

Lending Club Case Study

Prepared by:

Madhavarapu Nagamanohar

Chaitra Mokhasi

Problem Statement

- Lending loans to 'risky' applicants is leads to financial loss to the lending company.
- The credit loss is the amount of money lost by the lender when the borrower refuses to pay the money owed.
- The main objective is to be able to identify these risky loan applicants, then such loans can be reduced thereby cutting down the amount of credit loss. Identification of such applicants using EDA is the aim of this case study.

Analysis and Approach

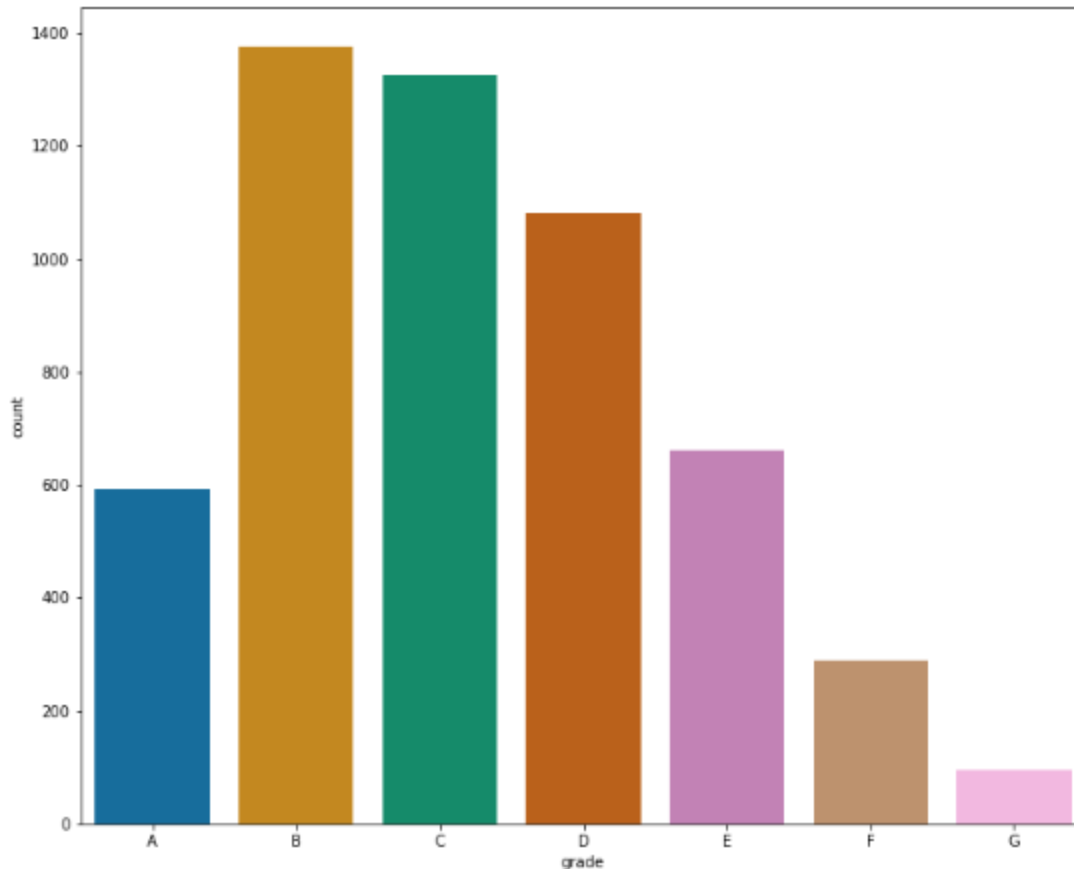
- Perform an analysis to understand the driving factors behind the loan defaulters, i.e. the variables which are strong indicators of defaulters. So that the lending company can utilize this knowledge to sanction the loans.
- Analyze the given data for defaulters and provide the driving factors for loan defaulters.
- Steps Followed:
 - Step 1: Data Cleaning
 - Step 2: Uni-Variate Analysis
 - Step 3: Bi-Variate Analysis
 - Step 4: Results

Driving Factors for Loan Defaulters

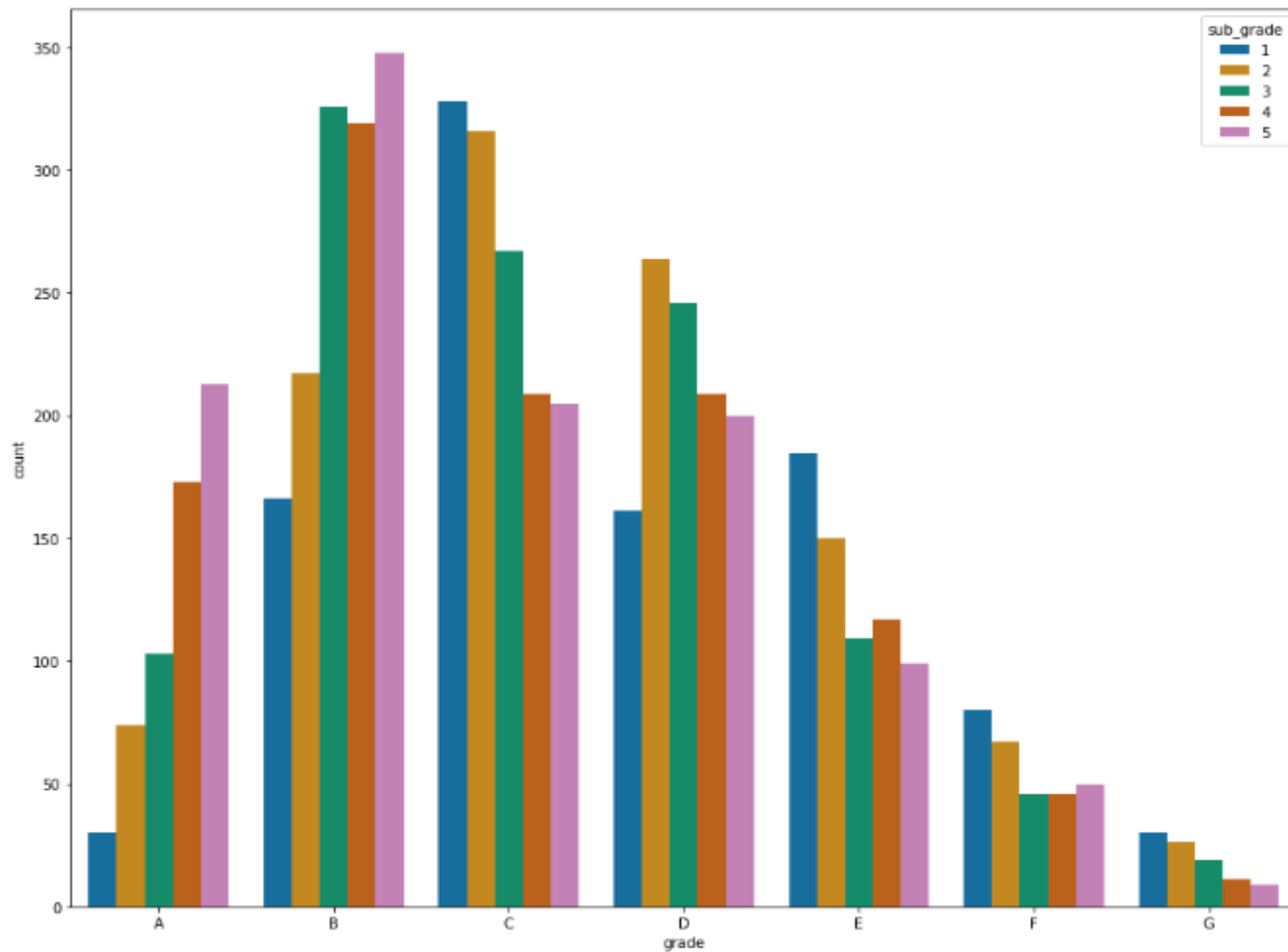
Based on the analysis of every single variable(i.e, Uni-Variate Analysis) the below driving factors are derived for every single variable.

The analysis is with respect to the charged off loans. There is a more probability of defaulting when :

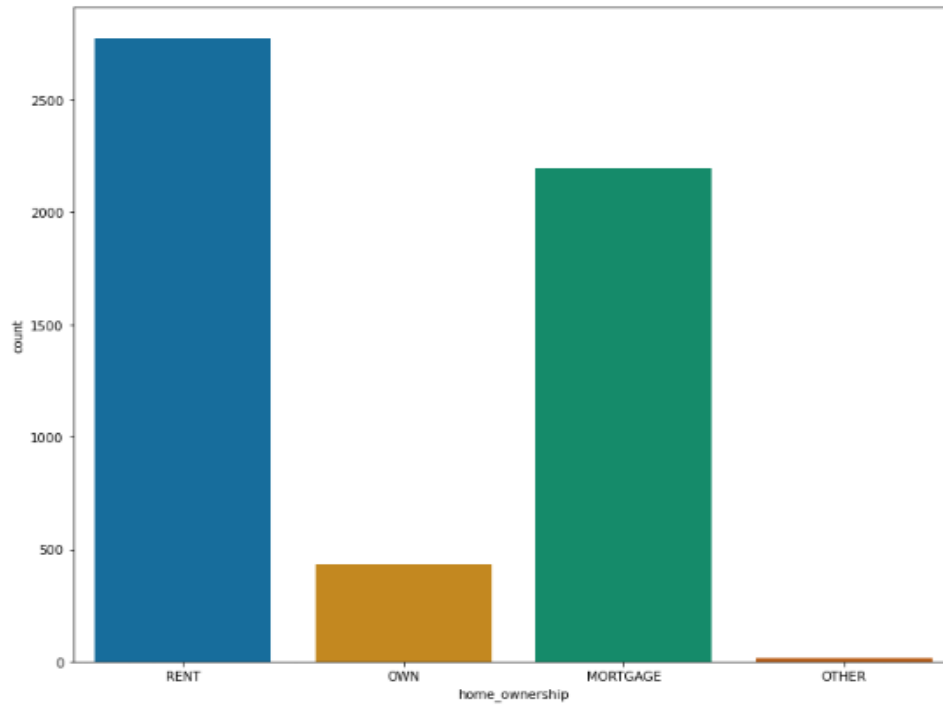
1. Applicants is having Grade as 'B'



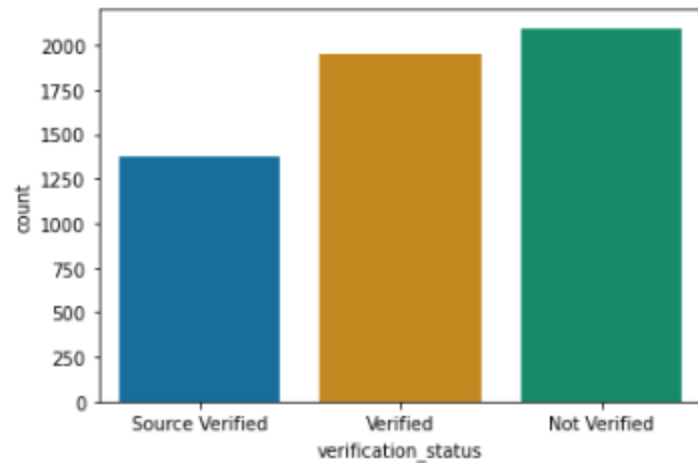
2. Applicants is having a total grade of 'B5' level.



