Job openings and labor turnover trends for Northeastern states in 2018

By Hope Allen and Larry Akinyooye

The Northeast is known for its vibrant cities, dense population, and cultural diversity, but what are some of the labor market trends that set this geographical region apart? The Bureau of Labor Statistics Job Openings and Labor Turnover Survey (JOLTS) program publishes estimates on job openings, hires, and separations. JOLTS estimates can give certain insights into labor market dynamics, such as labor demand and labor turnover, that other employment measures cannot. In 2019, the JOLTS program published JOLTS experimental state estimates for the first time.[1] The JOLTS experimental state estimates offer valuable information that can help us better understand state-level economies and allow for comparisons between states, the region, and the nation. This **Beyond the Numbers** article features new experimental JOLTS estimates on states in the Northeast region. This

article is the first in a series of four.[2] We will explore trends in a number of measures—job openings, unemployment, hires and separations, quits, layoffs and discharges, and churn and fill rates—that can give us a deeper understanding of business cycles and labor demand in the Northeast and help businesses and workers make better informed decisions. This article reveals ways that data users can use these estimates to evaluate labor demand and labor turnover at regional and state levels.

Unique labor patterns in the Northeast region

Labor force dynamics in each state can vary widely. Each state in the United States exhibits its own unique labor patterns because of variations in geography; climate; major industries; labor force demographics, such as education and age; and other factors. Although neighboring states may have different labor patterns, there are often traits shared by states in the same geographic region. For this discussion, we will focus on states in the Northeast region, as classified by the U.S. Census Bureau: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.[3]
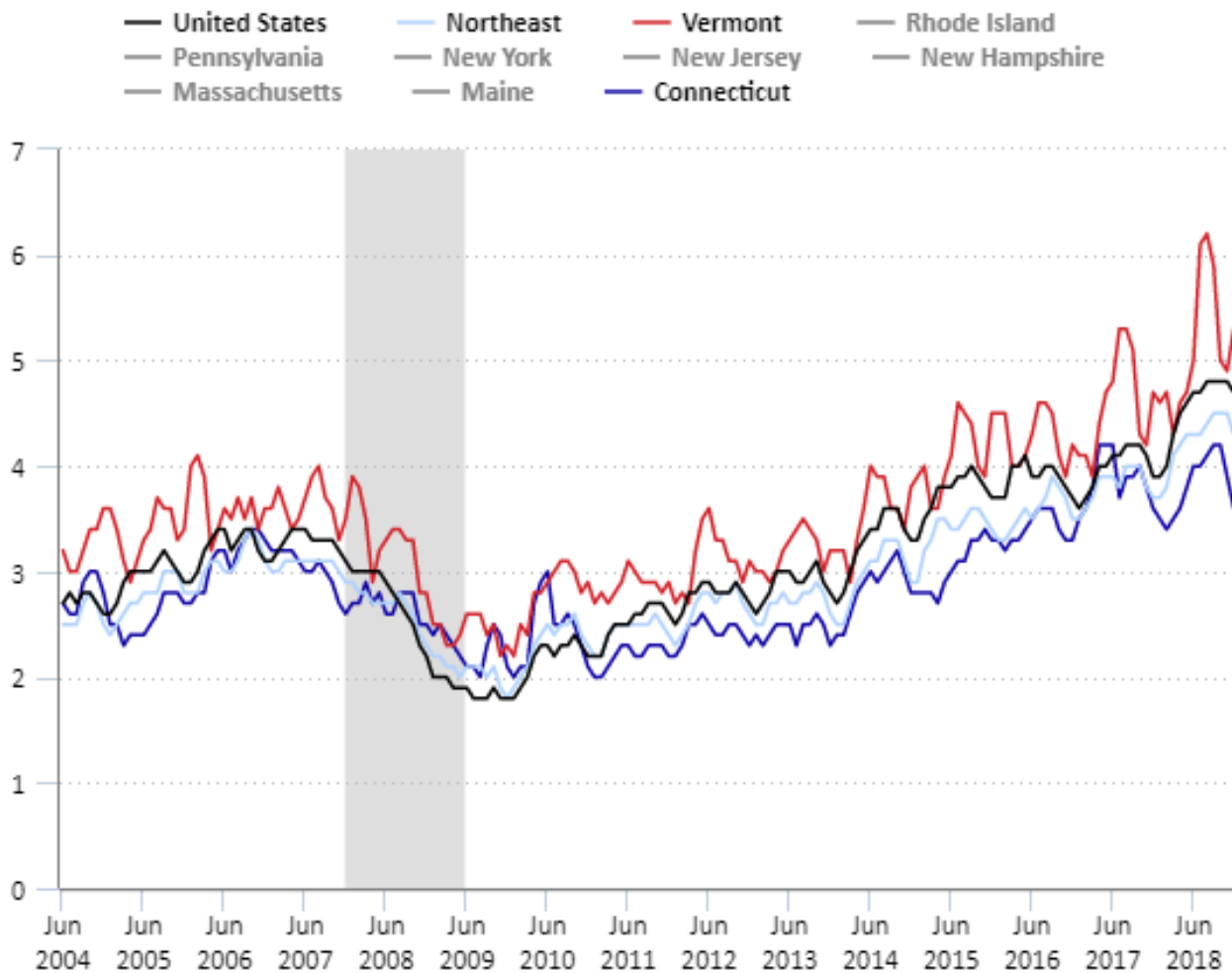
Of the four census regions, the Northeast has the highest population density—the most people living per square mile.[4] As a result, this region has the largest labor force per square mile.[5] For 7 of the 9 Northeastern states, education and health services was the major industry with the largest number of employees at the end of 2018.[6] This is notable as there were only nine states nationwide that had education and health services as their top-employing industrial sector at the end of 2018.

