



Lending Club – Peer 2 Peer Lending

AUG, 2016

1

Introduction

- ❑ Background of P2P Lending & Lending Club
- ❑ Why we choose this project?
- ❑ Questions of Interest

2

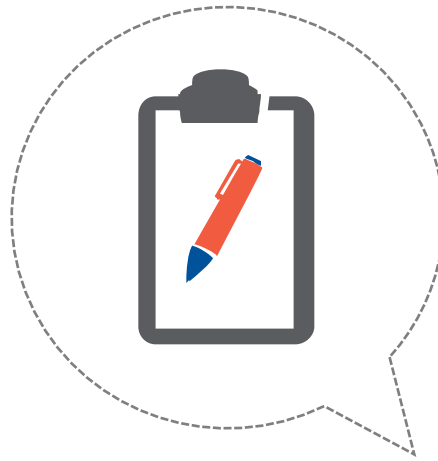
Analysis

- ❑ Overview of data
- ❑ Understanding the customer base and their requirements
- ❑ How different variables affect Interest Rate?

3

Conclusion & Recommendations

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- **Sophie Zheng**



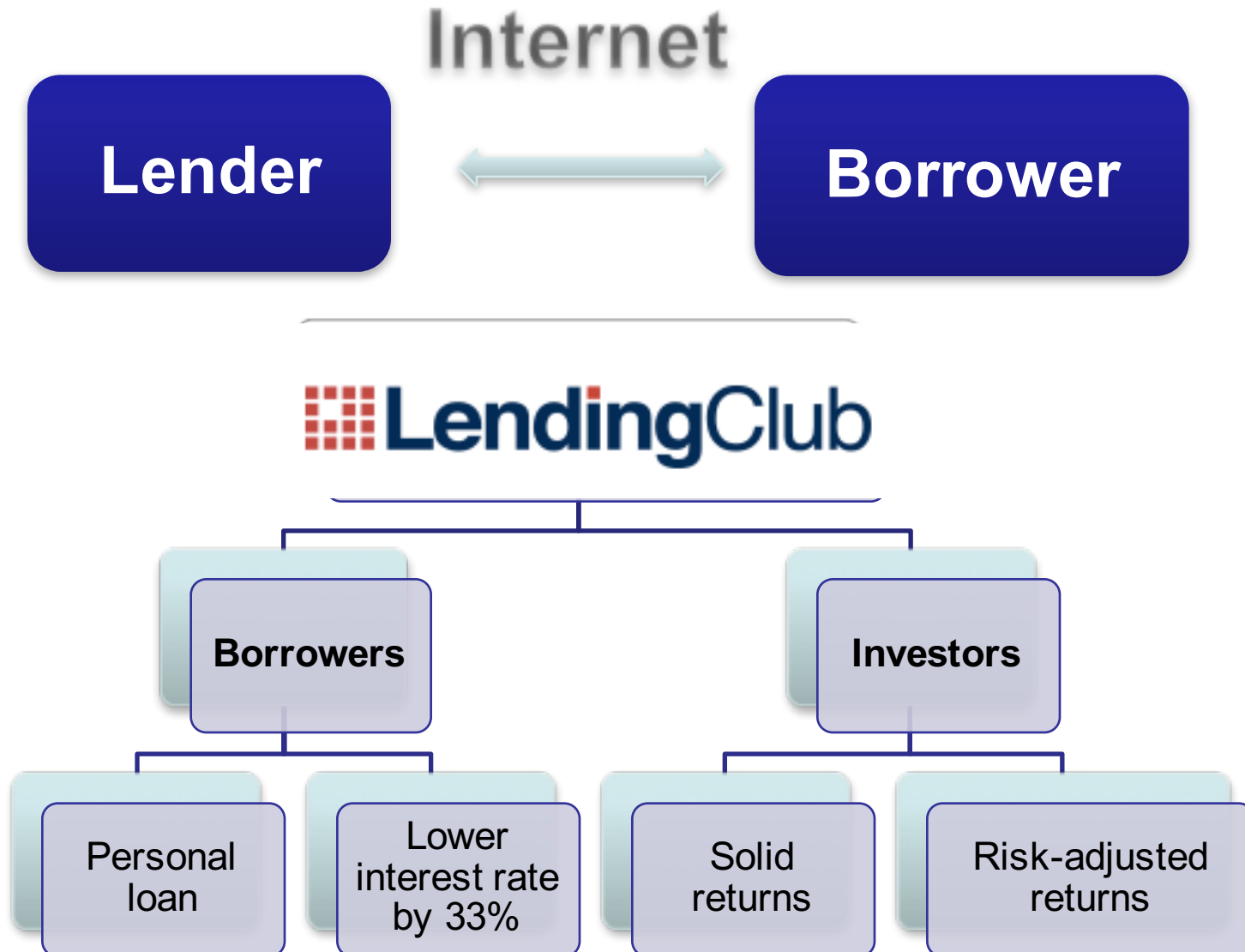
Introduction

Background of P2P Lending & Lending Club

Introduction

Analysis

Conclusion



Why we choose this project?

Introduction

Analysis

Conclusion

Business Problem

Current, no biased data

Largest Online Credit Marketplace

Interest Rate

Questions of interest

Introduction

Analysis

Conclusion

Warm Up

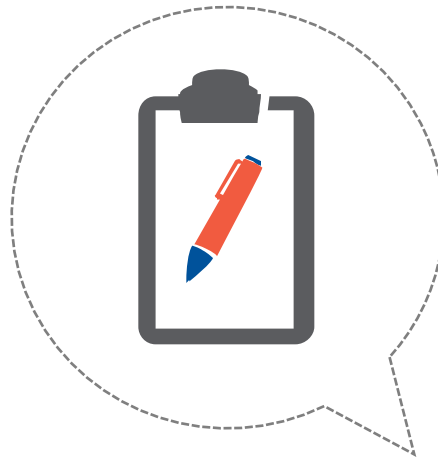
What are the characteristics of Lending Club's customers and their requirements?

Work Out

Which factors affect the interest rates of loans and to what extent?

Stretch

What recommendations can we provide based on our understanding?



