Lending Club Case

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Business Objective

The company aims to identify and mitigate loan default risks, reducing financial losses. Through Exploratory Data Analysis (EDA), they seek to uncover key factors associated with defaults, improving risk assessment, and portfolio management.

Outcome:

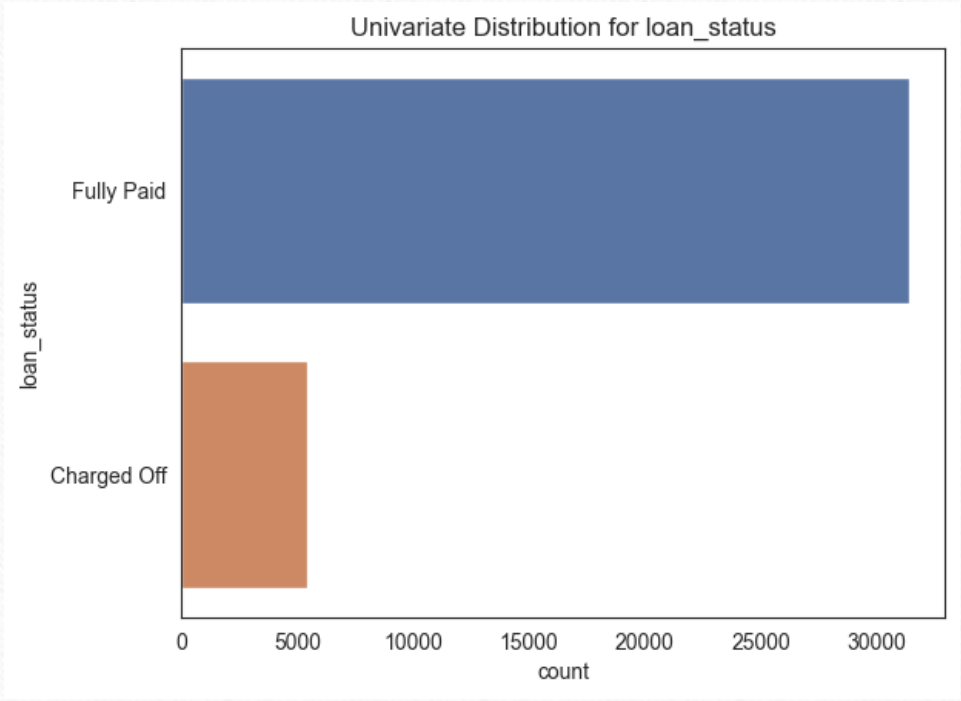
1. Reduced Losses
2. Informed Lending Decisions
3. Enhanced Risk Assessment
4. Competitive Advantage
5. Regulatory Compliance

Process Flow

- Understanding the data
- Data Cleaning
- Standardizing the Columns
- Deriving new metrics
- Univariate Analysis
- Bivariate Analysis with Target Variable
- Insights and outcomes

