

Manufacturing in 2024's Soft Landing Economy

Wisconsin Manufacturing Extension Partnerships

April 9, 2024

There is No One Size Fits All

- The U.S. economy gives mixed signals on the strength of the economy
 - Macroeconomic tools are at cross-purposes
 - Result is an economy that is strong and weak at the same time
 - Industries that lagged coming out of COVID leading now
- Results in Manufacturing vary widely by region and industry
- A Soft Landing for the U.S. Economy does not mean a soft landing for Manufacturing

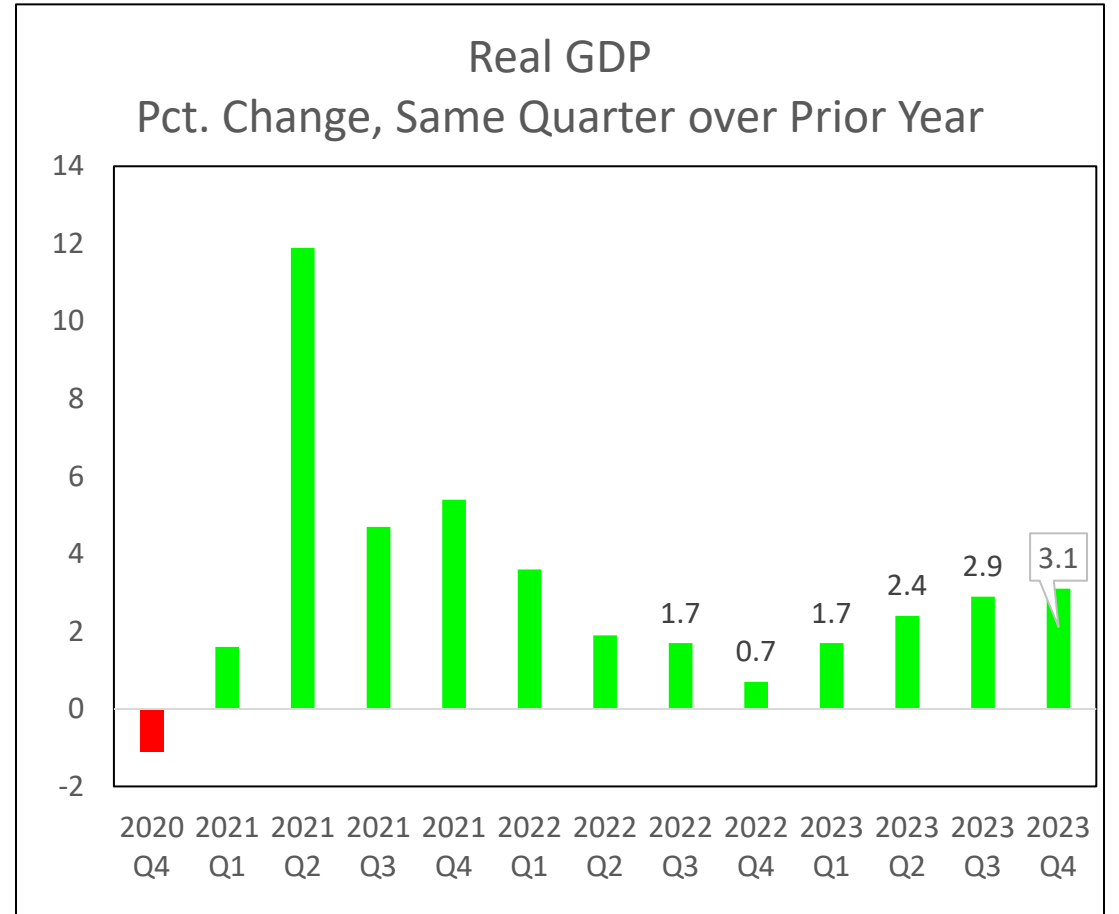
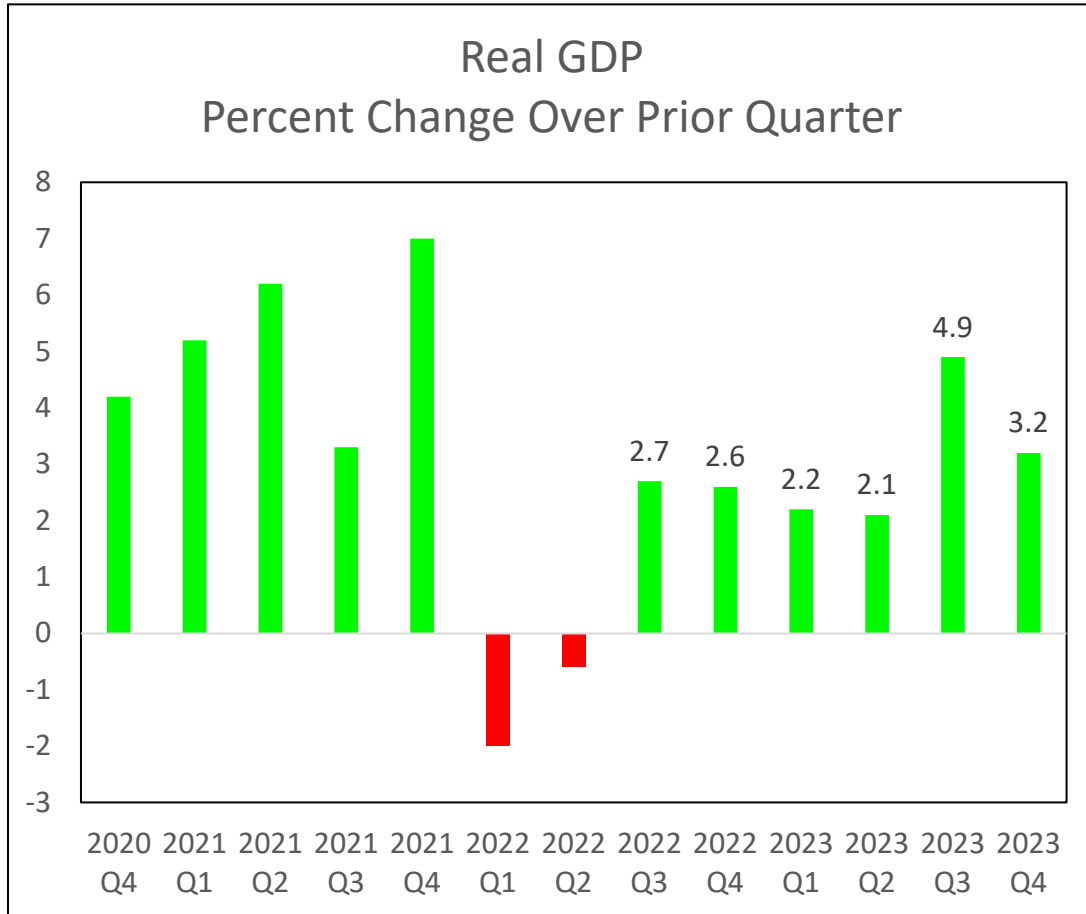
Recession Versus Soft Landing

Illustrating Mixed Signals in US Economy

Real GDP Update

4th Quarter 2023 Up 3.2% over 3rd Quarter 2023

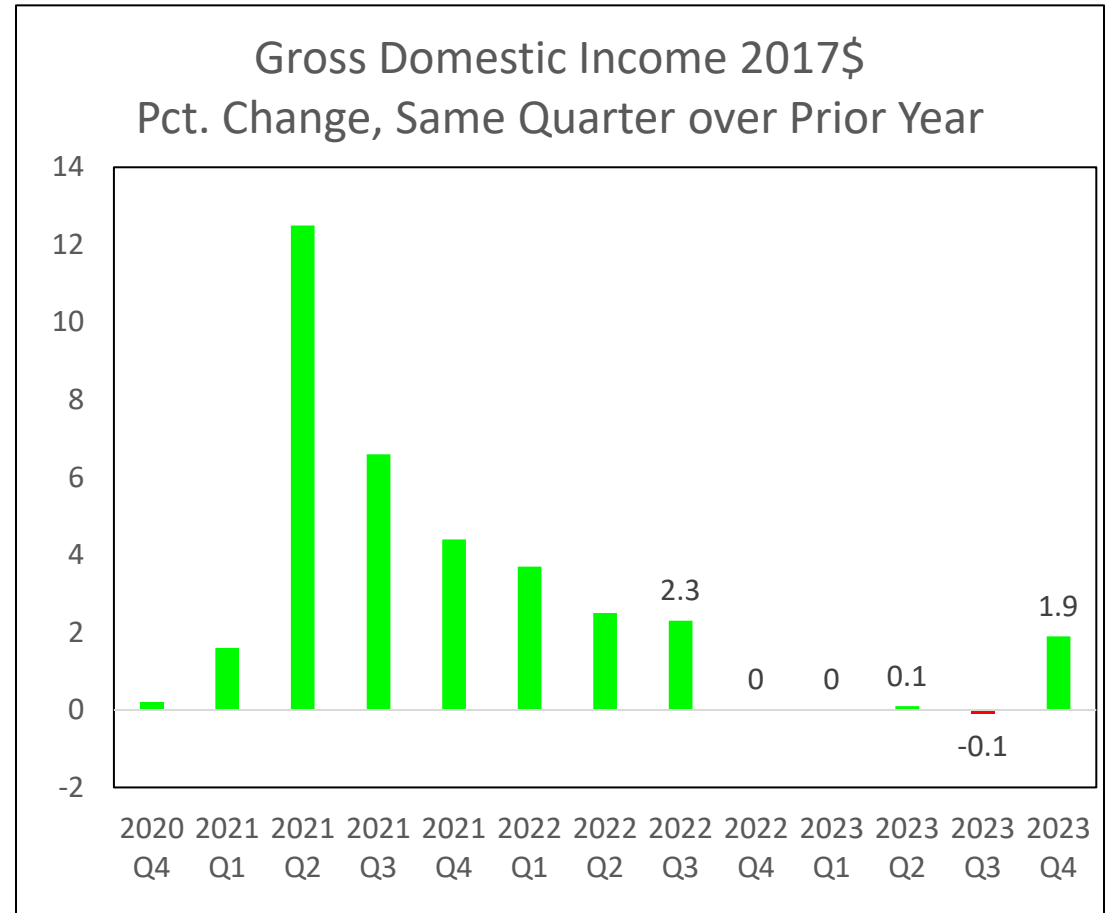
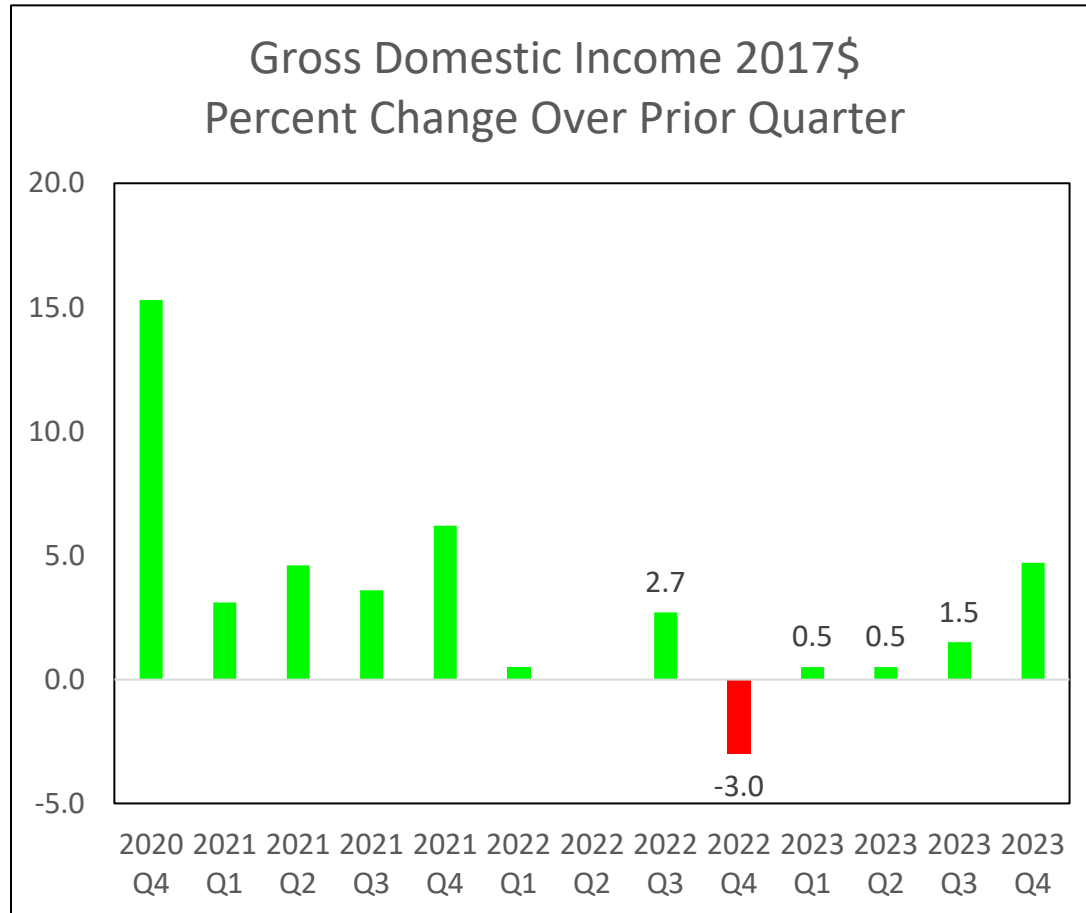
Up 3.1% 2023 Q4 over 2022 Q4



Source: U.S. Bureau of Economic Analysis, Release Date March 29, 2024

Real Domestic Income Measures Not As Strong

3rd Quarter 2023 Up 1.5% over 2nd Quarter 2023



Source: U.S. Bureau of Economic Analysis, Release Date March 29, 2024

A Recession is Whatever the NBER Business Cycle Committee Says It Is

NBER Recession Definition

A recession requires

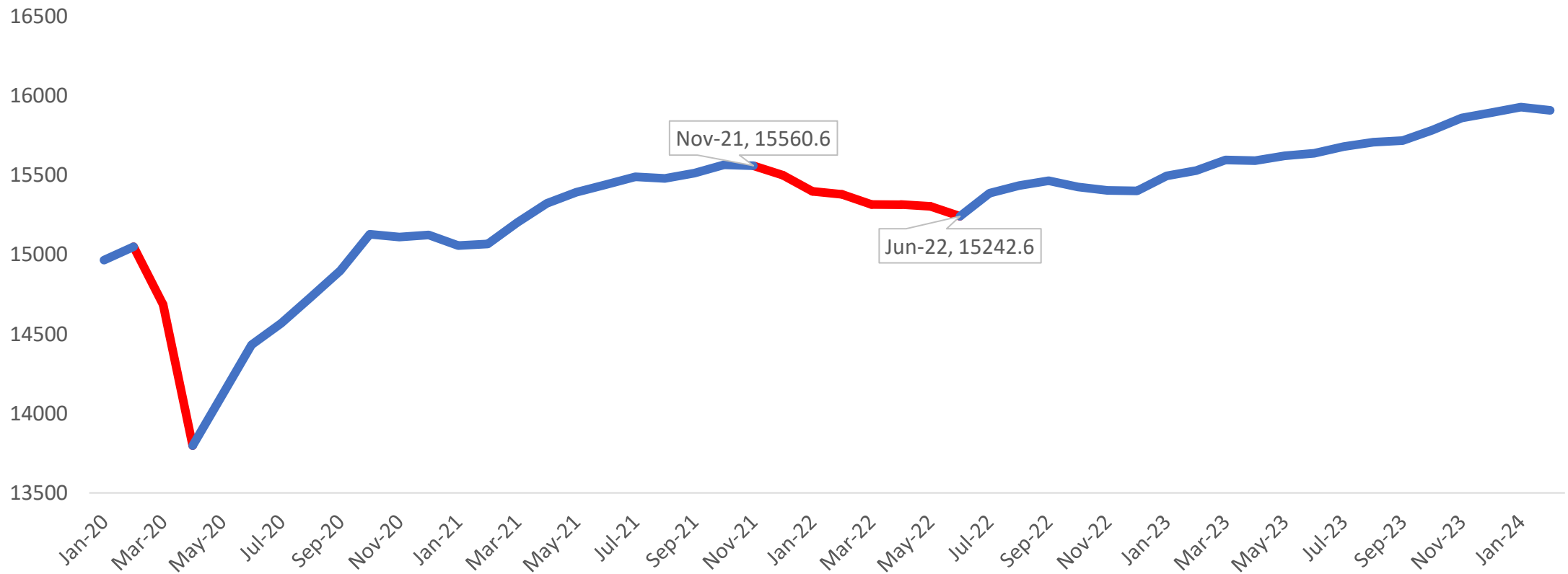
- Depth—Significant decline in economic activity
- Diffusion—Affecting multiple sectors
- Duration—Lasting more than a few months

Principal Indicators

- real personal income less transfers
- nonfarm payroll employment
- employment as measured by the household survey
- real personal consumption expenditures
- wholesale-retail sales adjusted for price changes
- industrial production

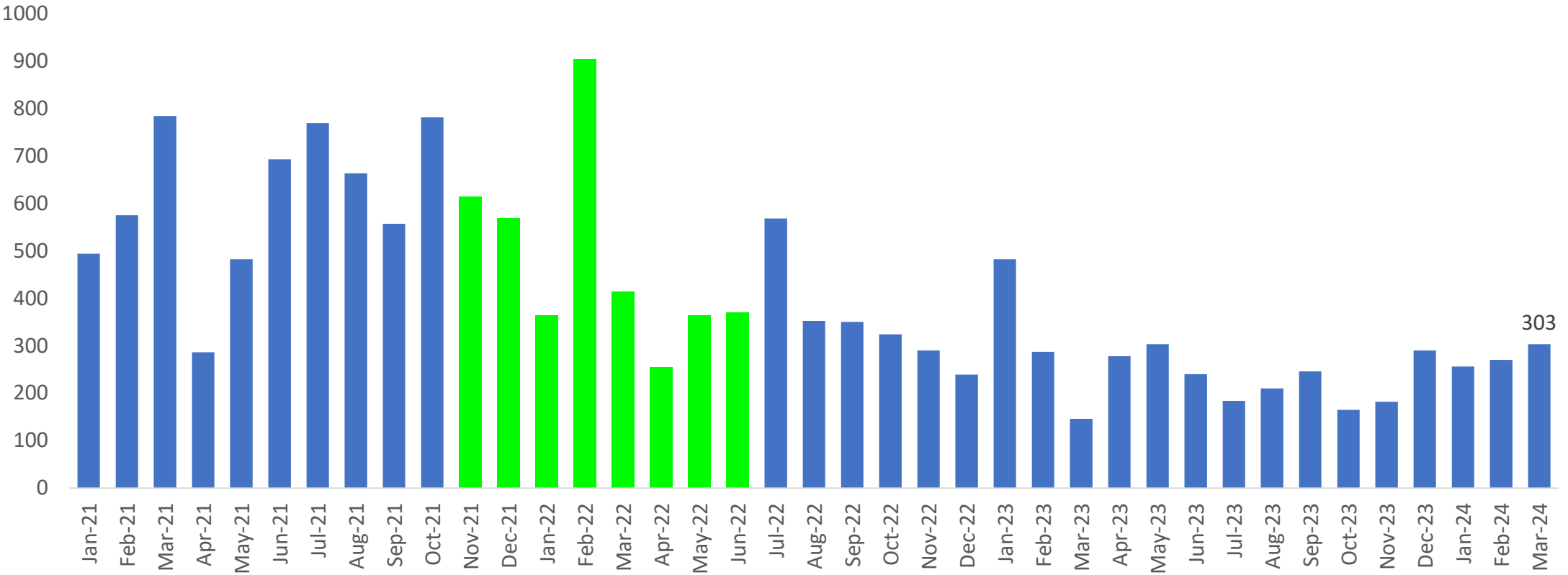
Real Incomes Declined From Nov. 2021 to June 2022. Fully Recovered by April 2023

U.S. Real Personal Income Less Transfers



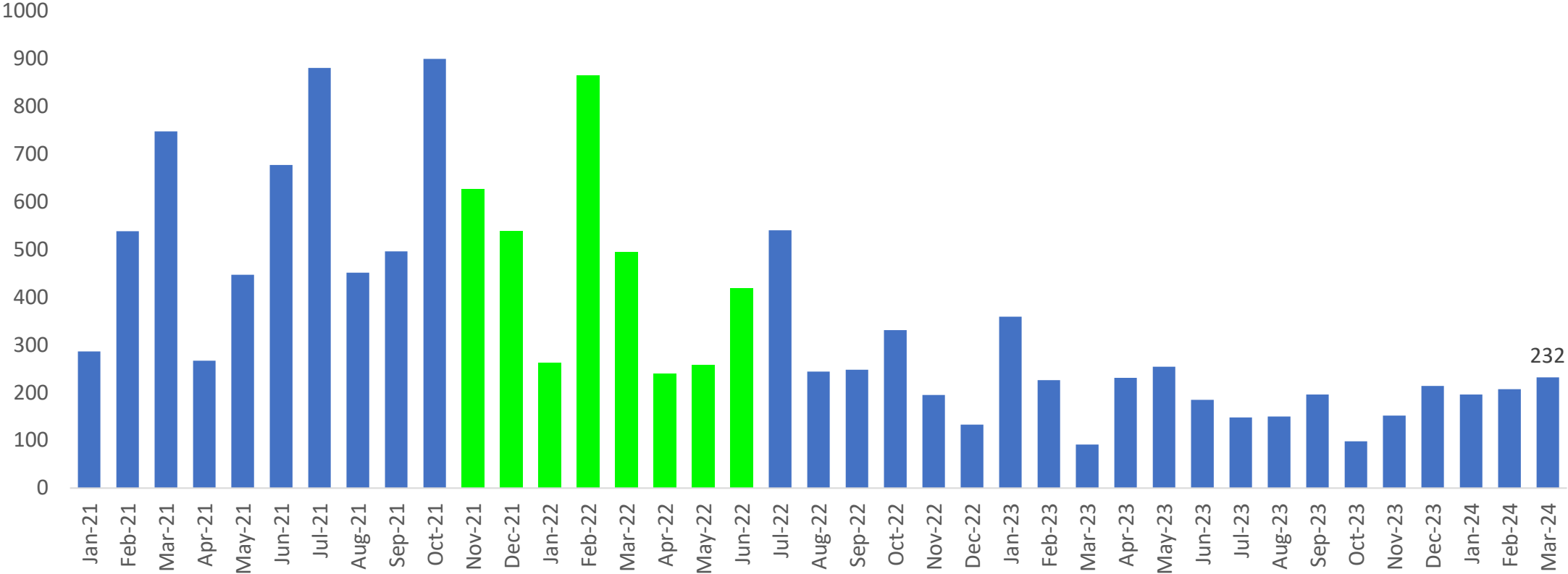
Total Nonfarm Payrolls Growing

Establishment Survey: Total Nonfarm Employment, Change from Prior Month Ks



Private Nonfarm Payrolls Not As Robust

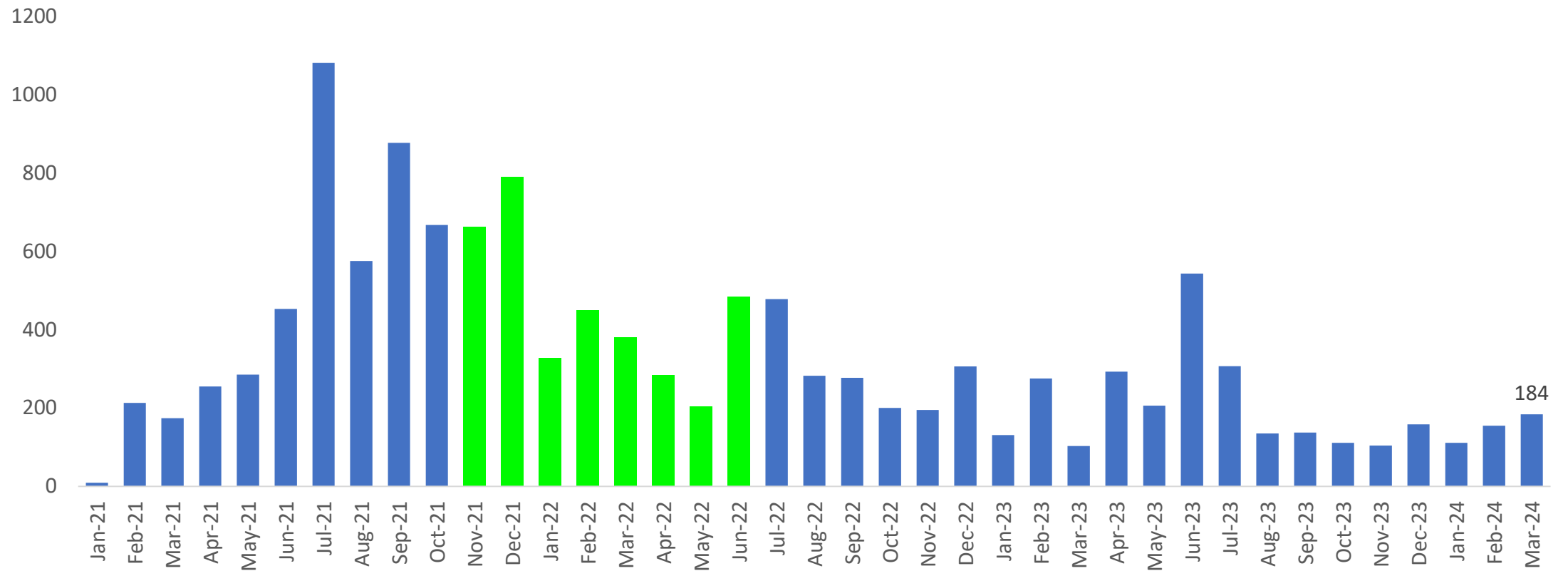
Establishment Survey: Private Nonfarm Employment, Change from Prior Month (Ks)



ADP National Employment Report

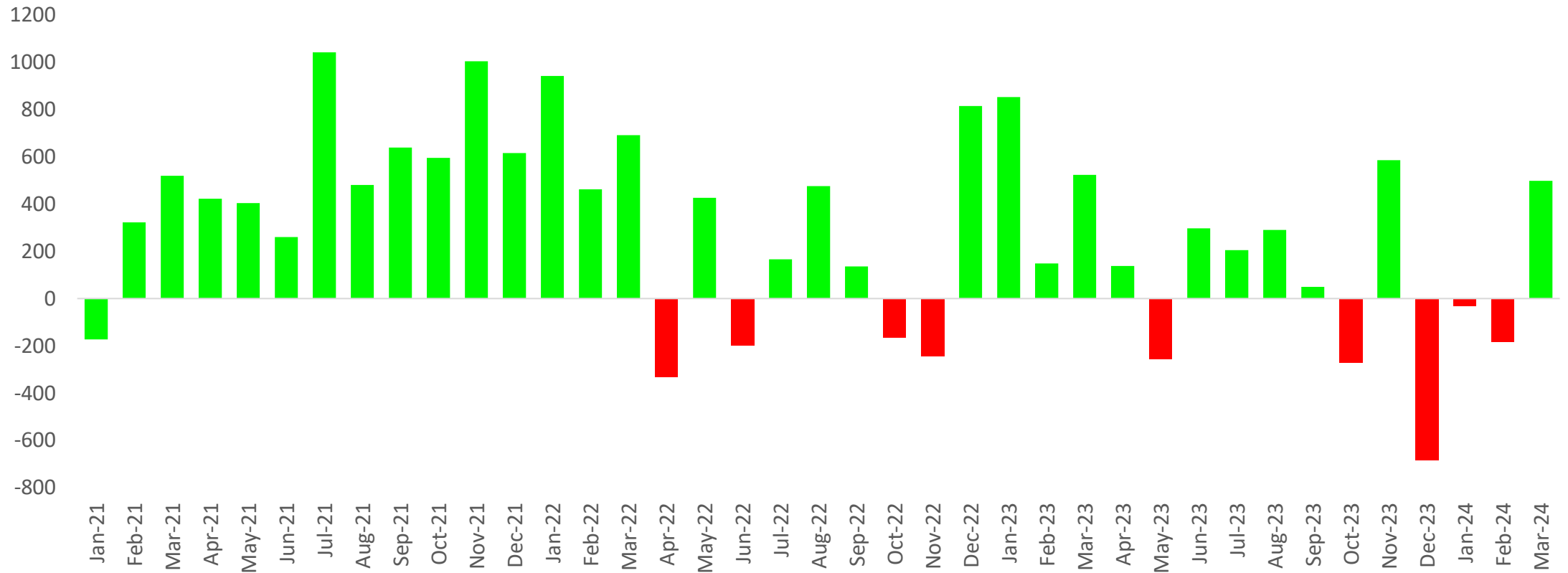
Private Nonfarm Growth Less Robust

ADP : Private Nonfarm Employment, Change from Prior Month (Ks)



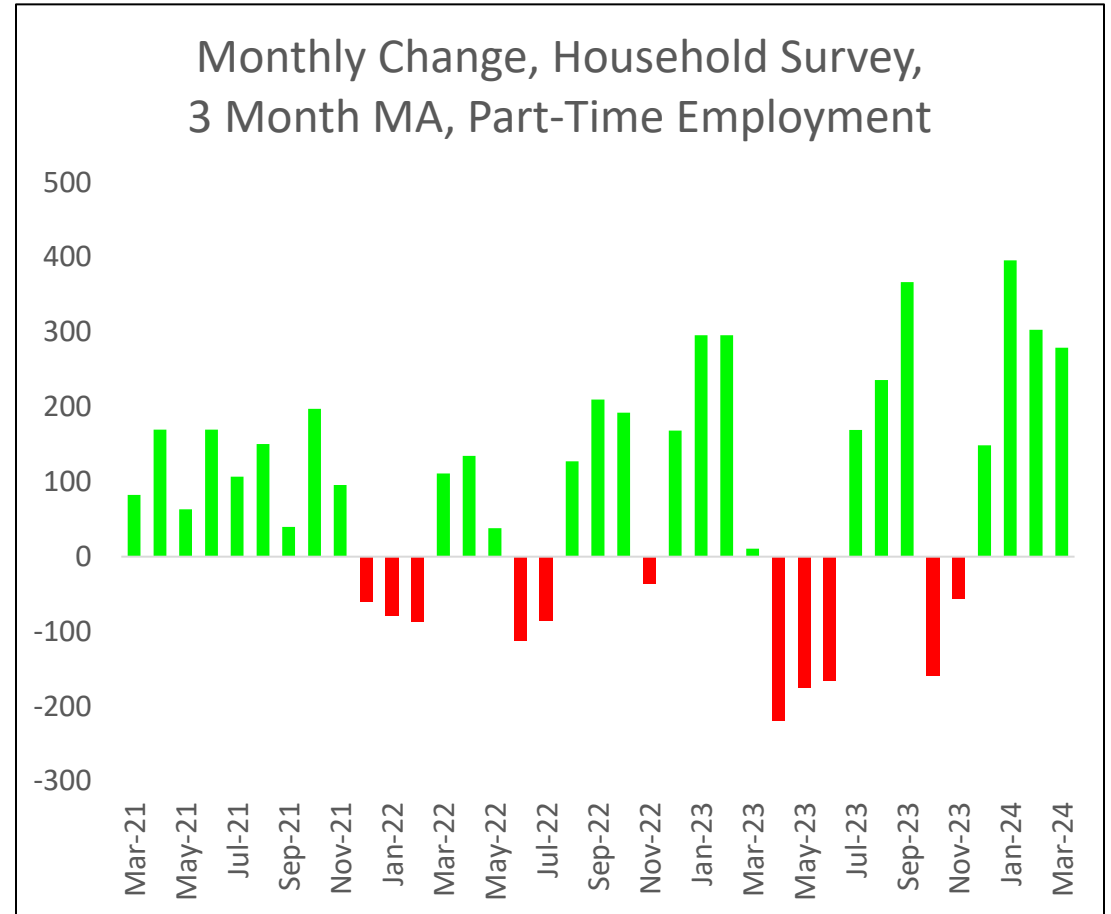
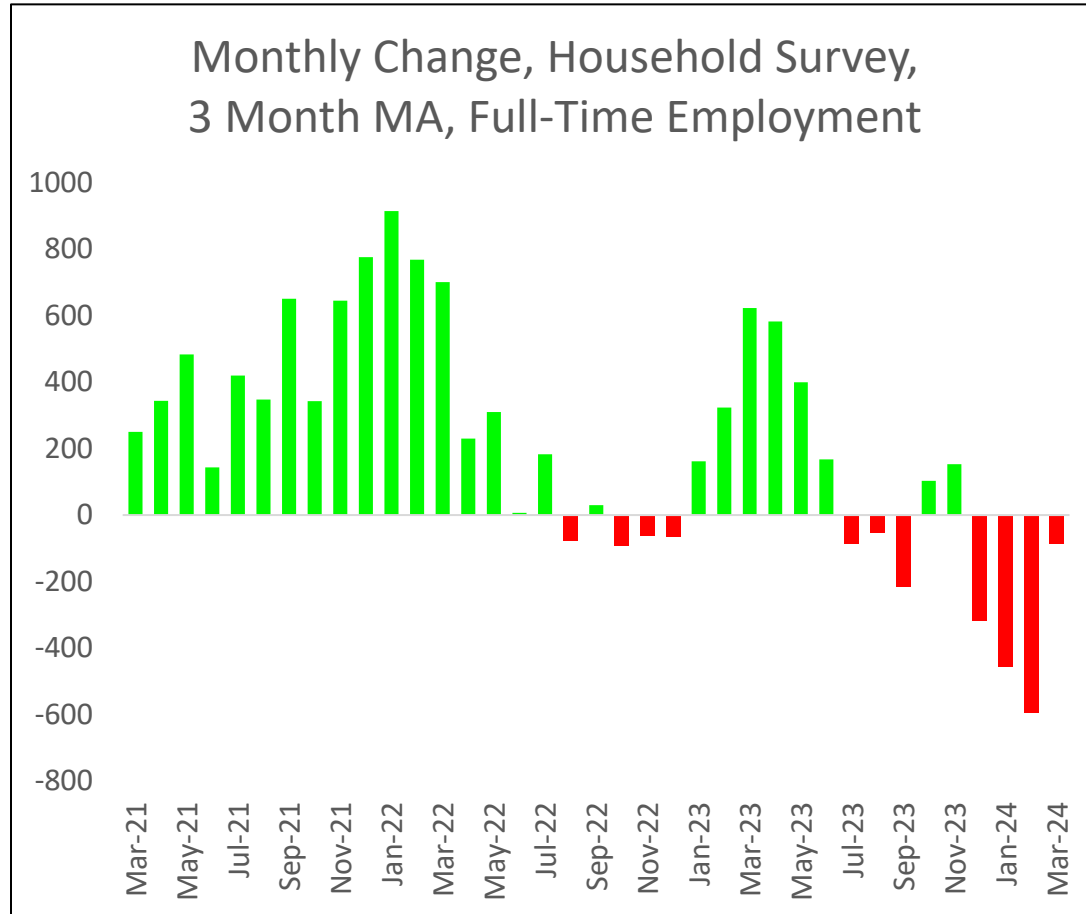
Household Survey of Employment Not as Robust

Monthly Change in Employment (Ks) Household Survey



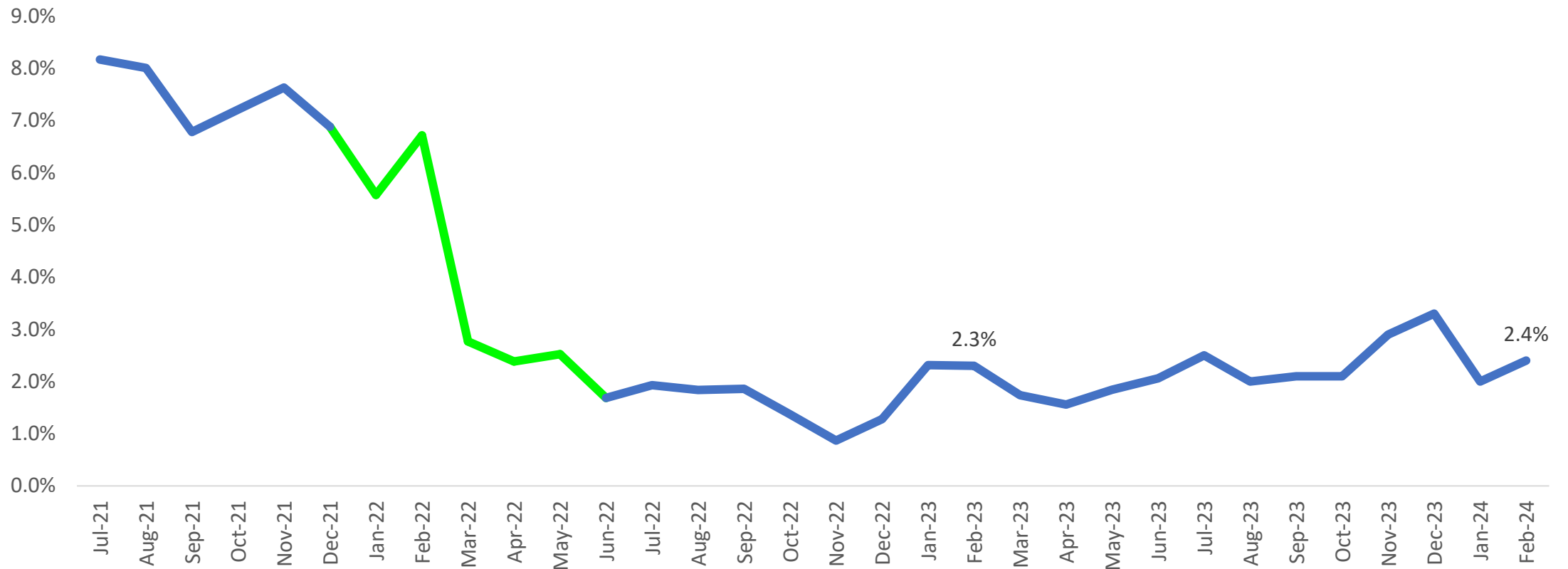
Breaking Down the Household Survey

Full-Time Employment Trending Down

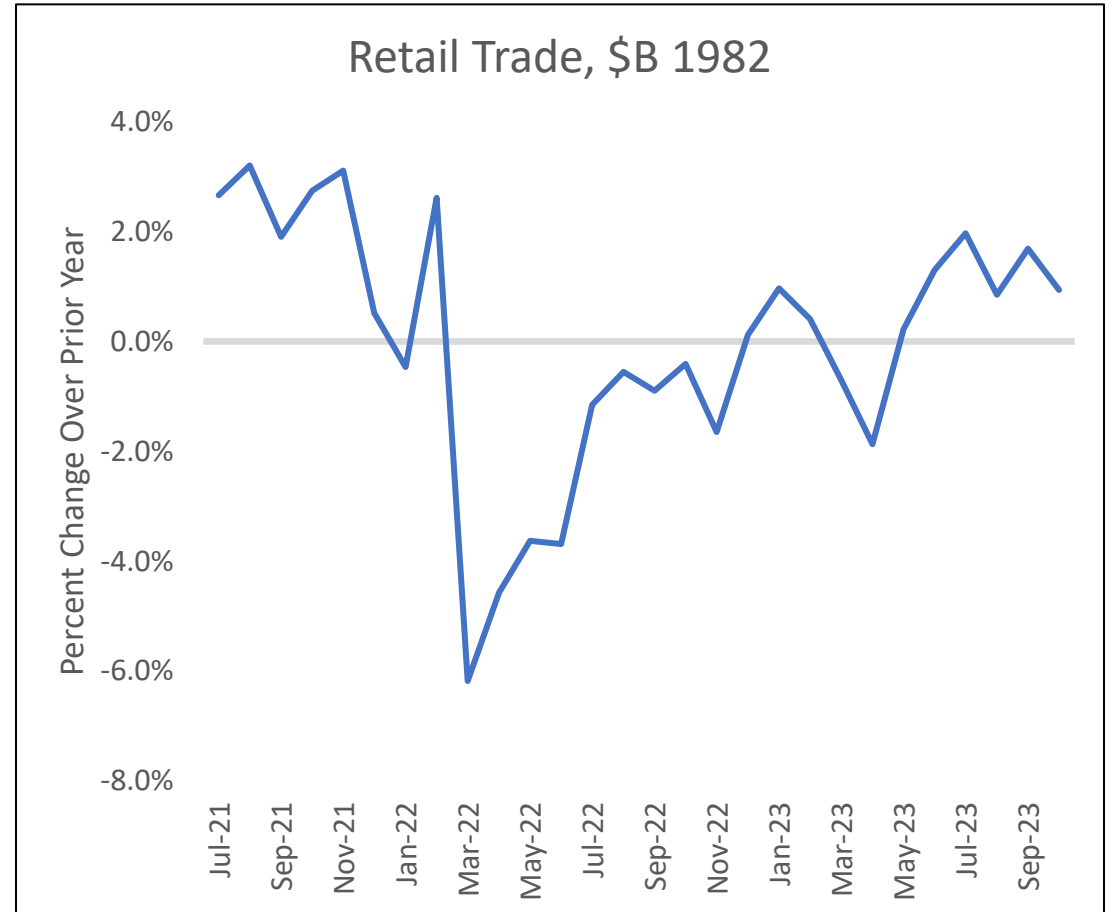
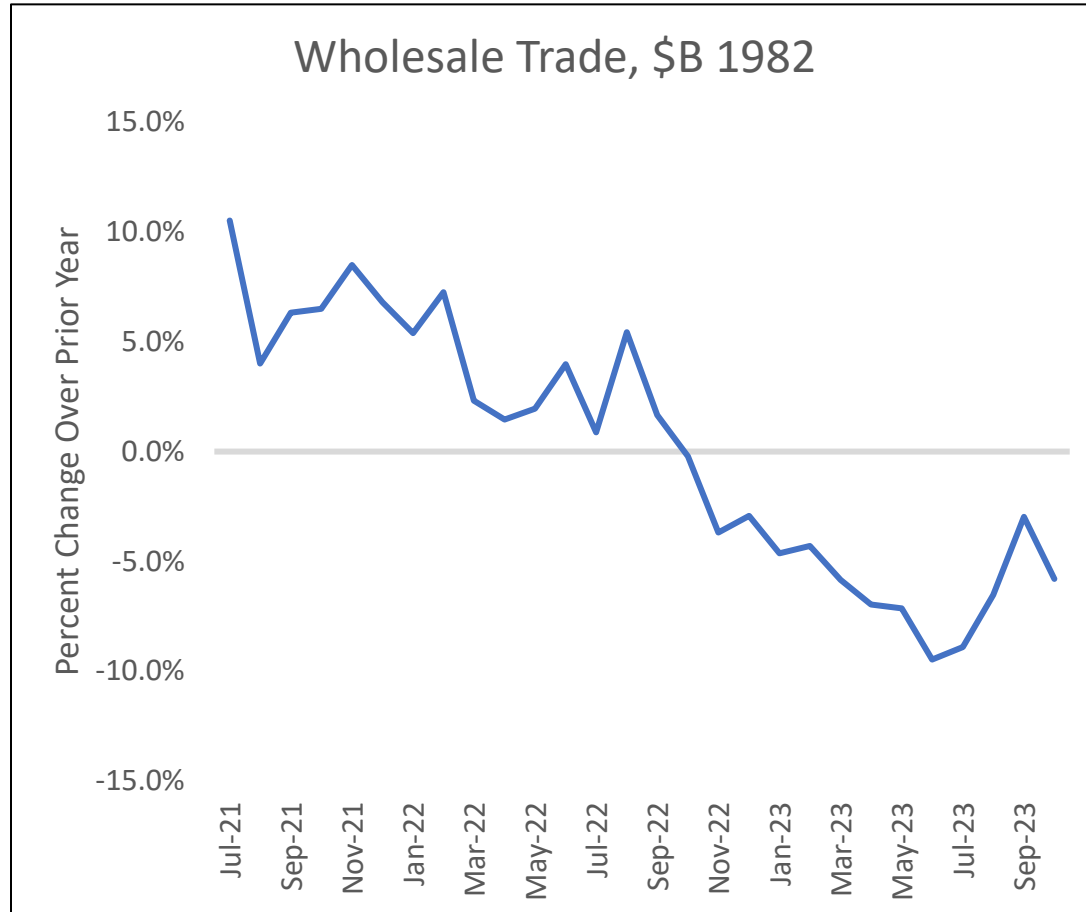


