Funds Transfer Pricing: A Management Accounting Approach within the Banking Industry *

Jennifer D. Rice,
Old National Bancorp
jennifer_rice@oldnational.com

Mehmet C. Kocakulah*
Department of Accounting and Business Law
School of Business
University of Southern Indiana,
Mkocakul@usi.edu

Introduction

Funds Transfer Pricing is a management accounting tool used within the banking industry that can be used to improve profitability. Through Funds Transfer Pricing (FTP), a bank can better analyze its net interest margin[1], which typically serves as the traditional banks' largest source of profitability[2] (Kimball, 97). Funds transfer pricing provides management with a means of crediting both funds-using and funds-generating business lines with the entire net interest margin. The FTP rates used within a given bank reflects' their cost of funding as an institution.

When utilizing FTP within a bank, FTP rates are assigned to all earning assets to reflect the true cost of funding. FTP credits are applied to all interest-bearing liabilities to reflect the benefit to the bank for the collection of funds. For both earning assets and interest-bearing

[1] Net Interest Margin is defined as net interest income (interest income less interest expense), on a tax equivalent basis, expressed as a percentage of average earning assets.

liabilities, a profitability spread is calculated in order to analyze the contribution the balance sheet item has made to the net interest margin. For earning assets, the profitability spread is calculated as the yield (from interest income) less the FTP charge. For interest-bearing liabilities, the profitability spread is calculated as the FTP credit (for the collection of funds) less the yield (from interest expense). The FTP rates applied to each account reflect the rates for wholesale investment/borrowing alternatives for the institution. Within this study, we will provide an overview of FTP fundamentals and describe how financial institutions can use these techniques to improve their profitability.

Overview of Funds Transfer Pricing

With FTP, each customer account is assigned a rate that is based upon the structure of the product. For example, the following items all impact the calculation of the FTP rate: term structure, repricing characteristics (fixed or floating rate), payment structure, and interest rates at the time of the origination or rate change date. For loans, the longer the term of the account and the less frequent that the rate paid from the customer changes, the higher the cost of funds incurred by the bank under a normal yield curve. For example, a fifteen year fixed rate mortgage at origination has a higher cost of funds to a bank than a floating rate home equity loan with a five-year maturity. In order to fund these loans, the bank would have to borrow the money to fund each loan for fifteen years and five years, respectively. Because the cost of borrowing these funds is greater for the fifteen-year loan, the FTP rate charges reflect this cost to the bank.

For deposits, the longer the term of the account, the greater the FTP credit applied to the account under a normal yield curve. For example, a five-year certificate of deposit provides longer term funding for the bank to use to fund loans and has greater value than does a one-year

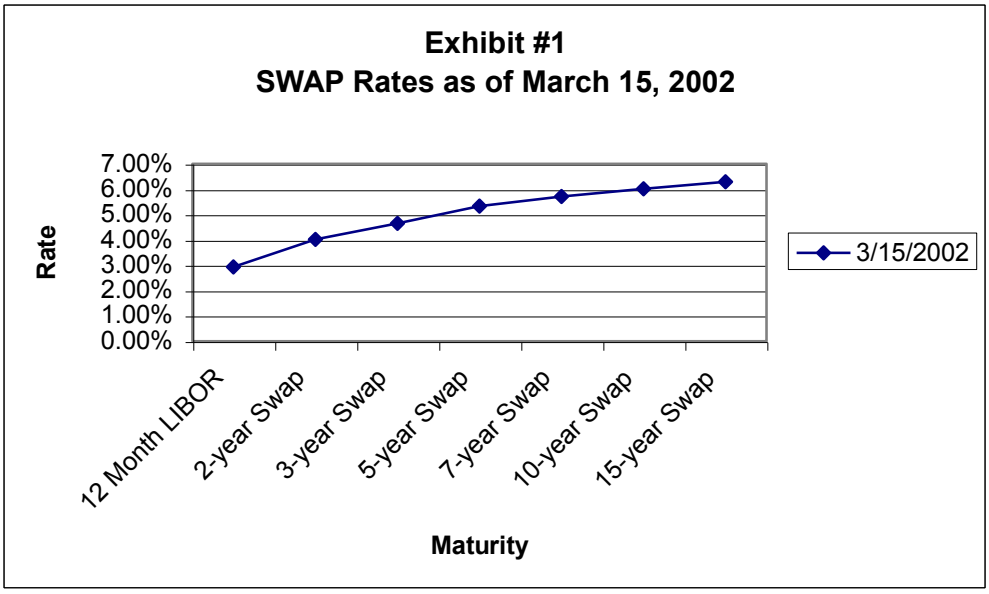
[2] According to R. Kimball in the New England Economic Review, net interest margin ranges between 60 to 80 percent of bank revenue.

