HEDGE ACCOUNTING

Opportunities and challenges for financial institutions

June 9, 2021

Chatham FINANCIAL

RSM

Today’s agenda

- Who is Chatham Financial?
- Hedge accounting overview
- How financial institutions use derivatives - most common hedging strategies
- New developments (ASU 2017-12 and Settled-to-market)
- LIBOR cessation

Today’s speakers

Todd Cuppia, Chatham Financial

Managing Director, Balance Sheet Risk Management

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Director, Hedge Accounting

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Partner

Chatham Financial

Experience and proven capabilities matter

Chatham Financial delivers financial risk management advisory and technology solutions to organizations across industries and around the world — helping companies maximize value in the capital markets.

More than **$2 billion notional** hedged daily

3,000+ clients around the world

200,000 end-of-day valuations run nightly

3,000+ ISDAs reviewed annually

Seven global offices

Over **600+** employees

Chatham's Financial Institutions Group

Serving over 200 community and regional banks

Your industry, inside and out
Whether we're helping facilitate a borrower-facing swap program, offering strategic advice on balance sheet risk management, assisting with hedge accounting, or helping you deal with Dodd-Frank and other regulations — we've got the knowledge and the know-how to help you make the right move.

With you, today and tomorrow
We work with all types of institutions, from community banks and credit unions to larger regional banks. This wide range of experience means that we not only know how to meet your needs right now —but we can also continue to support your organization as it evolves in the future.

Flexing to fit your needs
At Chatham, we don't offer one-size-fits-all answers. Instead, we implement bespoke solutions, dialing our focus on advisory or technology up or down in order to meet your needs.

Services:

Balance Sheet Hedging

Loan Level Hedging

Commodity Hedging

Hedge Accounting

Derivatives Compliance

ISDA Advisory

FX advisory and reporting

ChathamDirect Technology

Derivatives accounting solution

Advisory	Outsourcing	Technology	Blended Solutions
▪ Advise clients on new guidance rules (**ASC 815 and IFRS 9**)and impact to existing/new hedging strategies ▪ Transitioning to a new accounting standard (i.e. **US GAAP to IFRS** or vice versa) ▪ Complement accounting policy team to address front office questions on ability to designate new hedging strategies	▪ Trade confirmation review and accounting designations ▪ Valuations for **ASC 820 and IFRS 13** ▪ Hedge accounting operational support **(Documentation, Valuations, Effectiveness Tests, Journal Entries, Disclosure support)** ▪ Auditor historical testing, sampling, questions, etc.	▪ Derivatives valuations and hedge accounting technology, **ChathamDirect** ▪ Same solution Chatham consultants use to provide outsourced services ▪ Ability to manage **both U.S. GAAP and IFRS** ▪ Chatham extracts data from the client platform, performs accounting, and delivers it back into your platform seamlessly	▪ **A blended approach of technology and advisory** provides a solution that enables your in-house practitioners to leverage some functionality in **ChathamDirect**, while also being able to leverage the deep expertise and knowledge of Chatham subject matter experts.

HEDGE ACCOUNTING OVERVIEW

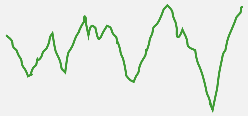
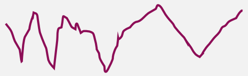
Economic and accounting risk

Inherent Accounting Problem

Default Accounting

- Derivatives are always accounted for on balance sheet at fair value
- By default the change in value is recorded in current earnings
- This can create an 'accounting mismatch' as the hedged item (for example a floating rate loan) is not shown at fair value
- As a result of the mismatch, presentation reflects volatile net income

P & L

Revenues	XXX
Expenses	YYY
Derivative G&L	
Net Income	

What is Hedge Accounting?

Derivative Subject to Topic 815
(presented on balance sheet at fair value)

Does NOT Qualify for Hedge Accounting

Mark-to-market

Income Statement

Revenue
\- Expenses
+/- Derivative gain/loss
= Net Income

Qualifies for Hedge Accounting

Cash Flow or Net Investment Hedge

Income Statement

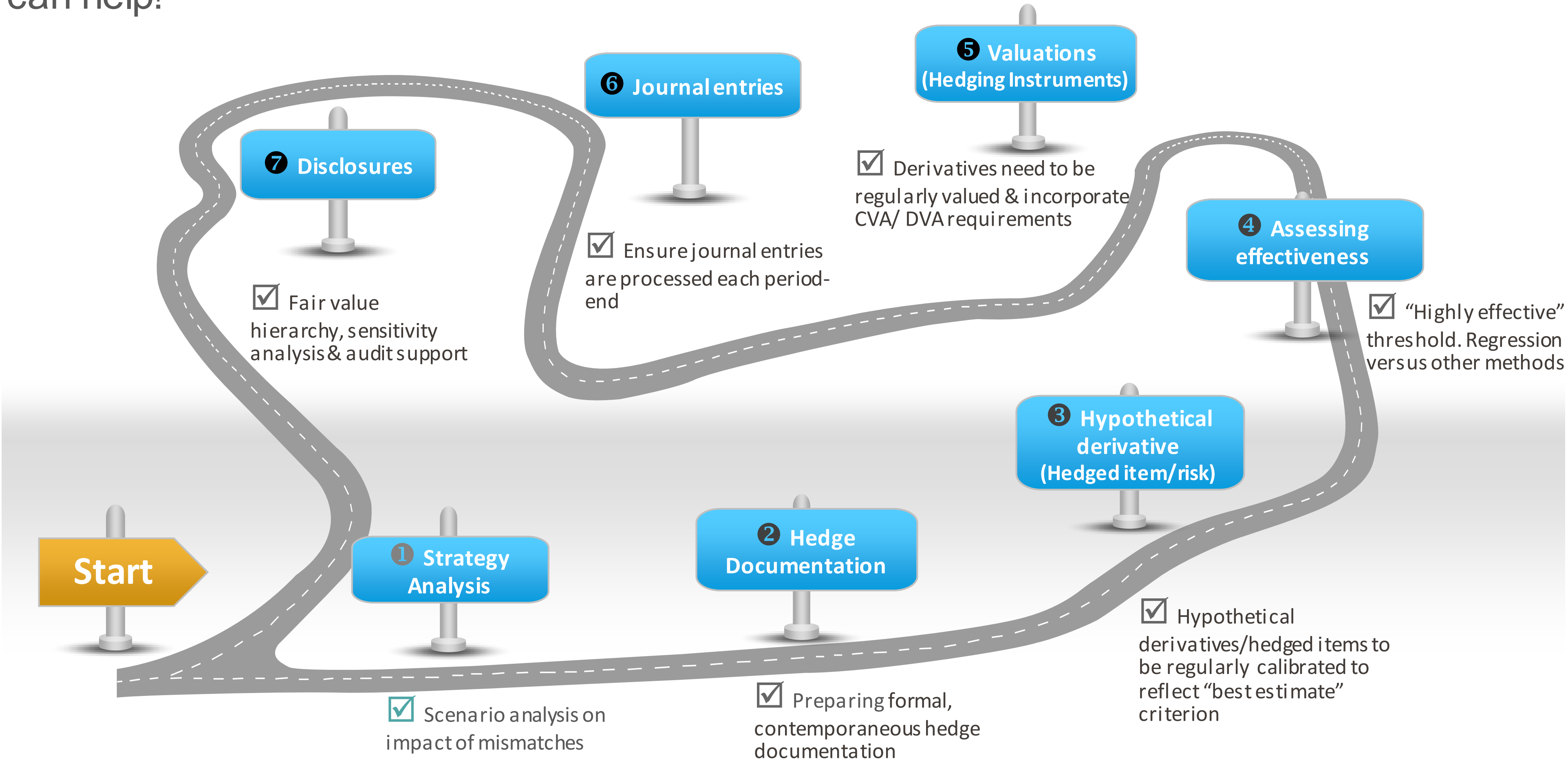
Revenue
\- Expenses
= Net Income

Derivative gains/losses deferred into OCI
Reclassified into earnings at the time the hedged transaction(s) are also recorded in earnings.
- *Reduces volatility*
- *Achieves matching*

Fair Value Hedge
(change in FV offsets hedged item through P&L)

Why do financial institutions need help?

