Bank internal funds transfer pricing

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Agenda

- The objective and rationale of the internal funds transfer price
- Setting the FTP: business best-practice
- Dynamic FTP regime

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Funds Transfer Pricing - what and why?

• The rate at which the internal funding desk lends or borrows funds to the business lines is usually referred to as the Funds Transfer Price (FTP, or simply TP). FTP is sometimes used synonymously with Term Liquidity Premium (TLP) but the two are distinctly different concepts.

• FTP is designed to ensure that the true costs and benefits of the bank’s cost of funds (COF) are allocated to all products so that measures of true value added are captured, and that the cost of originating liquidity stress onto the balance sheet is recognised, identified and borne by the appropriate business line.

• A central unit in Group Finance / Treasury/ ALM usually acts as a “clearing house” for interest rate and funding rates to the business lines.

• At its simplest, a 5-year fixed rate loan generated by a business unit will be charged to the business by Treasury ALM at the 5-year bank COF - but this assumes matched tenor funding, which is not actually the case in most transactions. Therefore another approach to FTP may be adopted.

• The business is left to manage products and markets, and the Treasury desk to manage interest and funding gap risk.
Funds Transfer Pricing

Board / GALCO

Divisions
- Retail
- Wealth
- Wholesale
- Corporate
- Etc.

FTP Centre (Treasury / ALM)

Centralised risks:
- Limits
- Liquidity pricing
- Mismatch Gaps
- VaR

Pricing
- Capital Markets
- Money Markets

Market access Function

Execution
- Markets

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The issue

- The rate at which funds are lent by Treasury to the internal business lines is a much more critical issue than was supposed prior to the bank crash.

- The price at which an individual bank business line raises funding from its Treasury desk is a major parameter in business decision making, driving sales, asset allocation, and product pricing.

- It is also a key hurdle rate behind the product approval process and in an individual business line’s performance measurement. Just as capital allocation decisions affecting front office business units need to account for the cost of that capital (in terms of return on regulatory and economic capital), so funding decisions exercised by corporate treasurers carry significant implications for sales and trading teams at the trade level.

- Correct TLP will eliminate, or at least minimise, artificial funding-related PnL reporting.
The issue...

- For example, consider the following asset types:
  - a 3-month interbank loan;
  - a 3-year floating rate corporate loan, fixing quarterly;
  - a 3-year floating-rate corporate loan, fixing weekly;
  - a 3-year fixed-rate loan;
  - a 10-year floating-rate corporate loan fixing monthly;
  - a 15-year floating-rate project finance loan fixing quarterly.

- We have selected these asset types deliberately, to demonstrate the different liquidity pressures that each places on the Treasury funding desk (listed in increasing amount of funding rollover risk).

- Even allowing for different credit risk exposures and capital risk weights, the impact on the liability funding desk is different for each asset.
The issue...

- The cost at which funds are lent from central Treasury to the bank’s businesses needs to be set at a rate that reflects the true liquidity risk position of each business line. If it is unrealistic, there is a risk that transactions are entered into that produce an unrealistic profit. This profit will reflect the artificial funding gain, rather than the true economic value-added of the business.

- For example:
  - Pre-2008, UBS structured credit business was able to fund itself at prices better than in the market (which is implicitly inter-bank risk), despite the fact that it was investing in assets of considerably lower liquidity (and credit quality) than inter-bank risk. There was no adjustment for tenor mismatch, to better align term funding to liquidity.
  - [The 2009 annual report quotes the business stating that a more realistic funding model was viewed as a “constraint on the growth strategy”.]
A credible framework

We recommend the following approach:

- a fixed add-on spread over Libor / internal FTP for term loans or assets over a certain maturity, say two years, where the coupon re-fix is frequent (such as weekly or monthly), to compensate for the liquidity mismatch. This TLP spread would be on a sliding scale for longer term assets.

For example…assets over 6-month maturity will be lent at L + 4

Assets over 12-month maturity will be lent at L + 8

Assets over 5-year maturity will be lent at L + 15

The same rate will be paid for Liabilities.

For example, little or no Private Bank liability has a maturity exceeding 6 months, one can take the regulatory treatment of the liabilities’ stickiness and pay accordingly (so that a PB liability treated as 12 month will receive L + 8).
Money market desks traditionally are minded to focus more on the asset side of the balance sheet because of the more direct relationship to earnings and profitability.

A robust FTP will help promote “good behaviour” (which, in current market conditions) means: (a) focusing on the liability side of the balance sheet (to improve liquidity position); and (b) lengthening the tenor of our liabilities (to shorten our liquidity gaps).

