

# PRODUCTION

## Gross Domestic Product

Gross Domestic Product (GDP) measures the value of the final goods and services produced in a region and is one of the most used indicators of a region's overall economic health. After declining at a 28 percent annualized rate in the second quarter of 2020, U.S. GDP surpassed pre-COVID levels by the first quarter of 2021.

GDP declined in the first and second quarters of 2022. Declines in net exports and government expenditures were the major causes of negative growth in the first quarter of 2022, while in the second quarter, residential investment and decreases in private inventories lowered GDP growth. Over the next four quarters, GDP increased at an annualized rate between 2.1 and 2.7 percent before increasing at a 4.9 percent annualized rate in the third quarter of 2023.

Despite this growth, the U.S. economy faces challenges in the near future. In an effort to reduce inflation, the Federal Reserve raised interest rates throughout 2022 and 2023, with the Federal Funds rate reaching 5.25 to 5.5 percent in the second half of 2023. High interest rates lower inflation by slowing economic activity but increase

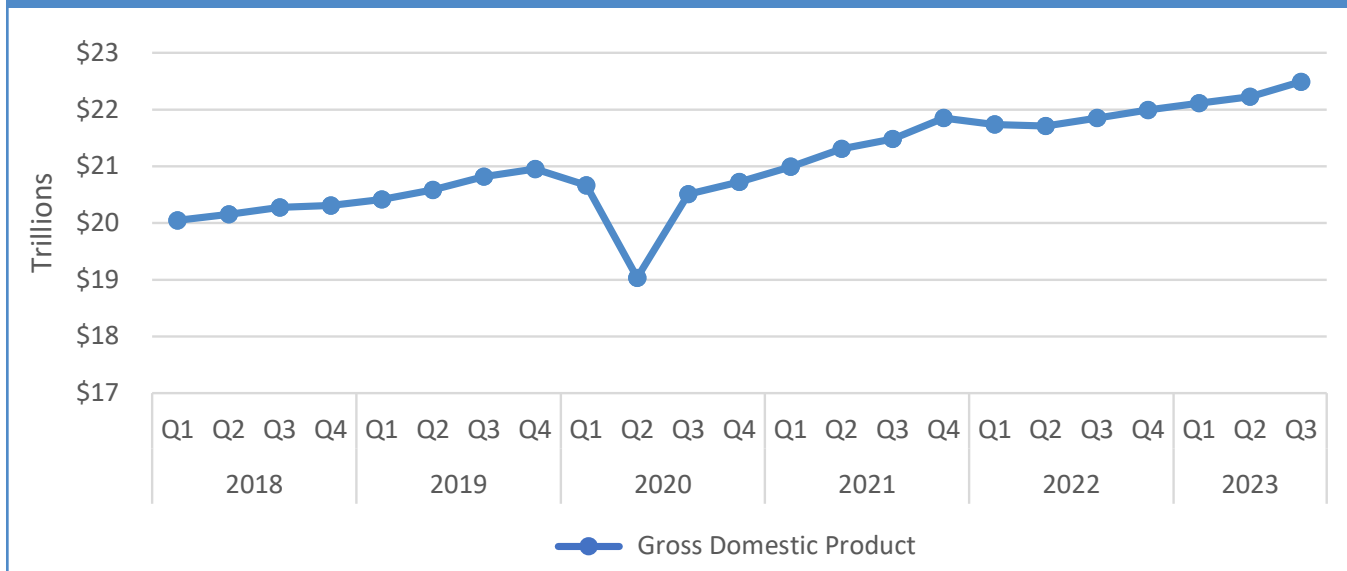
the risk of a recession.

Consumer spending remained strong and was the primary GDP component responsible for high growth in the third quarter of 2023. But most economic indicators suggested a gradually slowing economy over the second half of 2023, including lower inflation, job growth, and wage increases.

