

Case Study

Business Understanding

You work for a **consumer finance company** that specialises in providing various types of loans to urban customers. When the company receives a loan application, it has to decide whether to approve or reject it based on the applicant's profile. Two **types of risks** are associated with the bank's decision:

If the applicant is **likely to repay the loan**, then not approving the loan results in a **loss of business** to the company.

If the applicant is **not likely to repay the loan**, i.e., they are likely to default, then approving the loan may lead to **financial loss** for the company.

Business Objective

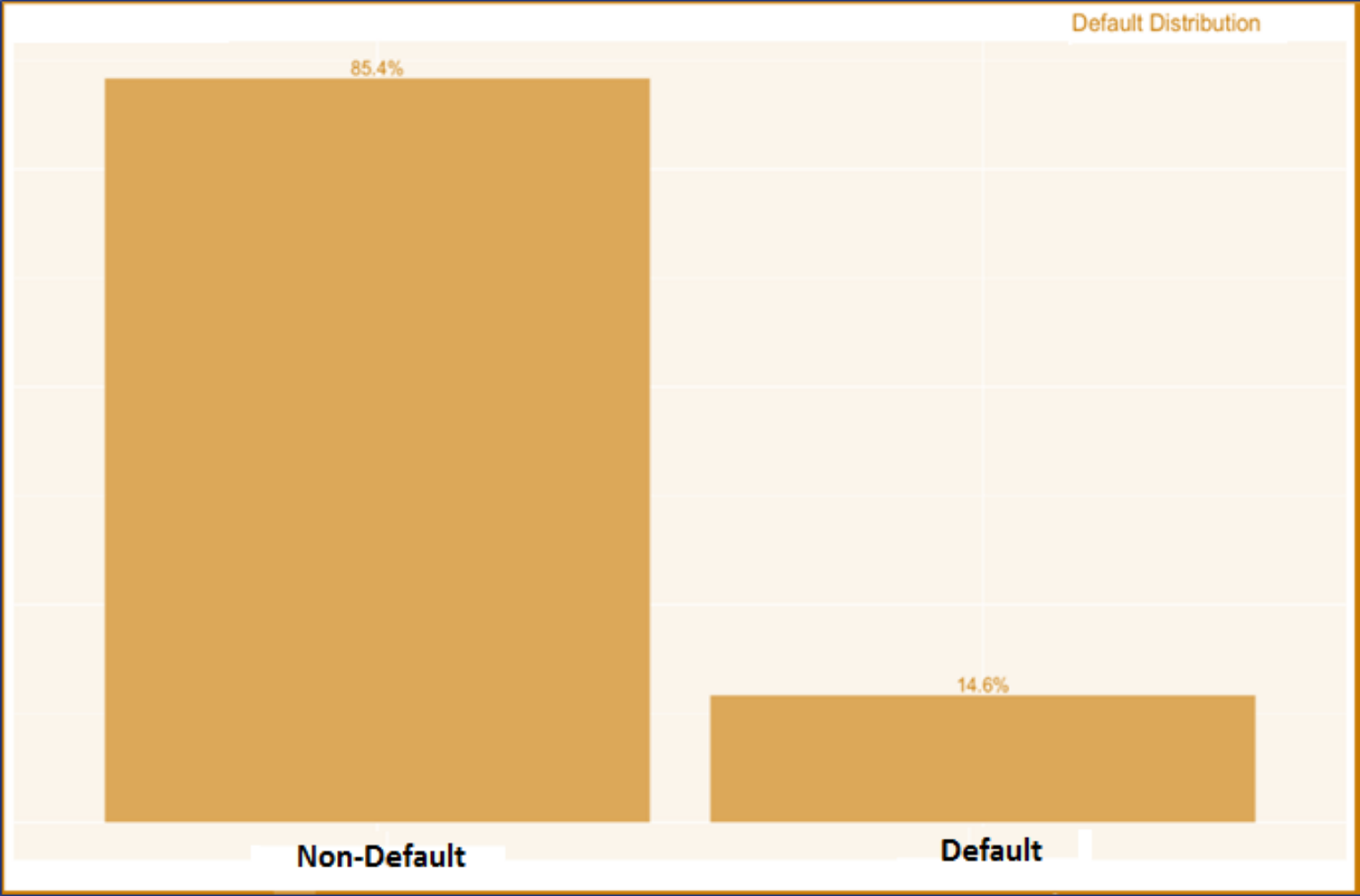
To identify variables which are strong indicators of default and potentially use the insights in approval / rejection decision making.

