



# CECL Beyond Data and Compliance

---

12 July 2018

Radley Associates

# What the regulator expects

---

*Under CECL, the allowance for credit losses is an estimate of the **expected credit losses** on financial assets . . . . , which is measured using relevant information about past events, including historical credit loss experience on financial assets with similar risk characteristics, **current conditions**, and reasonable and supportable **forecasts that affect the collectability of the remaining cash flows** over the contractual term of the financial assets.*

*(Board of Governors of the Federal Reserve System)*

## ➤ In risk metrics: PD, LGD and EL

- Loan by loan
- Year by year to maturity
- Dynamic- changing over time as markets, collateral property and loans change

## Let's start by dispelling two myths....

---

- ***“We can't do anything because our data is in a mess”***
  - Whilst data is important, Argus, Excel etc files can be downloaded into a database without much difficulty
  - If the data is in paper files then a 'training' exercise will get it loaded
  
- ***“This is just another regulatory burden, a tick-box exercise that has no impact on our business other than costs”***
  - All lenders should be able to calculate Expected Loss for pricing, deal selection and underwriting
  - An agreed set of risk metrics across the business enables better communication and strategic decision making

***One of the biggest challenges is having a common language and understanding of risk for underwriters, modellers and front-line lenders***

# Property people and risk modellers tend to talk different languages...

... a transitional asset with aggressive absorption rate and Cap rates going out 50 bps, exit debt yield of 10%, with a hedged 30 AM and a lockbox with a Free prepay and a DSCR covenant at 170 ...

**CRE lender**



?? Արագ շագանակագույն տոհմը ցատկեց ծույլ շունի վրա??



?? Արագ շագանակագույն տոհմը ցատկեց ծույլ շունի վրա??

**Risk modeller**



$$\begin{aligned}
 CREI_t^{** (k,l)} &= (CREI_t^{(k,l)} - 1) * \frac{WEF_t - AGE_{base,t}}{WEF_t - 1} + AGE_{base,t} \\
 &= (CREI_t^{(k,l)} - 1) * \frac{WEF_t - 1}{CREI_t^{(k,tail,l)} - 1} * \frac{WEF_t - AGE_{base,t}}{WEF_t - 1} \\
 &= (CREI_t^{(k,l)} - 1) * \frac{WEF_t - AGE_{base,t}}{CREI_t^{(k,tail,l)} - 1} + AGE_{base,t}
 \end{aligned}$$



# Bridging the divide to gain buy-in and benefit from CECL, we all need to talk the same language – a system can help

Unit active from: Mar-12-2017 (0 if n/a)

Status: Occupied

Potential rental income: US\$ 600,000

Gross leasable area (GLA): 20,300 Sq Ft (0 if n/a)

Potential rental income per Gross leasable area (GLA): US\$ 29.56

Information:

Limited

Walmart

Tenant source of grade: Moodys

Tenant grade: A2

Last changed: May-30-18 2.13PM

Lease Information:

Lease start date

Lease expiration date

Expense Recovery



**CRE lender**

**Expected loss is 30 bps in 2020**



**Expected loss is 30 bps in 2020**

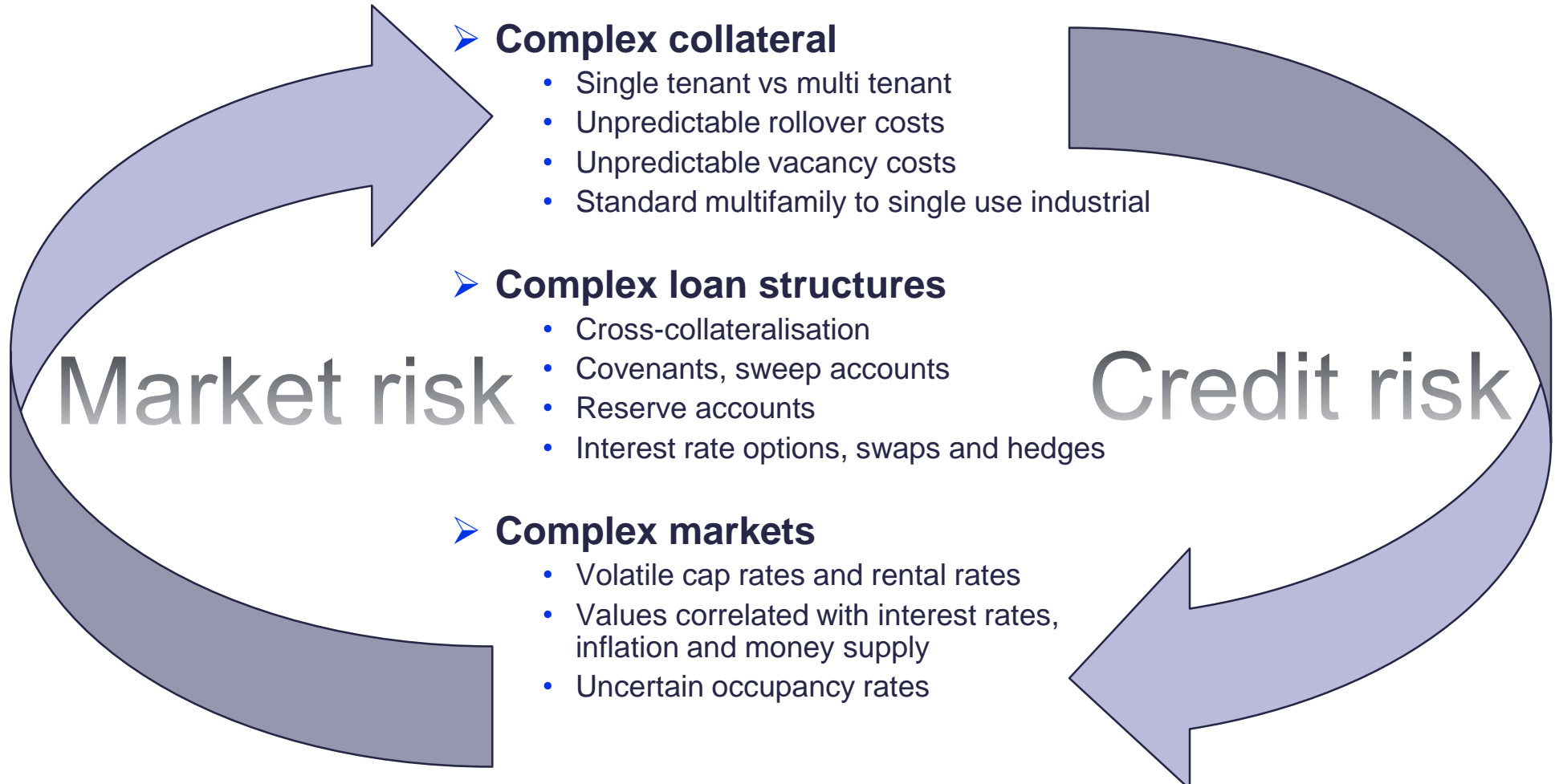
MMM-yyyy



**Risk modeller**

$$\begin{aligned}
 CREI_t^{(k,l)} &= (CREI_t^{(k,l)} - 1) * \frac{WEF_t - AGE_{base,t}}{WEF_t - 1} + AGE_{base,t} \\
 &= (CREI_t^{(k,l)} - 1) * \frac{WEF_t - 1}{CREI_t^{(k,tail,l)} - 1} * \frac{WEF_t - AGE_{base,t}}{WEF_t - 1} \\
 &= (CREI_t^{(k,l)} - 1) * \frac{WEF_t - AGE_{base,t}}{CREI_t^{(k,tail,l)} - 1} + AGE_{base,t}
 \end{aligned}$$

# The methodology question: Why is measuring EL at a loan level such a challenge for CRE lending?



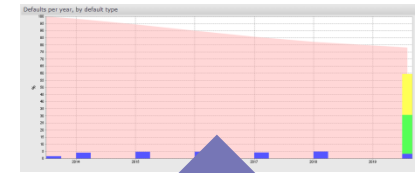
***Traditional corporate credit risk models are unable to describe the complex, 'lumpy' and interrelated risks of CRE lending***

# Cashflow simulation reflects the complexity of CRE lending

Economic data and property market data and forecasts

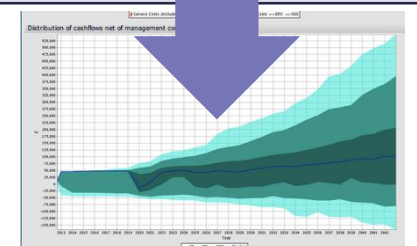
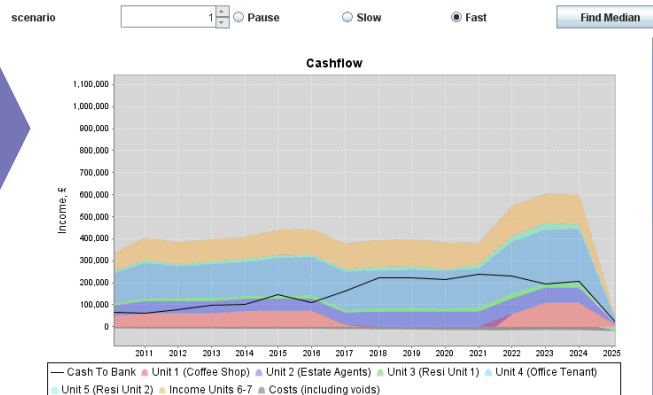
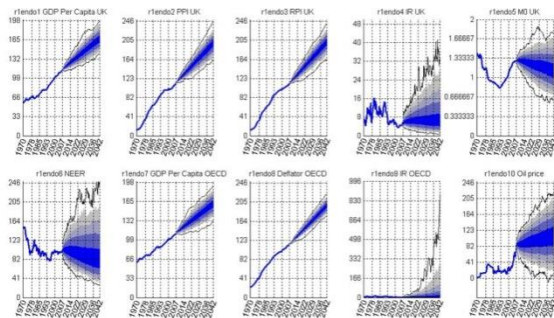
Current rent roll, property valuation and loan data

