

## Prosper Loan Data Visualization

Prosper's Story

Analysis Flow

Exploring the data of Prosper Listings Count since inception up to March, 2014 on a time series to learn about its general trend.

PROSPER

### *Brief Background*

Prosper was founded in 2005 as the first **peer-to-peer lending marketplace** in the United States. Since then, Prosper has facilitated more than \$13 billion in loans to more than 850,000 people.

Through Prosper, people can invest in each other in a way that is financially and socially rewarding. Borrowers apply online for a fixed-rate, fixed-term loan between \$2,000 and \$40,000. Individuals and institutions can invest in the loans and earn attractive returns. Prosper handles all loan servicing on behalf of the matched borrowers and investors.

Prosper Marketplace is backed by leading investors including Sequoia Capital, Francisco Partners, Institutional Venture Partners, and Credit Suisse NEXT Fund.

**The Dataset:**

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Intrigued by the affluence of the dataset and its wide range of variables, i will explore it to glean some insights and refine my understanding of the lending market in the US. In this journey i will try to cover the following points:

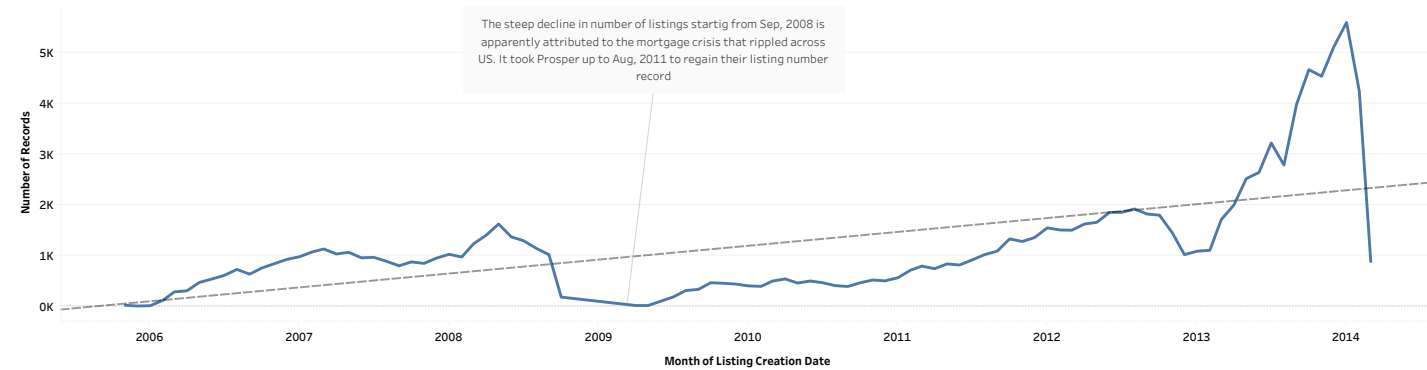
- 1- Prosper Business and performance trends "by year and by state"
- 2- Learn about borrowers:
  - Demographics.
  - Delinquency incidents
  - Associations between income range, and borrowers' credit score and defaulting on loans.
- 3- Learn about the investors:
  - The yields they get from lending.
  - Correlations between risk of a loan "Estimated Loss" and its revenues "Estimated Return".

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Why do people Borrow? What is the average loan size per Category (Indicated by rectangle size)? And The Percentage contribution to overall loans' value (Indicated by Color gradient and text percentages). Hover over the rectangles to learn more.