This can be achieved: (a) by introducing a “term liquidity premium” into the FTP and (b) by increasing the liquidity premium as a function of the tenor (reflecting market reality).

A liquidity-premium-enhanced FTP will also transfer more earnings to the liability generating activities and force corporate banking to more accurately price / re-price loan assets.

More crucially, it will reduce chances of an artificial funding profit helping to drive the investment decision.

<table>
<thead>
<tr>
<th></th>
<th>Old Bid</th>
<th>Old Offer</th>
<th>New Bid</th>
<th>New Offer</th>
<th>Liquidity premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>O/N to 2 weeks:</td>
<td>LIBOR - 12.5 bps</td>
<td>LIBOR</td>
<td>LIBOR</td>
<td>LIBOR + 12.5 bps</td>
<td>+ 12.5 bps</td>
</tr>
<tr>
<td>2 weeks to 1 month:</td>
<td>LIBOR - 12.5 bps</td>
<td>LIBOR</td>
<td>LIBOR + 5 bps</td>
<td>LIBOR + 17.5 bps</td>
<td>+ 17.5 bps</td>
</tr>
<tr>
<td>&gt; 1 and up to 3 months:</td>
<td>LIBOR - 12.5 bps</td>
<td>LIBOR</td>
<td>LIBOR + 10 bps</td>
<td>LIBOR + 22.5 bps</td>
<td>+ 22.5 bps</td>
</tr>
<tr>
<td>&gt; 3 and up to 12 months:</td>
<td>LIBOR - 12.5 bps</td>
<td>LIBOR</td>
<td>LIBOR + 20 bps</td>
<td>LIBOR + 32.5 bps</td>
<td>+ 32.5 bps</td>
</tr>
</tbody>
</table>
Theory versus reality

Some banks think the “FTP” price should be a “matched funding” basis price…in other words, the FTP for a 5-year loan would be the 5-year COF.

- So if we are originating a 5-year corporate loan, the FTP for the corporate bank is the 5-year funding rate.

- Is this realistic?

- What is FTP designed to achieve? What is the point of it?

A more logical approach to the matched FTP basis: an FTP that incorporates a charge for liquidity only, rather than the entire COF…

- …unless the bank decides it does want to pass on entire COF (a strategic decision that dictates the bank would only ever lend to customers that were a worse credit than it was…

- Or it could assume matched funding and use an essentially flat FTP curve after the 2-3 year point.

- Not necessarily recommended…
FTP and TLP

As we noted at start, the internal FTP can assume matched tenor funding and pass on as internal rate:

- The bank’s COF, which means FTP = COF

Or pass on only the price of term liquidity, the TLP, which means:

- FTP = 3-mo Libor + TLP

To recap:

- Funds Transfer Price: the rate at which central funding desk (Treasury) pays or receives for funds it borrows or lends. Usually quoted as a spread over Libor

- Term Liquidity Premium: the premium the bank pays over Libor for borrowing at longer tenors (a premium for liquidity only, not credit risk)

A bank’s funding policies should have an objective of setting out how the assets and liabilities of the different businesses will be costed for funding. They often have a secondary or parallel objective to incentivise business lines to act in a certain way to structure the balance sheet as desired.
What is the “TLP”?  

- First plot your actual cost of funds using all liability types  
- Then gain further intelligence from proxies to help inform the TLP that one may wish to add to the internal FTP to account for cost of liquidity  
- The proxies might include:  
  - The Funded versus the Unfunded for the bank  
  - CDS versus ASW? Or Swap versus Bond?  
  - Risk-free versus Swap curve  
  - Difference between Pay Fixed on Term Swap, and Pay Fixed on same tenor OIS Swap  
  - Cost of funds difference from 1, 2, 5 years outwards – the difference between them, up to next tenor borrowing rate  
  - CDS curve, and the CDS-ASW basis, similar: Risk-free curve + CDS curve  
  - New issue premium over current secondary market yields  
  - Rates for peer banks, if they can be obtained, are also proxies  
  - This list is not exhaustive
## FTP Grid

This example is FTP = COF

<table>
<thead>
<tr>
<th>Term</th>
<th>£TLP</th>
<th>EUR</th>
<th>$TLP</th>
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<tr>
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<td>0</td>
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</tr>
<tr>
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<td>30</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>12mo</td>
<td>85</td>
<td>80</td>
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<td>160</td>
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<tr>
<td>2yr</td>
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</tr>
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</tr>
<tr>
<td>9yr</td>
<td>295</td>
<td>305</td>
<td>315</td>
</tr>
<tr>
<td>10yr+</td>
<td>305</td>
<td>310</td>
<td>320</td>
</tr>
</tbody>
</table>

Dynamic FTP setting

The principle policy options driving FTP guidelines will be:

- Gross approach versus net approach: in a gross approach, all assets and liabilities are charged or credited with the relevant tenor FTP rate from Treasury. In the net approach, only the net position between assets and liabilities is charged or credited with the relevant tenor FTP rate. In addition, individual business lines can employ funds that they raise themselves in their own business.

