



**COVID-19 Impact in Q1 2020:
Implications for Health Care, Transportation Equipment Manufacturing, and Local/State
Government Employment^{1 2}**

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Key Findings:

- Expenditures on health care decreased by 2.25% in Q1 2020.
- Ohio ranks 12th in terms of the share of total employment in the health care industry.
- Northeast & Midwest regions are most at risk from COVID-19 related employment declines in the health care industry due to decrease in elective procedures and non-urgent care.
- Expenditures on motor vehicles and parts decreased by 0.95% in Q1 2020.
- Ohio has the 11th largest share of employment in the transportation equipment manufacturing industry.
- Midwest & South regions most likely to experience financial difficulty from decline in transportation, motor vehicle, and motor vehicle parts purchases during COVID-19.
- Ohio was the 9th largest state exporter of goods in 2018 and weaker overseas demand for goods and services will have a sizable impact.
- Ohio's local governments are heavily reliant on taxes impacted by the pandemic, such as income and sales taxes, and hence local governments are very vulnerable to declines in tax collections and other own-source revenues.
- Appalachian Ohio counties, particularly those in Southern and Southeastern Ohio, have a disproportionately larger share of employment in local and state government. These counties are particularly vulnerable to public sector job losses.

¹ Please cite as Khalaf, Christelle, G. Jason Jolley, & Anirudh V. S. Ruhil. 2020. *COVID-19 Impact in Q1 2020: Implications for Health Care, Transportation Equipment Manufacturing, and Local/State Government Employment*. Center for Economic Development and Community Resilience. Voinovich School of Leadership and Public Affairs. Ohio University.

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Introduction

This report, prepared by the Center for Economic Development and Community Resilience, housed in the Voinovich School of Leadership and Public Affairs at Ohio University, provides a snapshot of employment in health care, transportation equipment manufacturing, and local/state governments. Ohio employment in these industries is compared to employment in other states and, in the case of local/state government, compared across counties in Ohio. These industries have faced and will continue to face challenges during the COVID-19 pandemic.

Health Care Industry

Real gross domestic product (GDP) decreased by 1.2% (4.8% annualized) in the first quarter of 2020, according to the advance estimate released by the Bureau of Economic Analysis (BEA).³ The decrease in GDP was driven by a 1.32% (or 5.26% annualized) decrease in personal consumption expenditures. While expenditures on goods declined (0.07% in Q1 or 0.27% annualized), the bulk of the decrease was in expenditures on services (1.25% or 4.99% annualized). Given the nature of this public health shock, it is not surprising that the immediate negative impact was concentrated in industries that had the potential of being a vector of infection such as the recreation services industry as well as the food services and accommodation industry. However, the biggest contraction impacted the health care industry with a decrease of 0.56% (or 2.25% annualized).

Hospitals have been reporting massive losses due to state restrictions on non-urgent care. For example, Michigan hospitals experienced a drop in revenue between 50%-70%.⁴ Ohio hospitals lost about \$1.2 billion from suspending elective procedures.⁵ Even as restrictions are eased, patients are very likely to delay or forego care to avoid unnecessary exposure to the virus. Further, the possibility of a second wave of infections in the Autumn months might force another voluntary suspension of elective procedures. In fact, thousands of health care workers have already been laid off or furloughed in California.⁶ Given these challenges, we evaluate the share of employment in the health care industry for all 50 states in order to illustrate which states are most at risk from COVID-19 related employment declines. The Northeast and Midwest regions emerge as being most at risk from a financial collapse of the health care industry. Notably, Ohio has the 12th largest share of employment in this industry.