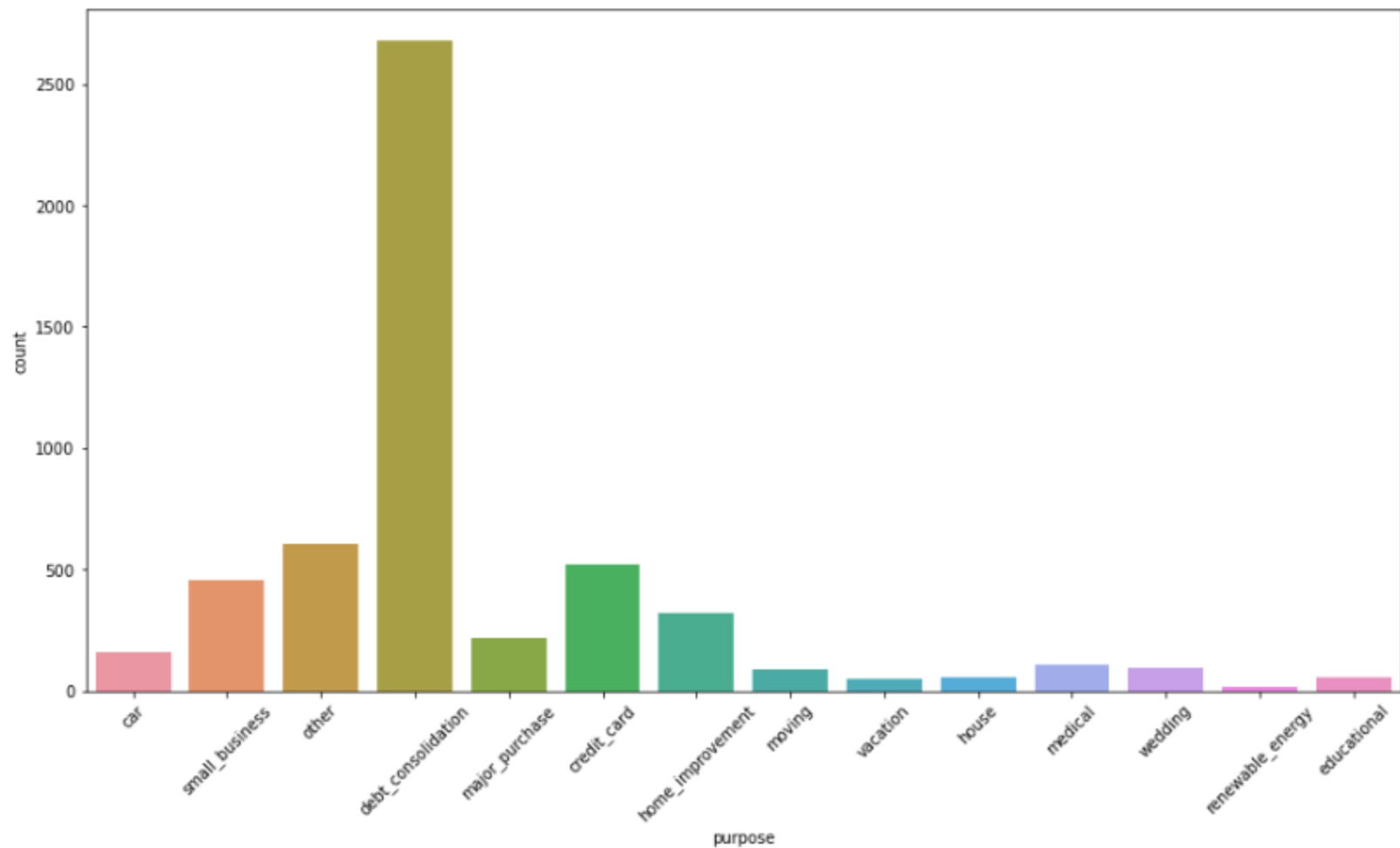
3. Applicants is having house_ownership as 'RENT'



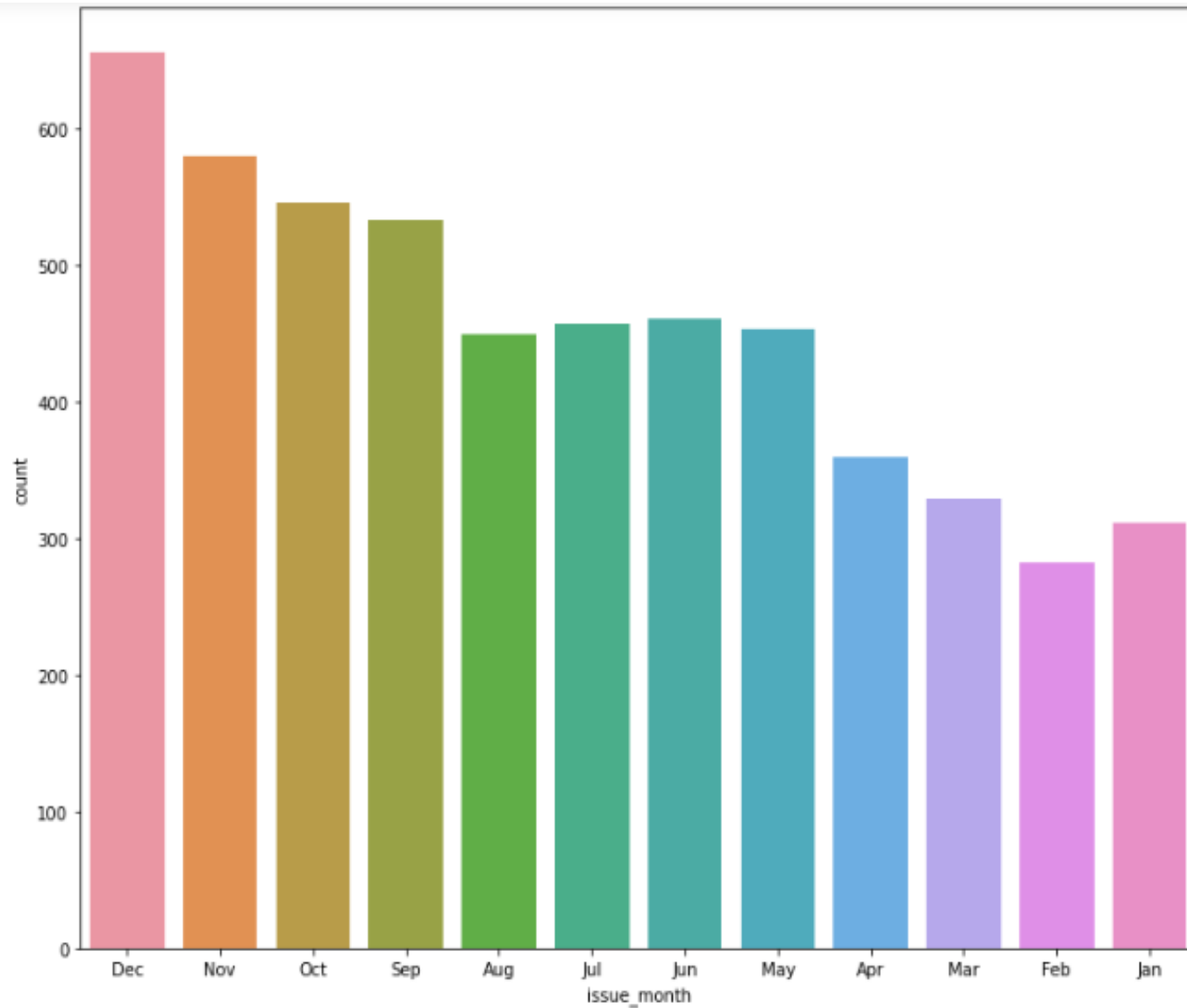
4. Applicants loan status is Not verified



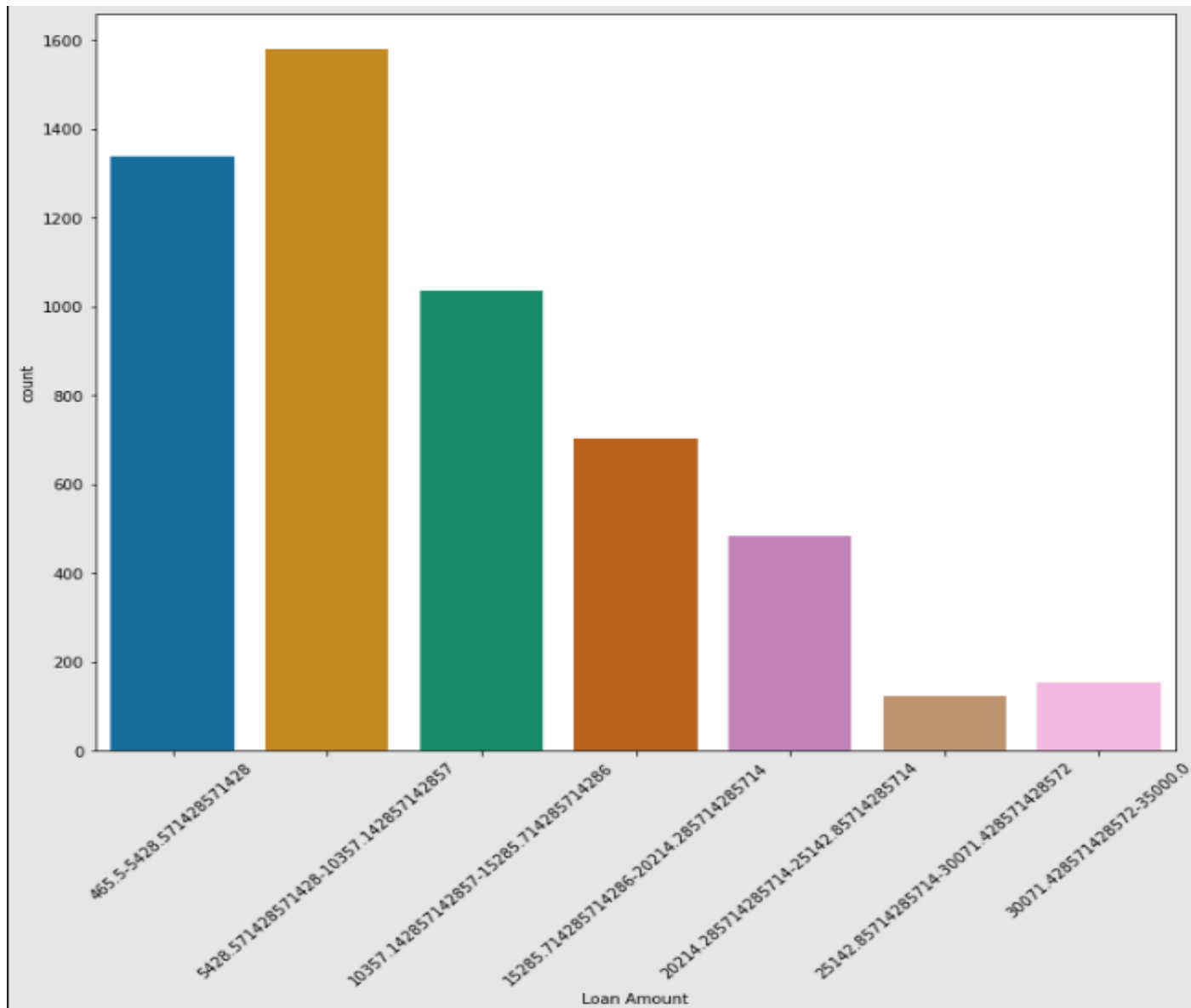
5. Applicants purpose of loan is 'debt_consolidation'



