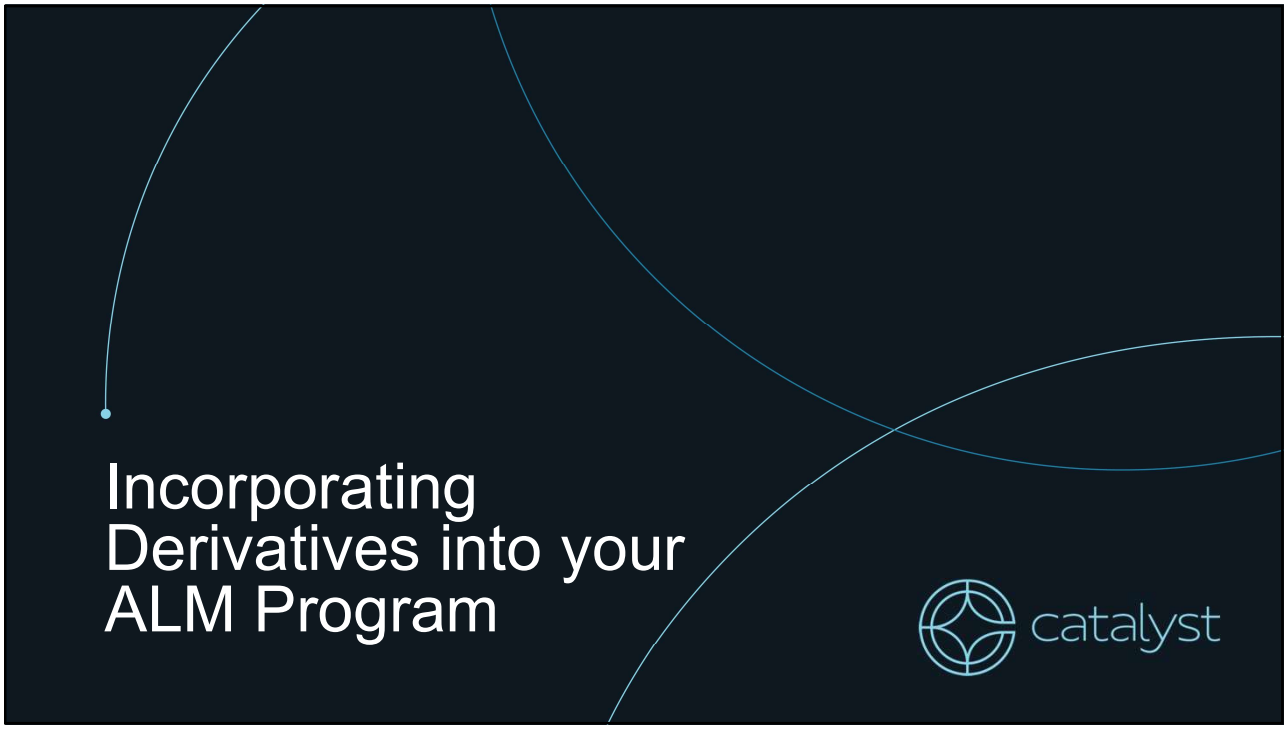

Incorporating
Derivatives into your
ALM Program
catalyst

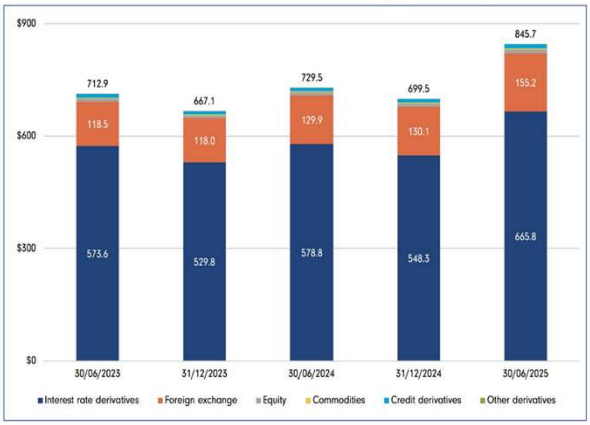
1


Global Derivative Trends

2

Global Notional Continues to Increase

Chart 1: Global OTC Derivatives Notional Outstanding (US$ trillions)



