Lending Club Case Study

Lending Club

- Lending Club is a financial services company headquartered in San Francisco, California. It was the first peer-to-peer lender to register its offerings as securities with the Securities and Exchange Commission, and to offer loan trading on a secondary market.
- Lending Club enabled borrowers to create unsecured personal loans between $1,000 and $40,000. The standard loan period was three years. Investors were able to search and browse the loan listings on Lending Club website and select loans that they wanted to invest in based on the information supplied about the borrower, amount of loan, loan grade, and loan purpose. Investors made money from the interest on these loans.
- Lending Club also makes traditional direct to consumer loans, including automobile refinance transactions. The loans are not funded by investors but are assigned to other financial institutions.

Business Objective

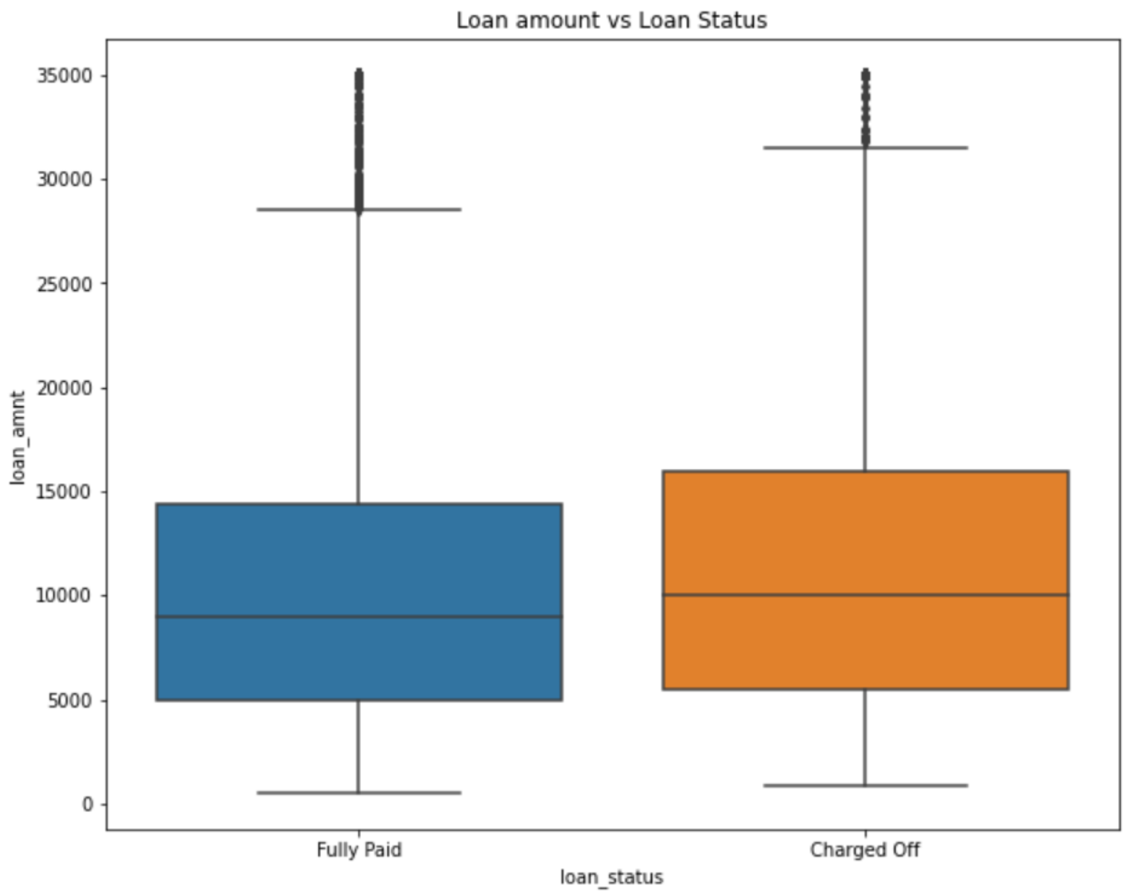
- To run Exploratory Data Analysis on the dataset to infer which are the driving factors of defaulting on loans.

