## THE CONNECTICUT

# ECONOMIC DIGEST

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#### **NOVEMBER 2017**

#### IN THIS ISSUE...

Is Connecticut Losing Jobs to

### In September...

in september
Nonfarm Employment  Connecticut
United States146,659,000 Change over month0.02% Change over year+1.2%
Unemployment Rate Connecticut4.6% United States4.2%
Consumer Price Index United States 246.819 Change over year +2.2%

## Is Connecticut Losing Jobs to Other States?

By Andy Condon, Ph.D., Director of Research, DOL

Rightly or wrongly,
Connecticut's job growth
performance is often talked about
in the context of "winning" or
"losing" to other parts of the
country. This article uses the
location quotient measure to begin
to address this issue by using
national Quarterly Census of
Employment and Wages (QCEW)
data to measure relative job
growth from and to Connecticut
over time.

According to the US
Department of Labor's Bureau of
Labor Statistics, location
quotients are ratios that allow an
area's distribution of employment
by industry, ownership, and size
class to be compared to a
reference area's distribution.<sup>1</sup> To
put this into Connecticut
industry terms:

% of total CT emp. in industry X

#### % of total national emp. in industry X

A location quotient = 1.0 means that the percent of industry X employment in Connecticut is the same as percent of industry X employment in the US. For example, the 2016 Connecticut location quotient for printing and related support activities (North American Industry Classification System (NAICS) 323) was 1.02, indicating that the concentration of employment in this industry is essentially the same as that seen across the US as a whole. A

Connecticut location quotient of less than 1.0 indicates that Connecticut has a smaller percentage of employment in the indicated industry than does the US. As an extreme example, the 2016 Connecticut location quotient for mining (NAICS 212) is 0.25, confirming that relative to the rest of the US, Connecticut has very little mining activity. A location quotient of greater than 1.0 indicates the Connecticut share of employment in an industry is higher than that of the US as a whole. Not surprisingly, the Connecticut location quotient for the insurance carriers industry is 2.12.

## Connecticut 2016 industry location quotients

Table 1 shows the ranking of NAICS industries in Connecticut with a location quotient greater than or equal to 1.0. Note that those industries with the highest location quotients are those with which Connecticut labor markets are often associated, i.e., finance, insurance, broadcasting and aerospace/defense (transportation equipment and fabricated metal product manufacturing).

Table 2 shows those industries with the lowest location quotients in Connecticut. These are most often associated with natural resources, agriculture, and primary product manufacturers. Surprisingly, accommodations are on this list even though it employs

## ECONOMIC DIGEST

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Table 1: Connecticut industries with a location quotient greater than 1.0

NAICS	Indication	2016 CT Ann.	2016 Emp.
Code	Industry	Avg Emp.	LQ
814	Private households	12,764	3.81
533	Lessors of nonfinancial intangible assets	1,006	3.66
485	Transit and ground passenger transportation	14,601	2.62
523	Securities, commodity contracts, investments	26,049	2.42
336	Transportation equipment manufacturing	41,756	2.19
524	Insurance carriers and related activities	56,813	2.12
515	Broadcasting, except internet	6,187	1.93
335	Electrical equipment and appliance mfg.	8,253	1.85
332	Fabricated metal product manufacturing	29,183	1.76
611	Educational services	56,914	1.75
623	Nursing and residential care facilities	62,686	1.61
454	Nonstore retailers	9,009	1.42
624	Social assistance	55,093	1.31
425	Electronic markets and agents and brokers	13,784	1.30
812	Personal and laundry services	21,576	1.27
551	Management of companies and enterprises	32,915	1.26
339	Miscellaneous manufacturing	8,654	1.25
562	Waste management and remediation services	5,849	1.24
445	Food and beverage stores	44,025	1.22
712	Museums, historical sites, zoos, and parks	2,263	1.22
442	Furniture and home furnishings stores	6,173	1.12
448	Clothing and clothing accessories stores	17,650	1.12
713	Amusements, gambling, and recreation	20,932	1.11
446	Health and personal care stores	13,384	1.09
333	Machinery manufacturing	13,543	1.08
621	Ambulatory health care services	88,690	1.07
323	Printing and related support activities	5,331	1.02
444	Building material and garden supply stores	15,272	1.02
511	Publishing industries, except internet	8,666	1.02
622	Hospitals	58,371	1.01
483	Water transportation	760	1.00

