

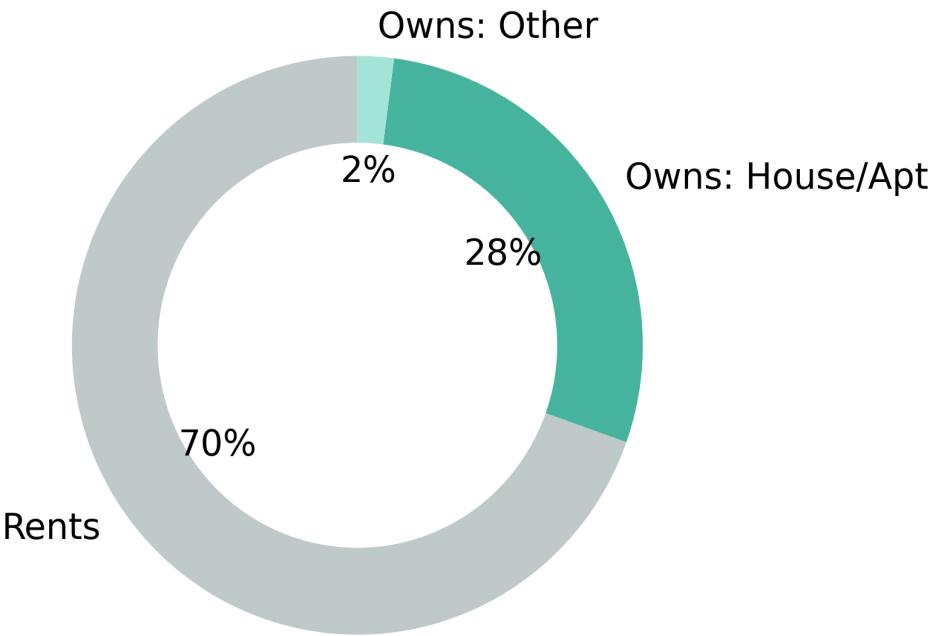
Classifying Millennial Home Ownership

Julia Qiao
Metis
Fall 2020



“When **baby boomers** hit a median age of 35 in 1990, they **owned nearly one-third** of American real estate by value. In 2019, the **millennial** generation, with a median age of 31, **owned just 4 percent.**”

- Federal Reserve via Washington Post



NLSY97

Subjects: Born 1980-1984

Time: 20 year study

Variables: 80,000+

All Homes

My model

Subjects: Born 1980-1984

Time: Snapshot at age 30

Variables: 26

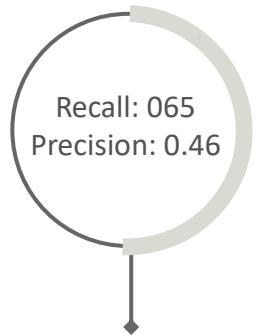
Excluding mobile homes + farms

Random Forest

Baseline Model

Low interpretability
High predictive power

Recall: 0.72
Precision: 0.55



KNN

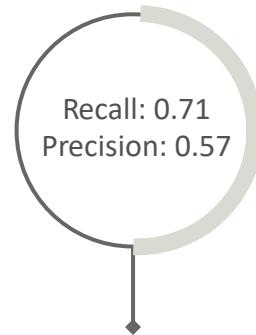
Low interpretability
Average predictions

