



The effects of COVID-19 on Wisconsin's workers and firms[†]

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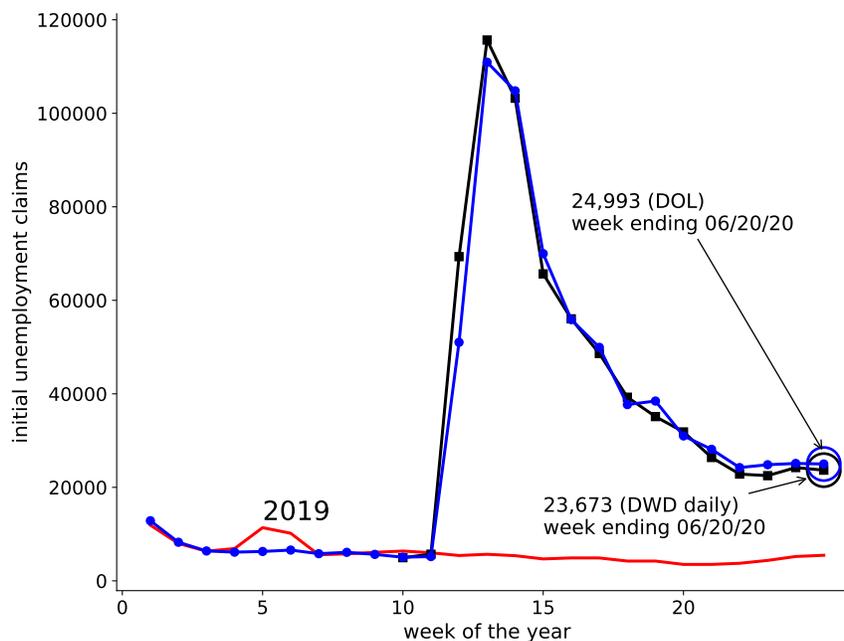
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This note highlights two high-frequency data series that show some of the effects of COVID-19 on Wisconsin workers and firms. This report is part of a larger effort at CROWE to document and analyze the economic fallout of the COVID-19 pandemic. Updated figures and analysis are available at <https://crowe.wisc.edu/impact-of-covid19>. Updated versions of this data brief are available at <https://crowe.wisc.edu/data-briefs>.

Initial unemployment claims

The “social distancing” required as part of the response to COVID-19 has created a sharp increase in Wisconsin workers seeking unemployment insurance. We focus on *initial unemployment claims*, which measure applications for benefits from workers who were not currently receiving benefits.

Figure 1: Wisconsin initial unemployment claims, weekly



In figure 1, we plot initial claims by week. Historically, unemployment claims data are released on a weekly basis. Up through the week ending March 7, initial claims in 2020 were below their levels

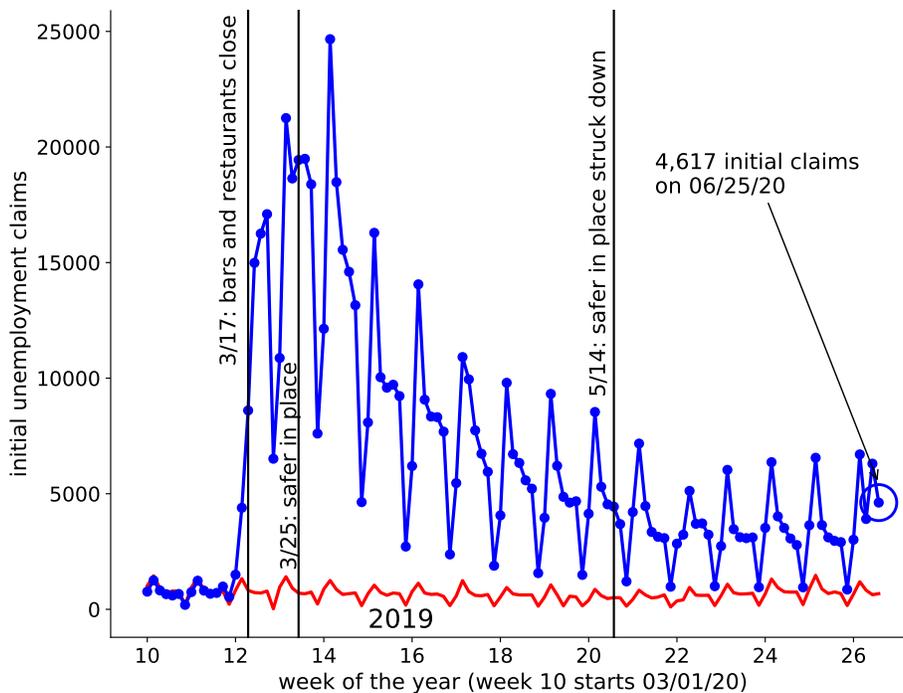
[†] Data briefs are short, timely reports that use data to highlight economic issues of importance to policy makers, business leaders, and the public. This brief, and the data and code that underlie it, are available at crowe.wisc.edu. The views expressed herein are those of the authors and not necessarily those of the Center for Research on the Wisconsin Economy, the Department of Economics, or the University of Wisconsin.

