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The Economic Impact of the Wisconsin Supreme Court Ruling Invalidating the State's Safer at Home Order

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Abstract

In a 4-3 ruling, the Wisconsin Supreme Court invalidated the state's Safer at Home order on May 13, 2020, allowing most non-essential businesses to open immediately in most locations. Using several real-time measures, I find broad evidence suggesting a positive impact of the Supreme Court decision on economic activity. From May 13 to May 27, relative to states where non-essential businesses were shut down, Wisconsin experienced a larger increase in the number of small businesses open (7.8 ppts), net revenue for small businesses (4.6 ppts), employment of low-income workers (0.8 ppts), earnings of low-income workers (1.6 ppts), individual mobility as measured by GPS data on time spent outside residential locations (3.2 ppts) and consumer credit/debit card spending (3.1 ppts). The impact appears to be larger for sectors closely related to accommodation and food services. However, because these sectors were hit especially hard initially, the gap in year-over-year activity for these sectors was still larger than the gap for the overall economy two weeks after the Supreme Court decision.

Qualitatively, the evidence suggests the state's Safer at Home order was binding, and its invalidation contributed to economic recovery. Quantitatively, the impact is not very large, reducing the initial gap in year-over-year activity on May 13 by less than a quarter for majority of the economic measures, and the responses from households seem to be slower and smaller than firms. Overall, the evidence suggests a modest role of the Safer at Home order on economic activity, consistent with my previous analysis of the initial impact of the order's implementation as well as similar analyses by others.

Overview

In a 4-3 ruling, Wisconsin Supreme Court invalidated the state's Safer at Home order on May 13, 2020. Except for a few counties which announced their own local orders subsequently, the ruling allowed most of the state's non-essential businesses to open immediately. Notably Dane and Milwaukee Counties, containing the largest cities in the state, imposed local orders and generally have followed a slower reopening than the rest of the state. In this brief, I provide some evidence suggesting a positive impact of the ruling on Wisconsin's economic activity.

I focus on the first two weeks following the ruling, from May 13 to May 27. Using several real-time economic measures on firms and households, I show that economic activity accelerated following the state's Supreme Court ruling: more small businesses were open, employment and earnings were rising faster than before, and individuals were more likely to spend time outside their home and to spend with credit or debit cards. The acceleration was particularly significant for sectors closely related to accommodation and food services, which had been most affected during the pandemic.

To provide evidence suggesting a causal impact of the state Supreme Court ruling, I compare Wisconsin with other states where a stay-at-home order was in place and non-essential businesses were not allowed to open before May 27. In addition to the District of Columbia, which is treated as a state in this brief, there are four other such states: Delaware, Illinois, New Jersey and Pennsylvania. The five states are weighted properly such that the weighted average, referred to as the synthetic control, mimics the behavior of Wisconsin in the two weeks before the state's Supreme Court ruling on May 13, 2020. Under the assumption that the synthetic control approximates the experience of Wisconsin in the absence of the state Supreme Court ruling, the impact of the ruling is estimated by the difference between Wisconsin and the synthetic control in the two weeks after the ruling.

Using this synthetic control method, I find the Wisconsin Supreme Court ruling increased (1) the number of small businesses open by 7.8 percentage points, (2) the net revenue for small businesses by 4.6 percentage points, (3) employment of low-income workers by 0.8 percentage points, (4) earnings of low-income workers by 1.6 percentage points, (5) individual mobility as measured by GPS data on time spent outside residential locations by 3.2 percentage points, and (6) consumer credit/debit card spending by 3.1 percentage points. As the raw data suggests, the impact appears to be particularly large for sectors closely related to accommodation and food services, where the corresponding estimates are 9.1, 16.3, 8.7, 5.8, 13.3 and 4.9. However, because these sectors were hit especially hard initially, the activity gap in year-over-year activity for these sectors was still larger than the gap for the overall economy two weeks after the Supreme Court decision.

Qualitatively, the evidence suggests the state's Safer at Home order was binding, and its invalidation contributed to the state's economic recovery. Quantitatively, the impact is not very large, reducing the initial gap in year-over-year activity on May 13 by less than a

quarter for majority of the economic measures, and the responses from households seem to be slower and smaller than the responses from businesses. Overall, the evidence suggests a modest role of the Safer at Home order on economic activity, consistent with my [previous](#) analysis of the initial impact of the order's implementation as well as similar analyses by [others](#).

A Related Work

In a recent paper, [Dave et al. \(2020\)](#) find no evidence that the repeal of Wisconsin's Safer at Home order impacted social distancing, COVID-19 cases, or COVID-19-related mortality during the fortnight following enactment. There are at least two differences between this study and mine.

