

# Task B2

Bryan Lim Jing Xiang (A0233605M)

## 1 Dataset

### 1.1 Overview

This dataset is produced by processing and combining the dataset of monthly COE bids and monthly COE revalidation for cars in Singapore in recent years. The data fields of interest here are:

Field	Description	Data Type
Month	Month and Year of the data point	String
bids <sub>received</sub>	Number of COE bids that month	Integer
quota	COE quota that month	Integer
bids <sub>success</sub>	Number of successful bids that month	Integer
Total Revalidation	Number of COE Revalidation	Integer
Category A Revalidation	Revalidation for Cat A	Integer
Category B Revalidation	Revalidation for Cat B	Integer
Premium	COE premium that month	Integer

### 1.2 Data origin

<https://datamall.lta.gov.sg/content/datamall/en/static-data.html>

### 1.3 Github Repository

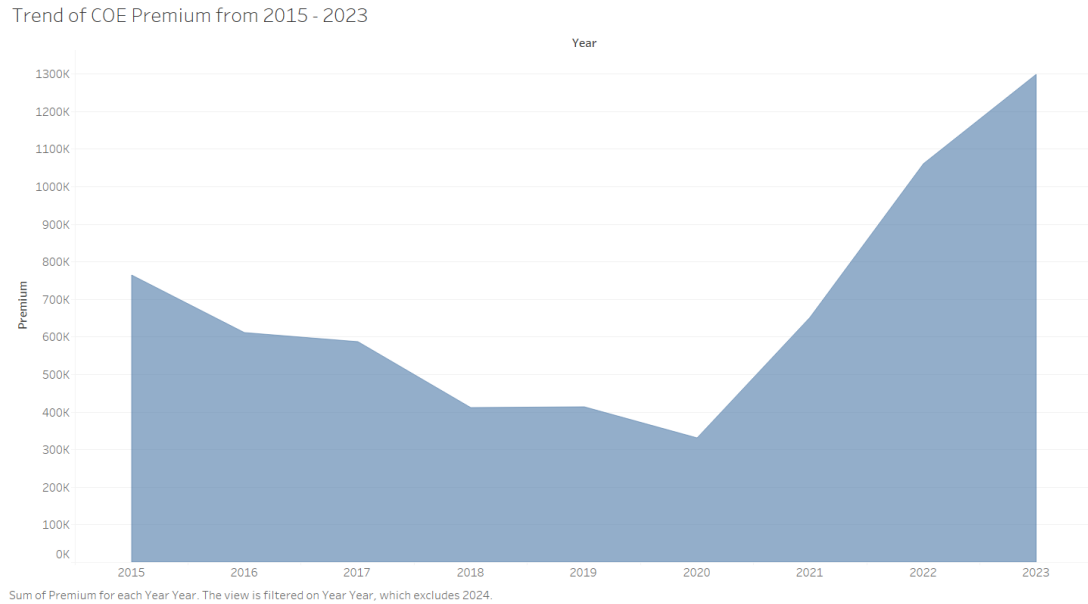
<https://github.com/bryanljx/visualisation>

## 2 Purpose of Visualisation

For this dataset, the query of interest is: “Given the increasing price of COE in recent years, what are some patterns in the number of bids and revalidation for COE?”

### 3 Visualisation

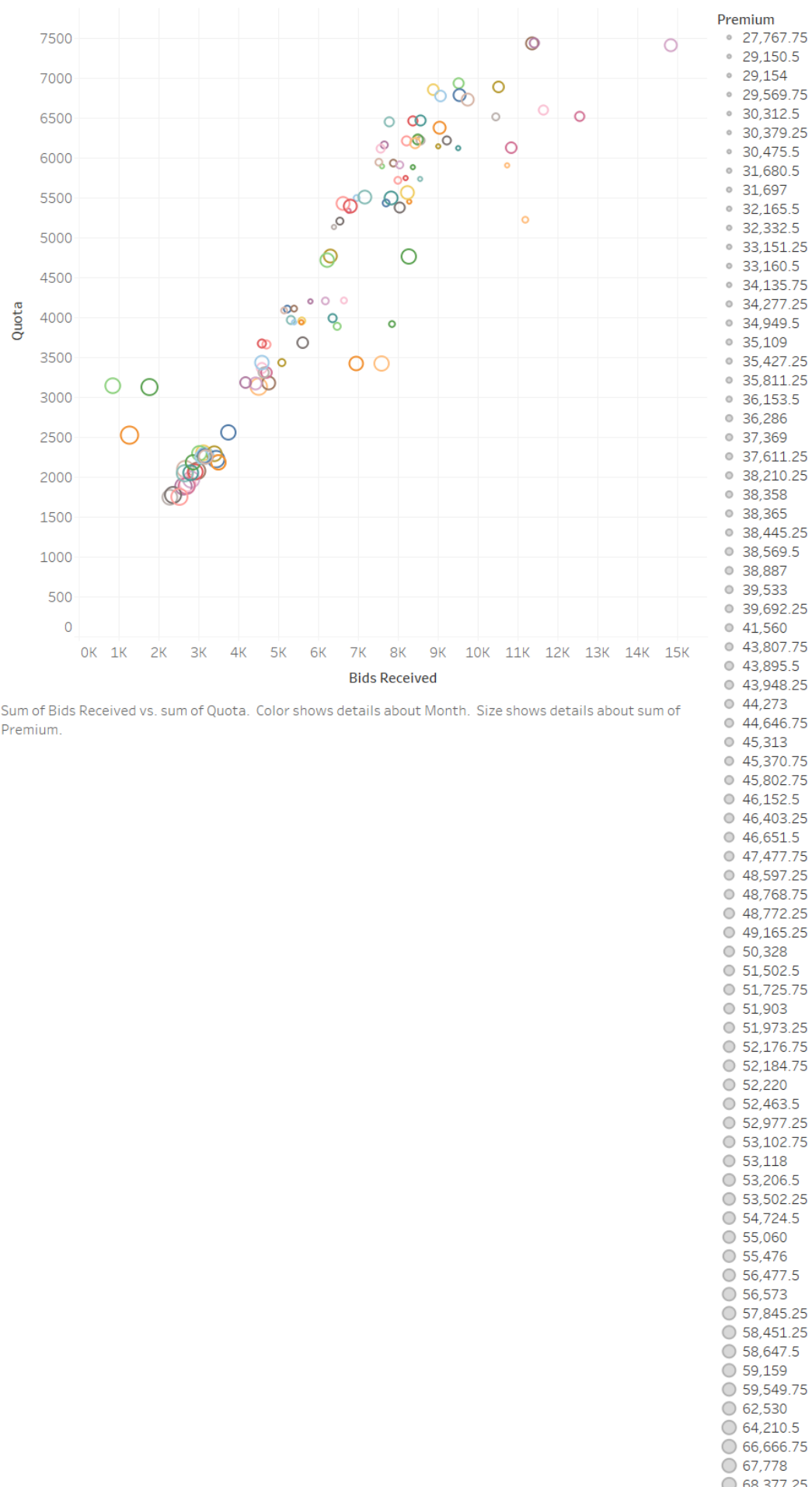
#### 3.1 Trend of COE premium from 2015 - 2023



