




EDA for Lending Club

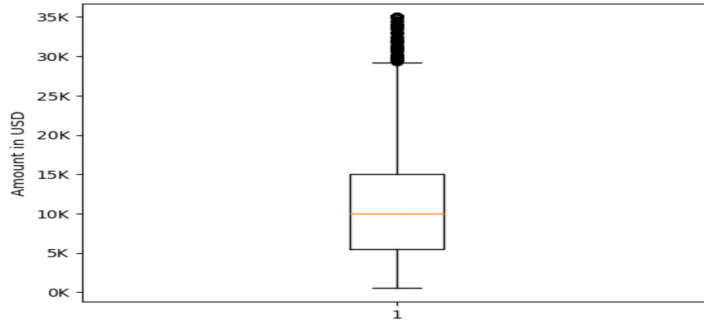


Background

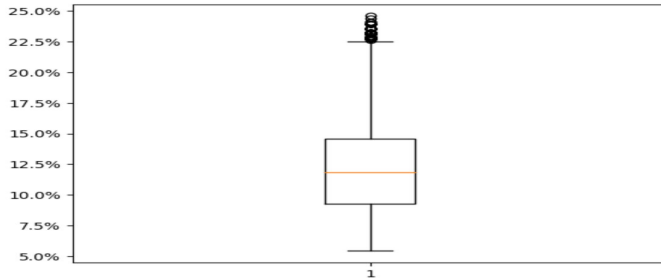
- Data is provided to a total of 39717 records from 2007 – 2011.
- Company works in US and lends money ranging from 500\$ to 35000\$.
- The interest varies from 5.4% to 24.5%
- Majority customers are in a low earning group which company caters to.

Company Profile

- Loan ranges from 500 – 35000\$

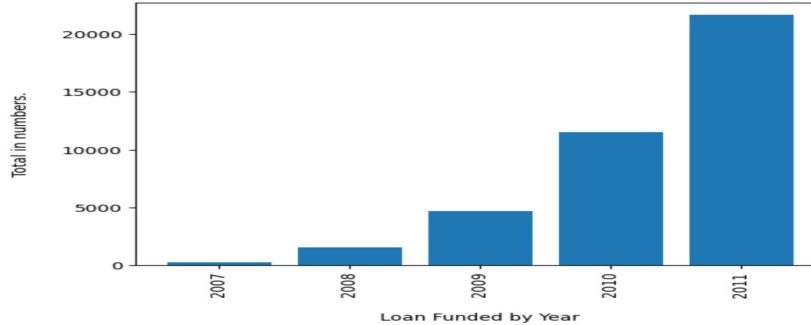


- Interest charges are from 5.4 to 24.5%

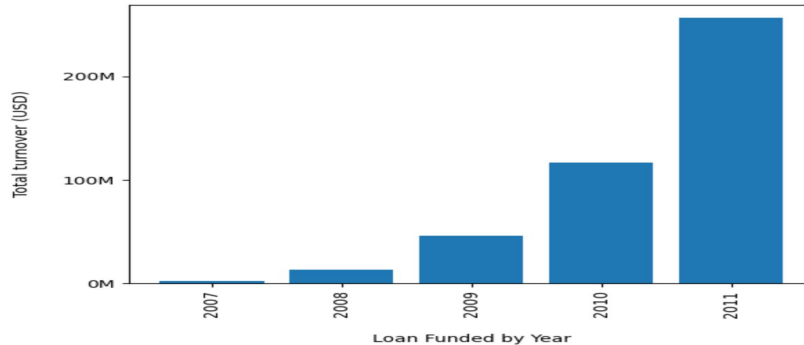


YOY stats

- Company was able to carter to close to 20K loans in 2011 from around 250 on 2007.



- Turnover also increased by folds from 2007 to 2011.



