

What factor(s) affected New Zealand's economy(GDP) during Covid?

Background:

We chose this topic as it is very timely and relevant.

We want to know if Covid affected the GDP of New Zealand in 2019 - 2020. We also want to know what factors contributed to that effect. To keep it consistent, we chose factors that were affected by Covid as well.

According to Investopedia, the monetary value of all completed products and services produced inside a country over a certain period is known as the gross domestic product (GDP). GDP is a measure of that country's economic wealth that is used to determine its size and rate of growth.

Variables:

Total filled jobs – Our reasoning is that if there is less filled jobs then there is less hours worked therefore less productivity. Less productivity means less economic growth.

Net export – According to Investopedia, export adds value to GDP whereas import subtracts. Net export is export - import which is a rough approximation that tells if export is higher than import. Less net export then less economic growth.

Total number of overseas tourist – Our reasoning is that if there less tourist then less profits. Less profits mean less economic growth.

GDP – We will compare the first three variables to GDP and determine which factor(s) affected the nation's economy during Covid.

Sources:

Total number of filled jobs and net export:

Stats NZ API. https://api.stats.govt.nz/?_ga=2.261191951.305183648.1635350833-1531117190.1632453643 . We used Stats NZ API as they are New Zealand's national statistics office. We are sure that the datasets we got from here are credible and valid.

Number of tourist:

Wikipedia. https://en.wikipedia.org/wiki/Tourism_in_New_Zealand. Has lock symbol at top left and from credible sources e.g. International Monetary Fund. Updated on September 6, 2021.

GDP:

Wikipedia. https://en.wikipedia.org/wiki/Economy_of_New_Zealand. Also has a lock symbol at top left and from credible sources e.g. Tourism New Zealand. Updated on October 6, 2021.

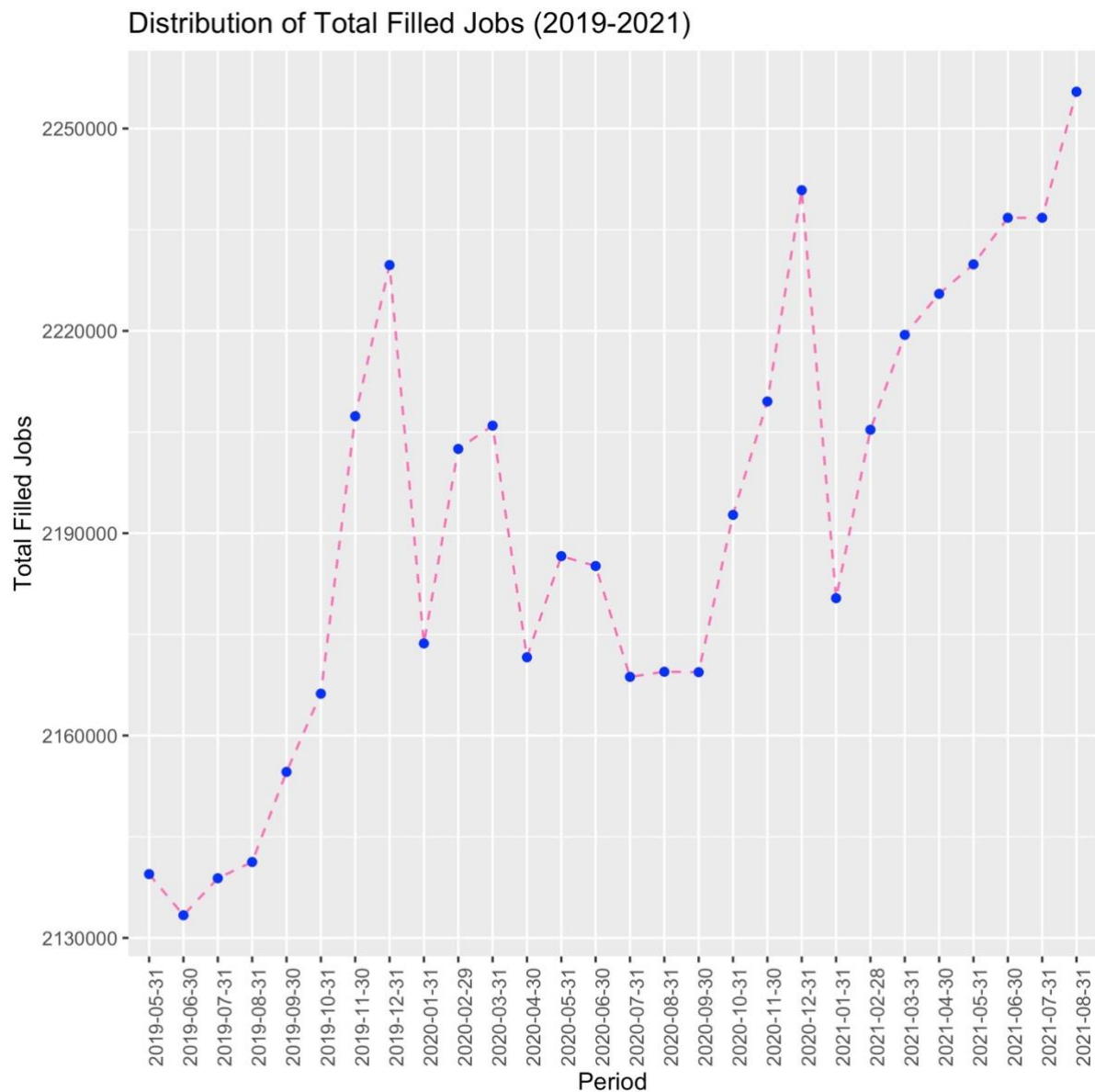
*All sources are for public use and recreation.

