

# Lending Club Case Study

## Problem Statement

You work at a consumer finance firm that lends different loans to urban clients. When the firm gets a loan application, it must make a judgment on loan acceptance based on the applicant's profile.

The bank faces two categories of risks while making decisions:

- If the applicant is likely to repay the loan, not accepting it would result in a loss of business for the company.
- If the applicant is unlikely to repay the loan, granting it may result in financial loss for the firm.

## Objective

The major goal is to reduce credit loss in the online lending marketplace by recognizing important signs of default among loan applicants. The goal of exploratory data analysis (EDA) is to identify the elements that contribute to loan default, allowing for more informed risk assessment and portfolio management choices.

Data  
Understanding

01

Data  
Cleaning

02

Univariate  
Analysis

03

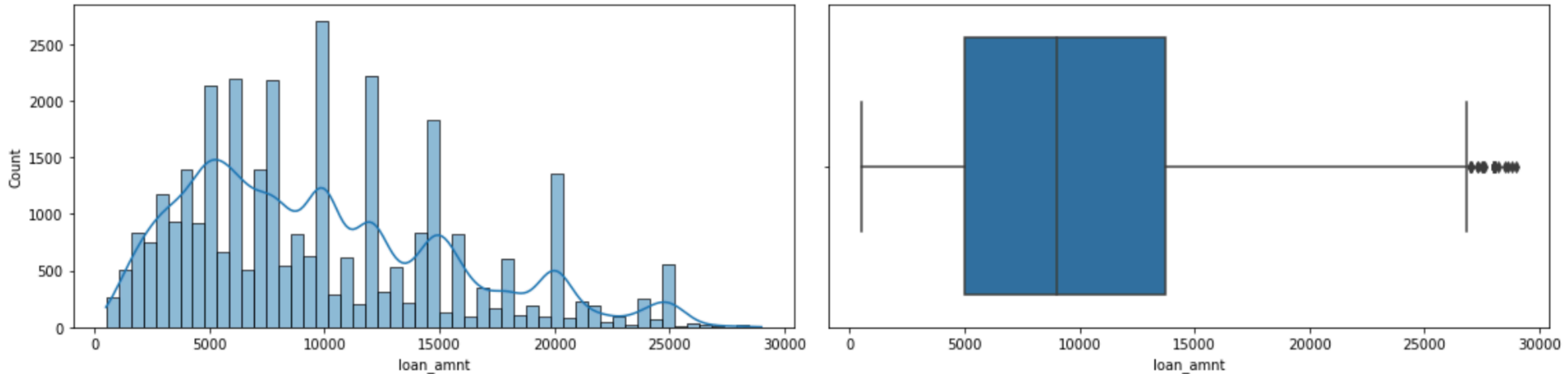
Bivariate  
Analysis

04

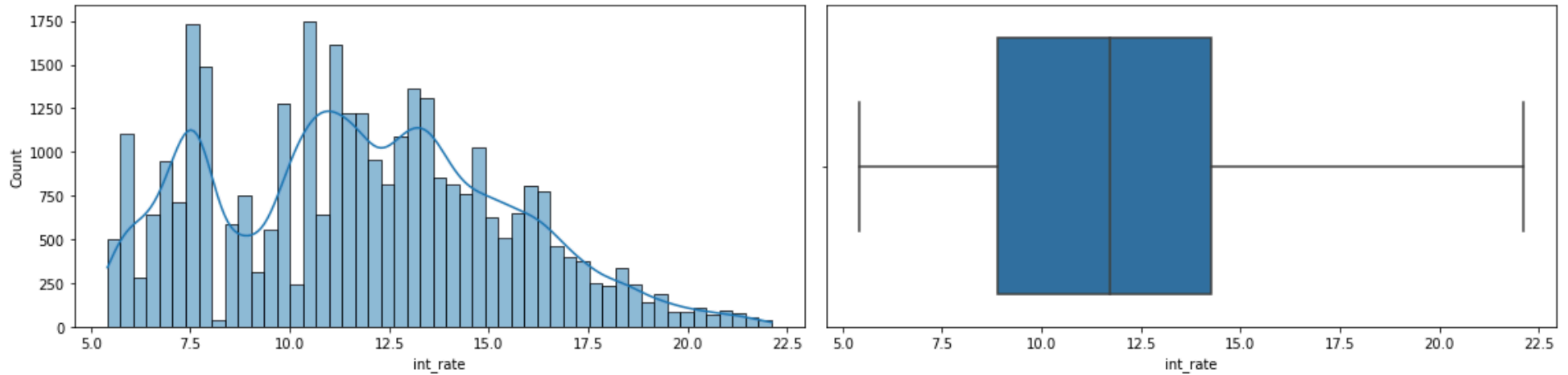
Conclusion

05

# Analysis

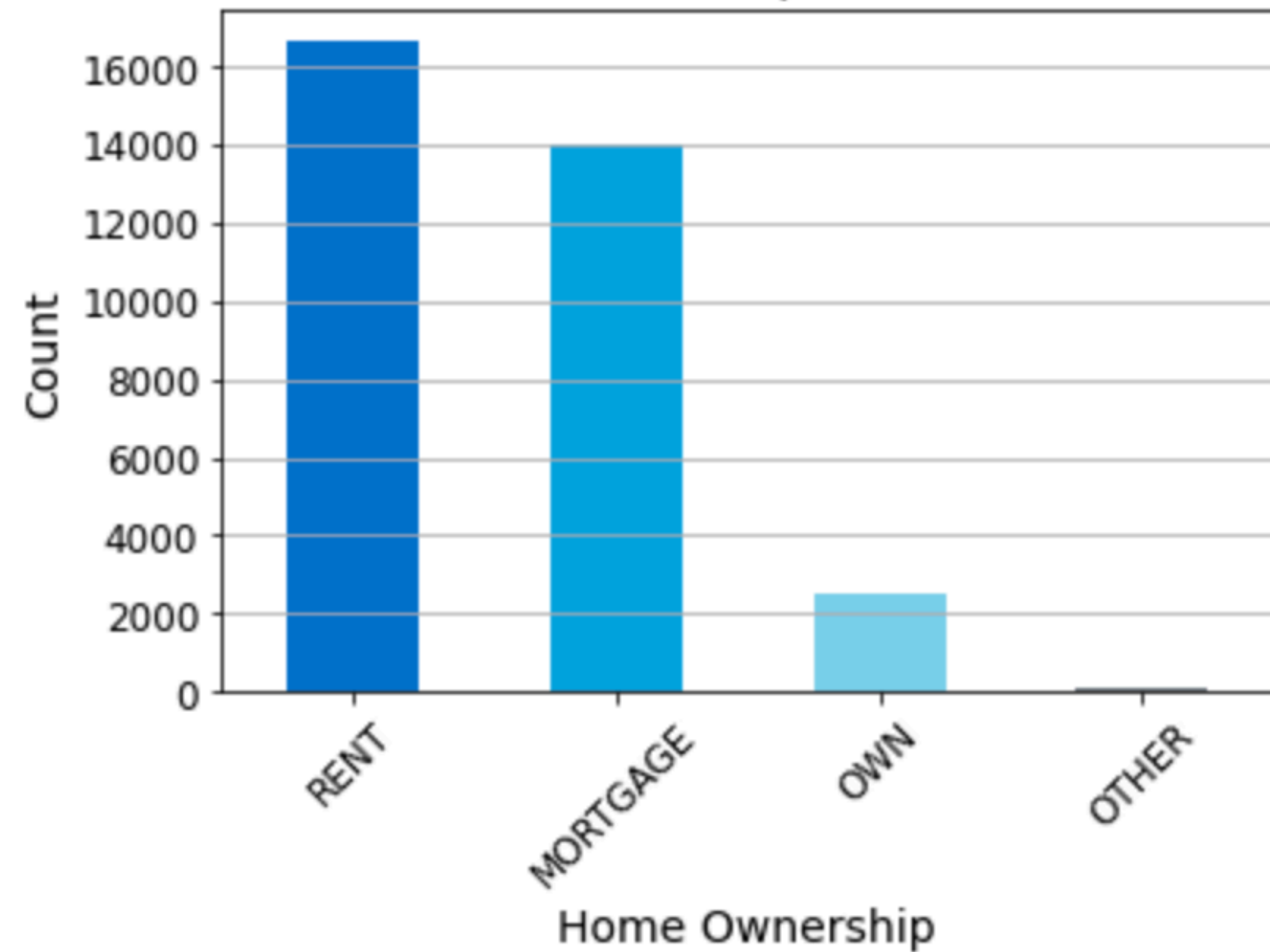


- Most of the loan amount applied was in the range of 5k–14k.
- Max Loan amount applied was ~27k.

