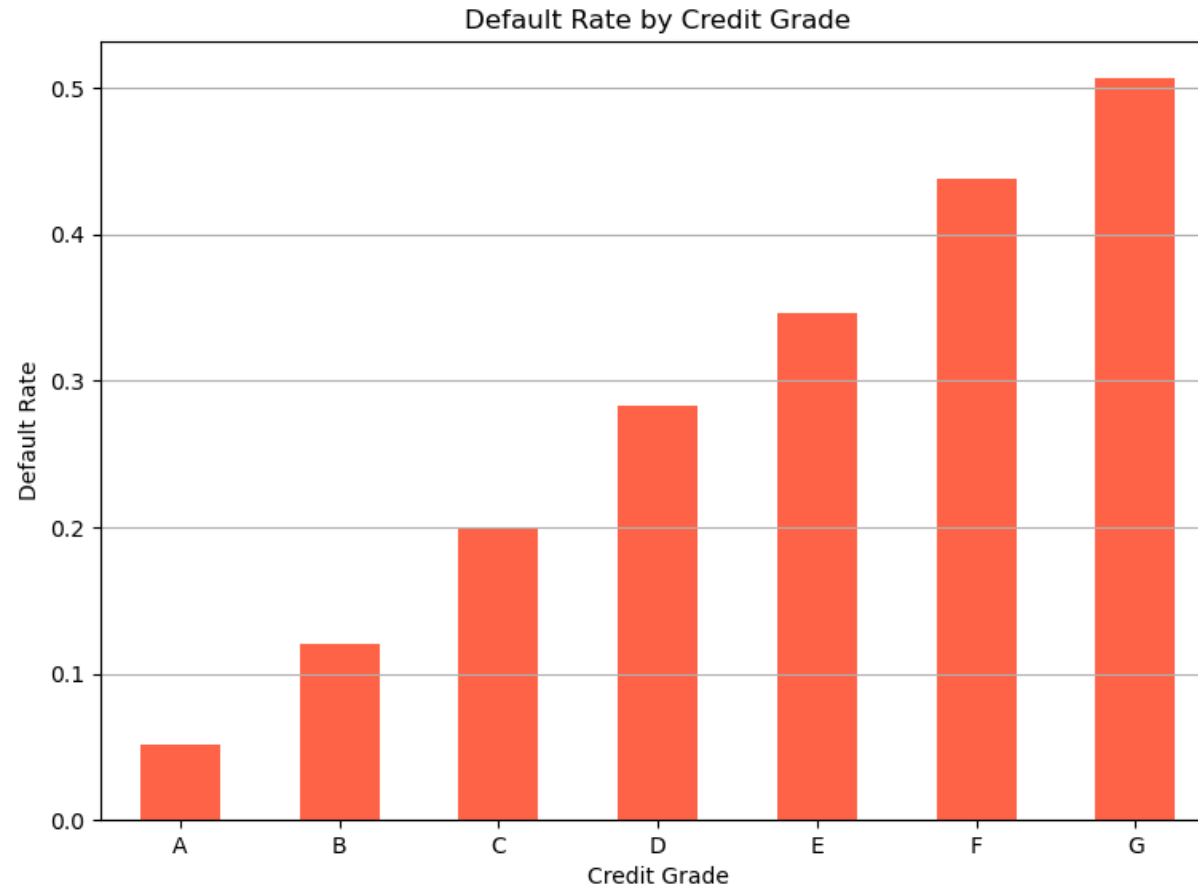


Loan Default Risk Analysis — Lending Club Sample (100k Loans, 2007-2018)