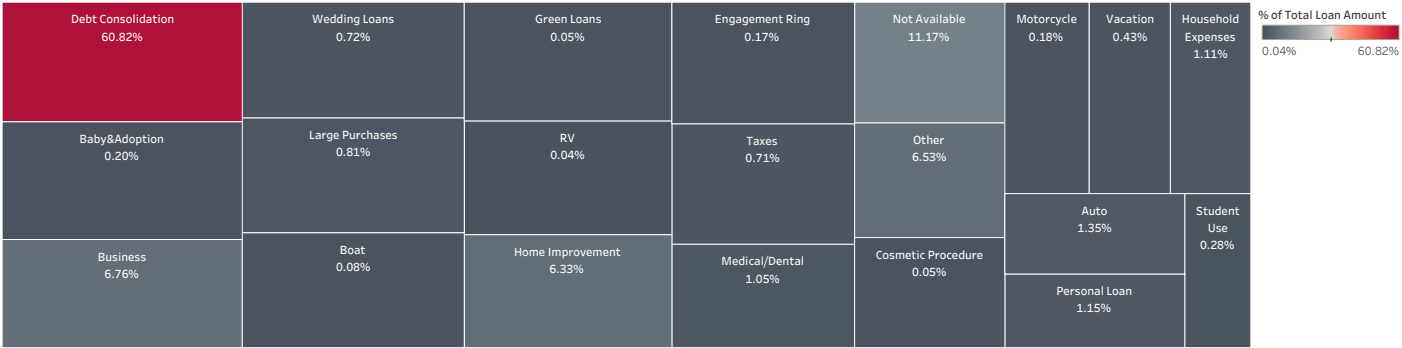


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The Comprehensive overview of Prosper Business. The preceeding 3 boxes in one dashboard where you can filter by state, listing category and year.



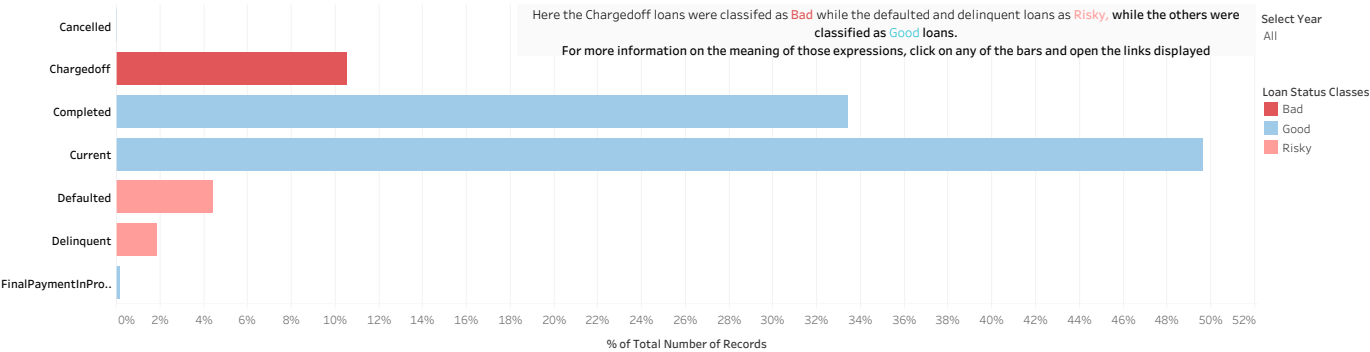


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But How well have those listings performed? The horizontal bar chart below shows the status of the loans and their pertinent percent out of all listings. Use the years filter to the right to see how the performance was within each year.

In this Dashboard we can toggle the year filter and see how the loans have been performing. Note that the lower left graph shows the different buckets (bins) of loan sizes and how the bad and risky loans were more prevalent in Lower loan values.

