

# Lending Club Case Study

## Group Members

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# Introduction

Provided data is of consumer finance company that specialize in lending various types of loans to customers in urban areas. When a company receives a loan application, it must decide on loan approval based on the applicant's profile.

We need to make recommendation based on the provided data so that a finance company can reject future loan applications from potential defaulters.



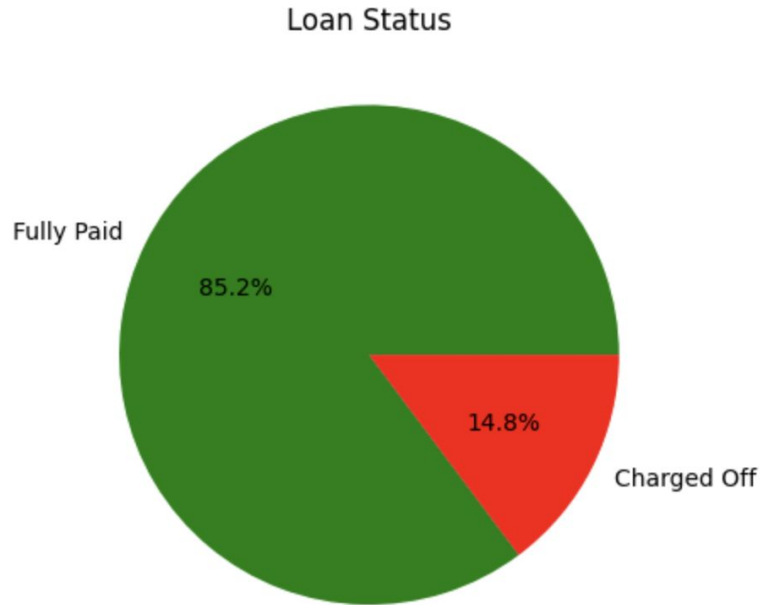
# Analysis Approach: Identifying Factors Influencing Loan Default Risk

- **Data visualization:** Visualizations explored relationships between loan features (amount, term) and borrower characteristics (income, industry, bankruptcies) with default rates.
- **Statistical analysis:** Statistical methods have been used to quantify correlations between various variables and default rates.
- **Comparative analysis:** Compared default rates across different loan categories (size, term) and borrower segments (income, industry) to identify patterns and trends.

By leveraging this comprehensive approach, we gained valuable insights into the factors that contribute to loan default risk, enabling the development of data-driven recommendations for mitigating risk and optimizing lending decisions.