Data Understanding

Types of variables

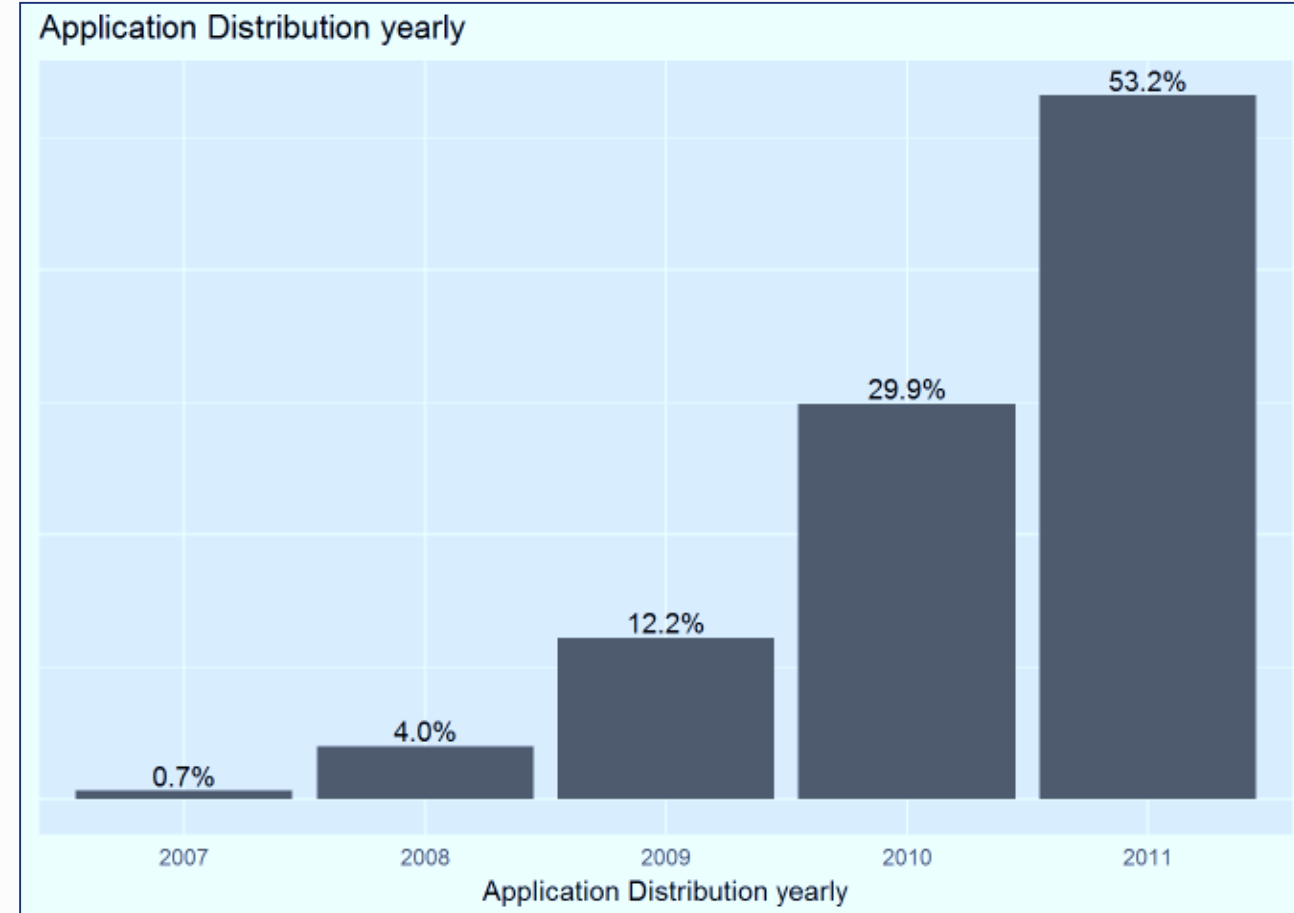
- Customer (applicant) demographic
- Loan related information & characteristics
- Customer behaviour (if the loan is granted)

