

Lending Club Case Study

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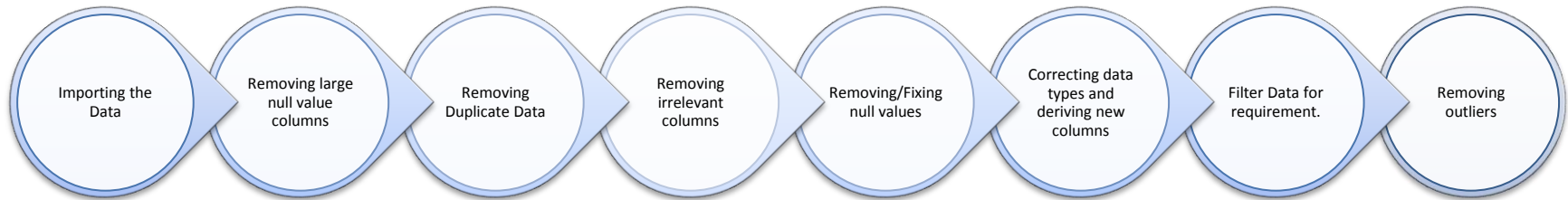
Background –Lending Club Case Study

- Lending club is the largest peer-to-peer marketplace connecting borrowers with lenders. Borrowers apply through an online platform where they are assigned an internal score.
- Lenders decide 1) whether to lend and
2) the terms of loan such as interest rate, monthly instalment, tenure etc.
- Some popular products are credit card loans, debt consolidation loans, house loans, car loans etc.

Business Objective

- The primary objective of this exercise is to assist Lending Club in mitigating credit losses. This challenge arises from two potential scenarios:
 - 1) Identifying applicants likely to repay their loans is crucial, as they can generate profits for the company through interest payments. Rejecting such applicants would result in a loss of potential business. Find the driving factors which lead to the defaulted loans which are major source of loss for the company.
 - 2) On the other hand, approving loans for applicants not likely to repay and at risk of default can lead to substantial financial losses for the company.

Data Clean-up and preparation process:



Data Understanding

Types of variables

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

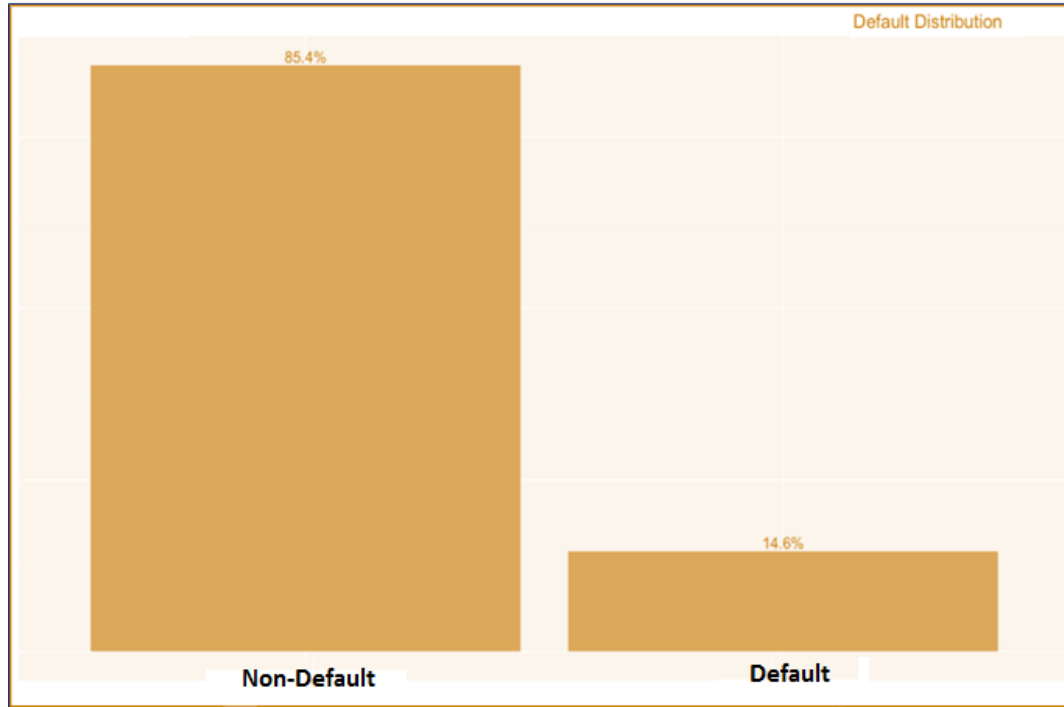
Data Understanding

Customer's Demographics
Employment Length
Employement title
Annual Income
Zip Code
Description