certificate of deposit. In the case of the five-year certificate of deposit, the account would receive an FTP credit equivalent to the five-year rate on the banks' funding curve. This FTP rate would reflect the cost of the bank borrowing the funds for five years on the wholesale market[3] at the time the deposit was originated. It is important for banks' to encourage their employees to collect deposits, because when priced effectively, they are a much cheaper source of funding loans.

In order to provide value, banks' must create a well defined and sophisticated funds transfer pricing system. "A funds transfer pricing process that assigns a market-based contribution value to each source and use of funds, based on the underlying account or transaction attributes at the time of origin, is the most comprehensive method for inclusion in an overall profitability measurement process (AMIfs Research Committee,2001)." Software programs can be purchased to aid in the assignment of funds transfer pricing. The most sophisticated method of assigning FTP rates is matched-term funding in which unique FTP rates are assigned to each source and use of funds at the time of origination and each subsequent scheduled rate change.

When implementing a FTP system, banks' must determine a "funding curve" that most reflects their source or use of funds on the wholesale market. Some banks may utilize an inter-bank rate such as LIBOR (London Inter-Bank Offer Rate)/SWAP rates or a common rate index such as United States Treasuries. The funding curve, "simply plots the relationship between time to maturity and yield to maturity for a given type of financial instrument (Hogan Systems Inc., 2000)." An example of a funding curve is show below in Exhibit 1.

[3] Typical sources of wholesale funding include federal funds, Federal Home Loan Bank (FHLB) borrowings, brokered certificate of deposits, and borrowings from other financial institutions.



Often, adjustments are made to the base-funding curve to reflect a customized curve for an individual institution. Also, adjustments are made to reflect the banks' financial condition and its industry ratings, thus impacting how closely the institution can borrow funds at the market costs on the base curve. Common adjustments to the base-funding curve include liquidity (i.e., how easily the account can be converted into a more liquid investment) adjustments and option pricing adjustments (i.e., because customers have the right to pay off their loan or redeem their deposit at no charge before the contractual maturity date).

Banks must decide how often funds transfer pricing rates should be assigned. The frequency of FTP rate application is often determined based upon the limitations within a bank when collecting their data. FTP rates may be updated as frequently as real time, daily, weekly, or monthly.

Before implementing a funds transfer pricing system within a bank, management must be educated on the processes and "buy in" on the benefits of the internal management system. In addition, all employees must be educated on the functionality of the system. They must also be educated on how to use FTP when making their pricing decisions.

Using Funds Transfer Pricing to Improve Profitability

Banks utilize funds transfer pricing to improve their pricing decisions and overall profitability. FTP can be used as a means of accountability for all lines of businesses within a bank. In addition, funds transfer pricing can be used to hold employees accountable for their pricing decisions because an individualized FTP rate is applied at the transaction account level. FTP is used to "identify, measure, monitor, and create management accountability for the components of net interest margin based on the inherent value and risks associated with the gathering and eventual use of funds in the financial intermediation process (AMIfs Research Committee, 2001)."

An alternative approach to funds transfer pricing is managing a banks' net interest margin strictly through the "all in yield" paid to or received from the customer. However, focusing on the yield and not the costs of funding the products is the same as a sales manager focusing solely on revenues and not the expenses associated with his or her sales. Banks' must take into consideration their costs of funds' in order to control their net interest margin and ultimately their net profit. In addition, banks' that focus strictly on yields are not managing their interest rate risk. Interest rate risk is created because of the different characteristics (i.e. rate change frequency, terms, etc.) of the sources (deposits and wholesale funds) and uses (loans and investments) of funds within their institution.

