

Lending Club Case Study

Analysis of defaulted loans

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LendingClub

A leading online personal loan provider in the US

- It is a full-spectrum fintech marketplace bank
- Their members can gain access to a broad range of financial products and services through a technology-driven platform

Problem Statement

Lending Club Case Study

There are two types of risks associated with the bank's decision to approve a loan application:

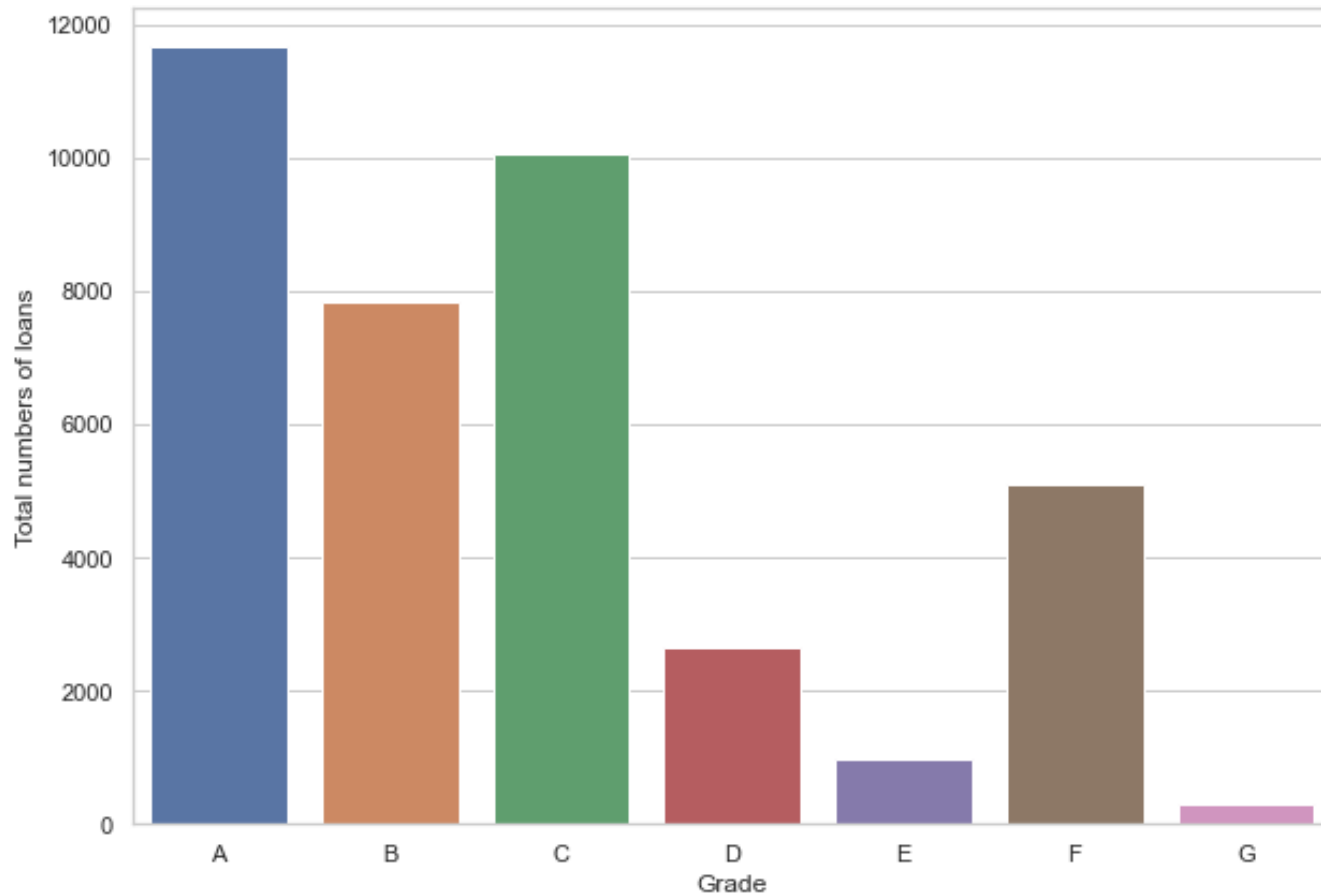
- ✓ If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company
- ✓ If the applicant is not likely to repay the loan then approving the loan may lead to a financial loss for the company

The data given contains the information about past loan applicants and whether they 'defaulted' or not. The aim is to identify patterns which indicate if a person is likely to default, which may be used for taking actions such as denying the loan, reducing the amount of loan, lending (to risky applicants) at a higher interest rate, etc.

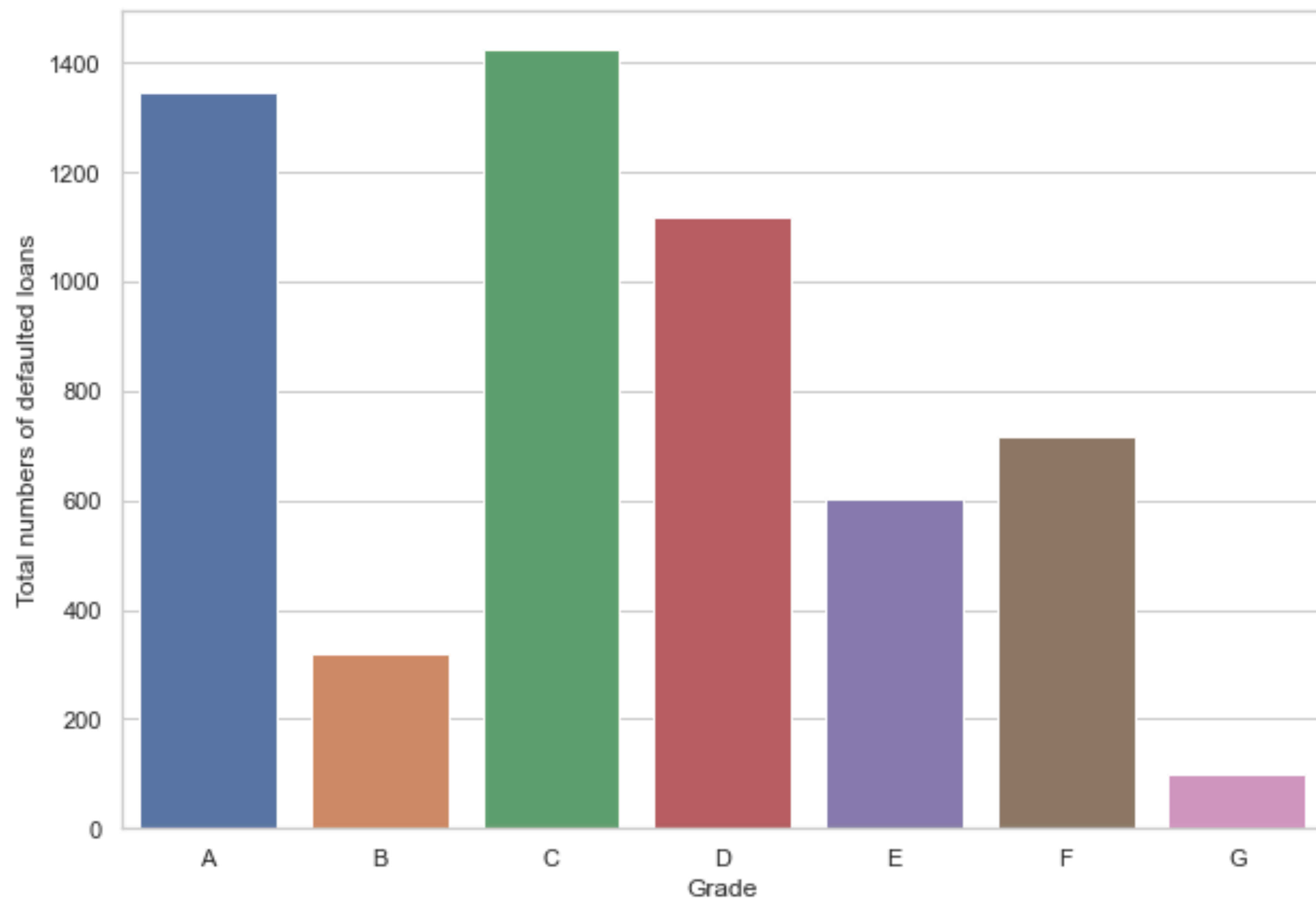
Analysis Findings

- The various customer grades added by LC are A, B, C, D, E, F, G
- Maximum number of loans were issued for grade A customers
- The least number of loans were issued for grade G customers
- Maximum number of loan defaulters are of grade C customers
- The least number of loan defaulters are of grade G customers
- The highest percentage of defaulters are of grade G customers
- Grade G customers were mostly issued loans with the highest range of interest rates.
- The median of defaulted loan amount for grade G defaulted customers is ~ 15,000