Driving Factors

- Loan Amount
- State of Residence of applicant
- Employment Length
- Grade and Sub-grade of Loans
- Home Ownership of applicant
- Purpose of taking loans
- Annual Income of applicant
- Delinquency/Credit History of applicant
- Debt-to-income ratio of candidate

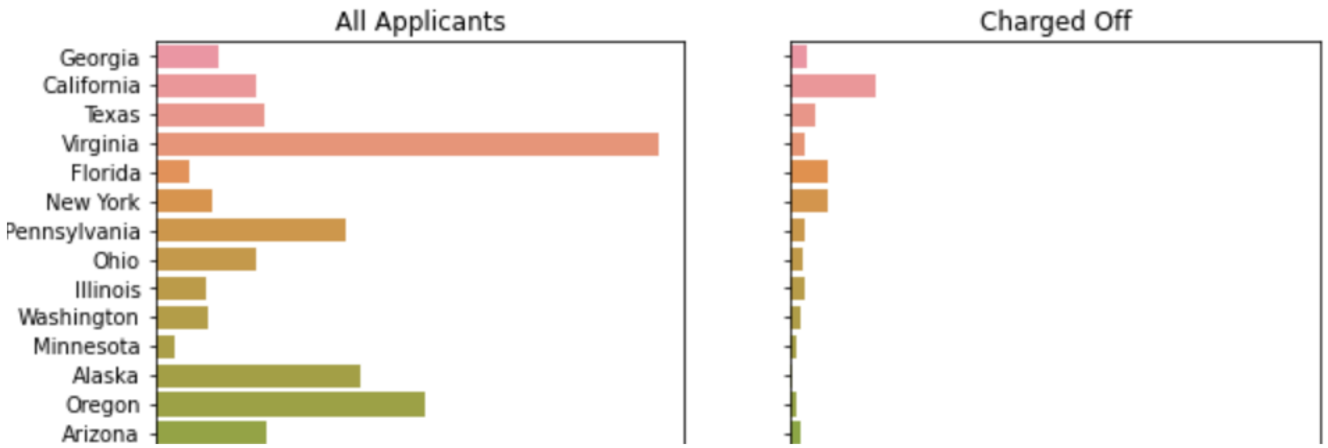
Loan Amount

- The amount of loan (and the rate of interest charged) to an applicant is important factor for judging if a candidate will default or not
- Lending Club has processes in place for not giving out bad loans.
- Yet most of the defaulters belong to the $5000 to $15000 bracket.



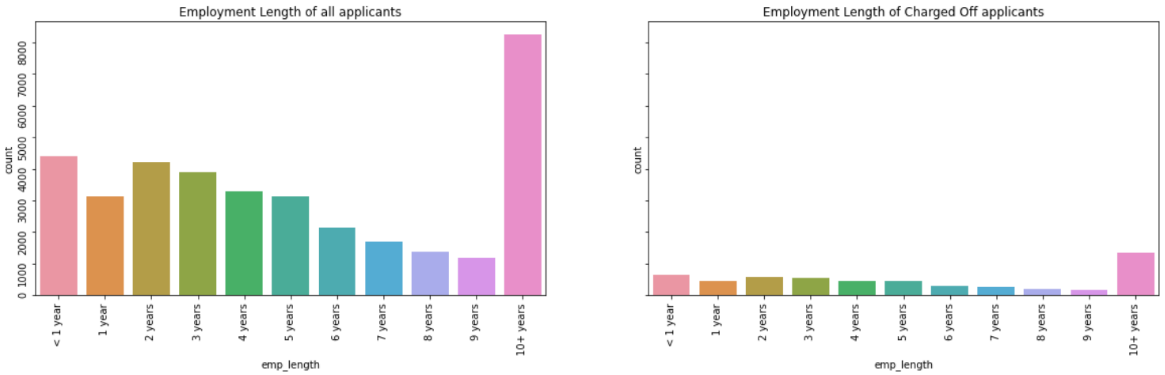
State of Residence

- It is seen that most of the applicants seem to be from Virginia.
- However, most of the charged off applicants are from California.
- This could be due to the expensive lifestyle and other social reasons.



