In-Class Assignment TR3: RWA Default Scenario

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Context. A \$50M Zurich office building has been fractionalised into 500,000 tokens (each representing a 1/500,000 undivided beneficial interest, held via a Swiss SPV). Rental income was paying 4.5% yield on-chain. The SPV defaults: a major tenant moves out, LTV flips above 100%, and the debt trustee petitions for foreclosure. Recovery process in Switzerland takes *6 months* start-to-finish; risk-free discount rate is *8% p.a.*

Q1. Identify *three* legal gaps between an on-chain token transfer and off-chain property-deed enforcement.

Solution. (1) **Recognition gap:** a Zurich land-registry (*Grundbuch*) only records the SPV as legal owner; transferring a token does *not* transfer the deed entry — buyers inherit only an *indirect* claim via the SPV's corporate form, which must be recognised by Swiss property law (it currently is not, for on-chain transfers). (2) **Enforcement gap:** court-ordered foreclosure follows the Swiss Debt Enforcement Act (SchKG); the on-chain token cannot itself compel a bailiff to auction the building — the SPV's board must file, wait for statutory periods, and comply with cantonal procedure. (3) **Priority gap:** secured bank lenders (first mortgage) rank ahead of token-holders in bankruptcy; token investors hold only a residual equity claim, often dilutable by emergency SPV share issuance. (Accept also: KYC/transfer-restriction gap — tokens may move freely on-chain but require off-chain whitelist maintenance.)

Q2. Compute the *expected recovery value* (as % of face) of a token whose pro-rata share of building equity is \$100 (face), assuming a 60% gross recovery after all senior claims, a 6-month court delay, and an 8% discount rate.

Solution. Gross recovery = \$100 × 60% = \$60 (after bank debt, legal fees, cantonal auction discount). Present value after 6-month delay at 8% p.a.: $\$60/(1 + 0.08 \times 0.5) = \$60/1.04 \approx \$57.69$. Recovery rate ≈ **57.7%** of face value. Contrast with the advertised 4.5% yield: one 6-month court delay + 40% haircut erases ≈8 years of coupon income — the *real* RWA risk is not yield but default-tail severity.

Q3. Propose *one* mitigation that pre-empts the gaps in Q1 at structuring time.

Solution. Acceptable: (i) **Bankruptcy-remote SPV**: register the SPV in a friendly jurisdiction (Liechtenstein, Luxembourg Sàrl) with a bankruptcy-remote trust wrapper, so token-holders sit closer to first-loss recovery and operational creditors cannot reach the SPV assets. (ii) **Off-chain arbitration clause**: embed in the SPV charter a mandatory JAMS / LCIA arbitration clause with smart-contract-executable awards (e.g. Kleros appeal tier as a fallback). (iii) **Insurance wrap**: a title-insurance or credit-enhancement policy pays token-holders upfront and subrogates to the SPV claim, turning a 6-month court risk into a 10-day insurance claim. (iv) **Reserve fund**: SPV retains 10% of rental income in an on-chain reserve that pays shortfalls during enforcement delays.