Executive Summary

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Our analysis identifies key factors driving substantial variation in PRSM scores, which measure borrower credit risk. The most influential predictors include **loan amount, business structure, FICO score, financial stress, gender ownership, and months in business**.

Key Findings

- **Loan Amount:** Higher loan amounts are associated with higher PRSM scores, indicating stronger cash flow.
- **Woman-Owned Businesses:** These businesses tend to have higher PRSM scores, possibly due to financial management or industry-specific factors.
- **Business Structure:** LLCs and partnerships score higher than sole proprietorships and corporations.
- **FICO Score:** Higher credit scores ("Excellent" or "Very Good") correspond to better repayment performance.
- **Financial Stress:** A higher garnishment-to-volume ratio is linked to lower creditworthiness.
- **Months in Business:** Longer operational history reduces default risk.

Baseline Borrower & PRSM Predictions

A representative borrower was selected based on median or average values from the training data:

- **Baseline Characteristics:** FICO: 700, Loan Amount: 200K, Volume: 140K, Stress: 0.20, Delinquent Accounts: 4, Credit Lines: 10, Woman-Owned: Yes, Business Structure: LLC, NAICS: 445291, Months in Business: 18
- **Predicted PRSM: 0.92** (95% Prediction Interval: **0.60 – 1.24**)

Impact of Key Changes

By adjusting individual features while keeping others constant, we observe:

- **FICO 850 → PRSM: 1.00 (0.68 – 1.32)** ; **FICO 450 → PRSM: 0.88 (0.56 – 1.19)**
- **Loan Amount 500K → PRSM: 0.96 (0.64 – 1.28)** ; **Loan Amount 50K → PRSM: 0.86 (0.54 – 1.18)**
- **Stress 0.05 → PRSM: 0.80 (0.48 – 1.12)** ; **Stress 0.50 → PRSM: 1.12 (0.80 – 1.44)**
- **Non-Woman-Owned → PRSM: 0.71 (0.39 – 1.02)**
- **Business Structure: Corporation → PRSM: 0.69 (0.37 – 1.00)** ; **Business Structure: Sole Proprietorship → PRSM: 0.83 (0.52 – 1.15)** ; **Business Structure: Partnership → PRSM: 0.92 (0.60 – 1.23)**
- **Months in Business 30 → PRSM: 1.11 (0.79 – 1.43)** ; **Months in Business 3 → PRSM: 0.68 (0.36 – 1.00)**

Conclusion

PRSM scores increase with stronger financial standing (higher FICO, lower stress, longer business history). Business structure and gender ownership also influence credit risk assessment. These insights provide a foundation for evaluating potential borrowers.