Discussion paper

Asset & Liability Management and Hedge Accounting – Are interest rate futures, the future?

Architects of trusted markets EUREX

Executive summary

- Interest rate risk hedging programs must strike a balance between achieving economic and regulatory objectives and avoiding unintended consequences for accounting and financial reporting.
- Hedge accounting is a framework established to bridge the economic and accounting view of a bank's financial position. While the accounting standards have evolved significantly to improve alignment, there is still a legacy of conservative practices applied in banks.
- The high prevalence of interest rate swaps in accounting-designated hedging relationships is curious, given the plethora of hedge accounting-eligible financial instruments available to manage interest rate risk.
- Interest rate futures markets (short-term and long-term) have many attractive features and offer a compelling alternative to interest rate swaps in managing the complex interest rate risk profiles of assets and liabilities in banks.
- Interest rate risk in the banking book has received much attention since the banking failures in 2023. The broadest possible toolkit should be available to improve risk management practices, particularly for smaller banks and financial institutions with limited access to the swaps market.

Content

1. Introduction

Bank balance sheets are typically characterized by longer-term assets funded by shorter-term liabilities, which means they exhibit a positive duration gap. When the yield curve steepens, the asset side of the balance sheet loses value at a faster rate than the liability side. Hence, while rising interest rates can have some positive implications for net interest income, there can be adverse consequences for a bank's 'economic value of equity'.[1]

Interest rate derivatives are used by banks to manage the duration gap through asset and liability management (ALM) hedging strategies. The banking failures of 2023 have reinforced the need for robust ALM and risk management, such that interest rate risk in the banking book (IRRBB) is again under the microscope of prudential standard setters such as the Basel Committee for Banking Supervision (BCBS).[2]

One of the challenges in applying economic hedging as part of ALM strategies is the significant potential for unintended consequences in accounting and financial reporting. Financial reporting standards have evolved over the last 20+ years to attempt to bridge the economic (risk management) view and the accounting view through the concept of 'hedge accounting'. However, there is a still a long way to go before greater harmonization of the two views is achieved, if at all.

The rigidity of the early standards for hedge accounting has left a legacy of very conservative practices in banks and other financial institutions, even though the standards have been evolving to provide more latitude to align with the economic view. Despite a plethora of instruments available for hedging interest rate risk, interest rate swaps are the dominant hedging instruments in accounting-designated hedging relationships.

With the publication of this paper, we aim to open the discussion on the use of interest rate futures for ALM hedging and challenge the prevailing preference for interest rate swaps in accounting-designated hedging relationships. The discussion is particularly important given the renewed focus on IRRBB and the need to expand hedging capabilities, particularly for smaller banks and financial institutions whose access to the swaps market may be limited.[3] While IFRS accounting standards[4] are referenced, this discussion paper does not constitute accounting, legal, regulatory or tax advice or guidance.

[1] European Central Bank. "Interest rate risk exposures and hedging of euro area banks' banking books." Financial Stability Review, May 2022

[2] S. Wilkes. "Banks cry foul over shock decision from Basel Committee." Risk.net. 11 July 2024.

[3] B. Newman. "Why It's Not Too Late for Interest Rate Swaps." BankDirector. 2 July 2024.

[4] Only IFRS accounting standards are referenced in this paper. US GAAP standards are not discussed or covered in this paper.

2. Interest rate futures – a primer

Interest rate futures are a type of standardized 'forward' contract which reference money market interest rate benchmarks or specific types of fixed income securities (e.g. government bonds). The broad range of interest rate futures contracts available allows fixed income market participants to hedge interest rate-sensitive positions or to gain (synthetic) exposure to interest rates across a range of tenors of the yield curve.

2.1 STIR Futures

Short term interest rate (STIR) futures are exchange-traded derivative contracts for forward starting short-term notional deposits/borrowings and settle against reference interest rate benchmarks at expiry.

Eurex offers a comprehensive suite of STIR futures referencing:

- The euro interbank offered rate (EURIBOR), the benchmark rate of the euro interbank market, the rate at which unsecured wholesale funds in euro could be obtained by credit institutions.
- The euro short-term rate (€STR), the benchmark risk-free rate for the Eurozone, the rate at which euro-area credit institutions can borrow unsecured on an overnight basis from financial institutions.
- The Swiss Average Rate Overnight (SARON®), the benchmark risk-free rate for the Swiss market, the rate at which funds can be borrowed on a secured basis in CHF.

2.2 LTIR Futures

Long term interest rate (LTIR) futures are exchange-traded derivative contracts for the forward delivery of bonds of a particular issuer (e.g. German government) which have a remaining maturity in accordance with a predefined range. While individual futures contracts reference a basket of bonds which are eligible for delivery, the futures price tracks the bond which is the cheapest-to-deliver bond when comparing all the bonds eligible for delivery.

Eurex offers LTIRs based on a range of European issuers, including Germany, France, Spain, Italy and Switzerland. Futures referencing Germany are the most liquid, given the status of German government debt as the European benchmark safe asset. Eurex offers LTIR contracts referencing German government debt covering the following nominal tenors: 2yrs (FGBS – Schatz), 5yrs (FGBM – Bobl), 10yrs (FGBL – Bund) and 30yrs (FGBX – Buxl).

