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FTP Curve Construction: A technical guide to the Base Rate, TLP and CLC components of Funds Transfer Pricing

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Abstract

Funds Transfer Pricing (FTP) allocates the cost of interest rate and liquidity risk to the business lines that originate it, and its quality depends on the curves from which every transfer rate is built. There is no single accepted method. The Base Rate has several candidate benchmarks, the Term Liquidity Premium (TLP) has no market-observable price, and the Contingent Liquidity Charge (CLC) depends on regulatory parameters and on the bank's own risk appetite. This paper sets out the main alternatives for each component and makes a specific recommendation in each case: an overnight-indexed swap Base Rate; a TLP that blends the wholesale funding curve with a term-liquidity-only curve in proportion to the Stable Deposit Ratio (SDR); and a CLC charged on the regulatory outflow, scaled for risk appetite, plus the commercial surplus. It also covers the Net Stable Funding Ratio (NSFR) and Liquidity Coverage Ratio (LCR) parameters, the EU supervisory framework, and how often the curves should be refreshed when markets are volatile.

SECTION 01

Framework and Scope

This paper assumes familiarity with FTP and concentrates on how the curves are built. We use a six-component framework: a Base Rate that prices interest rate risk in the banking book (IRRBB); a Term Liquidity Premium that prices maturity transformation and is driven by the NSFR; a Contingent Liquidity Charge that recharges the cost of the buffer of high-quality liquid assets (HQLA) held under the LCR; a premium for embedded options, charged as an Option-Adjusted Spread where Treasury can hedge them; other adjustments, such as the capital funding benefit and funding breaks; and behavioural effects, which set the amount and tenor of non-contractual products and so decide which point of each curve a product is charged. The first three components are the subject of this paper.

FRAMEWORK

The FTP Rate Formula

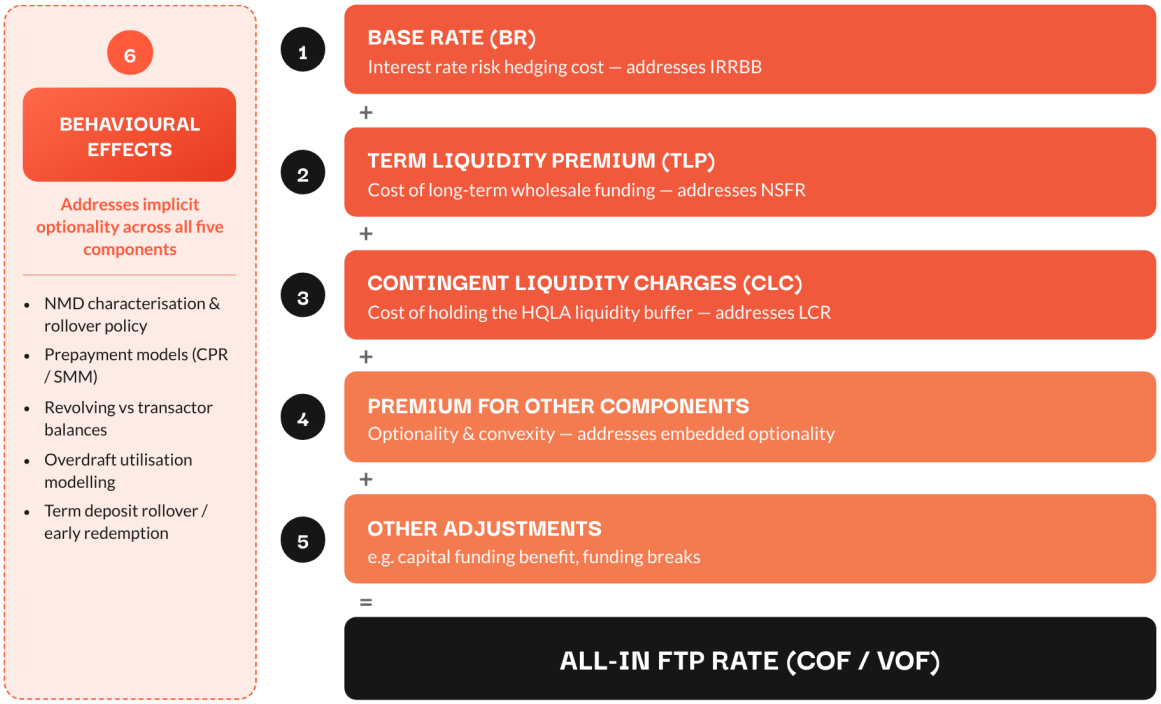


Figure 1 — Five components stack additively into the all-in rate; Behavioural Effects overlays all five.

SECTION 02

Constructing the Curve

This is the layer where regulation stops being a reporting exercise and starts being a price. NSFR and LCR were introduced under Basel III after the 2007–09 crisis, when banks such as Northern Rock and Bear Stearns found that being solvent on paper counted for little once short-term funding markets froze. LCR was phased in from 2015 to a full 100% by 2019. NSFR was finalised in 2014 and set as a Basel minimum from 2018; it became binding in the EU in June 2021 under CRR2, and in the US in July 2021. Both now sit permanently behind every FTP framework, to identify and allocate the cost of holding buffers above the limits in the Risk Appetite Statement.