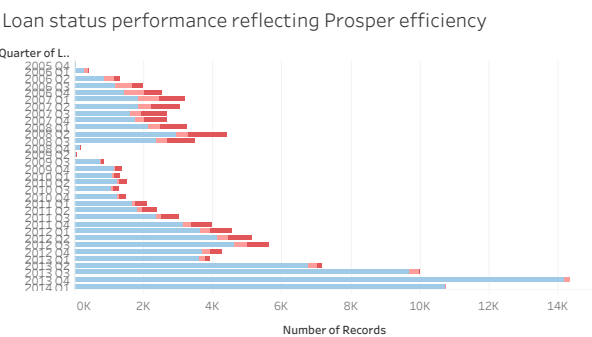
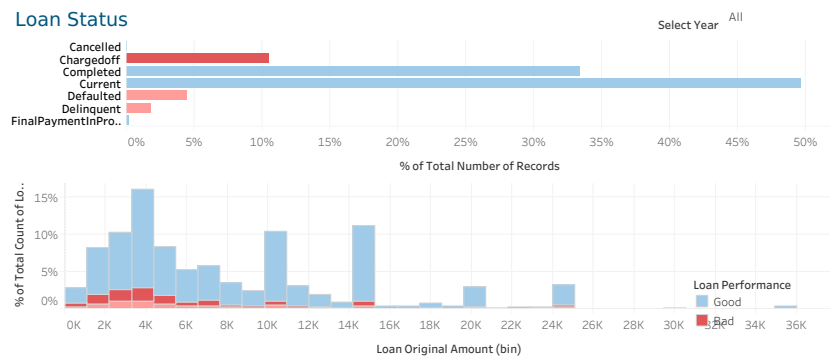


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But how did Prosper Predict The loan performance? Here the focus is on two ratings; the Prosper Score (which took effect starting from July, 2009) on a 1 to 11 where 1 is the riskiest and 11 is the safest. The other is the credit grades from AA for the best to HR for the riskiest.





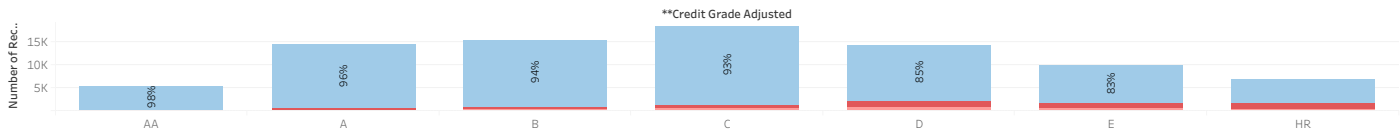
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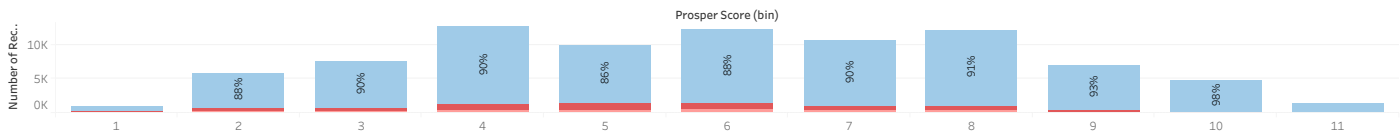
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Credit Grades Predictability



Prosper rating Predictability

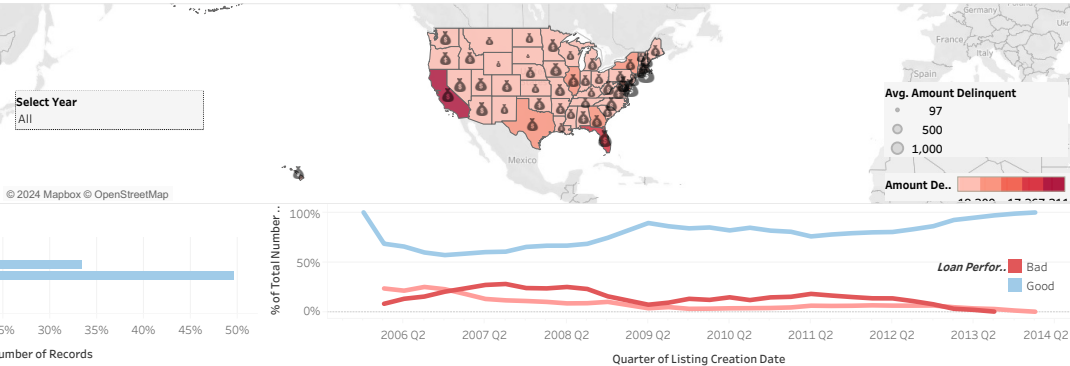
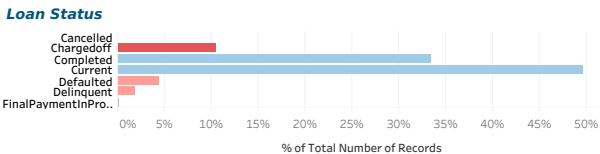