Loan level PD, LGD, EL, year by year



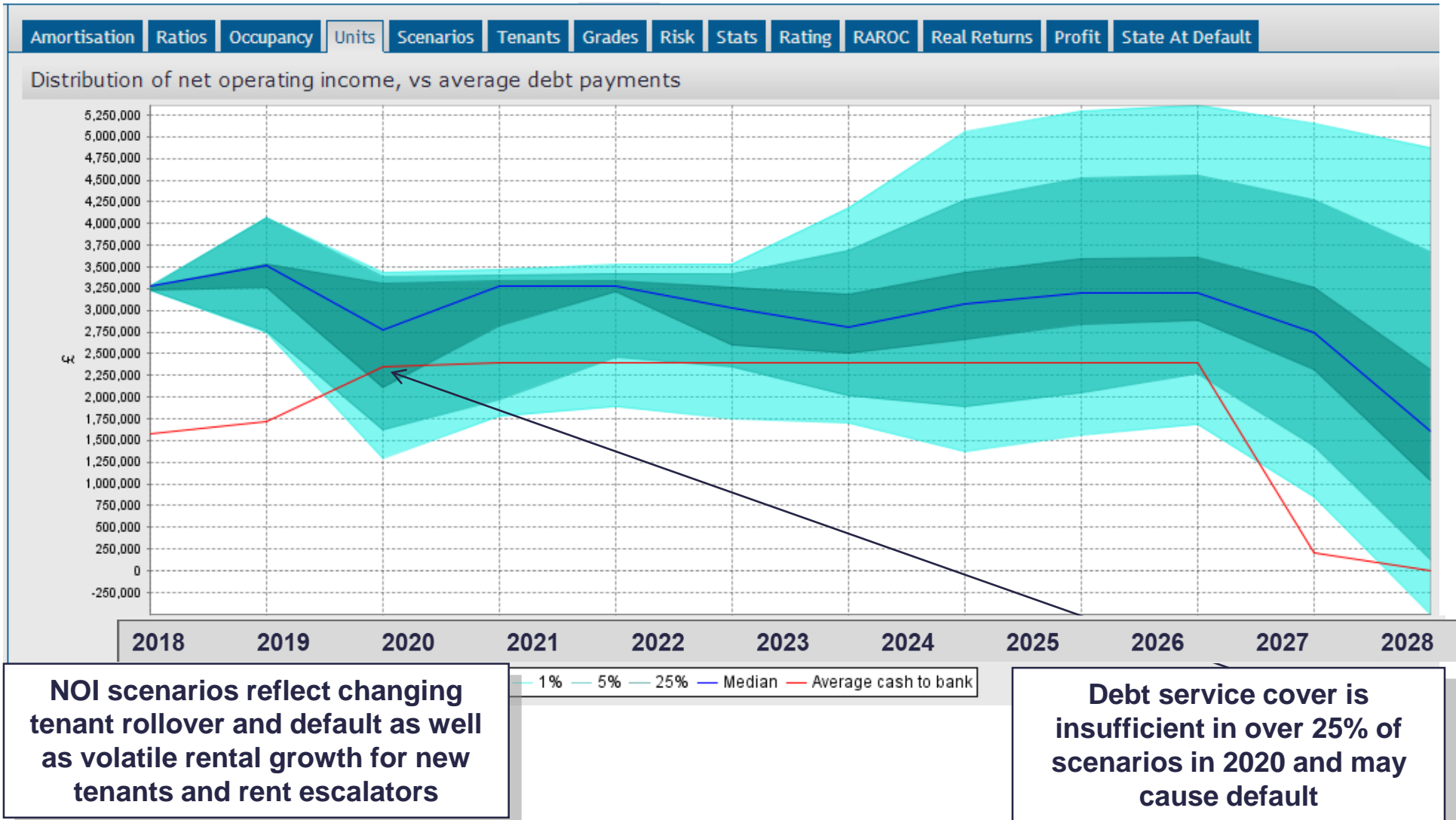
Stochastic models of interest rates, inflation, cap rates and rents