Table 2: CT industries with the lowest location quotient (lowest twenty)

NAICS Code	Industry	2016 CT Ann. Avg Emp.	2016 Emp. LQ
113	Forestry and logging	9	0.01
213	Support activities for mining	29	0.01
115	Agriculture and forestry support activities	311	0.07
481	Air transportation	982	0.18
212	Mining, except oil and gas	527	0.25
321	Wood product manufacturing	1,188	0.26
324	Petroleum and coal products manufacturing	351	0.27
486	Pipeline transportation	166	0.29
112	Animal production and aquaculture	1,105	0.36
484	Truck transportation	7,112	0.42
518	Data processing, hosting and related services	1,493	0.42
311	Food manufacturing	7,803	0.43
488	Support activities for transportation	3,429	0.44
487	Scenic and sightseeing transportation	174	0.45
327	Nonmetallic mineral product manufacturing	2,312	0.49
111	Crop production	3,262	0.50
721	Accommodation	11,660	0.51
313	Textile mills	699	0.52
114	Fishing, hunting and trapping	52	0.55
337	Furniture and related product manufacturing	2,611	0.57

a substantial number of people in the state, nearly 12,000 in 2016.

## Industry location quotients over time

Comparing the state's industry location quotients over time will tell us how Connecticut retains or grows employment in comparison to the nation at large. In this analysis industry location quotients are compared from 2005 to the latest available - 2016. Changes in industry location quotients over time indicate that an industry is gaining/losing its relative concentration of employment in comparison to the nation. The chart below outlines the possibilities (Table 2.1).

It is important to note that actual levels of employment over time can be affected by stage of the business cycle, productivity and movement of economic activity to or from overseas.

Table 3 shows the ranking of all three-digit NAICS industries in Connecticut whose location quotients have grown over 5% in the 11-year period from 2005 to 2016. In all of these cases, Connecticut industries have gained employment either from other states or relative to other states. In

Table 2.1

Change in CT Location Quotient from 2016-2005	Result
LQ 2016 - LQ 2005 > 0	$\hbox{-} {\tt Conneciticut} \hbox{ is gaining employment from or relative to other states}$
LQ 2016 - LQ 2005 = 0	-Conneciticut employment is unchanged relative to other states
LQ 2016 - LQ 2005 < 0	- Connecticut is losing employment to or relative to other states

some cases such as motion pictures, textiles, beverages & tobacco, furniture, animal production, heavy construction, nonmetallic mineral production, primary metal food production, and real estate, Connecticut's location quotient share is small (< 1.0) but growing. In other cases, such as textile products, furniture, transportation equipment, nonmetallic mineral production and primary metal manufacturing, employment has actually declined over time, but their location quotients have improved. The strategic transportation equipment manufacturing industry (driven by aerospace and shipbuilding) has one of the highest location quotients in the state (2.19), an 11% improvement over 2005 and yet employment has declined by 4%. This is likely due to productivity increases in those industries which have lessened labor demand overall, but in

which Connecticut has declined relatively less.

The remaining industries have significantly higher location quotients that have improved with time. Private households have increased in employment 78% over the period with a location quotient of 3.81 in 2016. This reflects aging demographics and the increased emphasis on providing care to the elderly at home and not in institutions. The motion picture industry has more than doubled in employment over the period, though the location quotient remains less than 1.0. Broadcasting has grown 30% in employment since 2005. The securities and investment industry has recovered nicely from the recession, growing 35% in employment from pre-recession levels.