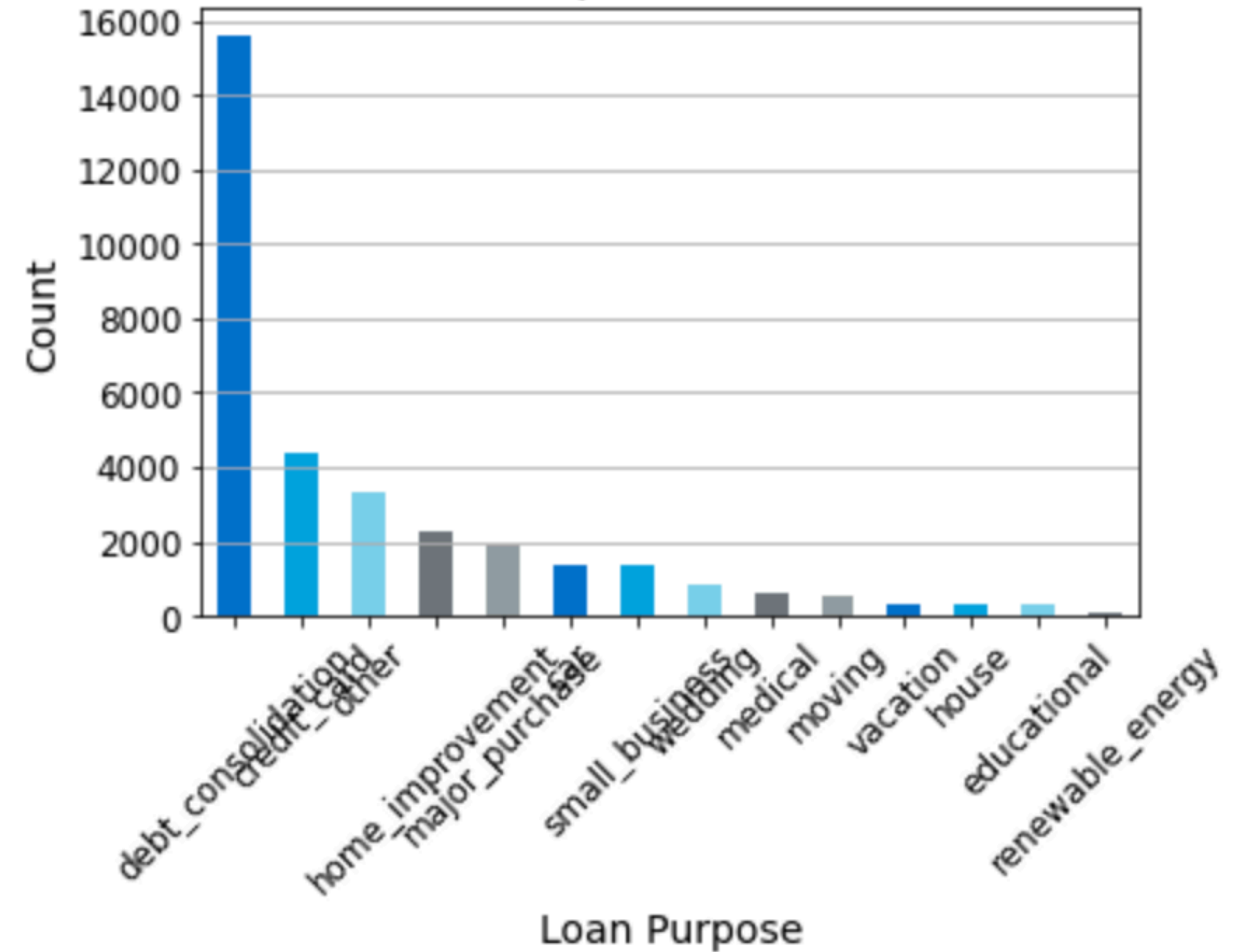


- Most of the applicant's rate of interest is between in the range of 8%–14%.
- Average Rate of interest of rate is 11.7 %