Cash-flow models for each CRE type



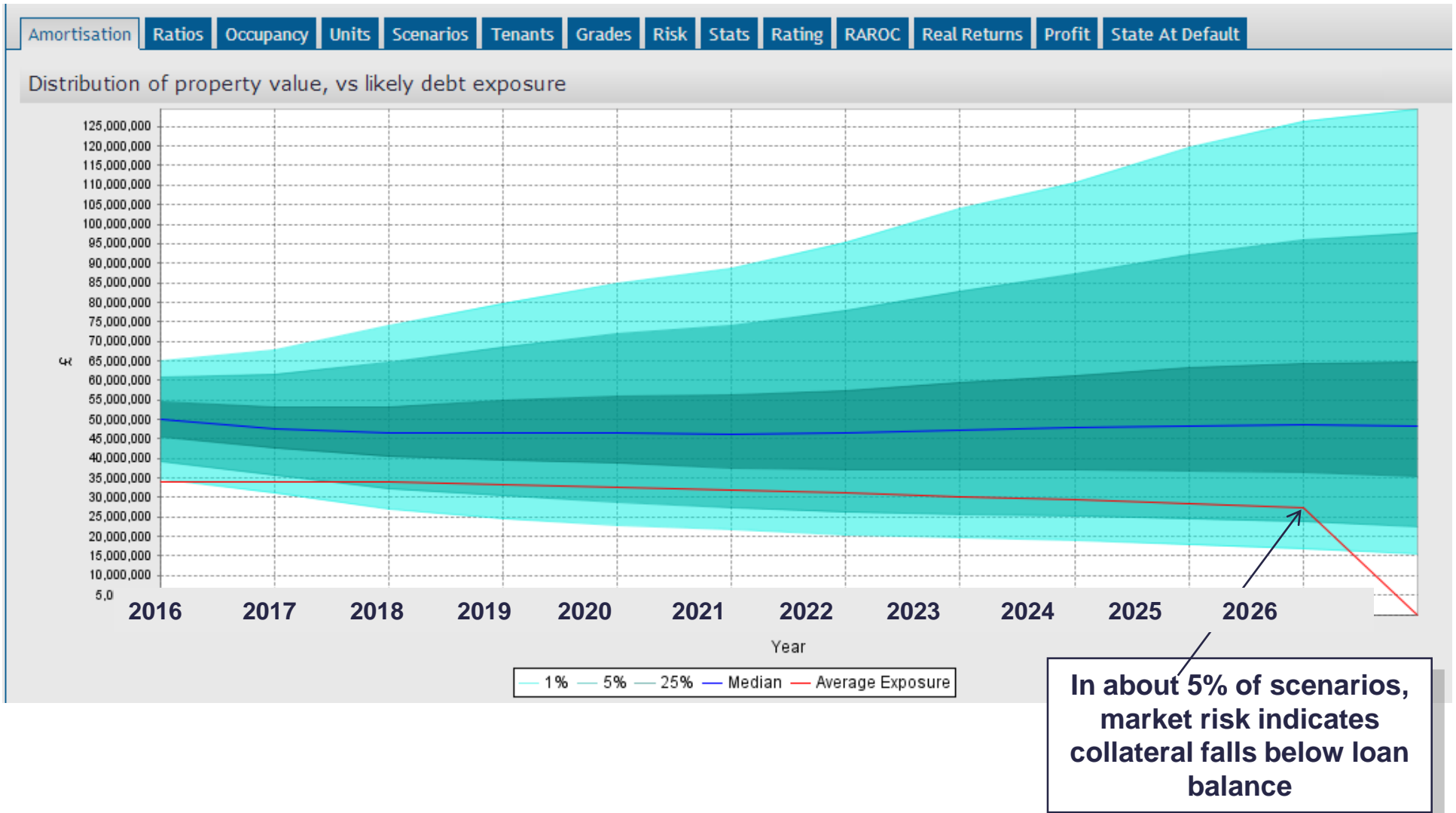
CECL, CCAR, portfolio management and reporting