First, the outcome measures are different. Instead of health measures like COVID-19 cases and deaths, I focus on economic measures. Moreover, in addition to overall activity, I pay special attention to accommodation and food services. As summarized above and detailed below, the evidence suggests the impact of the repeal is larger for firms than for households, and it is larger for sectors most closely related to accommodation and food services than overall activity. Because the social distancing measures used by Dave et al. (2020) are about overall mobility by households, it is not surprising that their estimates are smaller. Theoretically, the absence of a significant impact on overall mobility could be consistent with a positive impact on other economic measures if households engage in more economic activities while not at home.

Secondly, although both studies use the synthetic control method, the donor pool (states used to construct the synthetic control) is quite different. Dave et al. (2020) use 18 states with an active stay-at-home order during the fortnight following the Wisconsin Supreme Court ruling. However, as shown in table 1 with data from the economic tracker introduced below, 13 out of the 18 states had started to allow select businesses to open either before or shortly after May 13, 2020. As long as the select businesses in the 13 states were responding by opening gradually in the two weeks starting May 13, using those states as controls would lead to a downward bias of the estimated impact of the Wisconsin Supreme Court ruling. I exclude them and only use the remaining 5 states where non-essential businesses were not allowed to open before May 29. Because of the small number donors, no attempt is made to measure the statistical significance of the estimates explicitly. It is possible that some of them are not statistically significant. However, as we will see later, there is strong evidence that the overall impact is significant. More work on this is certainly needed, and I will update and report when new results are available.

| State | Date | State | Date |
|----------------|------|----------------------|------|
| Maine | 5/1 | New York | 5/15 |
| Ohio | 5/4 | Oregon | 5/15 |
| Hawaii | 5/7 | Virginia | 5/15 |
| California | 5/8 | New Mexico | 5/16 |
| North Carolina | 5/8 | District of Columbia | 5/29 |
| Michigan | 5/11 | Illinois | 5/29 |
| New Hampshire | 5/11 | Delaware | 5/31 |
| Washington | 5/11 | Pennsylvania | 6/5 |
| Louisiana | 5/15 | New Jersey | 6/9 |

Table 1. First Date When Select Businesses Were Allowed to Open for the 18 States Used as Donors by Dave et al. (2020)

Data

I use data from a new [economic tracker](#) constructed and described by [Chetty et al. \(2020\)](#). The tracker provides a variety of real-time economic indicators based on private sector data. I use the following six daily indicators for this brief:

1. Number of small businesses open from Womply, a company that aggregates data from several credit card processors to provide analytical insights to small businesses and other clients.
2. Net revenue for small businesses, also from Womply.
3. Employment of low-income workers from Earnin and Homebase. Earnin is a financial management application used by many lower-income workers across a wide spectrum of firms ranging from the largest firms and government employers in the U.S. to small businesses. Homebase is a company that provides scheduling software to tens of thousands of small businesses across the US.
4. Earnings received by low-income workers, also from Earnin and Homebase.
5. GPS mobility from Google.
6. Consumer spending from Affinity Solutions, a company that aggregates consumer credit and debit card spending information to support a variety of financial service products.

The first four indicators are mostly about businesses, while the last two are about individuals and households. Each indicator is an index calculated from the underlying data as follows. First, 7-day moving averages are used to smooth daily fluctuations. Secondly, each series is seasonally adjusted by dividing each calendar date’s 2020 value by its corresponding value from 2019. Finally, the seasonally adjusted series is indexed to its pre-COVID-19 value by its mean in January 2020. Because of these adjustments, strictly speaking, the series should be interpreted as the smoothed year-over-year growth relative to January 2020.

Figure 1 plots the original series for the number of small businesses open in Wisconsin and each of the five donor states. Not surprisingly, before the COVID-19 pandemic

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started in the U.S. around mid-March, the series fluctuated around zero, indicating the year-over-year growth in the number of small businesses open in February and early March was comparable to its value in January. Since mid-March, the series dropped rapidly and significantly for about two weeks such that in early April, the relative number of small businesses open in 2020 was over 30% below its value in 2019. After reaching their bottoms around mid-April, the series started to recover gradually. The recovery seems to accelerate in Wisconsin after the state Supreme Court invalidated the statewide Safer at Home order on May 13, indicated by the vertical line. However, the recovery is much slower than the initial drop. Until mid-June, the relative number of small businesses open in 2020 was still about 20% or more below its value in 2019.