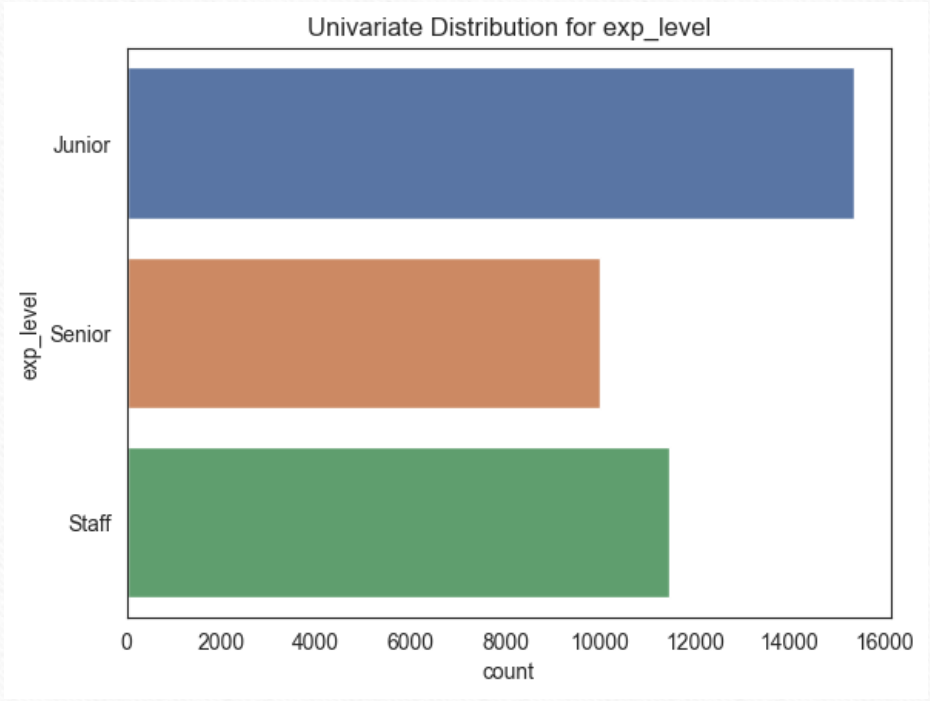
UNIVARIATE ANALYSIS

Loan Status



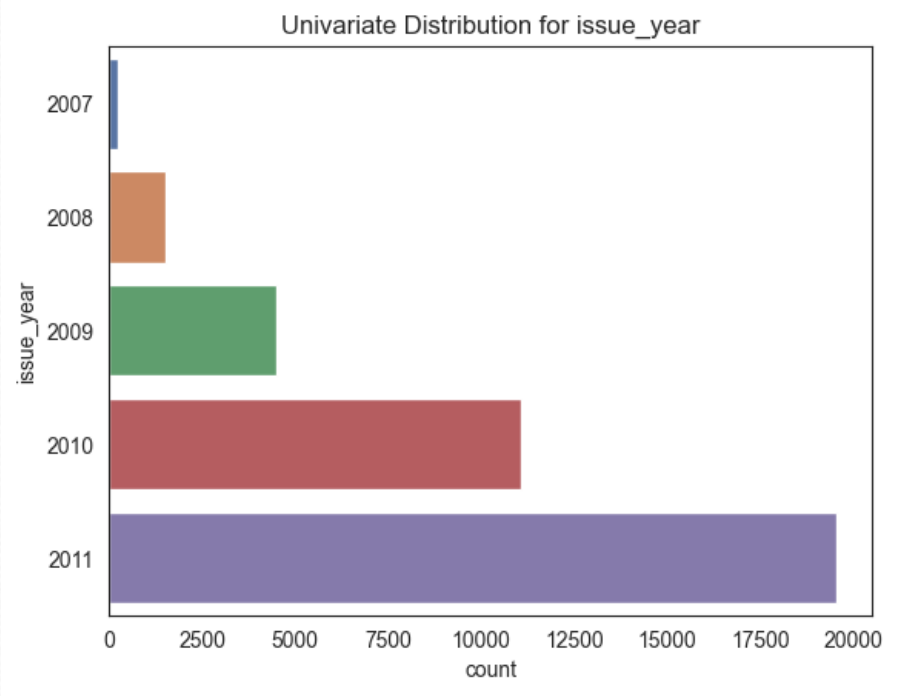
In the graphical representation provided, it is evident that the number of fully paid customers significantly outweighs those who have defaulted, showing nearly a six-fold difference.

Experience Level



The visual data demonstrates that junior-level employees exhibit a stronger tendency to apply for loans.

