# Lending Club Case Study

Rishi Shah

Mohinesh Tayade

11/10/2023

# Executive Summary

- Goal is to determine driving factors behind potential default by customers
  - 5 factors have been determined by Team
    - Customer Debt and Revolving Credit
    - Negative Public Records
    - Loan Parameters
    - Loan Grade
    - Purpose, Annual Income & Residence State

- Team has analysed 46 columns with relevant data
  - Data columns were analysed individually
  - Bivariate analysis of data columns with Loan Status
  - Certain metrics were derived but less insights derived
  - Several columns has no data or data with just one value
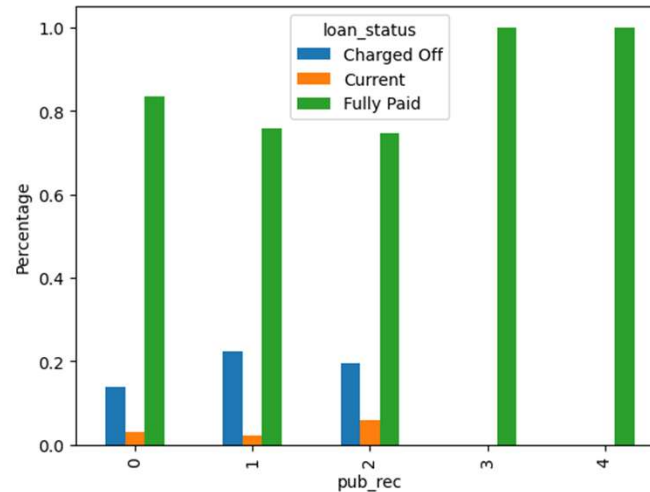
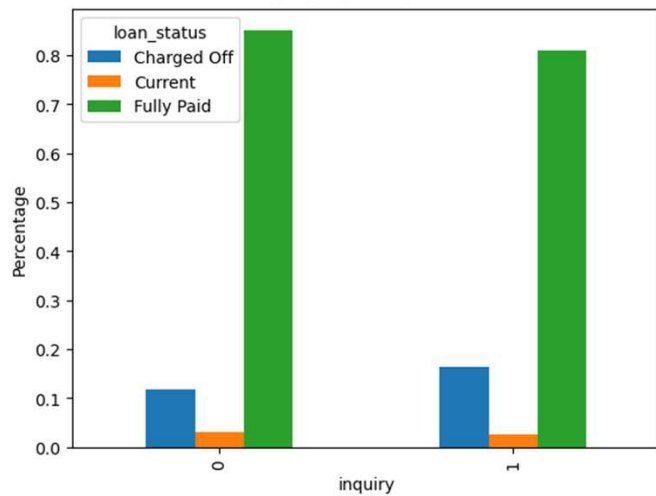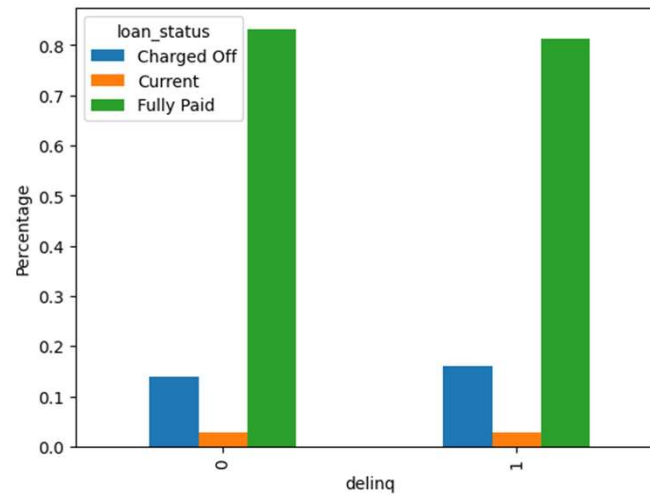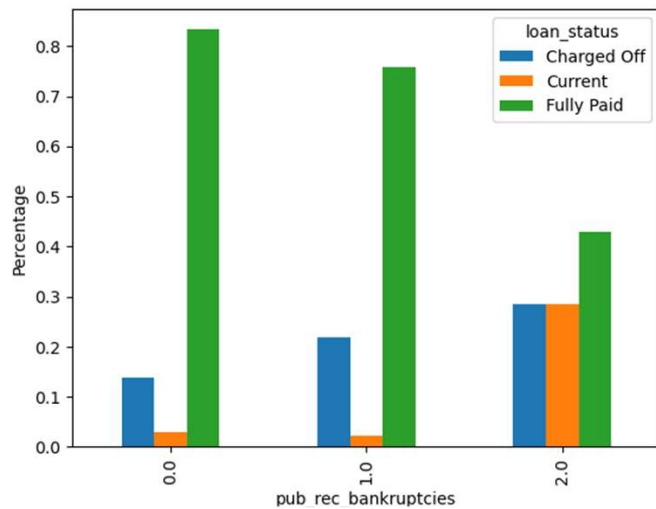# Driver 1 – Customer Debt & Revolving Credit