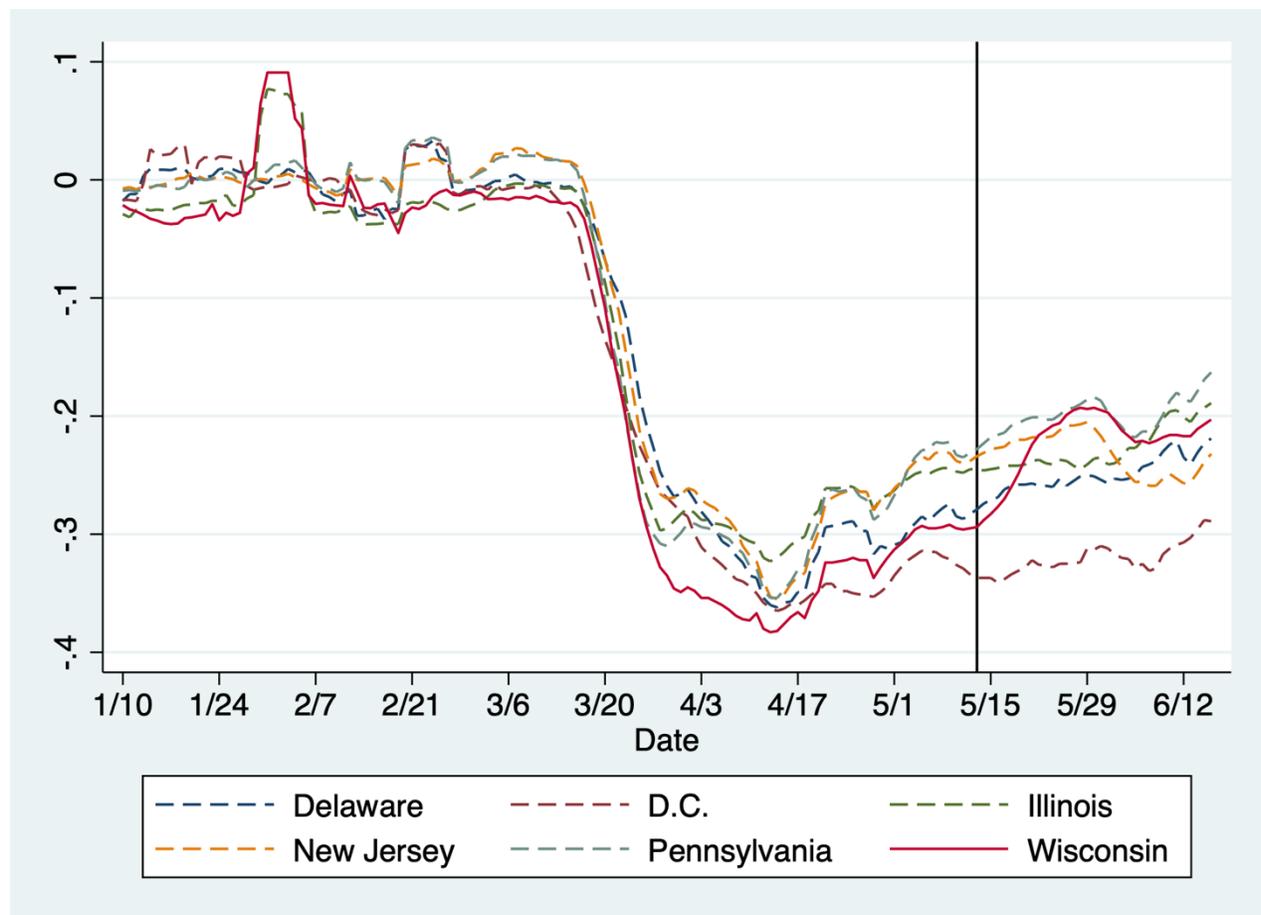


Figure 1. Original Index for the Number of Small Businesses

This brief focuses on the changes in each series during the four weeks surrounding May 13, from April 29 to May 27. For this purpose, each series is re-normalized to have a value of zero on May 13, and then multiplied by 100 to reflect percentage changes. Figure 2 plots the series after these adjustments. Clearly, the number of small businesses open accelerated in Wisconsin following the state Supreme Court ruling. In the two weeks

before the ruling, the number increased by less than 5 percentage points in both Wisconsin and the other five states. In the two weeks after the ruling, while the increase was still less than 5 percentage points in the other five states, it rose by almost 10 percentage points in Wisconsin. As shown below, other indicators experienced similar acceleration in Wisconsin, suggesting a positive impact of the state Supreme Court ruling on economic activity.