### Home Ownership Distribution



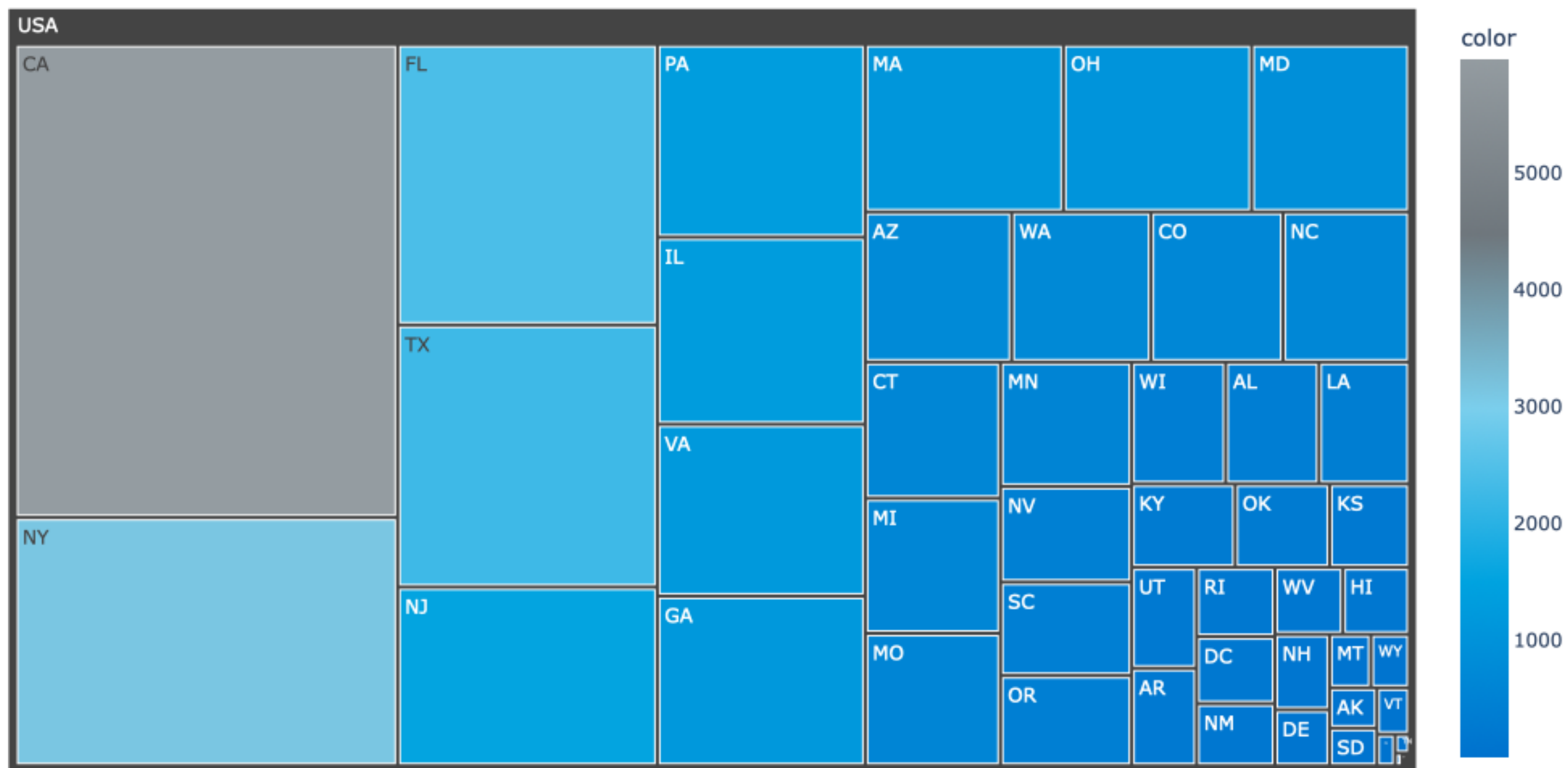
### Loan Purpose Distribution



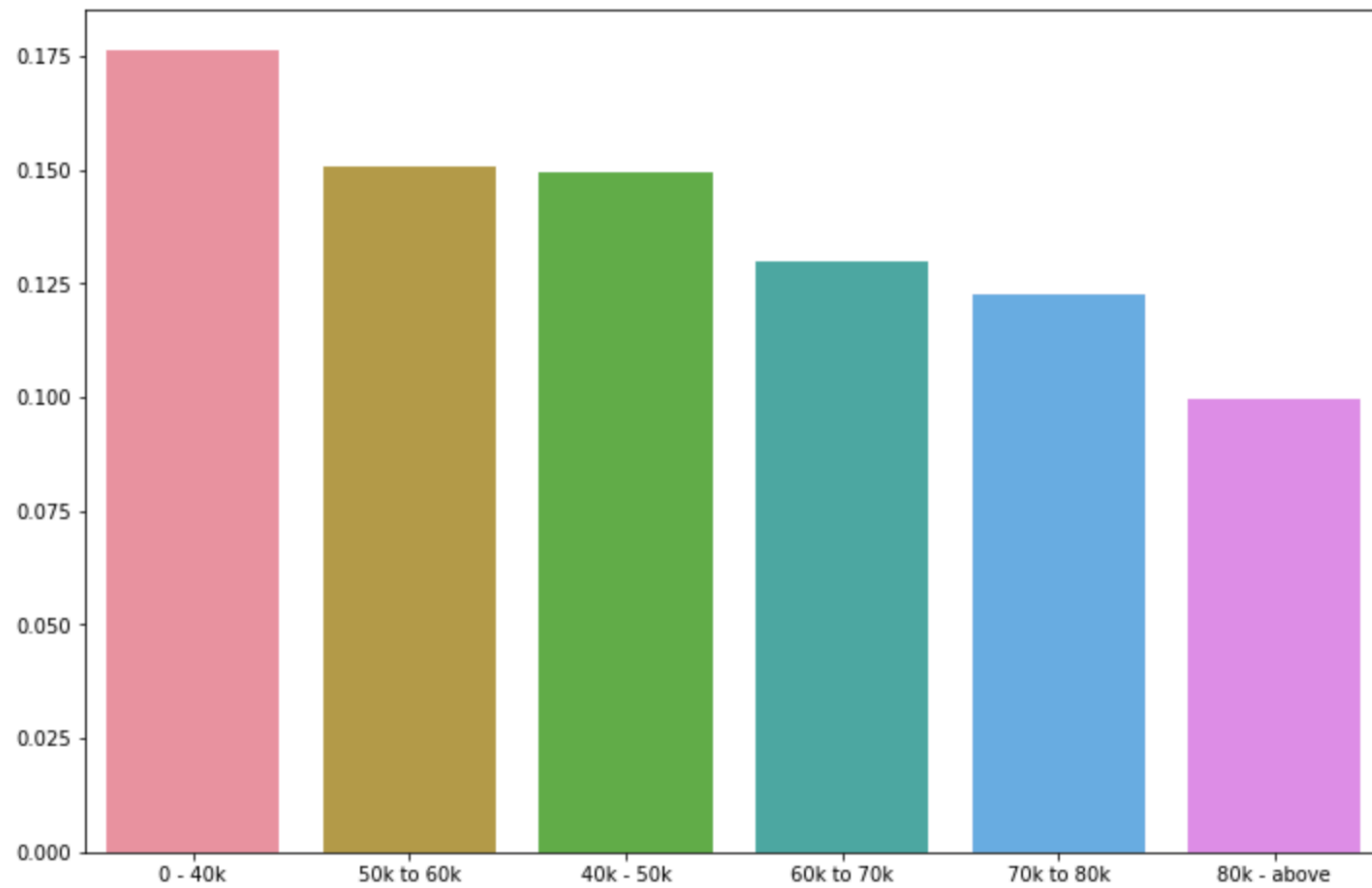
- Majority of loan applicants are either living on Rent or on MortgageAverage Rate of interest of rate is 11.7 %
- Most of the loan applicants are for debt consolidations.



