Lending Club Case Study

Strongest Drivers of Default

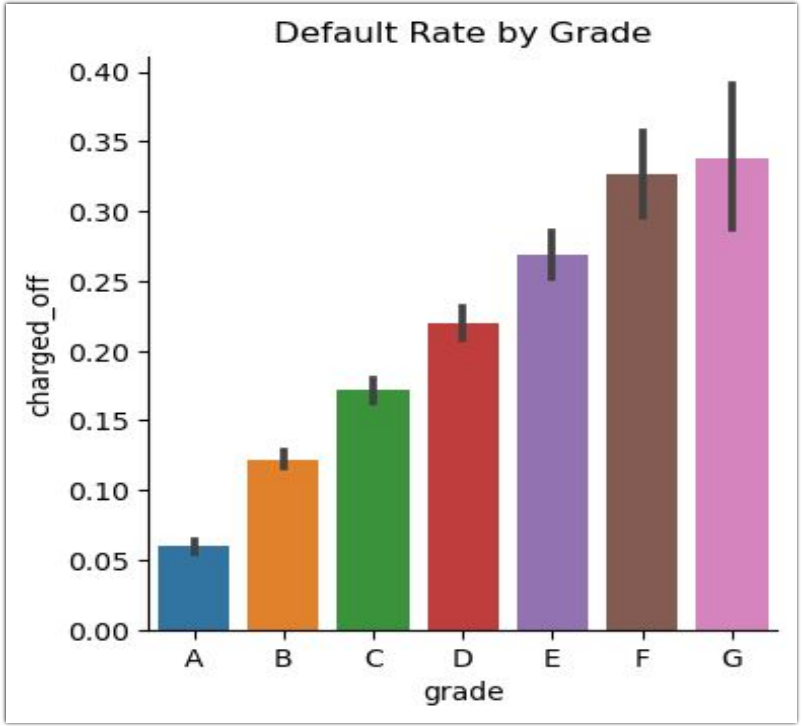
Overall default rate : 14%

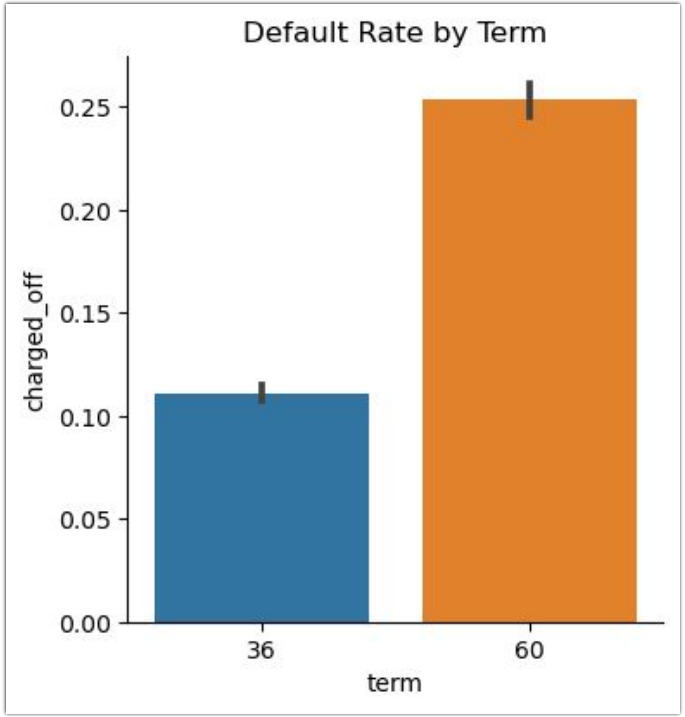
1. Loans with bad grades (D,E,F)
    a. 25% default rate
2. Long term loans (60 months)
    a. 25% default rate
3. High interest rates (>15%)
    a. 26% default rate
4. Loans given to users who have public record bankruptcies
    a. 22% default rate
5. Poor rateio of requested to funded (by investors) loan amount
    a. 19% default rate

