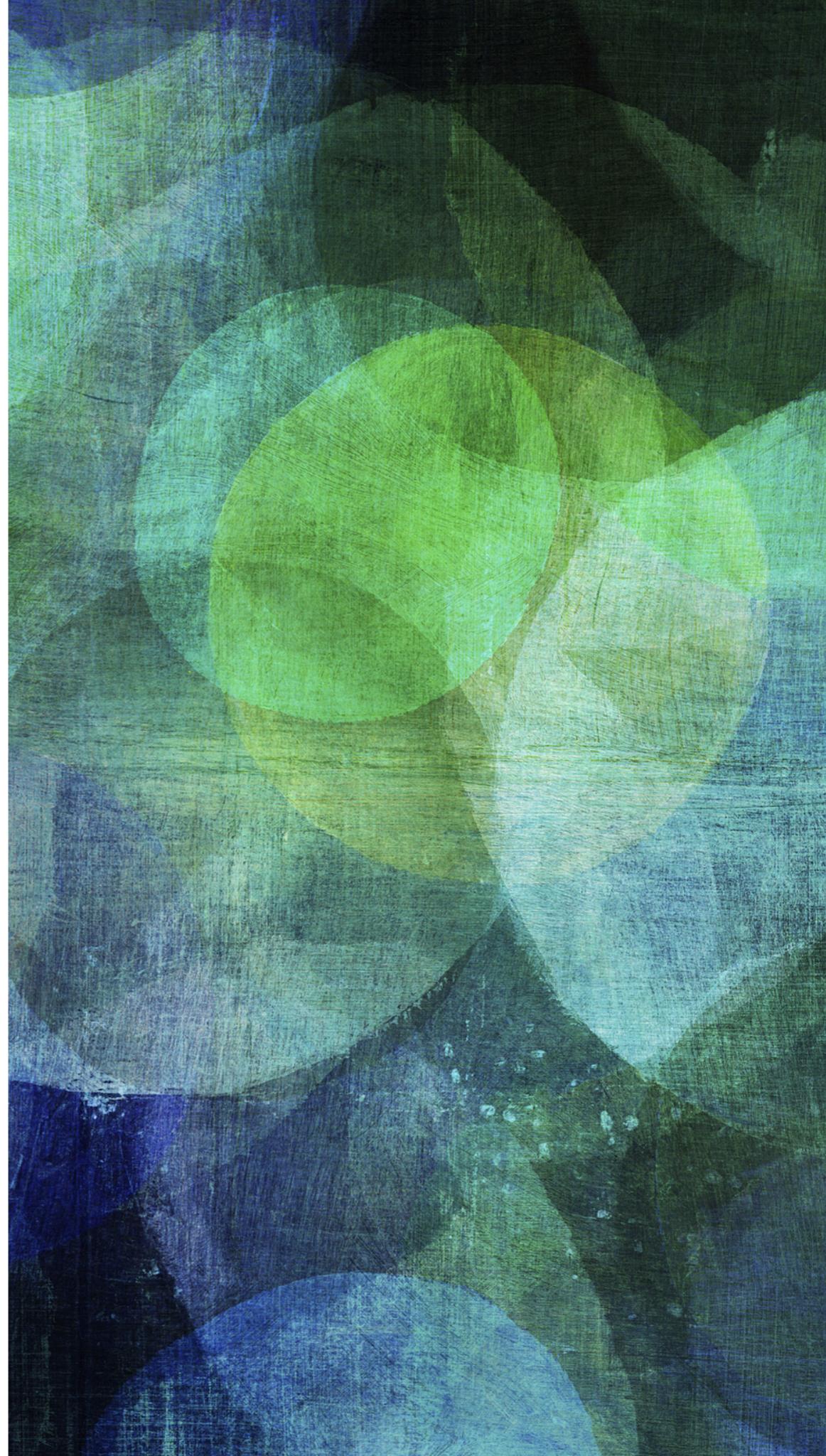


GRAMENER CASE STUDY

Exploratory Data Analysis

Group members: Amrita B., Sunny, Sasi B, Shafeeq R

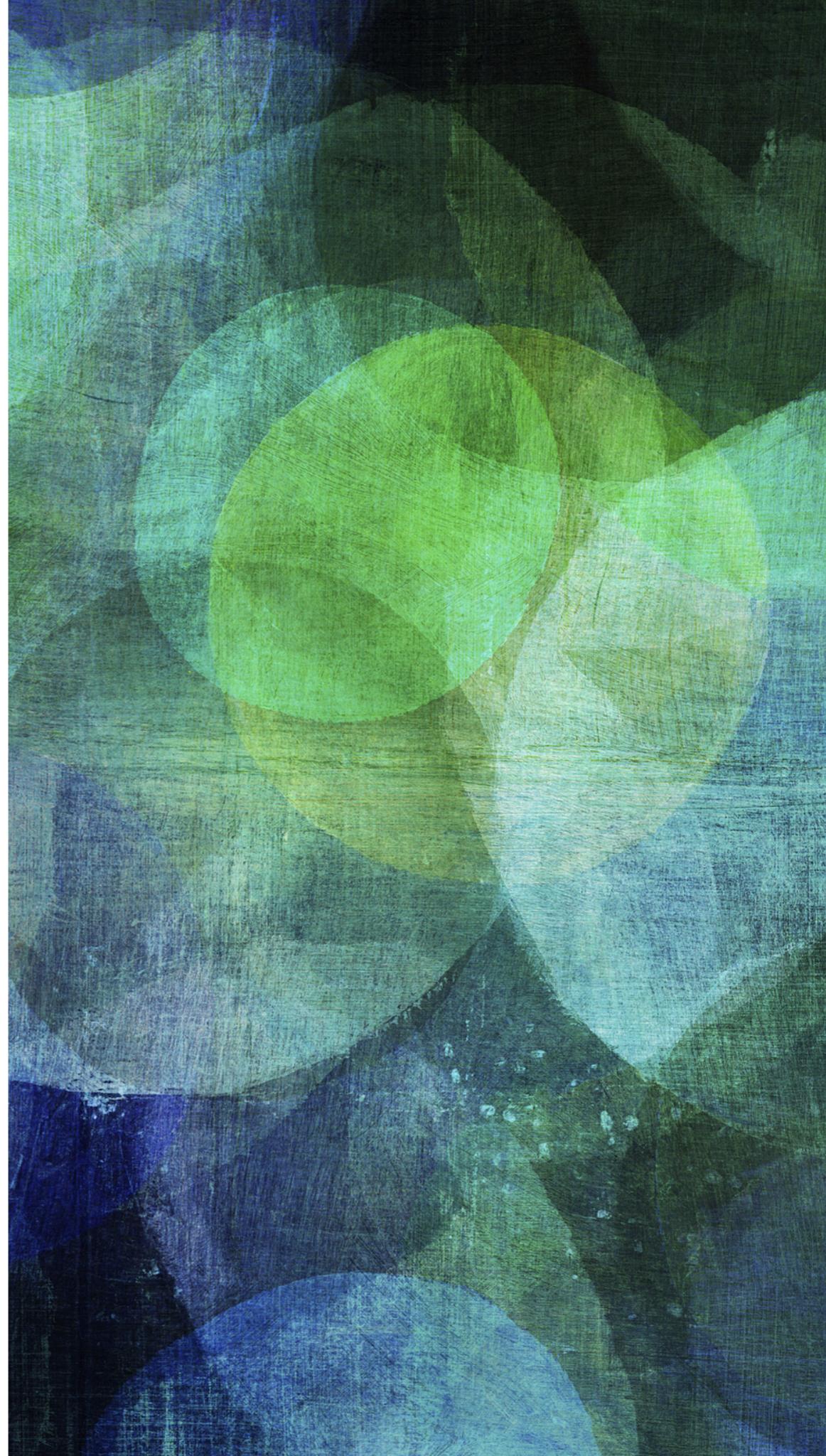
PROBLEM STATEMENT



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- Company needs to reduce the risk in granting loans.
- Company wants to ensure
 - That it does not give out loans to people who might not pay back, which would cause a defaulted loan
 - That it does not accidentally refuse loan to genuine customers who are likely to repay the loan, and ensure there is no loss of business opportunity

