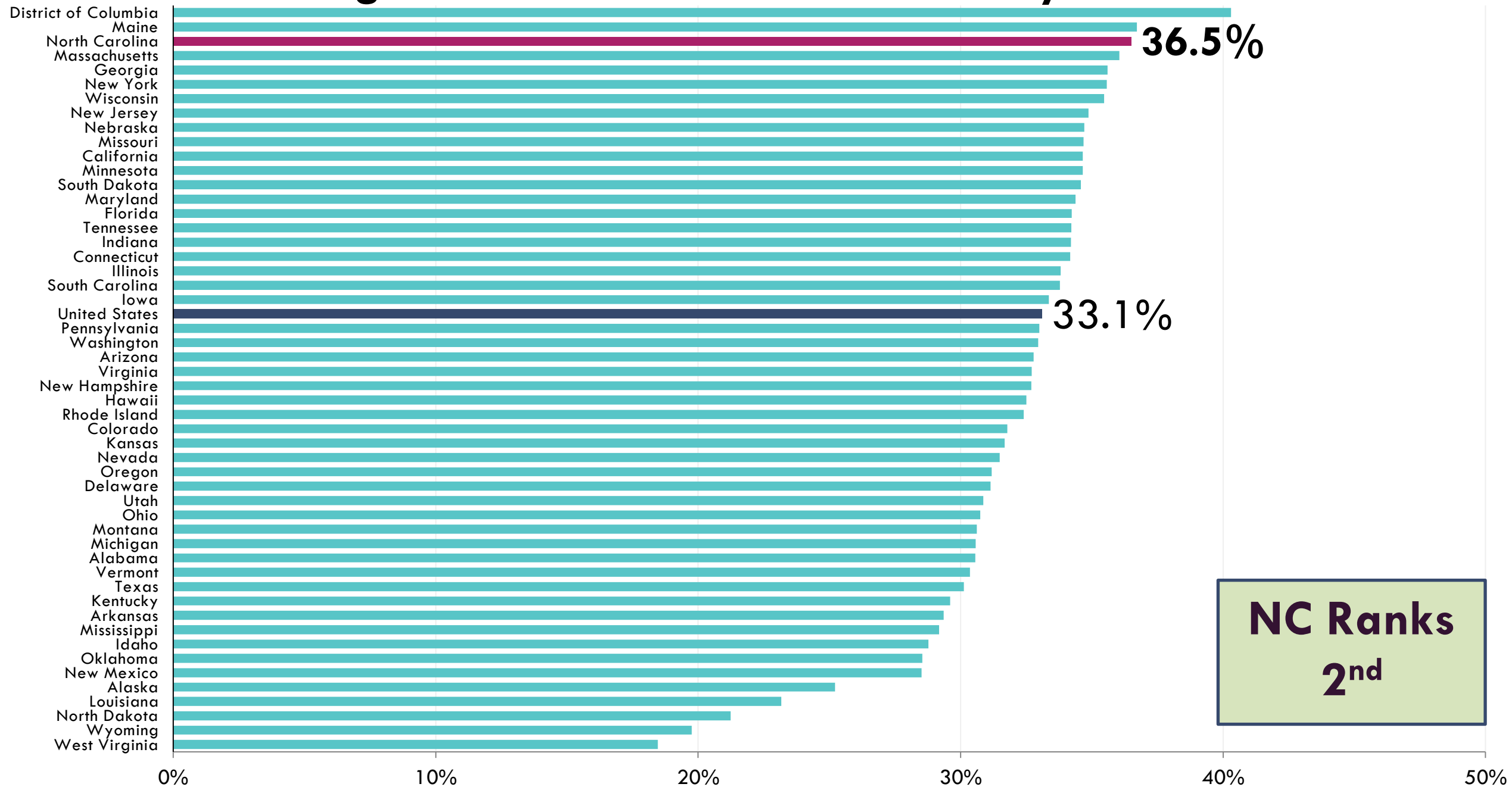
LOUISIANA

TEXAS

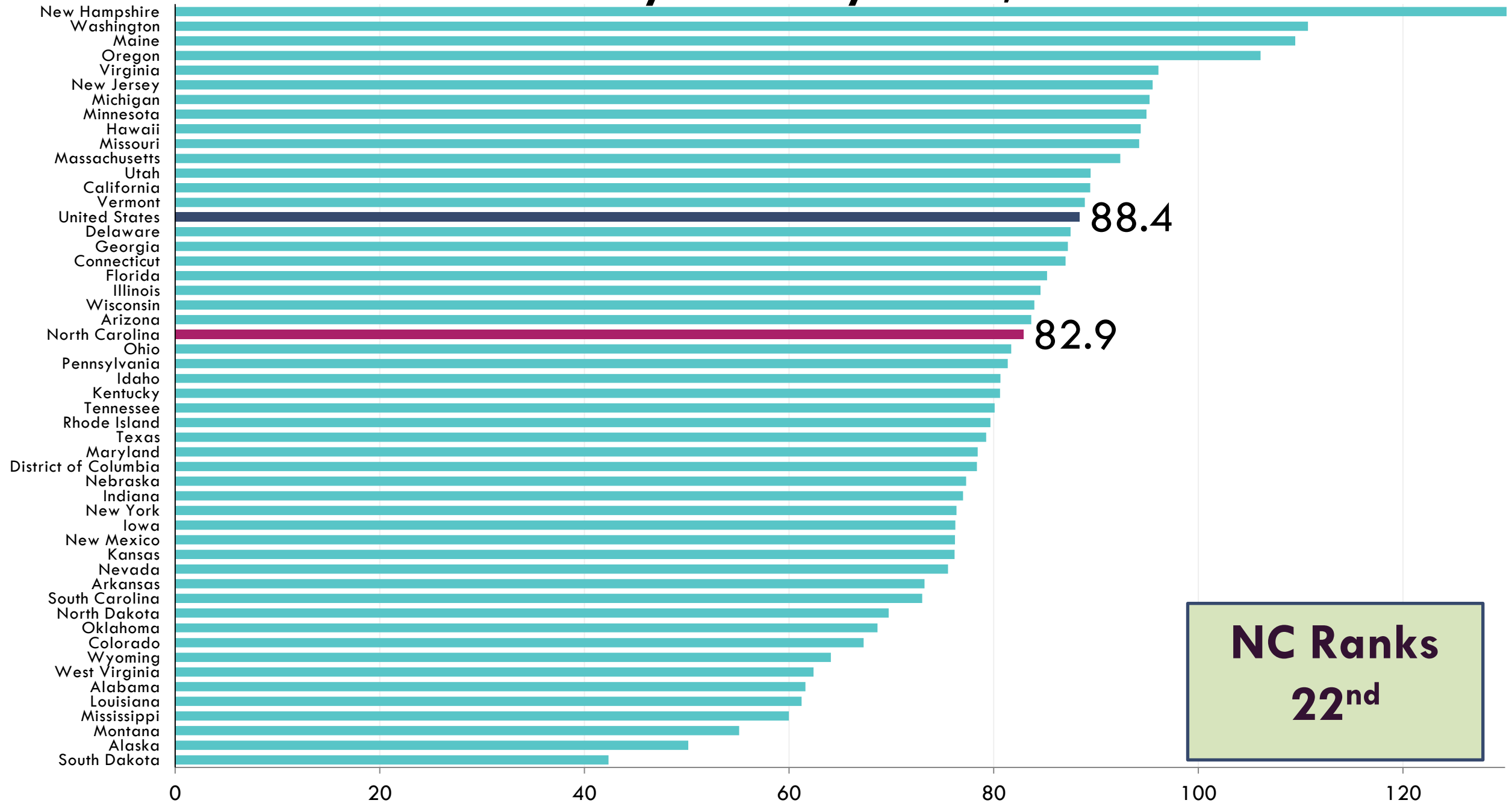
ALASKA



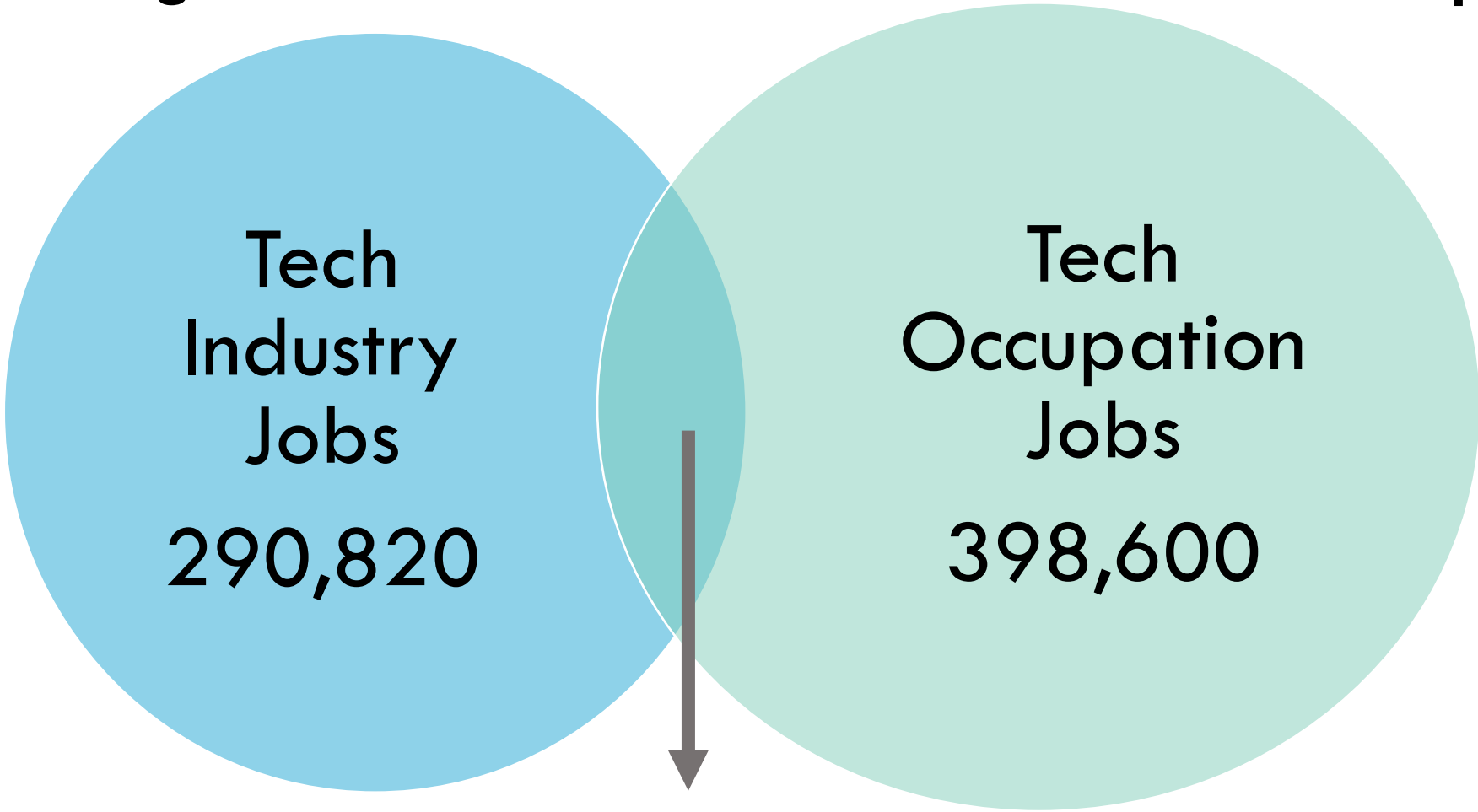
Percentage of Women in the Tech Industry Workforce



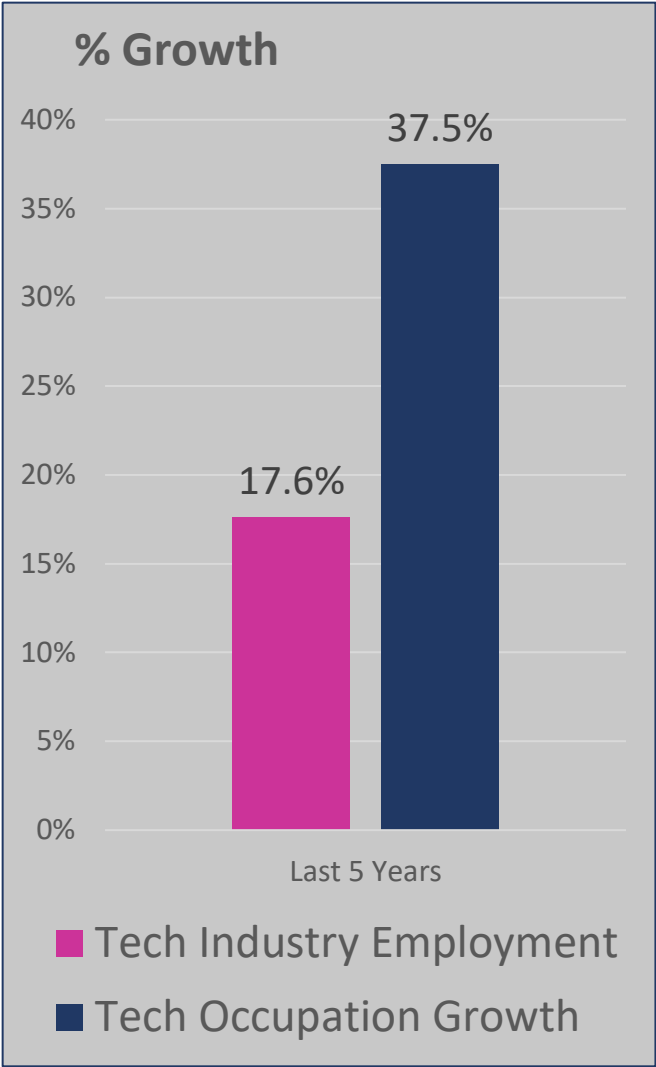