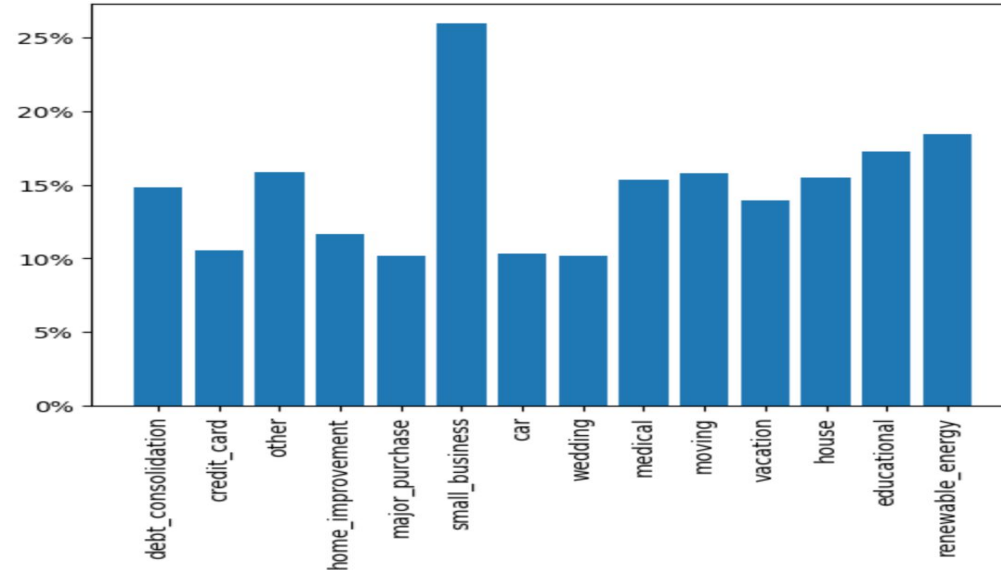
Bad debts to total ratio was at 14.17% and 15.21% by volume and value respectively.

Analysis

- Data cleaning and wrangling was done prior to starting EDA. The columns with majority of missing values were dropped and columns were converted to correct data types.
- A comparative analysis was done between variable like purpose, grade, home ownership, tenure etc to understand if some patterns can be identified for a high risk loan that may need to be charged off.
- Interesting patterns were found in Grade and Purpose.
 - Lower grade shows high chance of default.
 - Purpose mentioned as “Small Business” showed a higher change of defaults.

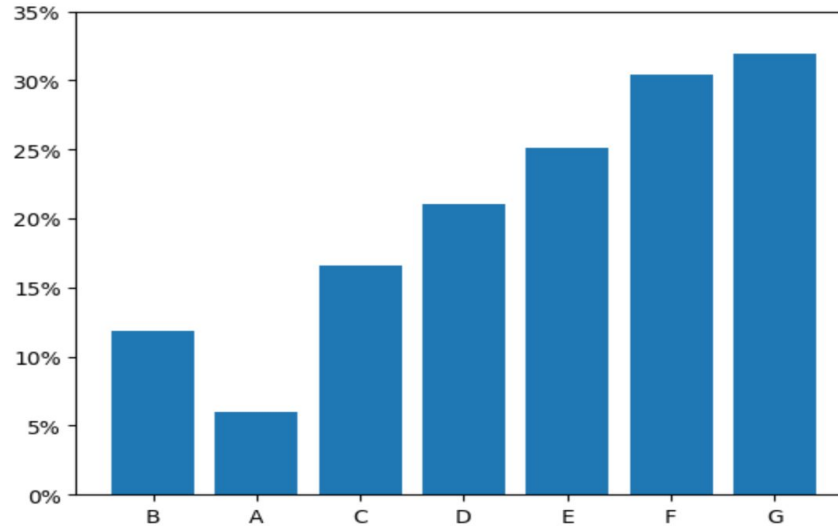
Purpose Variable

- Debt consolidation was the purpose mentioned by close to 50% of the cases.
- However, “Small Business” shows a higher percentage of charged off when comparing with bad debts and normal accounts.