Analysis

Overview of Data

Introduction

Analysis

Conclusion

Accepted Data

2012-13

~0.2M observations, 156MB -> 10,000

115 Variables

Understanding the customer

Introduction

Analysis

Conclusion

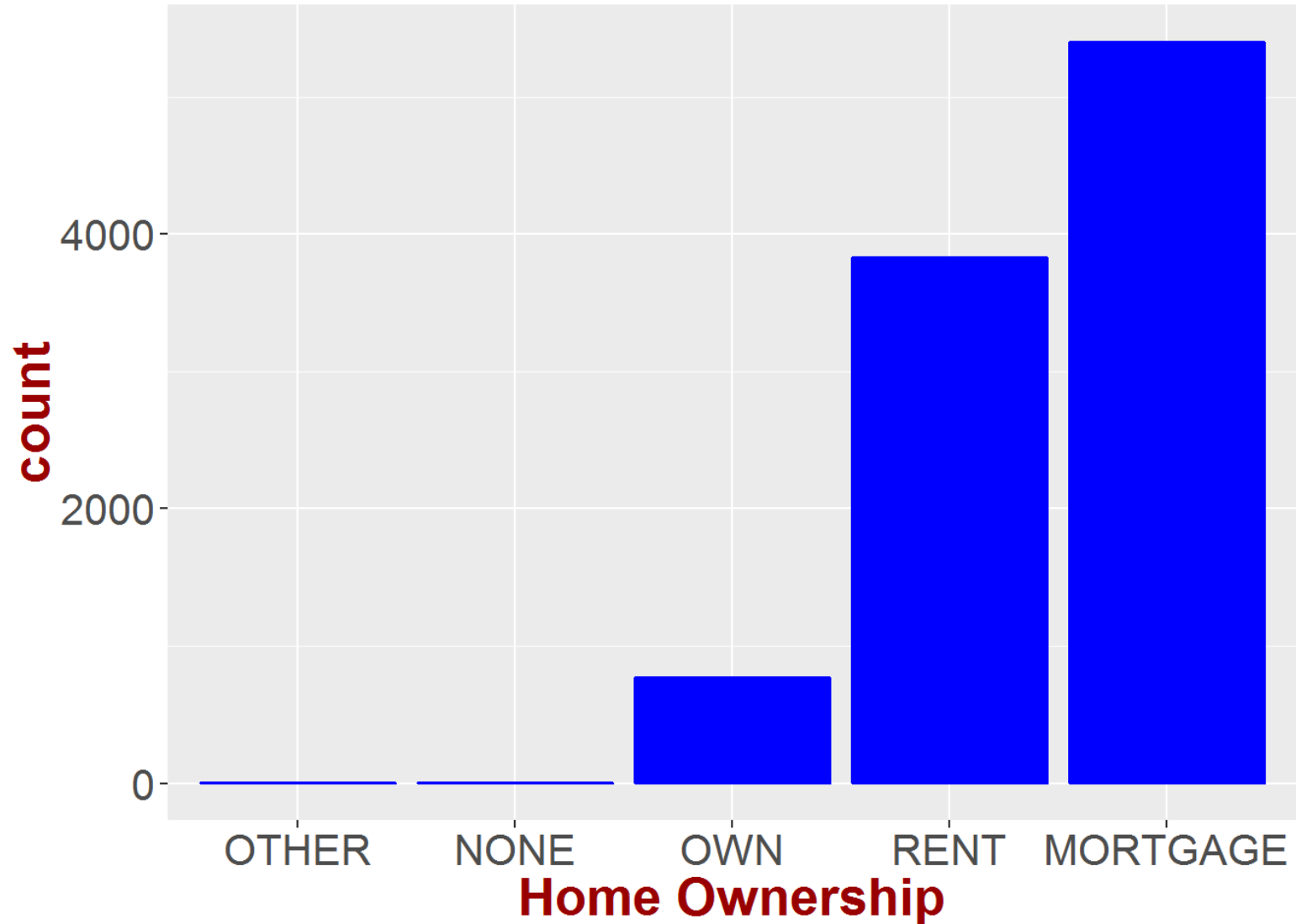


Understanding the customer

Introduction

Analysis

Conclusion

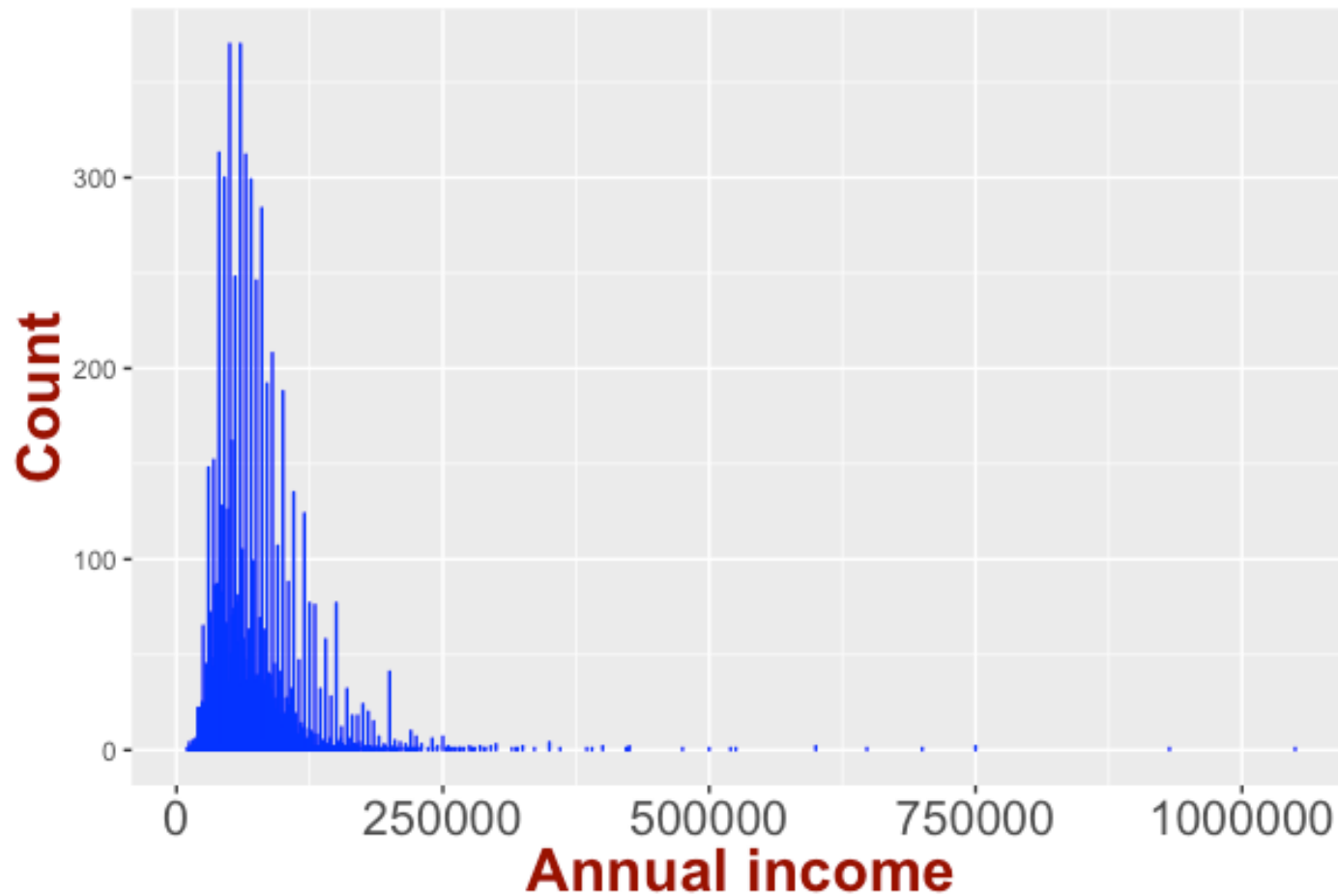


Understanding the customer

Introduction

Analysis

Conclusion

