

## American Job Openings Take Ever Longer to Fill Average Vacancy Duration Reaches 30.4 Working Days, Longest on Record

This edition of *DHI Hiring Indicators* reports updated statistics on mean vacancy durations and recruiting intensity per vacancy for the U.S. economy, including updated results by industry sector, region and employer size.

Section I contains highlights. Section II draws on the **Job Openings and Labor Turnover Survey** to present statistics on vacancy durations and recruiting intensity per vacancy, as well as other indicators of labor market tightness. Section III provides additional information about the *DHI Hiring Indicators* and DHI Group, Inc. A separate Excel file contains monthly time-series data for statistics discussed in this report and a large set of additional statistics.

### ***I. Highlights***

1. The mean vacancy duration for job openings in the U.S. economy rose to 30.4 working days in March 2018 – the highest value on record.
2. Mean vacancy durations also rose to all-time highs for jobs in Health Services (51.7 working days) and in Financial Services (58.2 working days).
3. Larger employers take longer to fill jobs. According to the latest data for February 2018, the mean vacancy duration is 24.2 days for establishments with 10-49 employees but 40.6 days for establishments with 1000-4999 employees and 64.3 days for those with 5,000 or more employees.

“American jobs take ever longer to fill, more evidence of tight labor market conditions” said Dr. Steven Davis, Chicago Booth professor and Senior Fellow at the Hoover Institution. “The lengthening of vacancy durations also reflects more stringent screening of job applicants and greater selectivity in the hiring process.” Davis is a co-developer of the DHI Database and the DHI labor market indicators.

“The demand of for tech talent, particularly software engineers who code and create the underlying technology that powers products, continues to grow in the U.S.,” said Art Zeile, President and CEO of DHI Group, Inc. “As more companies build out their technology stacks, employers will have to compete to hire the best of the best. In many cases, this will mean offering attractive compensation packages and alluring projects, giving skilled software engineers the upper hand in career negotiation conversations.”

## II. Results Based on the Job Openings and Labor Turnover Survey

The **DHI-DFH Mean Vacancy Duration Measure** rose to 30.4 working days in March, 1.4 days above its revised value for February. Figure II.1 shows the evolution of the mean vacancy duration in the United States since 2001. This duration measure reflects the vacancy concept in the Job Openings and Labor Turnover Survey (JOLTS). Specifically, a job opening gets “filled” according to JOLTS when a job offer for the open position is accepted. Thus, the duration statistic refers to the average length of time required to fill open positions. Typically, there is also a lag between the fill date and the new hire's start date on the new job.

Figure II.2 displays four other indicators of labor market slack alongside the mean vacancy duration. All five measures show a pronounced tightening of U.S. labor markets since 2009. Three of the measures – mean vacancy duration, the vacancy-unemployment ratio, and the ratio of vacancies to the number of persons unemployed for 26 weeks or less – exceed their peak values prior to the recession of 2008-2009. The post-recession rise in the mean vacancy duration is especially pronounced.

The **DHI-DFH Recruiting Intensity Index**, plotted in Figure II.3, was 1.03 in March, slightly below its revised value for February. Tables II.1 and II.2 below report industry-level statistics for mean vacancy duration and recruiting intensity per vacancy

Figure II.1. DHI-DFH Measure of National Mean Vacancy Duration, January 2001 to March 2018