3. Hedge accounting – a primer[5]

Under International Financial Reporting Standards (IFRS), derivatives are always accounted for at fair value through profit and loss (FVTPL). Derivatives (hedging instruments) are often used to hedge financial and non-financial assets and liabilities (hedged items). Hedged items can be accounted for at amortized cost, or at fair value through other comprehensive income (FVOCI), or FVTPL. Misalignment between the accounting of a hedging instrument and hedged item can create volatility in the profit and loss (P&L), which is not reflective of the economics achieved.

The concept of hedge accounting was introduced to minimize the effect on P&L of the risk that is being hedged, by aiming to ensure that derivative gains or losses influence revenues in the period corresponding to the gain or loss consequential to the risk being hedged. Hedge accounting applies three main classes of hedging: i) cash flow hedges; ii) fair value hedges; and iii) net investment hedges. Only cash flow and fair value hedges are discussed in this paper.

Under the IFRS accounting standards, hedge relationships are uniquely defined between the hedging instrument and the hedged item. For each hedge relationship designated as a cash flow hedge or a fair value hedge, the performance of the hedge relationship, known as 'hedge effectiveness', is assessed at each financial reporting date. Hedge effectiveness is assessed by measuring the change in fair value of the hedging instrument versus the change in fair value of the hedged item for the risk being hedged. Where a risk component is being hedged, such as the risk of movements in the benchmark interest rate, a 'hypothetical derivative' is permitted to be used in hedge effectiveness testing to proxy the risk component of the hedged item.

In a cash flow hedge the effective part of the change in fair value of the hedging instrument is recognized in a cash flow hedge reserve in 'other comprehensive income', while the ineffective part goes to P&L ('other financial income/expenses'). The gains/losses recorded in 'other comprehensive income' are recycled from the reserve through to P&L as 'interest income/expense' in the periods during which the hedged item impacts P&L.

In a fair value hedge, changes in fair value of the hedging instrument continue to be reported in the P&L, as 'interest income/expense'. The effective part of the change in fair value of the hedged item for the interest rate risk being hedged (by the hedging instrument) goes to P&L as 'interest income/expense', while the ineffective part is also reported in P&L, but as 'other financial income/expense'.

In both cash flow and fair value hedge accounting approaches, P&L volatility in the financial statements has been minimized as the accounting treatment has been aligned with the economics of the hedging applied.

[5] J. Ramirez. Accounting for Derivatives – Advanced Hedging under IFRS 9. Wiley 2015.

4. Evolving hedge accounting standards

Hedge accounting is extremely challenging to implement due to prescriptive designation and qualification of hedging relationships, hedge effectiveness testing requirements, onerous documentation, and disclosure requirements. Further there are material consequences for errors and/or when hedging relationships become ineffective. These challenges have led some firms to refrain from electing for hedge accounting and/or apply very conservative approaches to economic hedging activities in order achieve the desired accounting outcome. The conservatism has been reinforced by requirements to rotate external auditors, which leads firms away from more economic interpretations of the standards for fear of those approaches being overturned in the next rotation.

The original IAS 39 standard for hedge accounting was the subject of much debate due to its inflexibility and complex rules-based approach.[6] The standard had been criticized for creating a misalignment between economic hedging for risk management purposes and financial reporting, even creating perverse incentives and unintended outcomes. With the introduction of the IFRS 9 standard, the successor to IAS 39, the alignment between risk management and financial reporting outcomes has been significantly improved.

While there is a raft of changes under the IFRS 9 standard, some of the changes of most relevance to the subject of this paper are covered at a high level in Table 4.1 below.

Table 4.1: High level comparison of hedge accounting under IAS 39 and IFRS 9[7,8]

IAS 39	IFRS 9
Derivatives cannot be classified as hedged items.	Aggregated exposures that combine an eligible hedged item and a derivative and managed as one exposure can be classed as a hedged item.
Financial instruments accounted at FVOCI cannot be classified as hedged items.	Financial instruments accounted at FVOCI can be classified as hedged items.
Some restrictions on the hedging instrument allowed for a hedging relationship.	Selected restrictions have been eased. All financial instruments measured at FVTPL can be designated has hedging instruments.
Hedge effectiveness was quantitatively measured using a "dollar-offset" / regression-based method where the ratio of changes in the hedging instrument versus the hedged item was required to be in the range of 80 – 125% to be considered effective.	Principles-based criteria for determining hedge effectiveness, focusing on the economic relationship between the hedged item and the hedging instrument.
Rebalancing requires terminating the current hedge relationship and starting a new relationship.	Rebalancing does not result in a termination of the hedge relationship. The hedge ratio for hedge accounting purposes must change to align with the new hedge ratio for risk management purposes.
Hedge accounting can be discontinued at any time.	Hedge accounting can only be discontinued when the qualifying criteria are no longer met.

[6] Deloitte. IFRS in Focus – Hedge accounting reforms: A closer reflection of risk management. www.iasplus.com 2013.

[7] MNP LLP. "An Overview of IFRS 9 Financial Instruments vs. IAS 39 Financial Instruments: Recognition and Measurement." www.mnp.ca 2016.

[8] PricewaterhouseCoopers LLP. "Practical guide: General hedge accounting" 2016.