Recommendation

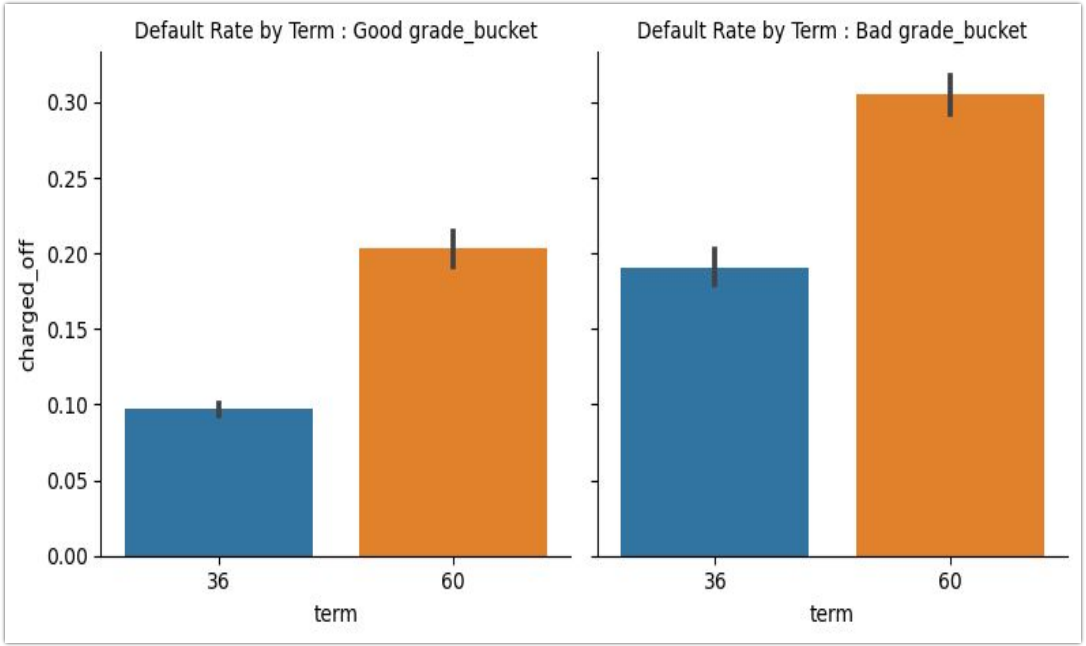
1. Track a composite risk score for loans, which keeps count of how many of the top drivers of default a loan has qualified under (0 meaning none, 5 meaning all 5)
    a. E.g. a 60 month loan at 18% interest, of grade E, with no public record bankruptcies and funding ratio of 100% will have a score of 3
2. Flag loans that have a score of 3 or more as high risk, so that investors are aware of the likelihood of default (>30% chance of default)
    a. Risk scores of 3 or more account for 26% of defaults in spite of only accounting for 12% of total loans
3. These loans can also be rejected in an automated fashion if Lending Club is not comfortable with investors taking on the risk

Loan Grade and Term are very influential predictors of default





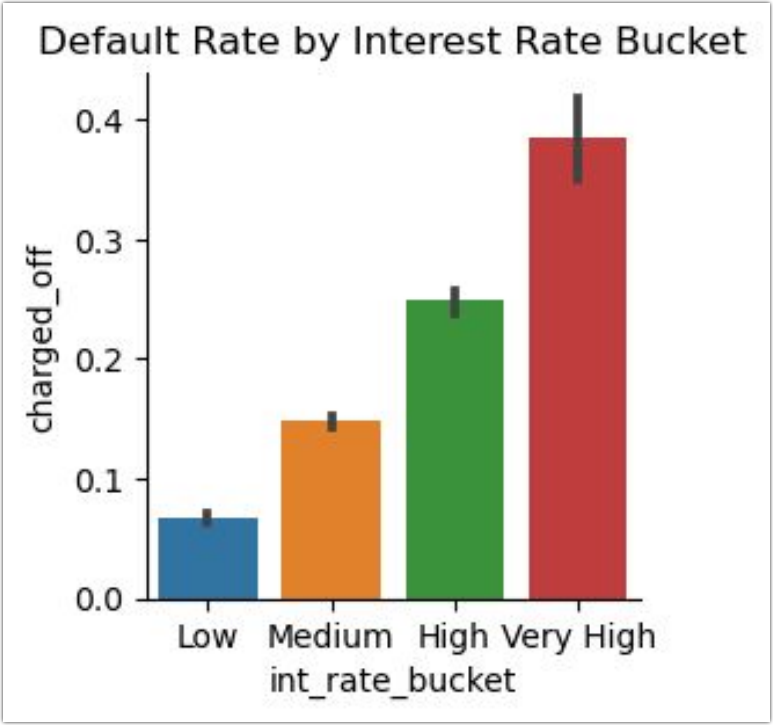
Both factors have a clear influence on default rates independent of each other