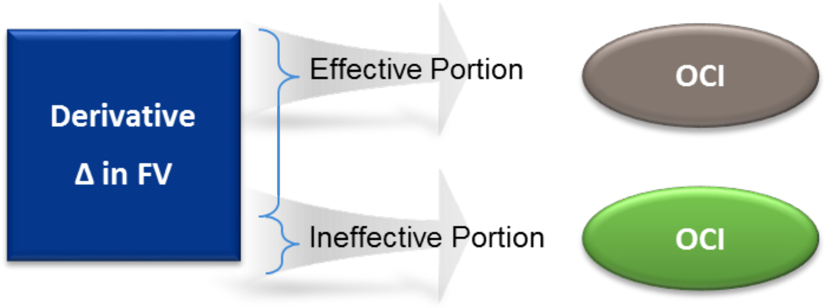
Hedge accounting requires adherence to stringent rules, but it's doable. Chatham can help!



Cash Flow Hedge Accounting

A hedging relationship where the variability of the hedged item's cash flows are offset by the cash flows of the hedging instrument

- Hedged item is a forecasted transaction or balance sheet item with variable cash flows
- Hedged transactions must be probable of occurring
- Gain or loss incurred on the hedging instrument is reported in OCI
- OCI reclassification - Earnings recognition matches timing of hedged transaction

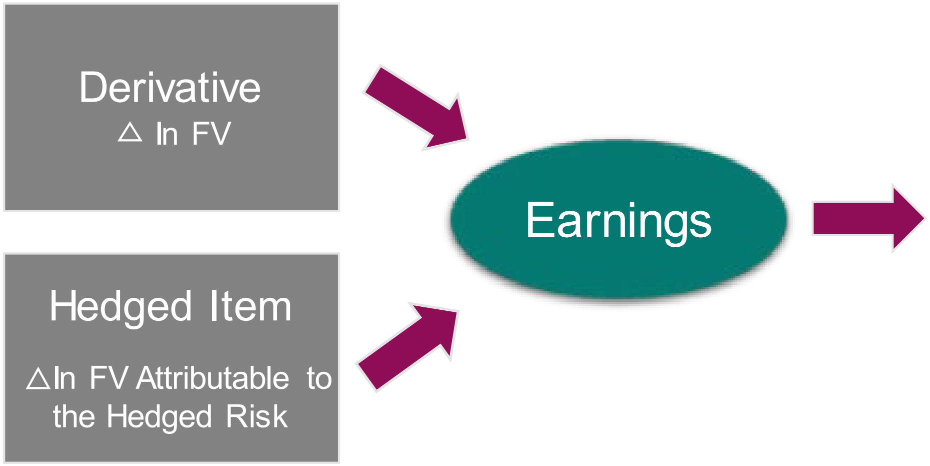


OCI Reclassification
Align gains / losses on hedge with P&L recognition of hedged transaction

Exposure	Benchmark Rates	Contractual Rates
Variable Rate	OIS, UST, LIBOR, SIFMA, SOFR	ANY contractually specified rate

Fair Value Hedge Accounting

- A hedge of the exposure to a change in fair value of:
  - A recognized asset or liability
  - An unrecognized firm commitment
  - Attributable to a particular risk (overall fair value, interest rates, foreign currency rates, credit)
- Changes in fair value of hedged item and hedging instrument are both recorded in earnings
- Basis (carrying amount) of hedged item is adjusted by its change in value for the risk being hedged



Differential = Hedge Ineffectiveness:

- Basis differences, notional mismatch, reset/payment mismatch, etc.
- CVA on derivative not offset by hedged item

12

Hedge accounting criteria

Requirements

- Formal documentation at **inception** of the hedging relationship
- Forecasted transactions must be **probable** of occurring (for cash flow hedges)
- The hedge is considered **“highly effective”** (an assessment of effectiveness is required at least quarterly or whenever financials are reported)
- The hedged item presents an **exposure** that could affect reported earnings
- A **prepayment analysis** is required for prepayable portfolio hedges (fair value hedges)

Auditor Questions

- ✓ Hedge Designation **Documentation** (quality and timeliness)
- ✓ **Probability** of forecasted transactions
- ✓ **Effectiveness** Assessments
- ✓ **No surprises**: bring them along the journey and get them involved early

Hedge documentation requirements

- Type of hedging relationship
- Risk management objective and strategy
- Nature of risk being hedged
- Identification of hedging instrument
- Identification of hedged item or transaction(s)
  - Specificity – must be identifiable when it occurs
  - Probability – must be "probable of occurring"
- How hedge effectiveness will be assessed

Risk Management Policy

Accounting Policy

Hedge Designation Memorandum

Effectiveness Assessments

Potential sources of mismatch

Hedged Item

Notional amounts

Remaining term

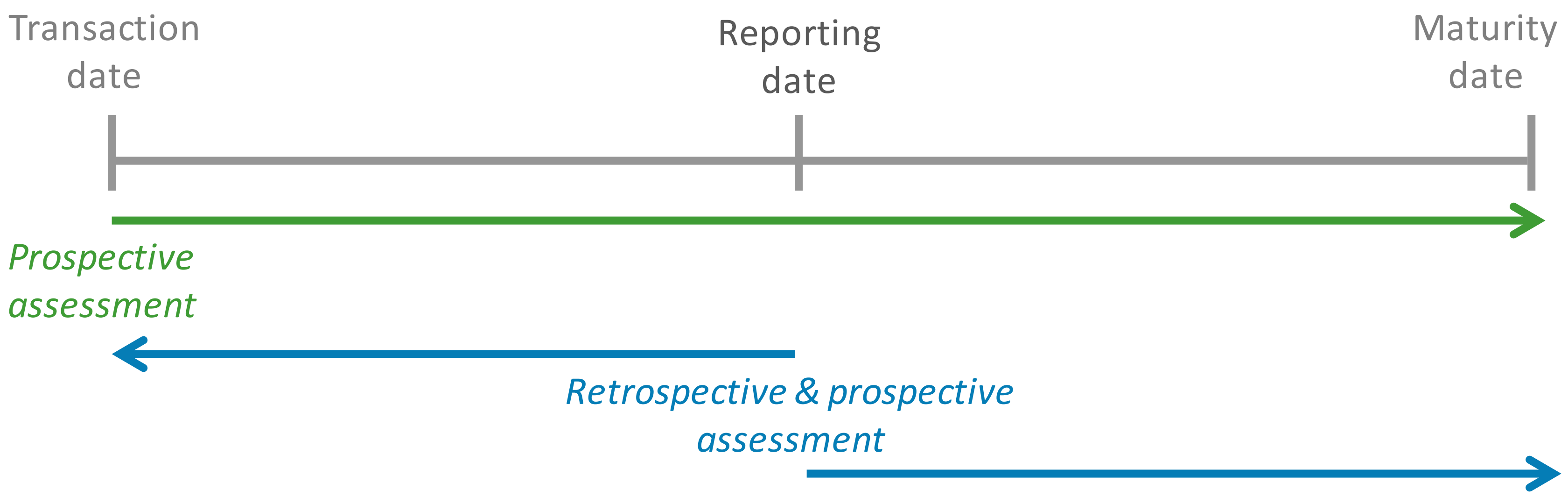
Repricing dates

Cash flow dates

Underlying basis

Derivative

Effectiveness assessments – getting in the HA “game”



Retrospective & prospective tests: Verify hedge has been and is expected to be highly effective
- Acceptable range: Between 80% - 125%

