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Reopening the Economy: Early Evidence from Georgia and Wisconsin

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May 29, 2020

Abstract

After implementing stay-at-home orders to slow the spread of the COVID-19, over the past couple of weeks, a number of states have moved toward "reopening" their economies. Georgia has had one of the earliest and most comprehensive reopening plans. I compare economic activity in Georgia and Wisconsin, which had remained under a stay-at home order until a state Supreme Court decision on May 13. I find that activity in both states was very similar during the early pandemic and stay-at-home orders, and both saw a similar rebound during the initial weeks following the removal of stay at home orders.

The removal of restrictions in Georgia in late April was followed by a 10 percentage point increase in activity relative to Wisconsin during the first three weeks. These gains after reopening closed roughly 22% of the gap in year-over-year activity (10 points out of 45), consistent with previous causal estimates of the early impact of stay-at-home orders. Activity in Georgia has continued to rebound in recent weeks, with total activity now down 24% year on year, while it had been off more than 55% in mid-April.

While the data only covers the first ten days after the Wisconsin Supreme Court decision, there was a noticeable increase in overall activity, which gained 7.5 percentage points in the past two weeks, closing 16% of the year-over-year gap. The gains were particularly notable in bars (up 75%) and full service restaurants (up 64%) last weekend relative to the weekend before the decision. Total activity still remained 38% below 2019 levels, but is well up from the 59% declines in mid-April, and the recent gains suggest a growing rebound. This is particularly true in the hardest hit sector of accommodations and food, such as hotels (up 11 points, but still down 60% from 2019) and full service restaurants (up 16 points, but still down 48% from 2019).

Overview

The COVID-19 pandemic is leading to unprecedented social and economic disruptions around the globe. The economies in many locations have ground to a halt, as social distancing measures to slow the spread of the virus have increasingly led to businesses being shut down and workers ordered to shelter in place. By early April, 42 of the 50 states in the US had imposed statewide "stay-at-home" orders to slow the spread of the virus and mitigate its impact, and many of the remaining states had similar orders in some localities.

However over the past couple of weeks, a number of states have moved toward "reopening" their economies. One of the earliest and most comprehensive reopening plans came in Georgia. On April 24, 2020 the state allowed gyms, salons, and tattoo parlors to open, followed on April 27 by restaurants, dining rooms, and movie theaters. Finally on May 1 the stay-at-home order expired, and all businesses in the state were allowed to reopen, with particular health and safety guidelines.

By contrast, Wisconsin had remained under a statewide stay-at-home order since March 25, until the order was invalidated by the state Supreme Court on May 13. However while the order remained in place, there was some loosening of restrictions in late April and early May, first allowing more retail transaction with curbside pickups, later allowing small retail businesses to open with severe capacity restrictions of 5 customers at a time. With the state order struck down, control reverted to the local level. While most counties removed restrictions, a few counties (Milwaukee and Dane, in particular) initially continued to follow most, if not all, of the provisions of the original state order, before recently relaxing more restrictions.

In this brief I compare economic activity in the two states, using a new data source of foot-traffic in commercial locations. I focus on year-over-year same-location changes in each state, and find that the experience of both states was very similar during the initial phase of the pandemic. In particular, both states had a drop of roughly 55% in overall activity during the last two weeks of March 2020 compared to 2019, which fell further to a roughly 60% decline during the week of April 12-18, the low point in both states.

Activity has recovered in both states since that point, but Georgia has seen more of a rebound. In particular, starting around April 24 when the first reopening orders were implemented in Georgia, a gap opened between the states and has grown over time. By May 9, total activity in Wisconsin was down roughly 45%, but 35% in Georgia. That is, while activity had rebounded by about 15 percentage points in Wisconsin, it had grown an additional 10 percentage points in Georgia. The gap increased slightly during the following week, which also saw a slight increase in activity in Wisconsin following the state Supreme Court case invalidating the stay at home order.

While still early, the data following the removal of the stay at home order in Wisconsin shows a similar rebound. In particular, overall activity has recovered 16% of its year-over-year gap, and activity at bars and restaurants surged relative to their depressed

April levels in the two weekends after the order was invalidated. Moreover, while Georgia had continued to see a recovery in activity, Wisconsin has closed some of the gap over the past week.