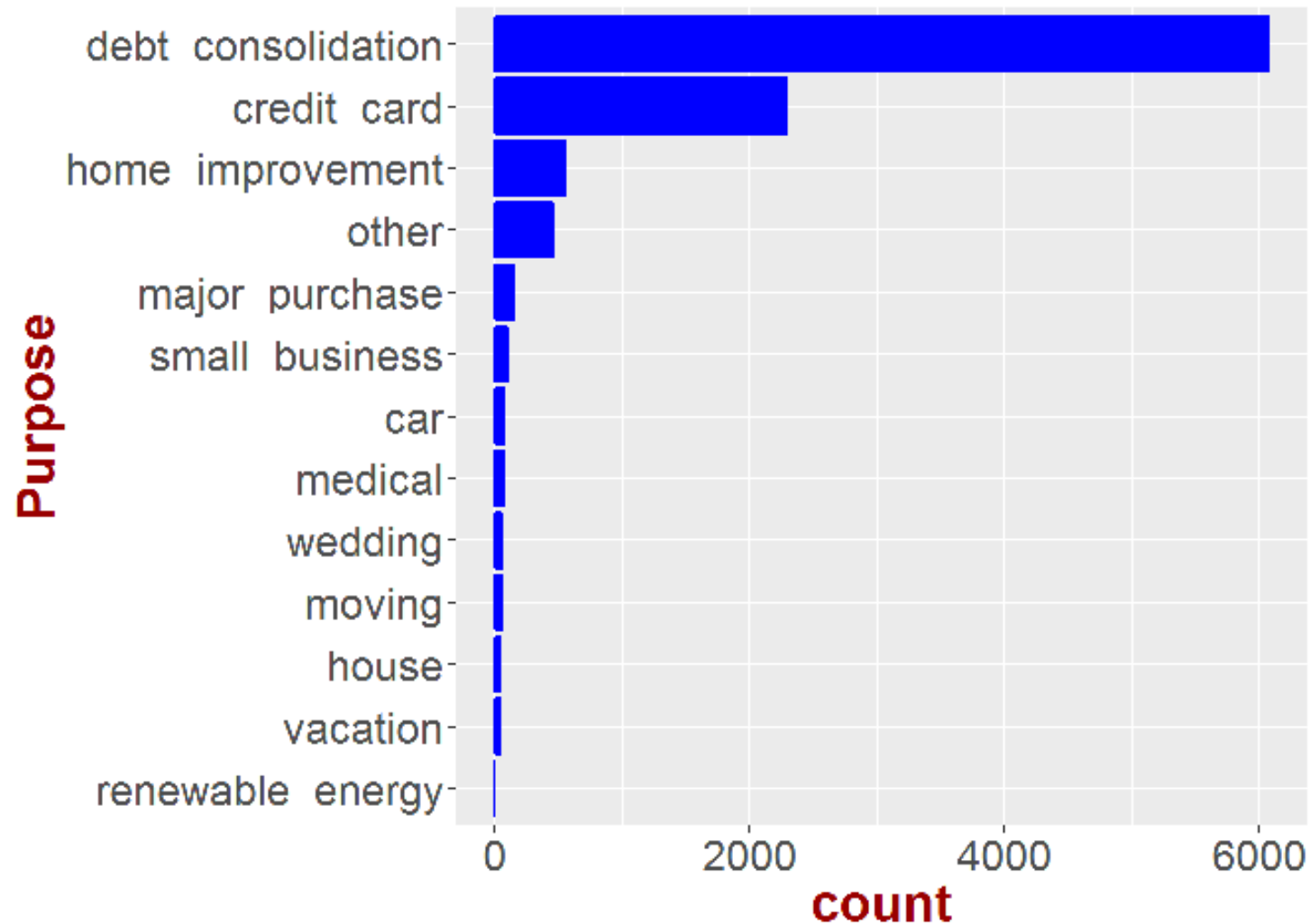


Understanding the customer

Introduction

Analysis

Conclusion

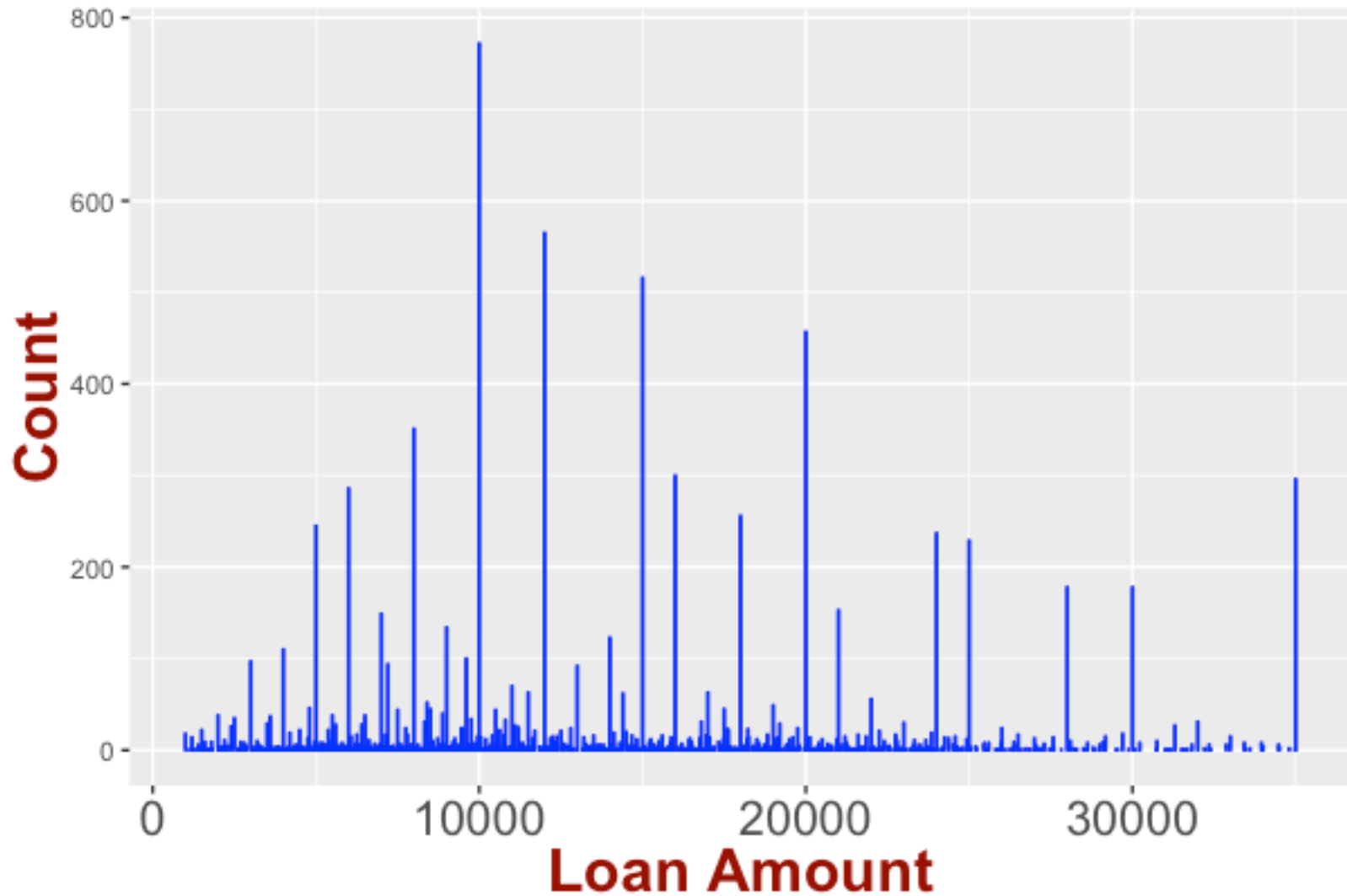


Understanding the customer

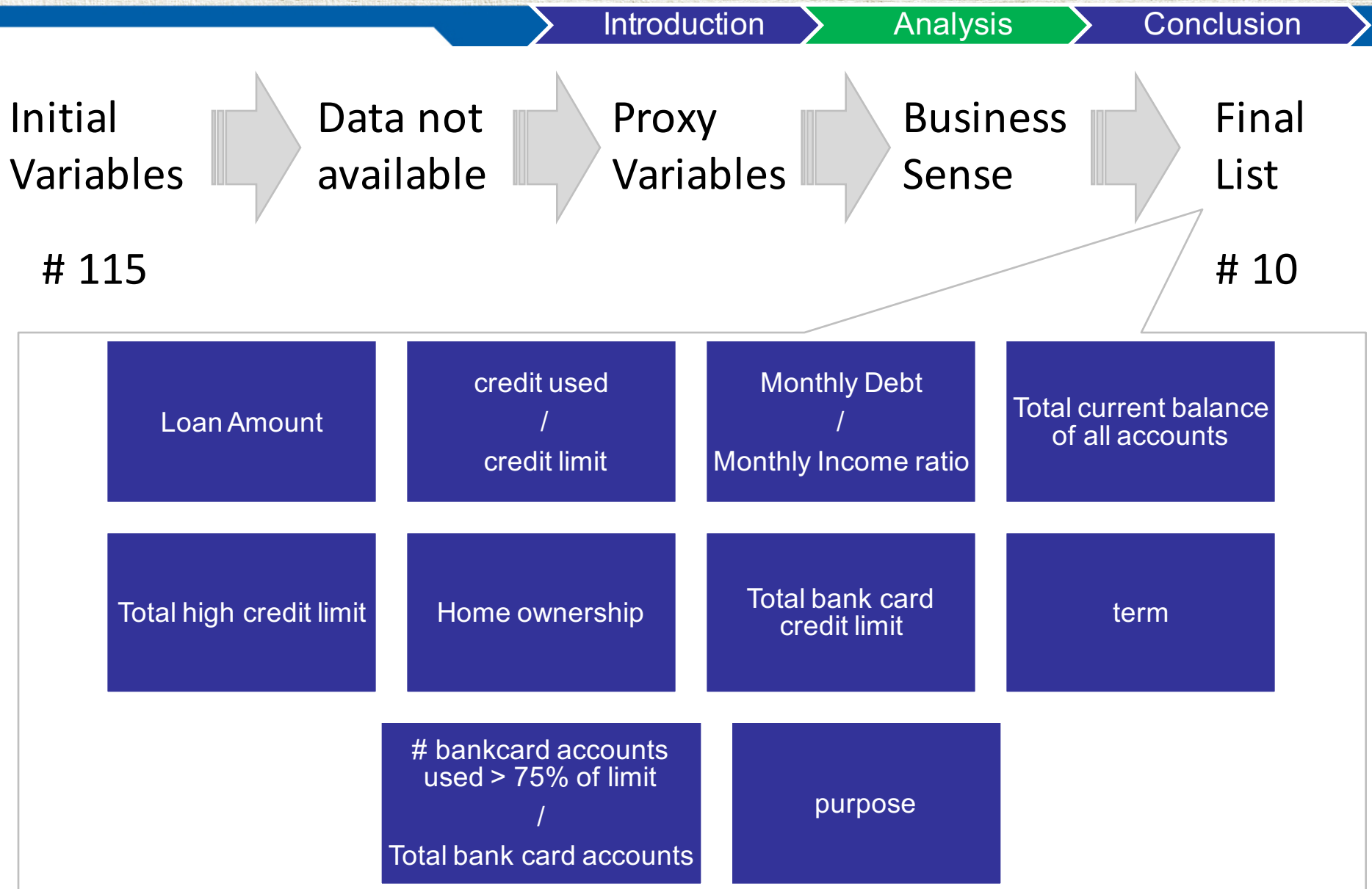
Introduction

Analysis

Conclusion



Identifying the required variables



1 % increase in Interest Rate is caused by...

Introduction

Analysis

Conclusion

Loan Amount



\$14.6 k to \$19.1k