Variable Checking:

Now that all variables are valid, and ethical reasons are met, we can now go ahead producing and interpreting plots.

*This section is for proving that all variables were affected during Covid.

Total number of filled jobs:



The plot shows that there are four significant decreases in the number of filled jobs from 2019 to 2021.

The first decrease is between December 2019 to January 2020 by (2229757-2173656) 56,101 jobs and this is when Covid was made official and was all over the news.

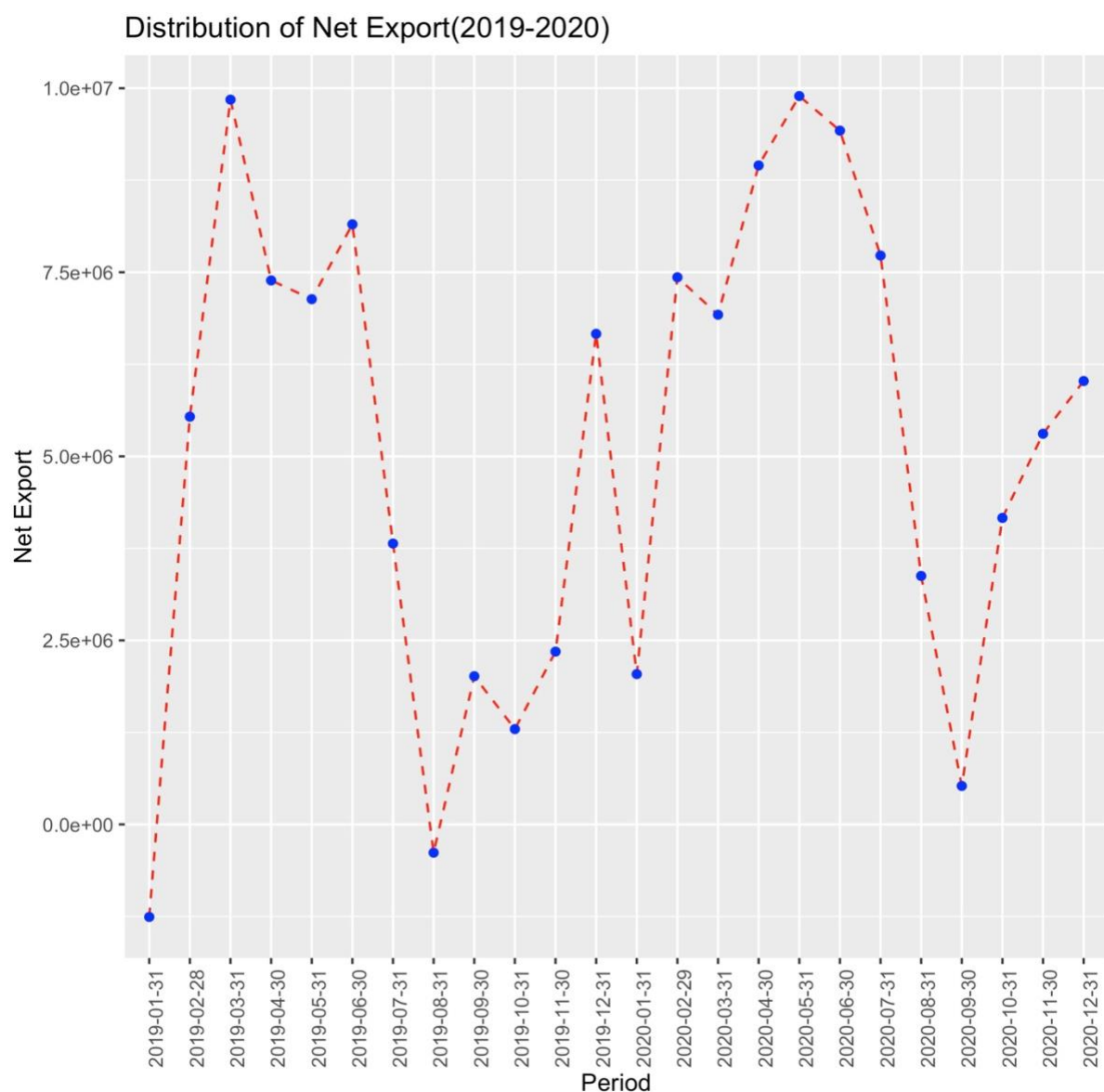
The second decrease is when the first lockdown happened between March 2020 to April 2020 (2205951-2171602) by 34,349 jobs. Non-essential businesses were closed at that time so they were not filled.