5. The prevalence of interest rate swaps in hedge accounting relationships

One of the key priorities of ALM is the management of IRRBB, which encompasses:[9]

- Gap risk, which includes re-pricing risk and yield curve risk;
- Basis risk, where assets and liabilities with similar tenors are priced with different interest rate benchmarks; and
- Option risk, from behavioral and other optional elements embedded in assets, liabilities and/or off-balance sheet items.

While there is a plethora of instruments available to manage IRRBB, interest rate swaps are the dominant hedging instruments in accounting-designated hedging relationships. We find this observation to be curious and may be due, in no small part, to the implementation guidance in the early standards which sought to set tight boundaries on what could qualify for hedge accounting.[10]

The interest rate swaps market enjoys the highest liquidity of all OTC financial derivatives, particularly benchmark interbank interest rate swaps.[11]

The attractiveness of interest rate swaps from a hedge accounting perspective also stems from the fact that they do not have to be traded based on standardized terms, such as the benchmark interbank terms. The critical terms (notional, dates, cash flows, interest rate benchmark) can be set to align very closely, or even exactly, with the terms of the hedged item.

Where a risk component (e.g. the benchmark interest rate) of the hedged item is being hedged, as opposed to the full fair value or the total coupon cash flows, an interest rate swap has been a convenient choice for the 'hypothetical derivative' used to test for hedge effectiveness. This has further incentivized the use of interest rate swaps as the hedging instruments.

[9] https://www.bis.org/basel_framework/chapter/SRP/31.htm?inforce=20191215&published=20191215
[10] https://www.ifrs.org/issued-standards/list-of-standards/ias-39-financial-instruments-recognition-and-measurement/
[11] J. H. M. Darbyshire. Pricing and Trading Interest Rate Derivatives. 3rd Edition. Aitch and Dee Ltd 2022.

6. The case for interest rate futures in hedge accounting relationships

Interest rate futures markets offer several compelling advantages including, but not limited to:[12]

- Electronic execution in a central limit order book or by blocks;
- Independent and transparent pricing;
- Lower initial margin requirements compared to swaps;
- Lower clearing fees;
- Liquidity from a broad array of (all-to-all) market participants, alongside liquidity providers directly incentivized by exchanges; and
- Tighter spreads from higher liquidity, resulting in lower costs from crossing the bid/ask spread.

In the Tables 6.1 and 6.2 below, analysis is provided to illustrate the comparative liquidity, margin, transaction and clearing costs of EURIBOR and €STR futures vs. EURIBOR and €STR interest rate swaps, respectively, based on a 2yr €100MM notional position. The analysis shows that in the case of €STR futures, costs are c.25% more favorable compares to swaps, while in the case of EURIBOR futures, the costs are broadly comparable. We expect the competitiveness of futures to improve further as liquidity develops on European exchanges.

In making the case for interest rate futures, it is instructive to: i) address some misconceptions about the application of the hedge accounting standards, particularly considering the changes under IFRS 9 per ss. 6.1 and 6.2 below; and ii) provide illustrations on interest rate futures as alternatives to interest rate swaps per s. 6.3 below.

[12] Greenwich Associates. "Total Cost Analysis of Interest-Rate Swaps vs. Futures" 2015. https://www.cmegroup.com/trading/interest-rates/files/greenwich-advisors-total-cost-analysis-of-interest-rate-swaps-futures.pdf

Table 6.1: Cost comparison of interest rate swaps vs €STR STIR futures

		Pay fixed	Short	Rec fixed	Long
		Swap	Futures (strip)	Swap	Futures (strip)
Term	Yr	2	2	2	2
Notional	€M	100	100	100	100
DV01 (abs)	€	20,088	20,000	20,088	20,000
Bid / offer spread	bps	0.6	0.47	0.6	0.47
Liquidity costs (A)	€	6,026	4,687	6,026	4,687
Margin	€	748,765	575,766	697,246	563,822
Margin funding costs (@75bps) (B)	€	11,231	8,636	10,459	8,457
CCP collateral fees (C)	€	2,696	2,073	2,510	2,030
Transaction fees (IRS) (D)	€	200	-	200	-
Exchange transaction and settlement fees (futures) (E)	€	-	376	-	376
CCP booking & maintenance fees (F)	€	686	-	686	-
Total costs (A+B+C+D+E+F)	€	20,839	15,773	19,881	15,551
Futures vs swaps savings (costs)			24%		22%

Table 6.2: Cost comparison of interest rate swaps vs EURIBOR STIR futures

		Pay fixed	Short	Rec fixed	Long
		Swap	Futures (strip)	Swap	Futures (strip)
Term	Yr	2	2	2	2
Notional	€M	100	100	100	100
DV01 (abs)	€	14,928	20,000	14,928	20,000
Bid / offer spread	bps	0.6	0.75	0.6	0.75
Liquidity costs (A)	€	4,478	7,500	4,478	7,500
Margin	€	662,249	542,251	638,356	529,079
Margin funding costs (@75bps) (B)	€	9,934	8,134	9,575	7,936
CCP collateral fees (C)	€	2,384	1,952	2,298	2,167
Transaction fees (IRS) (D)	€	200	-	200	-
Exchange transaction and settlement fees (futures) (E)	€	-	376	-	376
CCP booking & maintenance fees (F)	€	686	-	686	-
Total costs (A+B+C+D+E+F)	€	17,682	17,962	17,238	17,979
Futures vs swaps savings (costs)			(2%)		(4%)

