Credit Risk Analysis and Investment Performance in Peer-to-Peer Lending Markets

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What is Lending Club?

Peer-to-Peer Lending

A U.S. platform connecting borrowers with investors.

Loan Types

Personal loans for debt, home improvement, and more.

Investor Roles

Individual and institutional investors fund loans.

How Peer-to-Peer Lending Lending Works

1. **Borrower Applies**

   Platform assigns grade and interest rate.

2. **Investor Funds**

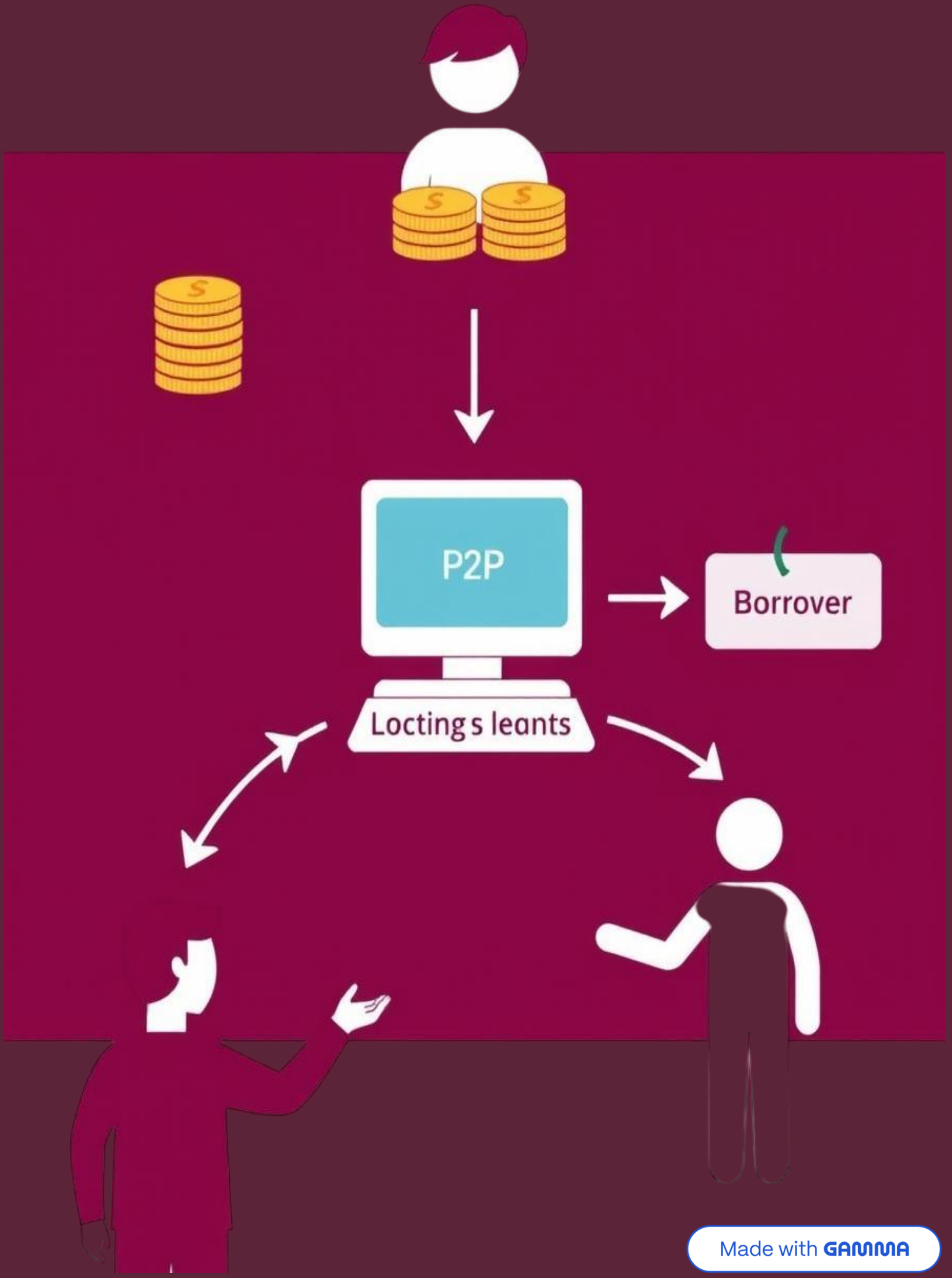
   Investors select loans to finance.

3. **Repayment**

   Borrowers repay monthly; investors receive payments.

4. **No Banks**

   Traditional banks are not involved.



Why Analyzing Credit Risk Matters

For Investors

- Predict loan default risk
- Balance risk and return
- Teller Investment Portfolio

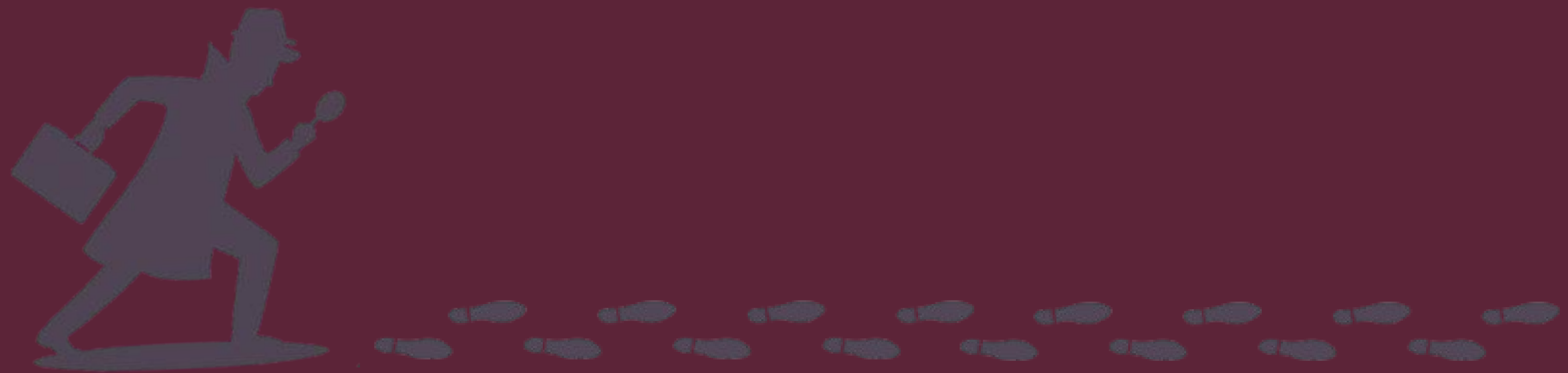
For Lending Club

- Protect platform reputation
- Improve loan approval and pricing
- Keep investors and borrowers satisfied

Problem Statement

Analyze loan issuance, borrower behavior, and repayment outcomes.

Identify factors linked to higher credit risk and loan defaults.



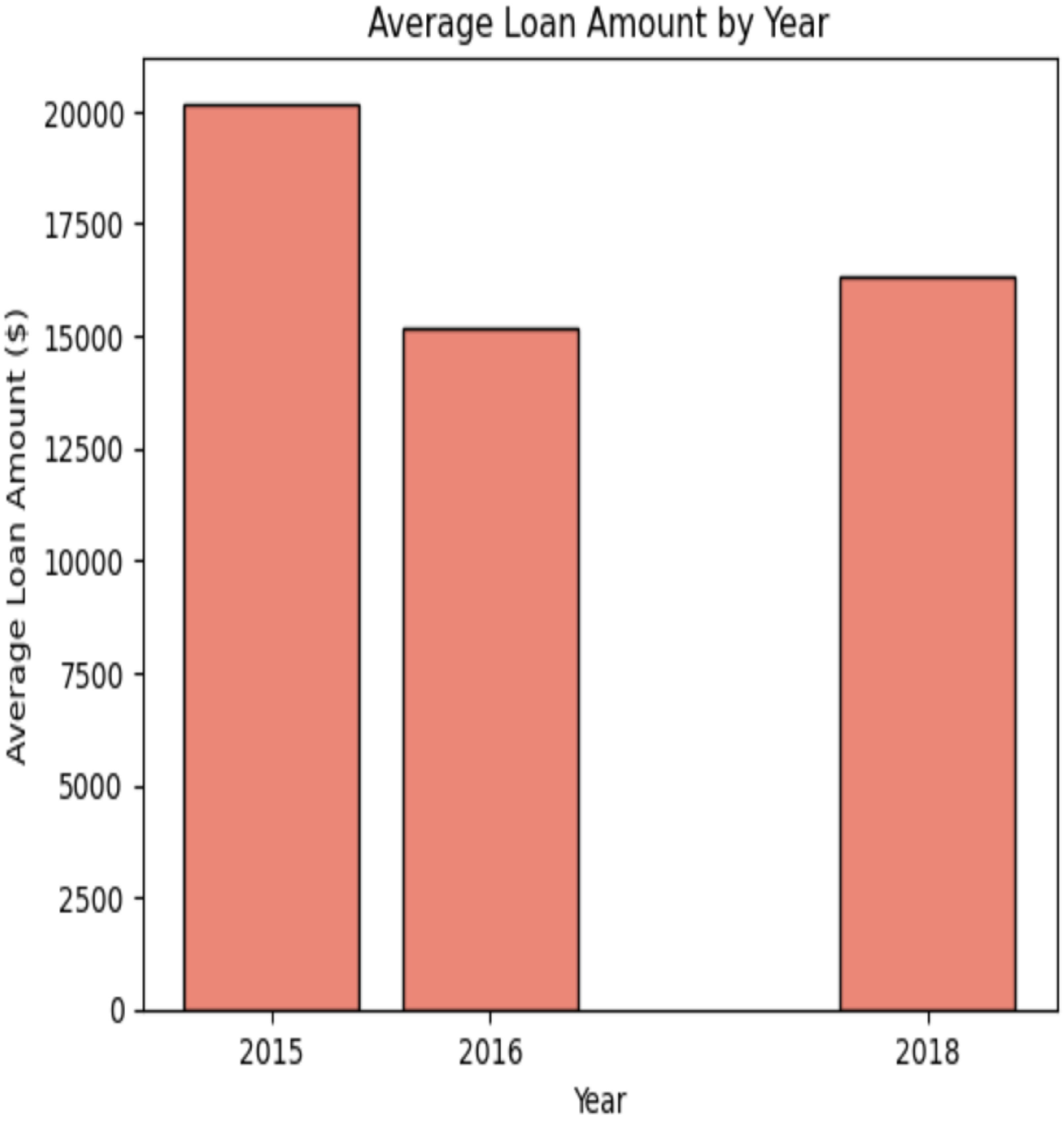
Key Credit Risk Factors

- Loan Amount
- Interest Rate
- Borrower's Income
- Loan Purpose
- Loan Grade
- Debt-to-Income Ratio