Common methods for assessing effectiveness

- Critical terms match (for cash flow hedges) or shortcut (for fair value hedges) ❌
  - Can be difficult to meet all of the necessary criteria over the life of the hedge and carries more perceived accounting risk due to restatements caused by inappropriate application of a shortcut method

- Dollar offset method ❌
  - Most commonly used due to simplicity of application
  - Rigid and inflexible for moderate mismatches
  - Suffers from “law of small numbers” concerns

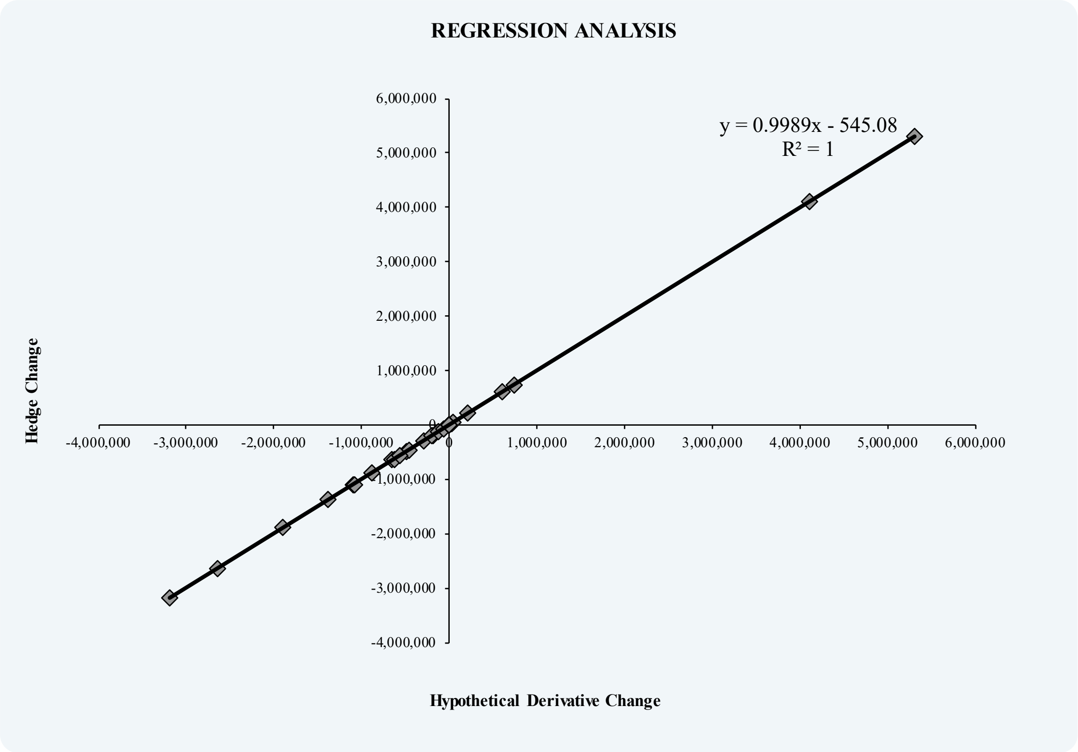
- Statistical analysis (regression) ✔

Sample regression report

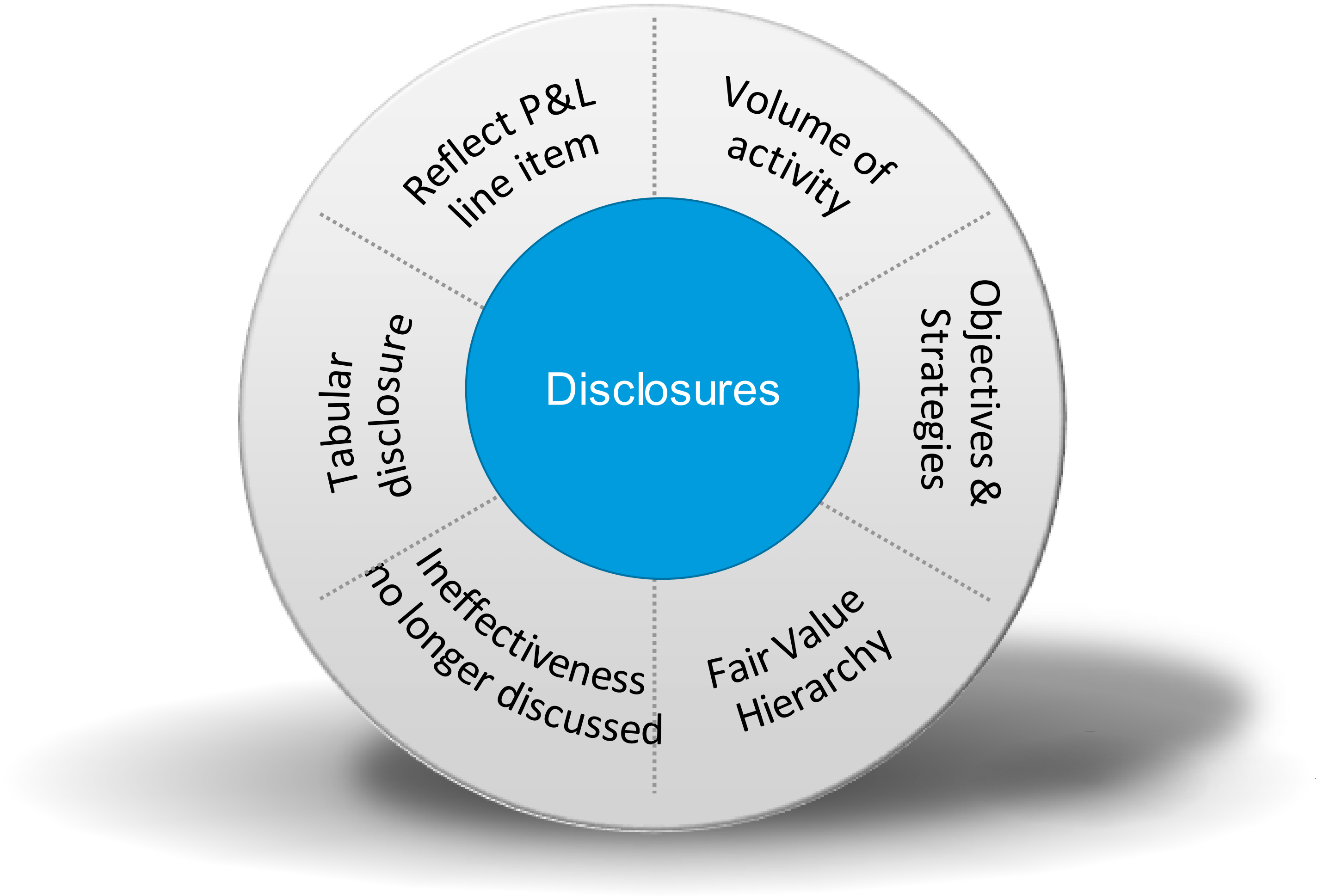
RESULTS SUMMARY

		Pass/Fail Criteria	Result
Slope	0.999	**$0.8 \leq$ Slope ≤ 1.25**	☑
R^2	1.000	**$R^2 \geqslant 0.80$**	☑
F Score	>99999	**F score $\geq$ Fcritical = 4.1300000**	☑