Data Understanding - Overall Default Rate is 14%



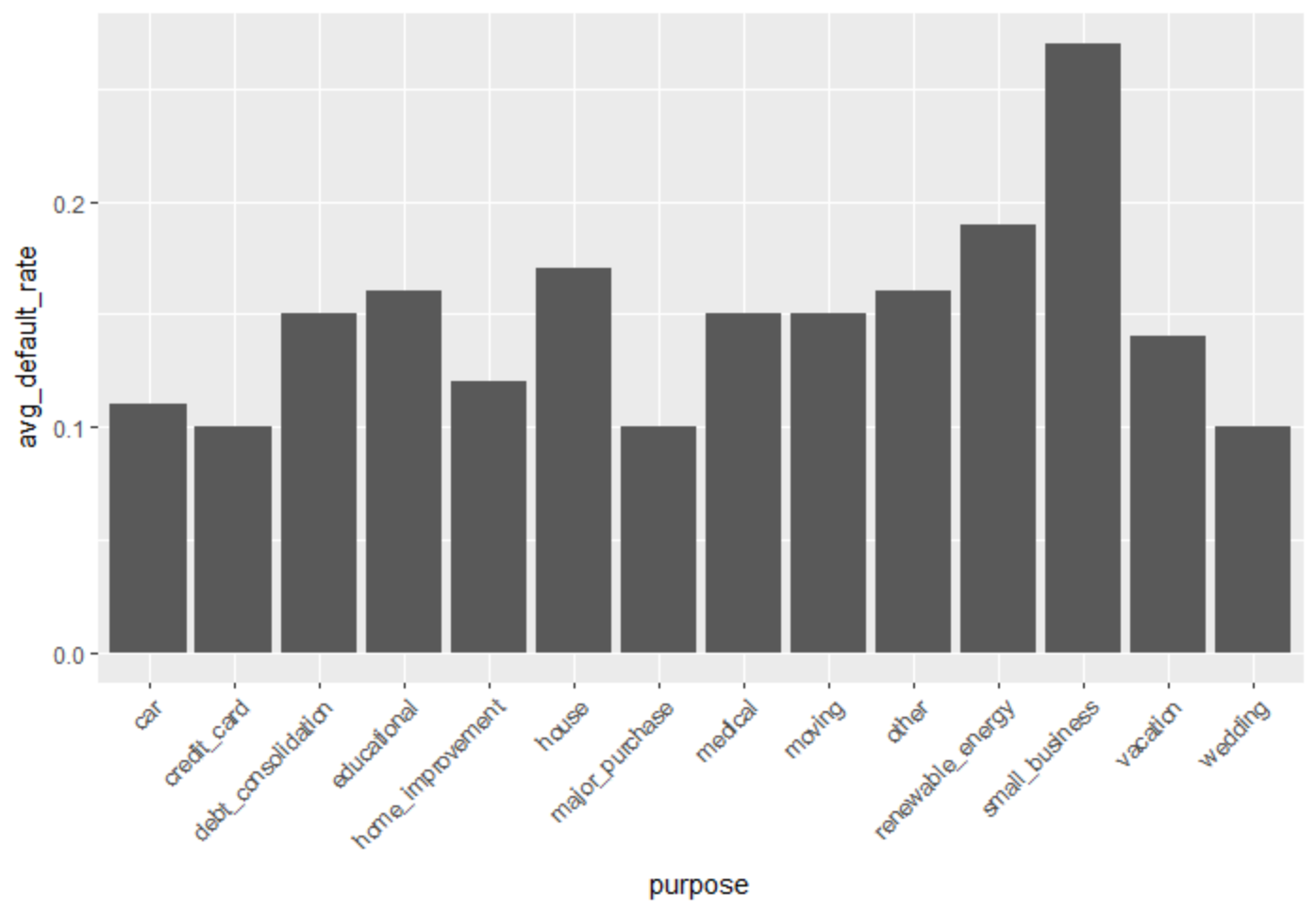
2007-2011

- 78% increment in applicants in 2011 compared to 2010
- 145% increment in applicants in 2010 compared to 2009