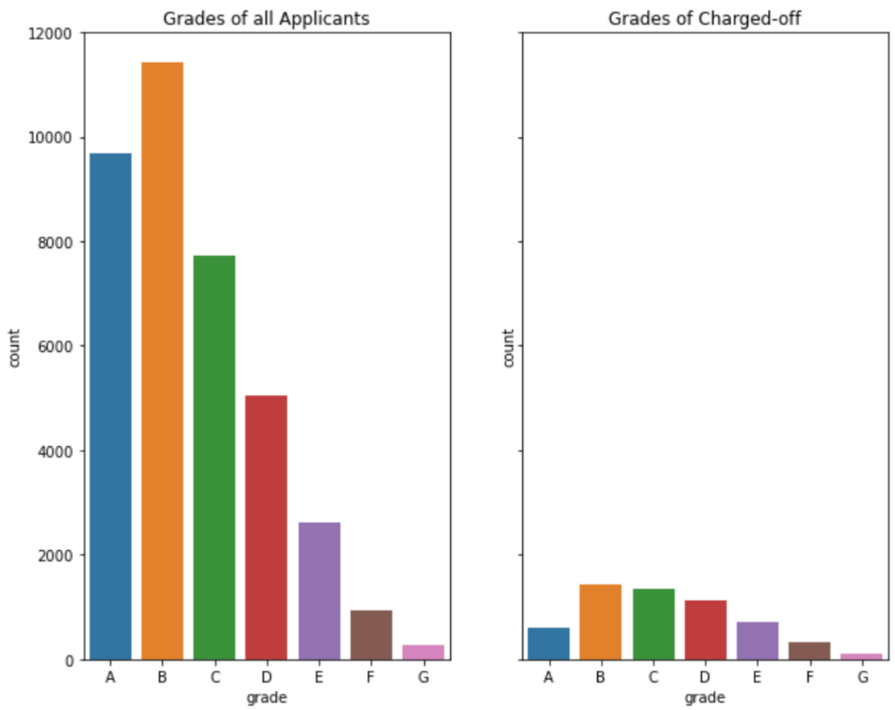
Employment Length

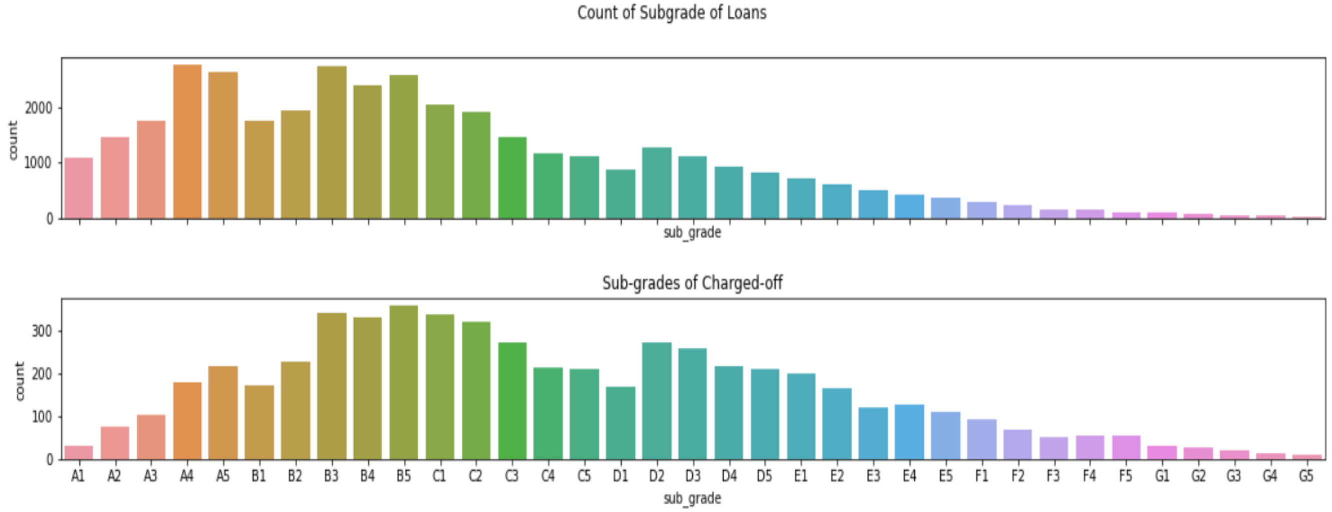
- Although it seems that most of the defaulters belong to 10+ years of employment, this is only due to the fact that the dataset is biased towards that section.
- Lending Club tries to reduce risk by often not lending to people with lower employment.



