

Prosper Loan Exploration

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Investigation Overview

In this investigation I wanted to investigate two main things:

- What metrics can be used to predict credit defaults?
- Does the loan term have an effect on default?

Dataset Overview

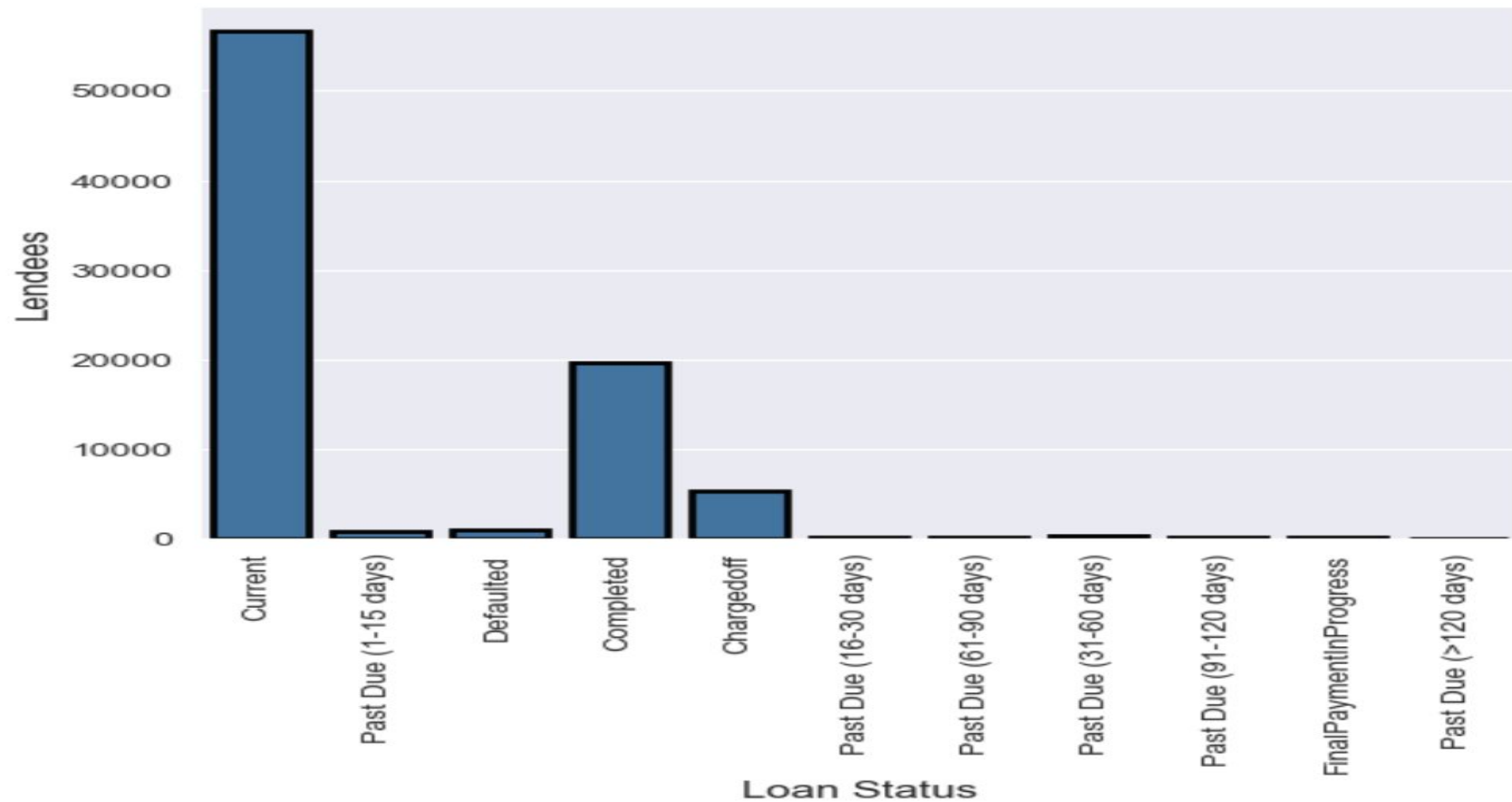
This data set contains 113937 rows, with 81 columns containing information about loans made through Prosper, a peer-to-peer lending platform. For the purpose of this analysis, I'm using the following columns: 'Term', 'LoanStatus', 'BorrowerRate', 'ProsperRating (Alpha)', 'ListingCategory (numeric)', 'EmploymentStatus', 'DelinquenciesLast7Years', 'StatedMonthlyIncome', 'TotalProsperLoans', 'LoanOriginalAmount', 'LoanOriginationDate', 'Recommendations', 'Investors'.

