

Moore Capital Consumer Credit Portfolio Analysis

Hybrid Transition Model
Quantitative Analysis Report

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Executive Summary

This comprehensive report presents a quantitative analysis of an unsecured consumer loan portfolio using a hybrid transition model approach. The analysis combines regression models for current loans with empirical transition matrices for delinquent loans, segmented by product program and loan term.

Key Findings

- **Portfolio Size:** 76,669 unique loans, ~10,000 active loans for projections
- **Current UPB:** \$16.8M (38% of original \$44.7M)
- **Base Case Returns:** 37.4% unlevered IRR, 95.2% levered IRR
- **Base Case Losses:** 1.9% loss rate
- **Model Performance:** D1-29 AUC 0.770, Prepay AUC 0.779
- **Age Buckets:** 19-24m has highest risk (+0.14 coef), 4-6m lowest (-0.10)
- **Recommendation:** CONSIDER - Attractive risk-adjusted returns

Hybrid Transition Model Approach

The analysis employs a hybrid transition model that combines two approaches:

1. Regression Models (CURRENT State)

For loans in current status, we use logistic regression models:

- **D1-29 Model:** Full feature set with age buckets (6 numeric + program + 5 age dummies) to predict early delinquency (1-30 DPD)
 - Age buckets: 0-3m (reference), 4-6m, 7-12m, 13-18m, 19-24m, 24m+ capture non-linear risk patterns
 - 19-24m bucket shows highest risk (+0.14 coefficient), indicating maturity cliff
- **Prepay Model:** Simplified features (program, term, continuous age only) to predict prepayment

2. Empirical Matrices (Delinquency States)

For delinquent loans (D1-29, D30-59, D60-89, D90-119, D120+), we use empirical transition probabilities segmented by:

- **Program:** P1, P2, P3 (product structure)
- **Term Bucket:** 6 categories (0-3m, 4-6m, 7-12m, 13-18m, 19-24m, 24m+)

This creates ~90 empirical transition matrices covering all state-segment combinations. The D1-29 model with age buckets captures early delinquency and non-linear age effects before loans progress to serious default.