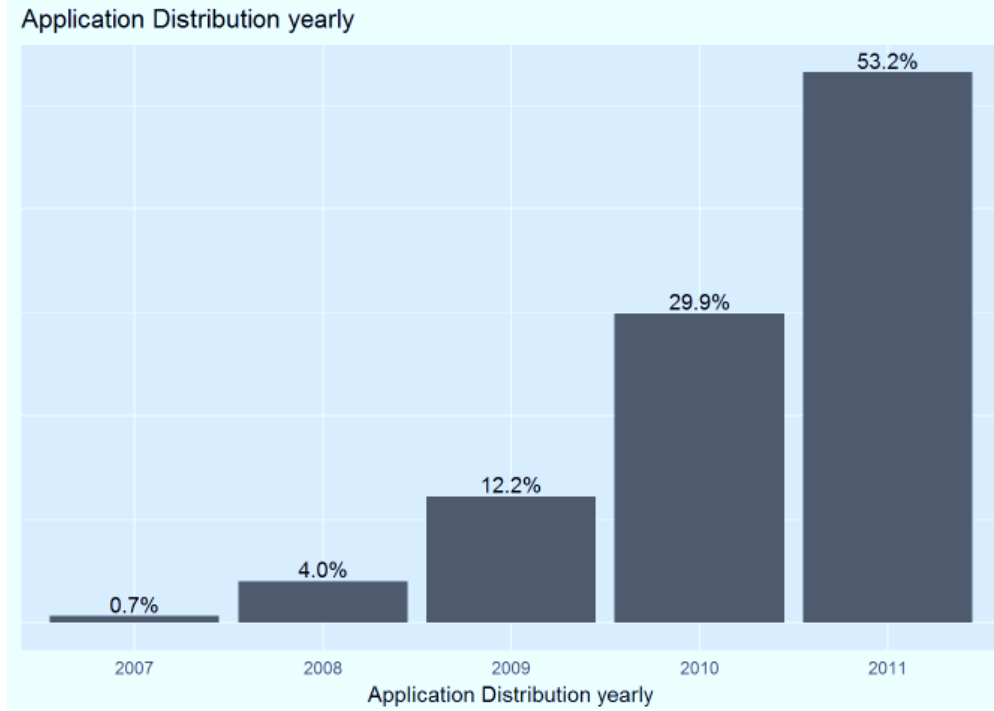
Loan Information & Characteristics
Loan Amount
Funded Amount
Funded Amount Investment
Interest Rate
Loan Status
Laon Grade

Customer Behaviour variables
Delinquency year -2
earliest credit line
Revolving balance
Recoveries
Application type
Loan purpose