in 2019. The week ending March 14 saw a small uptick in claims, and in the week ending March 21, initial claims exploded. In that week, 69,342 people filed for benefits who were previously not receiving them. In the first 11 weeks of 2020 a total of 61,249 initial claims were made: The week ending March 21 saw more claims than the entire year to date.

Update: The 69,342 measurement is calculated by cumulating the daily counts released by the Wisconsin Department of Workforce Development (DWD). The official advanced weekly count released by the Department of Labor (DOL) on March 26 is only 51,023: a 36 percent difference. A discrepancy this large is abnormal: In the first week of March the two measures differed by two percent. In the second week of March the two measures differed by 10 percent. The DWD has not addressed this discrepancy. For the week ending March 28, things seem to have corrected, and the two measures differ by four percent.

The Department of Workforce Development recently began releasing daily initial unemployment claims data going back to March 1, 2020. We plot these data in figure 2. Claims begin to accelerate on March 16. Initial claims drop during the weekend, which is a pattern evident in the data before the pandemic and to be expected. It remains to be seen how claims will evolve with layoffs spreading to manufacturing industries.

Figure 2: Wisconsin initial unemployment claims, daily



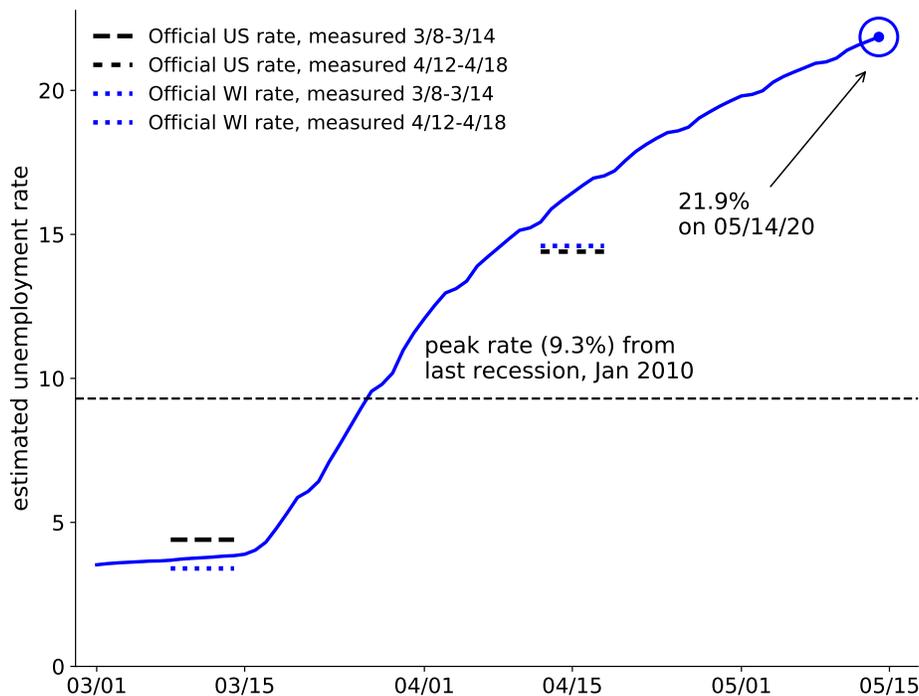
Estimates of the daily unemployment rate

To put these numbers into perspective, we can construct a simple “back-of-the-envelope” unemployment rate implied by the initial unemployment claims. The latest data available on Wisconsin’s labor force statistics from the Bureau of Labor Statistics are from February 2020. We need to make two assumptions. 1) The civilian labor force is constant. 2) The unemployed do not enter

employment. The estimated unemployment rate is plotted in figure 3. By this estimate, the unemployment rate has roughly doubled in one week. The figure also reports the peak unemployment rate in Wisconsin during the last recession, 9.3 percent.

