LENDING CLUB ASSIGNMENT

SUBMISSION

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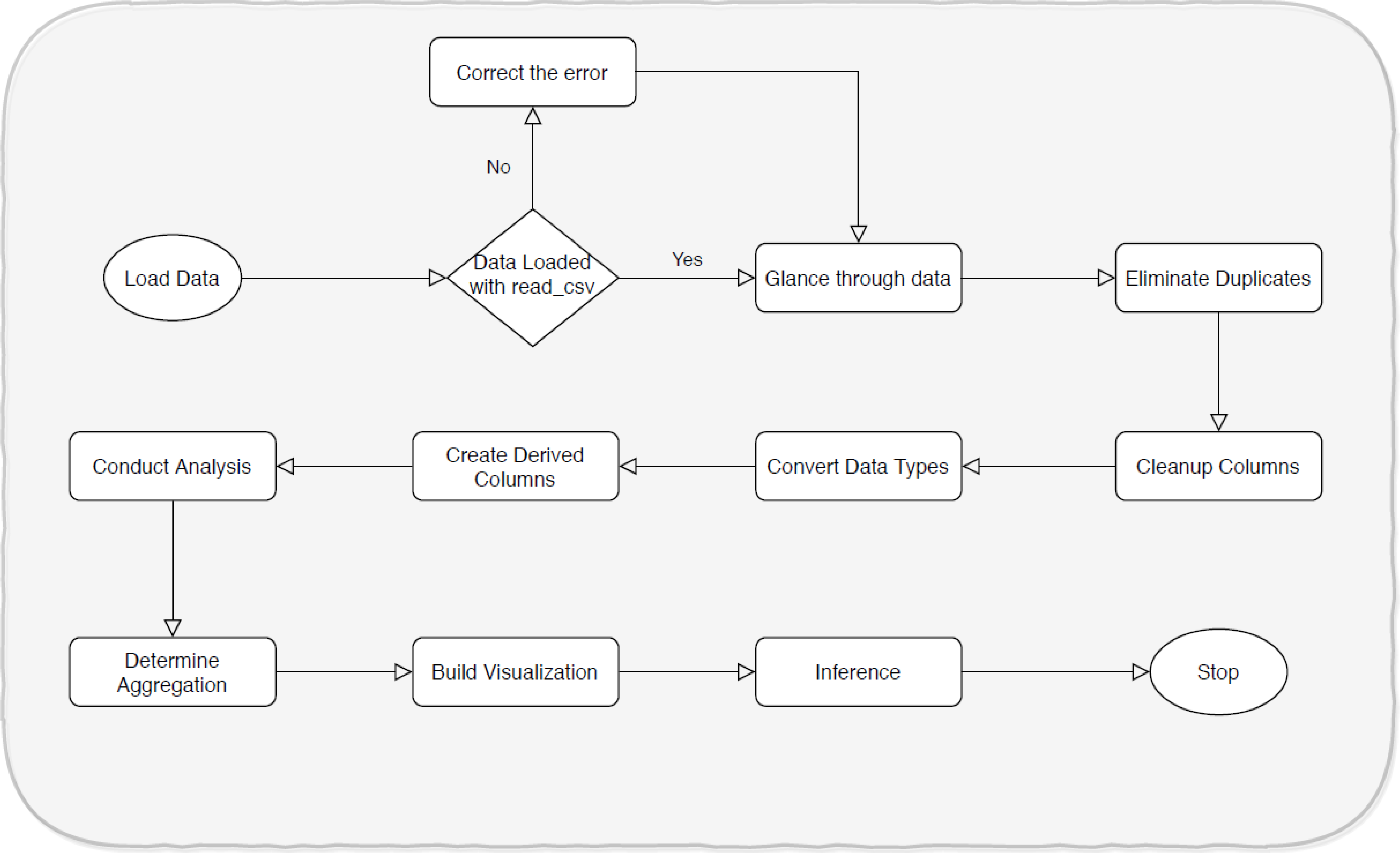
Abstract

- **Introduction -** Lending club is a company which provides marketplace to bring borrower and investor together. The investor would like to avoid “risky” applicants but may lose out on business if does not approve legitimate applicants

- **Objective** – The company wants to understand “the driving factors” which leads to defaults on loan based on
  - Applicant Data
  - Loan Factors