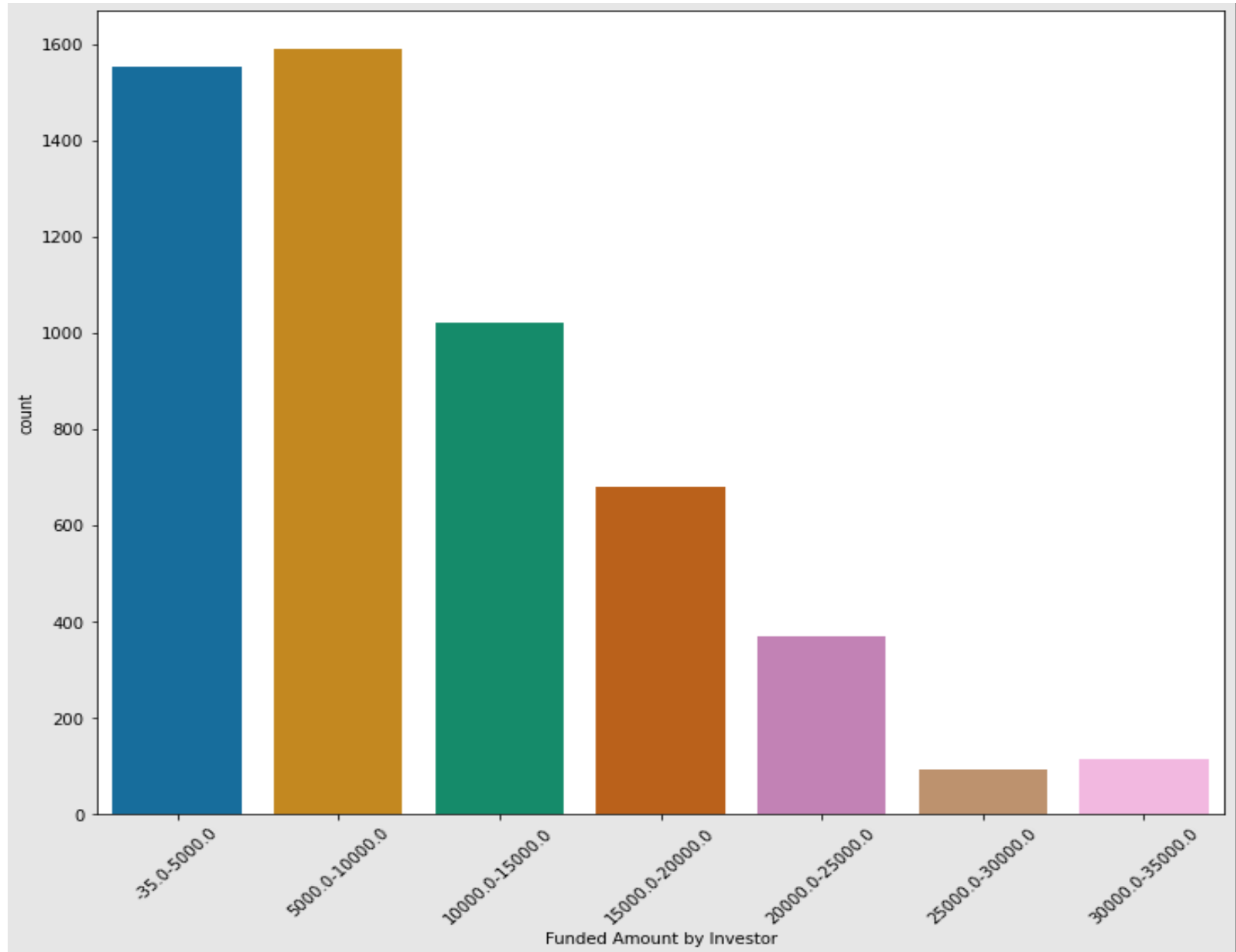
6. Applicants applied in the month of November and December



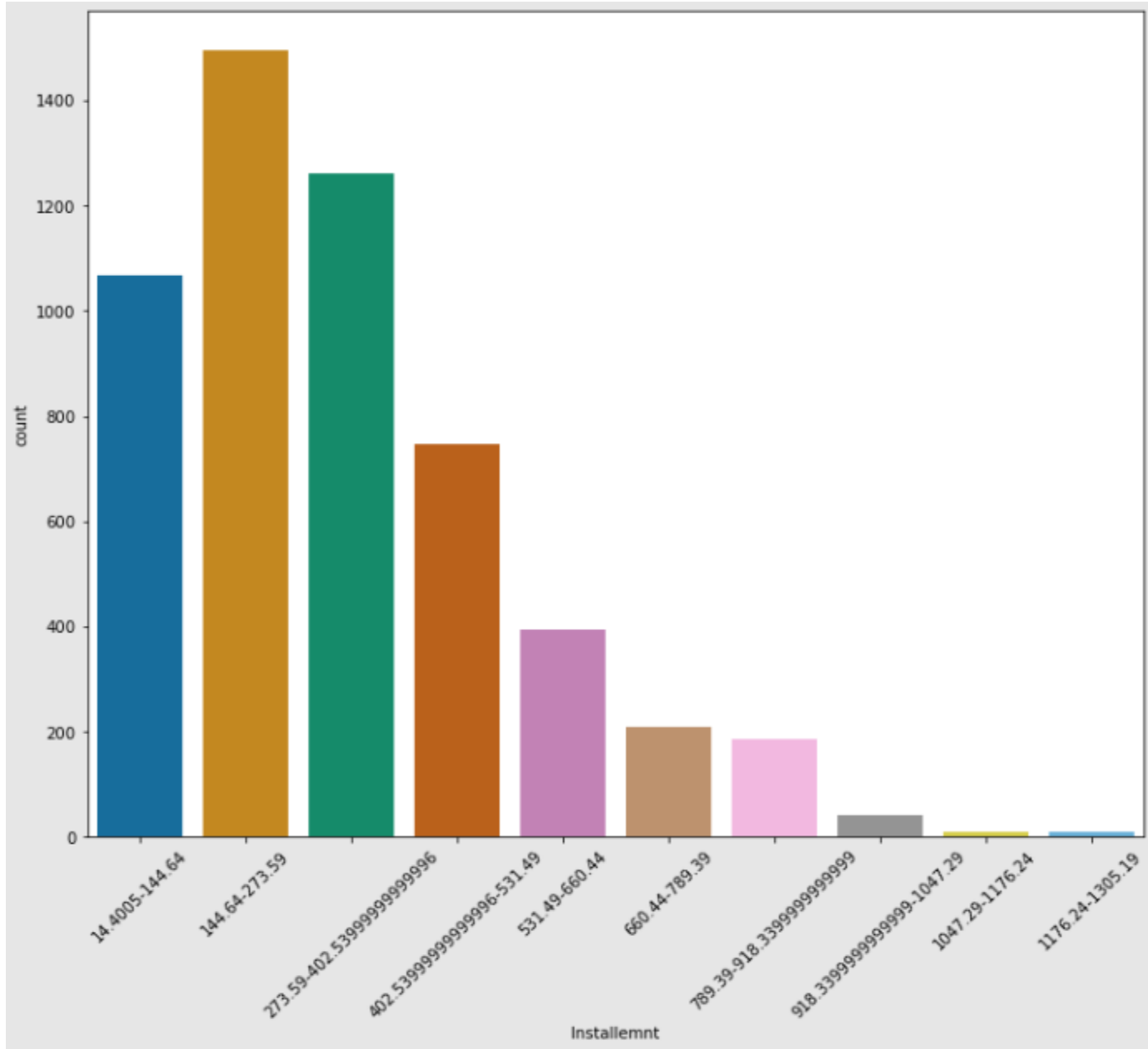
7. Applicants loan amount is in the range of 5500-10000



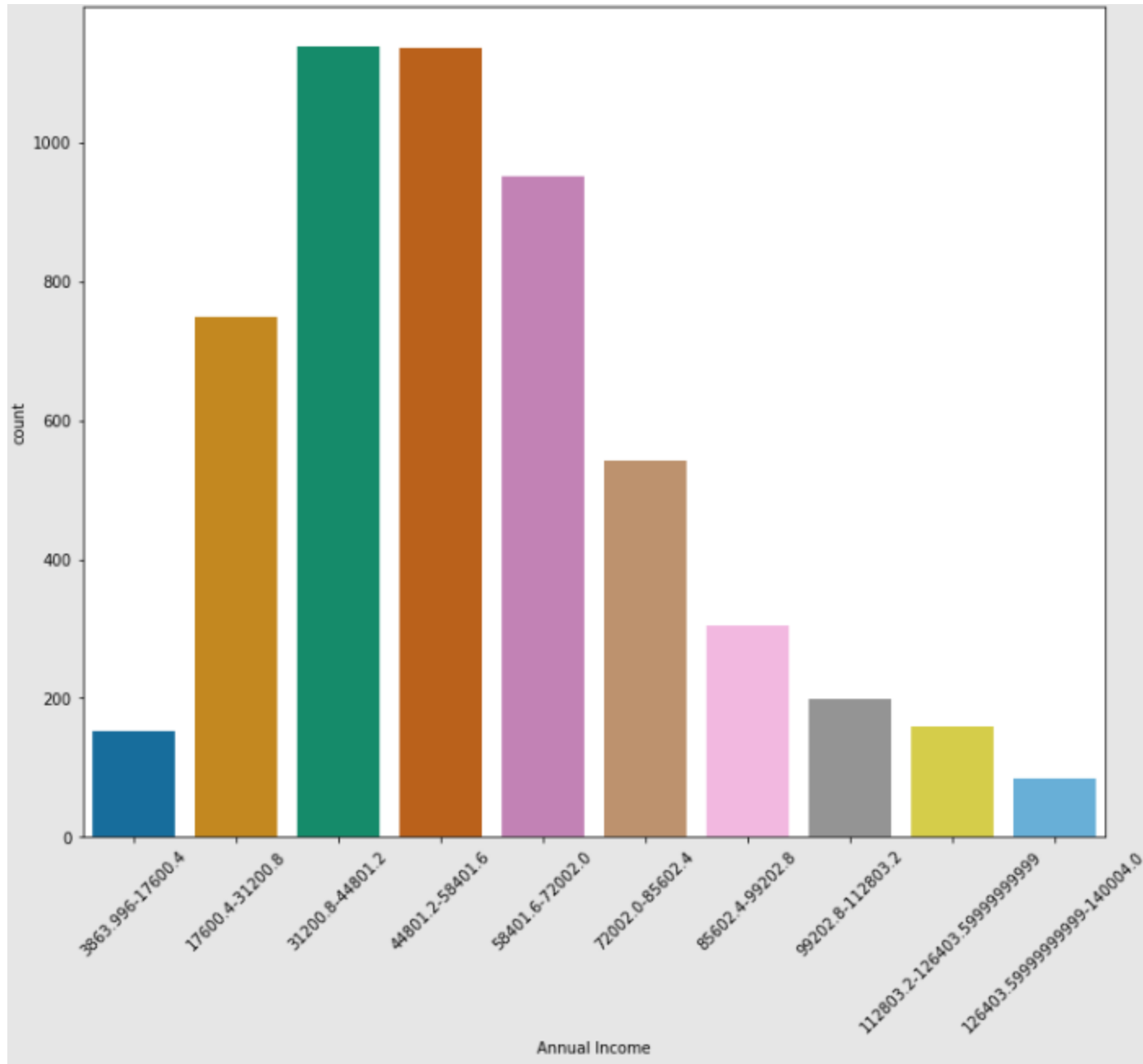
8. Applicants funded amount by investor is in the range of 5500-10000