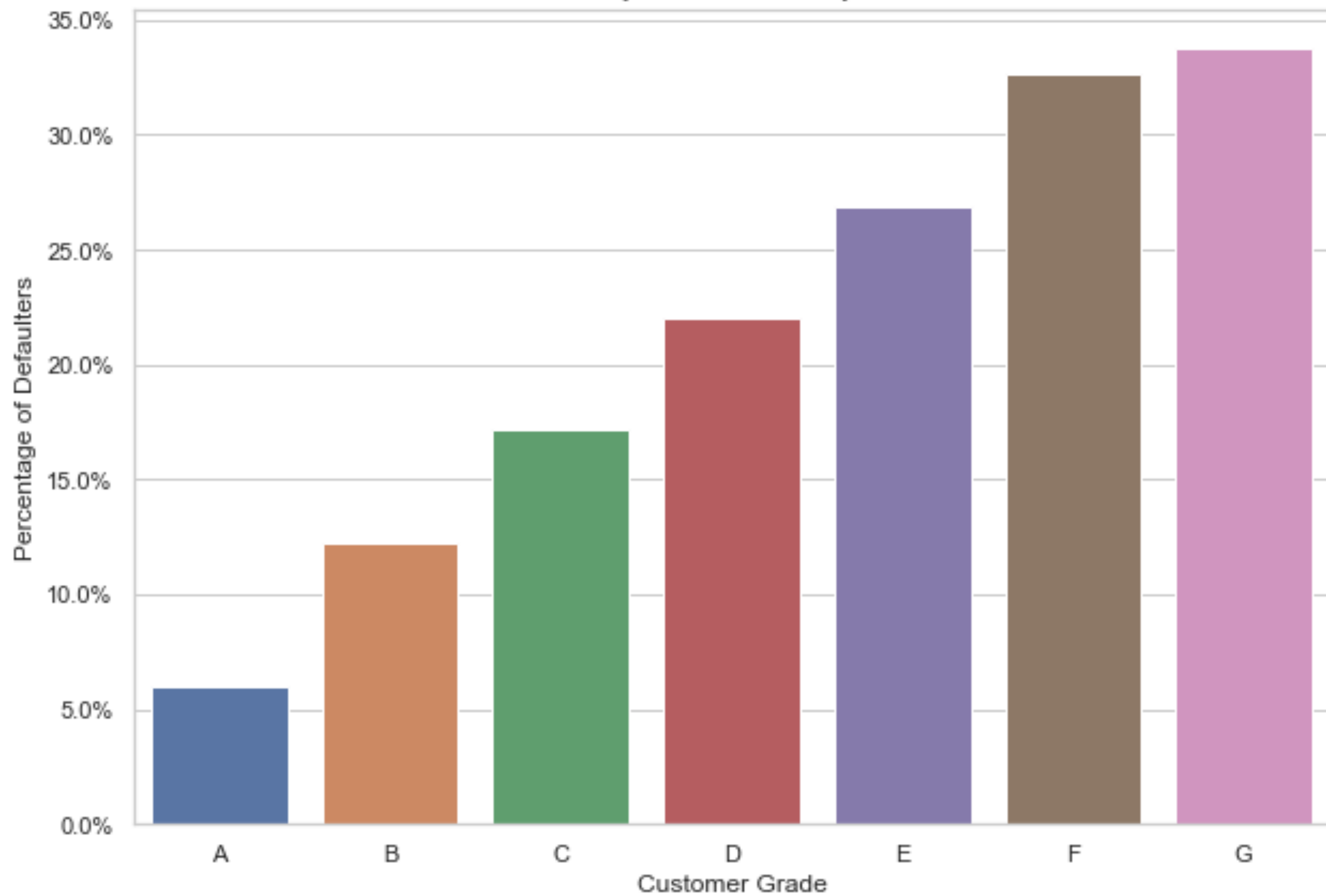
Grade-wise count of loans



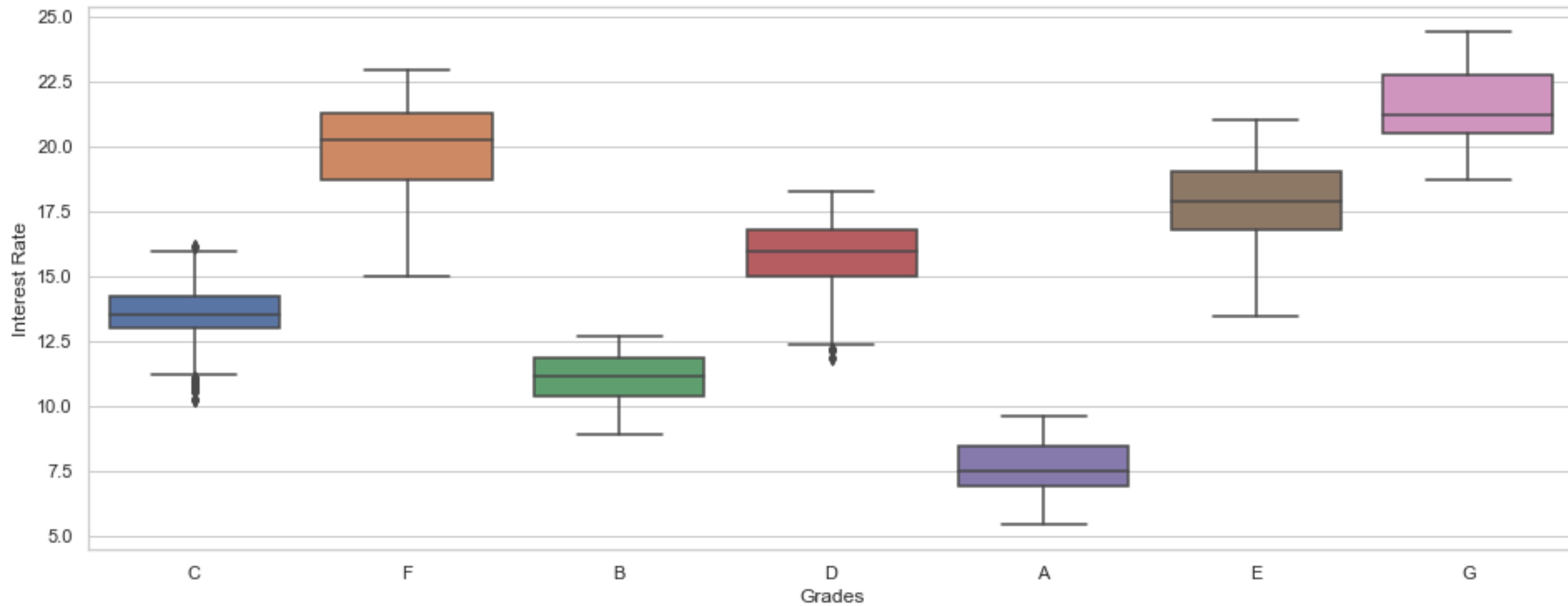
Grade-wise count of defaulted loans



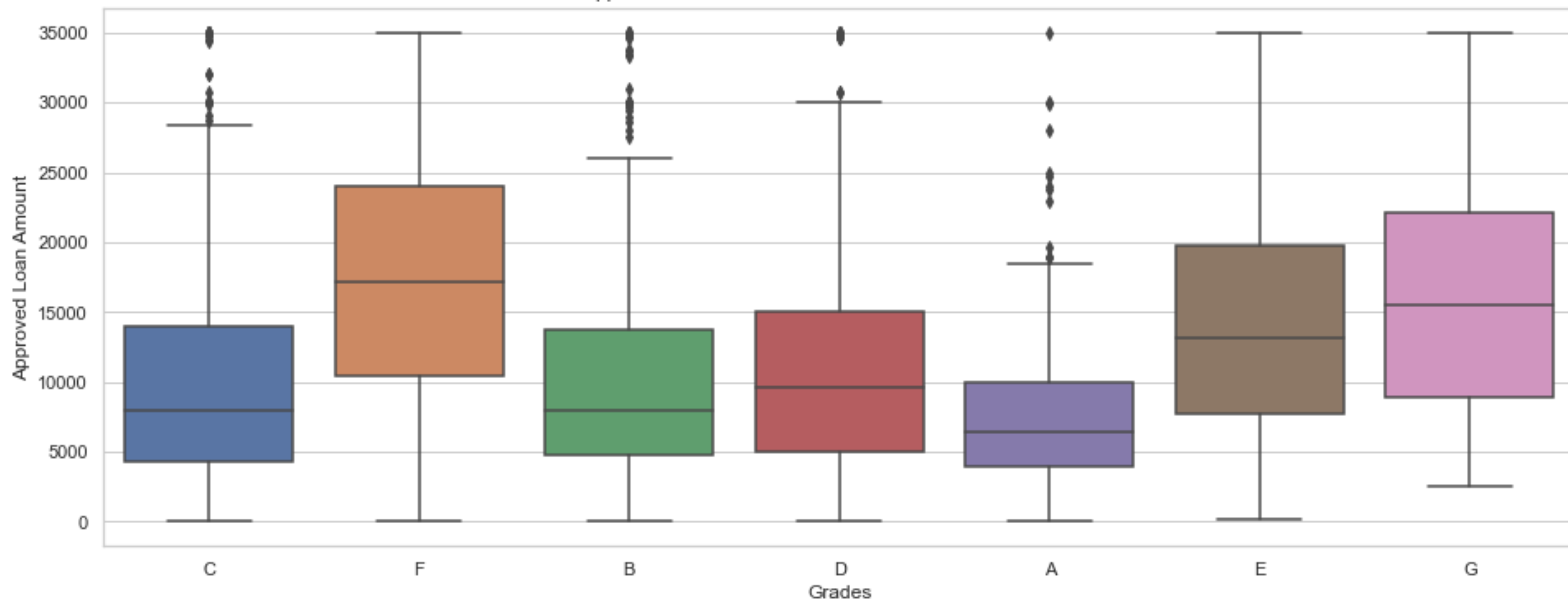
Risk Analysis of Defaulters by Grades



Interest Rate vs Customer Grades for defaulters



Approved Loan Amount vs Customer Grades for defaulters

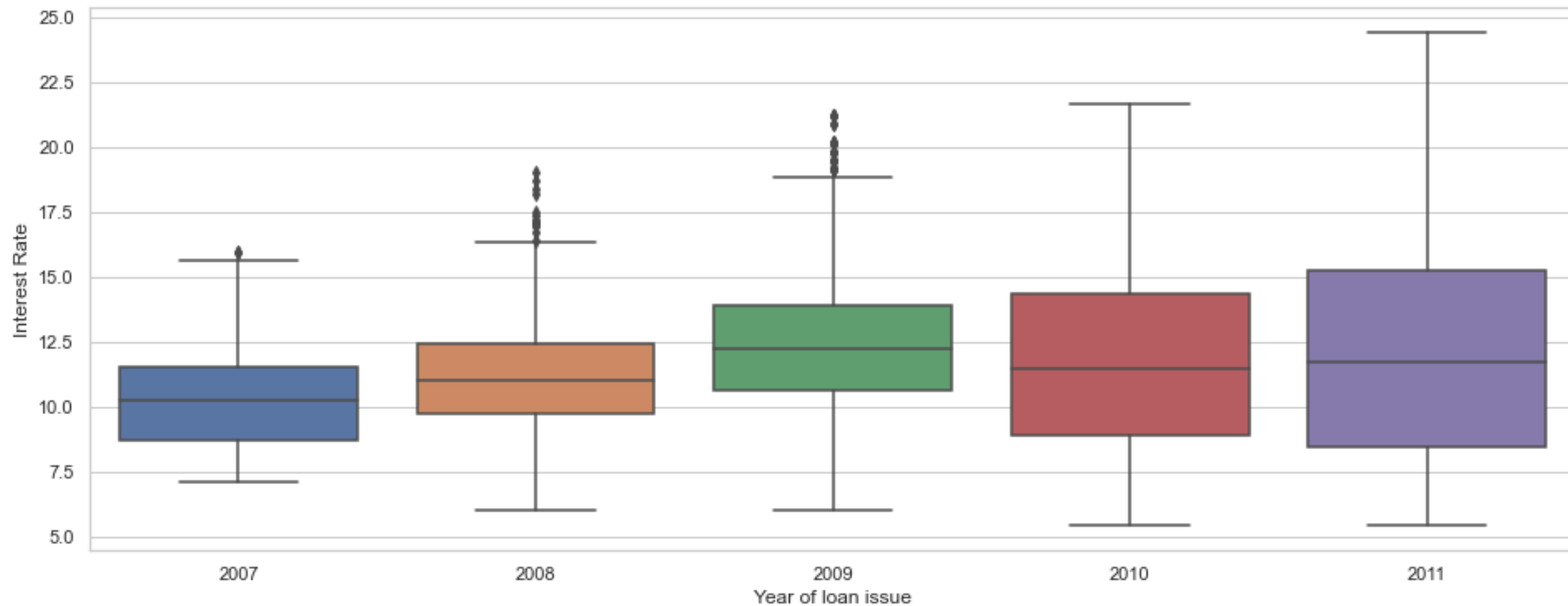


Analysis Findings...