REGULATORY DRIVERS

NSFR and LCR, at a Glance

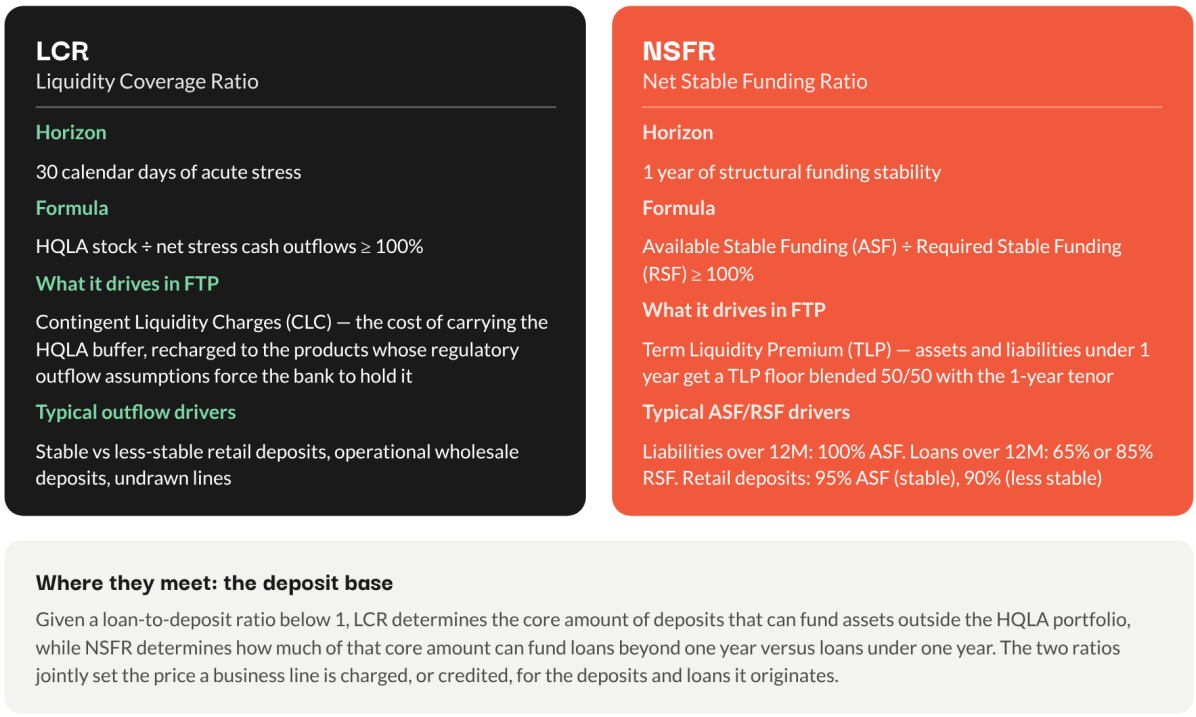


Figure 2 — LCR prices the 30-day survival horizon; NSFR prices the one-year structural funding horizon.

Building the Base Rate Curve

The Base Rate is the bank's risk-free curve and prices new business according to its repricing profile. For fixed-rate deals, the rate is set at origination for the weighted average life; for variable-rate products, the tenor is the next reset date of the underlying index.

The move from IBOR-style benchmarks to overnight risk-free rates — €STR, SOFR, SONIA — changed what the Base Rate represents. A term interbank rate like LIBOR bundled three risks into one number:

- the credit risk of lending unsecured to another bank for the length of the term,
- the term liquidity risk of committing funds for that period rather than overnight,
- and a supply-and-demand premium specific to the interbank lending market itself.

An overnight rate compounded over the same horizon strips almost all of that out: it references actual overnight transactions, typically secured or centrally cleared, so it carries negligible counterparty credit risk and no term liquidity premium. What is left is, as close as any market rate gets, the pure time value of money.

The reference varies by currency and by the liquidity of local hedging instruments. In EUR, we recommend the swap curve because it involves no exchange of notional and contains minimal credit or liquidity risk.

We add two recommendations:

- Where local market depth is insufficient to hedge long-dated exposures, we recommend leaving the residual risk in the business line and transferring only the hedgeable portion to Treasury, so the FTP reflects the term Treasury can actually hedge rather than the policy behavioural term.
- Where the bank lacks capital-market access in a currency, we recommend using Cross-Currency Swaps to convert the exposure into a currency it can hedge.

The Term Liquidity Premium: The Most Contested Number in FTP

The TLP isolates the spread of the bank's true cost of funding over the risk-free Base Rate: the compensation for the maturity transformation of funding term loans with shorter-dated liabilities. It is the component that never quite settles. Base Rate is largely mechanical once a swap curve is chosen, and CLC follows a regulatory formula almost to the decimal. For the TLP there is no market-observable number for a bank's own marginal cost of long-term funding, so every bank has to choose a proxy, defend it, and keep defending it as conditions move.