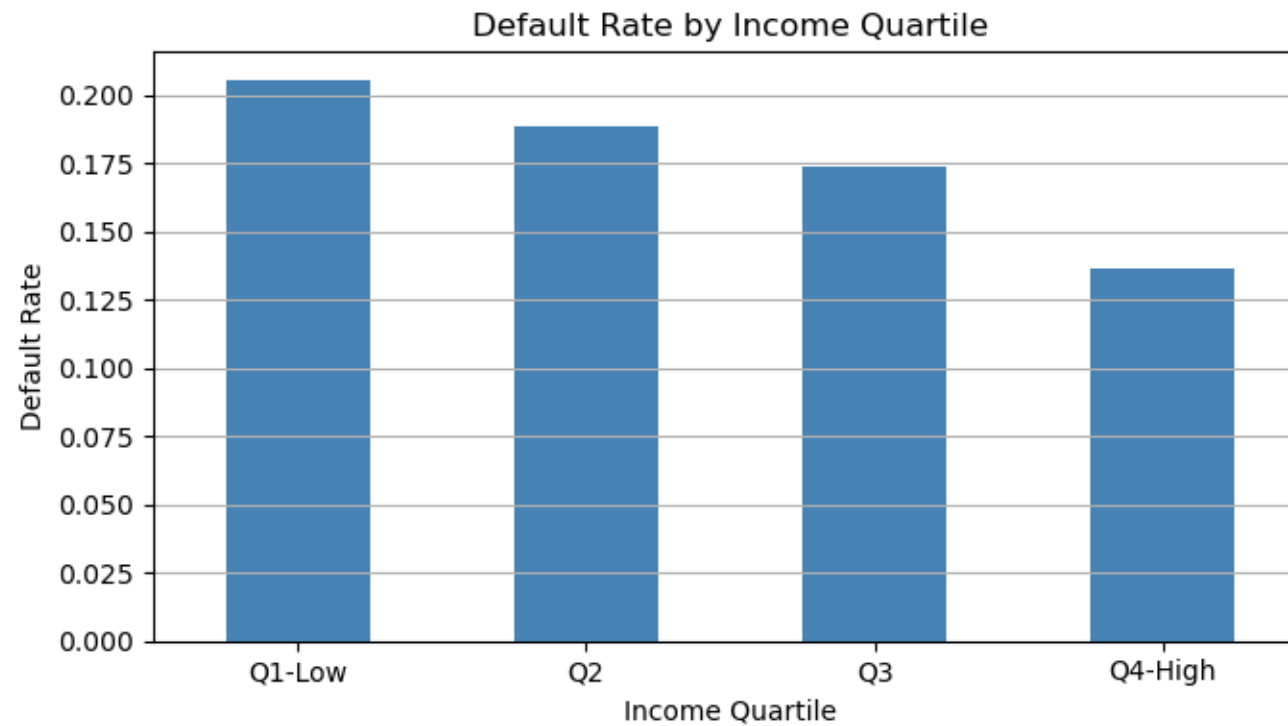
Prepared by Nier Zhang
Python & Excel Portfolio · 2025

Default Rate by Credit Grade



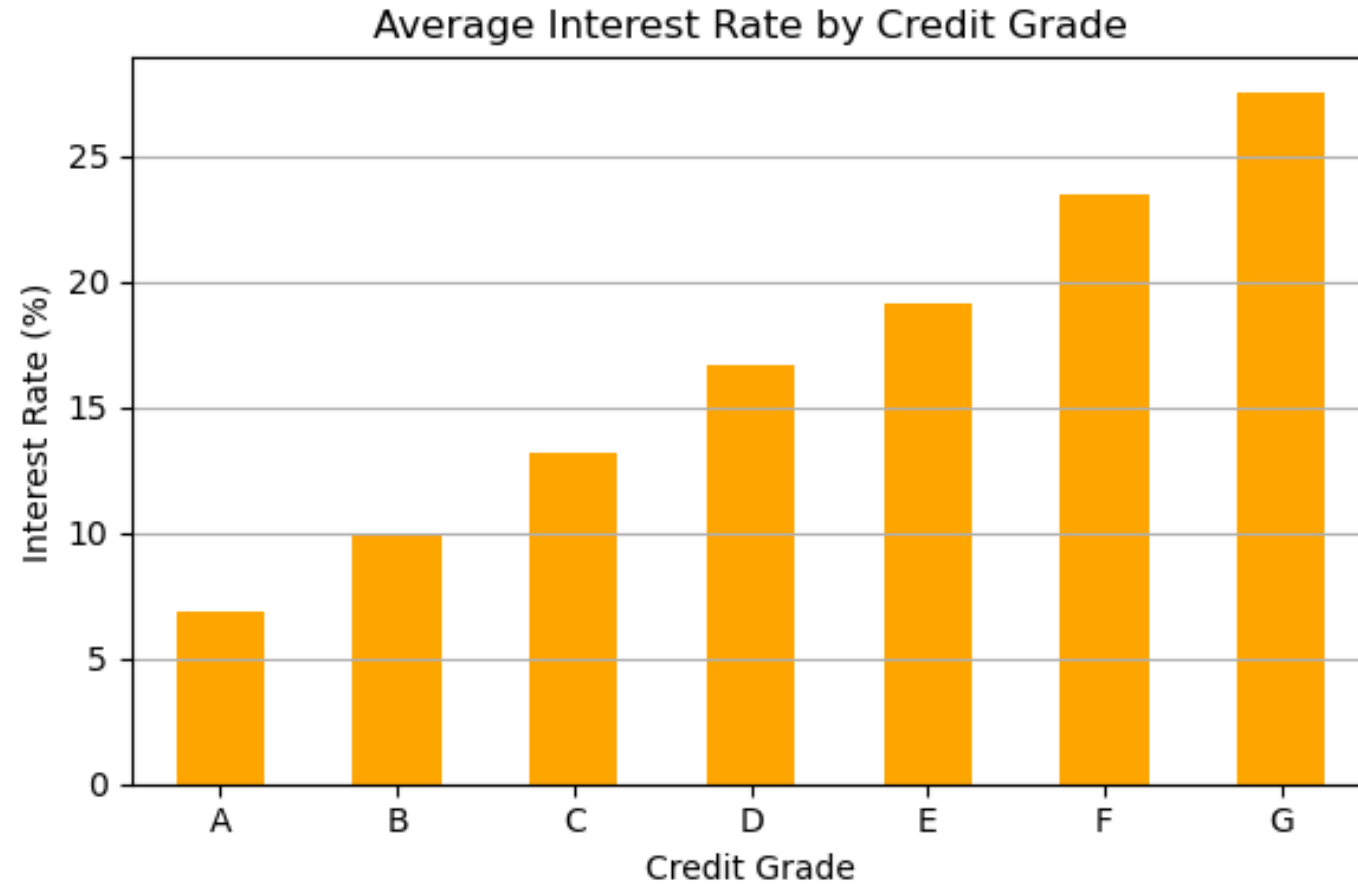
Default increases from 5% (A) to 50% (G), with the risk increasing dramatically with the level

