CREDIT RISK ANALYSIS

Transforming 100k Records into Actionable Risk Intelligence

26.61 %
Exposure at Risk (%)

100,000
Total Loans

$2.67 mill.
Median Loan Amount

22.64 %
NPL Rate

$73,571 mill.
Exposure at Risk (Amount)

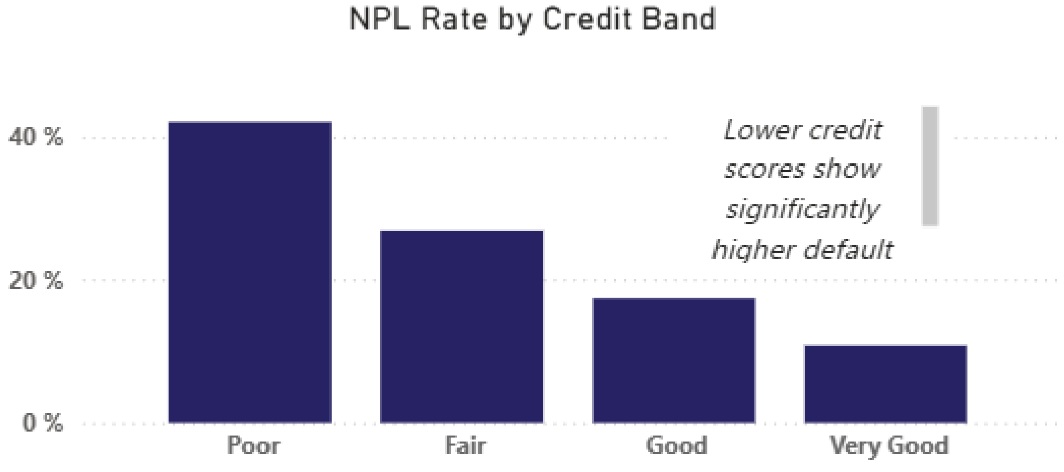
716.62
Average Credit Score

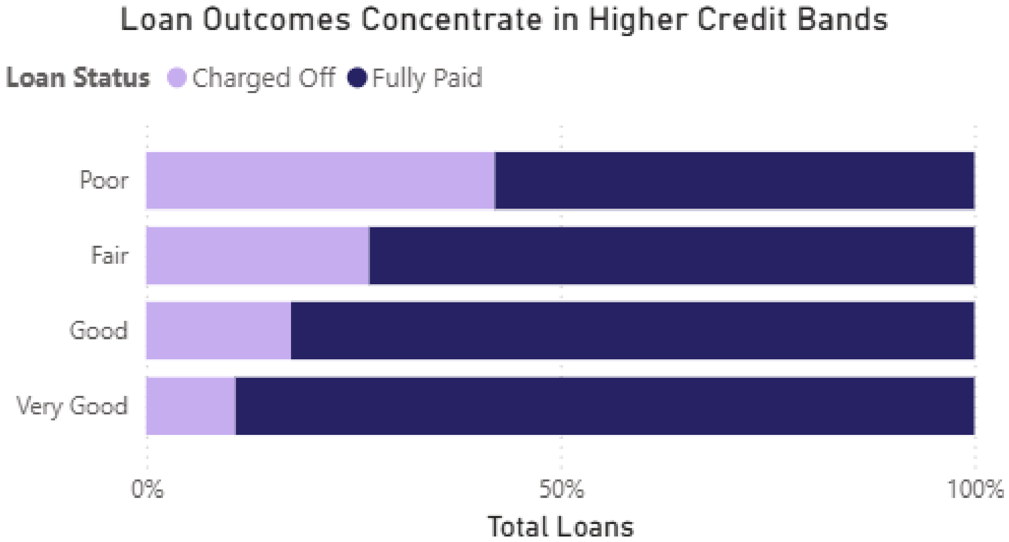
Loan Status
Todas

Credit Band
Todas

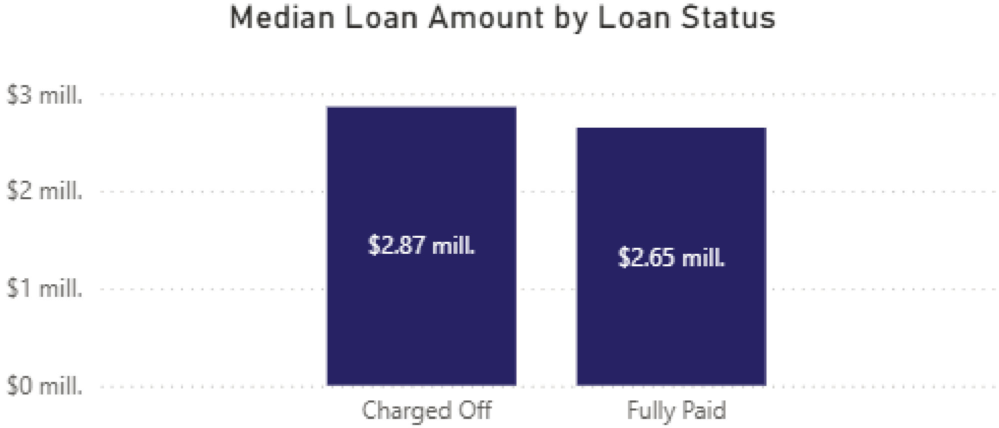
Purpose
Todas

Term
Todas





Loan_Status	Avg Monthly Debt	Avg Annual Income
Fully Paid	1,575,794.24	13,963,356.39