Tech Industry Diversity Index, 2021



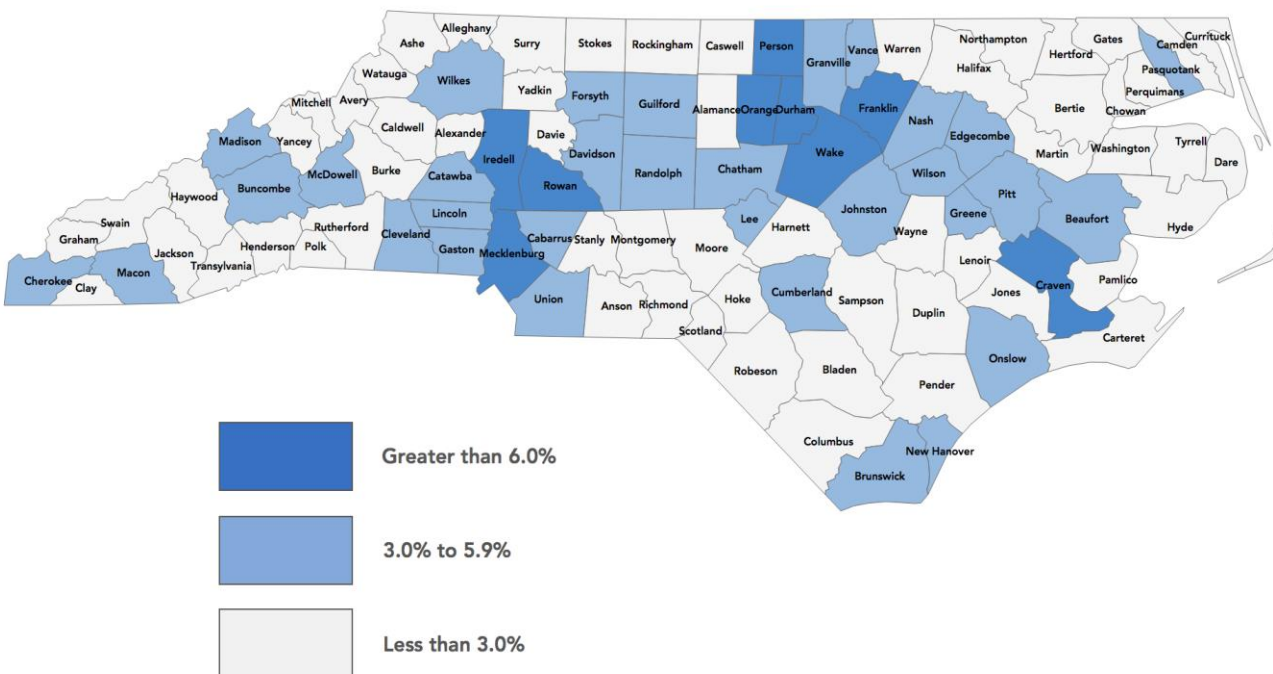
Staffing Patterns of Tech Industries and Tech Occupations, 2021



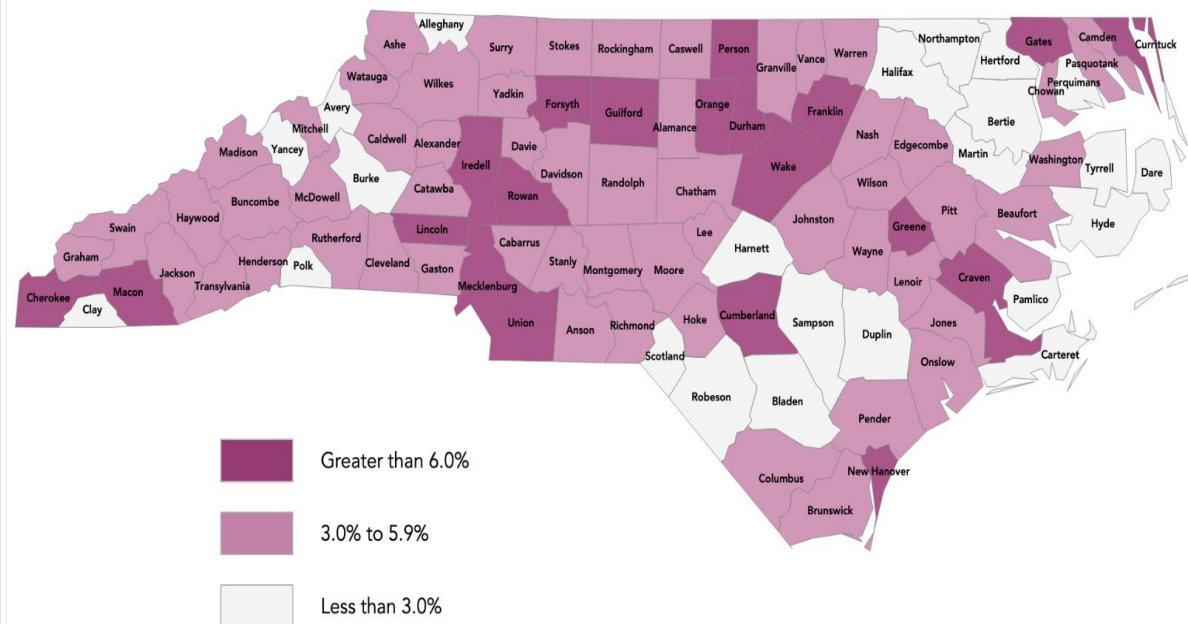
32% of tech occupation jobs are employed in tech industries.