Default Rate by Income Quartile



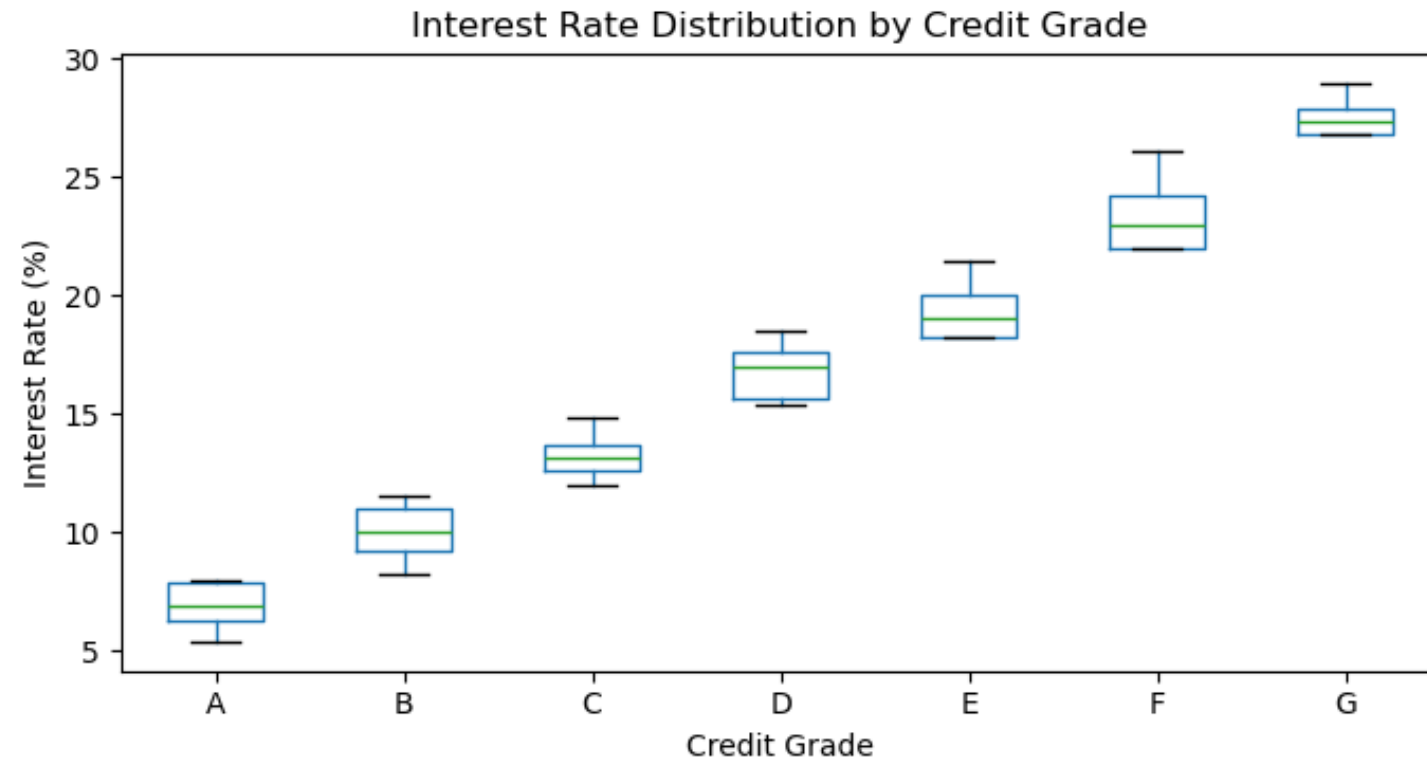
The default rate for the lowest income quartile is about 40% higher than that for the highest income quartile

