

# Navigating the complexities of hedge accounting for banks

Key challenges and perspectives

**April 2024**



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# 01

## Objective



This study aims to provide valuable insights and practical recommendations for effectively managing interest rate risk through hedge accounting to a wide range of financial institutions, including global banks, Global capability centre's (GCC), and various entities within the Indian financial sector. The study addresses common challenges and complexities encountered by these institutions in implementing hedge accounting strategies. By presenting a comprehensive overview of interest rate risk management and hedge accounting,

this paper equips financial institutions with the necessary knowledge and tools to navigate the complexities of the global financial landscape. The recommendations provided in this paper offer practical solutions for optimizing hedge accounting practices, enabling financial institutions to enhance risk management and improve financial reporting accuracy.

# 02

## Overview of interest rate risk and mitigation techniques

In today's volatile and dynamic world, risk becomes an inherent aspect of banking business. It would never be possible to eliminate risk completely, but at best, it can be managed. Interest rate risk, currency risk, credit risk, liquidity risk, price risk<sup>1</sup> etc. are some of the major risks faced by banks in their day-to-day functioning.

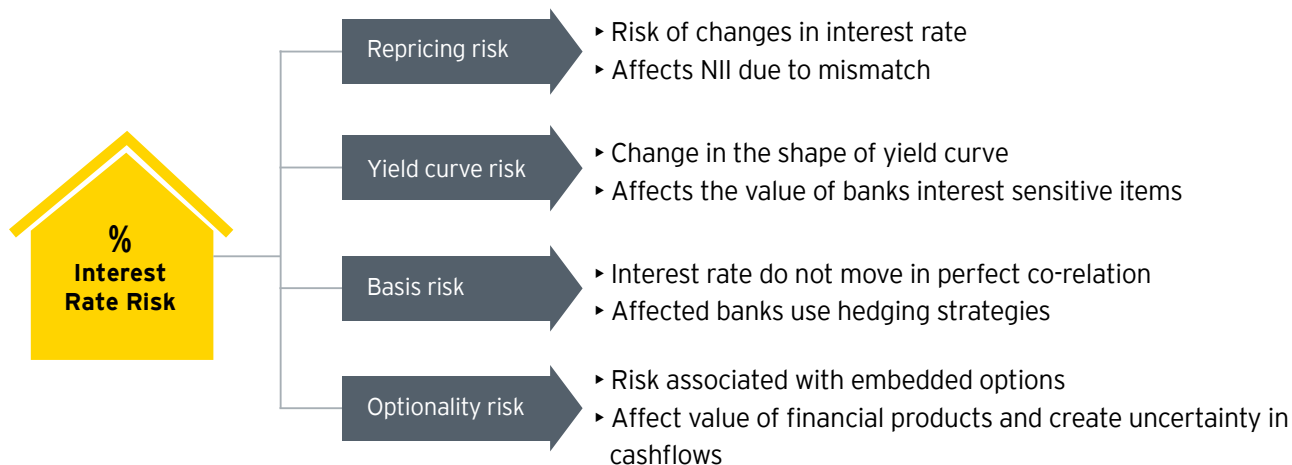
Interest rate risk is one of the critical risks w.r.t to banking as it is an important source of profitability and shareholder value; however, excessive interest rate risk can threaten banks' earnings, capital, liquidity, and solvency. Therefore, it is important to effectively identify, measure, monitor and control interest rate risk exposure through effective policies and risk mitigation techniques.

<sup>1</sup> Price risk refers to the potential for the value of an asset or investment to change due to fluctuations in market prices whereas repricing risk refers specifically to the risk associated with changes in interest rates. In this case both should be viewed separately.

Interest rate risk in banking book (IRBB) is an important risk that arises from banking activities and is encountered by all banks. Interest rate risk for banks typically emanates from:

- ▶ maturity mismatch (e.g., long-maturity assets funded by short-maturity liabilities)
- ▶ rate mismatch (e.g., fixed rate loans funded by variable rate deposits)
- ▶ optionality embedded in many of the common banking products (e.g., non-maturity deposits, term deposits, fixed rate loans).

Listed below are the common interest rate risks:



Majority of the risk factors are triggered by external events viz. geopolitical events, recession, bankruptcy etc. and the recent COVID-19 pandemic followed by Russia-Ukraine war triggered a host of consequential reactions like inflation, interest rate increases and exchange fluctuation thereby leading to increased financial risk factors for the banking industry.

Banks, as part of their risk management strategy, adopt practices to help them sustain and maintain the going-concern criteria. Hedging is one of the risk-neutralising strategies to downsize potential losses. It is among the key risk management strategies that help in reducing

long-term risks by managing the asset-liability interest risk gap. Implementing hedging requires careful analysis and evaluation of several factors like the market environment, the risk appetite and tolerance, the hedging options and alternatives available.

In this study, we deep-dive further into the significant aspects of hedging (with respect to financial reporting, related processes and control and governance). But before that, let us first look at the current trends in interest rates and how they have impacted hedging activities across the banking sector.



# 03

## Current trends in interest rates



Interest rates play a crucial role in determining the geometry of the economy along with influencing borrowing costs and spending decisions of households and businesses. Any change in the policy rates can have a wide variety of impact on banks and public stakeholders. Any increase could have a positive impact on banks and potentially an unfavourable impact on the economy and vice versa.