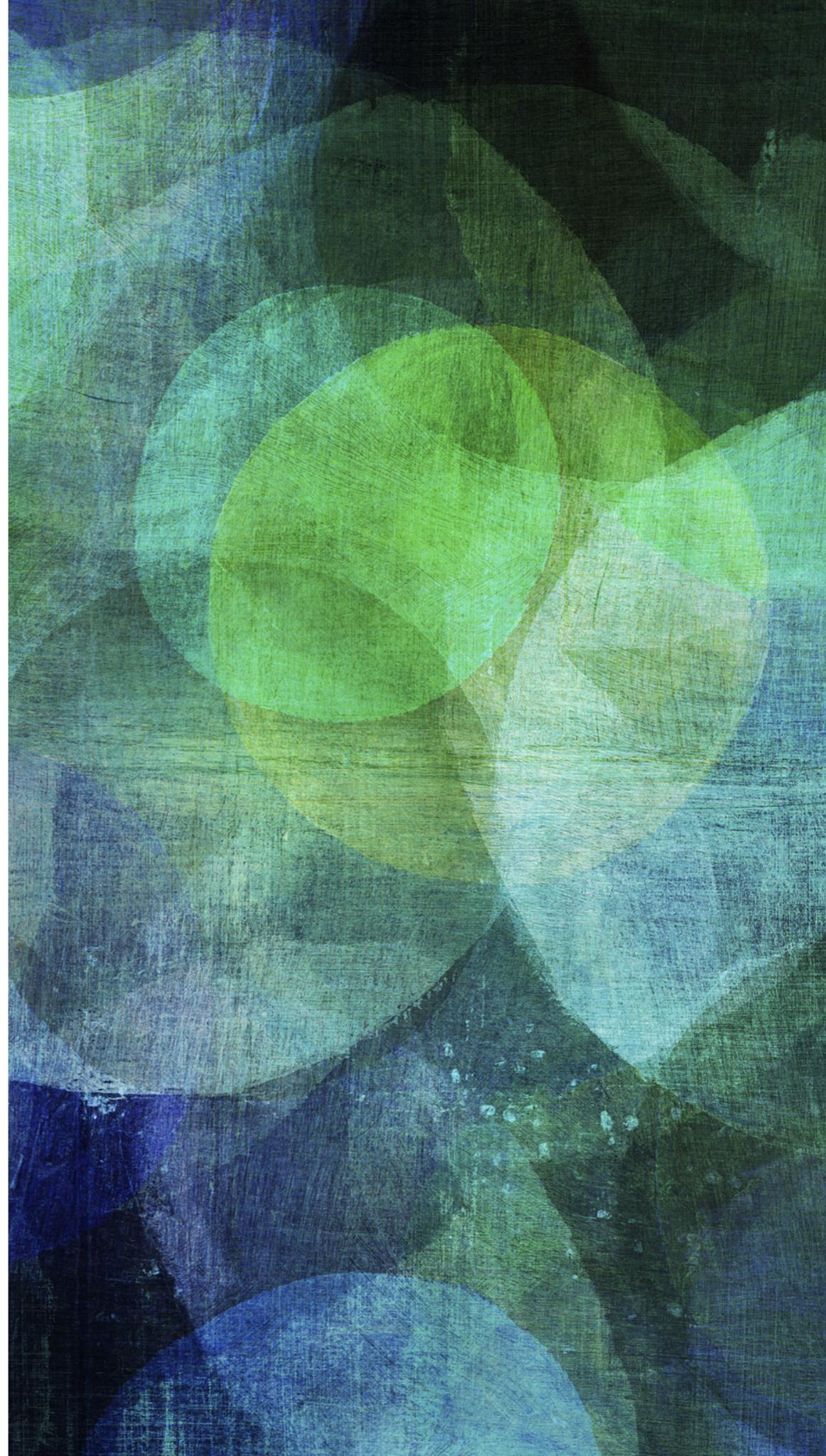
THE DATA



THE DATA

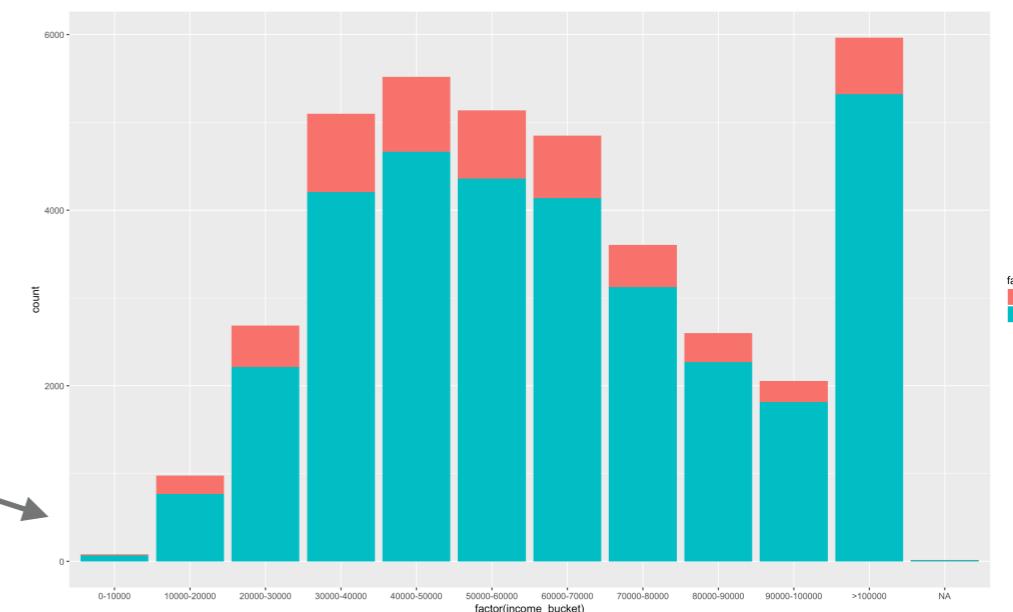
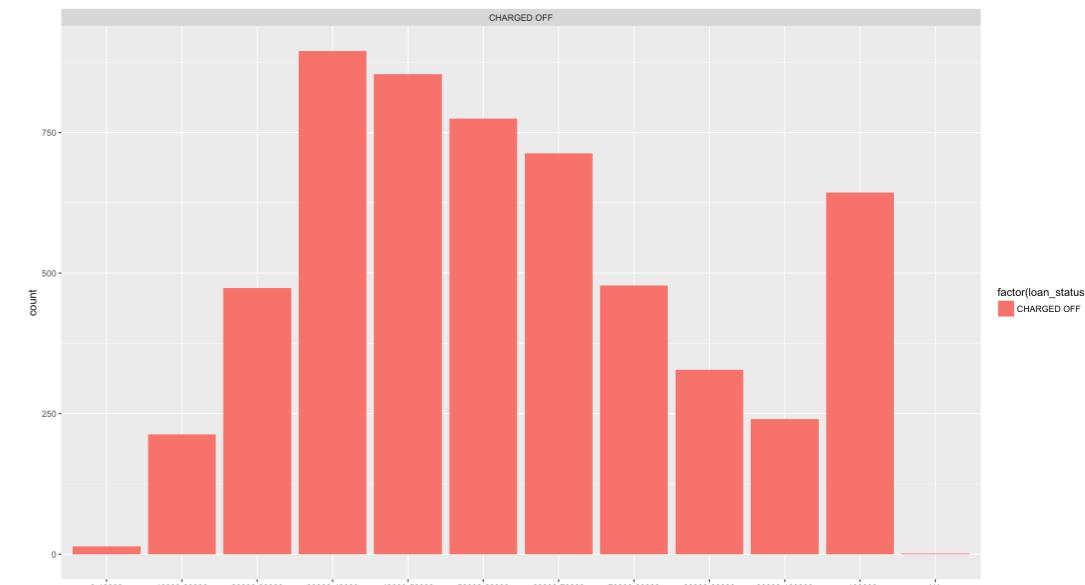
- We are presented with a dataset of close to 40,000 records of loans issued between 2007 and 2011