Data Understanding -Overall Default Rate is 14%

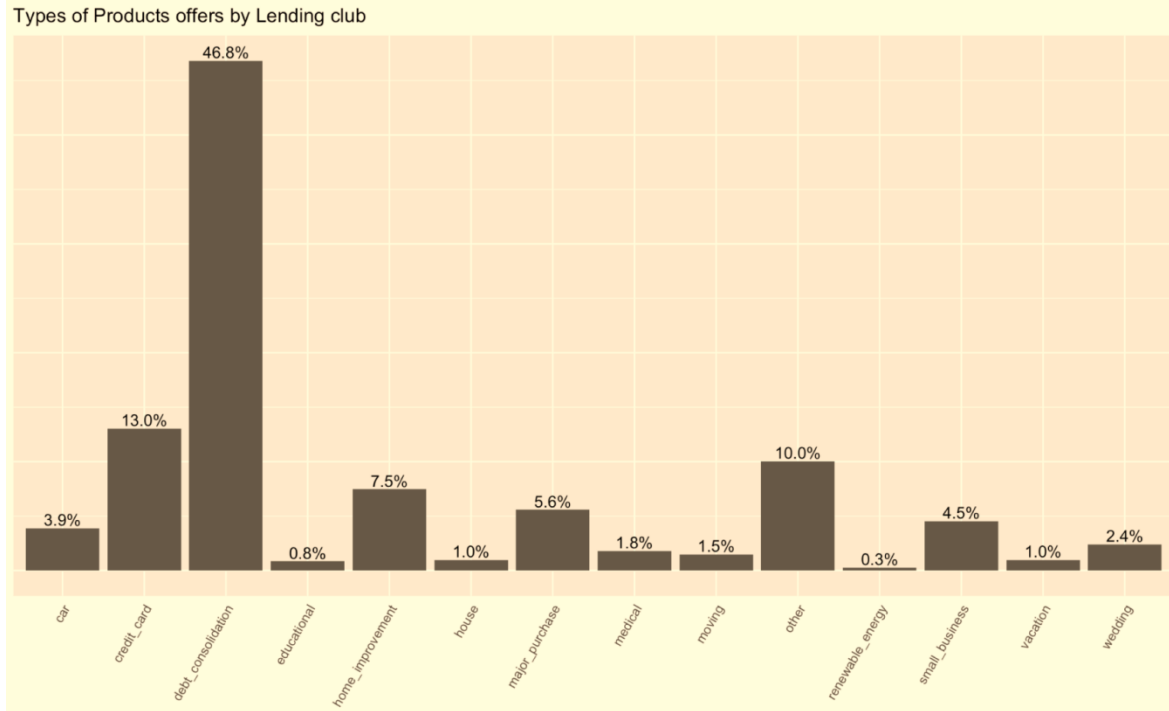


Time Frame of the Data –2007-2011



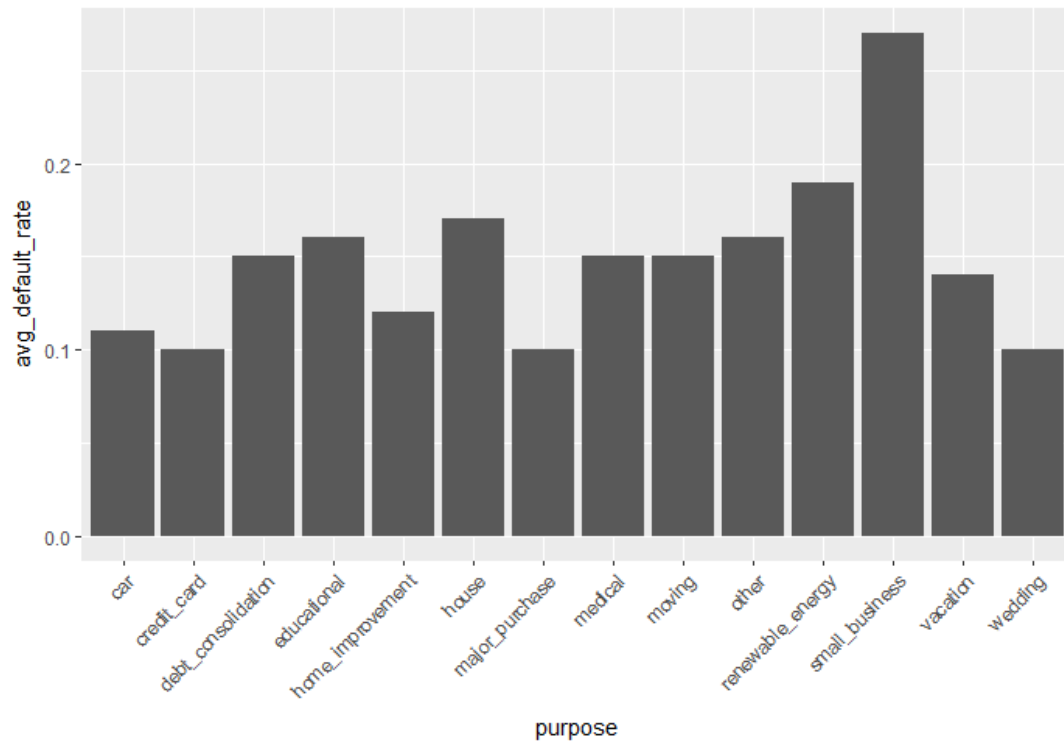
- 78% increment in applicants in 2011 compared to 2010
- 145% increment in applicants in 2010 compared to 2009