Lower interest rates generally tend to reflect a period of higher economic growth, and a stronger economy could mean increase in the credit offtake.

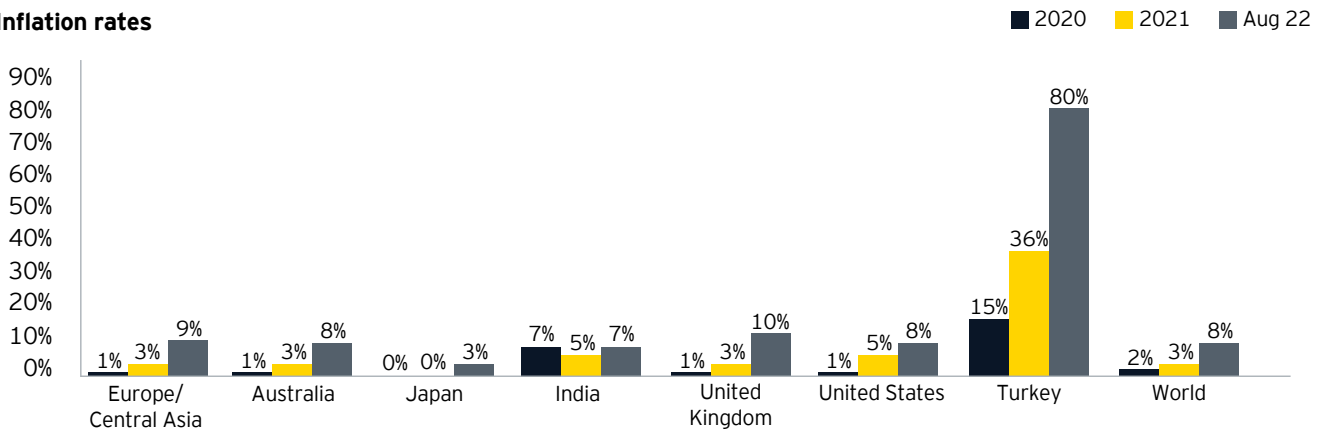
On the other side, in March 2023, the collapse of three regional banks in the US was attributed to a range of factors, including aggressive hikes

in interest rates and certain banks' inability to adequately manage their interest rate exposures.

Further, following the outburst of the COVID-19 pandemic at the end of 2019, the first measure for many central banks was a reduction of policy rates to ease funding costs and support aggregate demand. As a result of monetary stimuli and interest rate cuts provided in 2020 and 2021 by governments and central banks around the world, a worldwide increase in inflation began in mid-2021, with many countries seeing their highest inflation rates in decades.

Here is a three-year trend in inflation rates for major economies of the world during the pandemic and post pandemic period.

### Inflation rates

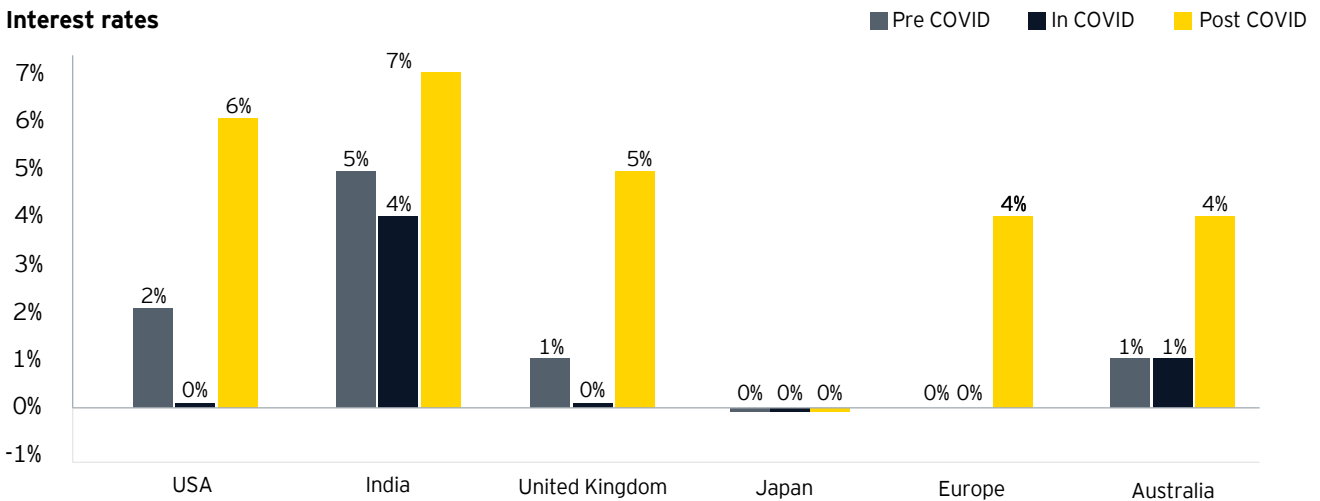


\*Graph 1 - Source International Monetary Fund via World Bank.

To tame the ever-growing inflation, central banks across the world simultaneously hiked interest rates, with a degree of synchronicity not seen over the past five decades.