Real Consumption Expenditures

Real Consumption Expenditures, Percent Change Over Prior Year

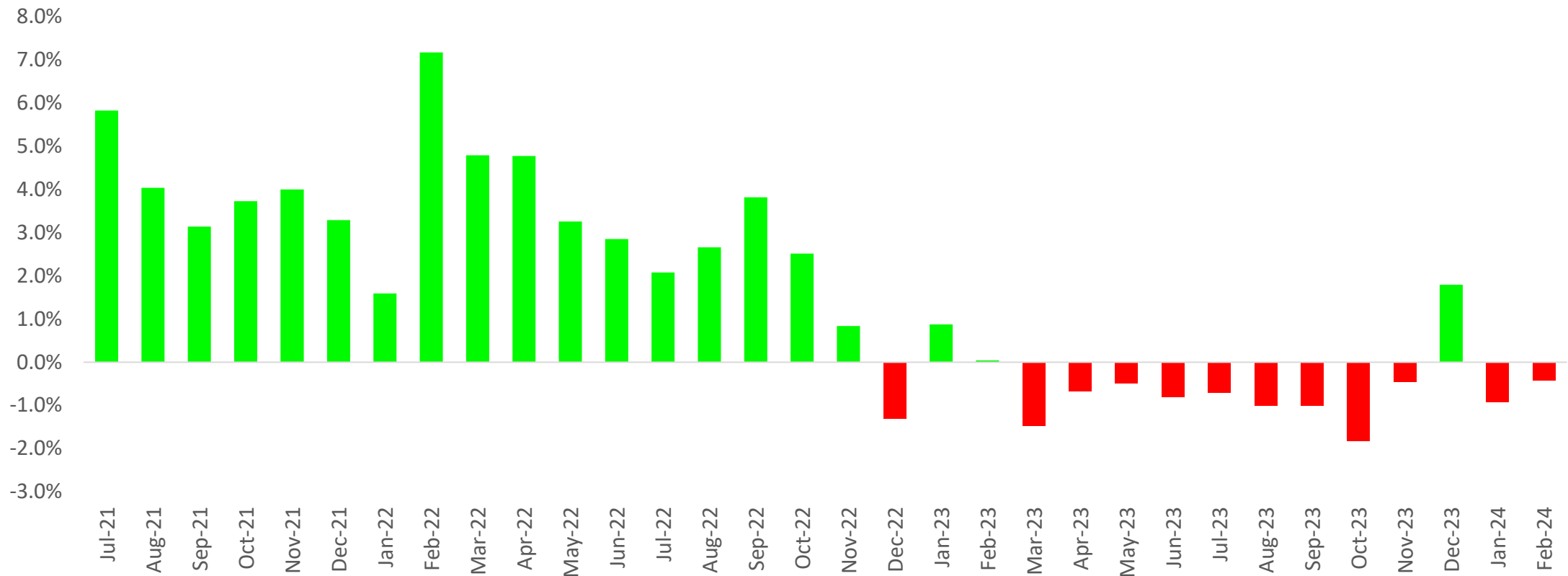


Wholesale and Retail Trade Adjusted for Inflation



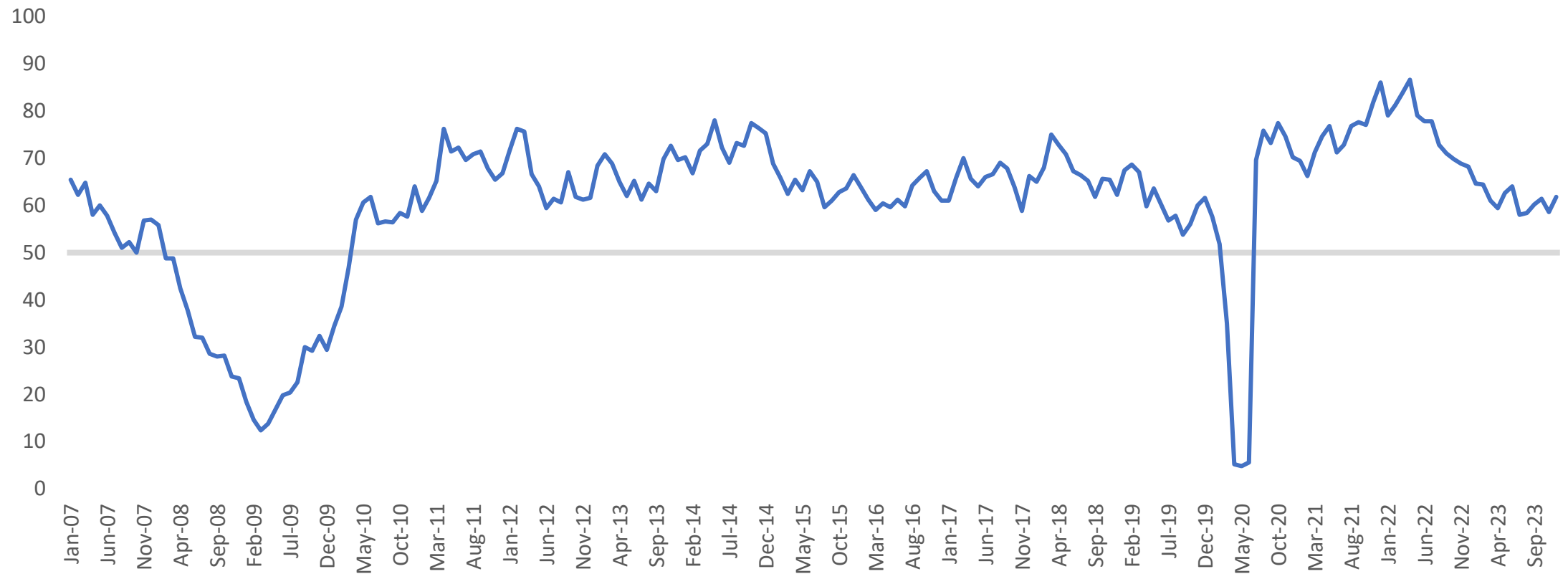
Manufacturing Industrial Production Below 2022 Levels

Manufacturing Industrial Production, Percent Change Over Prior Year



Measuring the Dispersion of Economic Activity Using BLS Diffusion Index

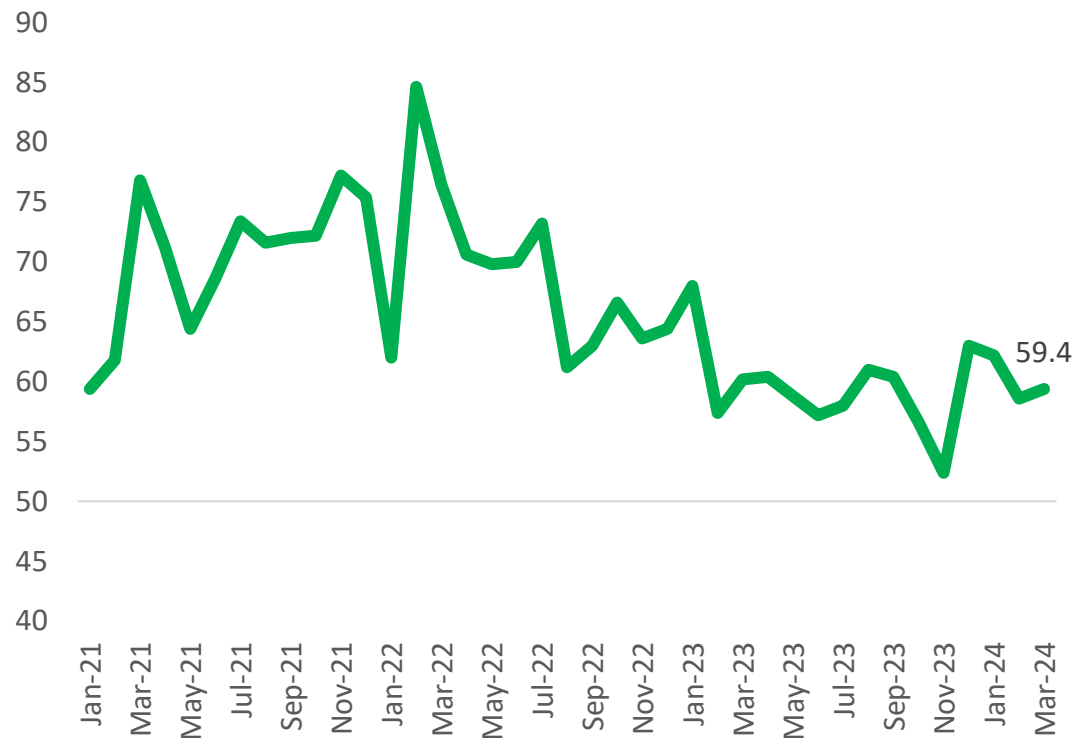
Diffusion Index 3-Month Change, Percent of All Industries Adding Employment



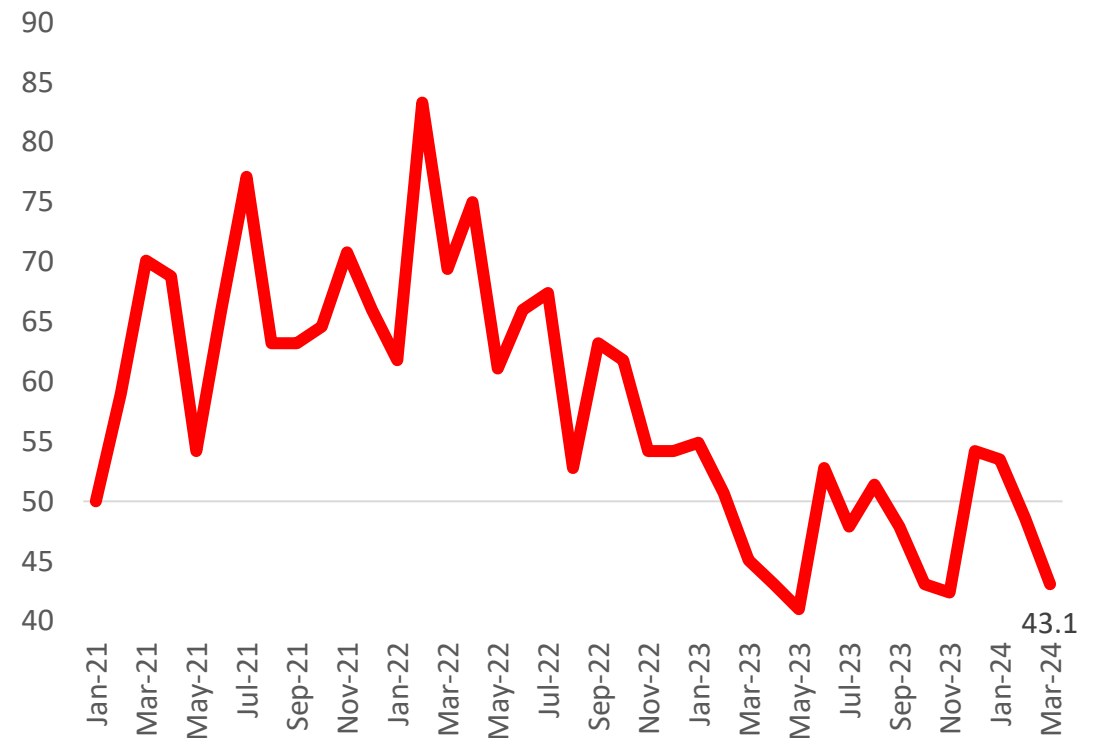
Dispersion of Economic Activity

Manufacturing Differs from Total Economy

Diffusion Index 1-Month Change
Percent of Private Industries Hiring



Diffusion Index 1-Month Change
Pct. of Manufacturing Industries Hiring



A Soft-Landing v. Recession Scorecard

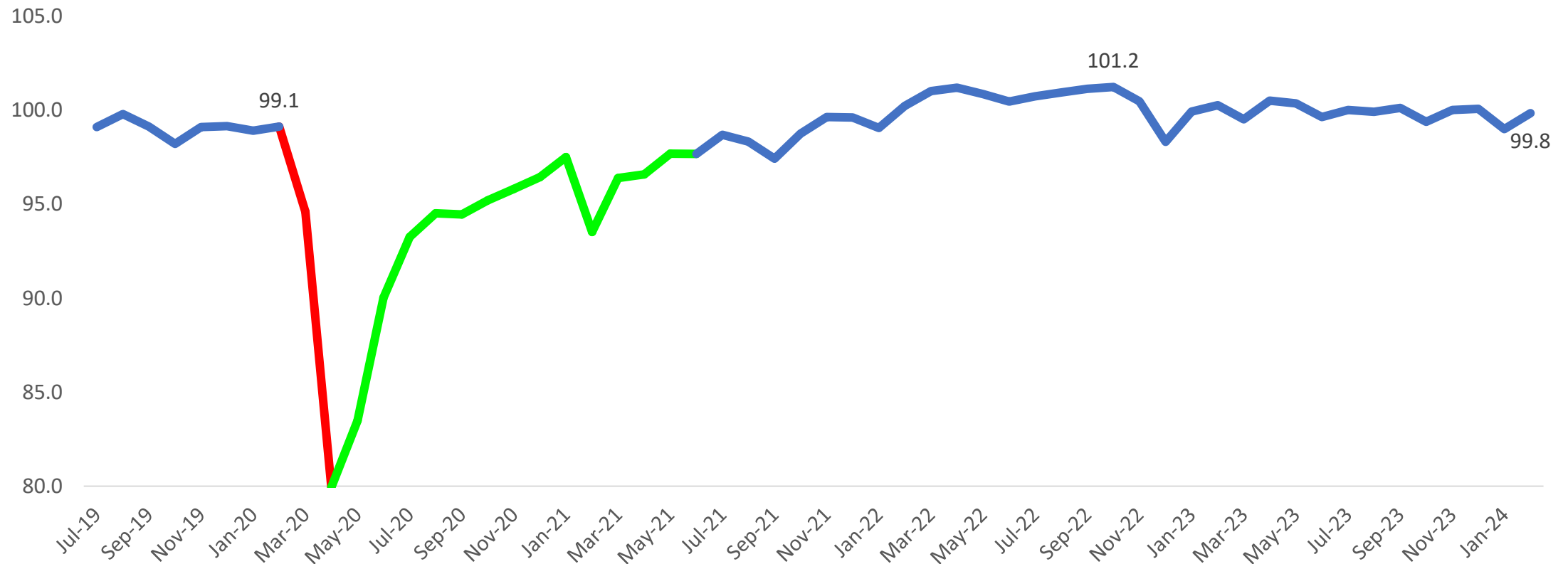
Indicator	Measure	Recession	Soft Landing	Expansion
Real Gross Domestic Product	Pct. Change Over Prior Quarter	LT 0%	GT 0% LT 1.5%	GT 1.5%
Real Domestic Income	Pct. Change Over Prior Quarter	LT 0%	GT 0% LT 1.5%	GT 1.5%
Payroll Employment	Monthly Change	LT 0	GT 0 LT 200K	GT 200K
Employment Household Survey	Monthly Change	LT 0	GT 0 LT 200K	GT 200K
Unemployment Rate	Percent of Labor Force	Over 4.5%	3.7% to 4.5%	LT 3.7%
Real Retail Sales	Pct. Change Over Prior Quarter	LT 0%	0 to 2%	GT 2%
Real Personal Consumption	Pct. Change Over Prior Quarter	LT 0%	0 to 2%	GT 2%
Industrial Production	Pct. Change 3-Month MA	LT 0%	0 to 1%	Over 1%
Diffusion Index	Pct. of Industries with Net Hires	LT 50%	GT 50% LT 60%	GT 60%

U.S. Manufacturing

Poster Child for Mixed Signals

Industrial Production: Manufacturing Production Down -0.4%, February 2024 / February 2023

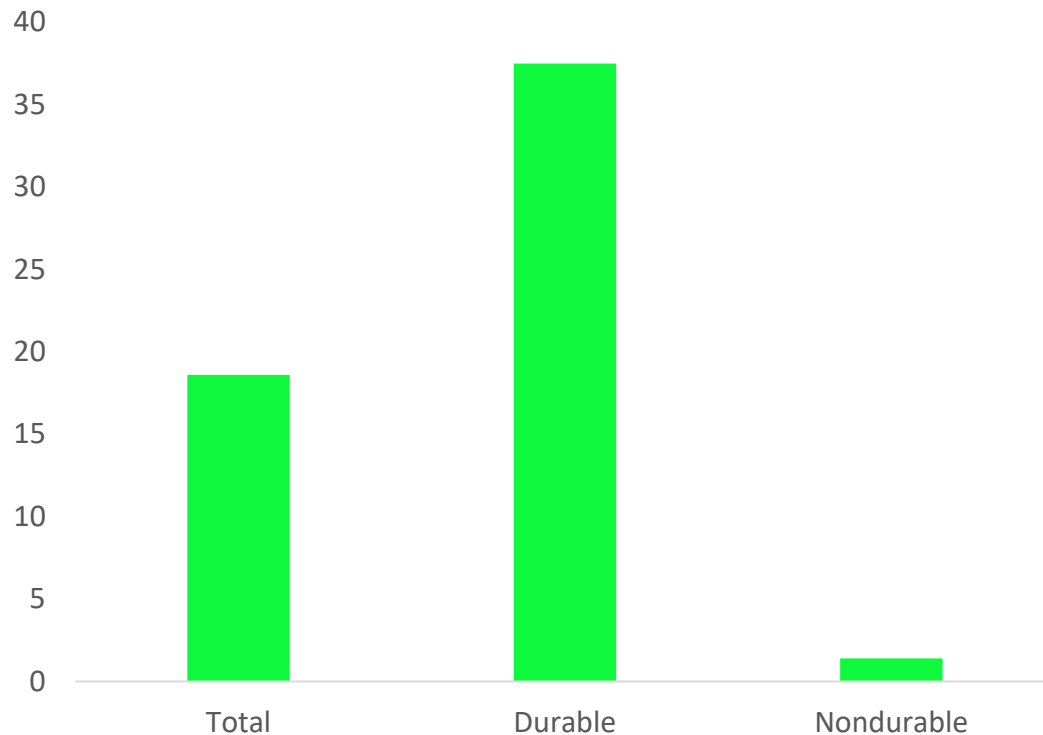
Manufacturing Industrial Production Index, 2017 Average = 100



Source: Federal Reserve Board of Governor's, Industrial Production Index, <https://www.federalreserve.gov/releases/g17/Current/default.htm>

Manufacturing Recovery Since the End of the Great Recession

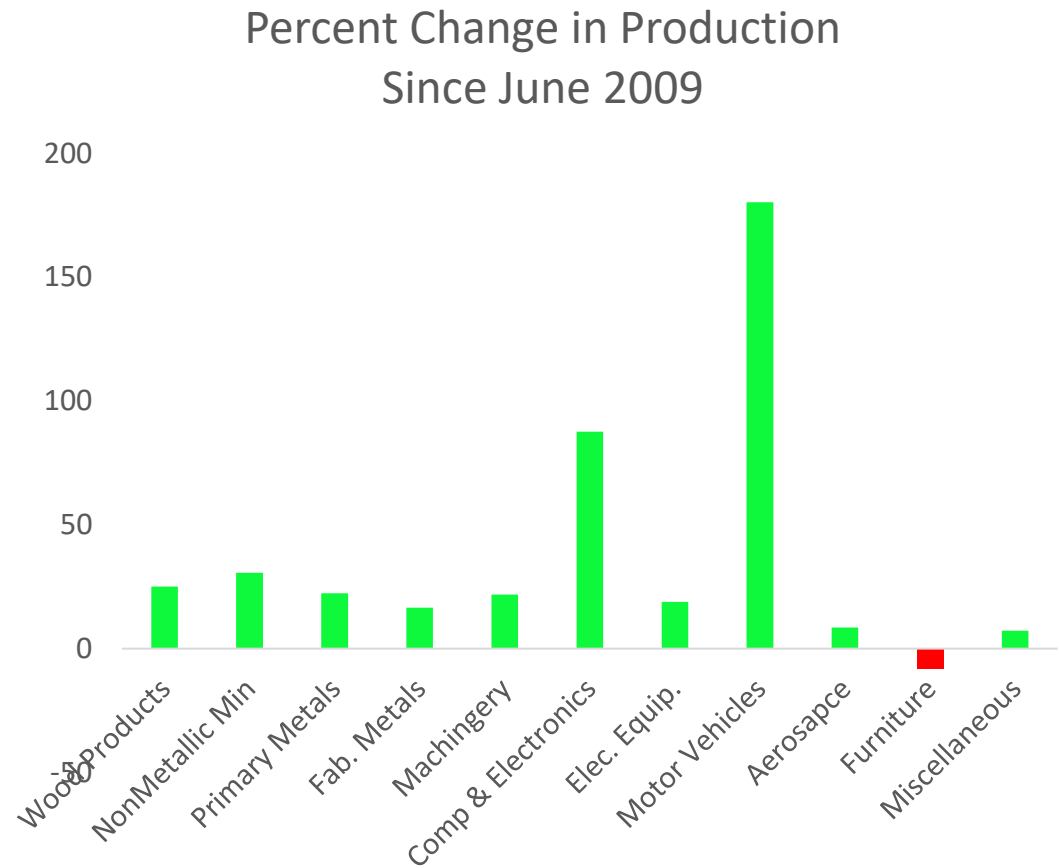
Total Change in Industrial Production
Since June 2009



- There are secular forces at work.
- Since the end of the Great Recession, Manufacturing expansion centers on durable goods industries.

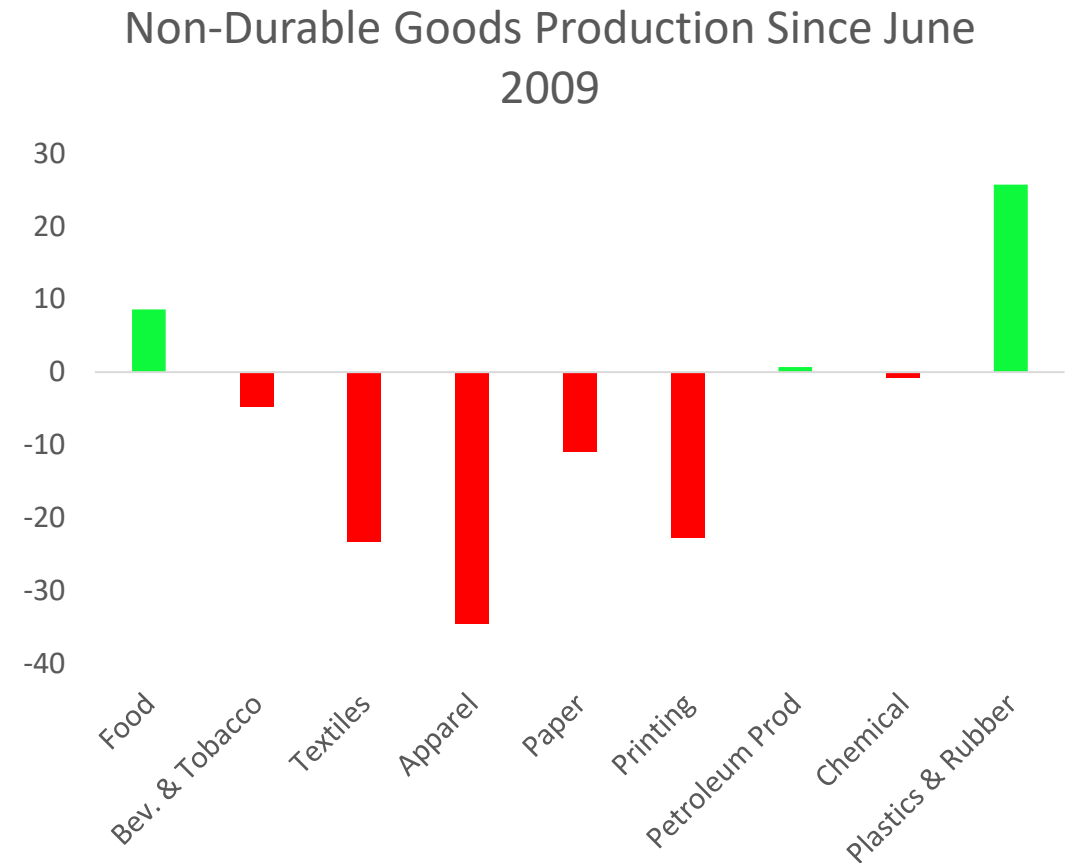
Durable Goods Industries Expanding Since the Great Recession

- The production gains in durable industries lead U.S. Industrial Recovery
- Principal gains in the continuing expansion of computers and electronics and revival of the auto industry.

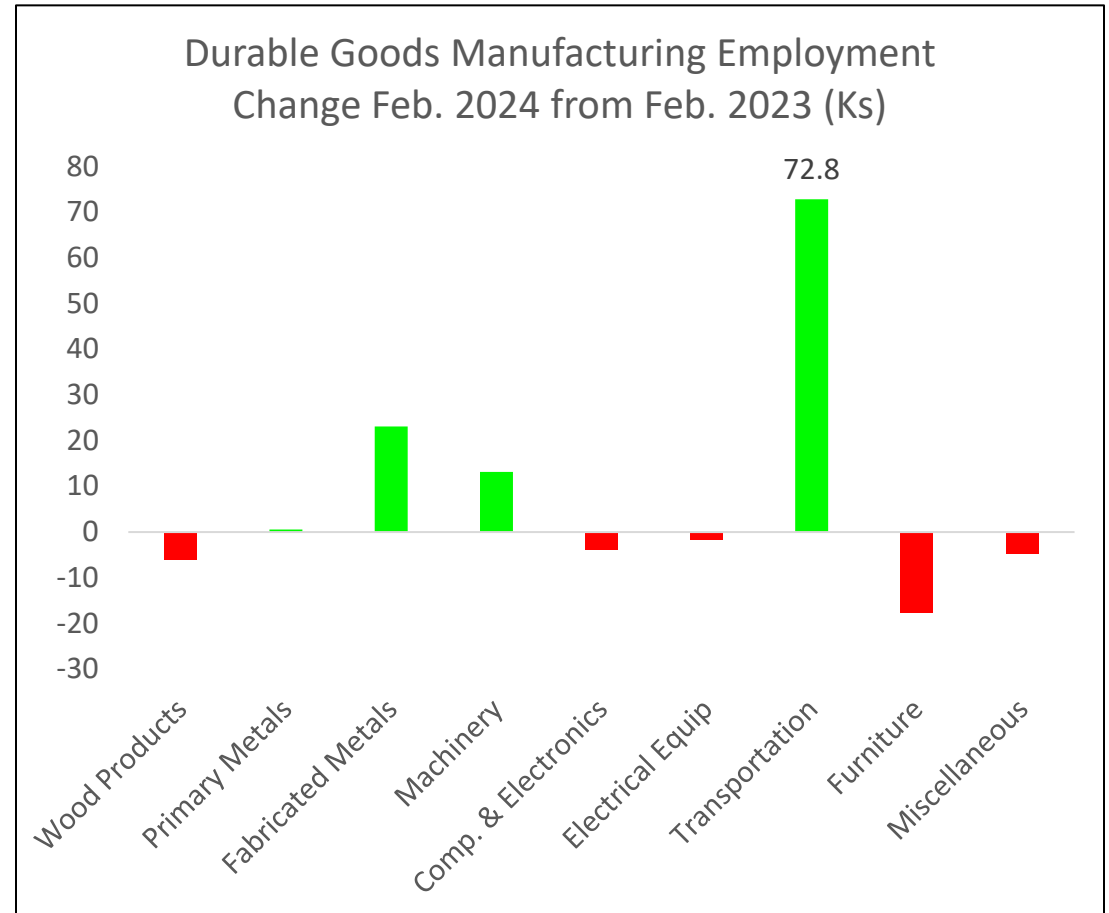
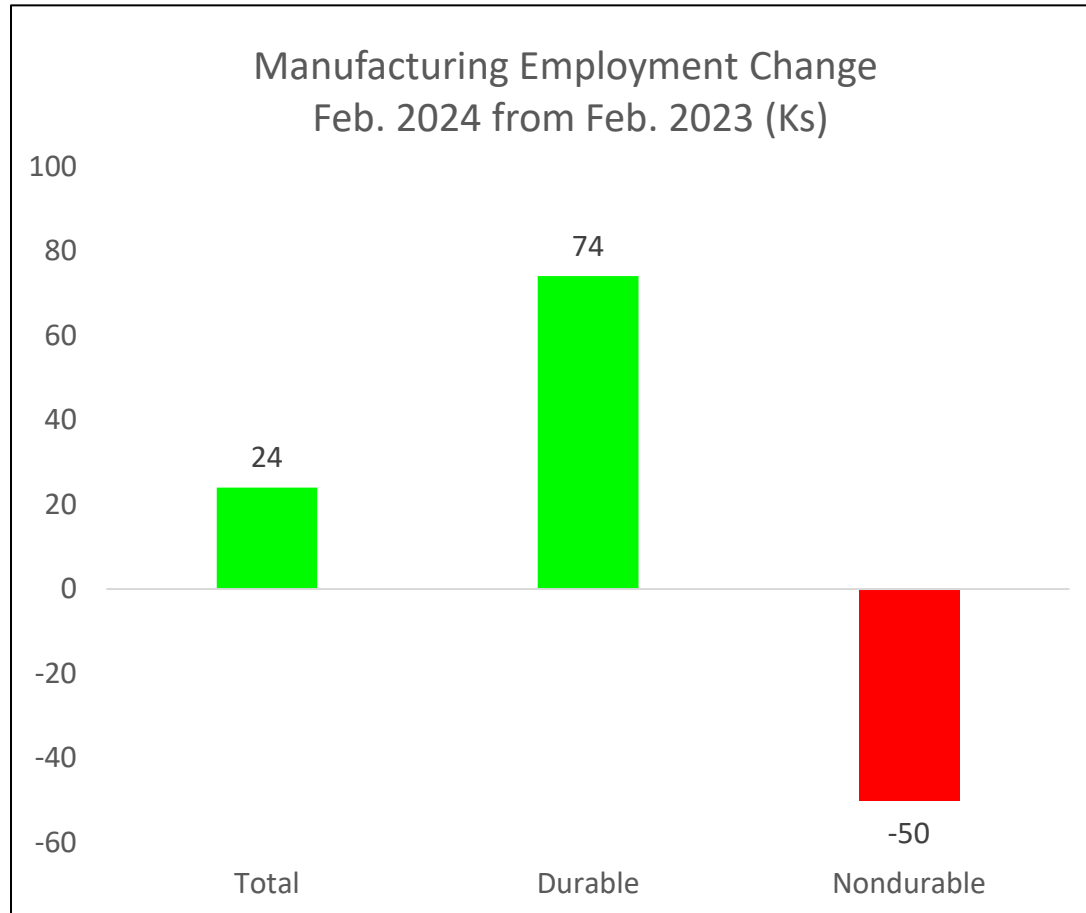


Non-Durable Goods Industries Most Exposed to Open Trade and Secular IT Changes

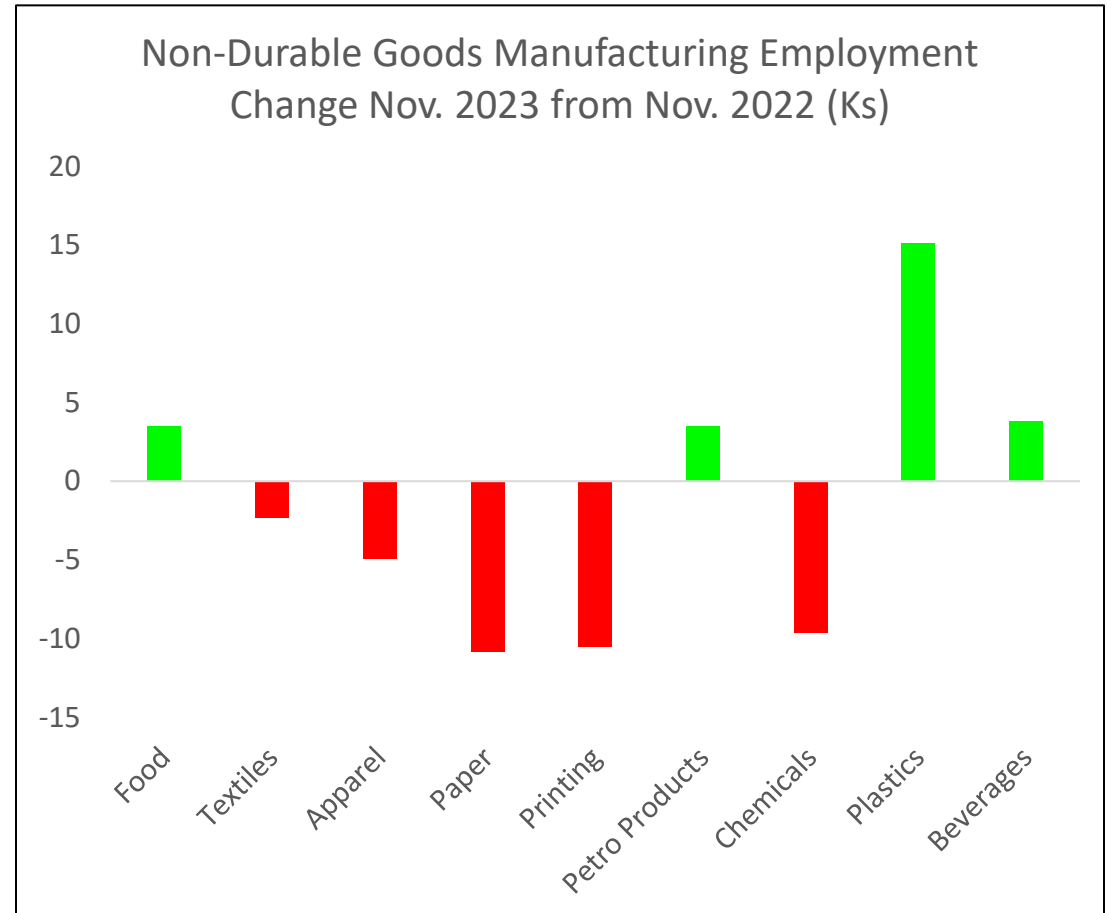
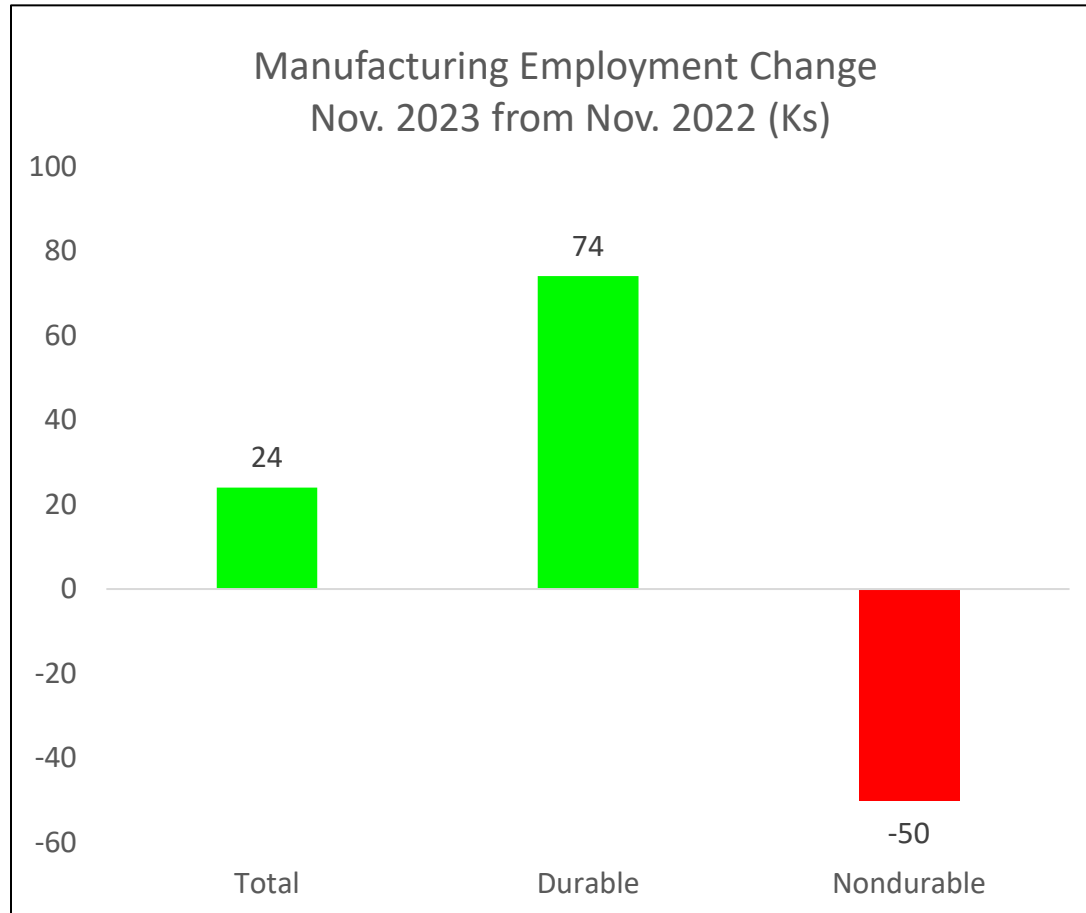
- Two trends adversely affect non-durable industries
- Move to lower cost production countries
 - Textiles and Apparel
- Secular technological changes in consumption of information
 - Paper and Printing



Manufacturing Divide Carries Over to Employment

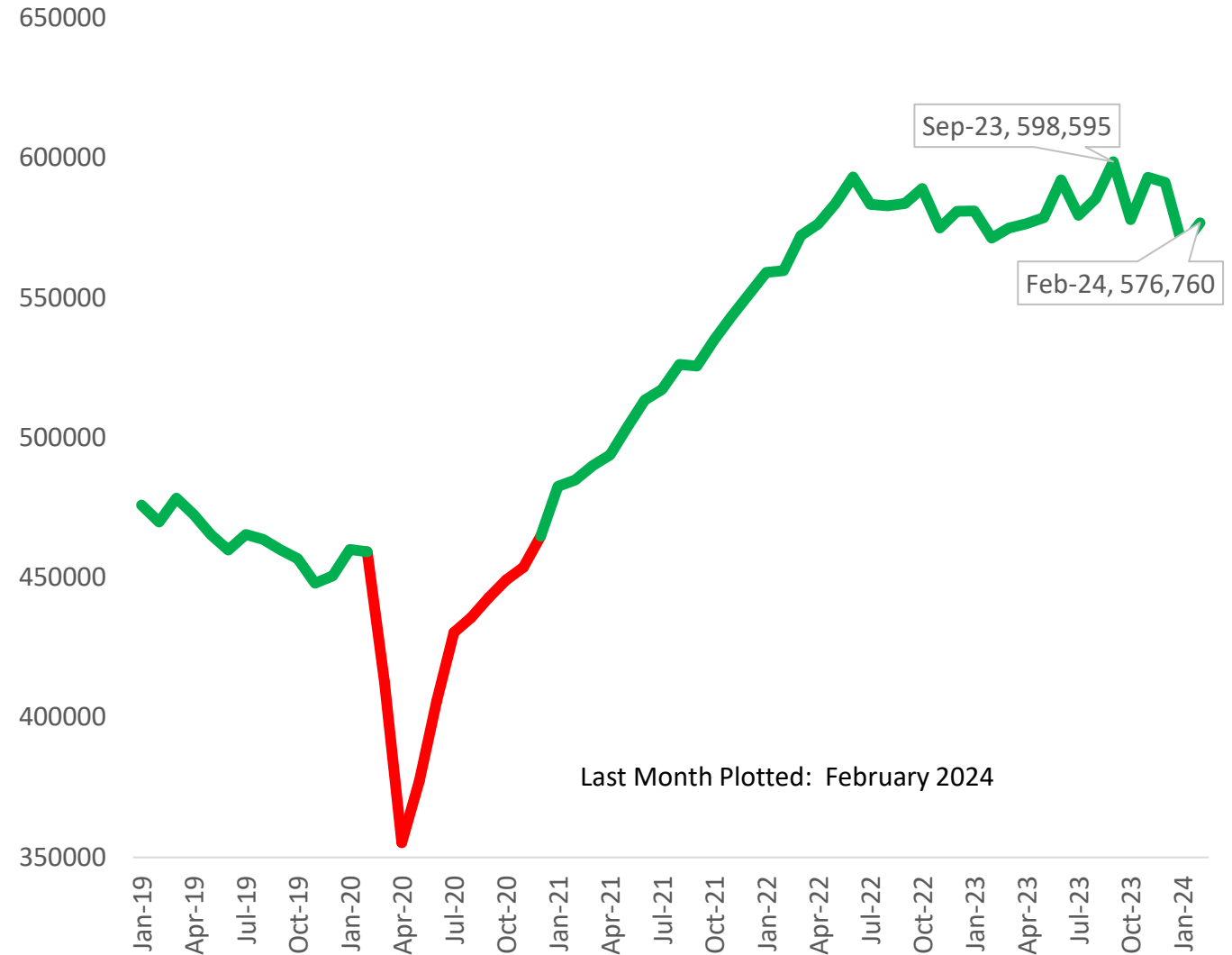


Manufacturing Divide Carries Over to Employment



Total
Manufacturing
Orders
Moving
Sideways

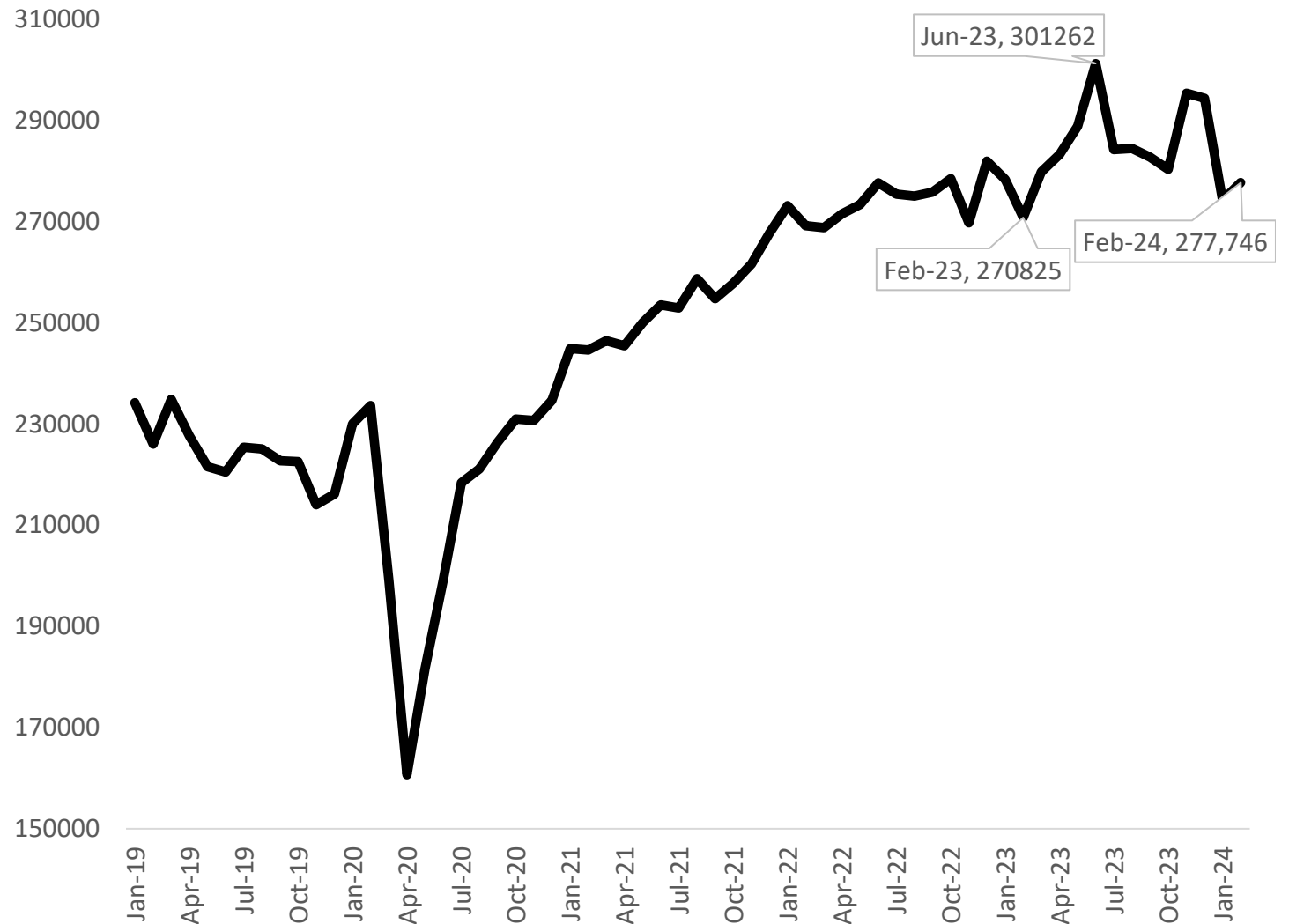
New Orders, Total Manufacturing, \$M,
Seasonally Adjusted at Annual Rates