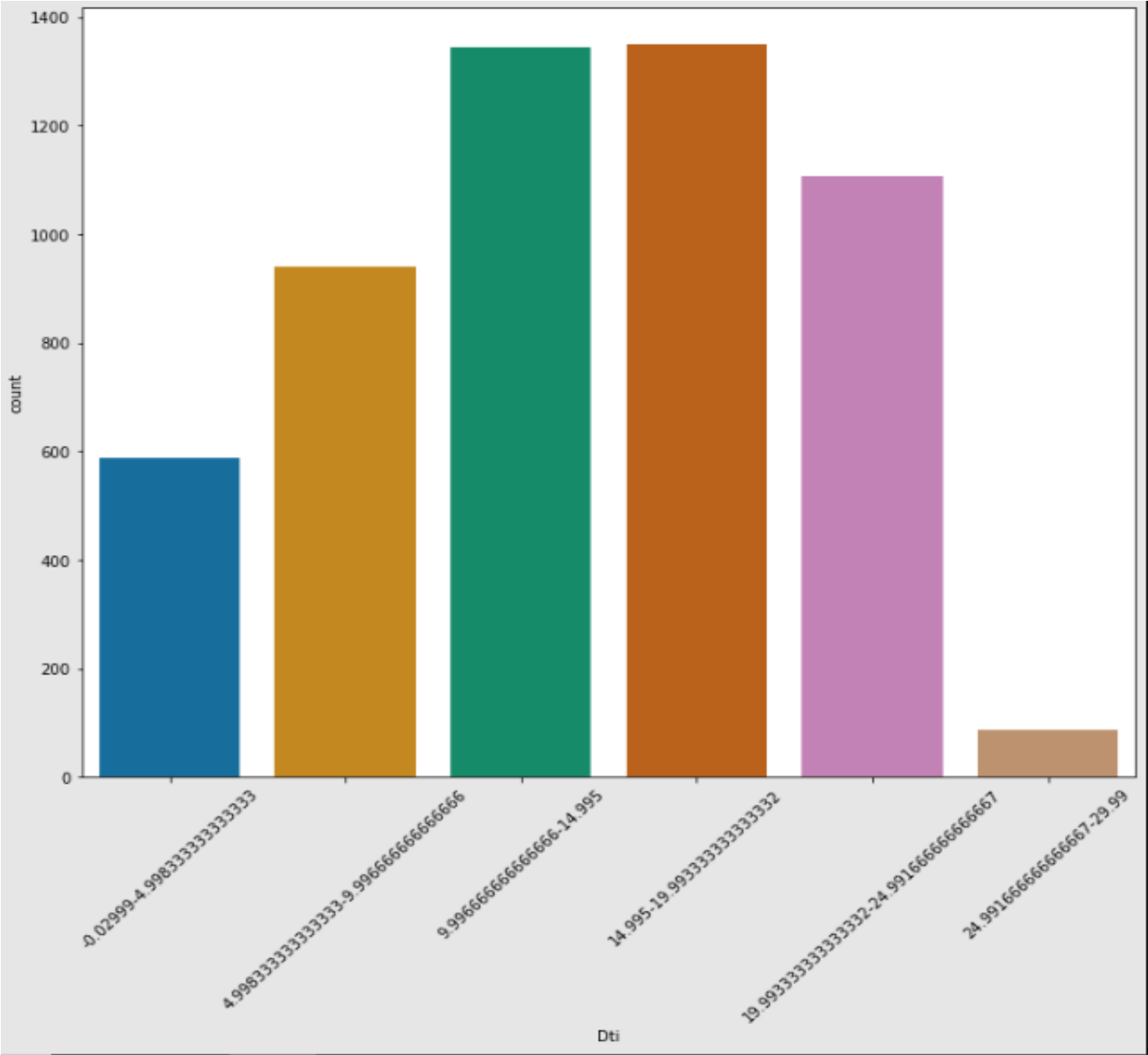
9. Applicants having installments between 144-273



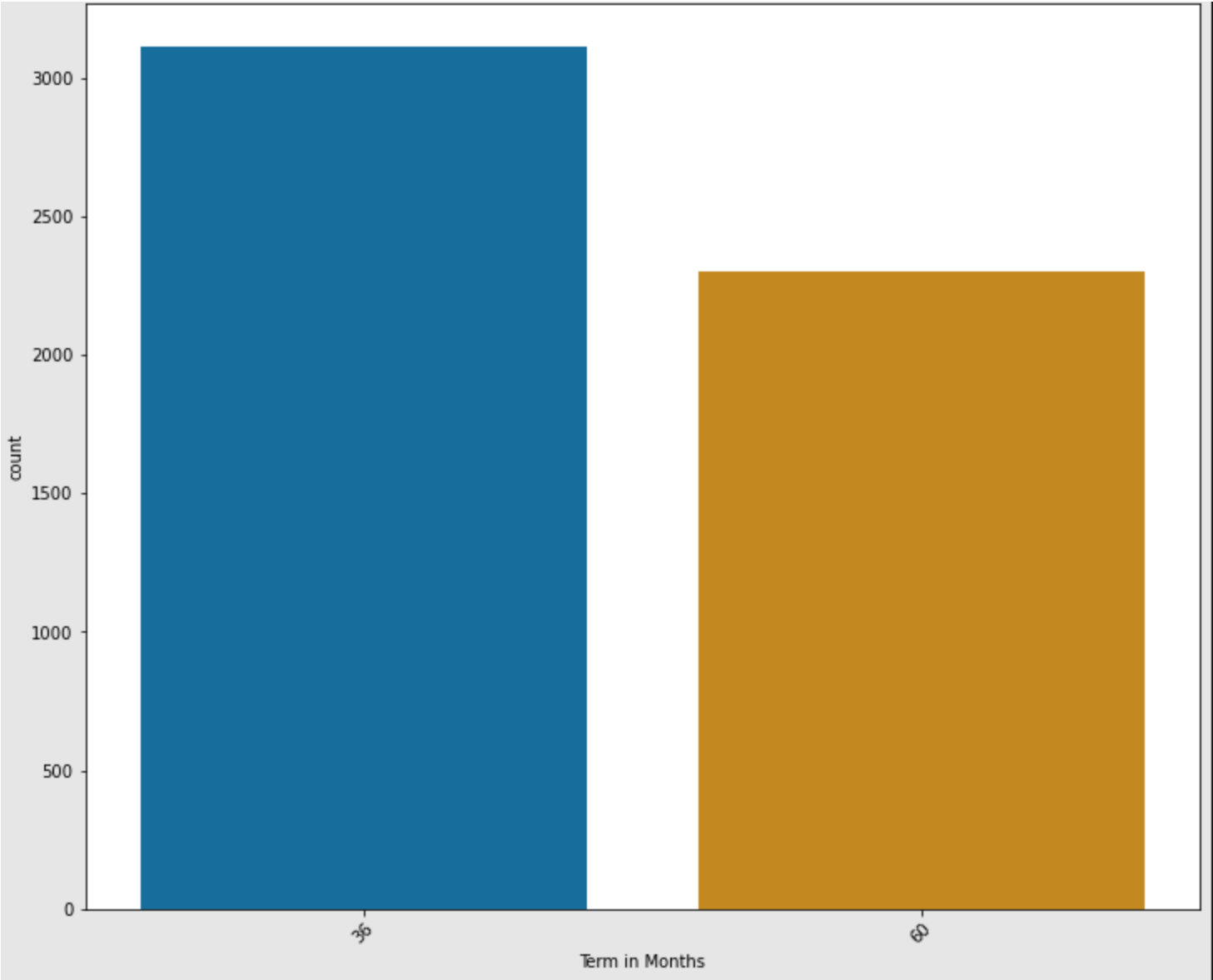
10. Applicants with an annual income of range 31200 – 58402



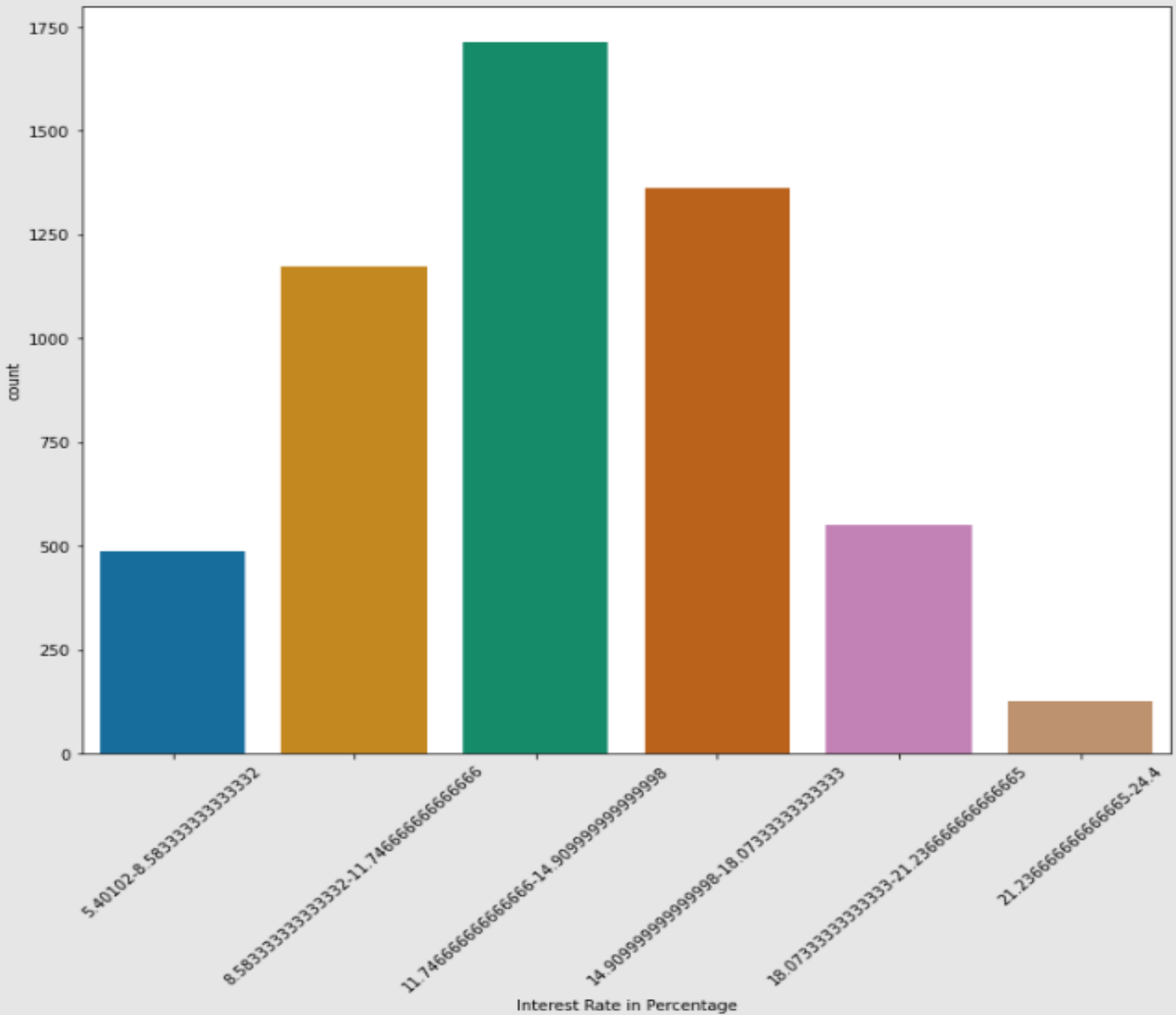
11. Applicants with Dti is between 10-20