Below is the comparison of interest rates before, during and after COVID-19 for major economies.

### Interest rates



Graph 2. Source: Data sourced from official websites of respective countries' central banks

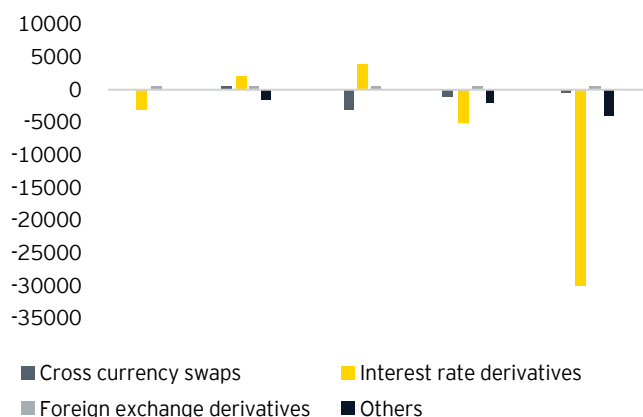
Due to increased volatility in interest rates, bank needs to have proper risk mitigation techniques to manage them.

Prolonged period of interest rate hikes can make the business environment extremely challenging for banks due to increasing defaults and there are ways to stay protected. Banks need to always remain vigilant to actively take measures and stay protected in the event

of a crisis. Banks can manage the interest rate risk by matching the maturity and repricing terms of its assets and liabilities and actively engaging in various derivative transaction either for trading or hedging. This is usually done by using hedging techniques to manage their balance sheet positions against interest rate risk by using financial instruments such as interest rate swaps (IRS).

Given the volatility in interest rates, global banks have increased hedging activity to protect Net Interest Income (NII). As seen in the graph below, there is a change in the fair value of interest rate derivatives, which is much higher due to consistent upward movement in interest rates by the central banks across the globe. Additionally, we can observe that there are more dealings in interest rates derivatives that includes IRS and forward rate agreements (FRA) as compared to other derivatives such as cross currency swaps (CCS) and options.

**FV Changes in Hedging Instrument (\$m)**



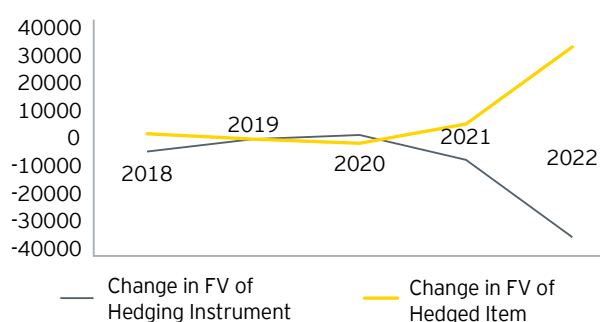
\* Data sourced from published annual reports of Top 10 GSIBs

It has been observed that in the scenario of such interest rate fluctuations, banks have managed to hedge their interest rate risk effectively across periods from pre-pandemic to post-pandemic.



From the graph below, we can observe that in the period of pandemic, the change in fair value (FV) between hedging instrument and hedged item is almost flat. However due to the rising interest rate trends from recent past, we see that effectiveness of hedging has a similar trend where the fair value movements of hedging instrument and hedged item are moving in opposite directions, thereby offsetting the impacts on the balance sheet.

**FV Movement (\$mn)**



\* Data sourced from published annual reports of Top 10 GSIBs

Going by the current trends as elucidated in aforesaid paragraphs, interest rate movements are proving to be challenging for banks resulting in an increase in their hedging activity (increase in number of deals). This results in a tighter governance with respect to process and controls to ensure not only regulatory compliance but also the overall effectiveness of hedging. Major emphasis is needed in creating a robust hedge management framework right from the point the dealer enters a deal until final reporting and disclosures in financial statements.

In the next two sections, we will discuss the challenges currently faced by banks in hedge accounting, formulating hedging strategies, risk management etc. and our perspective in overcoming these challenges.



# 04

## Key operational challenges on hedge accounting



When banks start hedging interest rate and other risks, they encounter a challenging endeavour in the application of hedge accounting as it creates strain on banks, especially the ones struggling with their legacy systems and limited resources. With this limitation there is an additional responsibility of reporting to regulators as well. On that note, let's understand the challenges faced by the banks on the application of hedge accounting.

For many bank treasurers, hedge accounting can be tedious as it requires vigilance and dedicated resources to manage activities such as hedge documentation, hedge effectiveness testing, monitoring hedged items and

recording journal entries. Addressing these requirements is often a coordinated effort across team members in lending, treasury, accounting, risk, and funding departments.

Below are some critical areas that require special attention from banks.

- ▶ Hedge documentation
- ▶ Hedge accounting and disclosure in financial statements
- ▶ Robust infrastructure to support the above activities

## 4.1 Hedge documentation<sup>2</sup>

One of the most critical and mandatory aspects of following hedge accounting is its documentation. A hedge document needs to be exhaustive, and detail oriented in line with IFRS 9/IND AS 109 / ASC 815 or where applicable the Institute of Chartered Accountants of India (ICAI) guidance note on Accounting for derivative contracts. This may appear straightforward and merely an administrative matter, but the consequences of errors at the assessment stage are significant as hedge accounting may be denied. The relevant teams of banks (treasury/ finance/ product control) need to ensure there exists a proper hedge documentation with adequate approvals.