Last Month Plotted: February 2024

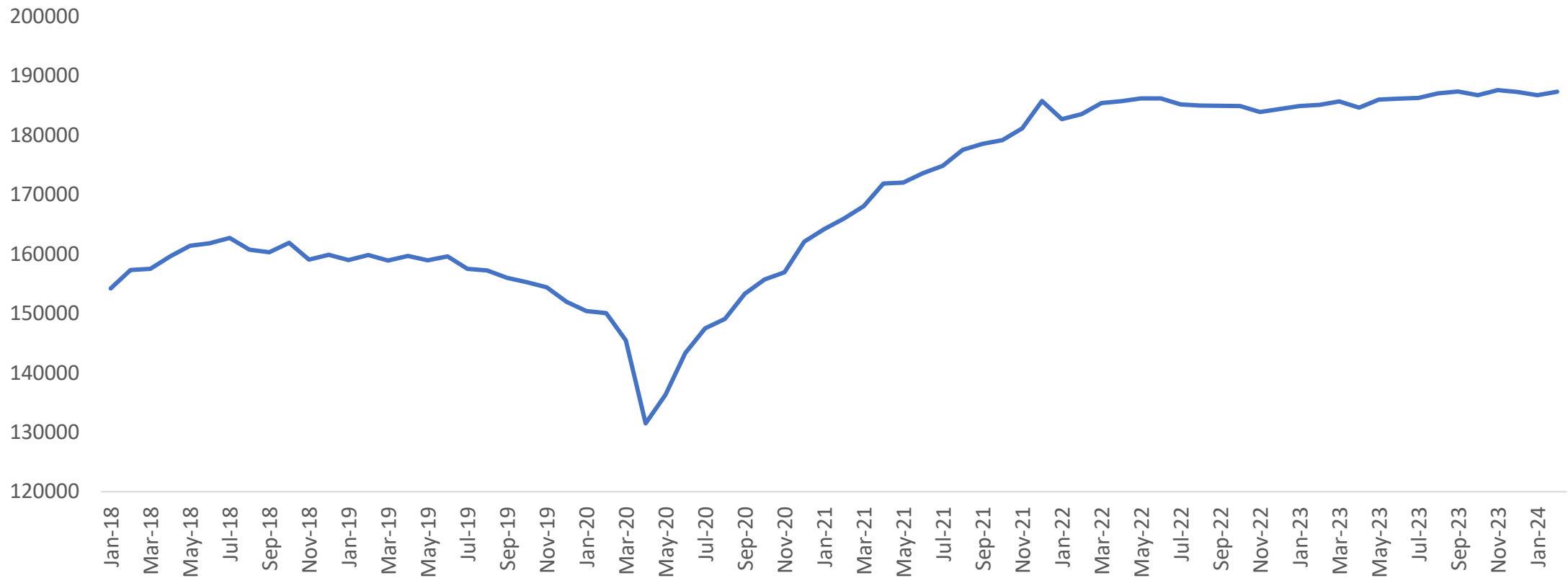
Durable Goods Orders Up 2.6%, February 2024 over February 2023

New Orders, \$M, Durable Goods Manufacturing



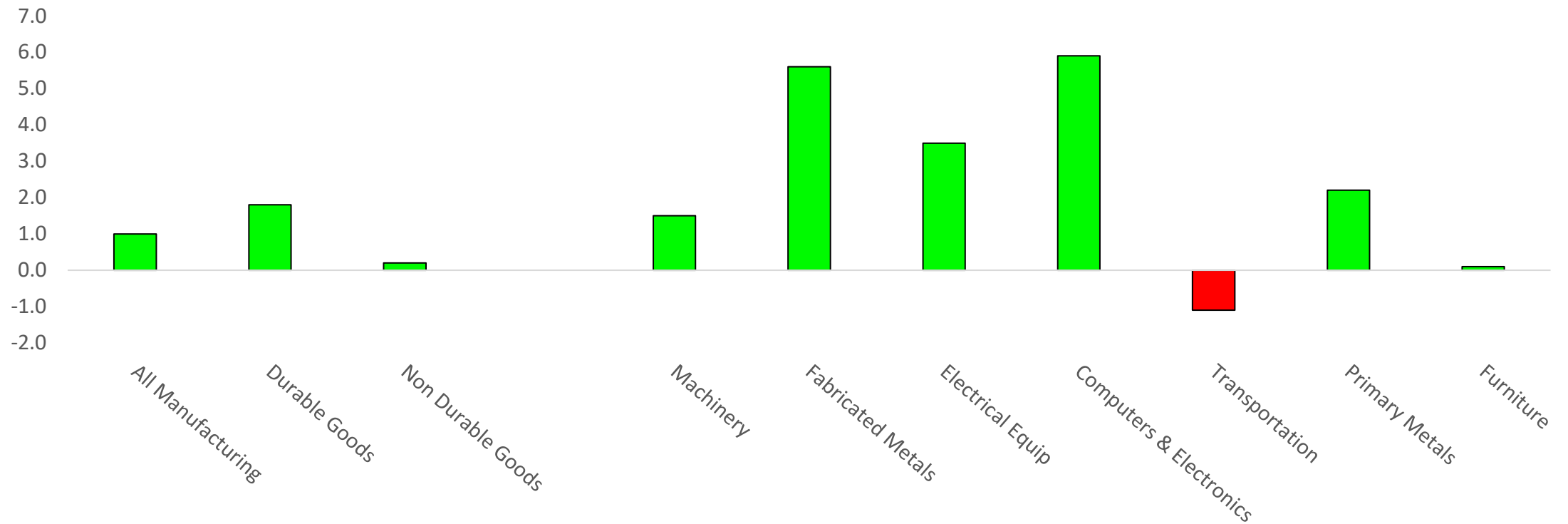
Durable Goods Orders Excluding Transportation Up 1.2% Feb. 2024 Over Feb.2023

Durable Goods New Orders Excluding Transportation

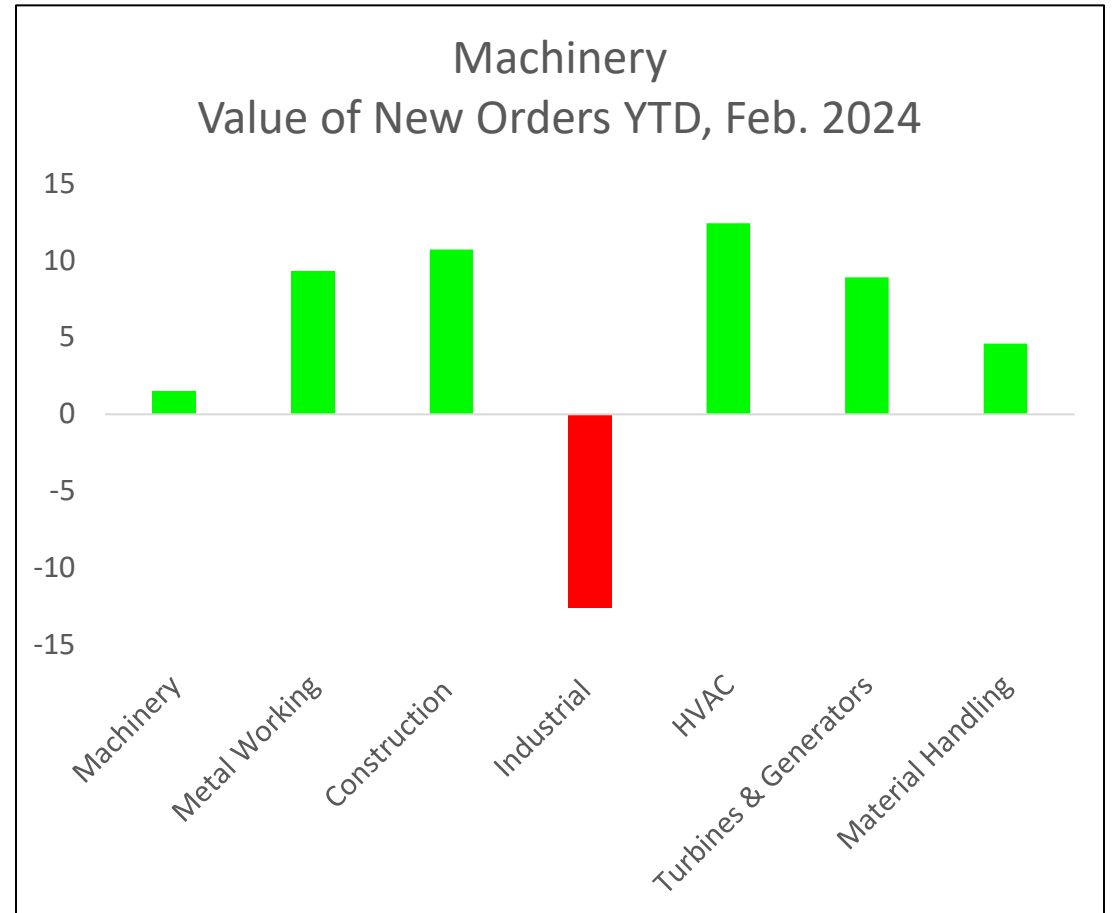
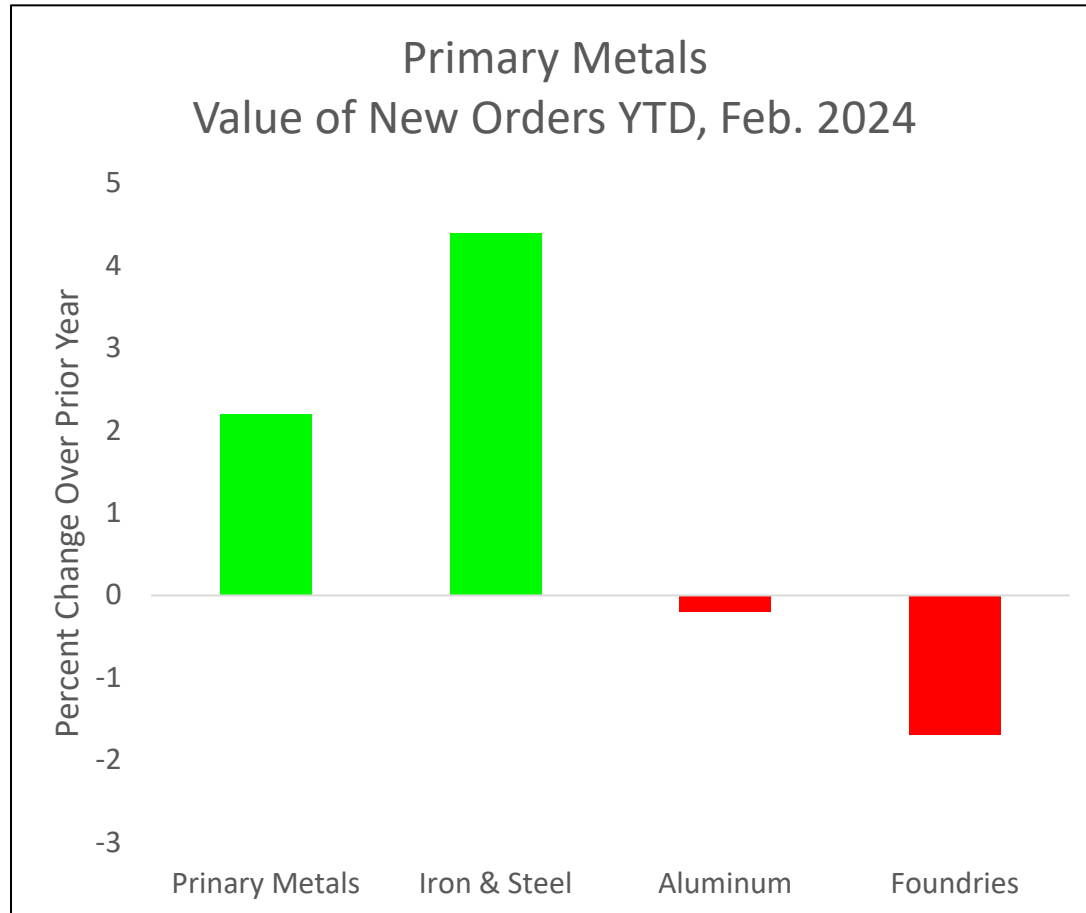


New Orders: Durable Goods New Orders Weakening

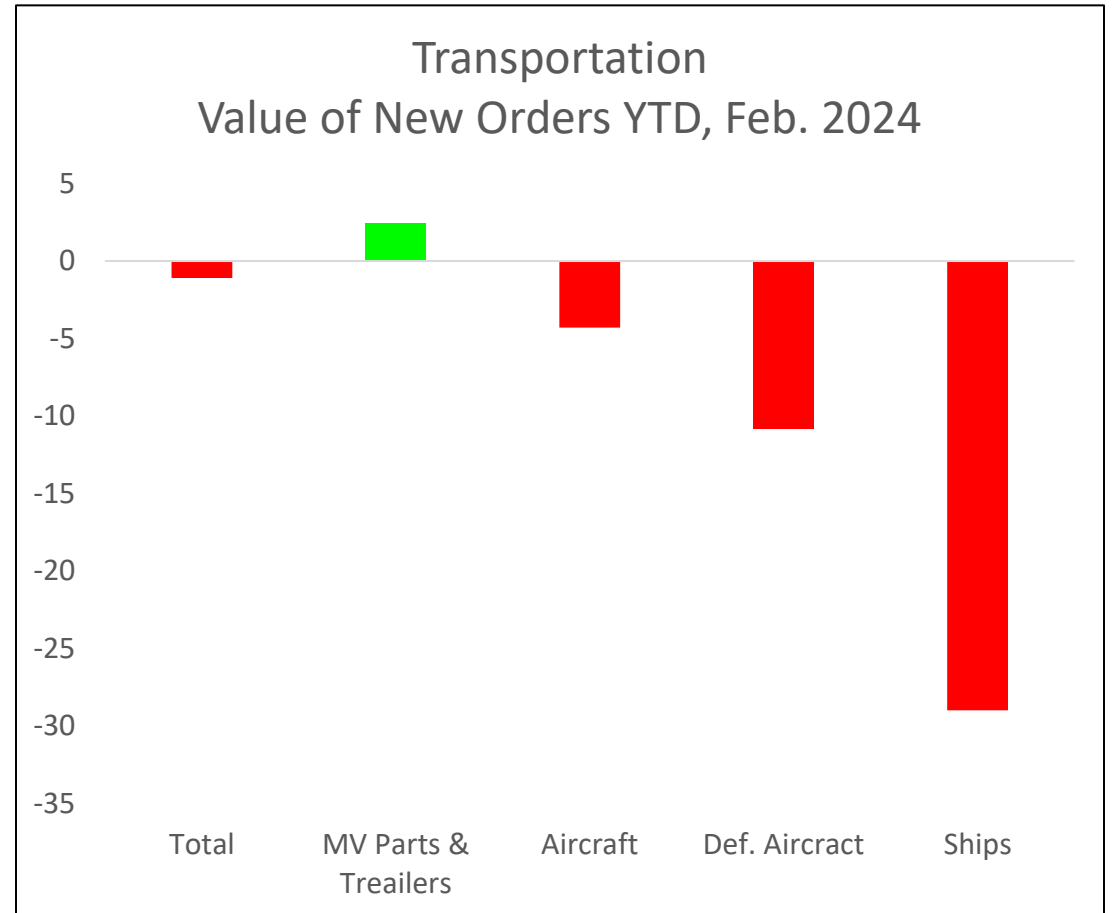
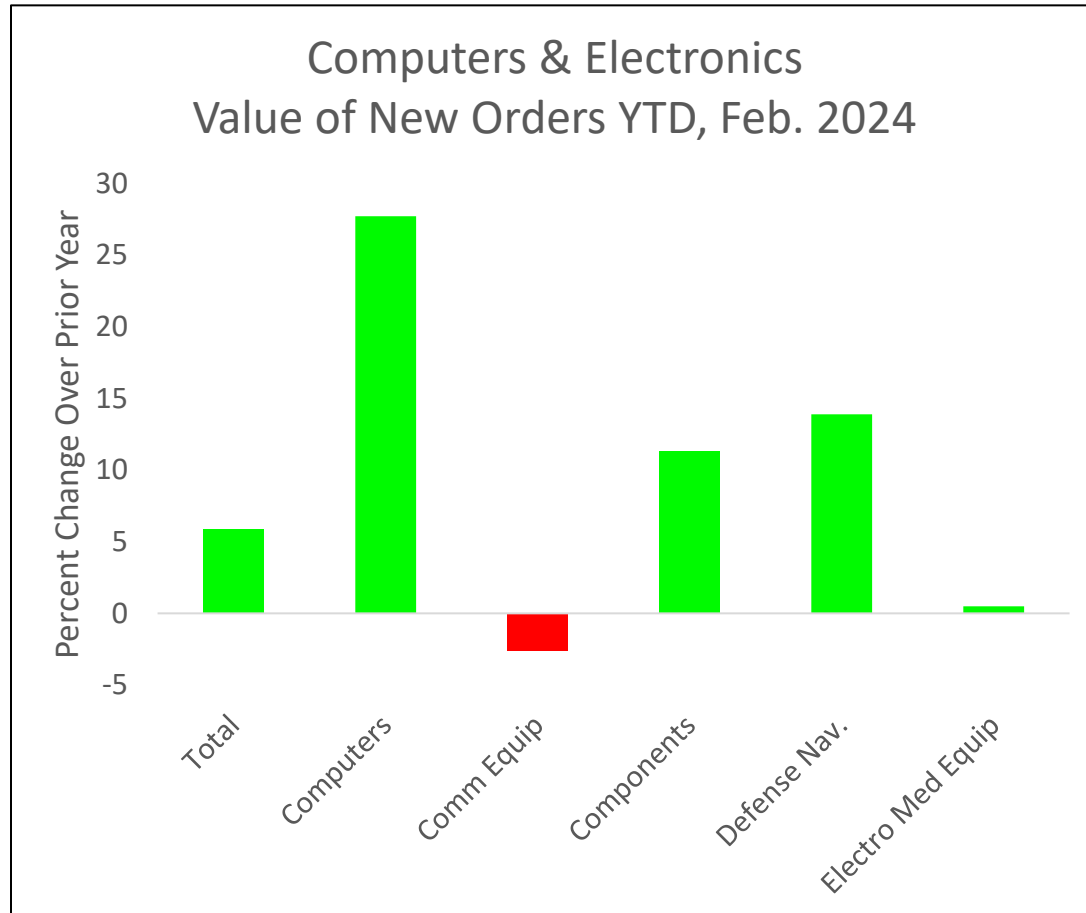
Value of Manufacturing New Orders, Feb. 2024 YTD Over Feb. 2023 YTD
Percent Change Over Prior Year



One Size Does Not Fit All: Subsectors Experiencing Different Results

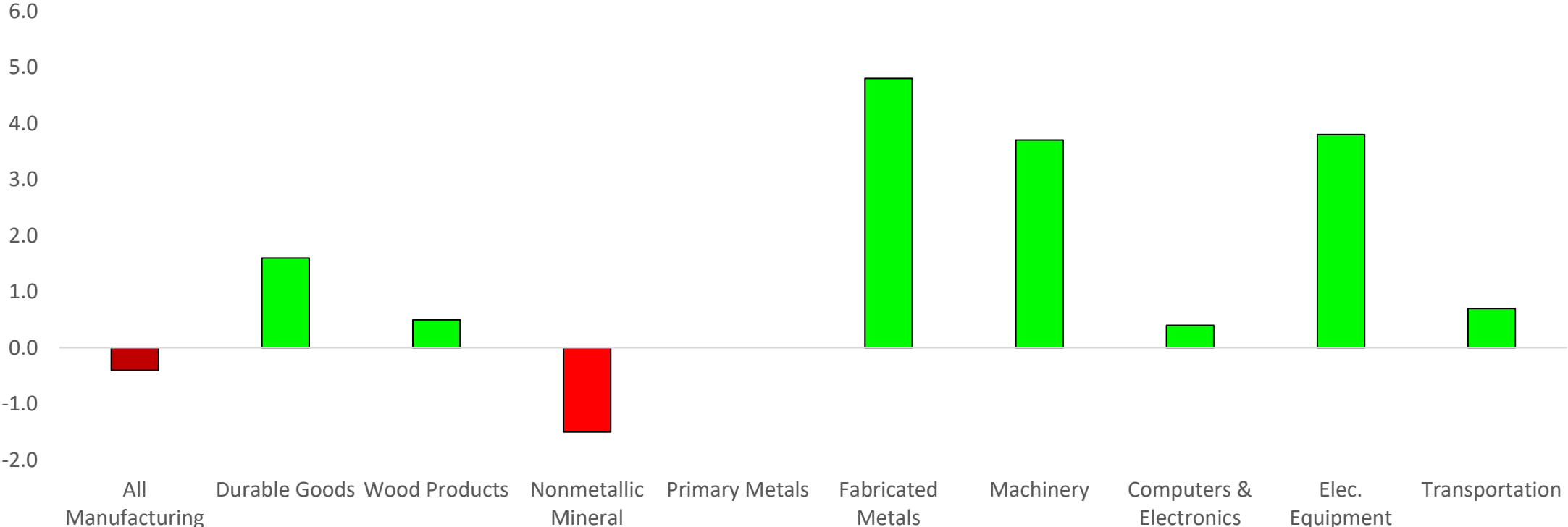


One Size Does Not Fit All: Subsectors Experiencing Different Results

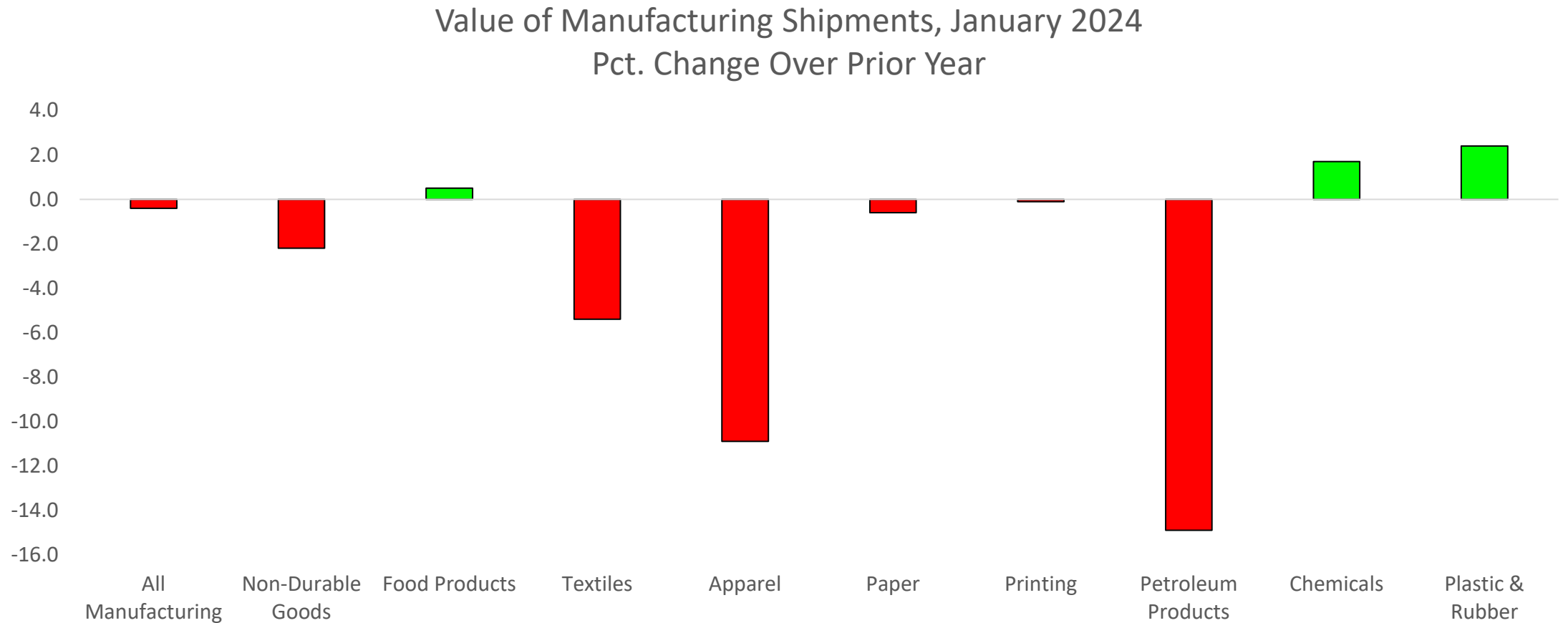


Shipments: Durable Goods Shipments Up Over 2023

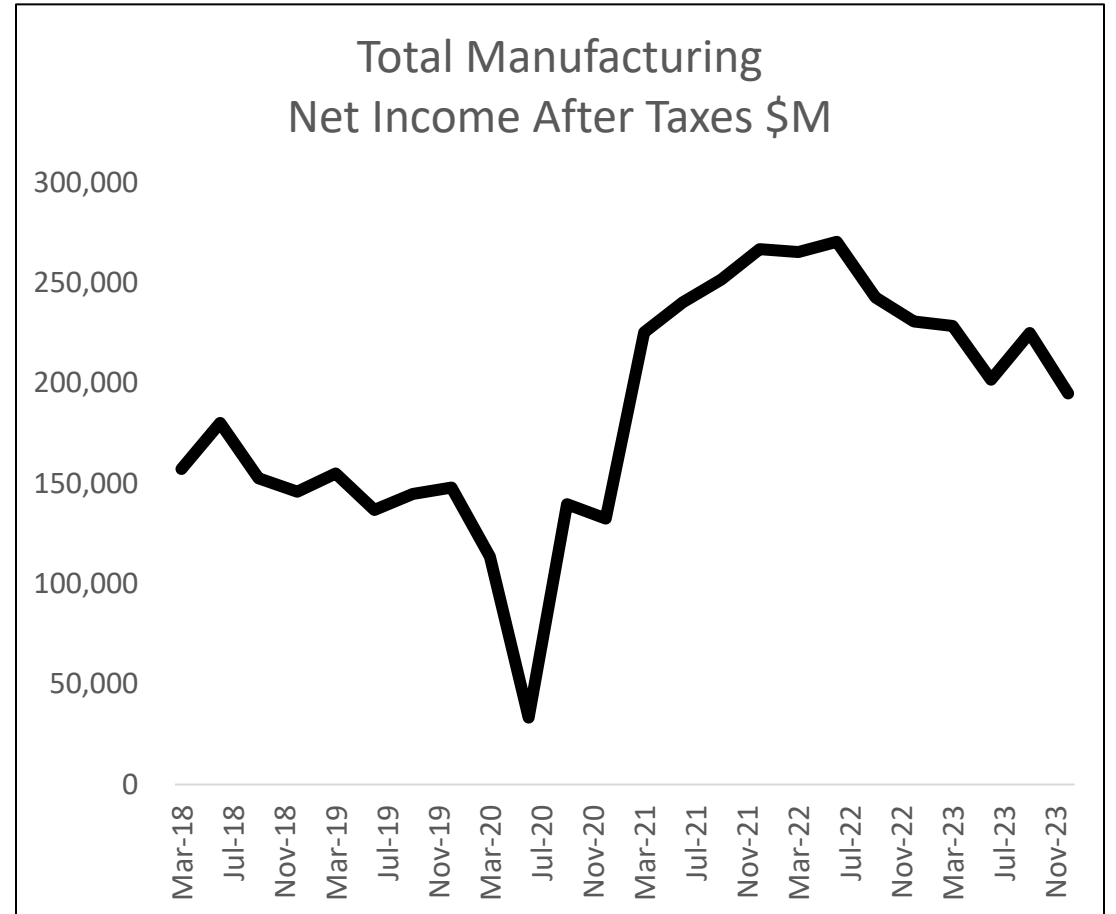
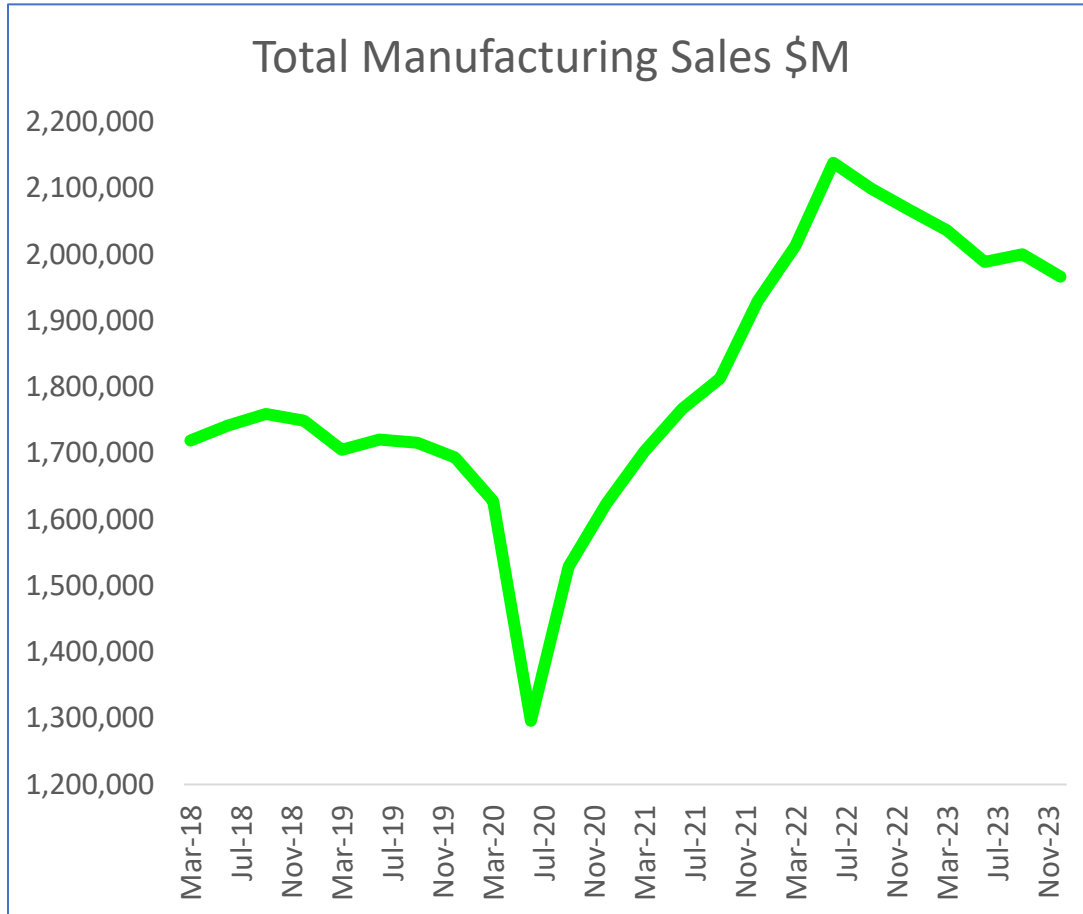
Value of Manufacturing Shipments, January 2024
Pct. Change Over Prior Year



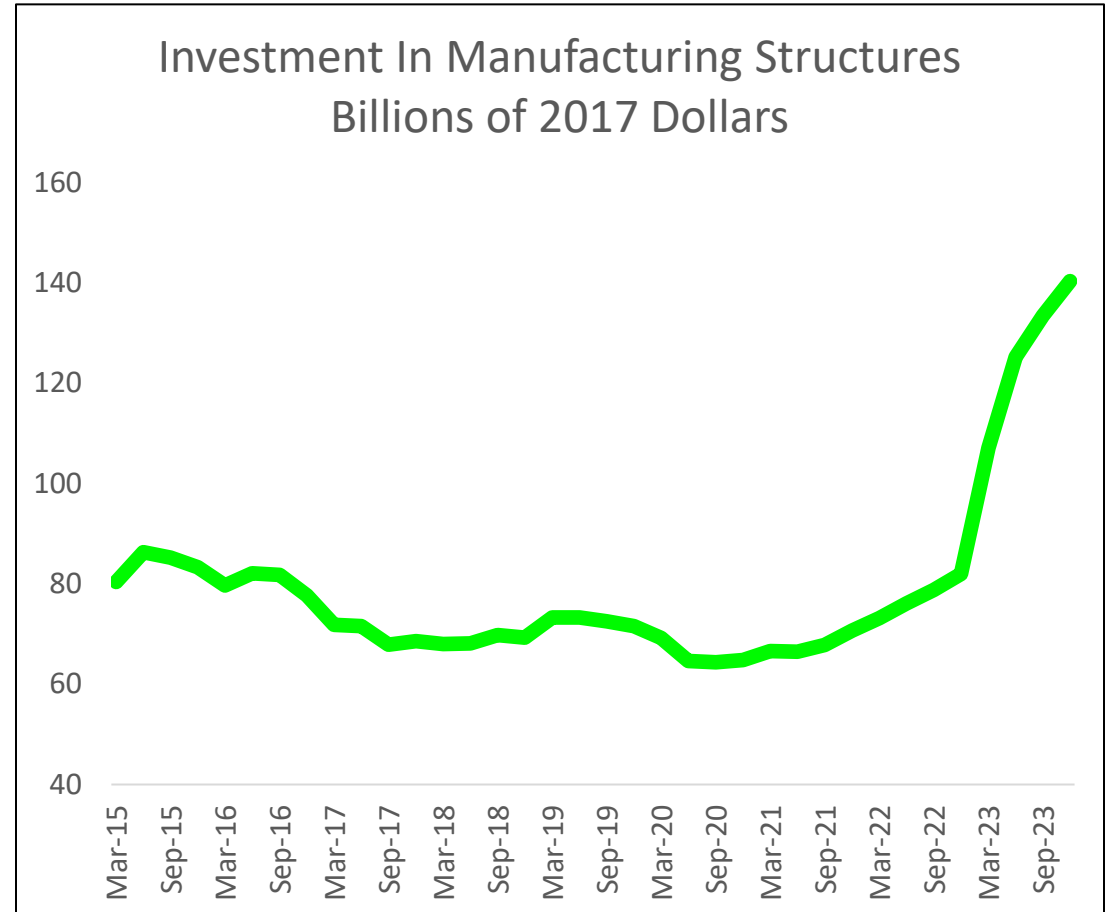
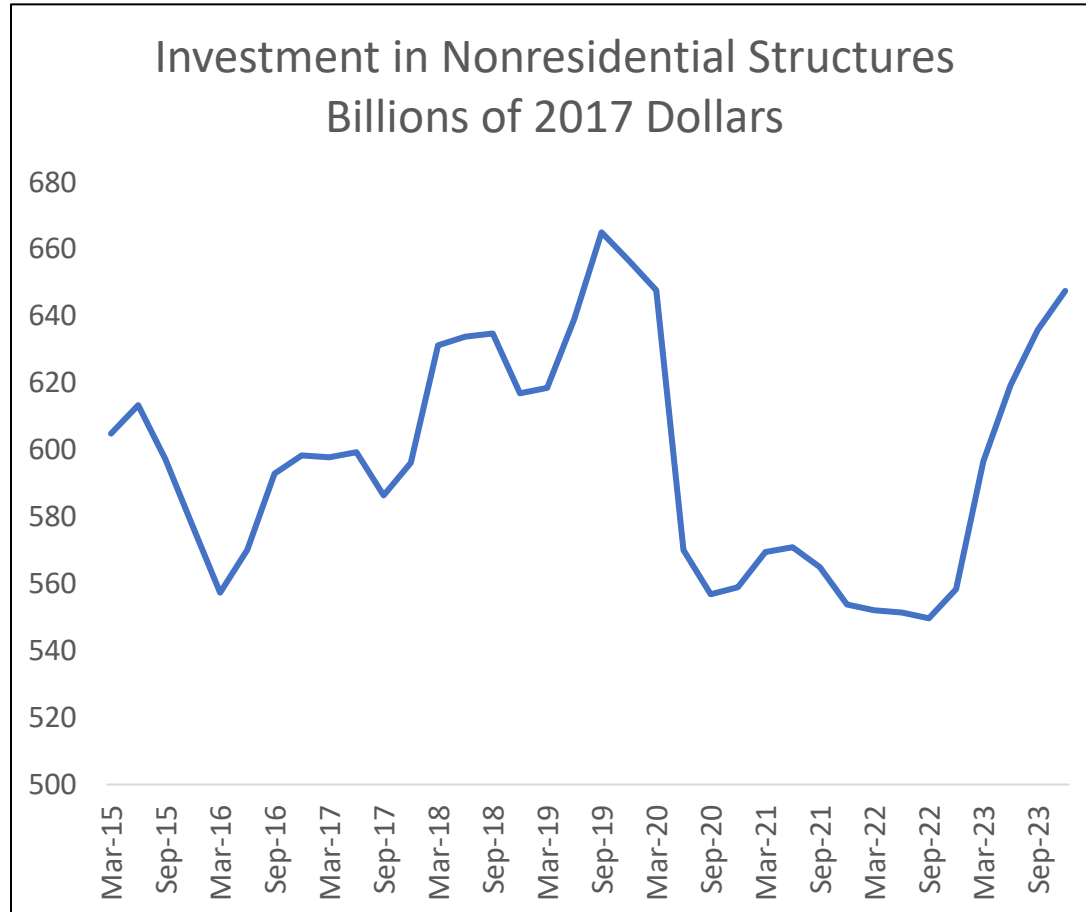
Shipments: Non-Durable Goods Shipments Declining Petroleum Products Down Sharply



Total Manufacturing Sales & Net Income: Slow Slide From Record Highs, Ahead of Pre-Pandemic Levels