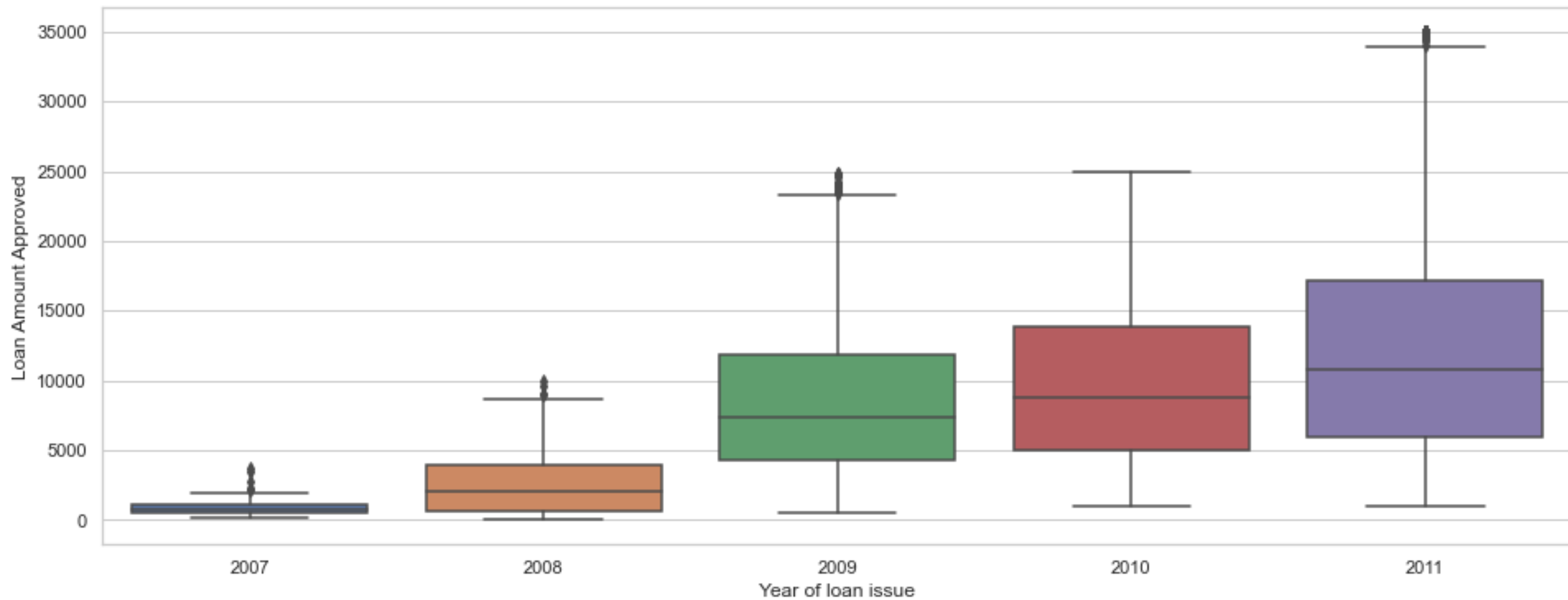
- When analyzed by year, found that year 2011 had most of the defaulters.
- When analyzed by month, found that December had most of the defaulters.
- For year 2011, the interest rates were mostly highest
- For December also, the interest rates were mostly highest
- Out of the purposes, Debt Consolidation has the maximum %ge of defaulters

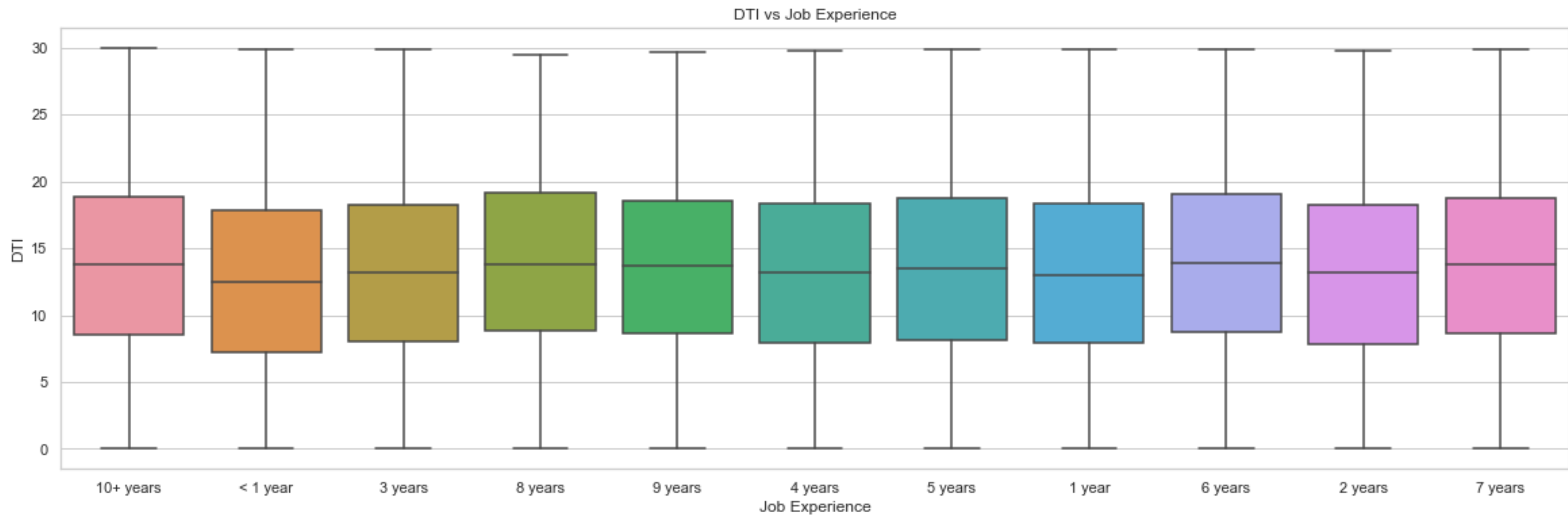
The conclusion is that higher interate rates are causing most of the defaulters.

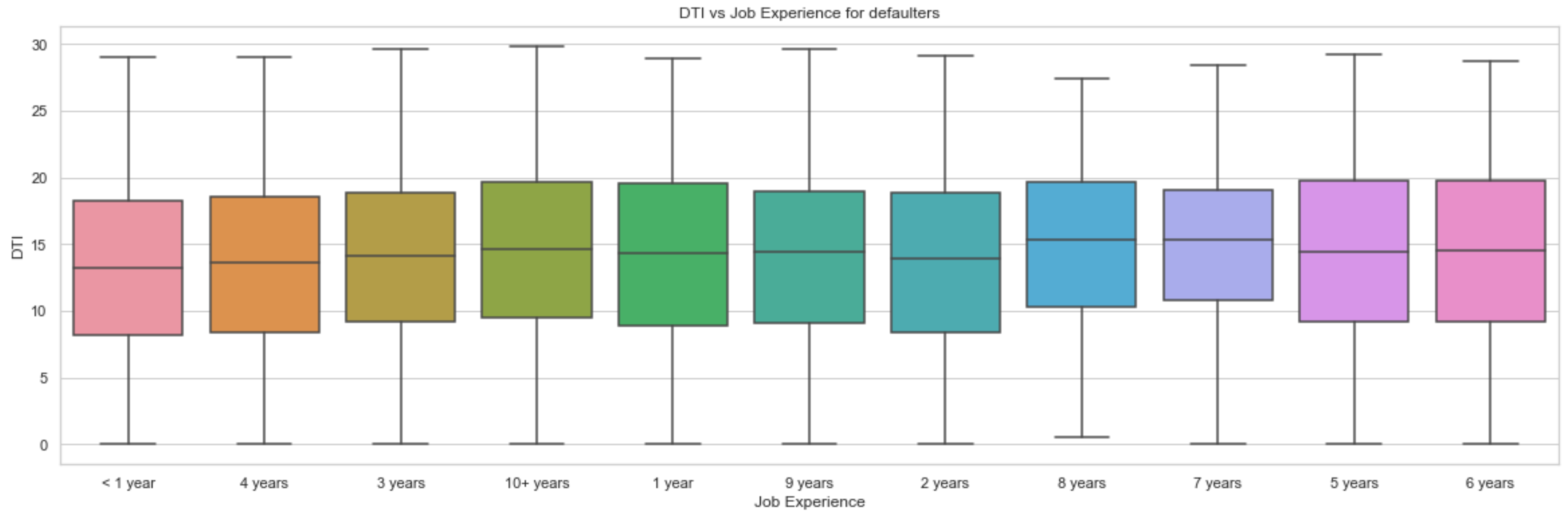
Year of loan issue vs Interest Rate for defaulters