Below are some of the challenges typically faced by financial institutions:

Hedge Documentation	
Explanation	Our point of view
<p><b>Sources of ineffectiveness:</b></p> <p><b>Applicability:</b> This challenge is largely prevalent among various financial institutions including NBFCs, but it does not apply to Indian banks as they have not yet transitioned to the Indian Accounting Standards (Ind AS), which provide specific guidance on hedge accounting and disclosures.</p> <p><b>Challenge:</b> Encounter difficulties in identifying the sources of hedge ineffectiveness due to lack of granular data and fragmented processes and systems.</p>	<p><b>Sources of ineffectiveness:</b></p> <p>To overcome the challenge of obtaining granular data for hedge effectiveness testing, banks can explore alternative approaches that include:</p> <ul style="list-style-type: none"> <li>▶ <b>Estimating data</b> when historical data is limited can be overcome by utilizing various statistical models, such as Monte Carlo simulation or constructing regression models.</li> <li>▶ <b>Collaborating with market data providers</b> like Refinitiv, Thomson Reuters, Bloomberg, National Stock Exchange (NSE) etc.</li> <li>▶ <b>Consolidating internal data sources</b> depending on size and complexity, Indian banks may adopt alternative platforms or systems for consolidating the internal data between trading platforms, risk management and data warehouses. This includes leveraging cloud-based data Wintegration platforms, implementing standardized data formats, and utilizing open-source software for data management and analysis.</li> <li>▶ <b>Leveraging industry benchmarks</b> and studies like utilizing widely recognized market indices, such as the S&amp;P 500 or RFR rates, RBI repo rates as proxies for missing data points.</li> </ul>

<sup>2</sup> Typical hedge documentation format has been provided at the end of this challenge.

## Hedge Documentation

Explanation	Our point of view
<b>Data Gaps for Illiquid Instruments:</b>	<b>Data Gaps for Illiquid Instruments:</b>
<p><b>Applicability:</b> This challenge is largely applicable to global banks and is uncommon in the context of Indian banks and NBFC's.</p> <p><b>Challenge:</b> Global banks dealing with <b>illiquid</b> instruments may struggle to obtain relevant and reliable external data, leading to difficulties in accurately assessing fair value or hedge effectiveness. Consequently, it becomes challenging to document and justify these assessments in hedge documentation. Typical example includes:</p> <ul style="list-style-type: none"> <li>▶ <b>Illiquid Secured Overnight Financing Rate (SOFR):</b> SOFR is a benchmark interest rate that is intended to replace the U.S. dollar London Interbank Offered Rate (LIBOR) as a reference rate for various financial contracts, including derivatives, loans, and other financial instruments.</li> </ul> <p>Since SOFR is a relatively new benchmark rate, it may not have as much historical data or a well-established market as LIBOR. This could make it challenging for banks to accurately assess the fair value or hedge effectiveness of financial instruments that reference SOFR. Without sufficient external data, banks may have difficulty in estimating the expected future cash flows associated with these instruments or determining the appropriate discount rates.</p> <p>Furthermore, the lack of reliable external data for SOFR could also pose challenges in documenting and justifying the assessments made in hedge documentation.</p>	<p>To overcome the challenges associated with the limited historical data and the lack of a well-established market for unique or illiquid instruments like SOFR, banks can employ few approaches like:</p> <ul style="list-style-type: none"> <li>▶ Usage of proxy curves as an alternative when historical SOFR data is limited. Proxy curves are constructed using similar benchmark rates or alternative reference rates such as overnight indexed swaps, treasury yields etc. that exhibit similar characteristics to SOFR. By analyzing the relationship between the proxy rate and available SOFR data, banks can estimate the behavior of SOFR and use it as a substitute for valuation and risk assessment.</li> <li>▶ On the other hand, Yield curve modelling can help banks in estimating the yields of RFR's like government bonds for different time periods along the yield curve.</li> </ul>