The TLP is contested for organisational as much as technical reasons. Asset and Liability Management (ALM) seeks to credit stable funding, deposits above all, at its true marginal market value and to charge loans the cost of tying that funding up over longer tenors, so that a business line is indifferent between raising funds from Treasury and from the market. Business lines, by contrast, find a cheaper loan rate and a wider deposit margin easier to deliver if crediting stays soft. But under-crediting a deposit franchise does not make the shortfall vanish: it resurfaces as an unowned subsidy on the loan book. We recommend crediting stable funding at its marginal market value.

The Proxy Problem: Four Ways to Measure the Same Thing

Ask five banks how they build their TLP curve and you can get five answers, because the market offers no universally quoted price for a bank's marginal term funding cost. Four proxies dominate, each solving a weakness in the others:

DEFINING THE RIGHT TLP PROXY

Four Proxies, Four Trade-Offs

PROXY	DESCRIPTION	PROS	CONS
01 Real Treasury Quotes	The average spread over benchmark rate in the bank's own treasury wholesale funding products, for each relevant tenor.	Provides real, up-to-date intrinsic credit risk of the bank.	Quotes are not available for every tenor; not every bank issues debt at every point on the curve.
02 ASW vs CDS	The difference between a bank's Asset Swap spread and its Credit Default Swap spread.	Reveals a comparatively pure funding liquidity premium.	No view per tenor; subject to market inefficiencies and volatility.
03 Primary vs Secondary Market Yield	The spread between the yield at primary issuance and the current secondary market trading yield of the bank's own debt.	Captures the market's real-time reassessment of the bank's credit quality since issuance.	Very few market quotes; requires an actively traded secondary market.
04 Term Swap vs OIS Swap	The spread between term reference rate swaps (e.g. 3M EURIBOR IRS) and overnight index swaps (€STR OIS) at equivalent tenors.	Pure view on liquidity premium; highly liquid market with quotes across all standard tenors.	Does not reflect idiosyncratic credit risk; represents a generic interbank liquidity premium.

Every proxy has trade-offs. This lack of a single, perfect proxy forces banks to choose and defend a methodology — which is a significant governance challenge.

Figure 3 — The four most common TLP proxies used in the market, and where each one breaks down.

Four Variables That Decide Which Proxy Fits

We recommend narrowing the field with four structural questions about the bank's own balance sheet before choosing a proxy, or a blend:

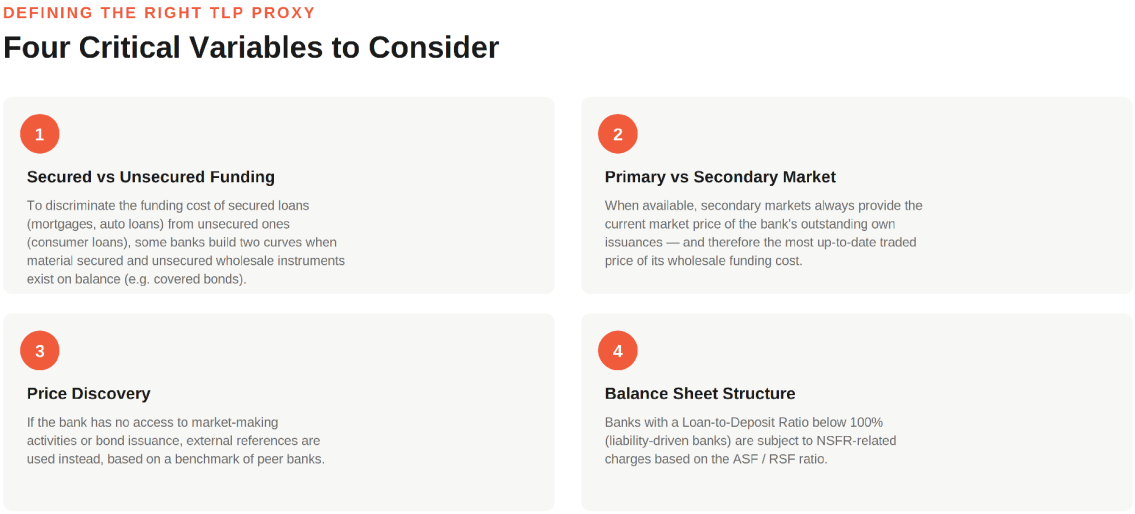


Figure 4 — The four structural questions that narrow down which proxy — or blend of proxies — fits.

Recommended Approach: A Blended Curve

Rather than defend one imperfect proxy, we recommend blending two, weighted by how much of the loan book is already funded by the bank's stable deposit base. Loans funded by sticky deposits need not pay the full wholesale rate, because the bank is not going to the wholesale market for them, but they should not be priced at zero either, since Treasury gives up the option to invest that funding elsewhere. Five principles keep this consistent and defensible:

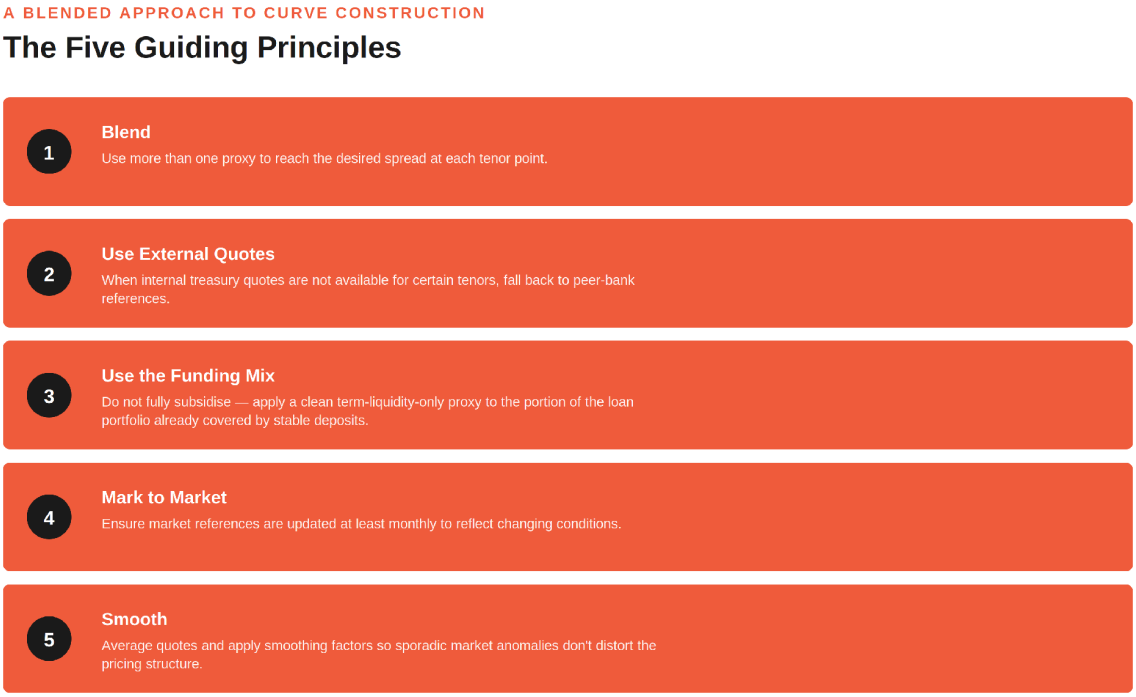


Figure 5 — The five guiding principles behind the recommended blended TLP methodology.

Formally, the loan portfolio is split by a Stable Deposit Ratio (SDR) — stable deposits divided by the loan portfolio — and the wholesale funding curve and a term-liquidity-only curve are blended in proportion to it:

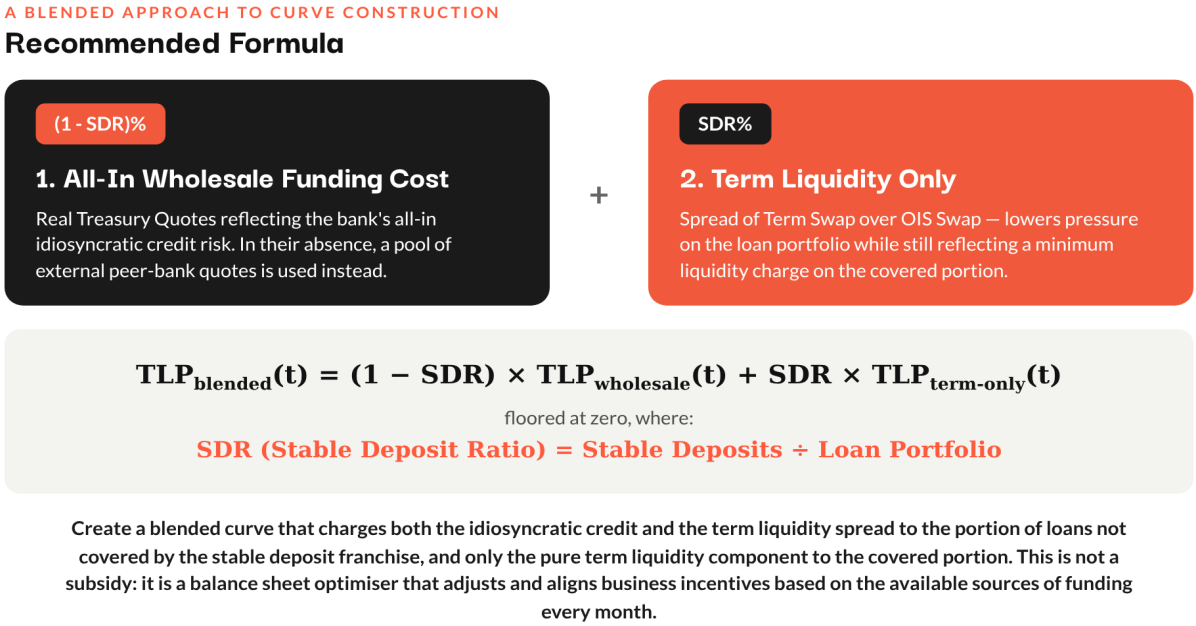


Figure 6 — The blended TLP formula: full wholesale cost on the uncovered portion, a minimum term-liquidity charge on the rest.

