Visual Exploration of Prosper Loan Data Using Tableau

Project Links:

Tableau Public Workbooks:

Story first version:https://public.tableau.com/profile/minu.aravind#!/vizhome/Story1_202/Story1?publish=yes Story final version:https://public.tableau.com/profile/minu.aravind#!/vizhome/Story2_24/Story1?publish=yes

About :

Prosper is America's first peer-to-peer lending marketplace, with more than 2 million members and over $2,000,000,000 in funded loans.Data set contains 113,937 loans with 81 variables on each loan.In peer-to-peer lending, there are three main stakeholders: borrowers,investors and the company itself.

Dataset:

Original Dataset:prosperLoanData.csv Dataset I used after my analysis of original:MyProsperAnalysis.csv Dataset Dictionary: https://docs.google.com/spreadsheets/d/1gDyi_L4UvIrLTEC6Wri5nbaMmkGmLQBk-Yx3z0XDEtI/edit#gid=0

Summary:

In my Tableau story I focussed my exploration mainly on the relationship between borrowers and lender.First I tried to find out the state in US with the highest borrower rate.Mississippi has the highest Borrower Rate followed by Alabama and Arkansas.Mississippi being the state with lowest household income($40,037) may be a reason.Then I tried to figure out which category of people depended on prosper loans mostly and their purpose of loan.Prosper fund Loans from $2,000 to $35,000. I could clearly observe that borrowers are mostly those with stated monthly income in between $4000-$6000.And Debt consolidation being the top among the listing category.Next I tried to find out how is the Lender yield related with Loan Amount,Credit Score,Borrower APR and Estimated Effective Yield.Loan Original Amount and Credit Score are negatively related to Lender Yield, but Estimated Effective Yield and BorrowerRate are positively related to Lender Yield.When the borrower has lower credit score, the borrower has lower repayment capacity. If lender lend more money to borrower, they will take more risk. Conversely, if the Borrower Rate is higher, they will pay more for loan, so the lender will get more money. If the Estimated Effective Yield is higher, the lender yield will be higher. Moving on to the area of borrower interest rate and borrower APR based on their prosper score, as the prosper score improved Borrower rate decreased.That meansbetter theprosper score, lenders will charge lesser interest rate for the loans.

Design Before Feedback:

First design of my story on prosper loan data analysis tried to answer three main questions given below.

> Which state in US has the highest Borrower Rate?And Which group of people are the most users of propsper loans based on their incomes and their purpose of loans. How is Lender Yield related to Loan amount,Credit score,borrower interest rate and estimated effective yield? How is borrower's interest rate and annual percenratge rate related with their prosper score?

Feedback:

After posting my feedback on Udacity Slack community and with my mentor in my udacity DAND classroom.I received three main suggestions.

> Is a line chart right for the debt consolidation plot ? Bar plots of Lender Yield vs Borrower rate and Estimated effective filed looked confusing since it did'nt have a legend. Also whether the spacing of the bars in the bar plots of Lender yied vs borrower rate and estimated effective yield correlated to their values on x axis or not?

Design After Feedback:

> Since Listing category is categorical ordinal variable, I changed my line chart to bar chart based on the feedback. In my first design, I colored my bar plots of lender yield vs borrower rate and lender yield vs estimated effective yield with prosper rating.But missed to add the legends.So my findings were not communicated properly with the people who did the feedback,who are not familiar with the dataset.So based on the feedback, I added legends to bar plots of lender yield vs borrower apr and lender yield vs estimated effective yield. I couldn't do much to avoid the confusions regarding the spacing off of bars in the bar plots of lender yield vs borrower apr and lender yield vs estimated effective yield,as they are correlated to their values in X-axis. Looking at the filters provided,we can understand the values of borrower rate and estimated effective yileds.This should help to avoid the confusions to an extent.

Resources:

https://www.udacity.com/course/data-visualization-in-tableau--ud1006

https://www.tableau.com/learn/training

https://en.wikipedia.org/wiki/Prosper_Marketplace

www.Google.com