Logistic Regression

Final Model

High interpretability
Predictive power matched

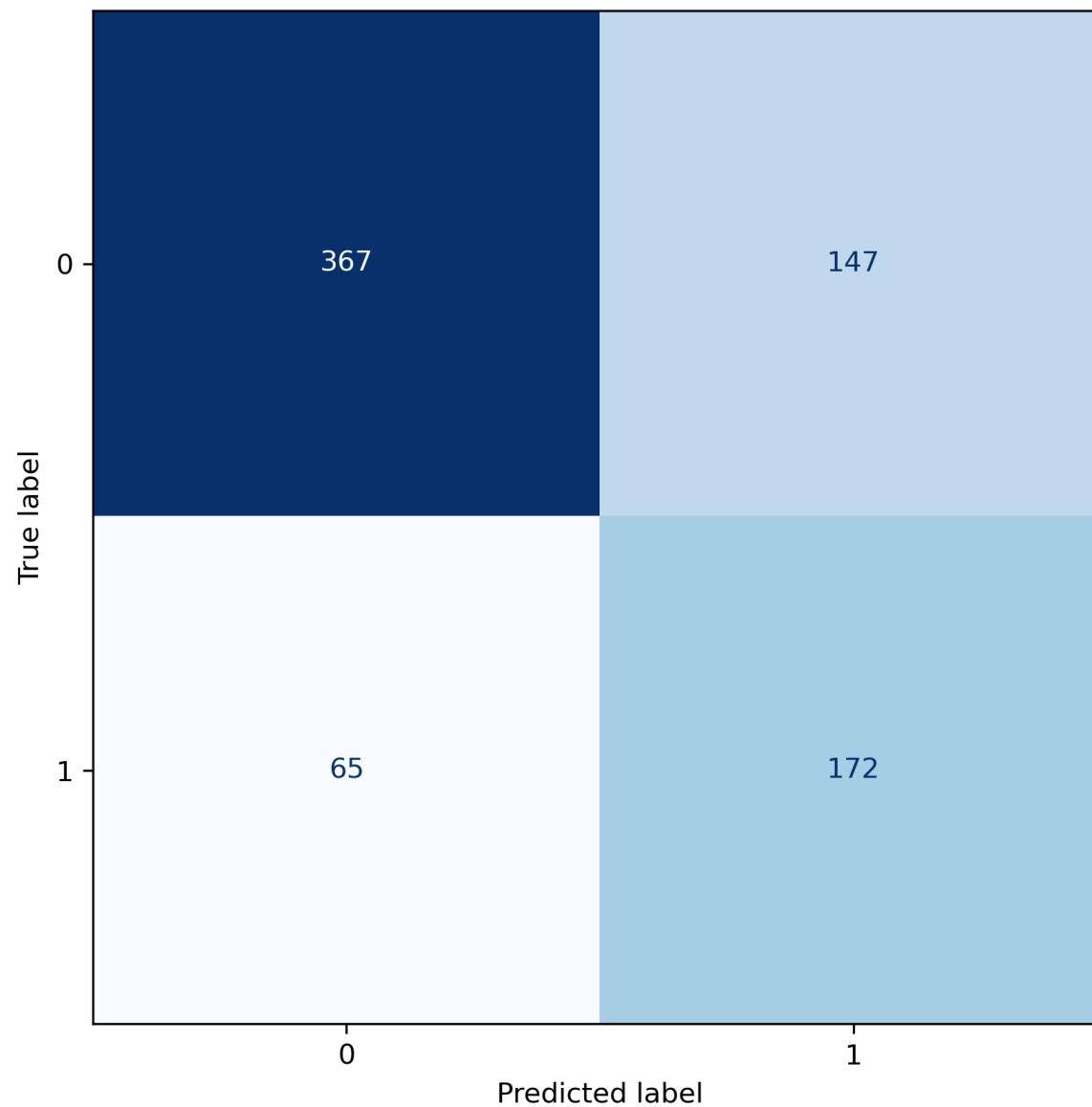
Recall: 0.73
Precision: 0.55



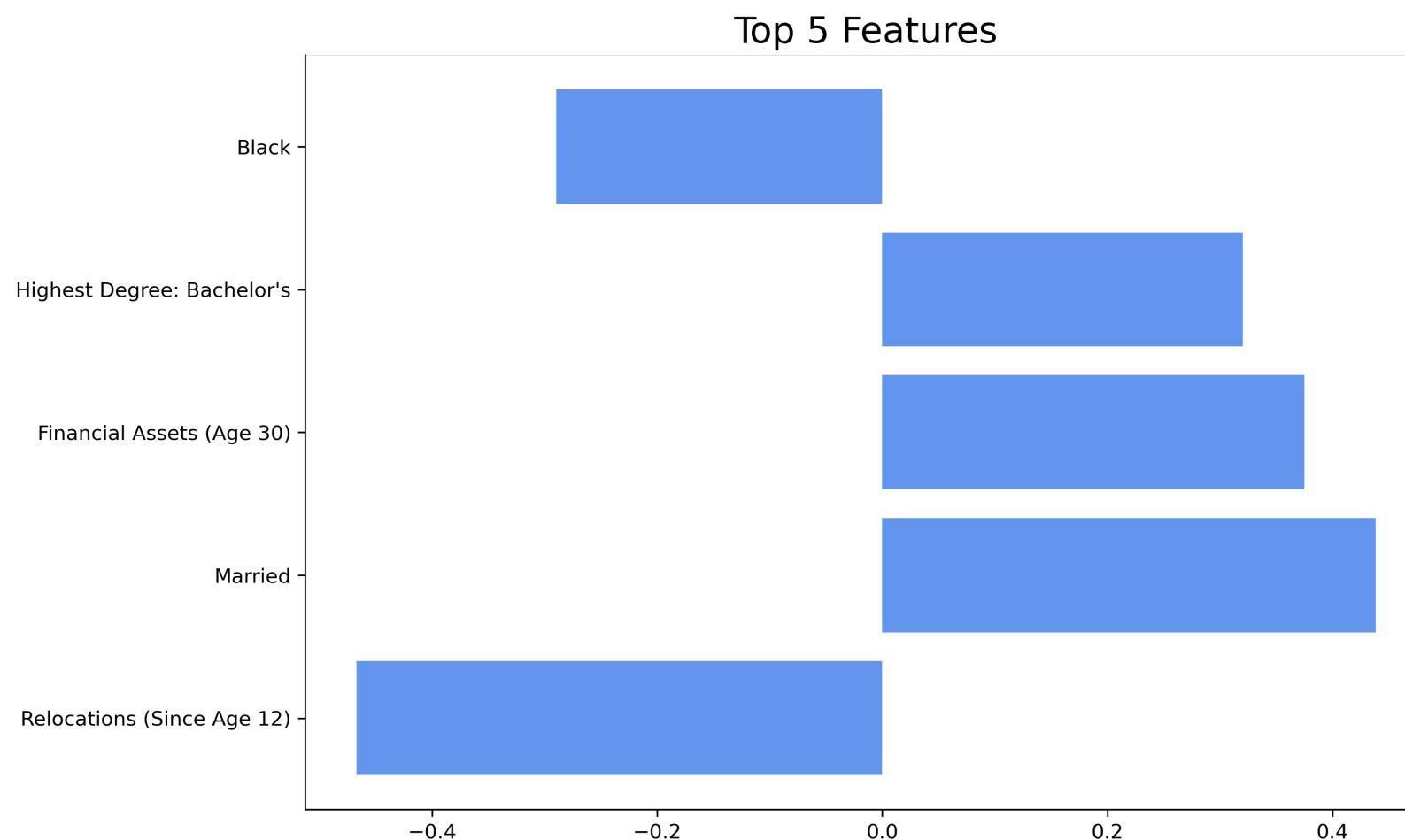
XGBoost