In the example below, a bank with a Stable Deposit Ratio of 54% blends a steeply rising wholesale curve with a much flatter term-liquidity-only curve. The result sits well below the wholesale cost at long tenors without collapsing to zero: at SDR = 100% it flattens to the minimum term-liquidity charge, and at SDR = 0% it replicates the wholesale curve.

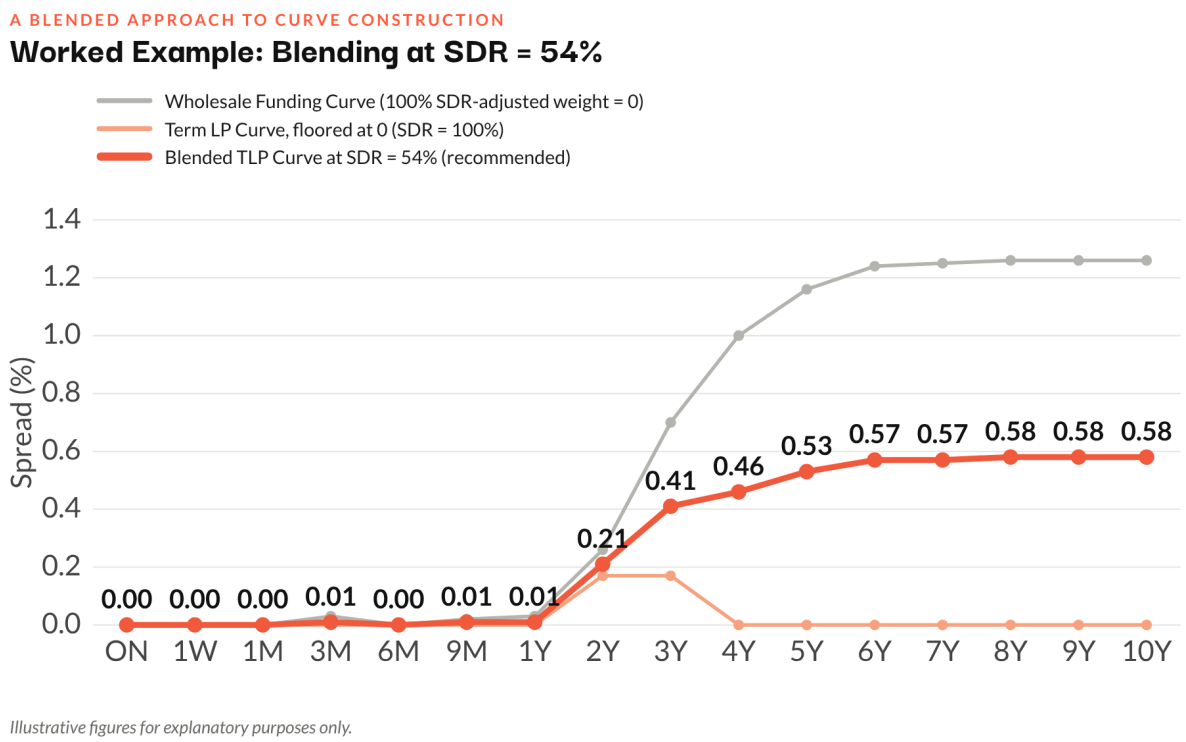


Figure 7 — Worked example: blending the wholesale and term-only curves at SDR = 54%.

Why not just subsidise the loan book directly?

Directly subsidising loans with cheap deposits feels generous but sends the wrong incentives from Treasury to the business lines. A blended curve works on both sides at once: the deposit franchise's real size helps win loan market share (Market Competitivity), while pricing still steers behaviour toward growing the cheap, long-term deposits that lower the bank's cost of funds (Balance Sheet Optimisation).

NSFR: The One-Year Anchor

NSFR is Available Stable Funding (ASF, liability side) divided by Required Stable Funding (RSF, asset side), and must stay at or above 100%. Because it is measured on contractual maturity, we recommend that any behaviouralisation of a product's tenor still respects a TLP floor at one year, the minimum tenor the regulation treats as fully stable. The main on-balance-sheet treatments are:

< 12 months	50% RSF (assets) / 50% ASF (liabilities), floored at 50% × TLP[maturity] + 50% × TLP[min(1Y, maturity)].
> 12 months	Liabilities and capital: 100% ASF. Loans: 65% RSF (residential mortgages with risk weight up to 35%) or 85% RSF (other loans). Apply TLP[maturity].
Retail deposits	Stable deposits: 95% ASF. Less stable deposits: 90% ASF.

Corporate deposits	Operational: 50% ASF. Non-operational, from non-financial corporates: 50% ASF. Non-operational, from financial institutions under 6 months: 0% ASF.
Undrawn committed lines	5% RSF on the undrawn amount, with no gradation by tenor.

