

iCreate | BANKING
INTELLISENSE

White Paper

Instituting a Funds Transfer Pricing (FTP) - driven Decision Enablement Framework in Banks



WE PUT THE BANKING INTO
BUSINESS INTELLIGENCE

www.icreate.in

Instituting a Funds Transfer Pricing (FTP) - driven Decision Enablement Framework in Banks

Worldwide, banks operate in a highly complex and competitive landscape. The boundaries of competition have gradually extended from peer banks to insurance companies, investment companies, mortgage companies and across multiple geographies. With growing penetration of the internet and social media, consumers have become more knowledgeable and are demanding competitive rates, along with diminishing brand loyalty.

Also, recent upheavals in the global financial sector have exacerbated the situation in terms of stringent regulatory compliances and restrictions. Capital requirements are increasing and achieving revenue growth continues to be a challenge amidst weak macro-economic conditions. These forces have led to eroding margins for banks and are severely testing their ability to achieve sustainable profitability. In fact the situation actually warrants banks to review their conventional methodology of measuring and reporting business performance.

Performance Measurement Standards: Past v/s. Present

A common metric traditionally used to measure performance has been Net Income. However, Net Income does not completely serve the objective of measuring how effectively the bank is functioning relative to its size. This is because one cannot compare banks, based on the absolute value of Net Income and Net Income also does not accurately reflect its asset efficiency. Instead, a different metric called Net Interest Margin can be used. This helps capture the spread between the interest earned on the bank's assets and interest costs on the bank's liabilities and indicates how well the bank is managing its assets and liabilities.

Another prevalent metric to gauge a bank's profitability is Return on Assets (ROA), which divides the Net Income by the Total Assets. ROA is a useful measure of how well a Bank Manager is performing, because it indicates how optimally the assets are being used to generate profits. Although ROA provides useful information about profitability, it does not communicate how much shareholders are earning on their investments. This is measured by Return on Equity (ROE), the Net Income per dollar of Equity Capital. Yet another common approach to track performance is to benchmark these metrics with those of industry peers.

While these measures are helpful yardsticks to measure how the bank is performing at the macro level, it fails to convey the operational efficiency of the bank. For instance, they don't convey how well the product is priced or which customers are creating value for the bank or which ones are subduing. They also don't convey profitability at a branch level, area level or at an officer level.

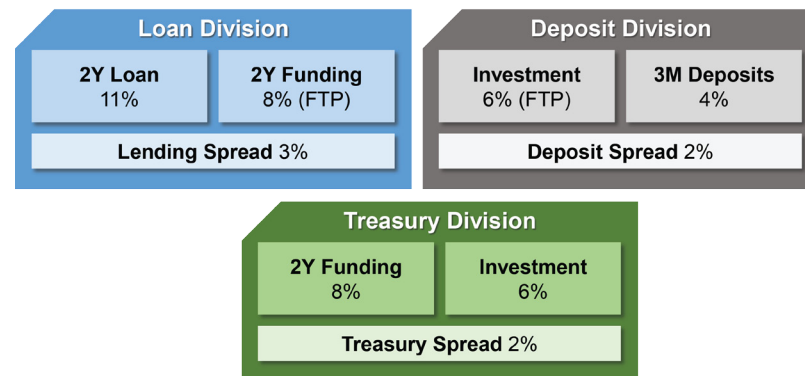
This is where Funds Transfer Pricing (FTP), as a tool helps measure performance via a variety of dimensions. This document takes a closer look at FTP and how it can add value to the banking organization for better performance management.

Funds Transfer Pricing: Definition

A commercial bank typically has two divisions: Lending and Deposit. The deposit division acquires funds from customers in the form of deposits (CASA or TD), that are then passed on to the Treasury division for proper deployment. These funds are passed on to the Lending division for lending to customers as loans. In case of shortage of funds from Deposits for loans, Treasury procures additional funds from the wholesale market. The interest earned on loans constitutes Interest Income; the interest expensed on Deposits is called interest expense and the difference between the two is called Net Interest Income (which is generally reported on the income statement).

By merely ascertaining the Net Interest Income equation from the income statement it would seem as though all loans are profitable and all deposits cause loss. But this is not the case. Each deposit has its own value as a source for loans and similarly each loan has its own cost of funding. The purpose of FTP is to measure individually how each source of funding contributes to the overall profitability of the bank.