Accordingly, we conclude the hedge is effective

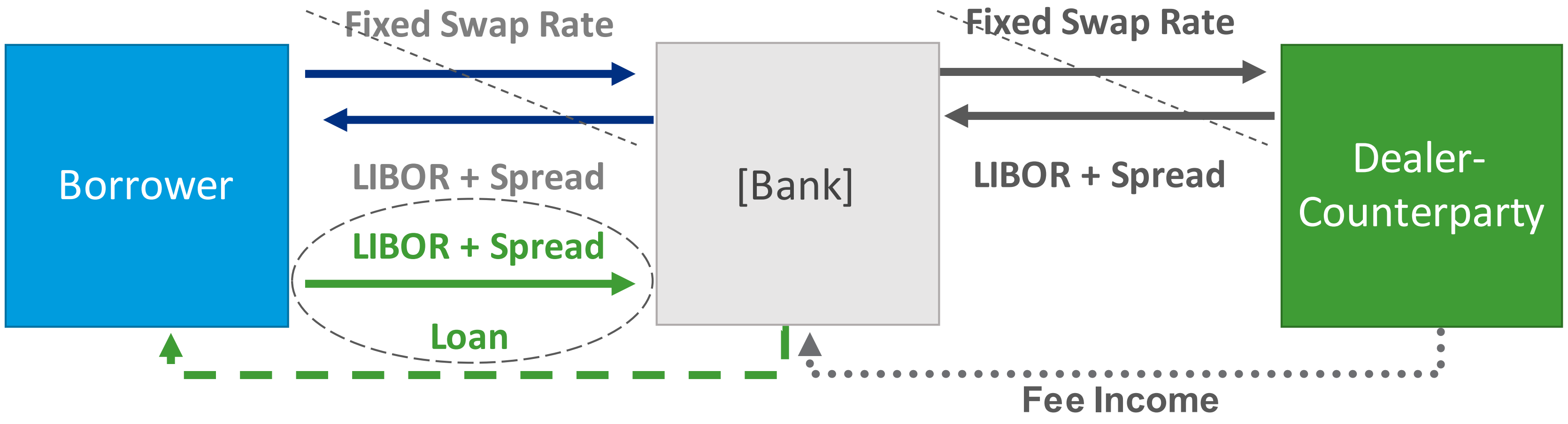


Disclosures about derivatives and hedging activities



COMMON HEDGING STRATEGIES

Customer hedging program (back-to-back)



- Bank executes swap with Borrower at loan closing
- Identical swap structure simultaneously executed with Swap Counterparty
- Profit achieved by “marking up” rate set on borrower swap over “Wholesale” base swap rate
  - **Swap counterparty will pay value of "PV01" mark-up to Bank**
- “Retail” swap with borrower and above market “Wholesale” swap with Dealer Counterparty always net out period to period
- Bank left with desired floating rate exposure on asset side while still generating fee income

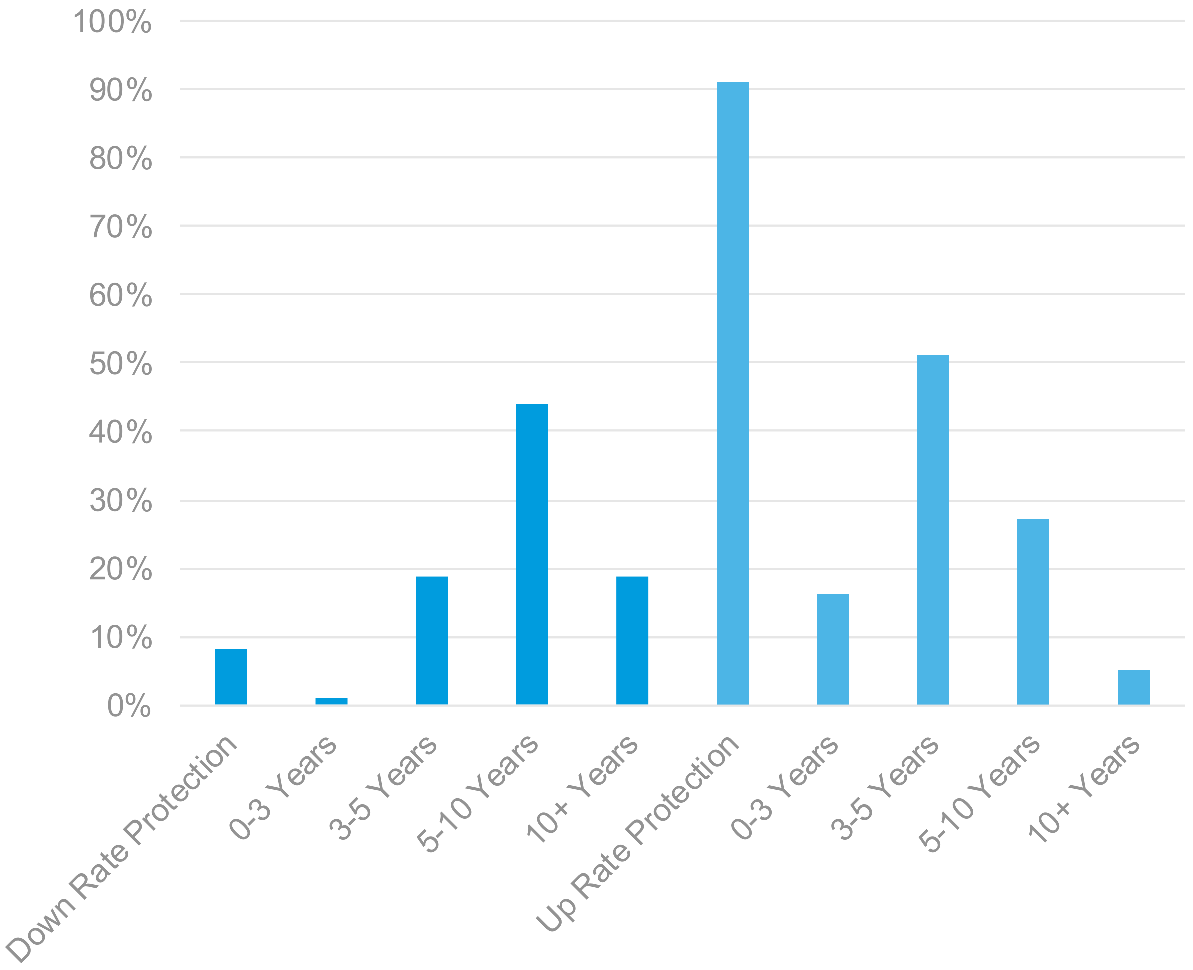
Impact of ASC 820

Credit valuation adjustments

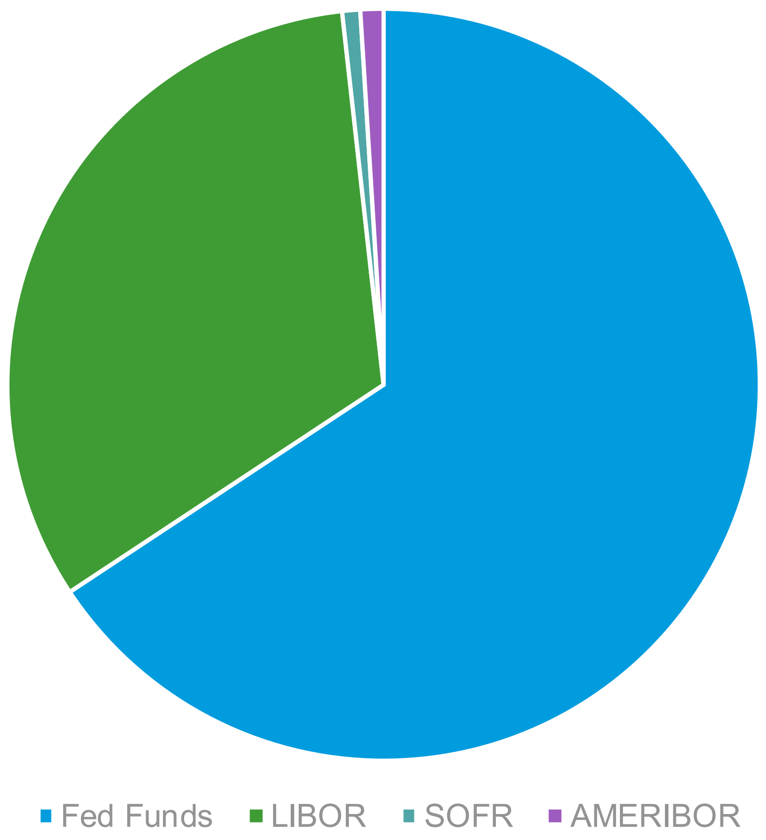
- ASC 820 requires that fair value measurements reflect nonperformance risk
  - Result: both derivatives in a back-to-back transaction are adjusted for credit risk
- **Credit exposure**: how much one party can potentially lose if the other party defaults
- **Credit valuation** Adjustment (CVA): Dollar amount of the fair value adjustment related to credit risk
- Calculation of credit exposure on a derivative considers both current exposure and potential future exposure
  - **Current exposure**: equal to termination, or settlement, value
  - **True credit exposure** > current exposure (increased/reduced by derivative's potential future exposure)
  - **Potential future exposure**: function of potential movements in interest rates over time and related probability-weighted fair values
  - Total expected exposure = Current exposure + Potential future exposure
- CVA mitigating factors are based on collateral arrangements with counterparties
  - Master netting agreements
  - Threshold amounts
  - Credit inputs