LCR and Contingent Liquidity Charges

CLC exists because not every deposit can be reinvested in loans: a regulation-defined share must sit in the HQLA buffer, which yields less than the bank's all-in FTP rate. CLC recovers that drag from the products whose LCR outflow assumptions set the size of the buffer: non-maturing deposits, time deposits, undrawn committed facilities and derivative collateral calls. We recommend calculating it in five steps:

- Calculate the % of regulatory outflow the product attracts under LCR (per the Delegated Act tables for retail, corporate and trading products).
- Apply the Risk Appetite Statement factor to the regulatory outflow (the RAS factor, for example 140% if the RAS requires the bank to hold 40% more than the regulatory requirement), to reach the buffer the bank actually holds against that product.
- Add the commercial surplus: the part of the investment portfolio that exists because deposits exceed loan demand, allocated to the deposit franchise that generated it. The result is the amount subject to CLC = (% regulatory LCR outflow × product balance × RAS factor) + commercial surplus allocated.
- Calculate the net cost of carrying the buffer: the cost of refinancing the HQLA at the survival-horizon tenor (typically one year, including the TLP), less the overnight benchmark return (€STR) assumed on the buffer.
- Combine the two: CLC = amount subject to CLC × (cost of the refinancing horizon − overnight benchmark return on the buffer).

The carry is measured against the overnight rate assumed on the investment portfolio, not against what the HQLA book actually earns. The distinction matters: if the business lines were charged the difference to the real HQLA return, they would pay for Treasury's investment decisions, good or bad. Using the notional overnight rate keeps the business lines' charge stable and predictable, while the result of managing the buffer, positive or negative, stays in Treasury's P&L. That gives Treasury a reason to manage the buffer well, and we therefore recommend measuring the carry against the notional overnight rate.

The commercial surplus belongs in the CLC base because it sits in the investment portfolio for lack of lending opportunities, not because regulation requires it, so its carry is charged back to the deposit franchise rather than left in Treasury's P&L.

One structural shift changes what the formula produces today. The logic assumes a meaningful gap between the cost of refinancing the buffer and the return the buffer itself earns. That gap was real when Base Rate curves were built on credit-sensitive interbank benchmarks such as LIBOR, which traded comfortably above the near risk-free yield on government bonds. Since the move to overnight risk-free rates (€STR, SOFR, SONIA) as the

standard benchmark, HQLA is priced off, and typically yields a modest spread above, the same overnight curve on which the Base Rate is now built. The cost-of-carry term is therefore much narrower than it used to be, and when the curve is flat or inverted and the TLP at the survival horizon is small it can be close to zero, or even turn slightly positive for Treasury, with the buffer earning marginally more than it costs to fund.

If holding HQLA generates a small structural gain rather than a drag, who should keep it? One view is to redistribute it to the business lines whose deposit and outflow profile sizes the buffer, symmetric with how CLC charges them when the carry is negative. The other is to retain it in Treasury's P&L, as compensation for the market and operational risk of running the buffer and as a cushion for the periods when the carry reverts to being a genuine cost. Both are defensible, and we do not prescribe one. We recommend that the treatment is governed through the FTP policy, and that the Asset and Liability Committee (ALCO) decides, and documents, where the gain sits and why, rather than leaving it as an unexamined default.

Worked example: the cost of carry on the buffer (illustrative)

A €1,000m non-operational corporate deposit book attracts a 40% LCR outflow, so €400m is required by regulation. The Risk Appetite Statement sets a factor of 140%, taking the buffer to €560m, and €100m of the bank's commercial surplus is allocated to this book, so the amount subject to CLC is €660m. The carry is the one-year refinancing cost minus the overnight benchmark: (one-year OIS 2.10% + TLP 0.40%) − €STR 2.00% = 2.50% − 2.00% = 0.50%. CLC = €660m × 0.50% = €3.3m a year, or 33 basis points on the deposits. If Treasury actually invests the buffer at 2.30%, it earns about €2.0m above the benchmark and keeps it; if weak management returns only 1.80%, Treasury absorbs a shortfall of about €1.3m. The business line pays €3.3m either way.

EU Regulatory Framework

What EU supervisors expect of FTP

CEBS Guidelines on Liquidity Cost Benefit Allocation (2010): liquidity costs, benefits and risks must be priced into products, performance measurement and new-product approval. This is the origin of liquidity FTP in the EU.

EBA/GL/2022/14 (IRRBB and CSRBB): sets expectations for modelling non-maturity deposits and for credit spread risk in the banking book, and caps the average repricing maturity of NMDs at five years. That cap bounds the behavioural tenor used for the TLP credit.

EBA/GL/2020/06 (loan origination and monitoring): requires risk-based loan pricing that reflects the cost of funding, so FTP feeds commercial pricing, not only reporting.

ILAAP (CRD Article 86 and the ECB ILAAP Guide): supervisors expect a mechanism that allocates liquidity costs and benefits to business lines, reviewed as part of the bank's own liquidity adequacy assessment.

Three Refinements the Base Case Leaves Out

Deposit betas. The share of a market-rate move that is passed on to depositors drives how NMD balances reprice and how much of them is truly stable. Estimate betas by product and segment, and re-estimate them when the rate regime changes, since behaviour in rising and falling cycles differs.

Negative rates and floors. When rates are negative, customer rates are usually floored at zero. The Base Rate curve can go negative, the TLP is floored at zero, and customer floors are embedded options priced through the Option-Adjusted Spread rather than hidden in the curve.