- There are customer details and transaction details of each loan, along with details of whether the loan was fully paid back or was defaulted(charged off).

ANALYSIS



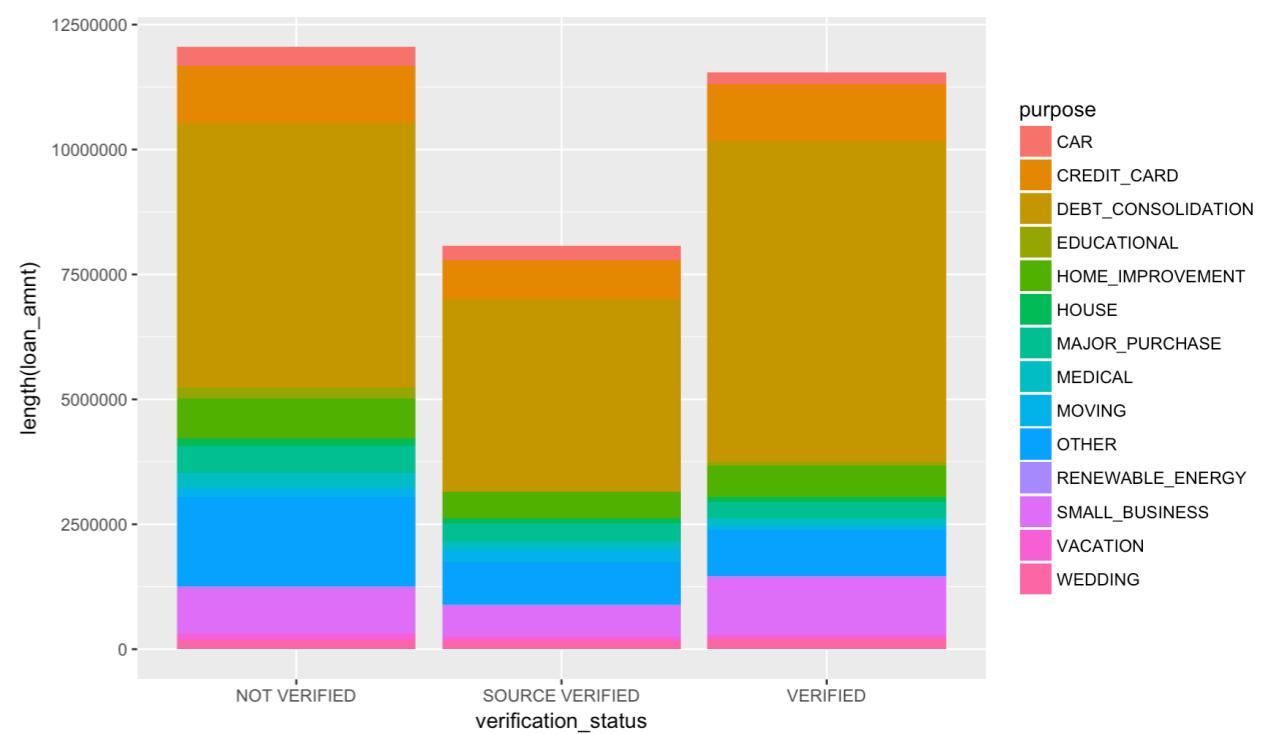
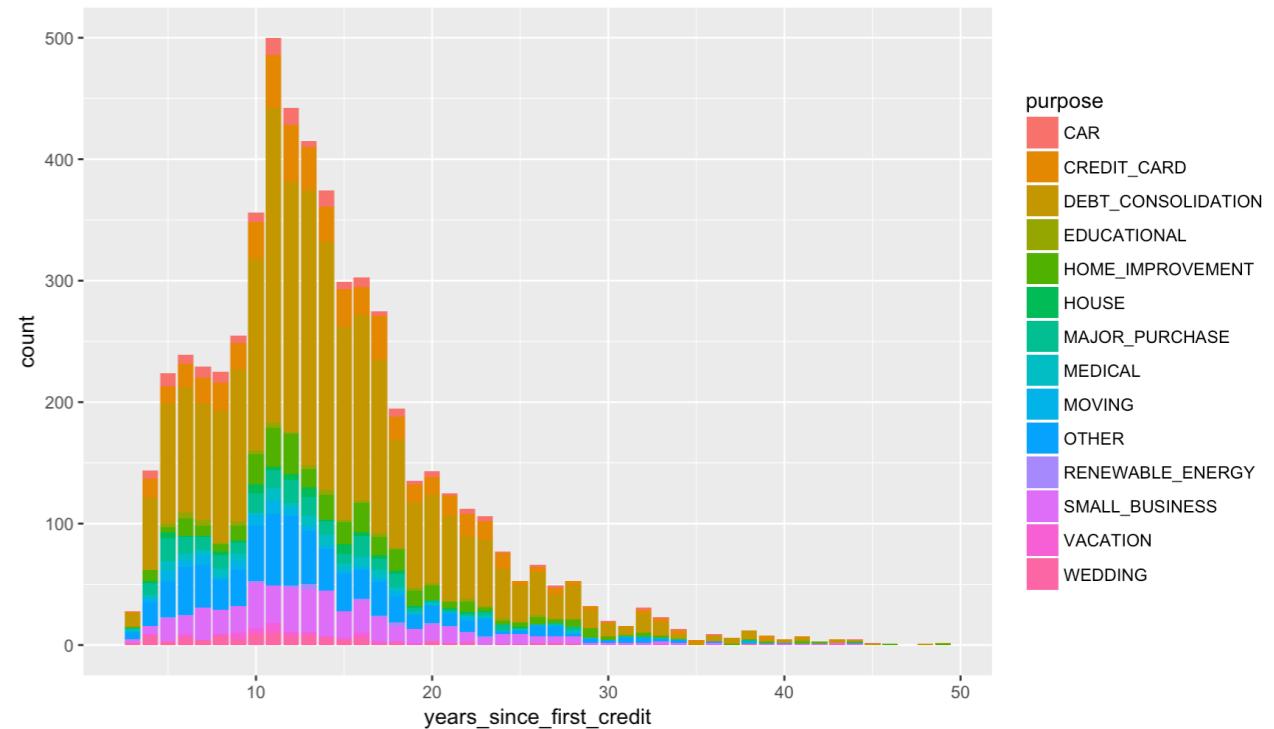
ANALYSIS