Let's examine FTP with this example of a 2-year loan financed by a 3-month deposit. Let's say the Deposit division acquires USD 1 million as funds from the customer at the cost of 4%. The funds are then passed on to Treasury at 6% (FTP rate) and earns a deposit spread of 2% in the process. Treasury then passes the funds on to the Loan division at 8% (FTP rate) which gives it to the customer at 11% and earns a deposit spread of 3%. In the process, Treasury earns a spread of 2% for managing the Interest Rate Risk caused due to the mismatch in the maturity of the funds. By assigning FTP rate, also called Transfer Price (TP), for both divisions, we are able to de-compose the spread earned by each division (as seen below).



Multiple Approaches: Advantages and Drawbacks

Assigning TP is performed internally by Treasury, based on the marginal cost of funding and is a very crucial step in the whole process. There are several ways of calculating TP for various financial instruments.

- **Single Pool Method.** This method treats all products uniformly and assigns all products a single transfer rate irrespective of whether they are assets or liabilities. The obvious disadvantage of this method is that it doesn't differentiate between the type of products and their characteristics.
- **Double Pool Method.** It creates two pools; one of all assets and the other of all liabilities. The pools are assigned a transfer rate based on the products in that pool. Average Loan Rate is used for loans and Mean Deposit Rate is used as TP for deposits. Despite its prevalence, this method lacks the ability to differentiate products in the pool. For example, a 3-month term loan and a 10-year home loan is assigned the same transfer rate.
- **Multiple Pool Method.** In this method, all products are divided into multiple pools, based on criteria such as maturity, product type or other attributes. The bank then assigns a set of transfer rates to different pools, based on the characteristics of each pool. This method takes into account the time structure of assets and liabilities and allows for adjustments.
- **Matched Maturity Method.** Here, the TP is assigned for each transaction separately based on the specific maturity of the transaction and the expected cash flow stream. The transfer rate is assigned based on a specific 'yield curve', which represents the bank's ability to source funds of various maturities from interbank market.

The Matched Maturity Method is widely adopted by Financial Services institutions as it is more robust. We will use this method for further examining FTP.

Determining Base Yield Curve

Generally the LIBOR / Swap Curve is used as the Base Yield Curve for deciding the Transfer Price. Certain adjustments require to be done to the Base Yield Curve to reflect the actual cost of funding for the bank.

Since all further calculations and analyses are dependent upon the choice of the Base Yield Curve, certain points need to be considered before accepting it¹ -

- The Curve(s) should represent the opportunity cost or benefit of the funds.
- The Curve(s) should represent marginal wholesale rates.
- The Curve(s) should be derived from reliable and readily available data sources.
- The Curve(s) should be credible, comprehensible and acceptable to FTP users such as lenders, investment officers, liquidity managers, branch deposit gatherers and treasury personnel.

Adjustments

The LIBOR / Swap Curve does not reflect the actual cost of funding for the bank. Since different transactions have different kinds of financial risks, certain adjustments are required for the financial risks inherent in contracts. Similarly, different financial products have different financial characteristics, so adjustments are also required to incorporate instrument-specific characteristics.

Components of adjustments to be considered before finalizing the Transfer Price are –

- **Funding Liquidity Spread.** This reflects an institution-specific liquidity premium.
- **Contingent Liquidity Spread.** This relates to the cost of maintaining a sufficient cushion of high quality liquid assets to meet sudden or unexpected obligations.
- **Credit Spread.** Cost associated with Credit Risk.
- **Option Spread.** Cost associated with bearing embedded option in the product/transaction.
- **Basis Spread.** Basis Risk arises when yields on assets and costs on liabilities are dependent upon different indices, and these indices move at different rates or in different directions.

The final FTP rate should be modified for all such adjustments to reflect an institution's marginal cost of funds for each point across the interest rate term structure. Once all adjustments are done, a typical daily FTP curve for assets or liabilities may look like as depicted below.