MREL. For banks with MREL or TLAC requirements, the marginal wholesale cost at long tenors is the cost of MREL-eligible issuance, typically wider than senior preferred. The wholesale leg of the TLP should reflect it where that is the funding the bank would actually raise, so Real Treasury Quotes and peer quotes should come from MREL-eligible issuance.

SECTION 03

Applying and Maintaining the Curve

Tenor Allocation: How a Transaction Gets Its Rate

A curve is only useful when every system applies it the same way. The first branch point is whether a transaction is fixed or floating and, if fixed, whether it is a bullet or amortising. Floating-rate transactions take the tenor implied by their reset interval and are recalculated at each reset. Bullets use the maturity at origination. Amortising structures use either the Cash-Flow Weighted Method (CFWM), which assigns the FTP rate to each cash flow by payment date and averages it by balance, or a duration-based allocation on a single average duration. CFWM suits pool-funded retail books; duration-based allocation suits matched-funded, deal-specific books.

OPERATIONALISATION

How a Transaction Gets Its FTP Rate

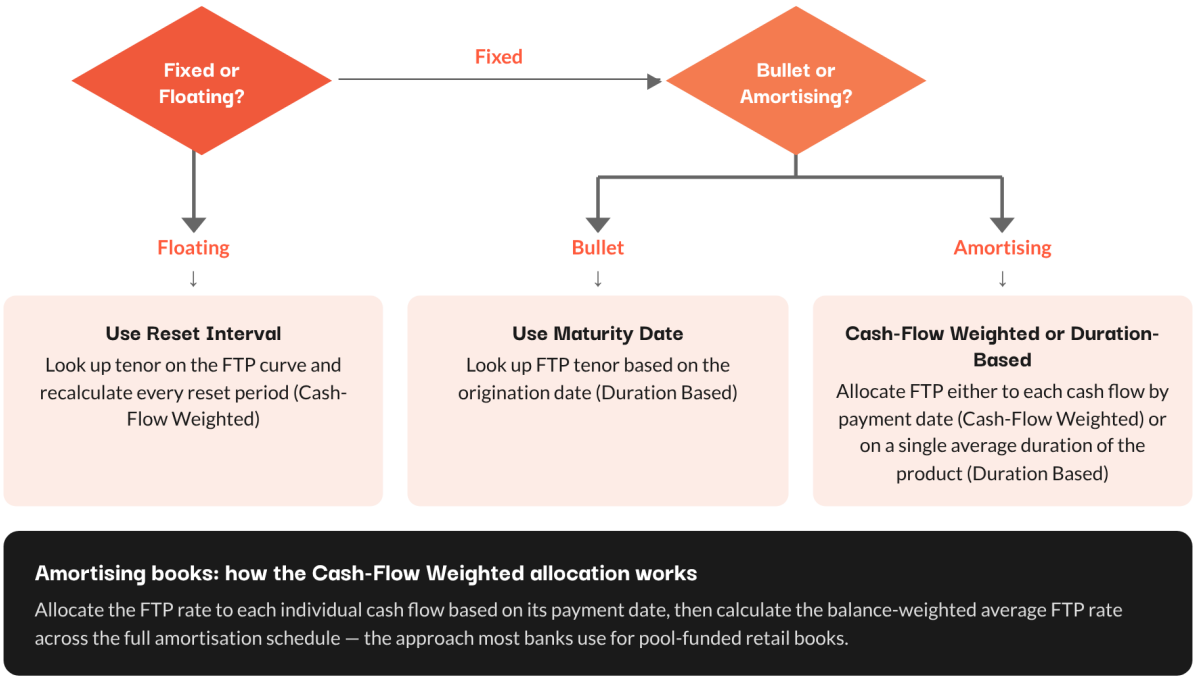


Figure 8 — The base rate allocation decision tree used to stamp every new transaction.

Keeping the Curve Current Under Volatility

Under elevated geopolitical risk, both the bank's idiosyncratic credit spread and the market-wide TLP can move within a single month, so the monthly refresh behind the blended curve is a floor, not a target.

OPERATIONALISATION UNDER VOLATILITY

What Moves the Curve When Geopolitical Risk Rises

GEOPOLITICAL DRIVER	MARKET SIGNAL	FTP COMPONENT AFFECTED
Sovereign stress or conflict escalation	The bank's own CDS / ASW spread widens	Base Rate credit component and the idiosyncratic TLP proxy both widen
Flight-to-quality / risk-off sentiment	Term Swap vs OIS Swap spread widens market-wide	The term-liquidity-only leg of the blended TLP curve widens
Volatility spike, dealers pull back risk appetite	Bid-ask spreads widen; fewer executable quotes	Proxy reliability degrades — smoothing and blending matter more
Sanctions, trade shocks, currency stress	Cross-currency basis swap spreads widen	FTP cost rises in currencies hedged via Cross-Currency Swaps

Figure 9 — How geopolitical shocks typically transmit into a bank's FTP curve.