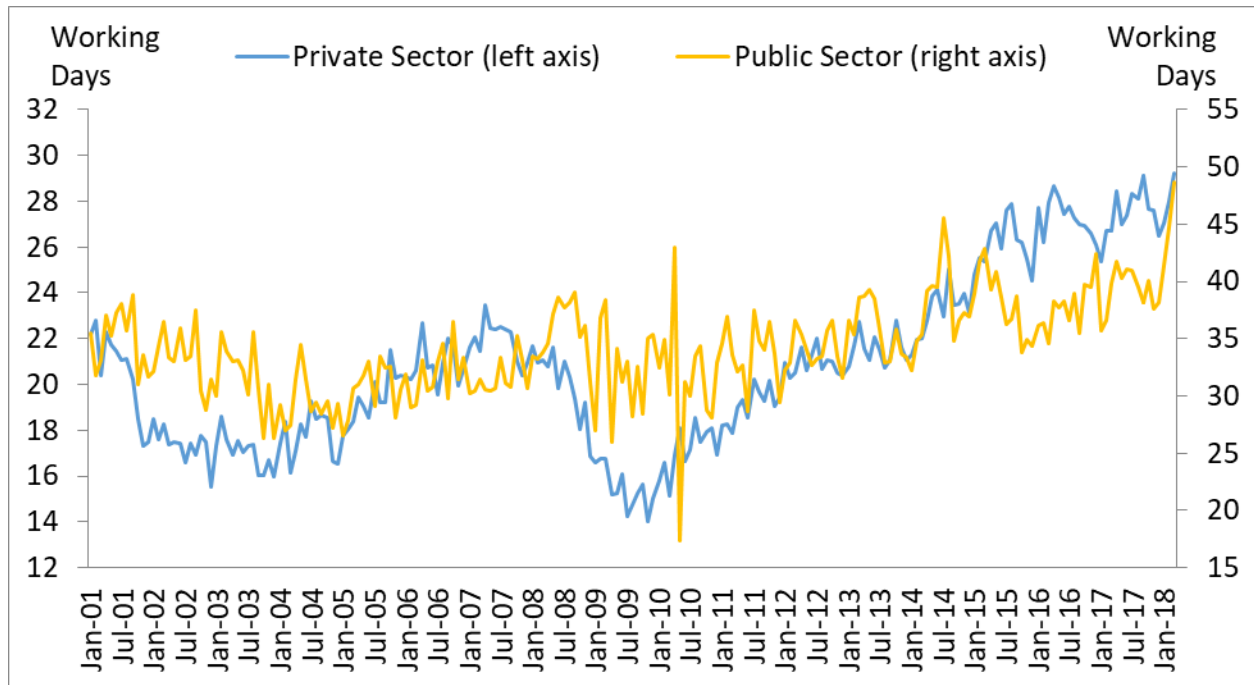
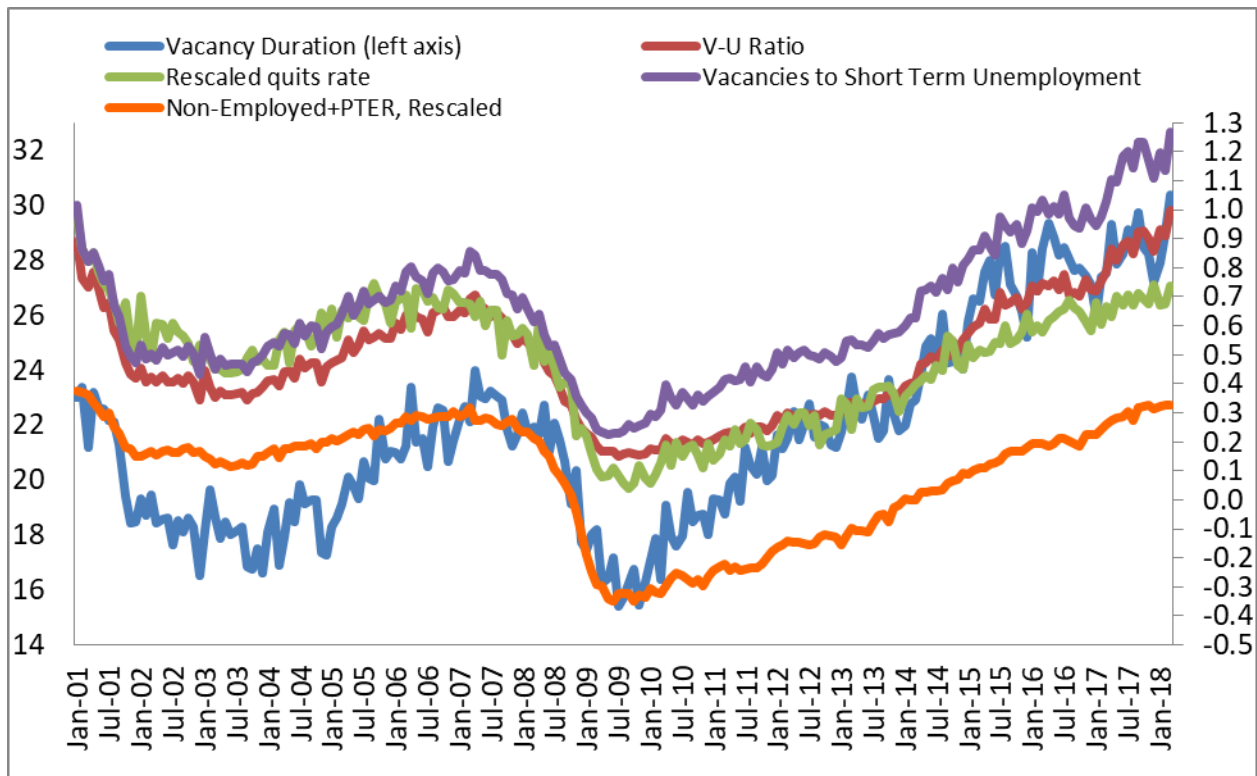