## Hedge Documentation

Explanation	Our point of view
<b>Complexity of Hedge Structures:</b>	<b>Complexity of Hedge Structures:</b>
<p><b>Applicability:</b> Due to the evolving financial market landscape (Rise of crypto investments, structured derivative products, rising inflation and interest rates etc.) global banks with support from their GCC's, have started adopting increasingly complex hedging structures to effectively manage their risk exposures. However, it should be noted that the adoption of such complex hedging structures is currently not as prevalent among Indian banks and NBFCs.</p> <p>Few examples include:</p> <ul style="list-style-type: none"> <li>▶ Inflation swaps linked to treasury inflation protected securities.</li> <li>▶ Foreign currency loan with currency swaps, IRS and credit default swaps.</li> </ul> <p><b>Challenge:</b> Articulating the intricacies of complex hedge structures in a clear and concise manner could be a challenging task. These structures often involve multiple financial instruments and sophisticated hedging strategies making it even more difficult to convey their intricacies precisely.</p> <p>Further, measuring and demonstrating hedge effectiveness can be more challenging as it involves analyzing complex market data, establishing appropriate risk metrics, and applying advanced quantitative models to assess the relationship between hedged items and hedging instruments.</p> <p>For example, sourcing the benchmark data on yield curves for Risk Free Rates (RFRs) could be cumbersome as these do not have sufficient market depth.</p>	<ul style="list-style-type: none"> <li>▶ Visualize interrelationships in the hedge structure using diagrams and charts.</li> <li>▶ To address the lack of in-depth market for RFRs, banks can consider             <ul style="list-style-type: none"> <li>▶ <b>Proxy instruments</b> that closely align with risk profile and characteristics of hedging instrument. Examples: Overnight Index swaps for short-term risk-free rates.</li> <li>▶ Utilize <b>interpolation and extrapolation</b> techniques such as spline interpolation or bootstrapping to estimate missing RFR data points.</li> </ul> </li> <li>▶ Explore alternative data sources like central banks and regulatory bodies that publish relevant yield curve data or reference rates that can be used as proxies.</li> </ul>

## Typical hedge documentation format

Sample hedge documentation - Company ABC	
Date of designation	(Use date of completion of documentation)
Risk management objective and strategy	
The objective of the hedge relationship is to hedge the changes in the fair value of the debt relating to changes in [SONIA] for its whole life. The hedging strategy is to swap this debt from fixed to floating rate.	
Hedge type	Fair value hedge
Hedged risk	
The hedged risk is variability in the fair value for the debt attributable to changes in [SONIA]. Credit risk on the debt is not designated as part of the hedged risk.	
Hedging instrument	
Interest rate swap	
Deal reference number: [IR12317]	
Bank / counterparty: [Bank ABC (AA-rated counterparty)]	
Principal amount / currency: [GBP 100m]	
Trade date: [1 July 2018]	
Maturity date: [30 June 2023]	
Interest rate: [Pay floating three-month SONIA plus 50bps; Receive 8% fixed] (i.e. receive net 7.5% fixed)	
Frequency of interest payment: [Quarterly]	
Interest payment date(s): [1 January, 1 April, 1 July and 1 October each year]	
[Other relevant details of the hedging instrument include fees and premiums, any other repricing basis, optionality, amortization profile, roll over, any derivative restructuring, break clauses]	
Hedged item	
Debt reference number: [BON9085]	
Bank / counterparty: [Bank XYZ]	
Principal amount / currency: [GBP 100m]	
Issue date: [1 July 2018]	
Maturity date: [30 June 2023]	
Interest rate: [8% coupon but only 7.5% hedged]	
Frequency of interest payment: [Quarterly]	
Interest payment date(s): [1 January, 1 April, 1 July, and 1 October each year]	
[Other relevant details of the hedged item include fees and premiums, other repricing basis, optionality, amortization profile, step up interest rate, management's intention on debt refinancing, break clauses]	
If debt is renegotiated, restructured, or replaced then the revised debt is still part of original hedge relationship.	

## Hedge effectiveness assessment

As all principal terms (which include notional and principal amounts, term, expiry date, interest resetting and cash flow dates, interest rates and basis for measuring interest rates) of the hedging instrument and the hedged item exactly match, and the hedging instrument has a zero fair value upon designation, no hedge ineffectiveness is expected to occur, other than from the most recently fixed floating leg of the hedging instrument. Accordingly, at inception the hedge relationship is expected to be highly effective in achieving offsetting of fair value changes of the hedging instrument and the hedged item throughout its life.

Therefore, the effectiveness of the hedge will be assessed at each quarter-end on a qualitative basis throughout the life of the hedge relationship. The qualitative assessment will identify whether any sources of ineffectiveness have been introduced. The review will include a check that the critical terms continue to coincide and that the credit worthiness of the swap counterparty has not deteriorated. If the ongoing qualitative test identifies any potential source of ineffectiveness, a quantitative effectiveness test will be performed.

Quarter-end date	Do all the principal terms of the hedging instrument and the hedged item exactly match?	Has credit risk of swap counterparty deteriorated significantly?
30 September 2018		
31 December 2018		
31 March 2019		
30 June 2019		
30 September 2019		
↓		
30 June 2023		

If the principal terms of the hedging instrument and the hedged item no longer perfectly match or credit risk of swap has significantly deteriorated, the entity will use the below quantitative method to assess hedge effectiveness prospectively.

### Quantitative method

The cumulative dollar offset method<sup>3</sup> calculates the ratio of the cumulative change in the clean fair value<sup>4</sup> of the hedging instrument, divided by the cumulative change in clean fair value of the hedged item attributable to changes in SONIA (hedged risk).

The prospective test will be performed quarterly, based on the following three yield curves scenarios<sup>5</sup>:

- ▶ Scenario 1 - linear [x]bps shift in current yield curve
- ▶ Scenario 2 - [x]bps shock to current yield curve in one year
- ▶ Scenario 3 - yield curve one year ago

The hedge is deemed to be highly effective prospectively as long as the ratio of the cumulative change in clean fair values of the hedging instrument and the hedged item are within the range as prescribed under the companies policy.