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

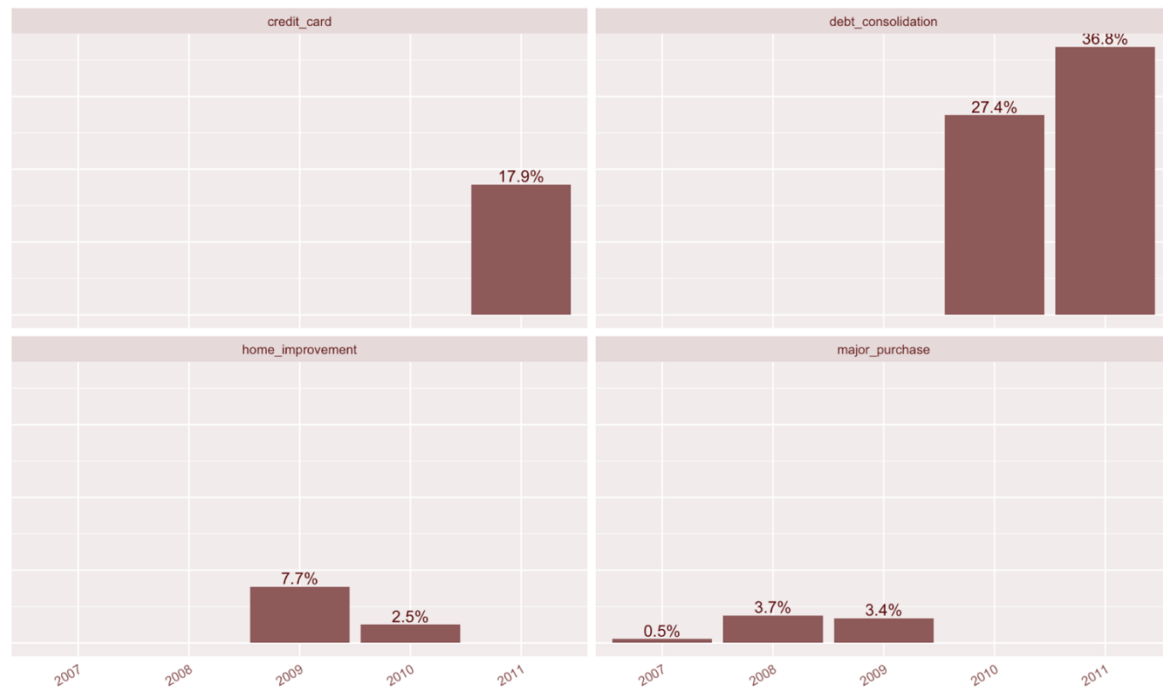
Default Rates By Loan Purpose



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

Top-4 Products over time: Credit Card, Debt Consolidation, Home Improvement & Major purchase

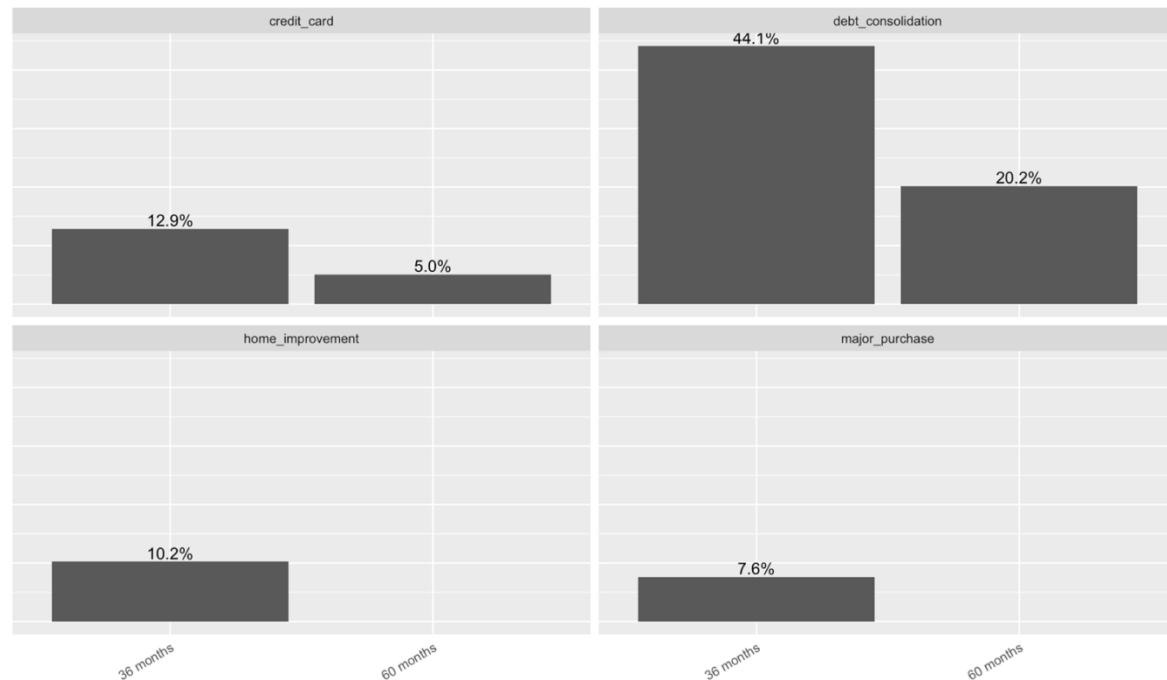
Product-wise Distribution:2007-2011



- In 2007 & 2008, Lending Club focused on major purchase loans
- In 2009, they started lending money for home improvement purpose also
- In 2010, they started lending loan for debt consolidation
- In 2011, credit card loans were introduced

