Analysis of tax-assessed value of single-unit residential properties in Southern California

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What I was asked to research

1. How do the number of bedrooms/bathrooms and square footage predict the tax-assessed value of single-unit residential properties in three Southern California counties from May to June 2017?

2. The distribution of tax rates for each county

Conclusions

1. Number of bedrooms/bathrooms and square footage predict the assessed tax value of single-unit residential residences in Los Angeles, Orange and Ventura counties (R2 = .44%)
2. Square footage alone is the strongest predictor (R2 = .42)
3. Tax rates for the 3 counties are statistically, in descending order
   a. LA County
   b. Orange County
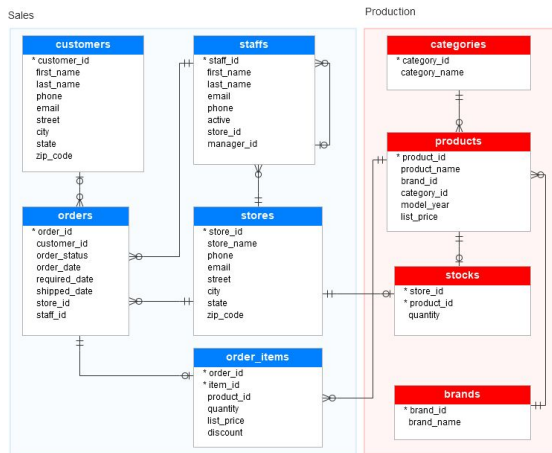   c. Ventura County

Methods

Definition of single-unit residential properties per the State of California

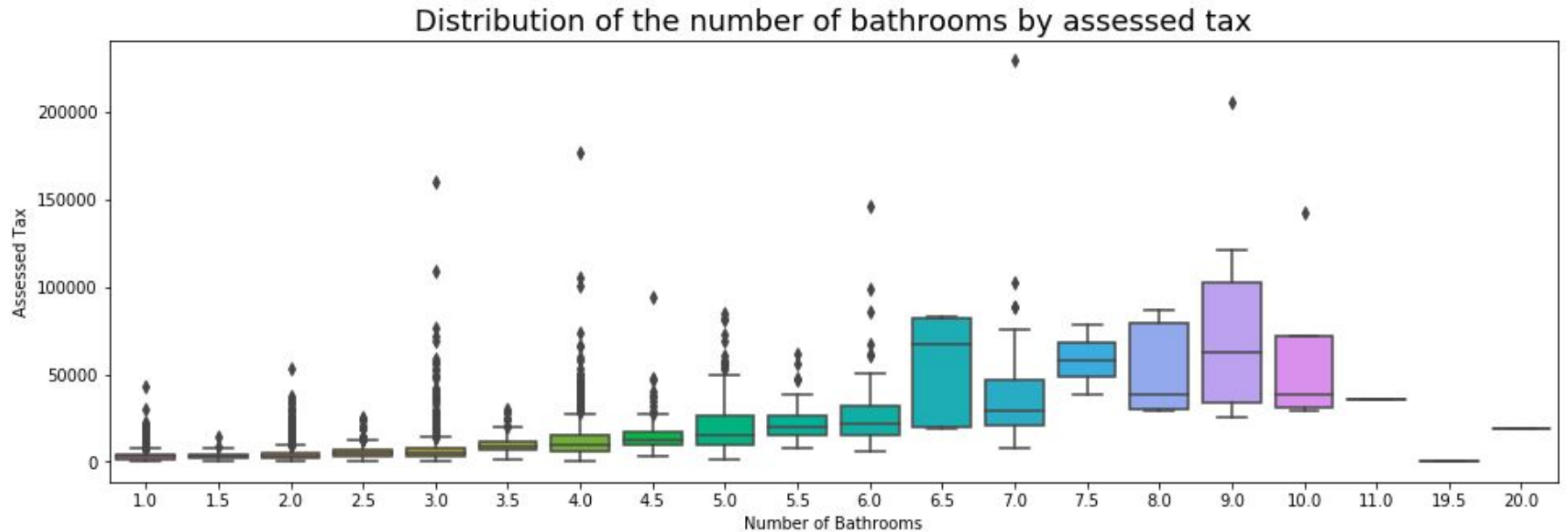Queries of the Zillow database

Nearly 16,000

Detailed statistical analysis that can be replicated
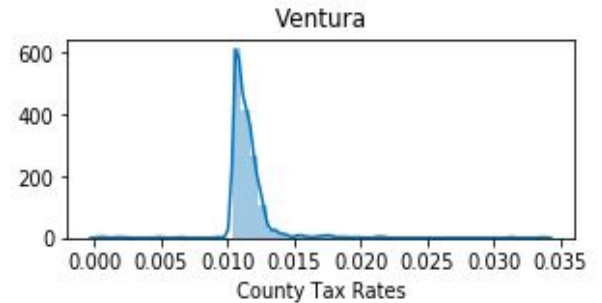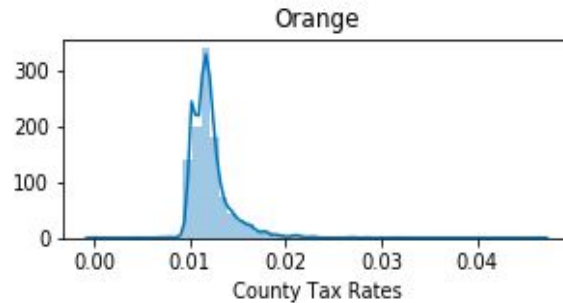
Files stored on Zillow's servers

Points of interest
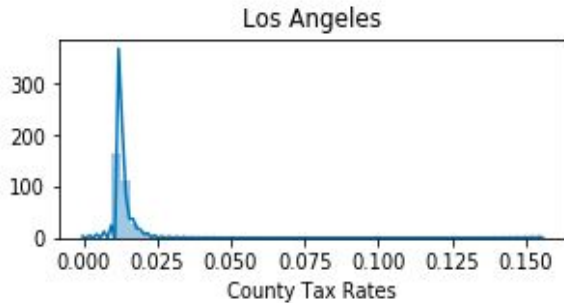

Distribution of the number of bathrooms by assessed tax

Distribution of tax rates across the 3 counties

Distribution of Tax Rates by County (per $ of Assessed Value)

Caveats

Very large size of database - sampling the data may improve the accuracy of the prediction

Additional factors (such as purchase year in the context of Proposition 13) should be explored.

Conclusion

1. Number of bedrooms/bathrooms and square footage predict the assessed tax value of single-unit residential residences in SoCal counties
2. Square footage alone is the strongest predictor
3. Tax rates for the 3 counties are statistically different, with LA County having the highest tax rate
4. Additional factors, including public policy decisions, may help improve the accuracy of the predictive model