# Example simulation of debt service cover

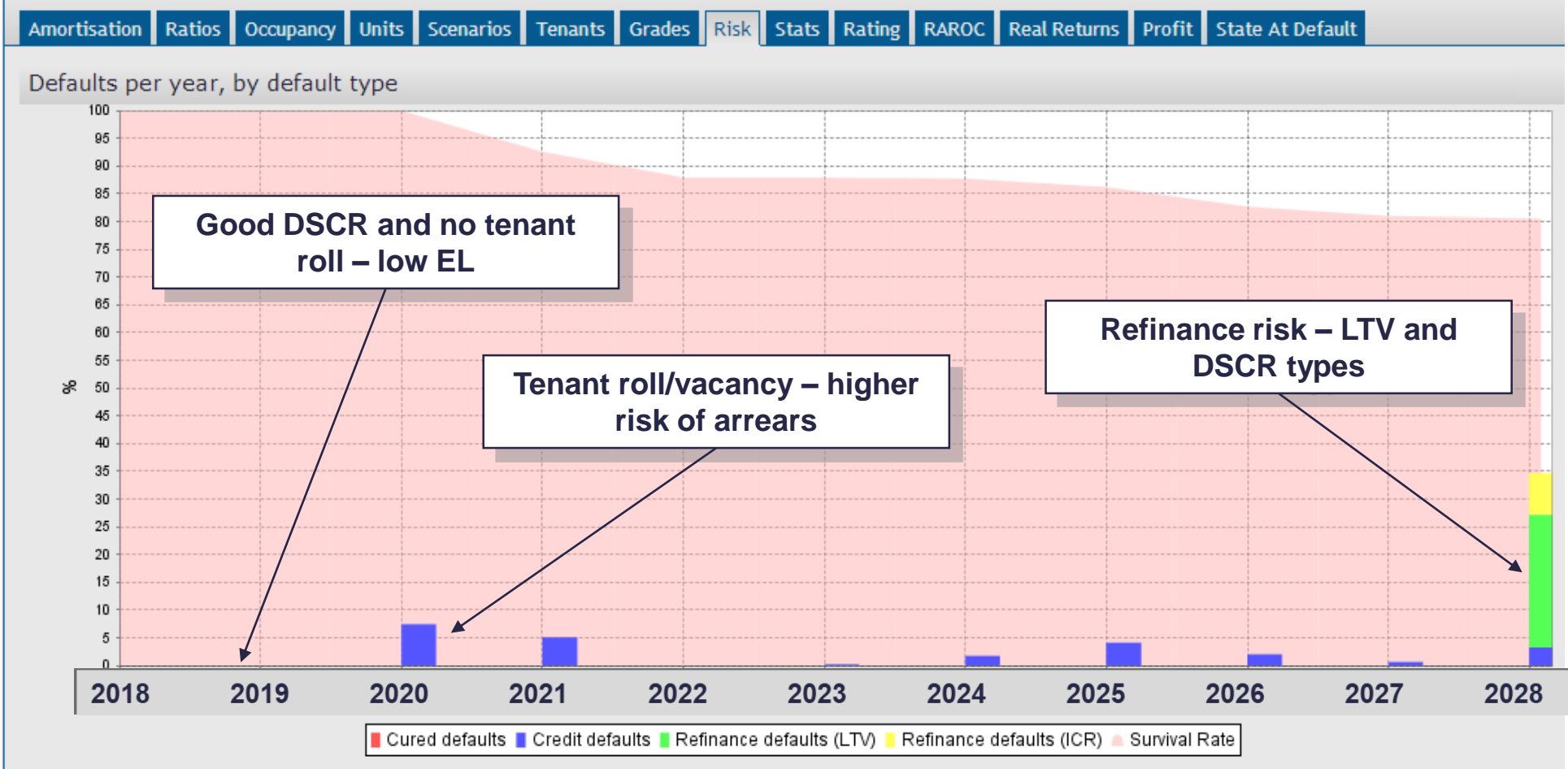




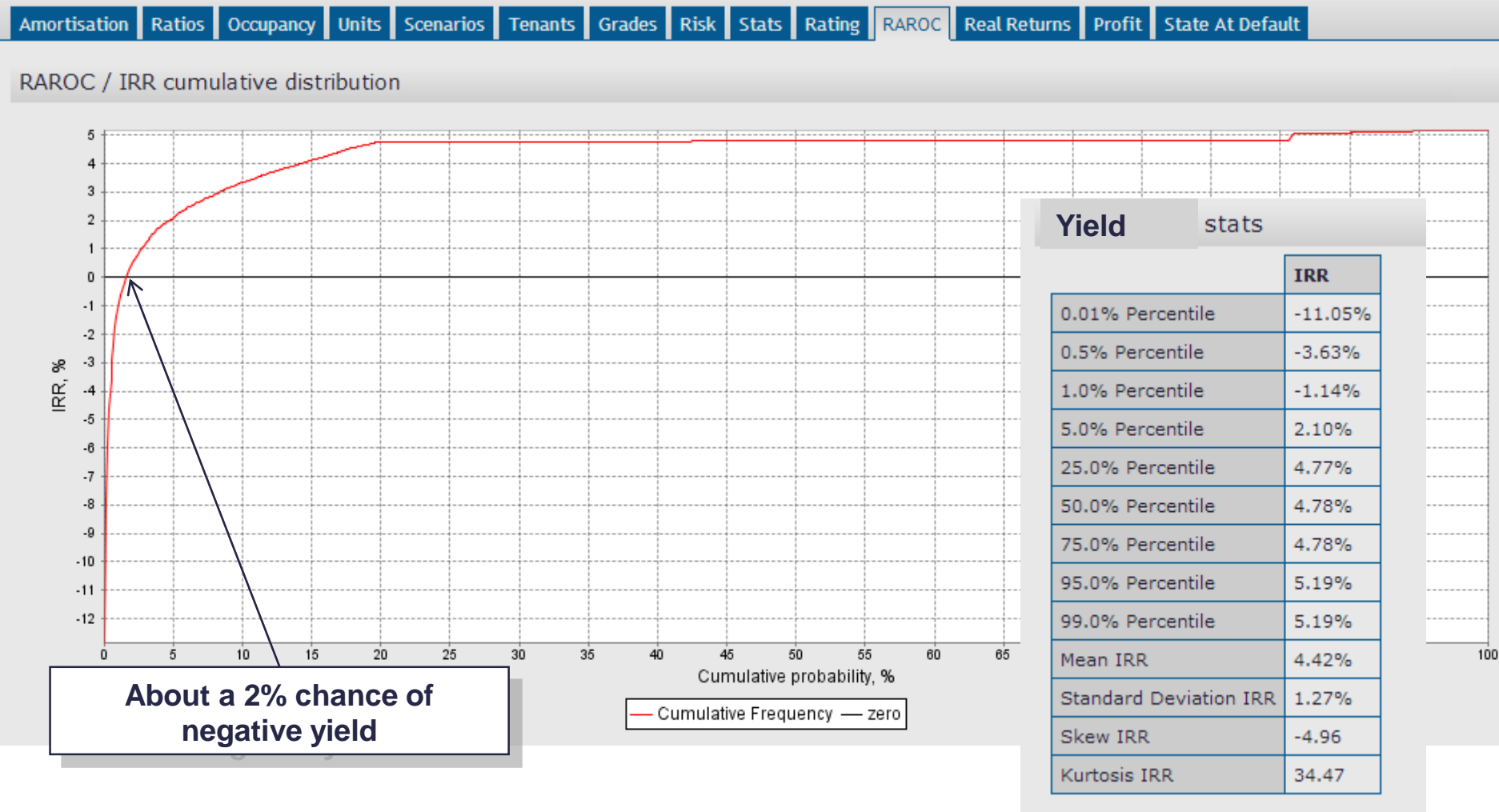