Source: BIS OTC Derivatives Statistics

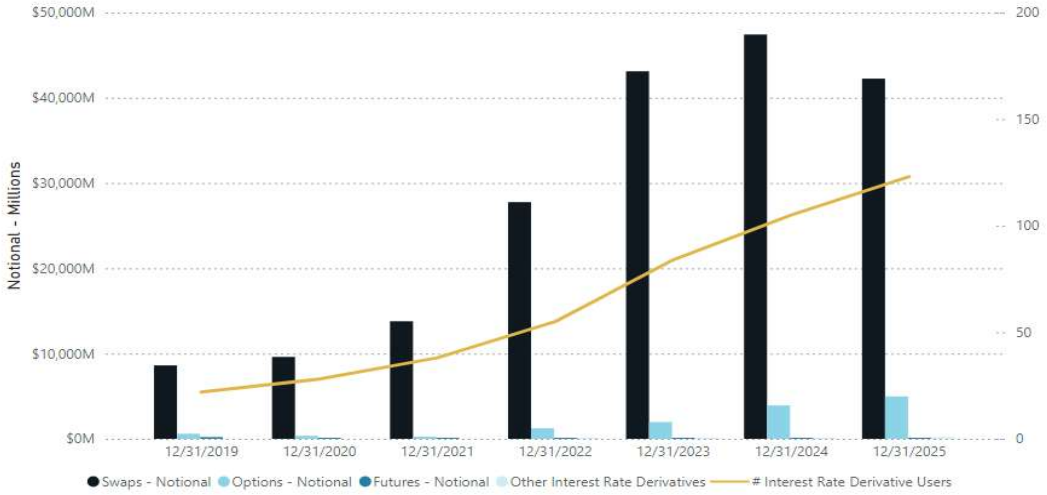
Chart 6: Global IRD Notional Outstanding by Product (US$ trillions)

Source: BIS OTC Derivatives Statistics

Source: IDSA, January 2026 Report

3

Credit Union Outstanding Derivatives



Source: NCUA, Catalyst

4

Asset Liability Management

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What is Asset/Liability Management?

- Asset and Liability Management (ALM) is a process that financial institutions use to manage their assets and liabilities to reduce risk and increase profitability.

- Key risks include:
  - Interest rate risk (IRR)
  - Liquidity
  - Credit

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What is Interest Rate Risk?

IRR is the **impact changes in interest rates have** on the financial condition of the credit union, specifically **earnings and equity valuation.**

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Interest Rate Risk Measurements

Two of the most effective methods for assessing IRR exposure include:

Net Interest Income analysis (NII) – measures the volatility of projected net interest income over a period of a couple years. NII is the difference between total interest income and total interest expense. The more the projected NII results vary among the different interest rate scenarios, the greater the exposure to interest rate risk.

Net Economic Value analysis (NEV) – a point in time analysis that captures the long-term impact changing interest rates have on all contractual cash flows associated with the balance sheet (assets and liabilities). The NEV ratio is a credit union's Net Economic Value divided by its Economic Value of assets for a given rate shock.

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Interest Rate Risk Measurements

Table 1a: All Banks – Earnings at Risk: 12-Month, Net Interest Income, Parallel Shocks

Scenario	Largest loss	25th percentile	Median	75th percentile	Largest gain
–200	–21%	–6%	–3%	2%	19%
–100	–11%	–3%	–1%	1%	11%
+100	–9%	–2%	1%	3%	13%
+200	–20%	–5%	1%	5%	22%
+300	–30%	–7%	0%	6%	31%
+400	–40%	–11%	0%	9%	37%

Table 1b: All Banks – Economic Value of Equity, Parallel Shocks

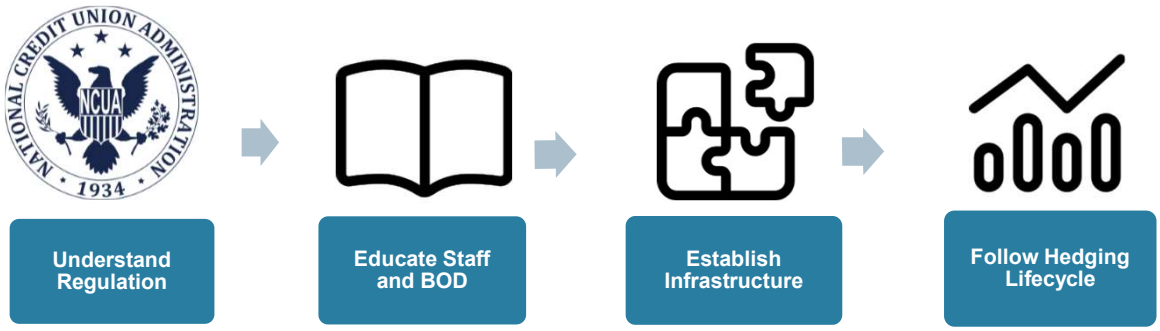
Scenario	Largest loss	25th percentile	Median	75th percentile	Largest gain
–200	–30%	–6%	0%	8%	79%
–100	–15%	–3%	1%	6%	39%
+100	–34%	–7%	–2%	1%	12%
+200	–67%	–14%	–5%	1%	18%
+300	–99%	–21%	–9%	1%	24%
+400	–110%	–28%	–12%	0%	31%

Source: Office of the Comptroller of the Currency – Interest Rate Risk Statistic Report Fall 2025

Interest Rate Derivatives (IRD)

- Financial tools used to manage IRR and optimize profitability.
- A formal agreement between two parties specifying the exchange of cash payments based on changes in market interest rates.
- Used to manage adverse changes to NII or NEV.
- A cost-efficient tool to hedge IRR.