- After cleaning up the data to include only the required fields, we find that there are a substantial number of loans charged off(15%). This is loss to the company.
- Most defaults were by people with income between \$30K-\$70K per year.
- Income range greater than \$100K has less charged off-to-total ratio compared to other income ranges.



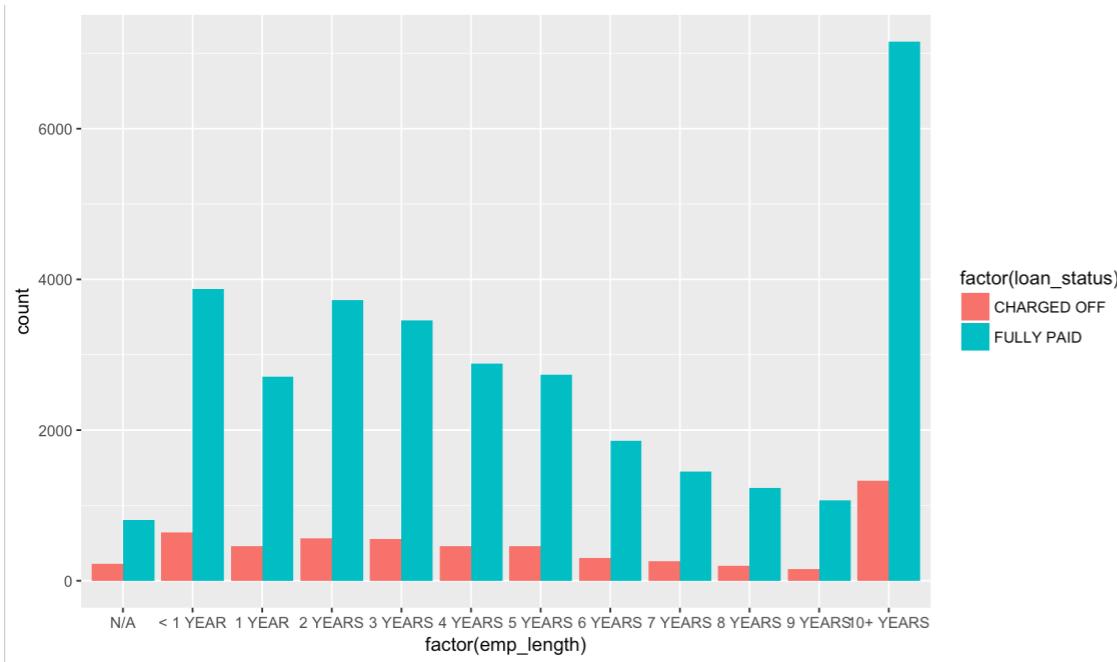
ANALYSIS (CONT.)

- Those who have had a credit line for more than 15 years are less likely to default on loans.
 - Purpose of loans: Most frequent defaulted loans are the ones for *debt consolidation*. This is across all LC verification statuses.

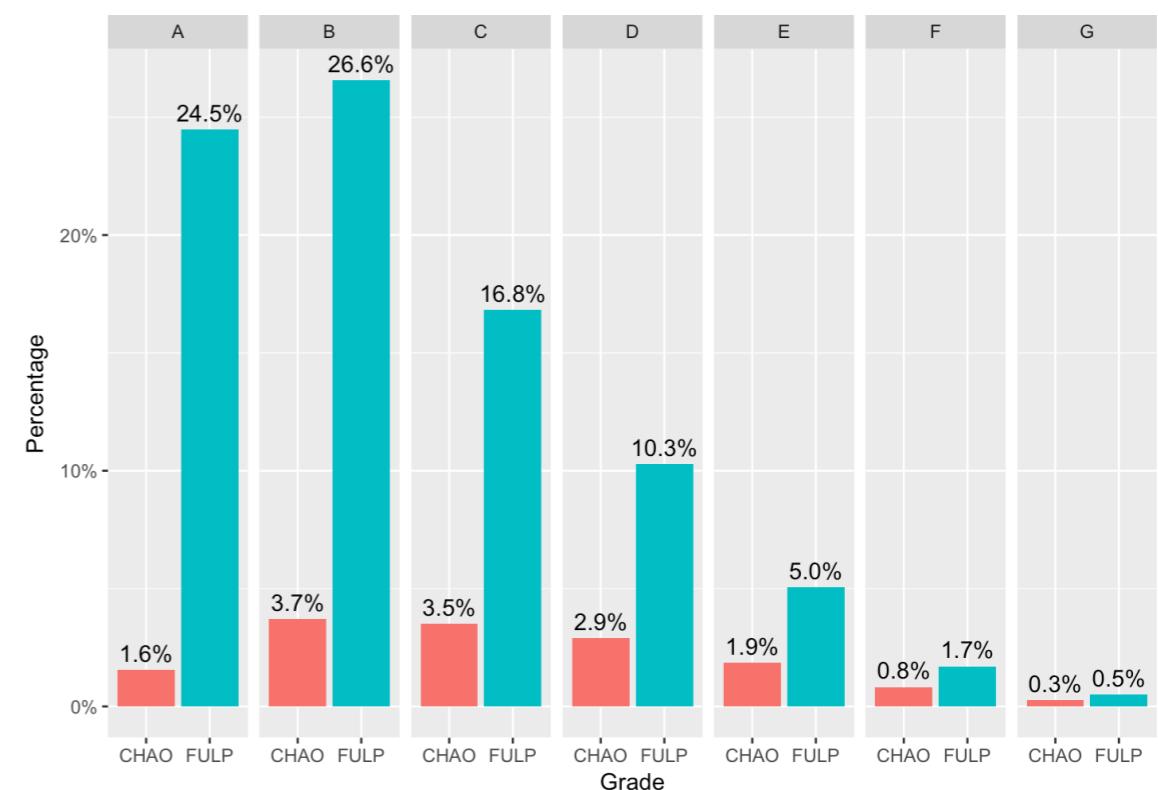


ANALYSIS (CONT.)

