Lending Club Case Study

Group Members:

Baban Bandgar

Himanshu Singh

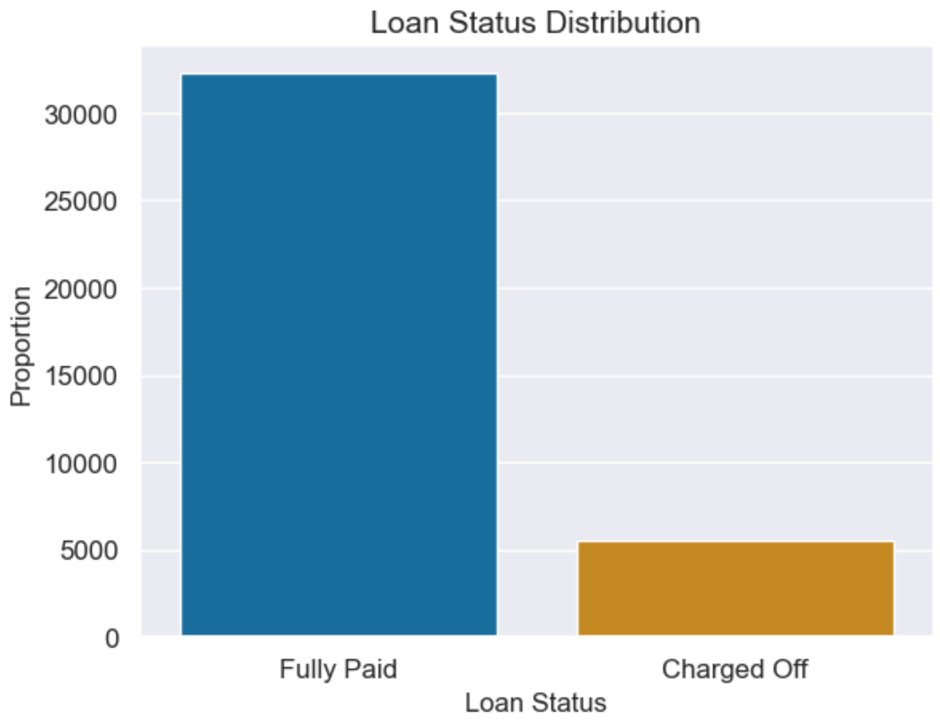
Abstract

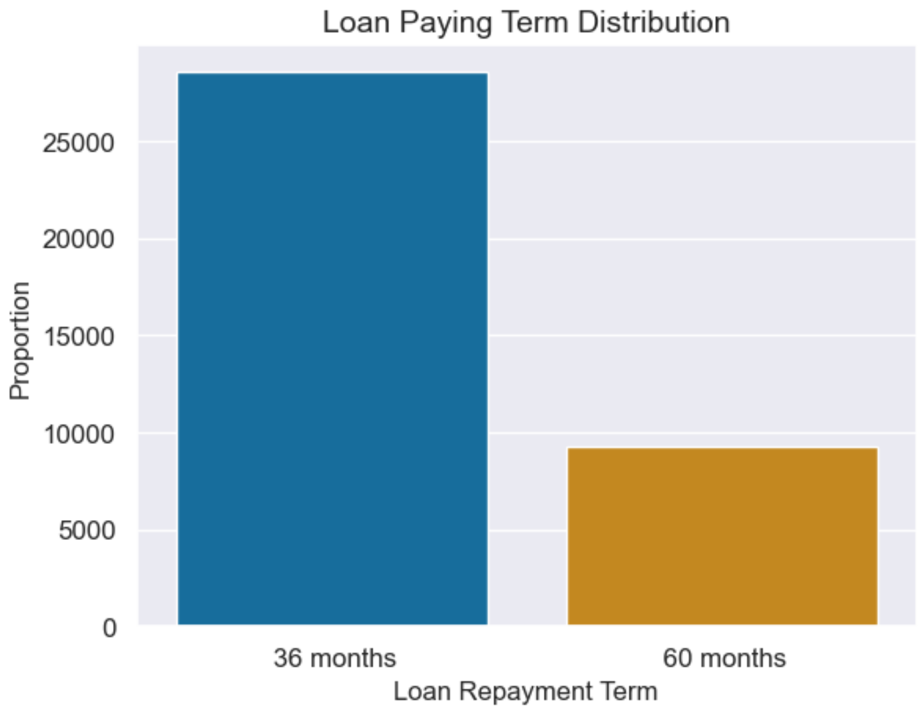
- Lending club is the largest online loan marketplace, facilitating personal loans, business loans.
- The objectives of this study are to understand how consumer and loan attributes influence the likelihood of loan default and identify patterns that can help predict potential defaults.
- The company aims to use these patterns to make informed lending decisions, such as denying loans, reducing loan amounts, or adjusting interest rates for higher-risk applicants.
- This analysis involves an Exploratory Data Analysis (EDA) of a loan dataset from a consumer finance company “Lending Club”.