## State Distribution

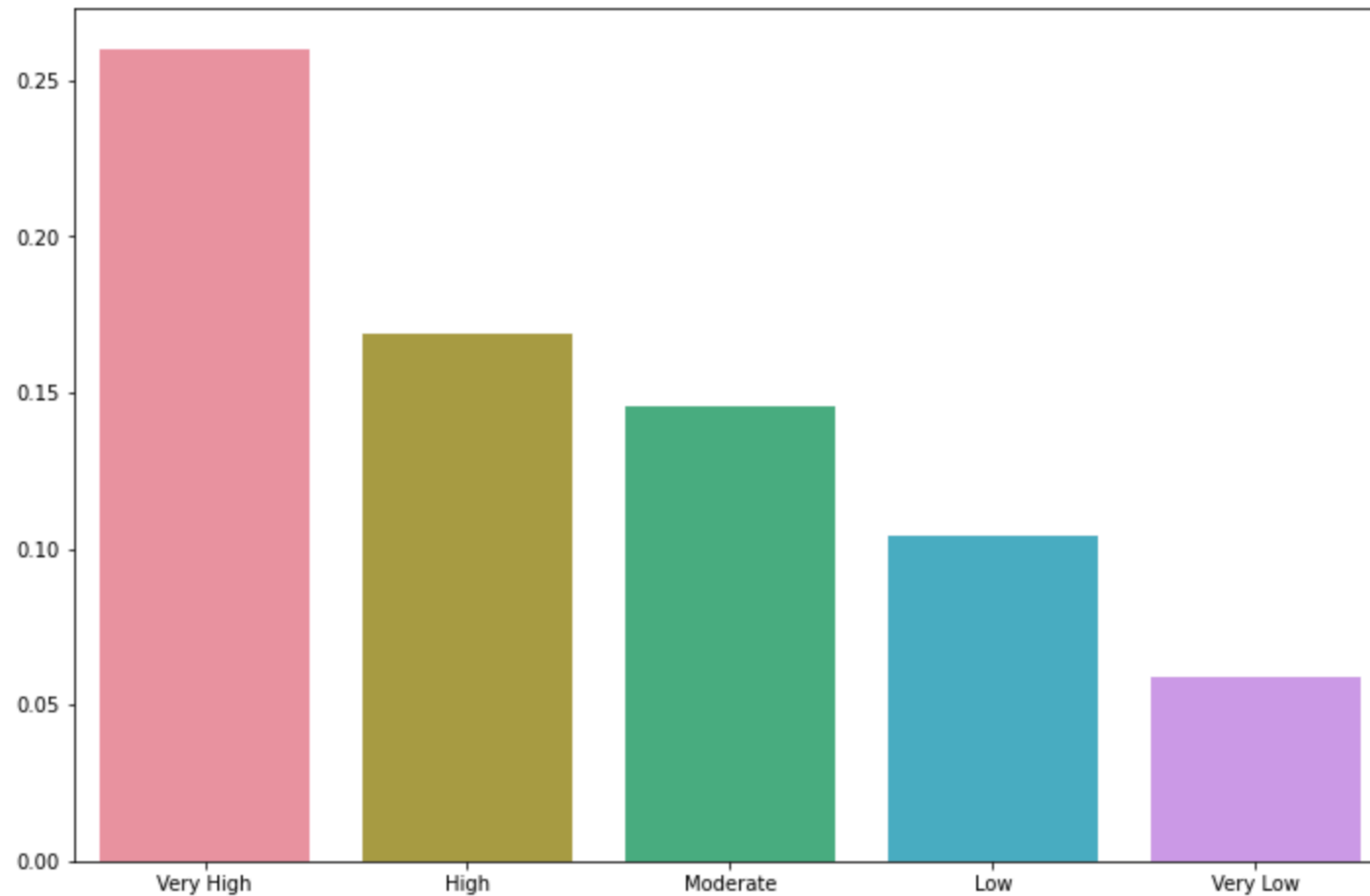


- Most of the Loan applicants are from CA(State).