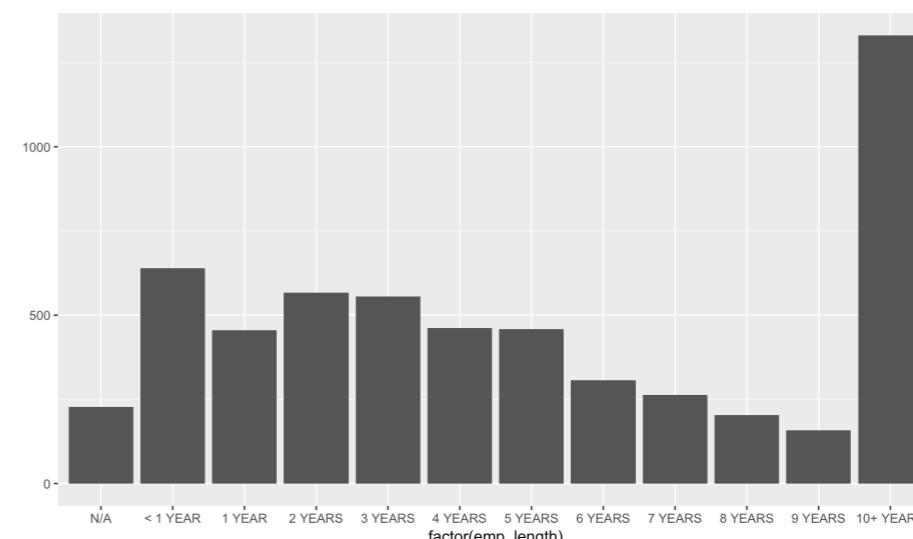
- Most defaulters seem to be ones with >10 years of employment