# And collateral property value



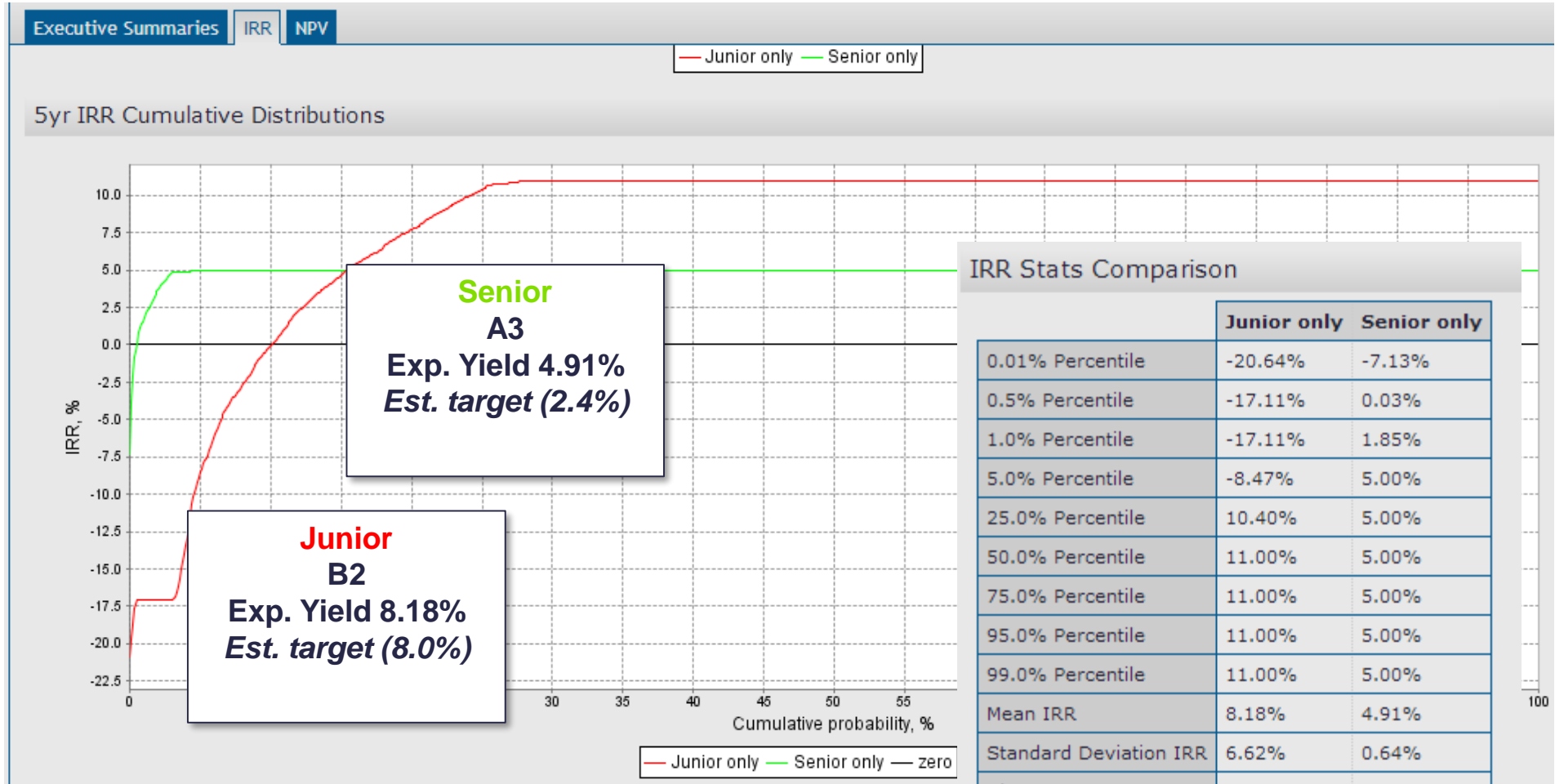
# CRE loans have different risks at different times



