Draft Report

Team 7

If everyone could put their draft reports in their corresponding sections by Friday 20th Nov Morning for the meeting, that would be great. This document is meant to be the first draft of many and we be by no means complete.

Introduction (Everyone)

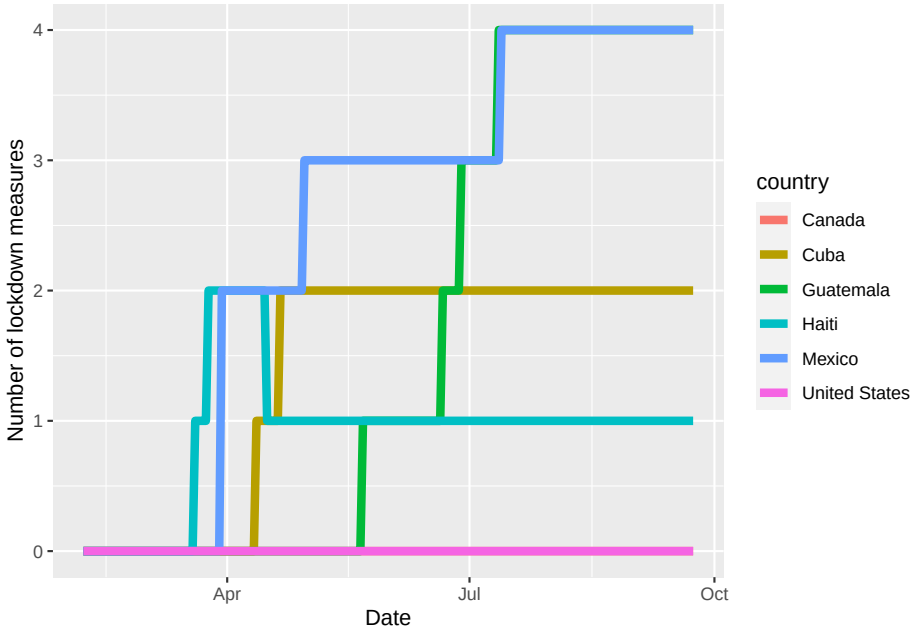
Section 1: Overview of lockdown (Vincent C)