While the Northeast has a distinct industrial composition and concentration of the labor force, states within the region have large variations in population and employment, resulting in differing labor market patterns between states. For instance, in 2018, New York's annual average employment level was over 30 times that of Vermont.[7] The nine states in the Northeast also vary in climate and geography, so some states exhibit more seasonal employment patterns than others. These differences are reflected in the JOLTS experimental state estimates.

Trends in job openings: Northeast

JOLTS defines job openings as all positions that are open on the last business day of the month. Job openings measure unmet labor demand in the labor market. Chart 1 shows job openings rates in the United States, Northeast region, and Northeastern states. All states in the Northeast region experienced series-high job openings rates in 2018, but a difference in trends can be seen between Connecticut and Vermont.[8] At the end of 2018, Connecticut had the lowest job openings rate in the Northeast, while Vermont had the highest. Since 2011, job openings rates in the Northeast region and Connecticut have generally trended below the United States.

Chart 1. Job openings rates in the United States, Northeast Region, and select Northeastern states, June 2004–December 2018, not seasonally adjusted

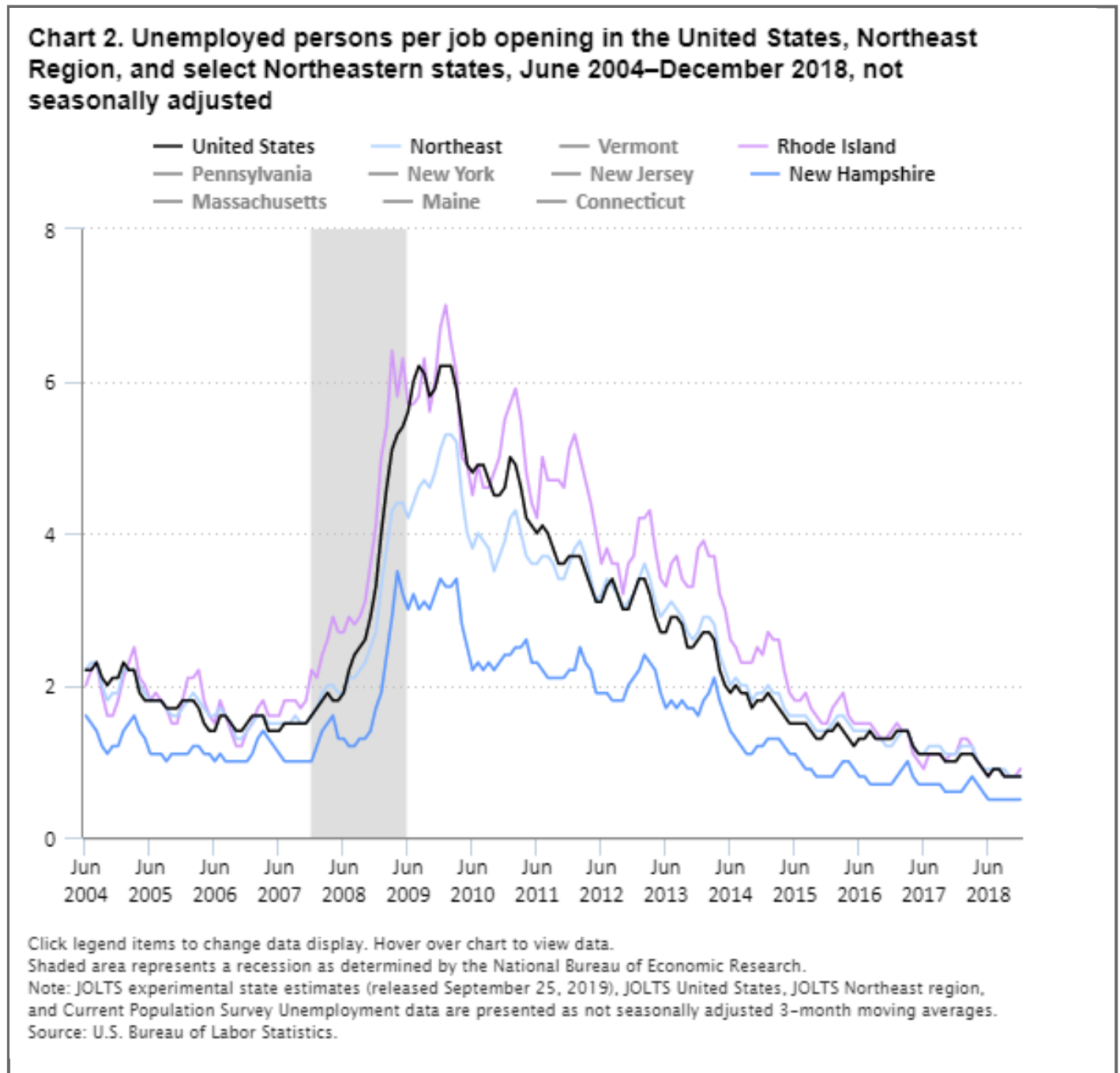Click legend items to change data display. Hover over chart to view data.
Shaded area represents a recession as determined by the National Bureau of Economic Research.
Note: JOLTS experimental state estimates (released September 25, 2019), JOLTS United States, and JOLTS Northeast region data are presented as not seasonally adjusted 3–month moving averages. Figures in this article display data back to June 2004. However, JOLTS experimental state estimates are available starting in February 2001.
Source: U.S. Bureau of Labor Statistics.

