

B2C Credit Scoring Model v1.2

Executive Summary & Technical Documentation

Date: January 31, 2026 | **Status:** Validated & Approved | **Dataset:** 2,595 B2C Contracts (2022-2026)

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1. Executive Overview

Model Performance: AUC = 0.70 (Acceptable) | 3 statistically significant factors | No multicollinearity issues (all VIF < 1.35)

This scoring model predicts default risk for B2C leasing applications using 10 weighted factors. The model was validated using Information Value (IV) analysis and logistic regression on historical portfolio data.

2,595

Contracts Analyzed

235

Defaults Observed

9.06%

Overall Default Rate

0.70

Model AUC

Key Findings

- **DSCR** is the strongest predictor ($IV = 0.34$, $p < 0.001$)
- **Vehicle Price 100k-150k** has 47% default rate (8x baseline) - critical risk
- **Down Payment** only protective when $\geq 11\%$ (below this = 13.33% default rate)
- **B Permit + High-Value Vehicle** = 23.81% default rate (fraud pattern)
- **ZEK NEGATIVE profiles** (8% of records) warrant scoring penalty

2. Final Scoring Weights (v1.2)

Factor	Weight	Visual	Statistical Significance
DSCR	18%	3%	$p < 0.001$
Vehicle Price	15%	%	$p = 0.014$
Nationality/Permit/Residence	15%	%	Business Logic
Fraud Risk	10%	%	Business Logic
Dealer Risk	10%	%	$IV = 0.20$
ZEK Profile	10%	%	Forward-Looking
CRIF Score	7%	%	Strategic Priority

Factor	Weight	Visual	Statistical Significance
Down Payment %	5%		p < 0.001
Intrum Score	5%		IV = 0.09
Age	5%		IV = 0.06

Total Weight: 100% | **Max Score:** +53 points | **Min Score:** -75 points

3. Scoring Formulas by Factor

3.1 DSCR (18% weight)

Debt Service Coverage Ratio - measures affordability. **Strongest Predictor**

DSCR Range	Default Rate	Points
< 2.0	25.93%	-15
2.0 - 3.0	20.97%	-10
3.0 - 4.0	11.02%	-5
≥ 4.0	4.88%	+5

```
DSCR_SCORE = CASE WHEN dscr < 2.0 THEN -15 WHEN dscr < 3.0 THEN -10
WHEN dscr < 4.0 THEN -5 ELSE +5 END
```

3.2 Vehicle Price (15% weight)

5-tier system with grouped low-risk band. **100k-150k = Critical Risk**

Price Range (CHF)	Contracts	Default Rate	Points
< 65,000	1,681	6.19%	+5
65,000 - 75,000	589	11.38%	0
75,000 - 100,000	259	14.29%	-5
100,000 - 150,000	55	47.27%	-15
≥ 150,000	11	9.09%	-10

```
VEHICLE_PRICE_SCORE = CASE WHEN price < 65000 THEN +5 WHEN price < 75000 THEN 0 WHEN price < 100000 THEN -5 WHEN price < 150000 THEN -15 -- CRITICAL RISK ELSE -10 END
```

3.3 Down Payment % (5% weight)

Threshold approach: Only scores when ≥11%. Payments ≤10% are IGNORED.

Down Payment %	Contracts	Default Rate	Points
≤ 10% (ignored)	1,223	13.33%	0 (no benefit)
11% - 20%	543	7.88%	+3
≥ 20%	829	3.50%	+5

```
DOWN_PAYMENT_SCORE = CASE WHEN down_payment_pct <= 10 THEN 0 -- No protective value WHEN down_payment_pct < 20 THEN +3 ELSE +5 END
```

3.4 Nationality/Permit/Residence (15% weight)

Combines nationality, permit type, and residence duration.

Profile	Default Rate	Points
Swiss National	4.69%	+10

Profile	Default Rate	Points
Non-Swiss + C Permit (3+ years)	3.96%	+8
Non-Swiss + C Permit (1-3 years)	~5%	+5
Non-Swiss + C Permit (< 1 year)	~6%	+2
Non-Swiss + B Permit (3+ years)	~8%	0
Non-Swiss + B Permit (1-3 years)	~10%	-5
Non-Swiss + B Permit (< 1 year)	~12%	-10
Unknown Nationality	9.36%	-8

3.5 ZEK Profile (10% weight)

Forward-Looking Predictor - Based on 776 records (715 POSITIVE, 61 NEGATIVE)

ZEK Profile	ZEK Decision	Points
POSITIVE	Approve	+5
POSITIVE	Manual/Reject	0
NEGATIVE	Approve	-5
NEGATIVE	Manual	-10
NEGATIVE	Reject	-15
No ZEK Data		0

3.6 CRIF/Intrum Scores (7% + 5% weight)

Use CRIF when available (preferred), fall back to Intrum.

Score	CRIF Points	Intrum Points
GREEN / 4+	+10	+5
YELLOW / 1-4	0	0
RED / 0-1	-15	-10

3.7 Dealer Risk (10% weight)

Dealer Category	Default Rate	Points
Tesla Switzerland	5.74%	+5
Low Risk (< 5% historical default)	< 5%	+3
Medium Risk (5-10%)	5-10%	0
High Risk (> 10%)	> 10%	-10
Cocelli Automobiles	35.42%	-15

3.8 Fraud Risk (10% weight)

Composite of dealer fraud history (5%) + payslip verification (5%).