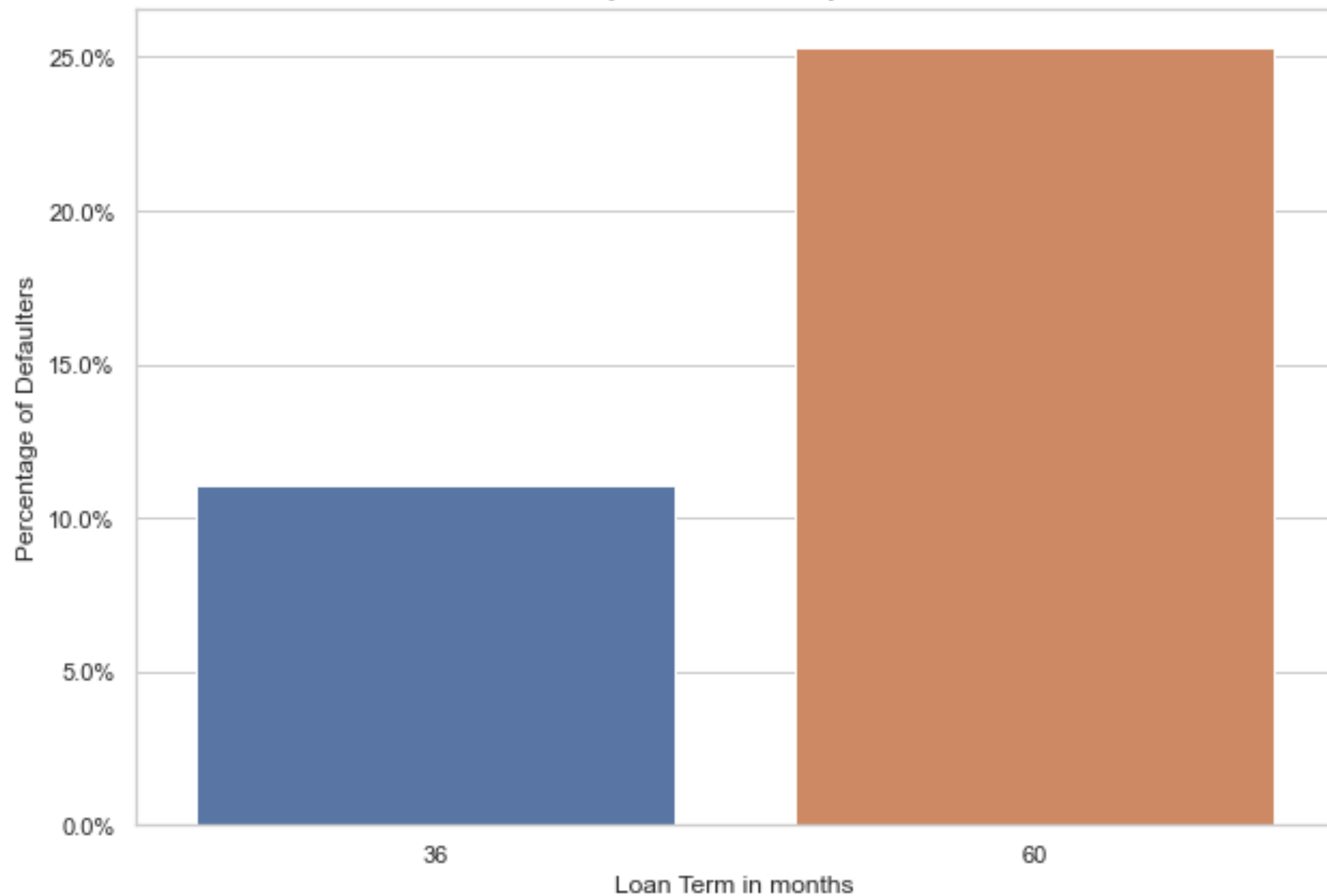
Year of loan issue vs Loan Amount for defaulters



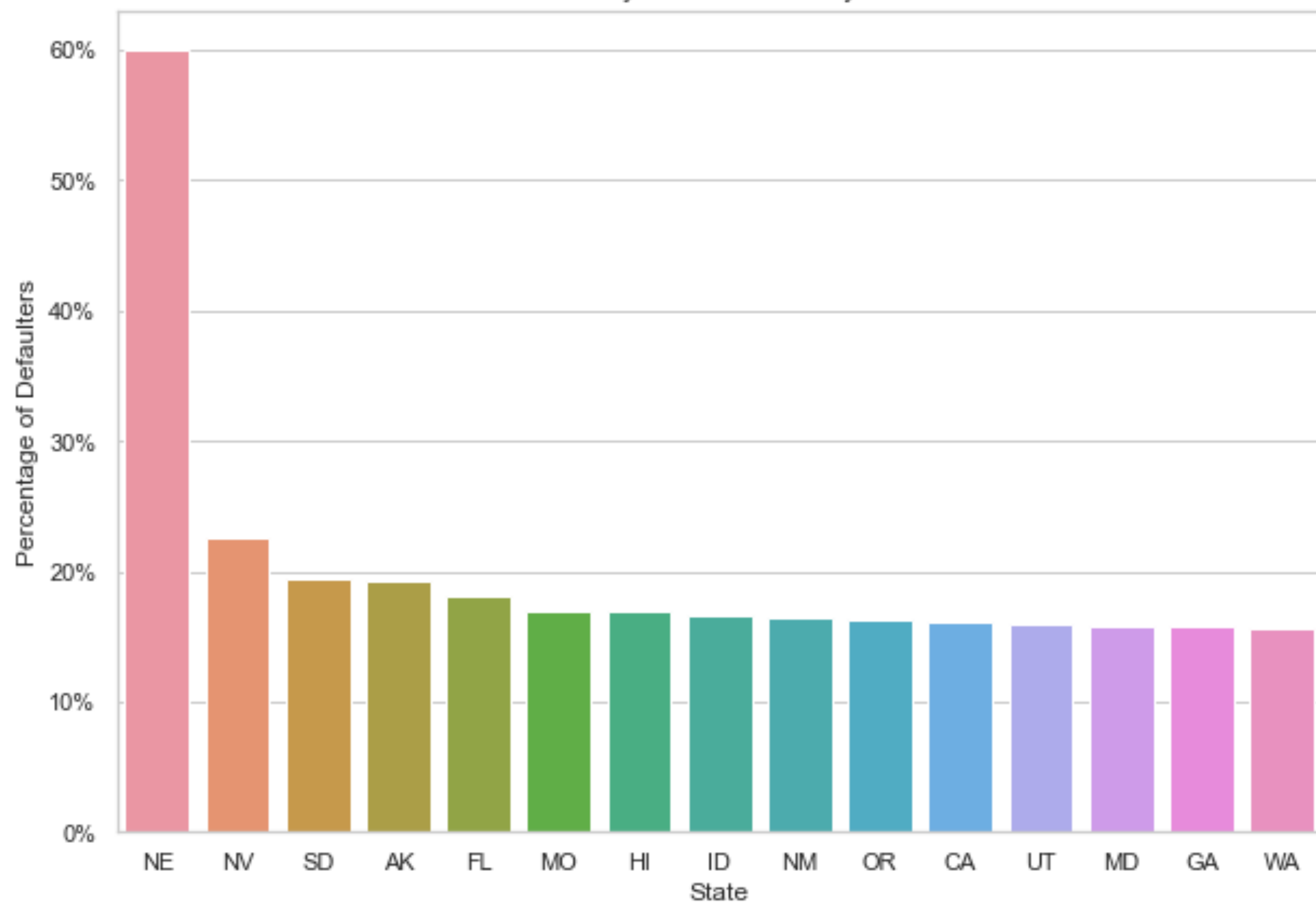




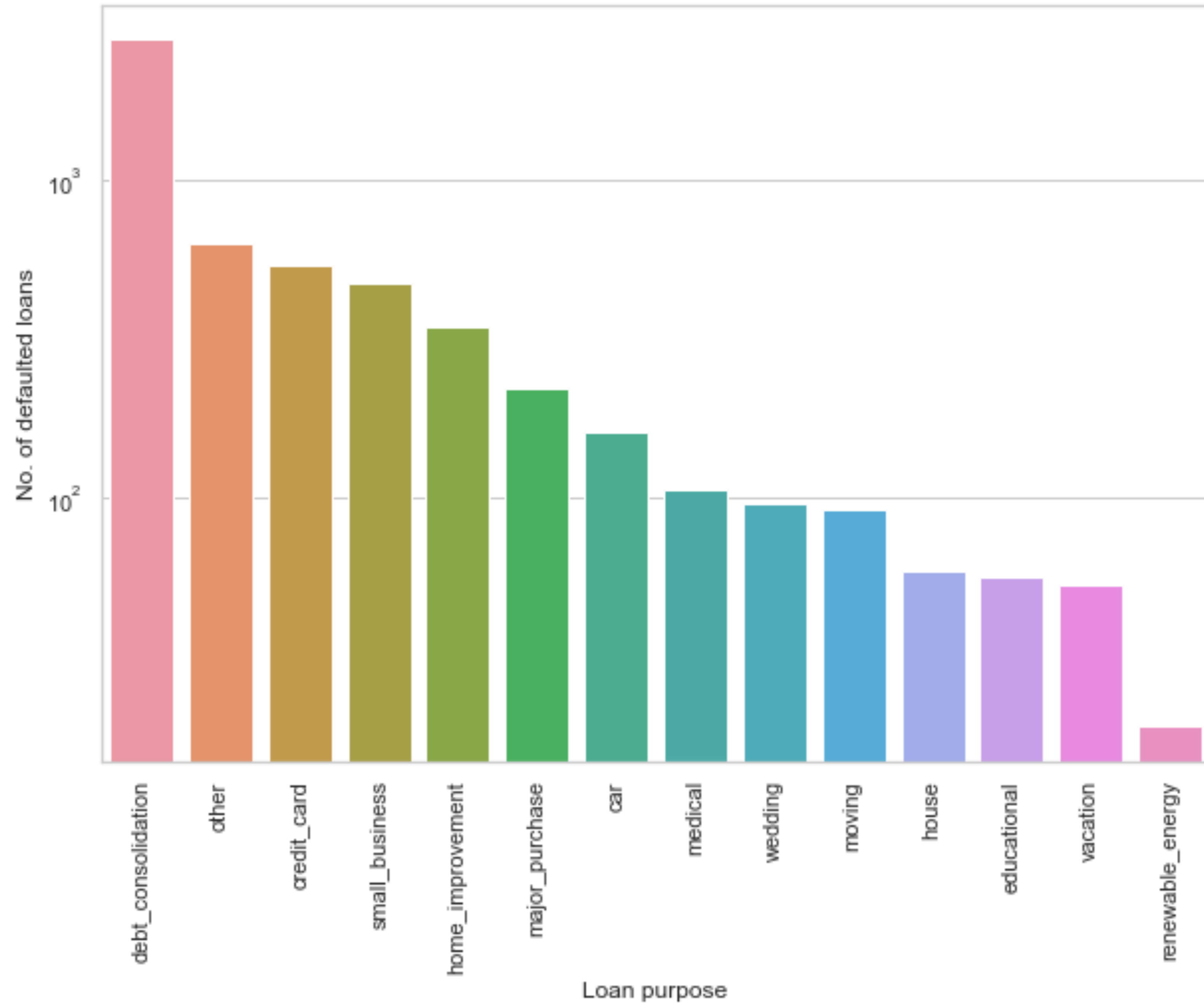
Risk Analysis of Defaulters by Loan Term