Term Distribution in Top-4 products

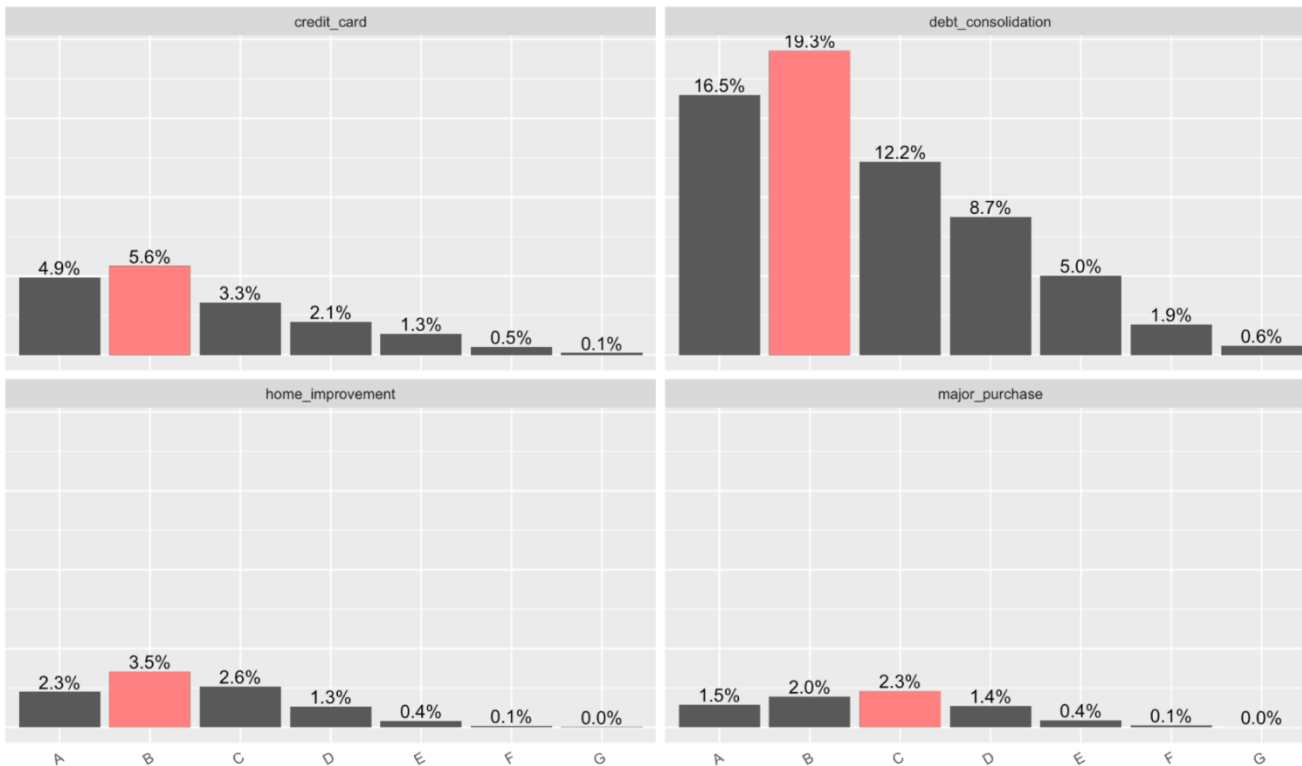
Term Distribution within the four types of loans



