

# ECONOMIC DIGEST

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**In February...**

**Nonfarm Employment**

Connecticut ..... 1,574,800  
 Change over month ..... +0.19%  
 Change over year ..... -7.16%

United States ..... 143,048,000  
 Change over month ..... +0.27%  
 Change over year ..... -6.21%

**Unemployment Rate**

Connecticut ..... 8.5%  
 United States ..... 6.2%

**Consumer Price Index**

United States ..... 263.014  
 Change over year ..... +1.7%

## A look at Connecticut's Bio-science Industry Employment

*By Matthew Krzyzek, Economist, Department of Labor*

**T**he events of the past year have highlighted the importance of Bioscience. The immediate need for pandemic mitigation resulted in a global mobilization that rapidly produced vaccines and increased medical equipment production. Bioscience doesn't fall within a specific North American Industrial Classification System (NAICS) industry code and contains a broad cross-section of service industries and goods producing industries such as pharmaceutical, chemical, and medical device manufacturing.<sup>1</sup> In February 2012, the Connecticut Economic Digest published an article on Bioscience which overviewed key industries that make up that sector in the state.<sup>2</sup> The table below uses the bioscience industry cluster defined in that article and shows that in 2019 (the last year of annual data),

the state had over a thousand Bioscience establishments that employed over 23,000 workers. This industry definition doesn't account for the total impact of Bioscience on overall employment given spillover effects on other sectors such as Education and Health Care, and it doesn't account for the total labor supply of available workers given that many employed in other forms of manufacturing or research & development have compatible occupational skills that would be relevant to an employer looking to expand in the state.

The pie chart illustrates that across all Bioscience industries, about half are in the service sector and half are in the goods producing sector. Among the 8 industries, the largest two industries, Research & Development in Sciences (32%) and Medical Equipment &

**2019 Composition of Connecticut's Bioscience Industry**

NAICS	All Employees	# Establishments	Total Wages (thousands)	Average Annual Pay	
3254	Pharma. & Medicine Mfg.	2,877	31	440,531	153,130
334510	Apparatus Mfg.	211	12	17,080	80,915
334516	Lab. Instr. Mfg.	844	20	83,665	99,188
334517	Irradiation Apparatus Mfg.	599	8	71,282	119,052
3391	Med Equip. & Supplies	6,528	125	511,935	78,424
54138	Testing Labs	1,795	165	144,231	80,370
54171	R&D in Sciences	7,450	421	1,351,491	181,400
6215	Med. & Diag. Labs	2,896	240	193,979	66,985
	<b>Total</b>	<b>23,199</b>	<b>1,021</b>	<b>2,814,194</b>	<b>121,308</b>

Source: CT DOL, QCEW

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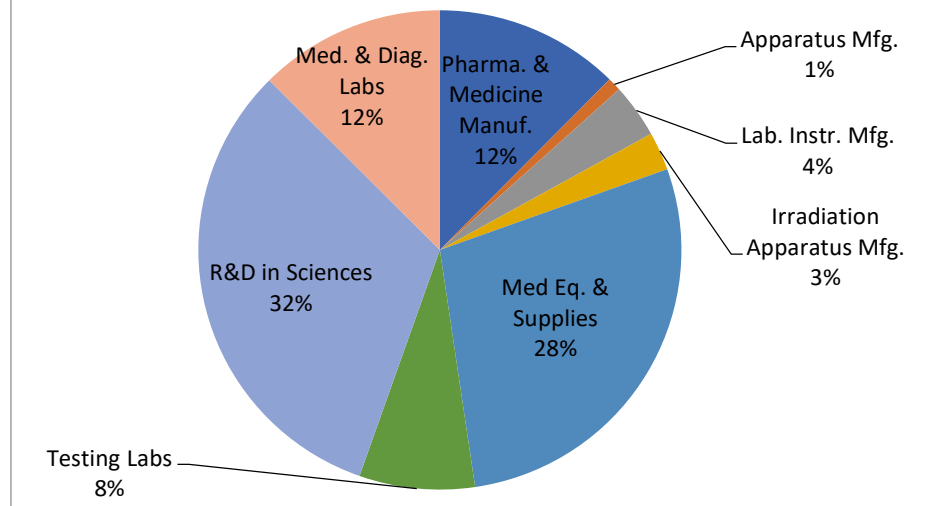
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**Employment Composition of Connecticut's Bioscience Industry**



Supplies Manufacturing (28%) account for about half of Bioscience employment in the state.

The table on page 3 shows annual average Bioscience employment from 2001-2019. Overall Bioscience employment fell from 2001-2017 driven by declines in its manufacturing component industries. The combined Bioscience cluster grew 2.5% and 4.4% in 2018 and 2019.