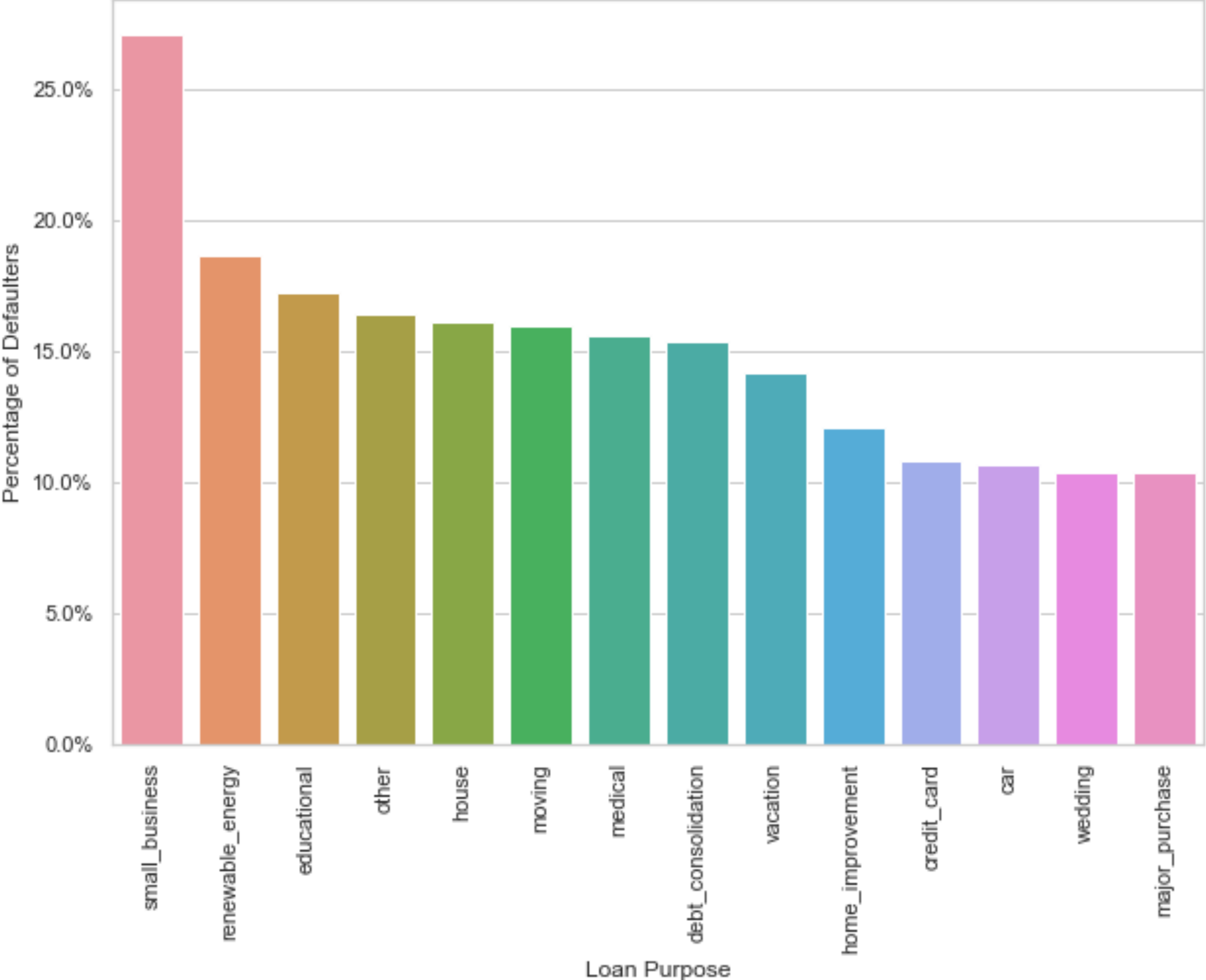
Risk Analysis of Defaulters by State



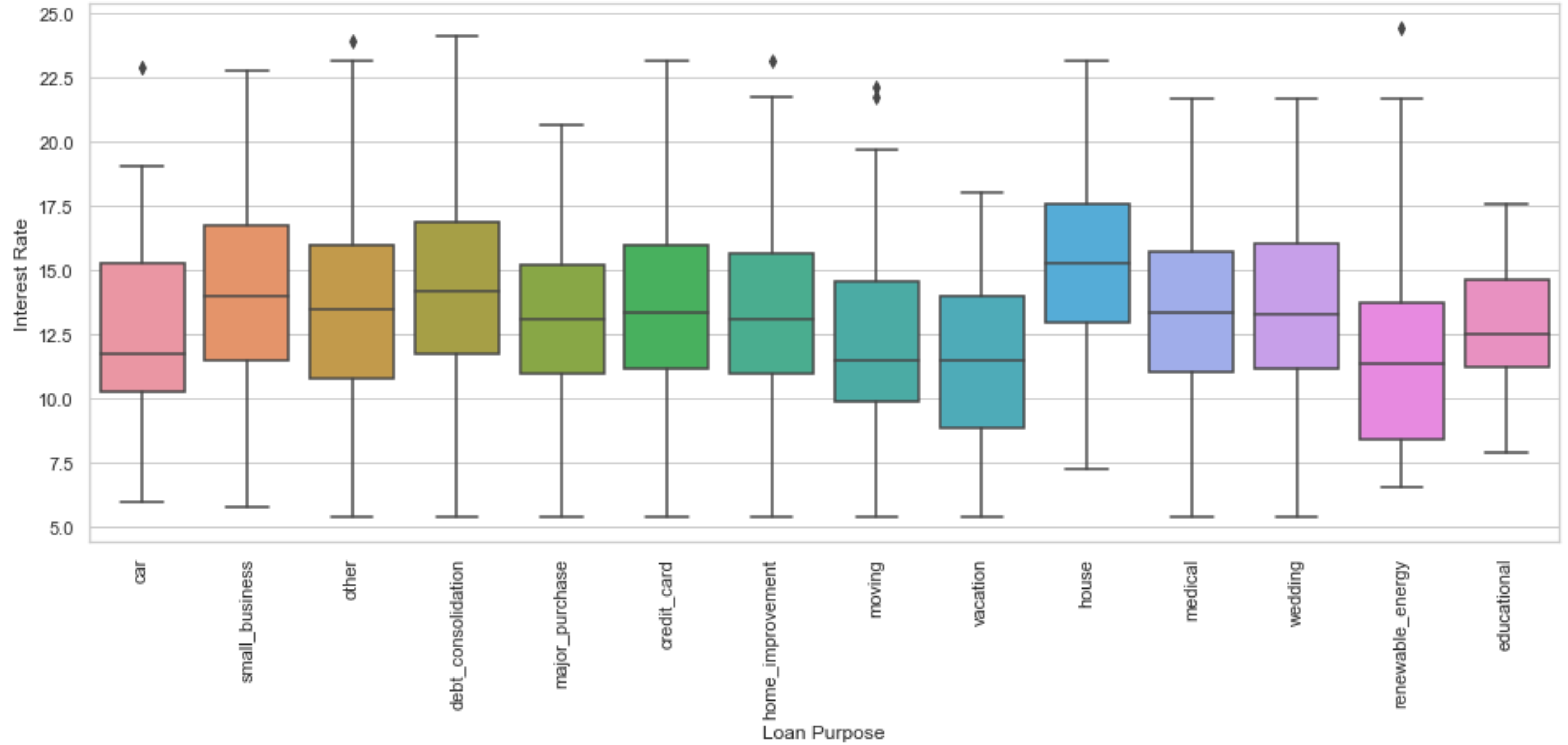
Defaulted loans v/s Loan Purpose



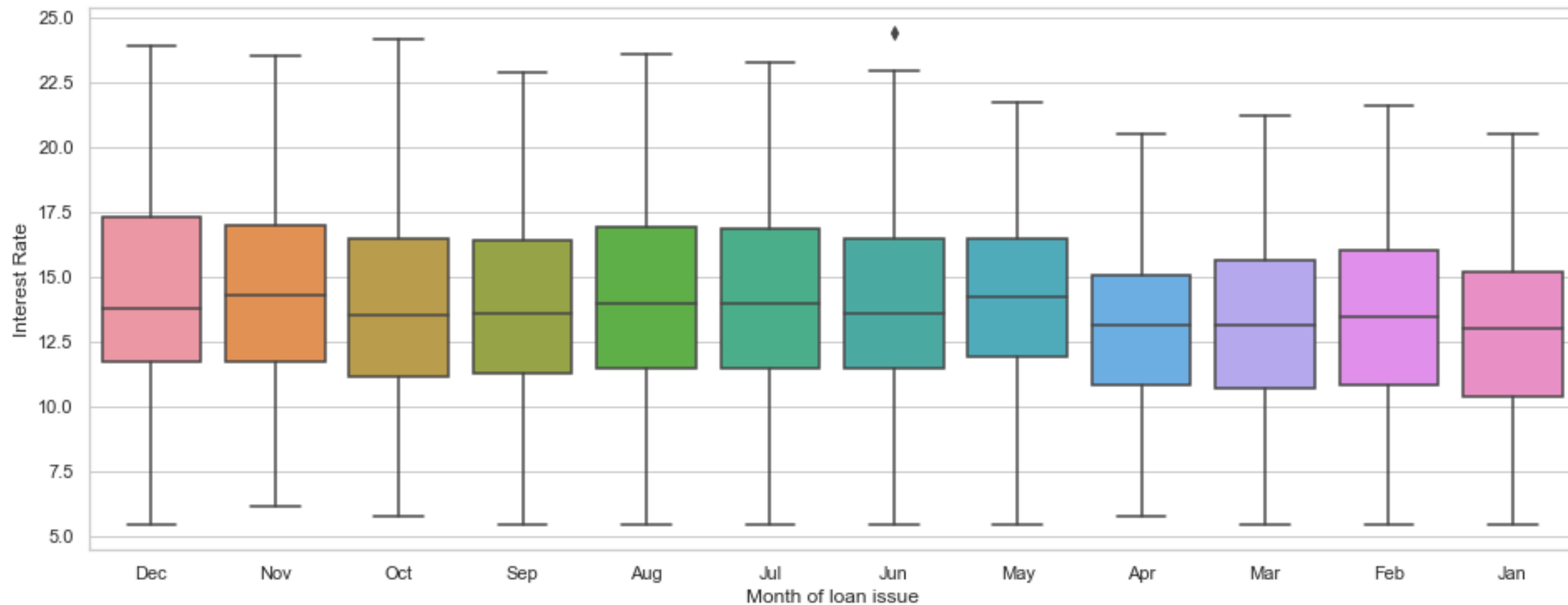
Risk Analysis of Defaulters by Loan Purpose



