

Lending Club

Capstone Project - Deliverable 1

By: Reem Soliman



Who is Lending Club?

LendingClub is America's largest online marketplace connecting borrowers and investors

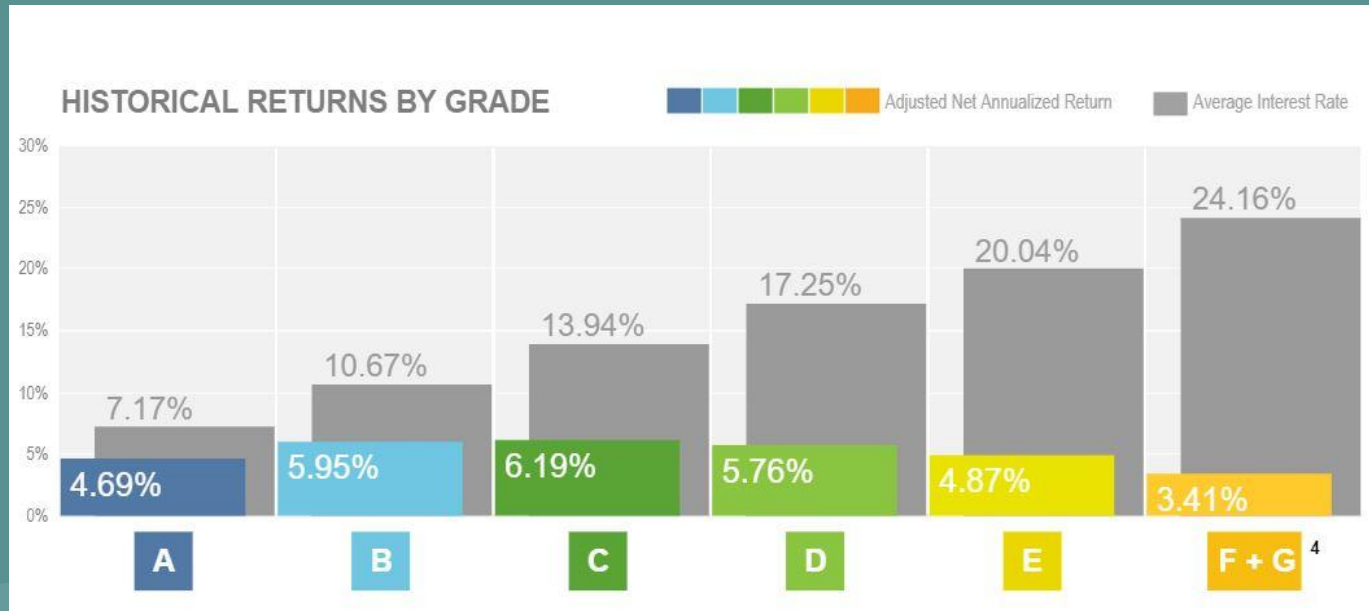
Industry: Financial Services.

Data Sources: Lending Data

Profile Data: Demand and Credit Profile

Loan Grade: Classification system used by banks to rate (grade) existing and requested loans on the basis of the borrower's credit history, likelihood of repayment of interest and principal when due. It's ranging from A to G, it's considered a the loan risk grade, A is the Lowest, is the Highest.

Indicators: Advanced Net Annualized Return.



Loan Performance Details:

<div> <div> ISSUE DATE START 2007 ▼ Q1 ▼ </div> <div> ISSUE DATE END 2016 ▼ Q1 ▼ </div> <div> UNITS Dollar amount ▼ </div> </div>									
	TOTAL ISSUED	FULLY PAID	CURRENT	LATE	CHARGED OFF (NET)	PRINCIPAL PAYMENTS RECEIVED	INTEREST PAYMENTS RECEIVED	AVG. INTEREST RATE	ADJ. NET ANNUALIZED RETURN ¹
A	\$2,481,932,450	\$1,581,928,272	\$233,032,214	\$3,783,311	\$55,391,975	\$2,189,773,947	\$234,435,219	7.17%	4.69%
B	\$4,048,642,425	\$2,375,671,592	\$495,989,835	\$14,853,351	\$214,041,944	\$3,323,757,287	\$603,458,323	10.67%	5.95%
C	\$4,129,791,100	\$2,076,516,318	\$604,886,435	\$28,809,688	\$395,591,006	\$3,100,503,963	\$845,075,446	13.94%	6.19%
D	\$2,429,242,525	\$1,131,307,544	\$342,264,280	\$24,148,335	\$356,546,224	\$1,706,283,680	\$620,580,663	17.25%	5.76%
E	\$1,444,368,900	\$592,840,248	\$222,560,663	\$19,823,002	\$286,656,226	\$915,329,006	\$433,692,236	20.04%	4.87%
FG	\$635,686,475	\$253,987,724	\$77,933,498	\$9,281,679	\$169,407,712	\$379,063,586	\$220,653,696	24.16%	3.41%
All	\$15,169,663,875	\$8,012,251,698	\$1,976,666,925	\$100,699,366	\$1,477,635,087	\$11,614,711,469	\$2,957,895,582	13.50%	5.57%

Pain point:

Investors need to know which grade and which type of loans to invest in, and how this relates to the overall portfolio, the lower the loan grade the higher the profit but the riskier the loan.

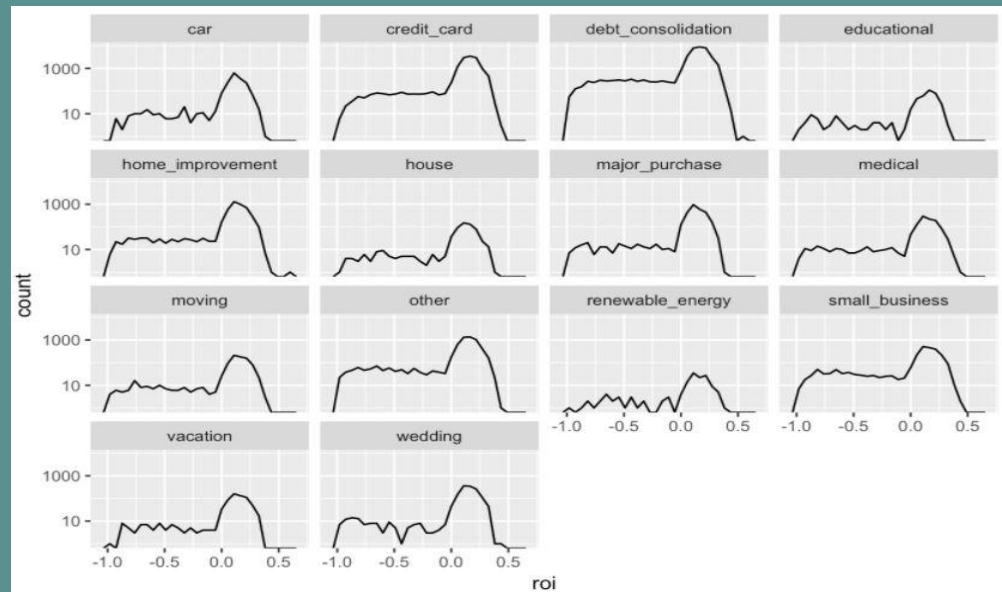
Challenge:

To calculate the Advanced Net Annualized Return payment history and charges history are needed, unfortunately The Lending club does not provide these variables.

I will use ROI (Return Of Investment) variable which could be calculated from the dataset we have.

Loan Purpose Versus ROI:

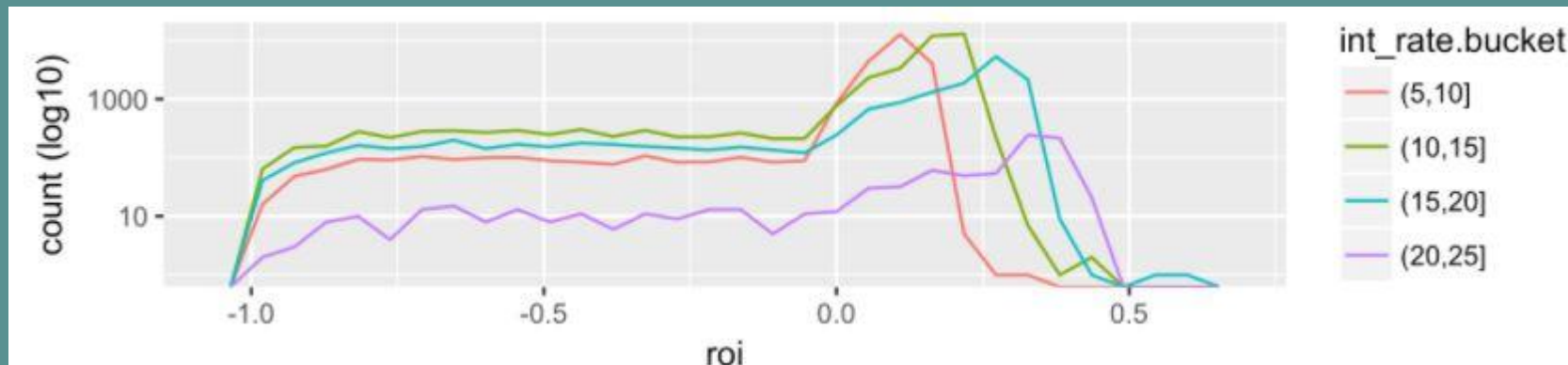
Credit Card and debt consolidation Loans have the highest ROI.



Interest Rate Versus ROI:

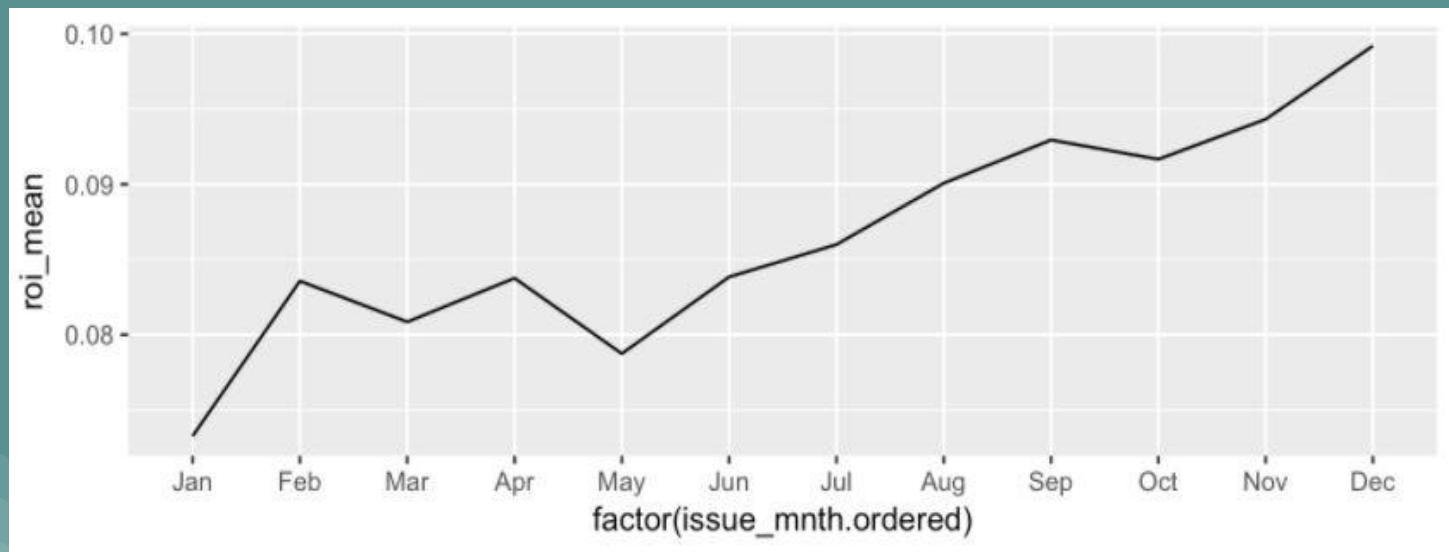
The interest Rates from %10 to %20 are the seem to be the most profitable.

Which means loan grades from lower sub-grade B to higher sub-grade E.