- Loan grades B, C and D have most defaults

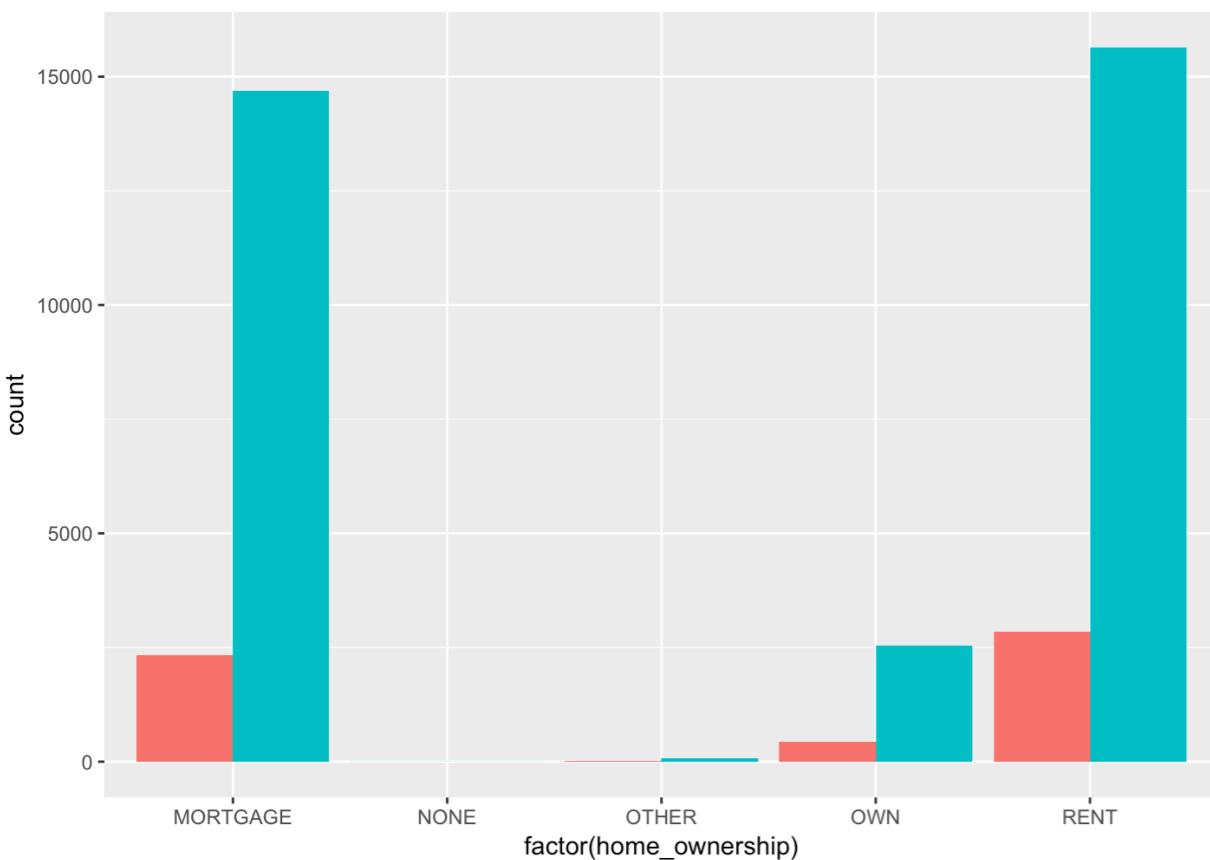


- Employees >10 yrs loans amount for nearly 50% of all defaults

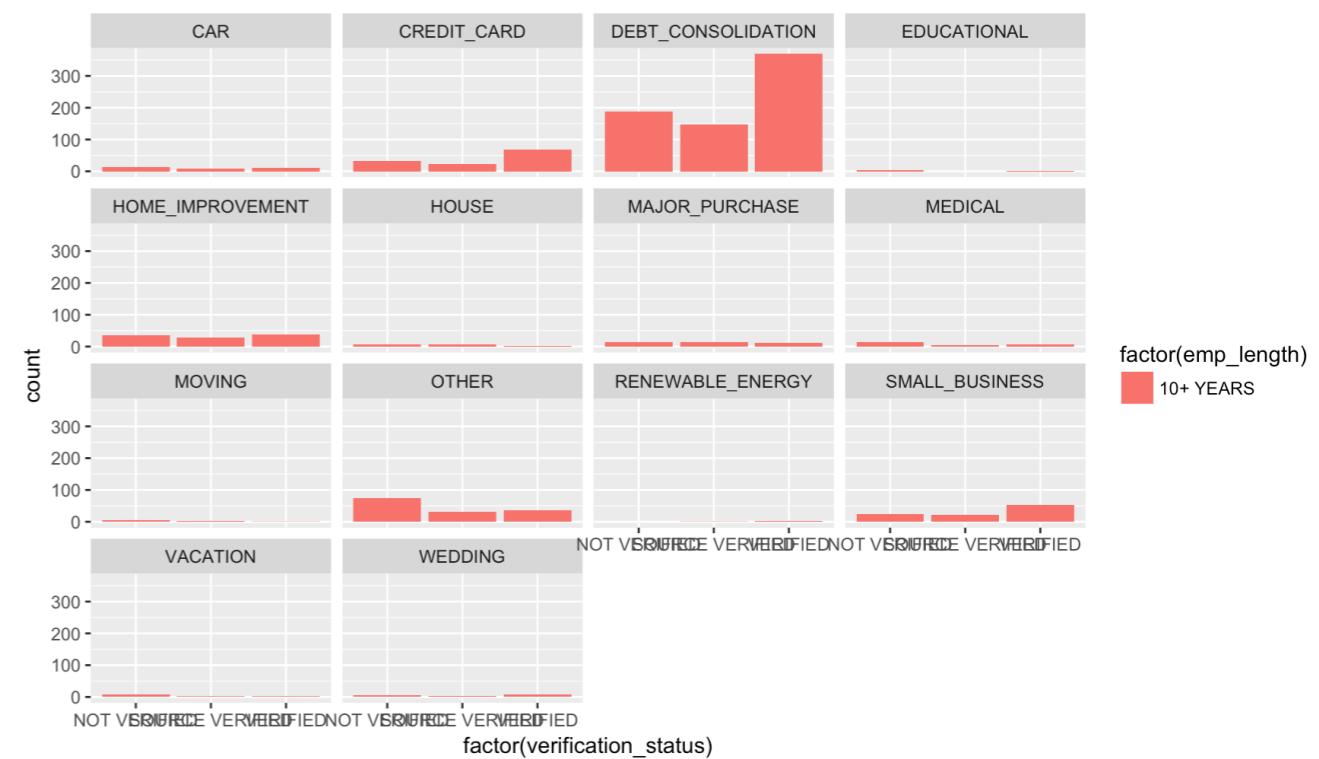


ANALYSIS (CONT.)

- People with rented and mortgaged homes are more likely to default

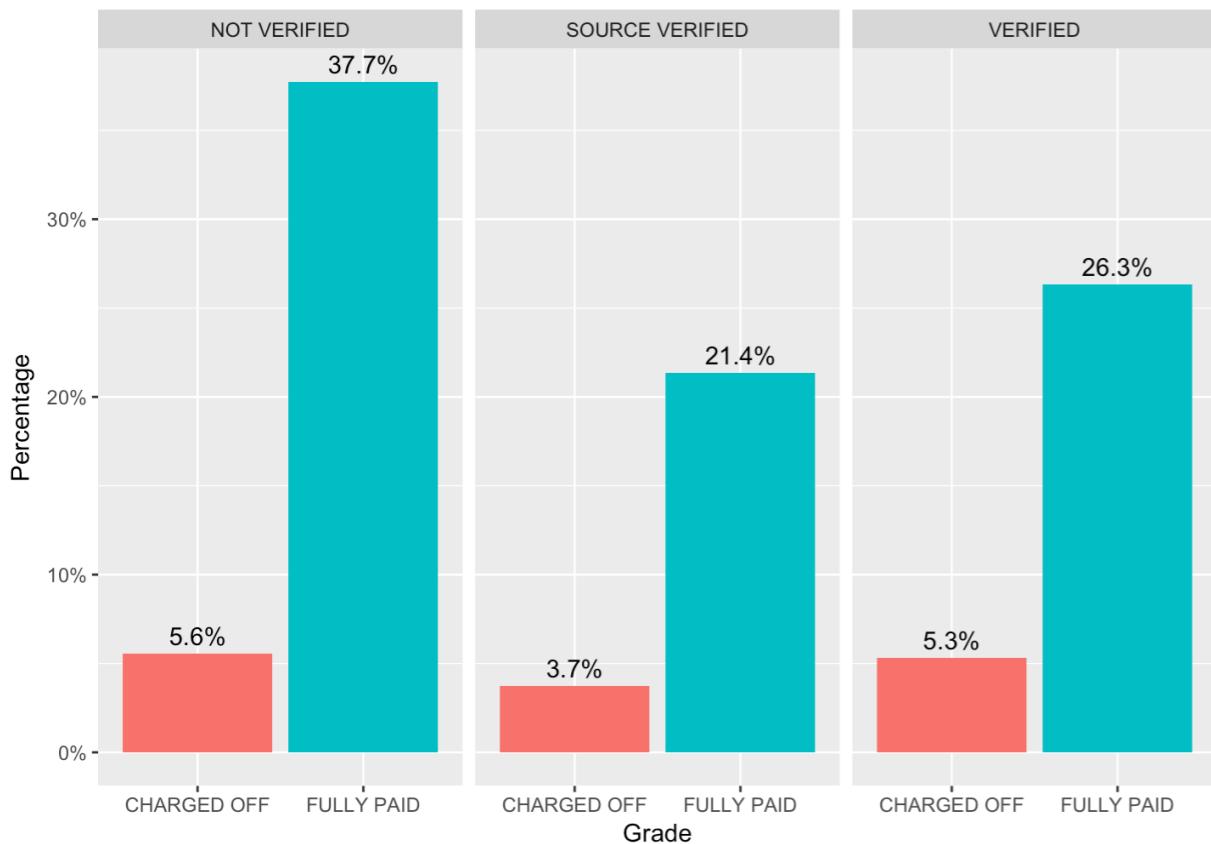


- For people >10 years work experience, the majority of risky loans are for debt consolidation, wedding, credit cards and small businesses.