6.1 Rolling

The underliers of STIR and LTIR futures provide coverage of a comprehensive range of tenors across the yield curve, as outlined in Section 2. Nevertheless, interest rate futures contracts have quarterly expiries, with delivery or cash settlement obligations for those with outstanding positions at expiry. Hence in order to maintain the risk position beyond the expiry date, the bank must enter into a new position in the next open contract. A more standard approach in the market is to close out the position in the front month contract and simultaneously enter a new position in the back month, i.e executing a calendar spread trade.

The reluctance to apply interest rate futures may stem from an understanding that rolling a futures contract requires de-designation of the existing hedging relationship (based on the front month contract) and designation of a new hedging relationship (based on the back month contract). However, this is a misconception as IFRS 9 permits the continuation of hedge accounting upon the replacement or rollover of a hedging instrument into another hedging instrument if it is part of the firm's documented hedging strategy.

6.2 Rebalancing

The narrative around the early IAS 39 standard suggested that a hedge accounting relationship consisted of an individual hedged item and an individual hedging instrument. This encouraged the use of a "sleep at night" or "set and forget" hedging instrument, without the need for ongoing monitoring and maintenance of the hedge, i.e. swaps which matched the hedged item's critical terms.

ALM hedging programs are more likely to employ the use of interbank benchmark instruments and/or standardized contracts in sufficient quantities to match the risk exposure of the hedged item, by calculating the appropriate hedge ratio. It is accepted that the use of benchmark/standardized instruments introduces basis risks, and rebalancing may be required from time-to-time.

IFRS 9 permits rebalancing if a hedging relationship ceases to meet the hedge effectiveness requirement regarding the hedge ratio but the risk management objective for that designated hedging relationship remains the same. There is no requirement to de-designate and re-designate the hedging relationship on rebalancing, notwithstanding the recognition of ineffectiveness in the P&L prior to the rebalancing.[13] The allowance for rebalancing under the IFRS 9 standard further supports the use of standardized contracts such as interest rate futures. If a risk management strategy is robust, rebalancing should be the exception rather than the rule and it would not be viewed favorably for rebalancing to be applied to manage short-term fluctuations. Some legitimate circumstances where rebalancing would be required for interest rate futures may include a change in the cheapest-to-deliver bond in an LTIR contract or the impact of a material change in the monetary policy regime on STIR contract performance.

6.3 Term structure

As outlined in Section 5, the closer the critical terms of the hedging instrument are to the critical terms of the hedged item, the easier it is to fulfil the comprehensive qualitative and quantitative requirements of hedge accounting. This explains the preference for swaps as the hedging instrument, as there is more scope to tailor the terms of the swap to align with the hedged item. From a more practical perspective, even benchmark swaps are able to at least match the duration and the underlying reference interest rate of hedged items, such as corporate loans. Nevertheless, it is worth re-examining the potential for interest rate futures as hedging instruments in hedge accounting relationships, particularly in relation to term structure considerations.

[13] PricewaterhouseCoopers LLP. "Practical guide: General hedge accounting" 2016.

Case study 1:
Hedging a 2.5 yr floating rate liability – a cash flow hedge

Consider an example of 2.5yr floating rate liability referenced to the 6M EURIBOR rate, where the ALM manager wishes to increase the duration of the liability by hedging the exposure to variability in expected future cash outflows attributable to changes in the 6M EURIBOR rate. The hypothetical derivative for measuring hedge effectiveness would be a receive-fixed pay-floating interest rate swap, with a notional amount and date schedule aligned with the liability. The ALM manager has a choice whether to hedge the liability with a pay-fixed receive-floating swap where all critical terms (date schedule, tenor notional, interest rate benchmark) are matched and neutralize any ineffectiveness, or use an interbank benchmark swap or STIR futures contracts and tolerate some ineffectiveness. The benefits to hedge accounting of a tailored swap need to be weighed against the costs that a swap dealer may charge for trading a bespoke instrument.

If EURIBOR STIR futures contracts are employed, the objective is to identify the optimal number of contracts to hedge the hypothetical derivative (swap) representation of the hedged liability. While it is overly simplistic to characterize swaps and a sequential series of forward contracts, STIR futures are indeed used to hedge the term interest rate risk arising from swaps.[14] While a hedge could be constructed by comparing the interest rate sensitivity (DV01) of the front month contract with the interest rate sensitivity (DV01) of the hypothetical derivative to identify the appropriate hedge ratio, the hedge will likely require frequent rebalancing to address the tenor basis (term structure mismatch).

