Final Summary

In my project, we test the hypothesis that terrorism has a negative effect on housing prices. We have chosen to focus on the July 7, 2005 London bombings. We want to use an event study regression design to check the average housing prices around the bombings between June to October, and the trading volume variation before and after the bombing. *A priori,* we expect a decrease in average housing prices, and a decrease in trading volume after the bombing. Before we begin our analysis, we needed several data points to facilitate our analysis. Firstly, a timeline would help us filter the data into a range around July 7th, 2005. Secondly, we needed to know where the bombing happened. We analyze this throughout the greater London area, and then narrow it down to a three-district bombing area. Hence, we need to know where in greater London those four bombs were located. One of them was in the city of London, two of them were in the city of Camden, and the one left was in the city of Westminster. After the bombing, we lost 50 innocent people; 700 people were injured, and Londoners fell into a brief panic. After a thorough examination of the background, we also must ensure that our data is reliable. Hence, we have chosen to search for our data from the UK governmental data resources. Now we can begin our analysis.

Results:

We implemented two types of models. First was a model without a time trend (time variable t). We ran the model on four different groups of properties -- properties with top 5% price paid, top

1%, bottom 5% , and bottom 1%, in those three districts where the bombing happened. As we expected, expensive properties were more likely to be associated with rich people, and rich people might exhibit behavior that differs from that of poor people after a terrorist attack (For example, rich people might care more about their personal well-being. They may also be more likely to sell their property after a bombing and move to a safer location, eventually resulting in a decrease in the price paid due to supply shock). However, both the graphs and the regression results in the slides indicate that there is no statistically significant effect from bombing on the price paid, as measured by our trend break dummy variable. Even after we moved to the second model with the time trend, the coefficients and *t* values changed little, confirming the implication that bombing has no effect on the price paid among these 4 subgroups of properties.

We then ran our first regression model on the entire dataset without a time trend -- all price paid data covering 2015 in the Greater London area (33 districts in total). In addition to implications about how freehold/leasehold, newly build/established housing, and location affects price paid, there was an interesting counterintuitive finding: bombing has a statistically significant positive effect on the price paid. Combining the map we made about percentage change in trading volumes, which we have presented in the slides, the fact that after the bombing the trading volume and price paid both increased implies that people demanded more property *after* the bombing. Even though we do not know the exact reason why people exhibited this behavior, we can safely say from the regression results that the bombing had no negative effect on housing prices in the greater London area.

Data Limitations:

Our model has a low R-square (22.4%). This is due to the fact that we are lacking some important info that could determine property prices, such as the square footage. Further research

results could become more convincing if the model could take in more powerful explanatory factors.

In conclusion, according to the results of our analysis based on the real data, we are reluctant to announce that the bombing had no negative impact on London housing prices. This is counterintuitive, and it may be due to limitations in our data. Alternatively, it could be because it was a one-time incident, and therefore there was no significant impact, or because people simply chose to forget.

Reference:

https://data.gov.uk/dataset/314f77b3-e702-4545-8bcb-9ef8262ea0fd/archived-price-paid-data-1995-to-2017

https://data.london.gov.uk/dataset/statistical-gis-boundary-files-london

http://prod.publicdata.landregistry.gov.uk.s3-website-eu-west-1.amazonaws.com/pp-2005.csv

http://prod.publicdata.landregistry.gov.uk.s3-website-eu-west-1.amazonaws.com/pp-2010.csv