Credit Limit



\$174.5k to 199.5k

Bank Card Credit Limit



\$22.4 k to \$26.3k

1 % increase in Interest Rate is caused by...

Introduction

Analysis

Conclusion

Credit used / credit limit



26% to 36%

Monthly Debt / Monthly Income



27% to 41%

BC accounts used > 75% of limit
/
Total BC accounts



41.7% to 49.5%

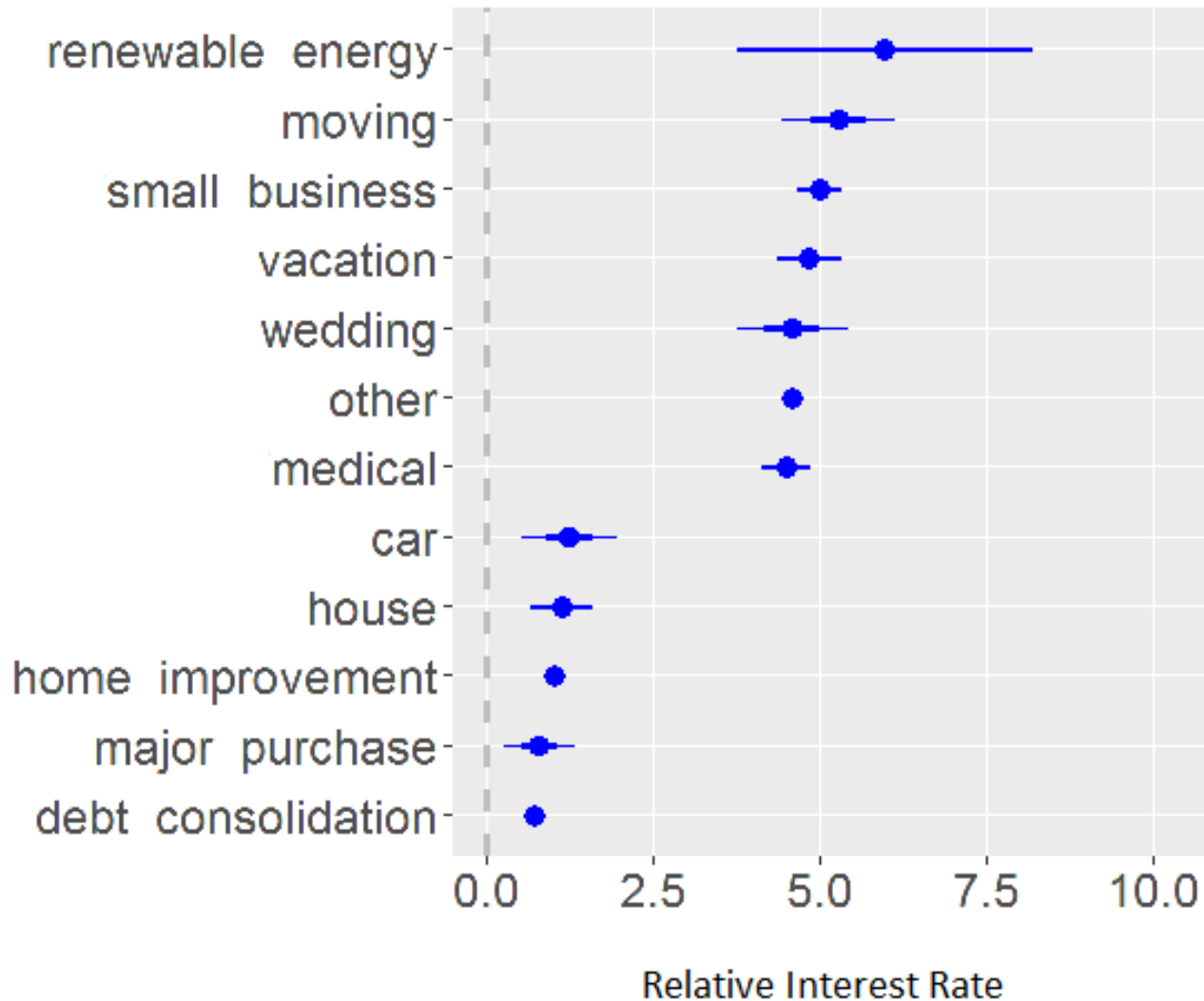
Differences between interest rates for different purposes