Importantly, these comparisons are only suggestive, and are not causal estimates of the impact of removing stay-at-home orders. Interestingly, the magnitude of the differences do agree with the causal estimates of Guo (2020), who uses similar mobility data from cellphones and finds that roughly 20% of the decline in activity in Wisconsin was due to the stay-at-home order during the first weeks of its implementation. The comparison here suggests that, by removing their order, Georgia saw a gain of 22% (10 points out of 45) in activity compared to Wisconsin during the first three weeks. Wisconsin has seen a similar rebound of 16% in the first ten days after its order was removed.

The relative gains in Georgia have been slightly stronger in some of the industries that have been most affected by the pandemic, and those which were particularly singled out in the reopening orders. The accommodations and food sector has been the most affected, and saw the largest job loss of 47% nationwide and 57% in Wisconsin. By May 9, activity in this sector was still down 40.6% in Georgia, but down 54% in Wisconsin, a 13 percentage point gain. In addition, until the Supreme Court decision gyms in Wisconsin had remained closed and full-service restaurants have been relegated to take-out and delivery. But the reopening of these industries in Georgia meant a 12 percentage point relative increase in activity. With the recent reopening in Wisconsin, full service restaurants and bars have seen strong relative gains. Movie theaters, which were allowed to reopen, have generally chosen not to, and thus have seen little or no improvement.

Data Source

The data in this brief was provided by SafeGraph, a data company that aggregates anonymized location data from numerous applications in order to provide insights about physical places. To enhance privacy, SafeGraph excludes census block group information if fewer than five devices visited an establishment in a month from a given census block group. In particular, I use the SafeGraph Patterns dataset, which measures foot-traffic patterns to 3.6 million commercial points-of-interest from over 45 million mobile devices in the United States. The population sample is a panel of opt-in, anonymized smartphone devices, and is well balanced across USA demographics and geographies. In addition to the individual data being anonymized, SafeGraph only reports certain place traffic and data aggregations. The patterns data describe how many people visit a location, how long they stay, where they came from, where else they go, and more. This data provides incredible detail on the activity of a sample of roughly 10% of the US population. I focus on the states of Wisconsin and Georgia.

SafeGraph provides daily observations on an evolving panel of locations that include at least 5 visits from the sample of devices. The data is typically released monthly, but has been released weekly starting in March 2020 (which also includes hourly data). The most recent release covers foot traffic through May 24, 2020. To deal with changes in the panel over time, I focus only on same-location changes in foot traffic. That is, I analyze

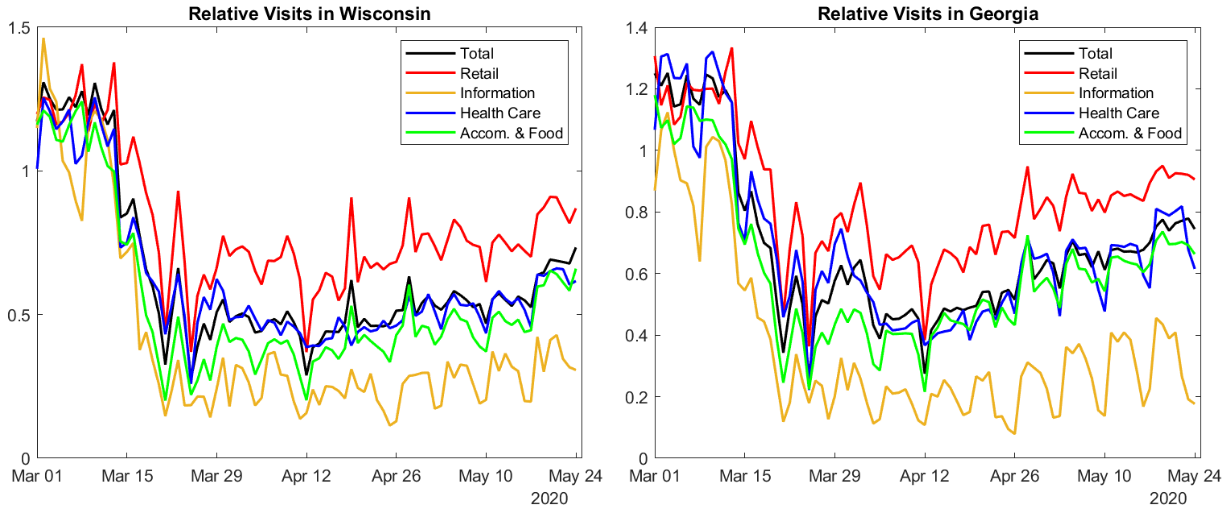

Figure 1: Relative same-location visits for all locations and select industries in Wisconsin and Georgia during 2020 vs. the same period in 2019.