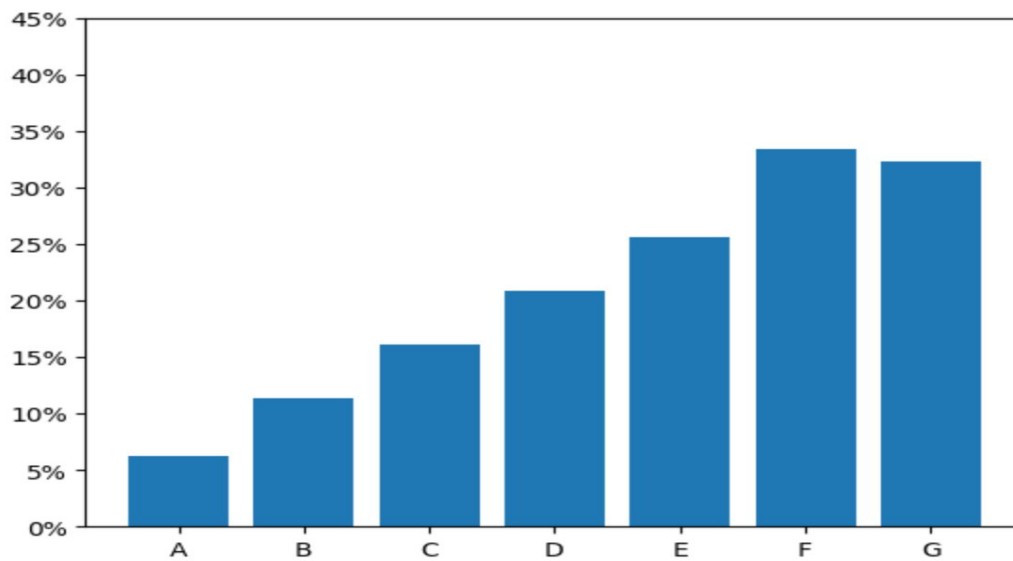
Grade Variable

- Among A-G grades. F and G grade had higher percentage of going default when comparing with the total number of loans.



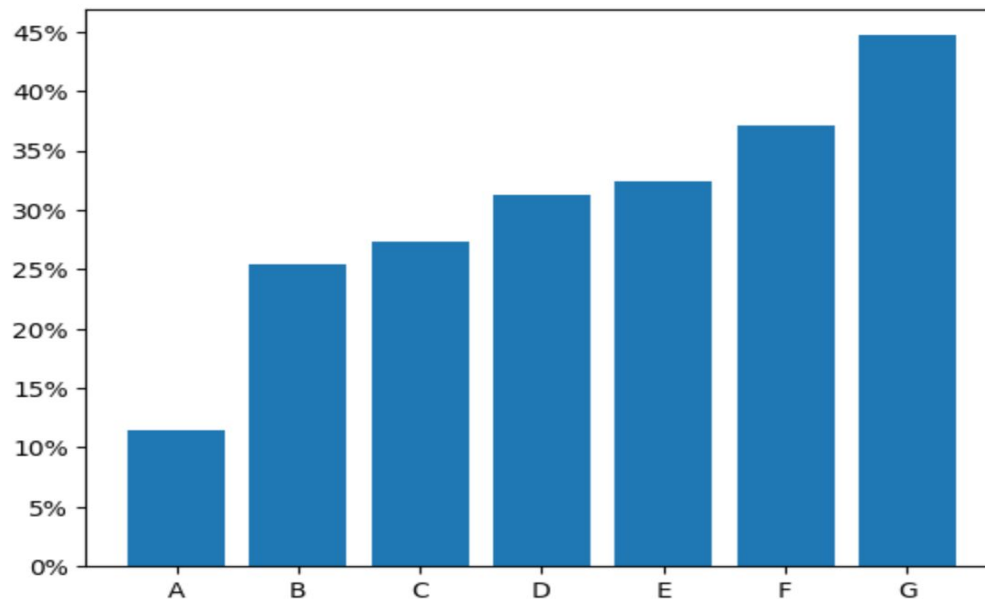
Grade and Purpose Variable (small business)

- When comparing Grade with purpose as small business. Grade F and G had high default percentage.



Grade and Purpose Variable (Debt consolidation)

- When comparing Grade with purpose as small business. Grade F and G had high default percentage.



Conclusion

- Looking at various variables. Purpose (debt consolidation and Small Business) and Grade looks to indicate a high risk patterns with a high percentage of change of defaults.
- When adding both variables together in comparison, the percentage remain high.
- Thus is safe to conclude more verification and validations need to be done when process loans for **Grade F,G** when mentioned purpose if either **“Small Business or Debt consolidation”**