Problem Solving Methods

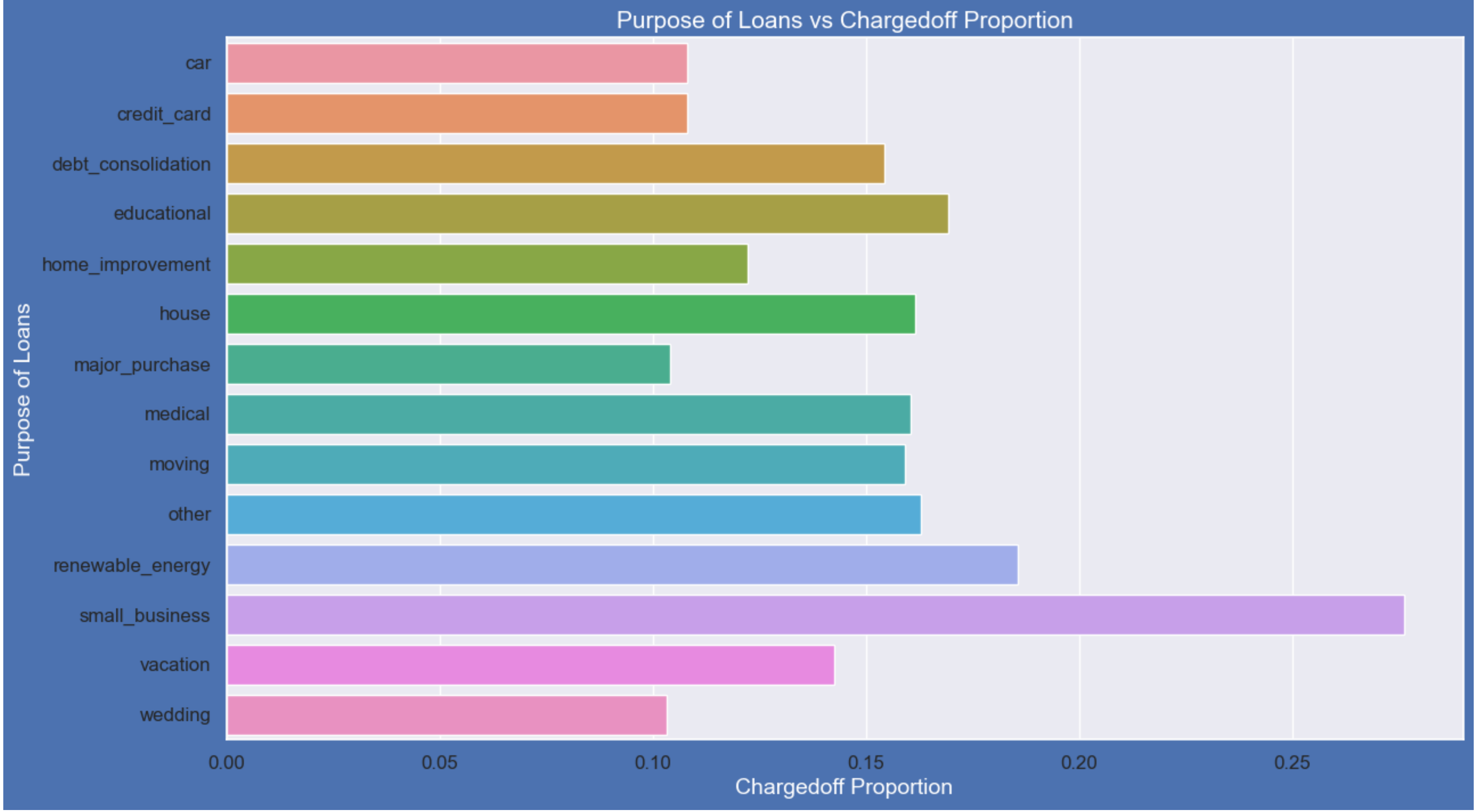
1) Data Cleaning
2) Data Understanding
3) Univariate Analysis
4) Segmented Univariate Analysis
5) Bivariate Analysis
6) Observations