Methodology



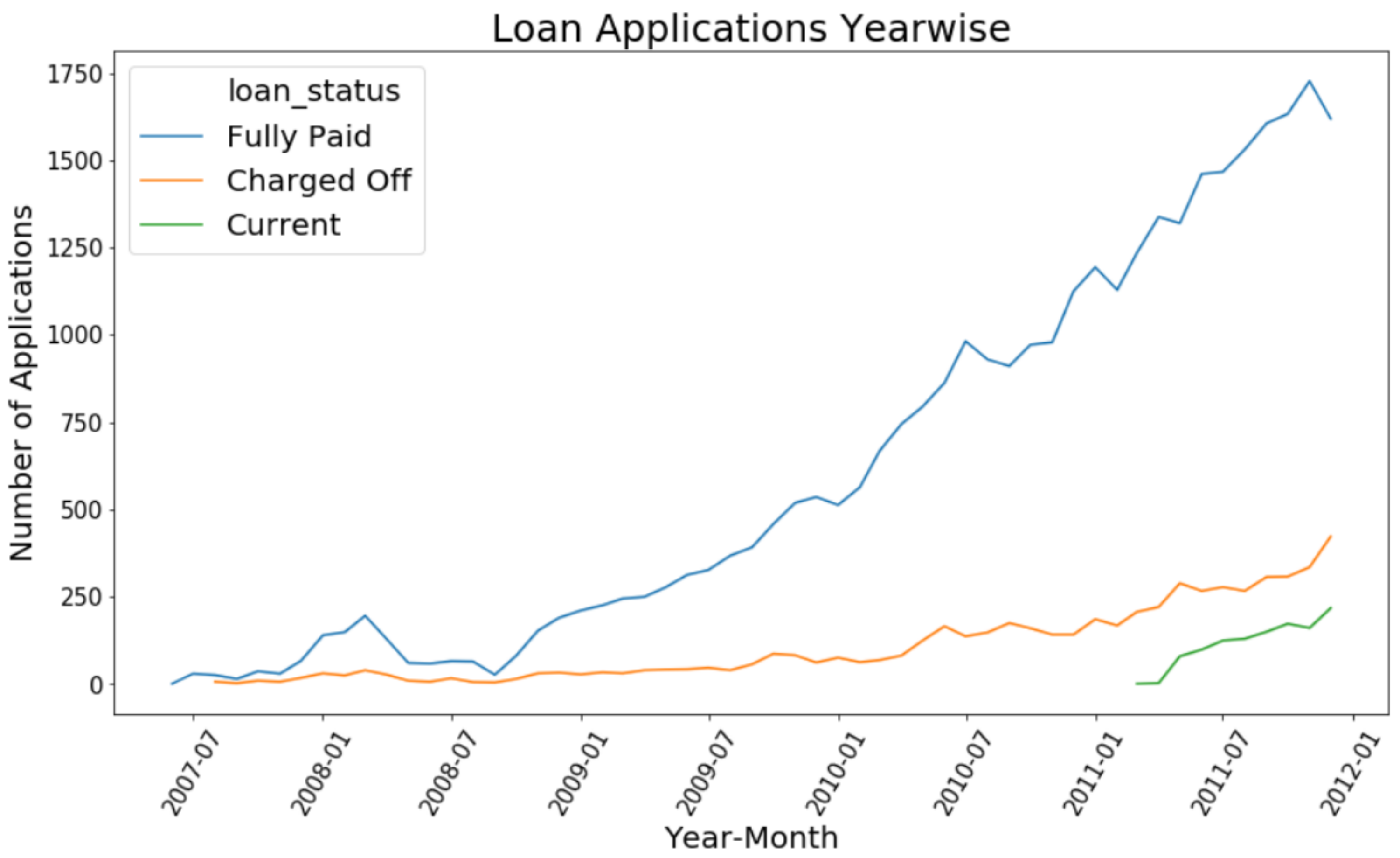
Analysis

Impact of different factors which influence default behaviour are analysed and the assessment is

Analysis Parameters	Assessment	Does Factor Impacts Default Rate
Purpose Of Loan	Small Business, Renewable Energy & Educational Loans are having higher loan default rate	Y
Annual Income Of Applicant	Risky Applicants belongs to income bracket of 0 - 1 Lakh	Y
Fund Amount / Annual Income	If the ratio of amount funded to the person's annual income increases, the chances of default increases	Y
Applicant Grade	With degradation of grade, there is higher risk to default	Y
Loan Term	The default percentage increases with the increase in number of term months	Y
Address State	NE has highest percentage of default which is about 60% while rest of states are almost equally vulnerable	Y
Interest Rate	Higher the interest rate, higher is the chance of default rate	Y
Debt to Income (dti)	DTI is not a deriving factor	N
Employee Length	Investor considers persons having 10+ years of experience as more eligible for loan amount but they are equally vulnerable to default	N
Ownership of Home	More applicants belong to Rent and Mortgage but all applicants are equally vulnerable to default	N
Delinquency in 2 years	Delinquency is not a deriving factor	N

Analysis…

There is a surge in the number of loans since 2009, which is good sign for business growth