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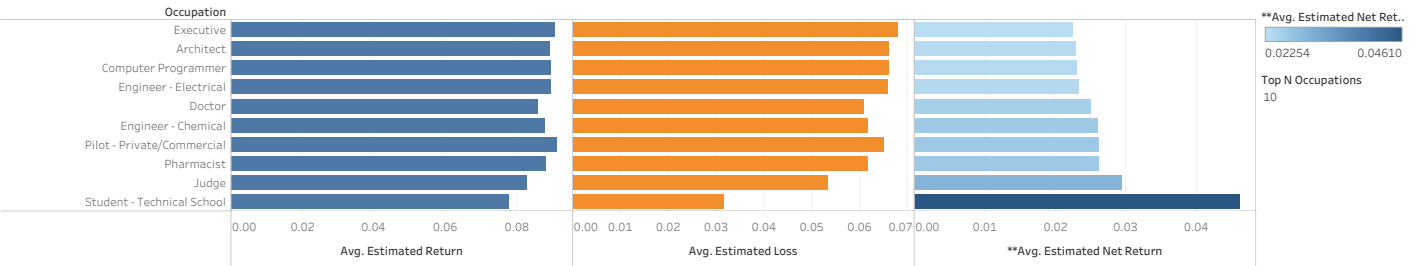


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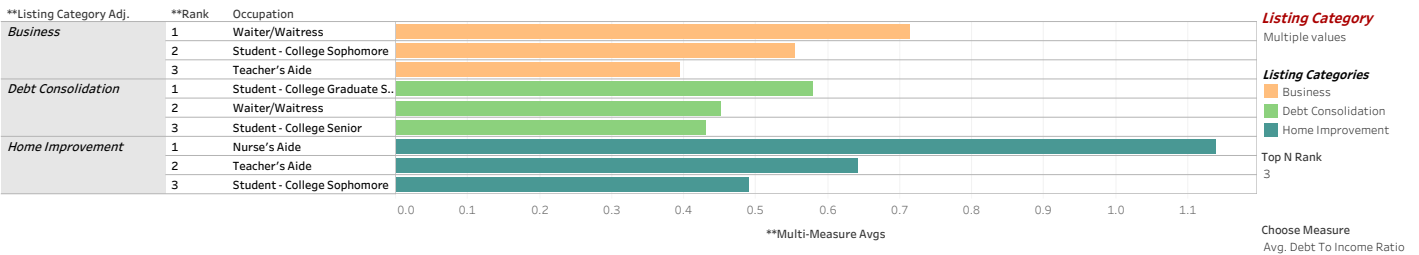


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For the borrowers' income ranges, The tree map blow shows two interesting insights. 1- Borrowers with \$0 income and not displayed income are the highest in terms of percent of bad performing loans (as defined previously) encoded by the size of the rectangle. 2- High income borrowers are also th..



Note: For Prosper Score, as it took effect starting from July, 2009; it has no data for some listing Categories.

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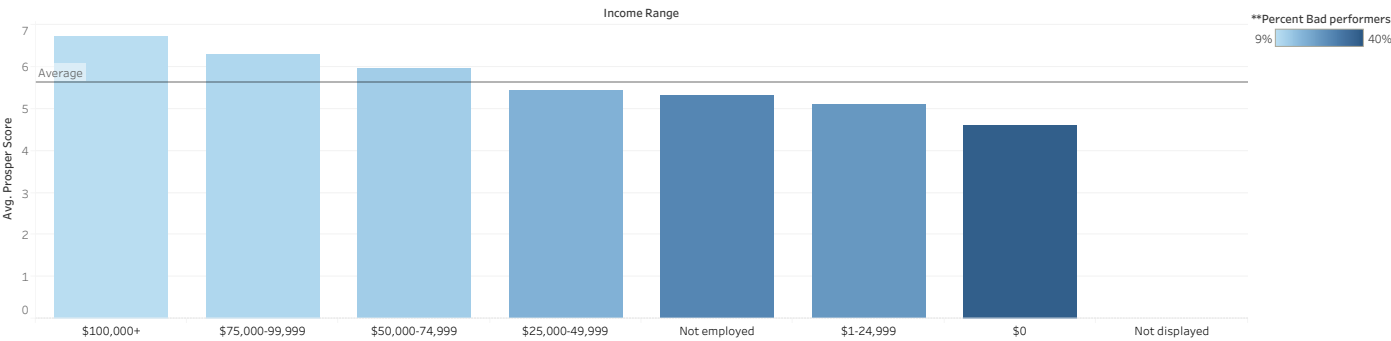