2016



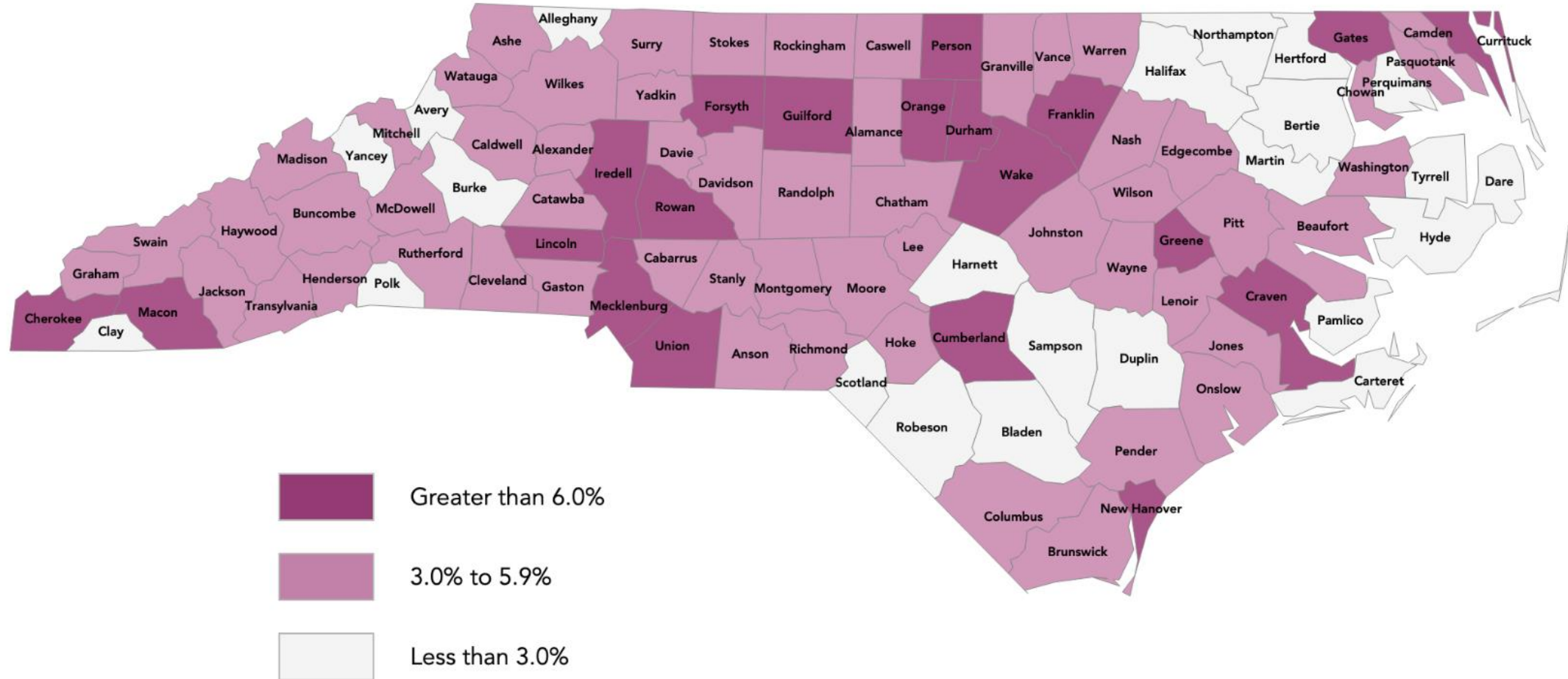
2021



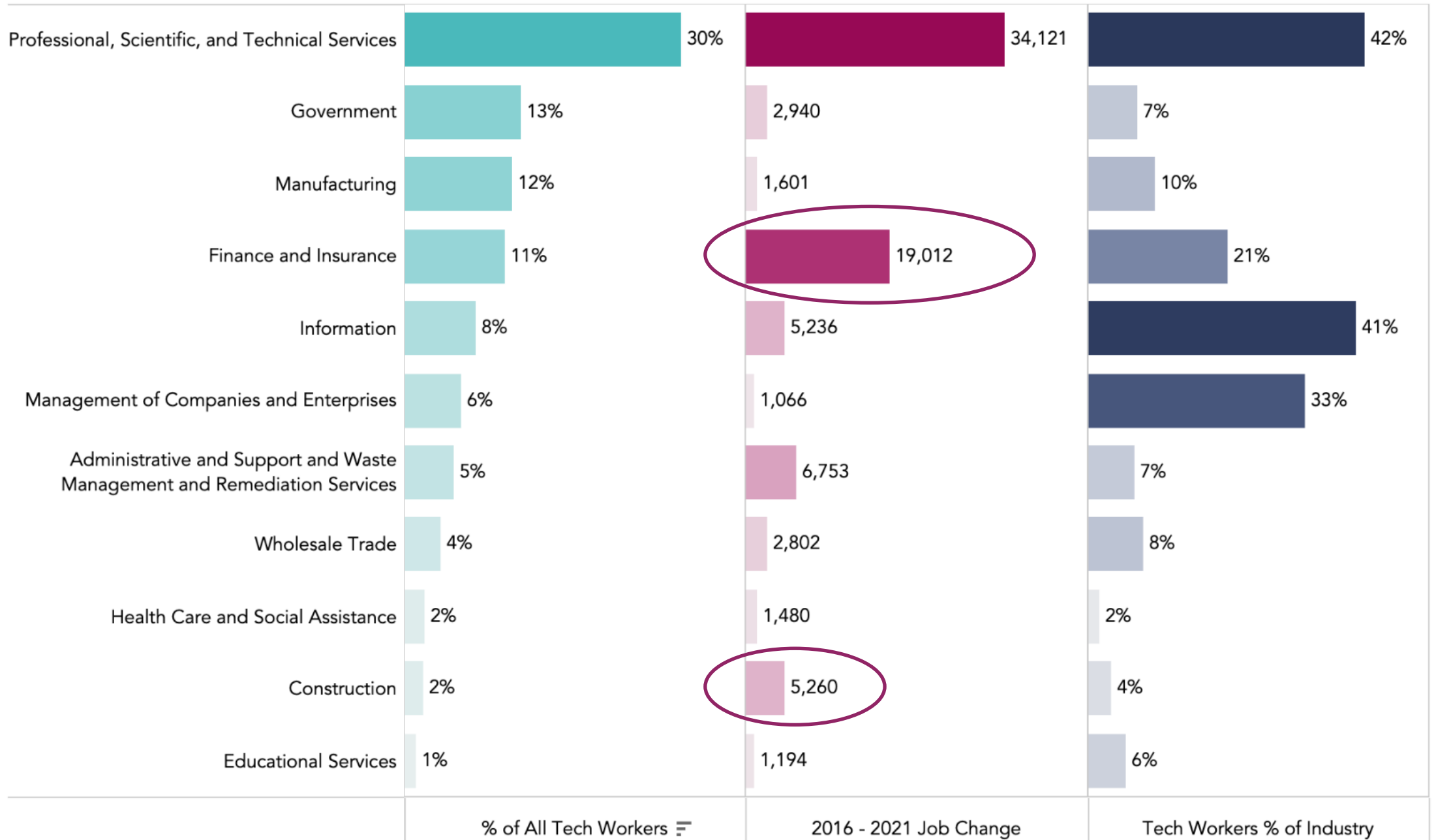
North Carolina
**STATE OF
TECHNOLOGY**
2018 Industry Report & Tech Directory

NCTECH
Association

Tech Occupations as a Percentage of All Occupations, 2021



Top Industries Employing Tech Occupations, 2021



Top Tech Occupations in North Carolina Table, 2021

Description	2021 Occupations	Change in Employment, 2016-2021	Median Annual Wage	Annual Openings	Turnover Rate
Software Developers	52,004	+83%	\$119,080	7,366	46%
Business Operations Specialists, All Other	30,402	+75%	\$64,771	4,147	44%
Computer User Support Specialists	23,726	+12%	\$48,381	2,361	56%
Market Research Analysts and Specialists	23,699	+54%	\$62,088	3,429	65%
Computer Systems Analysts	23,438	-2%	\$99,341	2,451	49%
Management Analysts	23,095	+48%	\$96,762	3,157	60%
Project Management Specialists	22,858	+66%	\$97,240	3,046	59%
Computer and Information Systems Managers	16,801	+46%	\$143,146	2,051	44%
Financial and Investment Analysts	9,811	+42%	\$81,411	1,247	61%
Network and Computer Systems Administrators	9,266	-18%	\$79,872	840	42%
All Tech Occupations	398,596	28%	\$85,770	53,123	48%

Top 5 Tech Occupations in Growth, 2016 – 2021

Top Five in Net Job Growth		Top Five in Growth Percentage	
Software Developers	+23,591	Mathematical Science Occupations, All Other	+450%
Business Operations Specialists, All Other	+13,072	GIS Technicians	+346%
Project Management Specialists	+9,108	Data Scientists	+187%
Market Research Analysts and Specialists	+8,315	Actuaries	+133%
Management Analysts	+7,502	Calibration Technologists and Technicians	+121%