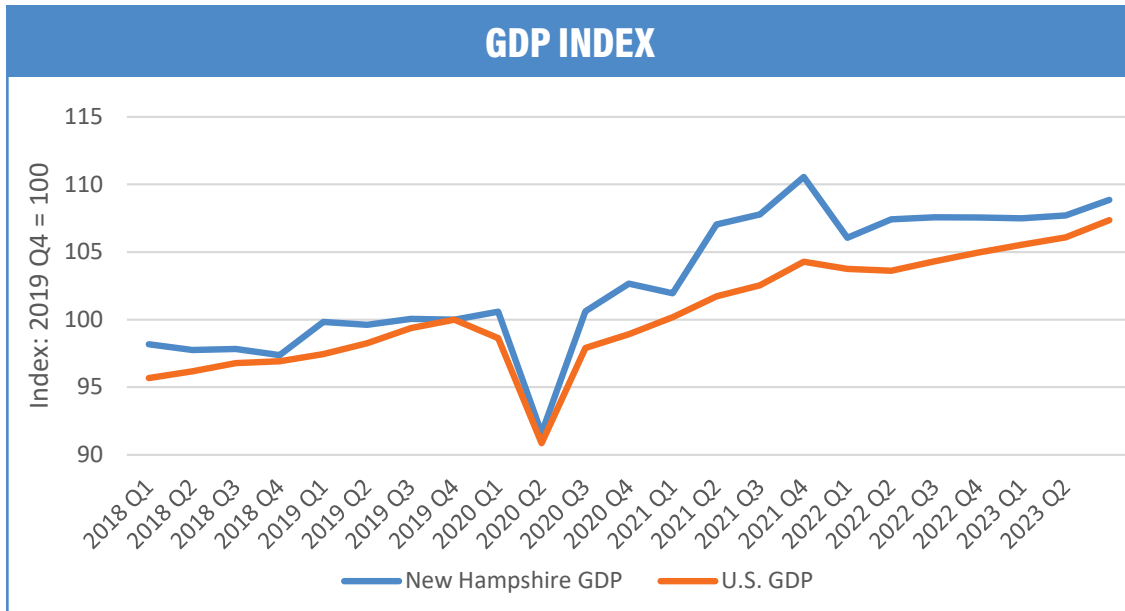
The Fed expects to cut interest rates slightly in 2024, but rates will likely remain restrictive (high enough to be slow the economy and reduce inflation) until the Fed is convinced that lower rates will not lead to a return of high inflation. A “soft landing,” bringing inflation back to normal levels without causing a recession, is possible but is not guaranteed.

New Hampshire's GDP has followed a similar trend to U.S. GDP, although New Hampshire's GDP growth increased just 0.3 percent between the second quarter of 2022 and the second quarter of 2023, compared to 2.4 percent U.S. GDP growth over that time. Still, New Hampshire GDP has grown slightly faster than U.S. since the pandemic started, increasing 8.9 percent between the fourth quarter of 2019 (the last full quarter before

### U.S. GROSS DOMESTIC PRODUCT



Source: U.S. Bureau of Economic Analysis



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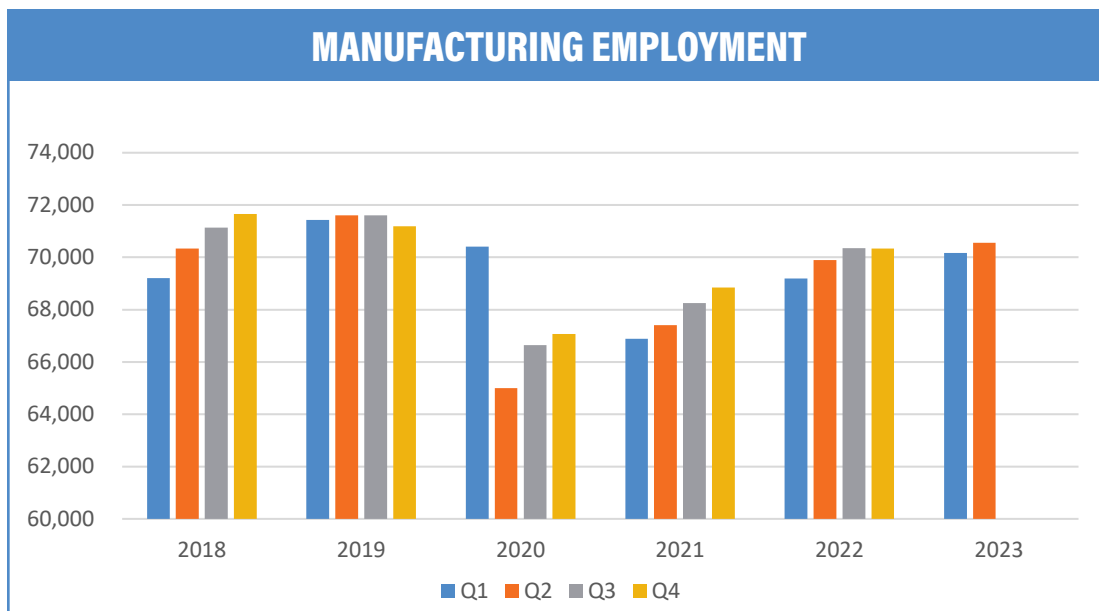
the pandemic) and the third quarter of 2023, compared to 7.4 percent growth in the U.S.