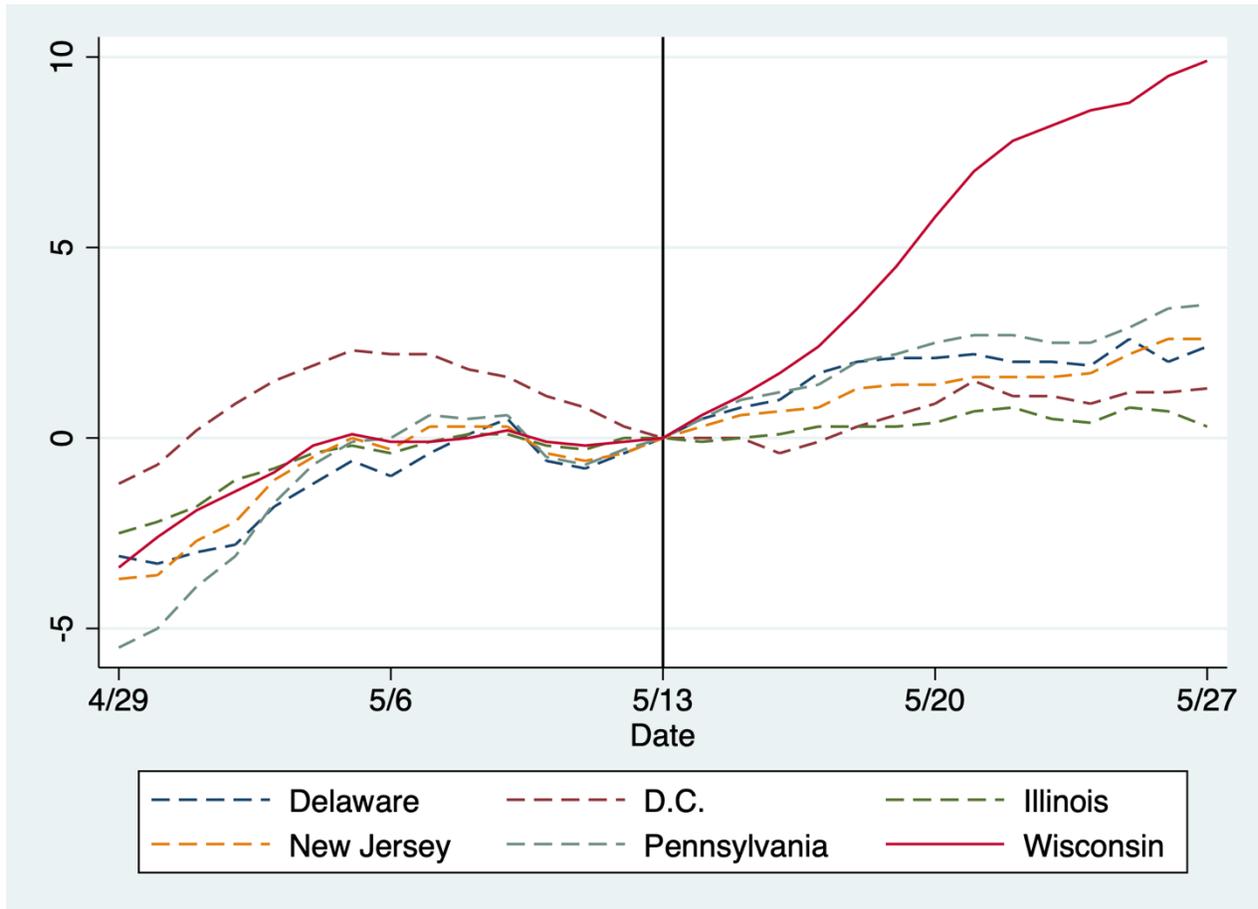


Figure 2. Adjusted Index for the Number of Small Businesses Open

Methodology

To estimate the causal impact of the Wisconsin Supreme Court ruling, we need to approximate the counterfactual of what would have happened in Wisconsin in the absence of the ruling. I do so using the synthetic control method. Specifically, for each indicator, I choose the weight for each of the five donor states such that the weighted average, referred to as the synthetic control, matches the behavior of Wisconsin in the two weeks before the ruling as close as possible. Under the assumption that the synthetic control approximates the experience of Wisconsin in the absence of the state Supreme Court ruling, the impact of the ruling is estimated by the difference between Wisconsin and the synthetic control in the two weeks after the ruling.

[Abadie \(2020\)](#) provides an up-to-date review of the synthetic control method. [Previously](#), I have used the same method to estimate the initial impact of Wisconsin's Safer at Home order on social distancing. The same method is also used in the related work by [Dave et al. \(2020\)](#) discussed above.

Different from previous work, I don't attempt to measure the statistical significance of the estimates in this brief, for two reasons. First, with only five donors, results from the commonly used permutation method may not be very convincing. Secondly, and perhaps more importantly, I believe the visual impression is strong enough. For example, figure 2 suggests a kink around May 13 for the measure in Wisconsin where the slope/speed of recovery is much larger after the ruling than before. We will see similar patterns for other measures. Together, this common pattern from multiple measures is strong evidence for a significant impact.

Results

Figures 3 through 8 report the detailed synthetic control estimates, with each figure showing one of the six economic indicators described above. Each figure has two panels: the left panel uses the corresponding indicator for all sectors of the state economy, while the right panel focuses on the sector most closely related to accommodation and food services, which varies across indicators due to data availability. In each panel, the solid curve is for Wisconsin, while the dashed curve is for the synthetic control. The vertical line indicates May 13, 2020, the day when Wisconsin Supreme Court invalidated the state's Safer at Home order.