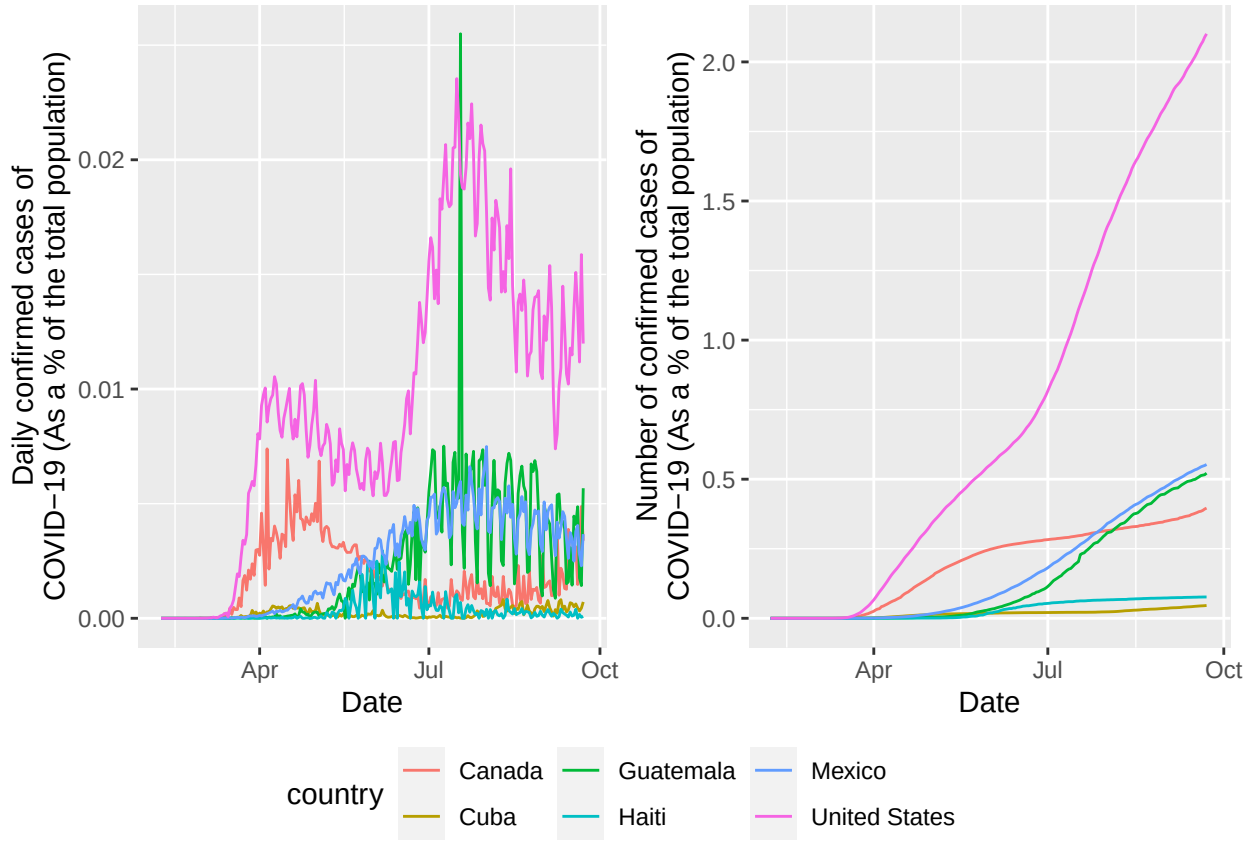
Overview of the spread of COVID-19

We will have a brief look into COVID-19 and its progression over the regions Europe, North America, Central America and South America. We will demonstrate how this virus escalated among the top 6 largest countries (by population) for each region by analyzing a few variables. The key variables that I believe displays this the best are the number of daily confirmed infections (as a % of the total population), the number of confirmed infections (as a % of the total population), and the number of lockdown measures for each country.

The number of lockdown measures will give us a high level overview into the response from governments as a result of the COVID-19 pandemic.