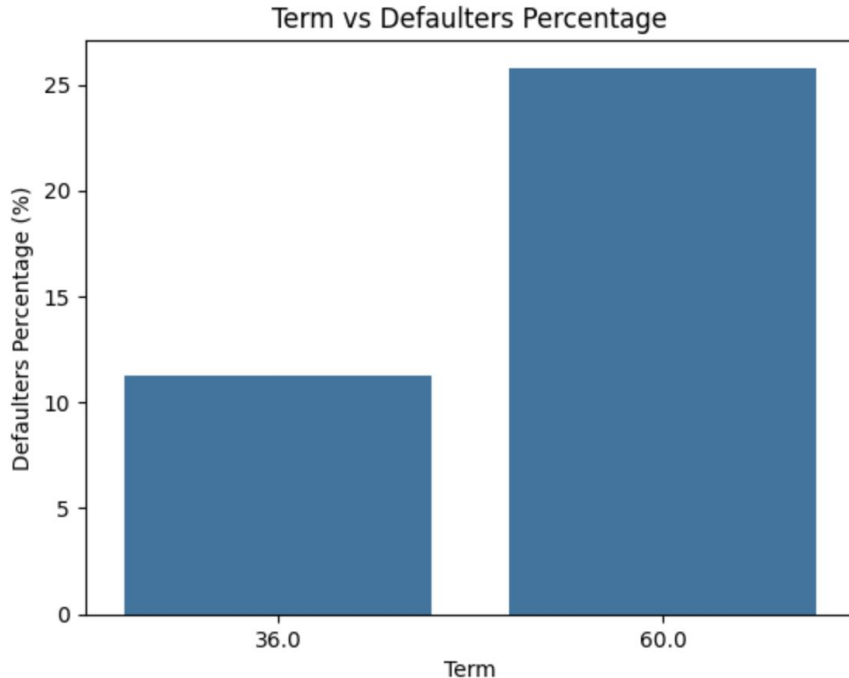
# Analysis



This Lending institution has a relatively **low rate of loan defaults** (loans that are charged off). This is a good sign for the financial health of the institution.



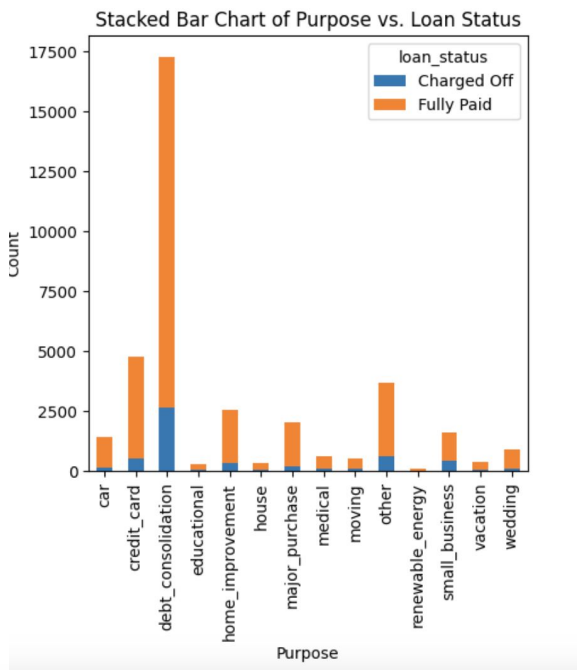
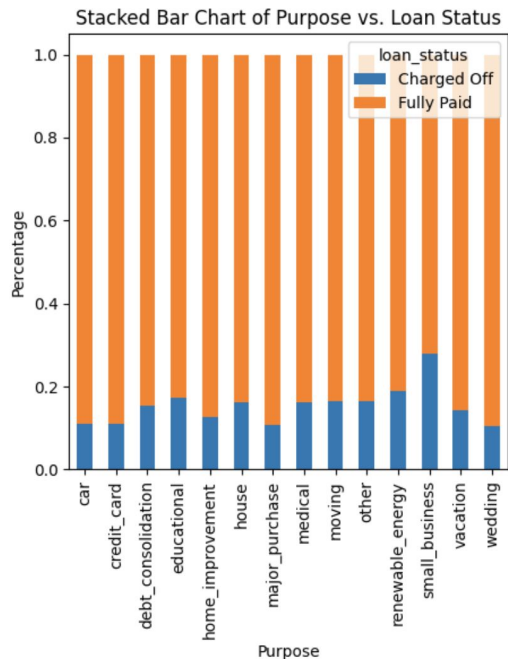
# How Loan Term Impacts Default Rates



This shows that the length of a loan term can be a factor in the likelihood of default. **Company should do appropriate risk analysis of borrower while giving long term loans,** Check whether borrower can afford the monthly payments.