Introduction

Analysis

Conclusion

Reference – Credit Card

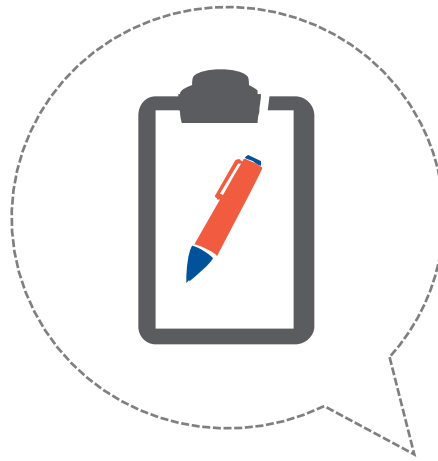


Interest for
5 years

>

Interest for
3 years

4.29% to 4.56%



Conclusion & Recommendations

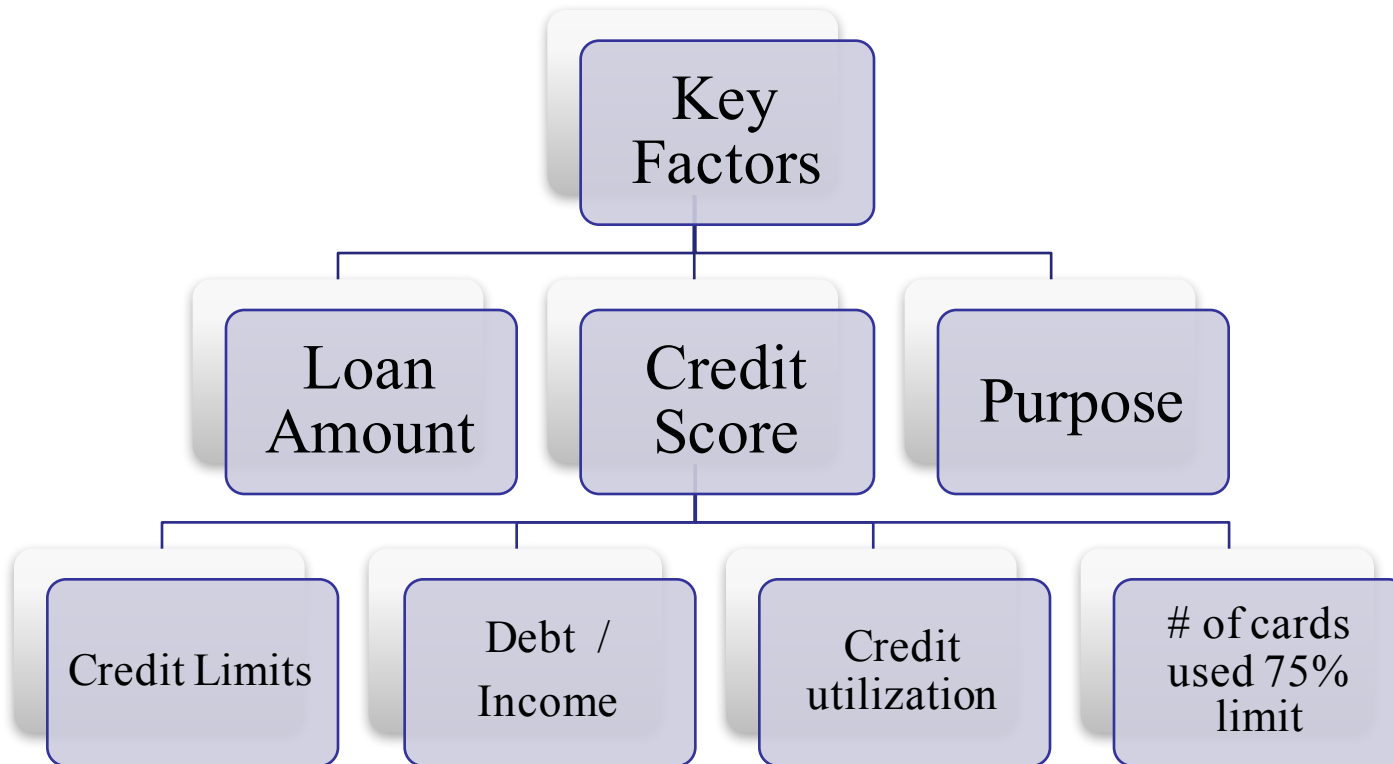
Conclusions

Introduction

Analysis

Conclusion

As a borrower in Lending Club, to get a low interest rate



Rates from
5.99% to 35.89% *APR
Best APR is available to borrowers with excellent credit.