Figure II.2. National Labor Market Slackness Measures, January 2001 to March 2018



Notes: Short Term Unemployment is the number of persons unemployed 26 weeks or less. The Quit Rate is rescaled to have the same mean and variance as the Vacancy-Unemployment Ratio from January 2001 to date. Non-Employment + PTER, an index developed by Hornstein, Kudlyak and Lange, reflects all persons who are not employed (weighted by labor force attachment) plus persons working part time for economic reasons who would prefer full-time work full. Here, their index is multiplied by minus one and then rescaled to have the same standard deviation as the Vacancy-Unemployment Ratio from January 2001 to date.

Figure II.3. DHI-DFH Index of Recruiting Intensity per Vacancy, January 2001 to March 2018

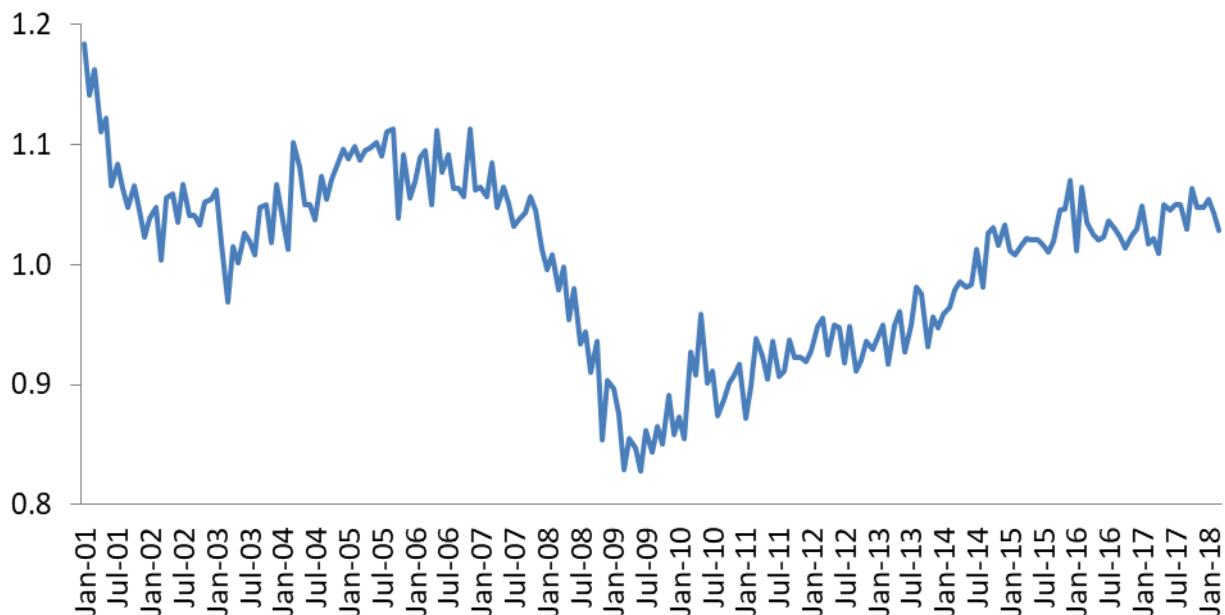


Table II.1. DHI-DFH Measure of Mean Vacancy Duration by Industry and Time Period, No. of Working Days, January 2001 to March 2018