Grade and Sub Grade

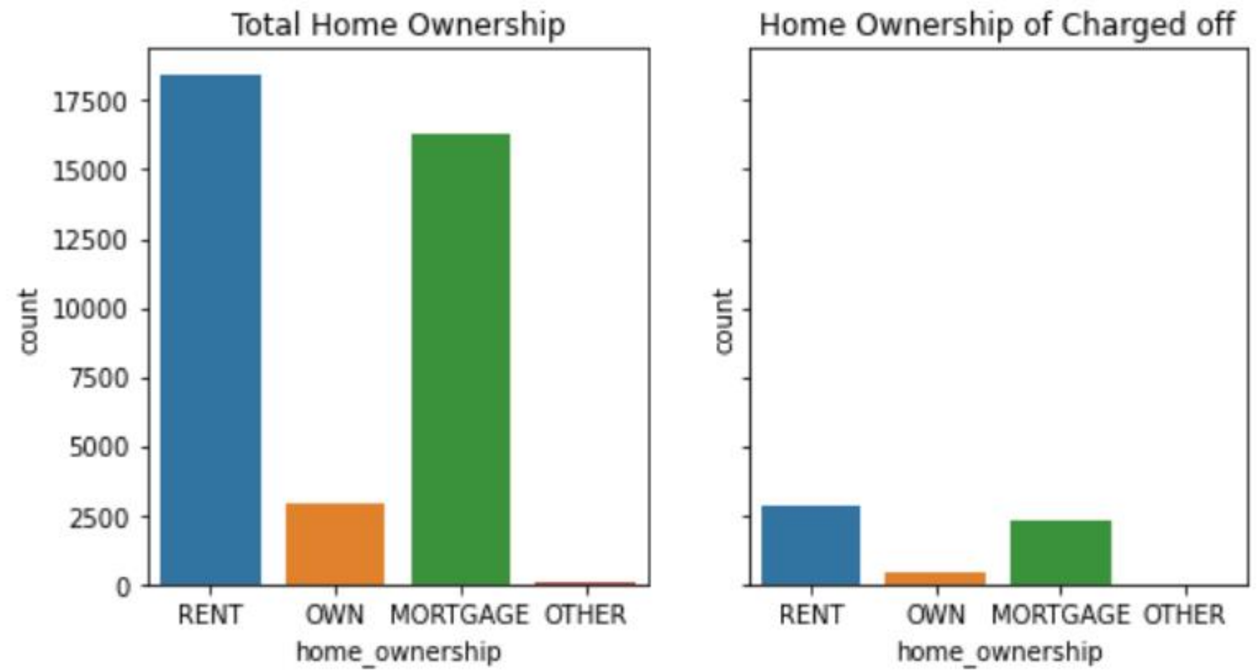
- Although it seems that most of the defaulters belong to 10+ years of employment, this is only because the dataset is biased towards that section.
- Lending Club tries to reduce risk by often not lending to people with lower employment.
- The details for Grade and Subgrades are available at:
  - https://www.lendingclub.com/foliofn/rateDetail.action
- Grade B (B5 mostly) are the loans that get defaulted the most.
- Grade B refers to 13.33% to 16.08%