**Customer is likely to default if they have more debt or utilizing their credit line**

Determining Factors

- Revolving Balance

- Revolving Line Utilization

- DTI

- Open Credit Line Accounts
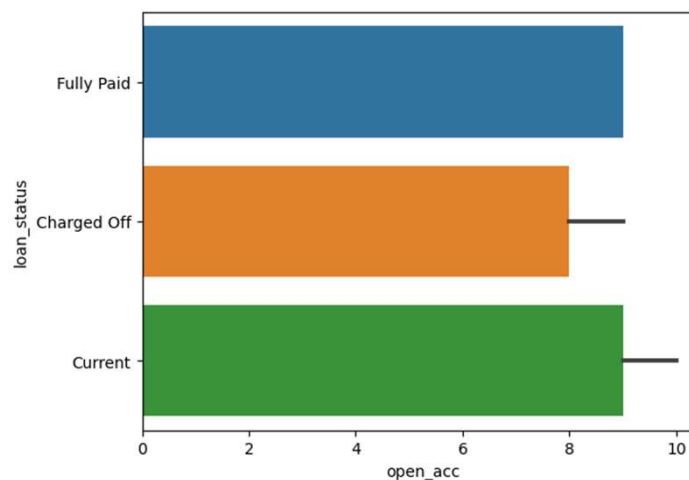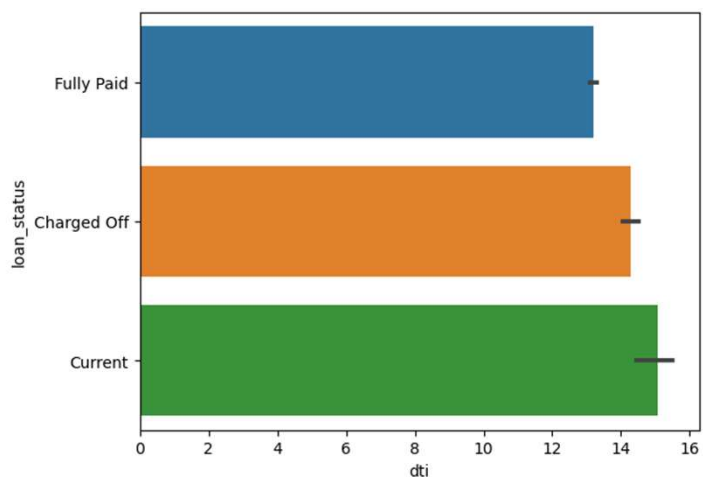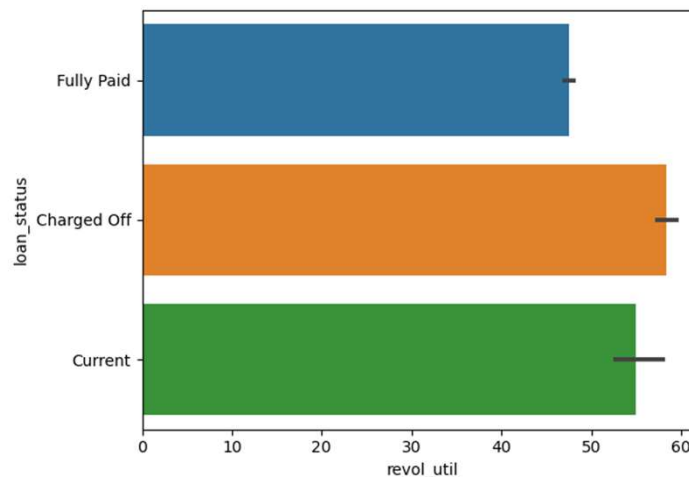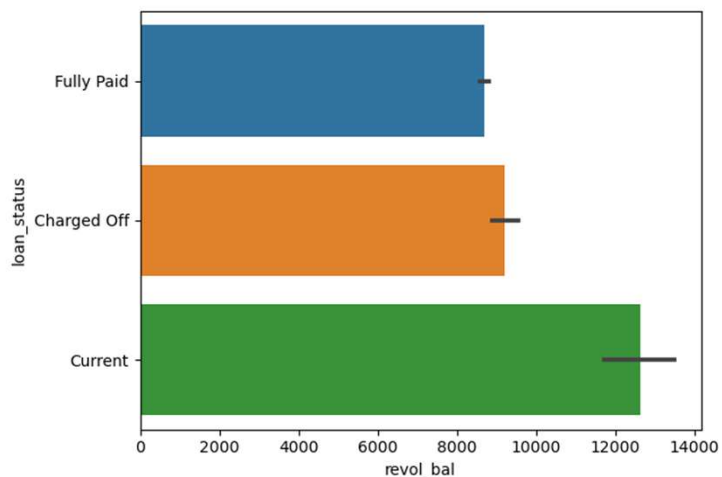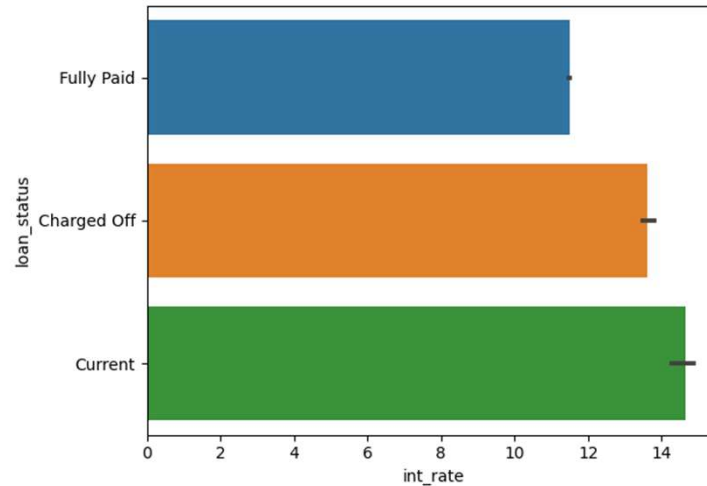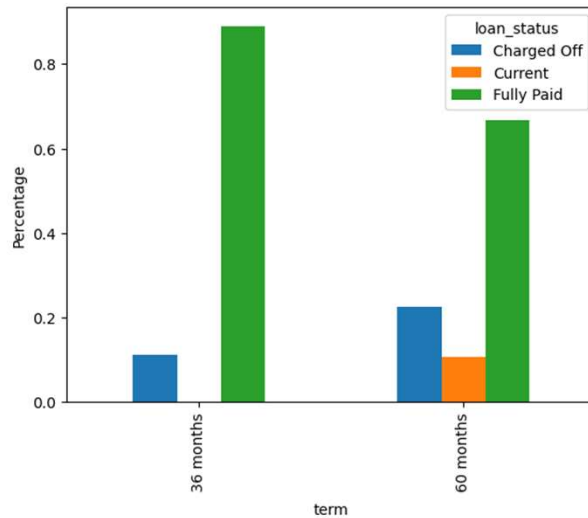
# Driver 2 – Negative Public Records



