Project context

This project analyses loan application data to identify factors associated with loan approval decisions and loan risk characteristics. The goal is to understand borrower profiles linked to approval outcomes and key risk metrics such as interest rate and Loan-to-Value (LTV).

Dataset overview:

The dataset contains borrower demographic information, income, credit characteristics, and loan details. Some financial metrics (e.g. LTV, DTIR) are only available for approved loans, which influenced the analysis approach.

Methodology:

Data was cleaned and transformed using Power Query in Excel. Borrowers were segmented into Approved and Not Approved groups. Rejected loans were analysed using demographic and income variables, while approved loans were analysed using risk metrics such as interest rate and LTV.

Key findings:

- Loan rejection is more frequent among borrowers aged 45–64 with incomes below 5K, suggesting income stability is a key approval factor.
- Average LTV decreases with age, indicating older borrowers rely less on borrowing relative to property value.
- Borrowers under 25 face the highest average interest rates, likely reflecting higher perceived risk.
- Lower income borrowers tend to have higher LTV ratios, increasing exposure to default risk.

From a lender's perspective, income and age appear to be stronger approval indicators than credit score alone. Risk-based pricing is evident across age groups, while LTV serves as a key measure of borrower leverage.

Limitations & assumptions:

The analysis is limited by the absence of time-series data and external credit history. Observed relationships are correlational and do not imply causation.

Future analysis could incorporate repayment performance, time-based trends, or multivariate modelling to better assess default risk.