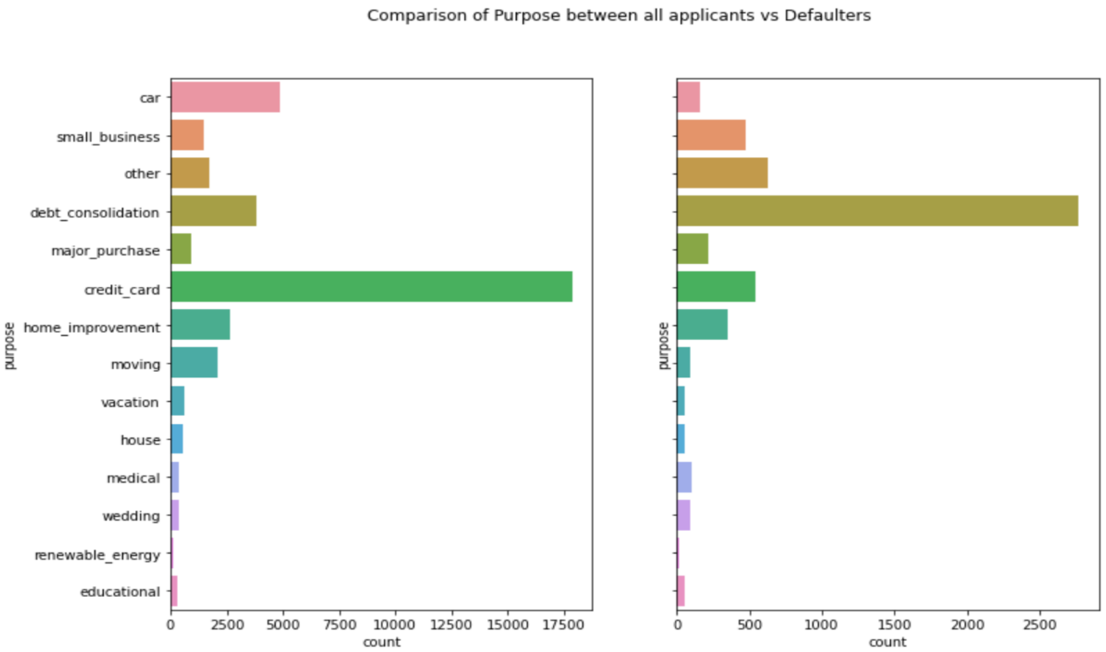
Home Ownership

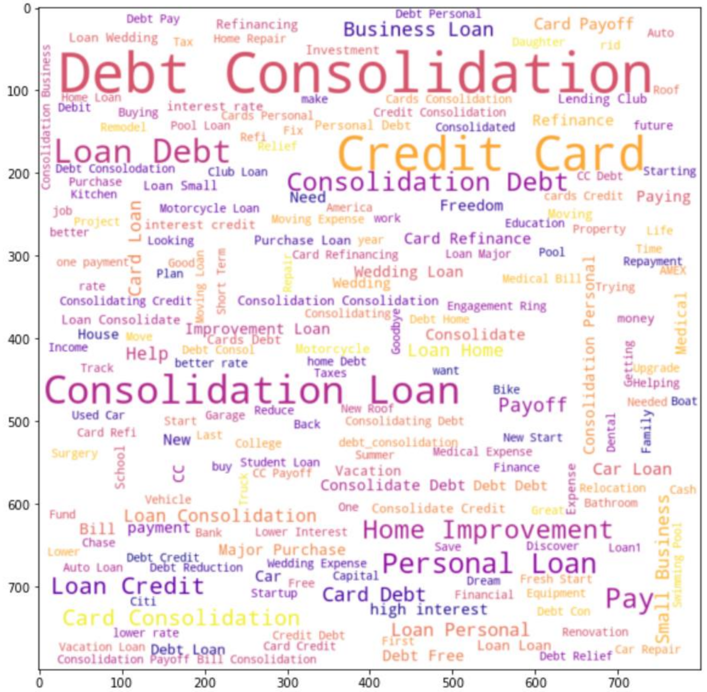
- Most of LC’s applicants either rent or have mortgaged their homes.
- The data is already skewed in this direction; thus, it is difficult to judge whether rent or mortgaged applicant will default or not.
- However, it is quite clear that people who own their homes are very less likely to default. Thus, making *Home Ownership* an important factor to judge an applicant.