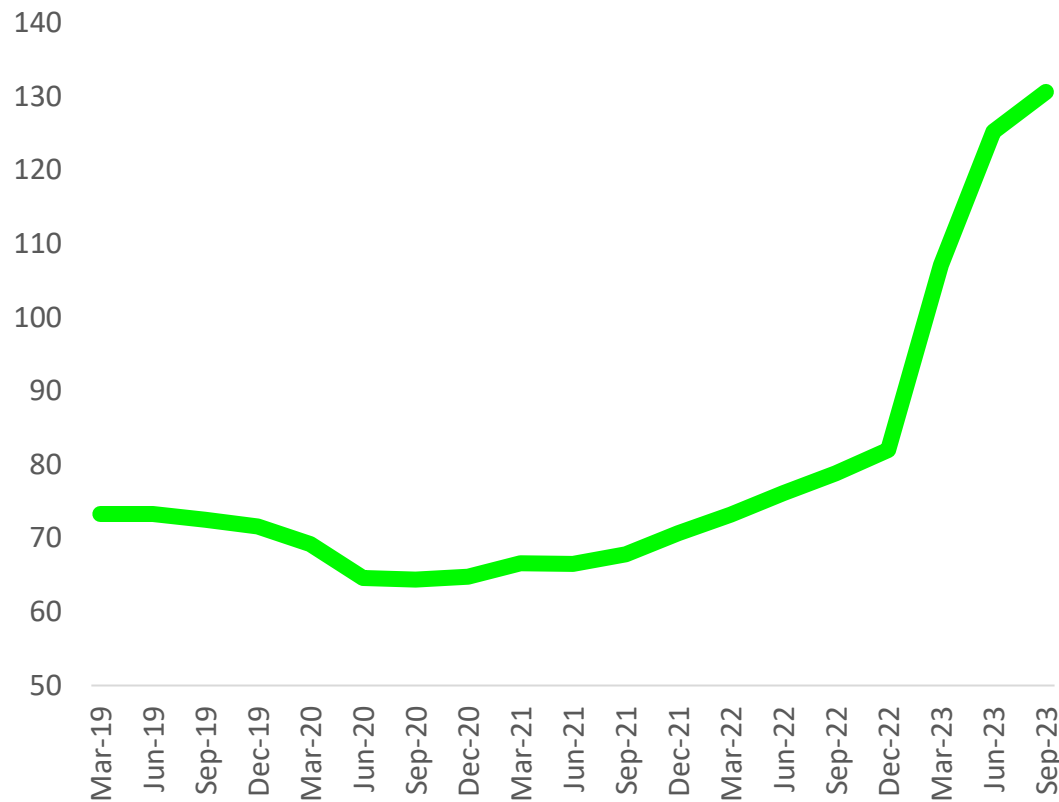


Investment in Manufacturing Leading Business Investment in Structures

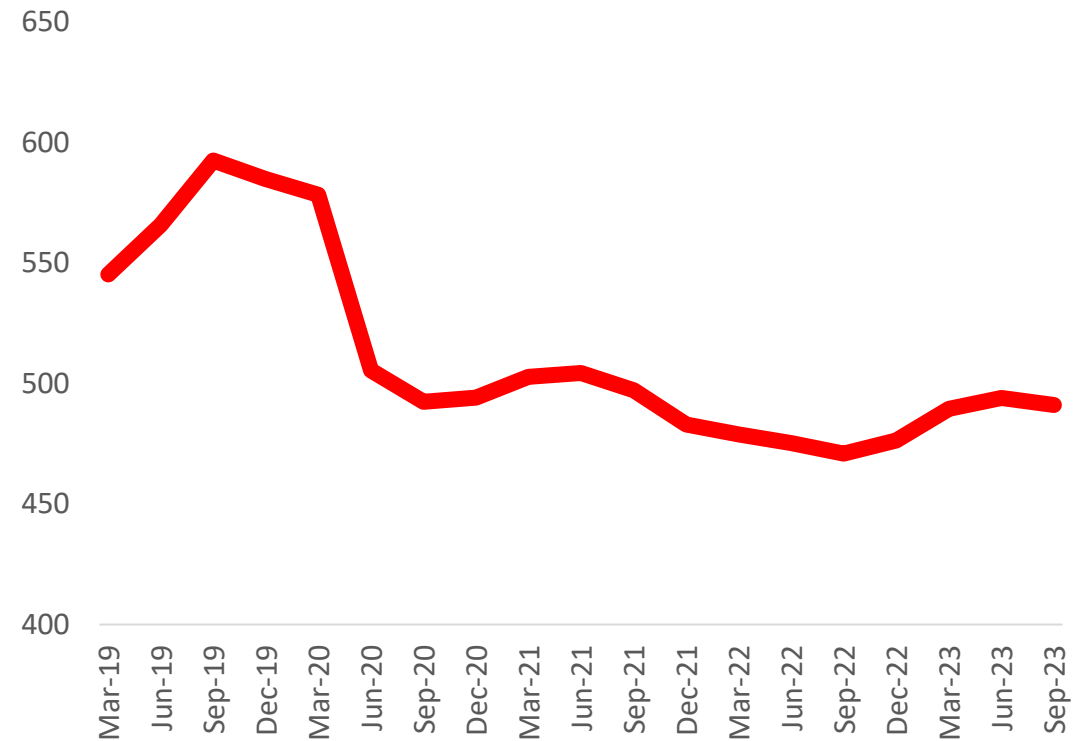


Investment in Structures Driven by Manufacturing Investment

Manufacturing Structures, 2017 \$B

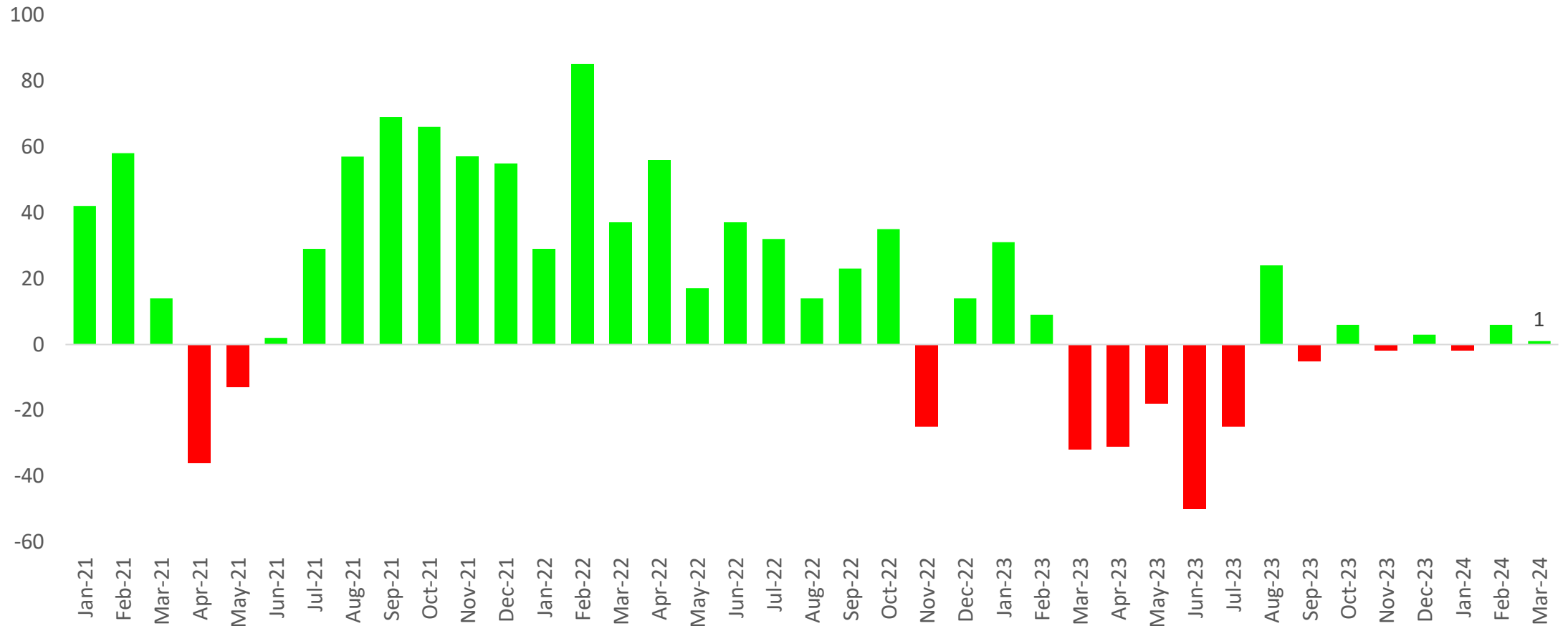


Nonresidential Structures Excluding Manufacturing, 2017 \$B



U.S. Manufacturing Payrolls Flat

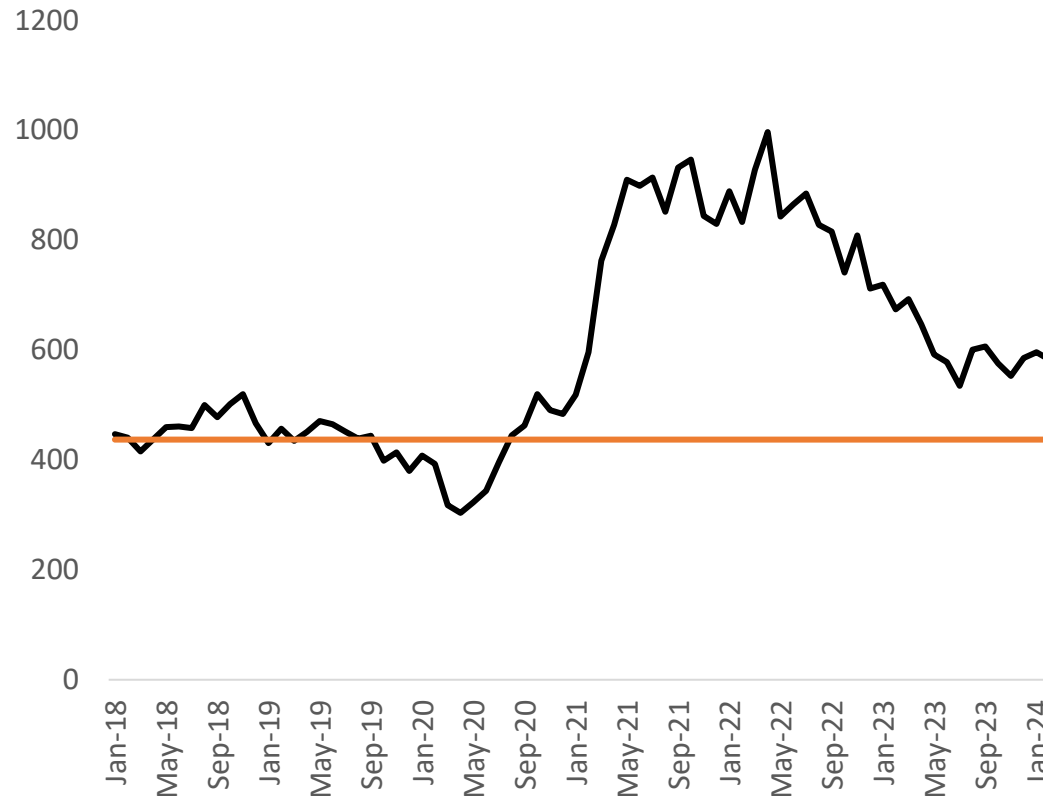
ADP Private Employment Report, Manufacturing, Change from Prior Month (Ks)



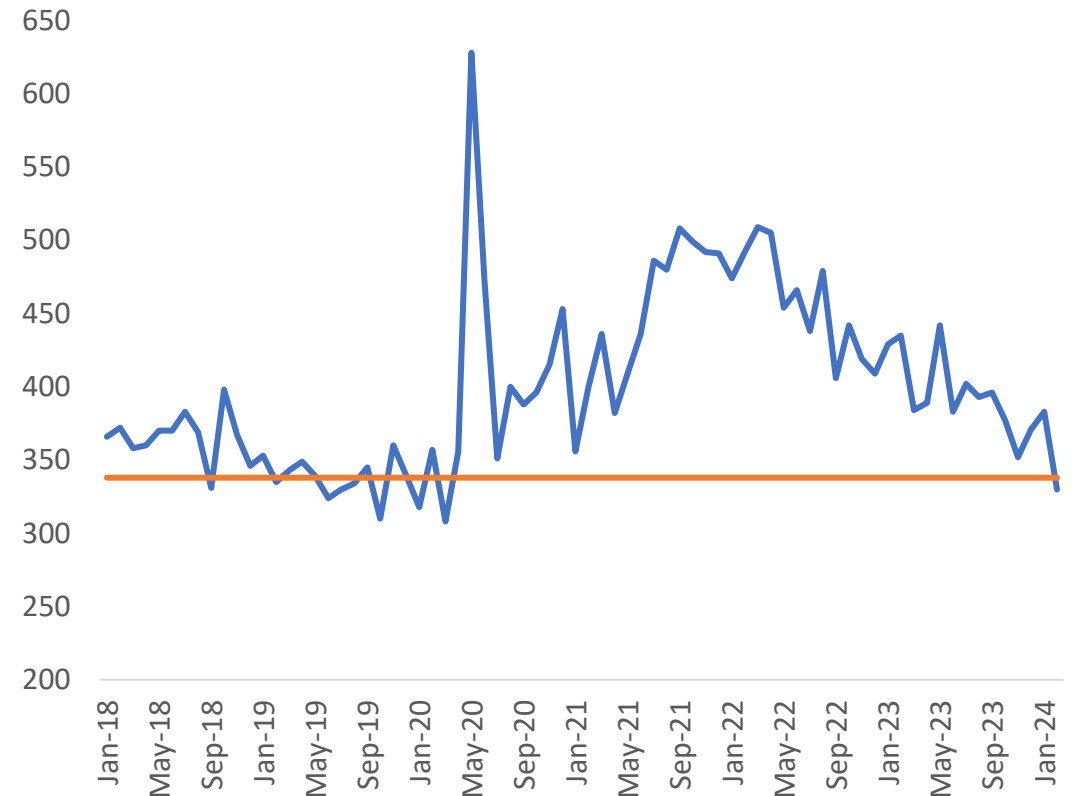
Rebuilding Workforce

Manufacturing Job Openings Decline as Hiring Increases

U.S. Manufacturing Job Openings Ks



US Manufacturing Hires in Thousands

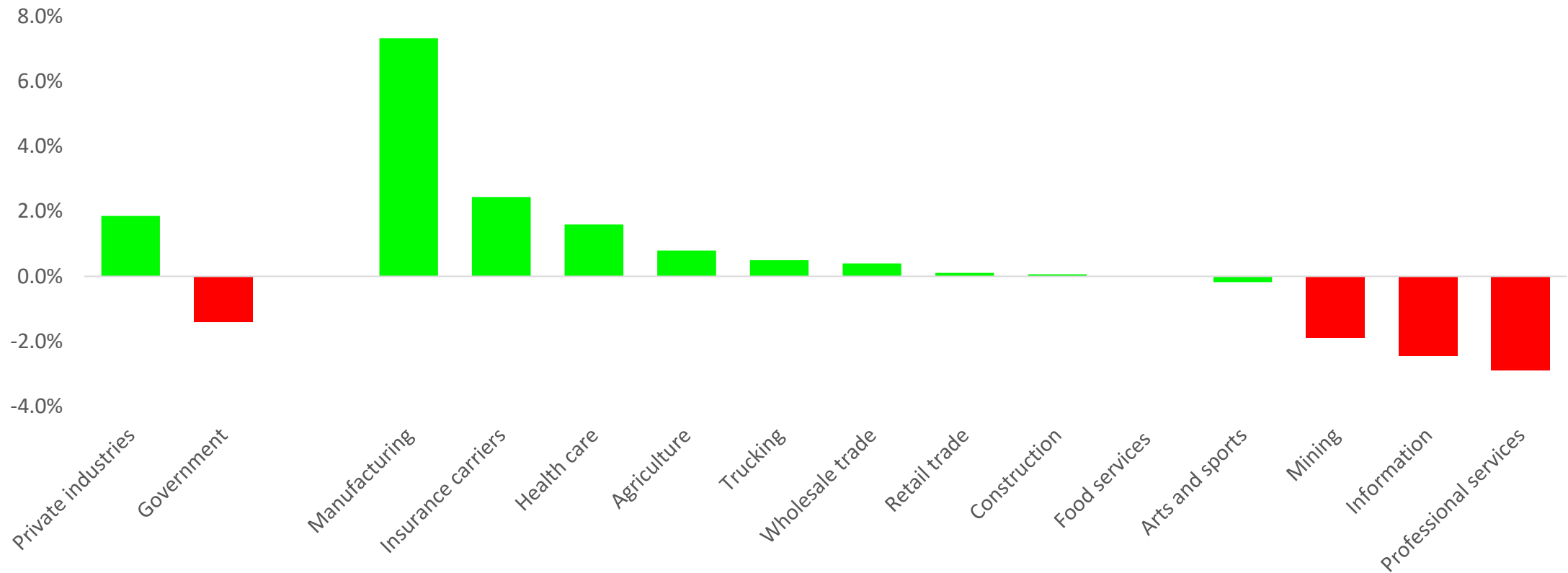


Wisconsin Manufacturing

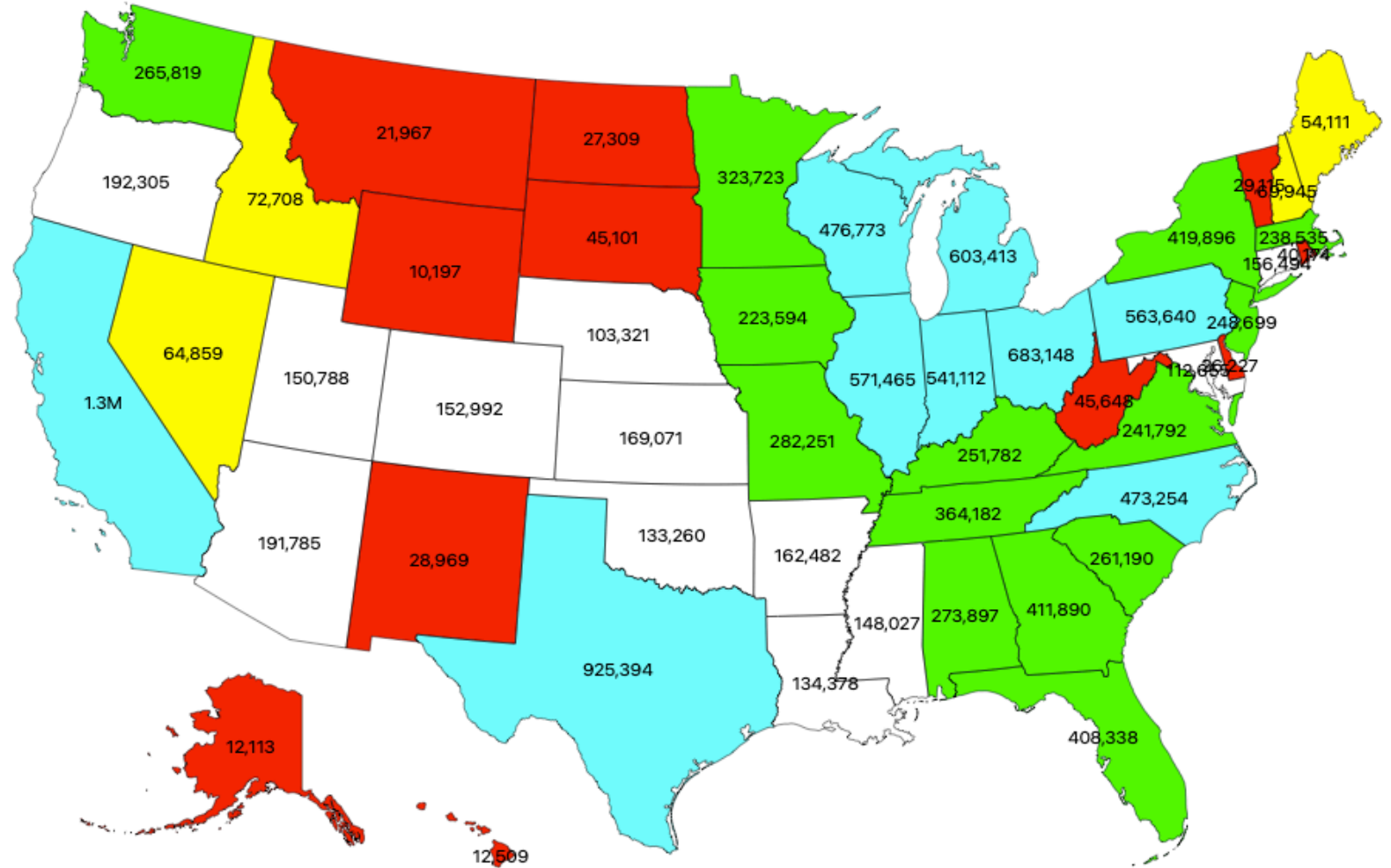
Wisconsin Does Manufacturing

WI Much More Intensive than the US in Manufacturing

Wisconsin GDP Share by Industry Less US GDP Share by Industry

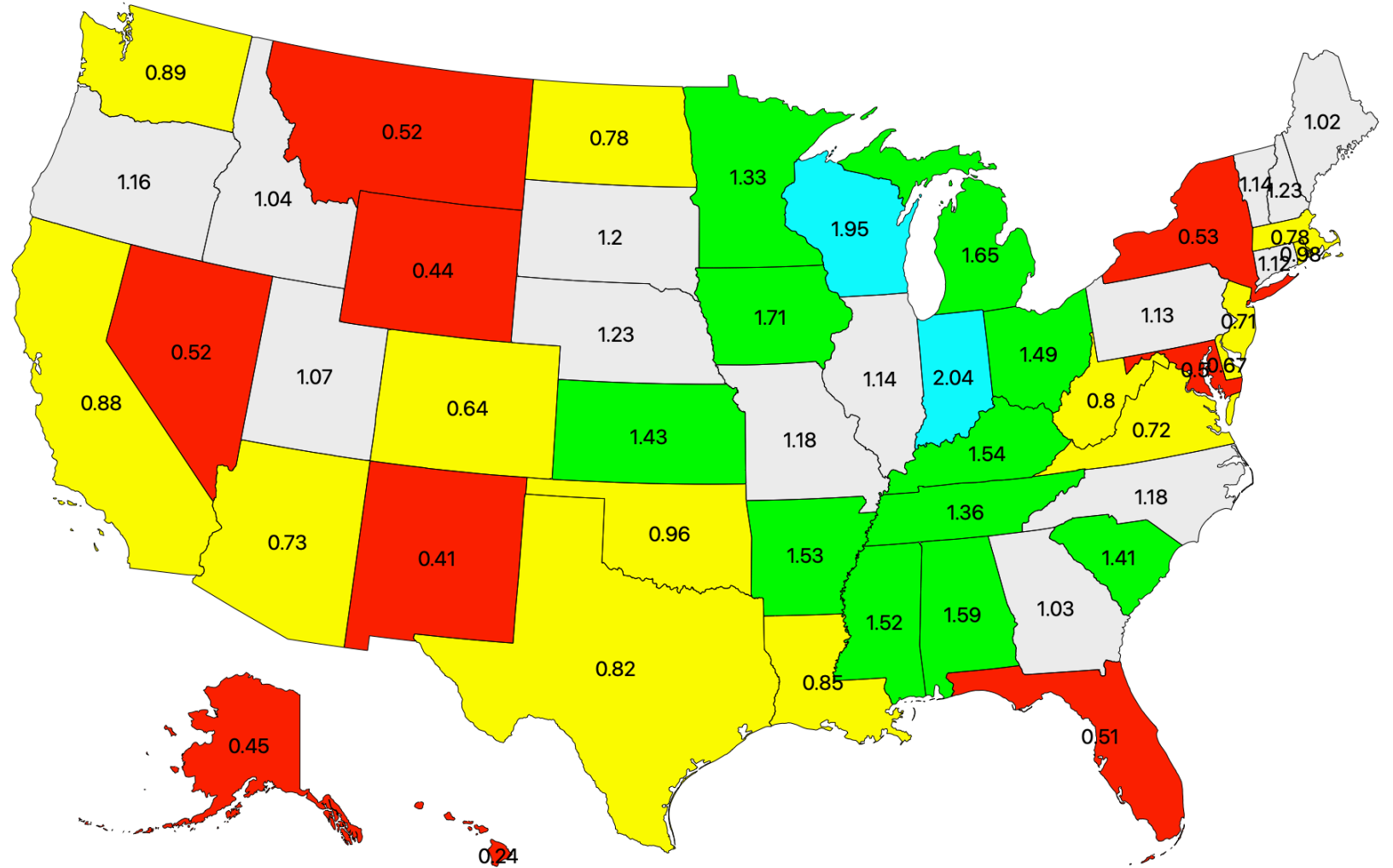


Wisconsin Ranks 7th Among the States for Manufacturing Employment



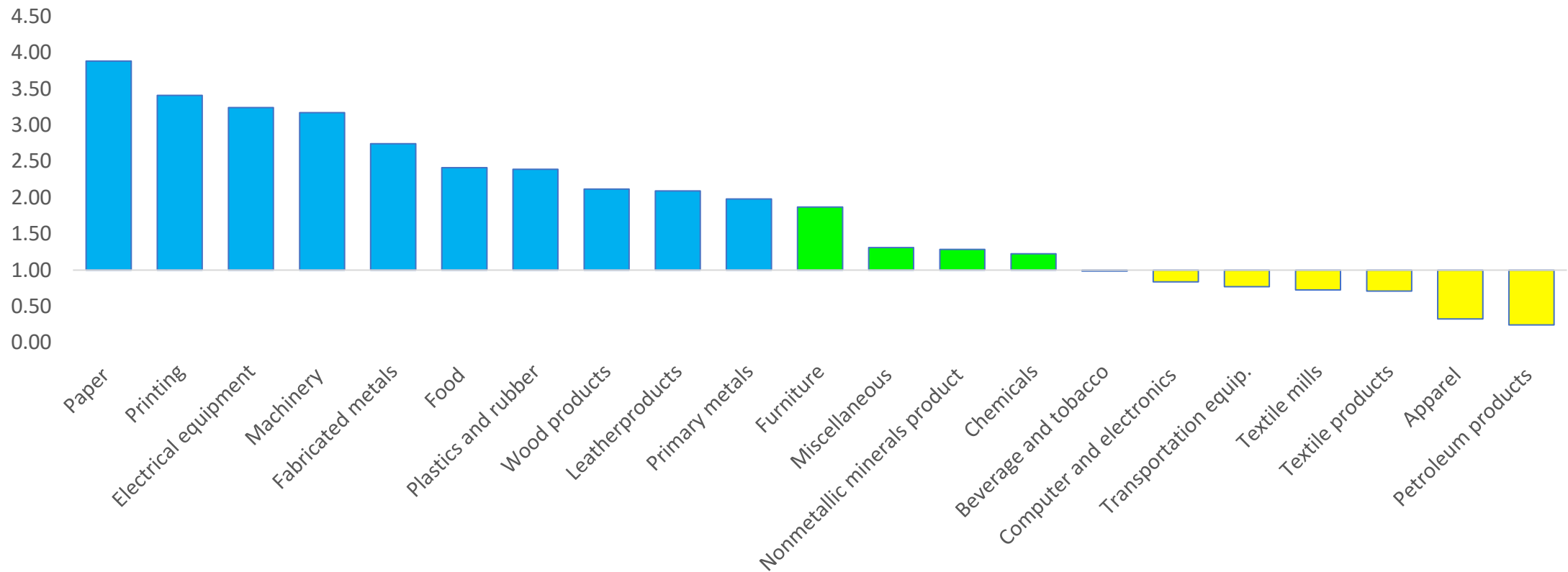
Most Manufacturing Intensive States in Midwest and Southeast

Manufacturing Location Quotient, 2022



10 Industries Lead Wisconsin's Manufacturing

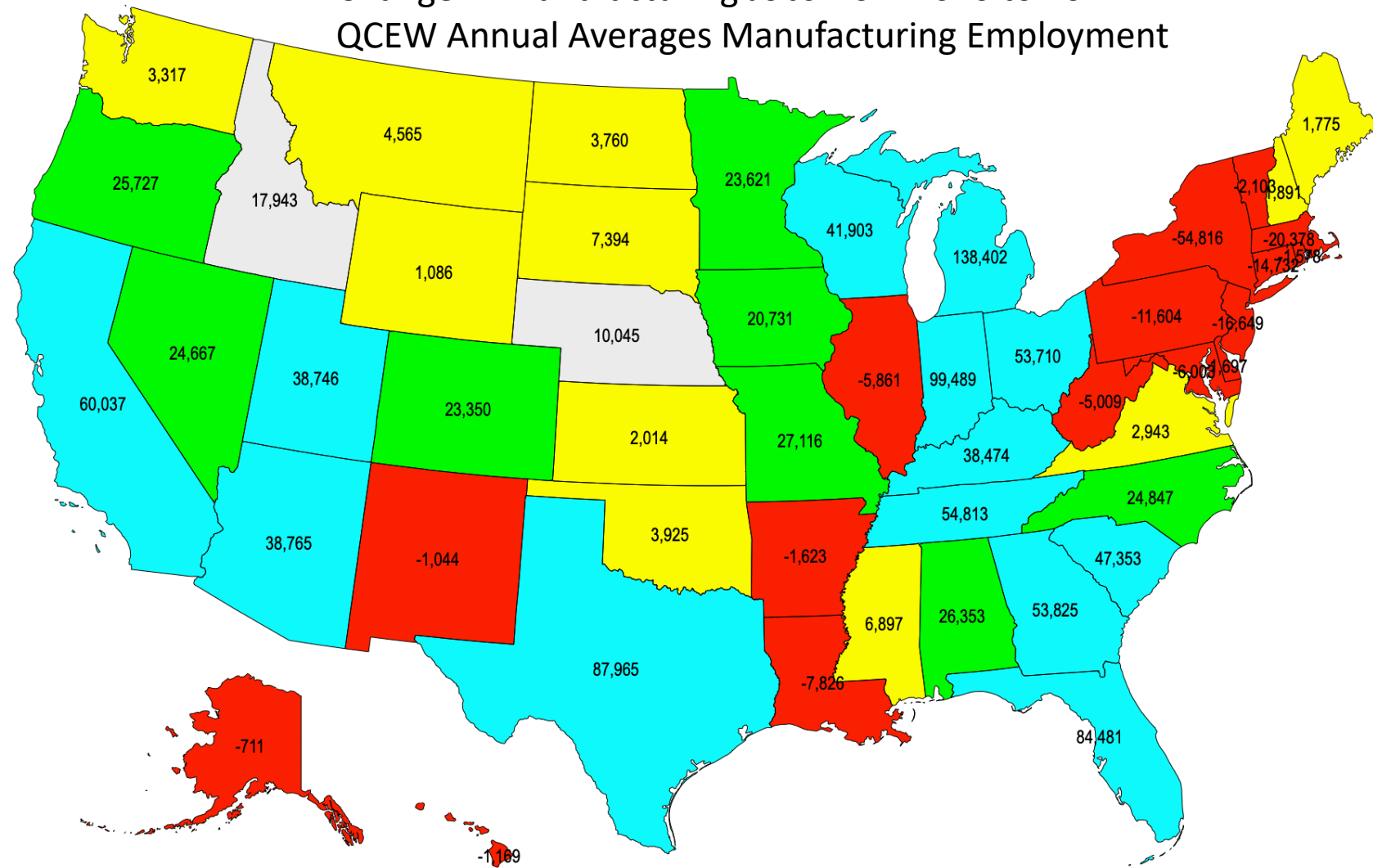
2022 Location Quotients for Wisconsin Manufacturing



Geographic Trends in U.S. Manufacturing

Change in Manufacturing Jobs from 2010 to 2022

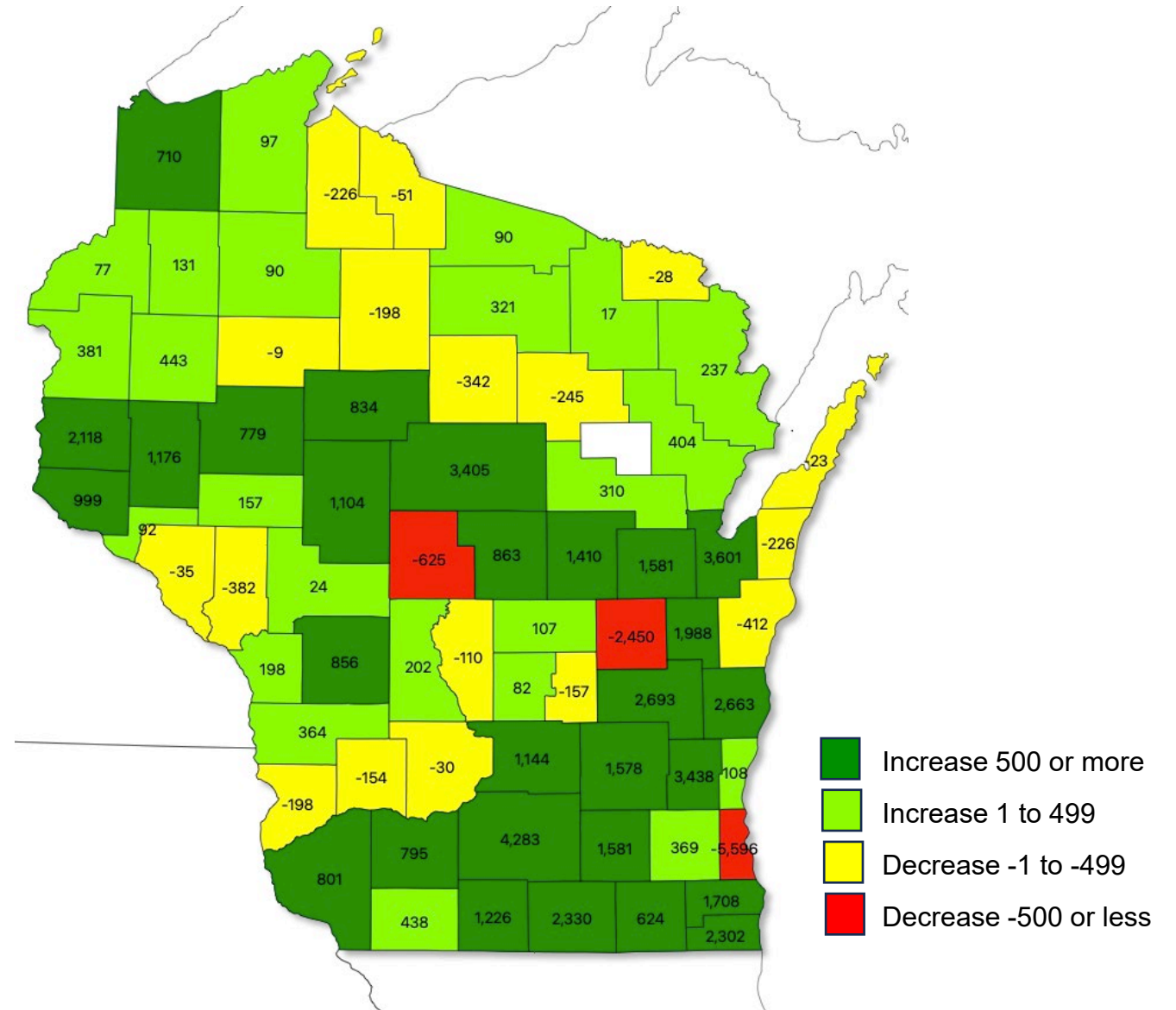
QCEW Annual Averages Manufacturing Employment



- Northeast de-industrializing
- Midwest re-industrializing
- Southeast expanding industrialization
- Western states adding manufacturing

Change in Manufacturing Employment 2010 to 2022

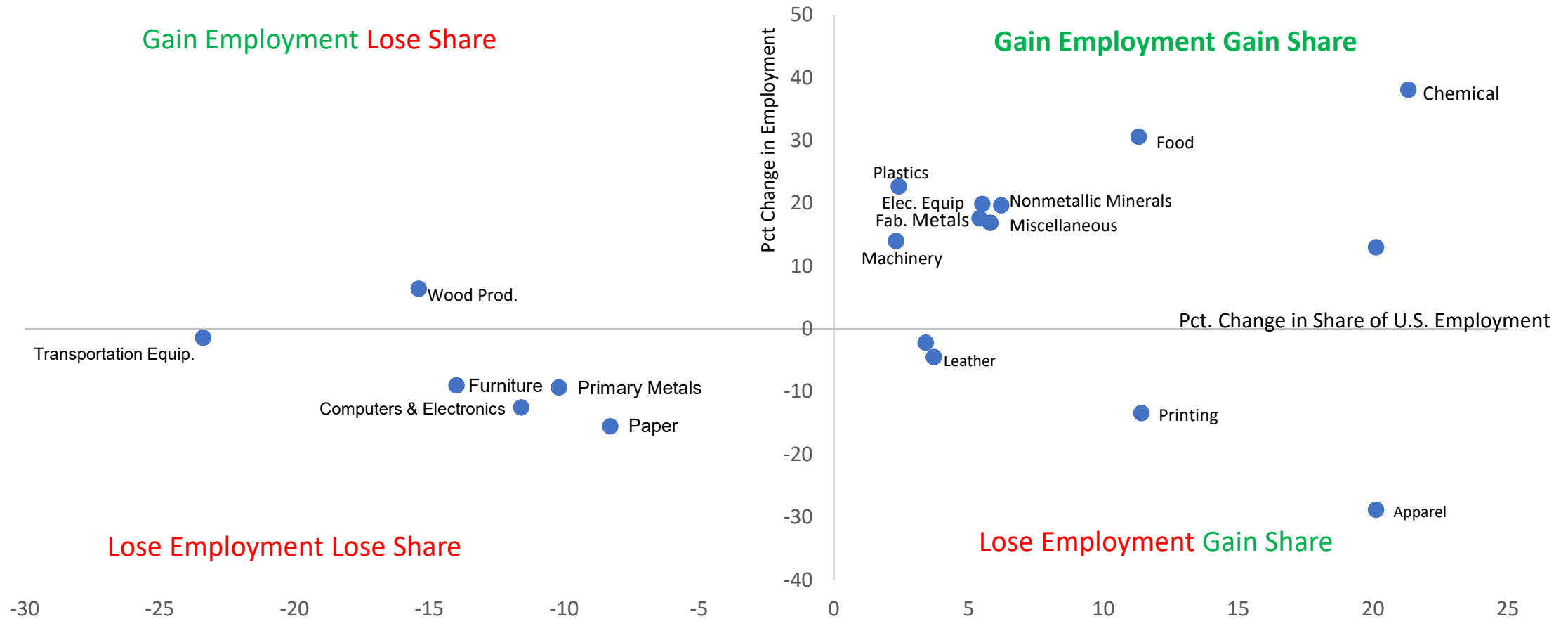
Manufacturing Job Gains Throughout Much of the State



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Annual Average

Dynamics of Wisconsin Manufacturing

Change in Employment & Shares 2010 to 2022

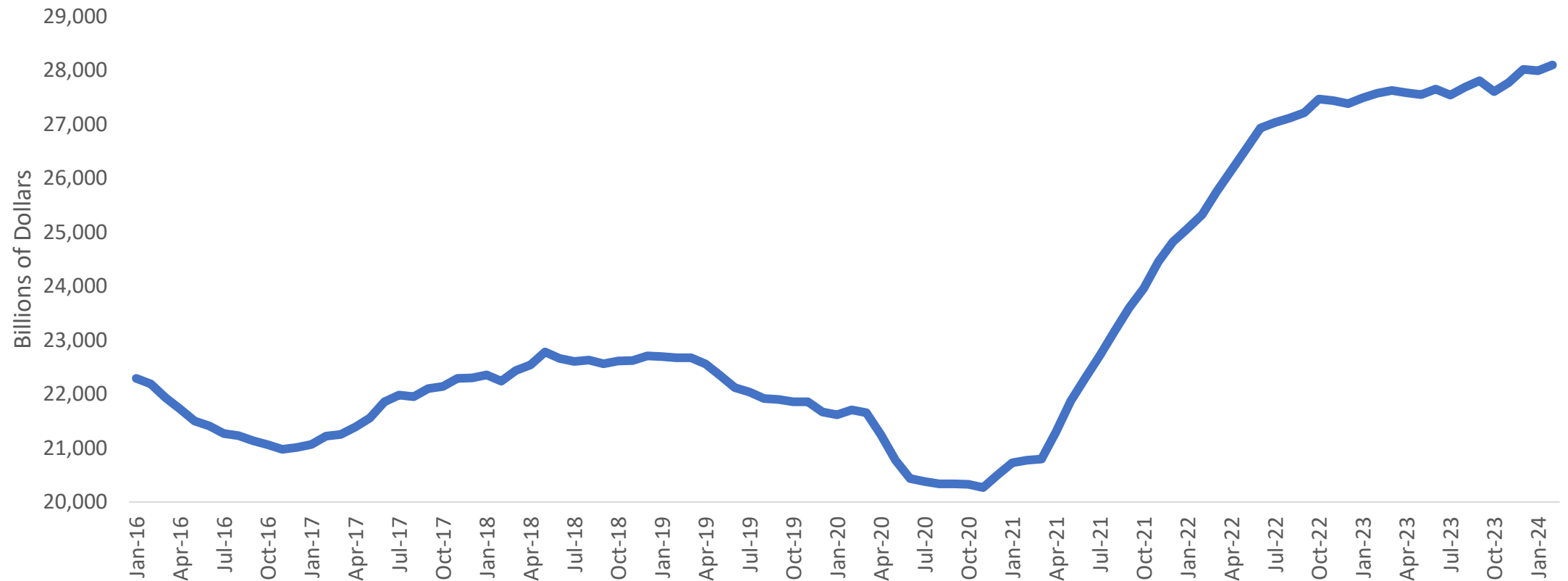


Wisconsin Exports: Accelerated After COVID Contraction

For the year, 2023 Up 2.3% over 2022

Feb. 2024 Up 1.9% Y/Y

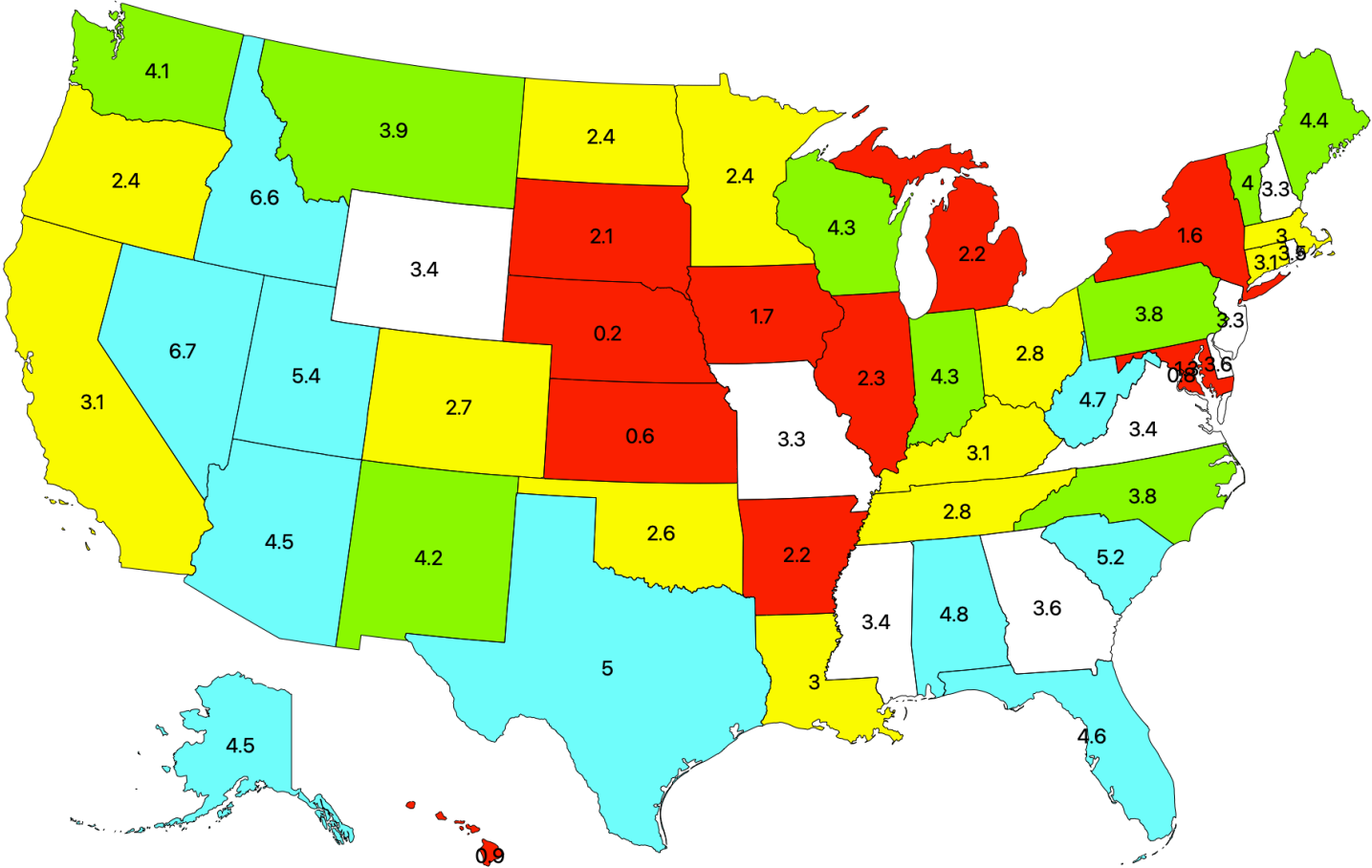
Wisconsin Exports, 12-Month Total, \$B



Percent Change At Annual Rates in Real GDP
2023 Q4 Over 2023 Q3

Wisconsin
Real GDP
Up +4.3%
2023 Q4

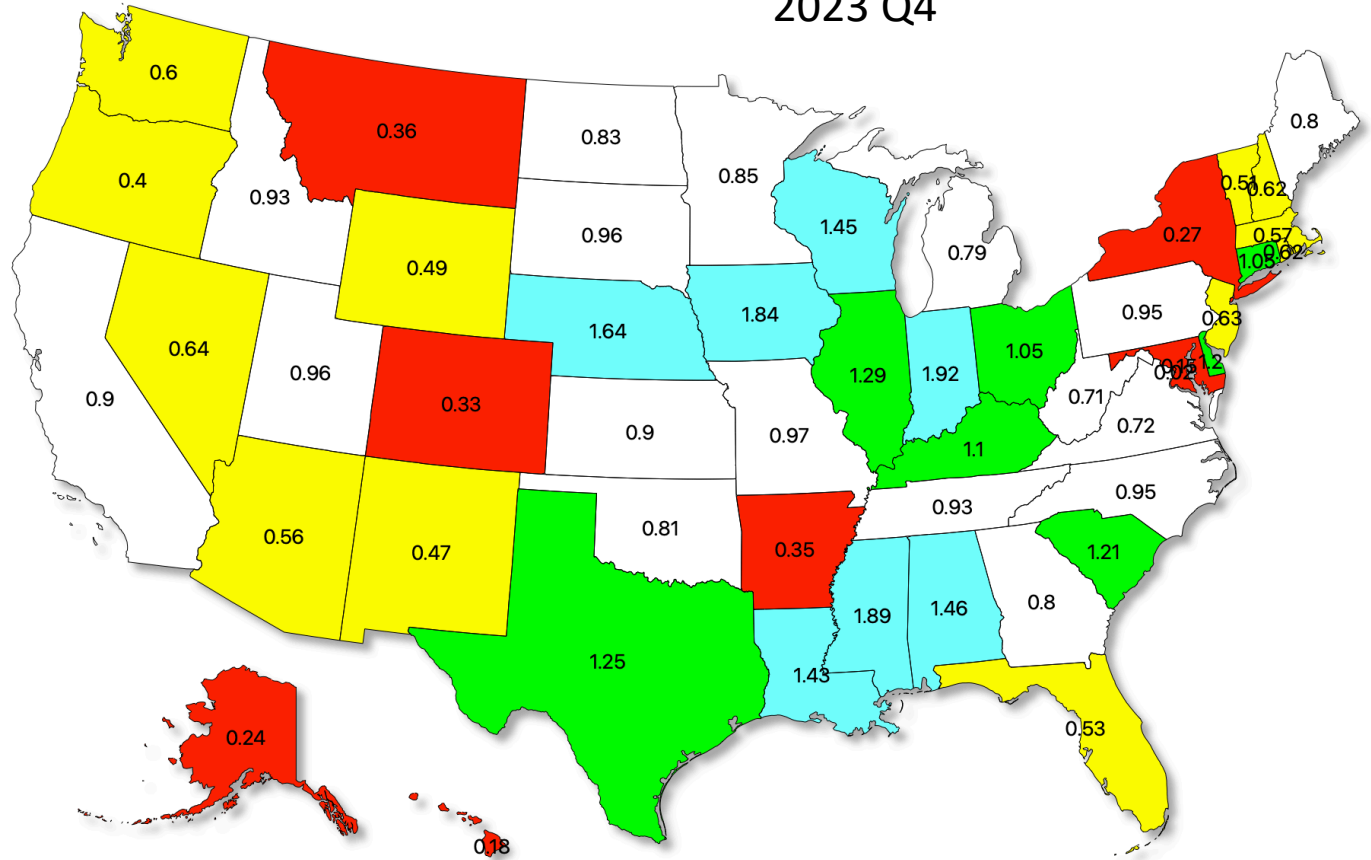
U.S. Average: 3.4%



Source: U.S. Bureau of Economic Analysis, Regional Accounts, March 29, 2024

Wisconsin 6th
Ranked for
Manufacturing
Contribution to
GDP Growth,
2023 Q4

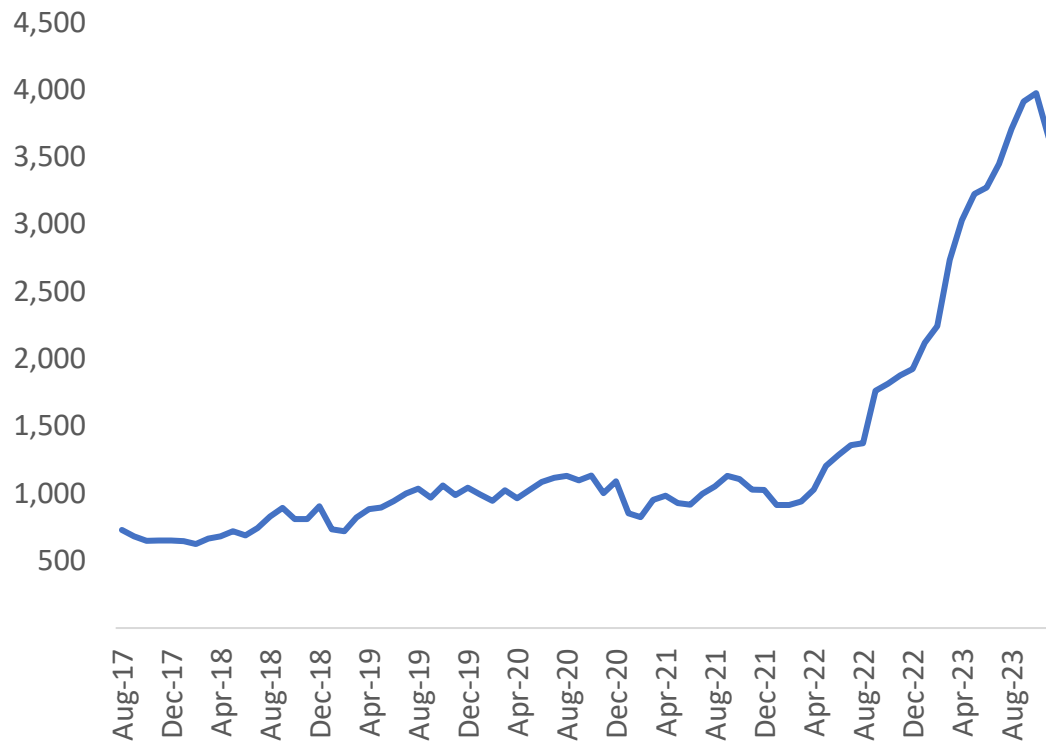
Manufacturing Contribution to Real GDP Growth
2023 Q4



