

## A descriptive overview of borrower profiles and their loan characteristics

**Introduction:** This report presents a descriptive overview of a loan data sample collected from 5,894 borrowers from a loan service. The dataset contains various features related to the financial and employment profiles of the loanees, as well as the characteristics of their loans.

### Method and Results:

Missing inputs: Upon reviewing the dataset, out of 5894 borrowers, 410 individuals have missing information indicating whether they have been employed for at least 2 years or less.

Summary of each key variable in the dataset:

**Employment length (categorical):** Using a frequency table (Table 1), the vast majority of the 5894 borrowers in the sample have been employed for at least 2 years (79.33%). Only 13.71% have been employed for less than 2 years and we do not have information on 6.96% of borrowers.

Employment Length	Sample size	Percentage with missing values
2 years or more	4676	79.33%
Less than 2 years	808	13.71%
<NA>	410	6.96%

Table 1: Frequency table for the employment length of 5484 borrowers

**Annual income in US dollars (quantitative):** The distribution of the borrowers' income is unimodal and skewed to the right. There is one large outlier indicating a small number of borrowers having an income of over \$400,000. According to Table 2, the median income is \$69,000 (Table 2) and 50% of the borrowers' income fall between \$49,350 and \$98,932 with the lowest annual income of \$5235 and the highest at \$485,000. There is no missing information.

min	Q1	median	Q3	max	missing
5235	49350	69000	98932	485000	0

Table 2: Summary statistics of the borrowers' annual income

**Debt-to-income ratio (quantitative):** The distribution of the borrowers' debt to income ratio is unimodal and slightly skewed to the right. There are no borrowers with unusual debt to income ratio. The median point is 17.79, and 50% of the borrowers have a debt to income ratio between 11.8 and 24.6. The lowest debt to income ratio is 0, meaning they have no obligation in debt relative to their income, while the highest is 46. There is no missing information.

**Purpose for taking out the loan (categorical):** According to the frequency table (Table 3), the majority of borrowers took out a loan to consolidate their debts (63.1%), followed by credit card loan (28.93%), and 7.97% for home improvement.

Purpose of loan	Sample size	Percentage
Credit card loan	1705	28.93%
Debt consolidation	3719	63.10%
Home improvement	470	7.97%

Table 3: Frequency table for purpose of the loan

**Amount of the loan (quantitative) in US dollars:** The distribution of borrowers' loan amount is unimodal and skewed to the right. There is no unusual loan amount. Based on Table 4, the lowest amount of loan taken out is \$1000, the highest is 40,000. The median amount of loan is \$14,000 and 50% of borrowers take out a loan between \$9000 and \$22,000. There is no missing information.

min	Q1	median	Q3	max	missing
1000	9000	14000	22000	40000	0

Table 4: Summary statistics of the borrowers' loan amount

**Interest rate (quantitative) in percentage:** Based on figure 1, the distribution of the borrowers' interest rate is bimodal with peaks around interest rates of 14% and 9%, and is skewed to the right. There are no outliers. As shown in table 5, the median interest rate is 10.91%. The lowest interest rate is 5.31%, and the highest is 30.79%. 50% of the borrowers' interest rate falls within 9.43% and 16.01%. There are no missing values.

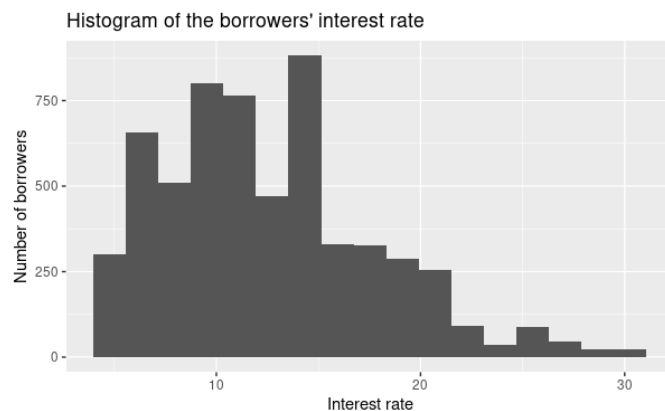


Figure 1: Histogram of the distribution of loanees' interest rate.

min	Q1	median	Q3	max	missing
5.31	9.43	10.91	16.01	30.79	0

Table 5: Summary statistics of the borrowers' interest rate.