What are we seeing on the balance sheet trading desk

Rate Protection Strategies by Tenor

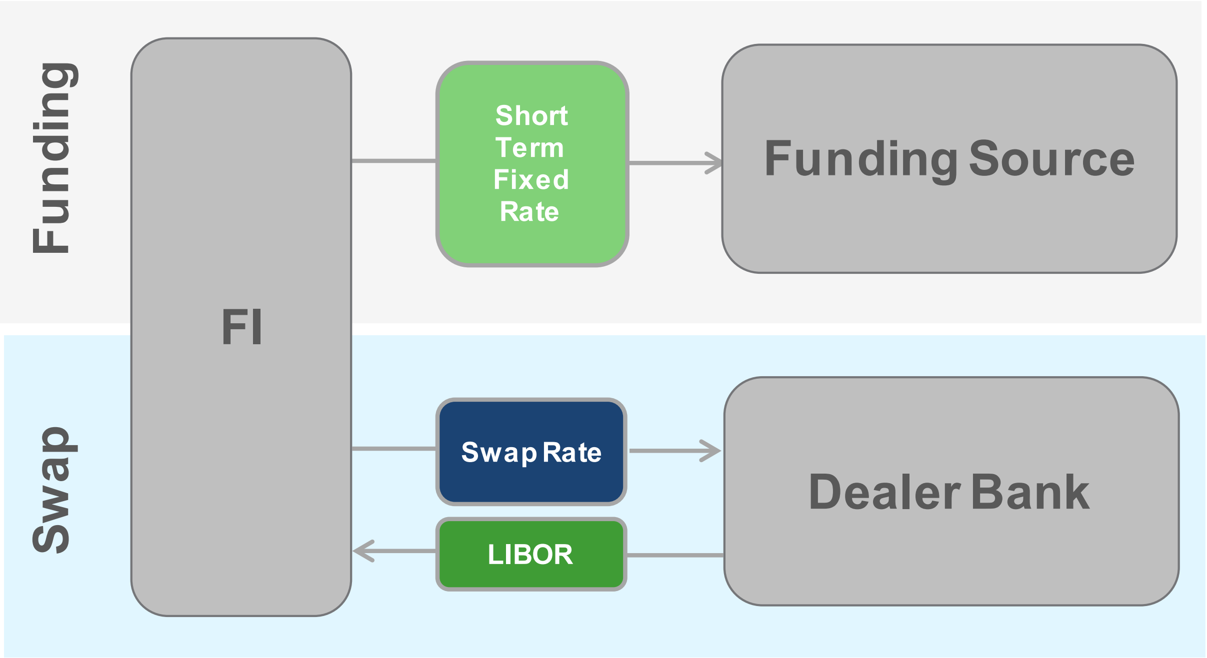


Index Choice



What are we seeing on the balance sheet trading desk

Swaps on rolling short-term fixed-rate funding



Strategy and Accounting

- Rolling short-term funding is effectively converted to a fixed rate (+/- differences between the funding rate and the floating rate index)
- Start the hedge today (spot) or in the future (forward)
- Hedge a portion of the borrowing utilization
- Hedge term to align with risk profile
- Hedged exposure must remain **outstanding and probable** through life of hedge
- Match the **hedge resets** with the roll date of the borrowings for optimal results

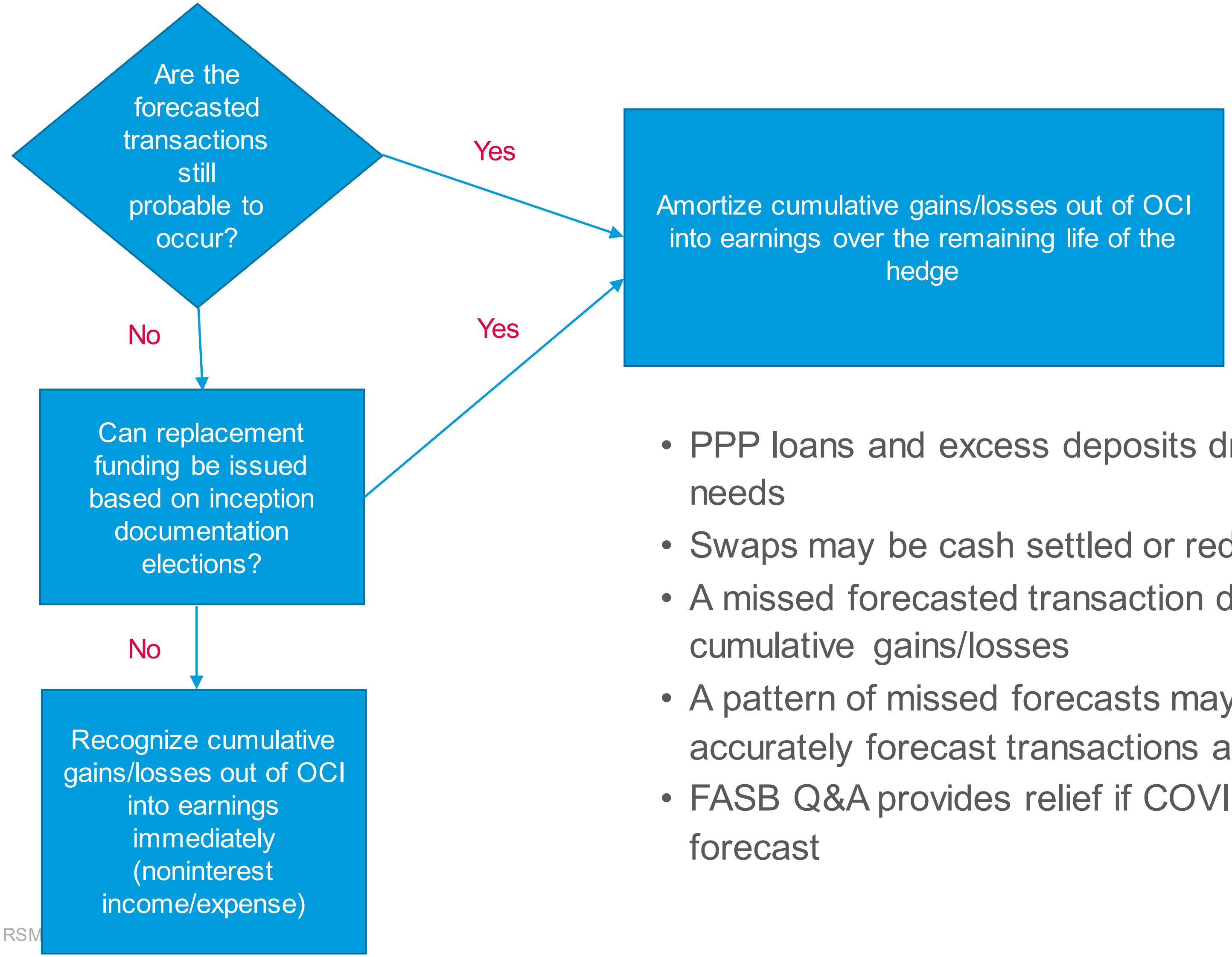
Hedge Details	Hedge Type	Hedged Risk	Accounting Treatment of Hedge
Pay Fixed / Receive Floating	Cash Flow Hedge	Benchmark	AOCI – then interest expense with payments

*Treatment of cumulative gain/loss at termination:

a) If hedged transactions remain probable, amortize gain/loss. Consider impact of layering multiple hedges on the same exposure.