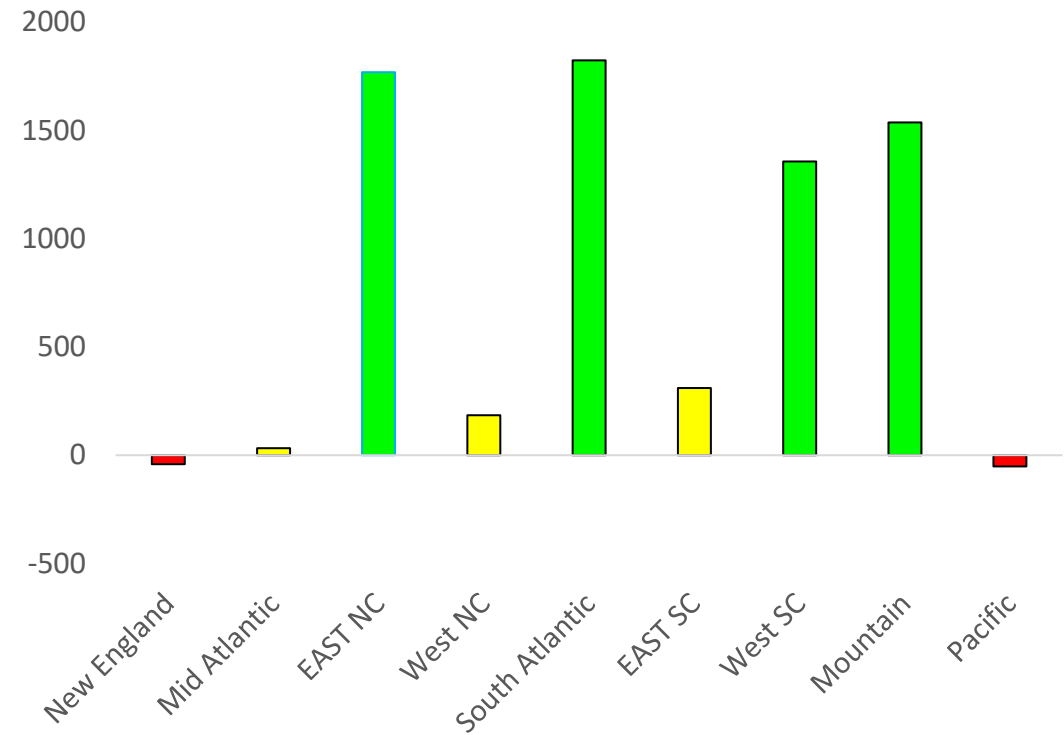
Source: U.S. Bureau of Economic Analysis, Regional Accounts, March 29, 2024

Substantial Variance for Increase In Manufacturing Value Put In Place by Region

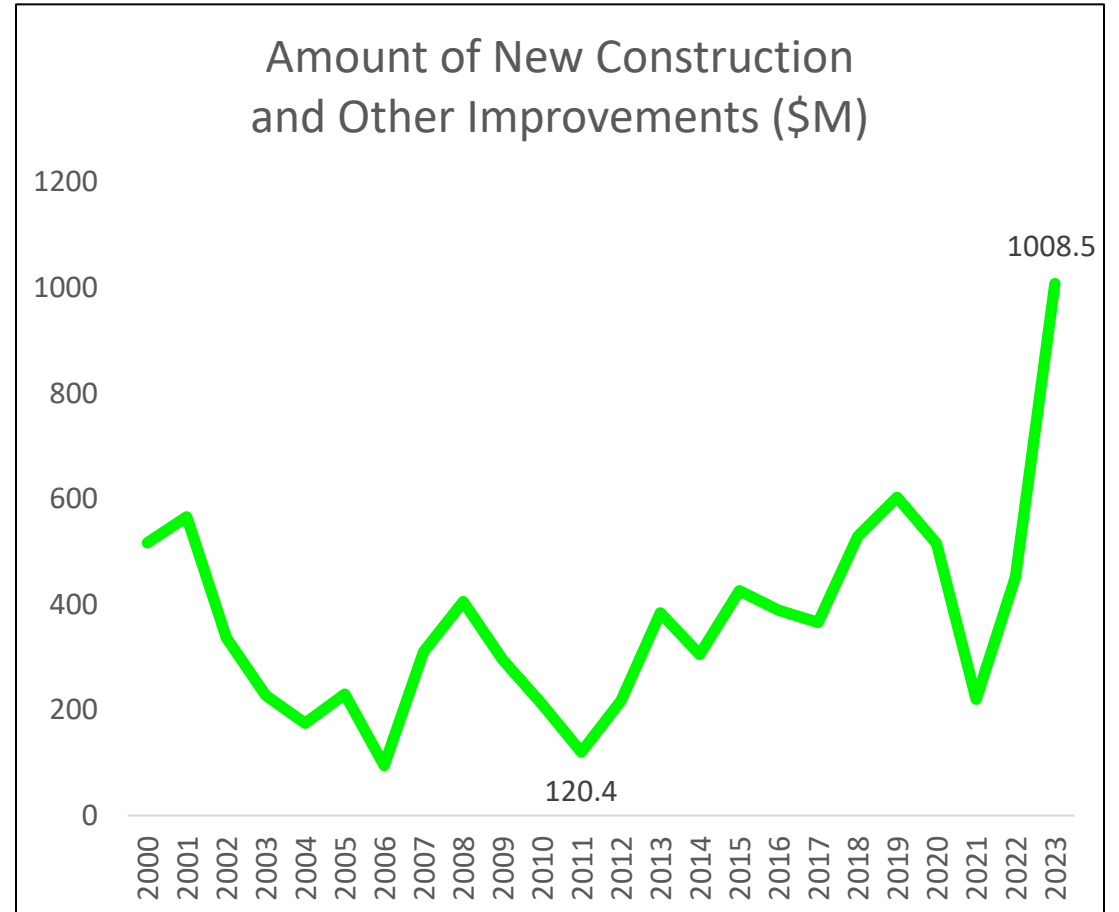
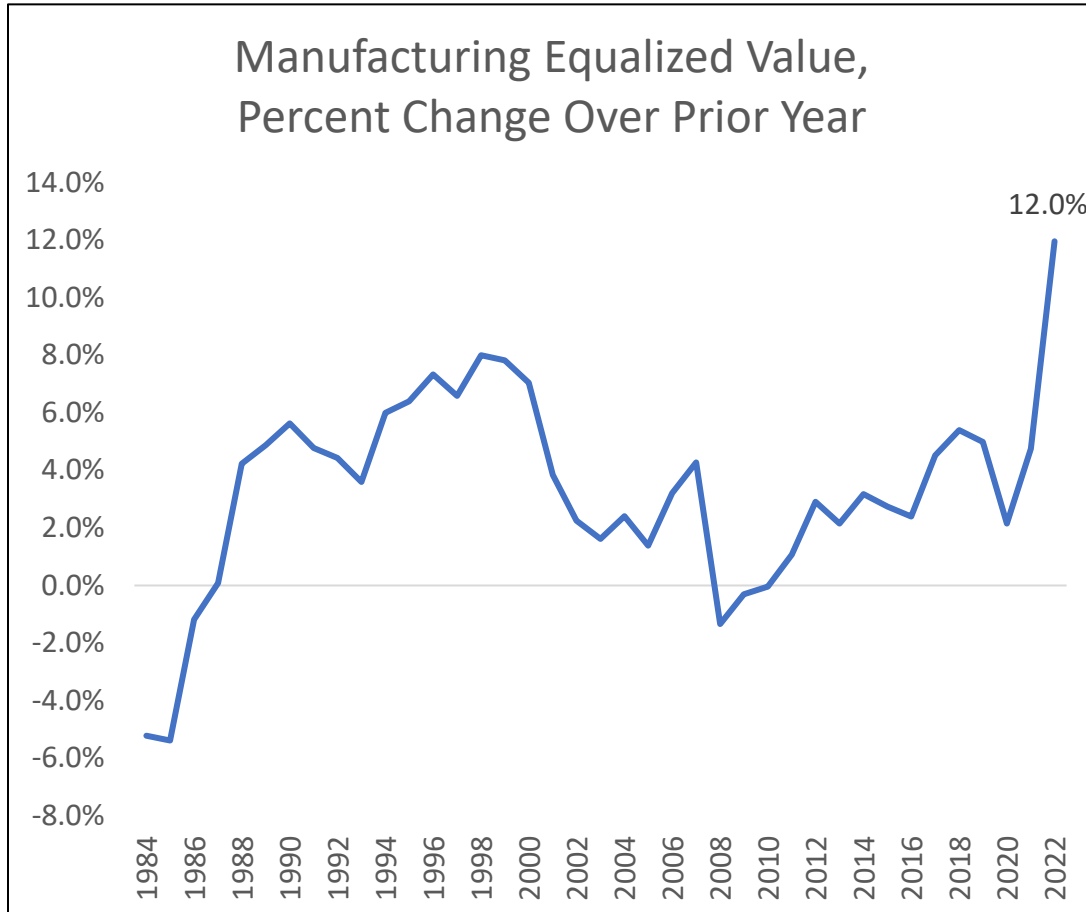
Monthly Manufacturing Construction Value Put In Place, East North Central \$M



Monthly Manufacturing Value Put in Place Change Nov 2023 Over Nov 2022



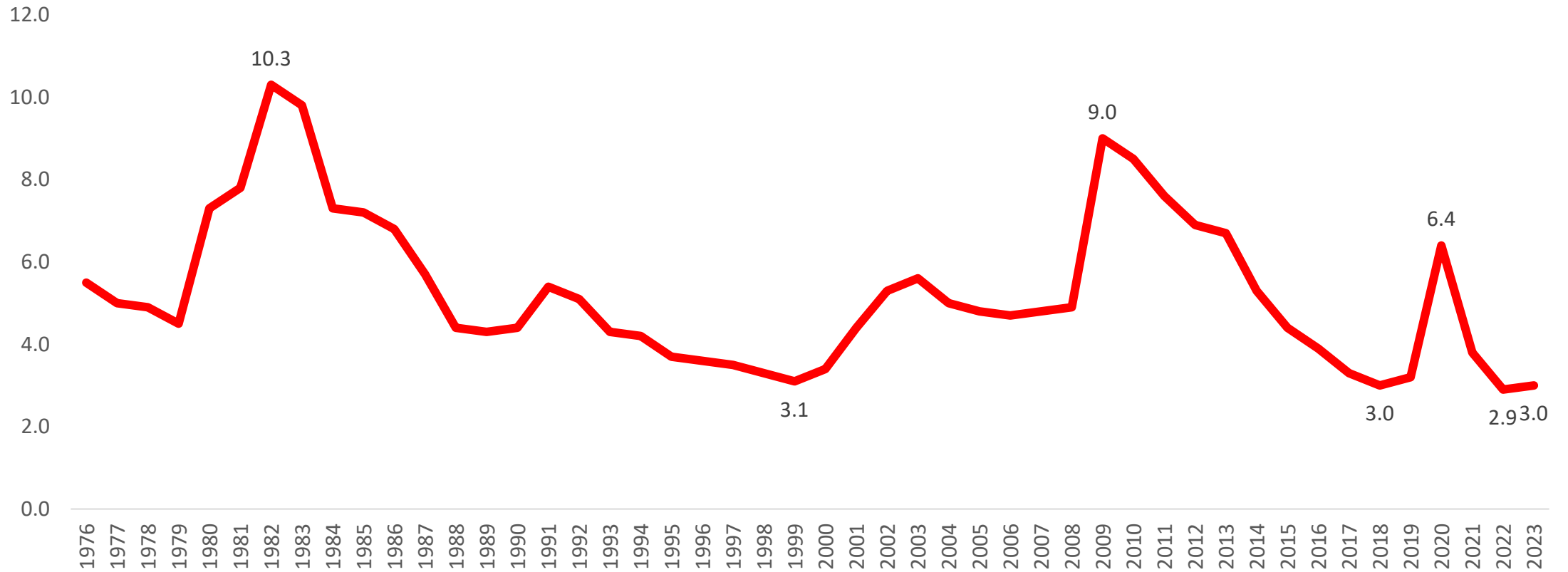
Strongest Increase in Wisconsin Manufacturing Property Values in 40 Years



Labor Markets

In 2023, Wisconsin Unemployment Rate Still Near Record Low

Wisconsin Unemployment Rate, Annual Average

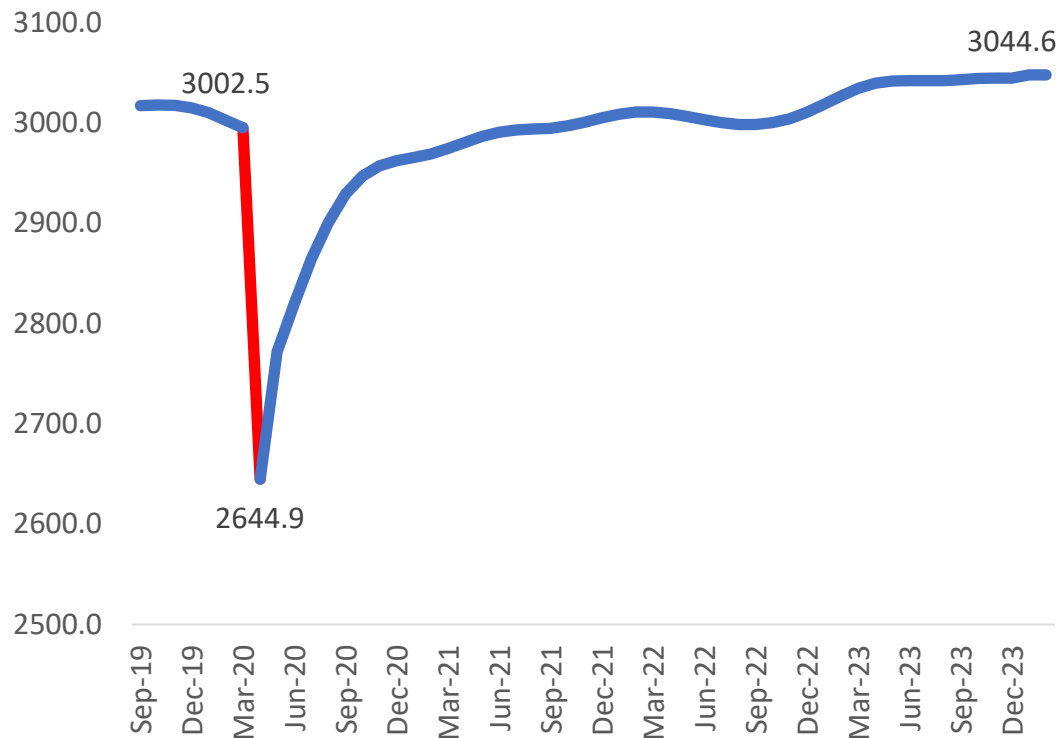


By Household Survey,

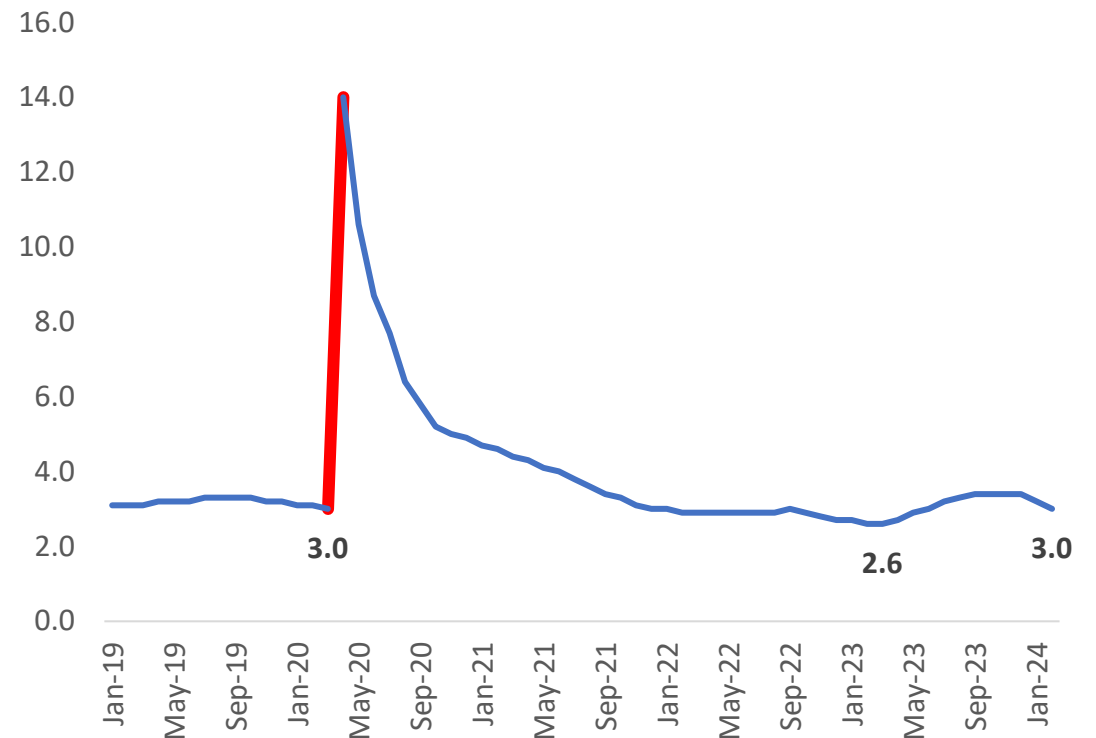
Unemployment Rate: New Record Low March 2023

February 2024 Employment Up 21,000 Over February 2023

Wisconsin Employment, Household Survey in Thousands



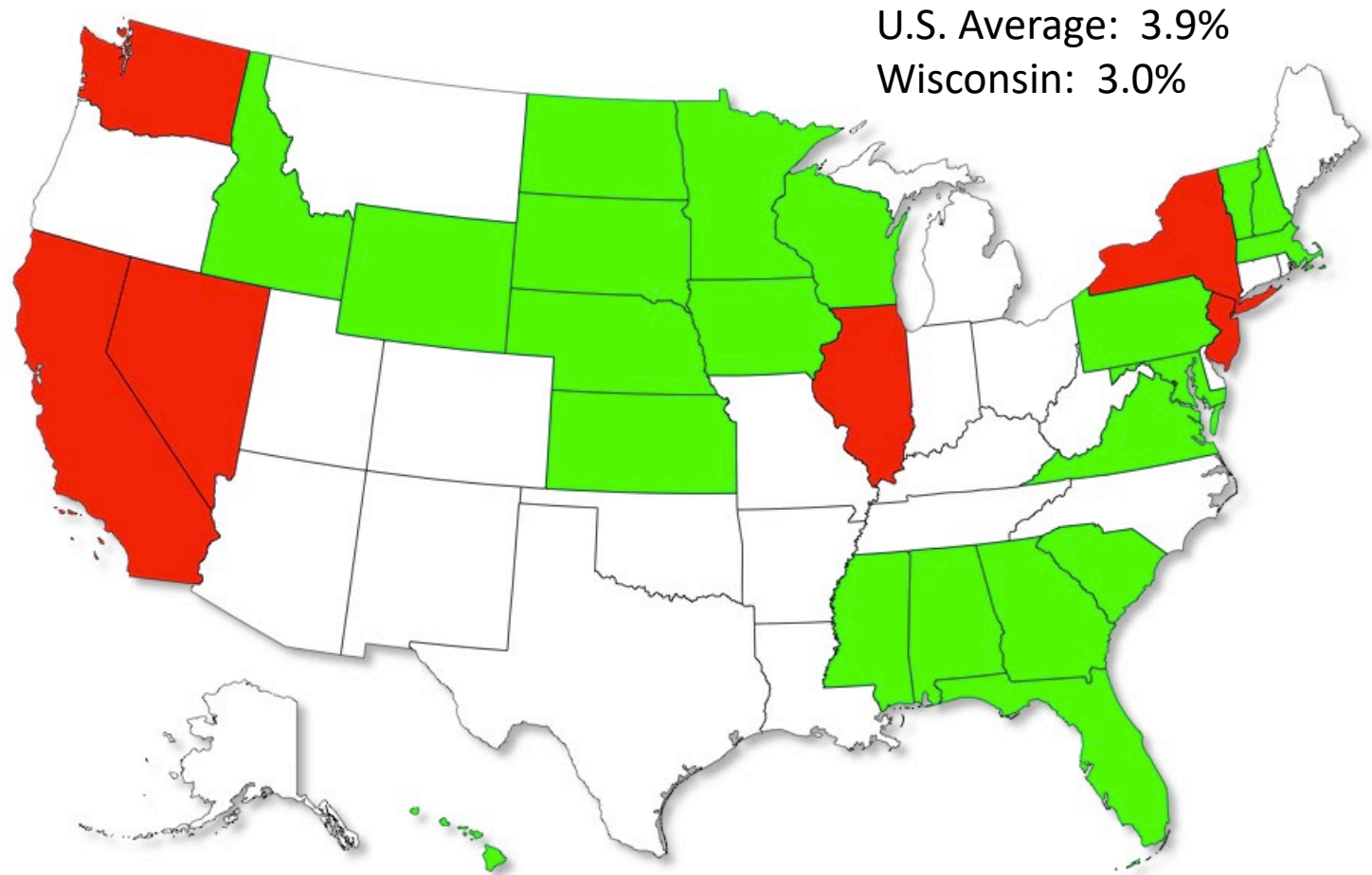
Wisconsin Unemployment Rate Percent of Labor Force Unemployed



Source: U.S. Bureau of, Local Area Unemployment Statistics
Last Month Plotted: February 2024

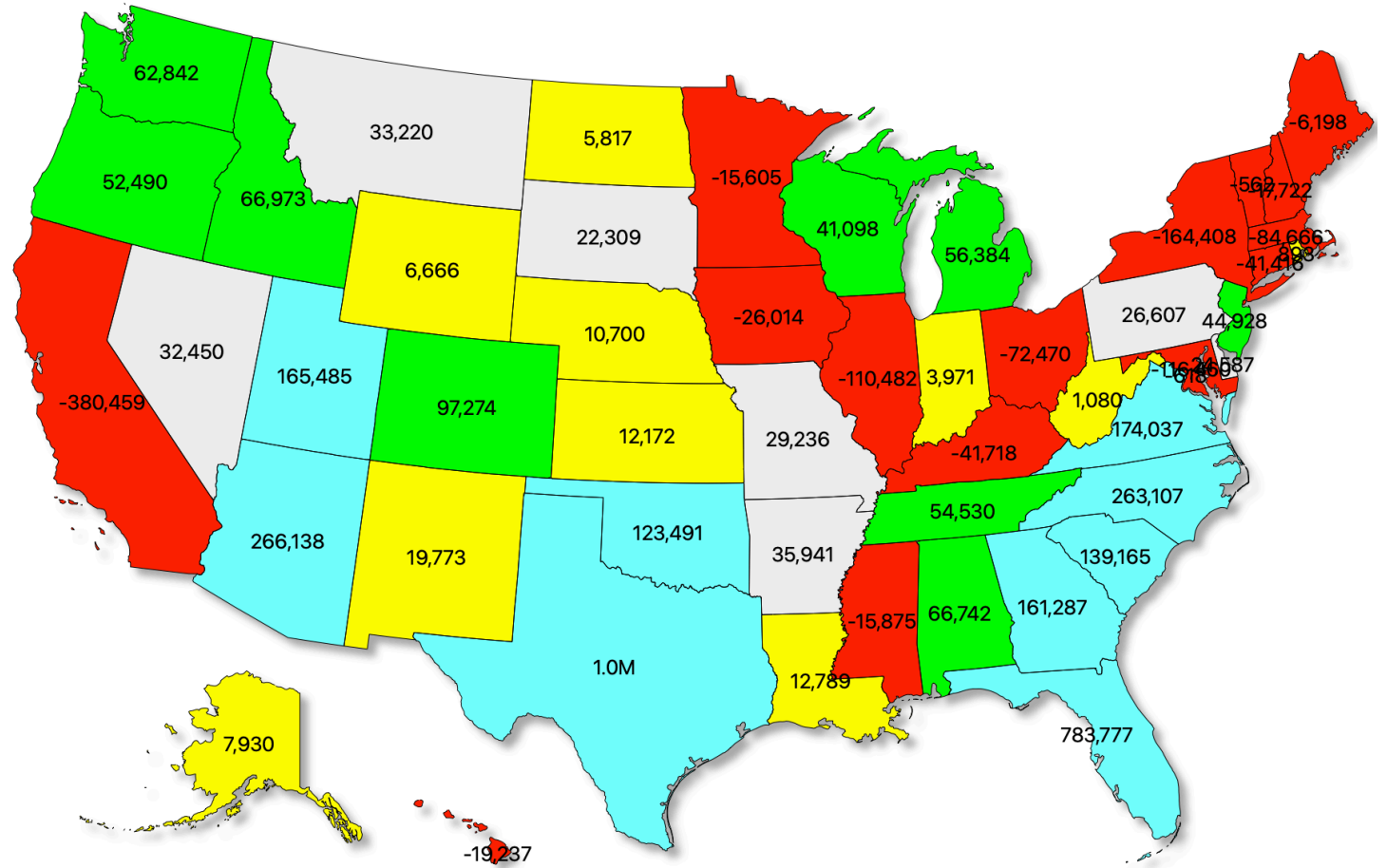
February 2024 Unemployment Rates

Wisconsin Among States with an Unemployment Rate Significantly Below U.S. Average



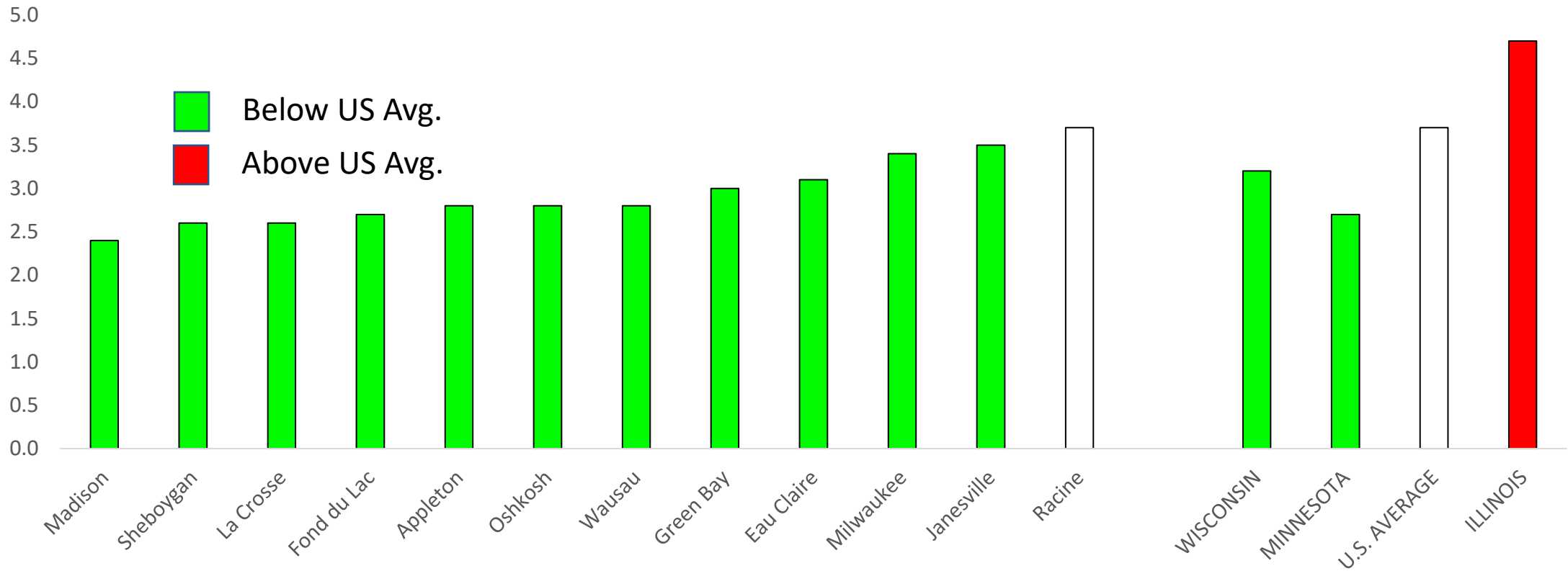
Multiple States Behind Pre-Pandemic Employment Levels

Change in Employment, Household Series, Dec. 2023 Less Jan. 2020



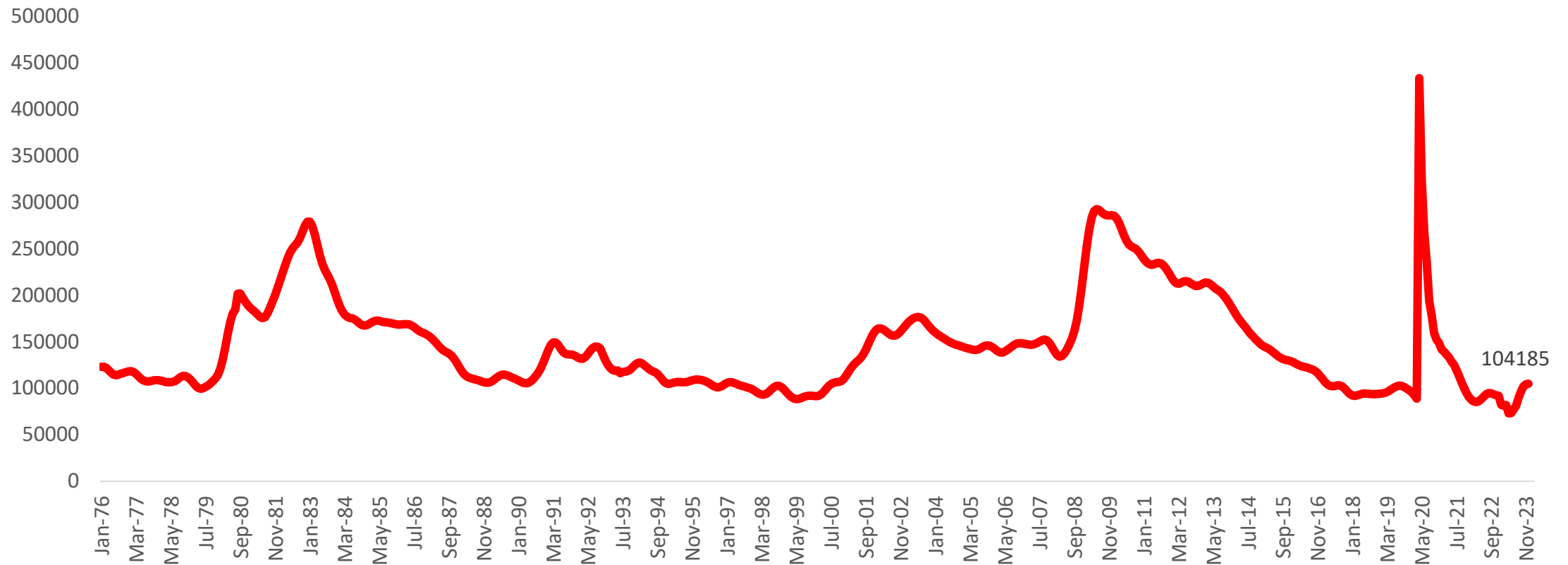
11 of 12 Wisconsin Metro Areas' Unemployment Rate Below the U.S. Average

January 2024 Unemployment Rate, Seasonally Adjusted



Number of Persons Unemployed Reached an All-Time Record Low, February 2023

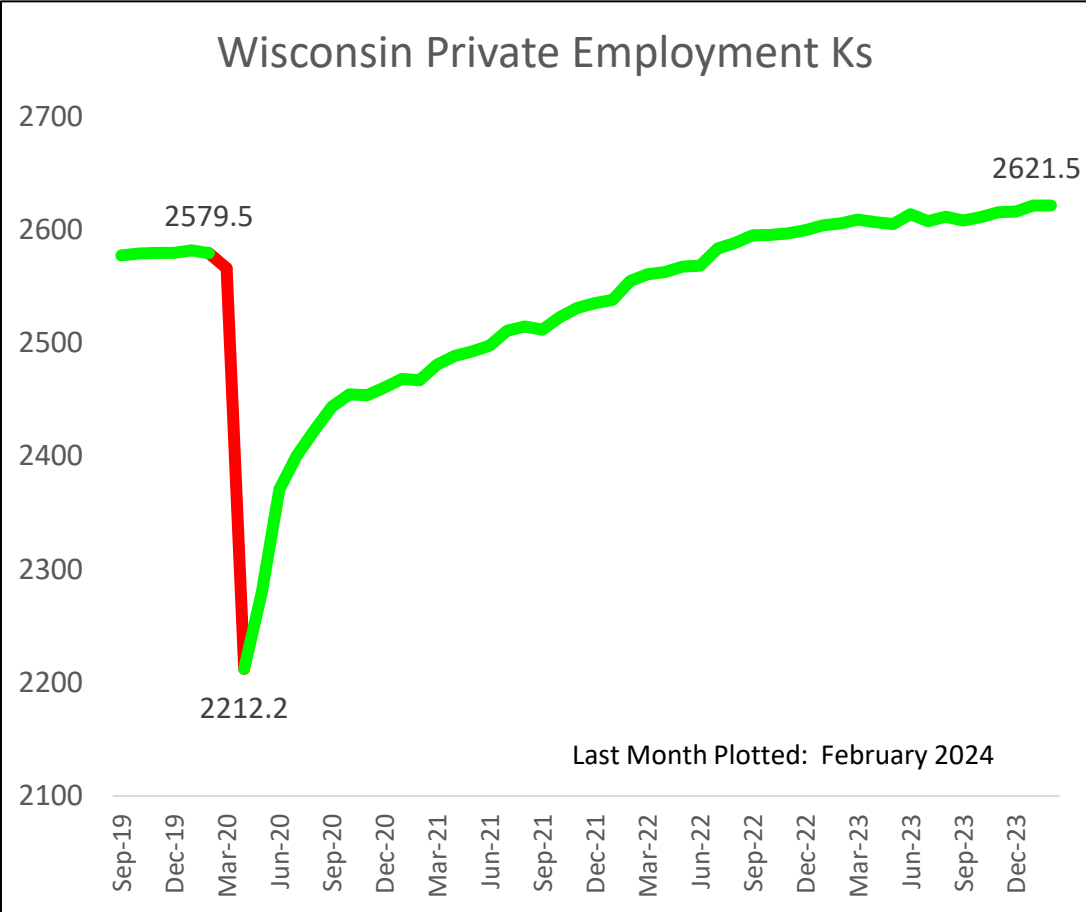
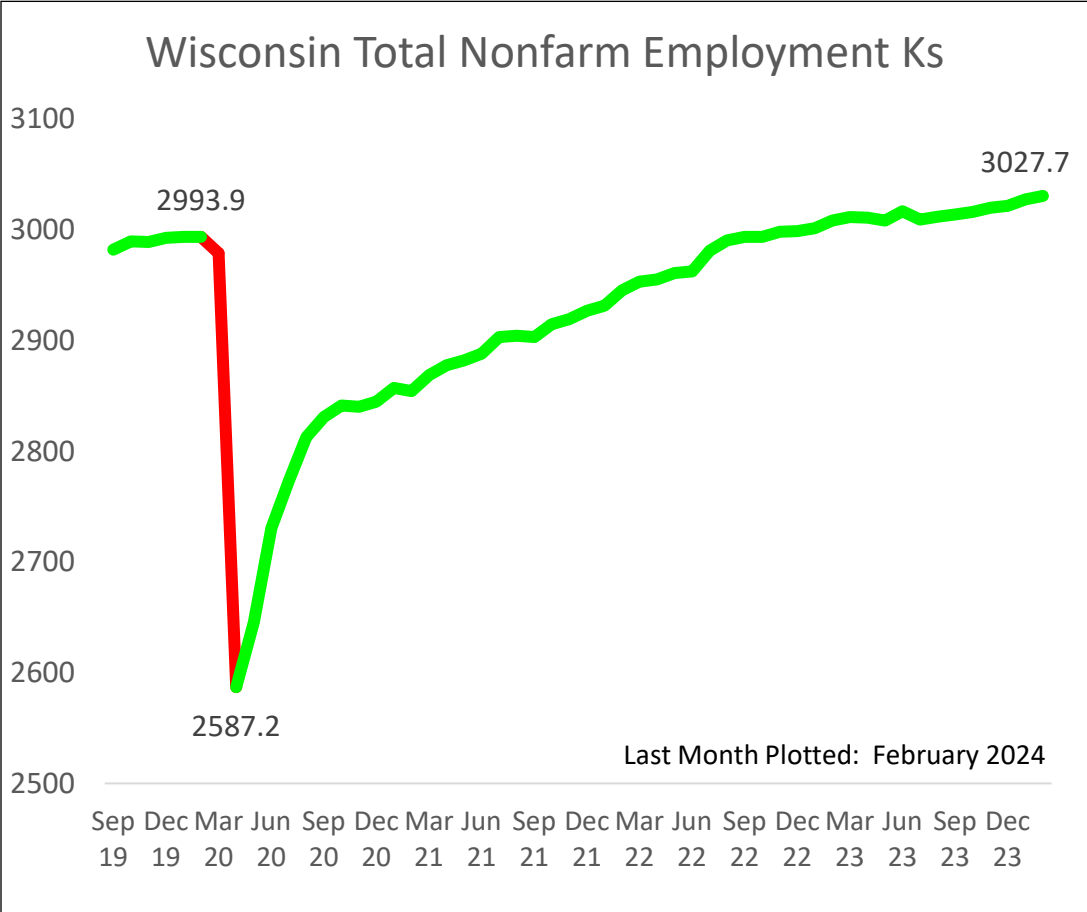
Number of Persons Unemployment, Wisconsin



Source: U.S. Bureau of Labor Statistics

Wisconsin Employment Record High February 2024

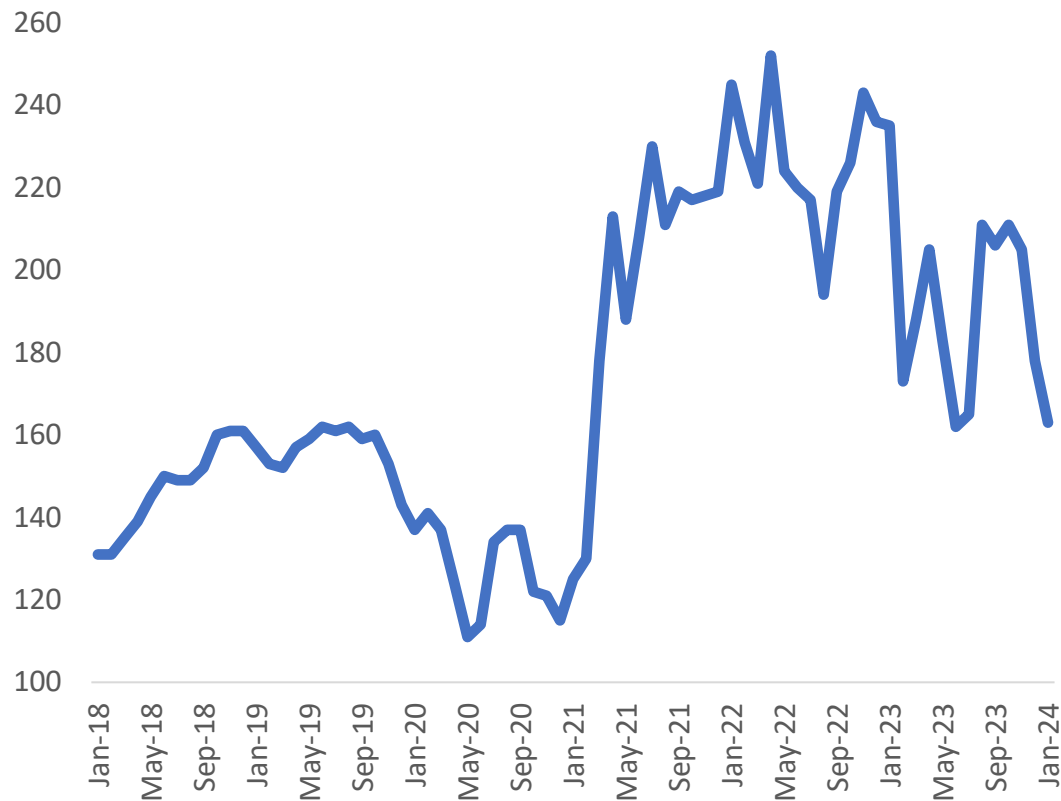
Establishment Survey: Wisconsin Recovered 443,000 Jobs Since April 2020