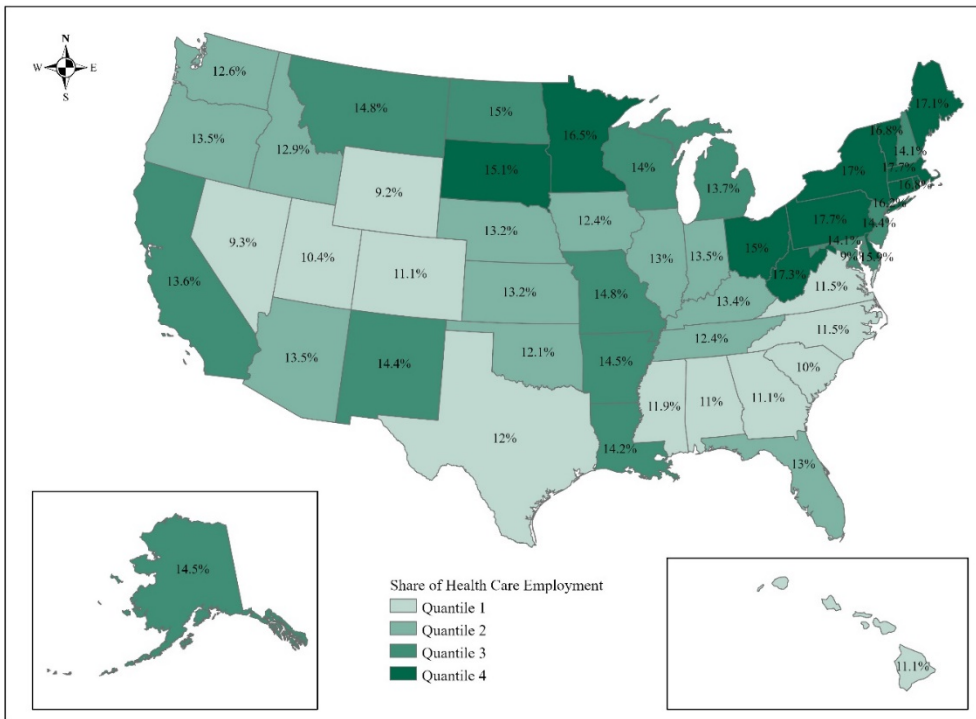
³ https://www.bea.gov/system/files/2020-04/gdp1q20_adv_2_0.pdf

⁴ <http://fordschool.umich.edu/news/2020/healthcare-sector-takes-hit-amidst-broader-economic-downturn>

⁵ <https://www.bizjournals.com/columbus/news/2020/03/27/ohio-hospitals-facing-1-2b-monthly-loss-from.html>

⁶ <https://www.latimes.com/california/story/2020-05-02/coronavirus-california-healthcare-workers-layoffs-furloughs>

Figure 1. Ohio has the 12th Largest Share of Employment in the Health Care Industry



Note. Figure 1 presents the share of employment in the health care (NAICS 62) industry for all 50 states using Quarterly Census of Employment and Wages (QCEW) data from the first 3 quarters of 2019.⁷

Transportation Equipment Manufacturing Industry

In addition, while personal consumption expenditures on nondurable goods was not impacted in the immediate aftermath of this health shock, expenditures on durable goods decreased by 0.3% (1.2% annualized) in Q1 2020. Typically, consumers tend to reduce their purchases of durable goods more than other types of expenditures during a recession.⁸ The decline in durables expenditures was driven by a 0.24% (0.95% annualized) decrease in spending on motor vehicles and parts. Thus, similarly to the healthcare industry, we evaluate the share of employment in the transportation equipment manufacturing industry for all 50 states. The Midwest and South regions emerge as being most at risk from a financial collapse of this industry. Markedly, General Motors in Ohio, among other automobile manufacturing companies across the country, have temporarily closed their plants.^{9 10 11} Ohio has the 11th largest share of employment in the transportation equipment manufacturing industry, and the consequences of plant closures, howsoever short they may be, will be felt in several communities.

⁷ <https://www.bls.gov/cew/>

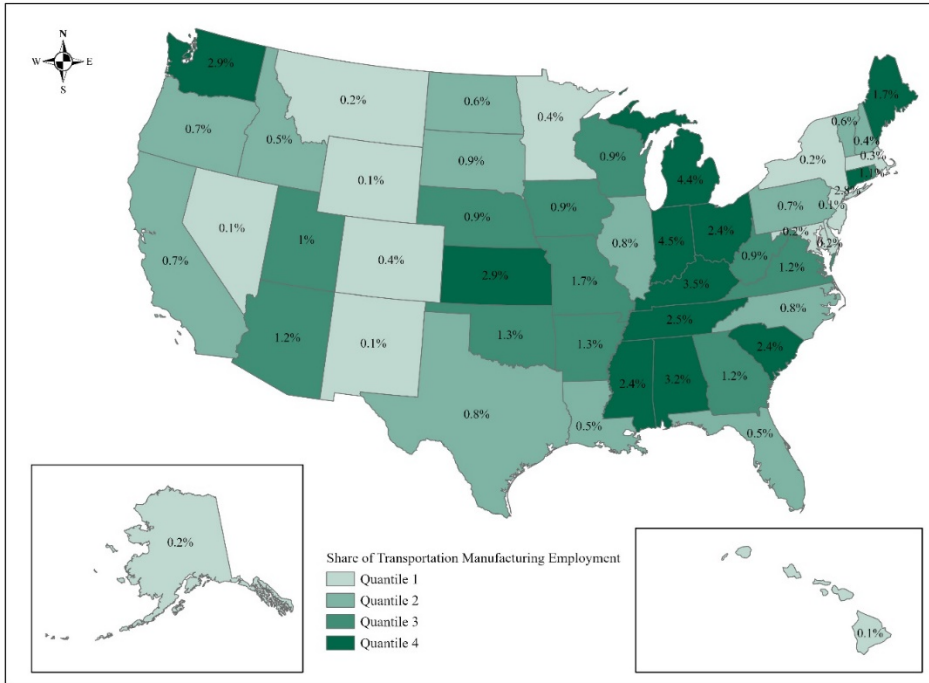
⁸ Romer, C. D. (1990). The great crash and the onset of the great depression. The Quarterly Journal of Economics, 105(3), 597-624. <https://academic.oup.com/qje/article/105/3/597/1864581>