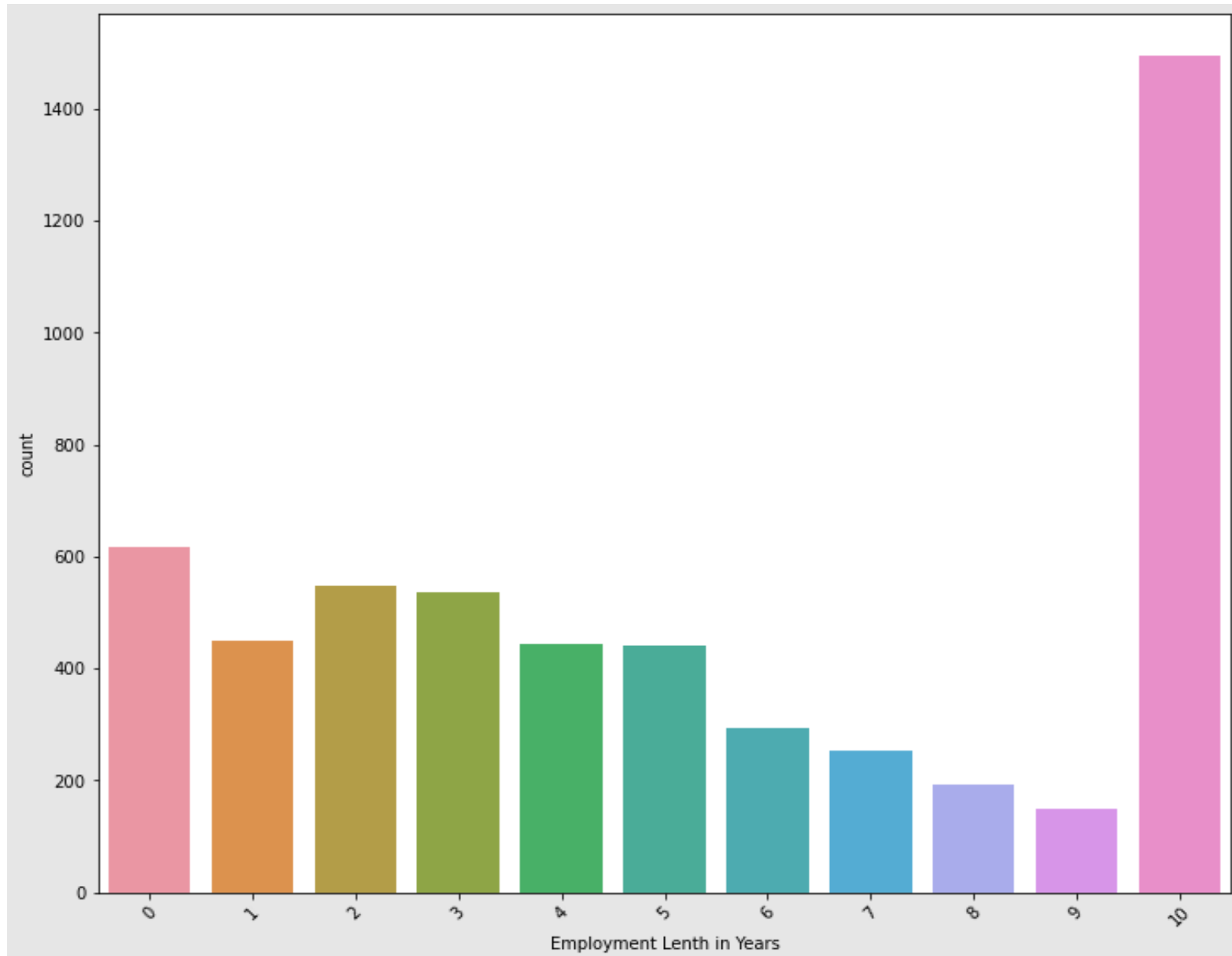
12. Applicants with Loan Tenure of of 36 months



13. Applicants with interest of 11.7-15%



14. Applicants with employment length of 10 or more years

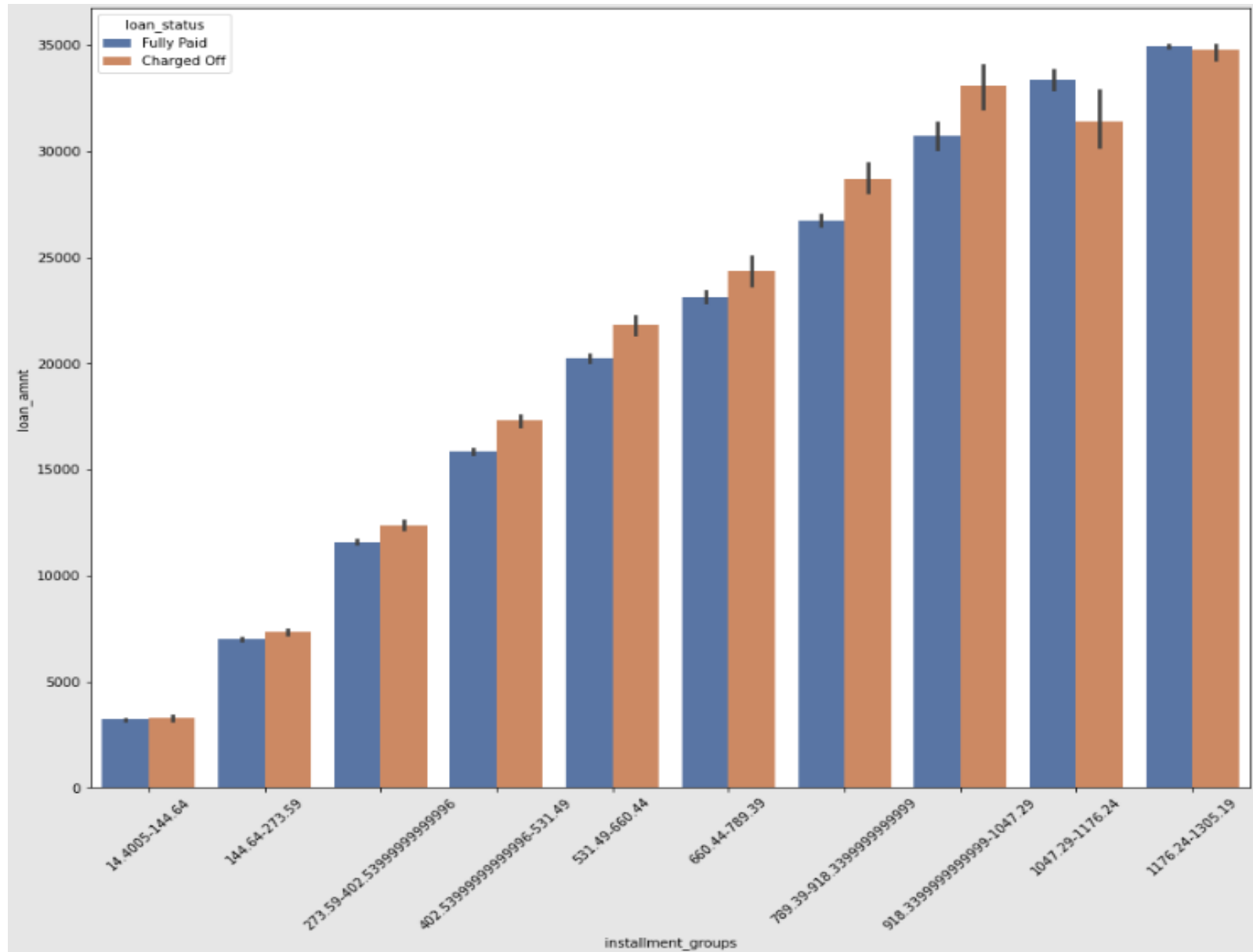


Loan Amount Vs other Variables(i.e., Bi-Variate Analysis)

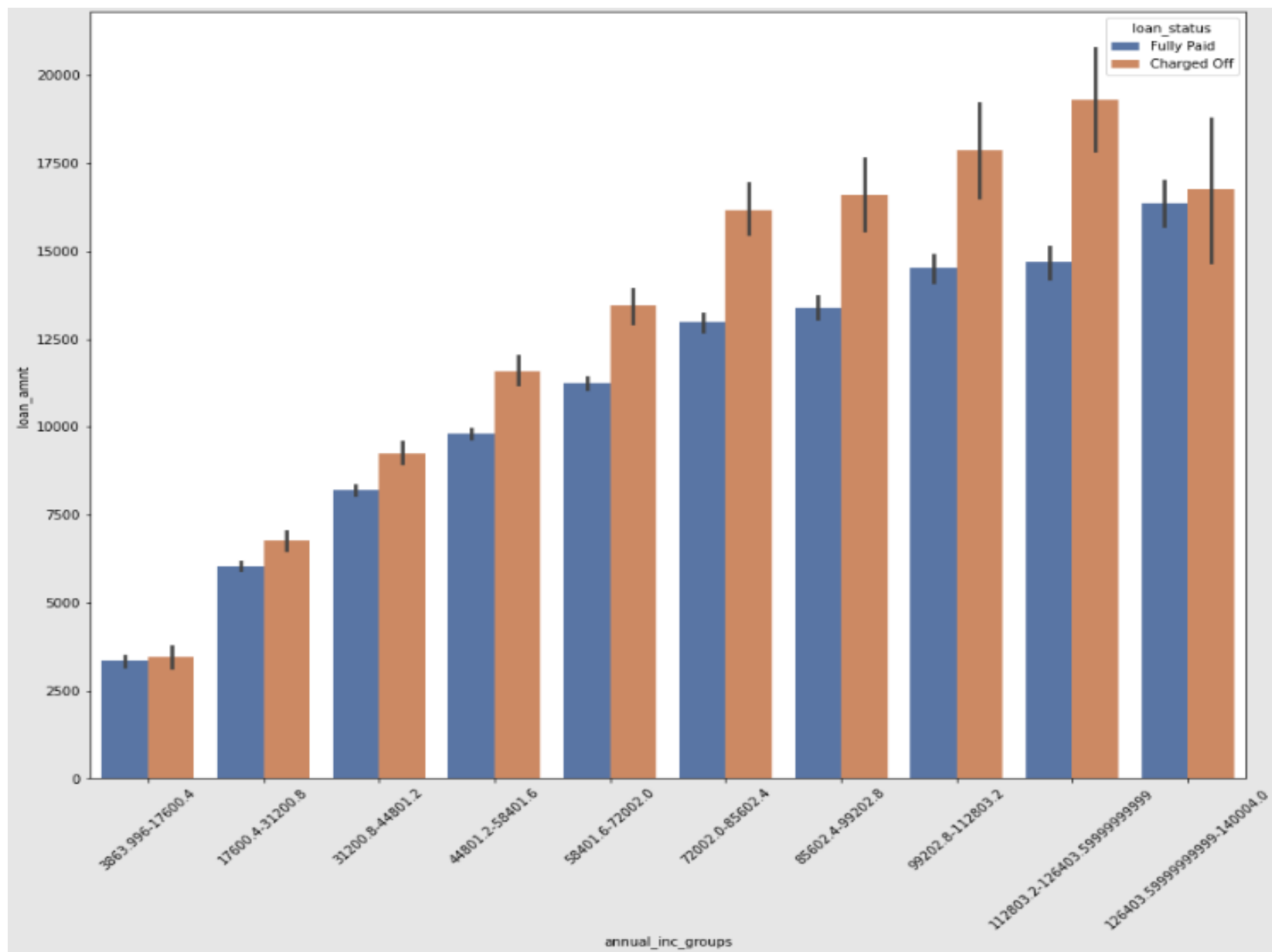
When bi-variate analysis is done below driving factors are derived.

