Title: Which Retail Outlets Generate the Most Physical Interactions?

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Abstract: This paper seeks to answer the simple question of what category of retail outlets generates the most physical interactions in the regular course of life. In this way, we aim to bring a marketing perspective to discussions about which businesses may be most risky from the standpoint of spreading contagious disease. We use detailed data from people's mobile devices prior to the implementation of social distancing measures in the United States. With this data, we examine a number of potential indicators of risk of contagion: The absolute number of visits and visitors, how many of the visits are generated by the same people, the median average distance traveled by the visitor to the retailer, and the number of customers from Canada and Mexico. We find that retailers with a single outlet tend to attract relatively few visitors, fewer one-off visitors, and have fewer international customers. For retailers that have multiple stores the patterns are non-linear. Retailers that have such a large number of stores that they are ubiquitous, tend to exhibit fewer visits and visitors and attract customers from a smaller distance. However, retailers that have a large enough footprint to be well known, but not large enough to be ubiquitous tend to attract a large number of visitors who make one-off visits, travel a long distance, and are disproportionately international.

Data description: We use data provided by Safegraph for the purposes of studying the spread of coronavirus for February 2020. This data is built on a panel of 44,546,450 million devices that collect anonymous location data. This represents about 10 percent of devices in the United States. Each of the users of these devices has given permission for their location to be tracked by a variety of mobile apps. Safegraph matches the location of these devices to a variety of locations of branded physical retail locations within the US, and its main business is focused on providing data on retail traffic to firms and analysts. This is advantageous for our purposes, as Safegraph’s business model means it has already done substantive work to check the accuracy of the data

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