Funds transfer pricing enables banks' to prepare profitability analyses, specifically for their net interest margin, for each of their business lines. FTP measures profitability down to the individual product and customer level (Coffey, 2001). Funds transfer pricing provides management with valuable information that will aid them in making sound business decisions with the goal of increasing net income and shareholders' return. FTP can be used as a

foundation to quantify the profitability of an entire customer relationship (i.e. loans, deposits, and other banking services).

When a funds transfer pricing system is implemented effectively within a bank, the institution can break down their net interest margin contribution into loan contribution, deposit contribution, and interest rate risk. The following example illustrates how FTP aids banks' in the analysis of their profitability.

Average Yield on Loans*	8.0%
Cost of Deposits**	5.0%
Net Interest Margin	**3.0%**

*Average life of 8 Years; Cost of funding was 7%

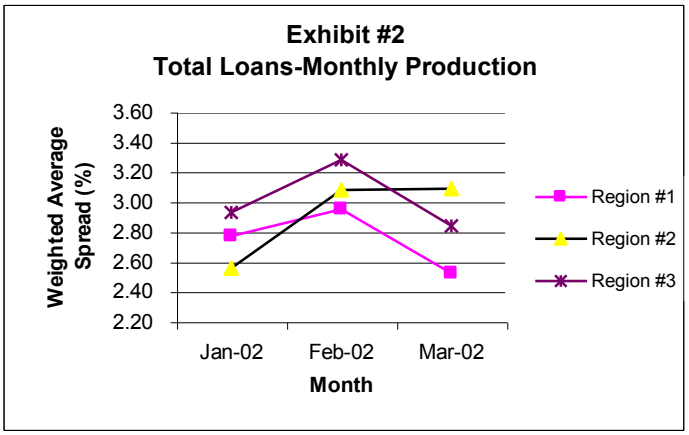
**Average life of 2 Years; Cost of funding was 6%

Average Yield on Loans	8.0%	**Average Cost of Funds**	**6.0%**
Average Cost of Funds	**7.0%**	Average Yield on Deposits	5.0%
Average Spread to FTP	1.0%	Average Spread to FTP	1.0%

The 3% net interest margin is composed of 1% net interest margin on loans (8% less 7%), 1% net interest margin on deposits (6% less 5%), and 1% net interest margin on interest rate mismatch (7% less 6%). The income from the interest rate mismatch is generated because of the difference between funding loans with eight-year average lives by deposits with two- year average lives. Although this interest rate mismatch has created additional earnings for this institution, excess amounts often create unwanted risks. In order to better manage the interest rate mismatch, banks' typically create a business unit that is responsible for monitoring and

managing the interest rate risk. Banks' do not have the ability to easily eliminate their interest rate risk mismatch in its entirety.

When funds transfer pricing is implemented within a bank, it is critical that adequate management reports are created and distributed within the institution. Often institutions only provide reports to top management at a very high level of detail. It is important to provide management with reports that are useful for their future decision-making processes. Exhibit #2 illustrates how banks' can compare their different operating units for new production on loans. The graph depicts the spread to FTP (yield paid to bank less the cost of funding the loan) on all new loans booked over the past three months. Executive management can use this information to analyze what caused the decline in spread for Region #1 and Region #3 during the month of March 2002. This information should be used to prevent the decline in spread for future months.



In order to improve net interest income within a bank, senior management can hold their individual employees accountable for their funding spreads. Bank employees can be given the ability to review the profitability of all accounts that they originate. An example of a detailed report is found in Exhibit 3.

Funds Transfer Pricing - Certificates of Deposit
Exhibit #3

Officer Code	Branch	Account Number	Balance	Yield	FTP	Spread	Origin Date	Maturity Date
7	7	412	10,000	5.59%	7.58%	1.99%	6/10/2000	6/10/2003
7	5	443	881	5.49%	7.42%	1.93%	7/19/2000	7/19/2002
6	7	517	10,000	3.60%	3.69%	0.09%	9/1/2001	9/1/2002
2	1	522	10,000	5.00%	7.05%	2.05%	9/7/1999	9/7/2004
4	4	1406	15,000	5.40%	7.80%	2.40%	5/30/2000	5/30/2003
1	4	1446	15,302	5.49%	7.30%	1.81%	8/12/2000	8/12/2002
5	4	1540	10,000	5.00%	7.05%	2.05%	9/21/1999	9/21/2004
4	14	1574	45,000	4.91%	5.77%	0.86%	2/1/2001	5/1/2002
10	4	1595	10,000	4.52%	5.38%	0.86%	3/1/2001	6/1/2002
4	4	1599	45,000	4.52%	5.38%	0.86%	3/2/2001	6/2/2002