traffic at locations on dates in 2020 compared to the same date (or actually day-of-week to deal with weekly seasonals) in 2019. While this approach does have limits, in not considering entry and exit, it allows for a clear comparison of same-location changes in traffic, eliminating changes due to the sample makeup. As discussed below, I also break out the results into broad industries (using two-digit NAICS codes) as well as finer industries (five digit NAICS codes).

Since I focus on overall activity, I use foot traffic measured as visits per day per location. While this measure is clearly correlated with sales, especially for retail locations, it is also clearly imperfect. The number of visits does not capture changes in the ratio of visitors to buyers or changes in sales per buyer. Moreover, as noted above, many stores and restaurants have increased their delivery business during the COVID-19 pandemic and these delivery transactions are missed, although takeout orders for pickup would still be captured. As I showed in other work, consumers have shifted substantially toward on-line purchases, and are also buying more on each of their less frequent visits to stores. The foot traffic in this brief thus is best as a measure of in-store transactions, which is only part of sales. But especially for the question of reopening addressed here, focusing on gains in in-store transactions is appropriate.

Changes in Economic Activity

As a baseline measure of the changes in economic activity due to COVID-19, I look at the aggregated daily number of visits at locations in Georgia and Wisconsin beginning in March 2020. Because of the strong day-of-week effects, the data are aligned starting with the first Sunday in March (3/3/19 and 3/1/20). For simplicity I refer to the 2020 date in what follows. I focus on relative visits, defined as the ratio of same-location visits per day

NAICS Code	Industry Title	Change 4/12-4/18		Change 5/3-5/9		Change 5/17-5/24	
		WI	GA	WI	GA	WI	GA
--	All Locations	-59.1	-55.5	-45.5	-35.2	-38.0	-24.4
31-33	Manufacturing	-62.3	-64.0	-61.5	-44.2	-53.9	-30.9
42	Wholesale Trade	-54.0	-47.1	-29.1	-14.4	-19.6	-8.2
44-45	Retail Trade	-44.1	-39.9	-24.2	-16.1	-22.6	-7.7
445110	Supermarkets & Grocery Stores	-32.2	-27.3	-11.1	-7.1	-9.4	-3.7
48-49	Transportation and Warehousing	-59.7	-48.6	-33.8	-31.4	-32.0	-27.6
51	Information	-78.6	-81.4	-73.3	-73.8	-65.5	-67.6
52	Finance and Insurance	-44.7	-40.8	-28.7	-21.6	-22.6	-14.2
53	Real Estate Rental and Leasing	-58.7	-56.9	-43.0	-35.7	-32.0	-24.4
61	Educational Services	-89.0	-92.1	-84.7	-86.6	-79.7	-74.4
62	Health Care and Social Assistance	-60.9	-58.8	-45.7	-35.1	-37.1	-22.7
71	Arts, Entertainment, & Recreation	-72.4	-71.8	-56.1	-50.6	-45.4	-34.8
72	Accommodation and Food Services	-64.8	-59.1	-54.0	-40.5	-40.8	-30.5
722110	Hotels and Motels	-74.6	-78.6	-70.7	-69.1	-59.7	-59.6
722511	Full-Service Restaurants	-71.6	-70.1	-64.0	-50.8	-47.9	-36.9
81	Other Services (except PA)	-57.5	-62.9	-40.4	-46.1	-33.4	-38.7
92	Public Administration	-45.1	-40.5	-16.6	-16.3	-12.7	+0.5

Table 1: Relative same-location visits for selected industries in Wisconsin and Georgia during 2020 vs. the same period in 2019. Averages over the noted weeks.

in 2020 over the corresponding value in 2019. To further smooth the daily fluctuations and better focus on trends, in some cases I compute seven-day averages.