Dealer Fraud History

No fraud history	+3
1 fraud case	0
2+ fraud cases	-10

Payslip Verification

PASS - All checks	+5
WARN - Minor issues	0

FAIL - Soft	-5
FAIL - High Suspicion	-15

3.9 Age (5% weight)

Age Range	Default Rate	Points
< 25	11.45%	-5
25 - 35	6.29%	0
35 - 50	5.96%	+3
50 - 65	4.55%	+5
≥ 65	5.56%	+3

4. Statistical Validation

4.1 Information Value (IV) Analysis

IV measures the predictive power of each factor. Thresholds: < 0.02 Not useful | 0.02-0.10 Weak | 0.10-0.30 Medium | 0.30-0.50 Strong

Factor	IV Score	Predictive Power	Recommendation
DSCR	0.3382	Strong	Include (primary factor)
Down Payment %	0.2842	Medium-Strong	Include with threshold
Vehicle Price	0.2368	Medium	Include (tiered)
Dealer Risk	0.2015	Medium	Include

Factor	IV Score	Predictive Power	Recommendation
Intrum Score	0.0911	Weak	Include (fallback to CRIF)
Permit Type	0.0851	Weak	Include (combined factor)
Age	0.0565	Weak	Include (minor weight)

4.2 Logistic Regression Results

0.70

AUC (≥ 0.60 required)

0.41

Gini Coefficient

0.08

Pseudo R²

< 1.35

All VIF (no multicollinearity)

4.3 Statistically Significant Factors

Factor	Coefficient	p-value	Significance
DSCR	-0.5707	0.0001	*** ($p < 0.001$)
Down Payment %	-0.7010	0.0001	*** ($p < 0.001$)
Vehicle Price	-0.4329	0.0142	* ($p < 0.05$)
Intrum Score	-0.3386	0.2693	Not significant
Permit Type	-0.3138	0.2835	Not significant
Dealer	-0.2263	0.2068	Not significant
Age	-0.1212	0.7329	Not significant

Note: Only 3 of 7 factors are statistically significant. Non-significant factors are retained based on business logic and industry best practice.

5. Decision Tiers

GREEN - Auto-Approve

Score Range: ≥ 25 points

Action: Automatic approval, standard terms

Expected Default Rate: $< 3\%$

YELLOW - Standard Review

Score Range: 10 to 24 points

Action: Standard underwriting review

Expected Default Rate: 3-6%

ORANGE - Enhanced Review

Score Range: 0 to 9 points

Action: Enhanced review, additional documentation may be required

Expected Default Rate: 6-12%

RED - Decline / Senior Review

Score Range: < 0 points

Action: Decline or escalate to senior underwriter

Expected Default Rate: $> 12\%$

```

TOTAL_SCORE = DSCR_SCORE + VEHICLE_PRICE_SCORE + NATIONALITY_SCORE
+ FRAUD_RISK_SCORE + DEALER_RISK_SCORE + ZEK_SCORE + CRIF_SCORE +
DOWN_PAYMENT_SCORE + INTRUM_SCORE + AGE_SCORE DECISION_TIER = CASE
WHEN TOTAL_SCORE >= 25 THEN 'GREEN' WHEN TOTAL_SCORE >= 10 THEN
'YELLOW' WHEN TOTAL_SCORE >= 0 THEN 'ORANGE' ELSE 'RED' END

```

6. Business Rules & Overrides

6.1 Automatic Orange Tier (Manual Review Required)

The following combinations trigger automatic ORANGE tier regardless of score:

Rule	Condition	Evidence
High-Value + B Permit	Vehicle \geq 80k AND B Permit	23.81% default rate
High-Value + Unknown Nationality	Vehicle \geq 80k AND Unknown nationality	100% default rate (3/3)
ZEK NEGATIVE + Manual Decision	ZEK profile = NEGATIVE AND ZEK decision = Manual	Credit bureau concern
Payslip High Suspicion	Payslip verification = FAIL (High Suspicion)	Fraud indicators present
High-Risk Dealer	Dealer default rate > 20%	Cocelli = 35.42%

6.2 Credit Bureau Hierarchy

1. Use **CRIF** when available (preferred for Swiss market)
2. Fall back to **Intrum** if CRIF unavailable
3. If both available, use CRIF only (don't double-count)

6.3 Tesla Exception

Tesla Switzerland is classified as **low fraud risk** by default due to:

- Established dealer relationship
- High volume, consistent performance (5.74% default rate)
- Direct manufacturer channel (lower intermediary risk)

6.4 Data Limitations & Future Validation

Factor	Current Coverage	Validation Status	Timeline
ZEK Profile	776 records (Nov 2025+)	Forward-Looking	Re-validate Q3 2026
CRIF Score	0.2% coverage	Strategic Priority	Monitor coverage growth
Permit Type	38% coverage	Partial	Improve data capture

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Methodology: IV/WOE Analysis + Logistic Regression | Dataset: 2,595 B2C Contracts (2022-2026)

For questions, contact the Risk Team