JOLTS experimental state estimates allow for the comparison of job openings (labor demand) to unemployment (labor supply) at the state level. The number of unemployed persons per job opening factors in both the supply of unemployed persons and the demand of employers.[9] Unemployed persons per job opening is a ratio of the level of unemployed persons, as published by other BLS programs, and the job openings level. A ratio of 1.0 means there is a job for every unemployed person. Lower ratios signal tighter labor markets with firms having more job openings than there are people available to work. Higher ratios indicate an abundance of labor supply, meaning there are more unemployed people competing for each job opening. While states in the Northeast had similar ratios in recent years, differences emerged during and after the Great Recession.[10] Among the Northeastern states, Rhode Island had the highest ratio of unemployed persons per job opening, at 7.0 in January 2010. New Hampshire and Vermont had the lowest average unemployed persons per job opening ratio in the region for 2018,
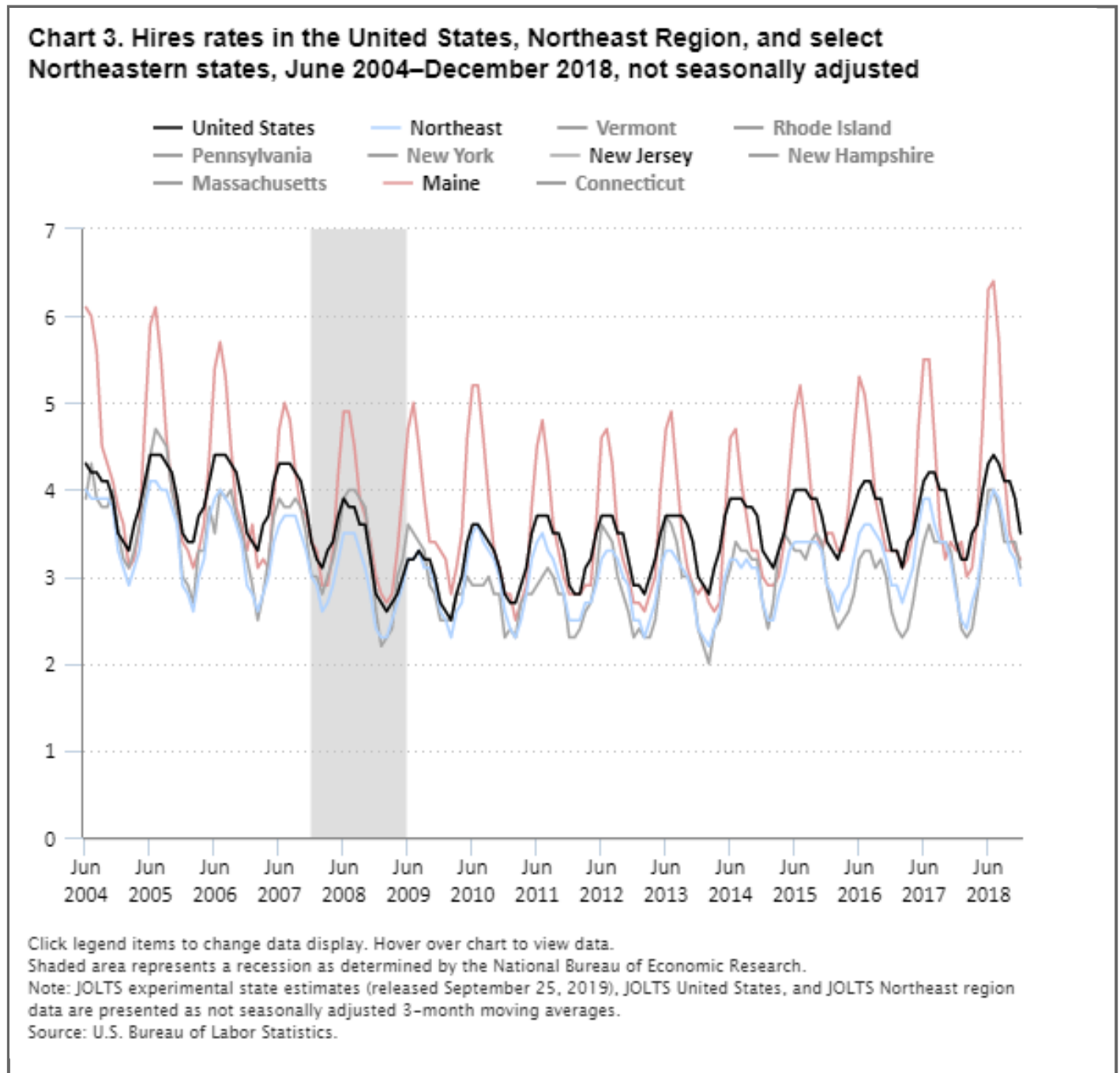
at 0.6 unemployed persons per job opening. (See chart 2). All states in the Northeast were below 1.0 unemployed persons per job opening in December 2018, indicating there were more available jobs than unemployed people.

Chart 2. Unemployed persons per job opening in the United States, Northeast Region, and select Northeastern states, June 2004–December 2018, not seasonally adjusted

Trends in hiring: Northeast

JOLTS defines hires as all additions to the payroll during the month. As chart 3 shows, hires rates in the Northeast region are lower than the U.S. average for most of the JOLTS series. However, all states in the Northeast do not trend lower than the U.S. average. Maine, with more extreme seasonal employment patterns, has very high levels of hires in the summer months. In contrast, New Jersey experiences less seasonal change and has hiring rate

patterns more in line with the Northeastern region. Chart 3 illustrates how aggregate regional JOLTS estimates do not always reveal the large seasonal patterns that some states experience.