Charged Off	1,606,409.44	12,495,680.42

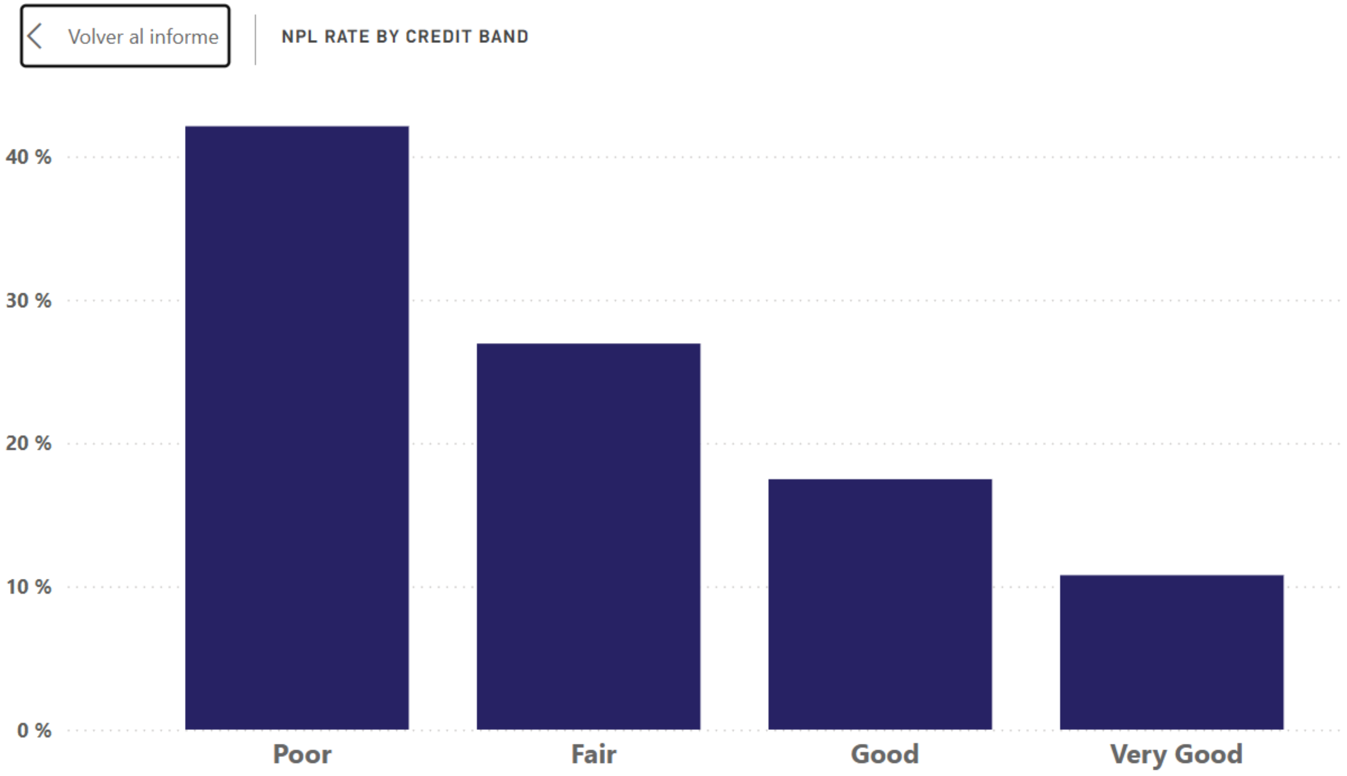


MEASURING EXPOSURE AND DEFAULT RATES

- **Portfolio Volume:** 100,000 active and closed loans.
- **Total Exposure at Risk: $73.57 Billion** (Representing the potential loss at the time of default).
- **NPL Rate: 22.64%** of the portfolio is currently in default or charged off.
- **Key Insight:** The monetary Exposure at Risk (%) is higher than the NPL count, indicating that higher-value loans are disproportionately represented in the default category.