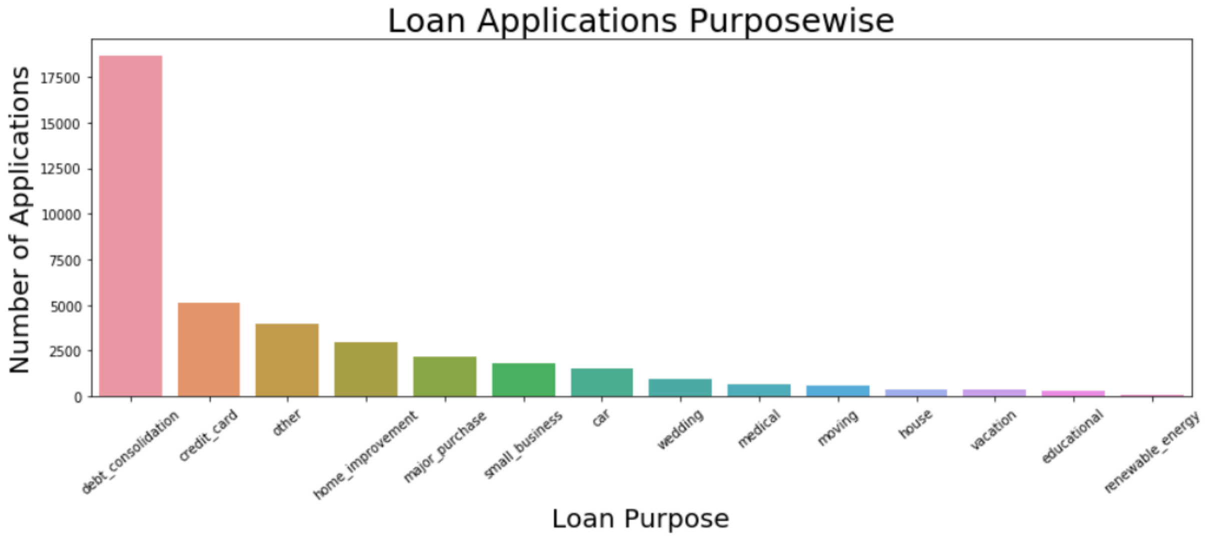
Inference #1 – Purpose of Loan

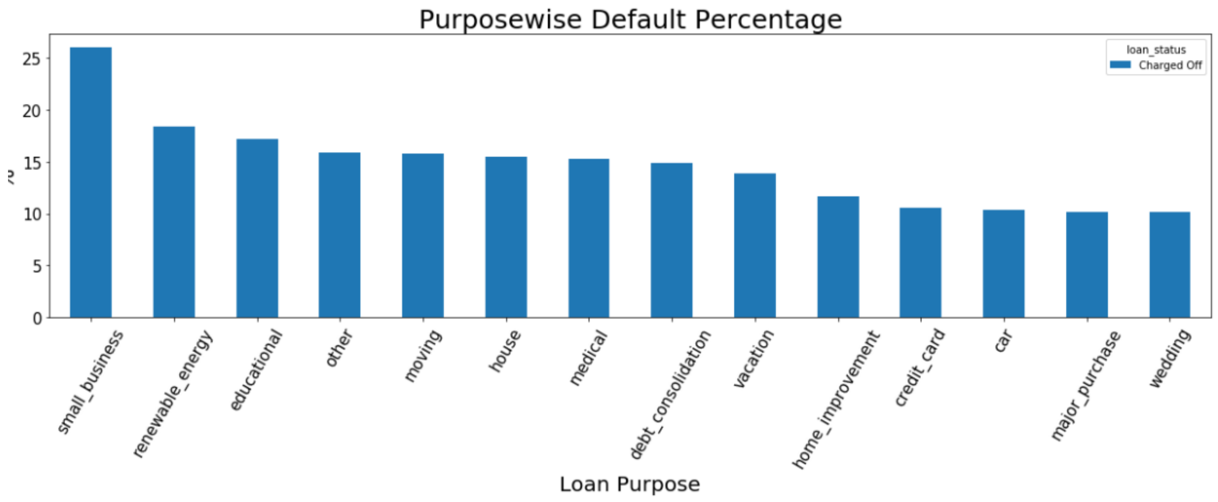
Though the number of applications are higher for