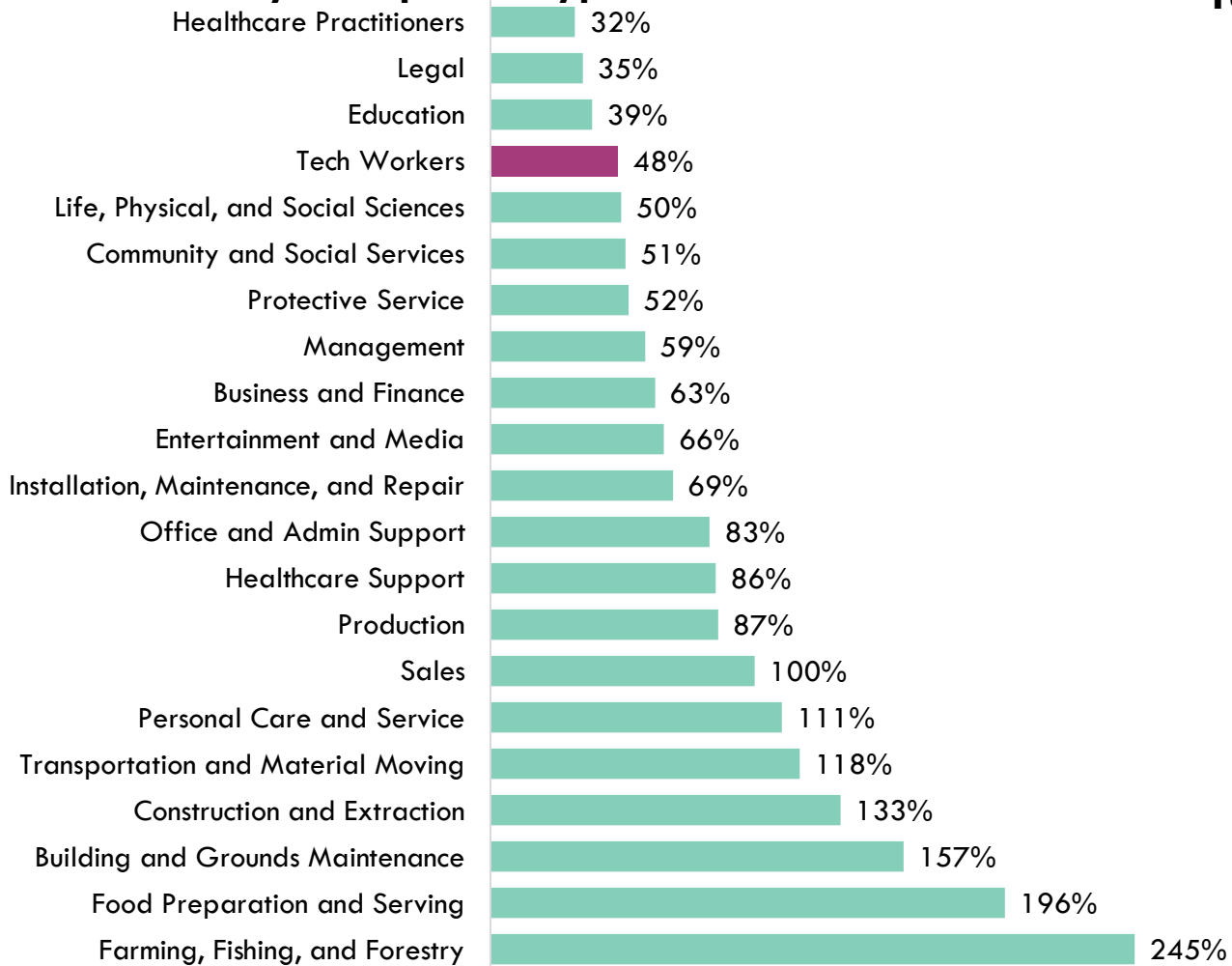
Top 5 Tech Occupations in Growth, 2016 – 2021



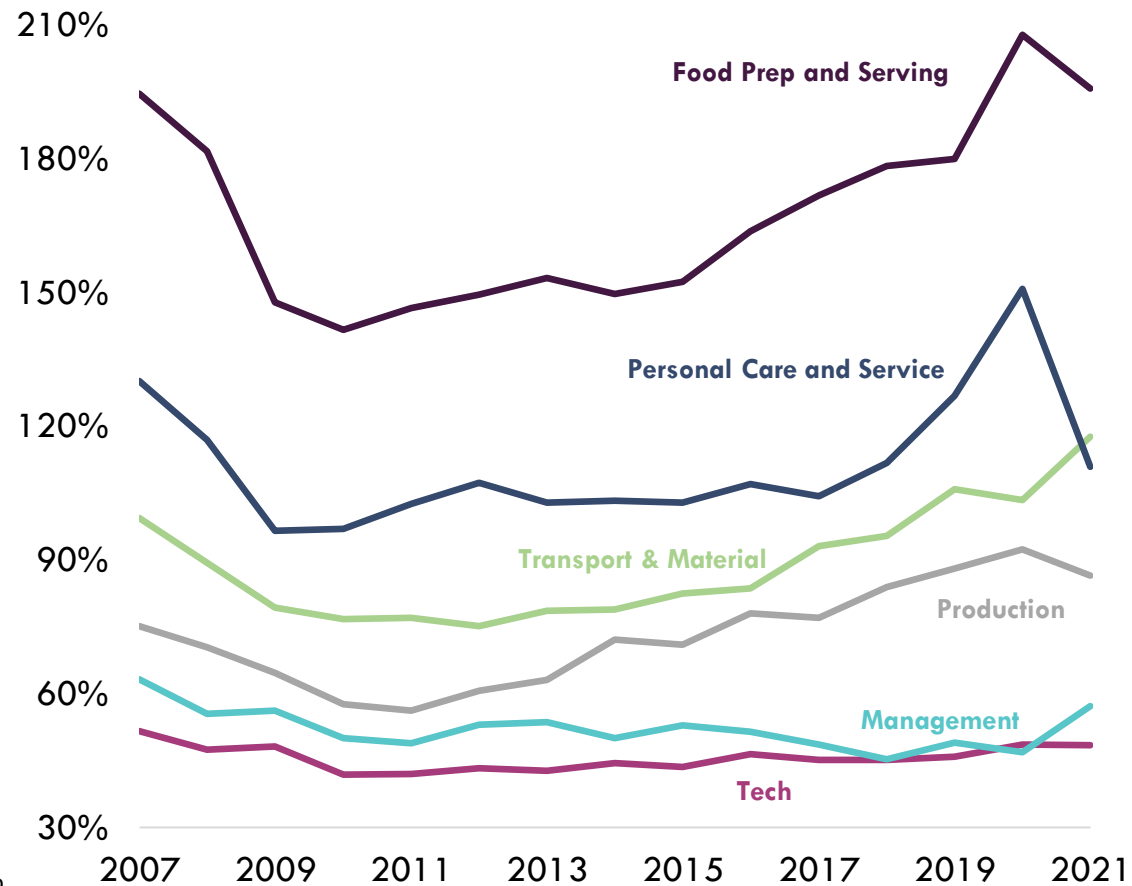
Top Five in Growth Percentage	
Mathematical Science Occupations, All Other	+450%
GIS Technicians	+346%
Data Scientists	+187%
Actuaries	+133%
Calibration Technologists and Technicians	+121%

Turnover Rates

Turnover Rate by Occupation Type, 2021



Turnover Rate by Occupation Type, 2007-2021



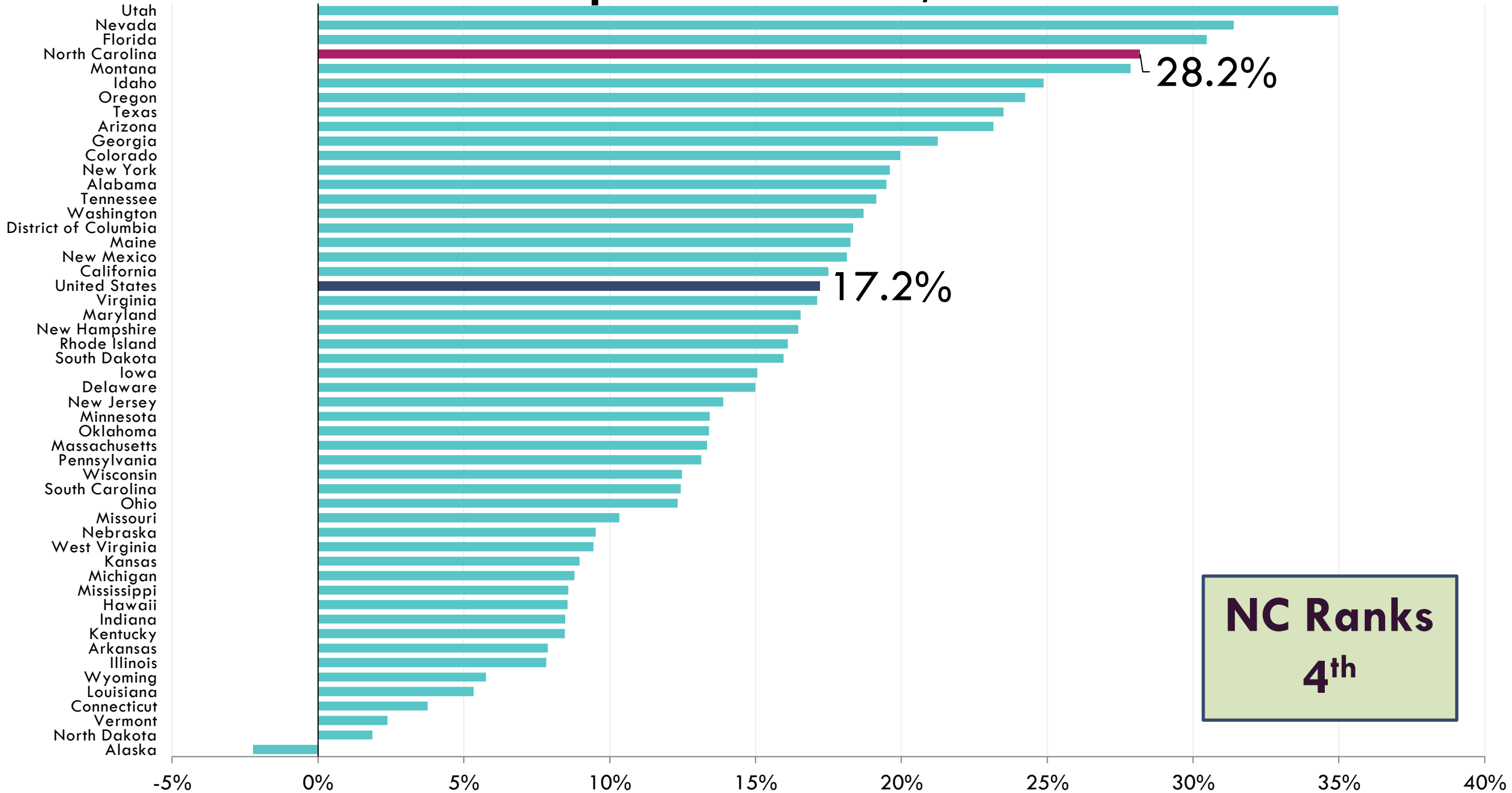
Gender Distribution of Tech Occupations in North Carolina, 2021