### Manufacturing Employment

Manufacturing is the third largest sector in New Hampshire, after health care and social services and retail trade. Manufacturing employment fell from 71,500 jobs in 2019 to 67,300 jobs in 2020, a 5.8 percent decline. Since mid-2020, manufacturing employment has grown steadily, but has not yet reached pre-pandemic

levels. In the second quarter of 2023, there were 70,550 manufacturing jobs, 1.5 percent (1,100 jobs) below second quarter of 2019 employment levels. In contrast, total private employment in New Hampshire increased 3.5 percent between the second quarter of 2019 and the second quarter of 2023.

Manufacturing added \$10.1 billion of value to New Hampshire’s economy in 2022, approximately ten percent of New Hampshire’s total GDP. Value added measures an industry’s contributions to



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

overall GDP by determining the increase in dollar value of a good or service resulting from the inputs, or value, of New Hampshire labor and materials used in its production. Manufacturing was the third-largest contributor to New Hampshire's GDP, behind real estate and rental and leasing, and professional, scientific, and technical services.

In 2021, each dollar spent on manufacturing payroll in New Hampshire contributed \$2.70 in value added, well below the U.S. average of \$3.83 per payroll dollar. The New England region overall had value added per payroll dollar below the U.S. average. Maine, ranked 37th, was the highest ranked state in the region, and Massachusetts, Rhode Island, New Hampshire, and Vermont ranked 47th through 50th, respectively, with only Washington state adding less value per payroll dollar. This is likely due to relatively high wages and cost of living in region; workers in the region earn higher wages than in other parts of the U.S., which makes worker wages a higher percentage of the cost of goods manufactured in New England.

### Exports by New Hampshire Businesses

Exports by New Hampshire businesses have increased substantially since 2015, when goods valued at \$3.4 billion were exported. By 2022, New Hampshire businesses exported \$7.3 billion of

goods, more than double the amount exported in 2015, and a 13.8 percent increase over 2021. New Hampshire businesses are on pace to exceed that total in 2023; through October, goods worth \$6.3 billion had been exported, an increase of \$272 million compared to the first ten months of 2022.

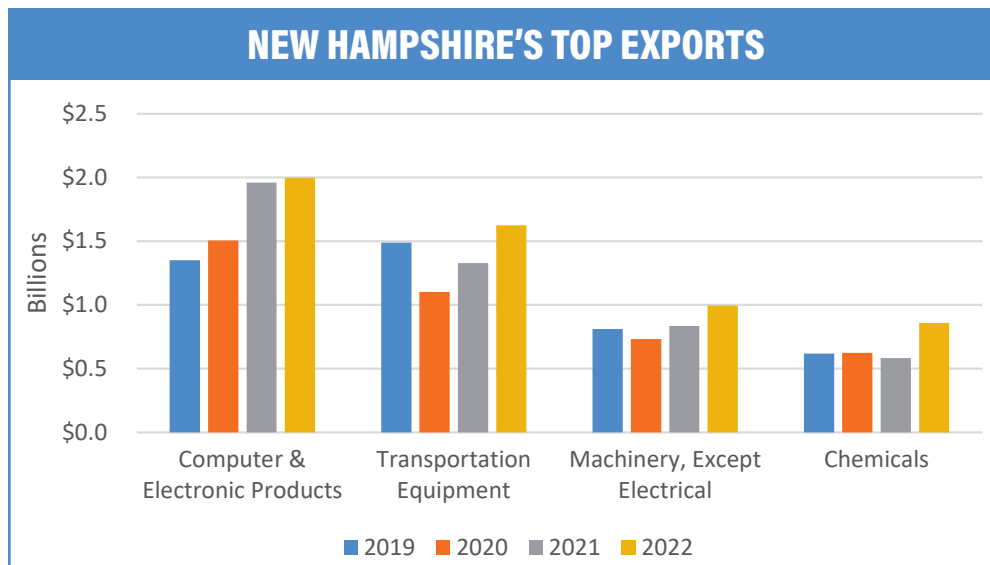
Computer and electronic products were the top export from New Hampshire businesses in 2022, with exports valued at \$2.0 billion. Transportation equipment, worth \$1.6 billion, was the second largest export, followed by machinery, except electrical (\$1.0 billion), and chemicals (\$858 million).