RISK CORRELATION ACROSS CREDIT SEGMENTS

- Methodology: Categorized borrowers into five bands (Poor to Excellent) using normalized credit scores.
- Observation: A perfect inverse correlation between credit quality and default rates.
- The "Poor" Segment: While representing a smaller portion of the volume, it accounts for a ~40% NPL Rate, requiring the most stringent monitoring.



WHY THE MEDIAN PROVIDES A TRUER PICTURE

- The Problem: Financial data is often skewed by "outliers" (exceptionally high loan amounts)
- The Solution: Utilized the Median Loan Amount ($2.67M) instead of the Average.
- Finding: The median loan for "Charged Off" accounts is higher ($2.87M) than for "Fully Paid" accounts ($2.65M), suggesting that larger loan sizes contribute to a higher probability of default.

```
Median Loan Amount =
MEDIAN(vw_loans_base[Current_Loan_Amount])

```

INSOLVENCY AS THE PRIMARY DRIVER OF DEFAULT

- Charged Off Group: Average Annual Income of $12,495.
- Average Monthly Debt: $1,606.
- The Insight: Borrowers in default face a monthly debt burden that exceeds their monthly income. This "Insolvency Gap" is a more powerful predictor of default than historical behavior alone.

Loan_Status	Avg Monthly Debt ▲	Avg Annual Income
Fully Paid	1.575.794,24	13.963.356,39
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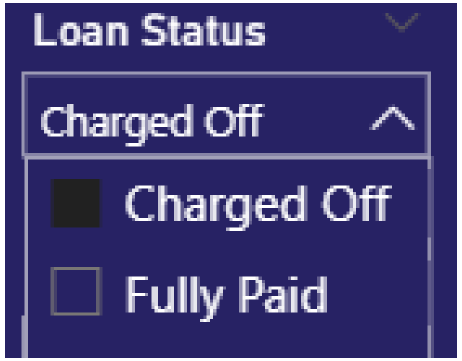
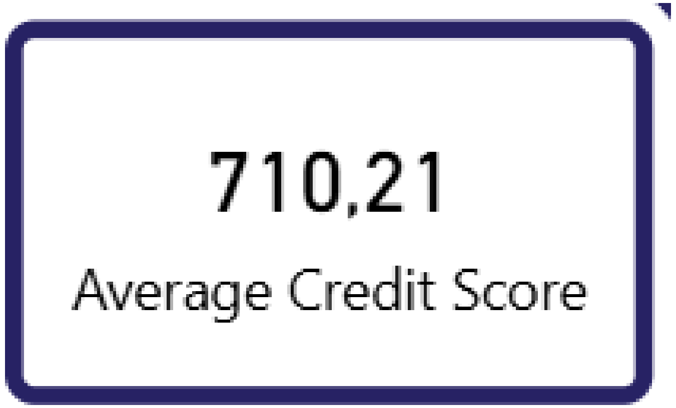
WHEN "GOOD" SCORES FAIL TO PREDICT DEFAULT

- The Anomaly: The average Credit Score for the "Charged Off" group is 710, which technically sits in the "Good" range.
- Analytical Takeaway: A credit score is a lagging indicator of willingness to pay, but it cannot compensate for a lack of capacity to pay (Income).
- Strategic Shift: Risk models must weight Debt-to-Income (DTI) ratios more heavily than historical credit scores in low-income brackets.





RISK IMPLICATIONS & RECOMMENDATIONS

Key Risk Drivers Identified

- Low credit score
- Weak income-to-debt profiles
- Larger loan sizes among defaulted loans

Business Recommendations

1. Tighten credit approval for low credit bands
2. Introduce stronger income-to-debt screening.
3. Monitor exposure at risk, not only default counts
4. Prioritize risk-adjusted growth over volume growth

PROJECT VALUE & CLOSING

•Demonstrates end-to-end analytics workflow

•Combines SQL modeling with Power BI storytelling

•Focused on **business decisions**, not just visuals

This analysis highlights how combining credit quality, financial capacity, and exposure metrics provides a clearer understanding of portfolio risk and supports better lending decisions.

THANKS!

Nicolas Gomez
Data Analyst
+61 420 455 005
www.linkedin.com/in/nicolas-gomez-remote/