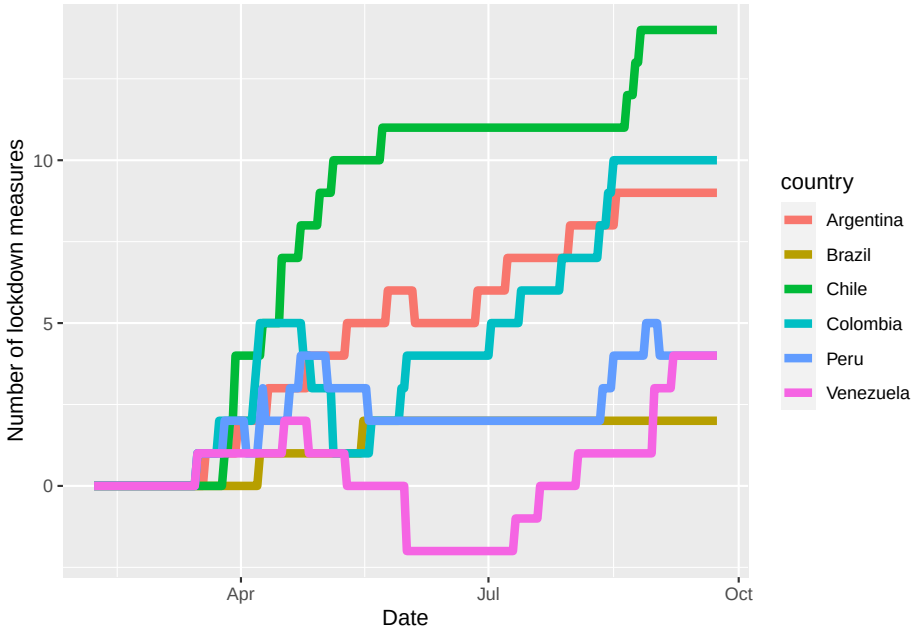
North America and Central America

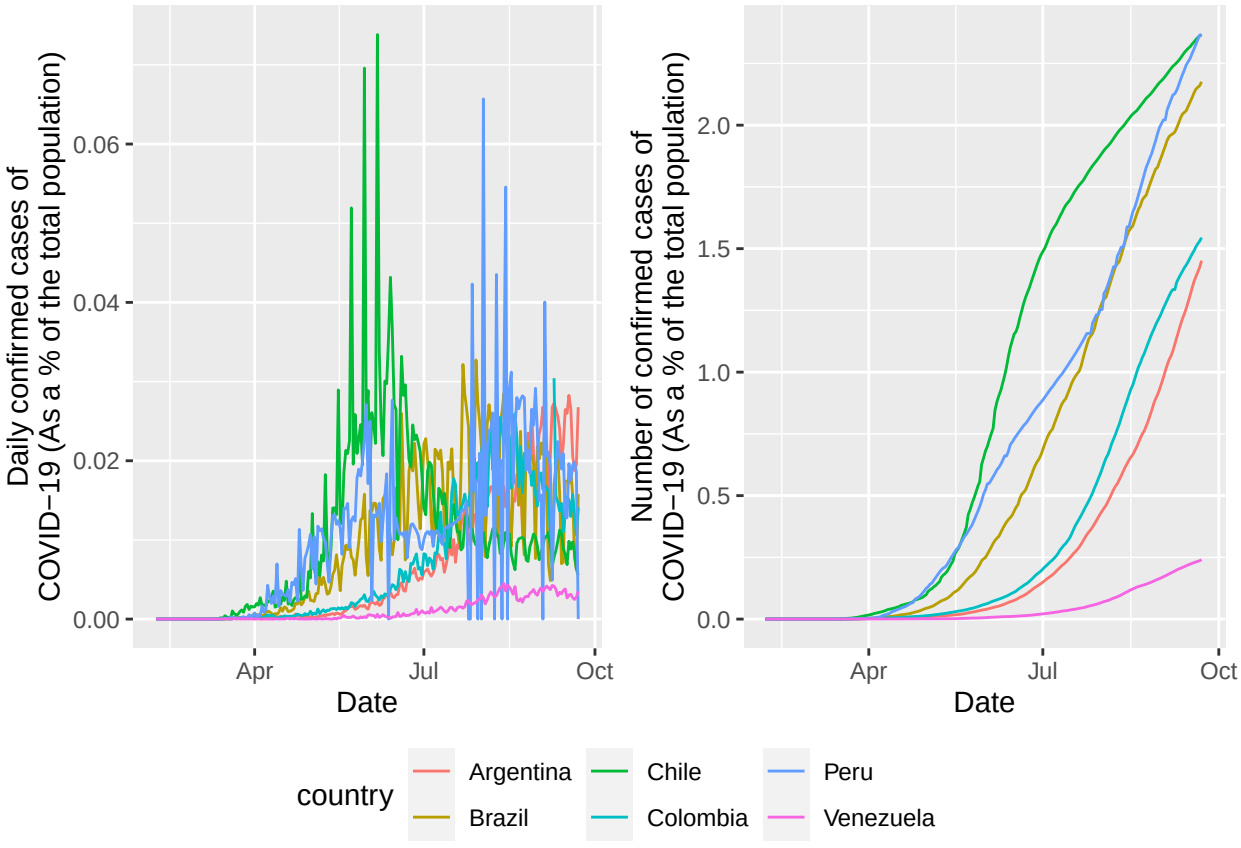




From our plot, we can see that in the US and Canada the COVID-19 begun to take off around early April. However, for the other countries in this region the virus impacted them around May. We can see from the Lockdown Measures plot that the US and Canada had 0 measures in place to contain the virus, this must explain why they had a large number of cases early. We can also see that the other countries implemented lockdown measures around April, with Guatemala being the exception.