The left panel of figure 3 shows that the synthetic control mimics the behavior of Wisconsin extremely well in the two weeks before the state Supreme Court ruling on May 13. In the two weeks after that, the number of small businesses open increased by about 9.9 percentage points in Wisconsin, much greater than the corresponding increase in the synthetic control which is only about 2.1 percentage points. The difference, about 7.8 percentage points, is the estimated impact of the state Supreme Court ruling.

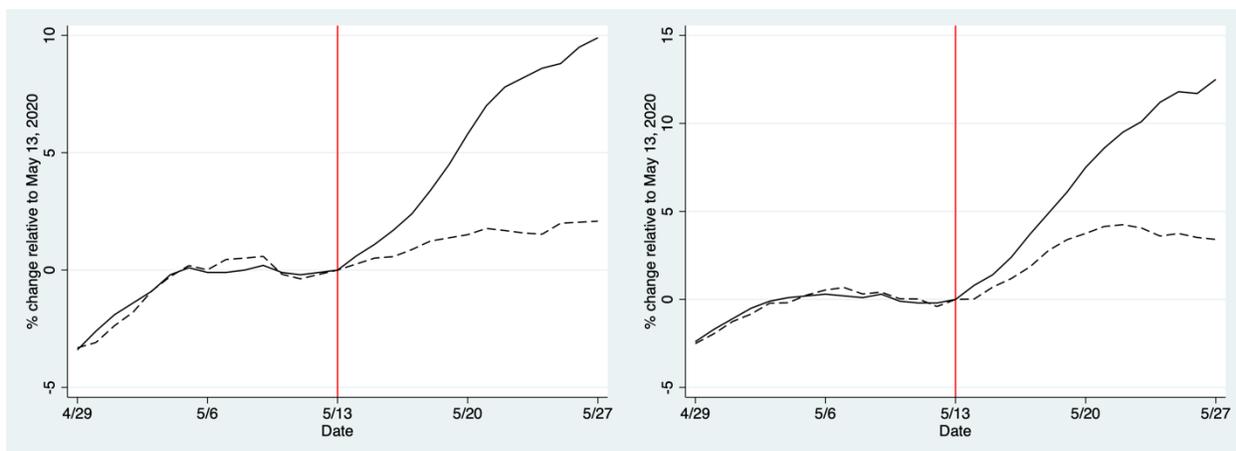


Figure 3. Number of Small Businesses Open: Left Panel for All Sectors, and Right Panel for Leisure and Hospitality (NAICS Super-sector 70)

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The right panel reports the corresponding estimates for the number of small businesses open in the leisure and hospitality sector. Again, the synthetic control mimics the behavior of Wisconsin extremely well in the two weeks before the state Supreme Court ruling on May 13. In the two weeks after that, the number of small businesses open in the leisure and hospitality sector increased by about 12.5 percentage points in Wisconsin, which is larger than the corresponding increase for all sectors, and much higher than the corresponding increase in the synthetic control which is only about 3.4 percentage points. The difference, about 9.1 percentage points, is the estimated impact of the state Supreme Court ruling on the number of small businesses open in this sector.

Together, the two panels suggest a positive effect of the state Supreme Court ruling on the number of small businesses open in Wisconsin that is larger for the leisure and hospitality sector. The large impact on leisure and hospitality is not surprising, as restaurants and bars across the state were largely closed under the Safer at Home order, relying solely on takeout and delivery service. [Williams \(2020\)](#) shows that in the two weeks after the Supreme Court decision, restaurants and bars in Wisconsin saw their activity double, albeit from a very low level.

Figure 4 reports similar estimates for net revenue of small businesses. Theoretically, without an increase in consumer activity, net revenue may not increase even if more businesses are open. Later I will provide some evidence suggesting slower and smaller responses by households than firms. Perhaps because of this, overall, the net revenue for small businesses in Wisconsin didn't increase by much more than the synthetic control, as indicated by the left panel where the difference at the end of the sample is about 4.6 percentage points. The right panel, on the other hand, suggests a much larger impact (16.3 percentage points) on the net revenue for small businesses in leisure and hospitality. This is consistent with the larger increase in consumer credit/debit card spending on accommodation and food services in Wisconsin following the state Supreme Court ruling reported below.