The analysis is with respect to the charged off loans. There is a more probability of defaulting when :

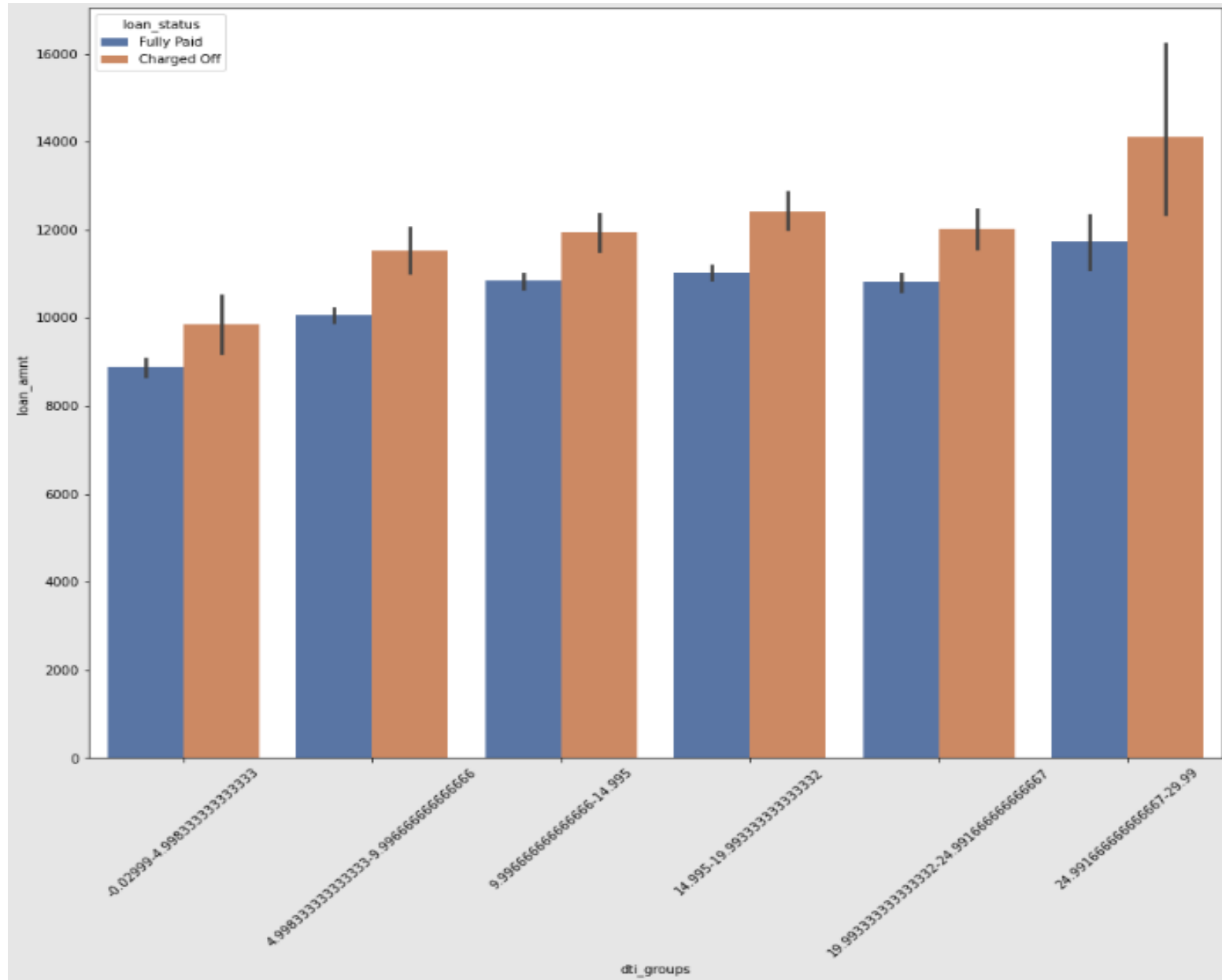
1. Applicants who have taken loan amount in the range of 30k-35k with installment range of 1176-1305



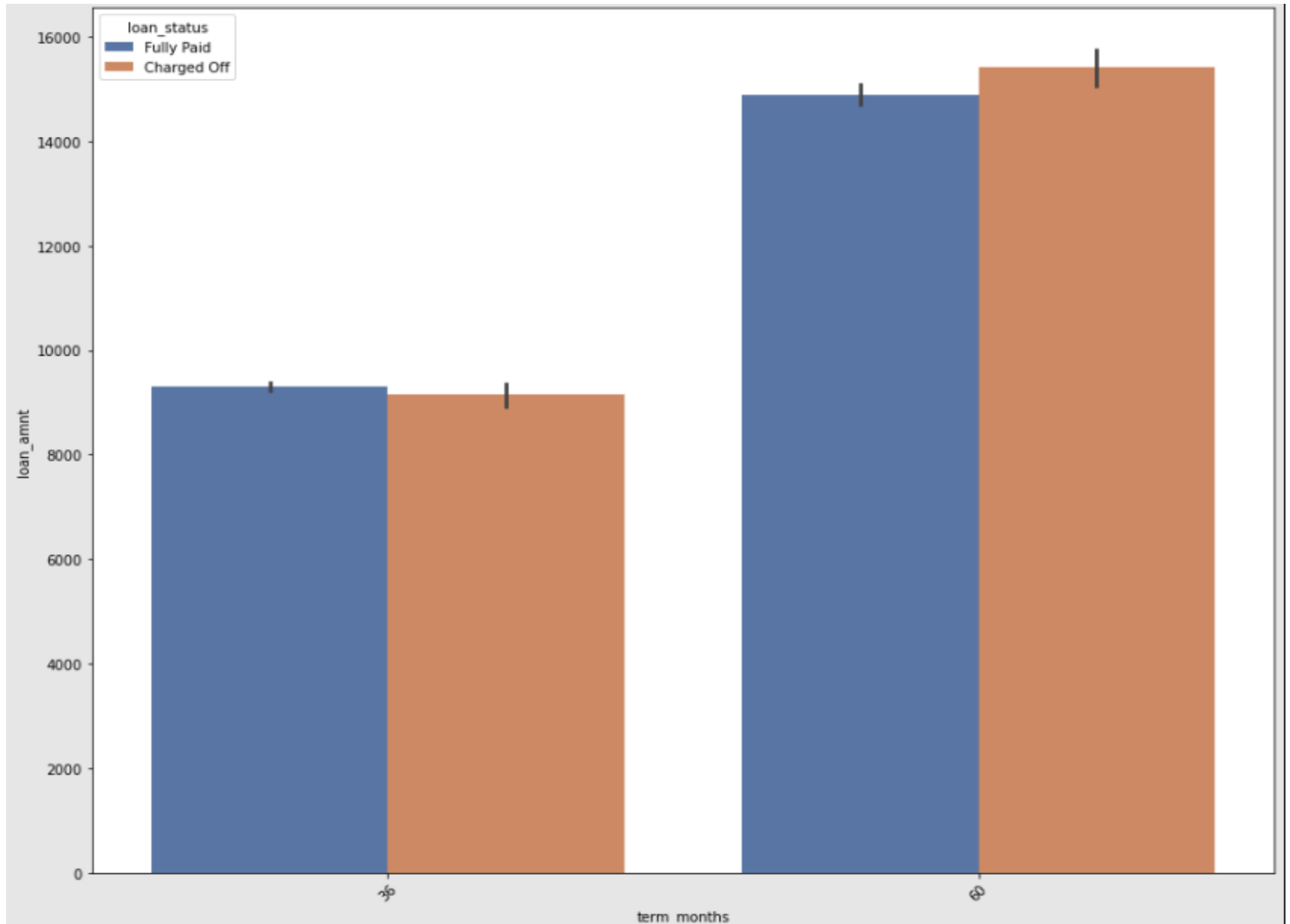
2. Applicants who have taken loan amount in the range 15k-20k with annual income range of 112k-126k