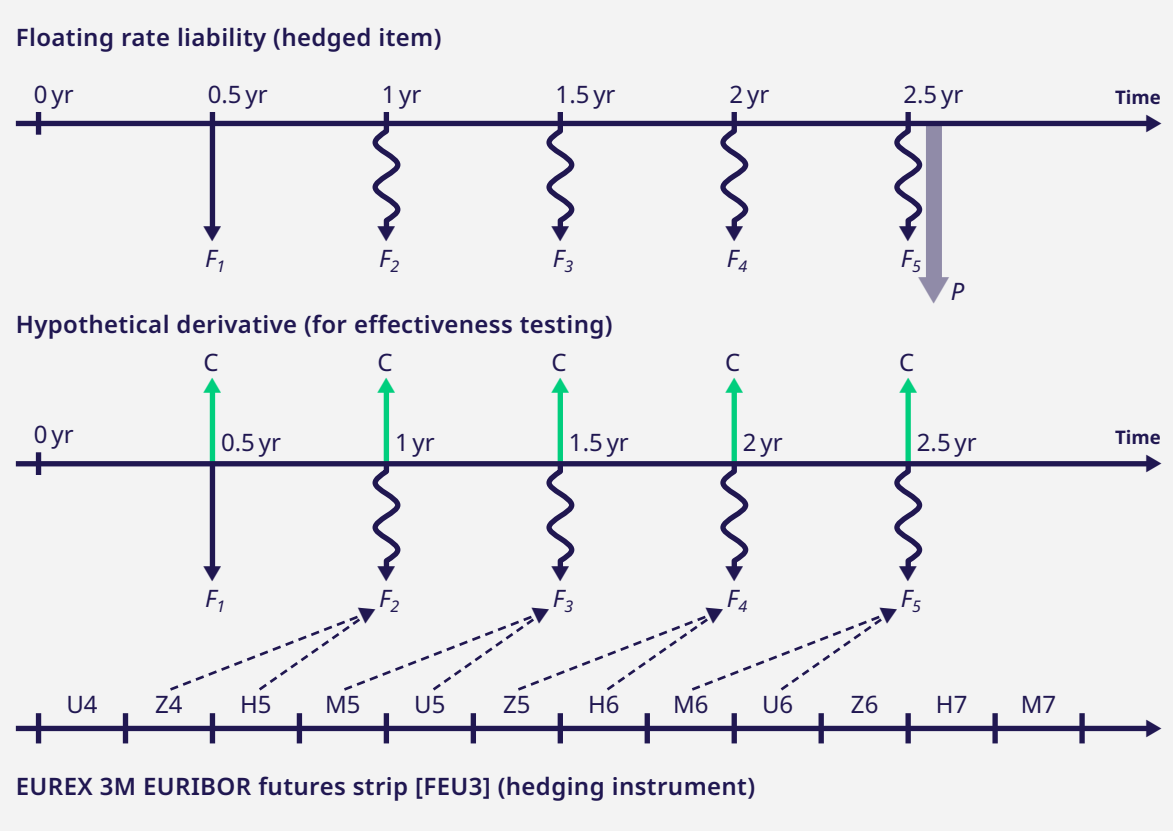
A better solution, as illustrated in Fig. 6.3.1, is to sell a strip of Eurex 3M EURIBOR STIR futures (Z4 to U6). The hedged item could be treated as five successive 6M liabilities, and implied 3M forward rates could be used to calculate the implied 6M forward rate, e.g. the M5 and U5 contracts are used to determine the implied floating rate for the F3 floating rate cash flow. The fixed rate for the hedged liability is backed out from the one realized and four implied 6M forward rates, using the standard internal rate of return formula.

The number of futures contracts required is determined through DV01 analysis of the futures strip versus the hypothetical derivative. All the contracts in the strip are held to the fixing dates of the relevant cash flow that the contracts are hedging to ensure that the intended cash flow hedge result is achieved. The changes in fair value of the strip and settlements are accumulated in other comprehensive income and are released to P&L in line with the interest expense from the floating rate liability to synthetically create fixed rate debt.

Where reset dates of the liability / hypothetical derivative do not align with IMM dates of the STIR futures contracts, the ALM manager may have to apply a differential weighting across available contracts and/or expect some ineffectiveness from non-convergence effects. Ineffectiveness may also result from convexity differences between STIR futures and the underlying liability.

[14] I. G. Kawaller. "Comparing Eurodollar Strips to Interest Rate Swaps." www.hedgestar.com

Figure 6.3.1: Hedging a floating rate liability using Eurex 3M EURIBOR STIR futures