⁹ <https://www.bloomberg.com/news/articles/2019-03-29/gm-brushed-off-union-concessions-before-idling-ohio-car-plant>

¹⁰ <https://www.cnet.com/roadshow/news/covid-19-automakers-plant-shutdowns-coronavirus-pandemic-outbreak/>

¹¹ <https://www.nytimes.com/2020/03/18/business/economy/gm-ford-fiatchrysler-factories-virus.html>

Figure 2. Ohio has the 11th Largest Share of Employment in the Transportation Equipment Manufacturing Industry



Note. Figure 2 presents the share of employment in the transportation equipment manufacturing (NAICS 336) industry for all 50 states using Quarterly Census of Employment and Wages (QCEW) data from the first 3 quarters of 2019.

Note that the BEA GDP estimates for Q1 2020 cover the months of January and February that were largely unaffected by COVID-19. Therefore, the decrease in GDP in March must have been much larger than 1.2% and thus we can infer that the GDP decrease in Q2 will also be larger. While the whole nation will experience the impact of COVID-19 on the recreation services and retail industries as well as the food services and accommodation industry, ultimately regional industry composition and regional vulnerabilities will play a significant role in determining the total toll of this health shock. This analysis serves as a first step towards a better understanding of the evolving economic implications of COVID-19. In addition to regional industry composition, business size composition will play a critical role. Small businesses have more credit constraints and are more sensitive to a decline in demand. Historically, they have been hit the hardest during times of economic recession.¹² Further, regions with a large share of exports, e.g., Ohio was the 9th largest state exporter of goods in 2018, will have to face the ramifications of weaker international demand.¹³ Future work will investigate these dynamics in more detail.

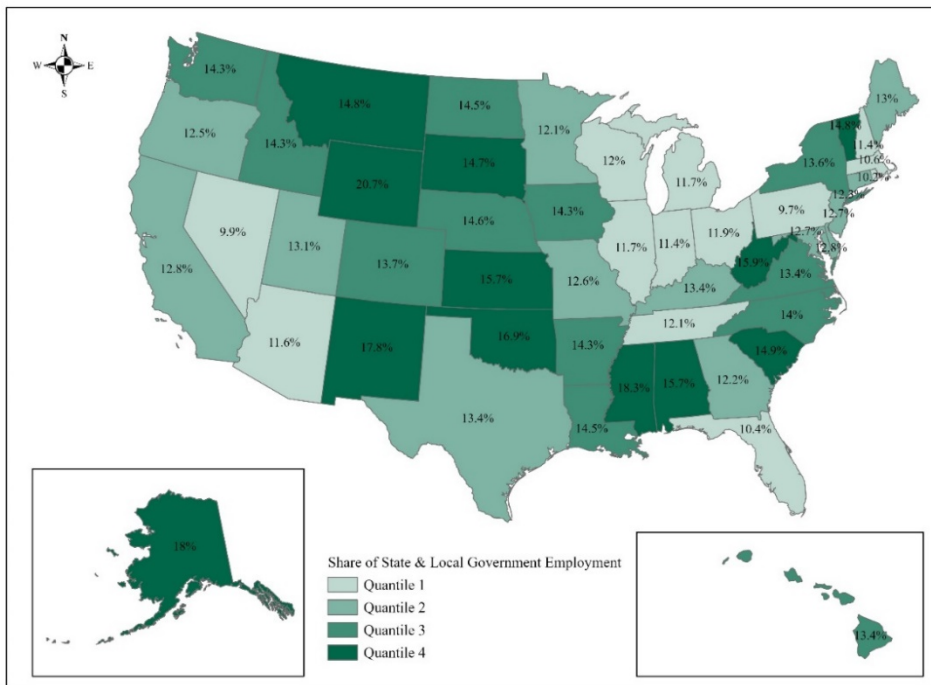
¹² https://www.newyorkfed.org/medialibrary/media/research/current_issues/ci17-4.pdf