Loan status

First we need to look at the status of the loans in our dataset. What this graph tells us is:

- Most of the loans are current, not late or in default, and not completed (paid off).
- Completed loans are our second biggest category.
- Past due loans are split into several categories based on the amount of days past due.

Loan Status



Stated Monthly Income

Next we will look at the stated monthly income of all lendeers. From this graph what we've learned is:

- We can see that the majority of lendeers land around \$5000 in monthly income.

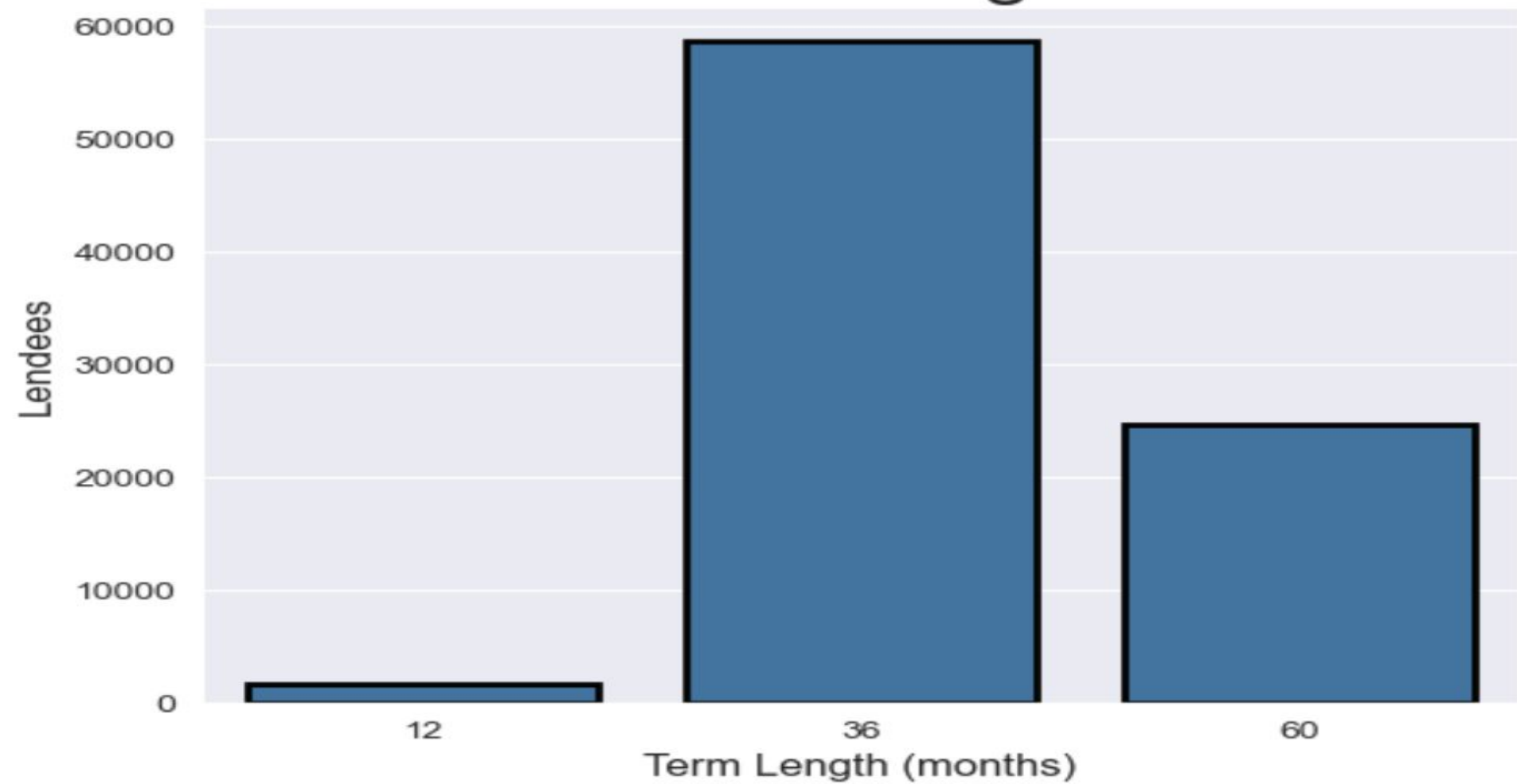
Monthly Income



Term Lengths

Let's take a look at term lengths next. As we can see in the below graph, 36 month (3 year) loans are by far the most popular loans given through Prosper.