Low interpretability
High predictive power

Confusion Matrix



Feature Interpretation



Total 25 Features

Minority race – negative

- Black, Hispanic, Mixed

Marriage/family – positive

- Includes cohabitation

Childhood home – positive

Finances – positive

- including debt

Poverty levels - mixed

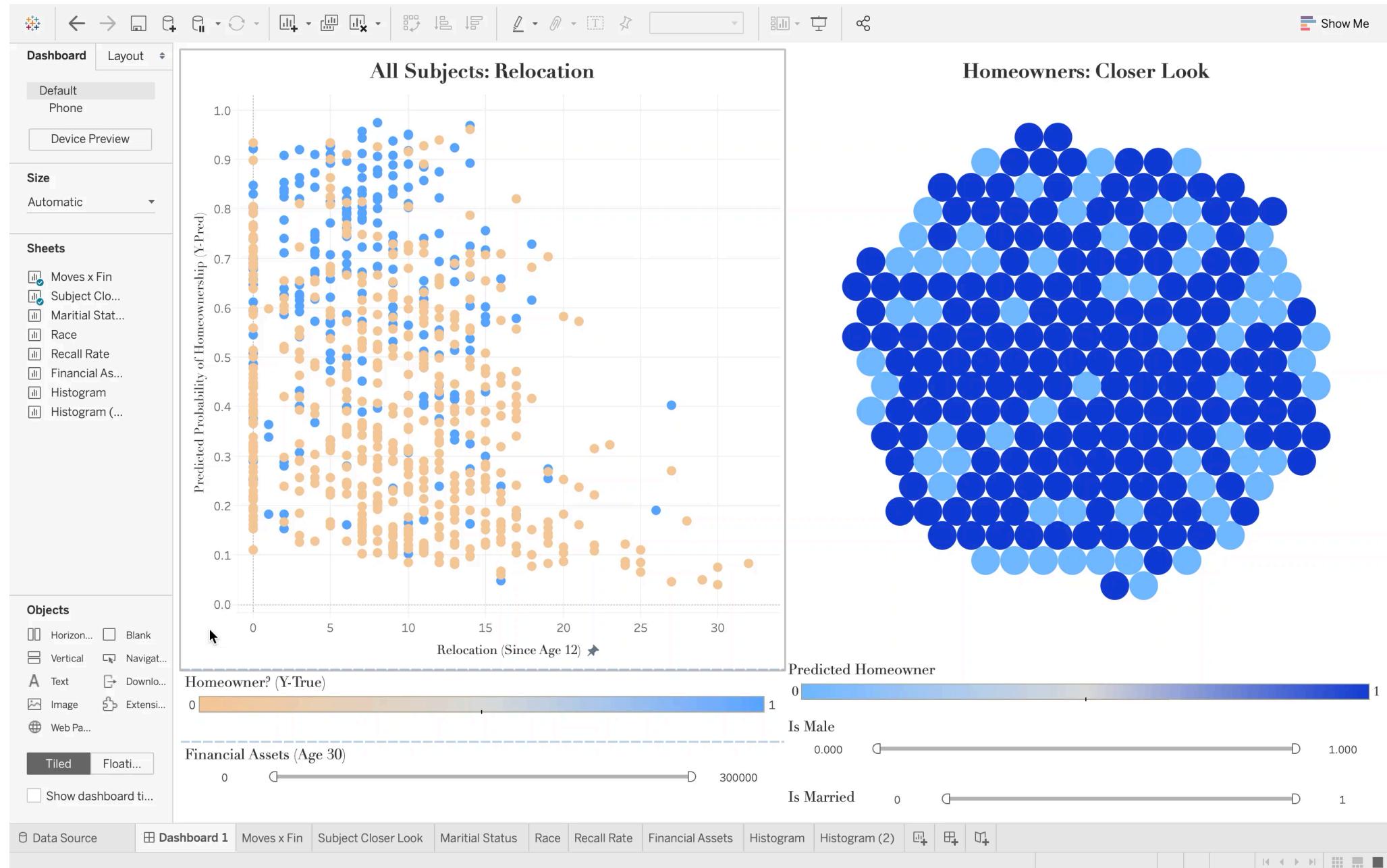
- Positive: Financial mobility
- Negative: poverty