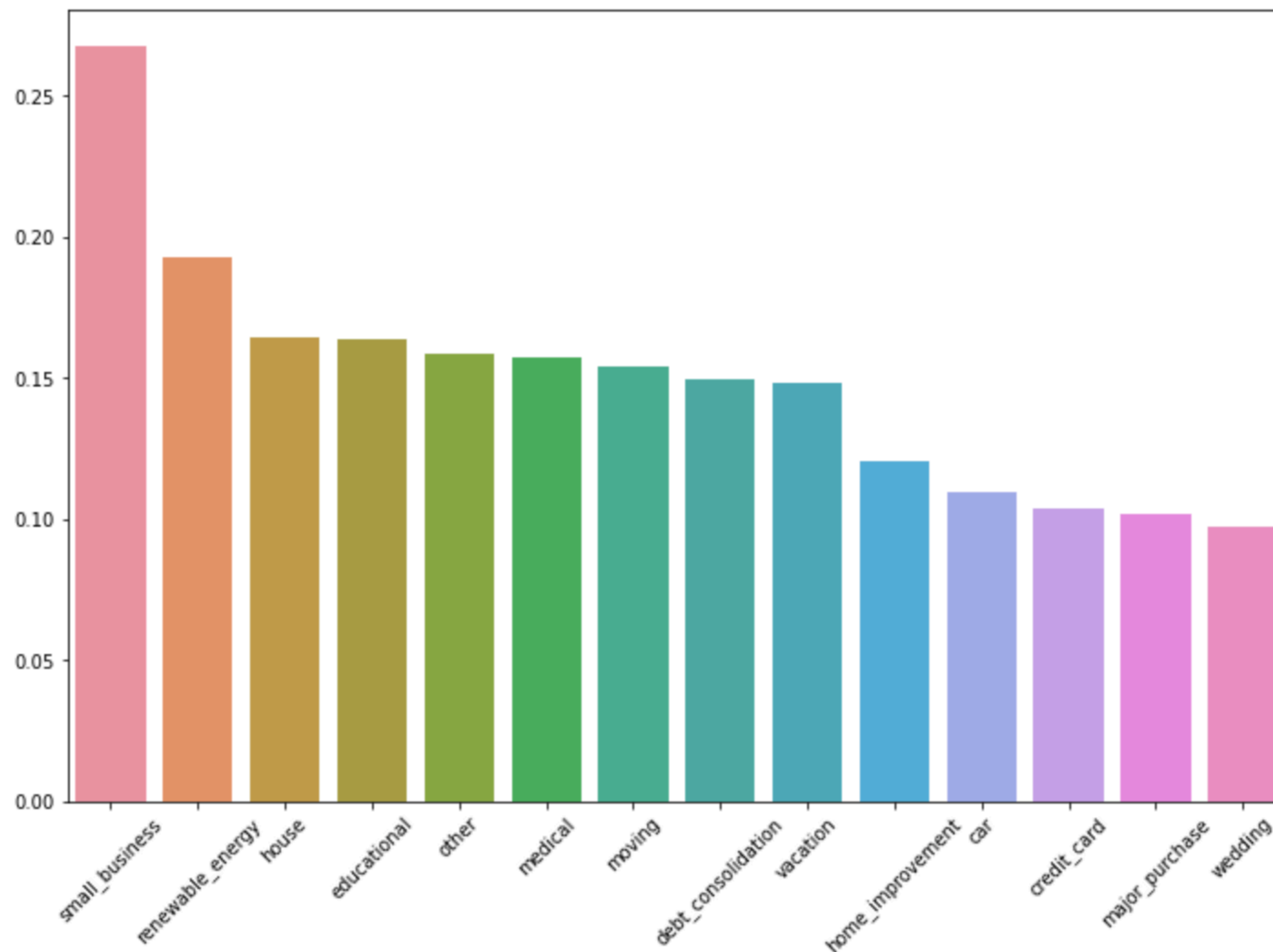


- Income range 80000+ has less chances of charged off.
- Income range 0–20000 has high chances of charged off.
- Notice that with increase in annual income charged off proportion got decreased.