- debt consolidation
- Credit card
- Other

Default rate is higher for

- small business
- renewable energy
- educational



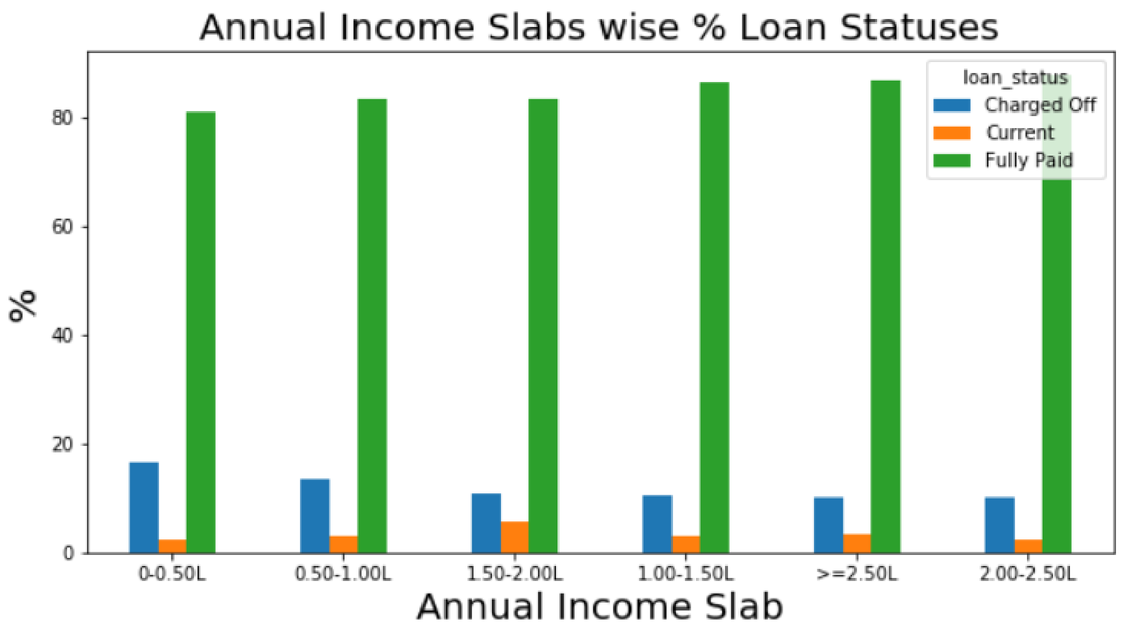


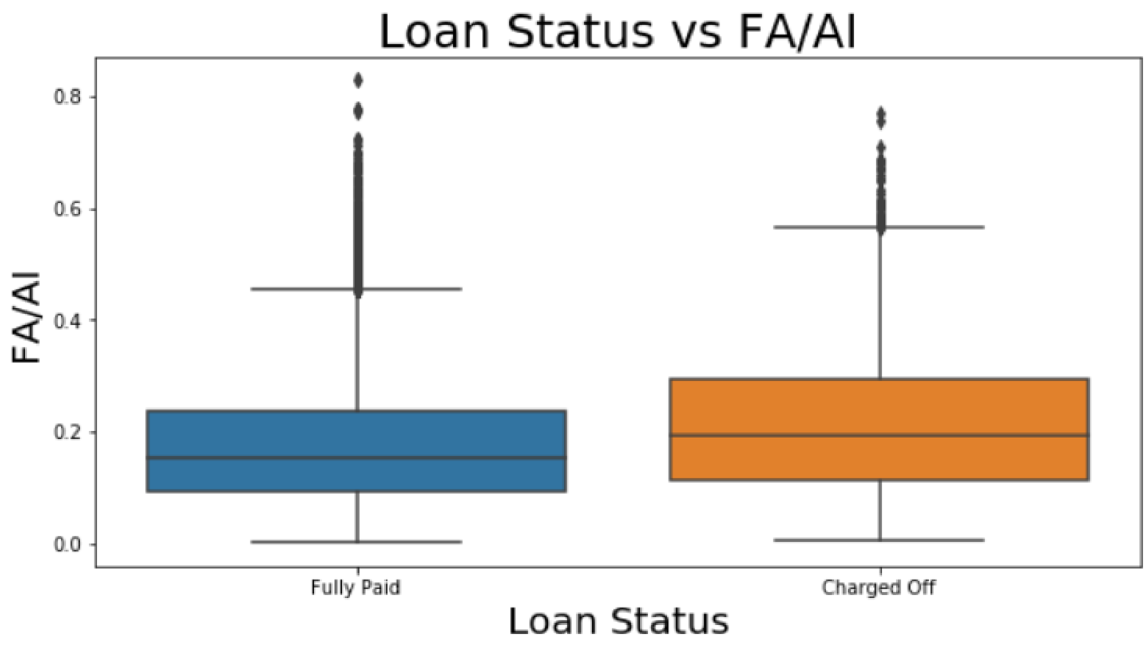
Inference #2 – Annual Income and Fund to Income

The applicants in the annual income of range 0 – 1 Lac are more susceptible for default

In the list of “charged-off”, the income 0 – 1 Lac constitute to 80% - 90% of population

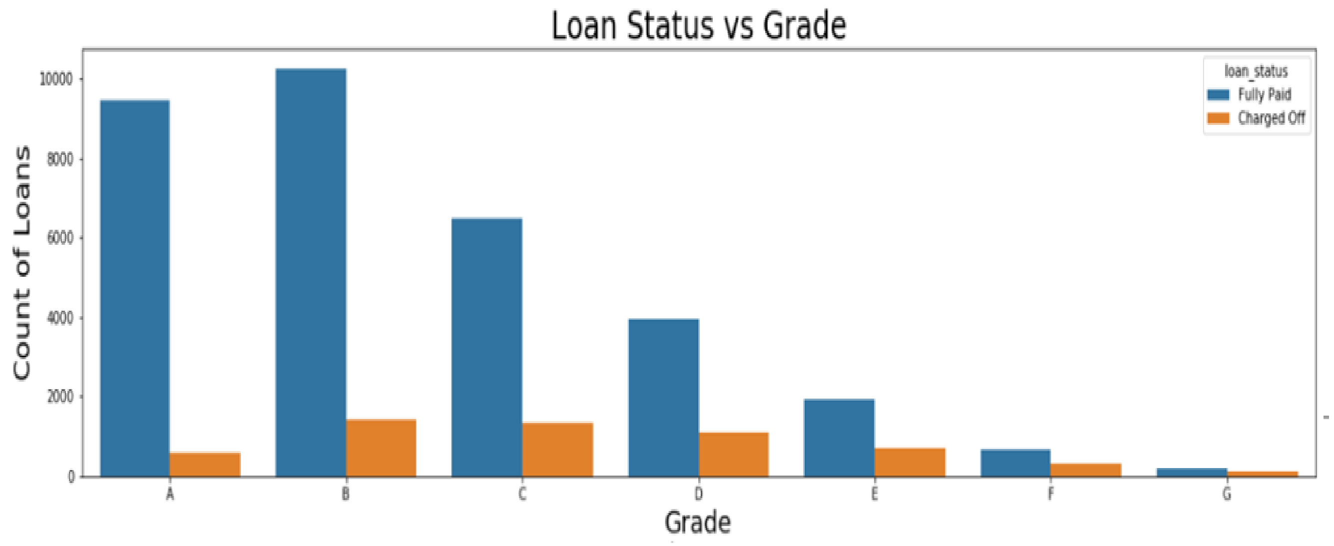
With the increase in ratio of Fund Amount to Annual Income, the risk for default increases