Components of an Effective Hedging Program



Understand Regulation → Educate Staff and BOD → Establish Infrastructure → Follow Hedging Lifecycle

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NCUA Regulation and Credit Union Trends

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Derivative Rule – NCUA §703 Subpart B

- On June 25, 2021, the NCUA's Derivative Rule was amended to make it more principals-based, while retaining key safety and soundness components.
- Key amendments included:
  - Eliminated the application requirement for FCU's that have asset of at least $500 million as of its most recent call report and have CAMEL rating 1 or 2 for Management.
  - Removing the regulatory limits on the amount of derivatives an FCU can enter.
  - Removing the permissible derivative types in favor of characteristic-based approach.

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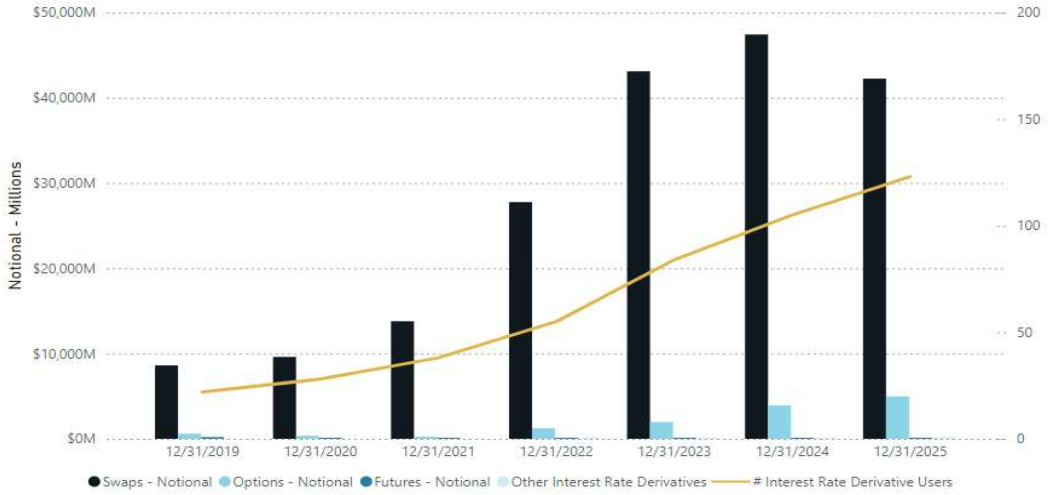
Credit Union Outstanding Derivatives



Source: NCUA, Catalyst

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Credit Union Derivative Stats (12-31-2025)

- Asset Size Distribution
  - <$2.5B – 50 credit unions
  - $2.5B - $5.0B – 29 credit unions
  - $5.0B - $7.5B – 17 credit unions
  - $7.5B - $10.0B – 15 credit unions
  - >$10.0B – 12 credit unions
- Swap Notional Outstanding
  - Min: $5M
  - Max: $11.0B
  - Average: $373M
- Total 1st Lien Real Estate-to-Assets
  - Average: 29%
- Swap Notional Outstanding-to-Total 1st Lien Real Estate
  - Average: 18%

Source: NCUA, Catalyst

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Education - Interest Rate Derivatives

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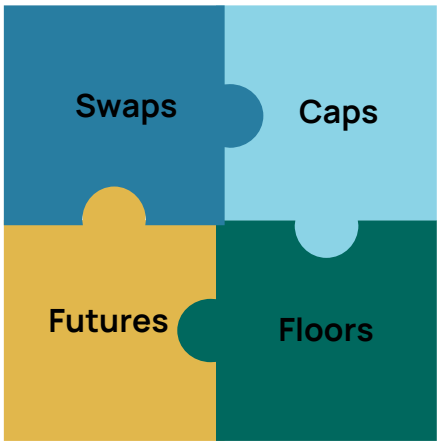
Common Types of Derivatives to Hedge IRR



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Interest Rate Derivative | Interest Rate Swap

- A financial contract in which two parties agree to exchange two sets of interest payments (fixed for floating or floating for fixed) for a set time frame.
  - At time=0, the NPV of the swap equals zero. In other words, the PV of the fixed side of the swap is the exact opposite value of the PV of the floating side of the swap, and vice-versa.
- No exchange of principal – Interest payments are based on a predetermined notional principal amount and are netted.
- No upfront premiums to counterparty. As mentioned above, the NPV equals zero when the trade is executed. Thereafter, as the market moves, so will the NPV.