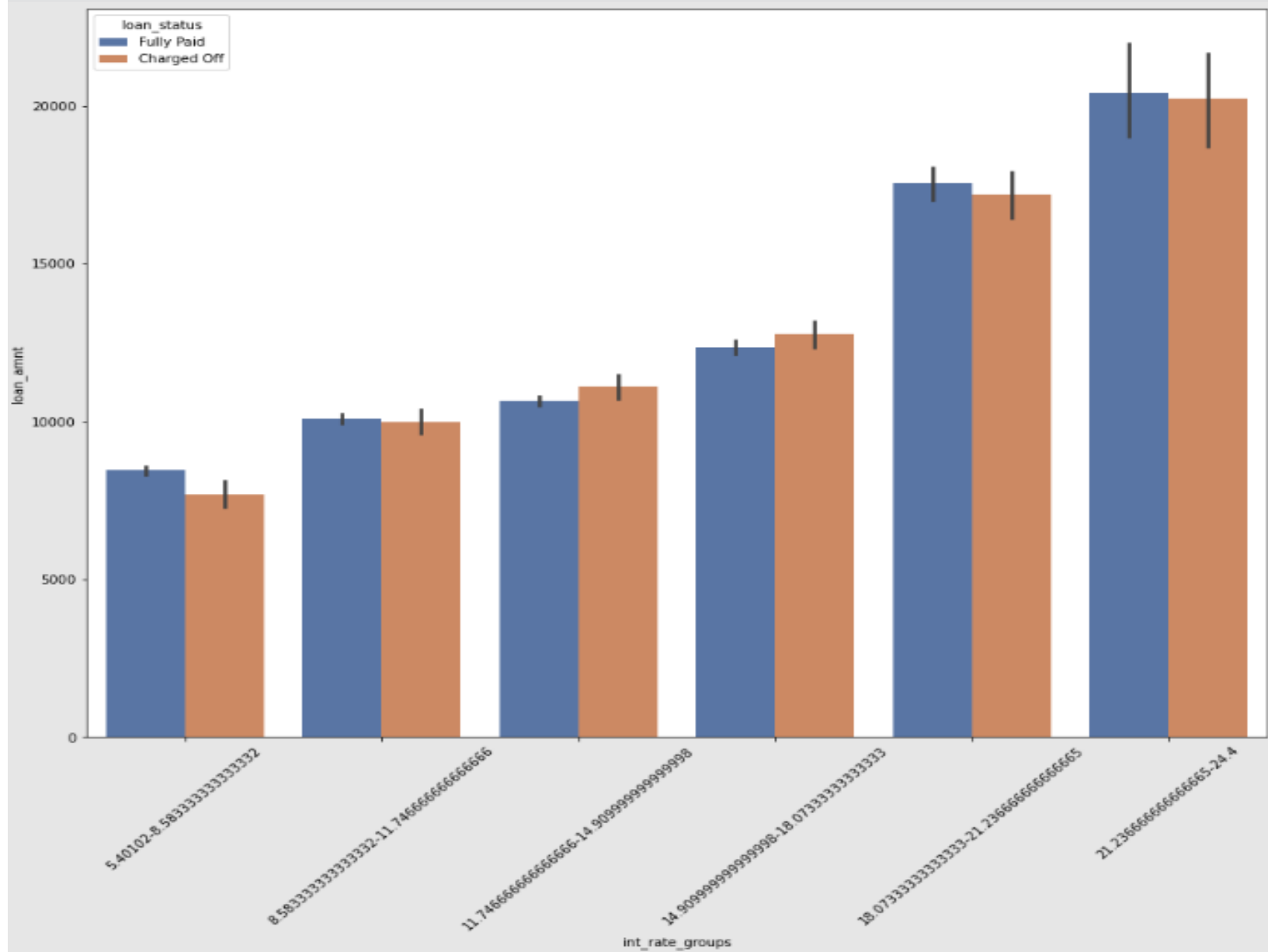
3. Applicants who have taken loan amount in the range 12k-14k with dti range of 25-30



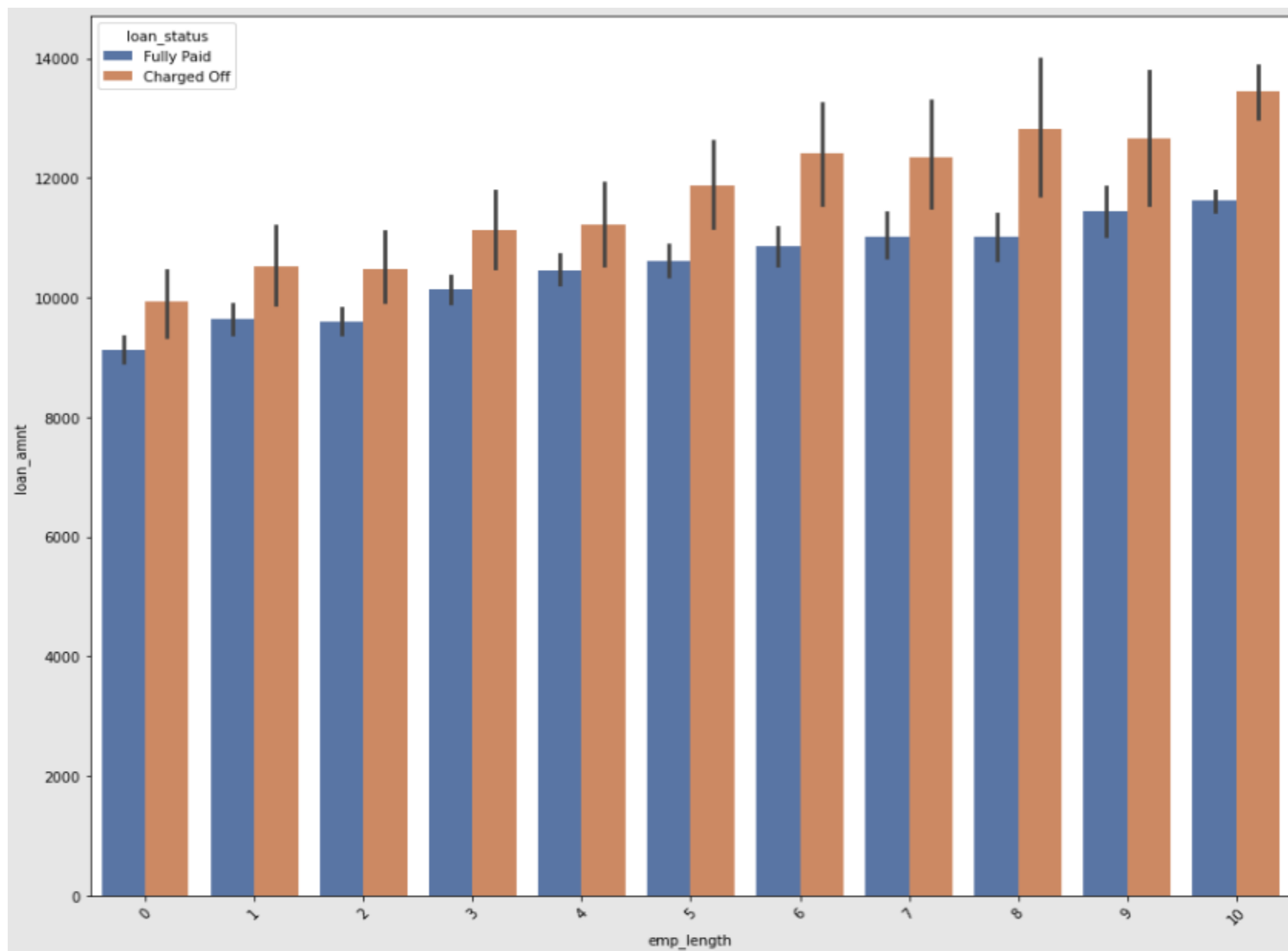
4. Applicants who have taken loan amount in the range 14k-16k with loan term as 36 months



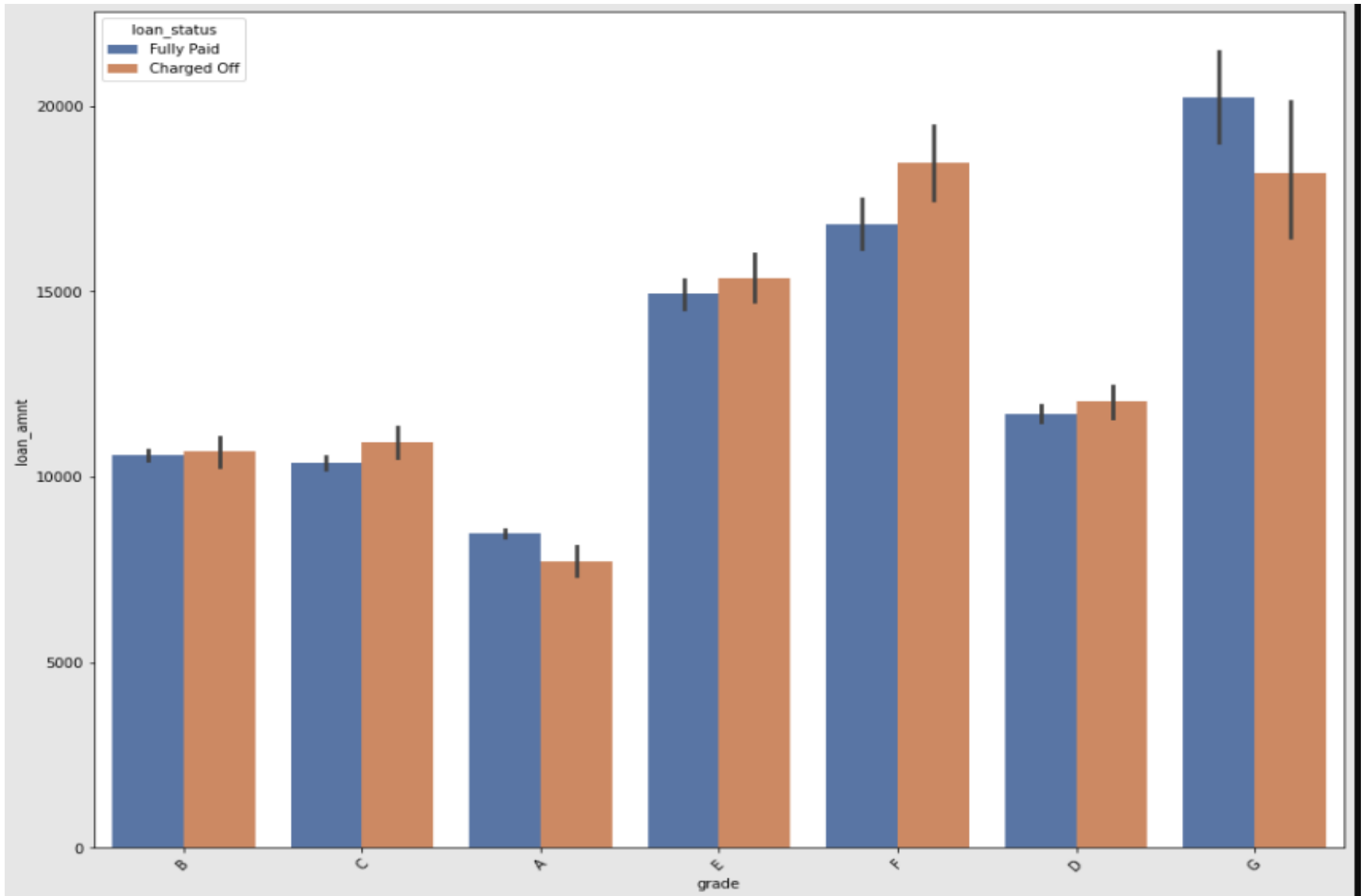
5. Applicants who have taken loan amount in the range 17k-23k with interest rate between 21-25%