Even then, someone carries the risk between refreshes. Treasury can quote a fixed rate for the period, absorb the difference and hedge what it can, or the framework can pass intra-period moves straight through to pricing. Base Rate risk is comparatively easy to hedge with swaps, which is why pipeline hedging is standard for long sales-cycle products such as mortgages. A bank cannot cleanly hedge its own credit spread widening, so absorbing that over an extended quote period is a largely unhedged bet, not a free service.

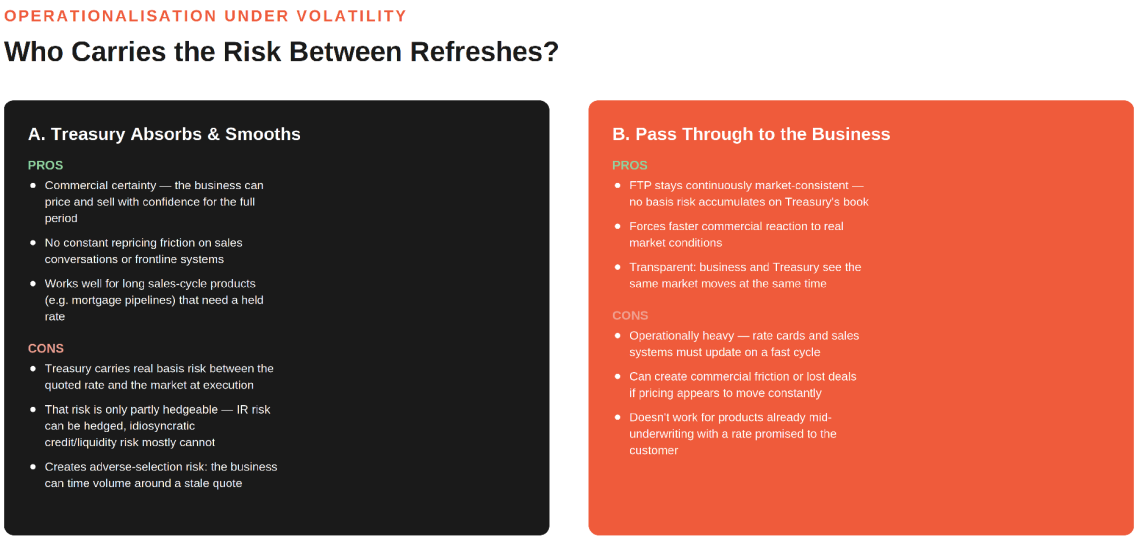


Figure 10 — Neither option is free; the choice simply decides who is best placed to hold the risk.

We recommend an explicit, documented decision for the ALCO, product by product: Treasury absorbs and hedges the Base Rate for a genuine sales cycle, a volatility buffer covers the unhedgeable component in stressed periods, and the review cycle shortens to daily or weekly whenever the market is moving faster than the framework is designed to track.

CONCLUSION

Summary of Recommendations

The curve is built in three layers and then maintained. Our recommendations are summarised below.

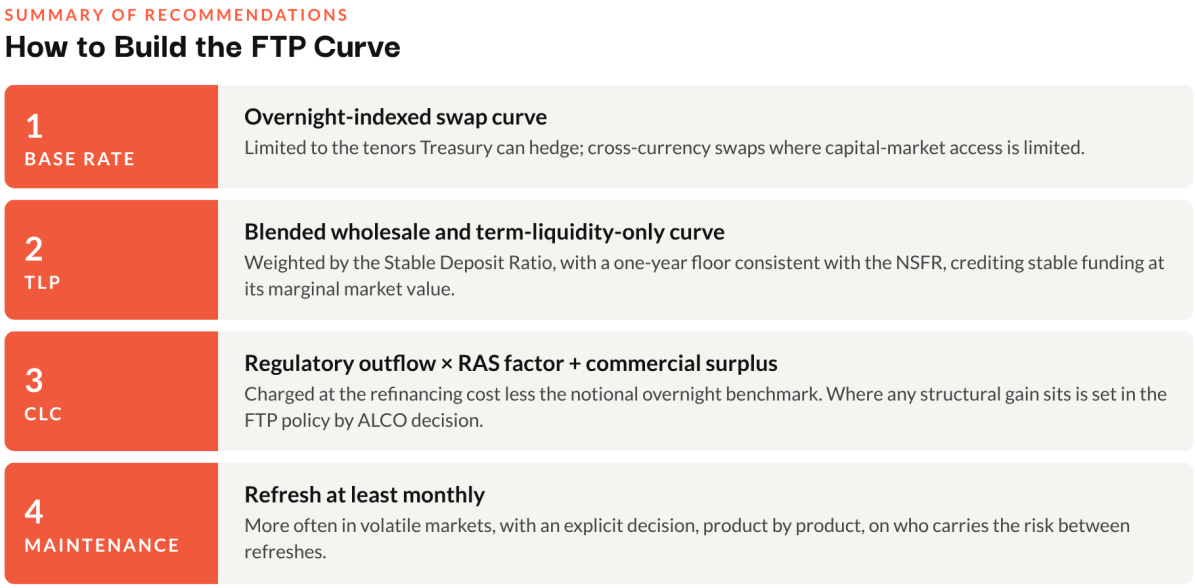


Figure 11 — Summary of recommendations for building the FTP curve.

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