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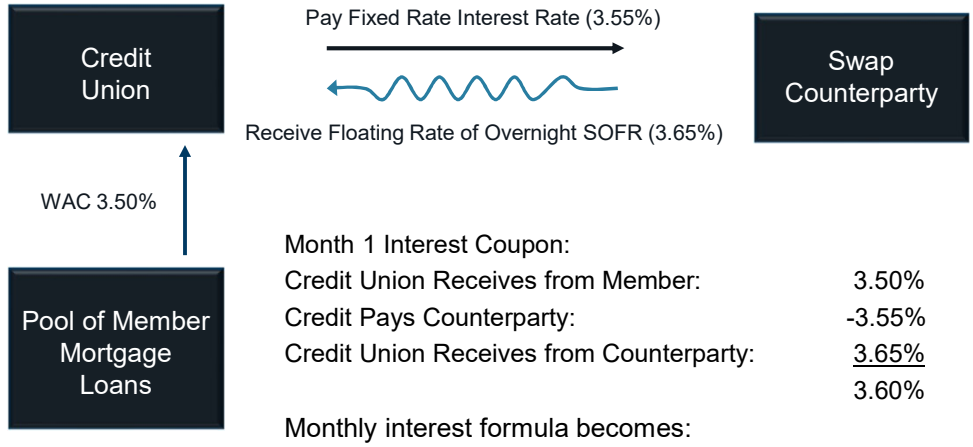
5-Year Pay Fixed/Receive Variable Rate Swap



Month 1 Interest Coupon:

Credit Union Receives from Member:	3.50%
Credit Pays Counterparty:	-3.55%
Credit Union Receives from Counterparty:	3.65%
	3.60%

Monthly interest formula becomes:

- Overnight SOFR minus 0.05%

Swap pricing as of 4/24/2026

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Interest Rate Derivatives | Caps & Floors

- Caps and floors are interest rate options that hedge against interest rate movements of short-term money market instruments such as SOFR or PRIME.
- A cap is a hedge against higher interest rates and a floor is a hedge against lower ones.
- The purchaser of these options pays an upfront premium in exchange for payments if the reference interest rate (e.g., SOFR) increases above or decreases below the contractual “strike” price (i.e., cap or floor).

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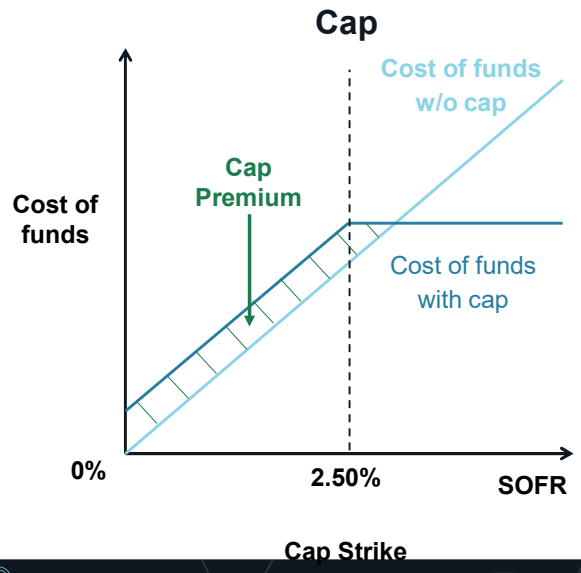
Interest Rate Derivatives | Caps



- Interest Rate Cap (buyer pays upfront premium for right to receive future payments if index > strike)
  - Hedge a liability exposure to increasing rates, e.g., share dividends increasing

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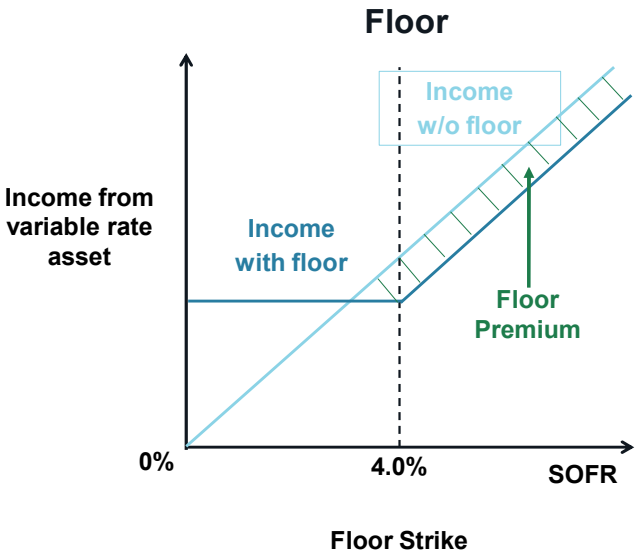
Interest Rate Derivatives | Floors