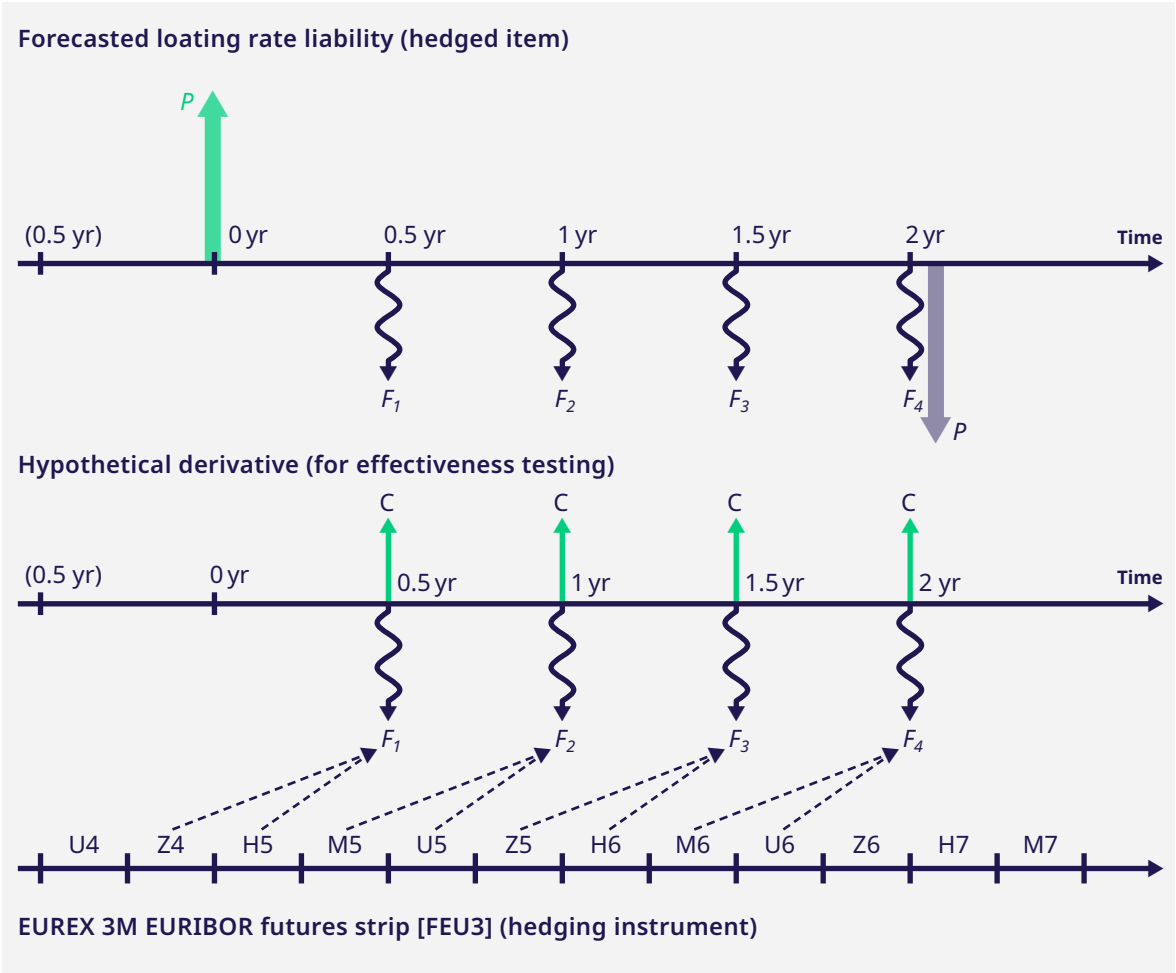


Detractors of the use of a strip of STIR futures for duration matching, versus a vanilla swap, may argue that liquidity in STIR futures is concentrated in the front month and gets progressively weaker for contracts with later expiries. While this argument is supported by liquidity statistics, it should be noted that significant progress has been made by futures exchanges in the marketing of "packs" and "bundles". Packs and bundles allow strips to be sold as a package, while still achieving transparent and market-aligned pricing and without legging risk. For 3M EURIBOR futures contracts, Eurex offers packs covering the White, Red, Green, Blue and Gold expiries, and offers bundles ranging from two years to five years. Eurex also offers packs and bundles for 3M €STR futures contracts but limited to the contract's current 36-month horizon. Eurex's STIR futures Liquidity Provider (LP) promotion schemes offer direct incentives to LPs who provide competitive pricing for packs and bundles, which further supports the case for the use of futures.

Case study 2:
Hedging a forecasted 2yr floating rate liability – a cash flow hedge

Hedging of a forecasted floating rate liability in the context of achieving hedge accounting treatment can be undertaken using a forward-starting pay-fixed receive-floating interest rate swap. STIR futures can be used to hedge a forecasted floating rate liability in a manner similar to that covered in Case study 1, provided there are available contracts (and liquidity) covering the horizon of the forecasted liability. This is illustrated in Figure 6.3.2 where the ALM manager's objective is to eliminate the variability of highly expected future cash flows stemming from the issuance of a 2yr floating rate liability referenced against 6M EURIBOR. All the contracts in the strip are held to the fixing dates of the relevant cash flow that the contracts are hedging to ensure that the intended cash flow hedge result is achieved. The changes in fair value and the settlement of the futures contracts of the strip are accumulated in other comprehensive income and released in line with the interest expense from the floating rate liability to synthetically create fixed rate debt.