The third decrease happened between June 2020 to July 2020 (2185138-2168699) by 16,436 jobs and this is due to businesses (especially small businesses) closing down as they cannot handle to operate due to losses created by the lockdown.

The fourth decrease happened between December 2020 to January 2021 (2240855-2180367) by 60,488 jobs . This is due to the Covid-19 support schemes not being enough, and the Delta variant was discovered.

Overall, total filled jobs were affected during Covid.

Net Export:



With net export, the assumption is that those that decrease indicate that export is less than import.

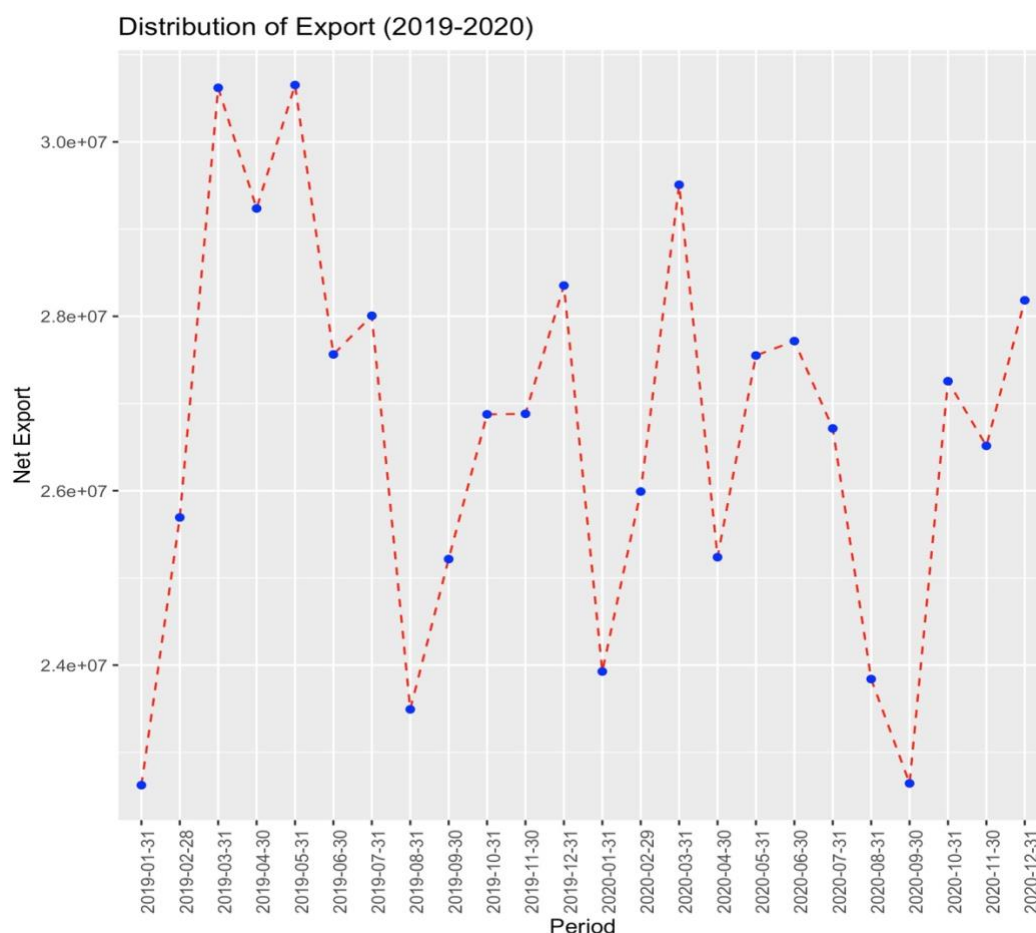
There are decreases between March 2019 to April 2019, June 2019 to August 2019 and September 2019 to November 2019 but we will not interpret them as there is no Covid during those times.