Demographic	Tech Occupations	NC Population	Index
Women	36%	51%	69.9
Men	64%	49%	131.5

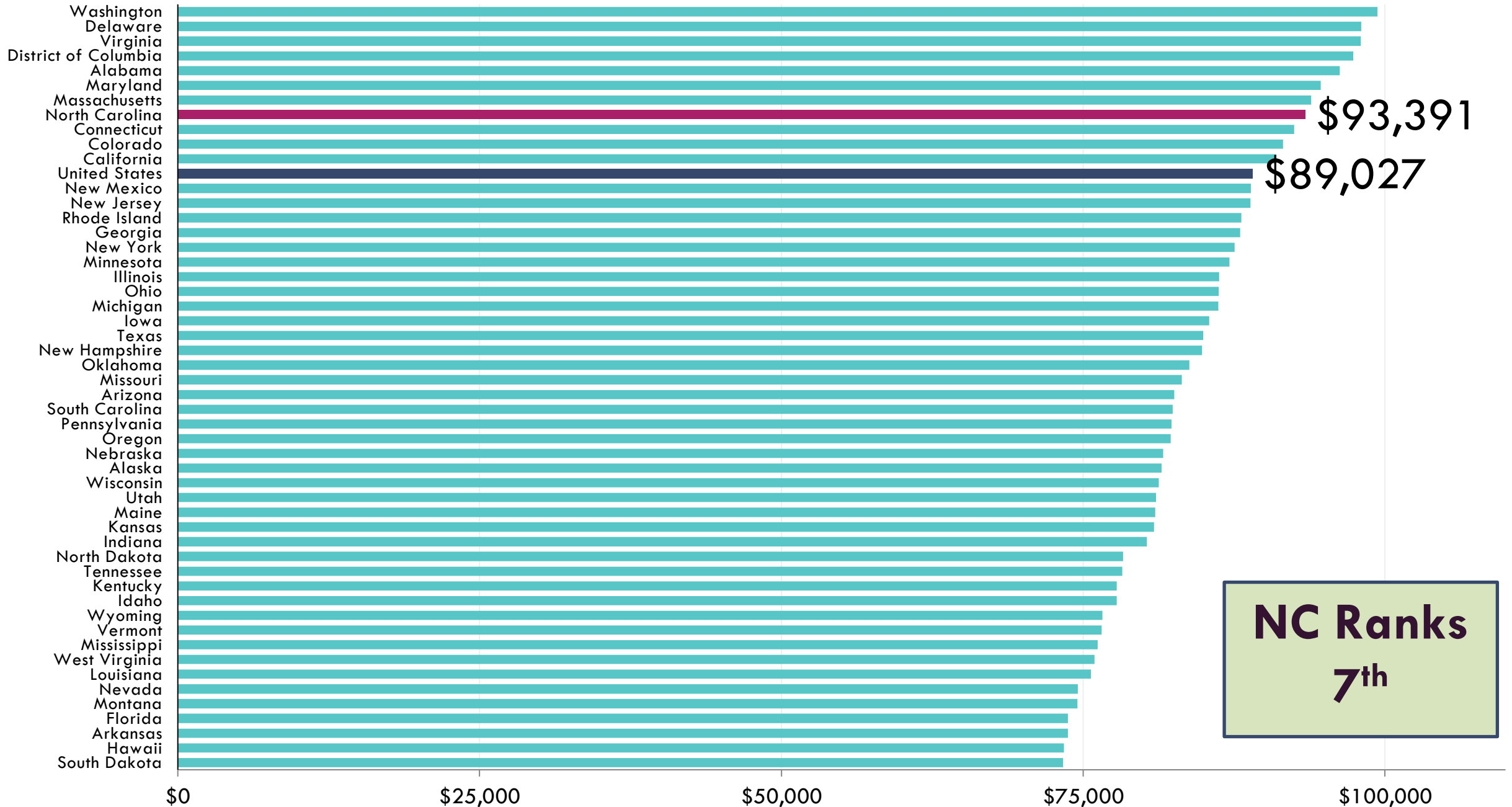
Race/Ethnicity Distribution of Tech Occupations in North Carolina, 2021

Demographic	Tech Occupations	NC Population	Index
White	68%	62%	110.4
Black or African American	15%	21%	70.5
Asian	10%	3%	315.0
Hispanic or Latino	4%	10%	40.3
Two or More Races	2%	2%	84.6
American Indian or Alaska Native	0.36%	1.10%	33.2
Native Hawaiian or Other Pacific Islander	0.05%	0.07%	73.1