South America

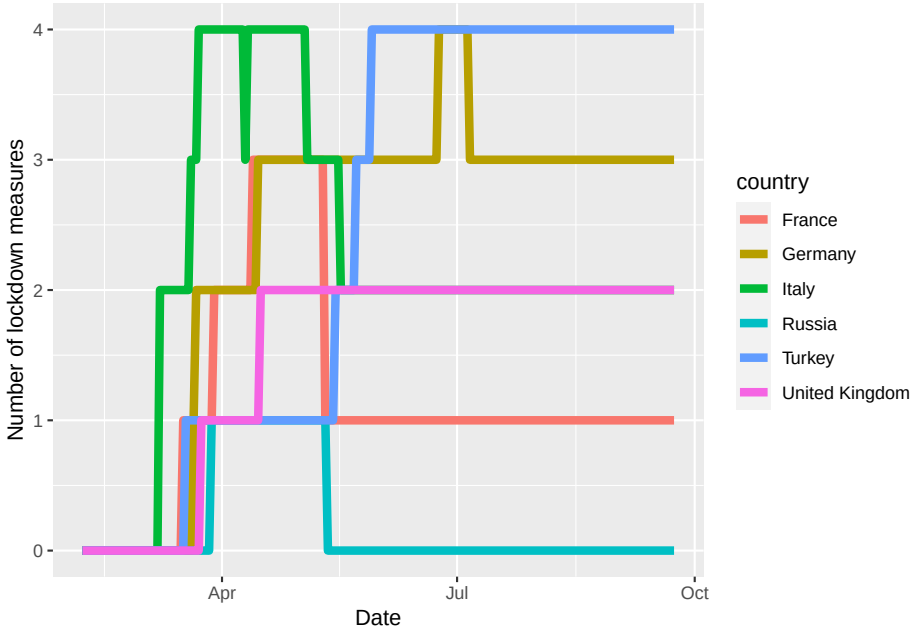


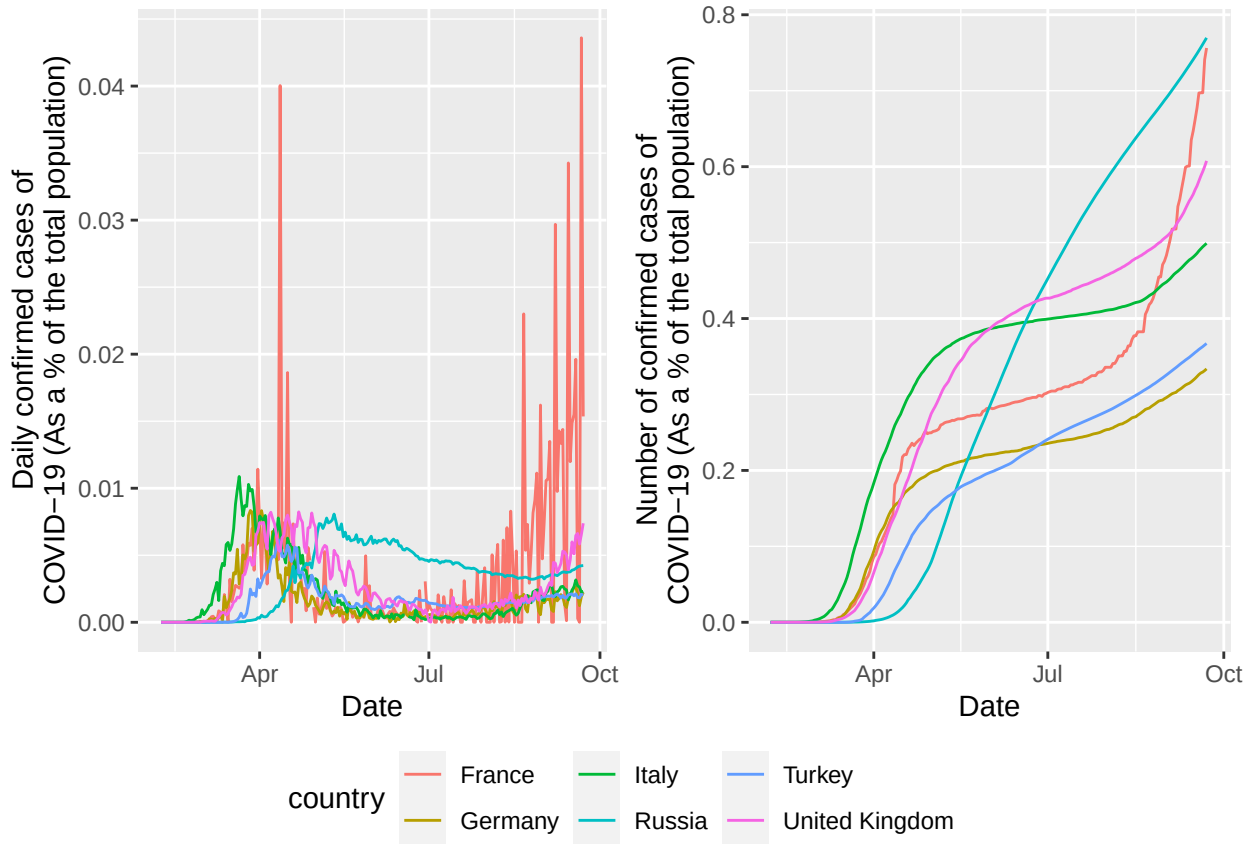


From these set of graphs we can see that the the number of confirmed COVID-19 cases as a percentage of the population steadily rose later than in North and Central America. The cases started to rising around May. However, all the countries had at least one lockdown in early April, this may be one of the reasons why

it impacted the countries in South America later than North and Central America. Looking at the daily confirmed cases as a percentage of the population, we can see a growing increase of the infections in May. There is an unexpected result in the graph of the number of lockdown measures for Venezuela is showing a negative value between mid May to mid August. I could not find anything to explain this result.

Europe





Looking at the daily confirmed COVID-19 cases for Italy that the number of cases were on the rise in mid March. Other countries like France, Germany, United Kingdom and Turkey followed shortly afterwards in April. The spread of COVID-19 for Russia was roughly a month later than the other countries. Looking at the lockdown measures, by the beginning of April all the countries had at least one lockdown measure to help contain COVID-19. As we look at August we can see another rise in COVID-19 cases, this is where the second wave of COVID-19 occurred in Europe.

Section 2: Residential and workplace (Becky)