Visualizing Credit Risk Data

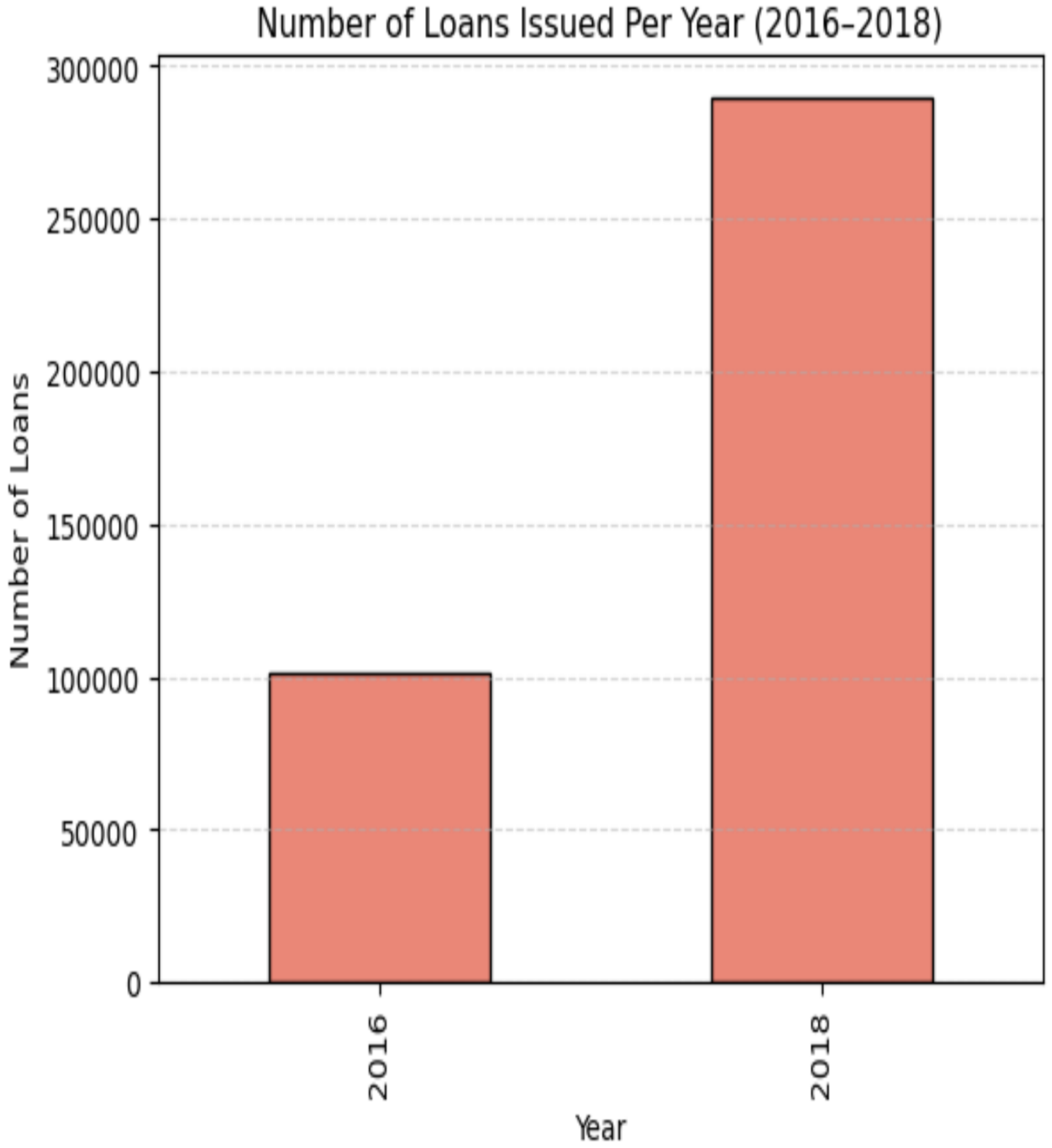
- This chart shows how the average loan amount has evolved over the years.

- It shows whether borrowers have been requesting or receiving larger loans over time.



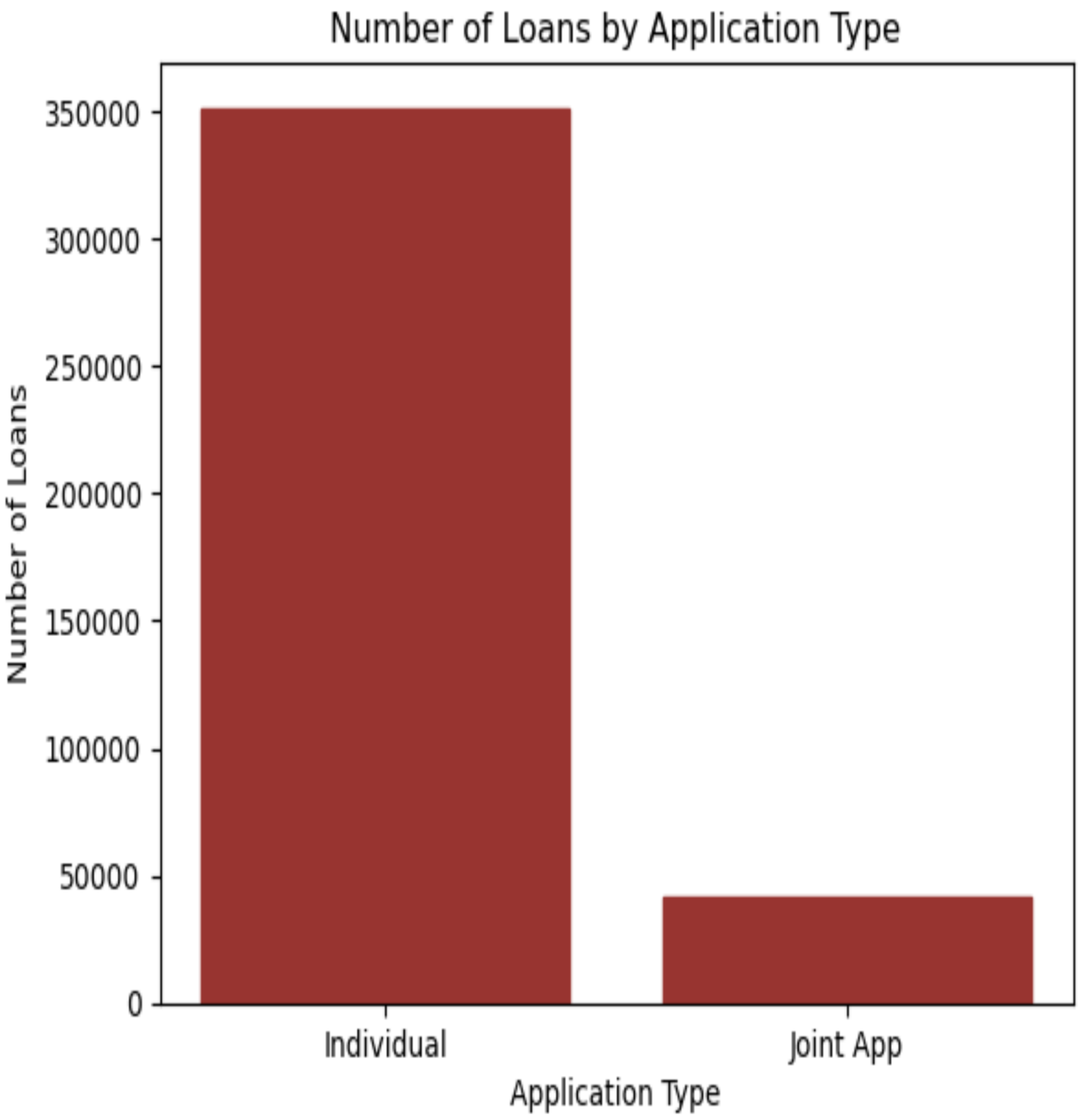
- ❑ **Loan issuance peaked in 2018, indicating a strong demand for credit in that period, possibly reflecting**

  - ❑ Favorable economic conditions
  - ❑ Lower interest rates
  - ❑ Expanded lending criteria.

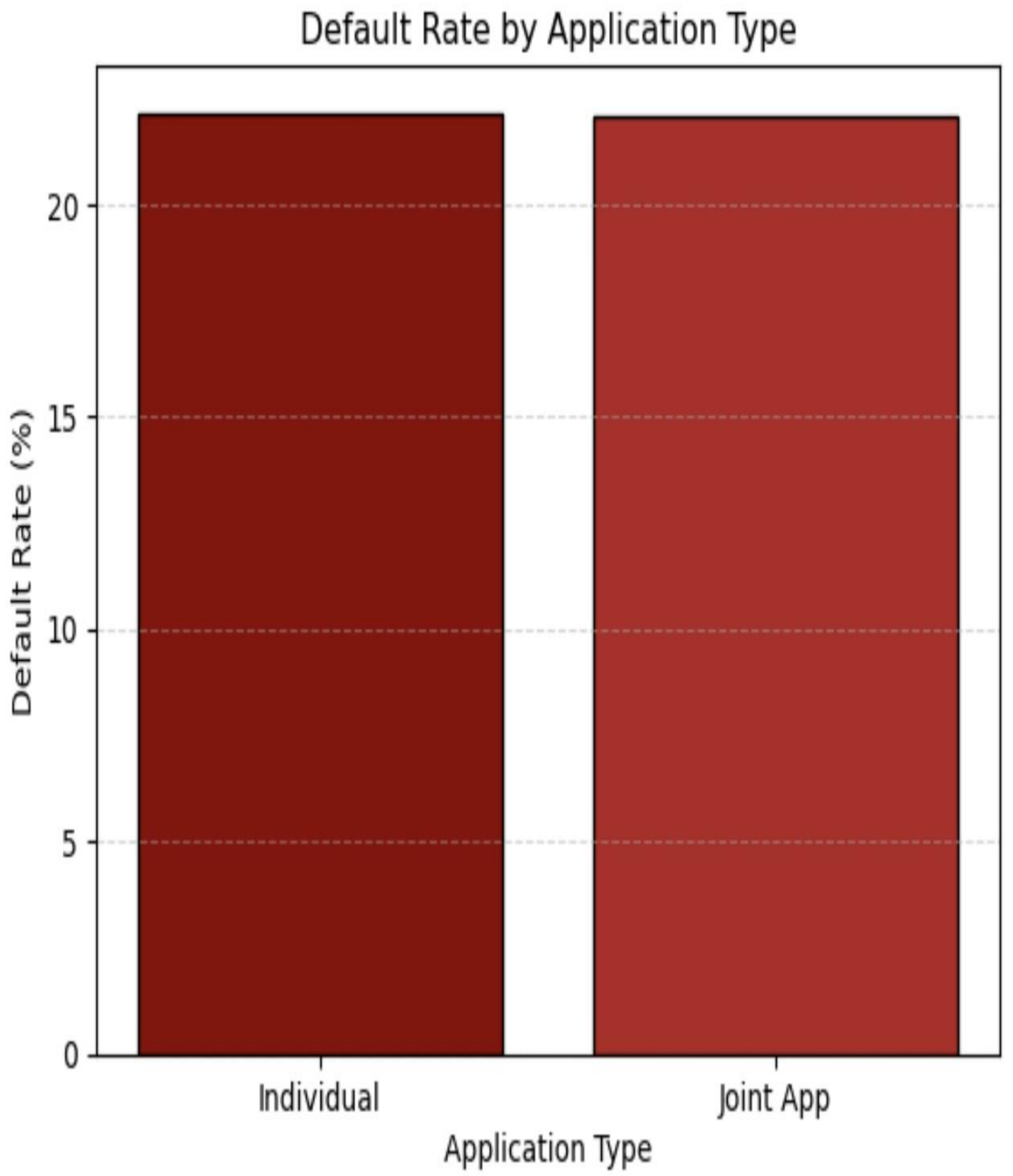


❑ It shows how many loans belong to each type of application.