Avg Interest Rate by Grade



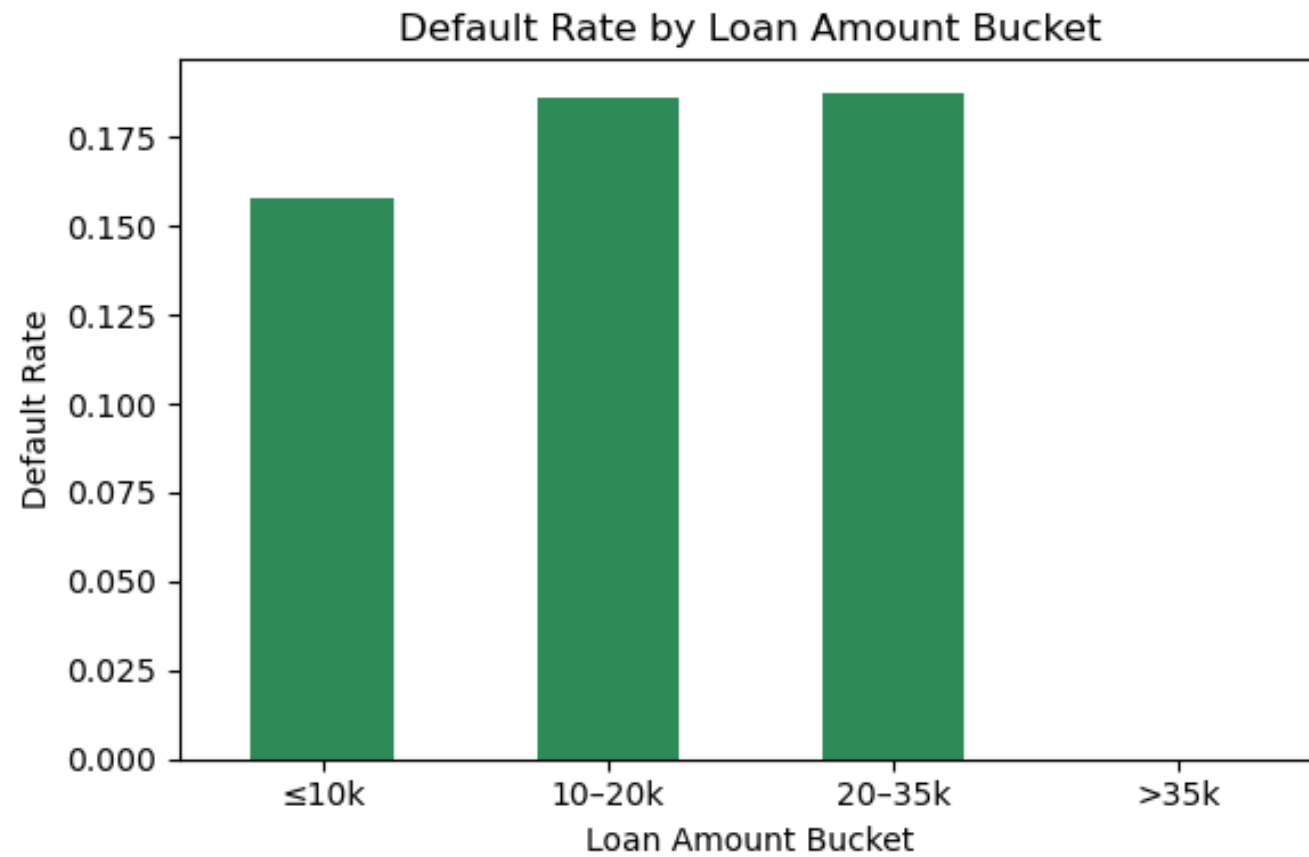
Interest rates rise with risk: Grade A≈6%, Grade G≈27%

Interest-Rate Distribution (Boxplot)



The lower grades have both higher mean and greater dispersion, indicating that high-risk customers have large pricing differences

Default vs Loan Size Bucket



> 35k USD loans have a slightly higher default rate (~19 %), but not as significant as credit rating

Key Insights

- Credit grade is the most powerful default predictor (A→G, 10× jump)
- Low-income borrowers and larger loans show moderately higher risk
- Pricing (interest rate) aligns well with credit grade risk levels