Credit Risk Visualization Report

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1) Clients by Marital Status

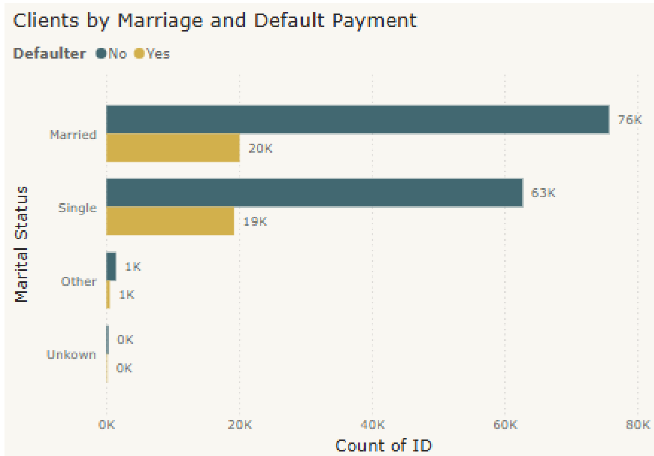

Figure 1. Clients by Marriage and Type of Client

Married Clients (76K non-defaulters, 20K defaulters)

- About 79.2% of married clients are non-defaulters, which supports the idea that being married may contribute to greater financial stability.
- Still, around 20.8% have defaulted, showing that financial challenges affect married individuals as well.

Single Clients (63K non-defaulters, 19K defaulters)

- Roughly 76.8% of single clients didn’t default, slightly lower than the rate among married clients.
- 23.2% did default, indicating a somewhat higher risk. This could be influenced by different factors, such as having fewer financial obligations or taking on more spending risks.

Other Clients (1434 non-defaulters, 504 defaulters)

- May include divorced, cohabiting but unmarried or widowed clients

- Default rates may vary due to life transitions affecting financial stability.
- Deeper more specific analysis could be beneficial to identify trends in repayment behavior by other characteristics within this group.

Unknown Clients (294 non-defaulters, 30 defaulters)

- Clients with missing or incomplete marital status information.
- Unpredictable risk profile due to lack of clear classification

2) Clients by Education Level

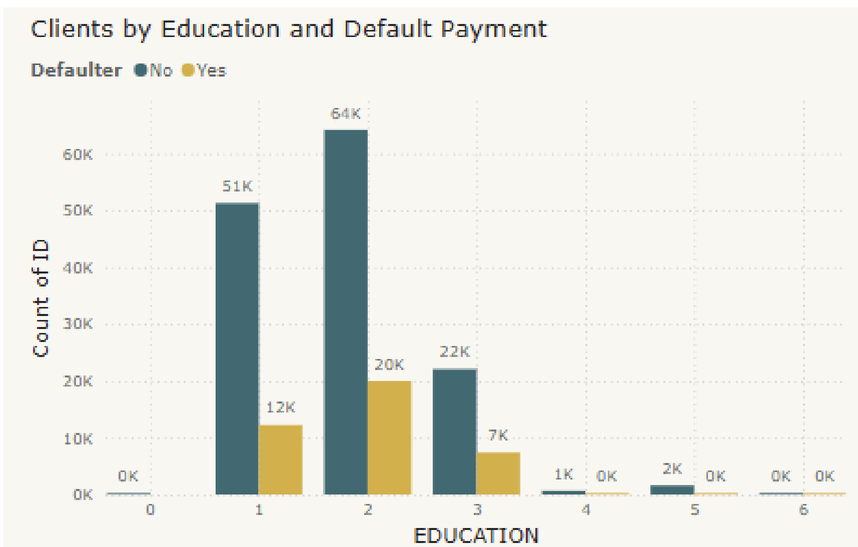

Figure 2. Clients by Education and Default Payment

Level 2 Education (64K non-defaulters, 20K defaulters)

- This is the biggest group overall, with a default rate of 0.24
- It likely includes clients with mid-level education, where factors like job instability, lower financial knowledge, or higher spending may be contributing to a higher risk.

Level 1 Education (51K non-defaulters, 12K defaulters)

- With a default rate of 0.19, this group seems to manage credit slightly better than Level 2, possibly due to more consistent income or improved financial habits.

Level 3 Education (22K non-defaulters, 7K defaulters)

- The default rate here is 0.25 slightly higher than Level 2.
- Clients in this group might face similar financial pressures as those in Level 2, though perhaps with slightly better repayment behavior overall.

Level 5 Education (1,572 non-defaulters, 108 defaulters)

- The default rate here is 0.06 indicating low risk.

Level 4 Education (696 non-defaulters, 42 defaulters)

- Default rate is 0.06 as well but on contrast with Level 5 this group has fewer clients.

Level 6 Education (258 non-defaulters, 48 defaulters)

- Default rate of 0.16 indicating higher risk than level 5 and 6 but the group size is considerably smaller with the closest one being level 5 and it being more than twice as big.

Level 0 Education (84 non-defaulters, 0 defaulters)

- This group has a very low presence in the data. The absence of defaulters might be due to missing or misclassified education data rather than a true reflection of risk, it would be reasonable to analyze these results further to ensure data integrity.