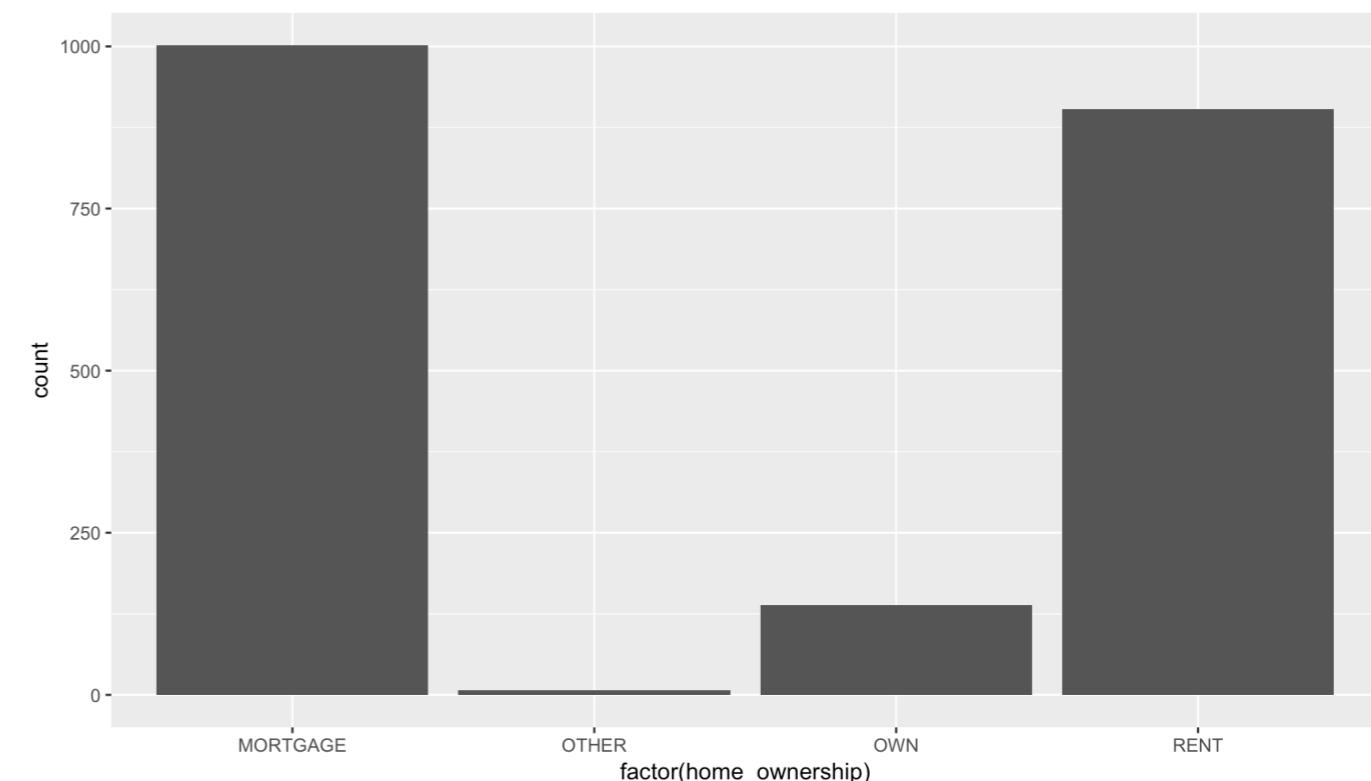


ANALYSIS (CONT.)

► Most number of defaulters are found to have no verification done on them prior to granting loans.

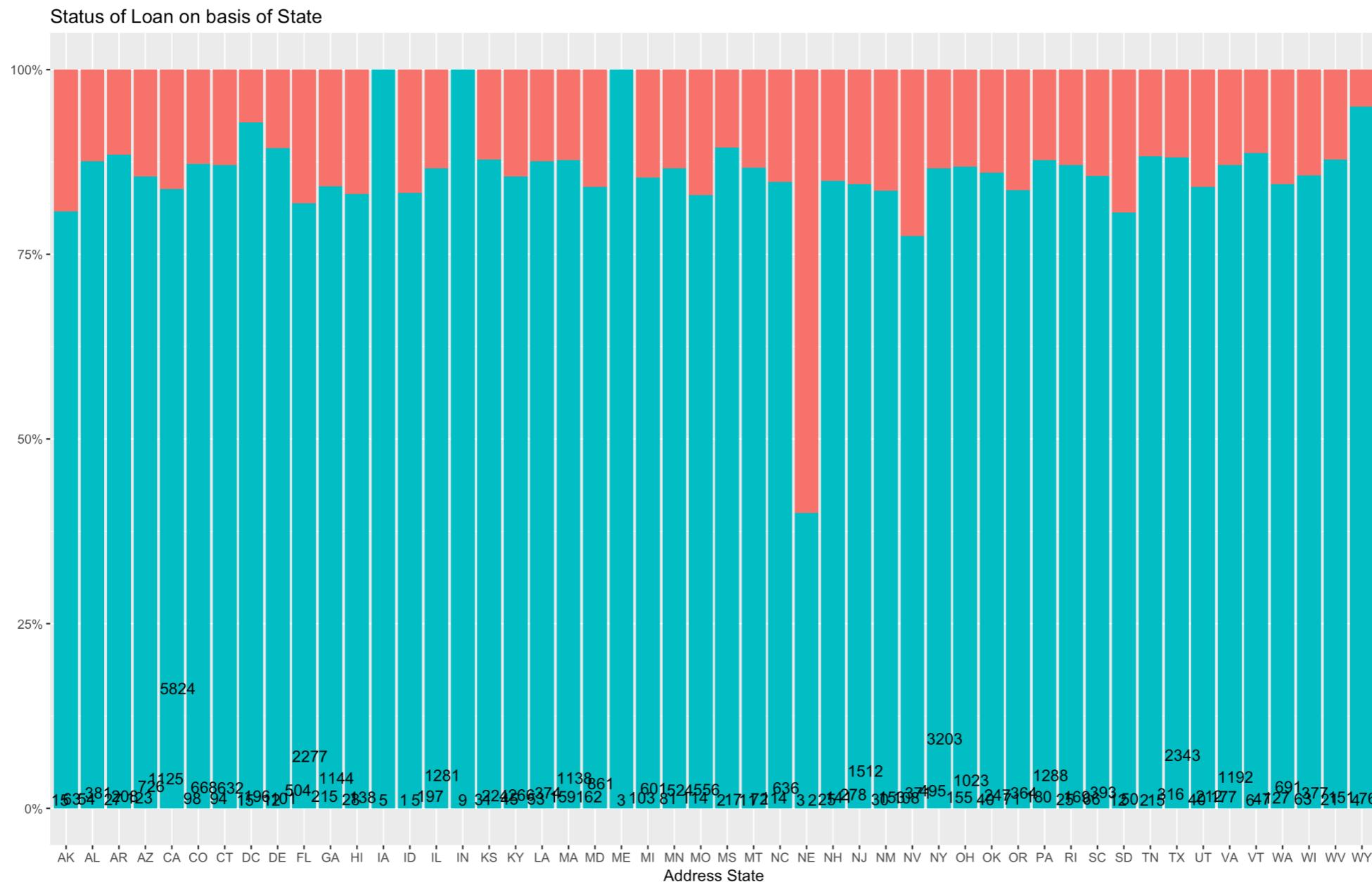


► Still, even verified accounts had high default rate for the following home ownerships - rent, mortgage.



