



Impact Analysis of the COVID-19 Using Alternative Indicators

Group E / Assignment 4

COVID-19 in Thailand

Coronavirus disease (COVID-19) is an infectious disease that was firstly found in Wuhan, China.

In March, there was a huge cluster outbreak from Lumpini Boxing Stadium with more than 100 new infected

In December, more than 1,300 were found infected from Samut Sakhon (most were burmese labor) and other 500 people were from gambling den in Rayong.

In April, there was an outbreak of the new cluster from Crystal Club at Ekamai-Thonglor and the Alpha variant was found in widespread

DEC 2019

2020
First Half

2020
Second Half

2021
First Half

In January, it was the very first beginning of the COVID-19 in Thailand

CURFEW was implemented **since April** and other **VETO** for closing many kinds of place were enacted

In February, the first set of vaccine (**SV and AZ**) was brought to Thailand and distributed to the 13 controlled provinces

In June, people started getting vaccinated while the Delta variant was found in general

Today, only 55.6% of Thai people were found vaccinated (OWID, 2021)

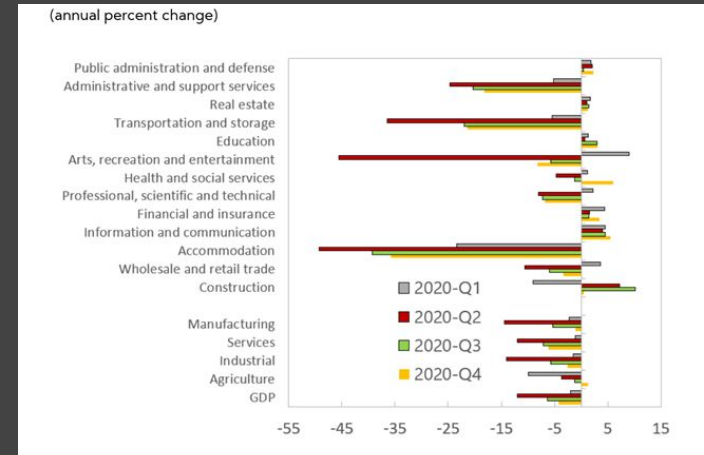
Economic Impacts of COVID-19

The pandemic precipitated a sudden stop in tourism flows and a significant contraction in economic activity

- Thailand's GDP fell by 6.1 percent in 2020, the largest contraction since the Asian financial crisis.
- The tourism sector, which accounts for about a fifth of GDP and 20 percent of employment, has been especially affected by the cessation of tourist travel.
- More than 200,000 people became unemployed and fell into poverty.
- The official unemployment rate is 2% in Q1, 2021. By the first quarter of 2021, there were 710,000 fewer jobs than in the fourth quarter of 2020 so far.

Thailand's GDP by industry

Noted: Accommodation, food services, entertainment, and transportation were especially affected by the pandemic in 2020