There is a decrease between December 2019 to January 2020 (6663986-2041613) by 4,622,373 net export and this is when Covid was announced. Businesses were probably scared to export as the effects of Covid to the economy is still unknown hence we can see a significant decrease.

There is another decrease between February 2020 to March 2020 (7431809-6923146) by 508,664 net export and this is when the nation was preparing to be in lockdown. Business that exports were not allowed to export unless essential.

Another significant decrease is between July 2020 to September 2020 (7727574-522589) by 7,204,985 net export. This could be because that the border was closed so exports were limited.

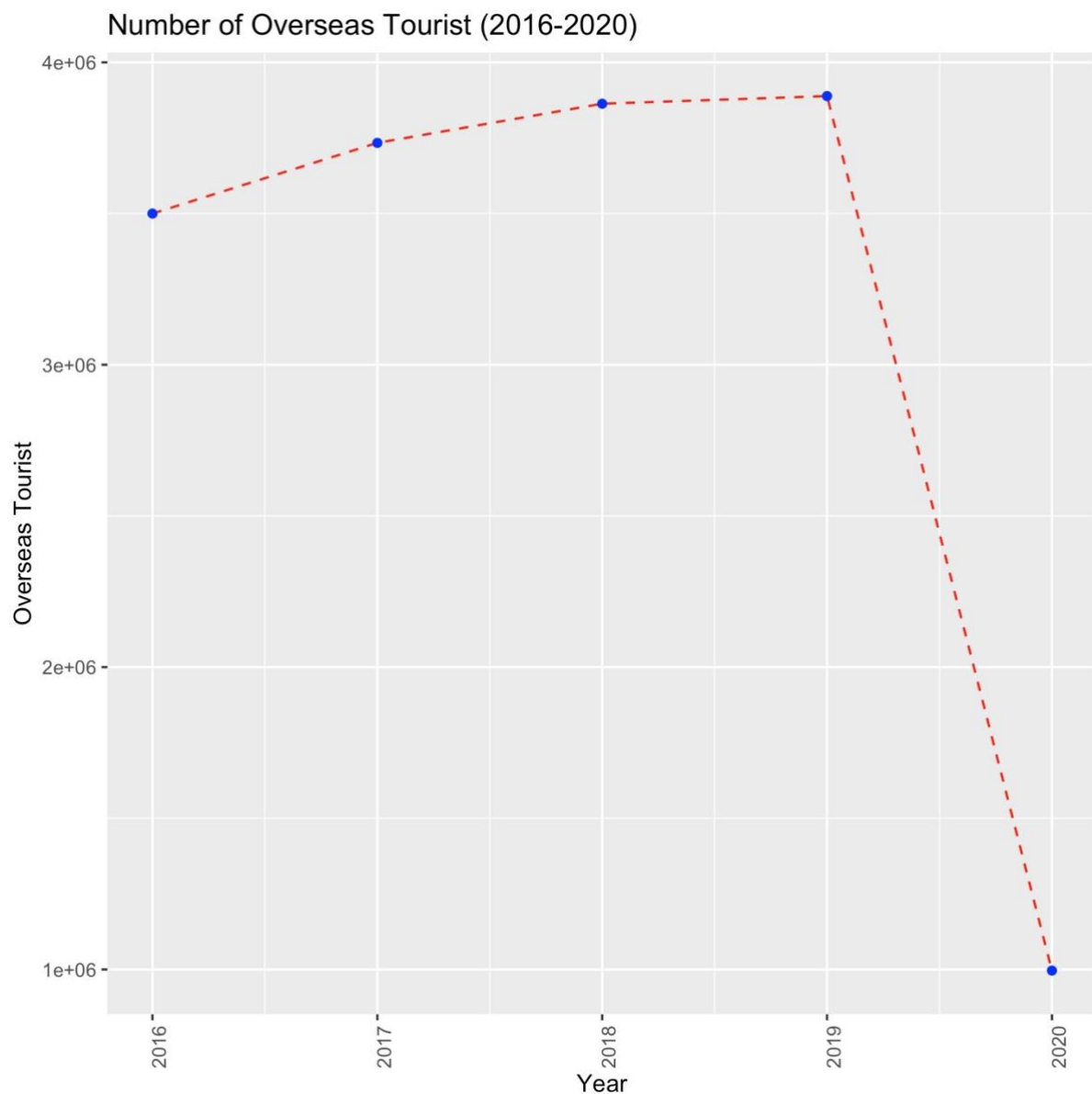
*With export plot, to prove the assumption