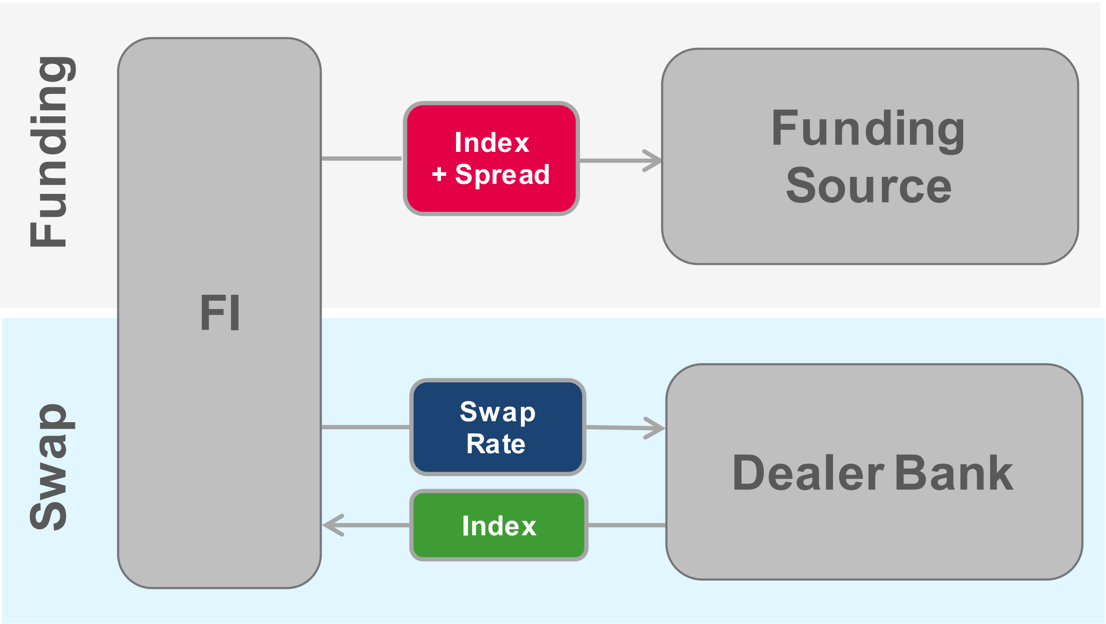
b) If hedged transactions are no longer probable to occur, immediately reclassify gain/loss. Consider impact of layering multiple hedges on the same exposure.

COVID-19 Impact on wholesale funding hedging strategies



- PPP loans and excess deposits drive reduction of wholesale funding needs
- Swaps may be cash settled or redesignated
- A missed forecasted transaction drives immediate recognition of cumulative gains/losses
- A pattern of missed forecasts may call into question the ability to accurately forecast transactions and use cash flow hedging in the future
- FASB Q&A provides relief if COVID-19 pandemic influenced the missed forecast

Swaps on term floating rate SOFR



Strategy and accounting

- Term floating rate funding is effectively converted to a fixed rate (+ spread to Index on floating term funding)
- Hedged risk: Contractually Specified Rate

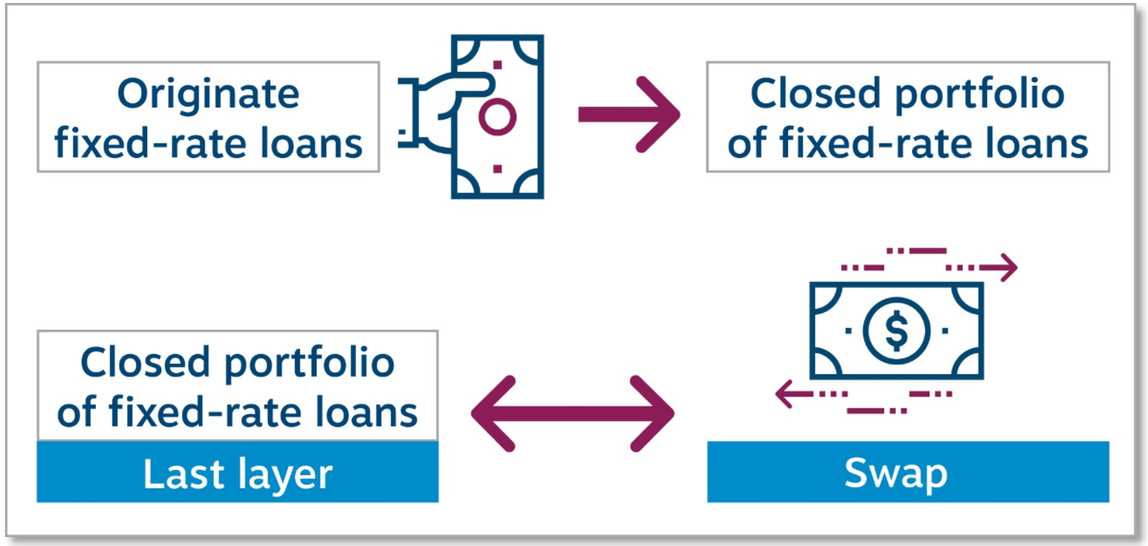
Maturity	Floating Rate SOFR Spread
3 Months	16 bps
6 Months	17 bps
1 Year	17 bps
2 Years	20 bps

Maturity	SOFR Swap Rate	All in Funding Rate – 3 Month Funding Spread + Swap
3 Year	0.27%	0.43%
5 Year	0.68%	0.84%
2 Year Forward Starting 3 Year	1.05%	1.21%
2 Year Forward Starting 5 Year	1.40%	1.56%

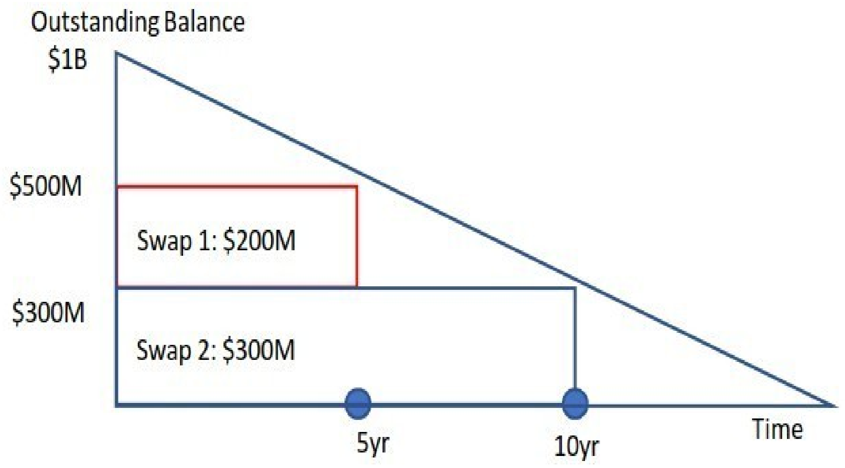
Assumes constant SOFR spread

Last-of-layer designation

- Create a pool of hedgeable fixed-rate assets
  - Assets do not need to have the same coupon
  - Must be prepayable in the term hedged
  - Contractual maturity must be on or after the hedge maturity date
- Determine size and duration of risk exposure and compare to average retention period of assets
- Designate the last layer of a closed portfolio of fixed-rate assets (i.e., $800 million portion that is not expected to prepay of a $1 billion portfolio)
- Execute a bullet plain-vanilla swap with the same notional as the last layer and a duration that address the risk exposure
- Any prepayments that occur are assumed to apply first to the undesignated portion of the closed portfolio. *Calculations of the changes in the fair value of the hedged item ignore prepayment risk for the purposes of applying hedge accounting*
- Stop hedge accounting once prepayments exceed undesignated portion of the closed pool and encroach into the designated last layer amount
- Consider redesignation of the swap to a new portfolio



Portfolio layer method



Example Application of Proposed Guidance

- All assets must have contractual maturity greater than 5 years and be prepayable by year 10.
- If there is a shortfall, the 5 year swap would lose hedge accounting first.

