



Center for
Research
On the
Wisconsin
Economy

University of Wisconsin- Madison

Job Openings and Labor Market Tightness During the COVID-19 Pandemic

Junjie Guo

Center for Research on the Wisconsin Economy, UW-Madison

Updated October 22, 2021

Abstract

The latest data suggest that the official number of job openings dropped in August in both the U.S. and Wisconsin, and the number of new online job postings in Wisconsin has been dropping slowly in the last few weeks.

Overall, both the official data on job openings and a complementary measure on new online job postings suggest that, for both the U.S. and Wisconsin, there are more job openings now than it was before the pandemic. In particular, the number of new online job postings in the U.S. increased by about 10% between January 2020 and the four weeks ending 10/15/2021, which is only slightly below the 13% increase in unemployment during the same period, suggesting the national labor market is almost as tight as it was before the pandemic. The corresponding numbers for Wisconsin are 23% and -3%, suggesting the state's labor market is tighter now than it was before the pandemic.

1 Overview

Over 20 million Americans lost their jobs in April 2020, the first full month of the COVID-19 pandemic. After more than a year, the total number of unemployed workers has dropped below 8 million, and the weekly number of individuals filing for initial unemployment insurance claims has dropped below 300 thousand. However, both measures are still above their pre-pandemic levels, about 5.8 million for unemployment and 210 thousand for weekly initial unemployment insurance claims

Whether and how quickly a worker can find a job depends not only on the worker's search effort but also on the number of job openings available. While it is easy to find a job in a tight labor market with a large number of job openings per unemployed worker, when there is a lot of slack in the labor market with a limited number of job openings, it could be hard to find a job even with a lot of effort. Similarly, whether and how quickly a firm can fill a vacancy depends on both the number of unemployed workers looking for a job and the number of job openings competing for those workers. While it is easy to fill a vacancy when there are lots of unemployed workers per vacancy, it will be hard to do so in a tight labor market with a large number of job openings per unemployed worker.

This data brief reports the evolution of job openings and labor market tightness during the COVID-19 pandemic. We find that, in March and April of 2020 and for both the U.S. and Wisconsin, the number of job openings per capita dropped by more than 20%, the weekly number of new online job postings dropped by over 30%, and the number of job openings per unemployed worker, a standard measure of labor market tightness, dropped by over 70%. Although there were some fluctuations, all three measures have been recovering since then, especially in the summer of 2020 and the spring of 2021.

However, the latest data suggest that the official number of job openings dropped in August in both the U.S. and Wisconsin, and the number of new online job postings in Wisconsin has been dropping slowly in the last few weeks.

Overall, both the official data on job openings and a complementary measure on new online job postings suggest that, for both the U.S. and Wisconsin, there are more job openings now than it was before the pandemic. In particular, the number of new online job postings in the U.S. increased by about 10% between January 2020 and the four weeks ending 10/15/2021, which is only slightly below the 13% increase in unemployment during the same period, suggesting the national labor market is almost as tight as it was before the pandemic. The corresponding numbers for Wisconsin are 23% and -3%, suggesting the state's labor market is tighter now than it was before the pandemic.

2 Job Openings and Labor Market Tightness

This section uses data from the Job Openings and Labor Turnover Survey (JOLTS). Developed by the Bureau of Labor Statistics, the JOLTS is a monthly survey of approximately 16,000 business establishments in the U.S. It covers all nonagricultural industries in the public and private sectors for the 50 States and the District of Columbia,

Job Openings and Labor Market Tightness During the COVID-19 Pandemic

and collects data on total employment, job openings, hires, quits, layoffs and discharges, and other separations.

JOLTS defines job openings as all positions that are open (not filled) on the last business day of the month. A job is "open" only if it meets all three of the following conditions: (1) A specific position exists and there is work available for that position. The position can be full-time or part-time, and it can be permanent, short-term, or seasonal; (2) The job could start within 30 days, whether or not the establishment finds a suitable candidate during that time; and (3) there is active recruiting for workers from outside the establishment location that has the opening.

Starting from December 2000, monthly measures of job openings are available both nationally and by state, with the national data also available by sectors. The latest observation is for August 2021.