- ❑ Individual — loans taken by a single borrower
- ❑ Joint App — loans applied for by two people jointly

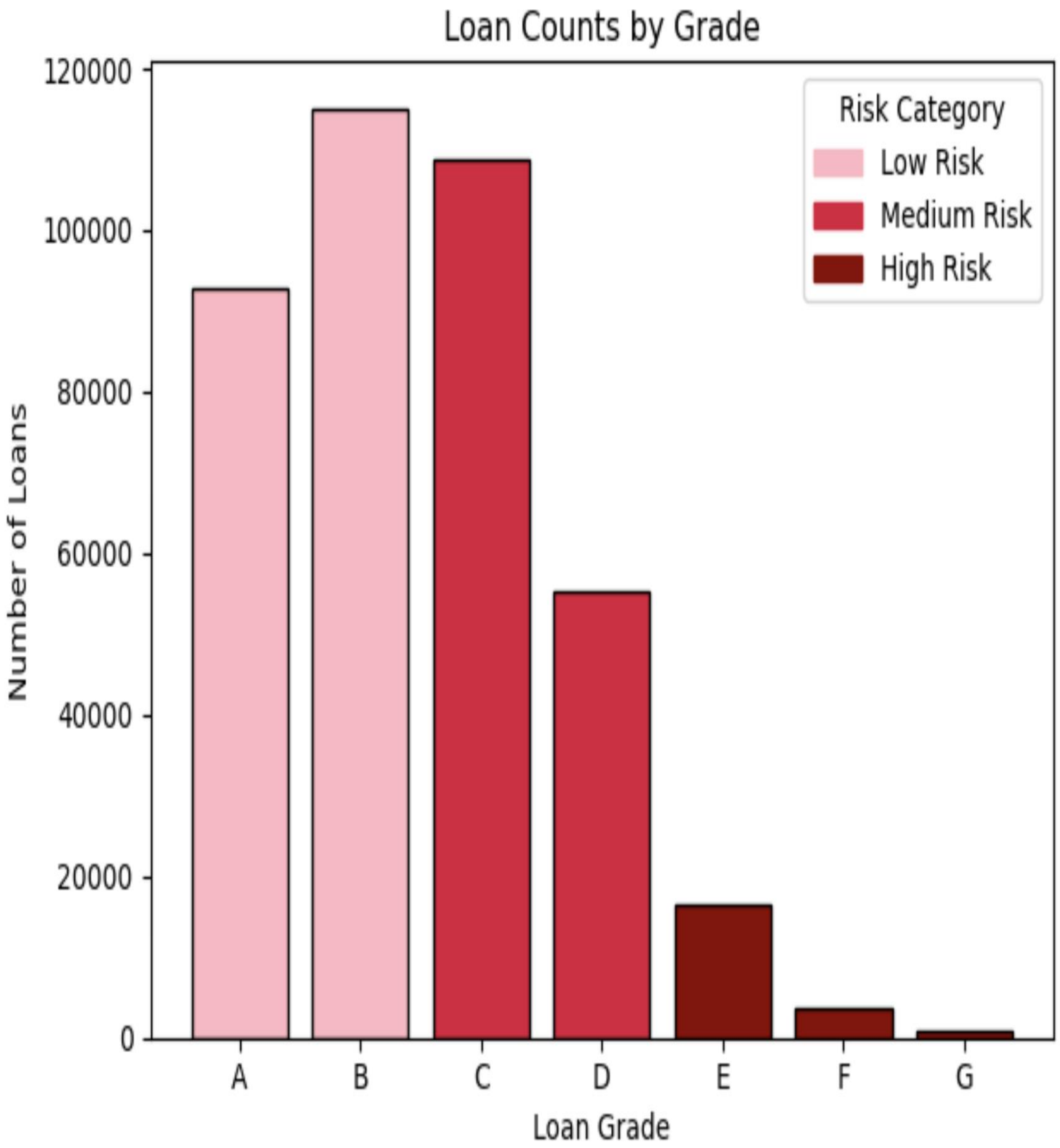


- ❑ Individual applications make up 97% of completed loans, with a 22.14% default rate.
- ❑ Joint applications account for only 3%, with a similar 22.07% default rate.



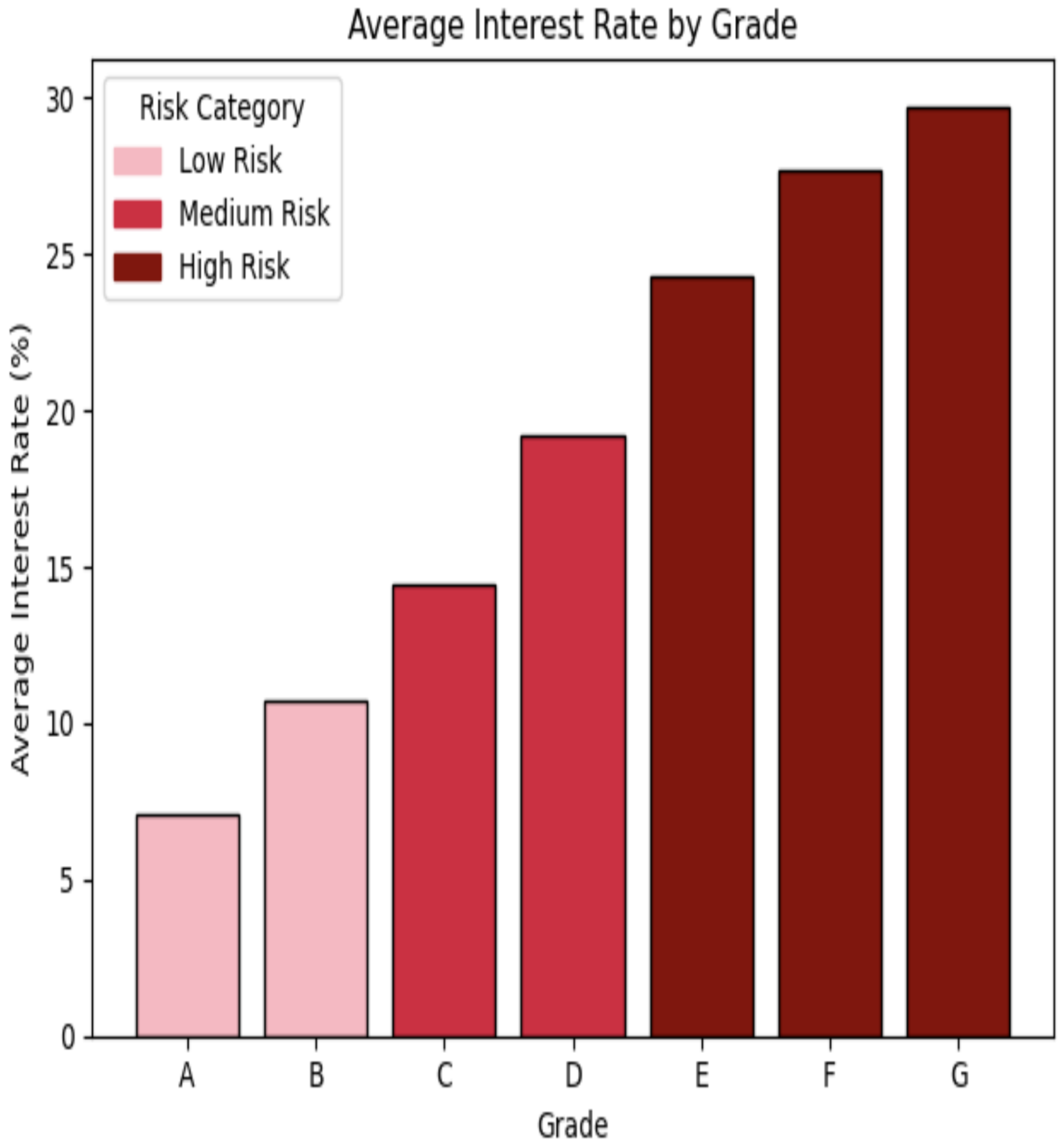
- We can observe that the majority of loans fall into the A to C rang

- suggesting that lenders predominantly target borrowers with stronger credit profiles.