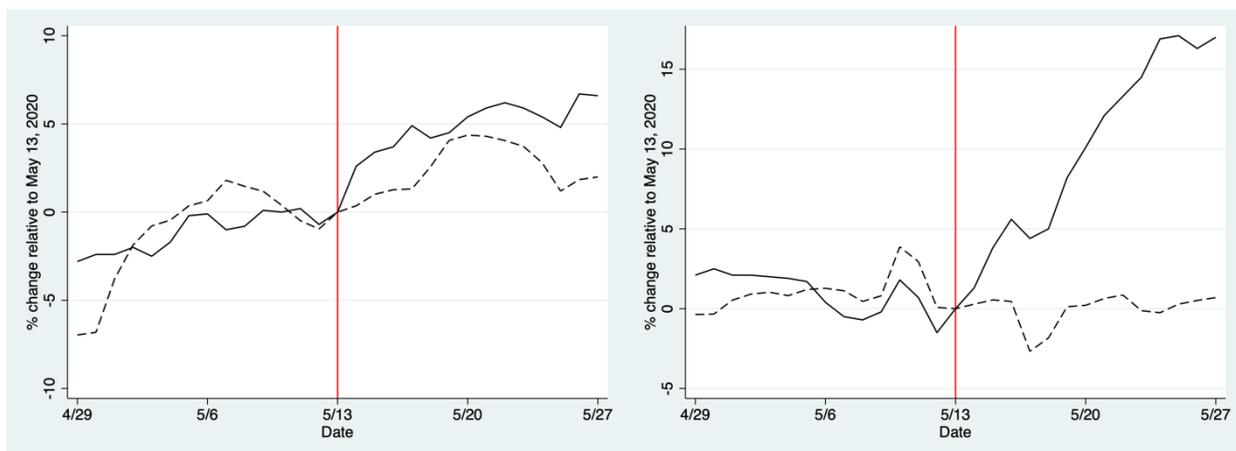


Figure 4. Net Revenue for Small Businesses: Left Panel for All Sectors, and Right Panel for Leisure and Hospitality (NAICS Super-sector 70)

As more businesses open, employment also increases, especially for low-income workers. Figure 5 suggests the Supreme Court ruling increased employment of low-income workers in Wisconsin by about 0.8 percentage points within two weeks (left panel), and the impact on accommodation and food services is much larger at 8.7 percentage points.

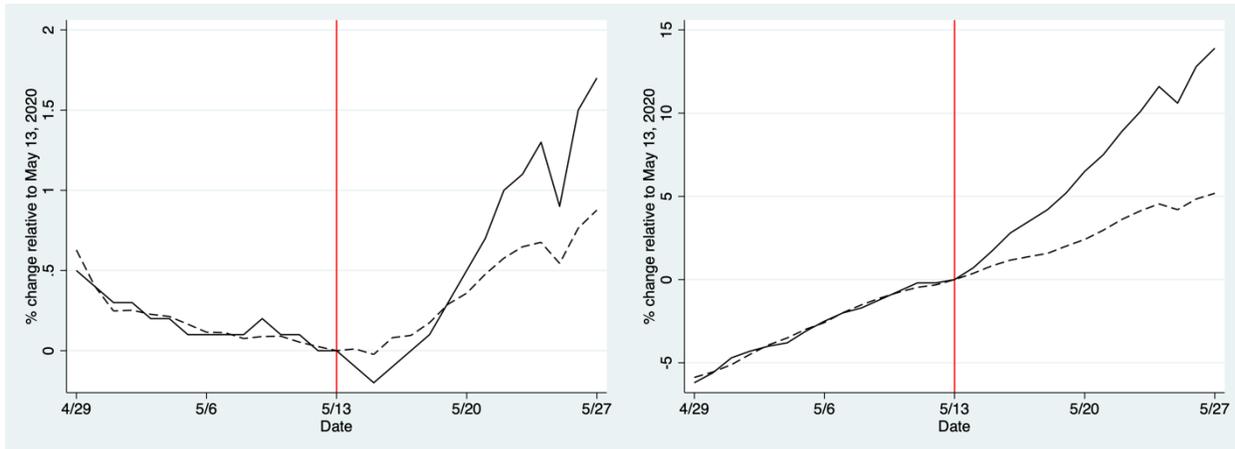


Figure 5. Employment of Low-Income Workers: Left Panel for All Sectors, and Right Panel for Accommodation and Food Services (NAICS 72)

As more low-income workers became employed, their earnings also increased. Figure 6 suggests the ruling increased earnings of low-income workers in Wisconsin by about 1.6 percentage points within two weeks (left panel), and the impact on accommodation and food services is much larger at 5.8 percentage points.