Chart 3. Hires rates in the United States, Northeast Region, and select Northeastern states, June 2004–December 2018, not seasonally adjusted

Click legend items to change data display. Hover over chart to view data.
Shaded area represents a recession as determined by the National Bureau of Economic Research.
Note: JOLTS experimental state estimates (released September 25, 2019), JOLTS United States, and JOLTS Northeast region data are presented as not seasonally adjusted 3-month moving averages.
Source: U.S. Bureau of Labor Statistics.

Trends in separations: Northeast

Trends in separations often mirror the trends in hires. States with higher seasonal hiring patterns, such as Maine, also tend to exhibit higher seasonal separations patterns. JOLTS defines separations as the number of employees separated from the payroll during the month. Total separations are composed of quits, layoffs and discharges, and other separations. Other separations are not published with the release of experimental state estimates as they are a minor portion of total separations.

Quits, a component of total separations, are voluntary separations initiated by the employee. Quits can show employee confidence in the labor market. Employees tend to quit their jobs more frequently when they are confident they can find another one. At the U.S. level, quits increased by 6 percent from 2017 to 2018. Table 1 shows that New Jersey and Maine experienced increases, but many Northeast states saw decreases over the year. Rhode Island and Vermont had no change in quits levels between 2017 and 2018.

Table 1. Quits levels in the United States, Northeast region, and Northeastern States in 2017 and 2018, not seasonally adjusted, levels in thousands

Area	Level by year		Over-the-year change
	2017	**2018**	**Percent**
United States	37,529	39,876	6
Northeast	5,415	5,377	-1
Connecticut	336	305	-9
Maine	144	150	4
Massachusetts	660	650	-2
New Hampshire	179	166	-7
New Jersey	755	828	10
New York	1,722	1,710	-1
Pennsylvania	1,418	1,372	-3
Rhode Island	115	115	0
Vermont	82	82	0

Note: JOLTS experimental state estimates (released September 25, 2019), JOLTS United States, and JOLTS Northeast region data are presented as not seasonally adjusted 3-month moving averages. States within the region do not add to total due to rounding.
Source: U.S. Bureau of Labor Statistics.

Layoffs and discharges are involuntary separations initiated by the employer. At the U.S. level, layoffs and discharges increased by 1 percent from 2017 to 2018. However, during this time the Northeast region experienced a 4-percent decrease in layoffs and discharges. Within the Northeast region, Connecticut, Pennsylvania, and Massachusetts experienced large decreases in layoffs and discharges from 2017 to 2018. New York, Maine, and New Hampshire were the only states in the Northeast in which layoffs and discharges increased from 2017 to 2018.