- Marginal or actual funding cost: is the FTP charge the marginal cost of funds or the actual cost of funds?

- In general a gross approach at marginal cost is deemed the most effective for risk management purposes.

- However as we stated at the start, there is no “one size fits all” FTP for every bank.
Dynamic FTP setting...

Consider the following:

- Retail bank: raises term funds at below the marginal COF, and lends at a significant margin to the COF. For example, term deposits against the mortgage lending rate;

- Investment bank: raises term funds at the COF, and lends at a margin below the COF. For example, unsecured wholesale bond liabilities against syndicated loan assets;

- Private bank: raises funds that are in behavioural terms of long term and at significantly below the COF, and lends at a margin above COF.

Clearly there is more than one “COF” here, we are using the term to refer to the curve constructed from the bank’s wholesale bond yields. Would a single FTP grid apply to all three businesses?

The answer depends on what incentives the senior management wishes to set the business, and what sectors it wishes to concentrate on. Should the Private bank business receive the term COF rates for funds it raises?
Dynamic FTP setting...

The other principle to consider is how dynamic the process is. We recommend a regular review of the policy itself as well the FTP pricing grid, at least annually but ideally on a semi-annual basis. This is to ensure that the policy remains up-to-date and appropriate for changing market conditions.

Overleaf shows the bank running the “ALM Smile” funding profile and so the FTP curve is set parallel below the bank’s COF curve.*

Next the funding gap is significant in the long end, therefore we would set the FTP curve at a steeper slope to the “fair” or theoretical COF curve for the bank. This is to ensure that the right incentive is given to the business lines to raise long-term liabilities, as well as to signal that short-term funds have no real value to the bank. Equally, term funding gaps would be penalised at the right rate.

Next the position is reversed, and so the FTP curve is flatter to the fair market COF curve, again to incentivise the correct behaviour.

Finally, we show a “blended” FTP rate, which we referred to as the WACF, might apply in practice: the question arises as to how much of each business one should do, when the asset price straddles the (in this hypothetical example) the debt capital markets (DCM) COF and the Retail Bank COF rates.

* Of course, if you don’t accept my “TLP” only argument, then the FTP will be set AT the COF curve
Dynamic FTP... 4 scenarios

Four scenarios showing ALM profile and suggested FTP relative to COF
Dynamic FTP...
Dynamic FTP...

![Graph showing dynamic FTP with time periods from 1 day to 10 years. The graph compares Assets and Liabilities with different time horizons. Additionally, there are two line graphs representing COF and FTP over time, with a legend indicating blue for COF and red for FTP.](image-url)
Dynamic FTP...

- The FTP curve, incorporating bank TLP, will sit near but usually below the bank COF
Dynamic FTP...different COF curves and WACF

Here use WACF = COF

But note the COF is not the FTP...not necessarily at least
FTP Bid-Offer spread

- It is not a simple question
- The FTP regime is not designed to generate P&L.
- To the extent that a bid-offer spread is set as a market discipline (no asset anywhere, in any commodity, trades at a “mid” price), it should be at the minimum (say, 1 or 2 bps)
- Where the Treasury is a front-office op model with its own P&L target, internal tickets need to be accounted for separately and not feed into the Treasury P&L. This avoids a conflict of interest...
Multi-currency environment

- Most banks operate in more than one currency
- Originating assets in a non-domestic (or non-reporting) currency means one has to price them in that currency
- General approach is to have an FTP grid in each required currency
- For a whole host of reasons (which we can go into on a Yield Curve course…) the recommended method is to use your baseline (domestic currency) curve and convert that to the required currency curve using FX swap rates
- This assumes a 1:1 correlation in the term liquidity premium of the converted currency – which could be a strong assumption in some cases – but shouldn’t be an issue for “G7” or other major currencies
Conclusions

- The FTP regime must be dynamic to the extent that it is, at the least, reviewed on a regular basis.
- Where used to incentivise behaviour, it can be re-set to help shape the desired structure of the balance sheet.

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Bibliography


╱ Choudhry, M., *The Principles of Banking*, John Wiley & Sons Limited 2012, Chapters 12, 13 and 15
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