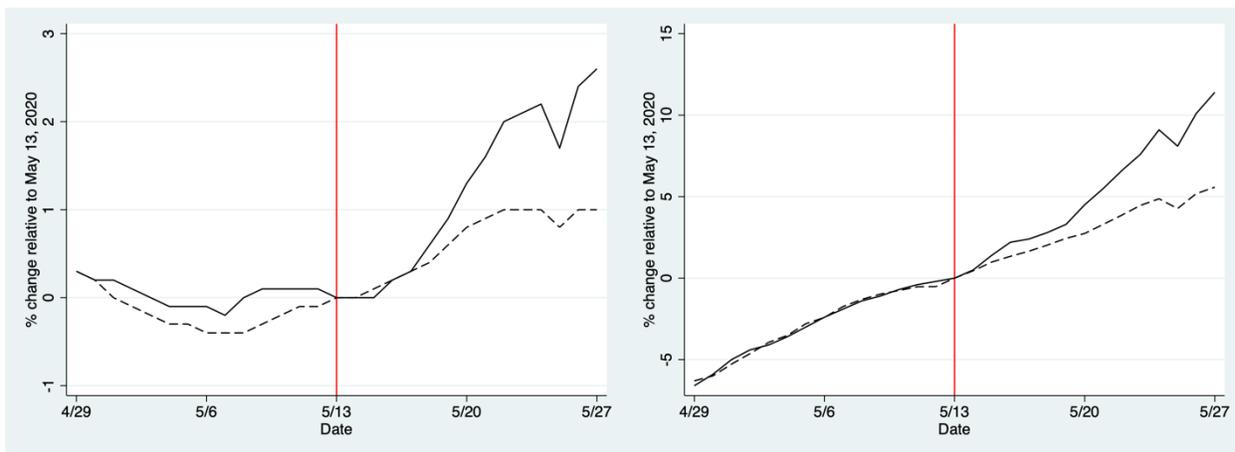


Figure 6. Earnings Received by Low-Income Workers: Left Panel for All Sectors, and Right Panel for Accommodation and Food Services (NAICS 72)

Now we turn to responses from households. Figure 7 reports the impact on GPS mobility. The left panel suggests a minimal impact on overall time spent outside residential locations, consistent with the findings in Dave et al. (2020). The right panel, on the other hand, suggests a much larger response on time spent at retail and recreation locations. After an initial spike, time spent at retail and recreation locations dropped in Wisconsin for a few days, perhaps because Wisconsinites were cautious and worried about the

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sudden increase in the amount of people at those locations. However, the decline was reversed in a few days. By the end of the second week after the state Supreme Court ruling, Wisconsinites had increased their time at those locations by about 17 percentage points. In comparison, the increase in the synthetic control was only about 3.7 percentage points.

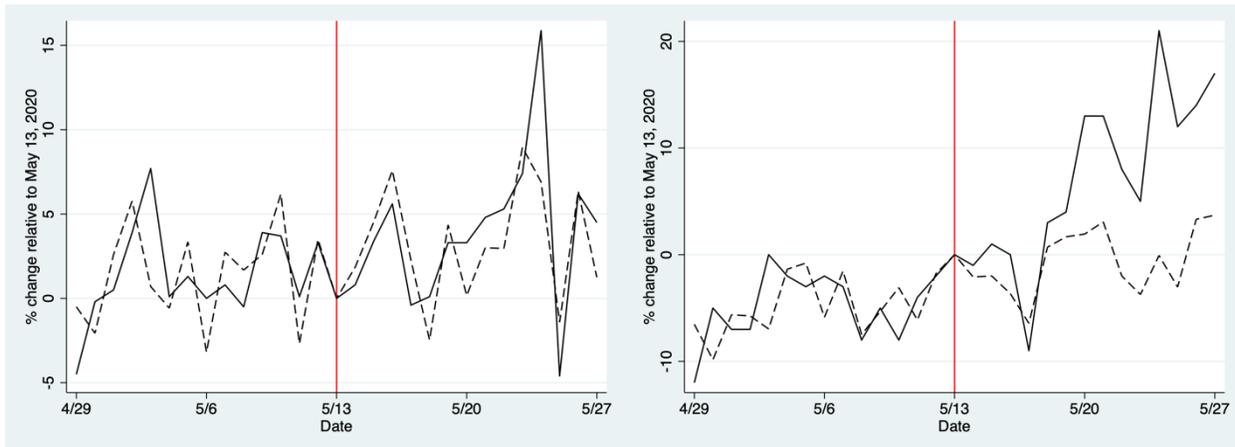


Figure 7. GPS Mobility: Left Panel for Time Spent Outside Residential Locations, and Right Panel for Time Spent at Retail and Recreation Locations

Finally, figure 8 looks at the impact on consumer spending. The left panel shows that, overall, credit and debit card spending in Wisconsin didn't increase by more than it did in the synthetic control in the first week. A gap emerged after that. By the end of the second week, consumer credit/debit card spending had increased by about 7.6 percentage points in Wisconsin, about 3.1 percentage points more than the corresponding increase in the synthetic control. The right panel shows a similar story for spending on accommodation and food services, although the gap emerged a little bit earlier and the overall response was slightly larger. Within two weeks, consumer credit/debit card spending on accommodation and food services had increased by about 7.6 percentage points in Wisconsin, about 4.9 percentage points more than the corresponding increase in the synthetic control.