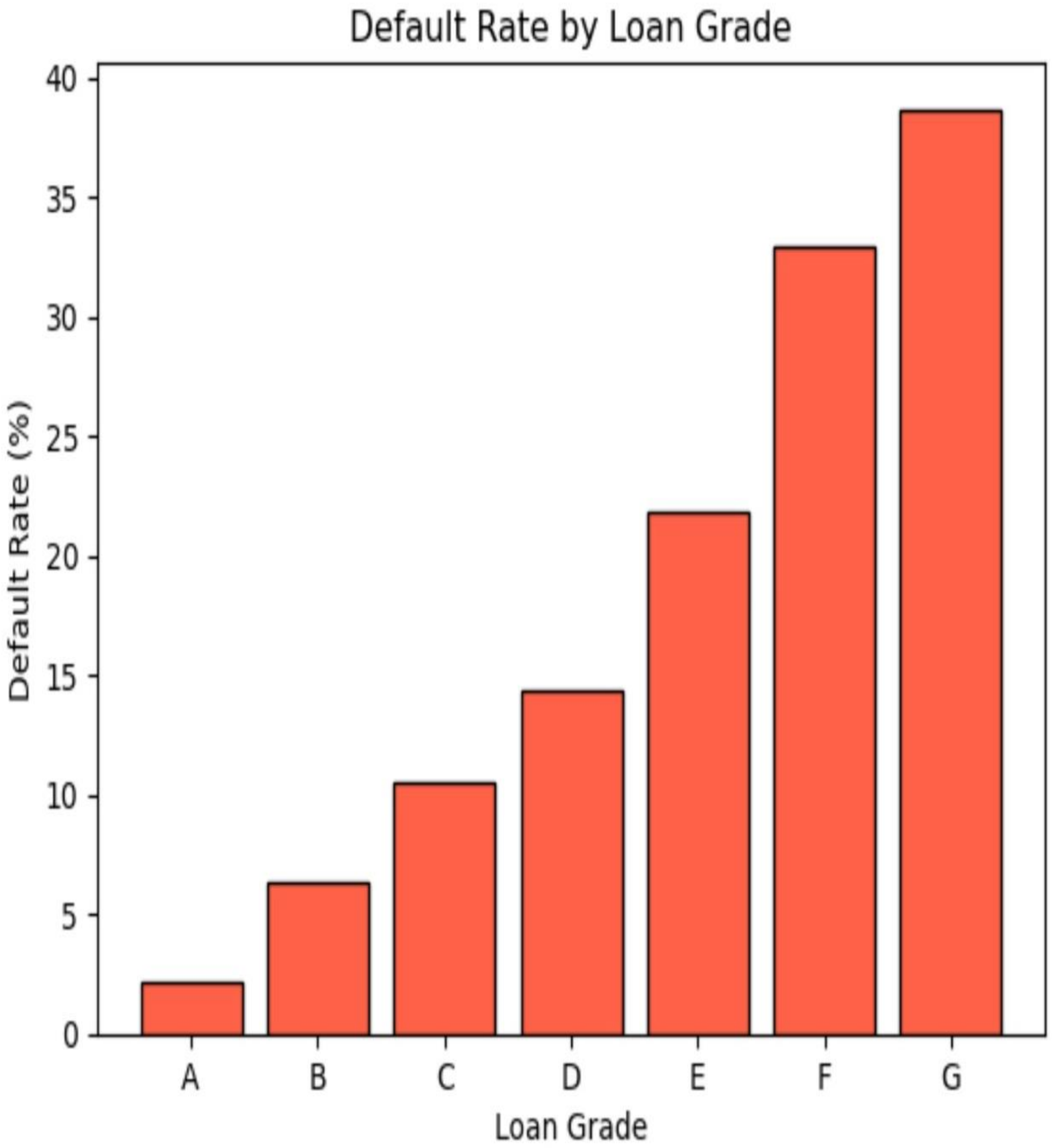
❑ This visual demonstrates how lenders use pricing to manage risk.

❑ charging more to riskier borrowers.

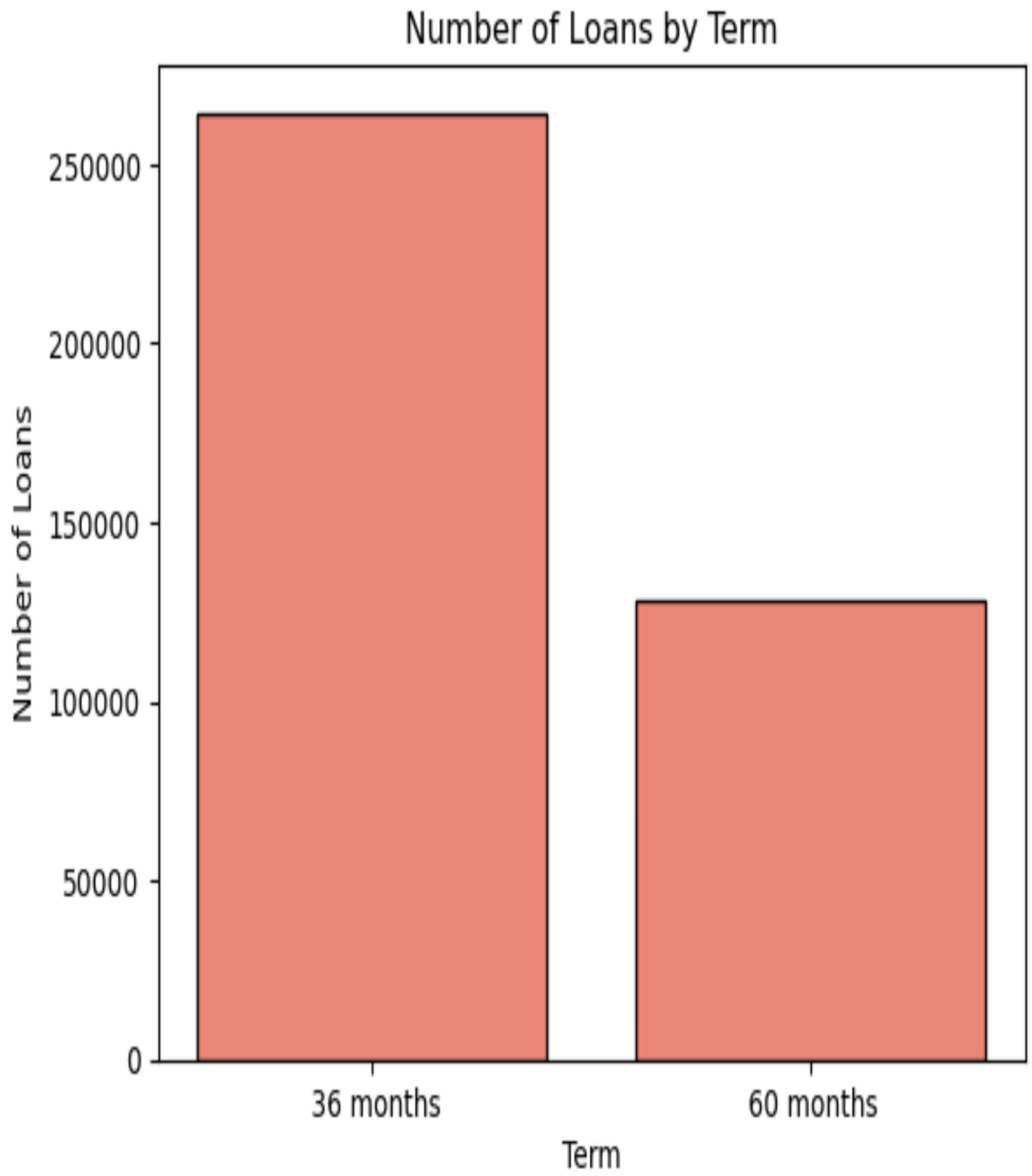


- This reinforces the idea that loan grades are strong indicators of risk .

- The lower the grade, the higher the likelihood of default.



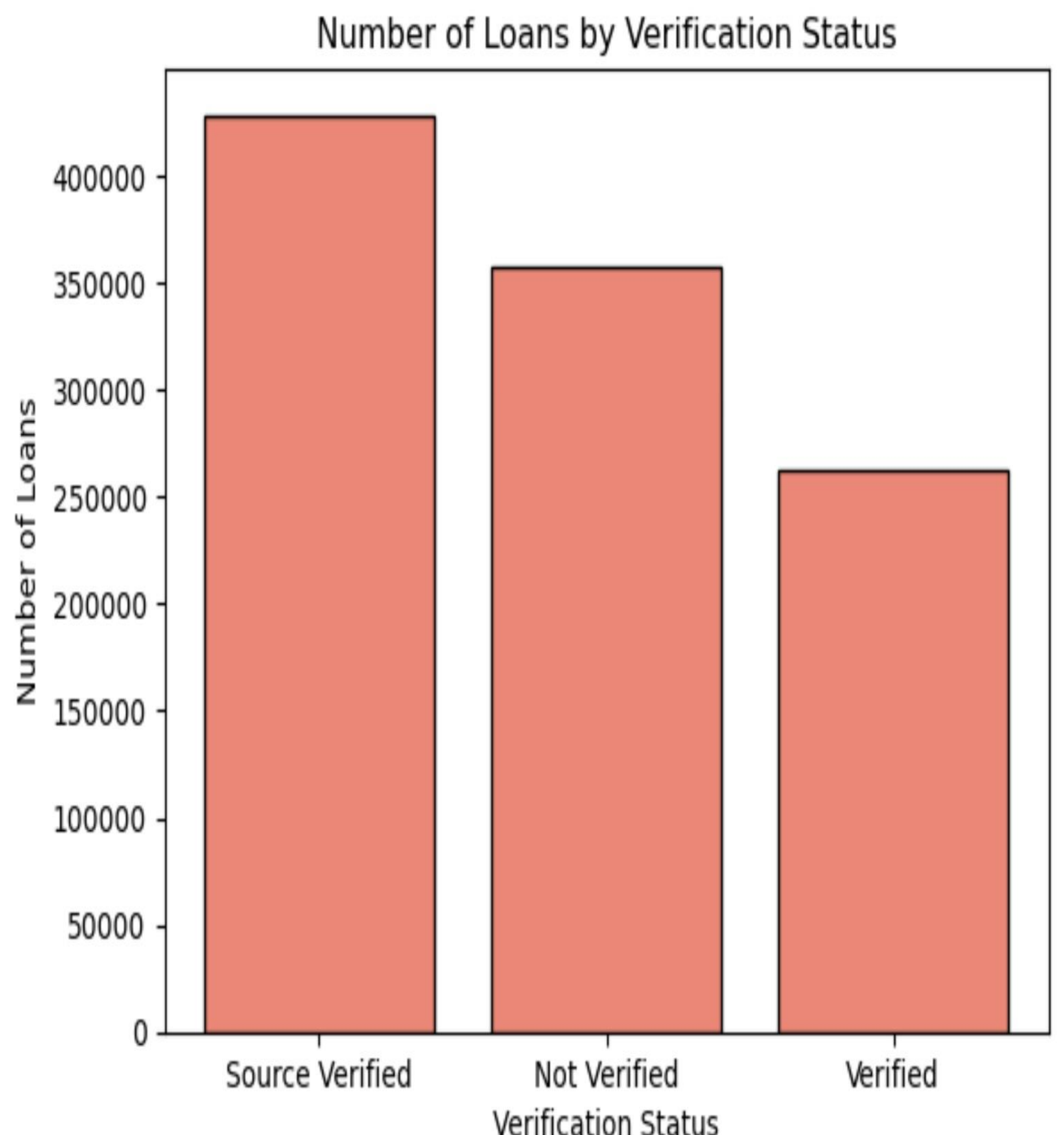
- **36 months (3 years) and 60 months (5 years) are the most common loan terms offered by lenders like Lending Club.**
- **The terms represent how long the borrower has to repay the loan.**



- ❑ **Not Verified: The borrower's income or employment details weren’t independently verified by Lending Club.**

- ❑ **Source Verified: Lending Club verified the info directly with the income source or employer.**