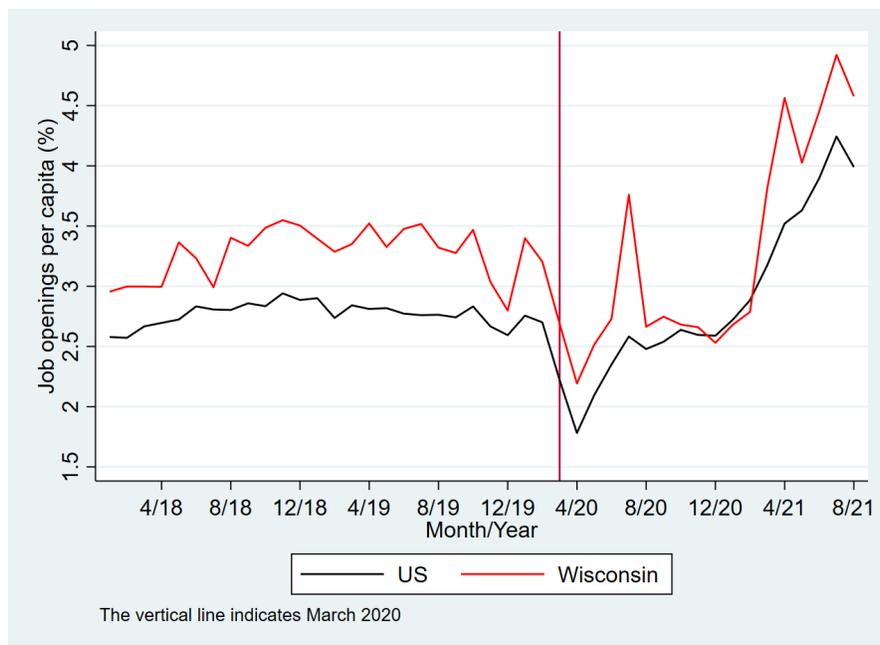


Figure 1. Job Openings in the U.S. and Wisconsin

Figure 1 reports the number of job openings per capita for the U.S. and Wisconsin. In the two years before the pandemic, the number of job openings per capita was about 2.5-3% in the U.S. and 3-3.5% in Wisconsin. Job openings in both labor markets declined slightly in the few months before the pandemic, and then substantially in March and April of 2020. In April 2020, the number of job openings per capita was about 1.7% in the U.S. and 2.2% in Wisconsin, about 1 percentage point below their pre-pandemic levels. After that, job openings in both economies recovered quickly in the next three months, especially in July for Wisconsin, and then stayed flat at around 2.6% from

Job Openings and Labor Market Tightness During the COVID-19 Pandemic

August to the end of 2020. Since the start of 2021, job openings have been rising sharply in both the U.S. and Wisconsin. The latest data show that the number of job openings per capita has reached 4% in the U.S. and 4.5% in Wisconsin, both of which are significantly higher than their pre-pandemic levels.

For the U.S. and each of its 51 states (DC is treated as a state), figure 2 plots the job openings per capita in August 2021 against their values in August 2019. All dots in the graph lie above the 45 degree line, indicating that the number of job openings per capita has exceeded its pre-pandemic level in all states.