Summary of Proposed Guidance – March 31, 2021

- Portfolio Construction
  - All assets in the closed portfolio should have a contractual maturity date on or after the end of the earliest-ending hedge period of hedges associated with the closed portfolio.
  - All assets in the closed portfolio should be or should become prepayable by the end of the latest-ending hedge period of hedges associated with the closed portfolio.
- Overhedging Impact
  - If the aggregate amount of the hedged layers currently exceeds the amount of the closed portfolio (that is, a breach has occurred), an entity would be required to sequence the order that hedging relationships would be discontinued based on the hedging relationship with the shortest remaining period until the hedged item's assumed maturity date.
  - If there are multiple hedged layers with the same assumed maturity date, an entity would be required to discontinue hedging relationships using a "last-in, first-out" approach.
- Modified retrospective approach to reporting basis adjustments.
- One-time reclassification of securities from HTM to AFS, if eligible for the portfolio layer method.

NEW DEVELOPMENTS

Private company adoption of ASU 2017-12

REQUIRED CHANGES

- Ineffectiveness no longer separately measured and disclosed
- Fair value changes in derivative and hedged item must be reported in same line item being hedged (e.g., interest income or expense)
- Cash flow hedge ineffectiveness reclassified back in AOCI

- Transition memo
- Hedging policy update
- Hedge designation memos
- Financial statement disclosures
- Internal and external approvals (i.e. auditor approval)

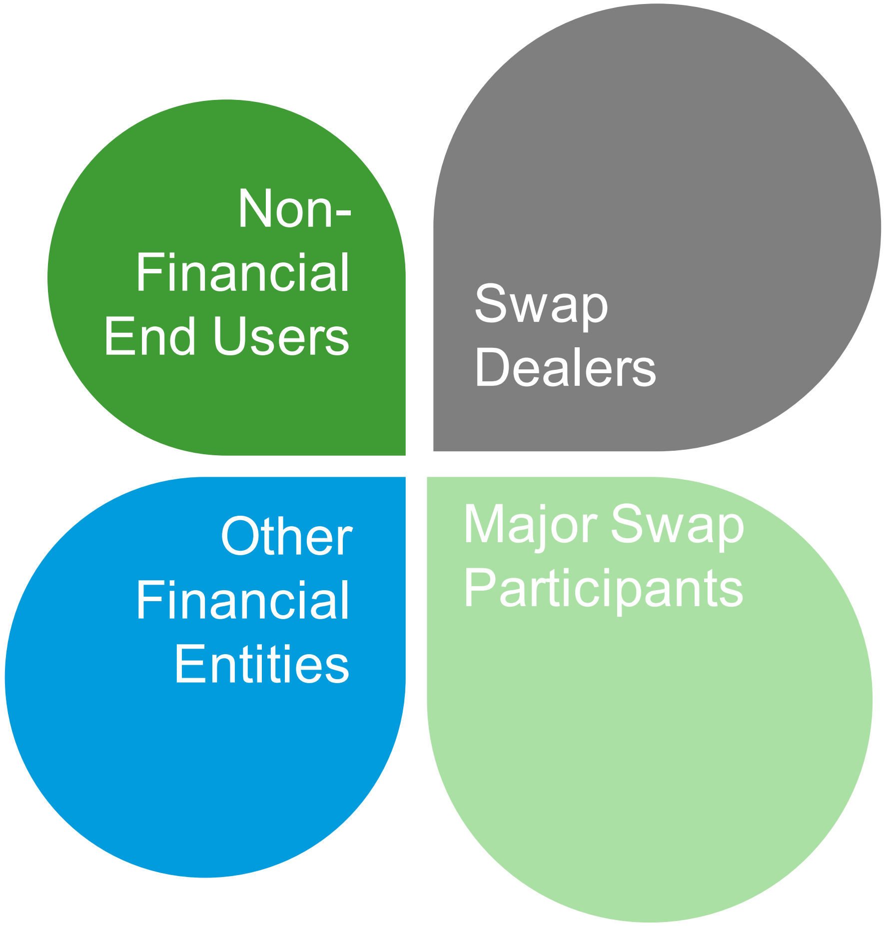
OPTIONAL CHANGES

- Benchmark interest rate component election in existing fair value hedges
- Transfer from HTM to AFS
- Last of layer approach

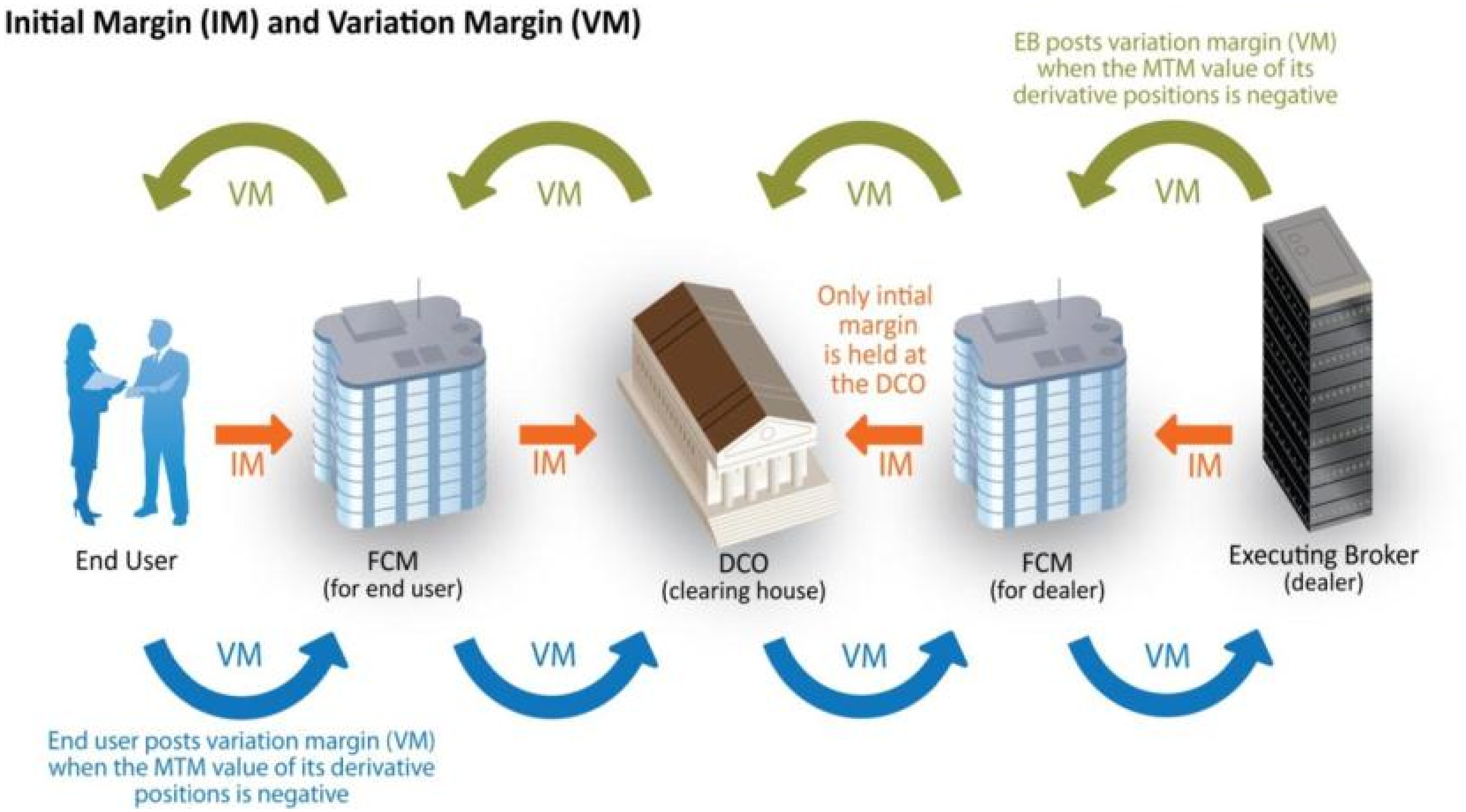
- Qualitative effectiveness assessment
- Shortcut with fallback to long-haul