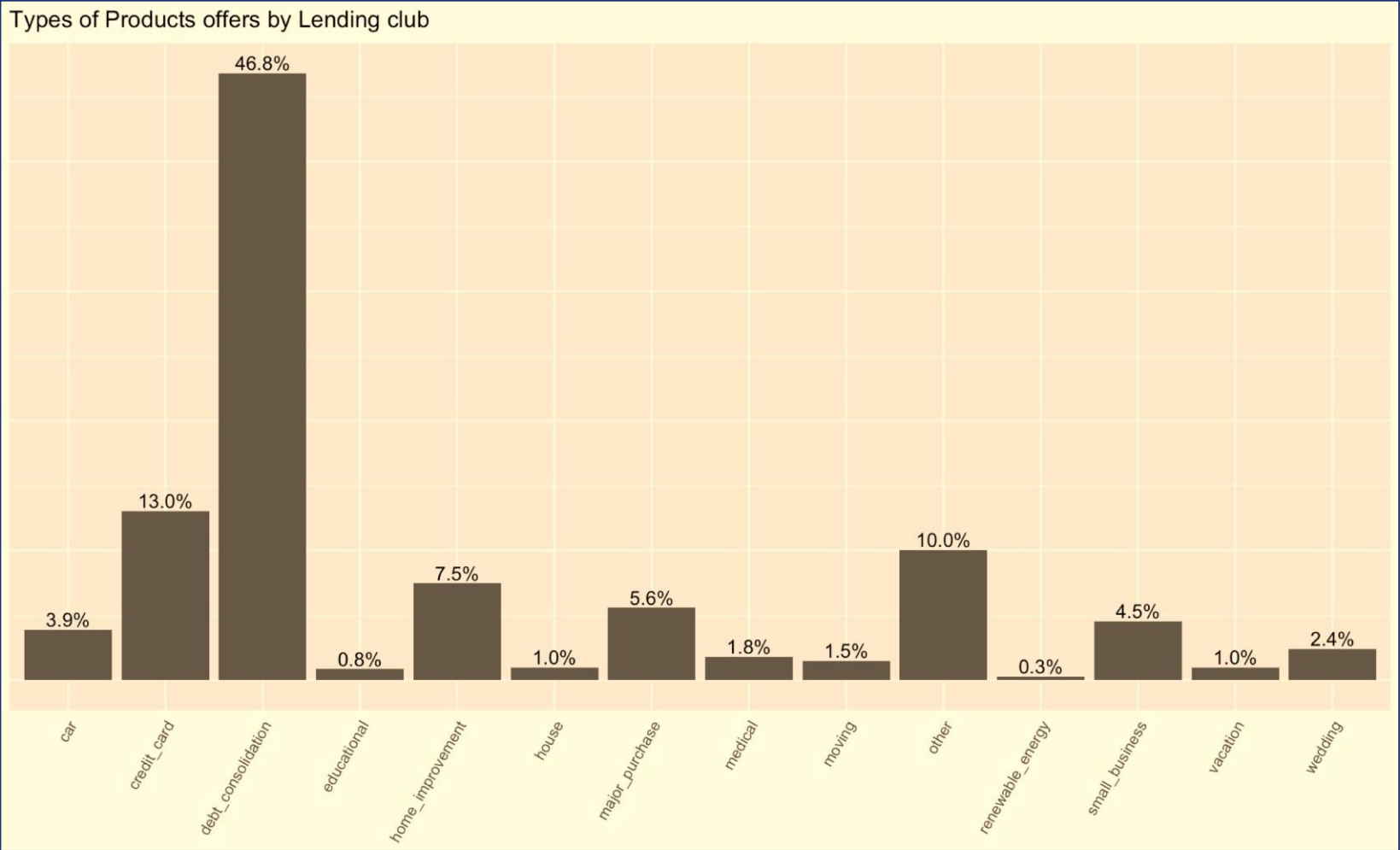
Default Rates By Loan Purpose

- Small business: 27%
- House: 17%
- Educational: 16%
- Debt consolidation: 15%
- Credit card: 10%
- Major purchase: 10%