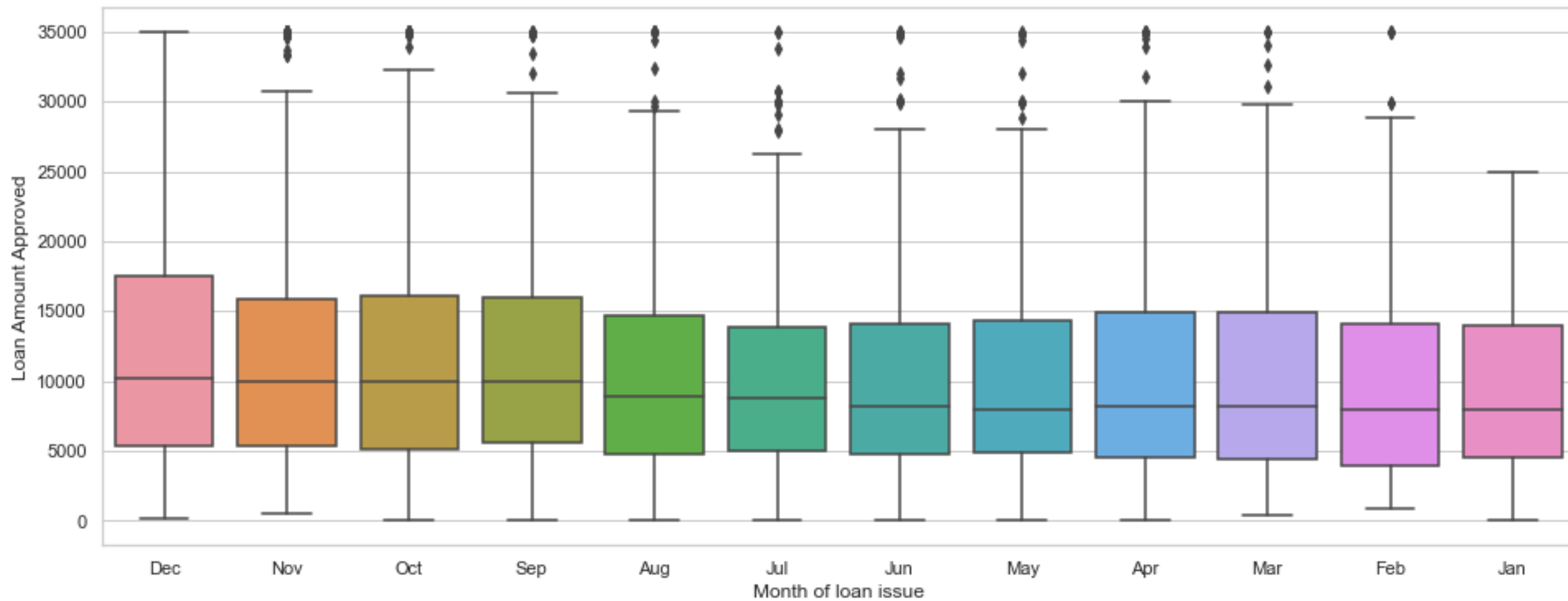
Interest Rate vs Loan Purpose for defaulters



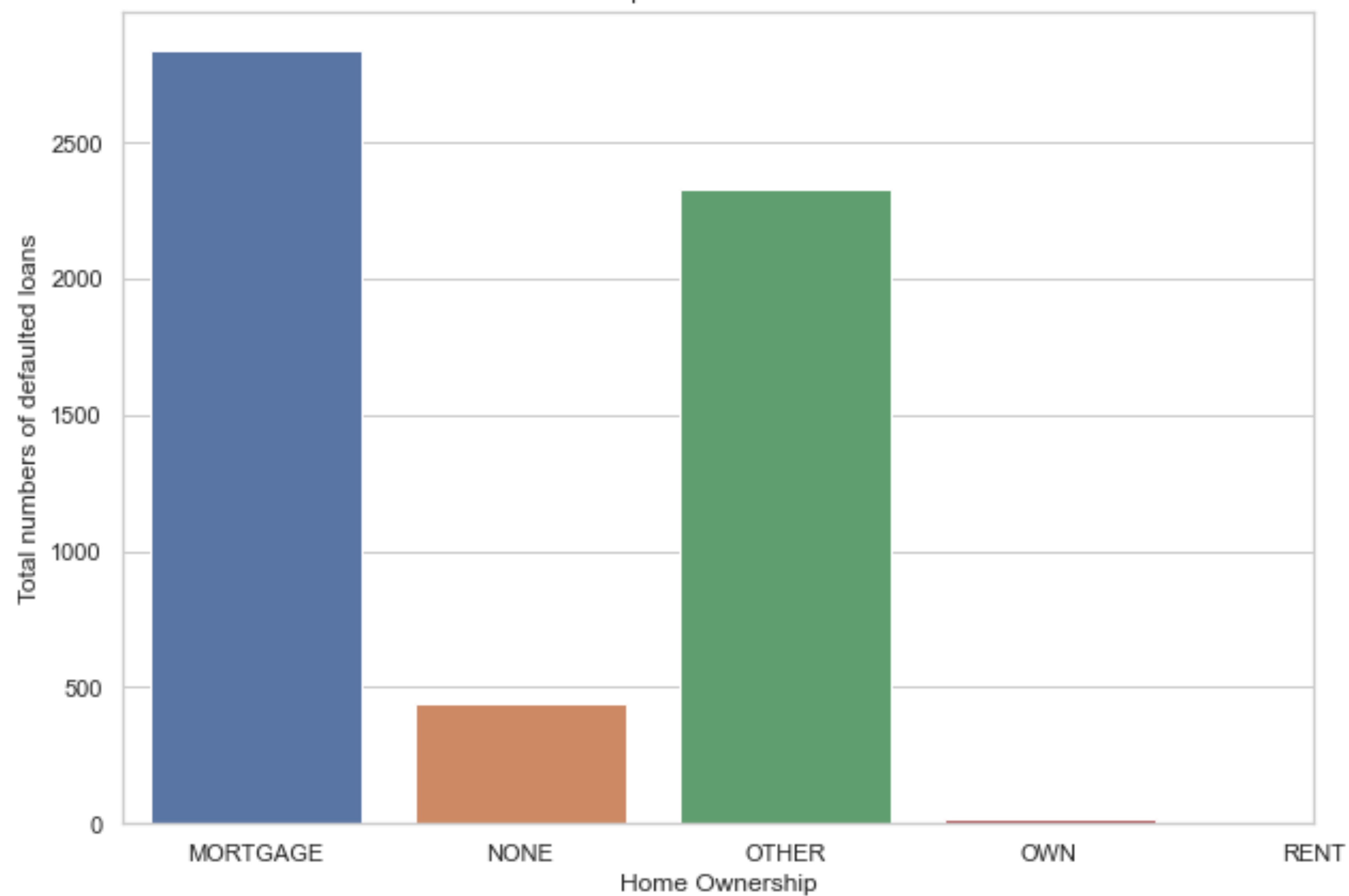
Month of loan issue vs Interest Rate for defaulters



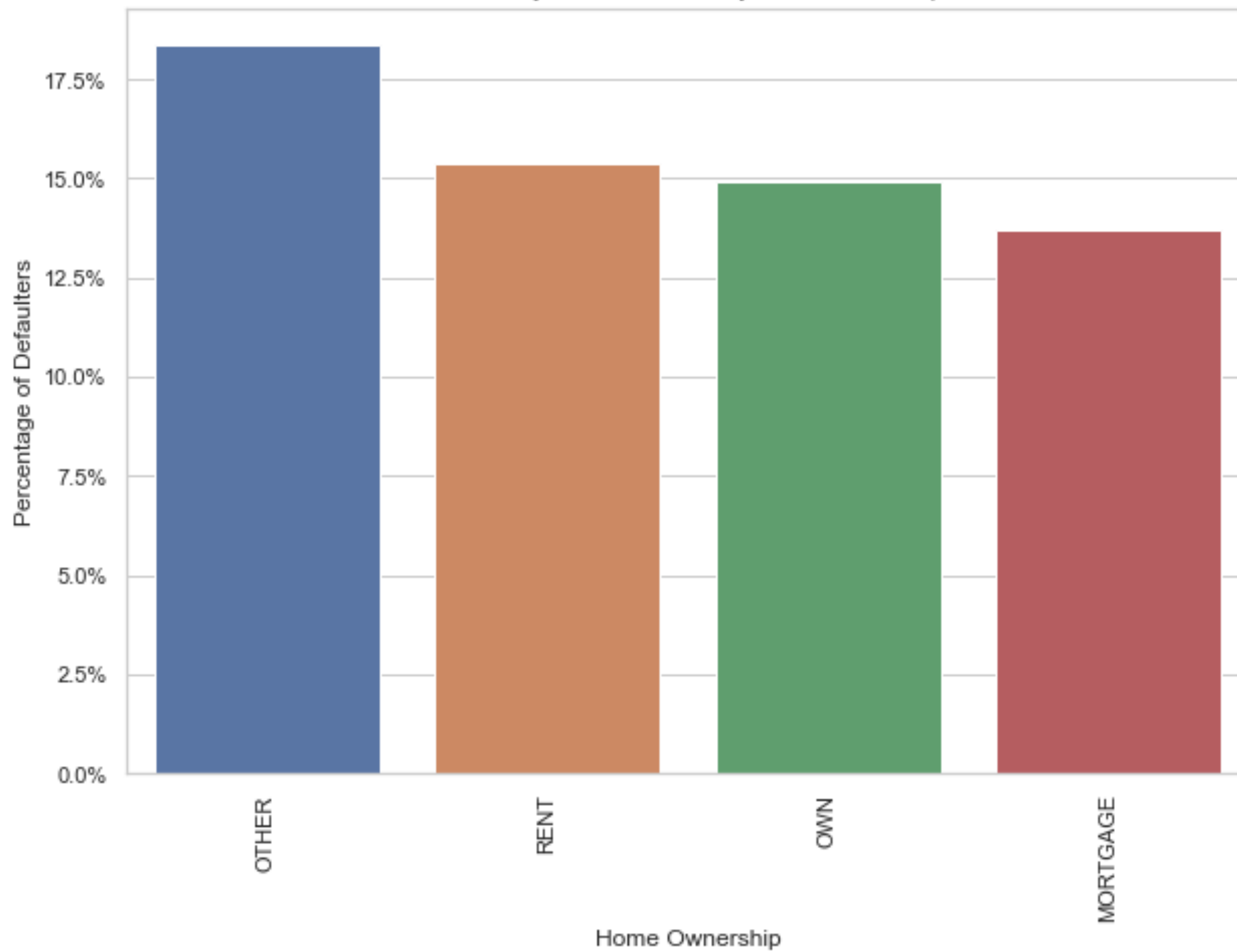
Month of loan issue vs Loan Amount for defaulters