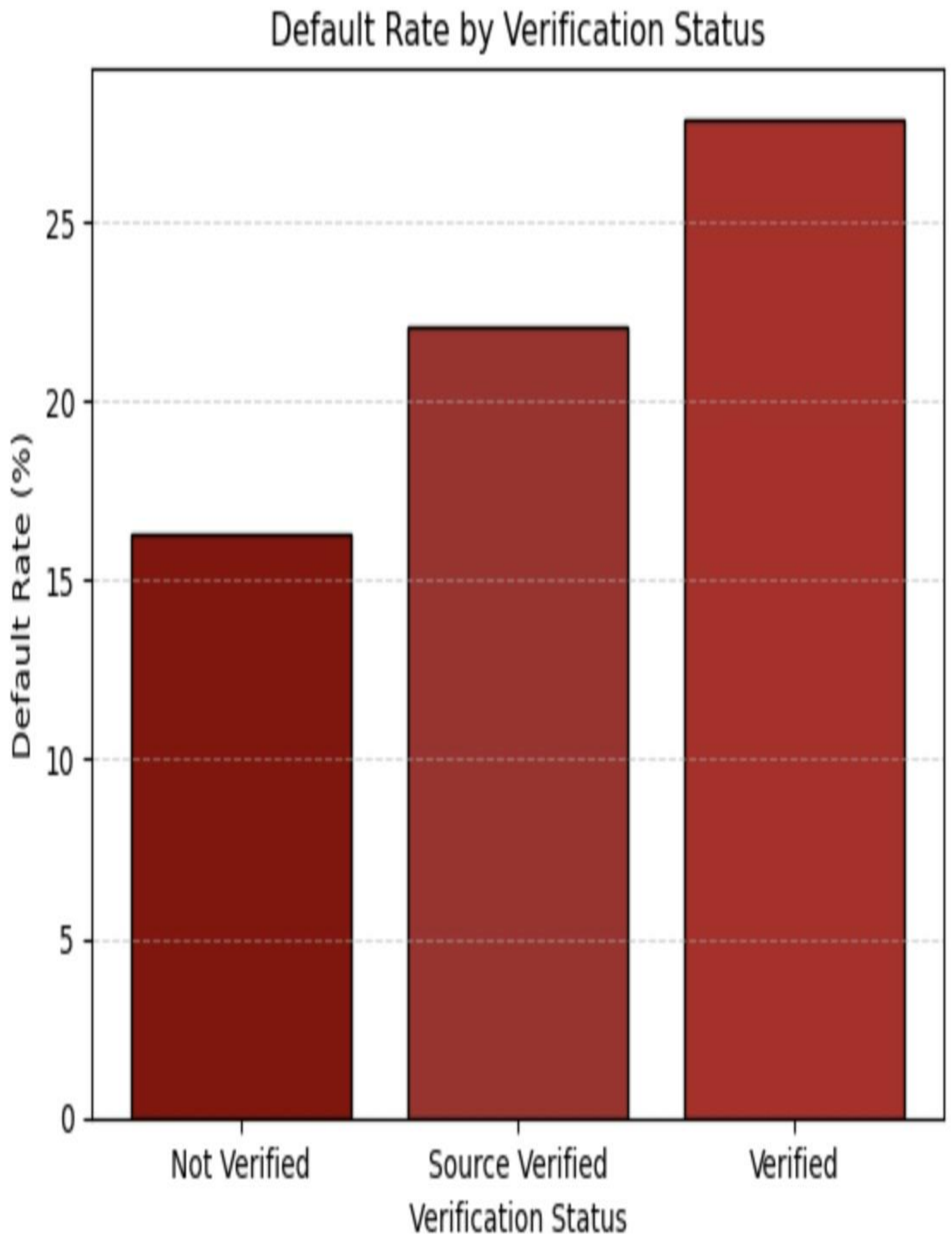
- ❑ **Verified: The borrower provided documents, and Lending Club checked them.**



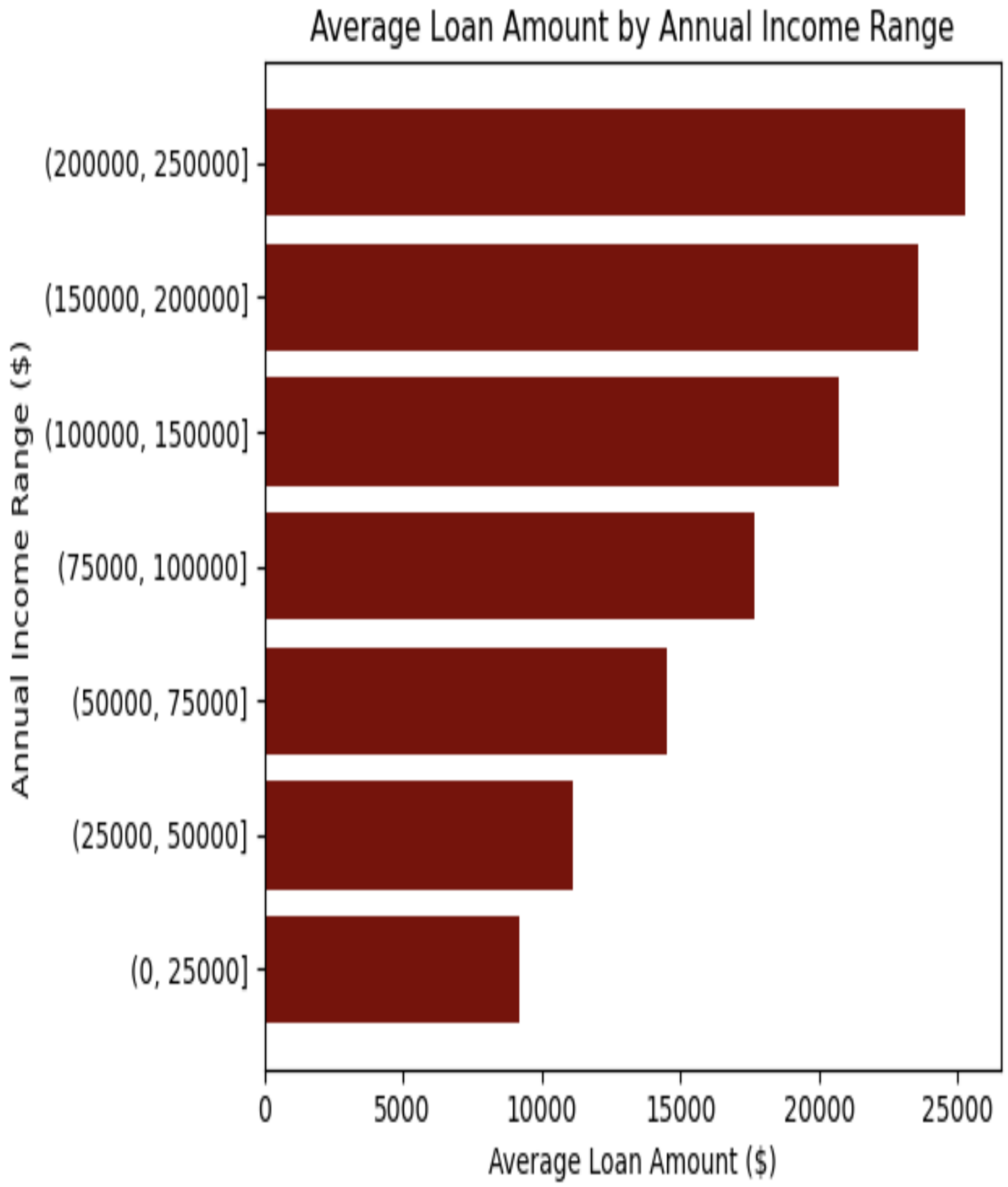
❑ Verified loans have a riskier grade distribution more D, E, F, G loans.

- Larger loans are more likely to be verified.

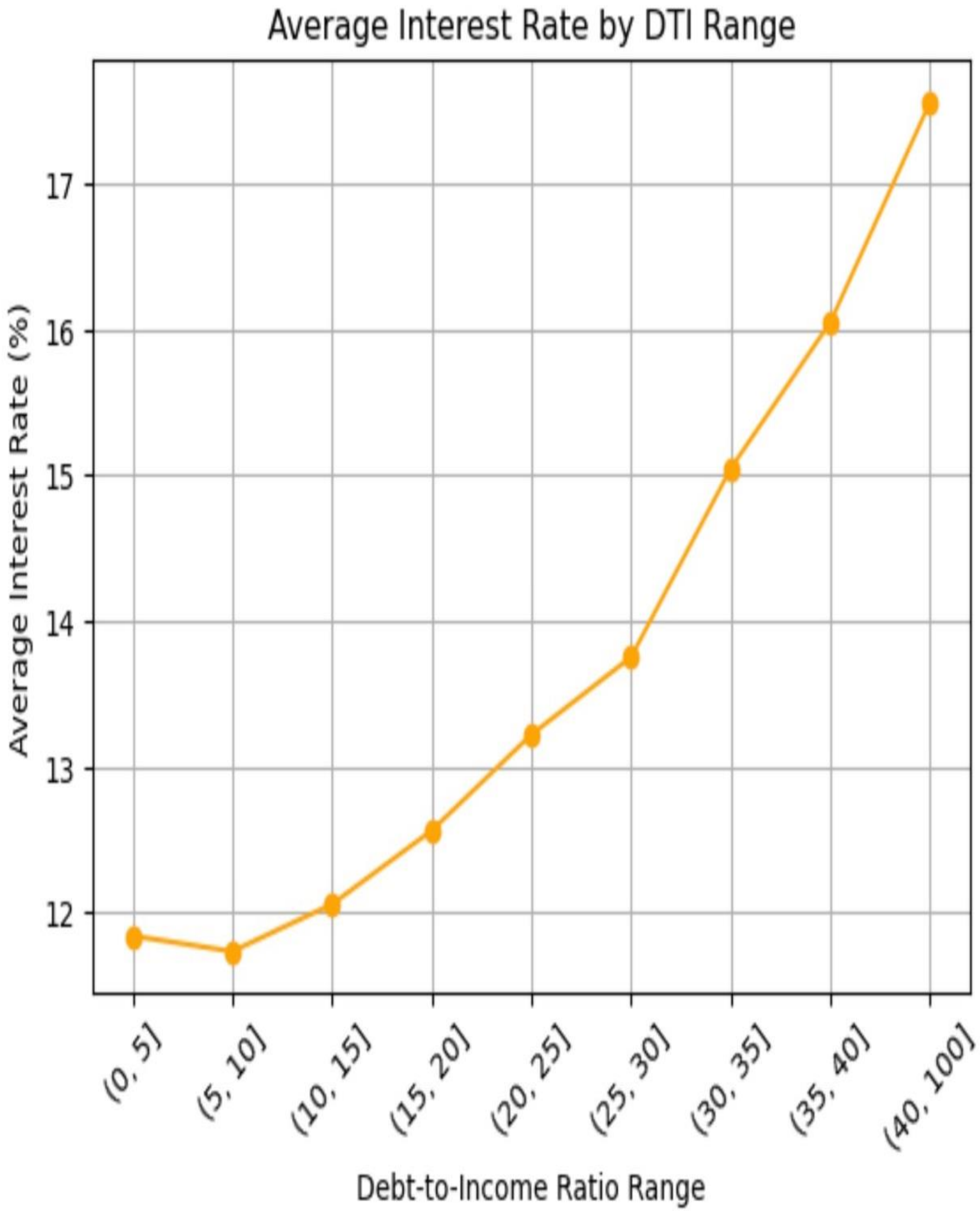
- That’s why the default rate is higher among "Verified" loans — the borrowers being verified are already riskier to begin with.