This measure serves as a lower bound to what will be reported when the survey-based data are released from the Bureau of Labor Statistics in April. The increase in the unemployment rate reported in figure 3 includes only those who have filed for unemployment insurance. Anyone who is currently unemployed but has not filed for insurance will not be included in this measure but will be in the official statistics.¹

Figure 3: Estimated Wisconsin unemployment rate, daily



Update (4/3): The national employment situation report, released on April 3, reports a national unemployment rate of 4.4 percent for March. The survey that underlies this measure was taken during the week of March 8–14. This number is similar to the 3.8 percent rate we have computed in Wisconsin for this period (figure 3). It is clear from the figure that current situation is likely much worse than the national survey suggests.

Update (5/8): The national employment situation report, released on May 8, reports a national unemployment rate of 14.7 percent for April. The survey that underlies this measure was taken during the week of April 12–18. Our average estimate for the same week is 16.37 percent.

Update (5/22): The DOL released the Wisconsin preliminary unemployment data for April 12–18. The household survey reports an unemployment rate of 14.6 (not seasonally adjusted) compared to our estimate of 16.4 percent. The unemployment rate is the number of unemployed divided by the labor force (the labor force is the number of employed plus those unemployed). According to

¹There will be some people who leave unemployment for employment, counter to assumption two, but these flows are likely to be small in comparison to the flow of people moving from employment to unemployment.

DOL, the labor force remained unchanged, so the 1.8 percent difference in our rate and the official estimate is due to our measure assigning some people to unemployment but who are counted as employed in the official statistics.

Some of this difference may be from people who are eligible (or thought they were eligible) to apply for unemployment insurance even though may qualify as employed in the narrow definition applied in the official statistics. Some of this difference may be from the statistical model used to estimate state-level unemployment rates from relatively few data points. (This same issue also arose during the recovery from the last recession.²) Some this difference could also be the result of some people moving out of unemployment and into employment. Our simple estimate rules this out (we do not have daily data on hiring) and our measure will become a worse approximation to the official rate as businesses reopen and hiring resumes.

Update (5/29): With the repeal of the Safer at Home order, there are likely significant flows of people out of unemployment and back to work. Daily data on these workers is not available. Without a measure of this worker flow, our estimated rate will not track the true rate very well. For this reason, we have stopped updating the unemployment rate.

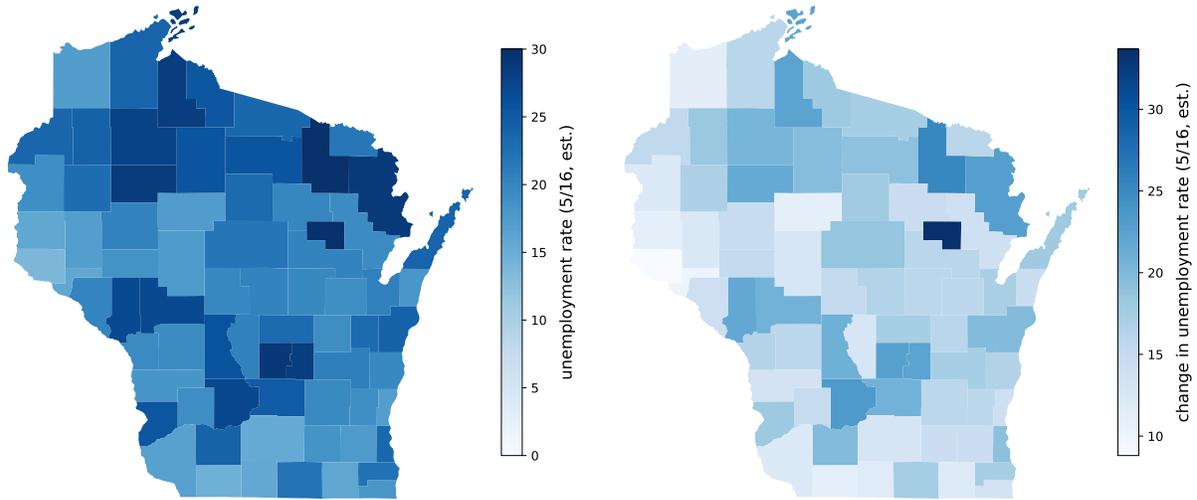
Update (6/26): The official unemployment rate for May is 13.3 percent for the United States and 12 percent for Wisconsin. These rates are likely understated. For example, correcting for misclassification and labor force exit implies a “true” national unemployment rate of 22 percent for April, a seven point difference from the official rate of 14.7 percent.