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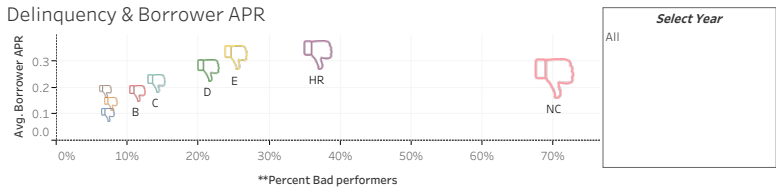
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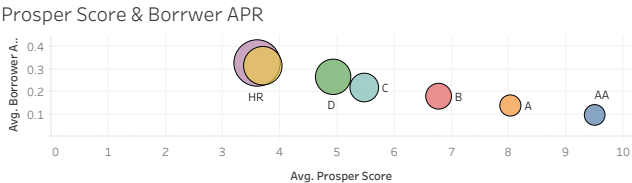
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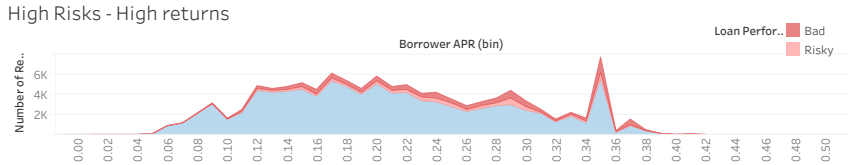
Delinquency & Borrower APR



Prosper Score & Borrwer APR



High Risks - High returns



The Percent Bad Performers is the percent of those loans that are either delinquent, defaulted or charged off out of all loans for the particular credit Grade.

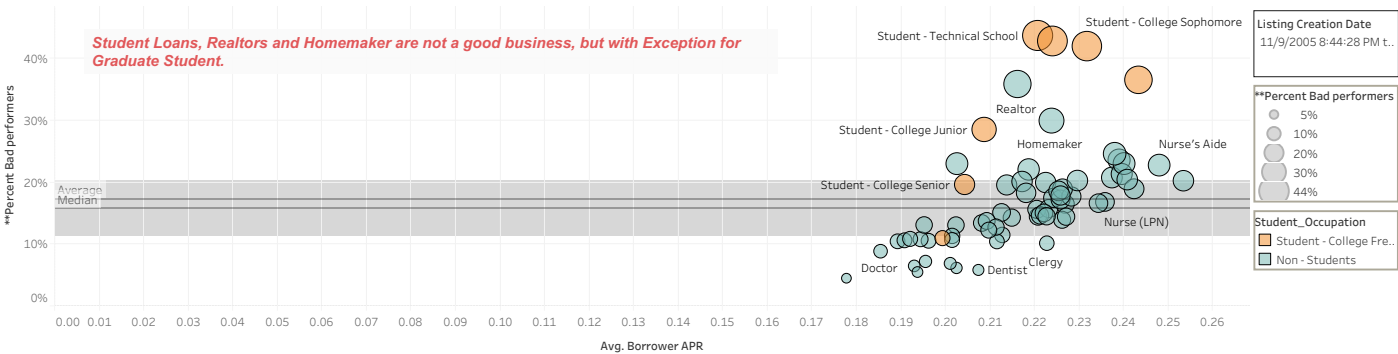
The percent value is encoded as the size of the mark. As illustrated, with higher..

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