- It reflects responsible risk management by lenders, tailoring loan sizes to the borrower’s repayment capacity.

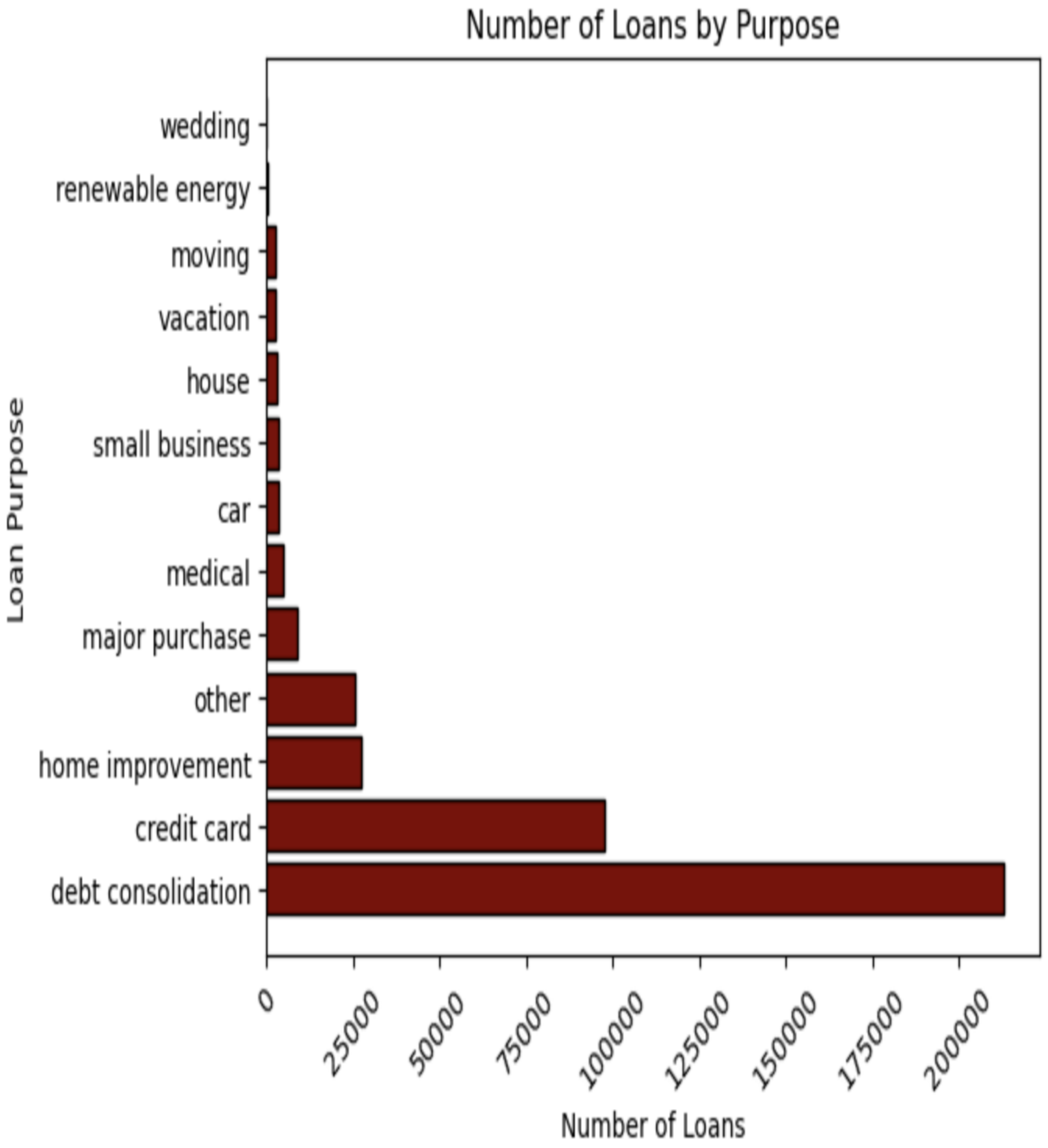


- ❑ **As borrower risk (DTI) increases, lenders charge more interest to compensate.**

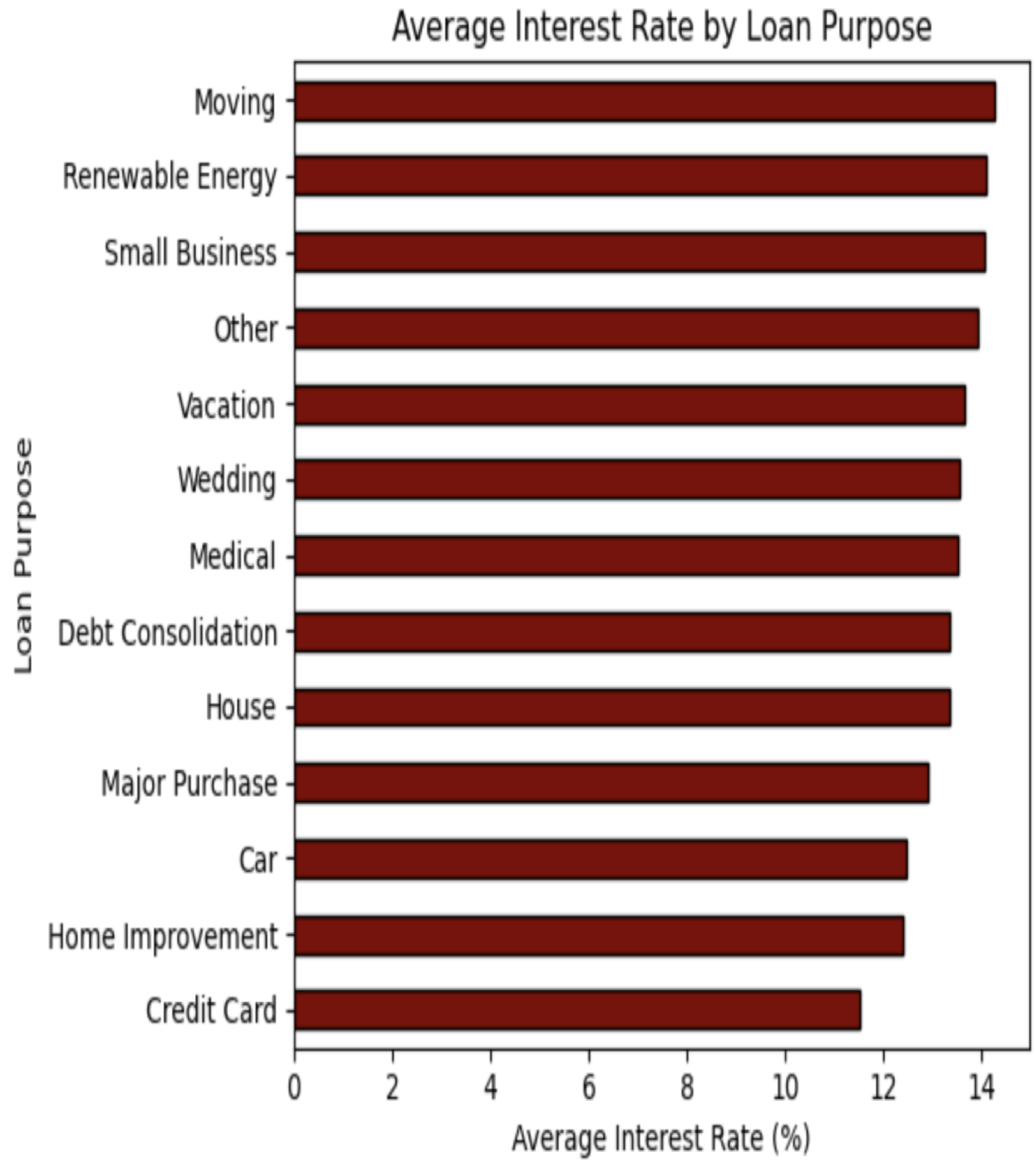


- Interestingly, categories like wedding, vacation, and renewable energy are minimal

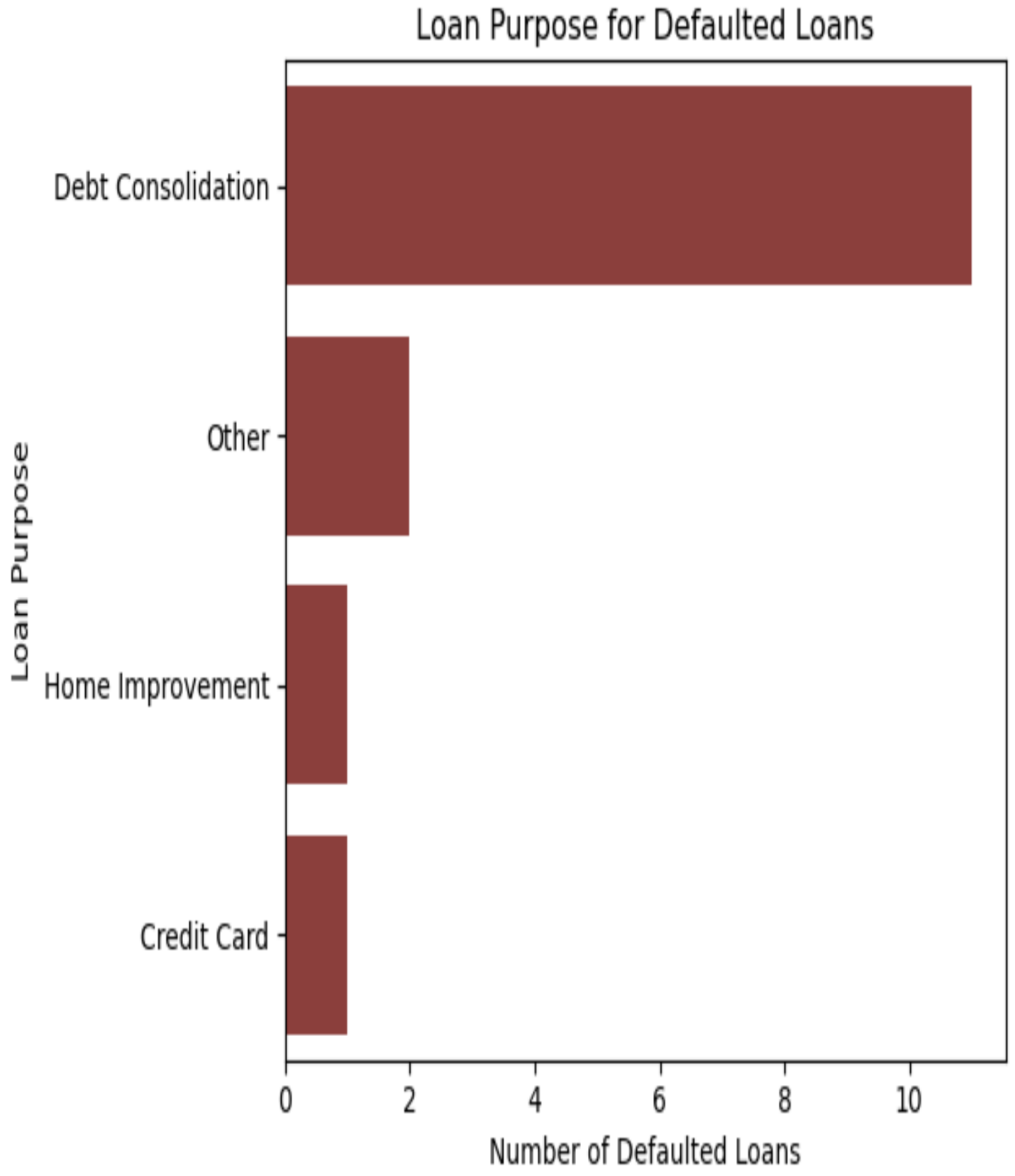
- suggesting that most borrowers turn to loans out of financial necessity rather than discretionary spending.