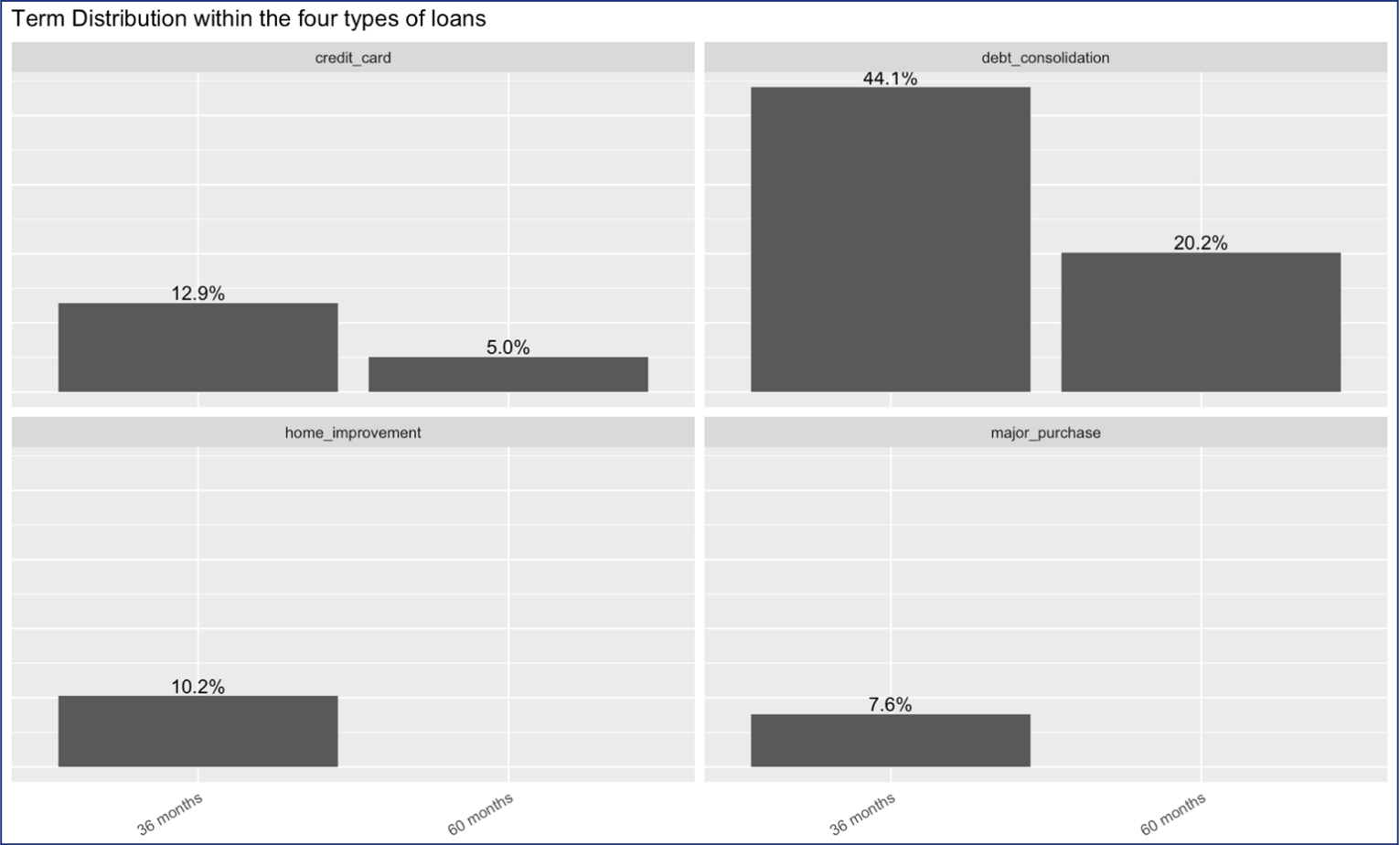
Loan Purpose Distribution Debt Consolidation Loan is the most popular

