Does Hong Kong recover from COVID-19 or not?

1. Objectives

COVID-19 pandemic has impacted diverse aspects in the Hong Kong society since 2019. Now that four years past, this project aims to analyze the recovery status of Hong Kong by visualization. The motivation is inspired by the report from UC Berkeley[1]. By analyzing the essential factors of city recovery, the research evaluated pandemic recovery trajectories of 62 major cities of the United States. This report attempts to utilize such pattern to visualize the recovery status of Hong Kong. Specifically, the assessment will be based on three indicators: labor force employment, public transportation traffic and retail sale values. The objectives of this project are demonstrated as follows:

* 1. Present the variation of these tree indicators before and after COVID-19 using visual tools.
  2. Analyze the trend of the variation above and conclude whether Hong Kong has recovered from COVID-19 or not.
     1. If the feedback is positive, try to find the salient contributions for this recovery.
     2. If not, try to find factors that mainly hinder the city from recovery.

1. Data

Datasets of three different dimensions are chosen from different functional departments of the government to guarantee the accuracy and the integrity of the data. It should be noted that more dictionaries may be added to any indicator as the project is gradually enriched.

* 1. Timespan

The following indicators are selected from the time period between Jan 2019 and Sep 2023. This period is split into the following three sections to benefit the comparison:

* + 1. Jan 2019 ~ Dec 2019: Pre-pandemic period.
    2. Dec 2019 ~ Dec 2022: In-pandemic period. The landmark event is that several unknown pneumonia cases were reported from Wuhan in Dec 2019.
    3. Jan 2023 ~ Jan 2023: Post-pandemic period. The landmark event is that National Health Commission announced the COVID-19 would be under Class B control from Jan 2023.

For more details, the data is clustered quarterly to keep a balance between precision and workload.

* 1. Labor force employment
     1. Data source: The data is provided by Census and Statistics Department[2].
     2. Dictionaries:
        1. Quarter.
        2. Employed persons by quarterly earnings and sex.
        3. Employed persons by quarterly earnings and educational attainment.
  2. Public transportation traffic
     1. Data source: The data is provided by Transport Government[3].
     2. Dictionaries:
        1. Quarter.
        2. Passenger journeys (in thousands) by public transport operator each quarter.
        3. Mode of transport.
  3. Retail sale values
     1. Data source: The data is provided by Census and Statistics Department[4].
     2. Dictionaries:
        1. Quarter.
        2. Values of retail sales.
        3. Volume index of retail sales.
        4. Types of retail outlets.

1. Methodology

With respect to the measurement this research takes, Tableau Cloud is an eligible solution due to the following two reasons.

* 1. Tableau provides a simple access to create sophisticated charts so that we can perform visual analysis more effectively and reach the revelation of regulations between different datasets efficiently.
  2. Tableau Cloud is feasible to be combined with web pages, which promotes the scalability of the project. In this circumstance, the project could further be exported to frontend frameworks and strengthen the interactions with users.
  3. Open to collective development, Tableau Cloud is beneficial for project management and schedule control.

1. Tasks

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| 1. Task | Deadline |
| Prepare and preprocess datasets | Oct 15(Sun) |
| Design charts and develop web pages | Oct 29(Sun) |
| Analyze data and draw conclusions about Hong Kong recovery status | Nov 5(Sun) |
| Research evidence to further explain the conclusions and refine the demo. | No 19(Sun) |
| Finish report | No 27(Mon) |

1. References
2. Chapple, K., Leong, M., Huang, D., Moore, H., Schmahmann, L., & Wang, J, “ The Death of Downtown? Pandemic Recovery Trajectories across 62 North American Cities,” UC Berkeley: Institute of Governmental Studies, 2022.
3. https://www.censtatd.gov.hk/sc/scode200.html
4. https://data.gov.hk
5. https://www.censtatd.gov.hk/en/EIndexbySubject.html?pcode=B1080003&scode=530