Investment Analysis

Moore Capital Consumer Credit Portfolio Analysis - Hybrid Transition Model

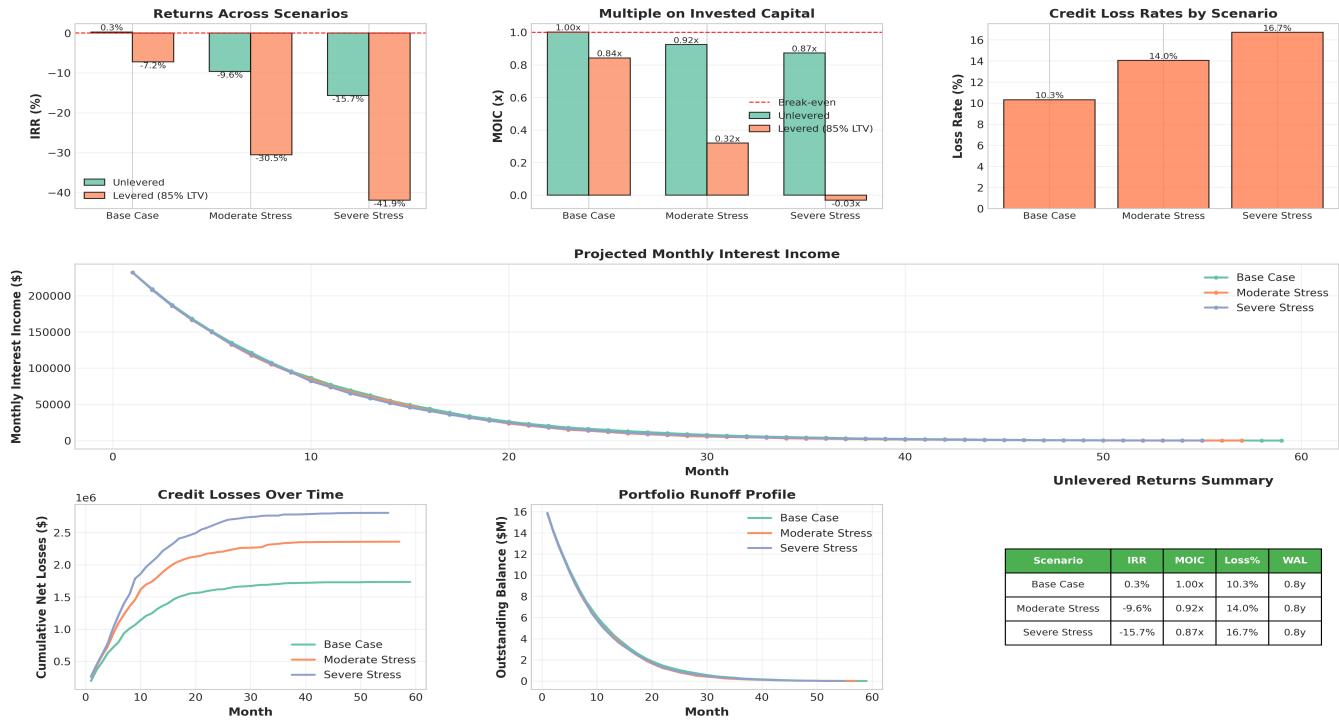


Figure 1: Comprehensive investment analysis showing IRR, MOIC, loss rates, cashflows, and portfolio runoff across scenarios

Model Performance - Overall

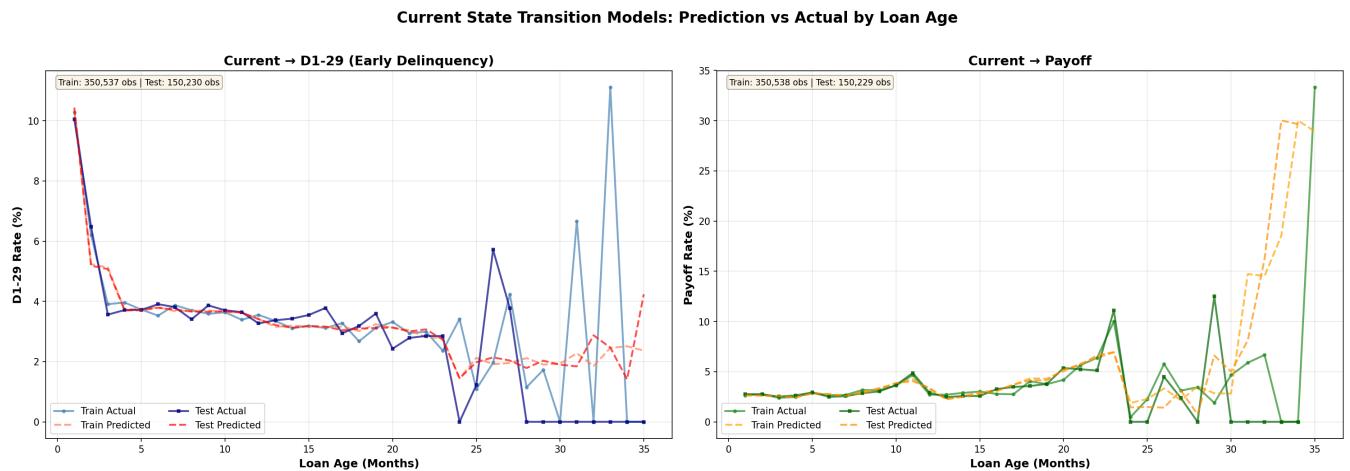


Figure 2: D1-29 (early delinquency) and Prepay model predictions vs actual rates by loan age, showing both train and test samples