The graph on page 3 illustrates how overall Bioscience employment has increased in recent years after steady declines from the early 2000s through 2017. Bioscience employment is separated into its manufacturing and service providing components to show that the longer-term trend of decline is driven by manufacturing while the overall employment stabilization and growth in recent years is the result of gains within its service providing component. Since 2017, Bioscience manufacturing (and manufacturing overall) have arrested trends of long-term decline and added jobs from 2017-19. Both Bioscience components saw employment growth in 2018 and 2019. The long-term Bioscience manufacturing

change reflects shifts that have occurred within manufacturing overall. Connecticut manufacturing (NAICS 31-33) had declined from the early 1990s through mid-2016 and has since added jobs.<sup>3</sup> Most of the overall manufacturing gains have occurred within Transportation Equipment Manufacturing, which is the largest component of manufacturing in the state. This manufacturing shift differentiates Connecticut from adjacent states, which have continued to decline.

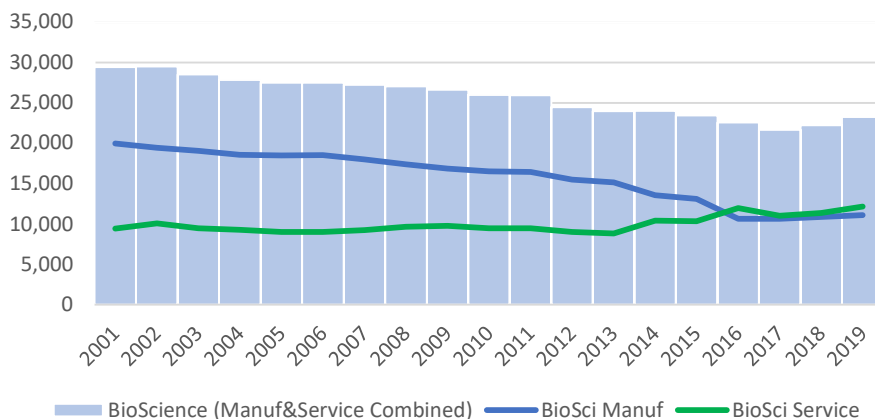
**Bioscience During the Past Year**

The preceding section utilized the most current annual average data to illustrate long term trends in Connecticut's Bioscience industry. Quarterly QCEW data available through 2020Q3 can help explain how Bioscience has been impacted by the pandemic. Overall, Bioscience is down -1.2% from 2019Q3, Bioscience Manufacturing is down -2.8% while Bioscience Service Providing is up 0.2%. These changes differ greatly from the three larger two-digit sectors from which the Bioscience

NAICS Bioscience Total	All Emp.	# of Estab- lishments	Total Wages (thousands)	Ann. Avg. Pay
2001	29,407	817	\$2,234,642	\$75,990
2002	29,403	847	\$2,140,450	\$72,797
2003	28,376	857	\$2,160,195	\$76,127
2004	27,809	868	\$2,218,894	\$79,792
2005	27,544	892	\$2,241,773	\$81,389
2006	27,468	898	\$2,364,978	\$86,098
2007	27,284	848	\$2,488,439	\$91,206
2008	27,114	872	\$2,507,413	\$92,476
2009	26,649	898	\$2,540,432	\$95,328
2010	25,893	914	\$2,506,033	\$96,785
2011	25,928	914	\$2,621,852	\$101,122
2012	24,476	903	\$2,552,305	\$104,280
2013	23,964	913	\$2,524,066	\$105,329
2014	23,970	916	\$2,582,458	\$107,739
2015	23,486	956	\$2,546,626	\$108,434
2016	22,616	985	\$2,502,946	\$110,671
2017	21,689	935	\$2,514,843	\$115,949
2018	22,228	983	\$2,648,254	\$119,140
2019	23,199	1,021	\$2,814,194	\$121,308

Source: CT DOL, QCEW

### Bioscience Mfg. & Service Providing Employment



cluster is derived. Manufacturing (NAICS 31-33) is down -6.3%, Professional & Technical Services (NAICS 54) is down -4.7%, and Health Care & Social Assistance (NAICS 62) is down -3.9% during the year ending 2020Q3.<sup>4</sup> As no industry has been immune from the impact of COVID-19 on the Connecticut economy, the comparatively slight employment

shifts for Bioscience cluster industries when compared to larger overall employment suggests that it could be poised for renewed growth as the economy improves.