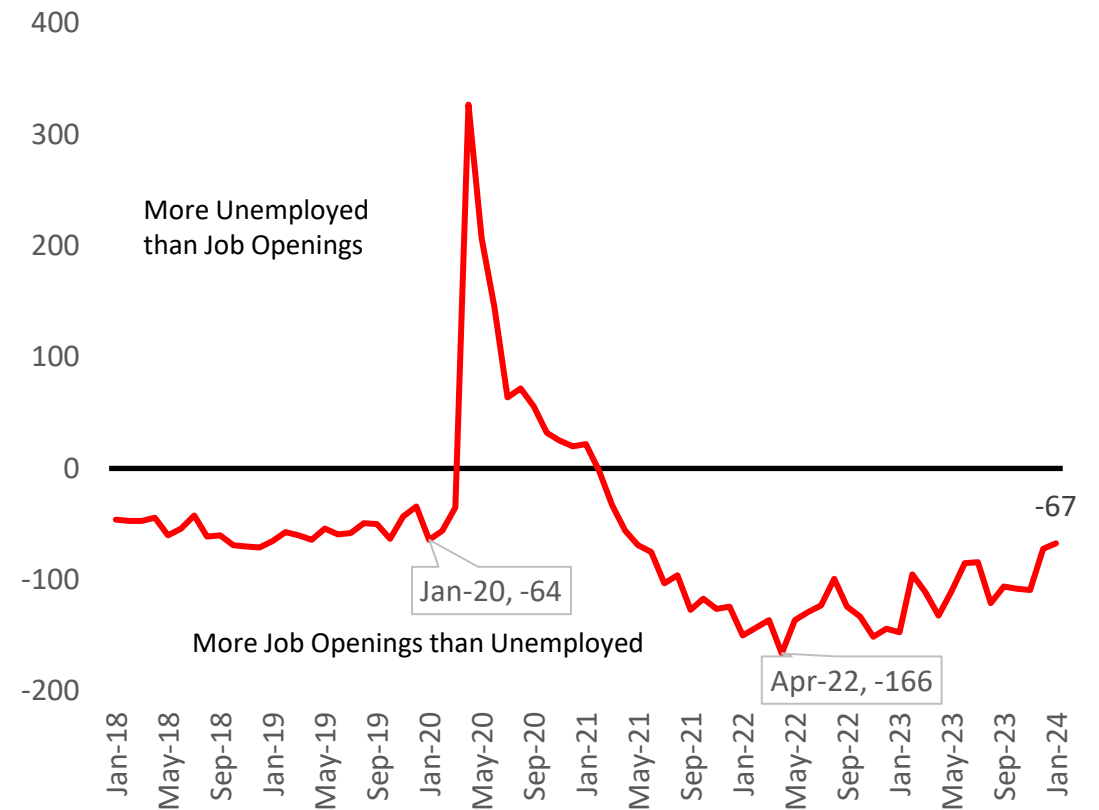
Source: U.S. Bureau of Labor Statistics, Data Retrieved March 26, 2024

Wisconsin Job Openings: Labor Shortage Gradually Easing

WI Job Openings in Thousands



Unemployment Less Openings in Thousands

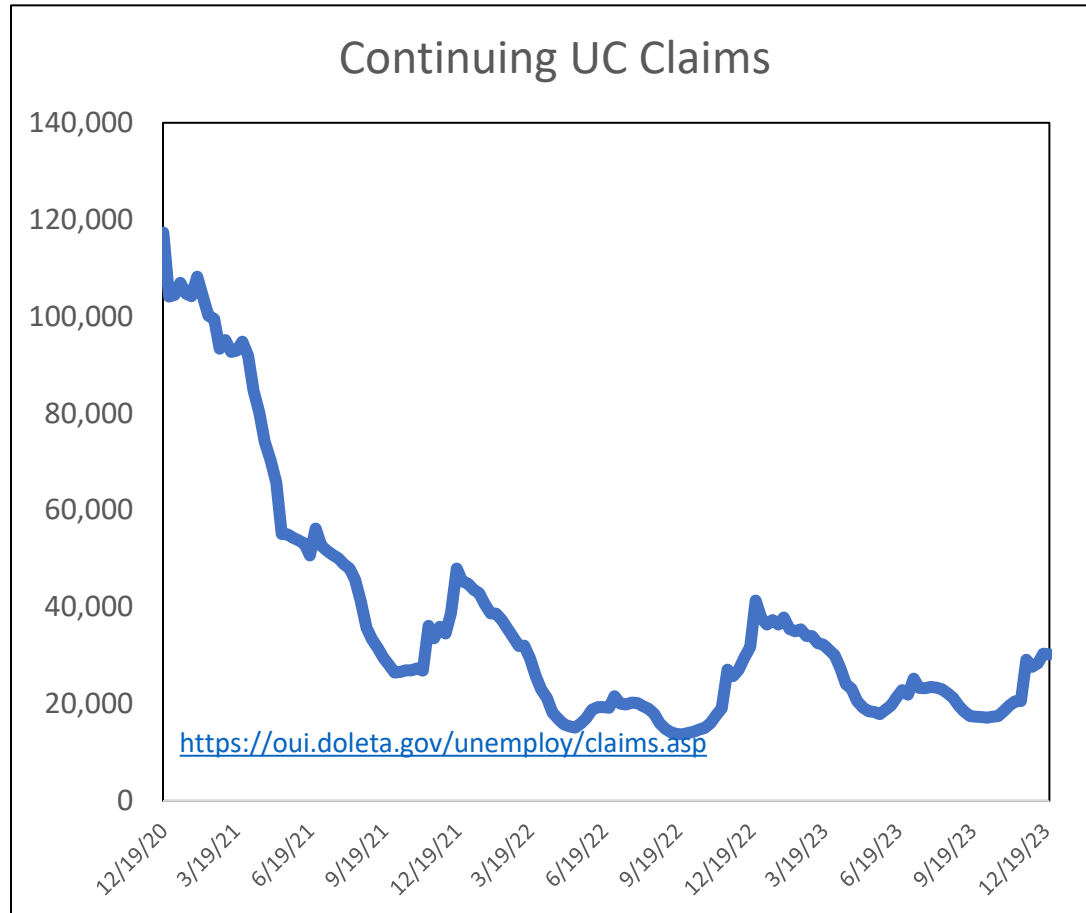


Last Month Plotted, January 2024

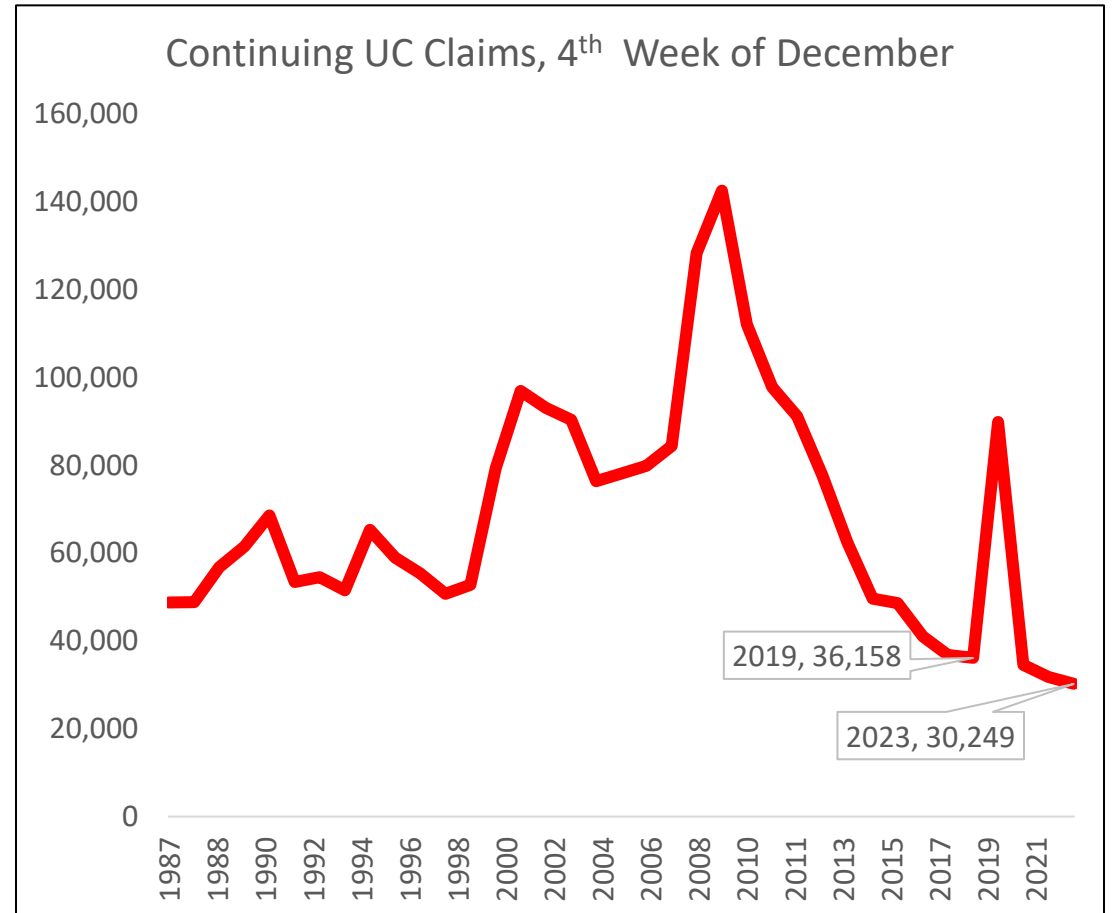
Source: U.S. Bureau of Labor Statistics, Job Openings and Labor Turnover Survey and Local Area Unemployment Statistics

Labor Shortage Not Because of High UC Rolls

Near Record Low Wisconsin Residents Receiving Unemployment Benefits



Source: U.S. Department of Labor, Employment and Training Administration
Last Week Plotted, December 23, 2023

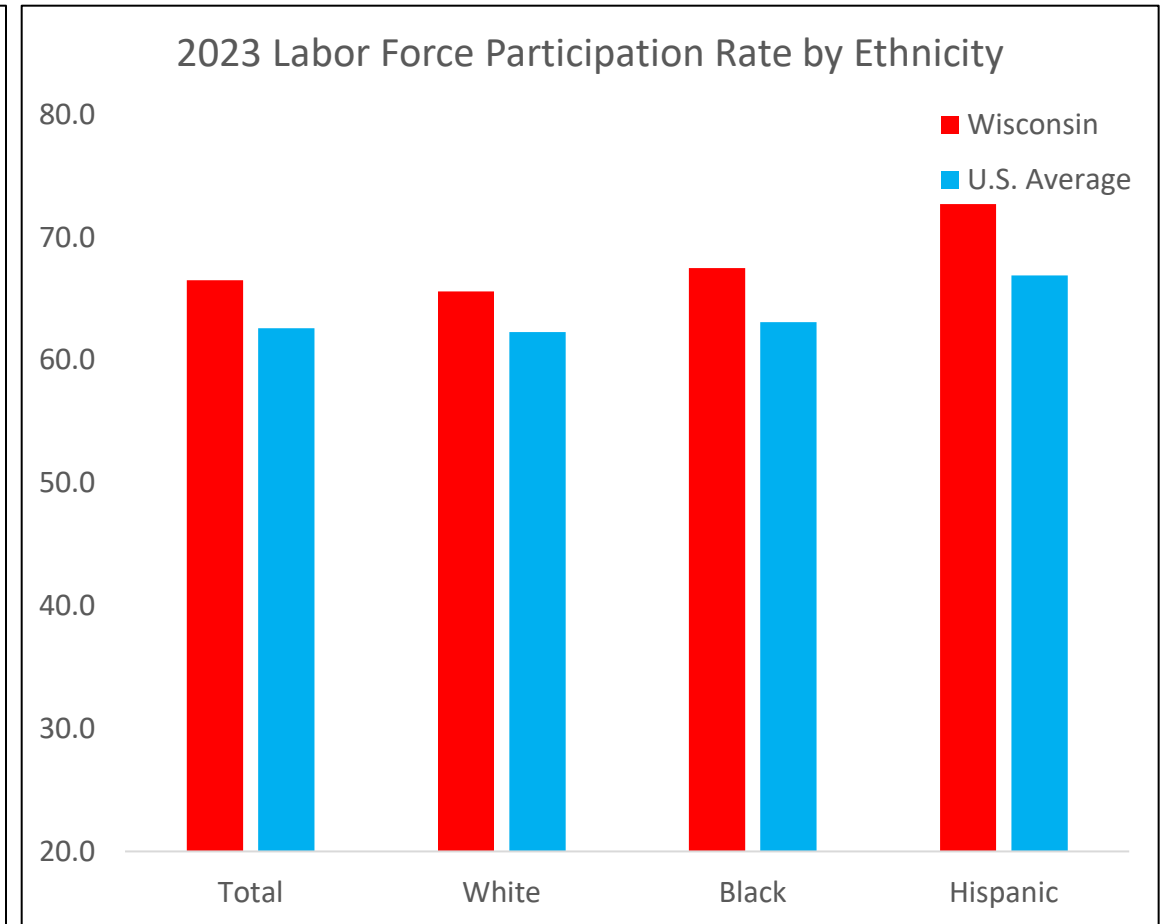
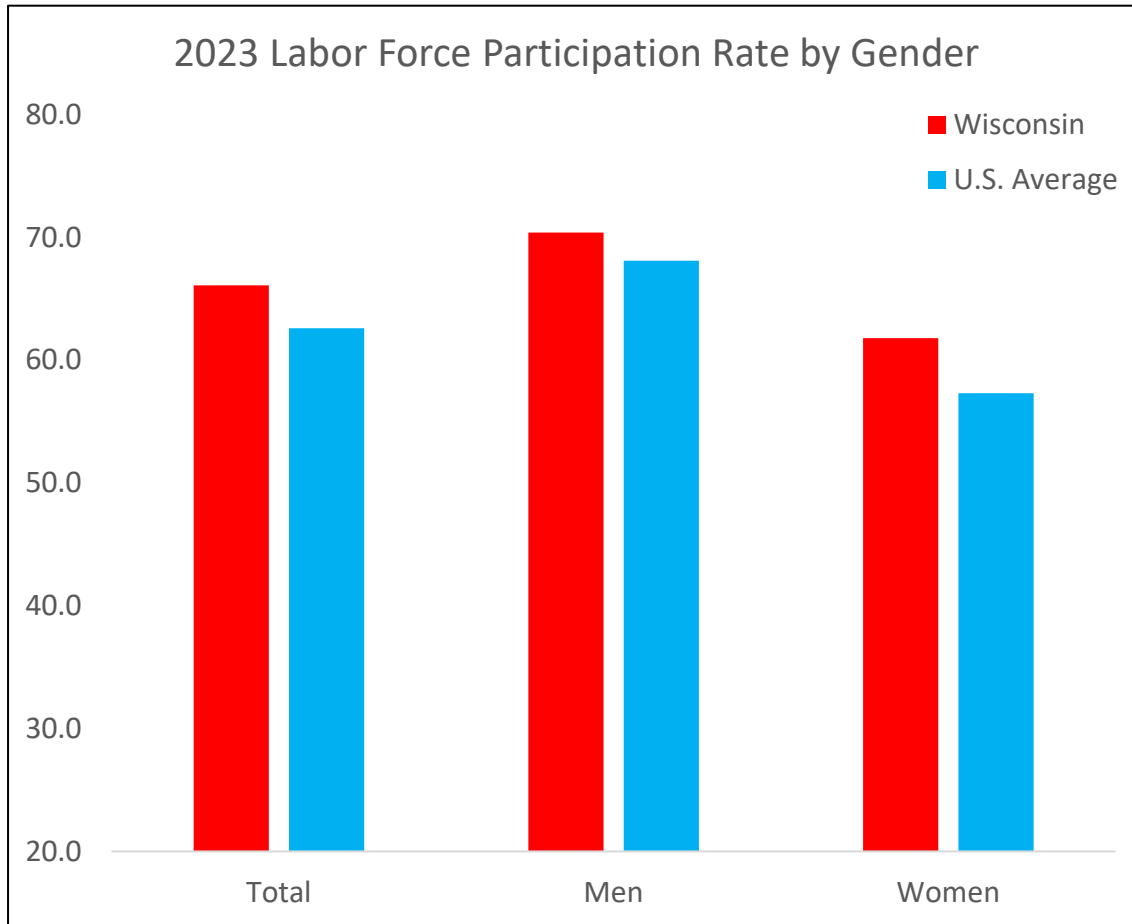


Labor Force

Wisconsin More Engaged in the Workforce than the U.S. as a whole

Updates from 2023 Current Population Survey

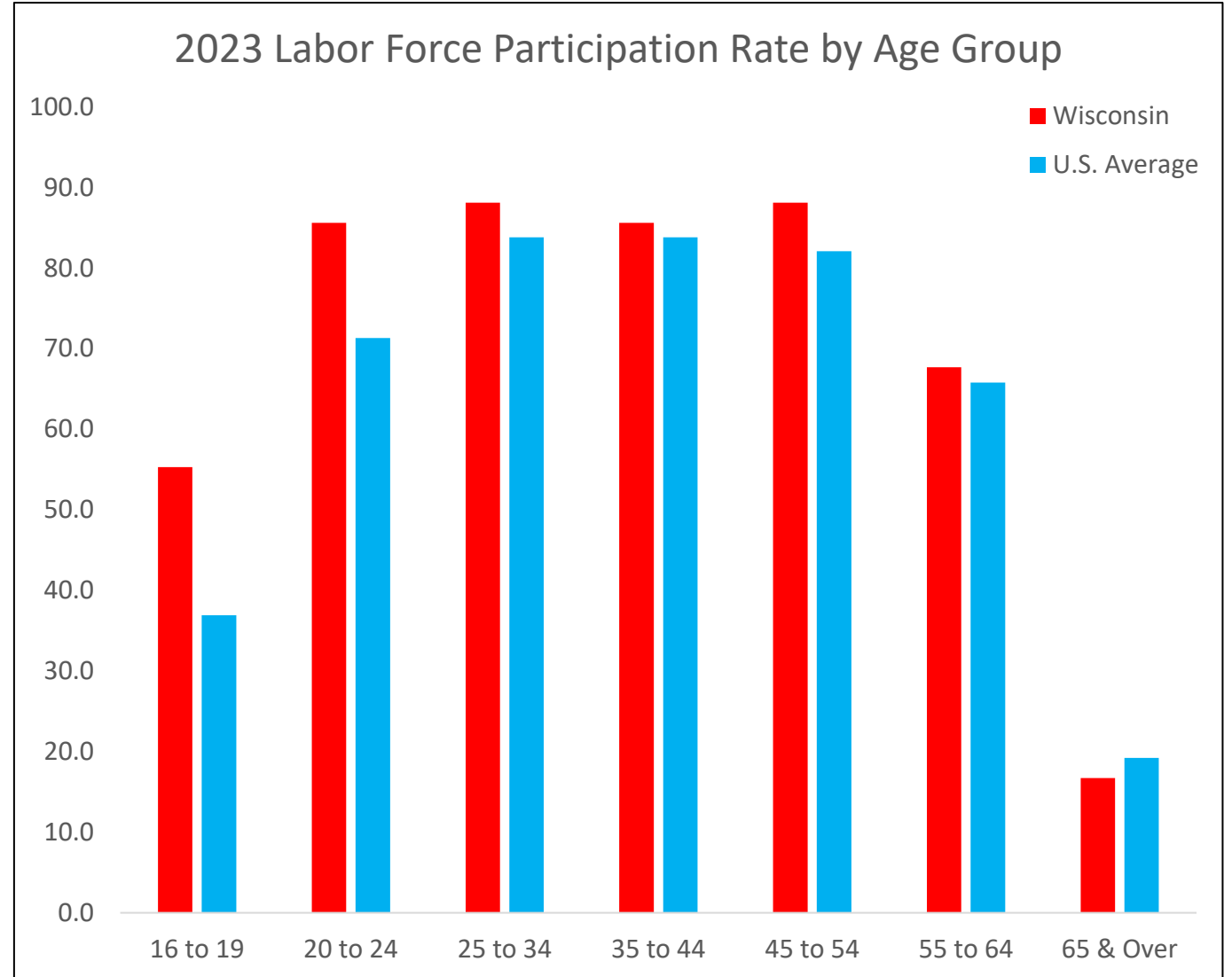
Wisconsin Workers More Engaged than the U.S. Average by Gender or Ethnicity



Source: U.S. Bureau of Labor Statistics

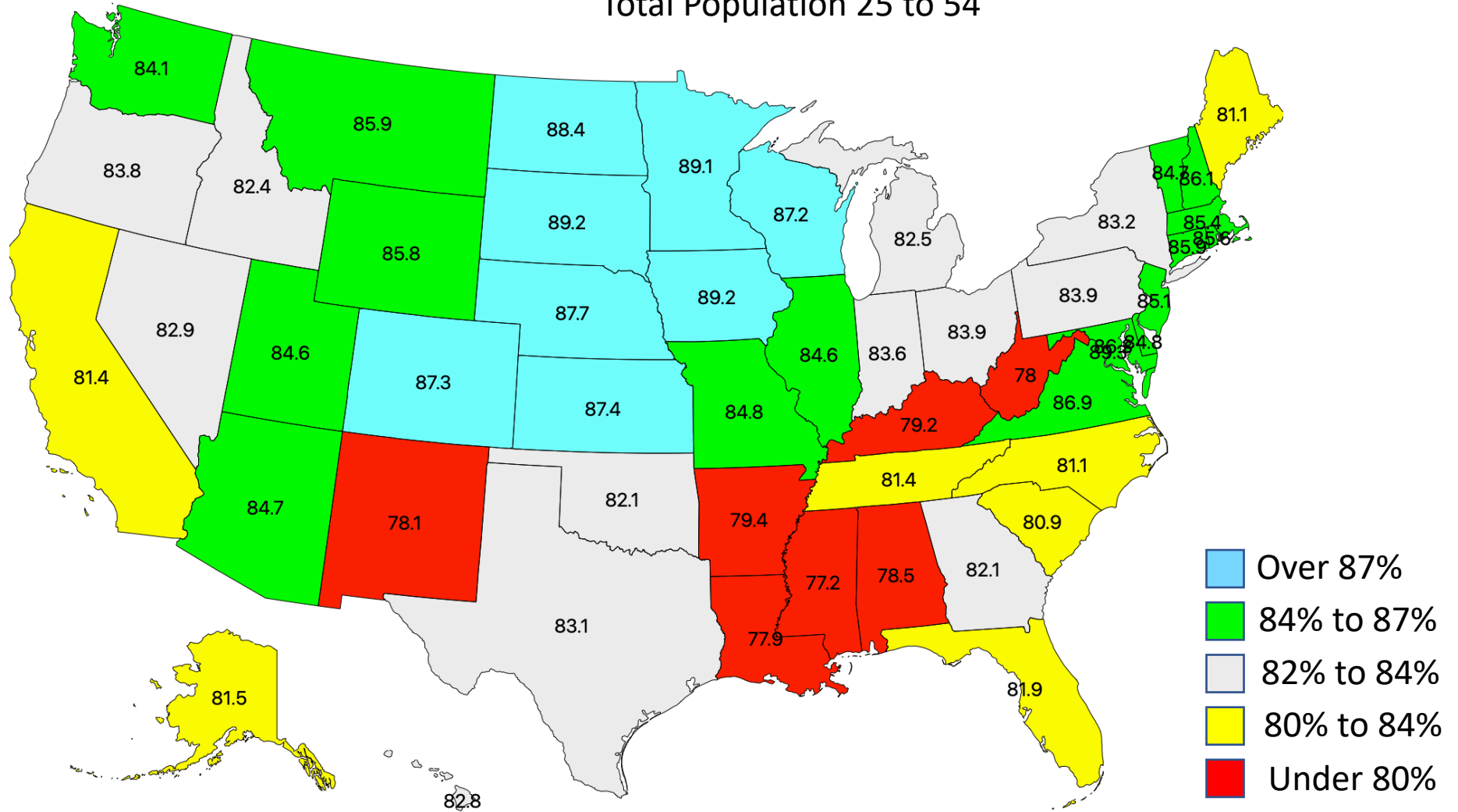
Wisconsin
Workers
More
Engaged than
the U.S. for
Nearly Every
Age Group

Source: U.S. Bureau of Labor Statistics, Expanded State Employment Status Demographic Data, 2023, Published January 24, 2024



2023 Annual Average Labor Force Participation Rate Total Population 25 to 54

For Prime Working Age Population, Wisconsin has the 8th Highest Labor Force Participation Rate



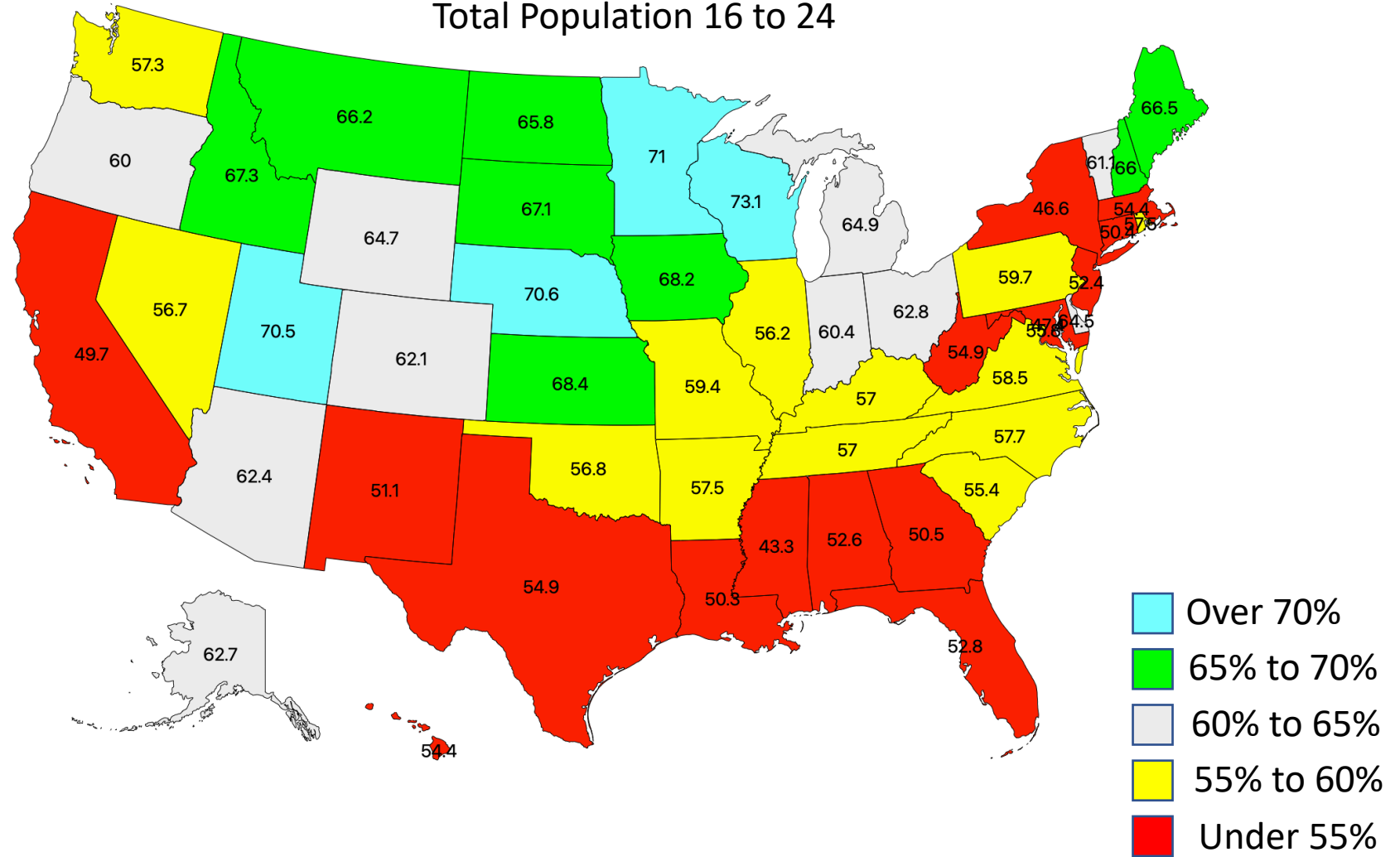
U.S. Average 83.3%

Source: U.S. Bureau of Labor Statistics, Expanded State Employment Status Demographic Data, 2023, Published January 24, 2024

*Wisconsin is
The Top State
For Youth Labor
Force
Participation*

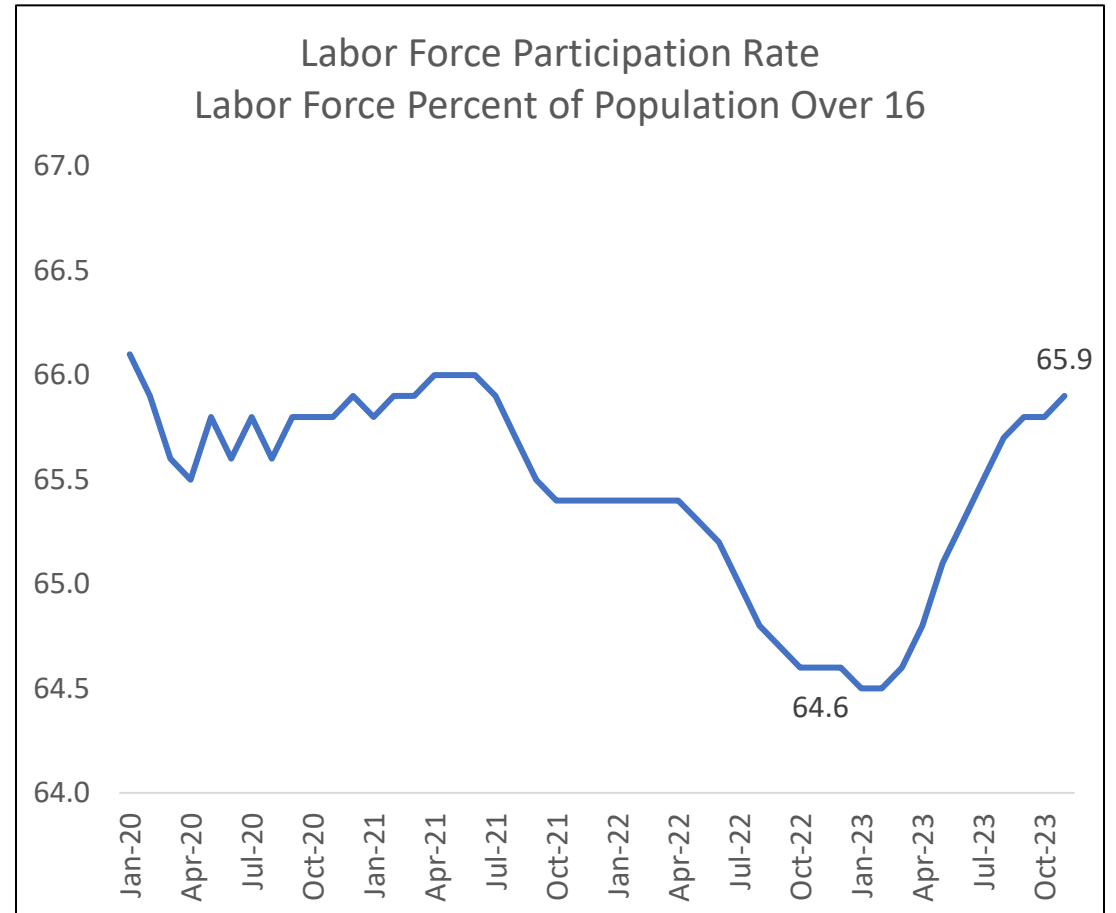
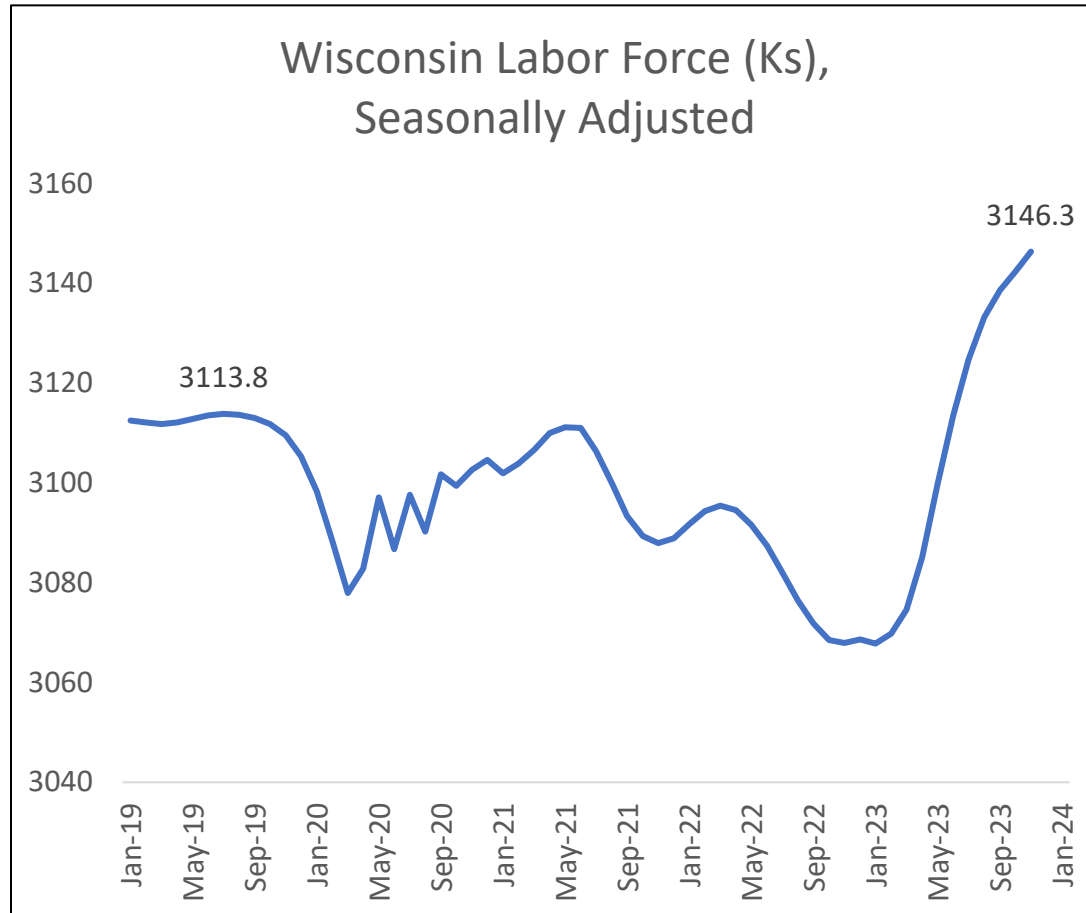
U.S. Average 56.3%

2023 Annual Average Labor Force Participation Rate Total Population 16 to 24



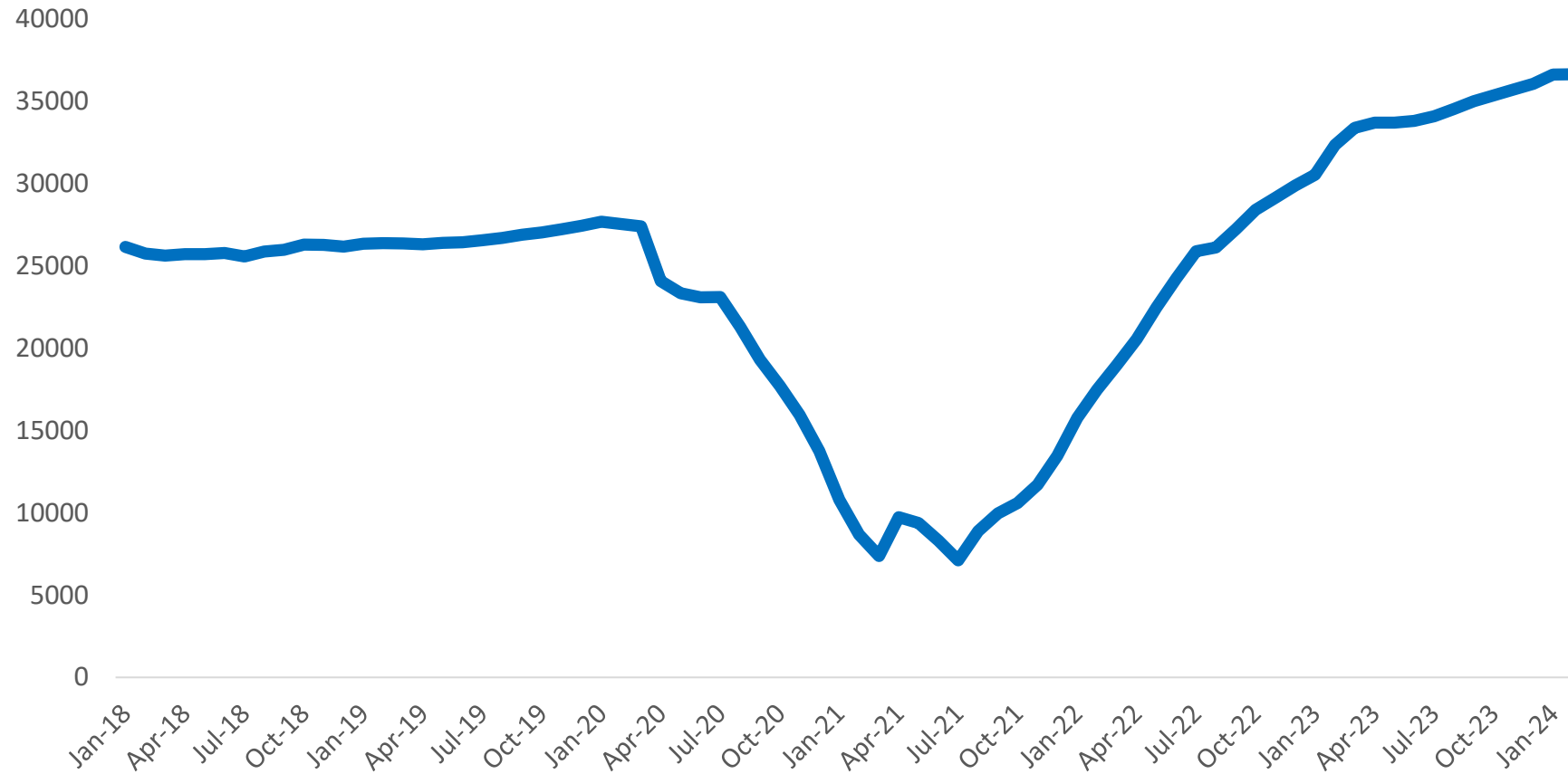
Source: U.S. Bureau of Labor Statistics, Expanded State Employment Status Demographic Data, 2023, Published January 24, 2024

Labor Force Increases Above Pre-Pandemic Levels As Participation Rate Increases in 2023