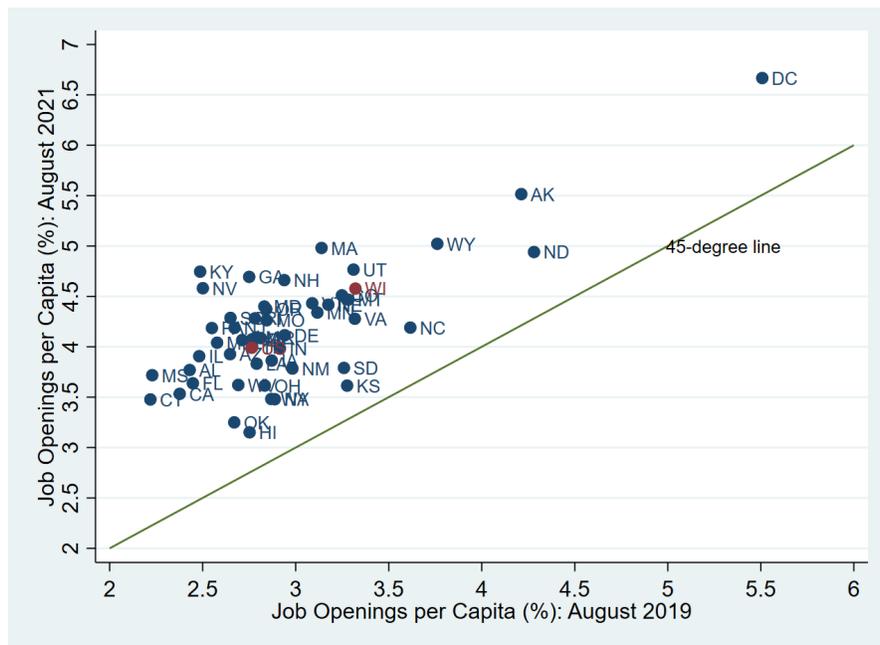


Figure 2. Job Openings per Capita by State: August 2021 vs August 2019

Figure 3 reports the number of job openings per unemployed worker, a standard measure of labor market tightness, for both the U.S. and Wisconsin. In the two years before the pandemic, the number of job openings per unemployed worker was about 1.2 in the U.S. and 1.5 in Wisconsin. As with job openings per capita, job openings per unemployed worker declined slightly in the few months before the pandemic, and then dramatically in March and April of 2020. In April 2020, the number of job openings per unemployed worker was about 0.3 in both economies, more than 70% below their pre-pandemic levels. After that, labor market tightness in both economies have been rising almost linearly. The latest data suggest that, in August 2021, there was about 1.2 job openings for each unemployed worker in the U.S., which is comparable with the level before the pandemic. For Wisconsin, there was 1.7 job openings for each unemployed worker in August, slightly higher than the pre-pandemic level.

For the measured labor market tightness to be informative of the job finding probability for the unemployed, the level of unemployment used in the denominator should only include those looking for a job. In particular, it should not include those on furlough or temporary layoff who are waiting to be recalled to their previous jobs instead of searching actively. Since temporary layoffs are a significant fraction of the unemployment caused by the COVID-19 pandemic, especially in the first few months, the measure reported in figure 2 may be less informative since the pandemic than it was before. However, as time went by and those on temporary layoffs either returned to or permanently separated from their previous jobs, the measure should become more and more relevant.

3 New Online Job Postings

As a complement to the official monthly measure of job openings from the BLS reported above, this section reports a more timely measure of new online job postings obtained from the Economic Tracker.¹ The measure is constructed from weekly count of new online job postings from Burning Glass Technologies (BGT), which aggregates nearly all jobs posted online from approximately 40,000 online job board in the U.S., removes duplicate postings across sites and assigns attributes including geographic locations and industry. New job postings are defined as those that have not had a duplicate posting for at least 60 days prior. A week is defined as the seven days from a Saturday to the next Friday. For each week from the first full week in January 2020 to the week ending October 15, 2021, the measure reports the percentage change of that week's new job postings from the average of the four full weeks in January 2020. To reduce the temporary fluctuations, we apply a 4-week moving average to the original data.

Figure 5 compares this weekly measure of new online job postings with the monthly measure of job openings discussed in the previous section for the U.S. and Wisconsin. To be comparable, the monthly measure is reported as percentage changes from January 2020.

¹ <https://tracktherecovery.org>. For more detailed description of the measure used in this section as well as other related measures, see the paper "The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data", by Raj Chetty, John Friedman, Nathaniel Hendren, Michael Stepner, and the Opportunity Insights Team. November 2020. Available at: https://opportunityinsights.org/wp-content/uploads/2020/05/tracker_paper.pdf