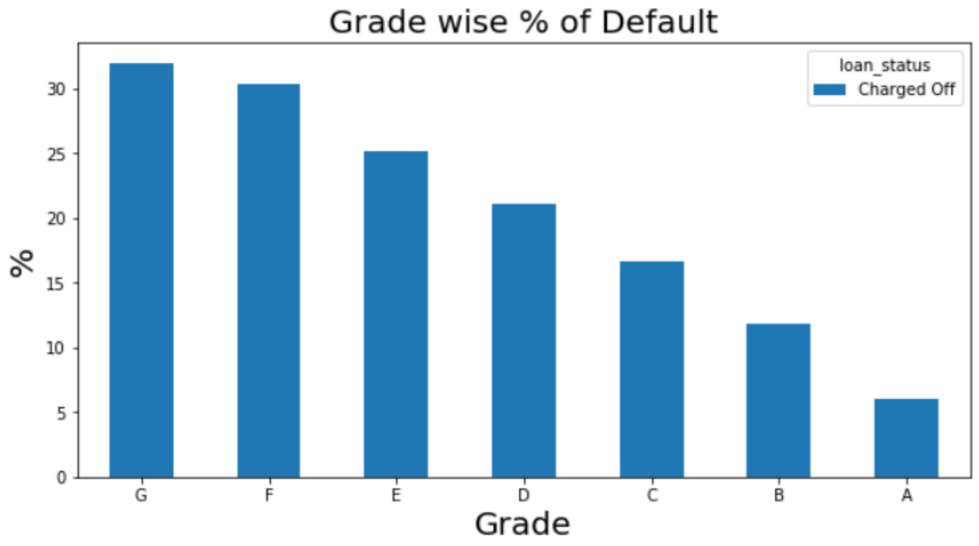




Inference #3 – Applicant Grade

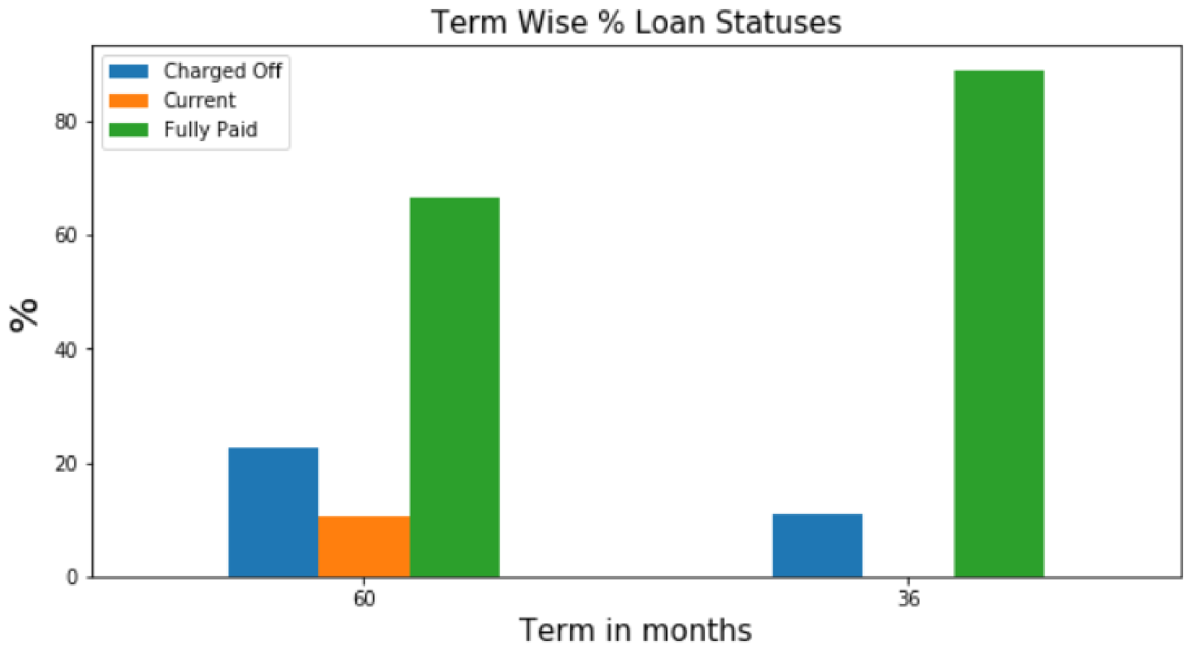
With the degradation of the grade of an applicant the chances of default increases which is currently deriving the number of approved loans