Enter your loan amount \$1,000 to \$40,000

Choose Loan Purpose ▾

Select your Credit Score ▾

Check Your Rate

Won't impact your credit score

~~Annual Income~~

~~Home Ownership~~

~~Current Balance~~

Recommendations

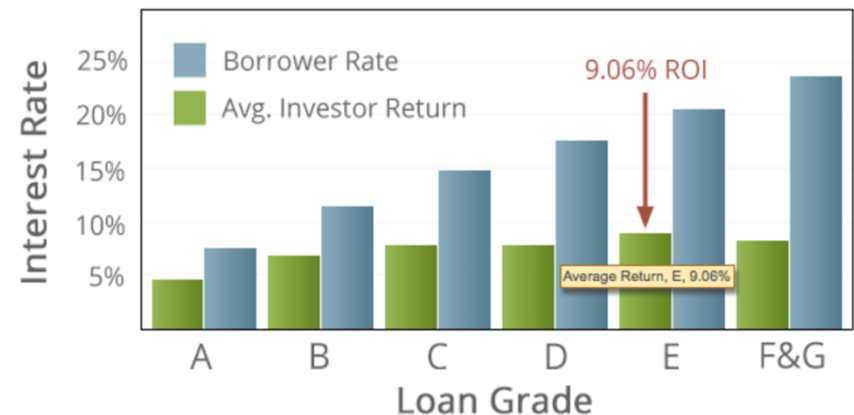
Introduction

Analysis

Conclusion

- Use credit cards, in order to have a credit history
- Good credit score lower your interest rate in a significant way
- Don't borrow in Lending Club
 - Banks have lower interest rate for house, car etc
 - Loans for vacation, wedding, moving etc are not good ideas
 - Unless consolidate credit card loans to a lower rate or small business
- Invest in Lending Club
 - Diversify your account in different grades of loans
 - Increase the risk in your portfolio
 - Invest in longer term

Lending Club Interest Rates
Borrower Rates vs. Investor Returns



Thank You

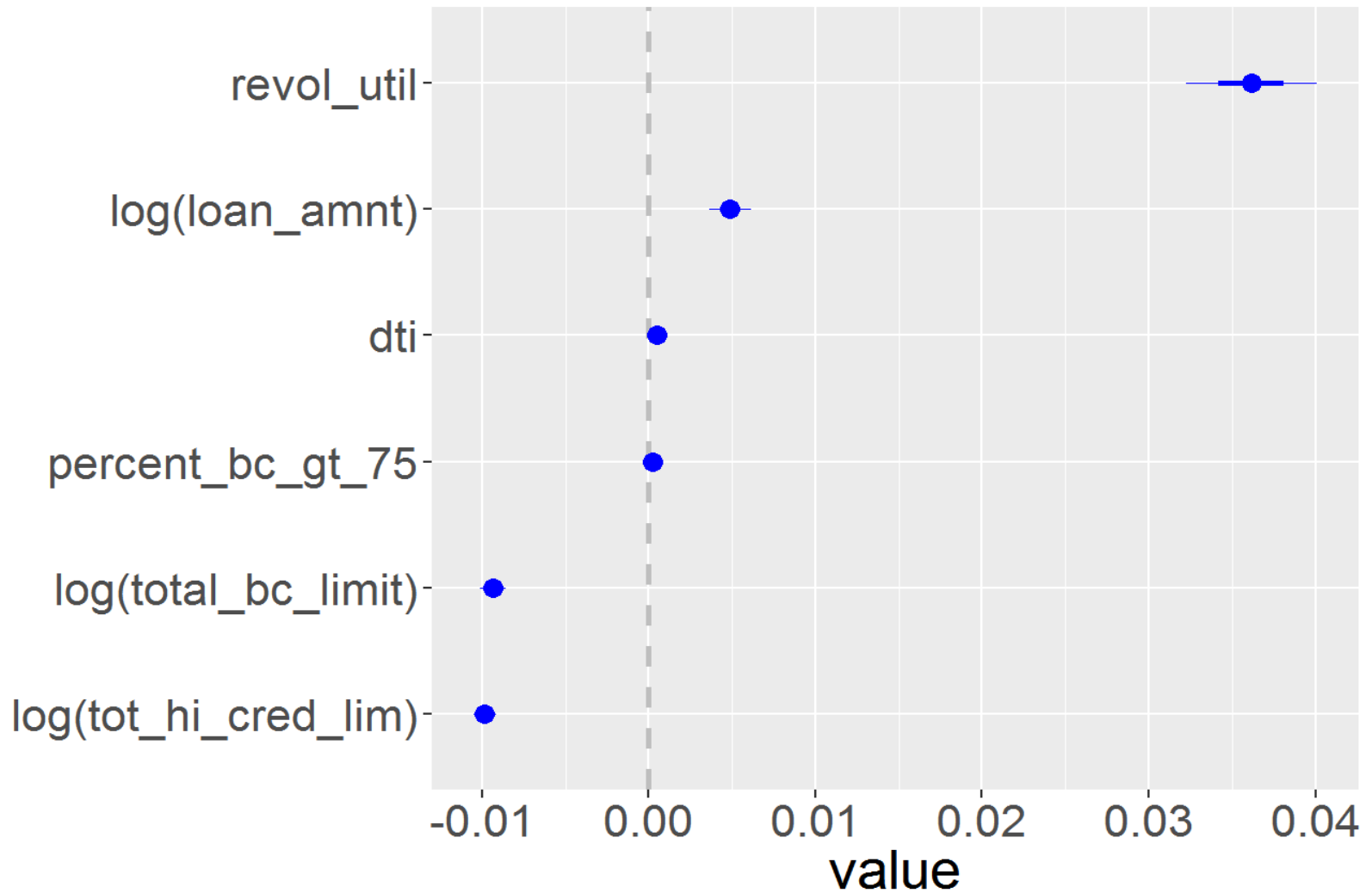
Models Tested

#	Predictors	K	R-sq	S	highest p-value	Corresponding variable
1	All 10	10	0.5108	0.03113	0.565966	home ownership
2	Removed: home_ownership, tot_cur_bal	8	0.5017	0.03141	0.848534	purpose-house
3	Removed: Purpose	7	0.4355	0.03341	2.04E-08	dti
2.1	Took log of variables: log(loan_amt), log(tot_hi_cred_lim), log(total_bc_limit)	8	0.525	0.03067	0.02681	purpose-house