Table 2. Layoffs and discharges levels in the United States, Northeast region, and Northeastern states in 2017 and 2018, not seasonally adjusted, levels in thousands
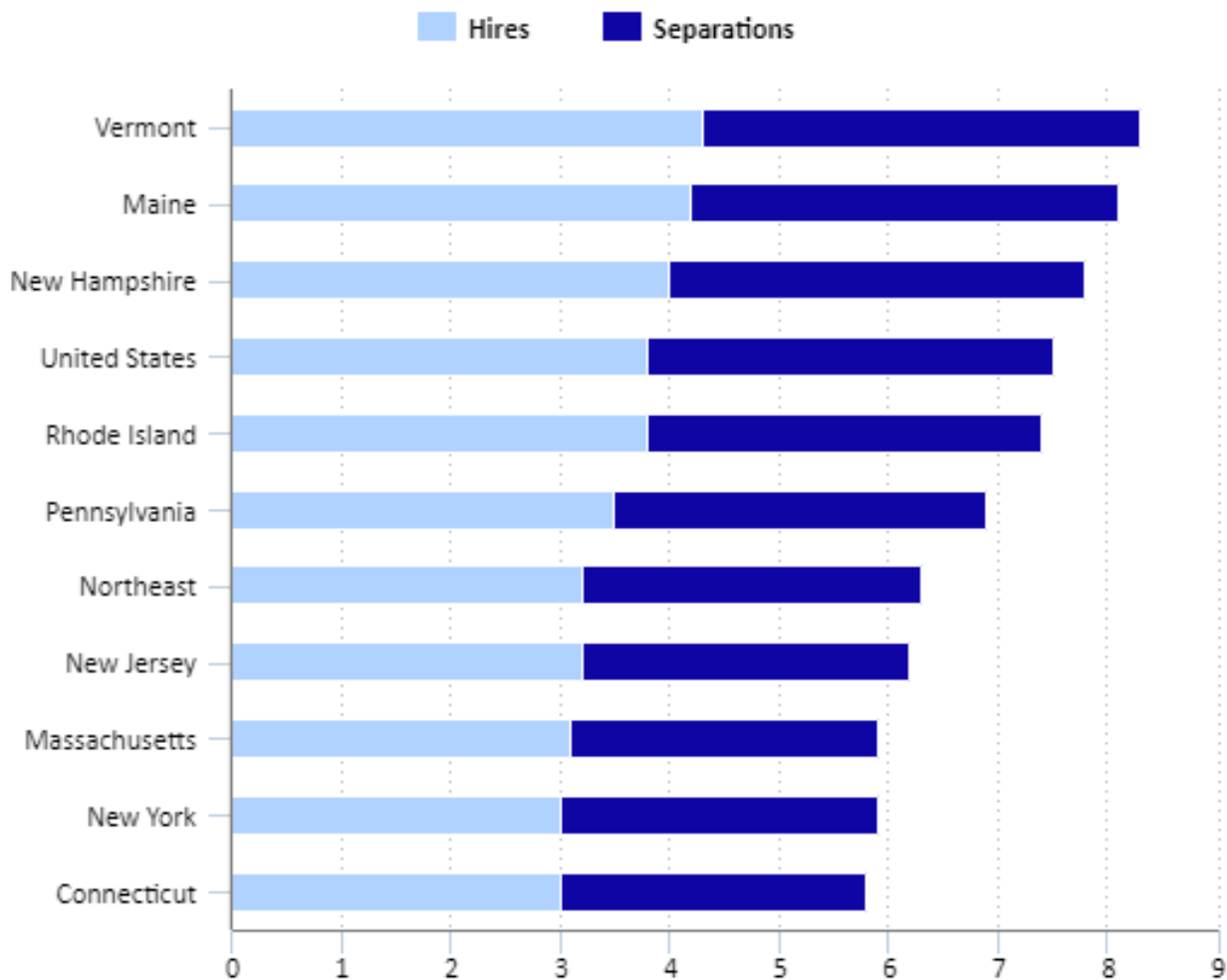
Area	Level by year		Over-the-year change
	2017	**2018**	**Percent**
United States	21,597	21,846	1
Northeast	4,149	3,970	-4
Connecticut	268	219	-18
Maine	120	126	5
Massachusetts	520	462	-11
New Hampshire	119	123	3
New Jersey	578	568	-2

See footnotes at end of table.

Table 2. Layoffs and discharges levels in the United States, Northeast region, and Northeastern states in 2017 and 2018, not seasonally adjusted, levels in thousands

Area	Level by year		Over-the-year change
	2017	**2018**	**Percent**
New York	1,312	1,405	7
Pennsylvania	1,084	928	-14
Rhode Island	88	84	-5
Vermont	61	58	-5

Note: JOLTS experimental state estimates (released September 25, 2019), JOLTS United States, and JOLTS Northeast region data are presented as not seasonally adjusted 3-month moving averages. States within the region do not add to the total due to rounding.
Source: U.S. Bureau of Labor Statistics.

Trends in churn rates: Northeast

The churn rate is defined in this article as the sum of the hires rate and the separations rate. A high churn rate indicates a labor market with high hires, high separations, or both. And it can signify more frequent job-to-job movement of workers in the labor market. Conversely, a low churn rate indicates a labor market with low hires, low separations, or both. The only states with 2018 churn rates higher than the U.S. average were Vermont, Maine, and New Hampshire. (See chart 4.) As shown by the data above, these states tend to have more seasonal employment patterns, which can lead to more frequent job-to-job movement. Connecticut, New York, and Massachusetts had the lowest churn rates in 2018.

Chart 4. Average monthly churn, hires, and separations rates in United States, Northeast region, and Northeastern states in 2018, not seasonally adjusted

Click legend items to change data display. Hover over chart to view data.
Note: The churn rate is the sum of the hires rate and separations rate.
JOLTS experimental state estimates (released September 25, 2019), JOLTS United States, and JOLTS Northeast region data are presented as not seasonally adjusted 3–month moving averages.
Source: U.S. Bureau of Labor Statistics.