¹³ <https://ustr.gov/map/state-benefits/oh>

Local and State Government Taxation and Employment

Local and state government are also facing revenue declines and potential budget shortfalls, especially those governments relying on income and/or sales tax collections.¹⁴ A 2019 study by the Tax Foundation found that Ohio and Pennsylvania had the highest concentration of jurisdictions imposing local income taxes.¹⁵ This same study found Ohio’s local income tax collections were 1.56% of adjusted gross income (AGI), the highest of any state in the study other than Maryland (2.28%).¹⁶ A Brookings Institution study found that Ohio had four of the top five cities (1) Columbus, 2) Cincinnati, 4) Toledo, and 5) Cleveland) with the most immediate fiscal impact. This is due to the cities’ large share of general fund revenue from COVID-19 affected sources (e.g. income and sales taxes) as well as share of employment in high risk industries.¹⁷

Figure 3. About 12% of Ohio Employment is in Local and State Government (including teachers and those working in education)



Note. Figure 3 presents the share of employment in local and state government for all 50 states using Quarterly Census of Employment and Wages (QCEW) data from the first 3 quarters of 2019.

¹⁴ Pagano, Michael A. and Christina K. McFarland. 2020. “When will your city feel the fiscal impacts of COVID-19?” Brookings Institution. Retrieved from <https://www.brookings.edu/blog/the-avenue/2020/03/31/when-will-your-city-feel-the-fiscal-impact-of-covid-19/>

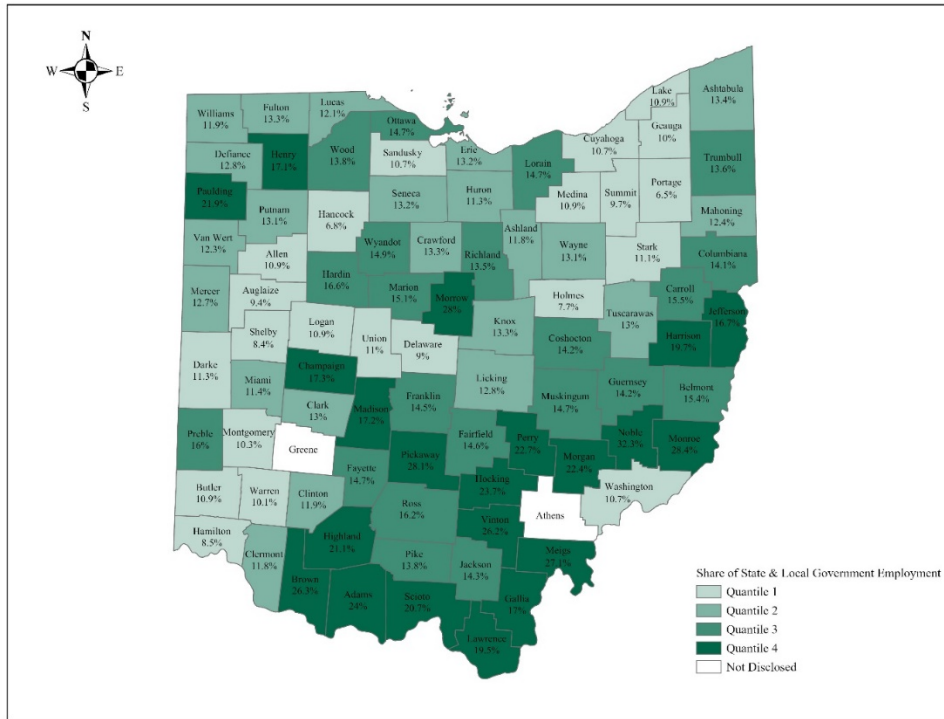
¹⁵ Walczak, Jared. 2019. “Local Income Taxes in 2019.” Tax Foundation. Retrieved from <https://taxfoundation.org/local-income-taxes-2019/>

¹⁶ Ibid.

¹⁷ Pagano, Michael A. and Christina K. McFarland. 2020. “When will your city feel the fiscal impacts of COVID-19?” Brookings Institution. Retrieved from <https://www.brookings.edu/blog/the-avenue/2020/03/31/when-will-your-city-feel-the-fiscal-impact-of-covid-19/>

Statewide vulnerability, as shown in Figure 3, is more reflective of tax structures and less reflective of public sector employment. Roughly 12% of Ohio employment is in local and state government, which is on par with most Midwestern states and lower than Southern states (except Florida). However, the distribution of local and state government employment is not evenly distributed across Ohio's counties. Counties in Appalachian Ohio, and particularly in Southern and Southeastern Ohio, have a much higher share of local and state government employment, which makes these counties particularly susceptible to job loss resulting from declines in local and state tax revenue.

Figure 4. Share of Employment in Local and State Government in Ohio by County



Note. Figure 4 presents the share of employment in local and state government for all 88 Ohio counties using Quarterly Census of Employment and Wages (QCEW) data from the first 3 quarters of 2019.