Table 4 shows Connecticut industries at the other end of the spectrum, i.e., those that have seen location quotient declines

Table 3: Connecticut industries with a greater than 5% increase in location quotient, 2016-2005

NAICS		2016 Avg.	2005 Avg.	2016 Emp	2005 Emp.	Chg. 2016 -	% Chg.	
Industry	Industry	Ann. Emp.	Ann. Emp.	LQ	LQ	2005 Emp. LQ	2016 - 2005	Comments
Code		Ann. Emp.	Allii. Ellip.	<u> </u>	LQ	2003 Ellip. EQ	LQ	
814	Private households	12,764	7,160	3.81	1.1	2.71	246.4	
512	Motion picture and sound recording industries	4,441	2,151	0.86	0.46	0.40	87.0	
515	Broadcasting, except internet	6,187	4,768	1.93	1.17	0.76	65.0	
533	Lessors of nonfinancial intangible assets	1,006	765	3.66	2.34	1.32	56.4	
313	Textile mills	699	920	0.52	0.34	0.18	52.9	Very Small Industry
314	Textile product mills	1,212	1,265	0.89	0.6	0.29	48.3	Employment declined 4%
312	Beverage and tobacco product manufacturing	1,703	1,073	0.59	0.45	0.14	31.1	
114	Fishing, hunting and trapping	52	48	0.55	0.43	0.12	27.9	Very Small Industry
523	Securities, commodity contracts, investments	26,049	19,330	2.42	1.95	0.47	24.1	
337	Furniture and related product manufacturing	2,611	3,371	0.57	0.48	0.09	18.8	Employment declined 22%
112	Animal production and aquaculture	1,105	816	0.36	0.31	0.05	16.1	
336	Transportation equipment manufacturing	41,756	43,558	2.19	1.97	0.22	11.2	Employment declined 4%
551	Management of companies and enterprises	32,915	25,105	1.26	1.15	0.11	9.6	
237	Heavy and civil engineering construction	6,460	6,195	0.58	0.53	0.05	9.4	
327	Nonmetallic mineral product manufacturing	2,312	2,851	0.49	0.45	0.04	8.9	Employment declined 19%
452	General merchandise stores	29,010	25,954	0.77	0.71	0.06	8.5	
485	Transit and ground passenger transportation	14,601	11,675	2.62	2.43	0.19	7.8	
331	Primary metal manufacturing	3,662	4,498	0.83	0.77	0.06	7.8	Employment declined 19%
713	Amusements, gambling, and recreation	20,932	17,565	1.11	1.03	0.08	7.8	
311	Food manufacturing	7,803	7,472	0.43	0.4	0.03	7.5	
531	Real estate	14,937	14,001	0.82	0.77	0.05	6.5	
								·
	Total Employment Impacted:	232,217	200,541					

Table 4: Connecticut industries with a greater than 5% decrease in location quotient, 2016-2005

NAICS		2016 Avg.	2005 Avg.	2005 Avg. 2016 Emp. 2005 Emp. Chg. 2		Chg. 2016 -	% Chg.	
Industry	Industry	Ann. Emp.	Ann. Emp.	LQ	LQ	2005 Emp.	2016 -	Comments
Code						LQ	2005 LQ	
519	Other information services	2,784	1220	0.91		,		Employment grew 128%
518	Data processing, hosting and related services	1,493	4253	0.42	0.89	, ,	(52.81)	
113	Forestry and logging	9	19	0.01	0.02	,		Very Small Industry
325	Chemical manufacturing	7,597	17030	0.8	1.56		_ , _ ,	Includes Pharmacuticals
481	Air transportation	982	1888	0.18	0.3	,	(40.00)	
115	Agriculture and forestry support activities	311	446	0.07	0.11			Very Small Industry
221	Utilities	5,626	8572	0.87	1.25		(30.40)	
488	Support activities for transportation	3,429	3879	0.44	0.56		(21.43)	
711	Performing arts and spectator sports	4,148	4528	0.75	0.95	(0.20)	(21.05)	
487	Scenic and sightseeing transportation	174	197	0.45	0.57	(0.12)	(21.05)	Very Small Industry
322	Paper manufacturing	2,973	5220	0.69	0.86	(0.17)	(19.77)	
486	Pipeline transportation	166	171	0.29	0.36	(0.07)	(19.44)	Very Small Industry
454	Nonstore retailers	9,009	9373	1.42	1.76	(0.34)	(19.32)	High LQ
339	Miscellaneous manufacturing	8,654	12283	1.25	1.52	(0.27)	(17.76)	High LQ
111	Crop production	3,262	4106	0.5	0.6	(0.10)	(16.67)	
493	Ware housing and storage	10,191	8205	0.94	1.12	(0.18)	(16.07)	Employment grew 24%
532	Rental and leasing services	4,063	6030	0.63	0.75	(0.12)	(16.00)	
451	Sports, hobby, music instrument, book stores	7,047	9159	0.97	1.13	(0.16)	(14.16)	
562	Waste management and remediation services	5,849	6094	1.24	1.44	(0.20)	(13.89)	High LQ
333	Machinery manufacturing	13,543	18117	1.08	1.25	(0.17)	(13.60)	
524	Insurance carriers and related activities	56,813	65263	2.12	2.44	(0.32)	(13.11)	Very high LQ
517	Telecommunications	8,764	12942	0.93	1.04	(0.11)	(10.58)	
425	Electronic markets and agents and brokers	13,784	13482	1.3	1.45	(0.15)	(10.34)	Employment grew 2%
326	Plastics and rubber products manufacturing	5,635	7525	0.68	0.75	(0.07)	(9.33)	
483	Water transportation	760	806	1	1.1	(0.10)	(9.09)	Very Small Industry
712	Museums, historical sites, zoos, and parks	2,263	1988	1.22	1.34	(0.12)	(8.96)	High LQ / employment grew 14%
446	Health and personal care stores	13,384	13941	1.09	1.18	(0.09)	(7.63)	
541	Professional and technical services	96,911	88350	0.93	1	(0.07)	(7.00)	Employment grew 10%
448	Clothing and clothing accessories stores	17,650	21189	1.12	1.2	(0.08)	(6.67)	
621	Ambulatory health care services	88,690	72466	1.07	1.14	(0.07)	(6.14)	Employment grew 22%
511	Publishing industries, except internet	8,666	12172	1.02	1.08	(0.06)	(5.56)	
	Total Employment Impacted	404,630	430,914					