**Customer is more likely to default if they have negative public records**

Determining Factors

- Bankruptcies

- Delinquencies in Past 2 Years

- Credit Inquiries

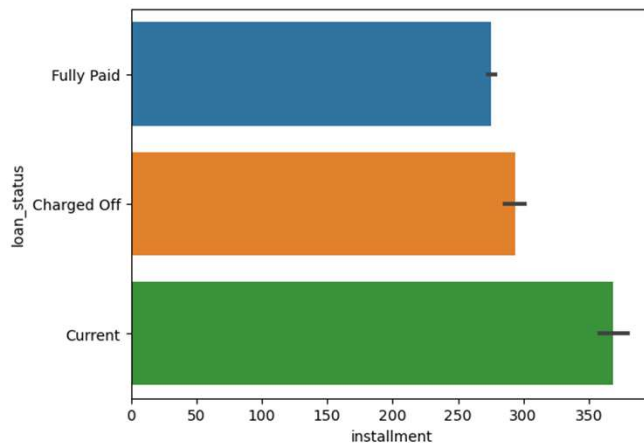- Derogatory Public Records

# Driver 3 – Loan Parameters



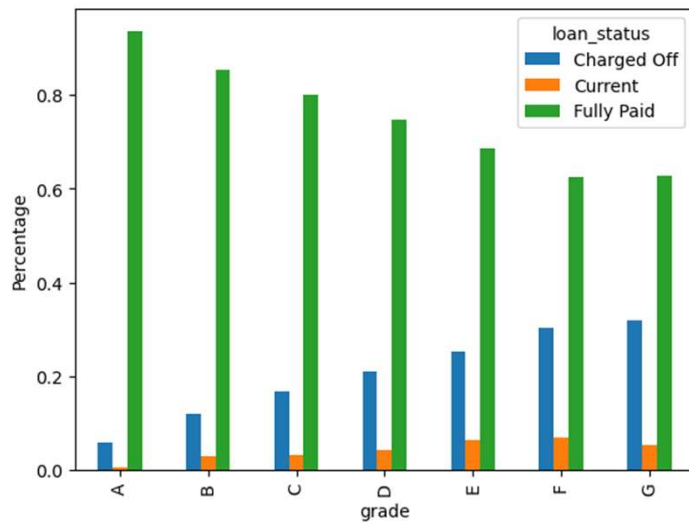**Longer or higher loan parameters could lead to more defaults**