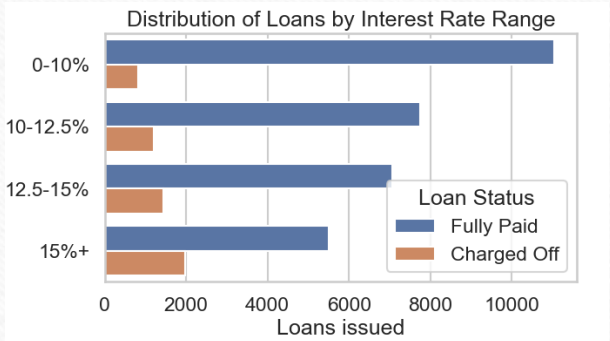
Issue Year

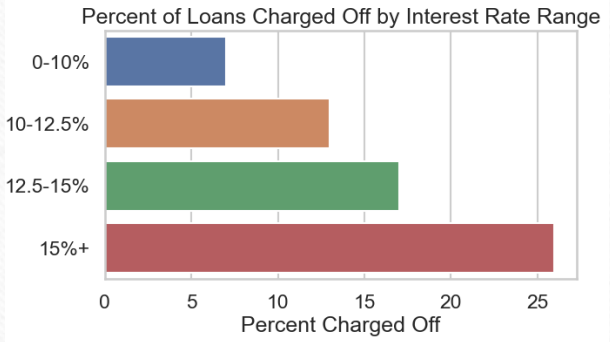


The graph displays a clear upward trajectory in loan applications over the years.