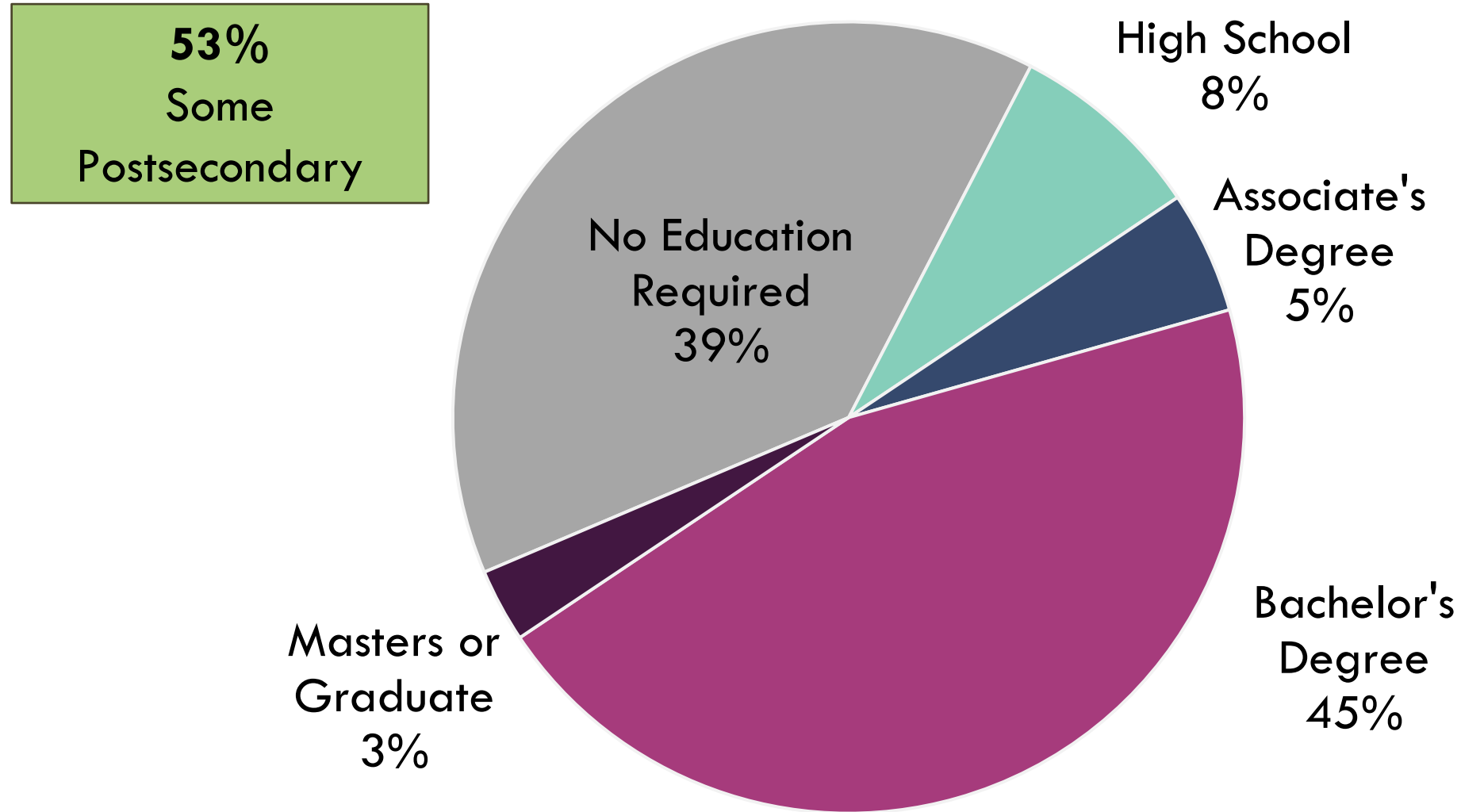
Tech Occupations Growth, 2016-2021



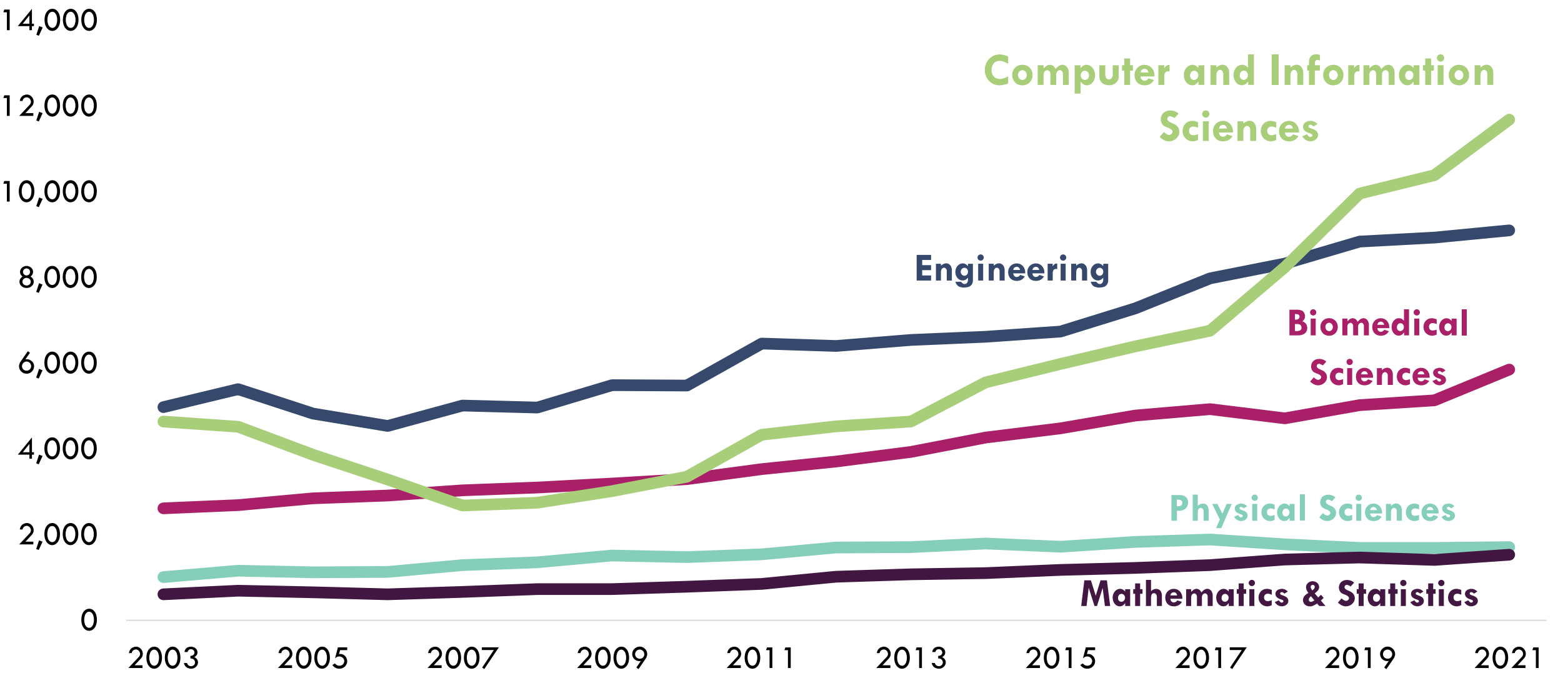
Median Annual Adjusted Earnings for Tech Occupations, 2021



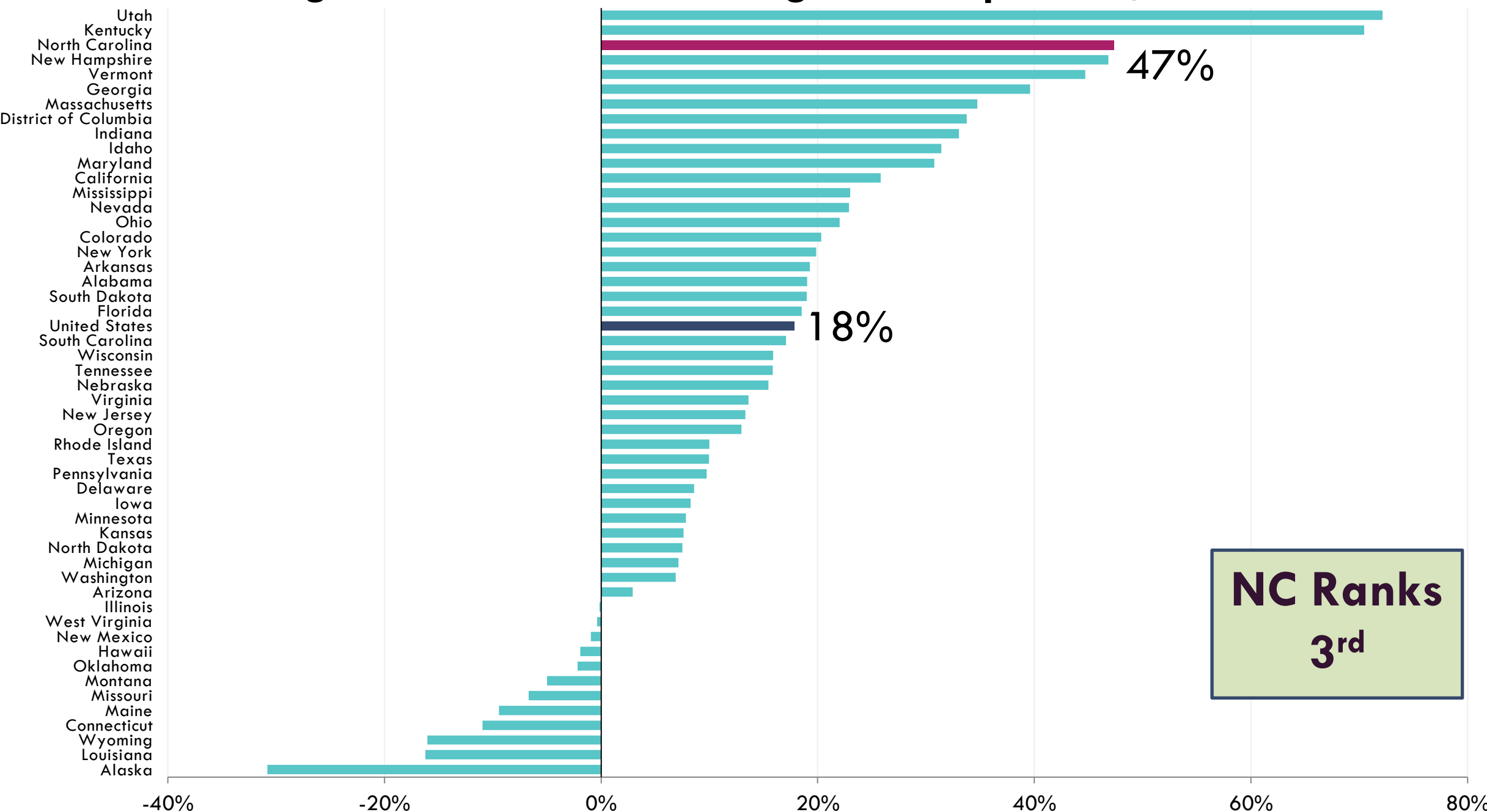
Minimum Education Level Required in NC Tech Job Postings, Nov 2019 – Nov 2022