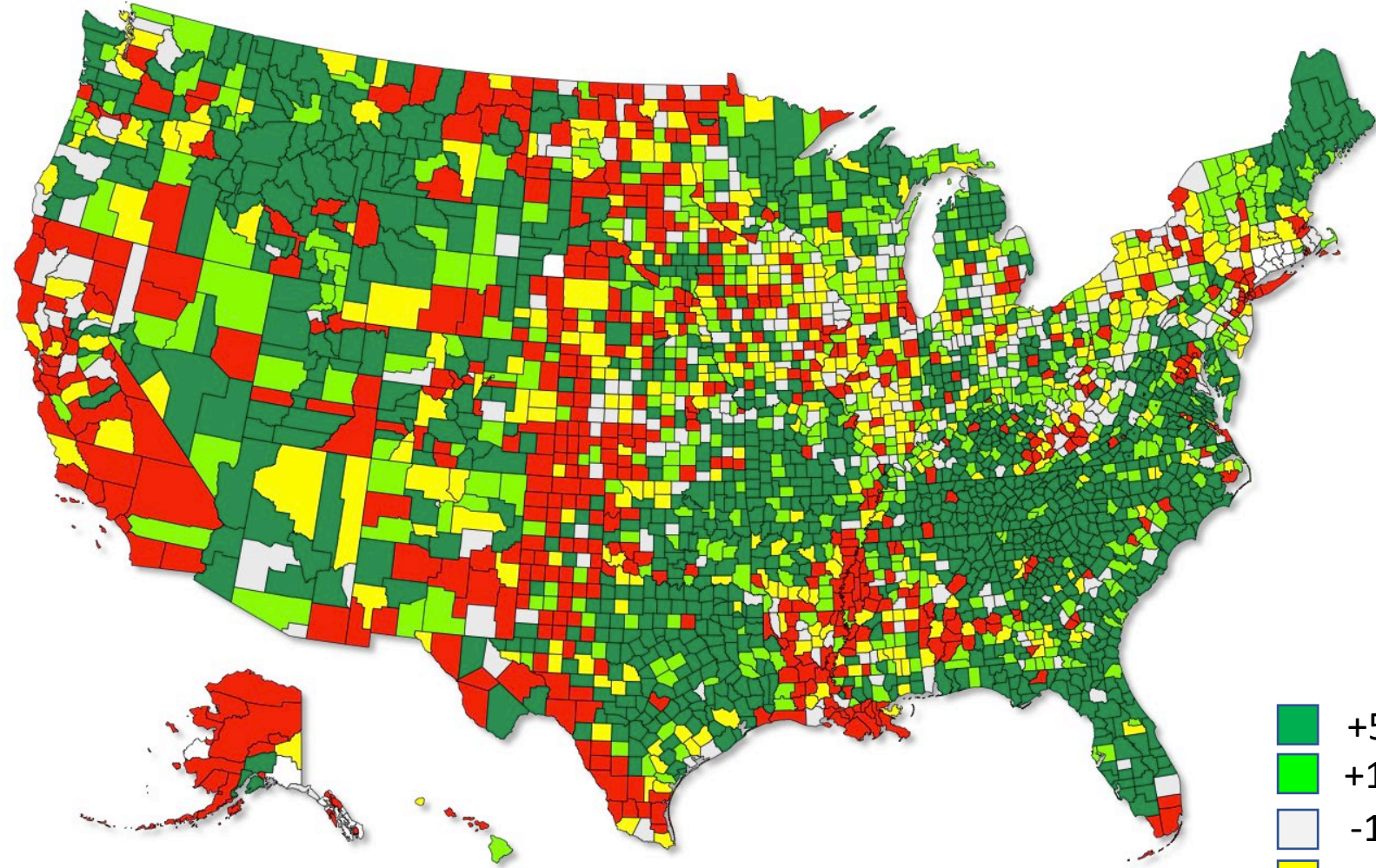


Wisconsin Working Age Population Accelerating

Wisconsin Civilian Non-Institutionalized Population Over 16

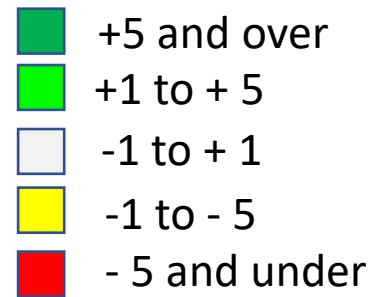


Net Domestic Migration Per 1,000 Population by County 2023

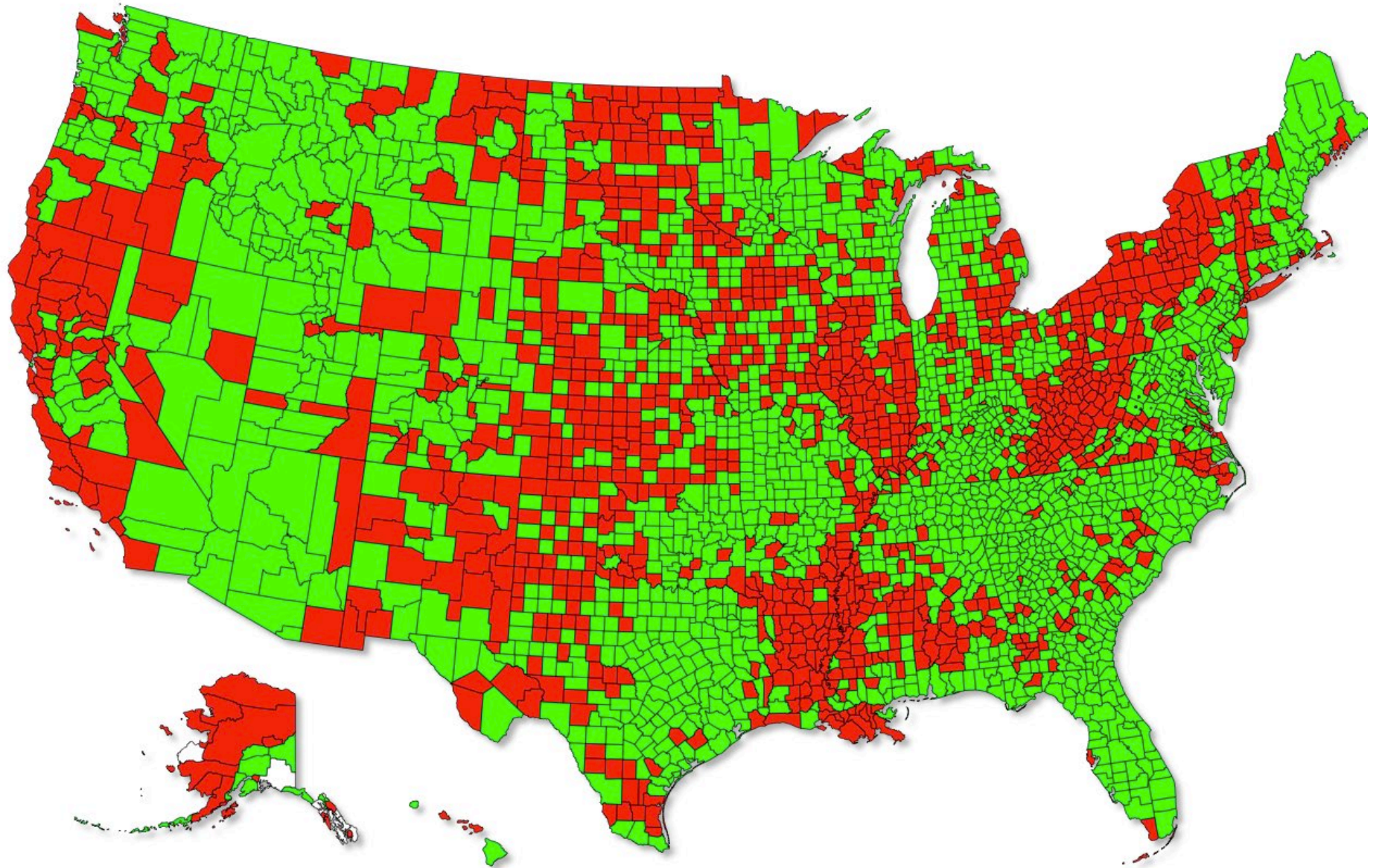


Source: U.S. Census Bureau,
Population Division

Release Date:
March 2024

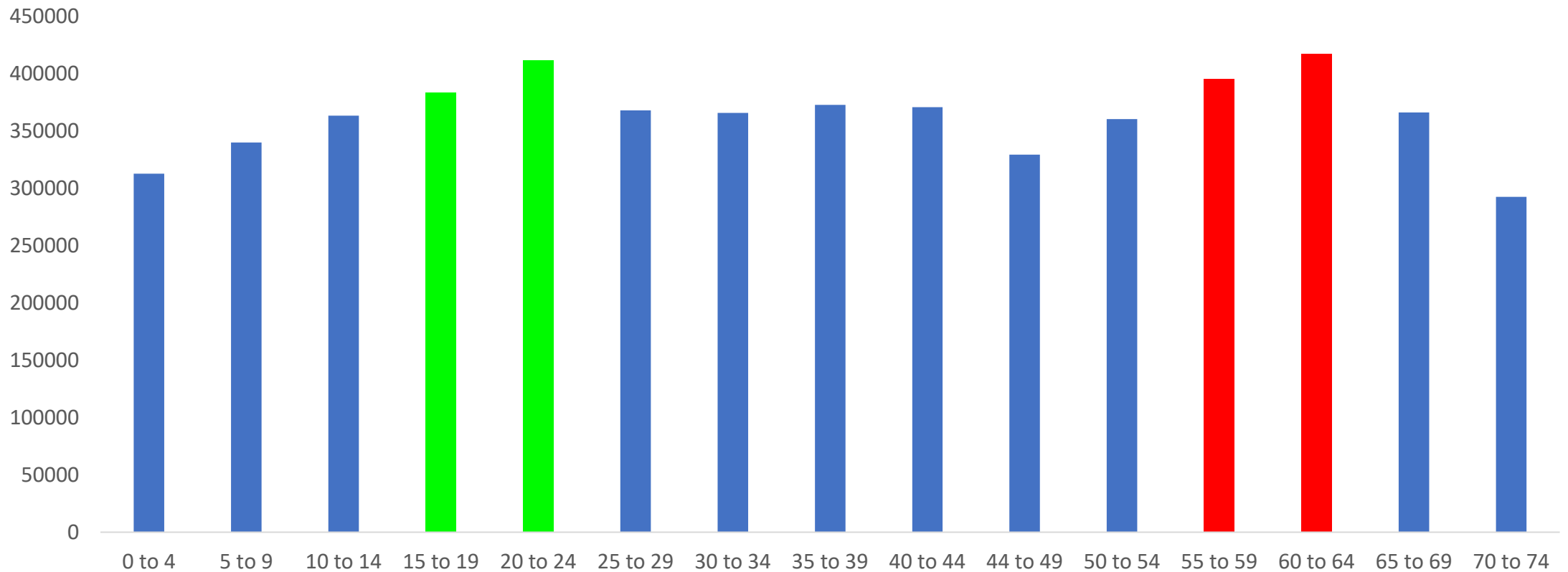


Most Wisconsin Counties Gaining Population



Large Age Cohort Will Soon Retire

2022 Wisconsin Population by 5-Year Age Group



Manufacturing Workforce Opportunity

College Enrollment Declining

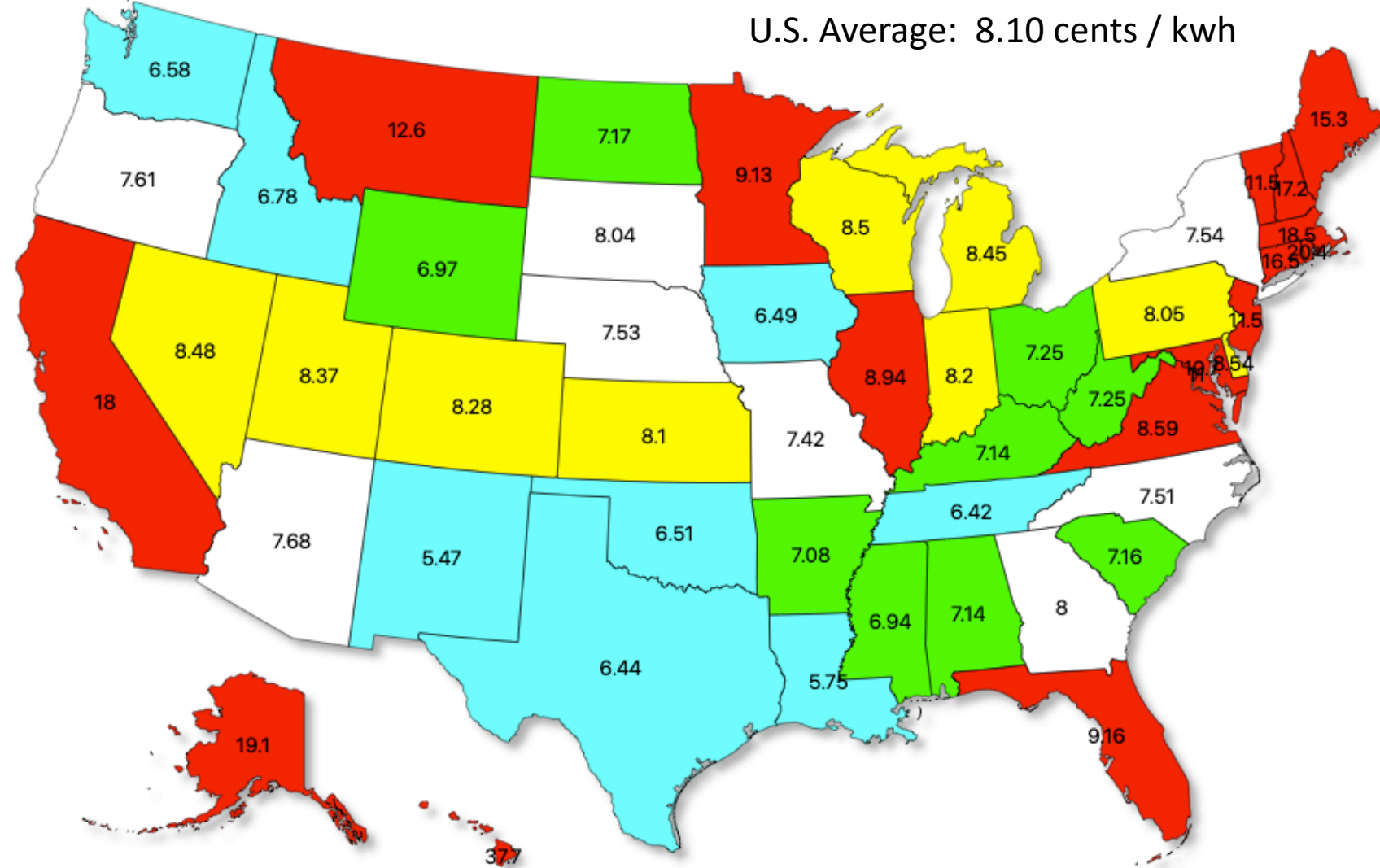
	U.S Recent High School Graduates Education Status 1-Year Later			10-Year Change	
	2012	2017	2022	Amount	Percent
HS Graduates	3203	2807	2987	-216	-6.7%
Men	1622	1345	1355	-267	-16.5%
Women	1581	1525	1632	51	3.2%
College Enrolled	2121	1915	1853	-268	-12.6%
Men	994	822	775	-219	-22.0%
Women	1127	1093	1078	-49	-4.3%
Total % College	66.2%	68.2%	62.0%		
Men Share of College	46.9%	42.9%	41.8%	-5.0%	
Women Share of College	53.1%	57.1%	58.2%	5.0%	
2-Year College	921	648	504	-417	-45.3%
4-Year College	1200	1267	1348	148	12.3%
2 Year % of College	43.4%	33.8%	27.2%		
4 Year % of College	56.6%	66.2%	72.7%		
HS Not College Enrolled	1082	955	1134	52	4.8%
Men	628	523	570	-58	-9.2%
Women	454	432	594	140	30.8%
HS Dropouts	370	530	538	168	45.4%
Men	192	313	268	76	39.6%
Women	178	217	270	92	51.7%

Energy

WI Industrial Electricity Costs 19th Highest in the U.S.

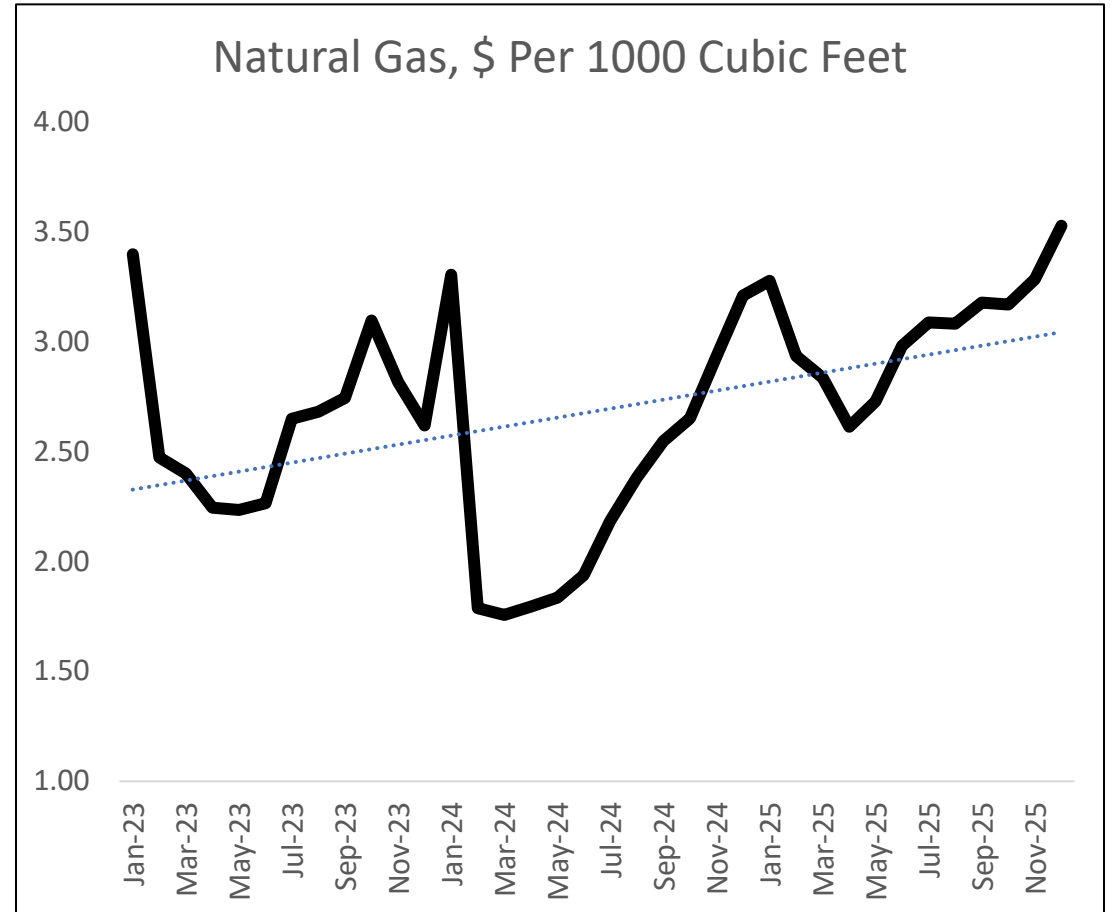
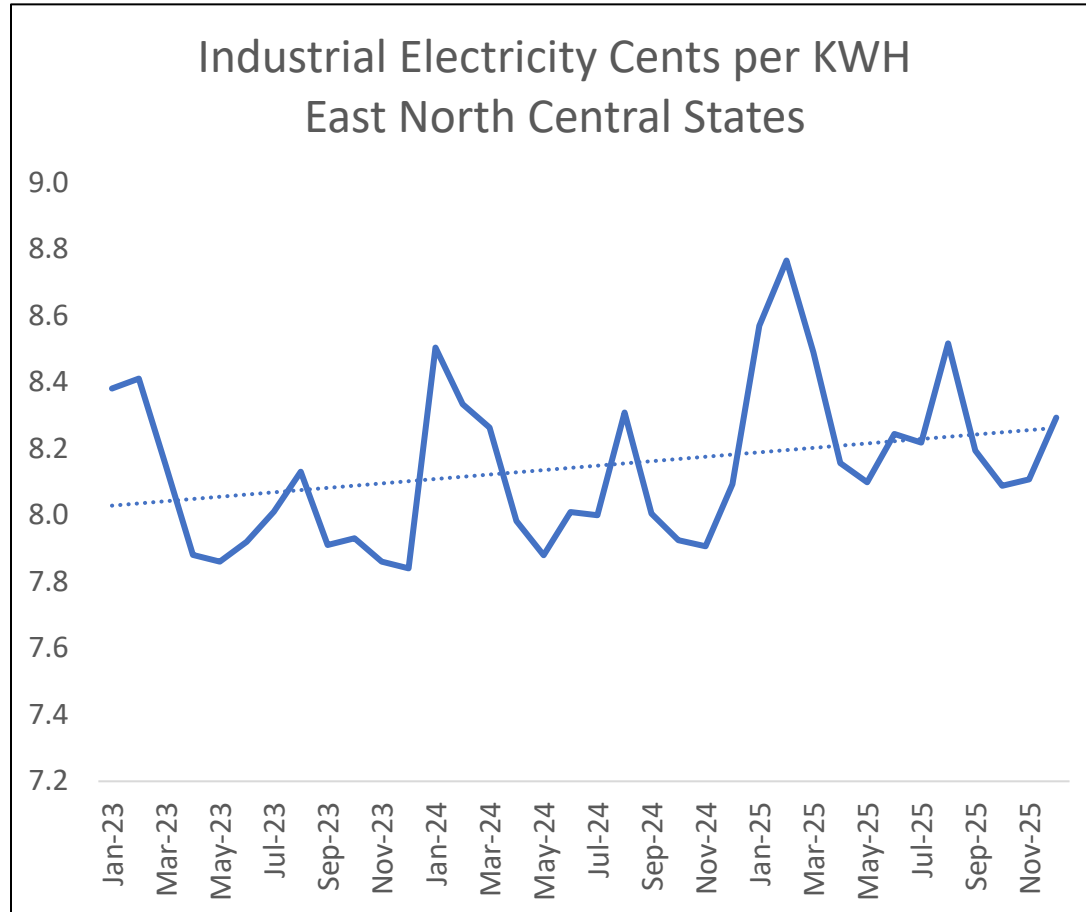
U.S. Average: 8.10 cents / kwh

January 2024 Average Price (cents per kWh) of Electricity For Industrial End User



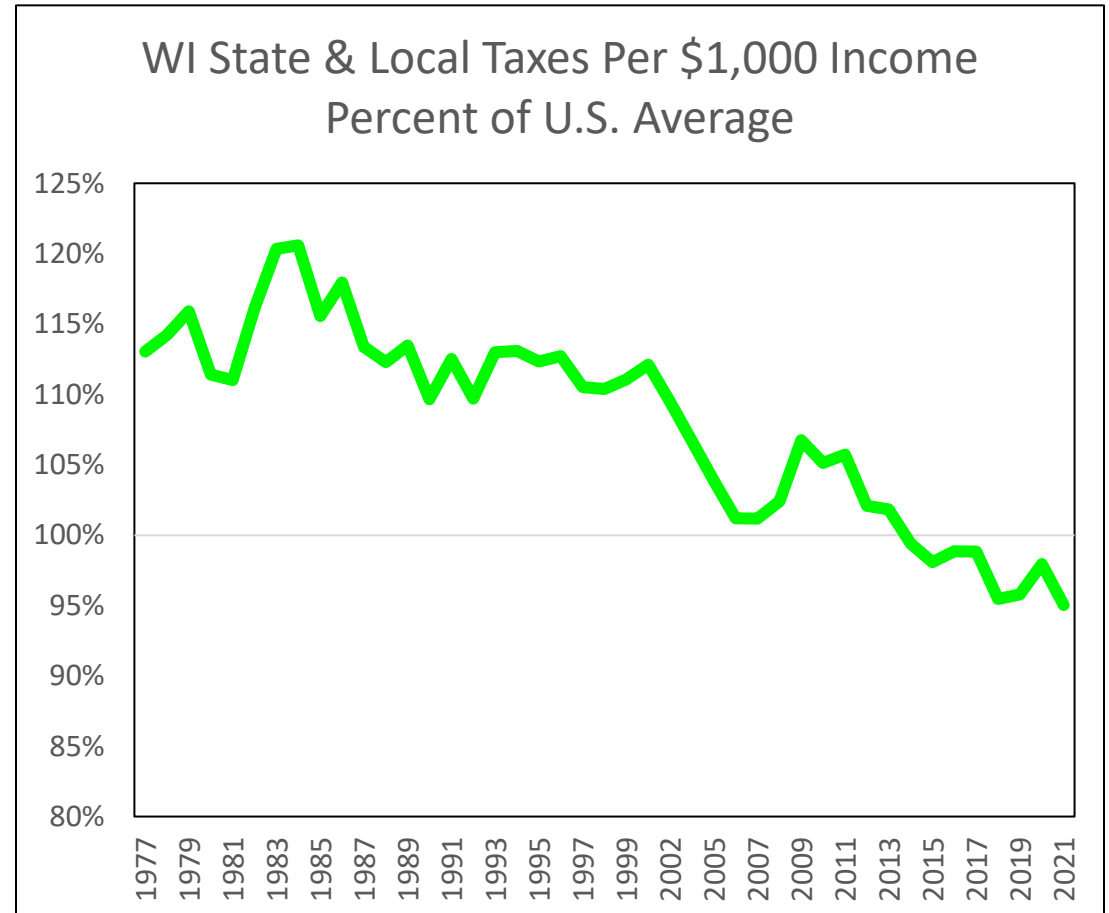
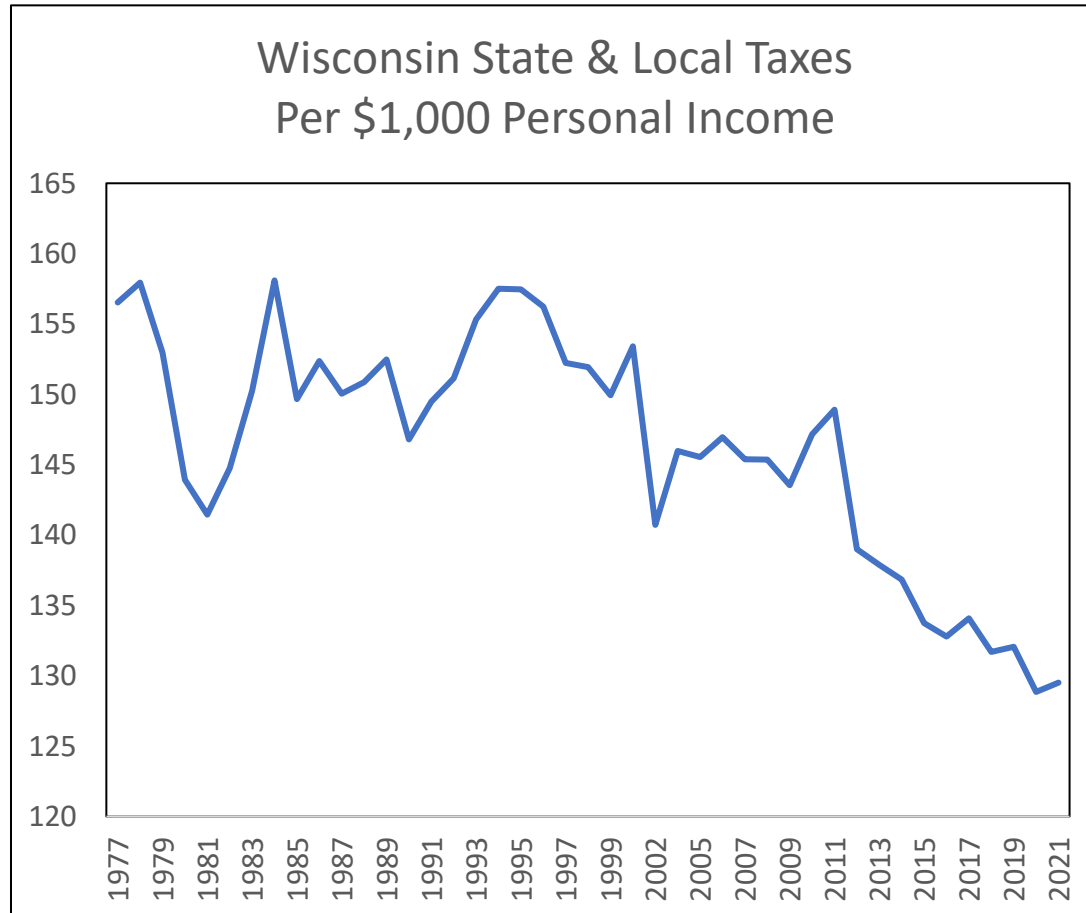
Source: U.S. Energy Information Administration, Form EIA-861M (formerly EIA-826), Monthly Electric Power Industry Report.

Energy Prices on a Rising Trend



State & Local Tax Burden

Wisconsin Has Significantly Reduced Its State and Local Tax Burden



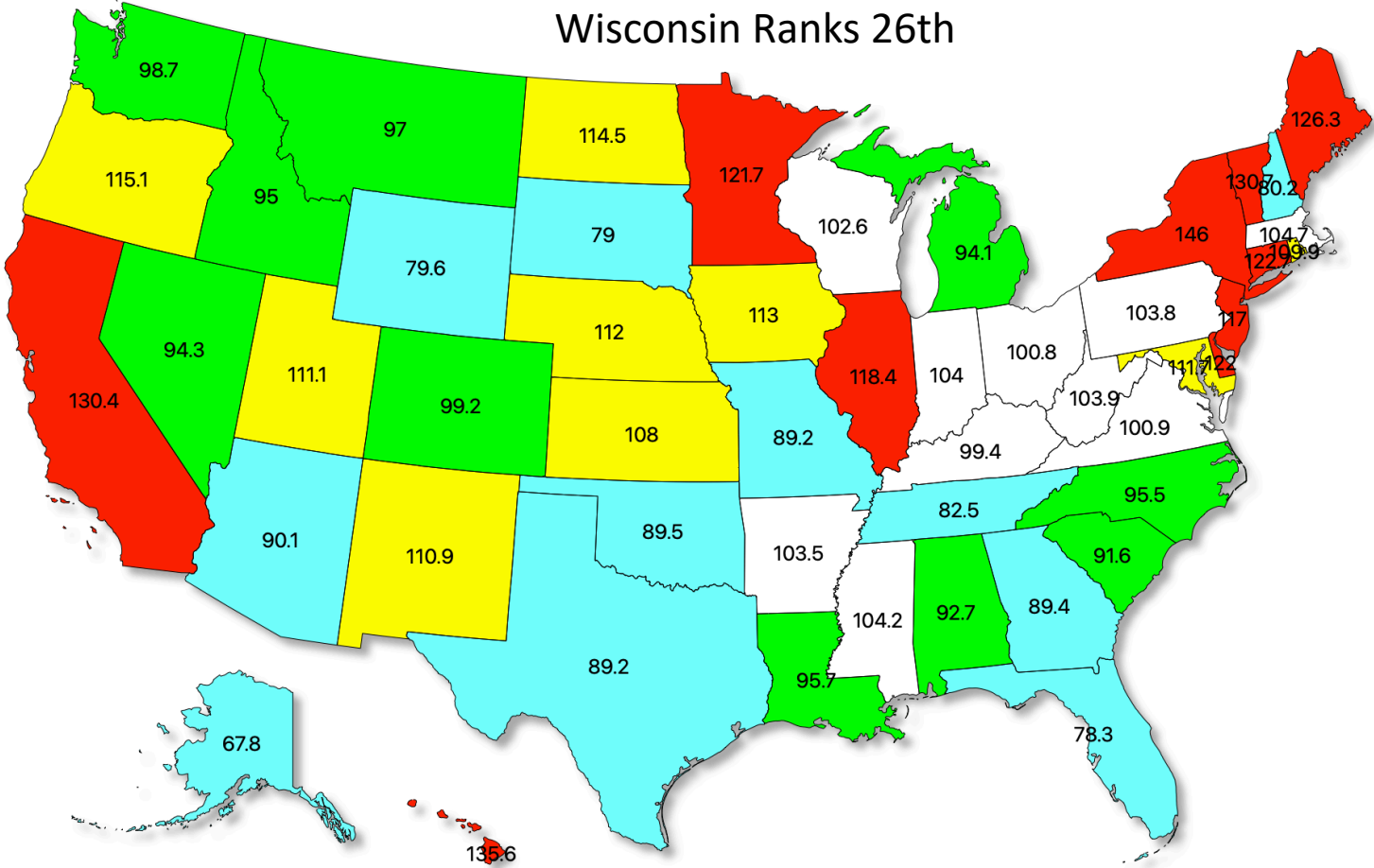
[DOR Data Visualization: State & Local Tax Burden](#)

State & Local Taxes Per \$1,000 Personal Income, FY2021

Wisconsin Tax Burden Below U.S. Average

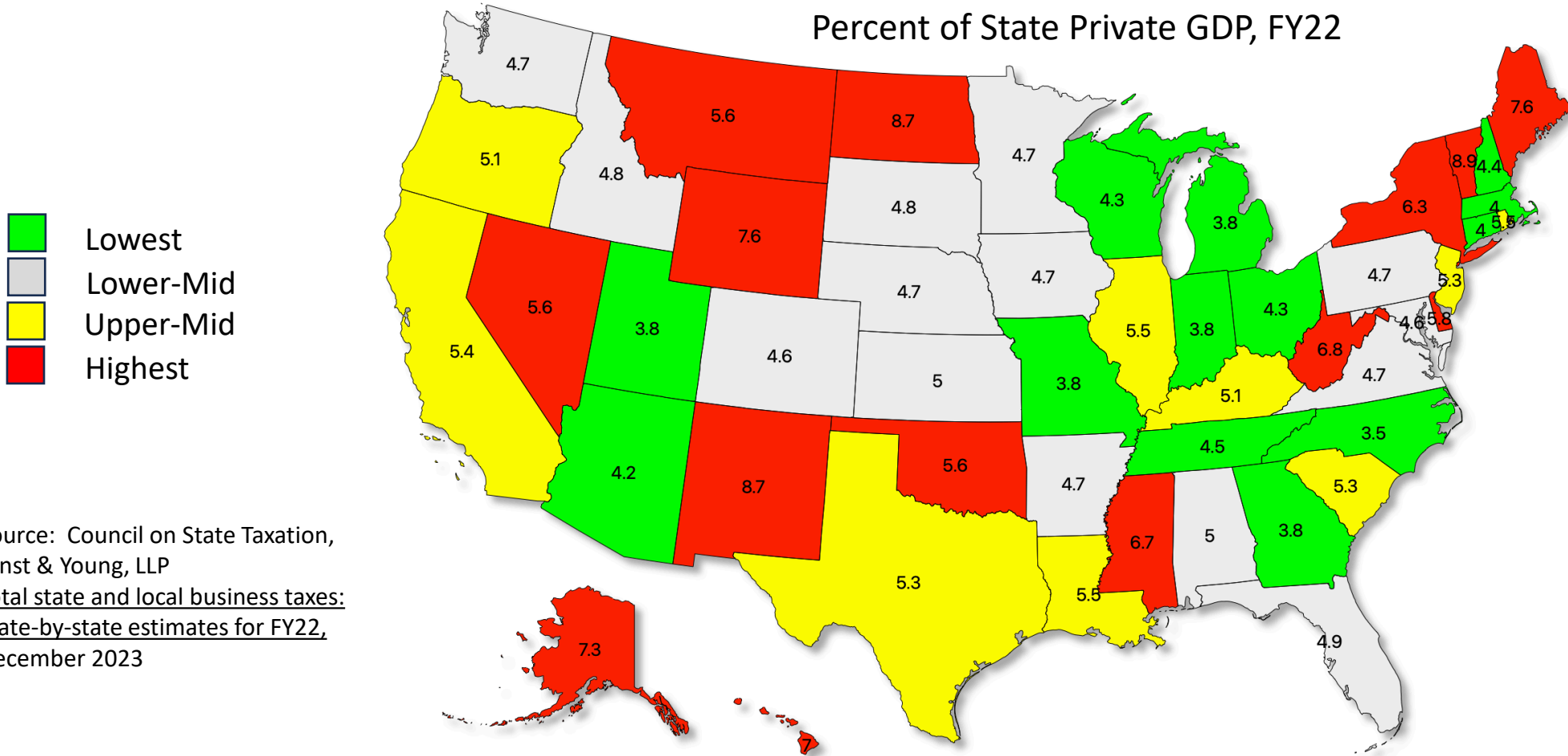
U.S. Average \$107.3

Wisconsin Ranks 26th



Wisconsin's Business Tax Climate Competitive

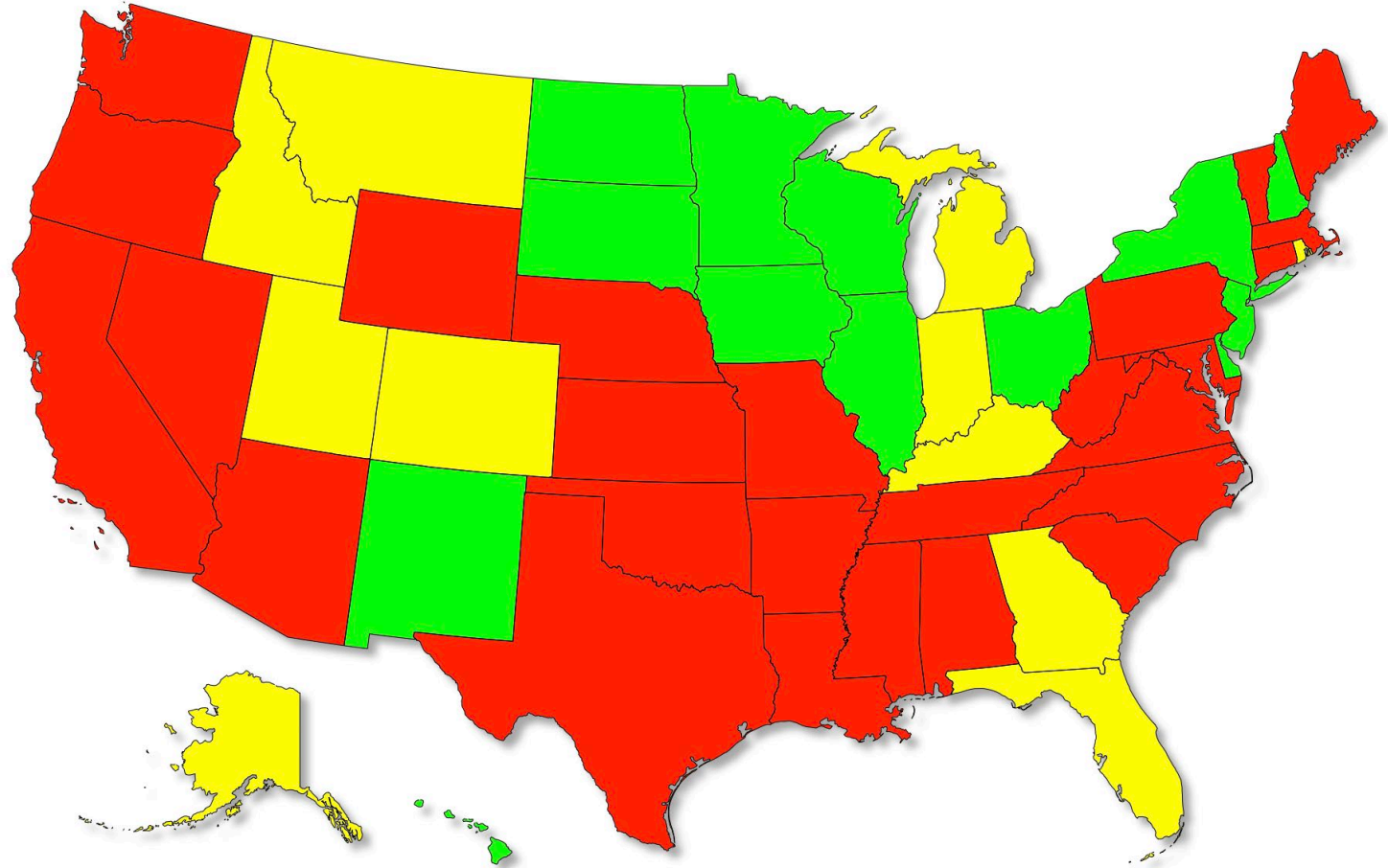
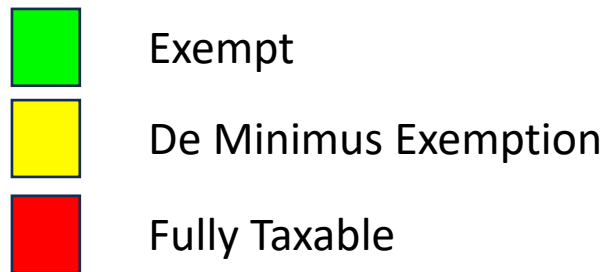
Total Effective Business Taxes,
Percent of State Private GDP, FY22



Source: Council on State Taxation,
Ernst & Young, LLP
Total state and local business taxes:
State-by-state estimates for FY22,
December 2023

Wisconsin Joins States with Full Tax Exemption for Business Personal Property

2024 State Tax Treatment of Business Personal Property

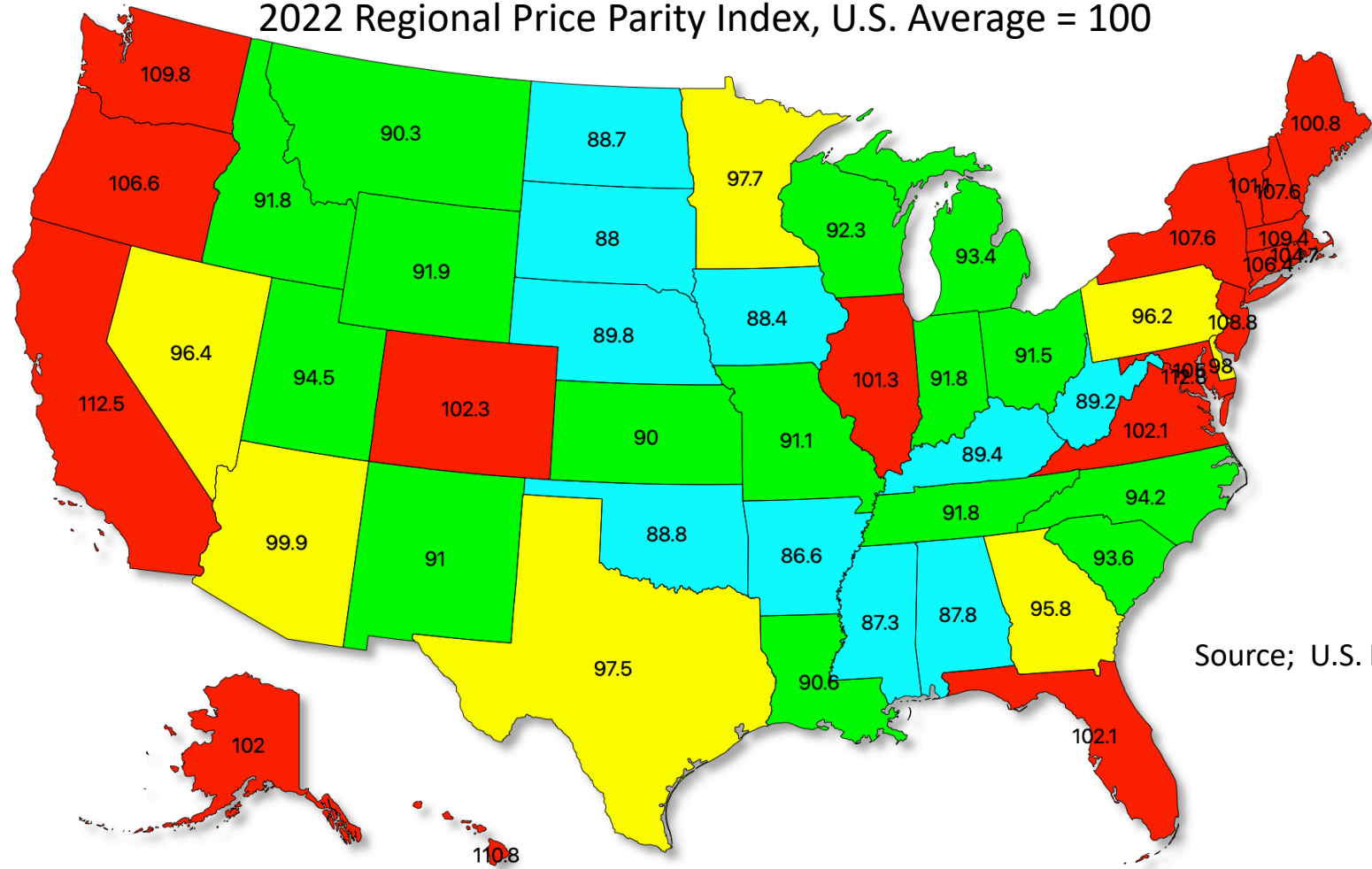


Source: National Tax Foundation, December 7, 2024

Cost of Living and Housing

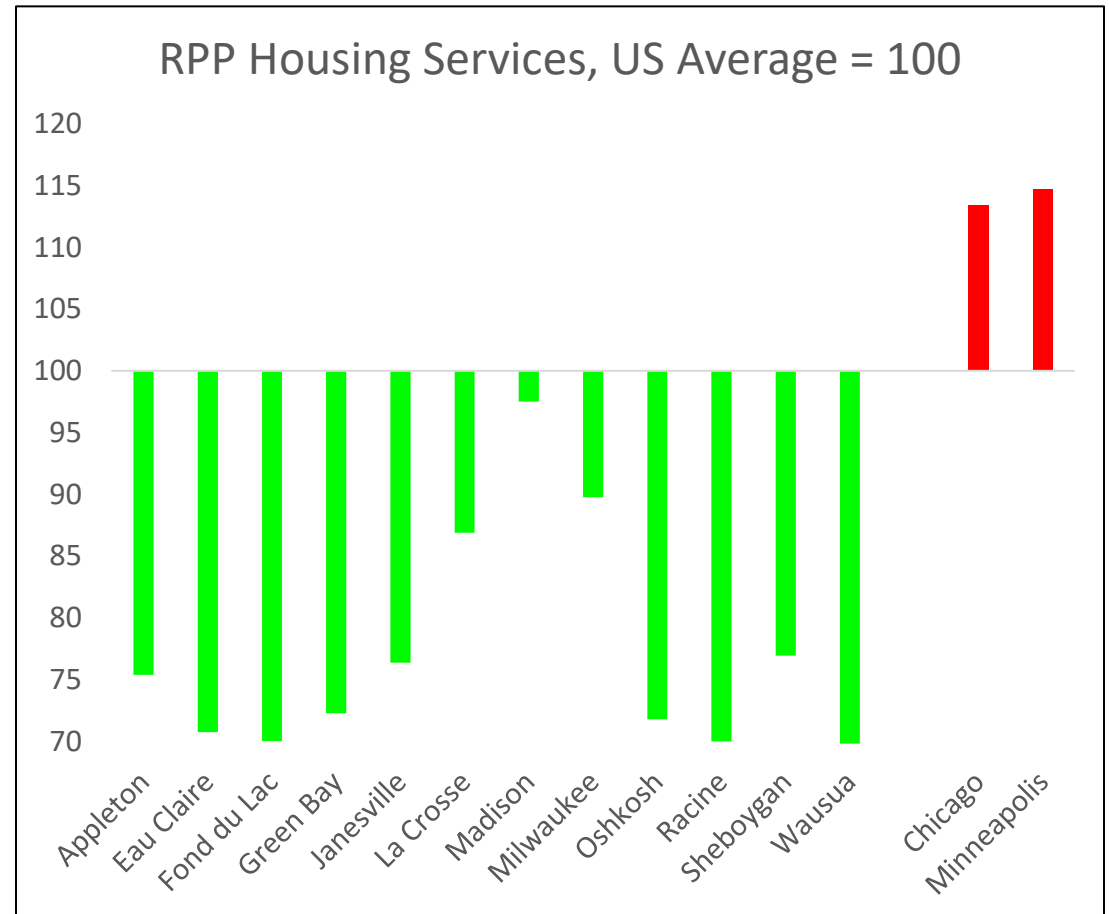
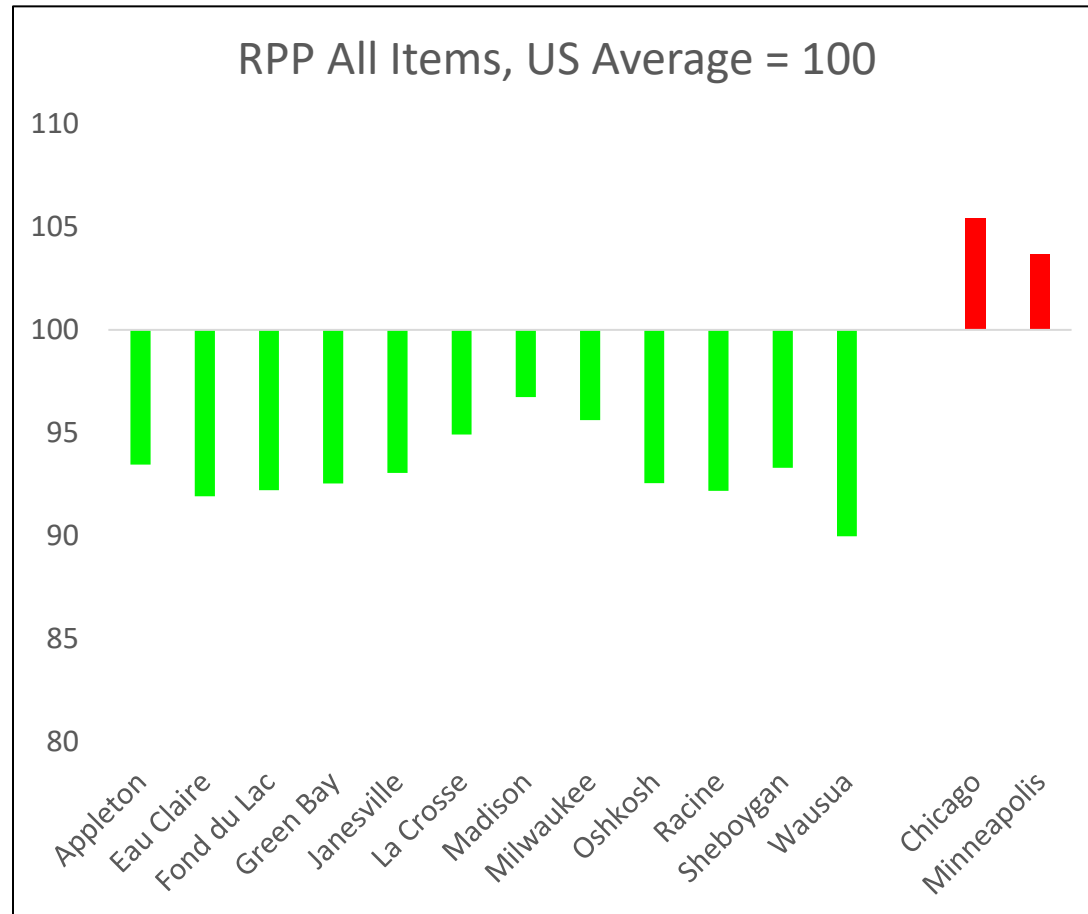
Wisconsin's Cost of Living Below U.S. Average