Analysis

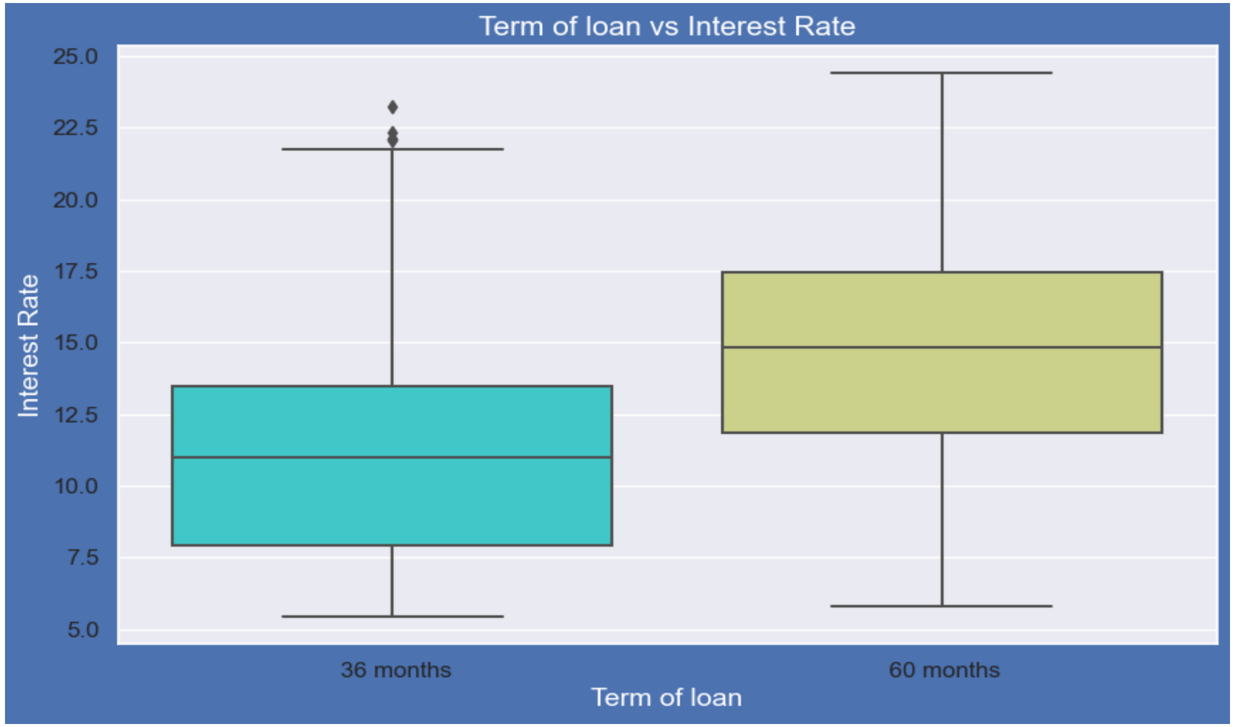


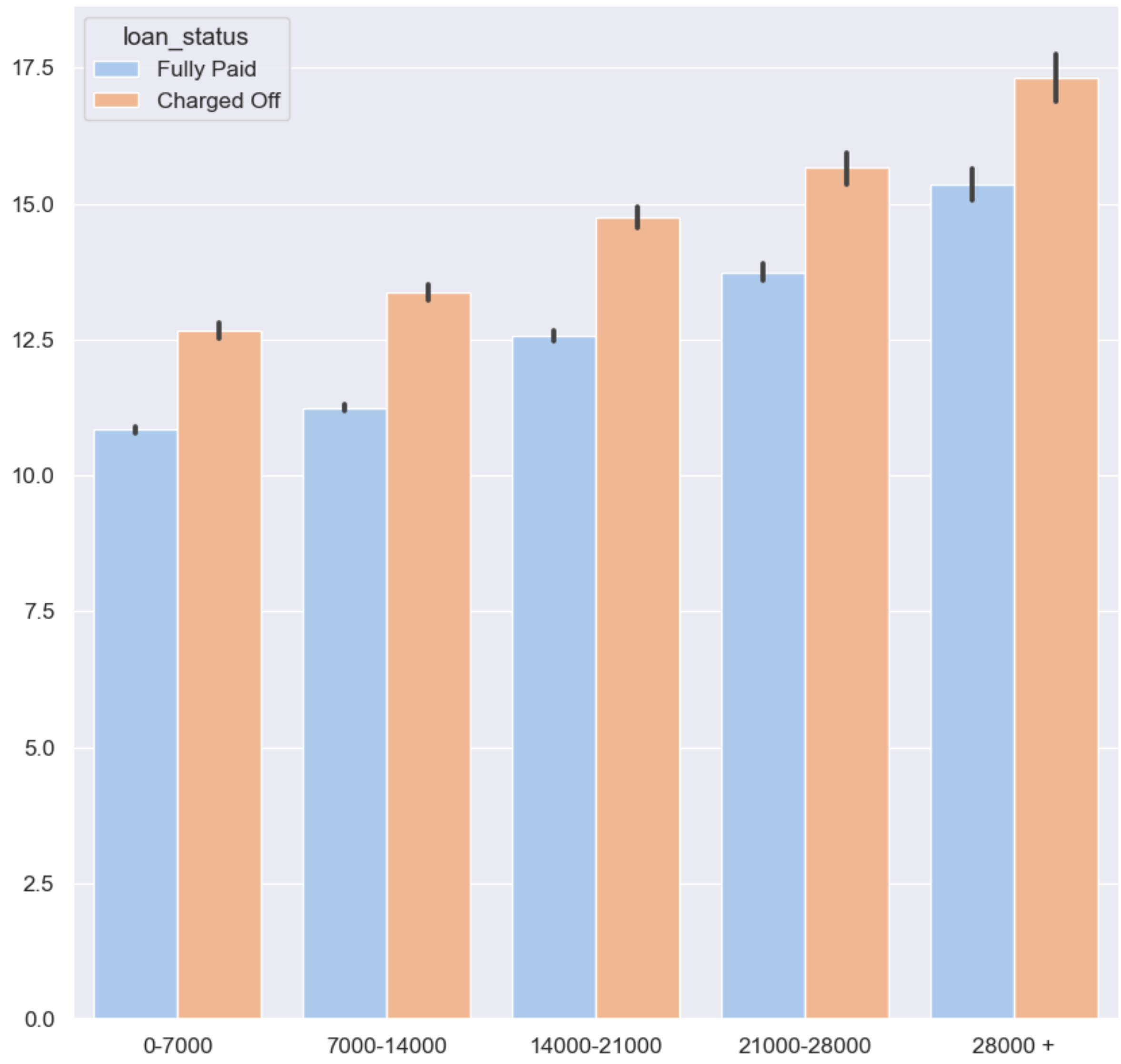


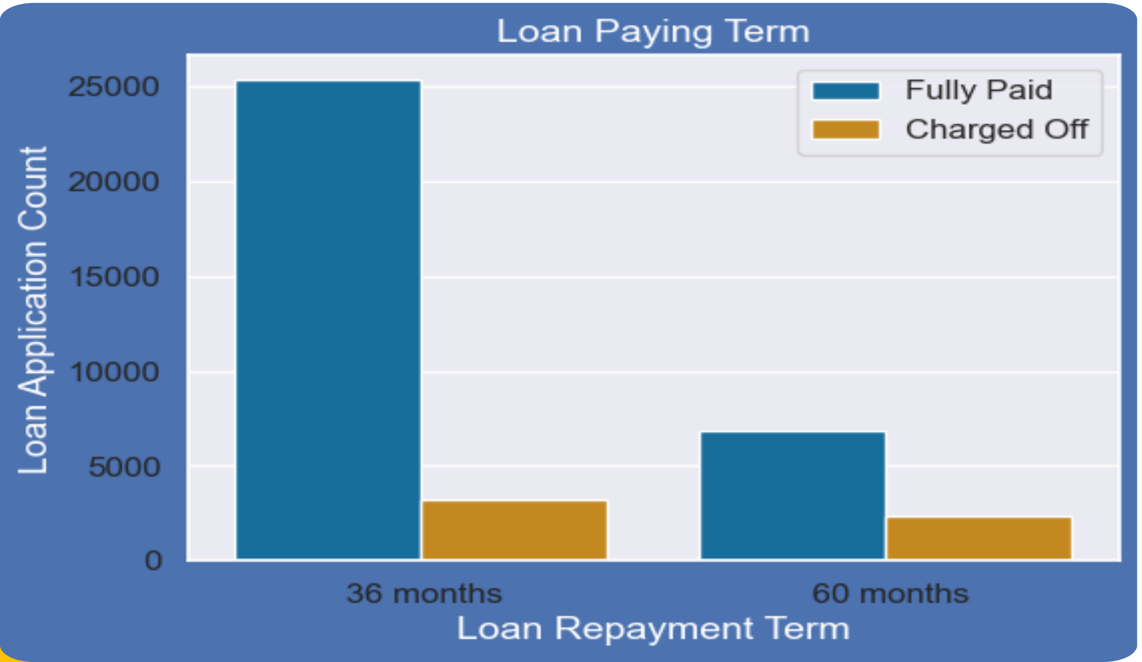
- There are 14% loans were charged off out of total loan issued.
- There are only two loan terms 36 and 60 months.
- Those who had taken loan to repay in 60 months had more % of number of applicants getting # charged off as compared to applicants who had taken loan for 36 months.