Unemployment rates by county

Using the same methodology as above, we compute the unemployment rate by county. The county-level data is available weekly, rather than daily, but our estimate is more timely than the official estimates that are released monthly. In figure 4a, we plot the current estimated unemployment rate. The rate ranges from a low of 13.3 percent in Lafayette and a high of 38.5 in Menominee. Before the social distancing measures took hold, unemployment rates were similar (and low) across counties. In figure 4b, we plot the change in the unemployment rate in each county. Notice that the two display similar patterns—the current unemployment rate is largely the result of the recent changes.

²<https://www.nytimes.com/2014/07/27/upshot/on-state-unemployment-rates-its-analyst-beware.html>

Figure 4: Unemployment estimates by county



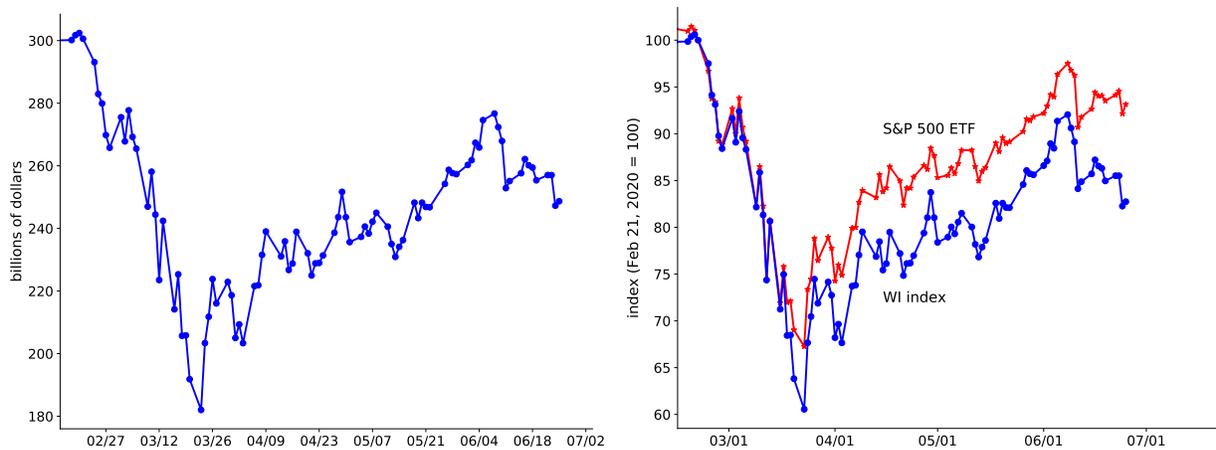
(a) Current level

(b) Change since February 2020

The value of Wisconsin firms

Lacking high-frequency data on all Wisconsin firms, we turn to its publicly traded firms, whose share prices are readily available. Many of these firms operate at the national or international scale, so their outlook depends on broader aspects of the economy. In figure 5a, we plot the market capitalization of Wisconsin's publicly-traded firms. There are about 60 publicly-traded firms headquartered in Wisconsin. We were able to compute market capitalization for 56 of them. The firms included in the index are listed in the appendix. Market capitalization was about 290 billion dollars on February 21. By March 20, these Wisconsin businesses had lost over 100 billion dollars of value.

Figure 5: Wisconsin public firms



(a) Market capitalization

(b) Market capitalization index

The magnitude of loss in Wisconsin firms is similar to that in the broader market. In figure 5b, we plot the market capitalization of Wisconsin's public firms, but normalized so that it is equal to 100 on February 21. For comparison, we plot the S&P 500 ETF price, normalized in a similar way. The two series move very closely until most recently, when the Wisconsin index has declined more than the national index.