Sources: Haver Analytics

Sources Of Data



Google Earth Engine



Twitter



Ministry Of
Public Health



Apple Mobility Index



BRIEF OF ANALYTICAL METHODOLOGIES

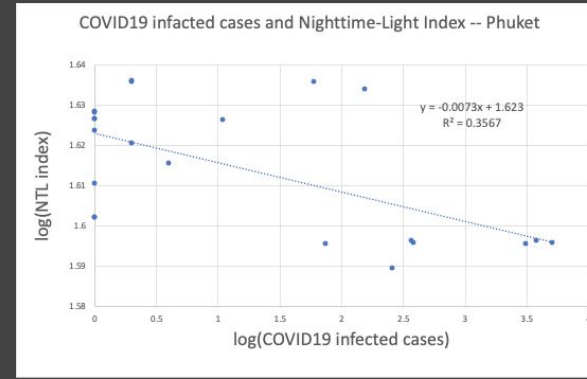
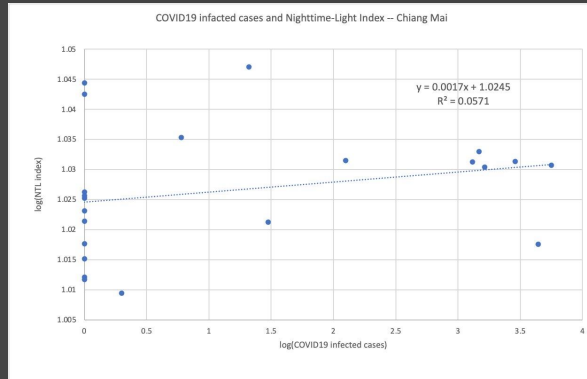
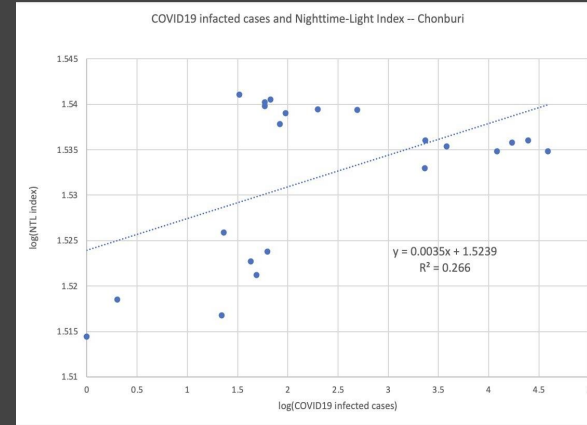
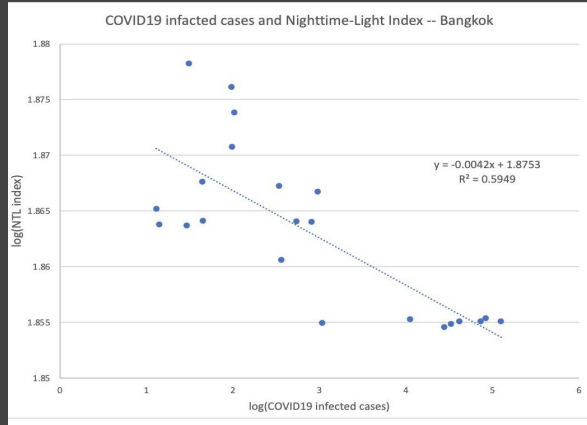


Rapidminer

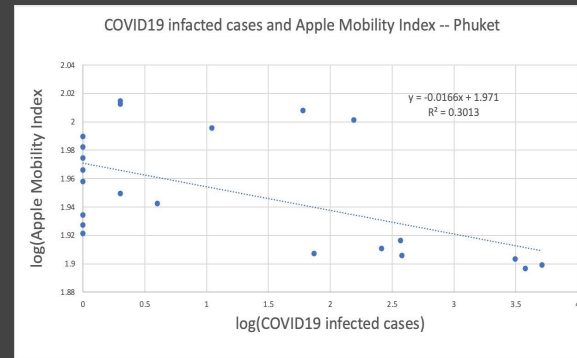
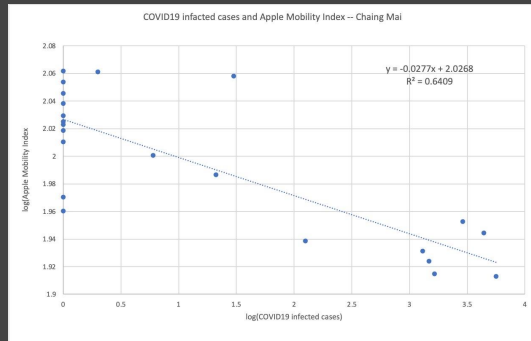
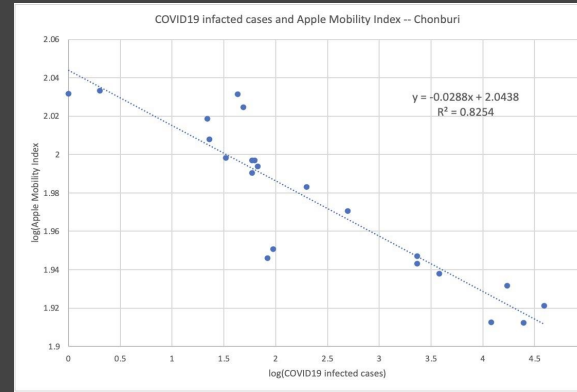
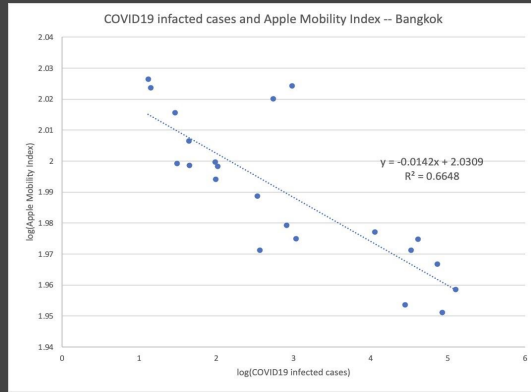