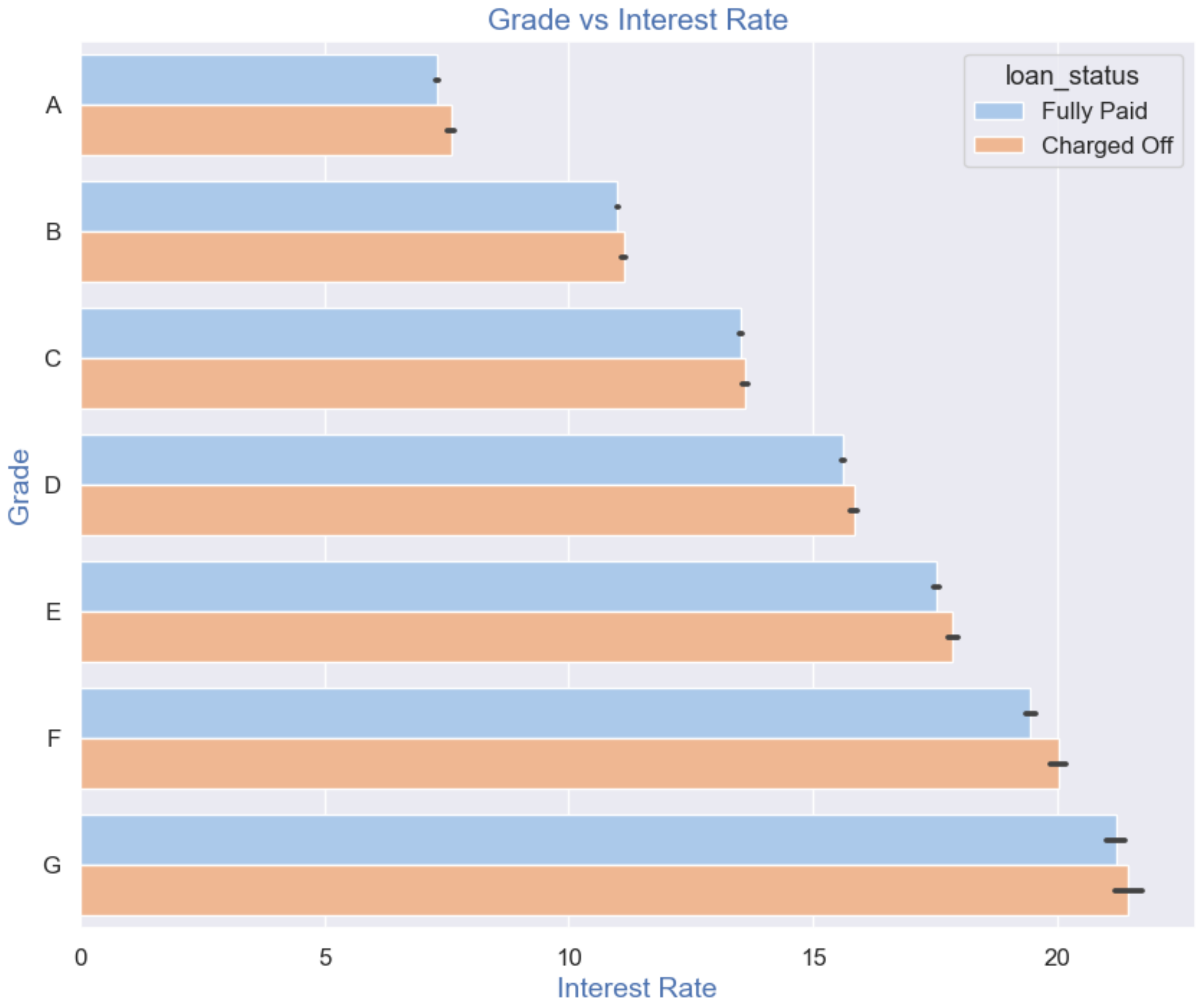
- Small Business applicants have high chances of getting charged off.