Grade buckets -

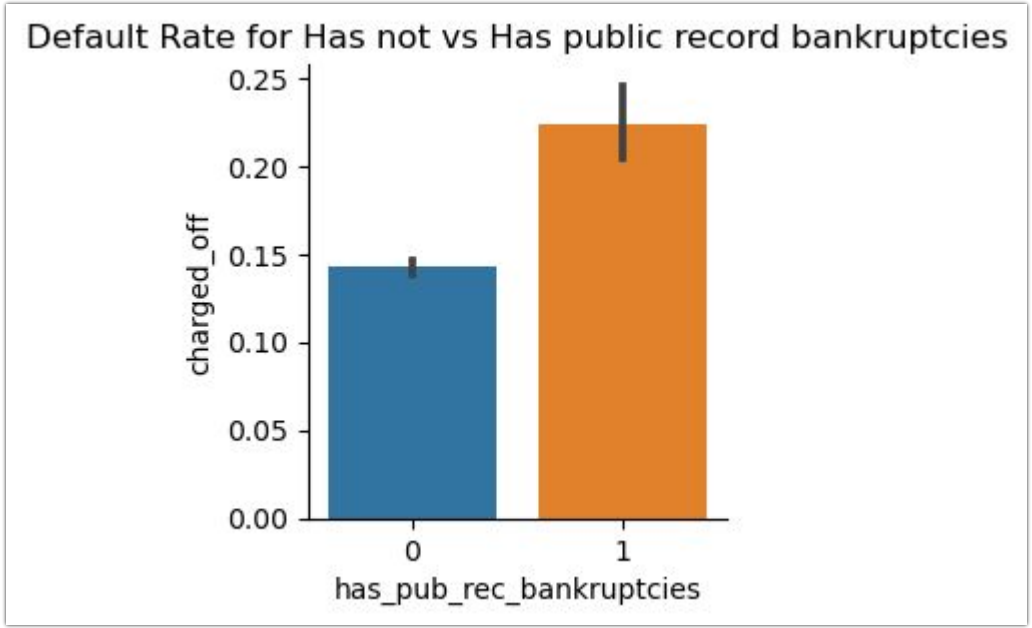
1. Good - A,B,C
2. Bad - D,E,F

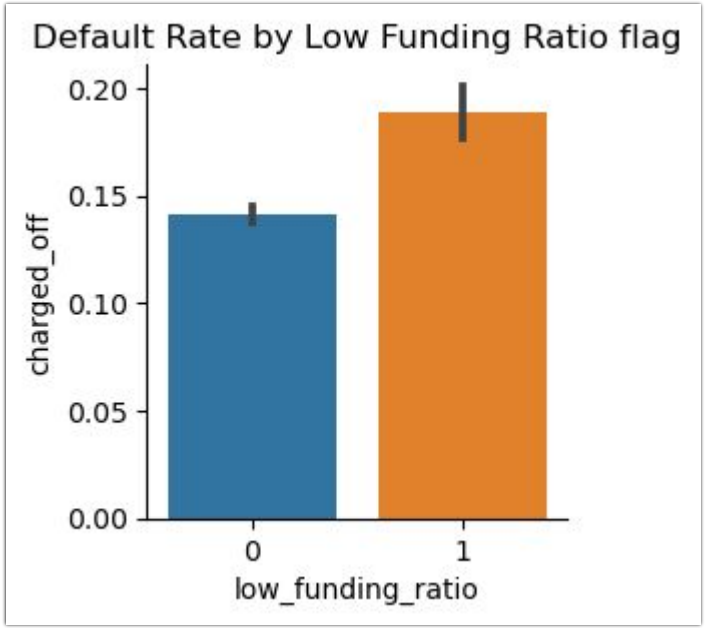
As interest rate of a loan increases, so does the default rate