In the appendix, we report the year-to-date share price changes for each company in the index. The hardest hit include those in the retail sector (Kohl's, Lands' End) and the entertainment sector (Marcus). Sonic Foundry, a maker of online meeting software, has seen a substantial increase in its share price.

Appendix

The firms included in the market capitalization analysis are: 1895 Bancorp Of Wisconsin Inc, Actuant Corp, Alliant Energy Corp, Artisan Partners Asset Management Inc, Associated Banc-Corp, Badger Meter Inc, Bank First National Corp, Brady Corp, Briggs & Stratton Corp, County Bancorp Inc, Douglas Dynamics Inc, Duluth Holdings Inc, Exact Sciences Corp, FFBW Inc, First Business Financial Services Inc, Fiserv Inc, Generac Holdings Inc, Harley Davidson Inc, Jason Industries Inc, Johnson Controls International Plc, Johnson Outdoors Inc, Kohls Corp, Koss Corp, Lands' End Inc, Manitowoc Co Inc, Manpowergroup Inc, Marcus Corp, Marten Transport Ltd, MGE Energy Inc, MGIC Investment Corp, Modine Manufacturing Co, National Presto Industries Inc, Nicolet Bankshares Inc, Orion Energy Systems Inc, Oshkosh Corp, Physicians Realty Trust, Plexus Corp, Quad/Graphics Inc, Regal Beloit Corp, Rev Group Inc, Rexnord Corp, Roadrunner Transportation Systems Inc, Rockwell Automation Inc, Schneider National Inc, Sensient Technologies Corp, Smith A. O. Corp, Snap-On Inc, Sonic Foundry Inc, Spectrum Brands Holdings Inc, Strattec Security Corp, Twin Disc Inc, Waterstone Financial Inc, WEC Energy Group Inc, and Weyco Group Inc.

Table 1: Year-to-date change in share price (06/11/2020)

Firm	Percent change
Sonic Foundry Inc	236.9
Marten Transport Ltd	10.0
Generac Holdings Inc	4.5
Orion Energy Systems Inc	2.4
WEC Energy Group Inc	2.1
Johnson Outdoors Inc	2.1
Rockwell Automation Inc	1.2
Schneider National Inc	1.0
Smith A. O. Corp	-0.9
National Presto Industries Inc	-3.8
Badger Meter Inc	-4.3
Physicians Realty Trust	-4.8
Artisan Partners Asset Management Inc	-5.7
Exact Sciences Corp	-7.6
1895 Bancorp Of Wisconsin Inc	-7.9
Alliant Energy Corp	-7.9
FFBW Inc	-8.2
Regal Beloit Corp	-8.6
Fiserv Inc	-13.6
Strattec Security Corp	-14.9
Rexnord Corp	-15.0
Brady Corp	-16.6
Gardner Denver Holdings Inc	-16.6
MGE Energy Inc	-17.2
County Bancorp Inc	-17.8
Rev Group Inc	-18.1
Johnson Controls International Plc	-18.1
Weyco Group Inc	-18.3
Snap-On Inc	-19.9
Bank First National Corp	-20.1
Plexus Corp	-21.1
Waterstone Financial Inc	-21.2
Duluth Holdings Inc	-22.6
Koss Corp	-23.2
Sensient Technologies Corp	-23.4
Oshkosh Corp	-24.3
Nicolet Bankshares Inc	-26.5
Quad/Graphics Inc	-29.8
Spectrum Brands Holdings Inc	-30.5
Manpowergroup Inc	-30.6
Actuant Corp	-32.9
Douglas Dynamics Inc	-34.4
Modine Manufacturing Co	-35.0
Harley Davidson Inc	-35.1
Associated Banc-Corp	-35.1
Manitowoc Co Inc	-38.9
First Business Financial Services Inc	-40.5
MGIC Investment Corp	-41.3
Twin Disc Inc	-44.0
Telkonet Inc	-46.9
Lands' End Inc	-50.1
Marcus Corp	-54.2
Kohl's Corp	-54.9
School Specialty Inc	-61.2
Briggs & Stratton Corp	-68.0
Roadrunner Transportation Systems Inc	-73.7
Jason Industries Inc	-82.1