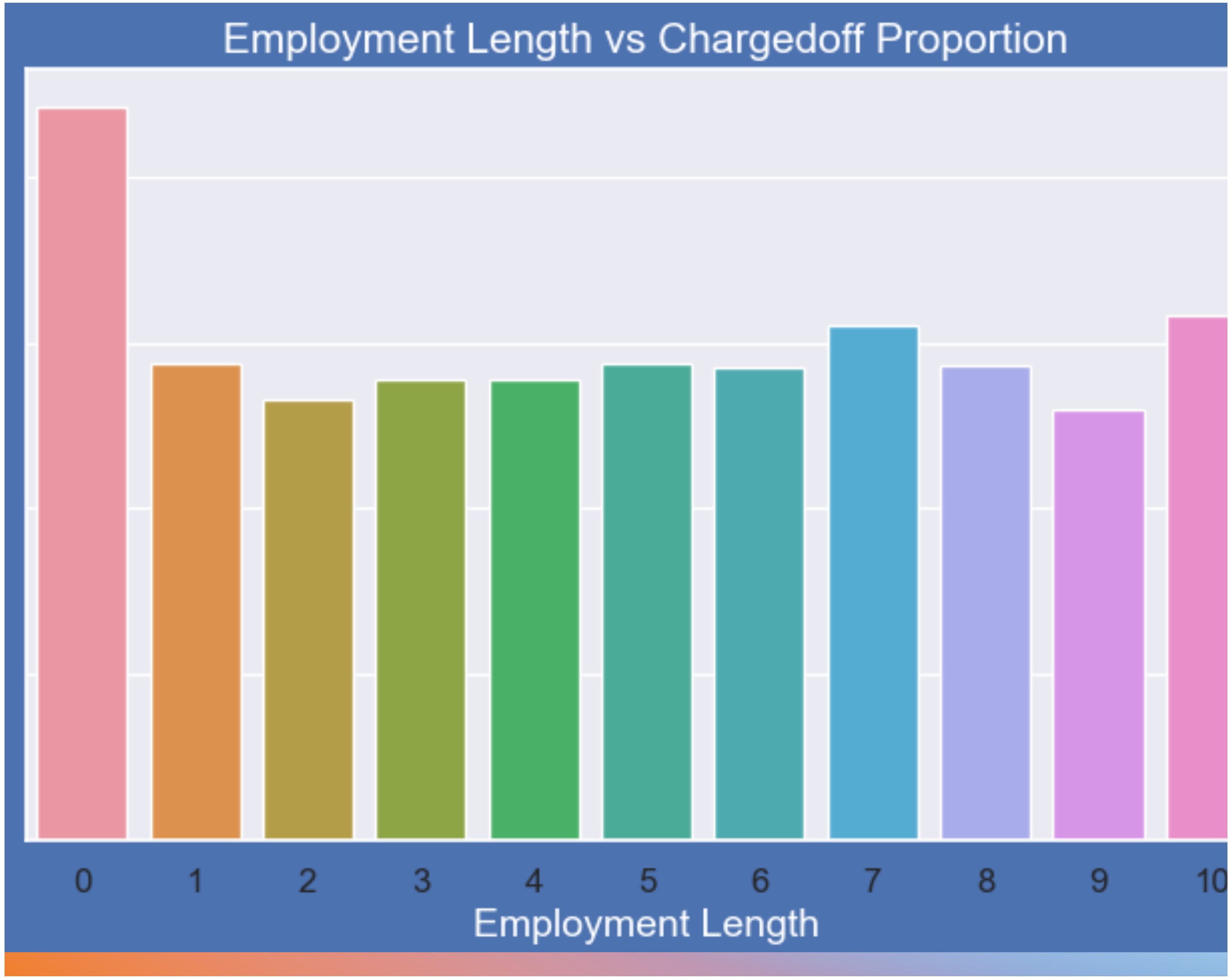




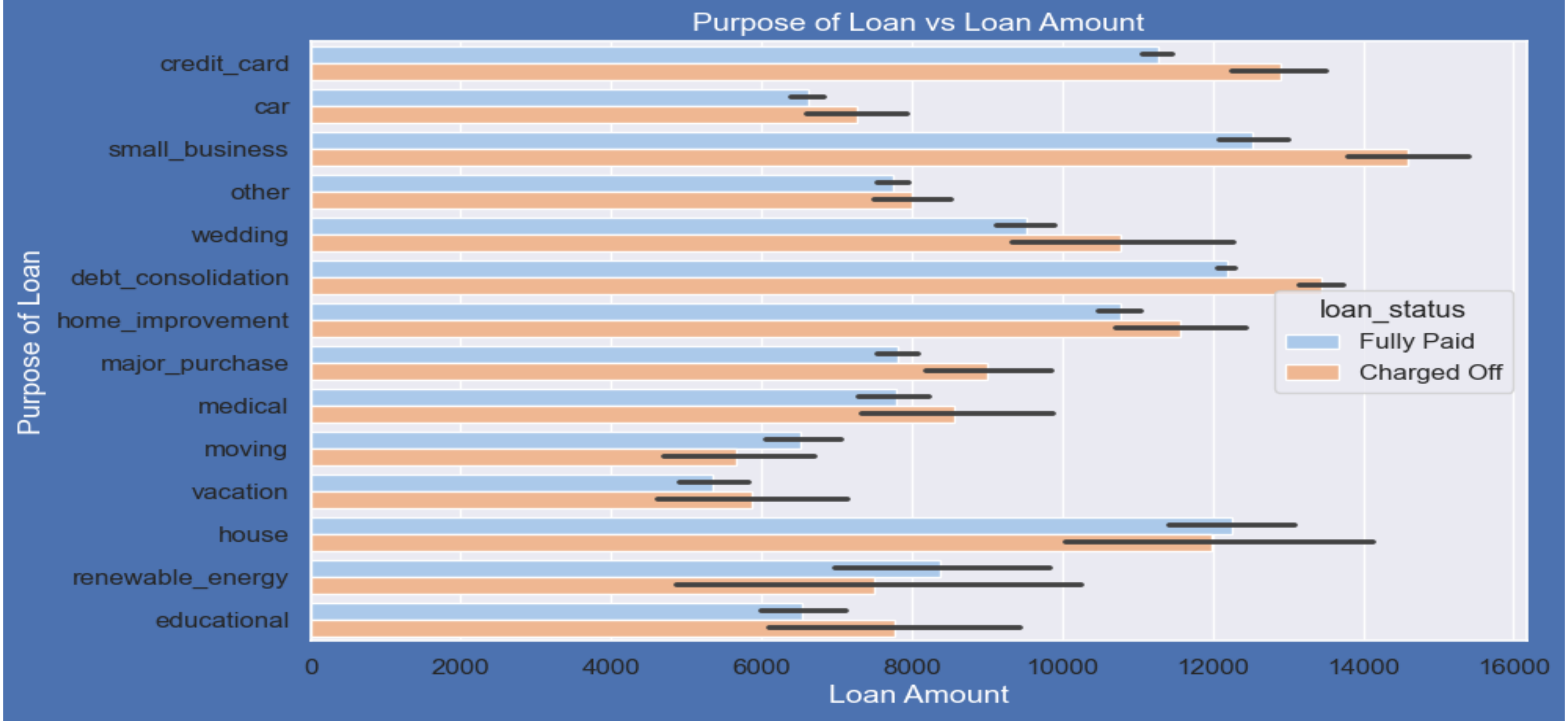
- The default rate is high in 60 months tenure because most people took high loan amount with high interest rate in it and they faced difficulties in returning the sum to bank.