In 2022, the top destination for exports from New Hampshire was Canada, which received goods valued at \$1.1 billion. Germany, which had been the top destination for exports between 2018 and 2021, also received exports worth \$1.1 billion. Mexico (\$552 million), the United Arab Emirates (\$416 million), and Ireland (\$401 million) also topped the list of export destinations.

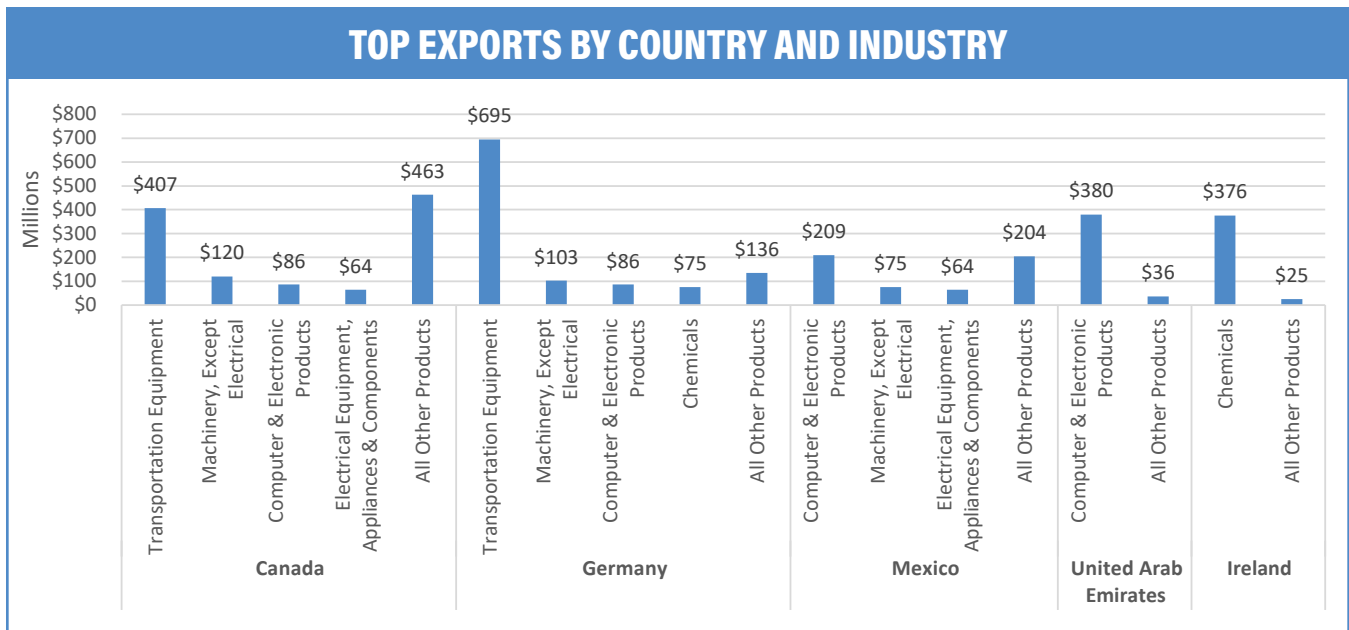
Transportation equipment was the top product exported to Canada, with goods valued at \$407 million in 2022, more than a third of all exports to Canada. Transportation equipment was also the top export to Germany in 2022, with goods valued at \$695 million, accounting for nearly two-thirds of all exports. Computer and electronic products

were the top export to both Mexico (\$209 million) and the United Arab Emirates (\$380 million), while the top export to Ireland was chemicals (\$376 million).