1. Low - <10%
2. Medium - 10-15%
3. High - 15-20%
4. Very High - > 20%

Other weaker but significant predictors of default

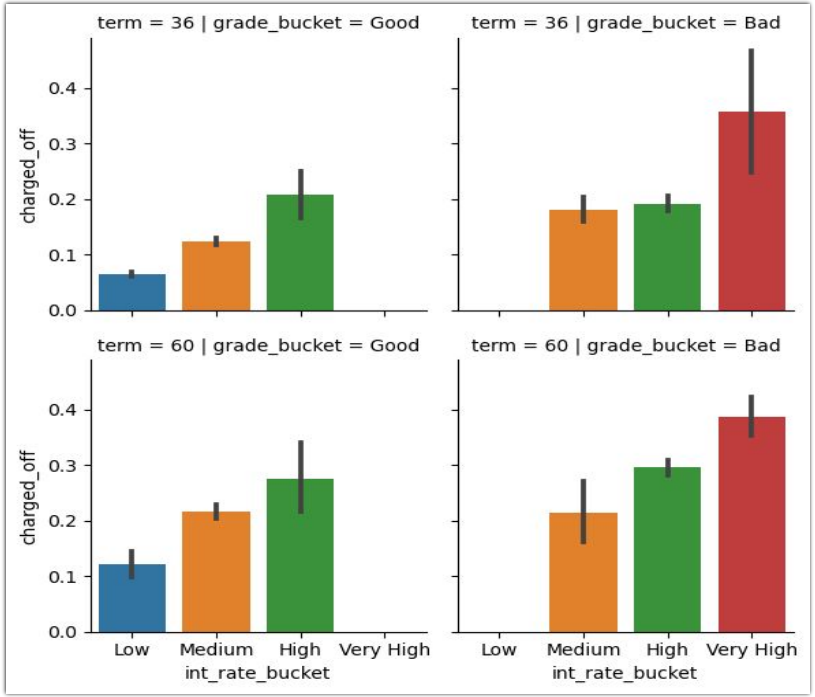


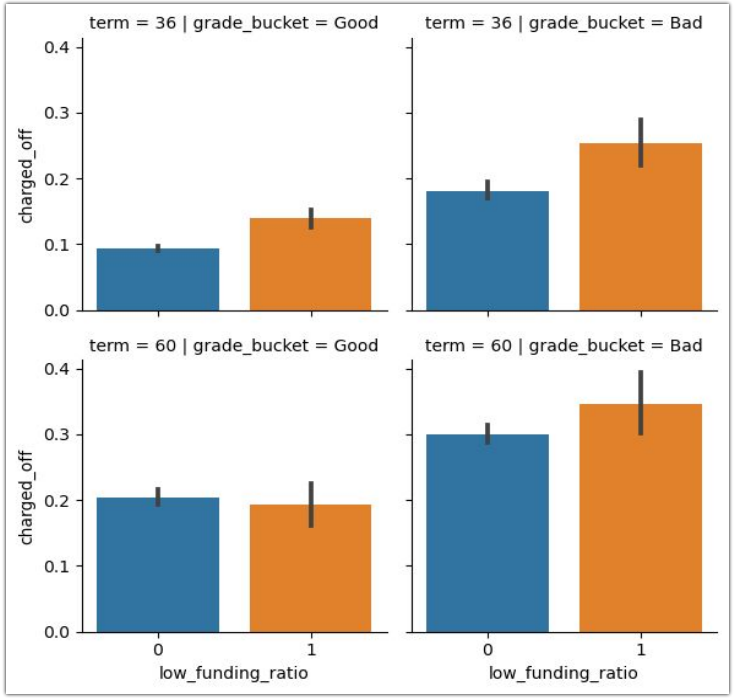


0 : no public record bankruptcies
1: has public record bankruptcies

0 : Funding ratio >=80%
1: Funding Ratio <80%

Strong predictors show high independent relationship





Notice how strong the pattern in interest rates is even when controlling for grade bucket and term as opposed to Low Funding Ratio, which has some prediction power but considerably weaker