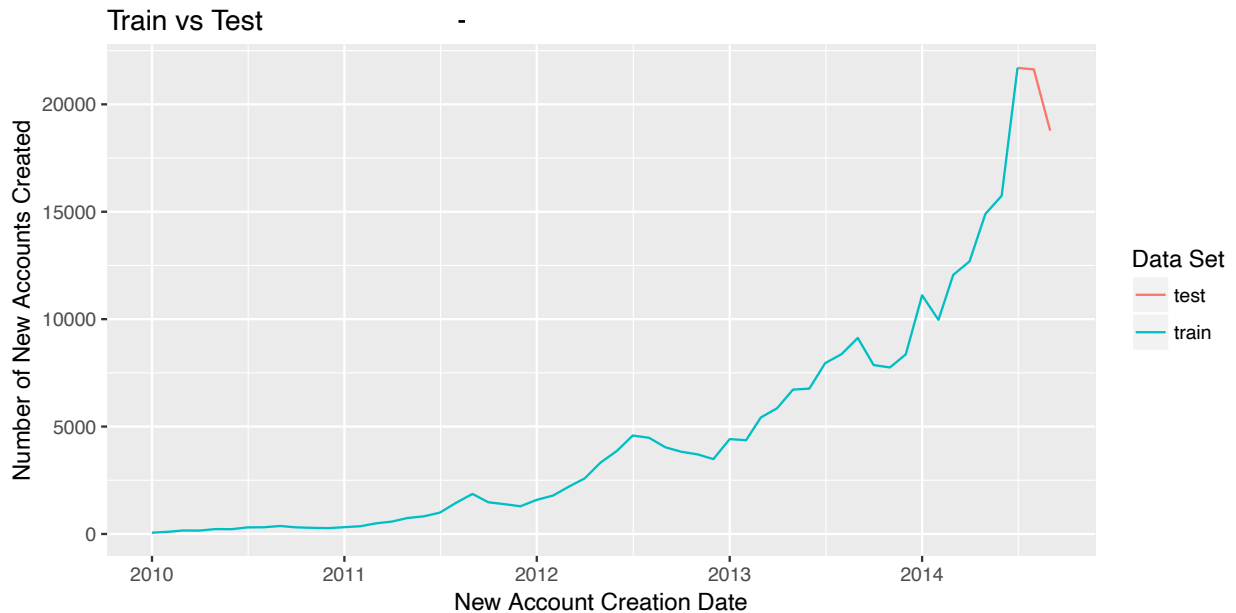


### 3 Airbnb

You are charged with predicting  $y$ , whether or not a new Airbnb user makes a booking within a month of creating their account, based on predictor variables  $\vec{x}$ . To inform this task, consider below a time series plot of the number of new Airbnb accounts created over time, split by training data and test data. You will be making predictions on the test data.



You fit a model on the training data with low crossvalidated error and forecast that 41.7% of new users in the test data will make a booking within a month of creating their accounts. However, your predictions end up being awful, as only 32% of new users in the test data make a booking within a month of creating their account. What could be going on?