Exports to Poland more than tripled, from \$83 million in 2021 to \$300 million year-to-date in 2023. Two categories of products were primarily responsible for this increase, aerospace



Source: International Trade Administration, TradeStats



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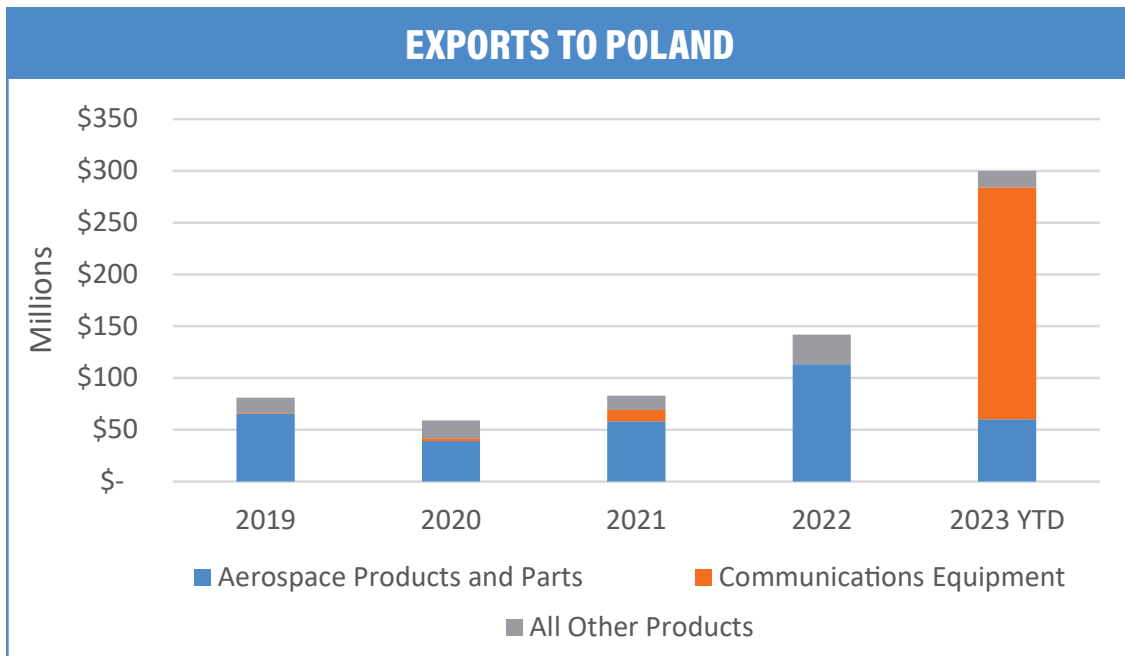
products and parts (a subsector of transportation equipment) and communication equipment (a subsector of computer and electronic products). New Hampshire businesses exported \$113 million worth of aerospace products and parts to Poland in 2022, more than double the amount exported the previous year. Through October 2023, aerospace products and parts worth \$60 million were exported to Poland, plus communication equipment valued at \$224 million. While export data does not indicate whether this equipment is for military use or not, the timing suggests that much of this increase is related Poland's military build-up in response to Russia's 2022 invasion of Ukraine. (Exports to Ukraine have been unchanged since the invasion, while exports to Russia fell from \$12 million in 2021 to approximately \$30,000 through October 2023).

Exports to Sweden and Romania followed a similar trend, increasing substantially in 2022. For both countries, the increase was primarily the result of large increases in exports of aerospace products and parts, communications equipment and navigational, measuring, medical and control instruments (a subsector of computer and electronic products), all product categories with potential military applications. Following Russia's invasion of Ukraine, Romania<sup>1</sup> (which shares a border with Ukraine) and Sweden<sup>2</sup> both increased defense spending. It's likely that the growth in exports to these countries in 2022 was military related.