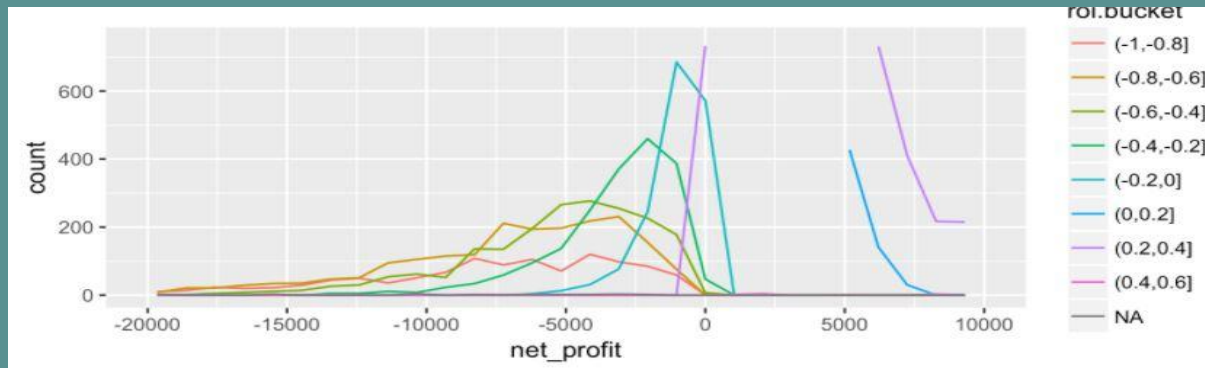


Interest Rate Versus ROI:

The loans issued from June to December have higher average ROI than the loans issued from January to June!!



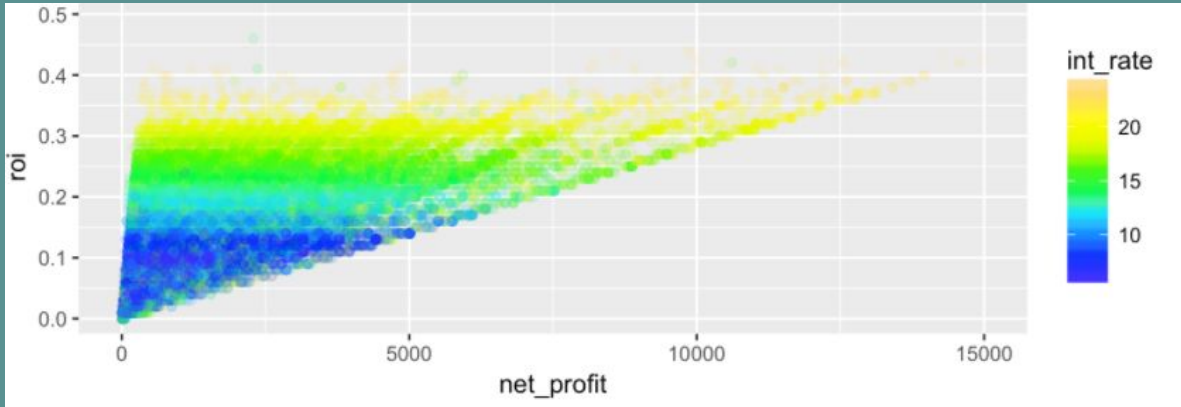
Promise Of Value



We can see from the plots that there are much more loans between 0 and .4 ROI with a net gain than there are between 0 and -1 with a net loss, leading to the **\$76+ million net profit**. Loans with higher ROIs appear to be more sensitive to net profit than those with lower ROIs. We've seen a similar relationship with interest rates and ROI where loans with higher ROIs were more sensitive to changes in interest rates.

The above plots remind us that the magnitude of the ROI alone will not tell us everything we need to know about profitability. We need to consider how much profit each loan yields and how many of such loans are in the portfolio.

Profitability



- Higher ROIs yield more profit
- Distribution of loans and relationship between ROI and profit must be considered
- Higher interest rates yield higher ROIs – and, thus, more net profit
- Overall portfolio has more middle tier interest rates (10%-15%)
- Loans with higher ROIs were more sensitive to changes in interest rates

Recommendations

Overall profit can be boosted by adding more high interest loans and padding them with more middle interest loans

Invest more in loans issued between June and December!!

Invest more in Credit Card or Debt Consolidation loans!!