- 46.8% debt consolidation loans
- 13% credit card loans
- 7.5% home improvement loans
- 5.6% major purchase loans

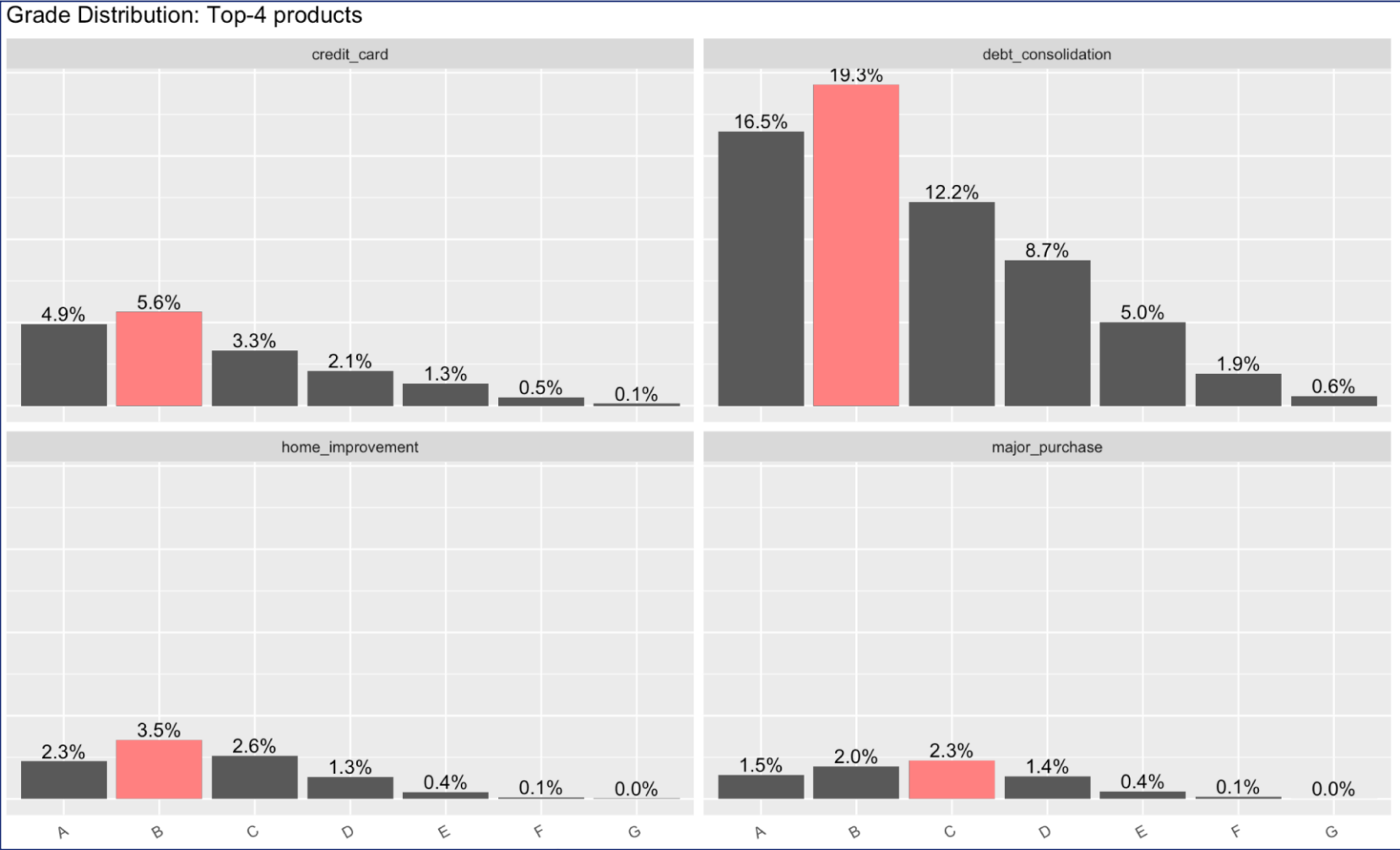