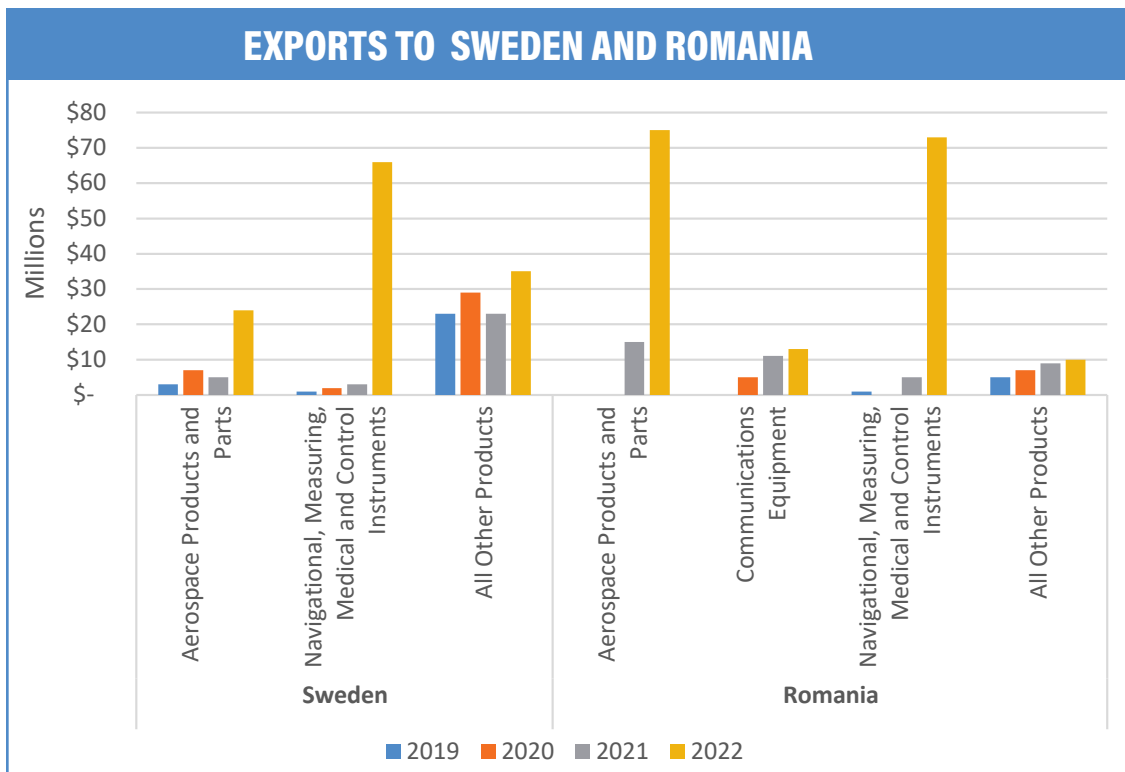
– Greg David

<sup>1</sup> U.S. International Trade Administration, Romania - Country Commercial Guide. <https://www.trade.gov/country-commercial-guides/romania-defense-industry>.

<sup>2</sup> Terje Solsvik and Johan Ahlander, "Sweden Adds Another 700 Million Crowns to Its 2024 Defense Spending," Reuters, September 11, 2023. <https://www.reuters.com/world/europe/sweden-adds-another-sek-700-mln-its-2024-defence-spending-2023-09-11/>.



Source: International Trade Administration, TradeStats



Source: International Trade Administration, TradeStats

<b>GROSS DOMESTIC PRODUCT BY STATE - NEW HAMPSHIRE</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Current Dollars (\$ millions)	\$83,870	\$87,338	\$88,338	\$99,673	\$105,414
Annual percent change	4.1%	4.1%	1.1%	12.8%	5.8%
Real chained 2012 dollars (\$ millions)	\$75,433	\$76,819	\$75,928	\$82,986	\$83,004
Annual percent change	2.0%	1.8%	-1.2%	9.3%	0.0%