Trends in fill rates: Northeast

The fill rate is used to evaluate how employers differ in the rate that open jobs are filled. The annual fill rate is the ratio of hires to job openings over the year. An annual fill rate near or above 1.0 can indicate that employers are more efficient at filling job openings over the year. On the other hand, an annual fill rate less than 1.0 can indicate a tighter labor market, with employers having difficulties filling job openings. Table 3 shows that from 2017 to 2018, fill rates declined for the nation, Northeast region, and all Northeastern states except for Massachusetts. In both years, New Hampshire had the highest annual fill rate of the Northeastern states. Massachusetts had the lowest in 2017 and New Jersey had the lowest in 2018.

Table 3. Annual average fill rates in the United States, Northeast region, and Northeastern states in 2017 and 2018, not seasonally adjusted

Area	Fill rate by year		Over-the-year change
	2017	**2018**	
United States	0.90	0.81	-0.09
Northeast	0.82	0.73	-0.09
Connecticut	0.82	0.75	-0.07
Maine	0.87	0.80	-0.07
Massachusetts	0.70	0.71	0.00
New Hampshire	0.95	0.82	-0.13
New Jersey	0.80	0.70	-0.09
New York	0.85	0.74	-0.11
Pennsylvania	0.84	0.72	-0.12
Rhode Island	0.88	0.78	-0.10
Vermont	0.91	0.80	-0.11

Note: JOLTS experimental state estimates (released September 25, 2019), JOLTS United States, and JOLTS Northeast region data are presented as not seasonally adjusted 3-month moving averages.
Source: U.S. Bureau of Labor Statistics.

Conclusion

JOLTS experimental state estimates allow for economic comparisons among states, regionally and nationally. The analyses in this article show differing labor trends between states within the Northeast region. Through job openings, hires, and separations and other measures such as churn rate and fill rate, JOLTS experimental state estimates provide valuable information about labor demand, labor turnover, and business cycles. JOLTS state-level estimates allow researchers and policymakers to better understand state-level economies, and help businesses and workers make better informed decisions at a more granular level than national and regional estimates. State estimates can also be useful to those seeking employment opportunities as this information can help jobseekers evaluate labor market opportunities across states.

The JOLTS program invites your comments on the experimental state estimates. Please visit our website at https://www.bls.gov/jlt/jlt_statedata.htm, call us at (202) 691-5870, or email us at JoltsInfo@bls.gov.

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NOTES

[1] The JOLTS program publishes monthly estimates for major industries at the national level and total nonfarm estimates at the regional level. Users expressed a desire for state-level estimates, therefore the JOLTS program developed and published the state experimental series for the first time in 2019. The experimental models enable the production of estimates at the state total nonfarm level, using a combination of the current JOLTS sample, data from the Quarterly Census of Employment and Wages (QCEW), and data from the Current Employment Statistics (CES) program. Information on the methodology can be found on the JOLTS experimental state estimates website.

[2] The four Census regions are the Northeast, Midwest, South, and West: https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.

[3] Census Regions and Divisions of the United States are available at https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.

[4] State population totals can be found at https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-total.html. Total area of each state and area in the United States can be found at https://www.census.gov/geographies/reference-files/2010/geo/state-area.html.

[5] Labor force by state can be found at https://www.bls.gov/lau/.

[6] Geographic employment information by state and region can be found at https://www.bls.gov/regions/home.htm.

[7] Employment by state can be found at https://www.bls.gov/sae/data/home.htm. Not seasonally adjusted annual averages are used in this analysis.

[8] The series dates back to February 2001.

[9] To calculate this ratio, divide the number of people who are unemployed by the number of job openings. Unemployment levels for the nation are published by the Current Population Survey and unemployment levels for regions and states are published by the Local Area Unemployment Statistics (LAUS). Persons are classified as unemployed if they do not have a job, have actively looked for work in the prior 4 weeks, and are currently available for work. https://www.bls.gov/cps/lfcharacteristics.htm#unemp

[10] Recessions are determined by the National Bureau of Economic Research (NBER).

SUGGESTED CITATION

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