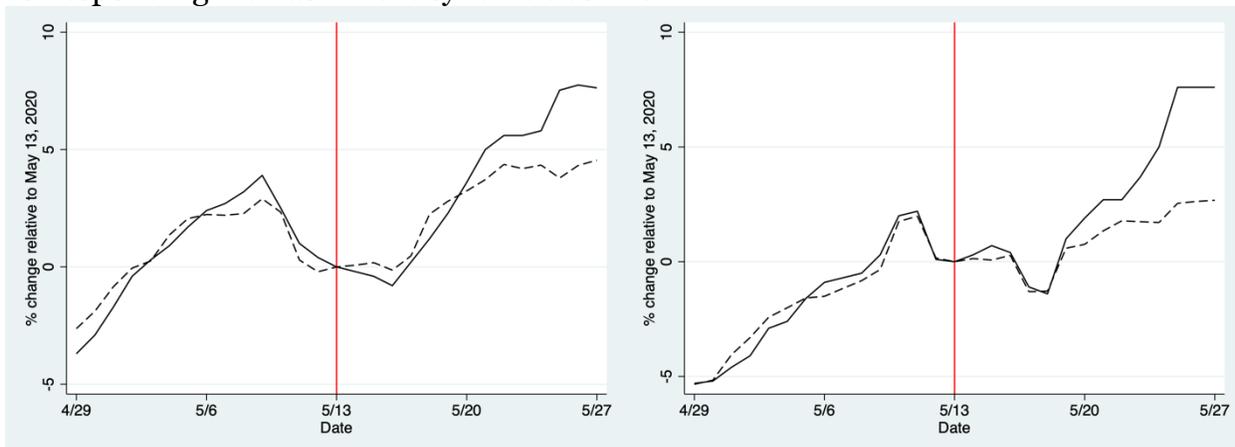


Figure 8. Consumer Credit/Debit Card Spending: Left Panels for All Merchant Category Codes (MCC), and Right Panel for Accommodation and Food Service MCCs

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Table 2 summarizes the results. For each measure in Wisconsin, column Gap reports the extent to which its value on May 13, 2020 was below the value on the same day in 2019, column Raw reports the change in the gap between May 13 and May 27, 2020, column Net reports the synthetic control estimate measured by the difference between Raw and the corresponding change in the synthetic control, and column Con reports the contribution of Net to Gap. All numbers are in %.

| Measure | All Sectors | | | | Acc. and Food Service | | | |
|----------------------------------|-------------|-----|-----|------|-----------------------|------|------|------|
| | Gap | Raw | Net | Con | Gap | Raw | Net | Con |
| Number of small business open | 29.4 | 9.9 | 7.8 | 26.6 | 38.5 | 12.5 | 9.1 | 23.6 |
| Net revenue for small businesses | 22.3 | 6.6 | 4.6 | 20.7 | 66.8 | 17.0 | 16.3 | 24.4 |
| Employment of low-income workers | 35.6 | 1.7 | 0.8 | 2.3 | 51.2 | 13.9 | 8.7 | 17.0 |
| Earnings of low-income workers | 33.8 | 2.6 | 1.6 | 4.7 | 50.3 | 11.4 | 5.8 | 11.6 |
| GPS mobility | 17.9 | 4.5 | 3.2 | 18.1 | 27 | 17.0 | 13.3 | 49.2 |
| Credit/debit card spending | 17.5 | 7.6 | 3.1 | 17.6 | 55.4 | 7.6 | 4.9 | 8.9 |

Table 2. Economic Impacts of Invalidating the Wisconsin's Safer at Home Order: All Number are in %. Due to data availability, accommodation and food service refers to slightly different sectors for different measures.

For example, the first four numbers in the first row imply that in Wisconsin: (1) the number of small businesses open on May 13, 2020 was 29.4% below its value on May 13, 2019, (2) this gap decreased by 9.9 percentage points to about 19.5% on May 27, 2020, (3) 7.8 percentage points of the decrease could be attributed to the invalidation of the Safer at Home order, (4) which accounts for 26.6% ($=7.8/29.4$) of the initial gap on May 13, 2020.

The initial gap in year-over-year activity on May 13 was larger for accommodation and food services, which was still the case two weeks later even with a relatively larger increase in activities in this sector.

Overall, the invalidation of the Safer at Home order reduced the initial gap in year-over-year activity on May 13, 2020 by less than a quarter for majority of the measures. This suggests a modest impact of the order on economic activity, consistent with my previous analysis as well as similar studies by others.

Summary

Using several real-time economic measures on businesses and households, I provide evidence suggesting that the invalidation of Wisconsin's Safer at Home order by the state Supreme Court had a positive impact on the state's economic recovery: more small businesses were open, employment and earnings rose faster than before, and individuals were more likely to spend time at commercial locations and spend money via credit or

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debit cards. The impact was larger for sectors closely related to accommodation and food services, which were hit harder initially. Quantitatively, the impact is not very large, reducing the initial gap in year-over-year activity on May 13 by less than a quarter for majority of the economic measures, and the responses from households seem to be slower and smaller than firms. Overall, the evidence suggests a modest role of the Safer at Home order on economic activity, consistent with my previous analysis of the initial impact of the order's implementation as well as similar analyses by others.