238 812 334 722	Electronics and appliance stores Specialty trade contractors Personal and laundry services Computer and electronic product manufacturing	5,959 41,499 21,576	6,247	LQ 0.98	LQ	LQ		
238 812 334 722	Specialty trade contractors Personal and laundry services	41,499	•	0.00			2005 LQ	
812 334 722	Personal and laundry services				0.93	0.05	5.4	
334 722	· · · · · · · · · · · · · · · · · · ·	21 576	45,757	0.83	0.79	0.04	5.1	
722	Computer and electronic product manufacturing		19,231	1.27	1.21	0.06	5.0	
		11,644	14,954	0.95	0.91	0.04	4.4	
	Food services and drinking places	114,864	93,751	0.86		0.03	3.6	
	Building material and garden supply stores	15,272	15,801	1.02	0.99	0.03	3.0	
423	Merchant wholesalers, durable goods	29,119	31,197	0.85	0.83	0.02	2.4	
323	Printing and related support activities	5,331	8,053	1.02	1	0.02	2.0	
611	Educational services	56,914	46,125	1.75	1.72	0.03	1.7	
445	Food and beverage stores	44,025	42,471	1.22	1.21	0.01	0.8	
321	Wood product manufacturing	1,188	1,848	0.26	0.26	0.00	0.0	
324	Petroleum and coal products manufacturing	351	374	0.27	0.27	0.00	0.0	Very Small Industry
447	Gasoline stations	6,273	6,281	0.58	0.58	0.00	0.0	
453	Miscellaneous store retailers	9,380	10,921	0.97	0.97	0.00	0.0	
484	Truck transportation	7,112	7,232	0.42	0.42	0.00	0.0	
623	Nursing and residential care facilities	62,686	57,222	1.61	1.61	0.00	0.0	
813	Membership associations and organizations	15,083	15,418	0.94	0.95	(0.01)	(1.1)	
332	Fabricated metal product manufacturing	29,183	33,645	1.76	1.78	(0.02)	(1.1)	
561	Administrative and support services	82,480	80,148	0.82	0.83	(0.01)	(1.2)	
442	Furniture and home furnishings stores	6,173	8,218	1.12	1.14	(0.02)	(1.8)	
721	Accommodation	11,660	11,718	0.51	0.52	(0.01)	(1.9)	
624	Social assistance	55,093	35,019	1.31	1.34	(0.03)	(2.2)	
622	Hospitals	58,371	55,905	1.01	1.04	(0.03)	(2.9)	
236	Construction of buildings	11,143	14,011	0.64	0.66	(0.02)	(3.0)	
441	Motor vehicle and parts dealers	21,434	22,758	0.92	0.95	(0.03)	(3.2)	
811	Repair and maintenance	13,619	14,431	0.9	0.93	(0.03)	(3.2)	
212	Mining, except oil and gas	527	684	0.25	0.26	(0.01)	(3.8)	Very Small Industry
	Couriers and messengers	7,231	7,082	0.97	1.01	(0.04)	(4.0)	
	Electrical equipment and appliance mfg.	8,253	10,492	1.85	1.94	(0.09)	(4.6)	