### Projections and Conclusions

The CT Department of Labor, along with agencies in all 50 states and US territories conduct annual short-term two-year

projections that the Connecticut Economic Digest will review in detail next month. These projections are done at 6-digit occupation and 4-digit industry level.<sup>5</sup> Three of the eight Bioscience industries fall within that 4-digit industry threshold and provide indication of where Bioscience may be heading in the short term. From 2020Q2 to 2022Q2, Medical & Diagnostic Laboratories (+8.0%), Medical Equipment & Supplies Manuf. (+5.1%), and Pharmaceutical & Medical Manuf. (+0.1%) are all projected to maintain or increase employment. Overall, the Bioscience industry cluster in Connecticut has grown from 2017-2019, shown tempered employment declines during the pandemic, and is projected to add jobs in coming years. ■

1 Rappa, John. Connecticut's Bioscience Industry. OLR Research Report 2011-R-0365. 2011 <https://www.cga.ct.gov/2011/rpt/2011-R-0365.htm>

2 McMillen, Stan and Mark Prisloe. Connecticut's Bioscience Industry: An Update. CT Economic Digest 2012. <https://www1.ctdol.state.ct.us/lmi/digest/articles/feb2012.pdf>

3 For more info on CT manufacturing employment change, see page 23 of: <https://www1.ctdol.state.ct.us/lmi/pubs/ConditionsandOutlook2018to2020.pdf>

4 See the March 2021 CT Econ. Digest for a more in-depth review of the pandemic's impact: <https://www1.ctdol.state.ct.us/lmi/digest/pdfs/cedmar21.pdf>

5 Projections for all 50 states and US territories can be downloaded at: [www.ProjectionsCentral.com](http://www.ProjectionsCentral.com)

# Update on Property Taxation

By Al Sylvestre, Research Analyst, Department of Labor

**F**rom the Lake Chaffee Improvement Association (Ashford) to the Borough of Jewett City (Griswold) to sandy Miami Beach (Old Lyme), property taxes<sup>1</sup> levied by Connecticut's 169 municipalities and 310 taxing districts finance public education, safety, and infrastructure as well as some private roads and security. Real estate, motor vehicle, and personal property taxes constitute more than half of city, town, and district revenue and 98.5% of local tax collection to finance services provided by jurisdictions shown in Table 1. This article outlines local tax-assessment structures and describes novel solutions the city of Hartford developed to balance taxation among homeowners and commercial

property owners. The Hartford example was chosen because its methods affect a broad cross section of property-tax payers rather than targeted relief offered by many of Connecticut's municipalities. The article concludes by describing the Massachusetts and New York experiences with property taxation limits.

While local officials administer property assessment and taxation, state law governs the manner in which municipal assessors determine property value, assessment ratios,<sup>2</sup> and tax-collection procedures. Additionally, state statute authorizes tax exemptions, credits, and abatements. Despite

extensive public discussion about property tax reduction, state law has changed little beyond mandating abatements for veterans and offering municipalities tax relief options for people with disabilities and the elderly as well as permitting the phase-in of assessment increases over as many as five years to delay property tax increases resulting from reassessment.

In 1978, Hartford assessment officials sought to limit aggregate residential property taxes to 14.7% of the city's budget to avoid increasing individual tax bills up to 80%. The plan resulted in bifurcation of assessment ratios to 70% for commercial properties and apartments and 45.8% for one- to three-family homes. The year before Hartford became the only Connecticut municipality to split its assessment ratios, all residential, commercial, and mixed-use real estate was assessed at 65% of market value. This bifurcated tax system has persisted in some form for 42 years as shown in Table 2.

Hartford's Tax Cap program, enabled by the Connecticut General Assembly, gave owner-occupants of one- to three-family homes a tax credit equal to the amount by which their property tax exceeded 1.5% of the property's market value. The city assessment office addressed the resulting taxation imbalance with assessment reductions on some large commercial properties in the 1989 assessment cycle. Beginning with the 2016 revaluation cycle, the city changed assessment ratios to relieve the burden of its 74.29 mill rate on homeowners while maintaining the traditional 70% ratio on commercial property valuations.

Massachusetts and New York strive to keep property taxes broadly affordable with assessment limits that inhibit tax growth arising from increasing home values as well as levy limits that place a ceiling on aggregate tax collections. To that end, Massachusetts enacted a 2.5%-of-property-value taxation ceiling coupled with a 2.5% cap on

**Table 1: Select Mill Rates by Jurisdiction**

Municipality / District	FY 2021 Mill Rate - Real & Personal Property	FY 2021 Mill Rate - Motor Vehicle	Flat Rate Fee or Other Rate
Ashford	36.83600	36.83600	
Ashford - Lake Chaffee Improvement Association Inc			212.00
Griswold	29.10000	29.10000	
Griswold - Jewett City	3.50000		
Groton	25.11000	25.11000	
Groton - #1City of Groton	4.30000	4.30000	
Hartford	74.29000	45.00000	
Hartford - Columbia Street & Park Terrace Special Services District	4.90000		
Hartford - Park Street Special Services	3.50000		
New London	38.19000	38.19000	
New London - City Center District	120000		
New London - Neptune Park Association	195660		
Old Lyme	23.20000	23.20000	
Old Lyme - Miami Beach Association			
Old Lyme - Old Colony Beach Club Association	3.50000		
Old Lyme - Old Lyme Shores Beach Association			
Old Lyme - Point O'Woods Association Inc (The)	2.78000		
Old Lyme - Rogers Lake West Shores Inc	100000		
Old Lyme - White Sand Beach Association	3.58100		