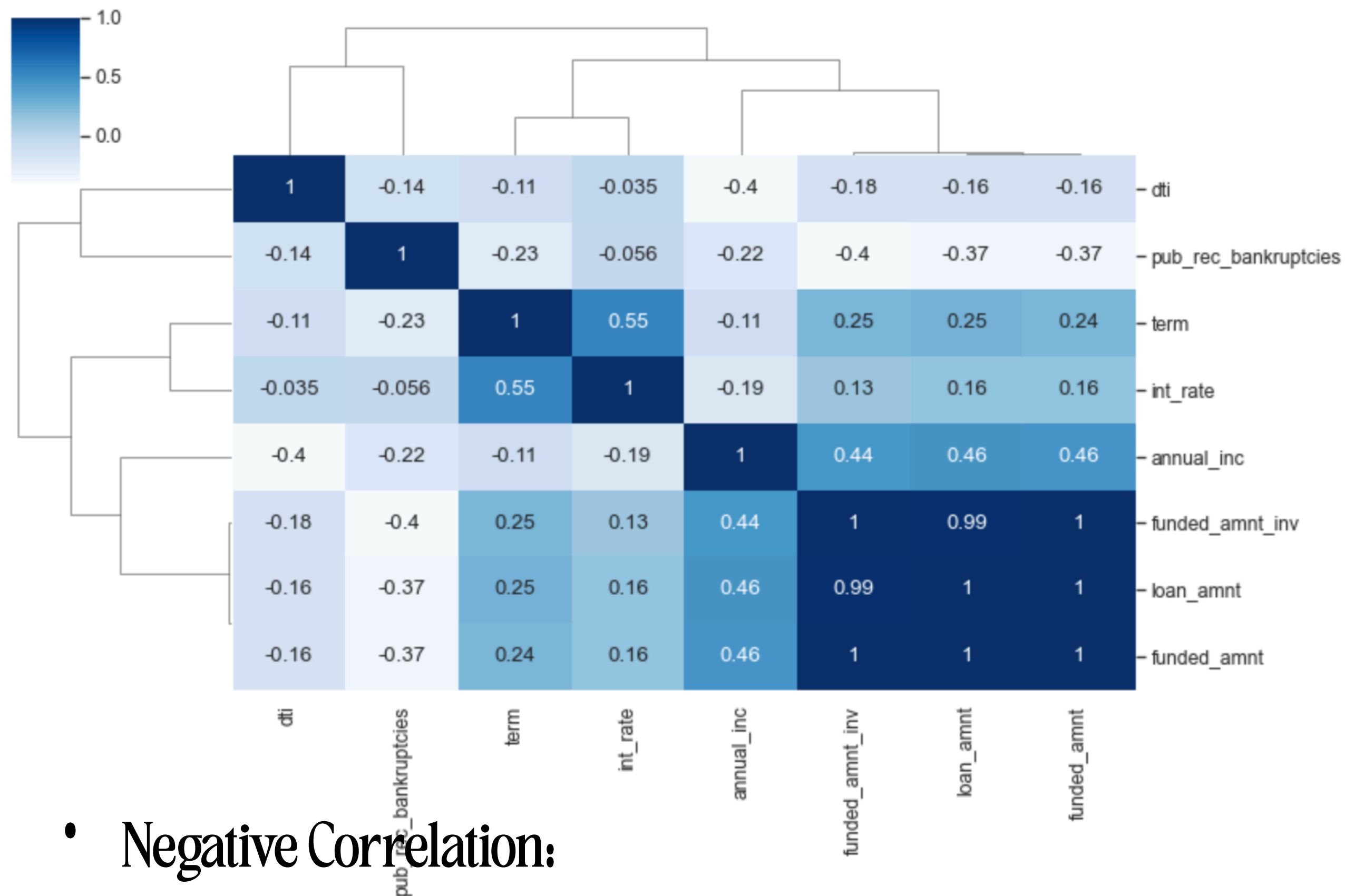




- Interest rate less than 10% or very low has very less chances of charged off. Interest rates are starting from minimum 5 %.
- Interest rate more than 16% or very high has good chances of charged off as compared to other category interest rates.
- Charged off proportion is increasing with higher interest rates.



- Those applicants who is having home loan is having low chances of loan defaults.
- Those applicants having loan for small bussiness is having high chances for loan defaults.



- Negative Correlation:
- Loan amount has negative correlation with pub rec bankruptcies
- Annual income has a negative correlation with dti
- Strong Correlation:
- Term has a strong correlation with loan amount
- Term has a strong correlation with interest rate
- Annual income has a strong correlation with loan\_amount