

## Case Study: Lifting Portfolio IRR through Marginal Profitability Optimization

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### Background:

A mid-sized fintech lender focused on unsecured consumer loans had scaled rapidly by leveraging a proprietary risk model and aggressive growth targets. The company historically approved accounts by ensuring that the **average IRR per vintage** exceeded a fixed hurdle rate—**16%**.

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### Problem Statement

Despite hitting vintage-level IRR targets, a granular performance audit revealed that **high-risk accounts were generating negative IRRs**, eroding the gains from more creditworthy borrowers.

- **Low- and medium-risk tiers** were cross-subsidizing high-risk losses.
  - The company lacked a **loan-level or tier-specific profitability framework**.
  - Portfolio volatility and loss forecast deviations had grown, straining liquidity and investor confidence.
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### Engagement Objectives

- Identify credit policy inefficiencies dragging down profitability.
  - Create a dynamic credit policy that **assesses risk at the margin**, not in aggregate.
  - Ensure **every approved account is independently profitable**.
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## Approach and Analysis

### 1. Segmented IRR Analysis

Using historical loan performance, I stratified all approved accounts by risk decile and calculated their realized IRRs. The findings:

Risk Tier	IRR (Before)
Low Risk	23%
Medium Risk	15%
High Risk	-5%

**Insight:** The bottom 20% of the portfolio by risk was not only underperforming—it was destroying value.

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### 2. Policy Redesign

I implemented a **marginal IRR floor policy**:

- Set **minimum IRR thresholds** per risk tier:
    - Low risk:  $\geq 20\%$
    - Medium risk:  $\geq 15\%$
    - High risk:  $\geq 5\%$
  - Integrated a **loan-level profitability engine** within the automated underwriting platform.
  - Recalibrated scorecard cutoffs, loan pricing, and term structures based on IRR forecasts, not just PD or loss rates.
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### 3. Risk-Based Approval Strategy

Risk Tier	Approval Rate (Before)	Approval Rate (After)
Low Risk	95%	95%
Medium Risk	75%	70%
High Risk	50%	30%

**Result:** Reduction in high-risk exposure by prioritizing **marginal profit** over volume.

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### 4. Outcome and Impact

Metric	Before Optimization	After Optimization
Portfolio IRR	16%	22%
Revenue	—	-7%
Loss	—	-23%
<b>Profit</b>	—	<b>+13%</b>

- **Every risk tier became profitable**, with high-risk now at +5% IRR.
  - The portfolio became **less volatile**, with better capital allocation.
  - Merchant confidence increased, enabling more favorable funding terms.
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## Conclusion

This case exemplifies how fintech lenders can unlock meaningful gains by **moving from average-based to marginal decisioning**. By setting **IRR floors per risk tier**, rather than relying on vintage-level averages, the company improved profitability by **13%** and reduced exposure to unprofitable accounts.

**Takeaway:** Sustainable growth in fintech lending doesn't come from more approvals—it comes from smarter ones.