Term Distribution in Top-4 products

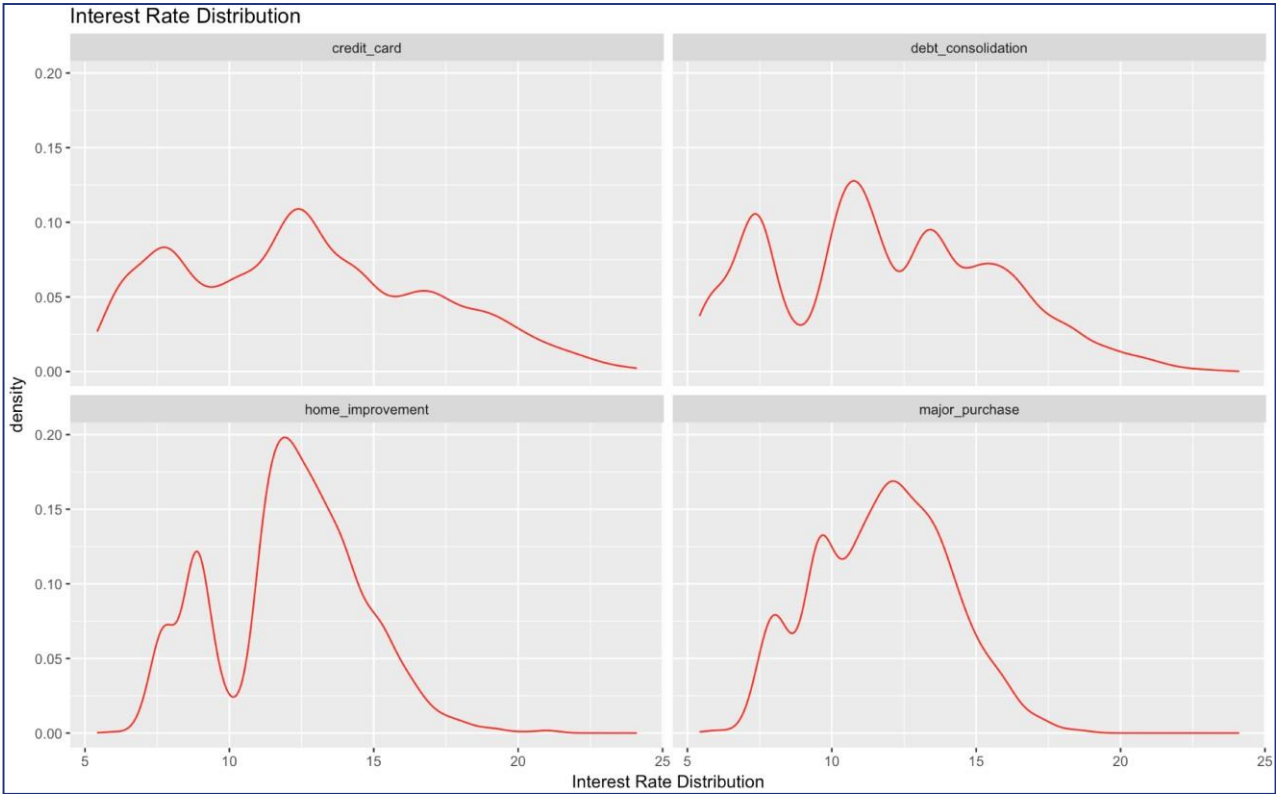
- Lending club has given out 36 month term period loan for major purpose and home improvement.