Gross Domestic Product by State - United States					
Current Dollars (\$ millions)	\$20,533,058	\$21,380,976	\$21,060,474	\$23,315,081	\$25,462,722
Annual percent change	5.4%	4.1%	-1.5%	10.7%	9.2%
Real chained 2012 dollars (\$ millions)	\$18,609,078	\$19,036,052	\$18,509,143	\$19,609,812	\$20,014,128
Annual percent change	2.9%	2.3%	-2.8%	5.9%	2.1%

Source: Bureau of Economic Analysis, ELMI Analysis. Last Update 9/18/2023

<b>TOTAL CAPITAL EXPENDITURES (new and used)</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Total (\$ millions)	\$570	\$564	\$636	\$703	
As a Percent of Payroll					
United States	25.9%	25.2%	24.0%	23.9%	
New Hampshire	14.0%	13.8%	15.8%	16.1%	
Connecticut	12.4%	13.2%	15.8%	14.8%	
Maine	24.7%	40.0%	19.5%	18.4%	
Massachusetts	14.6%	14.5%	14.6%	15.6%	
Rhode Island	19.7%	15.6%	17.7%	17.2%	
Vermont	17.9%	12.6%	13.8%	12.4%	

Source: Annual Survey of Manufactures & Economic Census, US Census Bureau. ELMI Analysis. Last Update 12/20/2022

<b>Value Added</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Value Added by Manufacture					
Total (\$ millions)	\$10,683.0	\$10,830.4	\$10,582.4	\$11,803.1	

Value Added per Payroll Dollar					
United States	\$3.76	\$3.64	\$3.39	\$3.83	
New Hampshire	\$2.63	\$2.64	\$2.63	\$2.70	
United States rank <sup>a</sup>	50	48	49	49	
Connecticut	\$3.16	\$3.26	\$2.83	\$3.18	
United States rank <sup>a</sup>	42	36	46	40	
Maine	\$3.14	\$3.08	\$3.13	\$3.24	
United States rank <sup>a</sup>	44	40	36	37	
Massachusetts	\$2.97	\$2.85	\$2.70	\$2.94	
United States rank <sup>a</sup>	47	44	47	47	
Rhode Island	\$2.85	\$2.83	\$2.80	\$2.85	
United States rank <sup>a</sup>	49	45	46	48	
Vermont	\$3.12	\$2.81	\$2.60	\$2.61	
United States rank <sup>a</sup>	45	46	50	50	

<sup>a</sup> Including D.C.

Source: Annual Survey of Manufactures & Economic Census, US Census Bureau. ELMI Analysis. Last Update 12/20/2022

EXPORT SALES TO THE WORLD	2018	2019	2020	2021	2022
Total (\$ millions)	\$5,306	\$5,827	\$5,463	\$6,374	\$7,255
Annual percent change	3.1%	9.8%	-6.3%	16.7%	13.8%

Industry Share of Total Exports <sup>b</sup>					
Computer and Electronic Products	26.4%	23.2%	27.6%	30.8%	27.5%
Transportation Equipment	18.5%	25.6%	20.2%	20.8%	22.4%
Machinery, Except Electrical	15.2%	13.9%	13.4%	13.1%	13.7%
Chemicals	10.1%	10.6%	11.4%	9.1%	11.8%
Fabricated Metal Products, NESOI	5.6%	6.1%	4.5%	4.5%	4.5%
Electrical Equipment, Appliances & Components	6.5%	4.6%	6.6%	4.6%	4.3%
Miscellaneous Manufactured Commodities	3.2%	3.0%	3.2%	3.3%	2.6%
Plastics & Rubber Products	2.5%	2.2%	2.5%	2.7%	2.6%
Waste and Scrap	1.9%	1.8%	2.3%	1.8%	1.8%
Food Manufactures	1.4%	1.3%	1.1%	1.4%	1.2%
Printed Matter and Related Products, NESOI	0.4%	0.2%	0.2%	0.8%	0.9%
Nonmetallic Mineral Products	0.9%	0.8%	0.9%	0.8%	0.8%

<sup>a</sup> International Trade Administration, U.S. Department of Commerce, Trade Stats Express™ Home, National Trade Data Home

Source: International Trade Administration, U.S. Department of Commerce, ELMI Analysis. Last Update 9/18/2023

Prepared by: New Hampshire Employment Security, Economic and Labor Market Information Bureau

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