- One takeaway here is that lenders likely associate higher risk with categories like moving or starting a business, which are more unpredictable while credit card payoff may be seen as less risky due to its targeted nature.
- This suggests that the loan purpose significantly influences the cost of borrowing.

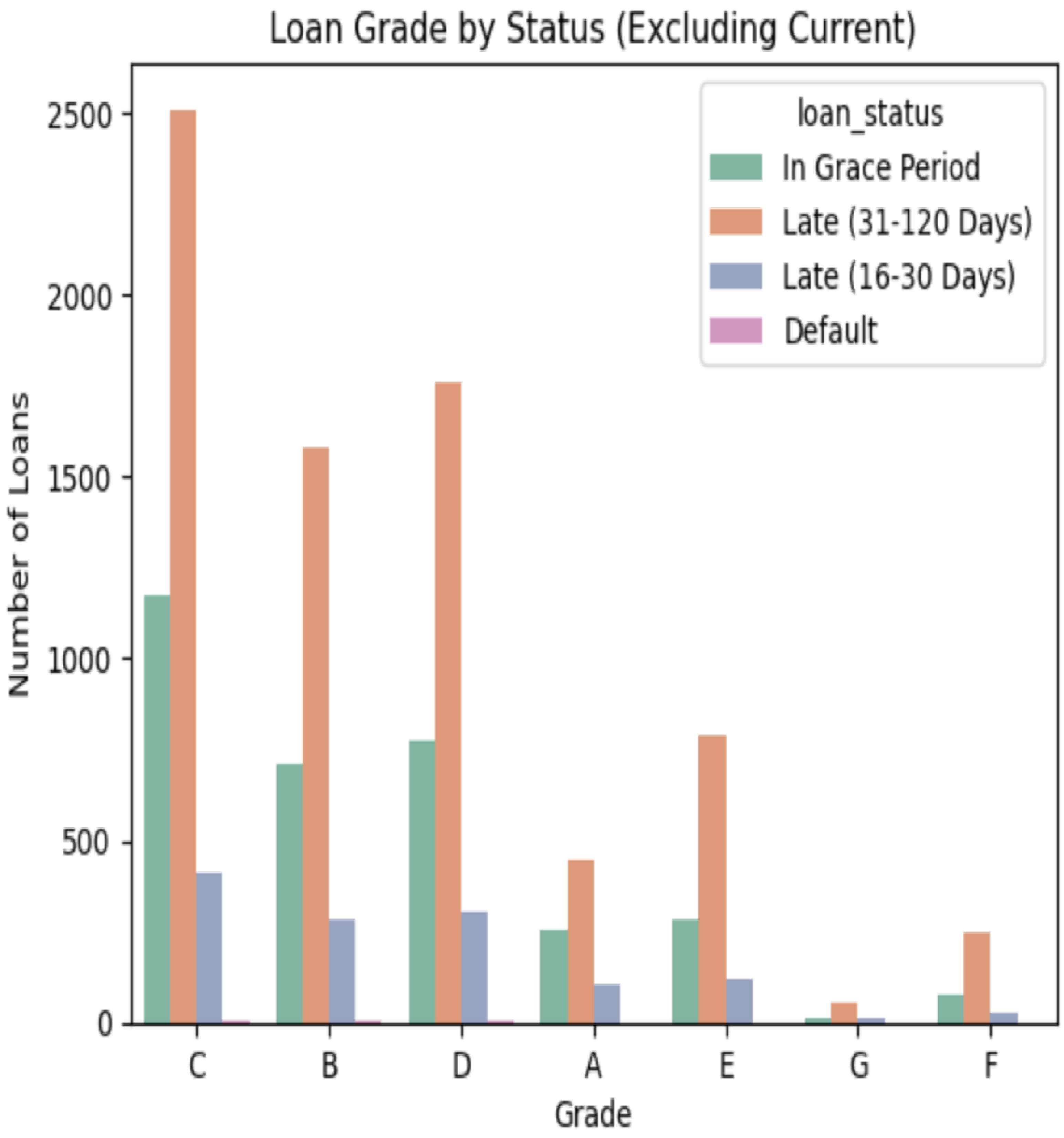


- This aligns with earlier findings showing that debt consolidation not only has the highest volume but also the highest late-stage delinquencies.

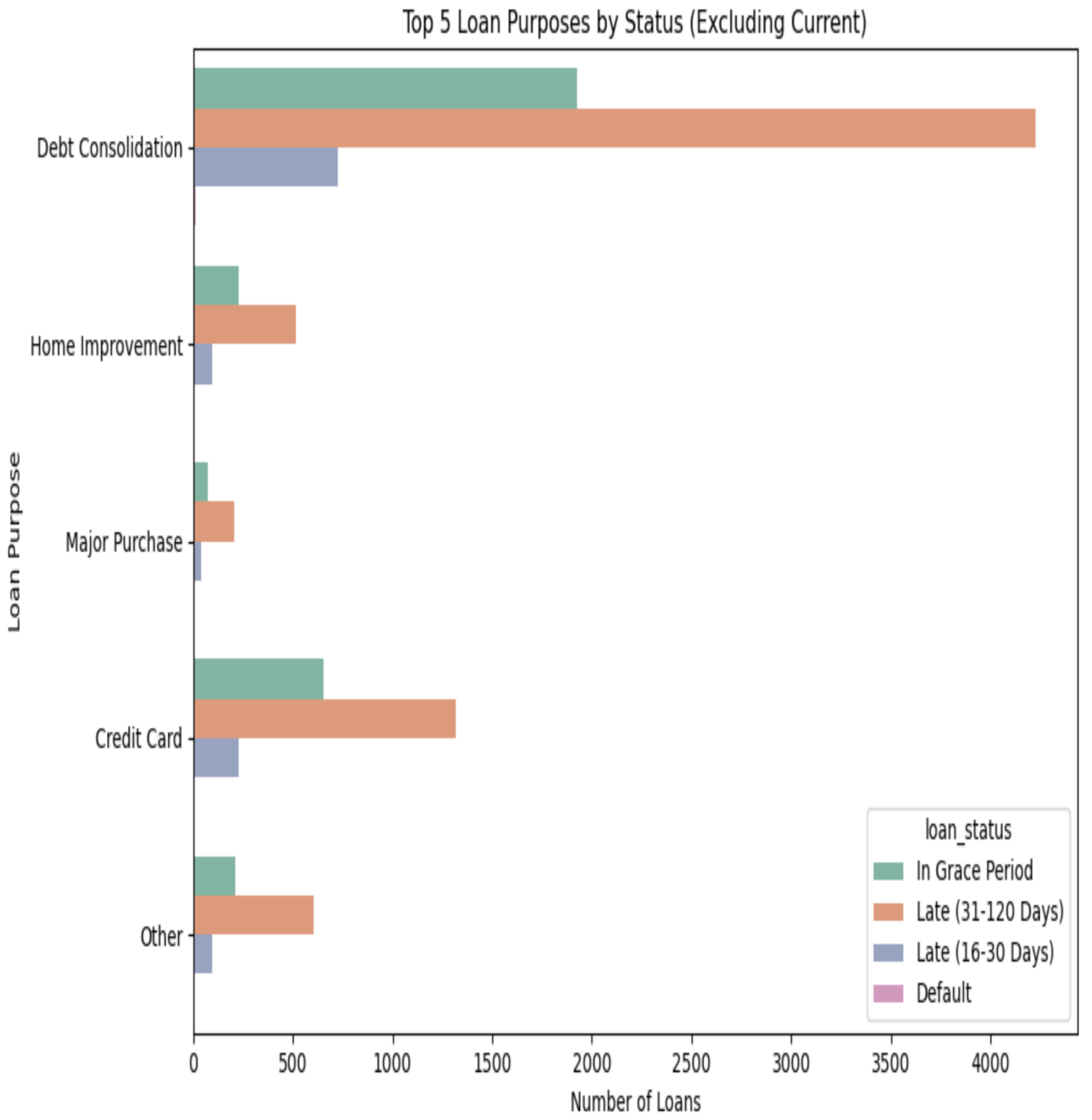


- This grouped bar chart shows how loan statuses like ‘Late’, ‘In Grace Period’, and ‘Default’ distribute across credit grades.

- This emphasizes the importance of credit grade in predicting repayment behavior.