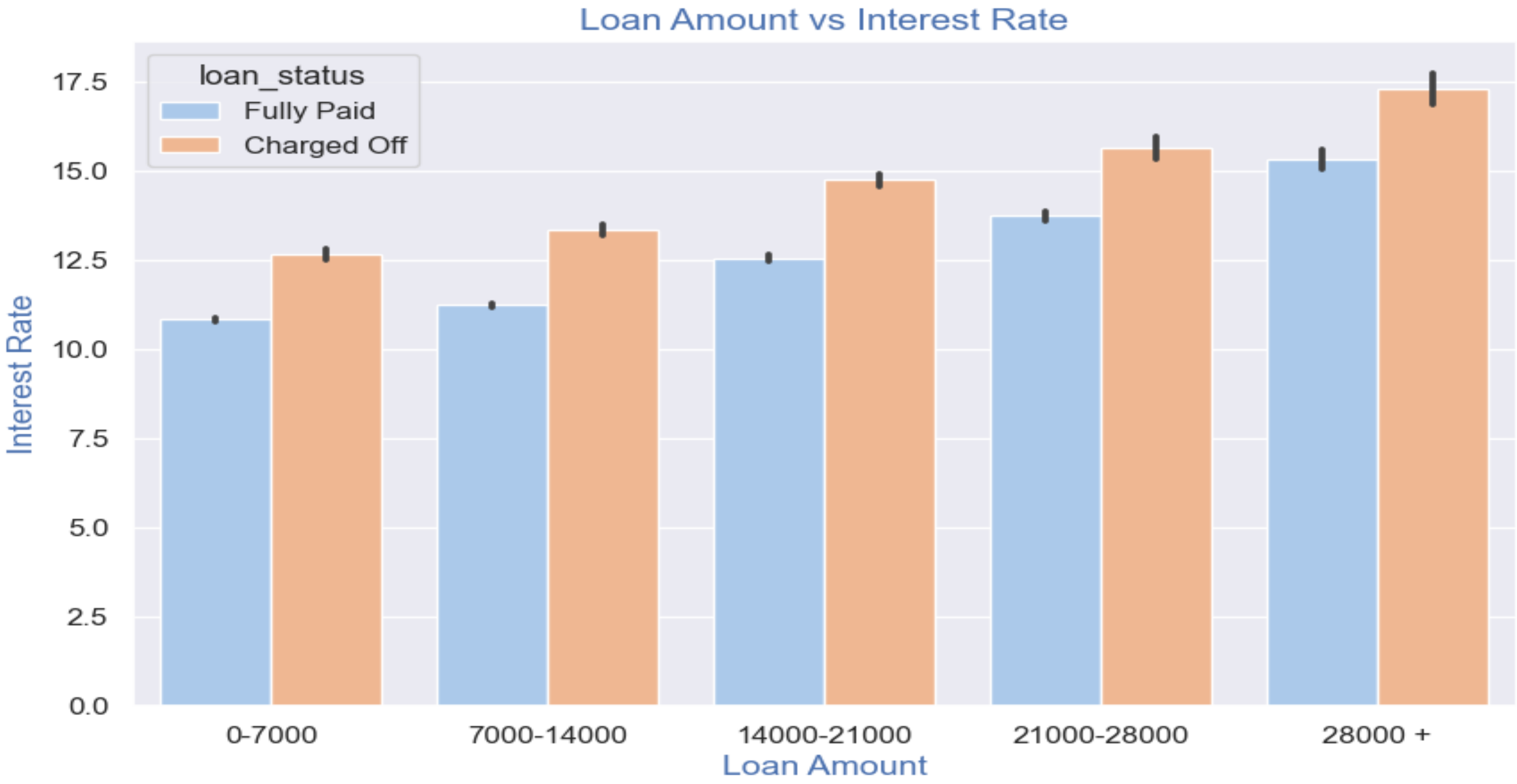
- The Lower grades(E,F,G) have higher chances of defaulting the loan than Higher ones(A,B)
- Also the Lower grades are getting loans for higher interest rates which might be the cause for loan default



