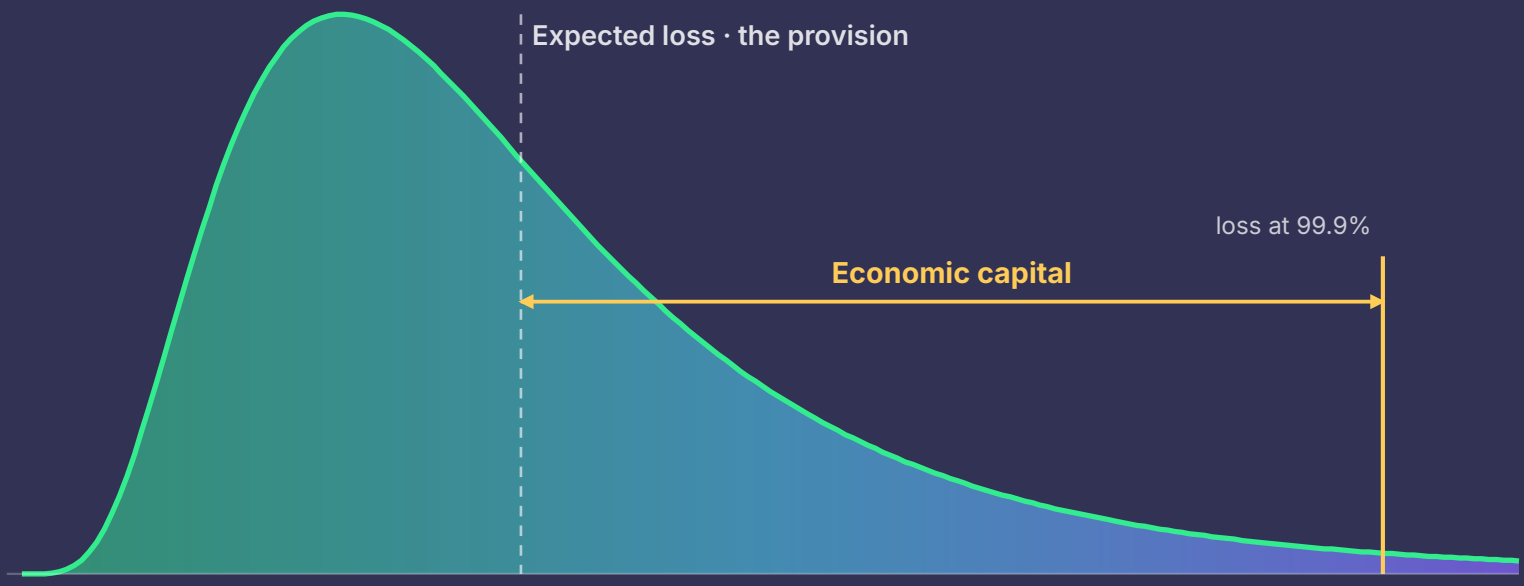
izi Risk

CREDIT-RISK MODEL

What your book earns per unit of risk.

It simulates the portfolio loan by loan, measures the economic capital it demands and returns the RAROC and EVA of each product, sector or region as a distribution, not a single number.



Banks
Economic capital and pricing by segment

Credit unions and lenders
Where to grow and at what rate

Microfinance
Thousands of small loans, loan by loan

THE PROBLEM

A high margin is not the same as a good return.

Most institutions measure portfolio profitability with averages and risk with fixed percentages. So capital ends up where it does not pay, and growth goes where it should not.

WHAT AN AVERAGE SHOWS

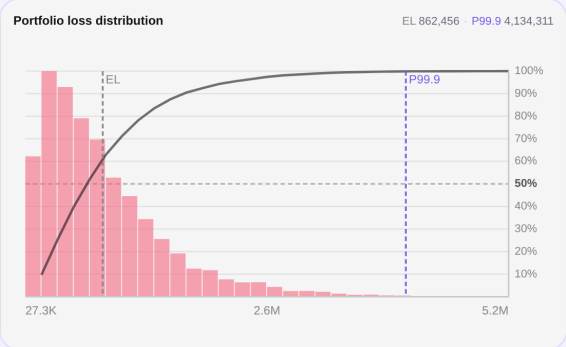
Portfolio balance

Provision

Capital: a fixed percentage of the balance

An average year and the same percentage for all: the stable segment and the one most exposed to the cycle consume the same capital.

WHAT THE MODEL SHOWS



The loss in every possible year: the expected loss, which the provision covers, and the bad-year loss, which capital must cover.

1. **Losses without a tail**
   The provision covers the average; capital exists for the year when many borrowers default at once.
2. **Fixed-percentage capital**
   Treats a stable segment the same as one highly exposed to the cycle.
3. **Profitability without risk**
   A good margin can destroy value if the capital it consumes is high.