Another representation is this plot that only shows the distribution of export. The decreases for this plot are the same as the decreases for net export. This supports the idea that the number of export during that time period were lower.

Overall, net export was affected during Covid.

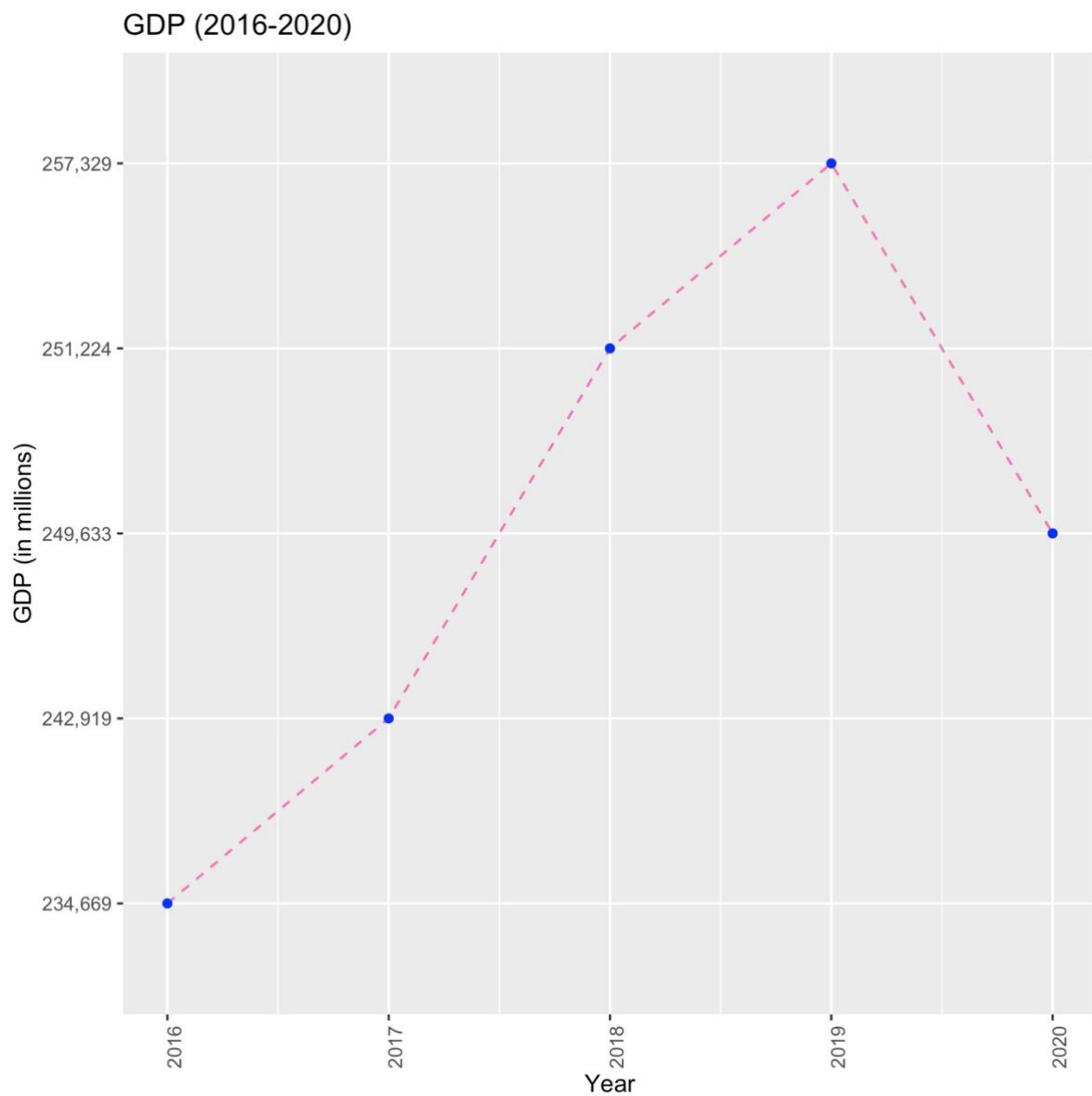
Number of tourist:



The plot shows that there is a decrease in the number of tourist arrivals from 2019 to 2020 by $(3888473 - 996350) = 2,892,123$ million. This is due to borders being closed.

Overall, number of overseas tourists was affected during Covid.

GDP:



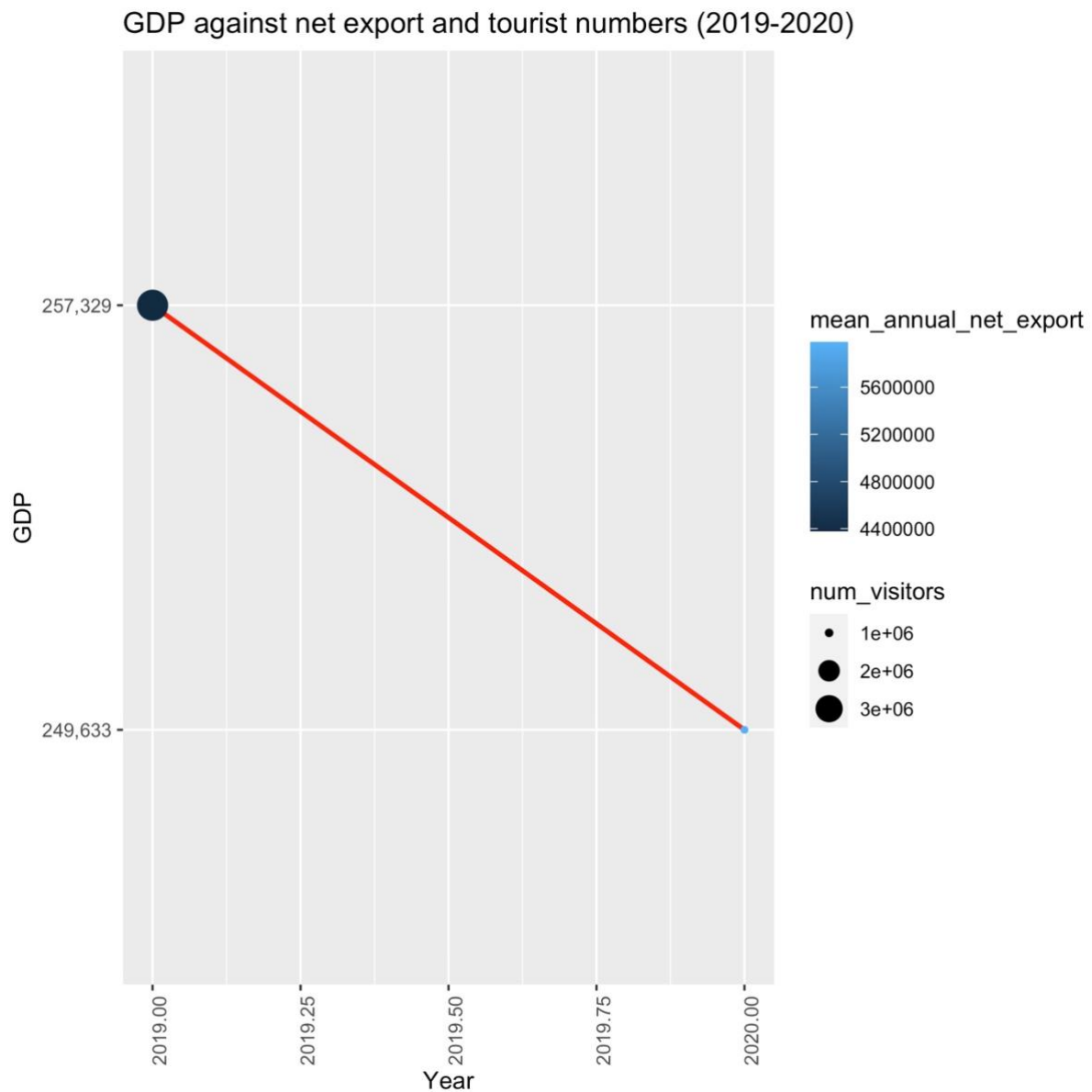
GDP continues to increase up to 2019.