- Interest Rate Floor (buyer pays upfront premium for right to receive future payments if index < strike)
  - Hedge an asset exposure to declining rates, e.g., variable rate loans

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Interest Rate Swap Pricing

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Swap Rates as of April 24, 2026

Spot Starting

Tenor	Pay Fixed	Net DV01
1 year	3.61%	($961)
2 year	3.54%	($1,892)
3 year	3.51%	($2,793)
4 year	3.52%	($3,656)
5 year	3.55%	($4,485)
7 year	3.65%	($6,054)
10 year	3.79%	($8,171)
12 year	3.88%	($9,432)
15 year	3.99%	($11,118)
1-mo SOFR	3.65%	
DV01 per $10 M		

1-year Forward Starting

Tenor	Pay Fixed	Net DV01
1 year	N/A	N/A
2 year	3.46%	($1,830)
3 year	3.49%	($2,692)
4 year	3.54%	($3,524)
5 year	3.59%	($4,325)
7 year	3.71%	($5,832)
10 year	3.87%	($7,866)
12 year	3.95%	($9,077)
15 year	4.05%	($10,696)
1-mo SOFR	3.65%	
DV01 per $10 M		

Source: Bloomberg, priced off daily SOFR compounded monthly and paid monthly,

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Option Rates & Pricing as of April 24, 2026

At-the-Money

Tenor	Strikes	Premium
1 year	3.63%	$24,995
2 year	3.55%	$77,868
3 year	3.51%	$140,185
4 year	3.52%	$206,661
5 year	3.55%	$273,554

Custom Stike

Tenor	Floor Strike	Premium
3 year	4.00%	$396,456

Custom Stike

Tenor	Cap Strike	Premium
3 year	3.75%	$108,955

Source: Bloomberg, premium per $10 million, daily SOFR compounded monthly, monthly pay, ACT/360

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Follow Hedging Lifecycle

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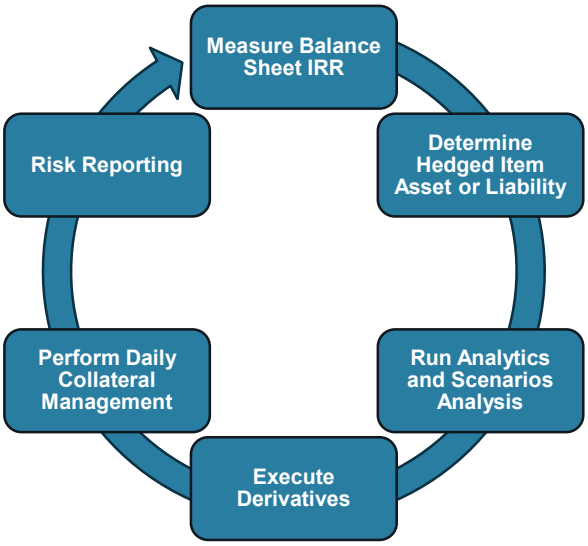
Hedging Lifecycle



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Portfolio Analysis and Hedging Strategy

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Potential Hedging Scenarios

Risk to Earnings

Asset sensitive

- Purchase a floor to limit the income loss from floating rate assets
- Enter into a receive fixed/pay variable rate swap to extend duration of variable rate asset

Liability sensitive

- Purchase a cap to limit the interest expense from variable rate liabilities
- Enter into a pay fixed/variable rate swap to extend duration of variable rate liabilities

Risk to Capital

- Enter into a pay fixed/receive variable rate swap to shorten the duration of fixed rate asset