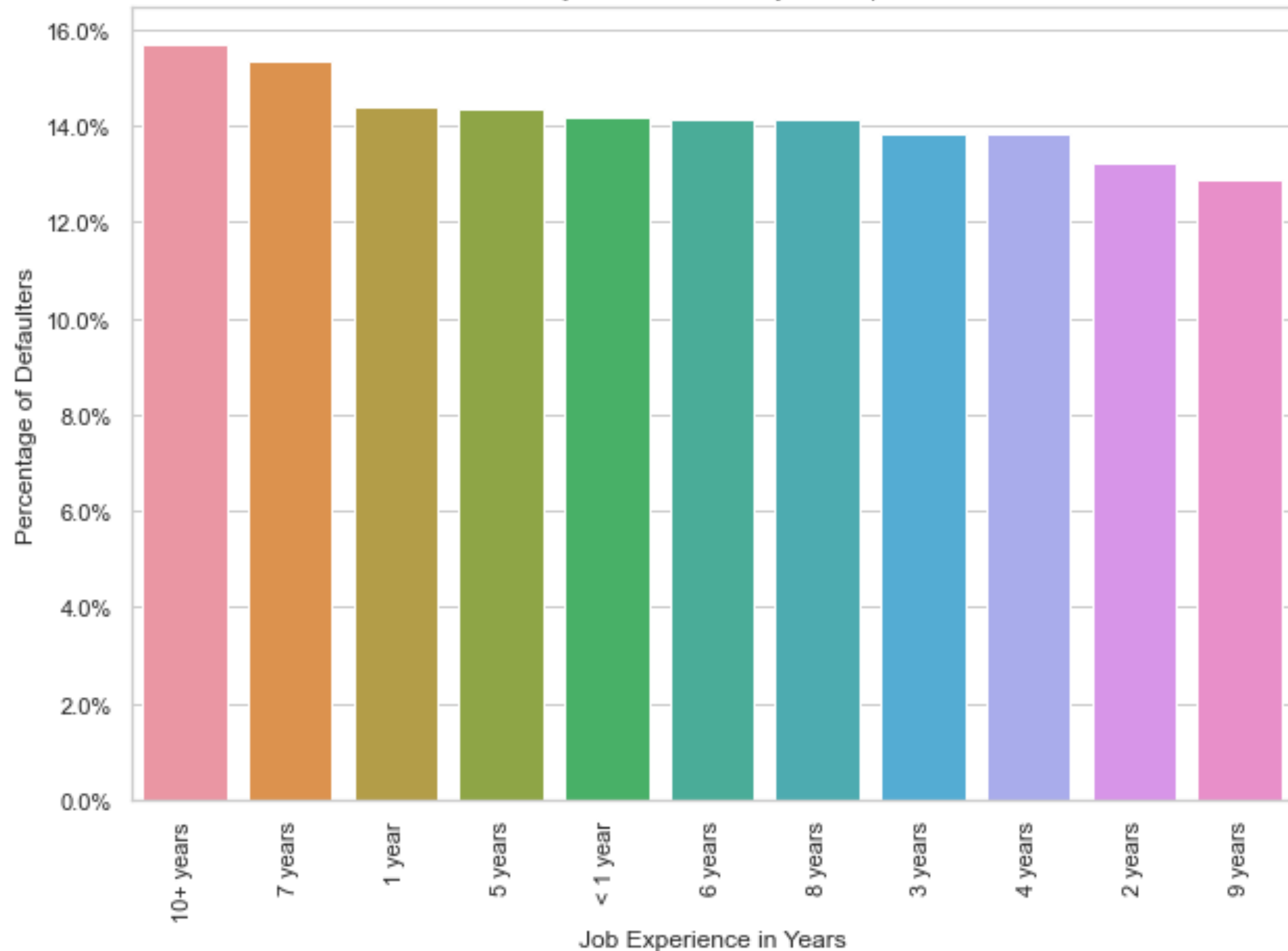
Home ownership-wise count of defaulted loans



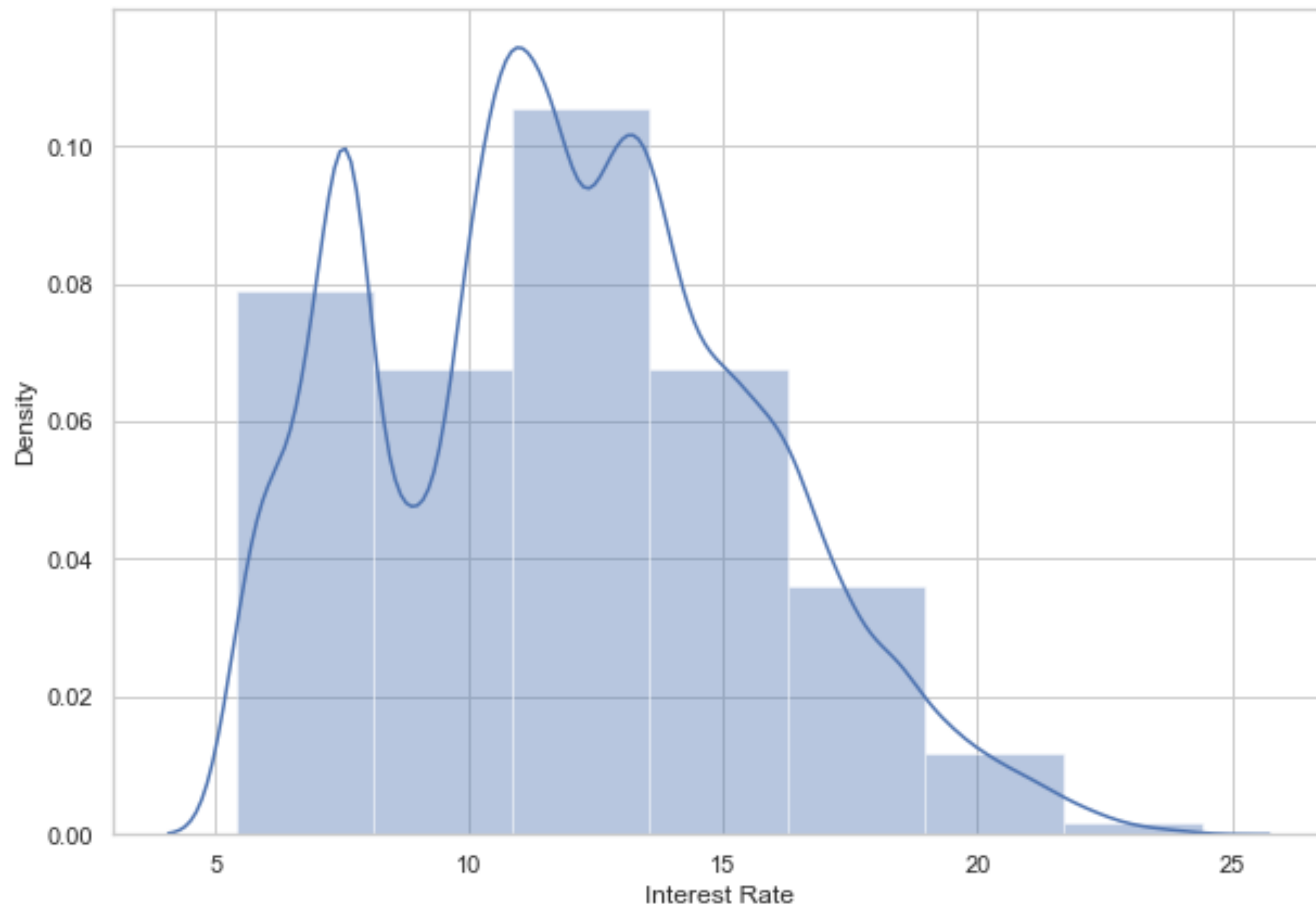
Risk Analysis of Defaulters by Home Ownership