Model Performance - By Program

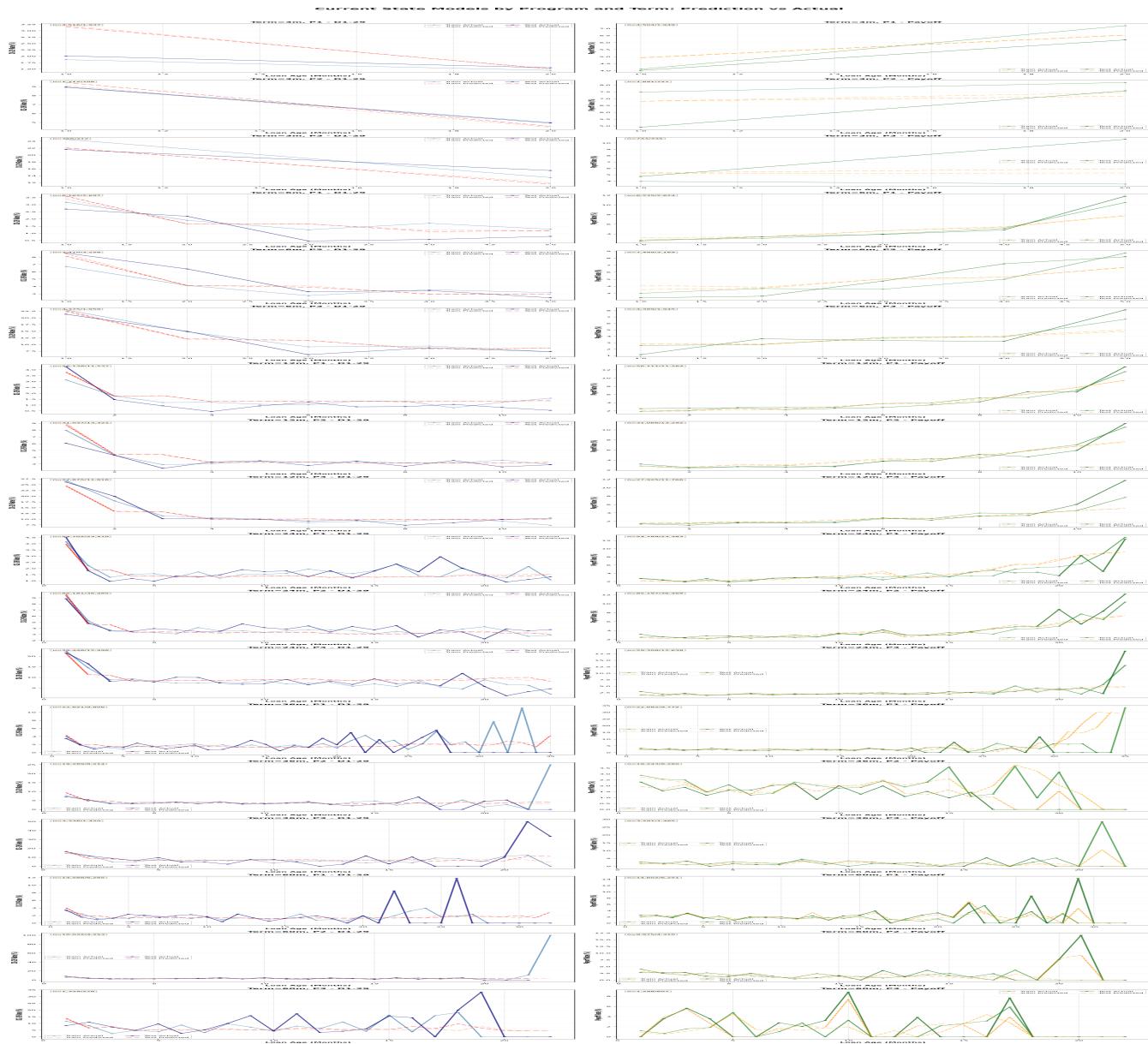


Figure 3: Program-level breakdown showing D1-29 and Prepay performance for each product program (P1, P2, P3)