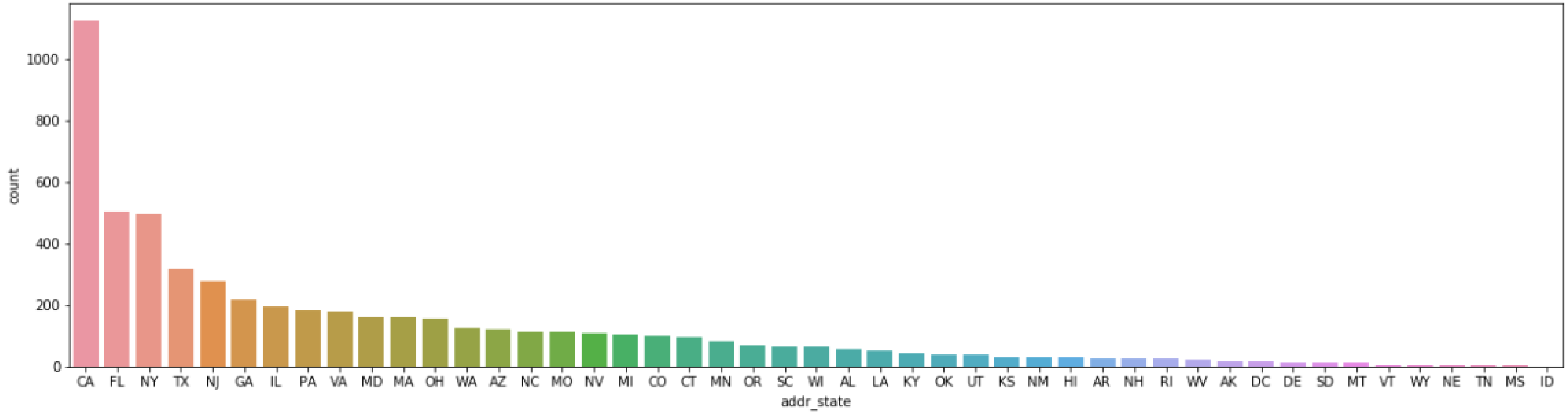
Inference #4 – Loan Term

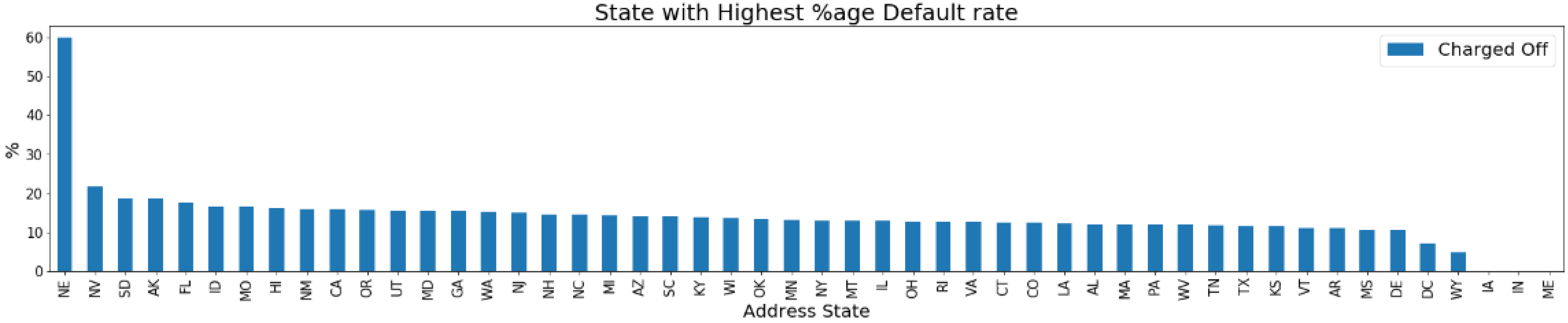
As the payment term increases, surprisingly the default rate increases too. So investing company must be cautious as giving away loans for longer terms. It may seem that the installments are less and so accordingly the default rate would be less, but the data suggests otherwise.



Inference #5 – Address State

NE has highest percentage of default which is about 60% though the number of loan applicants are higher from CA

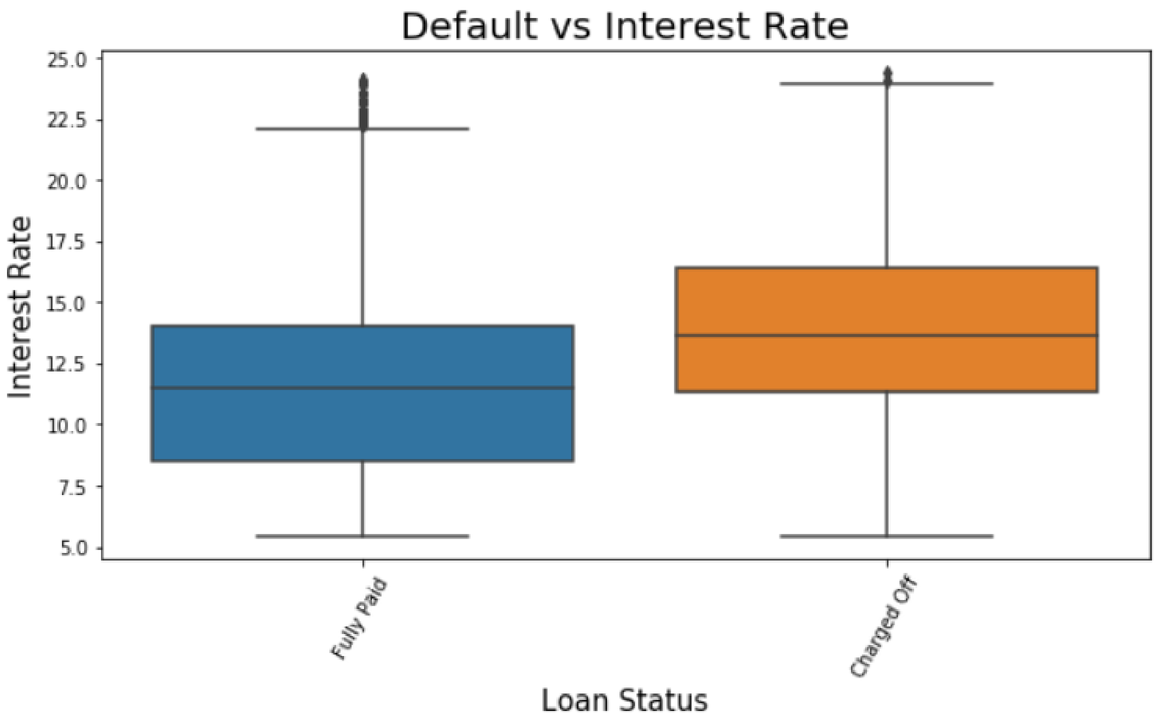




Inference #6 – Interest Rate

50th percentile of the loans that are fully paid are charged an interest rate which is less than the interest rate charged to 25th percentile of the loans that are defaulted.