2022 Regional Price Parity Index, U.S. Average = 100



Source; U.S. Bureau of Economic Analysis

Every Wisconsin MSA Has Below Average Cost of Living



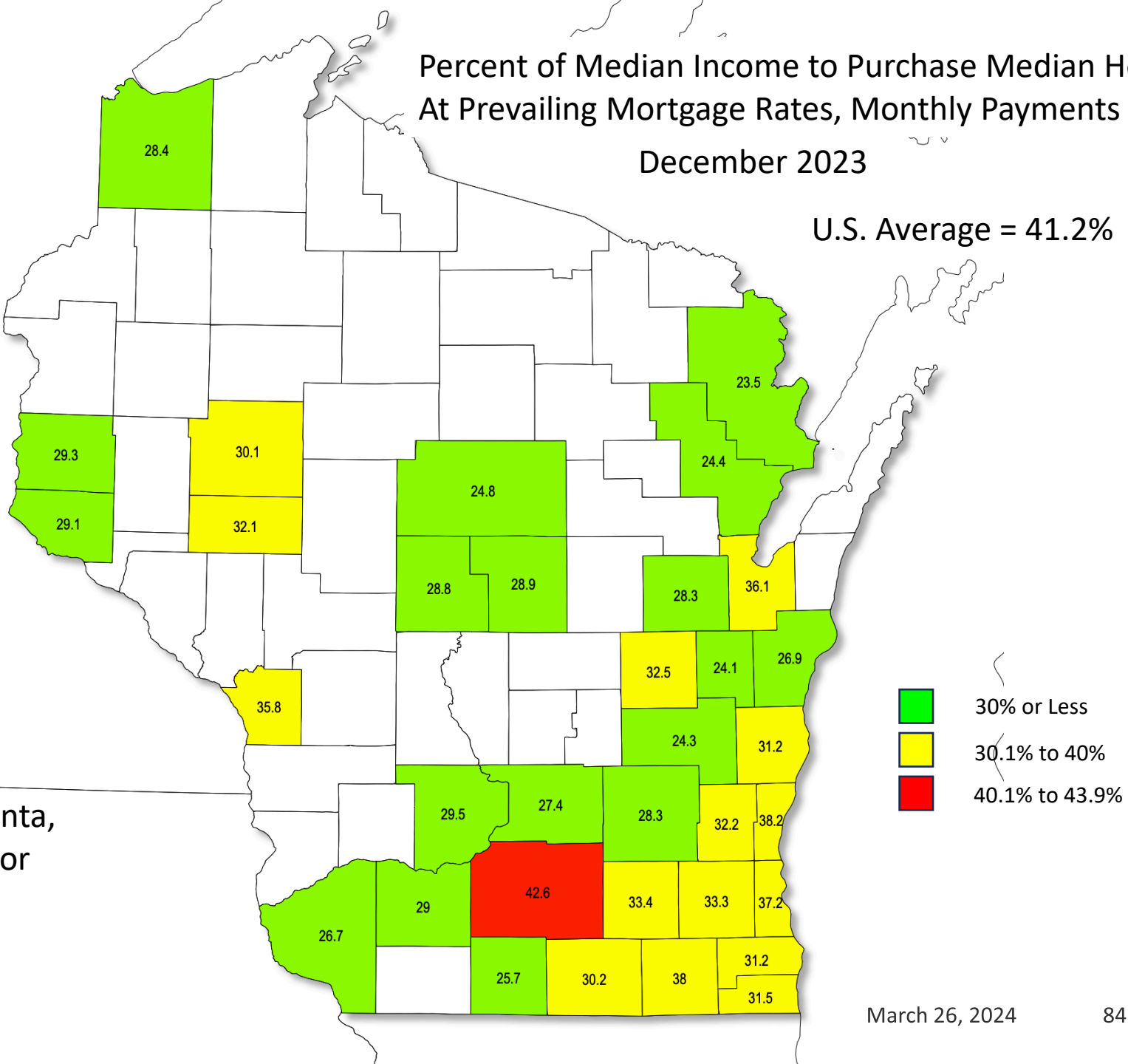
Housing Affordability

Most WI Markets More Affordable than U.S. Average

Percent of Median Income to Purchase Median Home At Prevailing Mortgage Rates, Monthly Payments

December 2023

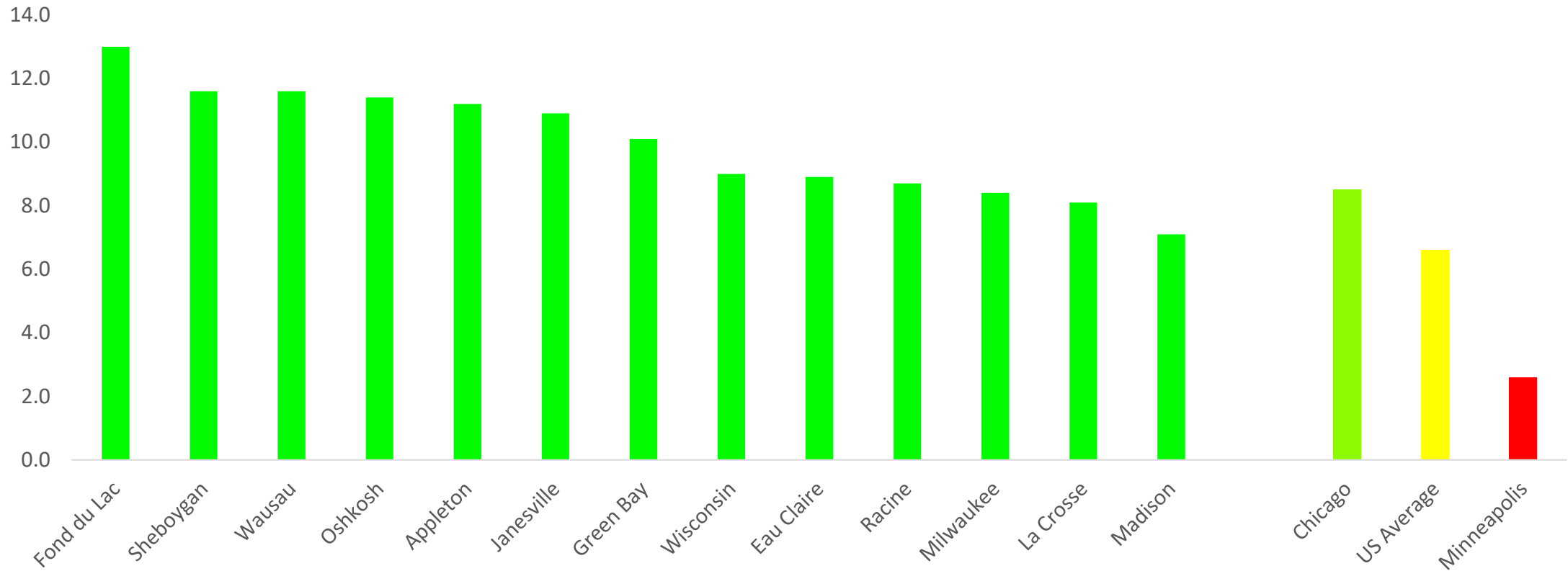
U.S. Average = 41.2%



Source: Federal Reserve Bank of Atlanta, Home Ownership Affordability Monitor

In Every Wisconsin Metro Area Home Prices Increasing Faster than U.S. Average

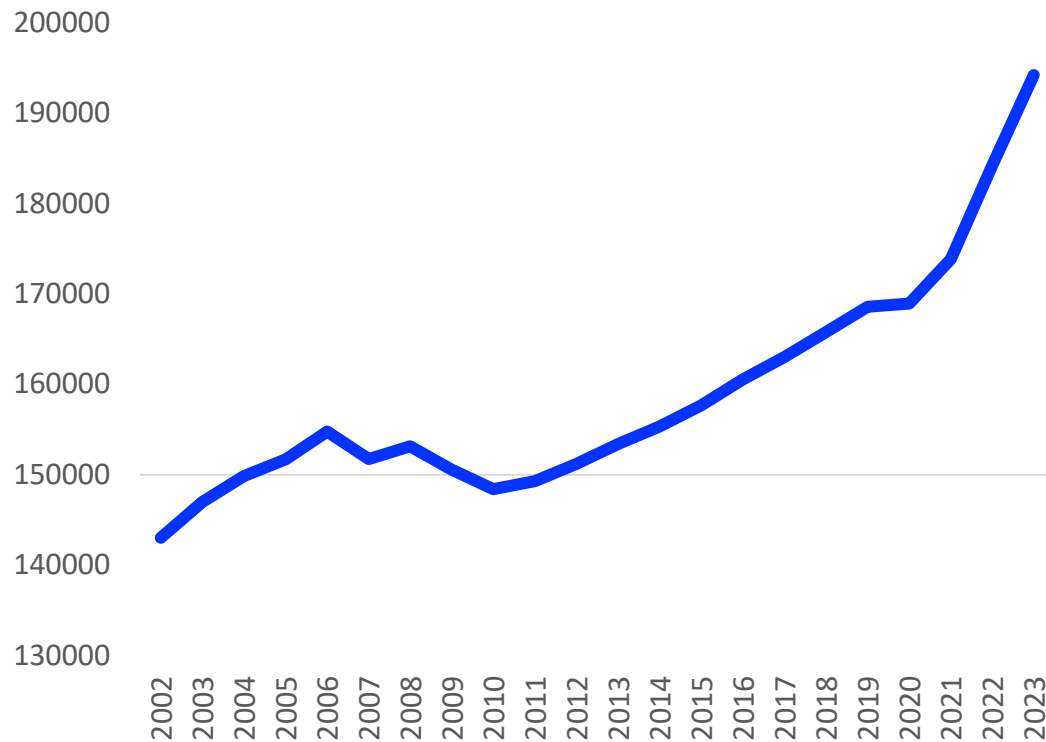
Freddie Mac Home Price Index, Percent Change, Sept. 2023 Over Sept. 2022



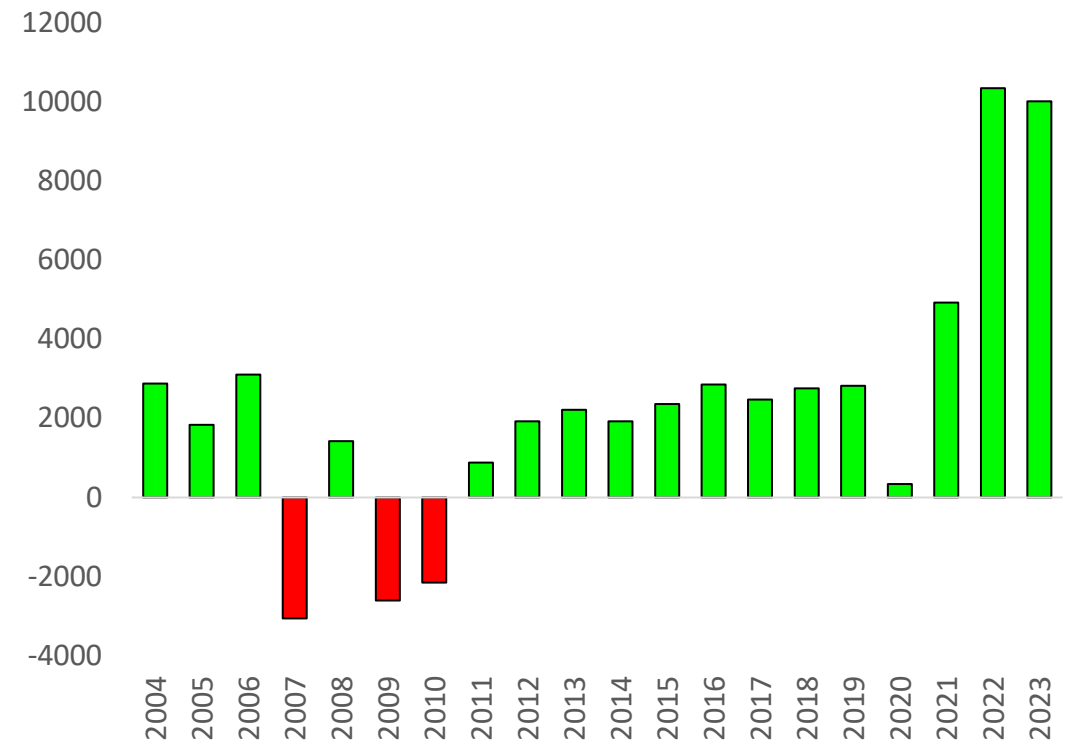
Wisconsin Entrepreneurship

Wisconsin Total Number of Businesses Rose Sharply in 2021, 2022, and 2023

WI Total Private Establishments, 4-Qtr Average Ending Q2



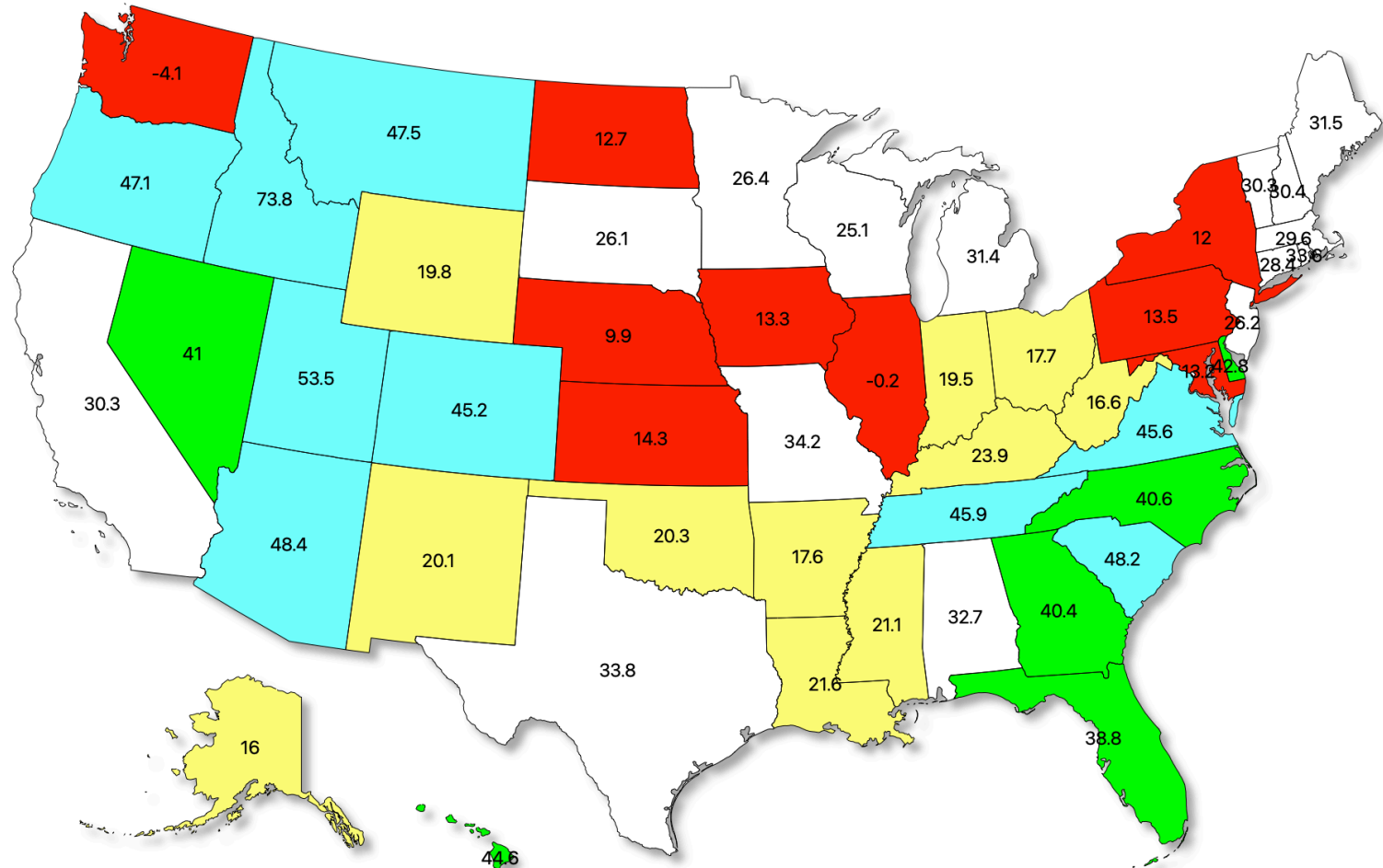
WI Total Private Establishments, Change From Prior Year



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Data Retrieved January 21, 2024

Wisconsin Competitive in Growth in Number of Businesses

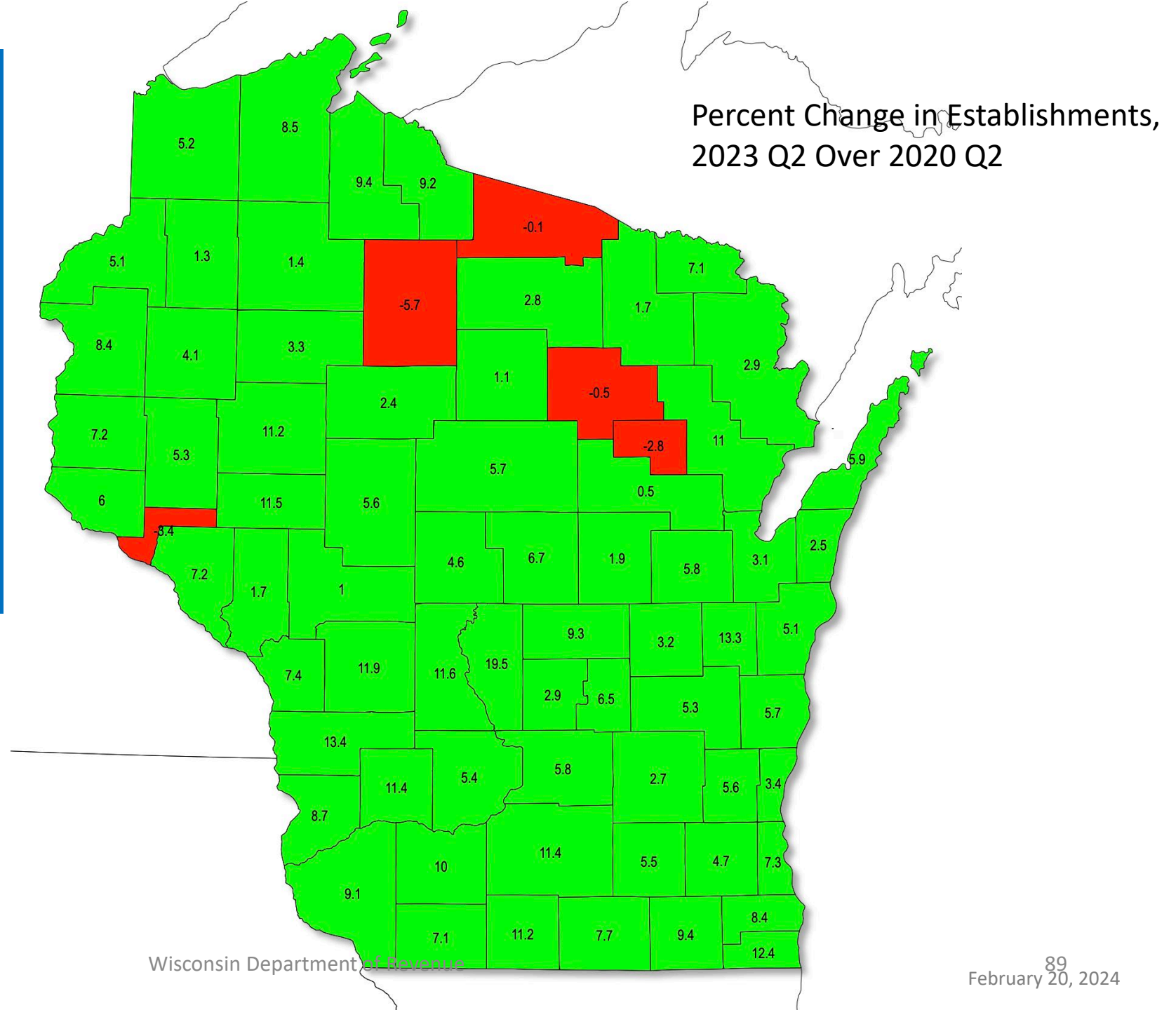
Percent Change in Private Establishments,
Four Quarter Average Ending 2nd Qtr, 2023 over 2014



- Over 45%
- 35% to 45%
- 25% to 35%
- 15% to 25%
- Under 15%

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages
Data Retrieved January 25, 2024

Strong Growth in Entrepreneurship for Most of the State

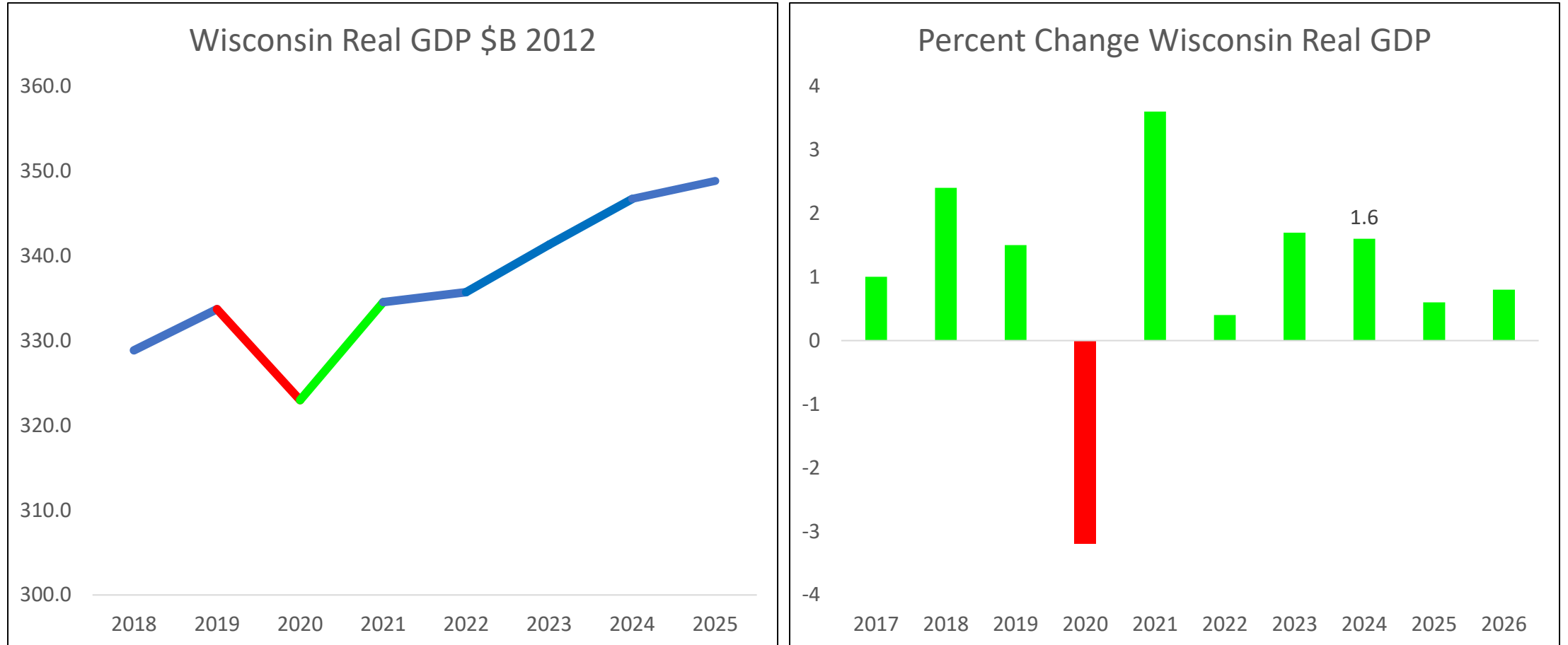


Wisconsin Outlook

<https://www.revenue.wi.gov/Pages/Report/WI-Economic-Outlook.aspx>

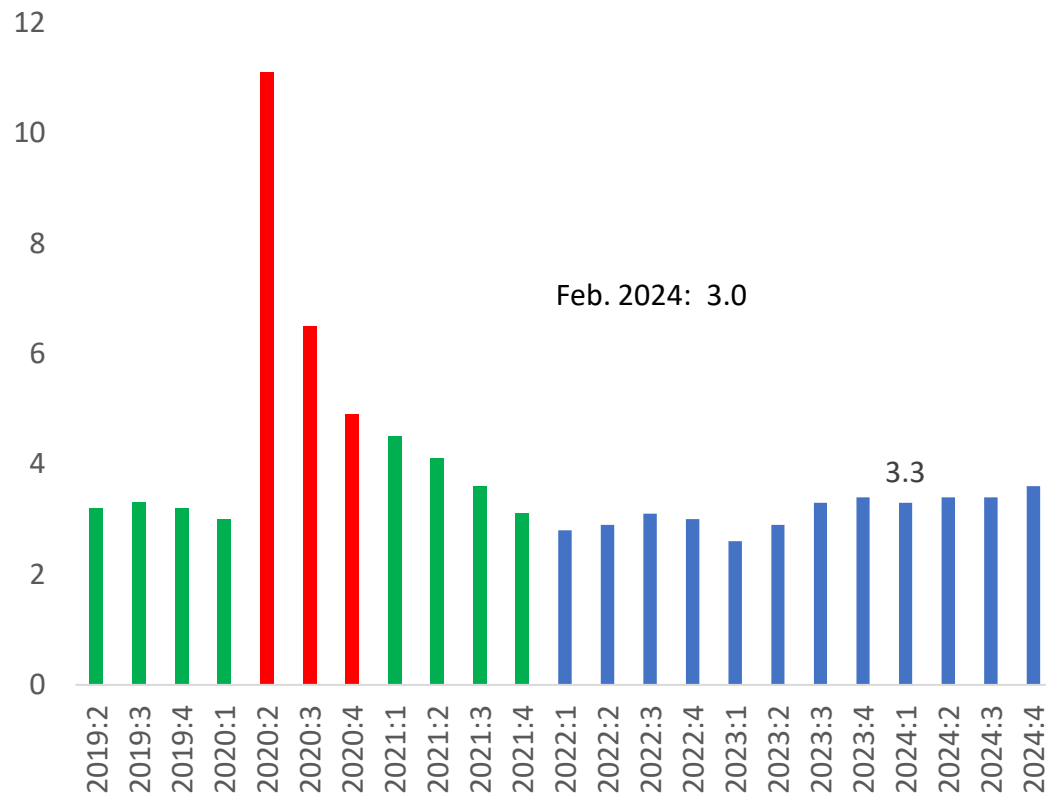
Wisconsin Outlook

Growth Moderates in 2023 and 2024

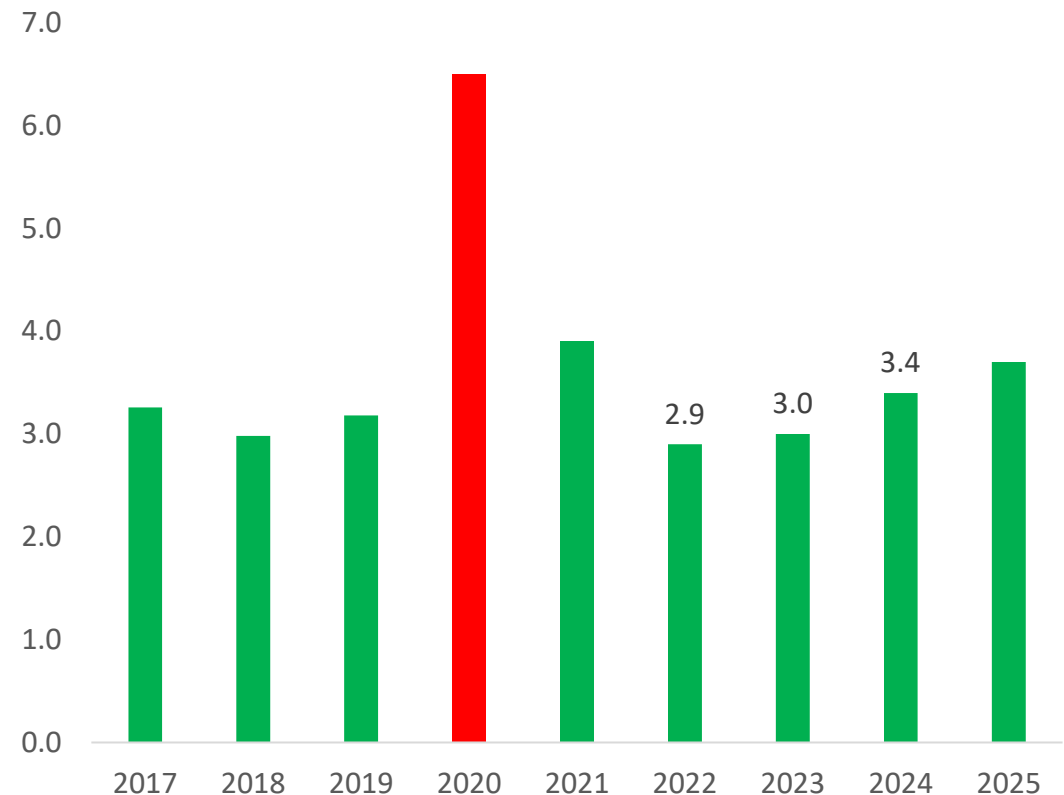


Wisconsin's Economic Outlook: Unemployment Rate Will Stay at Near Record Lows Through 2024

WI Unemployment Rate by Quarter

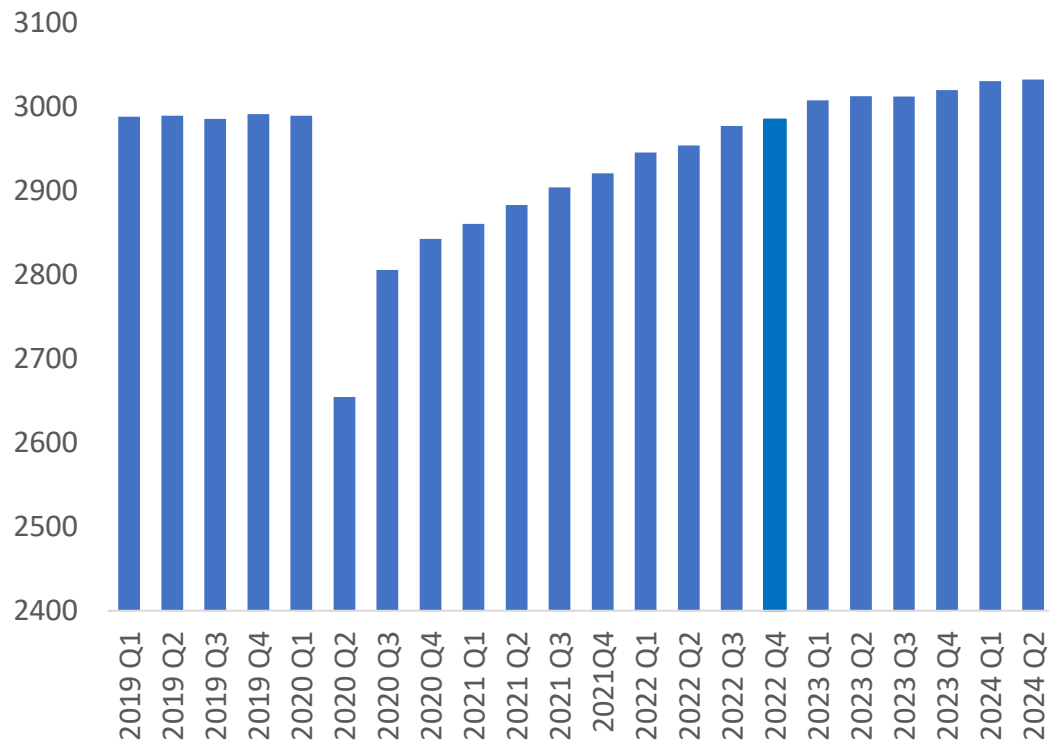


WI Unemployment Rate Annual Avg.

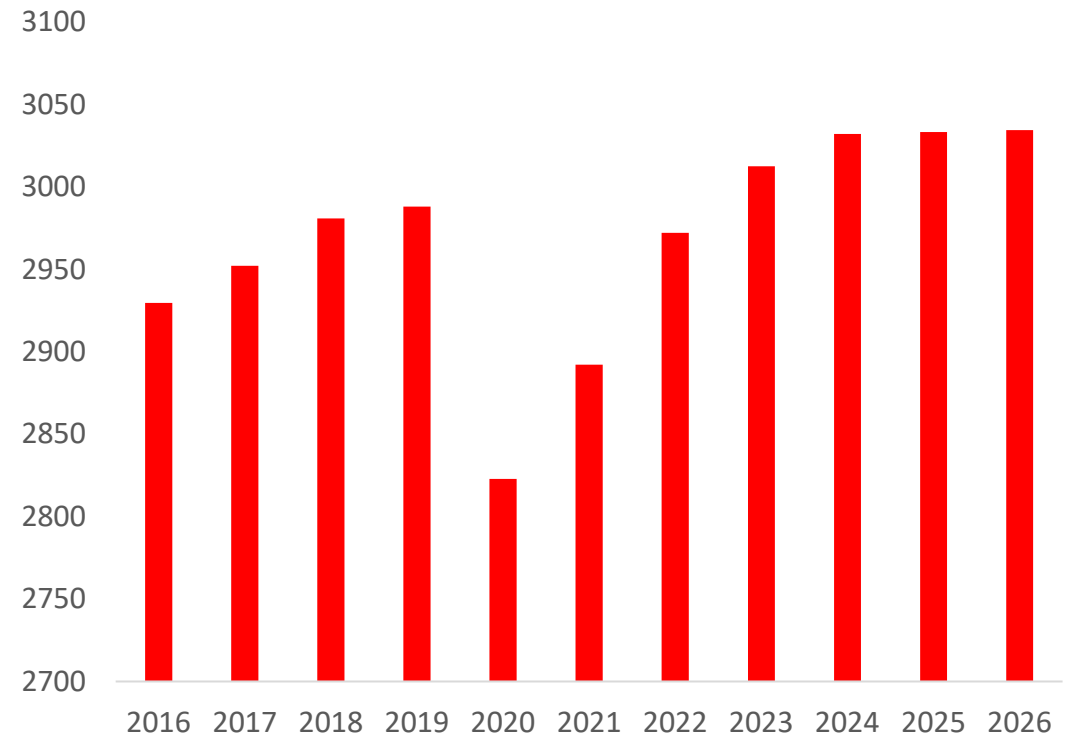


Wisconsin Non-Farm Employment, Establishment Survey Expanding Through 2024

Wisconsin Non-Farm Employment
by Quarter



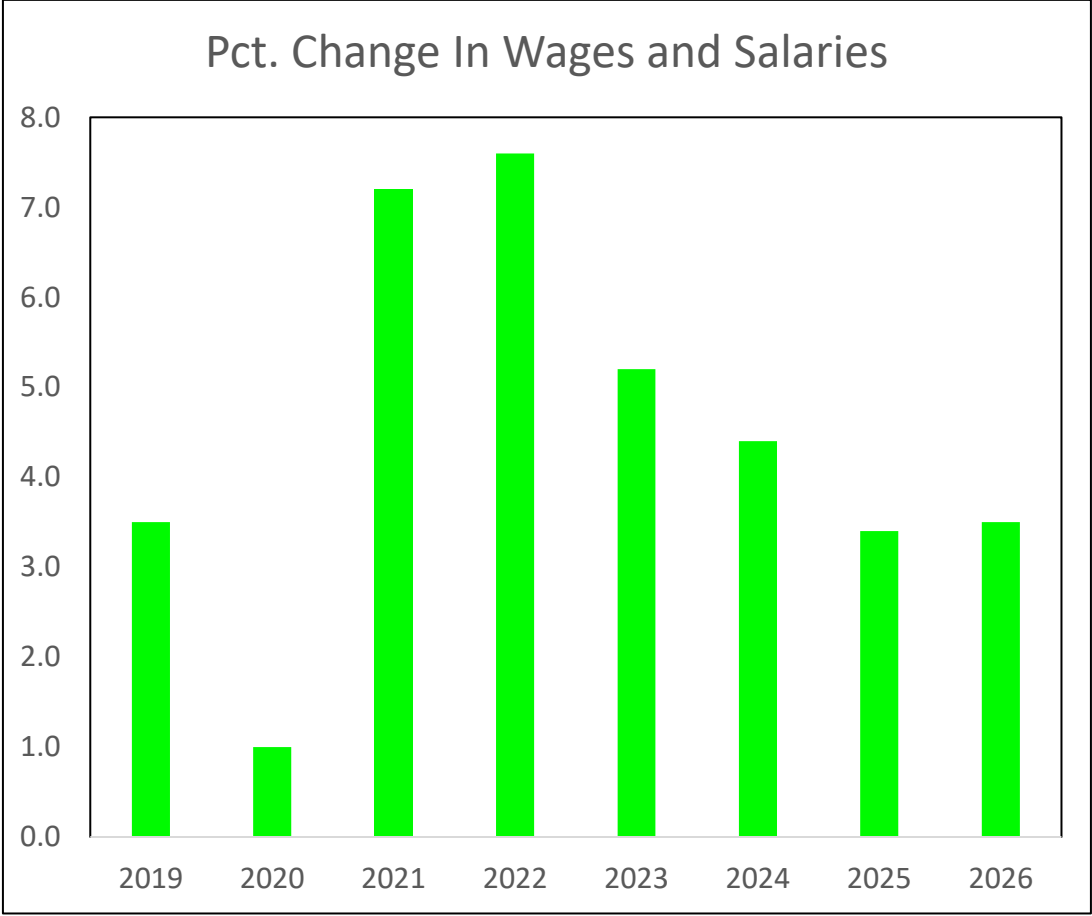
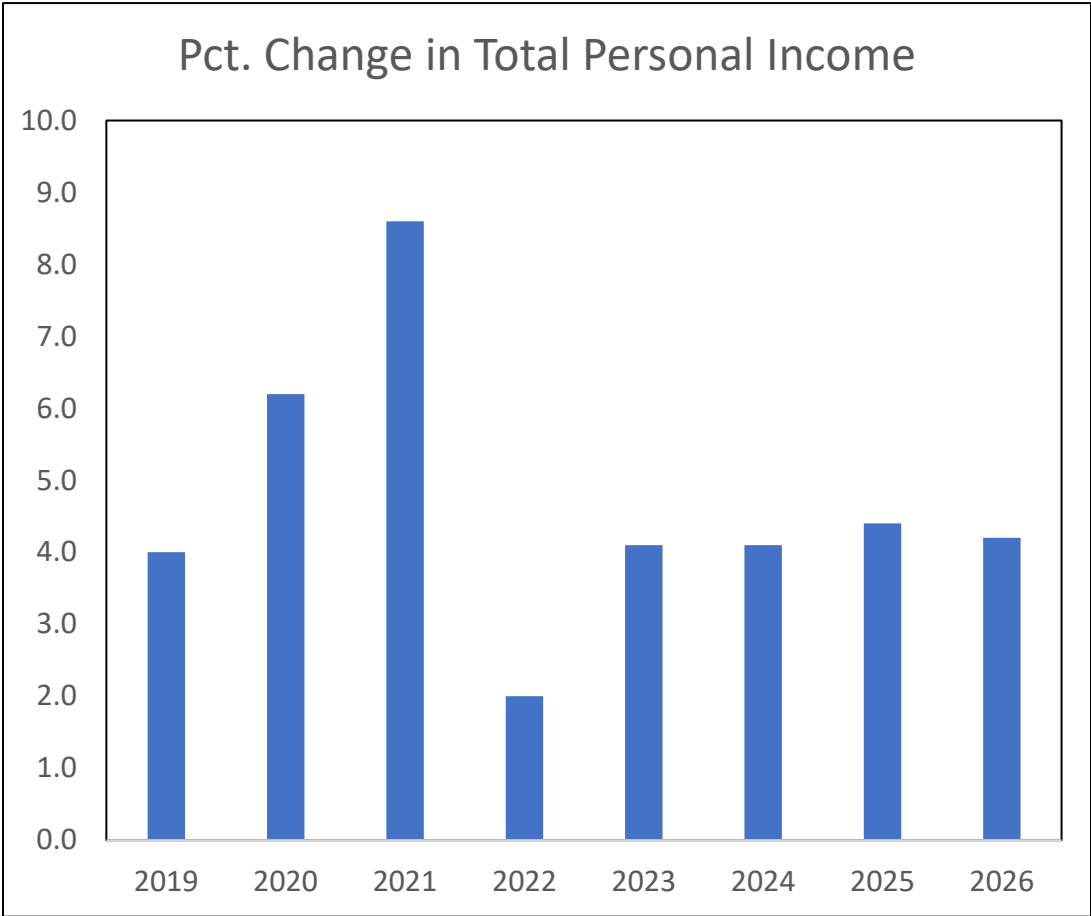
Wisconsin Nonfarm Employment
Annual Average



Wisconsin Economic Outlook: Personal Income

Supported by Strong Wage Growth 2021, 2022 and 2023

Wage Growth Eases in 2024 and 2025



Three Takeaways

- 1) During soft landings, manufacturing experiences the turbulence.
- 2) There is no one size fits all. Even for manufacturing, results will vary by industry and by location.
- 3) Wisconsin remains substantially competitive as a manufacturing state.