Table 1 lists the decline in relative visits for selected industries, grouped by NAICS codes, for both of states and Figure 1 plots a select number of these industries. Since the dataset focuses on commercial foot traffic, industries not shown have few visits or none at all. Overall, the declines across all locations have been severe and generally followed the same trends in each state: from a 52% drop early on, ticking down to a decline of nearly 60% in the week of April 12, before recovering somewhat over the last few weeks of the sample. Not surprisingly, the largest declines have been in industries that have effectively shut down: education (schools), information (especially movie theaters), and accommodation and food services (hotels and restaurants). While full-service restaurants were been able to salvage some revenue by moving to takeout and delivery, they saw a substantial drop in activity.

Both Table 1 and Figure 1 make clear that activity has recovered from its low point in mid-April in both states. However the recovery has been stronger in Georgia, particularly since about the time of its first reopening orders. The differences in activity between the states are more clearly shown in Figure 2, which shows the seven-day average of relative visits for selected industries in the two states. In particular, starting around April 24 when the first reopening orders were implemented in Georgia (shown

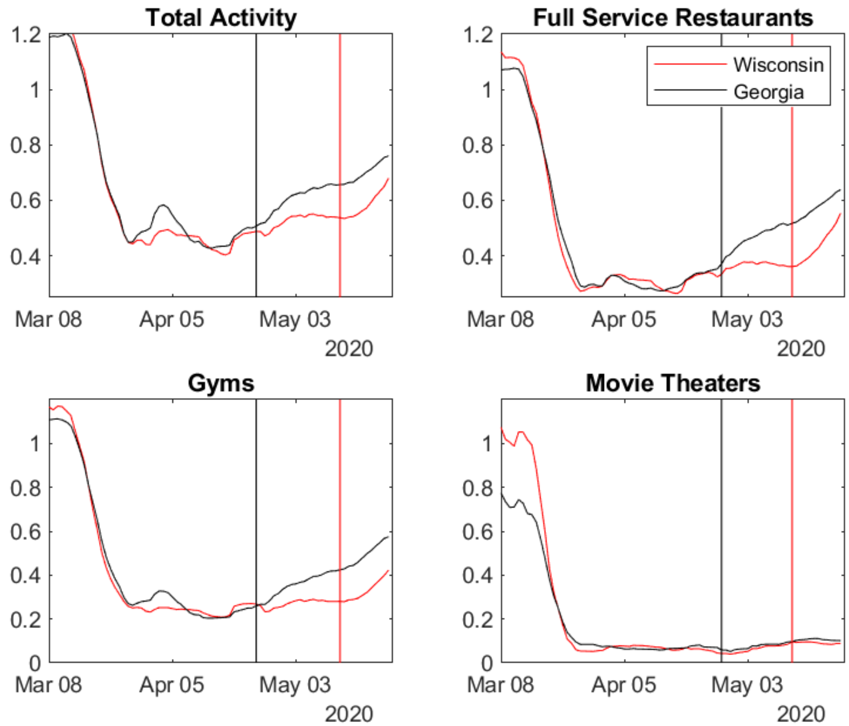

Figure 2: Relative same-location visits for all locations and select industries in Wisconsin and Georgia during 2020 vs. the same period in 2019.

with a vertical black line), a gap opened between the states and has grown over time. By May 9, total activity in Wisconsin was down roughly 45%, but 35% in Georgia. That is, while activity rebounded by about 15 percentage points in Wisconsin, it grew an additional 10 percentage points in Georgia. The gap continued to increase slightly over the following week, which also saw the invalidation of the Wisconsin stay-at-home order (shown with a vertical red line). During the last week, Wisconsin saw a relative surge in overall activity as more businesses reopened, which closed some of the gap.

As discussed above, the relative gains in Georgia have been slightly stronger in some of the industries that have been most affected by the pandemic. The accommodations and food sector has been the most affected, and saw the largest job loss of 47% in the April national jobs report, and a 56% loss of jobs in Wisconsin. Activity in this sector is still down roughly 30% in Georgia, and down 41% in Wisconsin, with both seeing sharp improvements since reopening. Retail has seen less difference, as both states experienced gains in recent weeks, and Wisconsin had also lightened some restrictions. The health sector has also seen a relative gain in Georgia, as hospitals opened up earlier for non-COVID services.