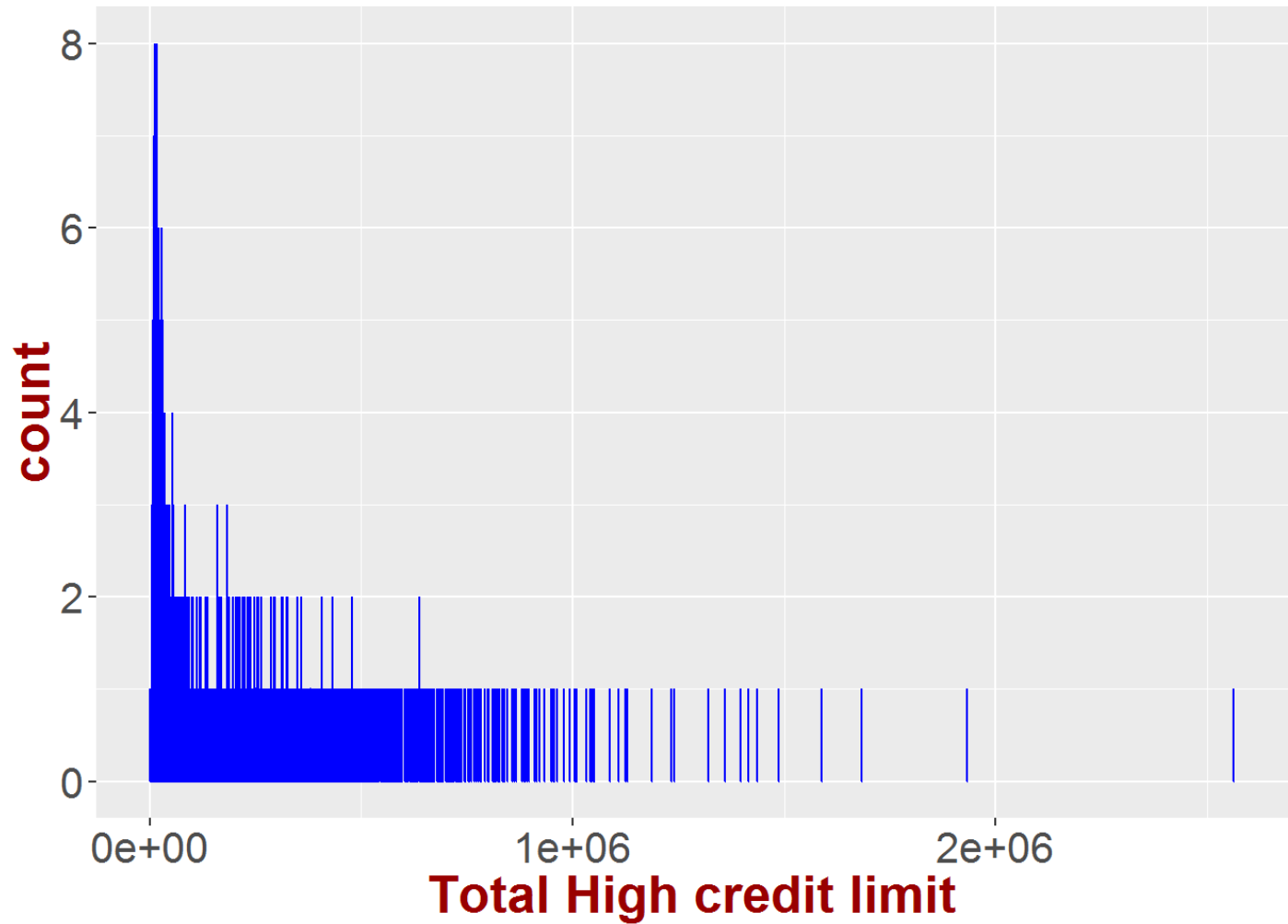
How different variables affect Interest Rate?

Variables	Coefficients	Increase of Predictor	Change in interest rate (units)
loan_amnt - log	0.00487700000	1%	0.0000488
revol_util	0.03615000000	1 unit	0.0361500
dti	0.00051400000	1 unit	0.0005140
tot_hi_cred_lim - log	-0.00982900000	1%	-0.0000983
total_bc_limit - log	-0.00934000000	1%	-0.0000934
percent_bc_gt_75	0.00020200000	1 unit	0.0002020

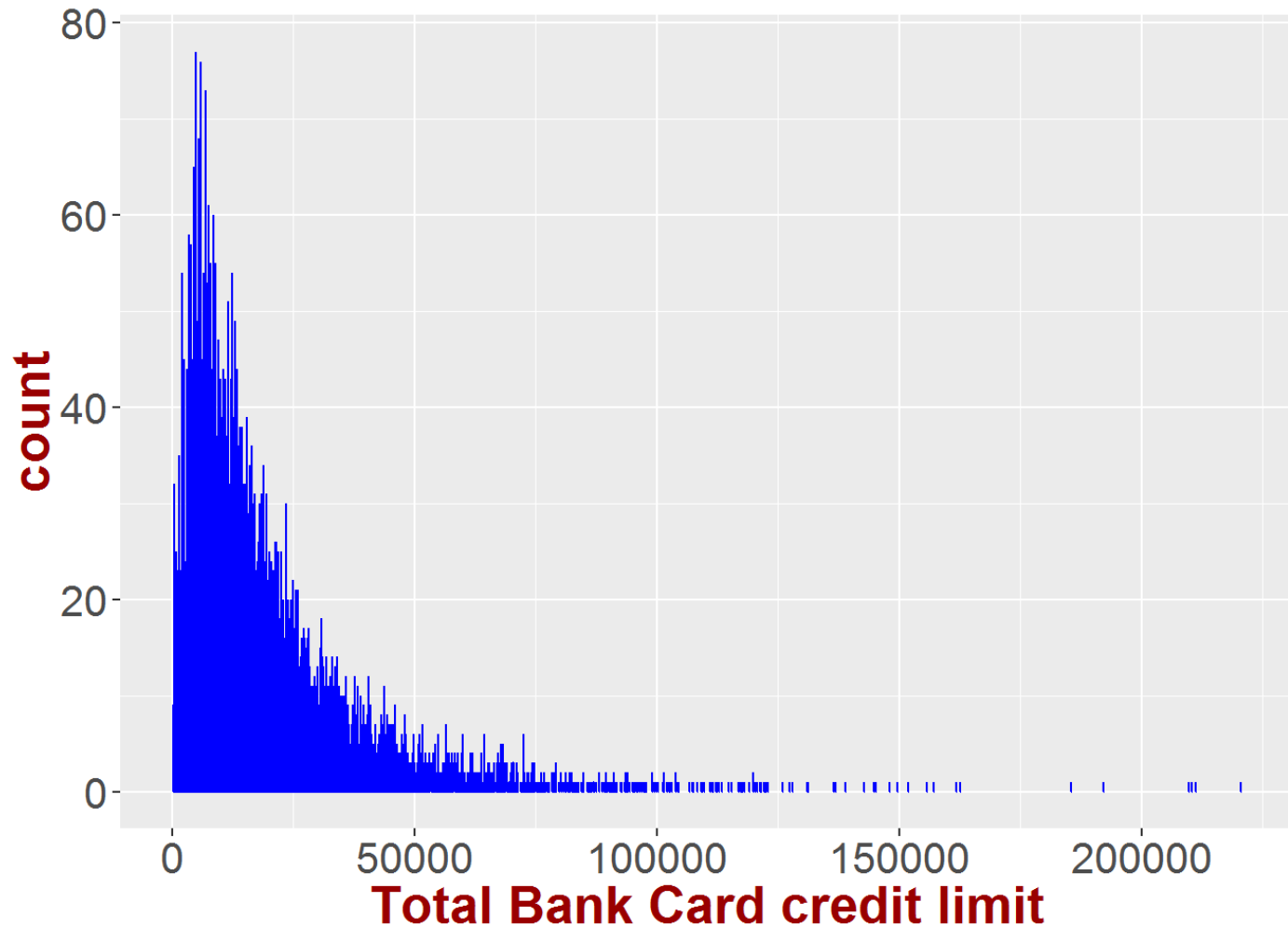
Final Model – Interval variables coefficients