	2001 to 2003	2004 to 2006	2008	2009	2010 to 2012	2013 to 2014	2015 to 2016	2017	Jan-Mar 2018
Resources	12.0	14.0	18.1	13.5	18.7	20.0	15.7	19.9	21.1
Construction	7.9	8.8	7.3	4.3	6.1	10.2	13.1	14.0	16.2
Manufacturing	17.4	20.9	21.6	13.8	23.4	28.8	31.1	30.5	28.7
Wholesale and Retail Trade	14.2	15.8	15.5	13.1	15.9	19.2	22.6	25.9	27.0
Warehouse, Trans. & Utilities	18.6	17.0	20.6	11.3	18.2	23.2	28.5	25.9	33.2
Information	25.8	36.0	34.5	23.4	40.9	36.7	32.4	33.0	38.6
Financial Services	28.0	32.1	27.6	25.7	33.4	36.6	43.8	46.1	47.8
Professional and Business Services	18.3	19.9	21.3	16.6	18.8	20.8	26.7	23.5	22.9
Education	21.3	25.0	22.0	18.5	21.1	25.2	29.7	28.4	27.4
Health Services	39.1	35.8	36.4	29.8	33.5	36.5	46.1	47.7	48.8
Leisure and Hospitality	13.7	14.8	14.9	10.4	13.3	18.0	19.6	20.9	21.8
Other Services	22.5	18.6	25.2	16.9	18.9	20.5	26.0	32.2	28.8
Government	33.2	30.7	35.7	32.2	33.0	36.9	38.0	39.1	44.9
Non-Farm	19.3	20.0	21.1	16.6	20.0	23.3	27.5	28.2	29.1

Table II.2. DHI-DFH Recruiting Intensity Index by Industry and Time Period, January 2001 to March 2018

	2001 to 2003	2004 to 2006	2008	2009	2010 to 2012	2013 to 2014	2015 to 2016	2017	Jan-Mar 2018
Resources	0.99	1.06	1.05	0.70	1.00	1.01	0.95	1.24	1.26
Construction	1.07	1.04	0.89	0.90	1.01	0.91	0.88	0.91	0.85
Manufacturing	1.02	1.09	0.95	0.85	0.94	0.90	0.95	1.09	1.18
Wholesale and Retail Trade	1.05	1.10	0.96	0.84	0.89	0.99	1.02	0.98	0.99
Warehouse, Trans. & Utilities	0.96	1.13	0.94	0.92	0.96	1.06	1.12	1.12	1.18
Information	1.10	1.08	0.87	0.83	0.91	1.08	1.16	1.14	1.18
Financial Services	1.06	1.09	0.99	0.84	0.87	0.97	0.94	0.95	0.95
Professional and Business Services	1.08	1.07	0.90	0.83	0.94	0.98	1.02	1.04	1.05
Education	1.00	0.99	1.04	0.96	0.99	0.97	1.08	1.06	1.09
Health Services	1.08	1.04	1.01	0.93	0.89	0.94	1.01	1.03	1.03
Leisure and Hospitality	1.08	1.08	0.97	0.84	0.88	0.94	1.02	1.00	1.00
Other Services	1.02	1.07	0.94	0.96	0.95	0.97	1.00	1.08	0.97
Government	1.05	1.05	0.94	0.87	0.93	0.96	1.11	1.08	1.05
Non-Farm	1.05	1.08	0.95	0.86	0.92	0.97	1.03	1.04	1.04

Table II.3. DHI-DFH Measure of Mean Vacancy Duration by Establishment Size, Number of Working Days, December 2000 to February 2018

Class Size	2001 to 2003	2004 to 2006	2008	2009	2010 to 2012	2013 to 2014	2015 to 2016	2017	Jan.-Feb. 2018
1-9	19.4	17.9	19.9	13.3	16.8	21.2	26.6	26.7	28.0
10-49	15.2	15.8	16.5	12.9	15.7	19.8	24.3	25.0	23.9
50-249	15.7	17.8	18.2	15.1	17.9	21.1	24.2	25.8	26.6
250-999	21.0	22.8	24.8	17.7	24.4	25.3	30.2	31.5	30.6
1000-4999	36.3	37.9	35.8	30.8	34.5	37.0	39.6	35.9	37.8
5000+	48.8	42.7	39.9	40.8	55.8	57.1	58.4	58.9	63.3

Table II.4. DHI-DFH Measure of Recruiting Intensity by Establishment Size, Number of Working Days, December 2000 to February 2018

Class Size	2001 to 2003	2004 to 2006	2008	2009	2010 to 2012	2013 to 2014	2015 to 2016	2017	Jan.-Feb. 2018
1-9	0.98	1.09	0.98	0.96	0.95	0.91	0.98	1.05	1.01
10-49	1.05	1.09	0.95	0.89	0.90	0.95	1.00	0.99	1.00
50-249	1.09	1.08	0.94	0.81	0.90	0.97	1.00	1.01	1.00
250-999	1.06	1.07	0.91	0.84	0.94	1.02	1.04	1.04	1.12
1000-4999	1.05	1.04	1.04	0.84	0.94	1.03	1.16	1.27	1.27
5000+	0.97	1.19	1.12	0.78	0.79	0.86	1.02	1.03	0.97

### III. About the DHI Hiring Indicators

The **DHI-DFH Recruiting Intensity Index** quantifies the effective intensity of recruiting efforts per vacancy by employers with vacant job positions. The index is normalized to an average value of 1.0 for the period from January 2001 to December 2012. It complements the monthly [Job Openings Rate](#) produced by the U.S. Bureau of Labor Statistics (BLS) from the [Job Openings and Labor Turnover Survey](#).