753,443 716,994

Total Employment Impacted

over the 2005-2016 period. There are a variety of reasons why this may have occurred, but in all cases Connecticut has lost employment relative to other parts of the country.

In most cases, (17 out of 31) the industries have had traditionally low concentrations of employment in the state (location quotients of less than 1.0), and have continued to lose ground. In other cases, the industry location quotients are greater than one, but have declined over time. In these cases Connecticut has maintained a high concentration of employment, but growth has been faster elsewhere. The insurance industry is perhaps the obvious example.

With a location quotient of 2.12, insurance remains a major employment force in Connecticut, but after undergoing restructuring following the recession and increased competition for this employment nationally, its location quotient has fallen from 2.44 in 2005 – a 13% decline. Another notable decline was chemical manufacturing, mostly driven by the exit of pharmaceutical companies.

Table 5 shows the remaining Connecticut industries, i.e., whose location quotients have not changed substantially over the 11-year period (5% or less). Though seventeen of the twenty nine industries in this category saw job declines over the time period, overall the group saw a 36,449, or 5%, increase in employment. In most cases these industries have smaller employment shares relative to the rest of the nation (location quotients < 1.0), but ten have higher location quotient shares, including some large employment industries such as education, food and beverage, nursing facilities, social assistance and hospitals.

#### Summary

Returning to the initial question, "is Connecticut losing jobs to other states," the answer is nuanced. Twenty one industries have shown substantial increases in location quotient shares in recent years, impacting 232,000 workers in 2016. These industries grew nearly 32,000 workers or 16% in the eleven-year period, despite the impact of a major recession. Combining this group with the group that has held its own, the total number of workers impacted is nearly 986,000 or 71% of the unemployment insurance-covered workers in the state. In all of these industries, employment has either grown relative to the other states in the country or held its

However, employment shares have fallen for thirty one industries, including some with large employment, such as insurance, professional and technical services and ambulatory health care. Nearly 405,000 workers are impacted in this group which has lost net 26,000 jobs or 6% over the 11 year period. In each of these cases industry employment shares have declined relative to the nation as

In the competitive terms, rightly or wrongly framed at the beginning of this article, 71% of Connecticut jobs are in industries that are performing as well or better than the US as a whole with respect to employment growth. On the other hand, 29% of our jobs are in industries that are lagging in employment growth relative to the rest of the nation.

### GENERAL ECONOMIC INDICATORS

	2Q	2Q	CHANGE	1Q
(Seasonally adjusted)	2017	2016	NO. %	2017
General Drift Indicator (1996=100)*				
Leading	116.7	118.2	-1.5 -1.3	118.4
Coincident	117.1	117.3	-0.2 -0.2	116.8
Farmington Bank Business Barometer (1992=100)**	136.1	135.5	0.6 0.4	135.2
Philadelphia Fed's Coincident Index (July 1992=100)***	Sep	Sep		Aug
(Seasonally adjusted)	2017	2016		2017
Connecticut	182.68	178.54	4.1 2.3	181.46
United States	182.70	178.16	4.5 2.5	182.30

Sources: \*Dr. Steven P. Lanza, University of Connecticut \*\*Farmington Bank \*\*\*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

The Farmington Bank Business Barometer is a measure of overall economic growth in the state of Connecticut that is derived from non-manufacturing employment, real disposable personal income, and manufacturing production.

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).

<sup>1</sup> https://data.bls.gov/cew/doc/info/ location\_quotients.htm