Purpose of taking loans

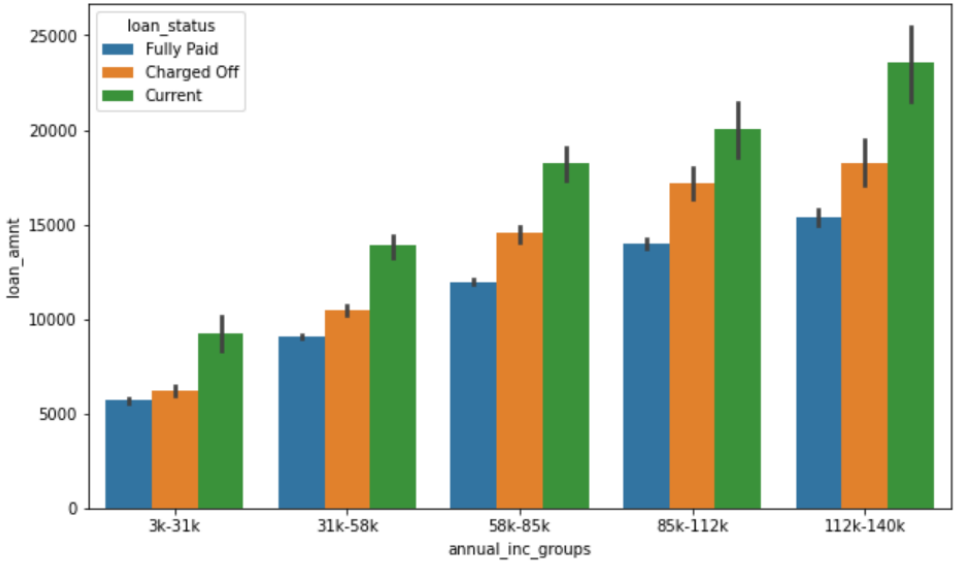
- Most of the applicants take loans to pay off their credit card.
- This is in line with the financial working of the American Society which is credit heavy.
- However, most of the defaulters belong to the "debt consolidation" category. Such applicants take loans to pay off previous debts.
- This is a serious point of risk as these applicants tend to fall in a vicious debt trap.