# Does Loan Purpose Influence Repayment Outcomes?

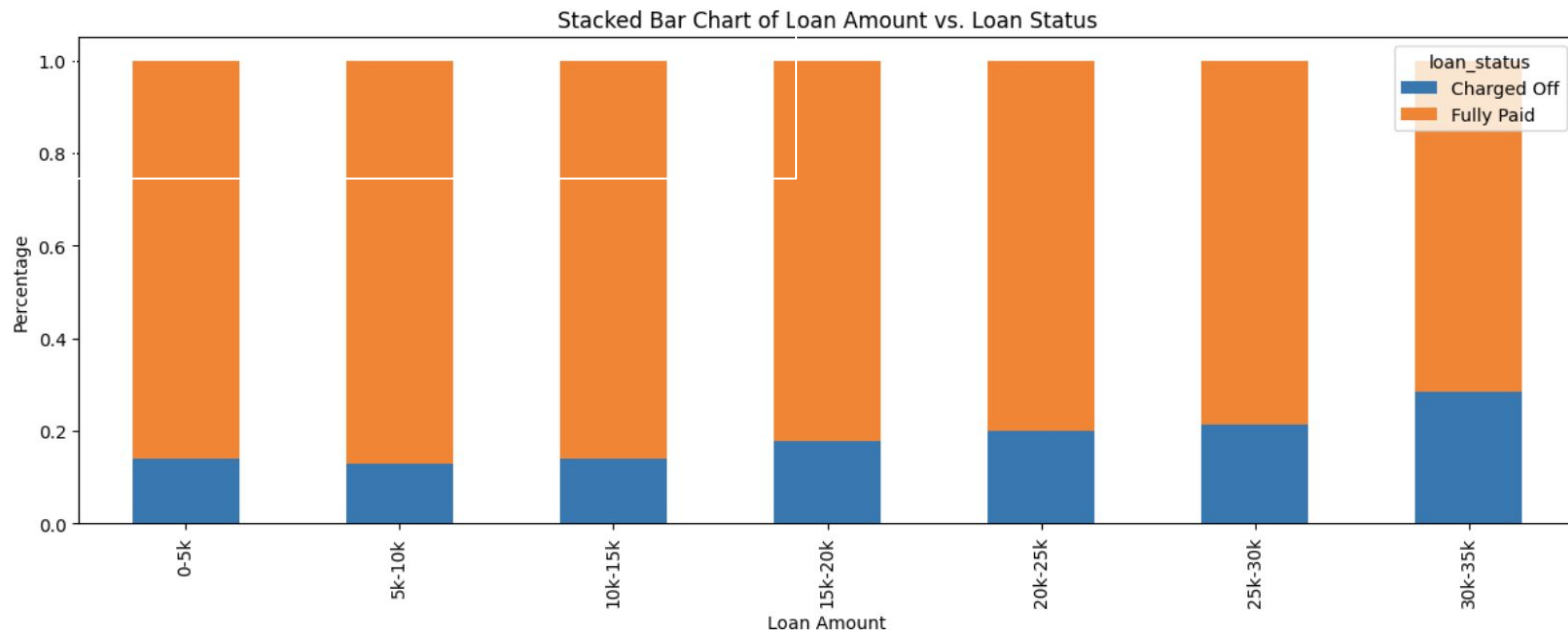


Debt consolidation loans are the most popular type of loan, but they are not the riskiest. In fact, **small businesses have a higher default rate** on their loans.