**Table 2: Select Hartford Mill Rates 1977-2019**

Tax Year	Grand List	Mill Rate	Assessment Ratios		
			Commercial	Residential	Apt-Mixed Use
1977	1,032,751,634	90.9	65%	65.00%	65%
1978*	1,290,750,218	71.9	70%	45.80%	70%
1979	1,353,307,641	71.1	70%	47.70%	70%
1989*	6,387,320,434	34.4	70%	70.00%	70%
1990	6,479,231,723	34.4	70%	70.00%	70%
1991	6,413,223,204	34.4	70%	70.00%	70%
2016*	4,073,144,172	74.29	70%	32.21%	70%
2017	4,078,204,992	74.29	70%	33.82%	70%
2018	4,030,298,908	74.29	70%	35.00%	70%

\*Revaluation year

annual increases in the tax levy. In addition to capping levies and their growth, the taxing regime arising from Proposition 2½ allows voters to raise levy limits and ceilings upon the recommendation of their elected

officials to address fiscal exigencies. The state of New York limits the growth of its taxing jurisdictions' levies—except New York City's—to the lesser of 2% or the rate of inflation. As in Massachusetts, overrides are possible, though they require a 60% vote of school district voters or the local governing body for non-education taxes. Since passage of New York's tax-growth

limits, annual school tax increases have declined from 7% to under 2%; the corresponding figures for

municipalities are 5.3% to under 2%. The New York and Massachusetts experiences illustrate possibilities for moderating property tax growth in Connecticut, a project that must be undertaken with great care to avoid compromising public services. ■

1 Connecticut's property tax rates are expressed as mills or dollars per \$1,000 of assessed property. For example, a homeowner in the Borough of Jewett City with a house assessed at \$140,000 (70% of a \$200,000 valuation) would be taxed at 29.1 mills for the Town of Griswold plus 3.5 mills from the borough for an annual tax bill of \$4,564 (140 x 29.1) + (140 x 3.5).

2 Assessment ratio is the percentage of a property's market valuation, the taxable portion of the property's value, application of which is illustrated in the preceding footnote.

## GENERAL ECONOMIC INDICATORS

<i>(Seasonally adjusted)</i>	4Q	4Q	YoY CHG		3Q	QoQ CHG	
	2020	2019	NO.	%	2020	NO.	%
<b>General Drift Indicator (2007=100)*</b>							
<b>Leading</b>	105.6	115.2	-9.6	-8.3	106.2	-0.6	-0.5
<b>Coincident</b>	91.7	94.9	-3.2	-3.4	91.4	0.3	0.34
<b>Real Gross Domestic Product**</b>							
<i>(2012 Chained \$, SAAR)</i>							
<b>Connecticut (\$ in millions)</b>	242,765.5	251,046.5	-8,281.0	-3.3	226,222.0	16,543.5	7.3
<b>United States (\$ in millions)</b>	18,596,521	19,141,744	-545,223	-2.8	17,302,511	1,294,010	7.5
<b>New England (\$ in millions)</b>	958,935.4	992,084.5	-33,149.1	-3.3	890,906.1	68,029.3	7.6
<b>Per Capita Personal Income**</b>							
<i>(Current \$, SAAR)</i>							
<b>Connecticut</b>	79,423	77,710	1,713	2.2	79,906	-483	-0.6
<b>United States</b>	59,086	56,995	2,091	3.7	60,184	-1,098	-1.8
<b>New England</b>	72,728	70,075	2,653	3.8	74,531	-1,803	-2.4
<b>Philadelphia Fed's Coincident Index (2007=100)***</b>							
	Jan	Jan	YoY CHG		Dec	MoM CHG	
	2021	2020	NO.	%	2020	NO.	%
<b>Connecticut</b>			0.0	####	NA	#VALUE!	####
<b>United States</b>			0.0	####	NA	#VALUE!	####

Sources: \*Dr. Steven P. Lanza, University of Connecticut Philadelphia \*\*U.S. Bureau of Economic Analysis \*\*\*Federal Reserve Bank of Philadelphia

**General Drift Indicators** are composite measures of the four-quarter change in three coincident (Connecticut Manufacturing Production Index, nonfarm employment, and real personal income) and three leading (housing permits, manufacturing average weekly hours, and initial unemployment claims) economic variables, and are indexed so 2007 = 100.

The **Philadelphia Fed's Coincident Index** summarizes current economic condition by using four coincident variables: nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average).