Determining Factors

- Longer Term
- Higher Interest Rate
- Bigger Instalments

Loan amounts were not of significance since quite consistent and below $35k

# Driver 4 – Loan Grade



| Loan Status | Charge_Off |
|---|---|
| G5 | 33.33% |
| G4 | 23.21% |
| G3 | 39.58% |
| G2 | 35.90% |
| G1 | 29.81% |
| F5 | 45.76% |
| F4 | 31.55% |
| F3 | 27.57% |
| F2 | 28.11% |
| F1 | 27.66% |
| E5 | 26.20% |
| E4 | 27.75% |
| E3 | 21.52% |
| E2 | 24.85% |
| E1 | 25.95% |
| D5 | 23.91% |
| D4 | 21.92% |
| D3 | 21.82% |
| D2 | 20.10% |
| D1 | 17.94% |
| C5 | 17.54% |
| C4 | 17.15% |
| C3 | 17.66% |
| C2 | 15.96% |
| C1 | 15.73% |
| B5 | 13.17% |
| B4 | 13.10% |
| B3 | 11.69% |
| B2 | 11.08% |
| B1 | 9.34% |
| A5 | 7.91% |
| A4 | 6.17% |
| A3 | 5.69% |
| A2 | 4.91% |
| A1 | 2.63% |

**Loans that are rated lower by loaning agencies have high default rate**

- Results are consistent for sub-grades

# Driver 5 – Purpose, Annual Income & Residence State
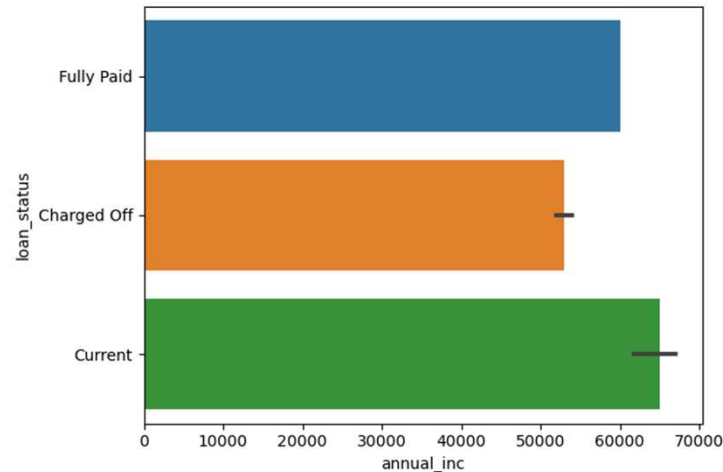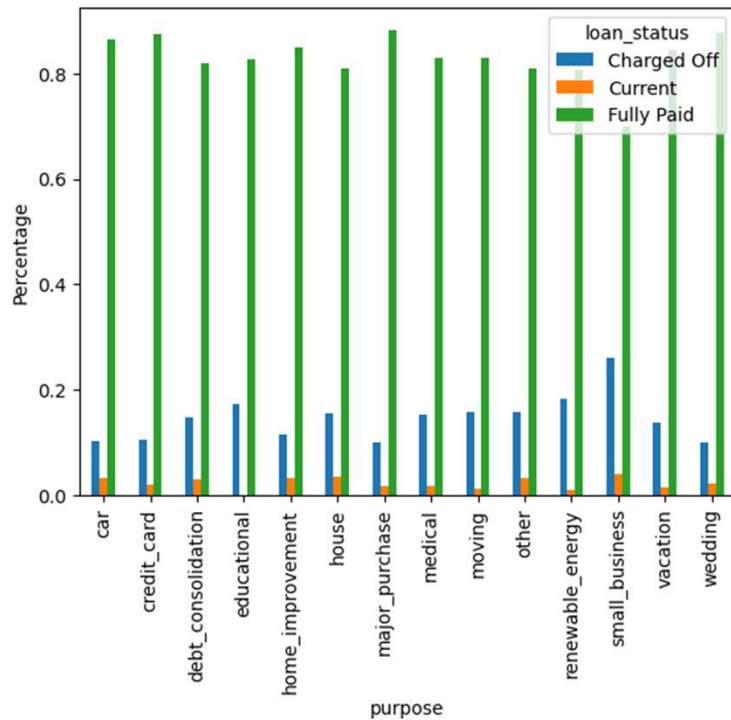


**Purpose and Annual Income are important factors to determine defaulters**

Determining Factors

- Purpose – Small business, energy and education loans are riskier

- Annual Income – Less annual income indicates higher default

**State – Customer from certain states are more likely to default**

- Nevada

- Arkansas

- South Dakota

- Florida

- Montana