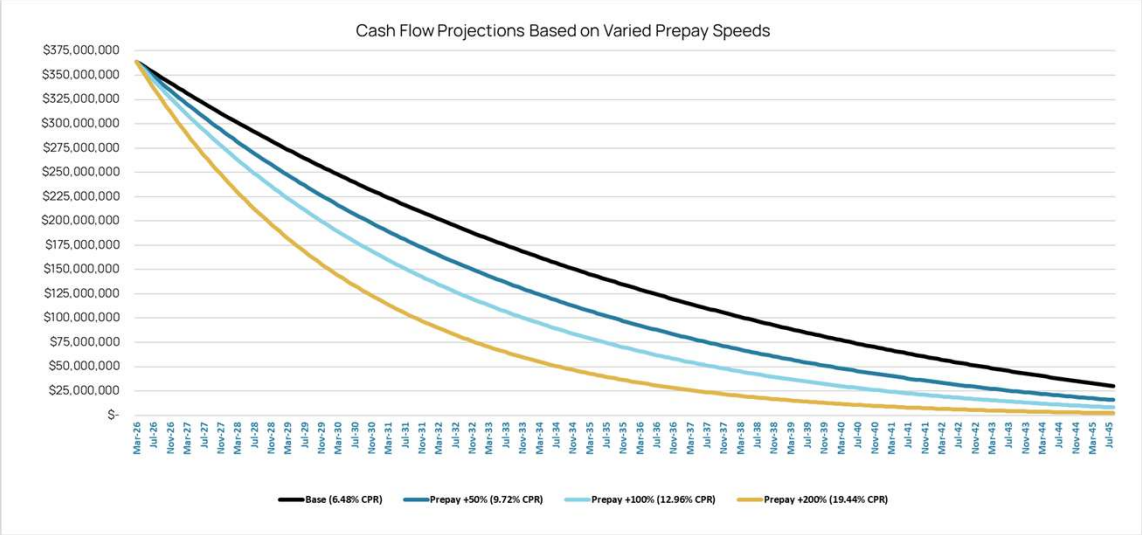
Loan Pool Under Consideration for Hedging

- The balance is comprised of the 30-year residential loans with rates between 3.00% and 3.50%.
- These loans were selected due to their lower coupons & associated low prepayment/optionality risk.
- Several prepayment scenarios were run to analyze projected future cash flows at different prepayment speeds. Historically, these loans have paid close to ~ 5% CPR.

	Book Value	Price	WAC	CPR Speed	WAL (yrs)
Base Case	$364,091,116	$84.68	3.19%	6.48%	8.43 yrs
Scenario 1	$364,091,116	$87.40	3.19%	9.72% (base + 50%)	6.82 yrs
Scenario 2	$364,091,116	$89.41	3.19%	12.96% (Base + 100%)	5.67 yrs
Scenario 3	$364,091,116	$92.11	3.19%	19.44% (Base + 200%)	4.17 yrs

As of 2/28/2026

Designated Portfolio Projected Cash Flows 3.00-3.50%



Cash Flow Projections as of 2/28/2026

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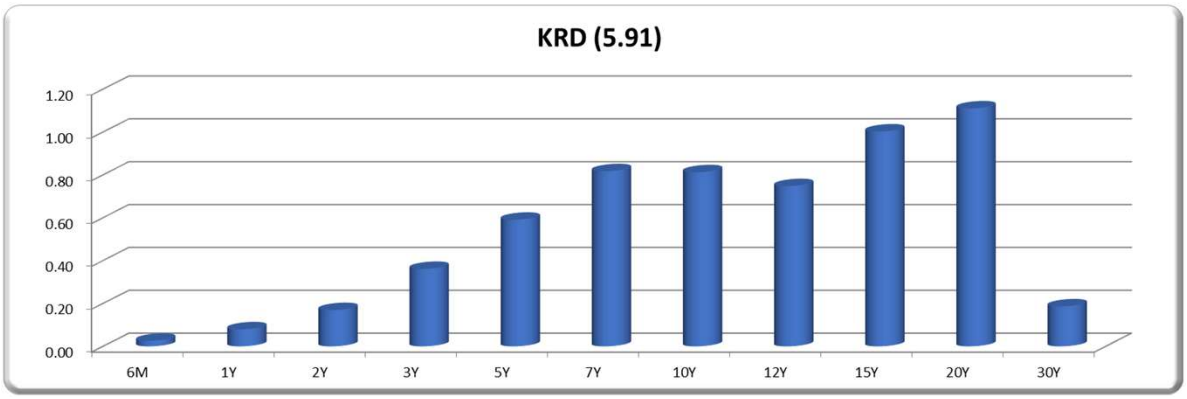
Portfolio Key Rate Duration (Base KRD)



As of 2/28/2026

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Swap Curve Observations

- The swap curve is fairly flat. In turn, most spot starting swaps have term rates close to SOFR circa 3.63%.
- That said, at inception swaps are priced so that the Net Present Value (NPV) of one side completely offsets the NPV of the other side of the swap.

Swap Rates as of April 23, 2026

Tenor	Pay Fixed	Rec Var Rate*
3 year	3.55%	3.64%
5 year	3.57%	3.64%
7 year	3.65%	3.64%
10 year	3.79%	3.64%
12 year	3.87%	3.64%

DV01 per $10million

1-day SOFR compound monthly, monthly pay, ACT/360
*Current SOFR is 3.64%

Hedge Strategy

- Add $50 million in pay-fixed/receive variable rate swaps to off-set the market value decline of the loan pool if rates rise.
- Build layered swap positions with varying maturities as the optimal hedge(s) to reduce risk and maintain fair value hedge accounting effectiveness.
- We need to constantly evaluate and monitor this loan pool (balance sheet) and its hedged position(s) allowing us to dynamically manage IRR.