<sup>3</sup> The dollar offset method can be applied on a period-to-period basis or cumulative basis. The entity has elected the cumulative dollar offset method for illustrative purposes.

<sup>4</sup> The clean fair value excludes accrued interest.

<sup>5</sup> These particular scenarios are just examples, not mandatory prospective test. The scenario(s) used for prospective test must be specified in the hedge documentation.

### Frequency of hedge effectiveness testing

Hedge effectiveness will be tested at every reporting period-end (i.e. quarterly).

### Accounting

The balance sheet carrying amount of the hedged item will be adjusted for changes in its fair value with respect to the hedged risk, with any such changes reflected in profit or loss.

The hedging instrument will be carried at its full fair value (i.e. the dirty price) on the balance sheet with any changes in fair value taken to profit or loss.

The most recently fixed floating leg of the swap will most likely have a non-zero fair value and will lead to ineffectiveness. This ineffectiveness will be recognized in profit or loss regardless of the effectiveness assessment methodology.

### Termination of hedge relationship

Hedge accounting is terminated if:

- ▶ the hedging instrument expires or is sold, terminated or exercised
- ▶ the hedge is no longer effective
- ▶ the designation is revoked

If a hedge is de-designated or terminated, the hedged item is not adjusted for any subsequent movements in the hedged risk. The hedging instrument remains to be carried at its full fair value with changes taken through profit or loss. The amount that the hedged item was adjusted by will be amortized to profit or loss over the remaining life of the original hedge based on a recalculated effective interest rate.

## 4.2 Hedge accounting and its disclosure in financial statements

There is a considerable challenge on banks to provide accurate and exhaustive disclosures when it comes to hedge accounting. It is immensely critical for banks to choose an appropriate hedge accounting treatment, which helps in minimizing profit and loss volatility.

Further, hedging impacts both the top line and bottom line of banks. It reduces revenue volatility and creates revenue opportunities, positively influencing the top line. However, hedging also incurs costs ( e.g., option premium) affecting the bottom line.

Reporting and disclosing all the existing hedges is of paramount importance for all stakeholders to understand the risk management strategy of the bank. Below listed are some of the challenges being faced by financial institutions:



## Hedge accounting and its disclosure in financial statements

Explanation	Our point of view
Disclosure:	Disclosure:
<p><b>Applicability:</b> These challenges relate to disclosure failures in hedge accounting practices that primarily affect global banks and Indian NBFC's, except for Indian banks, as they have not yet transitioned to the Indian Accounting Standards (Ind AS) that provide specific guidance on hedge accounting and disclosures.</p> <p><b>Challenge:</b> Disclosures majorly requires data collection, analysis, and technical expertise to decipher the GAAP requirements.</p> <p>Failure to properly disclose material facts can mislead stakeholders and attract higher regulatory supervision. Below are examples of disclosure failures in hedge accounting practices.</p> <ul style="list-style-type: none"> <li>▶ In a recent case, it was observed questionable accounting practices relating to hedge accounting. These practices involved: <ul style="list-style-type: none"> <li>▶ Assuming no ineffectiveness in the hedge relationships, thereby circumventing the need to measure and record the differences in value between derivatives and the items being hedged.</li> <li>▶ These transactions did not meet the criteria for such treatment under the relevant accounting standards.</li> <li>▶ Failure to adhere to these provisions resulted in a significant restatement of net income of at least \$11 billion, reflecting the impact of improper hedge accounting.</li> </ul> </li> <li>▶ Hedge accounting failures were observed, involving. <ul style="list-style-type: none"> <li>▶ Mis-designation of derivatives as hedges</li> <li>▶ Ineffective hedging relationships</li> <li>▶ Misapplication of hedge accounting rules</li> </ul> </li> </ul> <p>These failures led to inaccurate financial reporting, requiring restatements. This underscores the importance of proper hedge accounting practices, adherence to accounting standards, and robust internal controls for ensuring accurate and transparent financial reporting.</p>	<p>To ensure accurate and meaningful hedge accounting disclosures, banks should focus on simplifying their data sourcing processes. These include</p> <ul style="list-style-type: none"> <li>▶ Establishing a single, reliable source of data known as the <b>"golden source"</b>. This involves creating a centralized repository that serves as the trusted and authoritative data source for hedge accounting. Teams across the banks can leverage the golden source for different functions, like risk management team for risk management analysis, measuring hedge effectiveness in finance, streamlining operations by operations team.</li> <li>▶ Having a reliable golden source as a centralized data repository can significantly reduce the number of reconciliations required in hedge accounting, saving time and resources.</li> <li>▶ Banks may consider implementing <b>ETL (Extract, Transform, Load)</b> processes to streamline data collection. ETL processes automate and standardize the extraction of data from relevant source systems (trading platforms, internal systems, external data providers etc.), transform it into a consistent format, and load it into the designated system or database. This helps reduce manual errors and improve the overall efficiency of data collection for hedge accounting purposes.</li> </ul>