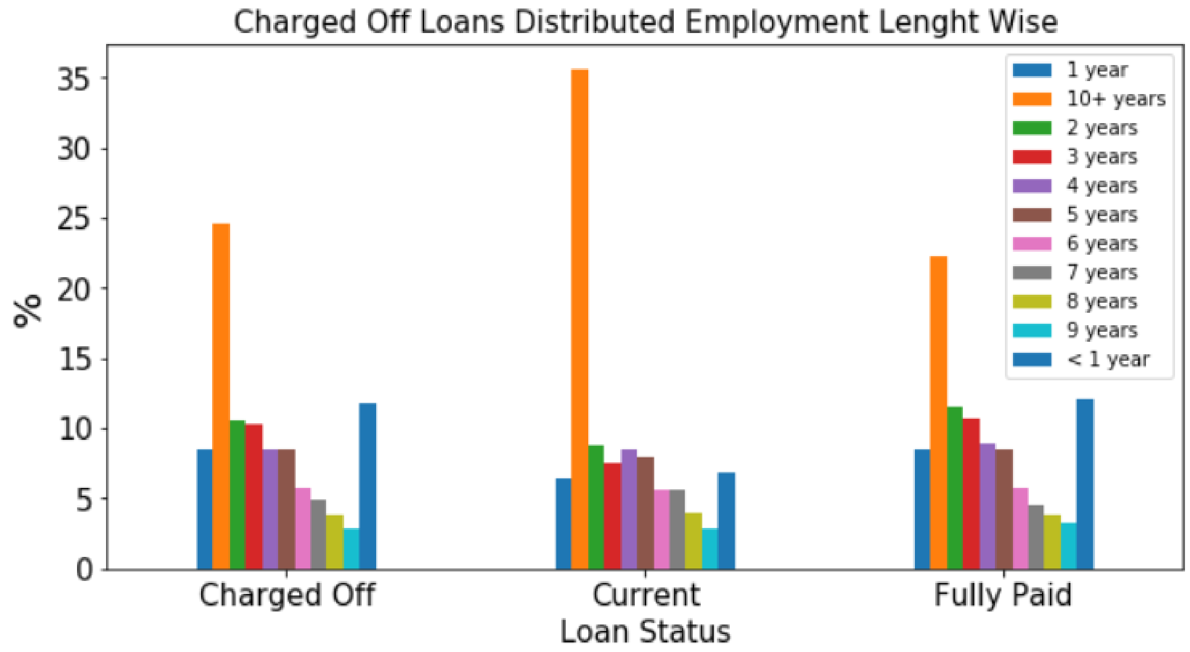
Hence banks should be wary of charging high interest rates. While it may sound like a good business decision in the beginning, it may actually lead to someone defaulting entirely and hence hit very badly to the business.

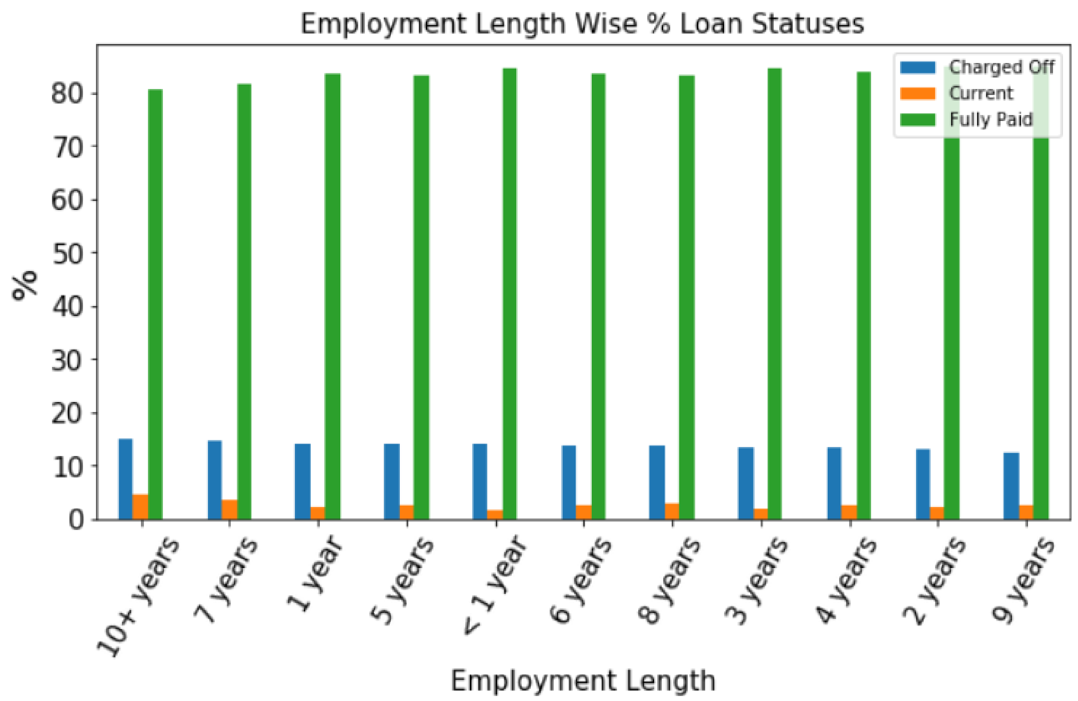


Inference #7 – Employment Years

While it may seem that loans given to people with more than 10years of experience form the maximum part of charged off loans and hence the most vulnerable group. But that is indeed not true