Then it decreases between 2019 and 2020 by $(257,329,000,000 - 249,633,000,000) = 7,696,000,000$ billion NZ \$. A significant loss. This is due to many things, but one main factor is Covid.

Overall, GDP was affected during Covid.

Factor(s) that contributed to the economic loss during Covid:

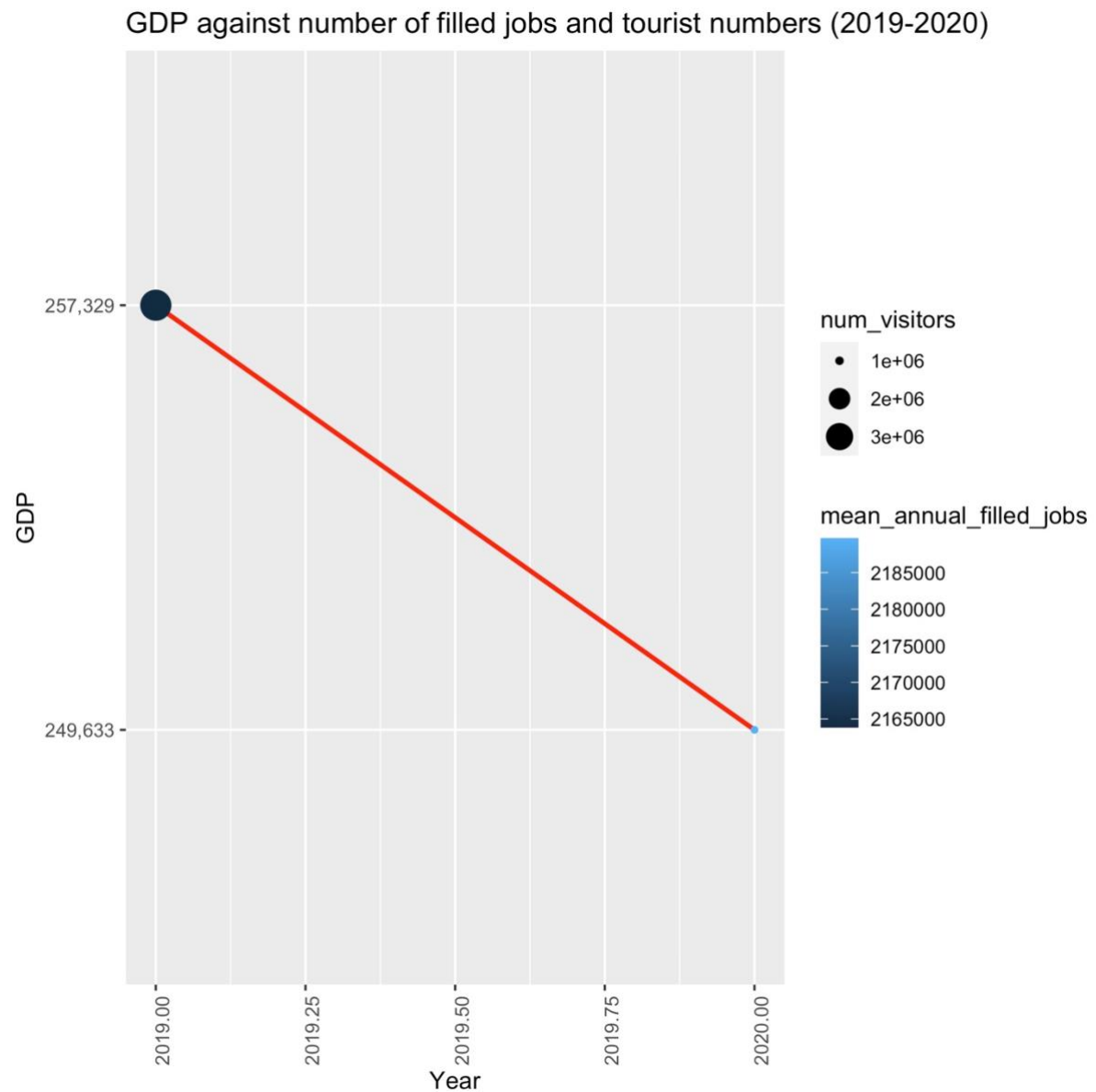
All variables were joined into one to produce these relational plots.