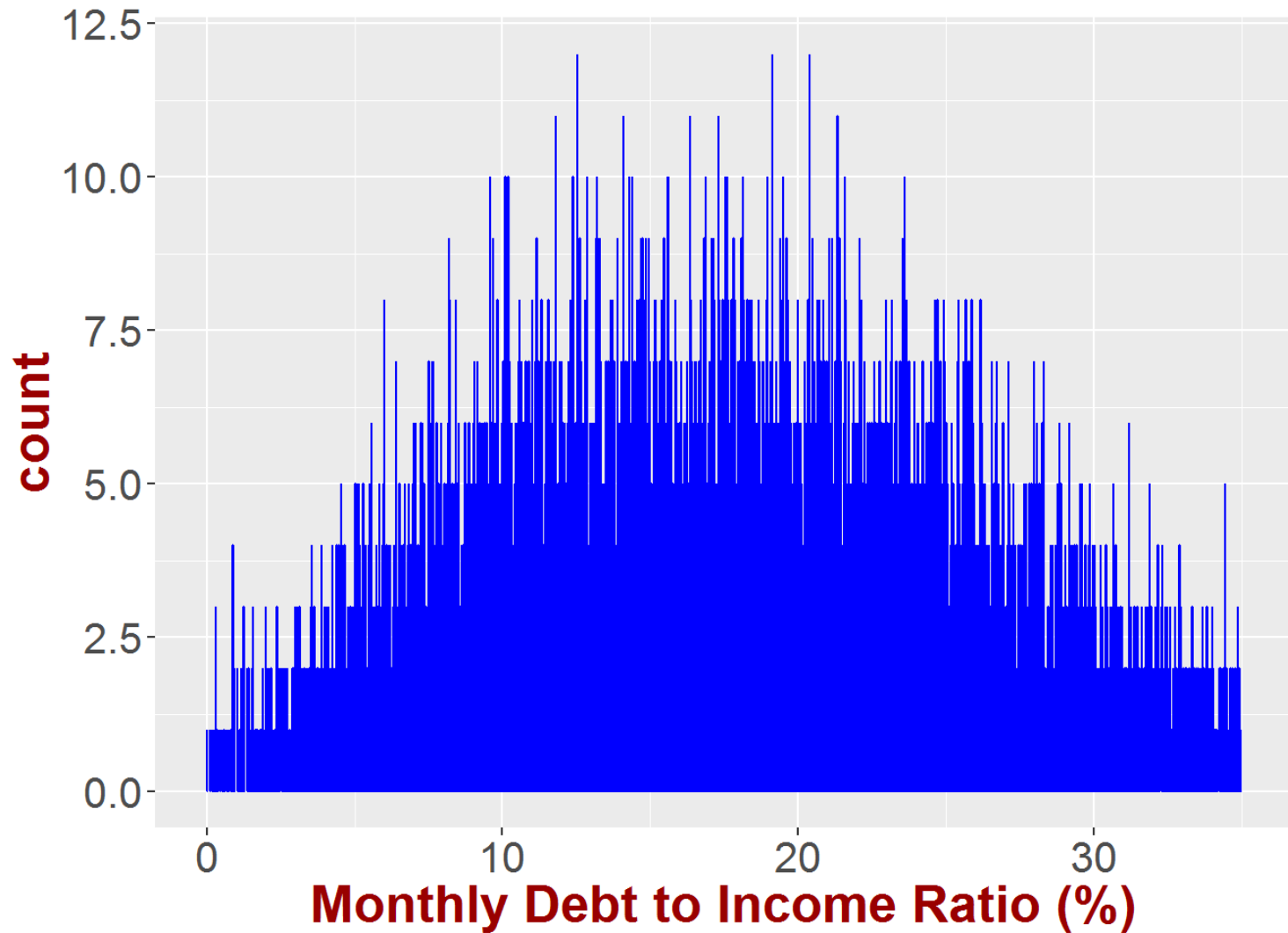
Total High Credit Limit



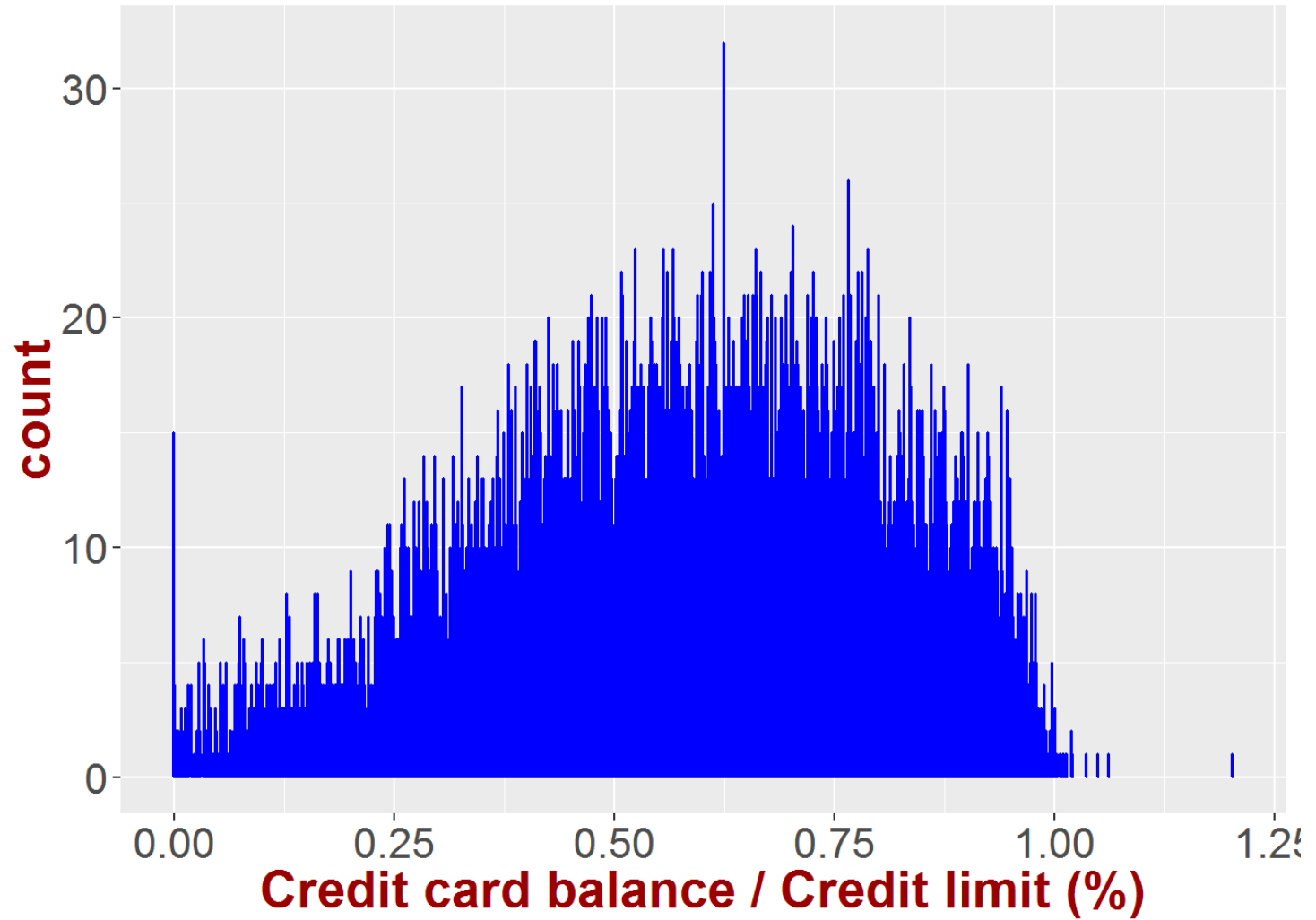
Total Bank Card Credit Limit



Debt to Income Ratio



Credit card balance / credit limit



of bank card accounts used > 75% of limit / Total bank card accounts