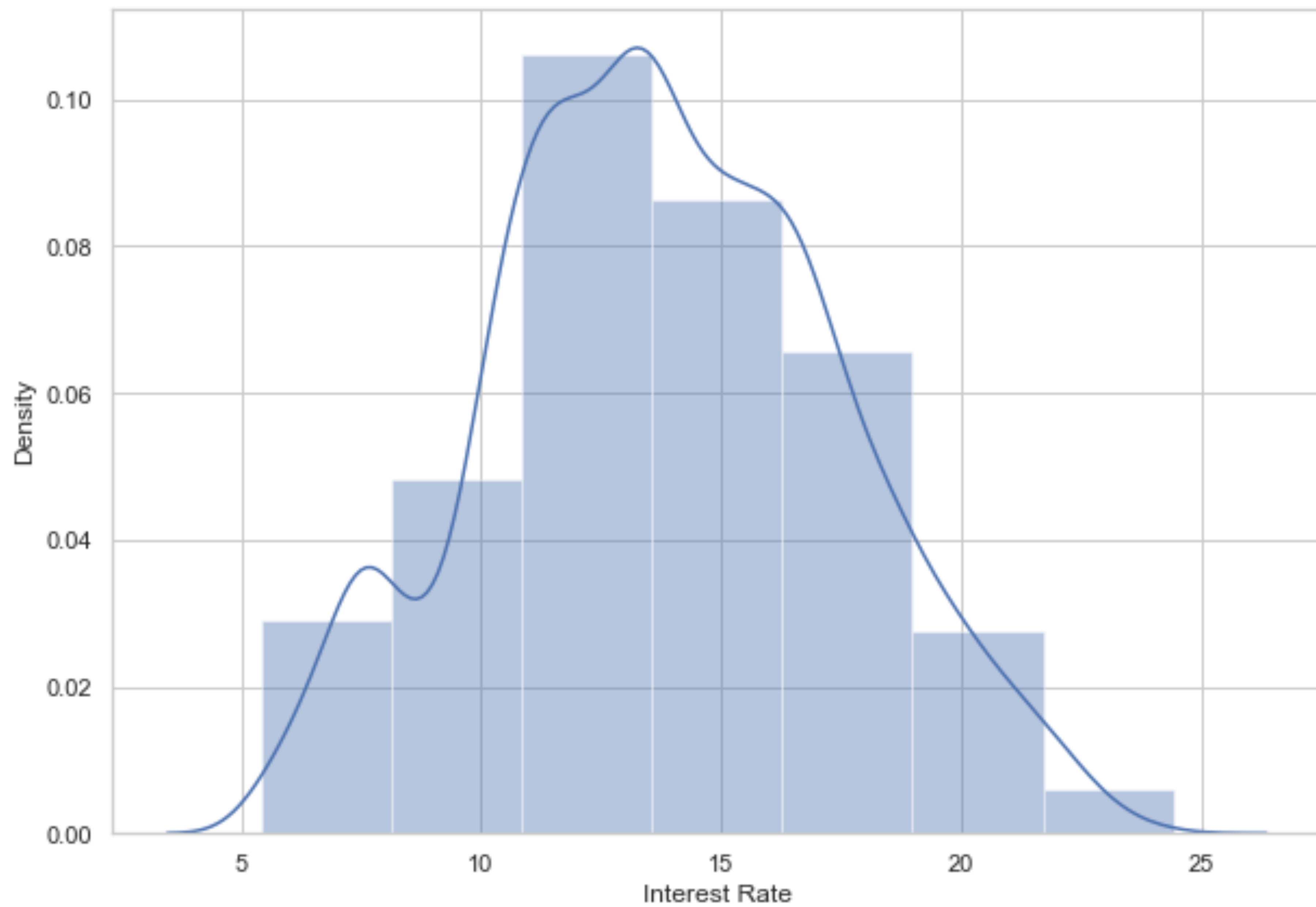
Risk Analysis of Defaulters by Job Experience

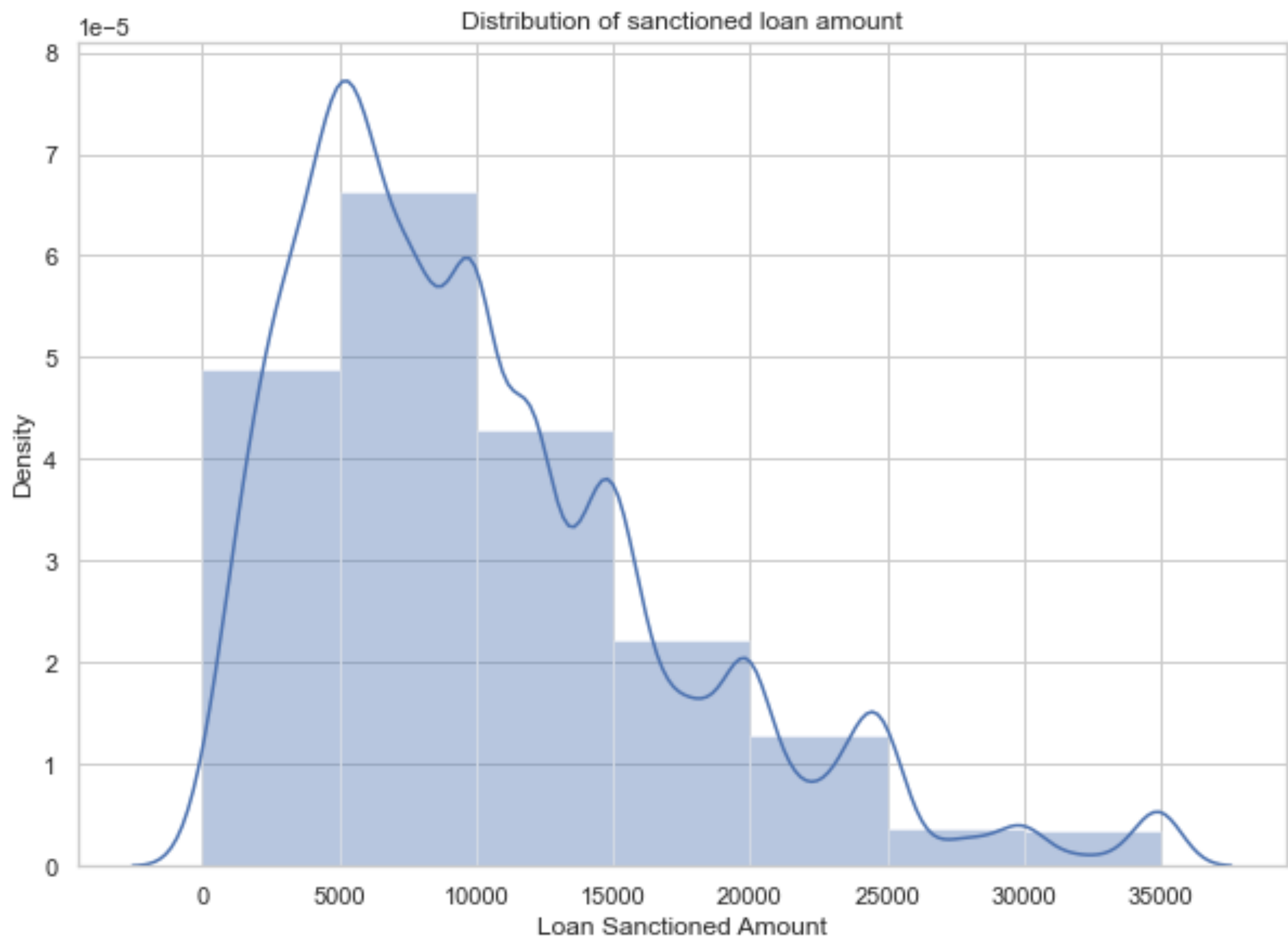


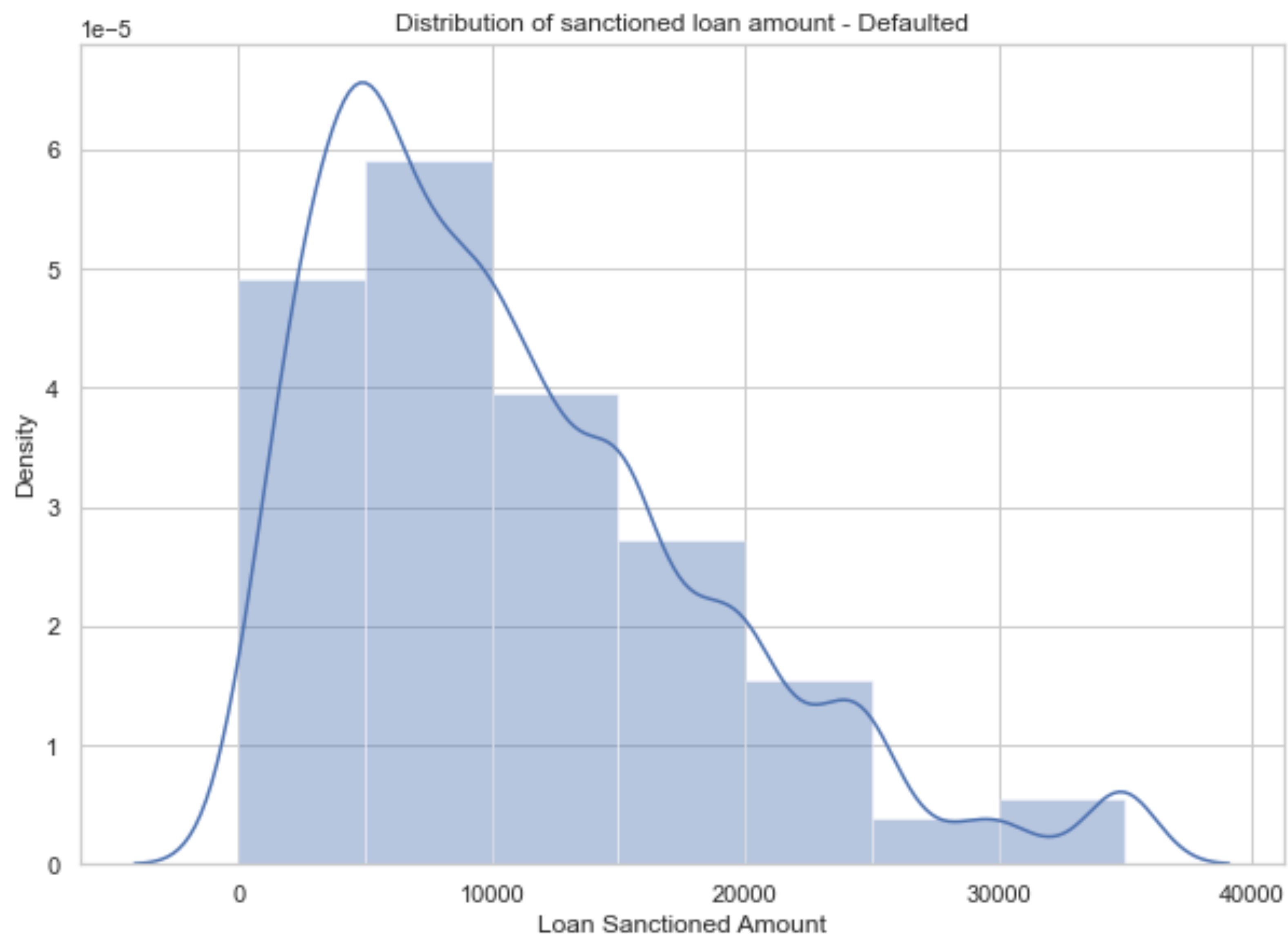
Distribution of interest rates for all loans



Distribution of interest rates for all defaulted loans







Thank You