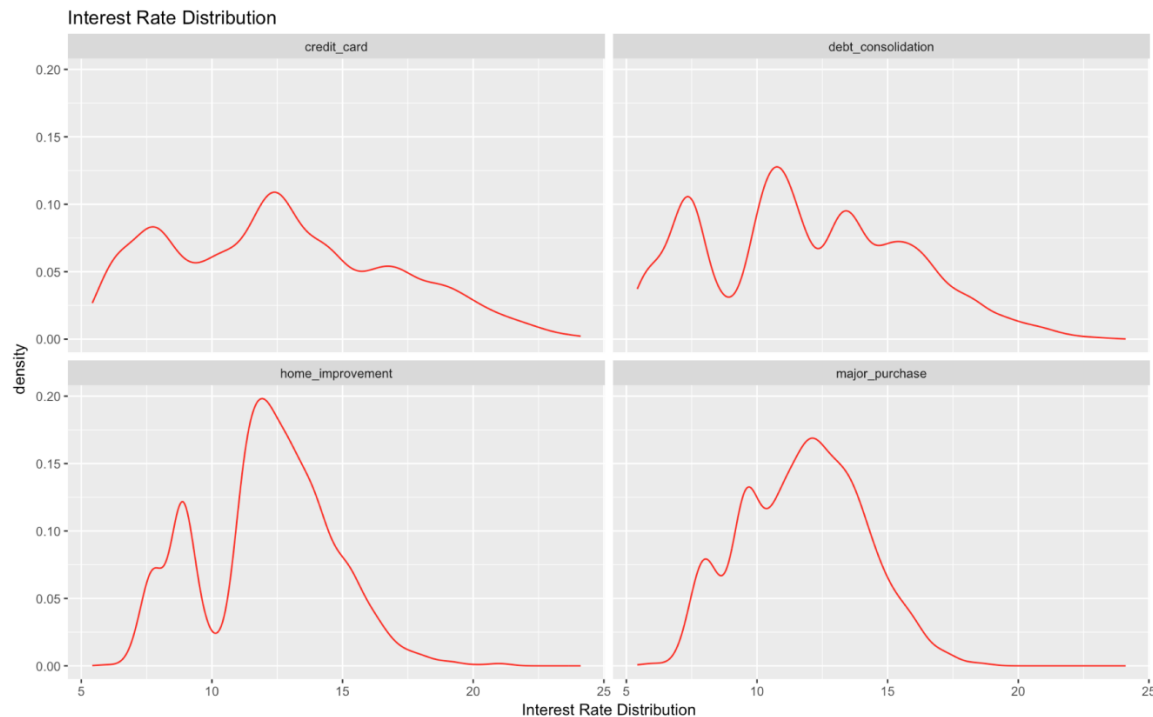
Lending club has given out 36 month term period loan for major purpose and home improvement.