Job Openings and Labor Market Tightness During the COVID-19 Pandemic

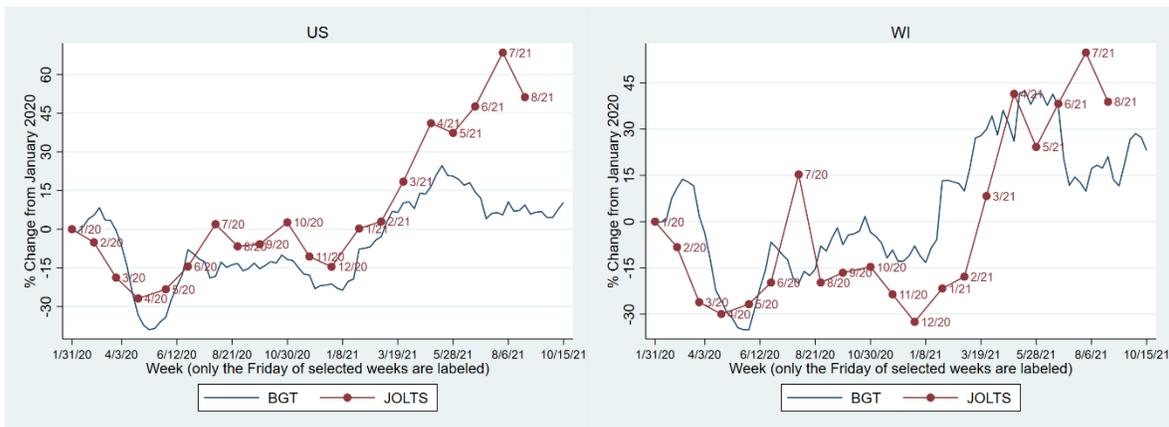


Figure 5. Monthly Job Openings vs Weekly New Online Job Postings in the U.S. and Wisconsin: BGT is the 4-week moving average of weekly data on new online job postings from Burning Glass Technologies. JOLTS is monthly data on job openings from the U.S. Bureau of Labor Statistics

The two measures exhibit similar patterns and some differences. In 2020, both measures declined significantly in March and April, rebounded in May to July, remained roughly flat in August to October, and then declined in November and December. Entering 2021, both measures started to rise again. There are two obvious differences between the two measures. First, for the U.S., the official monthly measure of job openings has been above the weekly measure of new online job postings since July 2020, while the opposite is true for Wisconsin between August 2020 and March 2021. Second, while the official measure of job openings for the U.S. increased significantly in June and July before declining in August, the latest data on the weekly measure suggests that, for both the U.S. and Wisconsin, the number of new online job postings dropped significantly in July and has been roughly flat at a lower level since then. Part of the differences between the two data series is likely due to the fact that, while the official data in JOLTS measure the *stock* of job openings, the data from BGT measure the *new, or the inflow of*, online job postings. This difference should be kept in mind when interpreting the results reported below.

Figure 6 plots the weekly measure of new online job postings for three sectors in Wisconsin: education and health services, manufacturing and leisure and hospitality. The three measures exhibit similar patterns and some differences. In 2020, all of them dropped significantly from mid-March to mid-May (by about 60% for leisure and hospitality, 45% for manufacturing, and 30% for education and health services), rebounded from mid-May to late June and then remained roughly flat from July to October. Entering 2021, all three measures started to rise again. Similar to the state averages reported in figure 5, the latest data suggest that the number of new online job postings dropped significantly in July, and has been decline slowly in the last few weeks.