The plot shows that the GDP decreases from 2019 - 2020.

The net export in 2020 is greater than of 2019 whereas the number of tourists in 2020 is less than that of 2019.

However, because the GDP decreases, this indicates that the number of tourists have a significant impact in GDP than net export.



The number of filled jobs in 2020 is greater than of 2019 whereas the number of tourists in 2020 is less than that of 2019.

However, because the GDP decreases, this indicates that the number of tourists have a significant impact in GDP than number of filled jobs.

Conclusion:

Overall, tourism plays a massive role in calculating NZ GDP.

This also makes sense as New Zealand has always been a huge tourist destination. According to Tourism Industry Aotearoa, tourism's contribution to the nation's GDP is 5.5% (directly) and another 3.8% (indirectly) making a total of 9.3%. The sudden disappearance of tourist would reflect on the nation's GDP. A negative correlation. A decrease in the number of tourist indicates a decrease in GDP according to this investigation.

To answer our main question, number of tourists is a factor that affected the economy during Covid.

Usefulness:

Business owners would find this project useful. This project tells them to always have a plan B as things are shaky during the times of Covid. They should expect their business to not always be filled especially during lockdown, or business owners specialising in export should expect less exports.

I would also recommend this project to those who want to put up a tourism business. This project would tell them otherwise due to decreasing number of tourists.

Next Step:

Looking at regional effects might produce different results. Additionally, it would be interesting to do some predictions for the year 2021.

Accessing other files:

This is the Github account where we upload all the files needed for this project.

<https://github.com/Alden-Arduo/sharing-github>

Bibliography

Fernando, J. F., Boyle, M. B., & Li, T. L. (2021, September 8). *Gross Domestic Product (GDP)*. Investopedia. <https://www.investopedia.com/terms/g/gdp.asp>

Tourism by the Numbers. (2021). Tourism Industry Aotearoa. <https://www.tia.org.nz/about-the-industry/quick-facts-and-figures/>

Strongman, S. S., Hall, M. H., Cooke, M. C., & Davis, R. D. (2021, March 24). *Timeline: The year of Covid-19 in New Zealand*. RNZ. <https://www.rnz.co.nz/news/national/437359/timeline-the-year-of-covid-19-in-new-zealand>