Clearing requirement focused on financial end users

- End user exception
  - Non-financial hedgers are exempt from clearing and trading requirements
  - Banks with less than $10 billion in total assets are eligible for the exception
  - Does not apply to speculative trading
- Financial entities
  - Banks with greater than $10 billion in total assets
  - Commodity pools, private funds, pensions
  - Entities predominantly engaged in the business of banking or in activities that are financial in nature



Daily posting of margin



Variation margin recharacterization

- CME (January 4, 2017) and LCH (completed in 2018) have enacted rulebook changes that recharacterize variation margin as settlement of the swap, rather than collateral. The OCC, Fed and FDIC have now issued guidance – which is consistent with the SEC's accounting guidance – that validates the settled-to-market ("STM") model and allows institutions to treat centrally-cleared derivatives as settled for purposes of the capital rule.
  - Capital Treatment: Reduction in capital as time to maturity is 1 day and the applicable conversion factor is the lowest factor.
  - Hedge Accounting: Settlement does not constitute a termination and hedge accounting survives this change.
  - Balance Sheet Presentation: Cleared derivatives are settled by variation margin. Balance sheet presentation is as if derivative and collateral are netted (one unit of account).

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LIBOR CESSATION

Timeline – LIBOR cessation and replacement events

Effective Date of Amendments to the 2006 ISDA Definitions (January 25, 2021)

Cease New Production of LIBOR loans & swaps (December 31, 2021)

Index Cessation Effective Date (June 30, 2023)

***NEW** LIBOR Swaps executed after January 25, 2021 automatically incorporate Fallback language into LIBOR definition*

***NEW** Non-LIBOR Swaps executed after December 31, 2021 will be based on index other than LIBOR*

***All** swaps are now:*

***(I) Fallback Rate (SOFR) swaps,** or*

*(II) Other **Non-LIBOR indexed swaps***

***Existing** LIBOR Swaps executed prior to January 25, 2021 either require adherence to the ISDA IBOR Fallbacks Protocol, or require a bilateral amendment to incorporate Fallback language*

Fallback Rate does not come into effect until Index Cessation Effective Date:

- Index Cessation Event – ***Announcement*** on March 5, 2021 that LIBOR will be officially discontinued in the future
- Index Cessation Effective Date – Date that LIBOR will cease publication for O/N, 1M, 3M, 6M, and 12M LIBOR – **Jun 30, 2023**

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Alternatives to SOFR

While SOFR is the ARRC's "preferred" alternative, several competitors have developed in the market

Bloomberg Short Term Bank Yield Index (BSBY)	• Bloomberg's BSBY rate is calculated daily and measures the average yields at which global banks access USD senior unsecured wholesale funding • Credit sensitive rate that relies on transaction data rather than rate submissions • Currently, BSBY volumes are far below SOFR volumes
AMERIBOR	• Daily transaction volume weighted average interest rate of the AMERIBOR overnight unsecured loans on the American Financial Exchange (AFX) • Low volume of trading activity
ICE Bank Yield Index (BYI)	• Also proposed as a credit sensitive rate to replace USD LIBOR. • Calculation uses a 5-day collection window of bank funding transactions from provider banks and large banks secondary market transactions • While transaction volumes have not been published to date, believed to be low underlying need for a 5-day collection window

Issues Impacting Adoption

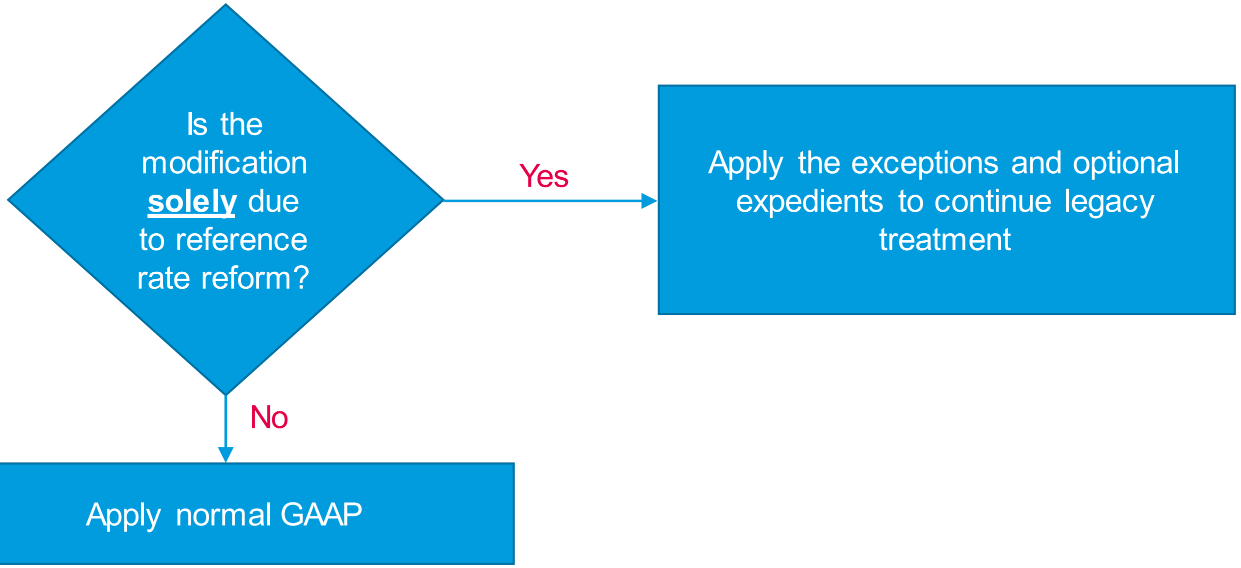
No official sector endorsement: Common fallback language includes references to being endorsed by governmental authorities.

Lack of derivatives market: Very little derivatives trading activity for these indices make it more expensive to hedge these benchmarks.

ASU 2020-04 on reference rate reform

Background and scope:

- ASC 848 issued on March 12, 2020 is effective upon issuance, subsequently amended by ASU 2021-01 Reference Rate Reform: Scope
- Provisions relate to contract changes affected by reference rate reform
  - In scope: changes to referenced interest rate index, spread adjustment related to index difference, changes to reset days, etc.
  - Out of scope: changes to notional amount, maturity date, counterparty, prepayment provisions, etc.
- Derivatives in hedging relationships and designated hedged risk would be impacted
- Optional expedients related to hedge accounting are available to ease the burden of transition. May be applied on an individual hedging relationship basis



ASU 2020-04 on reference rate reform: Highlights

ASU 2020-04 on reference rate reform: Hedged transactions

Questions to answer before making any changes to funding sources:

- What does my inception hedge designation documentation contemplate?
- Does my hedge apply to only one funding source or does it allow for replacements (i.e. borrowing program)?
- What types of replacement funding would allow for hedge accounting continuation?
- What type of replacement funding does not allow for hedge accounting continuation, but allows cumulative gains/losses to be amortized over time?
- Do I have a hedging program where multiple transactions have been layered over time?

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QUESTIONS AND ANSWERS

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