Grade Distribution in top-4 products

Grade Distribution: Top-4 products



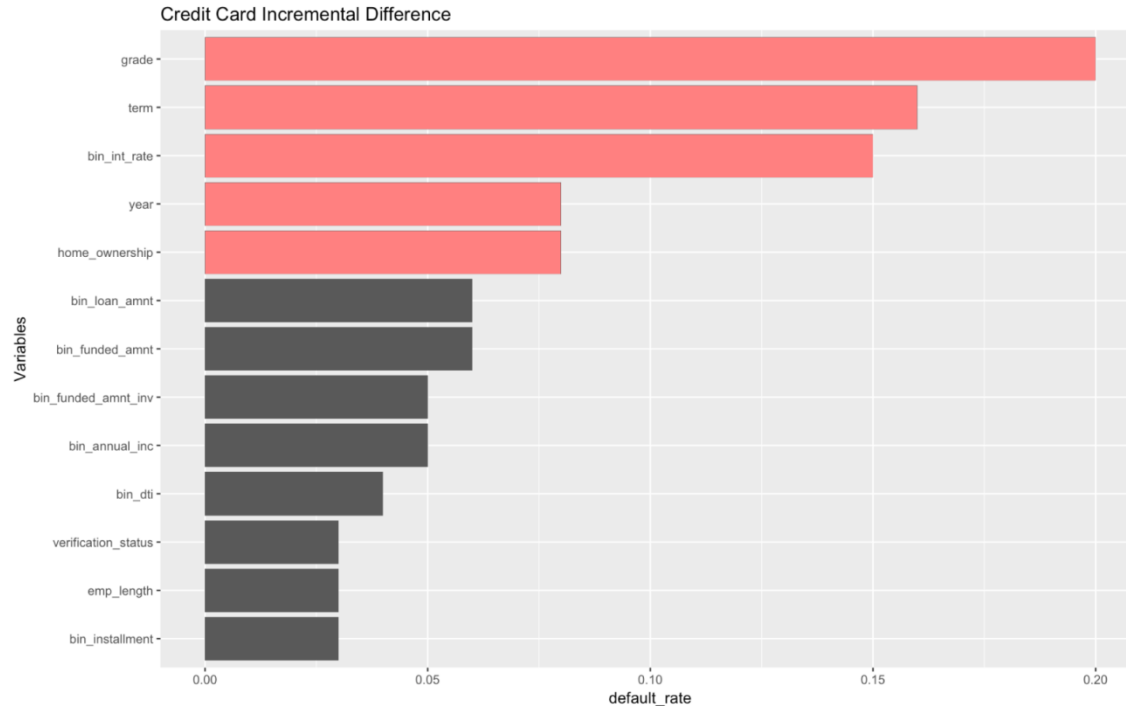
Average Interest Rate in top-4 products



Average Interest Rate in top-4 products

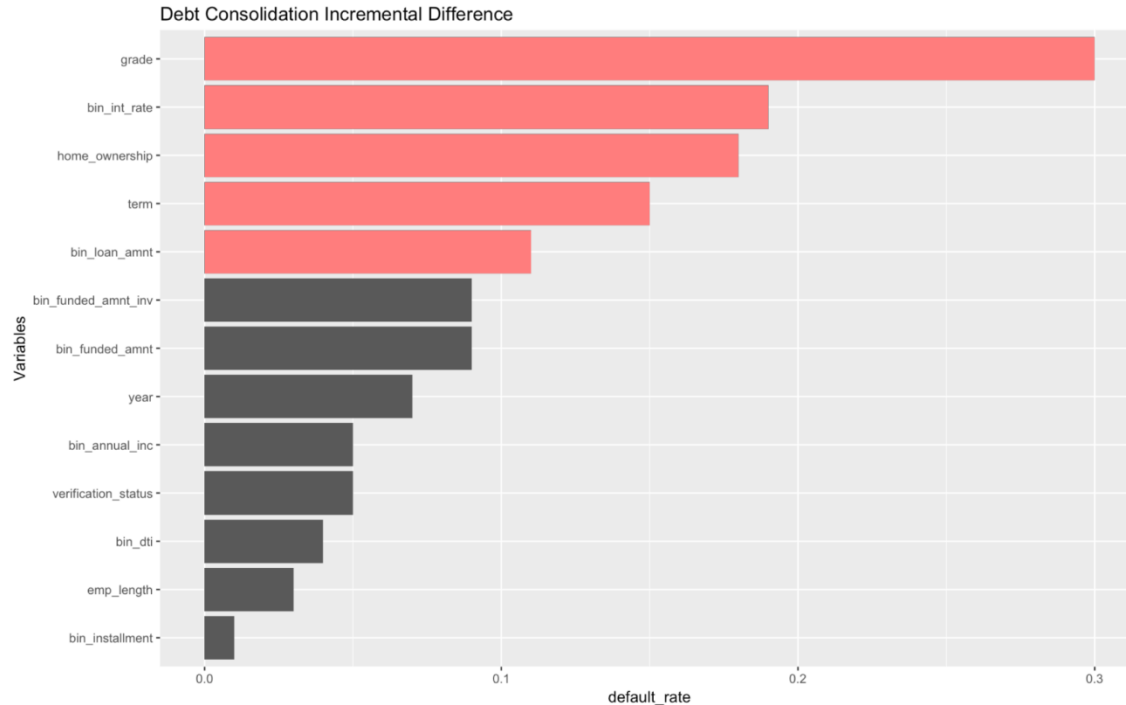
Credit Card	Debt Consolidation	Home improvement	Major purchase
11.62%	12.40%	11.29%	10.80%