HOW IT WORKS

The portfolio, simulated loan by loan

Reads the portfolio
One row per loan. PD from the delinquency state and LGD from the guarantee.

Simulates the cycle
Thousands of years: each loan defaults or not; each segment moves with the economy.

Computes the result
Interest less funding, operating costs and losses, year by year.

Measures
Economic capital, RAROC and EVA, by any column in the file.

⚠ **Why the cycle matters.** If every loan defaulted independently, a large book would diversify its losses away and capital would come out too low. A recession hits consumer and SME lending together; the model moves each segment's exposure, PD and LGD together.

izi Risk

DEMO INCLUDED

DEMO PORTFOLIO · 5,000 LOANS

The portfolio earns 15.6%. Its largest segment, 4.6%.

Six products, from mortgages to credit cards, with a 15% hurdle rate. This is what it looks like when each segment carries the capital it actually consumes.

23.2 M	3.72%	3.27 M	62%
portfolio balance	expected loss, as a share of balance	economic capital at 99.9%	probability of beating the hurdle rate

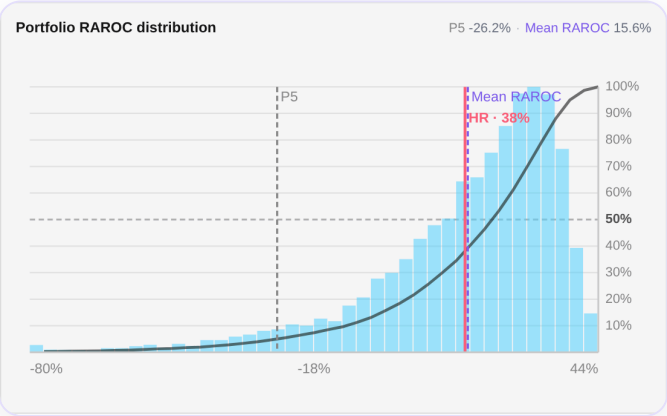
RAROC by segment, against the 15% hurdle rate



Each bar is the segment's mean RAROC after funding, costs, expected loss and the capital it consumes; the dotted line is the hurdle rate.

79% of capital goes to **Corporate**, with 55% of the balance. Its RAROC, 4.6%, misses the hurdle rate: **it destroys about 270 k of value** a year.

94% is the RAROC of **Mortgage**, and **SME** earns 55%. There each unit of capital earns several times the hurdle rate: that is where to grow.



An average that hides the bad years

The portfolio's mean RAROC, 15.6%, barely clears the hurdle rate. In one year in twenty it falls to −26% or lower, and in 38% of years it stays below 15%. A single figure would not have shown this.

CAPABILITIES

Every function answers a committee question

Loss distribution
How much can we lose in a normal year, and in a very bad one?

Allocated economic capital
How much does each product, sector or region consume, and what does diversification add?

RAROC as a distribution
What is the risk-adjusted return, and how stable is it?

Probability of beating the hurdle
How likely is each segment to earn more than the cost of its capital?

Economic value added
Which segments create value and which destroy it?

PD by delinquency
How does a loan's risk change when it falls behind?

Breakdowns by any column
Product, sector, region, branch or loan officer, without re-simulating.

AI assistance
Explains the results in plain language for the committee.

What a risk or finance manager gets

- **A defensible economic-capital figure**, read from the loss distribution of your own book.
- **Grounded pricing:** each segment's return after funding, costs, expected loss and the cost of capital.
- **Where to grow:** segments ranked by RAROC and EVA, with the probability of beating the hurdle rate.
- **Transparency:** PD, LGD, costs and correlations in plain view; every result traces back to its loans.
- **Committee-ready material:** charts and AI reports, as PDF or editable PowerPoint, in five languages.

How it fits into existing work

- **Excel:** exports to an iziRisk Quantum workbook (.xlsm) that runs the same simulation.
- **In the browser:** reading the file and the simulation both run there; the loan tape is never sent to a server.
- **With the data that already exists:** balance, rate, delinquency state and guarantee are enough; other columns serve as breakdowns.
- **Training and expert support:** courses and a panel of practitioners who answer directly.

Next step: a pilot on your portfolio

We load your institution's real portfolio, calibrate the transition matrix, the losses by guarantee and the costs, and return economic capital, RAROC and EVA by product and segment. Your team sees the method applied to a book it already knows.

Fernando J. Hernández
Consulting and Training Manager
IZIRISK, INC
fhernandez@izirisk.com
+506 7253 9597 · phone and WhatsApp

iziriskhub.com