Grade Distribution top-4 products



Interest Rate in top-4 products

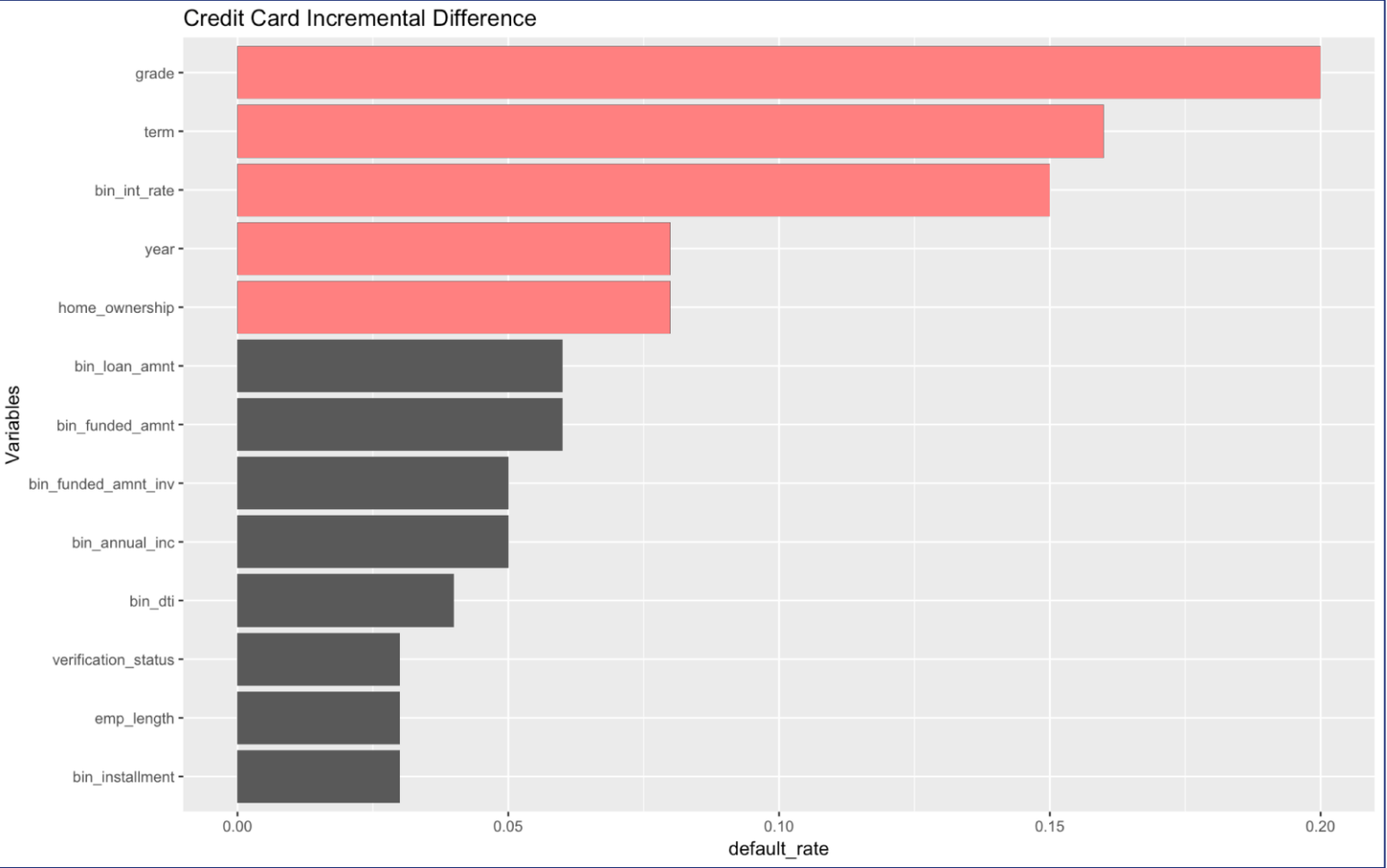


Credit Card	Debt Consolidation	Home improvement	Major purchase
11.62%	12.40%	11.29%	10.80%

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Variables: Credit Card

- Grade
- Term
- Bin interest rate
- Year
- Home Ownership



Variables– Debt Consolidation

- Grade
- Bin interest rate
- Home Ownership
- Term
- Bin loan amount