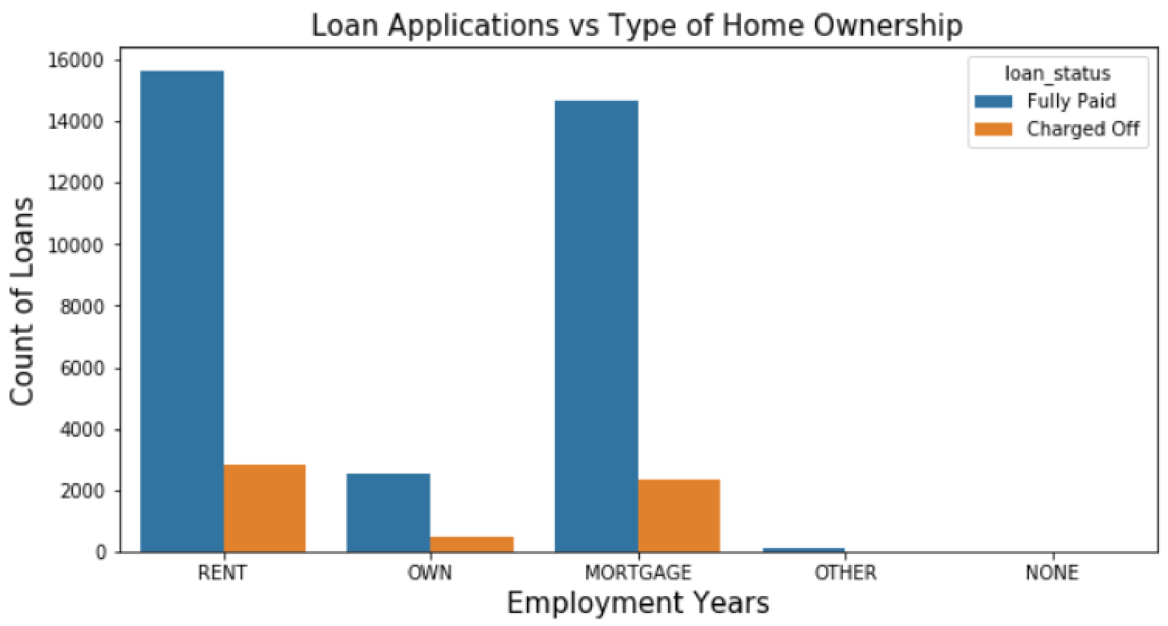
The percentage of default is almost same across applicants of different employment length

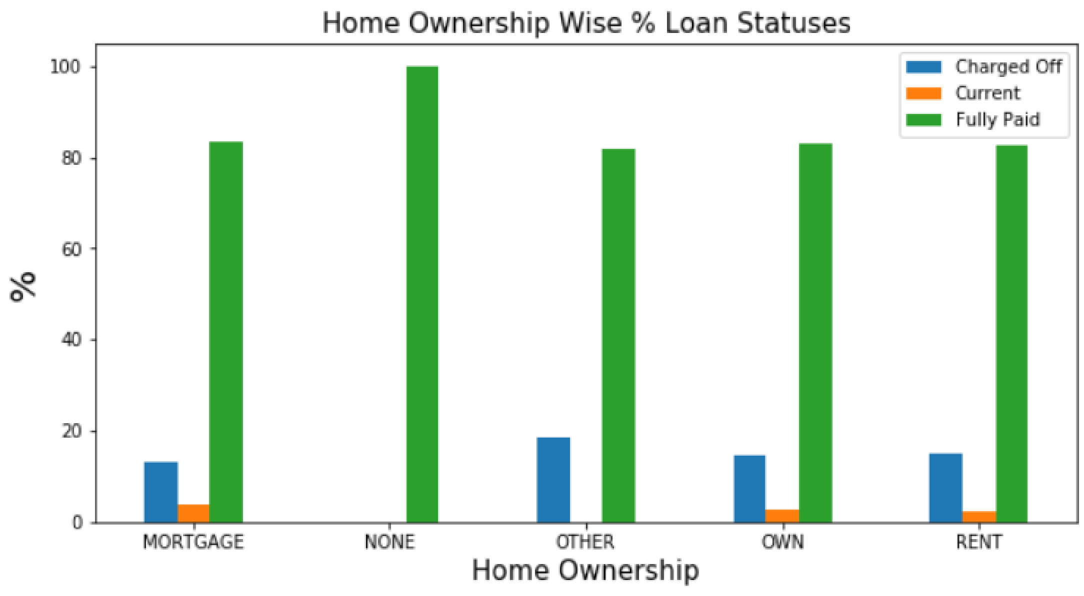




Inference #8 – Home Ownership

Loan applicants from rent and mortgage are either preferred or applying higher in number, but all the categories of applicants based on home ownership are equally vulnerable to default for the loan





Conclusion

The ones most likely to default are based on the following -

- ✓ ***Purpose of the loan*** - Small Business, Renewable Energy & Educational
- ✓ ***Annual Income of Applicant*** – range of 0 – 1 Lakh formed 30% of the total defaulted loans.
- ✓ ***Applicant Grade*** – Lower the grade, higher the risk
- ✓ ***Loan Term*** – Higher the term, higher the risk
- ✓ ***State of Applicant*** – NE is contributing to 60% of default
- ✓ ***Interest Rate*** – Higher the interest rate, higher is the chance of “default”
- ✓ ***Home Ownership & Employment Length*** – Both the factors have no influence on the loan performance