## Hedge accounting and its disclosure in financial statements

Explanation	Our point of view
<b>Macro hedging:</b>	<b>Macro hedging:</b>
<p><b>Applicability:</b> Currently Indian banks and NBFC's do not have guidance on applicability of macro hedge accounting practices. The challenges discussed below are largely prevalent amongst global banks.</p> <p><b>Challenge:</b> Presently, numerous global banks are referring to IAS 39 for macro hedging guidance as an option given under IFRS 9. Major challenge currently being faced is the uncertainty around application of macro hedge accounting which includes.</p> <ul style="list-style-type: none"> <li>▶ <b>Incomplete risk coverage:</b> Macro hedging under IAS 39 focus only on the interest rate risk and it lacks coverage for other types of risks such as FX risk, commodity risk etc.</li> <li>▶ <b>Scope exclusion of demand deposits**:</b> The absence of an applicable scope for including demand deposits in macro hedging under IAS 39 poses a significant challenge. Demand deposits, despite being exposed to risks like interest rate fluctuations and liquidity concerns, cannot be directly incorporated into hedging relationships. This limitation hampers banks, particularly those heavily reliant on demand deposits, as they are unable to effectively manage and hedge these risks.</li> </ul> <p><b>Note: **</b> It is important to highlight that the challenge discussed above regarding the scope exclusion of demand deposits in macro hedging under IAS 39 may not be applicable to banks within the European Union (EU) due to the EU carve-out provisions. The EU has implemented its own version of IAS 39, which includes modifications and carve-outs tailored to regional requirements.</p>	<p>As of date, only a discussion paper "Accounting for Dynamic Risk Management: A Portfolio Revaluation Approach to Macro Hedging." Was released by IASB on 17th April 2014 to cover various drawbacks identified under IAS 39. IASB expects to publish the exposure draft on this topic by 2025<sup>6</sup>.</p> <p>Till the new accounting guidance is issued, banks may consider:</p> <ul style="list-style-type: none"> <li>▶ <b>Non- derivative risk mitigation:</b> For the risks not covered under IAS 39- macro hedging, banks instead of using derivative instruments, may implement natural hedging strategies. For example, if the bank holds foreign currency loans, it can also acquire foreign currency deposits to offset the FX risk.</li> <li>▶ <b>Proxy hedging<sup>7</sup>:</b> In the context of demand deposits, since macro hedging is not applicable and direct hedging is not possible, bank may explore the possibility of using proxy hedging techniques to manage associated risks. Examples include: <ul style="list-style-type: none"> <li>▶ <b>Duration matching:</b> if the demand deposits have a short-term duration, the bank may invest in short-term government bonds or money market instruments.</li> <li>▶ <b>Yield curve strategies:</b> It involves investing in bonds with varying maturities across the yield curve like allocating funds to short-term Treasury bills, intermediate-term government bonds, and long-term corporate bonds.</li> </ul> </li> <li>▶ <b>Risk transfer:</b> Banks may consider transferring risks over their exposures to other parties on a periodic basis through various means, such as insurance contracts, securitization, or entering into risk-sharing agreements. This can help reduce the bank's exposure to specific risks while transferring them to entities better equipped to manage them.</li> </ul>

<sup>6</sup> <https://www.ifrs.org/projects/work-plan/dynamic-risk-management/#project-history>

<sup>7</sup> Proxy hedging is a risk management strategy that involves using a different but related financial instrument or asset to hedge against the price or risk exposure of another instrument or asset. In proxy hedging, the hedging instrument is not a direct match to the underlying asset being hedged, but it exhibits a sufficiently strong correlation or relationship to provide an effective hedge.

## 4.3 Robust infrastructure

A well-defined infrastructure is necessary for smooth functioning of the hedge management system. The overall processes and controls rely heavily on how the IT systems are managed, implemented, and upgraded in a timely manner.

Below are some of the challenges faced by financial institutions which includes global banks with the support from GCC's and Indian financial institutions:

Robust infrastructure to support the above activities	
Explanation	Our point of view
<p><b>Data reconciliation and validation:</b></p> <p>Data reconciliation and validation pose significant challenges in establishing a robust infrastructure for hedge management systems. Typical challenges include:</p> <ul style="list-style-type: none"> <li>▶ Trade details mismatch with respect to dates, settlement terms, counterparties etc.</li> <li>▶ Validating accuracy of pricing and valuation data sourced from external providers.</li> <li>▶ Compliance with regulatory requirements adds an additional layer of complexity to reconciliation processes, including adherence to specific reconciliation standards and reporting obligations. (FORM 10K, 10Q, 8K of SEC etc.)</li> </ul>	<p><b>Data reconciliation and validation:</b></p> <p>To overcome the challenge of obtaining granular data for hedge effectiveness testing, banks can explore alternative approaches that include:</p> <ul style="list-style-type: none"> <li>▶ Implement automated reconciliation processes by utilizing specific reconciliation software or excel macro's etc.</li> <li>▶ Set up exception reporting mechanisms such as email alerts, data validation rules that flag trade details mismatches for review and resolution.</li> </ul>
<p><b>System compatibility and interoperability:</b></p> <p>FI's may use different systems for various financial processes, such as enterprise resource planning (ERP), risk management, and financial reporting. Integrating these systems to facilitate seamless data flow and automation can be a challenge. Compatibility issues, such as incompatible data formats or incompatible software versions, may require additional efforts to ensure smooth data integration and system interoperability</p>	<p><b>System compatibility and interoperability:</b></p> <ul style="list-style-type: none"> <li>▶ Use standardized data formats and protocols to facilitate seamless data exchange between systems.</li> <li>▶ Leverage APIs, python scripts, excel macros or various web services for system integration and automation.</li> </ul>