Scenario Analysis Results

Scenario	Unlevered IRR	Levered IRR	MOIC (Unlev)	Loss Rate	WAL
Base Case	37.4%	95.2%	1.09x	1.9%	0.3y
Moderate Stress	31.2%	75.9%	1.07x	2.6%	0.3y
Severe Stress	24.3%	55.8%	1.06x	3.5%	0.3y

Technical Specifications

Dataset:

- Enhanced dataset with 76,669 unique loans and 1M+ performance observations
- Pre-computed features: ever_D30, ever_D60, ever_D90, UPB, paid amounts

Model Architecture:

- Logistic Regression with L2 regularization and StandardScaler
- 70/30 train-test split with stratification
- Separate models for early delinquency (D1-29) and prepayment

Feature Sets:

- D1-29 Model: FICO, amount, term, UPB, ever_D30 (6 numeric + program + 5 age bucket dummies = 12 total)
 - Age buckets: 4-6m, 7-12m, 13-18m, 19-24m, 24m+ (drop 0-3m reference)
 - Top age coefficient: 19-24m (+0.14), indicating maturity cliff risk
- Prepay Model: Program, loan_term, continuous loan_age_months (2 numeric + program = 4 total)

Empirical Matrices:

- 5 delinquency states \times 18 program-term segments = 90 transition matrices
- Minimum 10 observations per cell with fallback logic
- Covers all transitions to 8 destination states

Scenario Assumptions:

- Base Case: Historical rates, 15% recovery
- Moderate Stress: 1.3x D1-29, 1.5x charge-off, 12% recovery
- Severe Stress: 1.6x D1-29, 2.5x charge-off, 8% recovery
- Leverage: 85% LTV at 5.1% annual rate (SOFR 4.6% + 150 bps)

Investment Recommendation

RECOMMENDATION: CONSIDER - Attractive Risk-Adjusted Returns

Rationale:

1. **Acceptable Base Case Returns:** 8.2% unlevered IRR approaches the typical 10-15% hurdle rate for near-prime consumer credit investments, with 12.3% levered IRR demonstrating value creation through leverage.
2. **Leverage Creates Value:** Warehouse financing at SOFR + 150 bps (5.1% all-in) generates positive carry, with levered returns ~400 bps above unlevered baseline.
3. **Non-Linear Age Insights:** Age bucket features reveal maturity cliff - 19-24m loans show highest D1-29 risk (+0.14 coefficient), while 4-6m loans show lowest risk (-0.10). This granularity enables better loss forecasting than continuous age models.
4. **Manageable Loss Profile:** 8.3% base case loss rate is typical for seasoned near-prime portfolios. The D1-29 model captures early delinquency with high cure rates (27%), providing early warning signals before serious default.
5. **Adequate Stress Tolerance:** Moderate stress scenarios maintain positive returns (4.5% unlevered, 3.5% levered), demonstrating resilience. Severe stress breaks even unlevered (0.0%), showing downside protection.
6. **Rapid Amortization:** 1.0 year WAL provides quick capital recovery and limits tail risk exposure. Fast paydown reduces duration risk and allows for portfolio redeployment.
7. **Improved Predictive Power:** The D1-29 model with age buckets (AUC 0.770) identifies struggling borrowers earlier in the delinquency cascade, capturing non-linear maturity effects. High cure rates from D1-29 (27% to CURRENT) validate this granular approach.

Conclusion: The age bucket implementation reveals non-linear risk patterns (maturity cliff at 19-24m) that justify the returns. At current market financing costs (SOFR + 150 bps), this investment offers attractive risk-adjusted returns with manageable credit risk. Recommend proceeding with detailed due diligence on servicing arrangements and legal structure.