Figure 6.3.2: Hedging a forward starting floating rate liability using Eurex 3M EURIBOR STIR futures

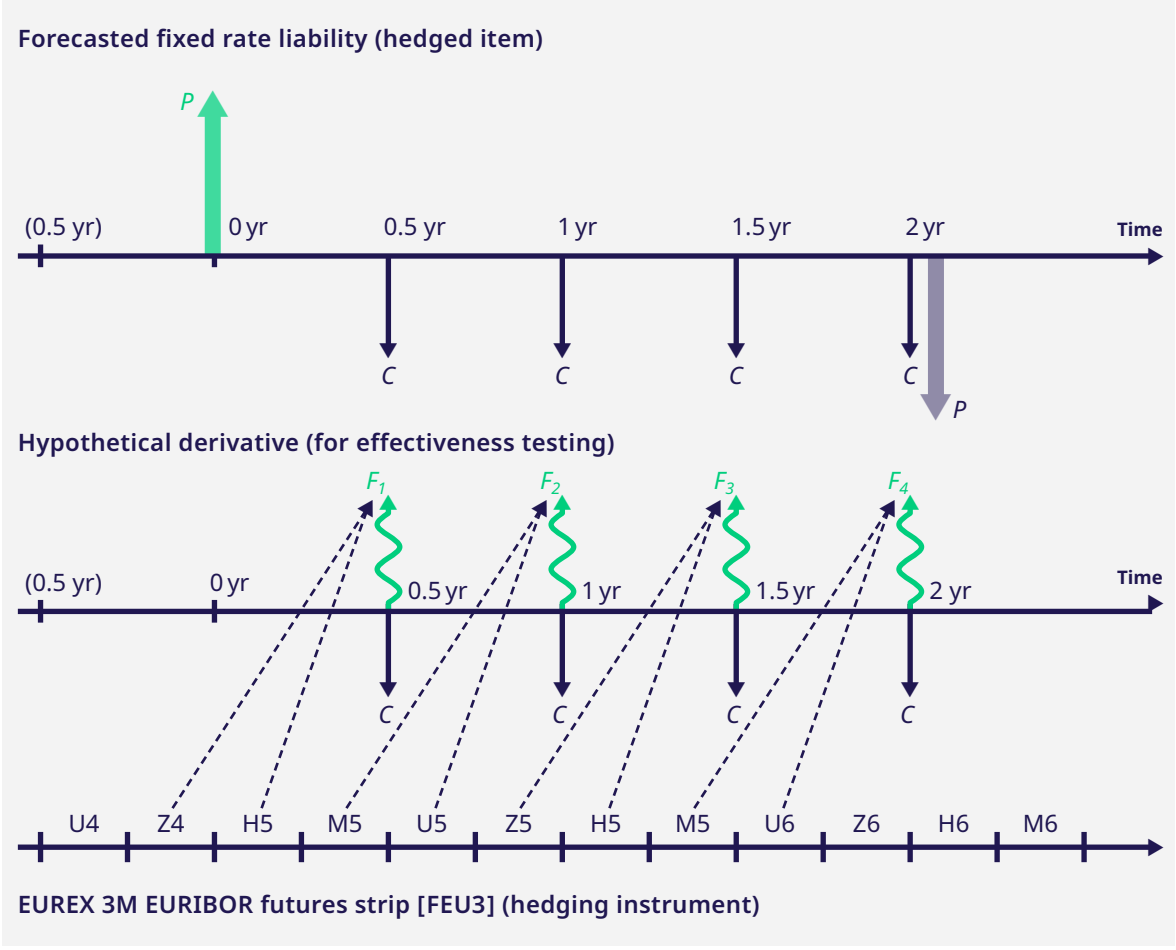


Case study 3:
Hedging a forecasted fixed rate liability – a cash flow hedge

An ALM manager plans to issue a 2yr fixed rate liability, which will be based on the prevailing 2yr swap rate at the time of issuance. If interest rates rise between now and the issuance date, this will result in higher borrowing costs. The ALM manager's objective is to eliminate the variability of highly expected future cash flows as a result of changes in the benchmark interest rate between now and the setting of the fixed rate at the time of issuance. A forward starting pay-fixed receive floating interest rate swap is proposed, but swaptions could also be used where the ALM manager wishes to retain any upside from a fall in rates. Despite the liability being fixed rate, it is still a cash flow hedge from an accounting perspective.

As an alternative to a forward starting swap, STIR futures can be used in a manner similar to the previous two case studies, provided there are available contracts (and liquidity) covering the horizon of the forecasted liability. This is illustrated in Figure 6.3.3. In contrast to the previous two case studies, all contracts in the strip which are still live at the issuance date are closed out as there is no further risk to the coupon payments. The proceeds from settlements and terminating the contracts are recorded in other comprehensive income and released to P&L in line with the interest expenses from the liability, resulting in an effective fixed borrowing rate in line with the risk management strategy.

Figure 6.3.3: Hedging a forward starting fixed rate liability using Eurex 3M EURIBOR STIR futures



Case study 4:
Bond futures

To the extent that STIR futures contracts are not available for the full tenor of the hedged item, or ALM managers are not comfortable with the liquidity in the latter expiries, another option is to employ LTIR futures contracts. The Eurex Schatz (2yr), Bobl (5yr), Bund (10yr) and Buxl (30yr) futures contracts offer superior liquidity as they are based off German government bonds which are the benchmark safe asset for the Eurozone. While LTIR futures have still quarterly expiries, the coverage available offers ALM managers the capability to hedge assets or liabilities across a wide range of tenors. Tenor matching between the futures contract underliers and the asset or liability being hedged allows stable hedge ratios to be established, with limited need for rebalancing outside of cheapest-to-deliver switches and/or monetary policy regime changes. Where tenors cannot be matched by single futures contracts, a combination of contracts with different tenors could be optimized to more precisely match the tenor of the hedged asset or liability. For example, a combination of Bund (10yr) and Buxl (30yr) futures could be used to hedge the fair value of a 12yr fixed rate asset.

