

“The Impact of COVID-19 on the Gig Economy”

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Introduction to the Gig Economy

- In 2017, 34% of the US workforce identified as a gig economy worker. By 2020, that number will increase to 60%.
- In exchange for the flexibility as an independent contractor, gig economy workers have weak job security and are often not covered by traditional unemployment safety nets



Research Questions and Hypothesis

- 1) How has COVID-19 impacted consumer behavior in the rideshare gig economy?
- 2) How does COVID-19 impact driver labor participation and unemployment rates?
- 3) What drove the change in the number of rides and drivers? The demand or supply shock?

H1: COVID-19 created a stronger demand shock than supply shock in the gig-economy

H2: Communities with higher COVID-19 cases will see a decrease in economic activity

H3: Higher COVID-19 cases will increase the proportion of small to mid-sized bases exiting the market compared to large bases

Methods

- We utilized publicly available data from the City of Chicago and New York City about rideshare statistics, unemployment data and COVID-19 cases
- Statistical analysis was conducted through R and SQL, with Plackett-Luce, Mann-Whitney, and Linear Regression Models



Results

- Both Chicago and New York City experienced a decrease in rides and drivers, indicating a supply and demand shock. However, there was a stronger demand shock as consumers were risk-averse and avoided public transportation and ride-hailing services.
 - There was a statistically significant shift in the distribution of rides by community area in Chicago from March 2019 compared to March 2020.
- Communities with a smaller number of trips in Chicago had rankings that showed a stronger negative cross-correlation with the COVID-19 case rate, suggesting that popular drop off locations were more likely to withstand the demand shock of COVID-19.
 - In New York City, there was a statistically significant change in the distribution of average rides per driver and the total number of unique vehicles
- Populations for the average number of rides per driver can be split as February versus March and April, and for the number of vehicles between February and March versus April. The number of unique vehicles is a lagging economic indicator, where changes captured by the statistic will typically lag behind actual changes in the gig economy.
 - Overall, the combined months of February, March and April were statistically significant for both metrics between 2019 and 2020.