BIVARIATE ANALYSIS

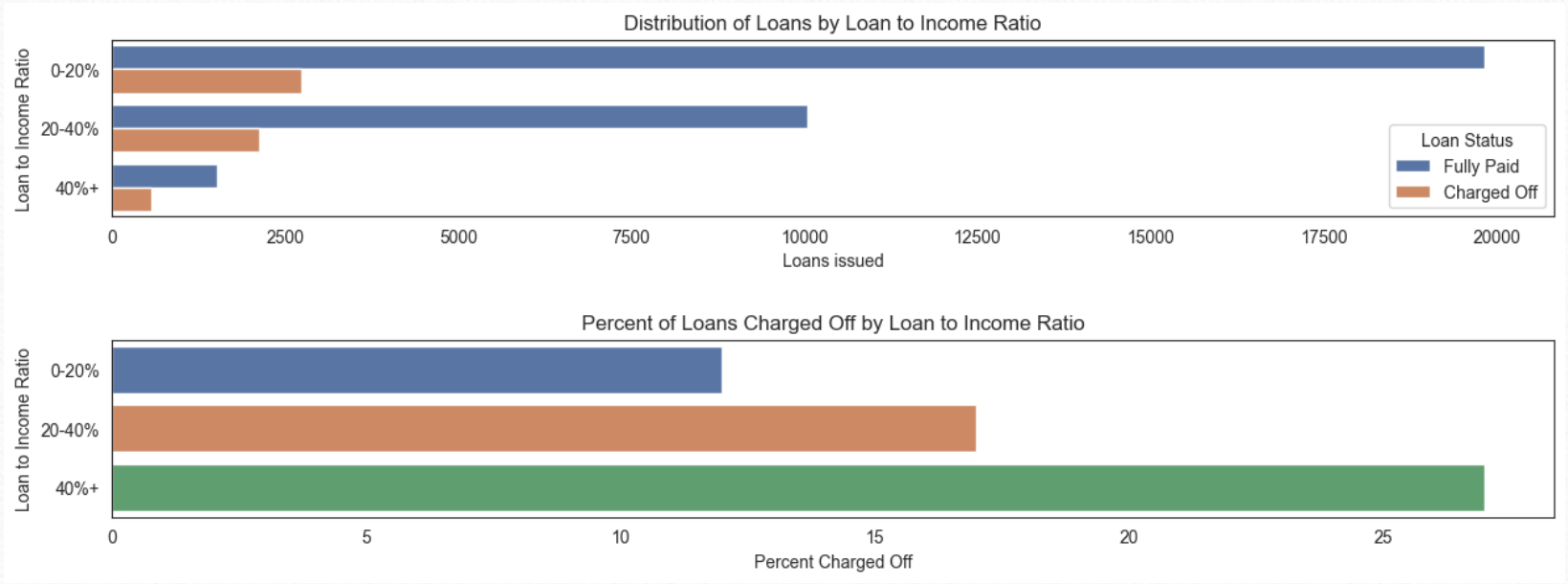
Interest Rate ~ Loan Status





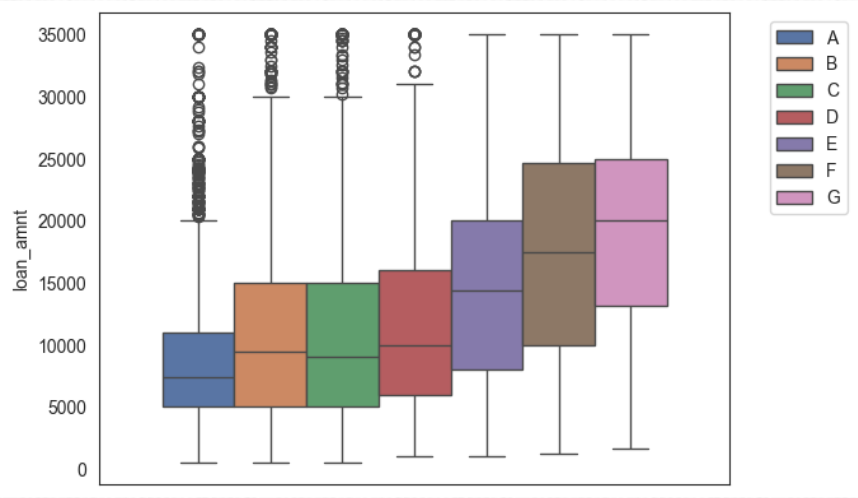
As the interest rate increases, the rate of defaulters also increases. The graph clearly demonstrates that there is a significant number of loan defaulters when the interest rate is 15% or higher.

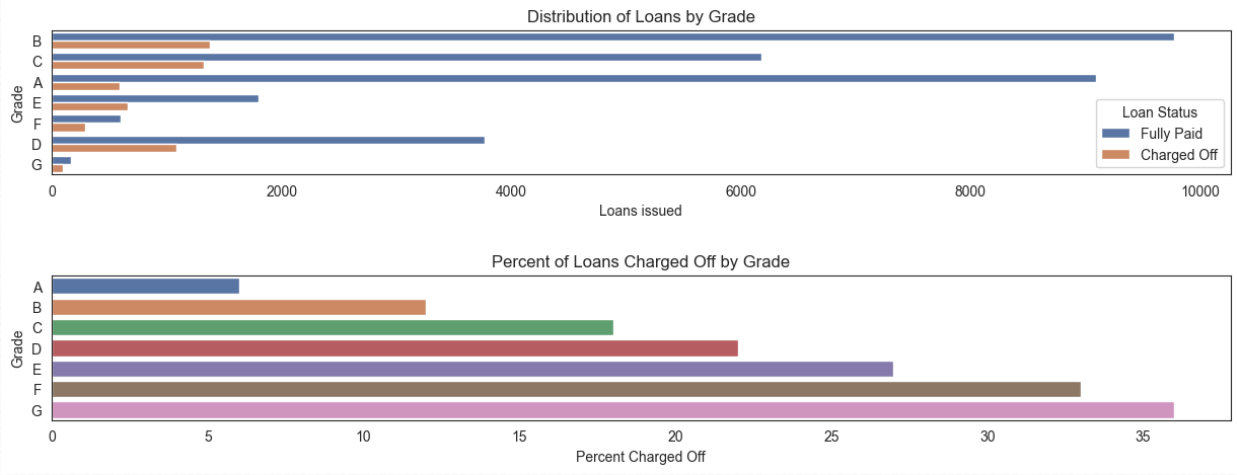
Loan to Income Ratio ~ Loan Status



Based on the above graph, it can be concluded that individuals with a loan-to-income ratio exceeding 40% are considered risky applicants.

Grade~ Loan Status





Grade G represents the riskiest category of applicants, with a median loan amount of nearly 15-20K, which is the highest among all the grades.

INSIGHTS

- **Grade Analysis**: Reevaluate lending criteria for Grade G and tailor offerings for various grades to minimize default risks.
- **Income Range Targeting**: Focus marketing efforts and loan products on customers with medium salaries (25-50K) while adapting offerings for other income brackets to decrease default risk.
- **Annual Income Analysis**: Continuously analyze the income levels of loan customers to refine lending strategies and mitigate loan default rates effectively.

Thank You