The pace of new hires in the economy depends on the number and types of job seekers, the number and types of job vacancies, and employer actions that affect how quickly vacant jobs are filled. These actions include the choice of recruiting methods, expenditures on help-wanted ads, how rapidly employers screen job applicants, hiring standards, and the attractiveness of compensation packages offered to prospective new hires. The BLS Job Openings Rate captures the availability of job vacancies in the economy, while the **DHI-DFH Recruiting Intensity Index** captures the intensity of employer efforts to fill those vacancies. The index is available at the national, regional and industry levels and by establishment size class (number of employees).

The index construction follows the method developed by Steven J. Davis, R. Jason Faberman and John Haltiwanger (DFH) in "[The Establishment-Level Behavior of Vacancies and Hiring](#)," published in the May 2013 issue of the *Quarterly Journal of Economics*, and extended to industry and regional indices in "[Recruiting Intensity during and after the Great Recession: National and Industry Evidence](#)," published in the May 2012 issue of the *American Economic Review*.

The **DHI-DFH Vacancy Duration Measure** quantifies the average number of working days taken to fill vacant job positions. It supplements other measures often used to assess the tightness of labor market conditions such as the ratio of vacant jobs to unemployed workers.

Vacancy durations depend on the relative numbers of job seekers and job vacancies, the recruiting and search methods available to employers and job seekers, employer recruiting intensity per vacancy, the search intensity of job seekers, and the degree to which the requirements of jobs on offer match the skills, locations and preferences of job seekers. Other things equal, a larger ratio of job vacancies to job seekers yields longer vacancy durations.

The **DHI-DFH Vacancy Duration Measure** follows the method developed by Steven J. Davis, R. Jason Faberman and John Haltiwanger (DFH) in "[The Establishment-Level Behavior of Vacancies and Hiring](#)," published in the May 2013 issue of the *Quarterly Journal of Economics*. That method combines a simple model of hiring dynamics with data on hires and vacancies from the [Job Openings and Labor Turnover Survey](#) (JOLTS) conducted by the U.S. Bureau of Labor Statistics. Using their model and the JOLTS data, DFH estimate an average daily job-filling rate for vacant job positions in each month. Taking the reciprocal of the daily job-filling rate yields the **DHI-DFH Vacancy Duration Measure**, which is available at the national, regional and industry levels and by establishment size class.

The average daily job-filling rate is closely related to the "vacancy yield," the ratio of hires during the month to the stock of vacancies on the last business day of the previous month. Unlike the vacancy yield, however, the daily job-filling rate (and the **DHI-DFH Vacancy Duration Measure**) adjusts for job vacancies that are posted and filled within the month. Working days are defined as Mondays through Saturdays, excluding major national holidays.

The **Skill-Level Slackness Measures** use the daily flow of applications per posting to quantify relative labor market tightness. These measures recognize that job characteristics, such as skill requirements, affect the applications received by each posting, and control for this by grouping vacancies based on the first skill mentioned in the job description. Rising (falling) values for this measure for a particular skill indicate that average daily application flows have increased (decreased), and hence, that labor market tightness fell (rose) for postings that require the skill. For more information about the DHI Vacancy and Application Flow Database and the skill-level tightness measures, see "Application Flows" by Steven J. Davis and Brenda Samaniego de la Parra.

### **About DHI Group, Inc.**

DHI Group, Inc. (NYSE:DHX) is a leading provider of data, insights and employment connections through our specialized services for technology professionals and other select online communities. Our mission is to empower tech professionals and organizations to compete and win through expert insights and relevant employment connections. Employers and recruiters use our websites and services to source, hire and connect with the most qualified and highly-skilled tech professionals, while professionals use our websites and services

to find ideal employment opportunities, relevant job advice and tailored career-related data. For over 25 years, we have built our Company on providing employers and professionals with career connections, news, tools and information. Today, we serve multiple markets located throughout North America, Europe, the Middle East and the Asia Pacific region.

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