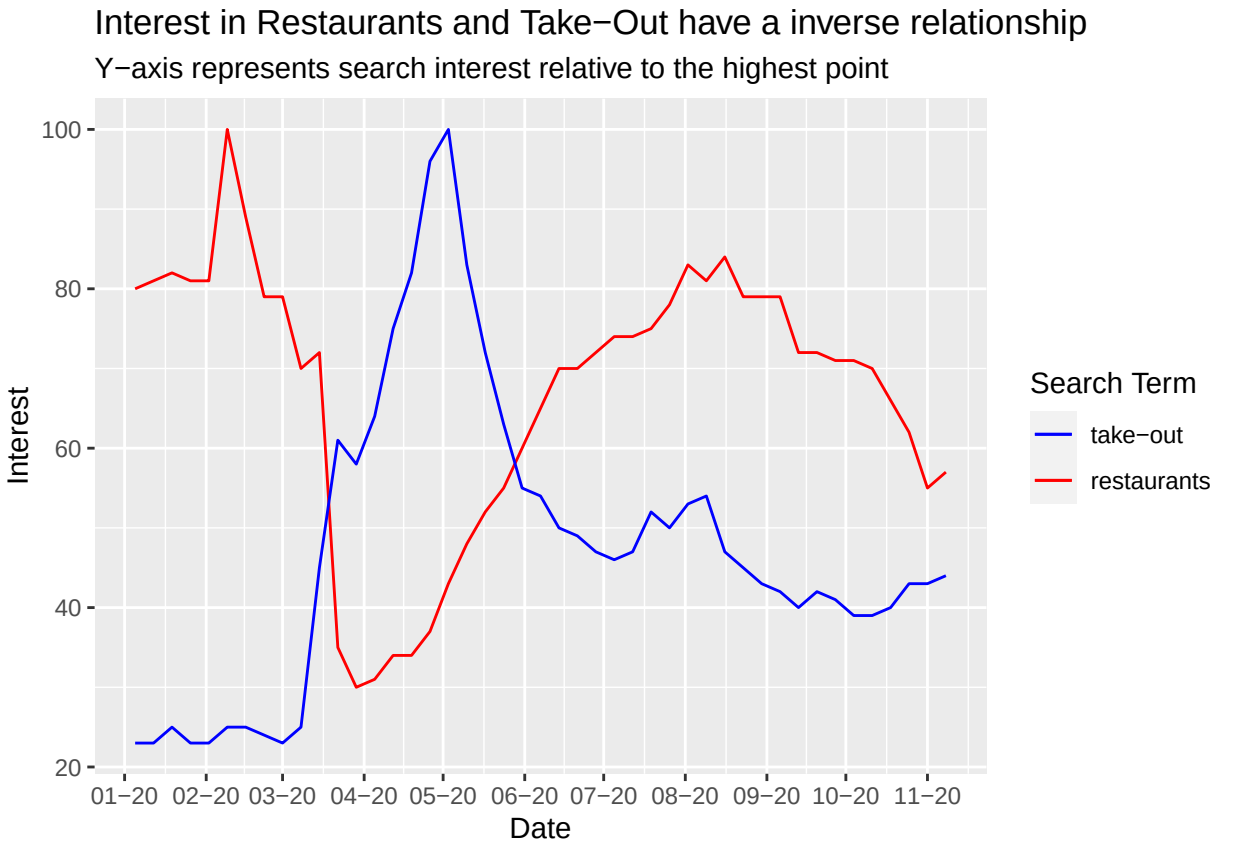
Section 3: Grocery and pharmancy (Jacob)

Section 4: Recreation and retail (Vincent P)

Section 5: Google Trends (Max)

Using Google Trends data on the search volume for various terms, we can investigate the general interest over time. Google Trends is an unbiased sample of Google search data. It's anonymised, categorized and aggregated. For the regions we are looking at - Europe, North, Central and South America - the percentage of population that uses the internet is 88%, 95%, 61% and 72% respectively. This indicates that the search patterns shown by Google Trends may be an accurate representation of the behaviors and interests of these regions.

We will investigate the search terms `restaurants` and `take-out`, the two can be seen as the compliment of one another. We will plot a graph of the average interest for these terms throughout European, North, Central and South American countries. The y axis represents search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular.



The plot above shows that the two search terms' interest have an inverse relationship. As we can see, when lockdown and restrictions began to be imposed by governments, consumer interest in `restaurants` decreased whereas interest in `take-out` increased at a similar magnitude. This shows that in lockdowns, consumers are looking to buy more food online, possibly due to sit-in restaurants being closed or people scared to go out in public. This indicates that we, OmniCorp, should focus on online retail and hospitality when lockdown measures are introduced. It is also important to note that the interest in `restaurants` increased back to normal levels almost as fast as it fell. However, it had a smaller, more steady decrease as a second wave of restrictions took place whereas `takeout` did not have a similar magnitude of increase. # Conclusion (Everyone)