Job Openings and Labor Market Tightness During the COVID-19 Pandemic

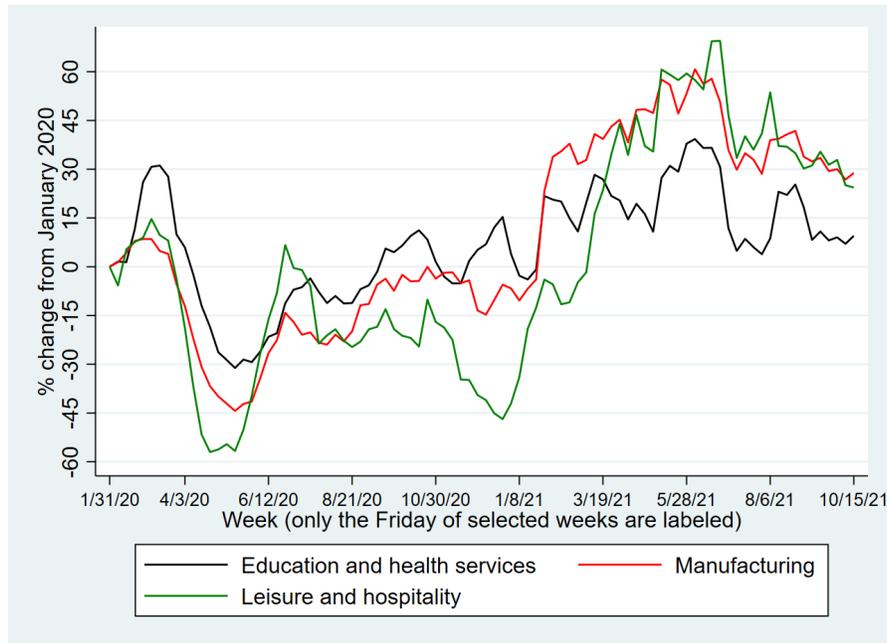


Figure 6. New Online Job Postings by Sector in Wisconsin

Figure 7 plots, for the U.S. and each state excluding Hawaii which is an outlier, the change in new online job postings between January 2020 and the four weeks ending 10/15/2021 against the change in unemployment between January 2020 and September 2021. Since new online job postings reflect labor demand, while unemployment is a measure of labor supply, the difference in their changes could be viewed as a measure of how labor market fares lately relative to January 2020. If the increase in new online job postings lacks the increase in unemployment, it would suggest there is still some slack in the labor market resulting from the pandemic. Otherwise, if the increase in new online job postings exceeds the increase in unemployment, it would be an indication that the labor market is now tighter than it was in January 2020.

The number of new online job postings in the U.S. is now about 10% above its level in January 2020. In comparison, unemployment in September 2021 is about 13% above its level in January 2020. This suggests that, consistent with the data presented in the previous section, the U.S. labor market is now almost as tight as it was before the pandemic.

There is, however, a lot of heterogeneities across states. In particular, the increase in new online job postings exceeds the increase in unemployment in 33 out of the 51 states (with DC treated as a state). The labor markets in these states are likely tighter now than it was before the pandemic in January 2020.

For Wisconsin, unemployment in September 2021 was about 3% below its level in January 2020. In comparison, new online job postings increased by 23% between January 2020 and the four weeks ending 10/15/2021. This comparison suggests that,

Job Openings and Labor Market Tightness During the COVID-19 Pandemic

consistent with the data presented in the previous section, the state's labor market is tighter now than it was before the pandemic.

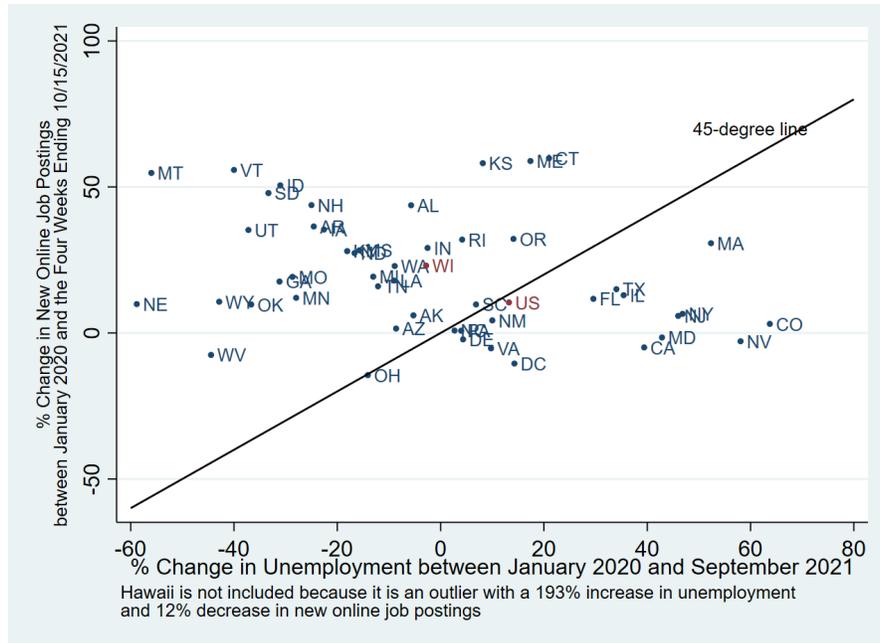


Figure 7. Changes in New Online Job Postings vs Unemployment across States

3 Summary

The latest data suggest that the official number of job openings dropped in August in both the U.S. and Wisconsin, and the number of new online job postings in Wisconsin has been dropping slowly in the last few weeks.

Overall, both the official data on job openings and a complementary measure on new online job postings suggest that, for both the U.S. and Wisconsin, there are more job openings now than it was before the pandemic. In particular, the number of new online job postings in the U.S. increased by about 10% between January 2020 and the four weeks ending 10/15/2021, which is only slightly below the 13% increase in unemployment during the same period, suggesting the national labor market is almost as tight as it was before the pandemic. The corresponding numbers for Wisconsin are 23% and -3%, suggesting the state's labor market is tighter now than it was before the pandemic.