Hedge Strategy - $50 million in notional

Tenor	Notional	DV01 per $10M	DV01 per Notional	Pay Fixed Rate	Receive Variable Rate
5 year	$12,000,000	-4,533	-5,440	3.57%	3.64%
7 year	$20,000,000	-6,134	-12,268	3.65%	3.64%
10 year	$15,000,000	-8,296	-12,444	3.79%	3.64%
12 year	$3,000,000	-9,593	-2,878	3.87%	3.64%
Total	**$50,000,000**	-28,556	-33,030	**3.69%**	**3.64%**

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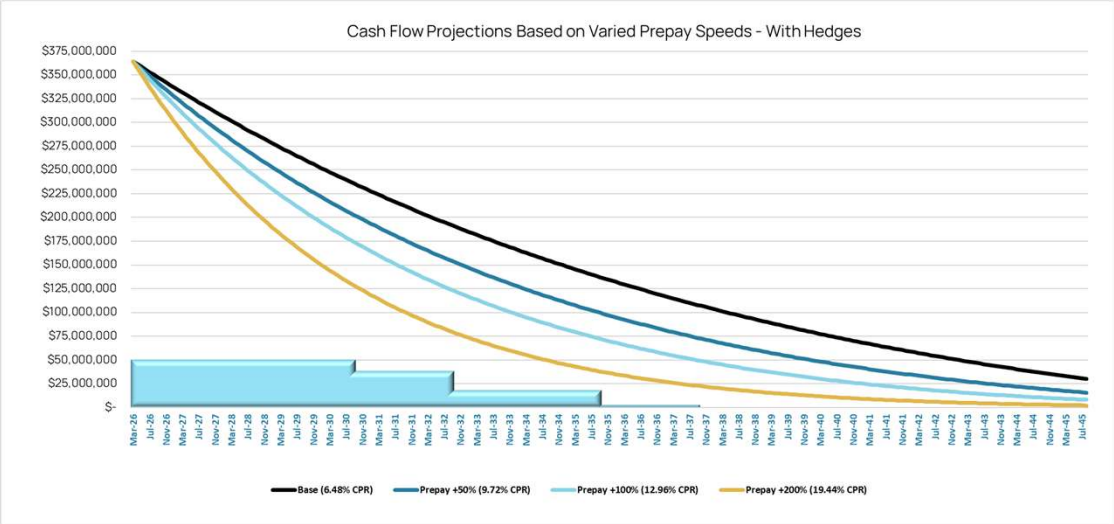
Hedge Strategy – Portfolio Cash Flows with the $50mm Hedges



Cash Flow Projections as of 2/28/2026

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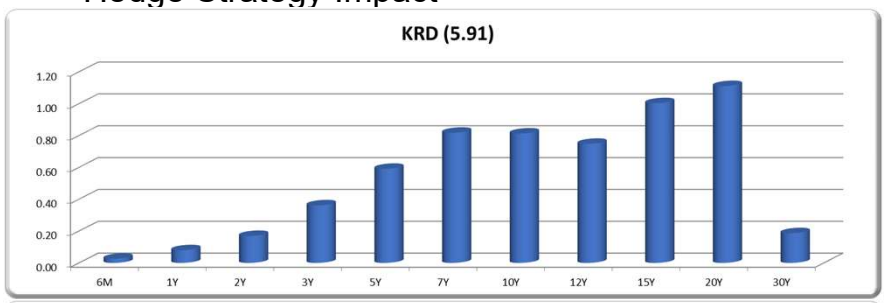
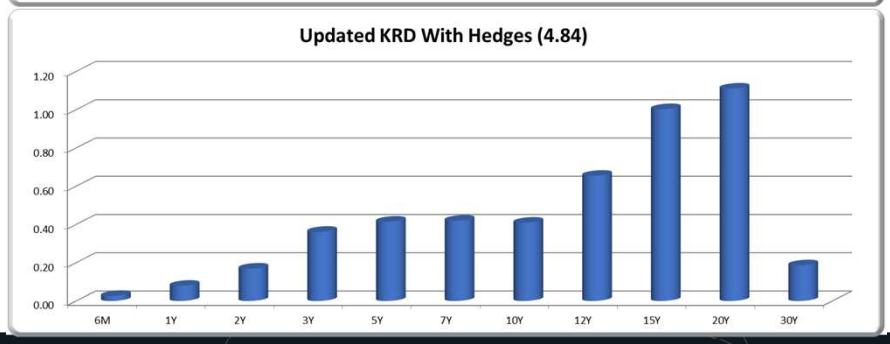
Hedge Strategy Impact

Base Case



With Hedges



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Hedge Strategy Summary

- Adding the swaps provides the credit union with interest rate risk capacity to continue making and holding real estate loans to members.
- Based on Feb 28, 2026, IRR results, this strategy reduces the credit union's IRR:
  - NEV in +300 declines from -26.1 to -25.1%
  - Post +300 shock NEV Ratio increases from 8.59% to 8.71%
  - NII in +300 shock in year 1 declines from -15.7% to -15.1%
- This strategy provides capacity for additional swaps in the future.