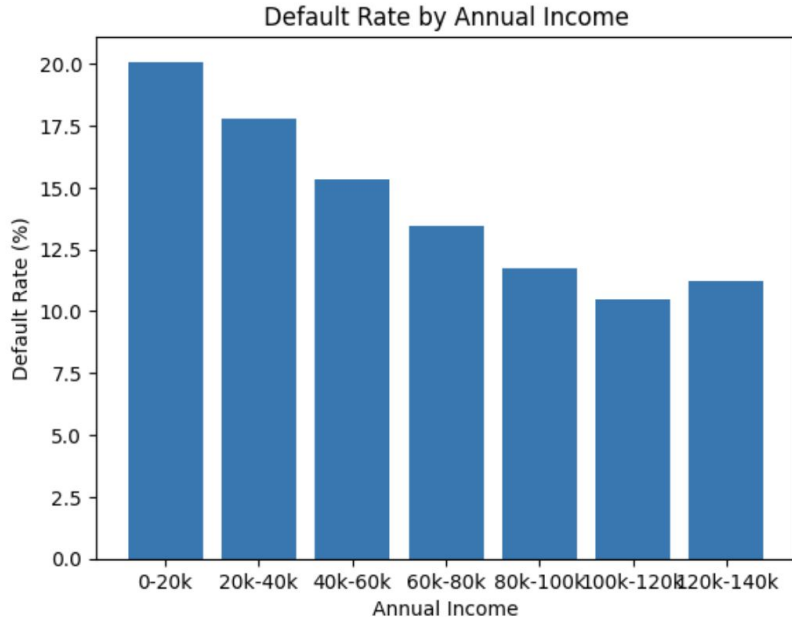


## Bigger Loans, Bigger Risk? Analyzing Loan Size and Defaults

For larger loan amounts, consider stricter risk assessment to mitigate potential default risk.



# Does Income Predict Default Risk?



- This graph shows the default rate for loans at different annual income levels.
- The default rate is significantly higher for borrowers with lower annual incomes.
- This suggests that borrowers with lower incomes may be a higher risk for lenders.

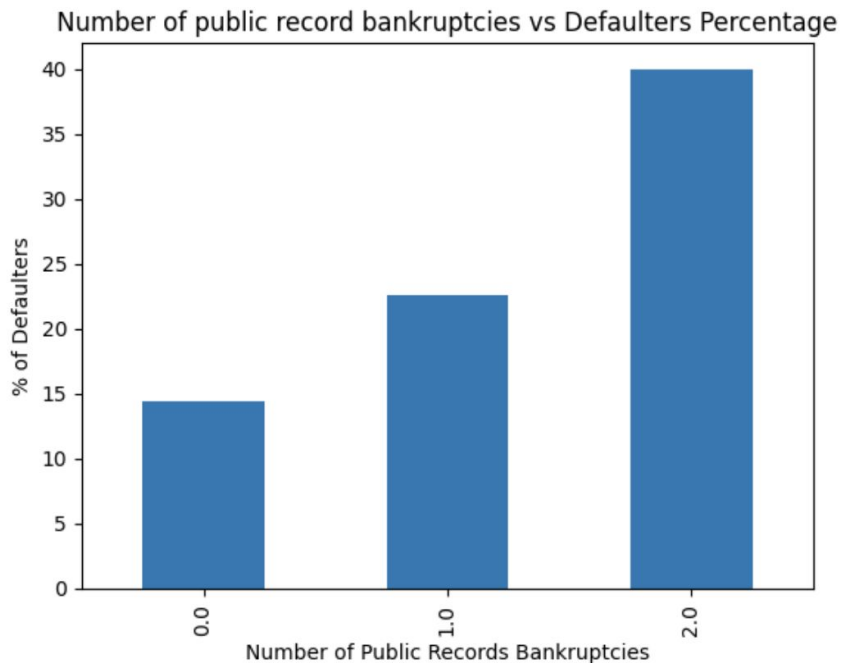




# The Red Flag: Bankruptcy Records and Default Risk

Borrowers with a history of bankruptcy are more likely to default on future loans.

Lender should scrutinize applications with a history of public record bankruptcies more thoroughly. Lenders may want to ask details such as a detailed explanation of the bankruptcy and a plan for rebuilding credit.





# Key Insights for Mitigating Default Risk in the Lending Process

- **Loan size:** Larger loans tend to have a higher default rate. Consider stricter risk assessment or alternative loan structures for larger amounts.
- **Borrower income:** Lower income borrowers may be higher risk. Utilize a variety of factors like credit score and debt-to-income ratio for informed decisions.
- **Industry sector:** Businesses in certain sectors experience higher default rates. Develop industry-specific lending criteria to mitigate risk.
- **Public record bankruptcies:** Individuals with past bankruptcies pose a higher risk. Leverage this information alongside other factors during loan assessment.

By considering these factors and implementing appropriate strategies, lenders can make informed decisions, minimize defaults, and ensure the financial health of their institutions.



# Thanks