# Gaining benefits: CECL compliance models can also provide CRE lenders with insight into return as well as risk

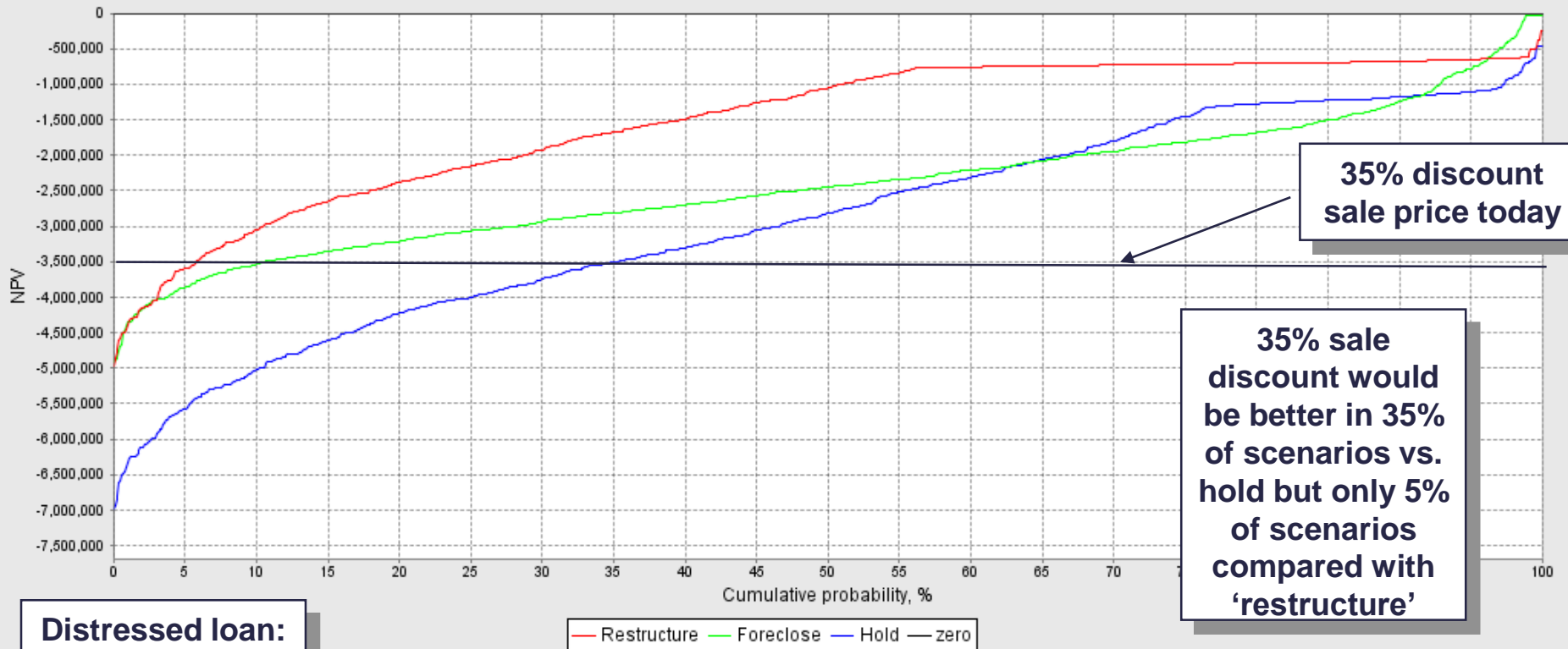


# Especially when structuring complex deals



# Or comparing different options

5yr NPV Cumulative Distributions

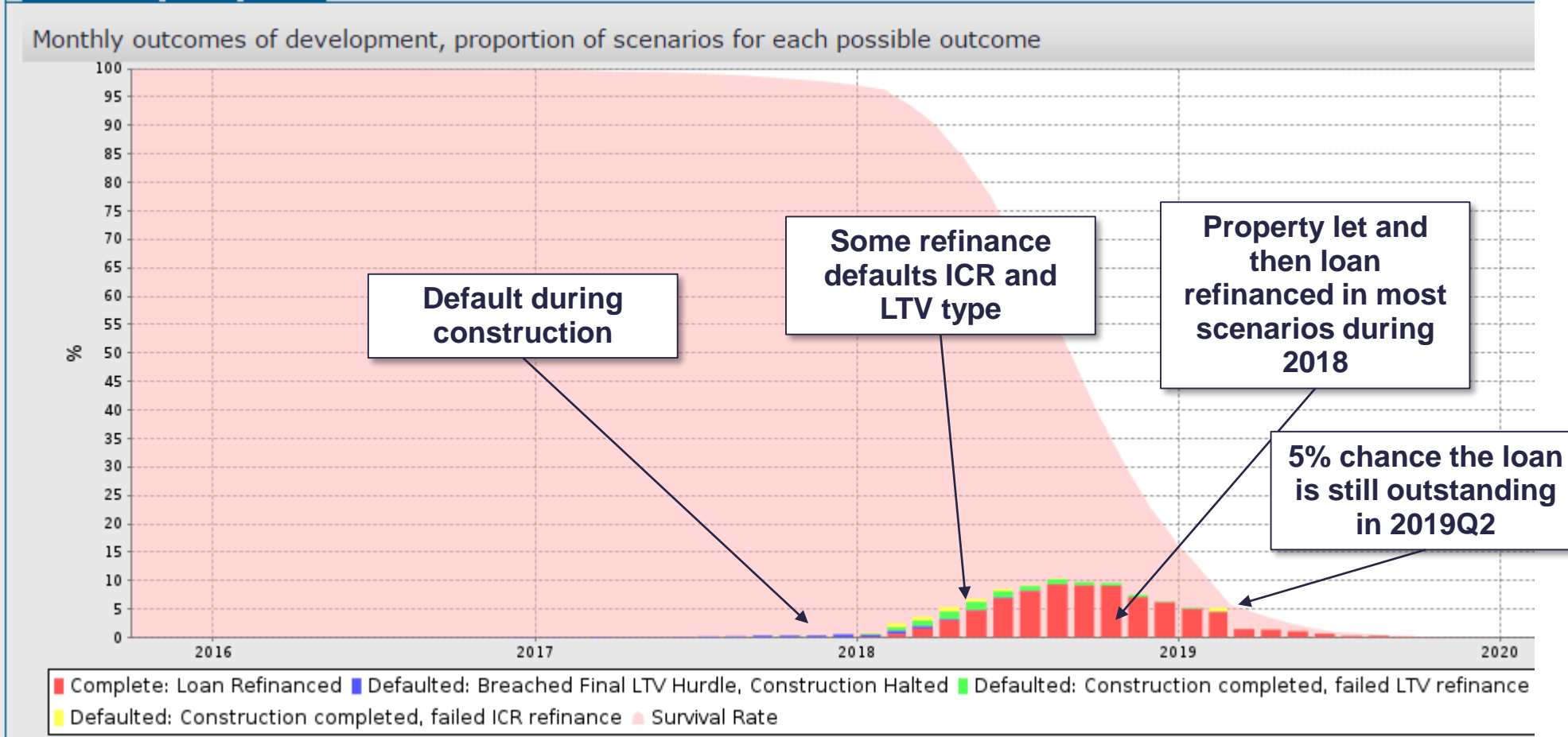


35% discount sale price today

35% sale discount would be better in 35% of scenarios vs. hold but only 5% of scenarios compared with 'restructure'

Distressed loan:  
112% LTV, 3 units, 5.1% fixed rate, 2019

# Or asset types like construction: simulation includes project delay, budget risk, main contractor default risk



# Methodology summary: Simulation cash-flow modelling

---

- **Builds on the widely used Real Estate cash-flow projection (Argus/DCF in Excel) or underwriting models**
  - But through thousands of stresses – not just '*base*' case and '*downturn*'
- **Works with detailed factors that affect CRE lending**
  - Tenant roll and expenses
  - Tenant credit quality
  - Valuations
  - Forecasts
  - Market volatility and correlation
  - Loan terms (amortization, spreads, swaps, prepayment, fixed/floating)
  - Collateral enhancements (reserve accounts, covenants)
- **Recognises the importance of market risk**
  - Uses historical macro-economic data instead of user assumptions about the future
  - Measures inter-portfolio diversification/correlation