3) Clients by Sex

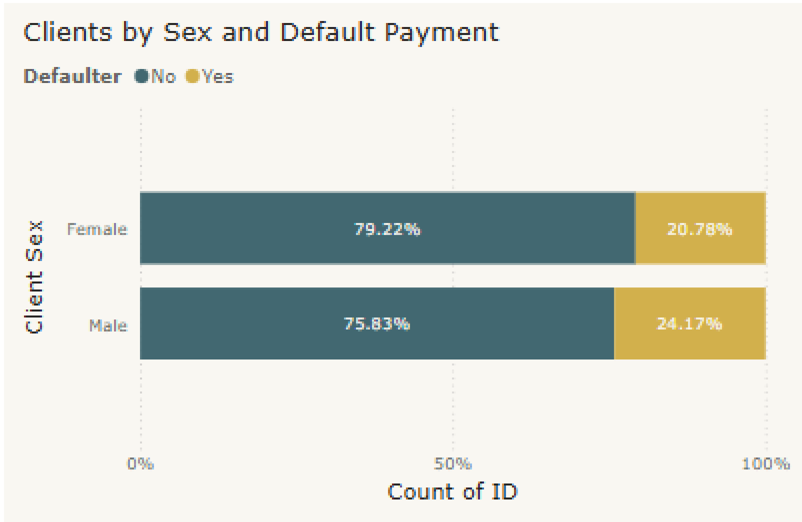

Figure 3. Clients by Sex and Default Payment

Females (79.22% non-defaulters, 20.78% defaulters)

- Women in this dataset tend to manage their finances better than men, with a default rate of 0.21. This could be due to better budgeting habits, lower financial risk-taking, or different spending priorities compared to males.

Males (75.83% non-defaulters, 24.17% defaulters)

- Men's default rate is slightly higher than females (0.24), potentially due to riskier financial decisions, larger credit exposure, or investment behavior that affects liquidity.

4) Credit Limits Behavior

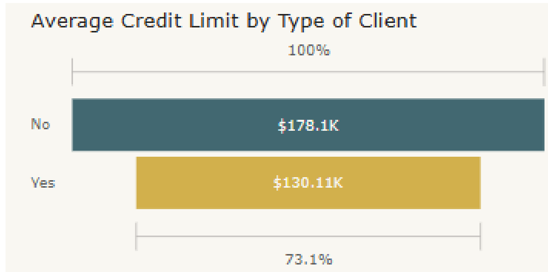

Figure 4. Average Credit Limit by Type of Client

Non-Defaulters

- Average credit limit: $178.1K
- Reliable repayment history seems to play a key role in credit limit decisions, with non-defaulters benefiting from increased lending capacity based on trust in their financial behavior.

Defaulters

- Average credit limit: $130.11K
- Financial institutions tend to give lower credit limits to riskier clients as a way to reduce potential losses from defaults.

5) Payment Behavior by Month

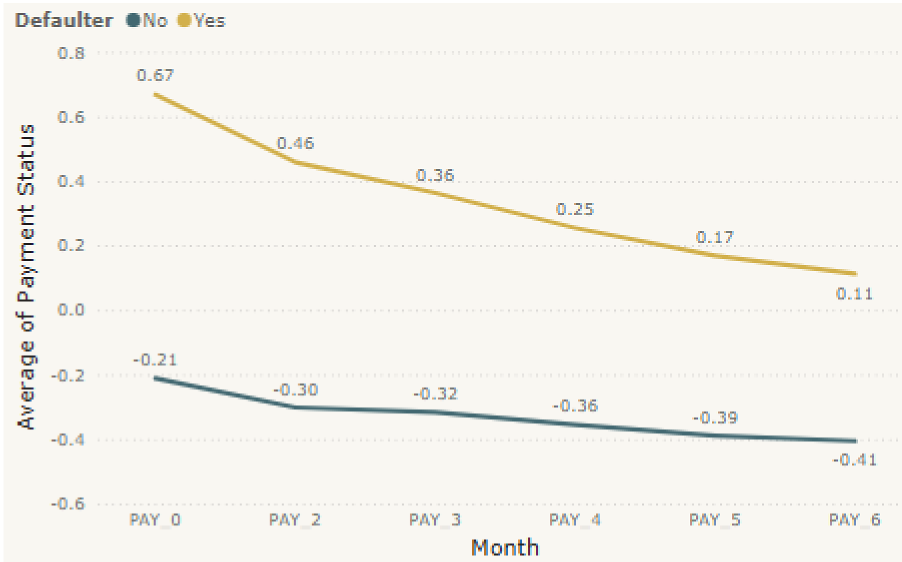

Figure 5. Average Payment Status by Month.

Non-Defaulters

- Consistent negative values (-0.21 to -0.41), this indicates that payments were made before due dates or credit balances were actively managed.
- This trend shows stable financial behavior with consistent on-time payments.

Defaulters

- Consistent positive values mean that clients are regularly late in making payments.
- The steady decline from 0.67 to 0.11 suggests a positive trend in payment behavior, with clients reducing their lateness throughout the months even if payments are not yet fully punctual.