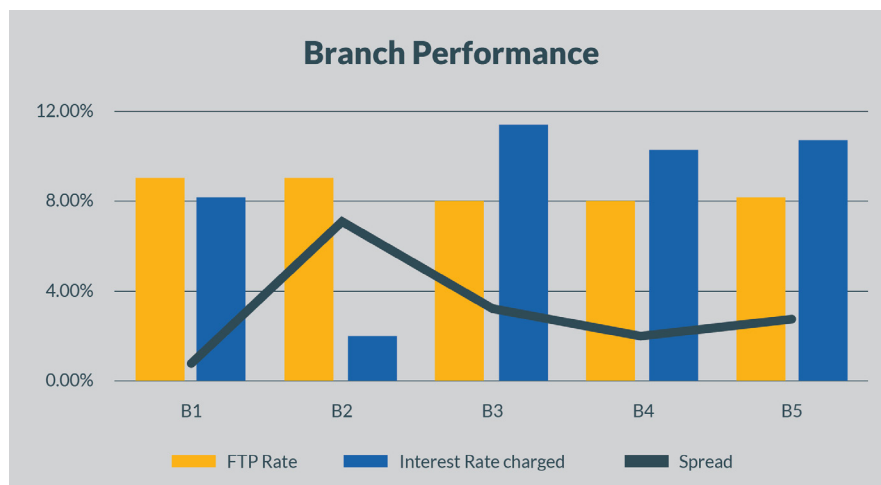
Tenure in Months	31-Aug-12	01-Sep-12	2-Sep-12	03-Sep-12	4-Sep-12	5-Sep-12
0.033	8.04%	8.01%	8.01%	8.01%	7.98%	7.71%
0.467	8.43%	8.36%	8.36%	8.36%	8.32%	8.31%
1	8.1522%	8.1522%	8.1522%	8.1522%	8.2871%	8.2873%
2	8.4219%	8.4219%	8.4219%	8.4219%	8.4219%	8.2873%
3	8.5568%	8.4893%	8.4893%	8.4893%	8.4219%	8.4221%
4	8.4926%	8.4484%	8.4484%	8.4484%	8.3809%	8.3700%
5	8.6724%	8.6574%	8.6574%	8.6574%	8.5900%	8.5438%
6	8.8462%	8.8462%	8.8462%	8.8462%	8.7788%	8.7116%
7	8.6375%	8.6272%	8.6272%	8.6272%	8.5629%	8.5070%
8	8.6861%	8.6636%	8.6636%	8.6636%	8.5981%	8.5525%
9	8.7304%	8.6979%	8.6979%	8.6979%	8.6299%	8.5964%
10	8.7730%	8.7289%	8.7289%	8.7289%	8.6629%	8.6404%
11	8.8202%	8.7653%	8.7653%	8.7653%	8.6980%	8.6858%
12	8.8659%	8.7985%	8.7985%	8.7985%	8.7310%	8.7313%
24	10.0081%	9.9855%	9.9855%	9.9855%	9.9476%	9.9665%
36	10.0253%	10.0052%	10.0052%	10.0052%	9.9619%	9.9812%
48	10.0665%	10.0354%	10.0354%	10.0354%	9.9690%	9.9872%
60	10.0715%	10.0391%	10.0391%	10.0391%	9.9701%	9.9862%
72	10.0417%	10.0244%	10.0244%	10.0244%	9.9666%	9.9799%
84	10.0799%	10.0582%	10.0582%	10.0582%	9.9599%	9.9699%
96	10.0636%	10.0449%	10.0449%	10.0449%	9.9512%	9.9579%
108	10.0270%	10.0078%	10.0078%	10.0078%	9.9419%	9.9455%
120	10.0643%	10.0191%	10.0191%	10.0191%	9.9333%	9.9344%
200	10.0643%	10.0191%	10.0191%	10.0191%	9.9333%	9.9344%

A Treasure Trove of Insights

Once the final FTP rate is assigned for all types of transactions/financial instruments, the FTP system can be used for churning out various analyses based on the business requirements. These analyses can provide remarkable business insights in multiple areas which can be used for better (read 'profitable') decision making.



- Customer Profitability.** Since FTP rate is assigned as each contract level based on the characteristics of the contract, it becomes easy to accurately derive customer profitability. Suppose a customer has been issued an education loan on which the interest charged is 10% and the cost of funding of that loan (i.e. the assigned FTP rate to that contract) is, let's say, 8.2%. This means the bank is earning a spread of 1.8% from that customer. The FTP system therefore helps analyse which customer is adding (or decreasing) value for the bank.
- Product Profitability.** Similar to customer profitability, the analysis can be extended to a product or a set of products to analyse which products are more profitable. Once each contract is assigned a unique FTP rate based on the financial instrument and characteristics of contract, it can be aggregated to gauge profitability at a product level.
- Product Pricing.** A good FTP framework helps a bank understand how well its product is priced when compared to the cost of funding and cost of adjustments. It provides a guidance to price the product correctly to generate adequate return. For example, a relationship manager may want to throw in a deal sweetener to achieve his monthly target, but a good FTP system will show negative or low spread and will restrain him from doing so.
- Branch/BU Performance.** The graph below depicting how branches performed last quarter can be used to track and monitor performance at one glance. The bank's leadership can use the information to inquire and understand what caused a decline in the spread for branch B1 or which branch performed better.