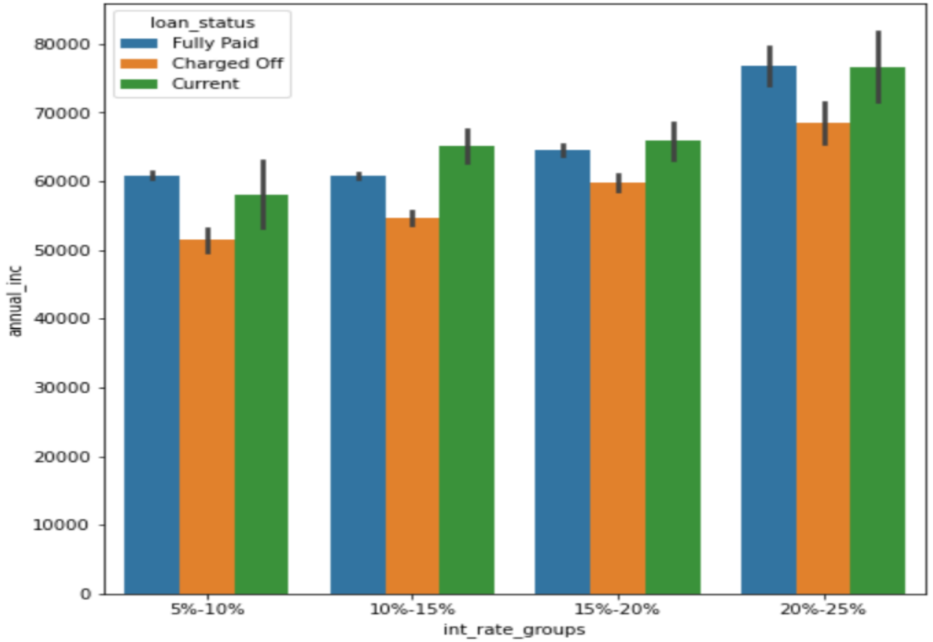




Annual Income

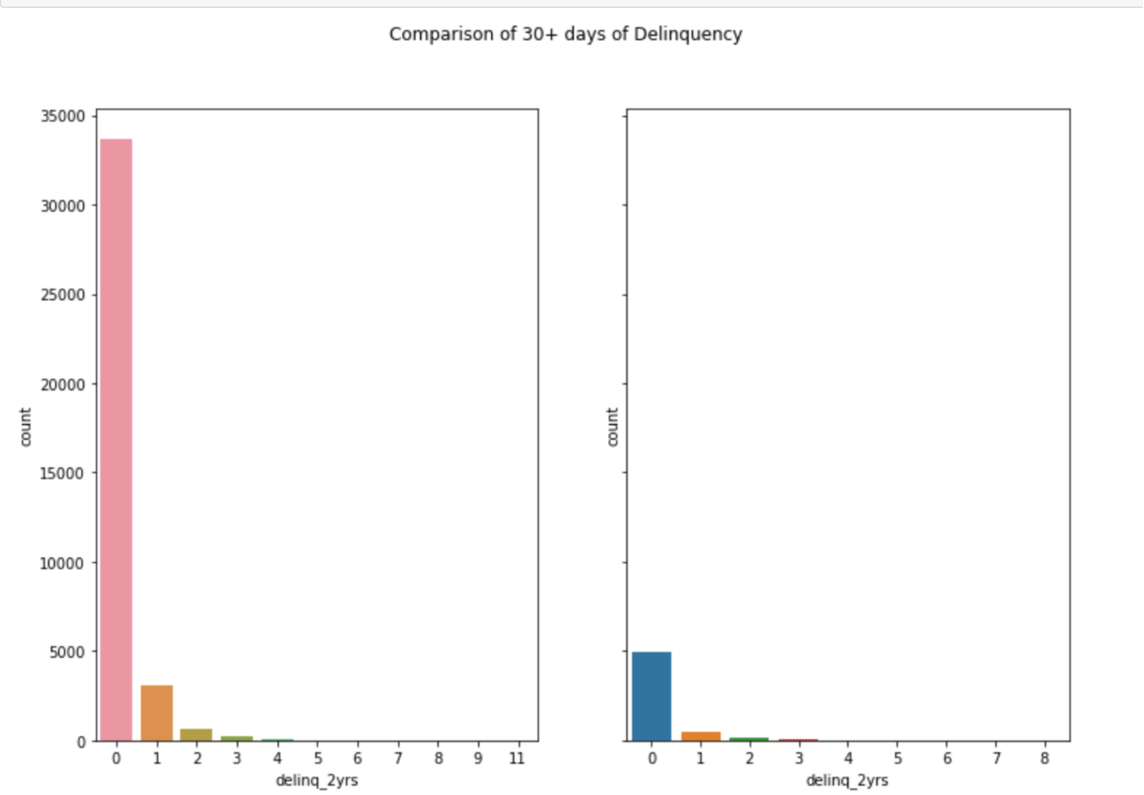
- Annual Income is an extremely important factor to judge the risk of a candidate.
- Annual income is an important indicator to pay back their loans.
- Thus, based on Annual Income, Lending Club grants loans.
  - Low-income people are not granted neither high loans not high interest rates.
  - Doing so, is likely to make them default or turn away.





Delinquency / Credit History

- History of Delinquency is an important factor to judge the risk of a candidate.
- This is part of the credit history of the candidate.
- Applicants with no or low history of delinquency are low risk and good for business



Debt to Income Ratio

- The debt-to-income (DTI) ratio is the percentage of your gross monthly income that goes to paying your monthly debt payments and is used by lenders to determine your borrowing risk.
- The debt-to-income (DTI) ratio measures the amount of income a person or organization generates in order to service a debt.
- A DTI of 43% is typically the highest ratio a borrower can have and still get qualified for a mortgage, but lenders generally seek ratios of no more than 36%.
- A low DTI ratio indicates sufficient income relative to debt servicing, and it makes a borrower more attractive.