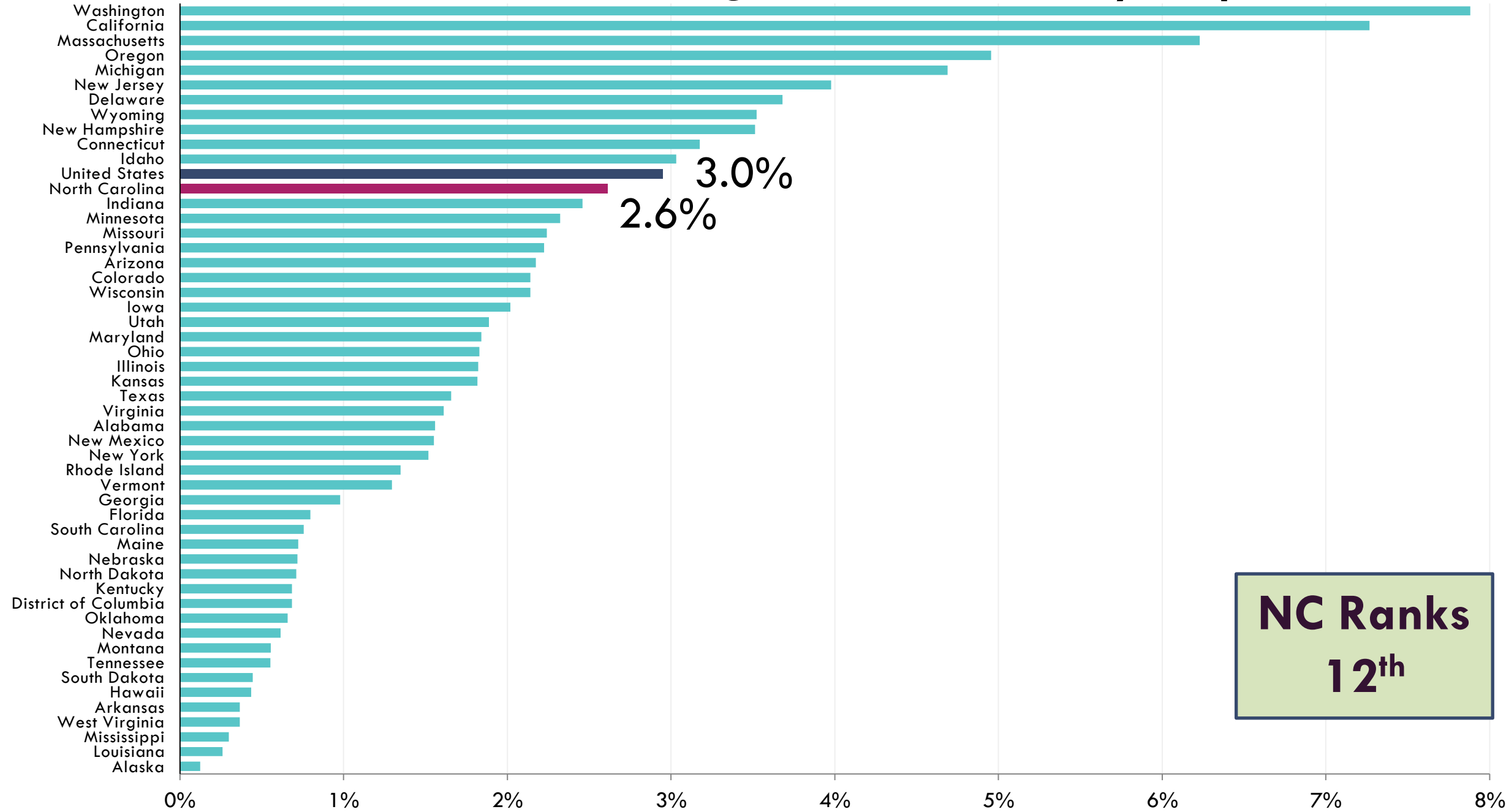
Annual Education Completions in NC for Selected Programs, 2003-2021



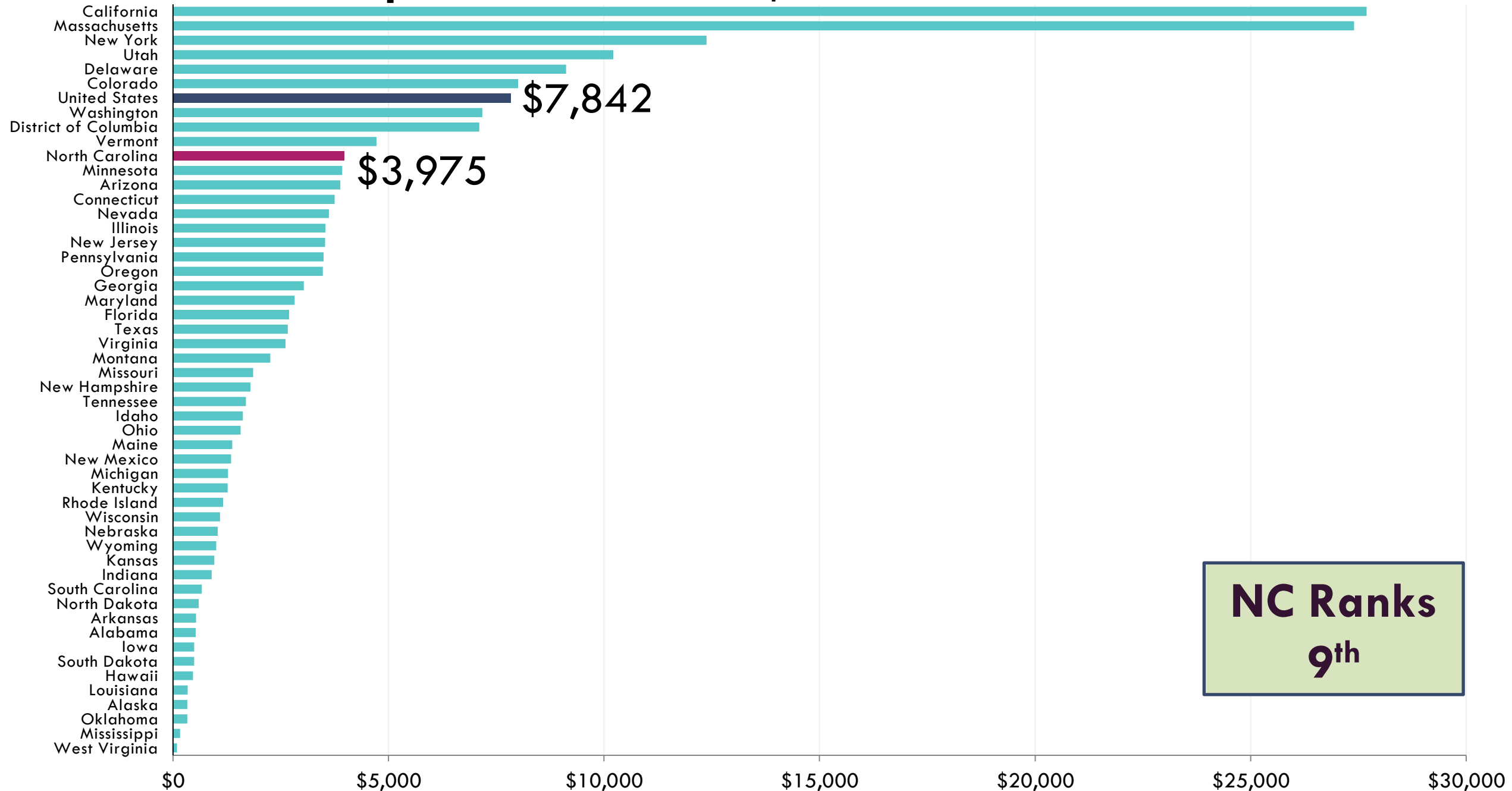
Percent Change in STEM Education Program Completions, 2016-2021



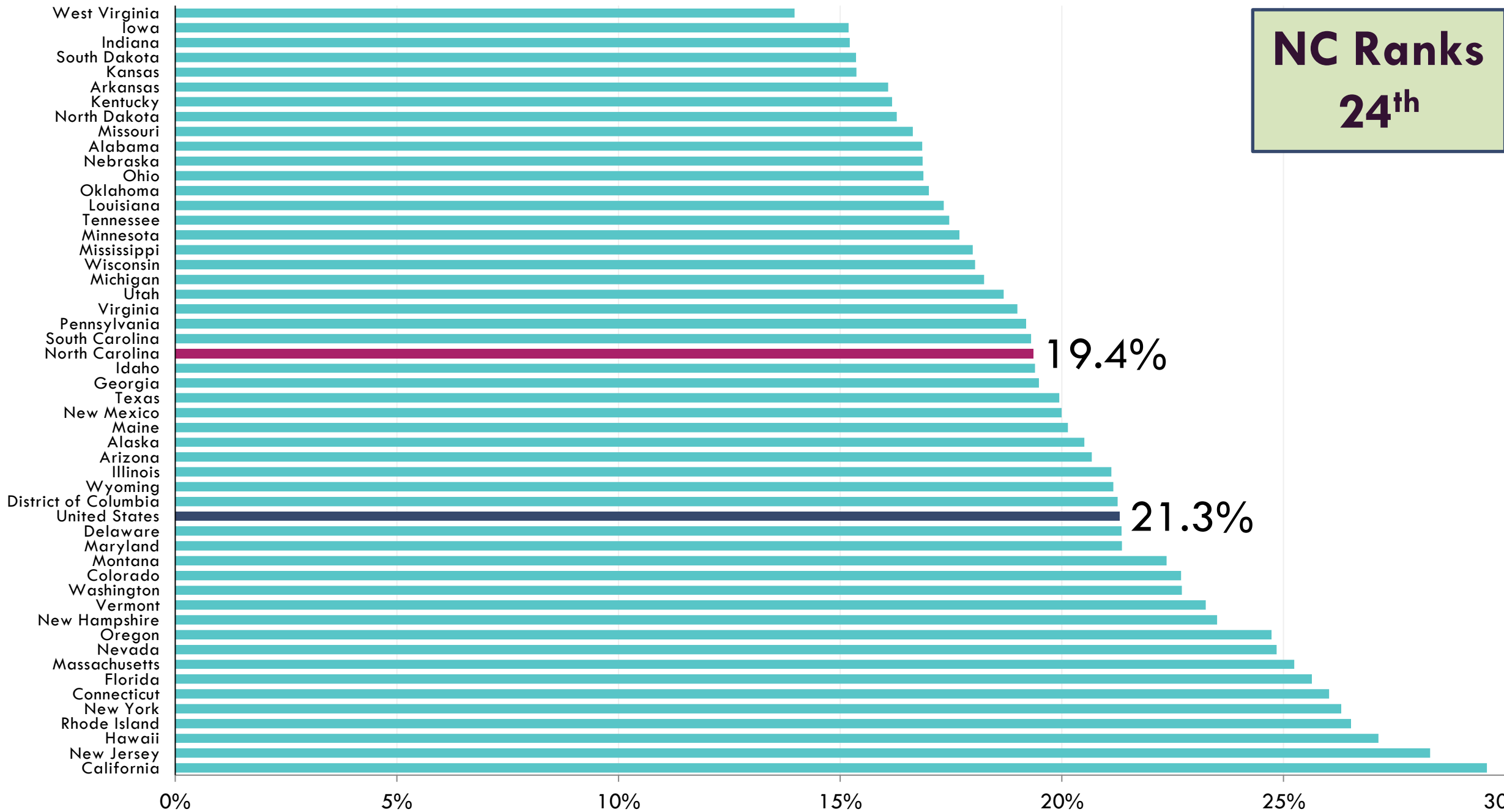
Business Performed R&D as a Percentage of Private Industry Output, 2020