Important Variables: Credit Card



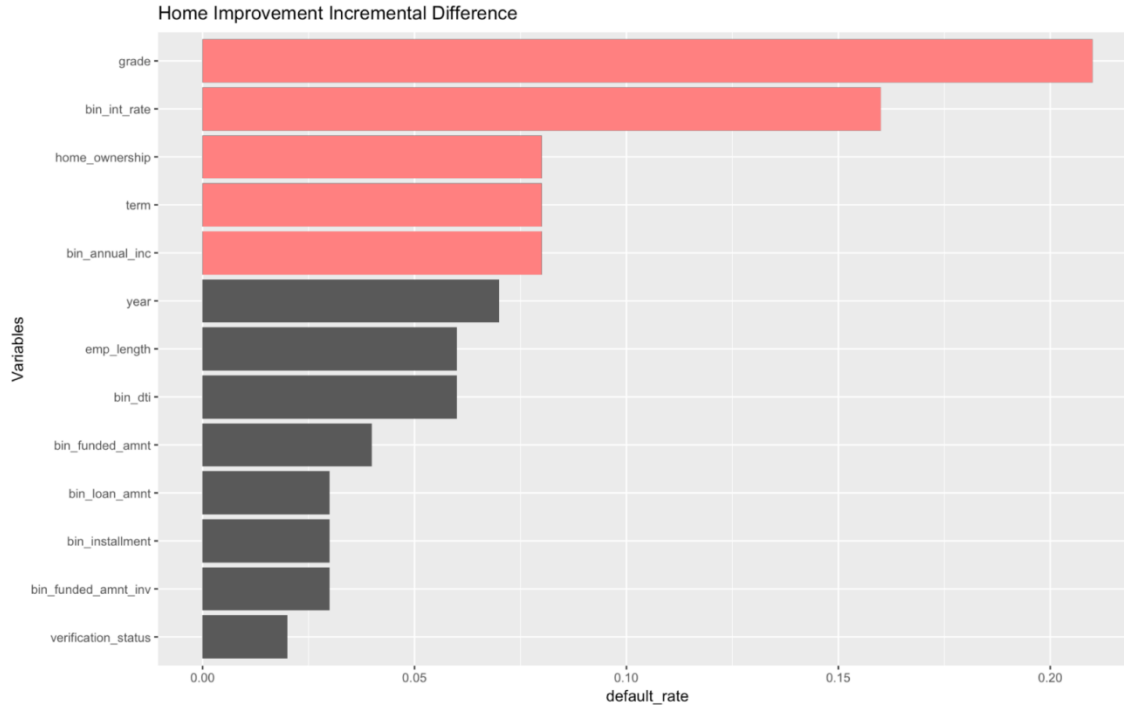
- Grade
- Term
- Bin interest rate
- Year
- Home Ownership

Important Variables–Debt Consolidation



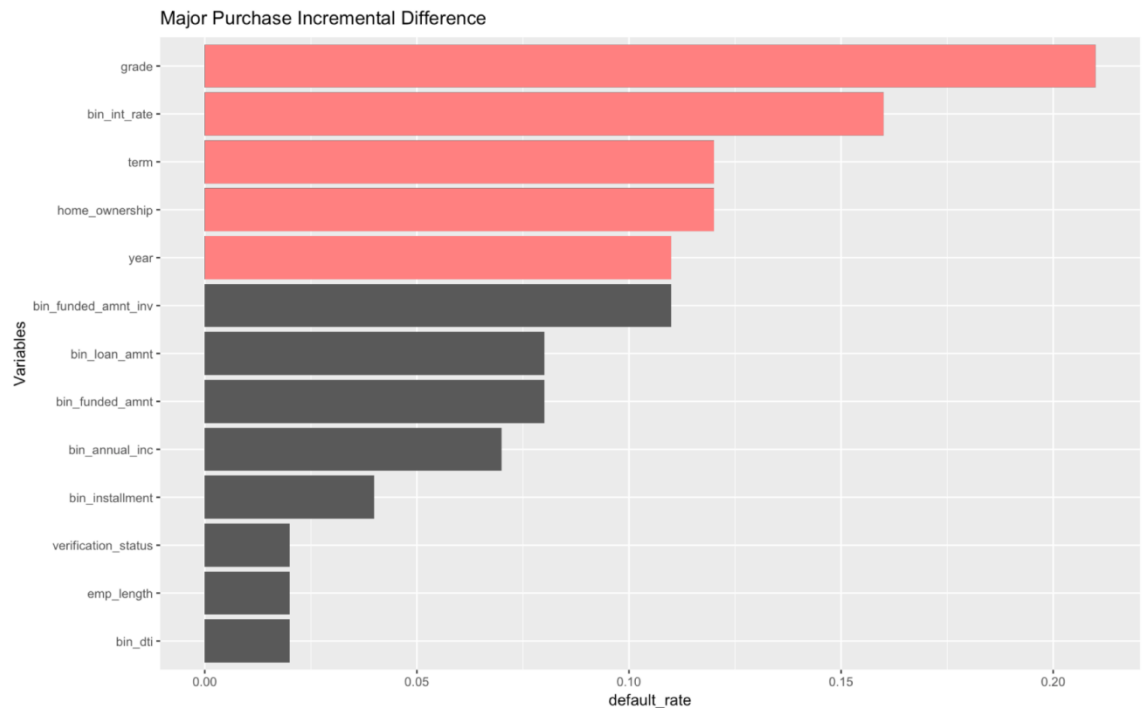
- Grade
- Bin interest rate
- Home Ownership
- Term
- Bin loan amount

Important Variables -Home Improvement



- Grade
- Bin interest rate
- Home Ownership
- Term
- Bin Annual Income

Important Variables—Major Purchase



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

THANK YOU