It is important to note that the information provided within Exhibit 3 includes the officer code of the employee who booked the certificate of deposit. The profitability of the certificate of deposits shown in this exhibit range from a spread of 0.86% to 2.40%.

Banks' may chose to link their incentive programs to their spreads to FTP. For example, a customer service representative may be offered a monetary incentive to originate a certificate that exceeds their targets for the year. According to Randall T. Kawano, "unless the system motivates profitable actions and provides for comparable performance evaluation – two major objectives of transfer pricing – there may be little to no benefit realized in terms of earnings enhancement (Kawano, 2000)." However, before integrating FTP within incentive programs, a bank must ensure they have carefully created effective programs that will not promote behavior that is not in the best interest of the bank as a whole.

Funds transfer pricing serves as the first step in analyzing profitability within a financial institution. According to Ralph Kimball, "while funds transfer pricing systems were a great step forward, both in disaggregating the net interest margin and in identifying and managing bank exposure to interest rate risk, they are not sufficient in and of themselves to calculate organizational profitability (Kimball, 97)." Activity-based-costing (ABC) serves as an excellent addition to the funds transfer pricing methodology. ABC aids banks' in better understanding the

business process and the activities that constitute it. For example, when a loan is originated and funded, the cost of funding the loan is not the only cost incurred by the bank. The bank must process the loan application, prepare loan documentation, mail documents, and pay salaries to all employees involved in the loan preparation process.

Using Funds Transfer Pricing for Budgeting and Planning

Banks can improve their planning processes by integrating funds transfer pricing into their methods. Not only does this reinforce the importance of FTP within an institution, it also eliminates the banks requirement to estimate future interest rates. A banks' treasury department typically holds the responsibility for forecasting future interest rates and economic condition. Each year, banks' prepare an annual budget that estimates net interest margin by profit and cost center. When senior management meets with their divisions concerning the budget, they will discuss their expectations of volumes and profitability. Rather than quantifying the yields that will be received on new loan production or paid on interest bearing deposits, the divisions should plan their "spread to FTP" for their new business production. Because they will be planning a profit spread and not an all in rate, they should be able to make better decisions and meet budget in a changing interest rate environment. It is important for budget variance analyses to be completed monthly in order to provide adequate information for decision-making purposes.

Summary/Conclusion

Funds transfer pricing is a very important management accounting tool used within the banking industry because it helps banks' make profitable decisions. FTP provides a quantitative means to measure customer profitability and should be used in the performance evaluations of

business units. When implemented and used effectively, FTP will help increase a banks' ability to monitor and improve its net interest margin. Bank employees' can be rewarded for collecting customer deposits that are less expensive than the banks' wholesale funding costs. In addition, loan officers can be rewarded for originating profitable loans, those that have a positive spread to the banks' cost of funds. Ultimately, management and employees must be well educated and accepting of funds transfer pricing in order for it to be successful within an institution.

References

AMIfs Research Committee, "Assignment of Contribution for Funds Transferred Internally," *Journal of Bank Cost & Management Accounting*, 2001, Volume 14, Number 3.

Coffey, John J., "What is fund transfer pricing?" *Bank Marketing*, November 2001, Volume 33, Issue 9.

Hogan Systems, Inc. with contributions from Cole T. Whitney and Woody Alexander, "Funds Transfer Pricing: A Perspective on Policies and Operations," *Journal of Bank Cost & Management Accounting*, 2000, Volume 13, Number 3.

Kawano, Randall T., "Funds Transfer Pricing," Journal of Bank Cost & Management Accounting, 2000, Volume 13, Number 3.

Kimball, Ralph C. "Innovations in Performance Measurement In Banking," *New England Economic Review*, May/June 97.

** This article was previously published in the Journal of Performance Management in Volume 17 #2.*