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. What is 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 different
    a. LA County - highest
    b. Orange County
    c. Ventura County - lowest

Methods

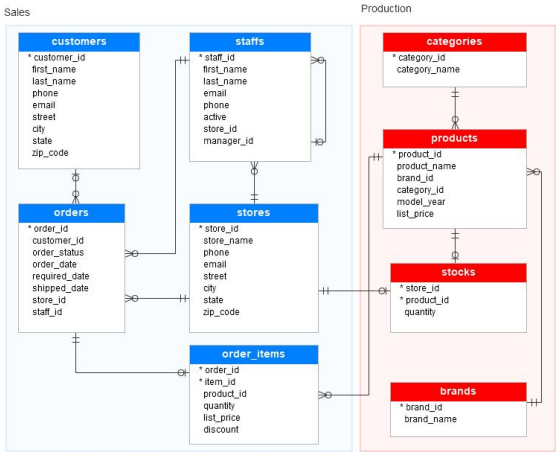
Definition of single-unit residential properties per the State of California

Queries of the Zillow database

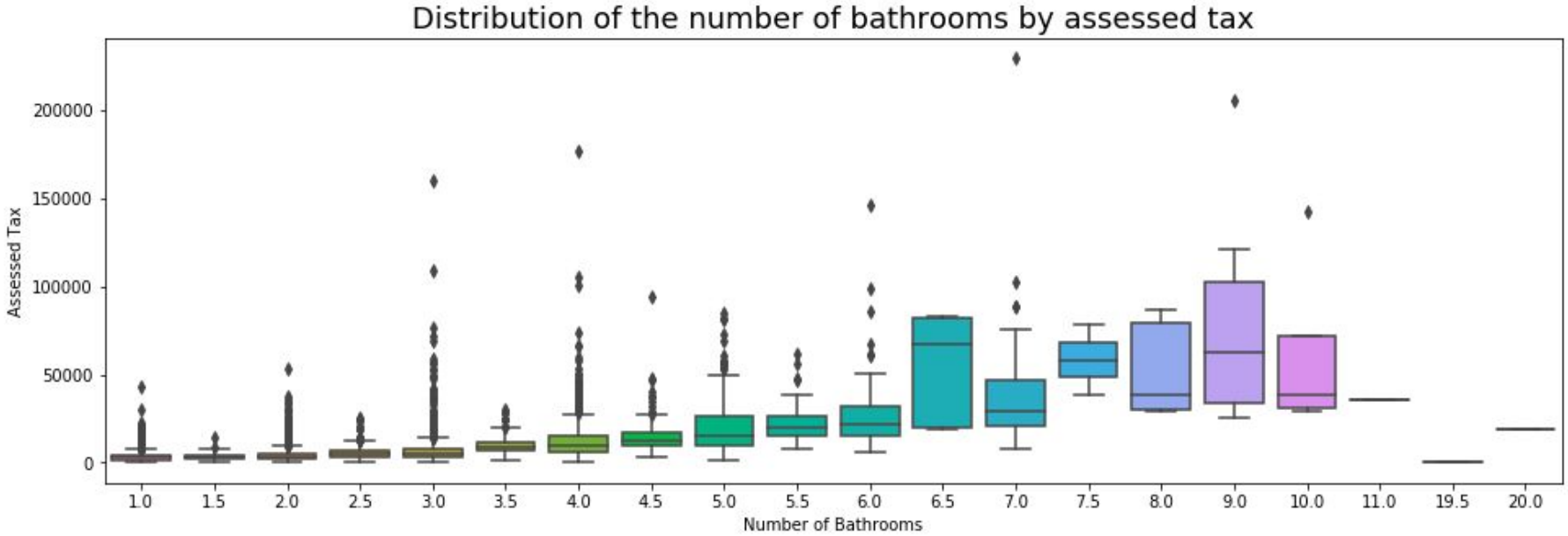
Nearly 16,000

Detailed statistical analysis that can be replicated

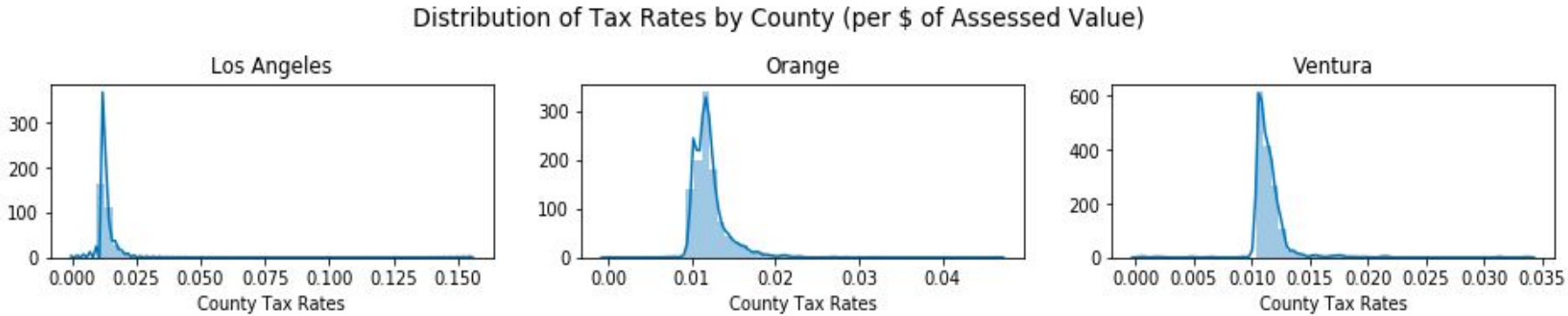
Files stored on Zillow's servers



Points of interest



Distribution of tax rates across the 3 counties



Caveats

Large number of observations (16,000) - 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.

Analysis by county may yield slightly different results

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