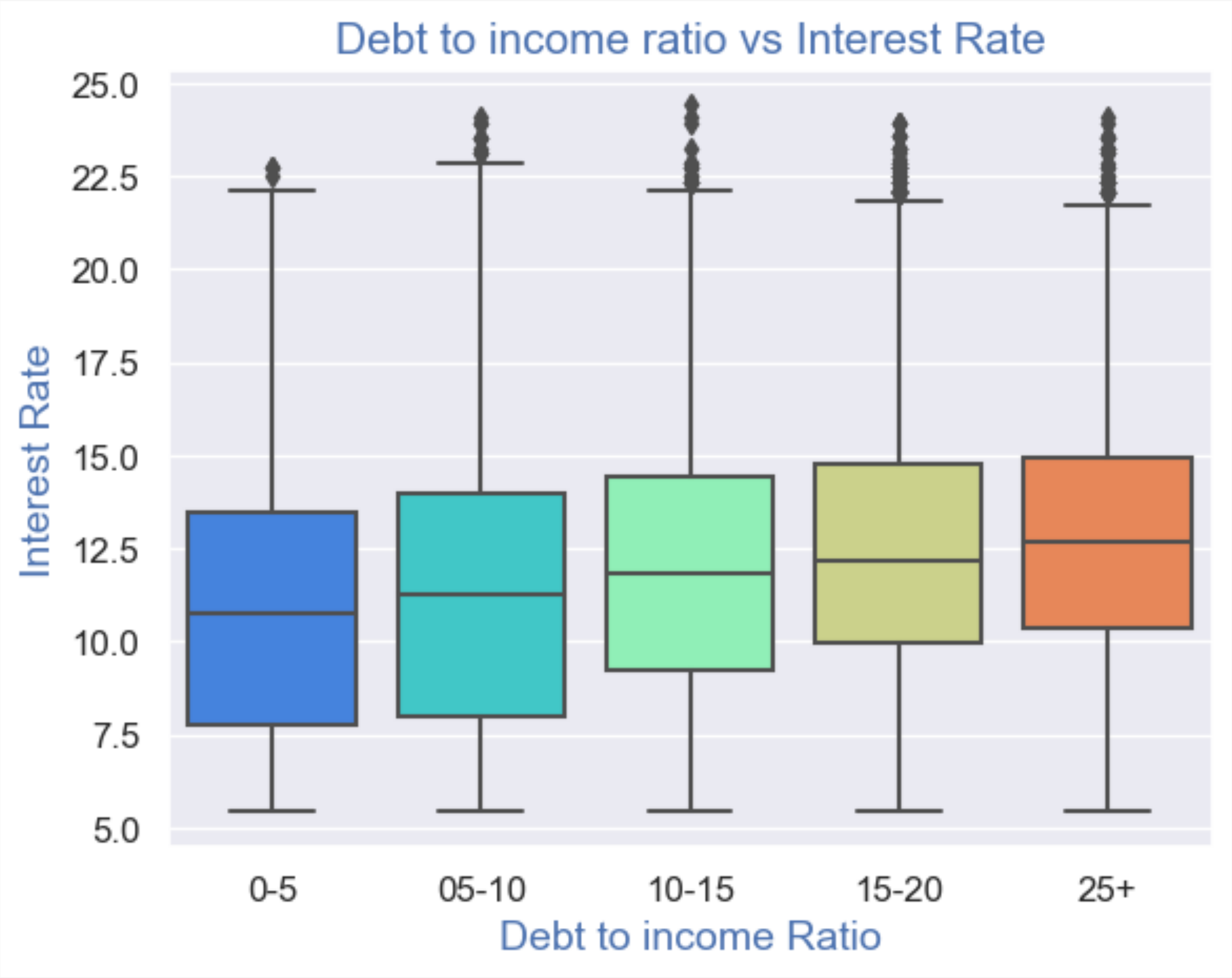
- Those who are not working or have less than 1 year of work experience have high chances of getting charged off.
- It makes sense as with less or no experience they don't have source of income to repay loan.



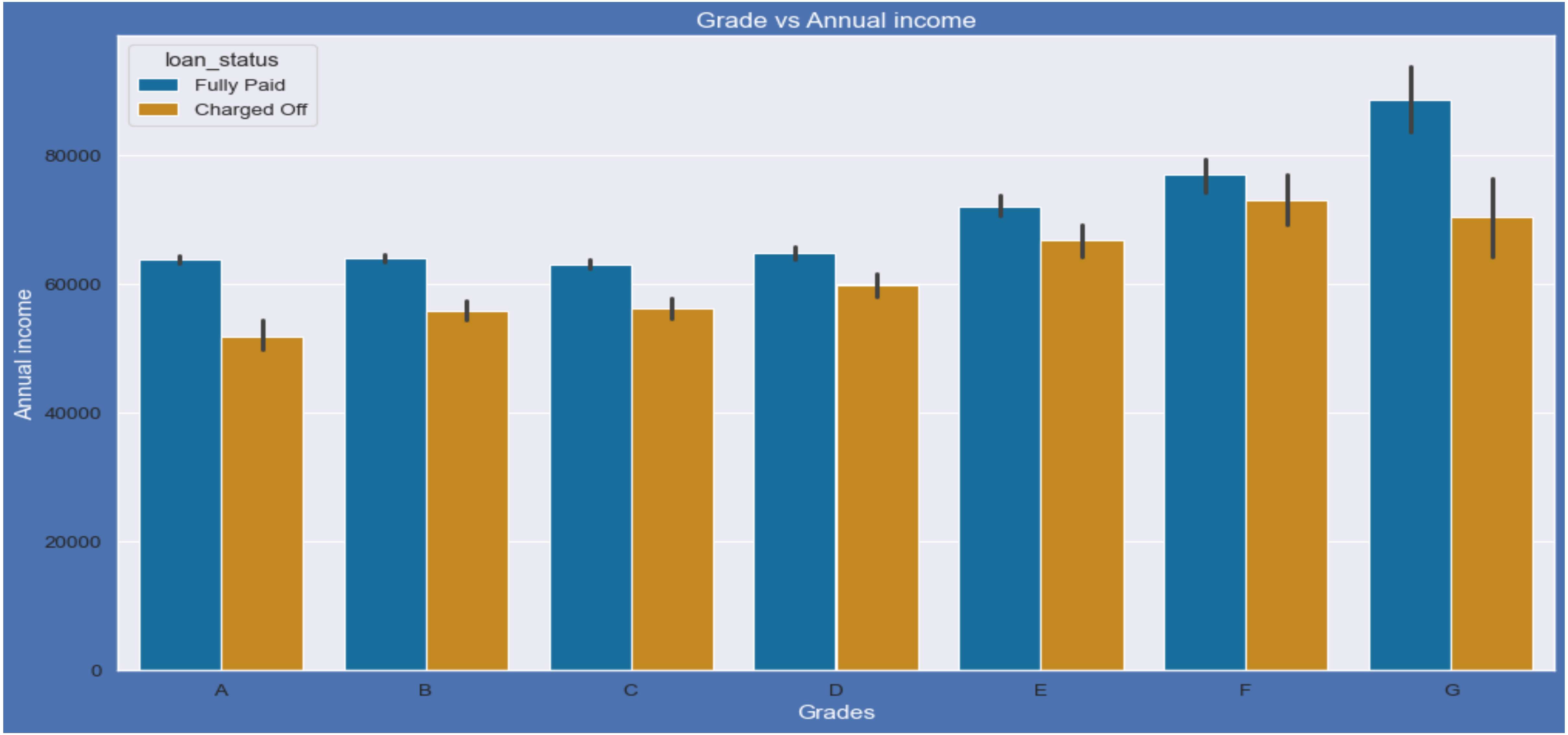
- Borrower's who took loans for small business purpose have defaulted more.