- Officer Performance.** The table below shows the performance of 12 loan officers for the past quarter.

Officer	Amount	FTP Rate	Interest Rate charged	Spread	Profitability	Rank
OC1	1,25,73,407.87	9.10%	9.13%	-0.02%	-3,123.42	12
OC2	19,11,343.93	9.11%	2.41%	6.70%	1,28,081.84	6
OC3	81,198.28	9.23%	0.49%	8.74%	7,095.35	7
OC4	10,81,167.26	9.01%	9.20%	-0.18%	-1,976.42	9
OC5	83,50,425.73	9.14%	1.08%	8.06%	6,73,328.72	4
OC6	15,00,00,000.00	8.05%	11.35%	3.30%	49,50,000.00	2
OC7	2,00,000.00	8.65%	10.10%	1.45%	2,890.21	7
OC8	18,89,96,491.23	8.05%	11.29%	3.24%	61,20,679.77	1
OC9	10,00,00,000.00	8.05%	8.30%	0.25%	2,50,000.00	3
OC10	8,95,94,922.48	8.07%	10.69%	2.62%	23,51,573.19	2
OC11	25,000.00	8.05%	12.00%	3.95%	987.50	6
OC12	3,30,000.00	8.57%	10.75%	2.18%	7,186.75	5

This report clearly shows Officer OC8 did a commendable job in loan origination and earned significant profitability for the bank. Based on this report, the bank's leadership may wish to link the incentives of Loan Officers based on their contribution to bank's profitability.

- **Budgeting & Forecasting.** The FTP system can be integrated with Budgeting & Forecasting to improve the annual budgeting process. Future interest rates can be estimated based on the term structure of interest rate, which is eventually used in the FTP system to set annual profitability targets for products or Business Units.

FTP: Imperative for Performance Management

There are several ways to measure and report business performance. While traditional metrics or tools such as Financial Analysis provides a bigger picture of the bank, Funds Transfer Pricing is a powerful analytical tool that helps a bank monitor its performance in numerous ways, given its wide application in multiple areas. A good FTP system can enhance the decision making capabilities of the bank across resource allocation, cost control and budgeting and planning to raise profitability levels.

There are many ways to measure and report business performance. Some of the traditional metrics such as ROA, ROE, NIM, etc. provide a fair assessment of the bank at a macro level. But they fail to measure performance at granular levels (branch, area, officer, etc.) without incorporating an FTP system.

A well designed FTP system can deliver several benefits such as -

- Allocating interest margins to assets and liabilities, to reflect cost of funding.
- Determining profitability of products and customers in order to boost changes in assets and liabilities structure that lead to increased total profits
- Measuring Business Unit Profitability independent of interest rate risk
- Identifying exposure to interest rate risk and transfer it to Treasury where it can be best managed
- Improving decisions for Product Pricing Policy
- Improving planning process through integration with Budgeting & Forecasting

Across product management, cost control and budgeting & planning, an effective FTP system can radically enhance the decision making capabilities of banks for achieving higher levels of profitability ■

(This paper was published as an article in International Banker.)

References

- ¹Hanselman, Orlando B., "Best Practices and Strategic Value of Funds of Transfer Pricing", Journal of Performance Management, Vol. 22, No. 2
- Kawano, Randall T., "Funds Transfer Pricing," Journal of Bank Cost & Management Accounting, 2000, Vol. 13, No. 3
- Rice, Jennifer D., Kocakulah, Mehmet C., "Fund Transfer Pricing: A Management Accounting Approach within the Banking Industry", Journal of Performance Management, Vol. 22, No. 2
- Wyle, Robert J., Tsaig, Yaakov, Implementing High Value Funds Transfer Pricing Systems, Moody's Analytics, Inc., September 2011

About the Author:



Abhishek Kundan, Product Management & Strategy Consultant, iCreate Banking Decision Enablement Solutions. Abhishek is an experienced Banking Decision Sciences consultant with a specialisation in Analytics, Risk and Compliance Solutions for the Banking sector. He is a Mineral Engineer from the Indian School of Mines, Dhanbad and a Finance major from IIM, Bangalore.