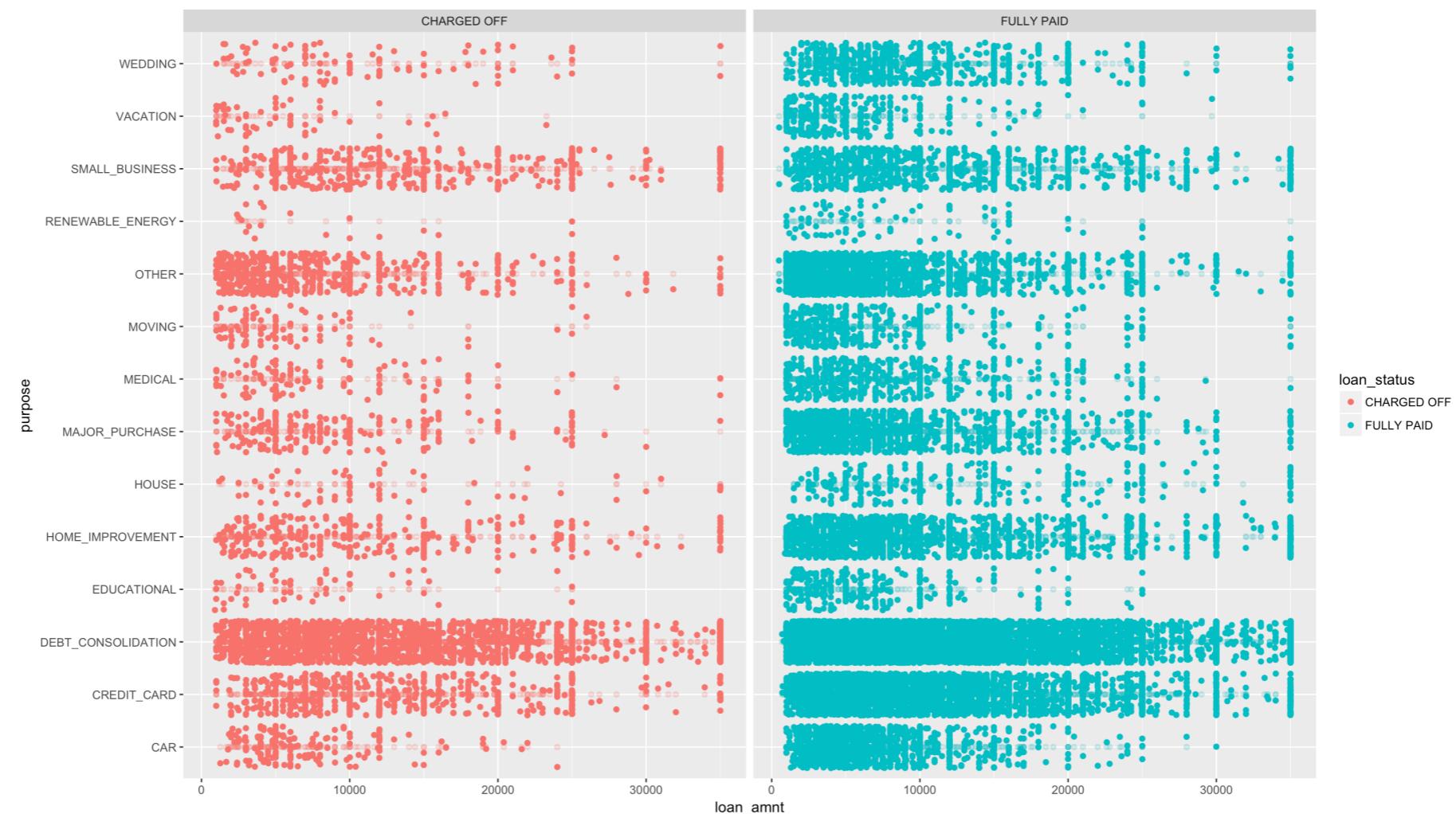
ANALYSIS (CONT.)

- Nevada state had the most number of defaults
- Maine, Indiana and Iowa had no defaults.

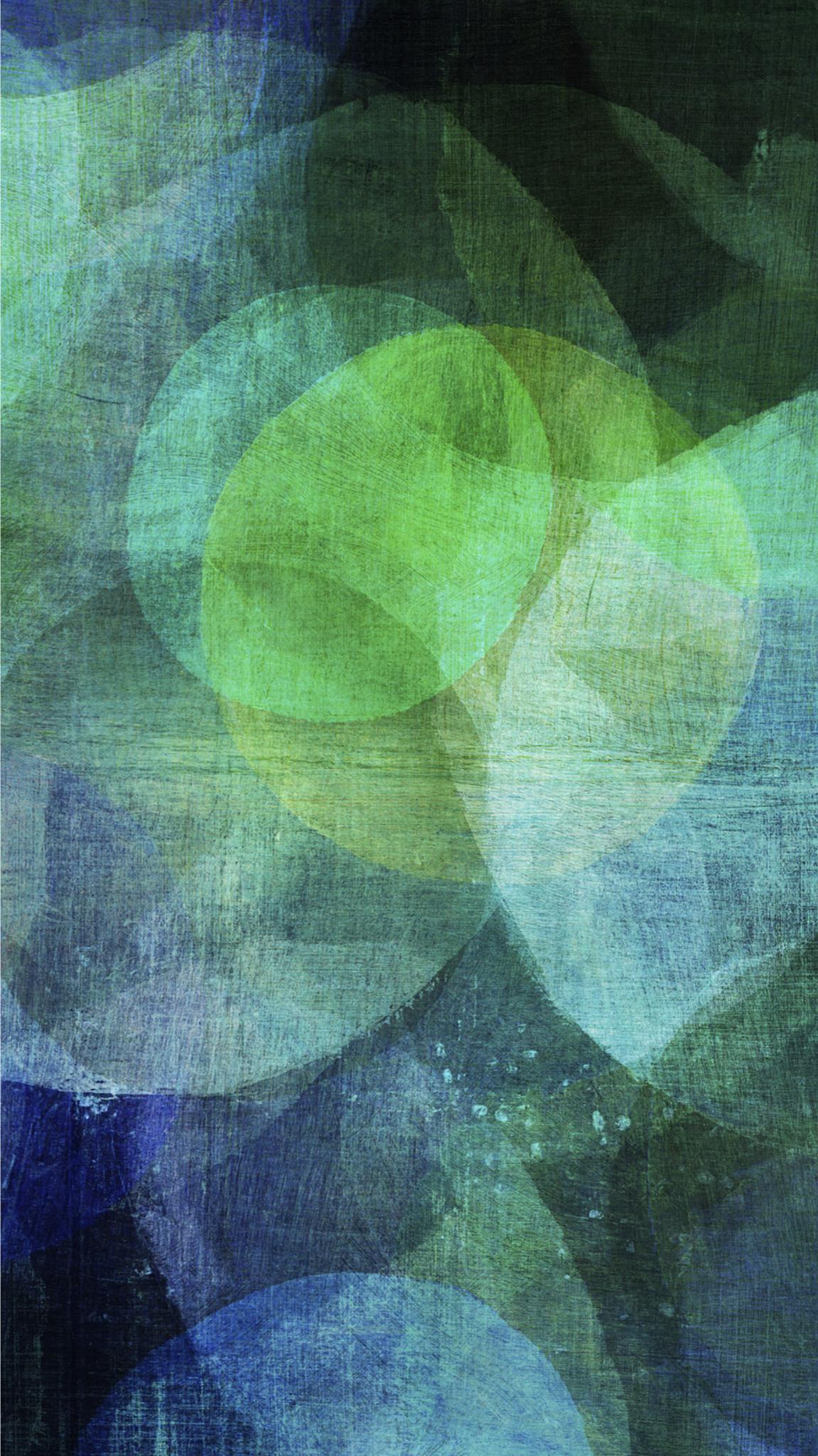


ANALYSIS (CONT.)

- Best chances on loan repayment are for weddings, vacation, educational and car.
- Riskiest loans are debt consolidation, credit cards and small business



SUMMARY



SUMMARY

- Most defaulted loan type is debt consolidation
- Probable additional vetting of people with income between \$30K-\$70K
- People on rented and mortgaged homes are more likely to default, even if verified.
- Weddings, vacations, cars and education have a low rate of default.
- Loans for certain states seem risk free, while one state has most defaulters
- Loans by people over 10 years of experience are to be closely checked for

THANK YOU