Term Length

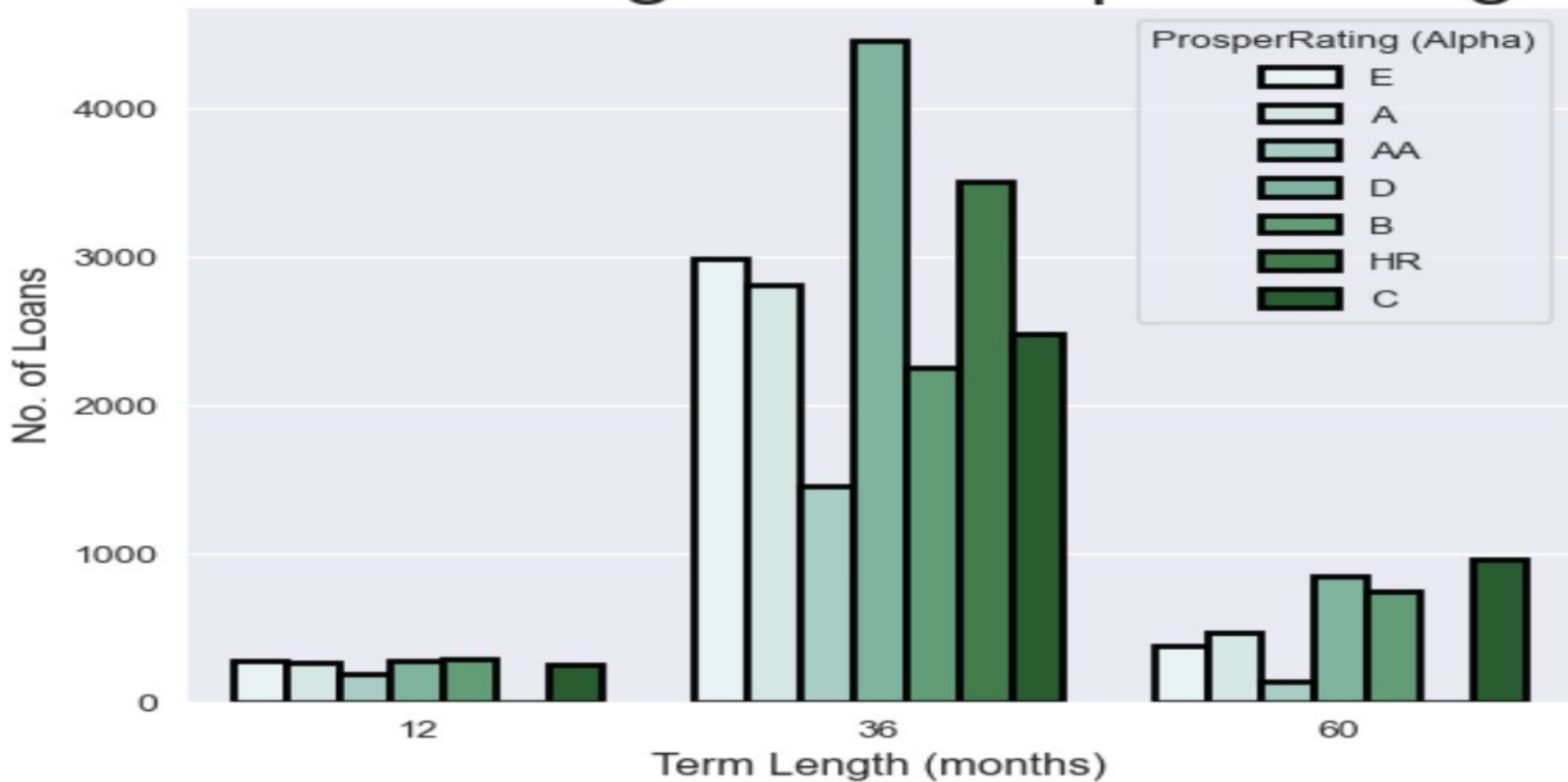


Prosper rating vs loan length

Now let's look at Prosper credit ratings and if that has an impact on the length of the loans.

- The amount of 12 month term loans is nearly uniform with the exception of the HR category
- 36 month term loans have the highest amount of loans in the HR category

Term Length vs Prosper Rating



Rating, loan amount, loan status

When looking at the Prosper Rating, amount of the loan and status of the loan we learn that:

- Except for the HR rating, defaulted loans are larger than completed loans.
- Most of the defaulted loans come from individuals with a low Prosper rating.

Rating Impact on Loan Amount and Status