Education – mixed

- Positive: all degrees except PhD

Geography – minor impact

Tableau Data Exploration



Next Steps



More minority groups

- Sampling methods
- Ethical and updated representation of broader population

Feature interactions

- Explore interactions in greater detail
 - Test more features

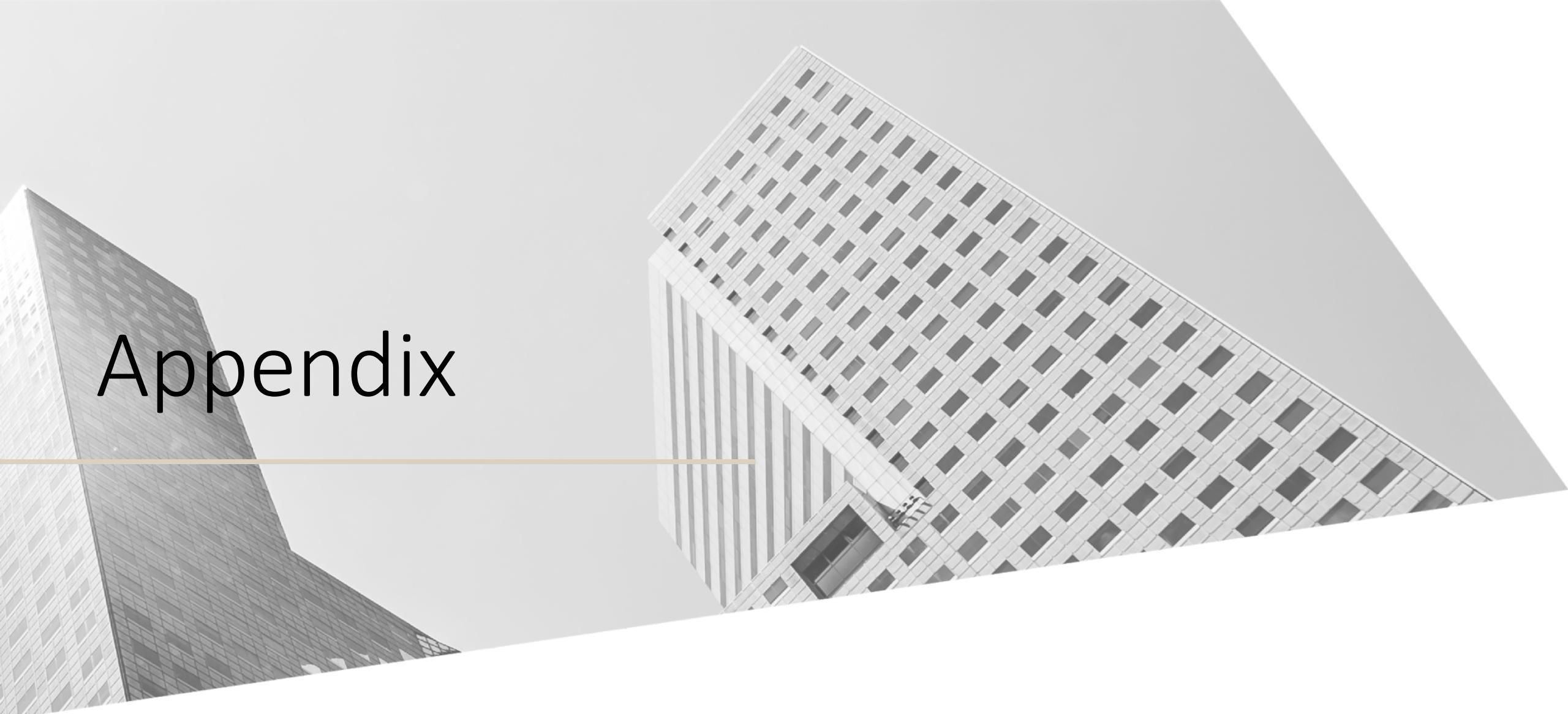
Homeownership trends

- Looking into other types of homes like mobile homes

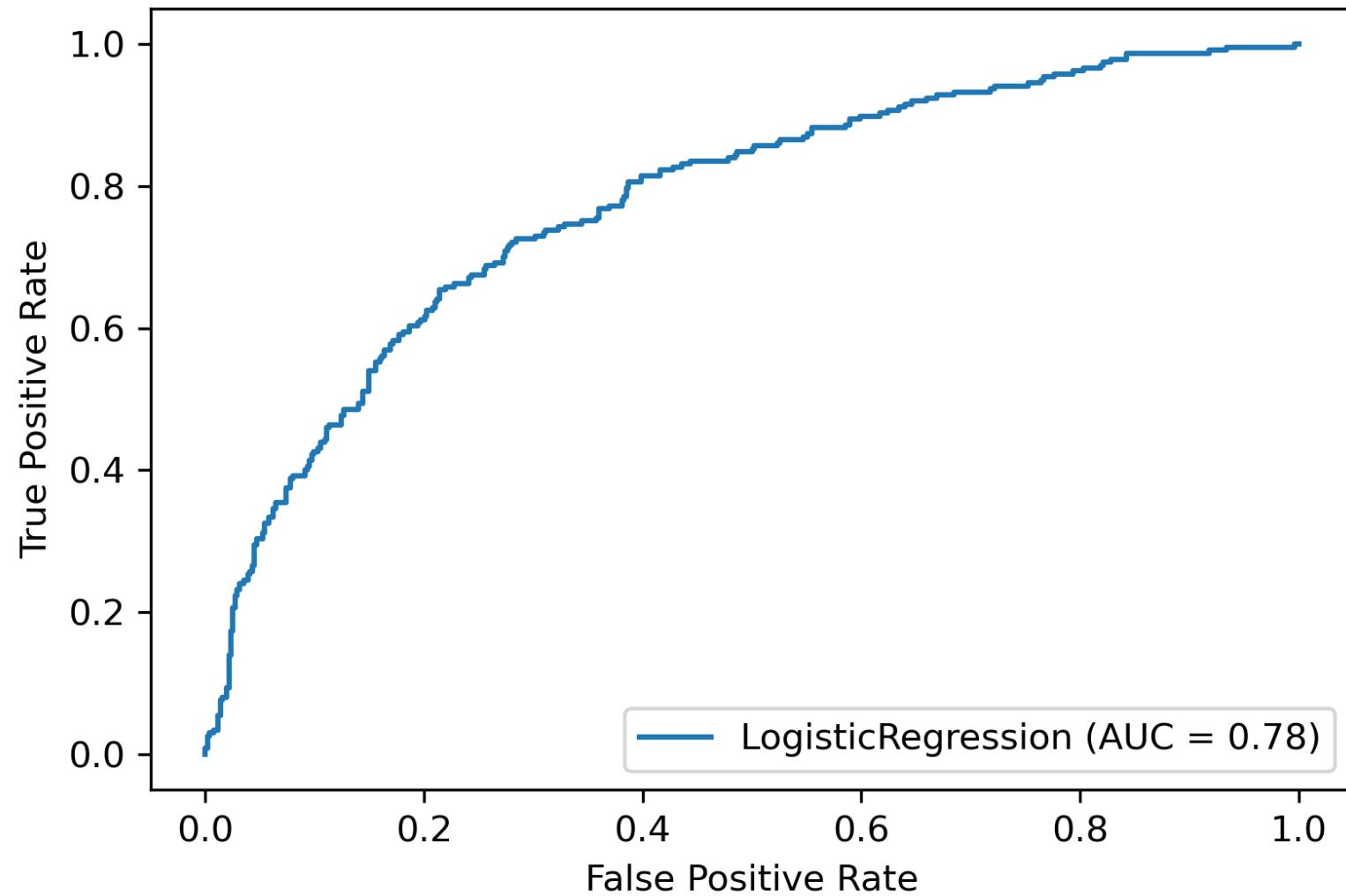


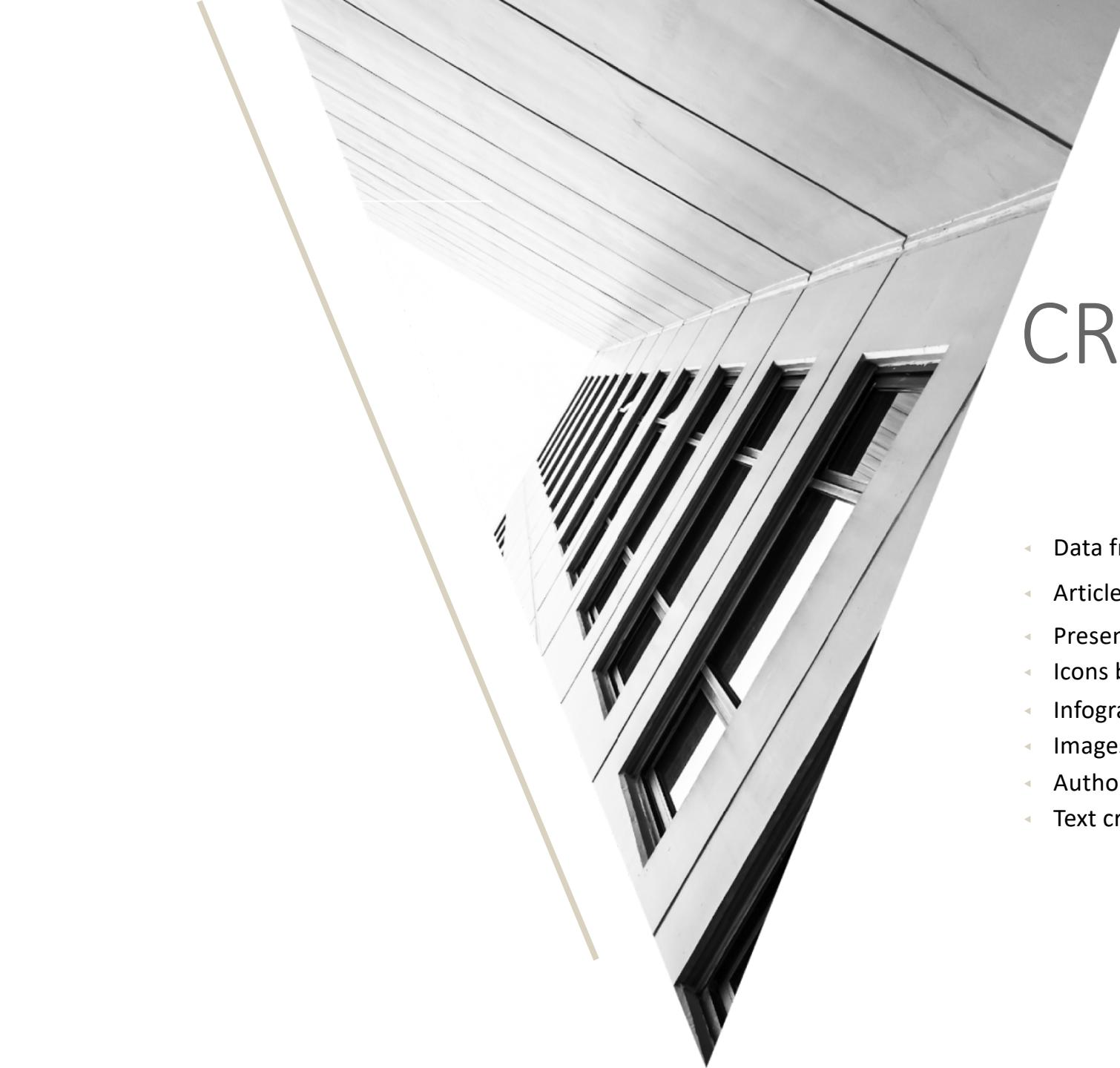
THANK YOU!

Appendix



ROC Curve





CREDITS

- Data from NLS97 Longitudinal Study
- Article Sited from The Washington Post
- Presentation template by [Slidesgo](#)
- Icons by [Flaticon](#)
- Infographics by [Freepik](#)
- Images created by [Freepik](#) and [mrsiraphol](#) -Freepik
- Author introduction slide photo created by Freepik
- Text created by Freepik.com