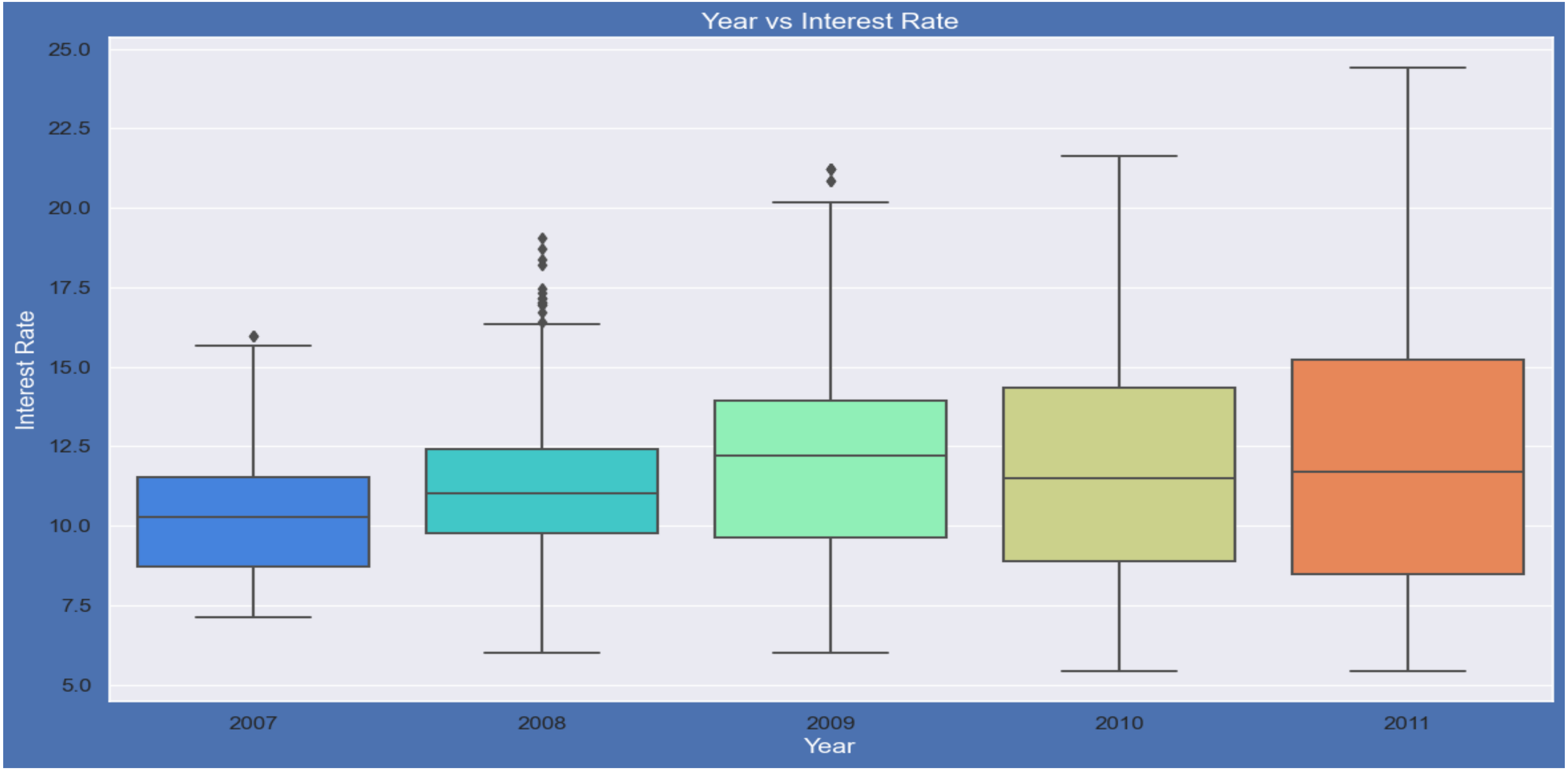
- Interest rate is increasing with loan amount increase.



- No significant variation but there is slight increase in interest rate with increase in DTI.



The ones getting 'charged off' have lower annual incomes than the ones who ‘paid fully' for every grade category



Interest rate is increasing slowly with increase in year.

Conclusions

- Lending club should reduce the high interest loans for 60 months tenure, they are prone to loan default.
- The analysis indicates that the medium debt-to-income group in the lowest income range poses the highest risk when it comes to loan repayment. This group appears to be the most vulnerable to default on their loans.
- Small business loans are defaulted more.
- Higher the interest rate higher charged off ratio