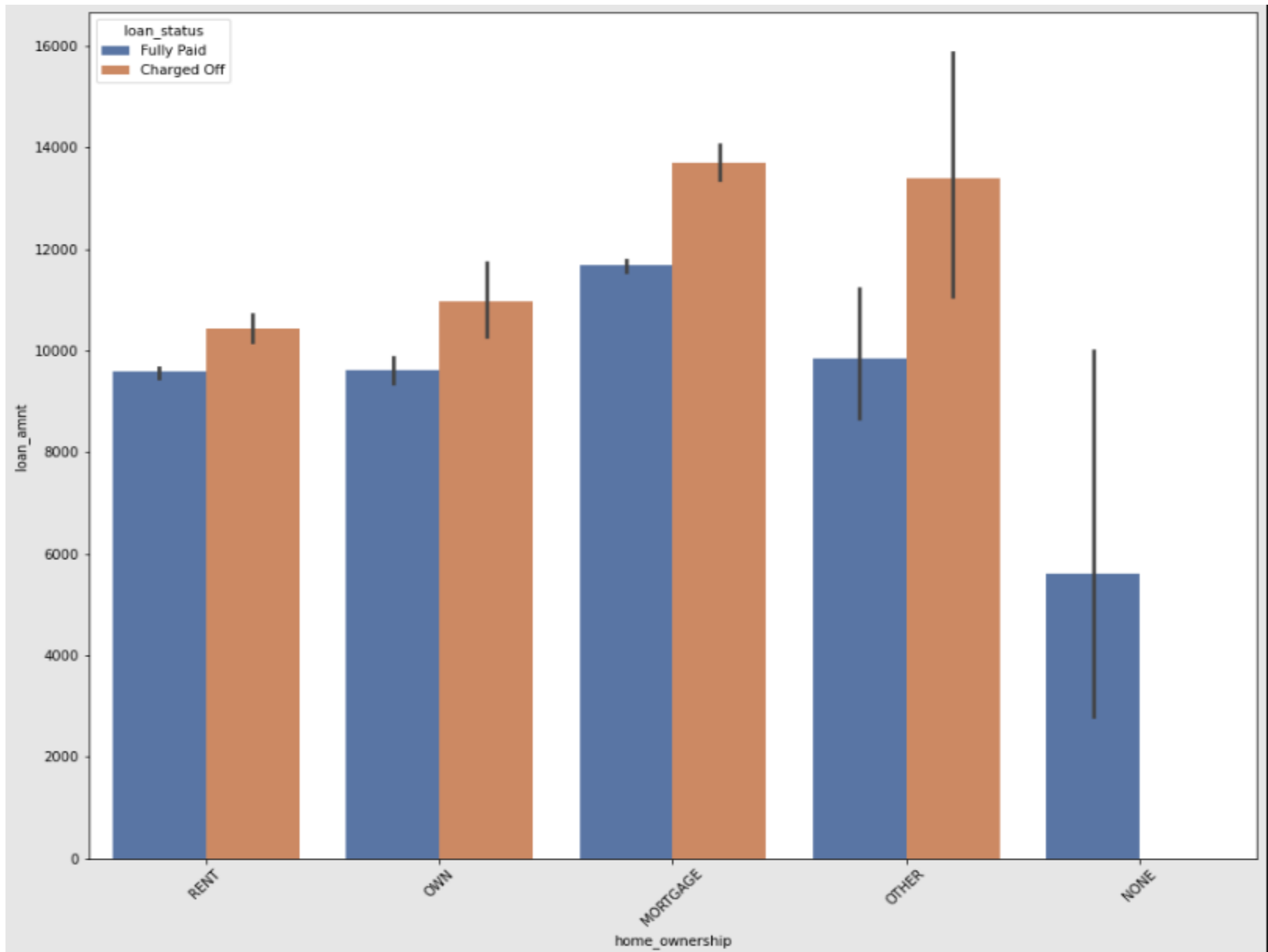
6. Applicants who have taken loan amount in the range 12k-14k with employment length as 10 years or more



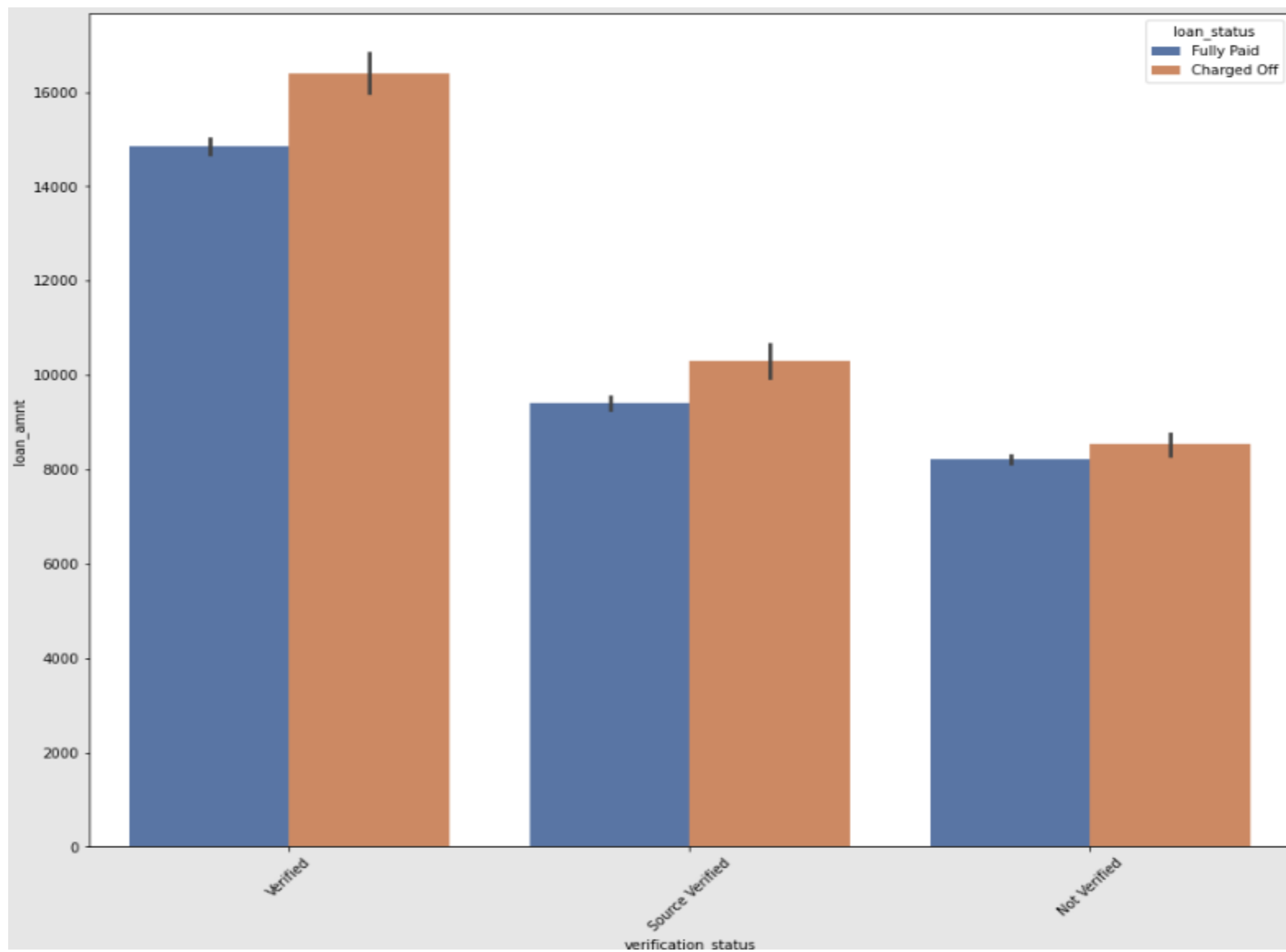
7. Applicants who have taken loan amount in the range 17k-20k with grade as F



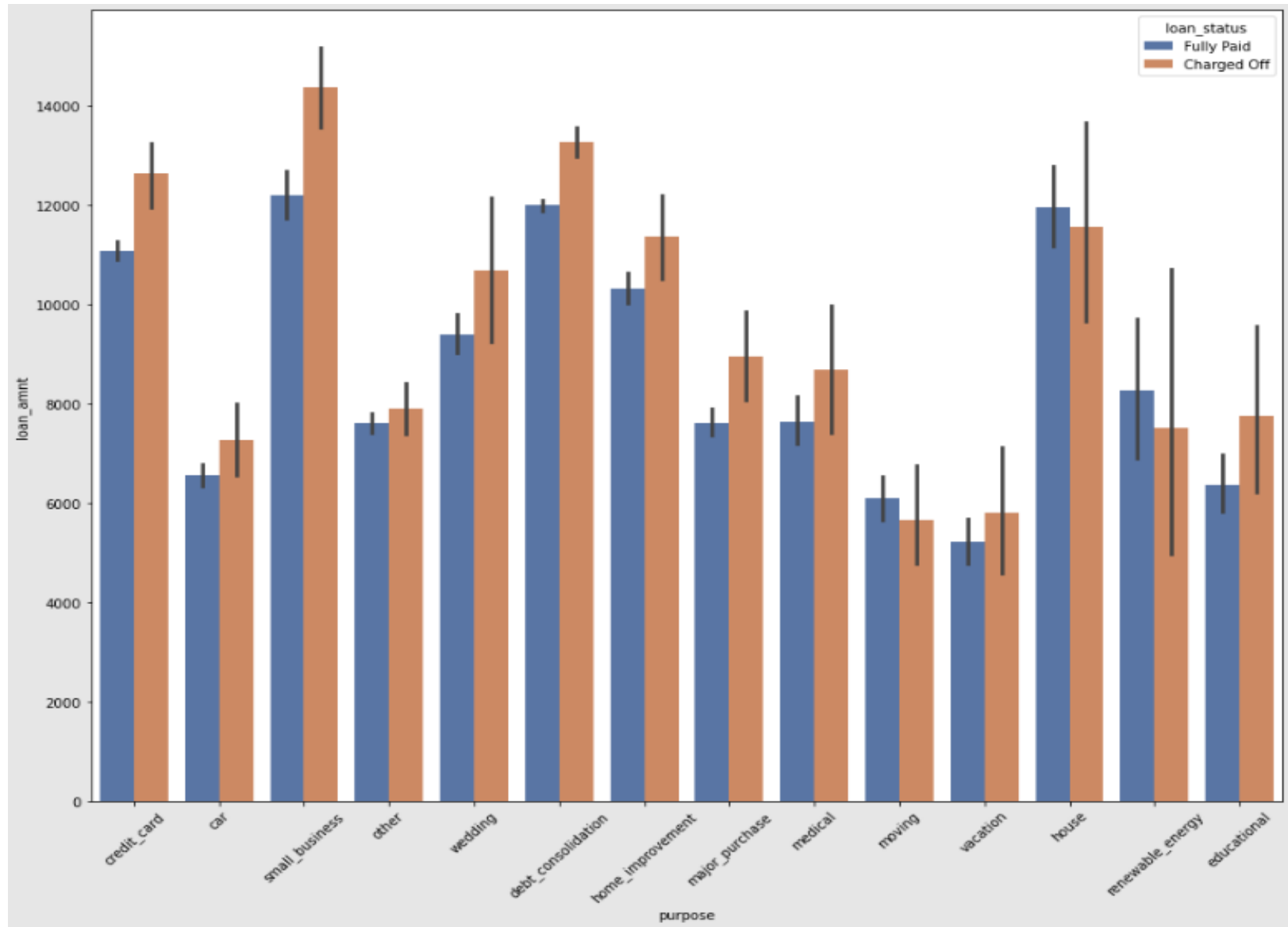
8. Applicants who have taken loan amount in the range 12k-14k with home ownership as mortgage



9. Applicants who have taken loan amount in the range 15k-17k with verification status as verified



10. Applicants who have taken loan amount in the range 12k-17k with purpose as small business



11. Applicants who have taken loan amount in the range 12k-14k with issue month of November and December