In the context of hedge accounting, where hedge effectiveness is assessed against a hypothetical derivative, a long position in Eurex German government bond futures can be used to obtain similar interest rate exposure as a receive-fixed swap, while a short position can be used instead of a pay-fixed swap. Construction of the hedge involves comparing the interest rate sensitivity (DV01) of the front month LTIR futures contract cheapest-to-deliver bond with the interest rate sensitivity (DV01) of the asset / liability being hedged or its hypothetical derivative representation to determine the hedge ratio.

While there is a robust economic relationship between LTIR futures and interest rate sensitive assets and liabilities, an ALM manager needs to be aware of the sources of ineffectiveness[15] that may impact the outcome from a hedge accounting perspective. The comparison of interest rate sensitivities to determine the hedge ratio assumes that the basis between spot yields and forward yields remains constant, which is an oversimplification. Further, there will be differences in convexity between the LTIR futures and the hedged asset or liability. Yield volatility differences between the LTIR futures underliers and that of the hedged asset or liability should be analyzed and assessed as they can also give rise to ineffectiveness – government bond yields can move very differently to the benchmark interest rates on which the hedge asset or liability is based.

[15] J. Shatz. "Using Treasury Futures to Replace Swap Exposure in a Low Interest Rate Environment." www.cmegroup.com 2013.

7. Hedge accounting for the future – Dynamic Risk Management

From a conceptual point of view, hedge accounting considers hedging relationships as an individual hedged item (asset or liability) or a closed portfolio (assets or liabilities) and an individual hedging instrument. The practice of ALM managers, on the other hand, is to hedge open portfolios of fixed and floating rate exposures dynamically on a net basis. The need for dynamic risk management is due to the fact that banks' assets and liabilities often offer a considerable degree of optionality to the customer or investor. While banks can employ behavioralization modelling to inform the development of stable hedging strategies, there will always be limitations to this approach.

IFRS 9 was released in advance of the completion of a project on the hedge accounting treatment of fair value macro hedges, which aims to address the additional complexity from fair value hedges of the interest rate exposure of an open portfolio of financial assets or financial liabilities.[16] The IAS 39 standard for fair value macro hedges can continue to be applied in the interim, but due to its shortcomings the outcomes of the Accounting for Dynamic Risk Management project are eagerly awaited.[17]

Bank ALM functions undertake comprehensive 'structural hedging' programs over their banking book portfolios with the aim of reducing the sensitivity of interest income to interest rate movements and stabilizing margins over time. In structural hedging, fixed rate or rate-insensitive liabilities without a contractual maturity are swapped into floating using receive fixed pay floating interest rate swaps.[18] Behavioral analysis is used to build a stable liability profile that can be hedged, with a buffer applied to protect against volatility in outflows. Hedge accounting considerations inevitably play a role in the strategy for structural hedging as banks have limited appetite to pursue economic hedging strategies at the cost of higher P&L volatility.

While banks claim that their structural hedging programs qualify for hedge accounting, they are building closed portfolios for what is inherently an open portfolio exercise. The Dynamic Risk Management accounting framework will be an important step in the evolution of structural hedging.

STIR futures could equally substitute for interest rate swaps in structural hedging programs through the use of strips. Bank disclosures show that the average duration of structural hedges is between two and four years, i.e. well within the contract horizon for EURIBOR futures and available bundles. STIR futures provide the versatility to adjust hedges to align with bank deposit dynamics and allow for the granular profiling required for robust portfolio and capital management of IRRBB under Pillar 2.

The growing prevalence of structural hedging programs in banks and the evolving hedge accounting standards to address dynamic risk management may herald a new era for the use of STIR futures in ALM, acting as a driver for more permanent demand for liquidity for strips built from packs and bundles.

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8. Summary

The management of interest rate risk in the banking book (IRRBB) by ALM managers is a key differentiator of the performance of banks against their peers. Interest rate hedging programs are critical in meeting economic and regulatory requirements for the management of IRRBB, but they can have unintended consequences for accounting and financial reporting.

Hedge accounting aims to bridge the economic (risk management) view and the accounting view of a bank's financial position. While the accounting standards have evolved considerably over the past decades, they remain complex to interpret and onerous to implement.

Interest rate swaps are a highly efficient instrument for hedging interest rate risk and meeting hedge accounting requirements. But the prevalence of interest rates swaps in accounting-designated hedging relationships can be explained, in part, as being a legacy of the initial highly stringent standards and guidance for hedge accounting. With the transition from IAS 39 to IFRS 9 this deserves to be challenged, given the plethora of financial instruments available that can achieve equivalent economic outcomes.

Interest rate futures markets have attractive features including transparency, low costs, tight spreads and robust liquidity. Short-term (STIR) and long-term (LTIR) interest rate futures are available, providing coverage and hedging capability across the full spectrum of the yield curve. Strips of STIR futures or LTIR futures can be used to replicate the interest rate risk profile of banking book assets and liabilities and offer a compelling alternative to swaps.

The next evolution of IFRS hedge accounting standards to account for Dynamic Risk Management is expected to strengthen the case for STIR futures even further, with immediate applications in banks' structural hedging programs.

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