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Counterparties

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§703.104 Requirements for Counterparty agreements, Collateral and Margining

Before entering into a derivative transaction, a Federal credit union must:

a) Have an executed Master Service Agreement with a counterparty that have been reviewed by counsel;

b) Use on the following Counterparties:

1. For exchange-traded and cleared Derivatives: Swap Dealers, Introducing Brokers, and/or Future Commission Merchants (FCMs) that are current registrants of the CFTS; or
2. For non-cleared Derivative transactions: Swap Dealers that are current registrants of the CFTC.

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§703.104 Requirements for Counterparty agreements, collateral and Margining

Before entering into a derivative transaction, a Federal credit union must:

c) Utilize contracted Margin requirements with a maximum Margin threshold amount of $250,000; and

d) For non-cleared derivative transaction, accept as eligible collateral, for Margin requirements, only the following:

- Cash (U.S. dollars);
- U.S. Treasuries;
- Government-sponsored enterprise (GSE) debt;
- U.S. government agency debt;
- GSE residential mortgage-backed security passthrough securities; and
- U.S. government agency residential mortgage-backed security passthrough securities.

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Margining | Key Terms

To mitigate default risk in derivative contracts, counterparties employ a process called margining which attaches collateral either to a single contract or to a portfolio of contracts.

Key terms include:

- Initial Margin (IM) – the amount of cash a counterparty must post per unit of contract traded, as collateral at the time of trade.
- Variation Margin (VM) – the amount of cash that is posted daily to cover the current exposure that exceeds the initial margin held.
- Netting – offsetting the value of multiple positions or payments due to be exchanged between two or more parties.

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OTC, Centrally-Cleared & Exchange-Trade Derivatives

	Over-the-Counter (OTC) Derivatives	Centrally-cleared Derivatives	Exchange Trades Derivatives
Trade Negotiation	Trades are bilaterally negotiated between the counterparties	Trades are bilaterally negotiated between the counterparties	Trades are executed on organized exchanges
Contract Terms	Customized contract terms	Standardized contract terms	Standardized contract terms
Collateral Requirements	Posting of collateral is not required unless each party agrees to it as a requirements for the trade	Requirements for initial margin are set by the clearing house irrespective of the quality of the counterparty	Requirements for initial margin are set by the clearing house irrespective of the quality of the counterparty
	Collateral agreement are customized	Variation margin is subject to daily movement	Variation margin is subject to daily movement

Source: PWC Viewpoint

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Counterparty Agreements

Non-cleared transactions:

1. 2002 ISDA Master Agreement
2. Schedule to the 2002 ISDA Master Agreement
3. Credit Support Annex
   - Paragraph 13 (key terms to review)
     - Eligible Collateral - cash
     - Independent Amount – dependent on financial condition, product & tenor
     - Minimum Transfer Amount
     - Rounding

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Education – Hedge Accounting

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Types of Hedges

Fair Value Hedges help mitigate the risk of changes in the fair market value of assets or liabilities due to particular risk such as a change in interest rates.

- Fixed rate assets
- Fixed rate liabilities

Cash Flow Hedges help mitigate the risk associated with sudden changes in the cash flows of assets or liabilities. The change in cash flows can be attributed to many factors, including changes in interest rates or foreign exchange rates.

- Floating rate funding
- Floating rate assets
- Forecasted fixed rate funding

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Establish Infrastructure

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Key Operational Infrastructure

- Seek regulatory approval if required.
- Develop a comprehensive written policy.
- Execute Master Service Agreements (ISDA & CSA) with a counterparty.
- Develop comprehensive derivative management reports.
- Establish daily valuation and collateral management procedures.
- Establish monthly accounting reports.
- Perform annual counterparty credit reviews.
- Notify the applicable Regional Director in writing or via electronic mail within five business days after executing first derivative transaction.

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Disclaimer

Catalyst prepared this presentation, analysis and forecasts based on information received from multiple sources and internal analysis. While we believe this information to be reliable, we make no representation as to its accuracy or completeness. Any opinions, statements, and projections expressed herein reflect our judgement as of the date prepared and are subject to change.

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Questions

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