Venture Capital Invested Per \$1 Million of GSP, 2016-2021



Share of Housing Burdened Households, 2020



KEY TAKEAWAYS FOR TECH SECTOR

	Indicates a state ranking of 15 th or higher
	Indicates a state ranking between 16 th and 35 th
	Indicates a state ranking of 35 th or greater

Tech Industry		
Metric	Value	Rank
Technology Sector Location Quotient (2021)	0.96	17
Technology Sector Employment Growth (2016-2021)	17.6%	9
Expected Technology Sector Employment Growth (2022-2027)	7.2%	17
Average Annual Adjusted Wage for Technology Sector Employees Power (2021)	\$146,951	12
Percentage of Women in the Technology Workforce (2021)	36.5%	2
Tech Industry Diversity Index (2021)	82.9	22

KEY TAKEAWAYS FOR TECH OCCUPATIONS

	Indicates a state ranking of 15 th or higher
	Indicates a state ranking between 16 th and 35 th
	Indicates a state ranking of 35 th or greater

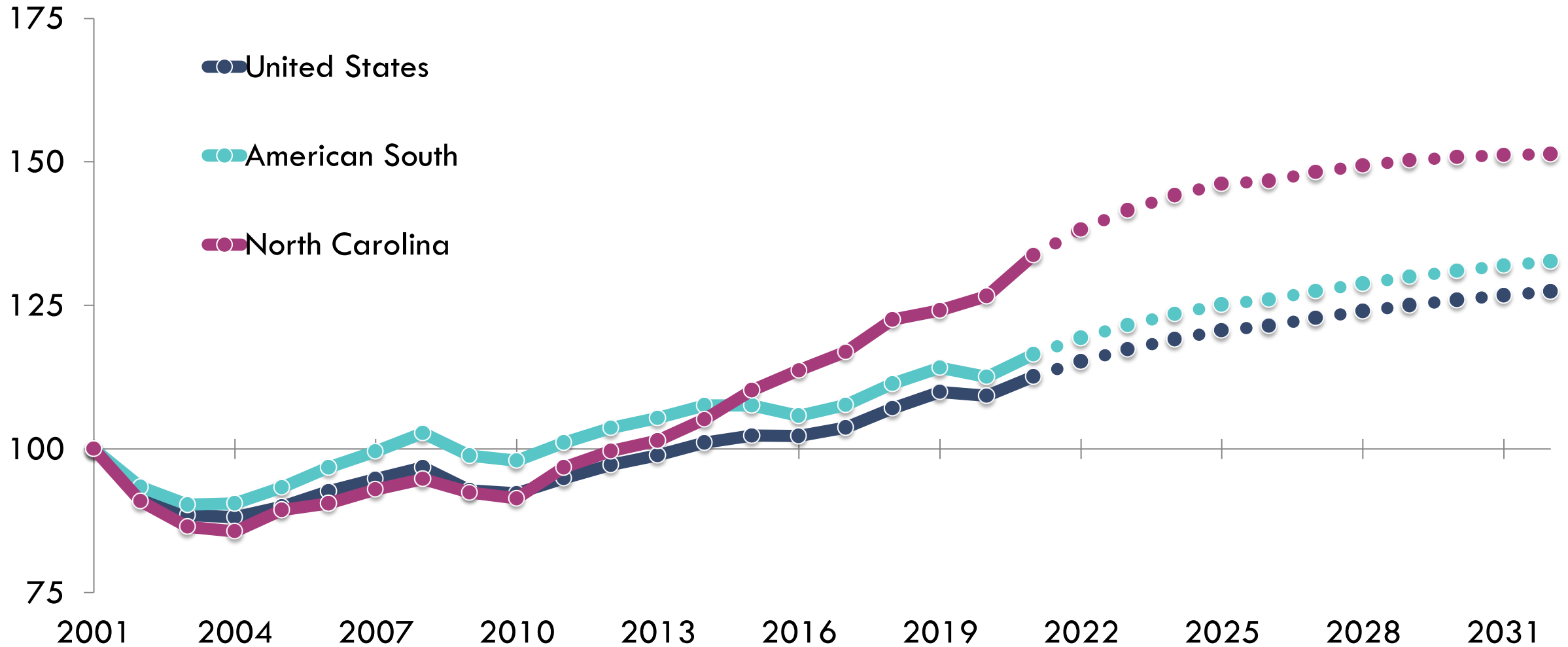
Tech Occupations		
Metric	Value	Rank
Tech Occupations Location Quotient (2021)	1.01	16
Tech Occupations Growth (2016-2021)	28.2%	4
Expected Tech Occupations Growth (2022-2027)	7.8%	17
Median Annual Earnings Adjusted for Purchasing Power (2021)	\$93,391	7

KEY TAKEAWAYS FOR TECH INFRASTRUCTURE

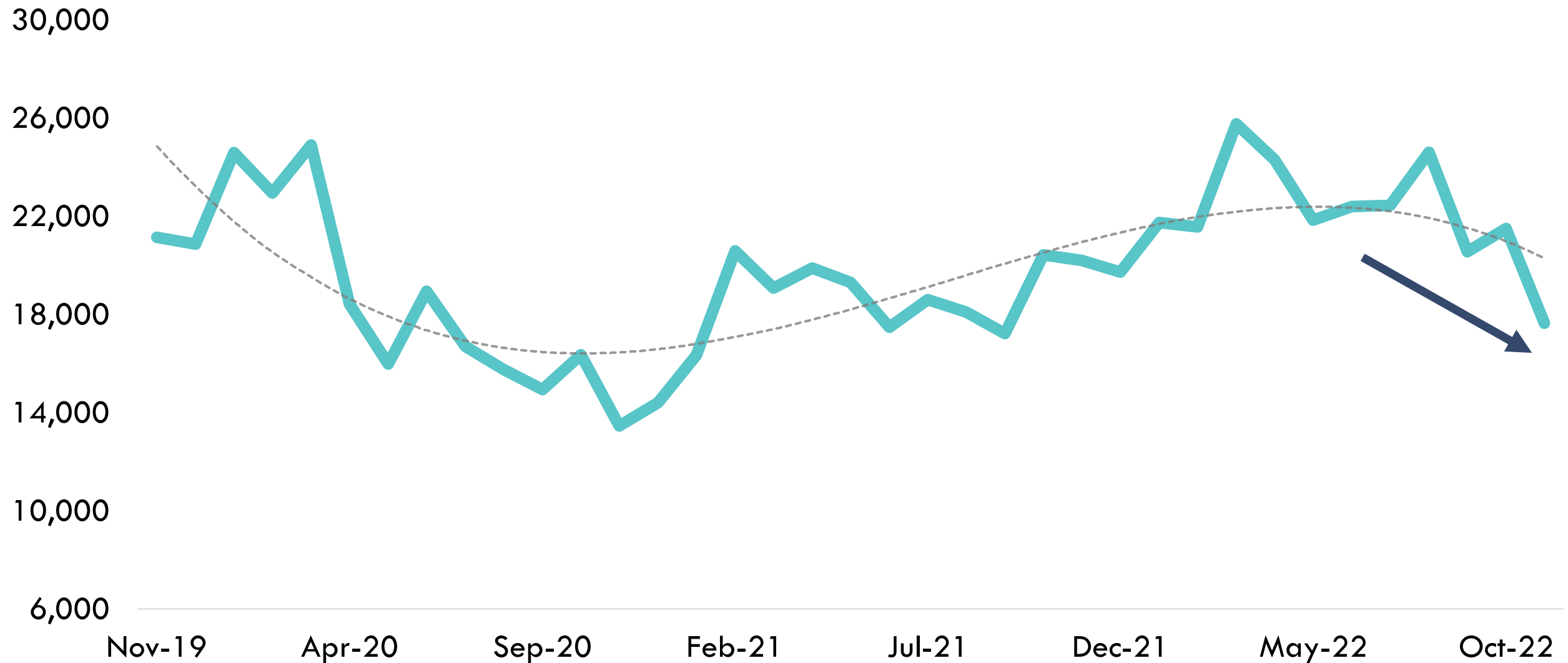
Tech Infrastructure		
Metric	5 Years Back	Rank
Total R&D as a Percentage of GSP, 2019	19	13
Business Performed R&D as a Percentage of Private Industry Output, 2020	16	12
Higher Education R&D in Science & Engineering as a Percentage of GSP, 2020	4	4
Patents Issued per 1,000 Science & Engineering Workers, 2020	19	24
Venture Capital Invested Per \$1 Million of GSP, 2016-2021	22	9
Technology Licenses and Options Executed from Universities, 2020	8	11
Start-Ups from Universities, 2020	8	7
SBIR and STTR Funding Per \$1 Million of GSP, 2016-2021	19	15
Business Opening vs Closing Rate, 2020	17	12
Completed STEM Education Programs per 1,000 Enrolled Students, 2021	14	5
Percent Change in STEM Education Program Completions, 2016-2021	22	3
State Spending on Higher Education Per FTE Student, 2021	7	11

Long Term Tech Industry Employment Trends

2001 Employment Levels = 100



NC's Tech Occupation Monthly Jobs Postings, Nov 2019 – Nov 2022



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