Microsoft Excel

Task 1 - COVID-19 and Nighttime-Light Index



Task 2 - COVID-19 and Apple Mobility Index



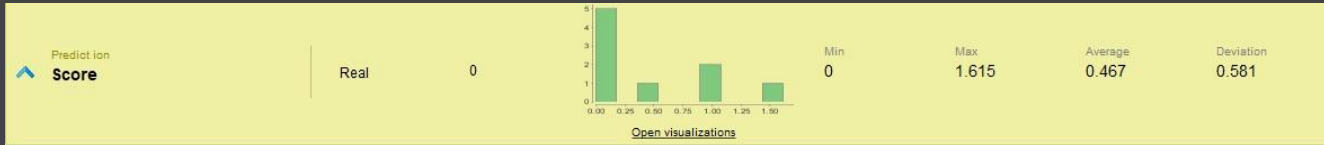
Task 3



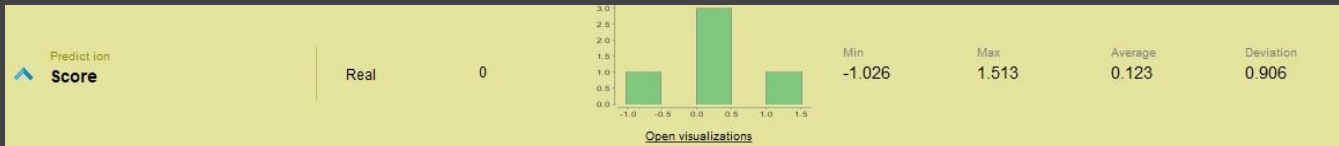
Bangkok



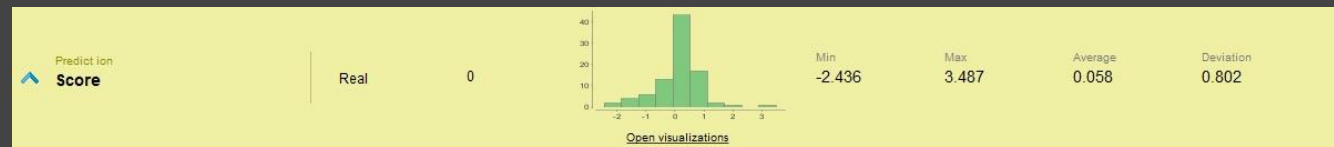
Chiangmai



Phuket



Chonburi



Result discussion - Task 4

Are Nighttime Light Index and Apple Mobility Index correlated with the COVID19 cases? Can both indicators represent the economic impact of COVID19?

The value of R-squared of the Nighttime Light Index are quite low, implying that it is not suitable for the use of alternative indicators while in the Apple Mobility Index, the value of R-squared are quite high except Phuket so this could be use as alternatives. Additionally, these indicators could represent the economic impact according to the significant relationship between them.

With the lessened restrictions of government's COVID19 containment policies, are the sentiment indices currently reflecting the positive attitude and recovering situation in those provinces?

With the sentiment analysis that analyse the sentence in the twitter turn sentences into the scores, the average scores that turns out to be positive which implies to the fact that positive scores emphasize the lessened restrictions of government's COVID19 containment policies reflect the positive attitude and recovering situation in these provinces.

Policy Recommendations



**Mutually
Reinforcing Policies**



**Undertake a Medium-term
Revenue Collection Strategy**



**Targeted and More Effective
Financial Sector Support**

An aerial, black and white photograph of a dense city skyline, likely Los Angeles, featuring numerous skyscrapers and a complex highway interchange. A semi-transparent dark grey rectangle is centered over the image, containing white text and decorative lines.

The End

Thank You for your interest and attention