While Figure 1 focused on broader 2-digit NAICS industries, Figure 2 focuses on narrower 5-digit industries which were particular targeted by the reopening orders. Some of these have seen somewhat larger gains than the state as a whole. Full-service restaurants reopened for dining in Georgia on April 27, while they had been relegated to

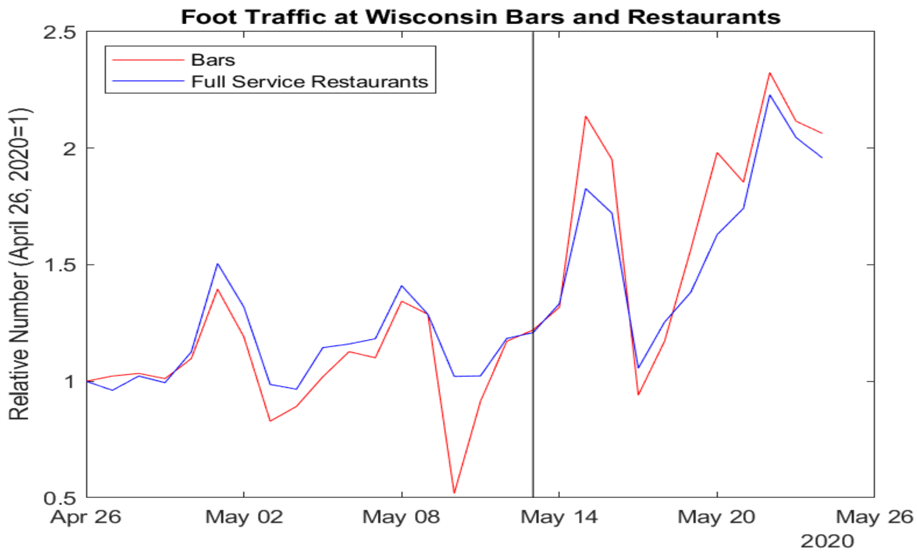

Figure 3: Same-location visits for bars and full service restaurants in Wisconsin over the last several weeks (relative to April 26, 2020).

take-out and delivery in Wisconsin until May 13. Full service restaurants have also seen a 15 percentage point relative gain in Georgia during the first three weeks. Gyms in Georgia were allowed to reopen on April 24 (shown in the left column), while they had generally remained closed in Wisconsin. They also saw a 15 percentage point relative gain during that time. Both gyms and especially full service restaurants have seen strong gains in Wisconsin since the Supreme Court decision on May 13. Movie theaters, which were allowed to reopen, have not generally chosen to do so in either state, and thus have seen little or no improvement.

Recent Changes in Wisconsin

Following the Wisconsin Supreme Court case invalidating the stay-at-home order, there were numerous news stories of people rushing to bars in the state. Figure 3 shows that there was indeed a large relative increase in activity on the initial weekend following the order, with foot traffic at bars up 60% and restaurants up 30% from the previous weekend. These increases continued over the following week leading into Memorial Day weekend, with foot traffic on May 22 up 75% in bars and 64% in full service restaurants over May 8. However this was an increase from a very low level. Figure 4 shows that although these sectors have seen sharp recovery in recent weeks, activity still remained at least 40% below levels of a year earlier. Nonetheless, this is strong growth considering activity had been down 70-75% throughout April.

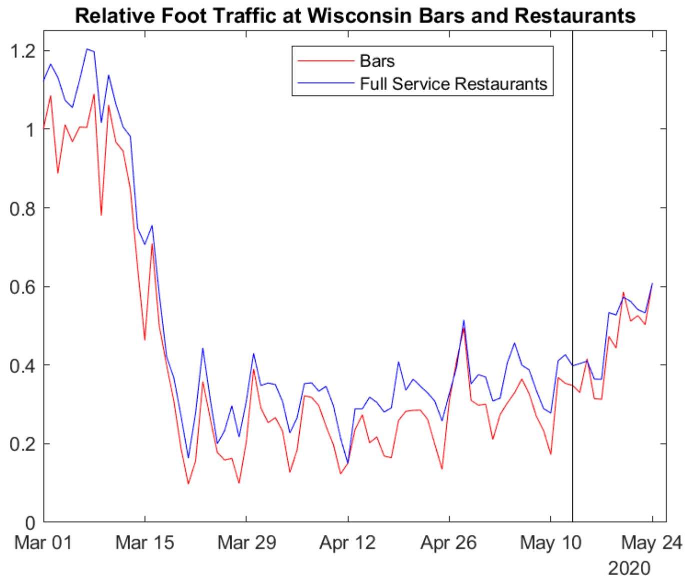

Figure 4: Relative same-location visits for bars and full-service restaurants in Wisconsin.