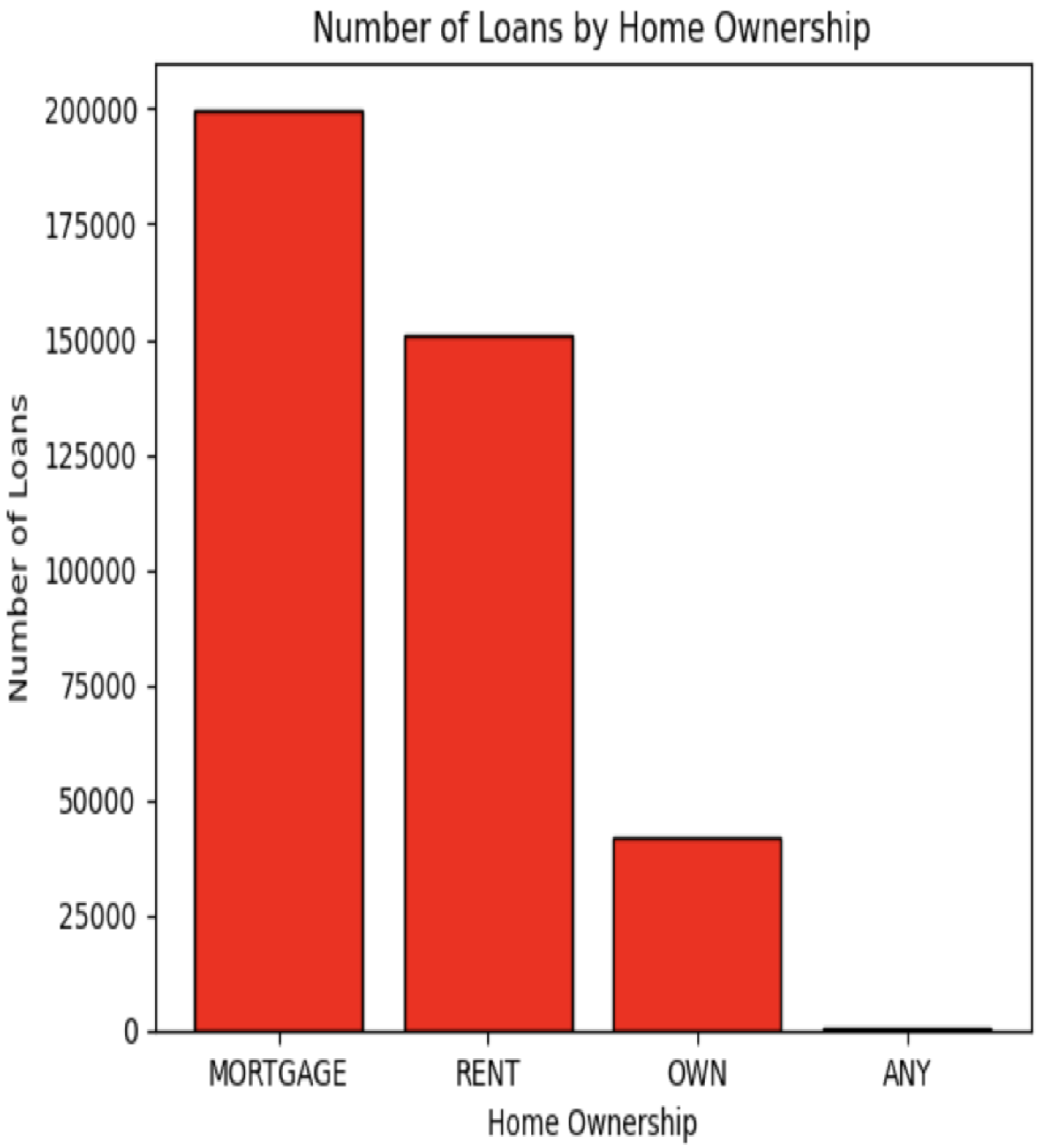


- This reinforces that high-volume loan purposes like debt consolidation come with increased late-payment risk.

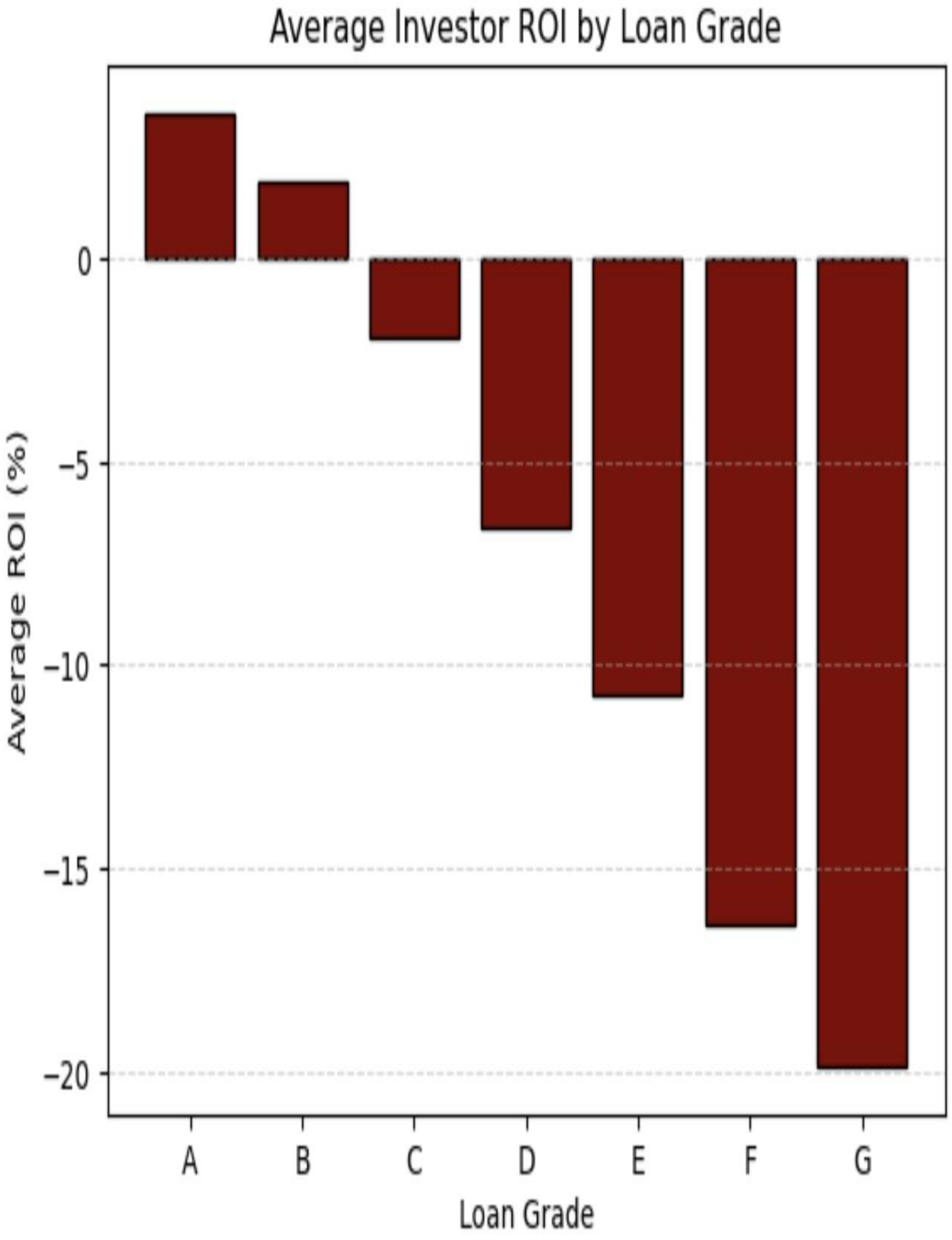


- ❑ **Why Home Ownership Matters:**

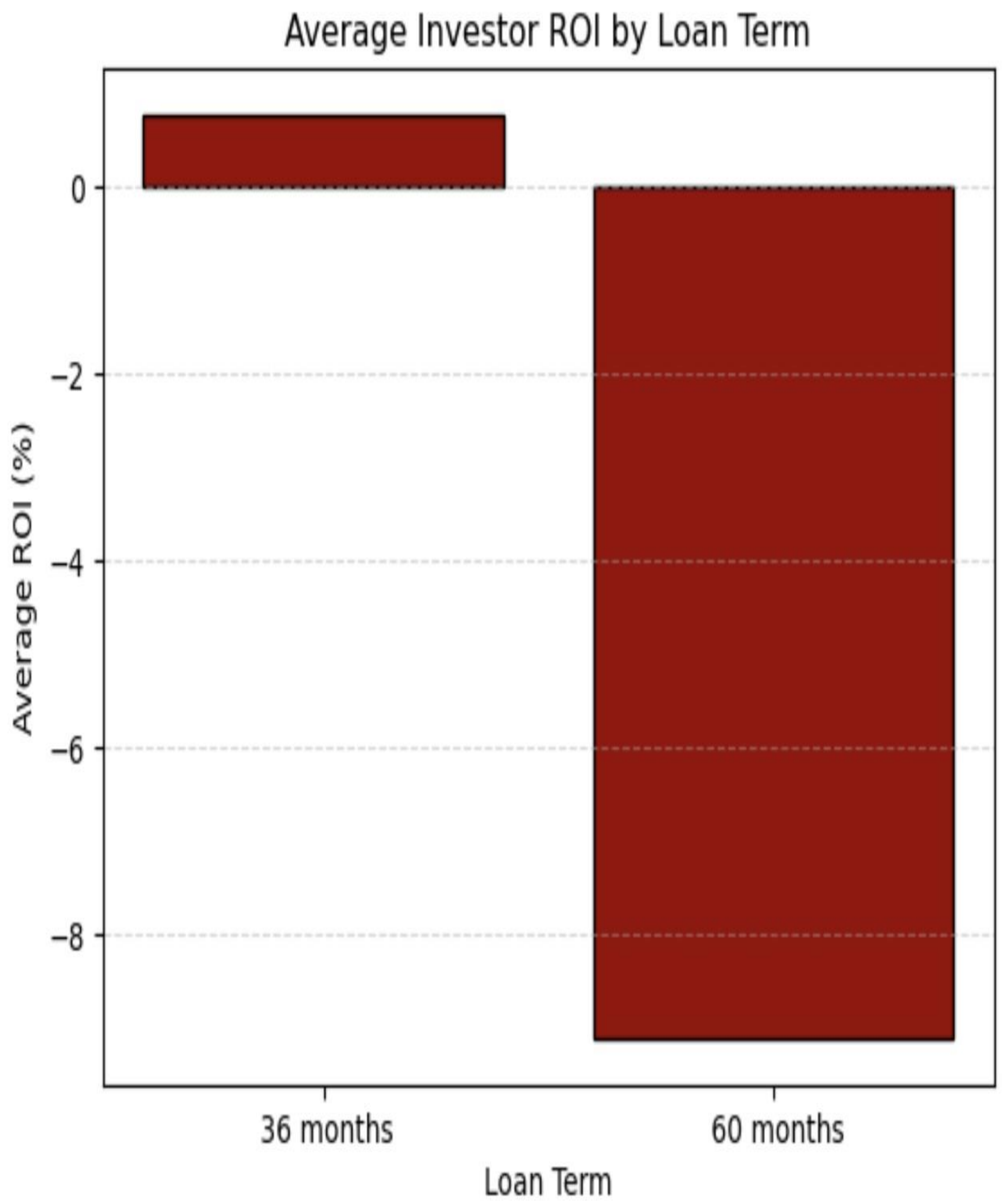
- ❑ **Financial Stability Indicator**
- ❑ **Indirect Wealth / Asset Signal**
- ❑ **Risk Segmentation**



- Grades A and B still yield positive average ROI, indicating relatively safe returns for investors.
- In short, chasing higher interest rates with lower-grade loans may not be worth the risk from an investor perspective.



- The longer term offers higher interest, but the default risk over 5 years is too great.
- Many borrowers don't make it to the end of the loan, wiping out investor returns.



💡 Investor Tip: Maximize ROI

Invest in:

- ✅ **36-month loans** – Positive returns
- ✅ **Grade A–B loans** – Low risk, steady ROI
- ✅ **DTI < 15%** – Safer borrowers

Avoid:

- ❌ **Grades D–G** – High default, negative ROI
- ❌ **60-month loans** – Risk outweighs returns

Do you think that we need to bring peer-to-peer lending to Bahrain?