- Visual encoding here includes:
  - Position - Denoting the price of COE premium
- Insights
  - Steep increase in premium since 2019

### 3.2 Correlation between COE quota, bids, and premium

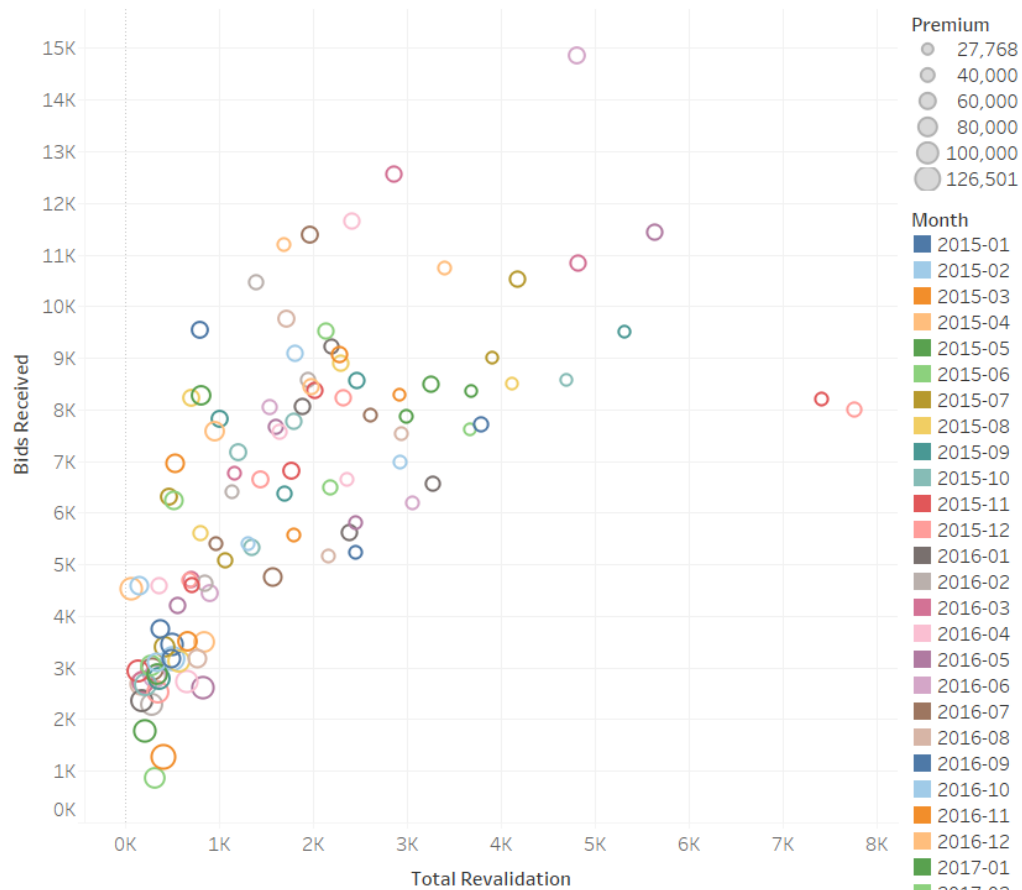
Correlation between Quota, Bids Received, COE Premium



- A bubble chart was chosen to show the relationship between quota, bids and premium.
- Visual encoding here includes:
  - Position - Denoting both the number of COE quota and bids that month
  - Size - Denoting the amount of COE premium that month
  - Color - Differentiating the month (and making overlapping points clearer)
- Insights
  - Positive correlation between COE quota and bids
  - Additionally, not enough evidence to suggest that high COE premiums leads to lower bids and quota but there seems to be such a trend.

### 3.3 Correlation between revalidation, bids, and premium

Correlation between number of COE bids, COE revalidation, and COE premium



Sum of Total Revalidation vs. sum of Bids Received. Color shows details about Month. Size shows sum of Premium.

- An bubble chart was chosen to emphasise the correlation between the three variables.
- Visual encoding here includes:
  - Position - Denoting the number of COE revalidations and bids that month
  - Size - Denoting the amount of COE premium that month
  - Color - Differentiating the month (and making overlapping points clearer)
- Insights
  - Clear correlation between the three variables
  - High COE premiums lead to both lower revalidation and bids
  - And revalidation and bids positively correlated to each other