## Robust infrastructure to support the above activities

Explanation	Our point of view
<p><b>Hedge effectiveness tool:</b></p> <p>Another major challenge faced is selection or the lack of a hedge effectiveness tool. Banks who have opted for regression analysis as a measure to evaluate hedge effectiveness face challenges with minimum data points and quality of interest rate curves.</p> <p>The standard expects banks to have the required data points to conduct hedge effectiveness testing. There are situations where banks face issues with quality of or lack of sufficient data points which results in hedge effectiveness getting distorted as even a single data point can result in test getting failed. Another issue is the quality of interest rate curves. Not all curves may give the desired test results hence selection of the next best curve is particularly important along with the hedge testing method.</p>	<p><b>Hedge effectiveness tool:</b></p> <ul style="list-style-type: none"> <li>▶ Look for hedge effectiveness tools that provide comprehensive scenario analysis capabilities, allowing you to assess the impact of different market scenarios on hedge effectiveness.</li> <li>▶ The tool should also offer flexible reporting features to generate accurate and meaningful reports for internal management and external stakeholders.</li> <li>▶ Consider options that include Excel-based effectiveness calculations, such as regression and dollar offset methods, which can be suitable for smaller entities or those seeking simpler approaches. These Excel-based methods can provide a cost-effective solution while still offering robust effectiveness analysis for hedging activities.</li> <li>▶ Suitability of a hedge effectiveness tool may vary depending on the specific requirements and complexity of your hedging activities. It is recommended to involve key stakeholders, including accounting, risk management, and IT teams, in the evaluation and selection process to ensure that the chosen tool effectively addresses the challenges and meets organization's needs.</li> </ul>



# 05

## Way forward



In order to effectively navigate the challenges and capitalize on the opportunities presented by volatile interest rates, banks should adopt a holistic approach that considers the key quadrants of governance, people, operational processes, and technology. By focusing on these areas, banks can enhance their hedging strategies and position themselves for greater financial stability and success.

### **Governance:**

To optimize the integration of hedge accounting with interest rate risk management, it is crucial for banks to prioritize strong governance practices. This involves

establishing a governance framework that includes board oversight, dedicated risk committees, and robust risk management frameworks. By aligning risk management strategies with robust hedge accounting practices, banks can accurately reflect the impact of interest rate fluctuations on their financial statements. Transparency is equally a key aspect of governance. Banks should effectively communicate the rationale behind their hedging decisions, including the identification of specific risks being hedged and the expected benefits. Lastly, ethical conduct should be at the core of governance practices. Banks should establish whistle-blower mechanisms to encourage the reporting of any potential misconduct or breaches of governance standards.

## People:

The expertise and involvement of key individuals, such as treasurers, CFOs, CROs and the board of directors, are critical in effectively navigating volatile interest rates. They play a crucial role in reassessing and refining hedging strategies to mitigate risks. For instance, treasurers can enhance their understanding by staying updated on market trends, attending training programs, and keeping abreast of economic indicators and regulatory changes that impact interest rates. This knowledge equips treasurers to make informed decisions regarding appropriate hedging strategies. Collaboration and communication among these stakeholders are vital for a comprehensive approach to managing interest rate risks. By working together, they can leverage their expertise and insights to develop and implement effective hedging strategies that align with the bank's risk management objectives.

## Technology:

To effectively manage interest rate risk and enhance hedge accounting practices, banks should proactively leverage established treasury management systems (TMS). By implementing robust risk management systems, banks can efficiently analyze data, model risks, and make informed decisions. Integration of TMS with the general ledger and risk management systems helps streamline operations, leading to robust interest rate risk management and hedge accounting. The integration of application programming interfaces (APIs) to source relevant data from external sources (like Bloomberg, Reuters etc.) enables real-time data exchange and process automation, further enhancing operational effectiveness. By embracing these technology tools, banks can streamline their operations, improve accuracy, gain valuable insights, and enhance their hedge accounting and interest rate risk management practices.

## Processes:

To optimize operations and achieve effective hedge accounting, banks should prioritize several key areas, including hedge documentation, data collection, effectiveness assessment, and implementing a golden source approach that involves creating a central repository of all required data from various teams. Implementing a golden source approach for data would enable a single, authoritative data repository is used for risk calculations and reporting, reducing data inconsistencies, and improving operational efficiency. Efficient data collection mechanisms, such as automated data feeds and integration with relevant systems, enable banks to capture market data, positions, and cash flows in a timely and accurate manner. Regular monitoring and assessment of hedge effectiveness, supported by robust analytical tools, allow banks to evaluate the ongoing suitability and performance of their hedging strategies. By focusing on these operational aspects, banks can enhance their risk management practices, maintain compliance with regulations such as IFRS 9, ASC815, IND AS109 or where applicable the ICAI guidance note on accounting for derivative contracts for banks and make informed decisions in the realm of treasury hedge accounting.



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