Establishing a profitability measurement process: Tips and lessons learned

By John Westwood, Senior Vice President and Treasurer, Mansfield Bank

As the banking industry suffers through a serious recession, it’s perhaps not on top of management’s priority list to initiate a profitability measurement process for its institution. The costs associated with deteriorating asset quality (in particular) have hit our industry very hard of late, and we feel a fierce need to protect our capital. Despite the financial pressure, there’s still an argument to be made that small and mid-size institutions need a better understanding of the core profitability of its business units, products and customers that will improve the financial performance of the institution. A well-managed profitability measurement process will outlive difficult economic times and provide strategic decision-making information that focuses management on targeted opportunities to improve performance.

How does a bank go about establishing a profitability measurement process? The goal of this paper, gleaned from my experience in expanding or initiating a process at two banks both roughly $1 billion in size, is to provide ‘lessons learned’ and practical tips that I hope are helpful to anyone interested in introducing this function at their institution.

Segment overview
Briefly, a profitability process is often considered to have three segments, which all require a single funds transfer pricing (FTP) mechanism. FTP is the most critical component of any profitability system, since the majority of community banks’ revenues derive from the net interest margin.

- An organizational segment measures the contribution of selected departmental and branch units to income.
- A product segment measures the income contribution of products sold by the organization to customers.
- A customer segment measures the contribution of individual customers to income. (Note: the author has not had first-hand experience with customer profitability and will not address it further in this paper).

Why is a process needed?
How does the organization decide that a profitability measurement process is needed? Most likely, the drive comes from pro-active senior management (often the CEO), who is concerned that resources are internally dedicated to the most profitable units, products and customers.
Here are just a few kinds of questions that may signal it’s an opportune time to invest in a profitability measurement process:

- Which of our branches are doing the best, and what are their operating characteristics?
- What size deposit base is needed for a new branch location to break-even?
- What product lines contribute best (or least) to our net interest margin? Do we have pricing power to influence those margins?
- What markets and products deserve our scarce marketing dollars?
- How do we know if our fee structures cover our operating costs?
- How much net income are we earning in our non-deposit investment services unit and serviced loan portfolios?
- How do we know our employee incentive/commission program is rewarding the right sales efforts?

One outstanding reference book available for purchase through the Financial Managers Society is titled “Profitability Measurement in Financial Services,” authored by Jerry Weiner, the former CEO at IPS-Sendero. Here is a quote from the book that is critical to answer affirmatively before deciding to proceed: “The most important evidence of commitment is management’s use of results to make decisions. Without the commitment to put the results into action, the profitability measurement process will simply become another reporting system that is “of interest” from time to time. Given the time, effort, cost, and organizational disruption involved in implementing an effective profitability measurement process, the financial institution should only implement the process if management commits to using the results to make decisions.”

**Implementation steps**

What activities are necessary to implement a profitability measurement system, and how long does it take? If implementing an organizational and product profitability system (including FTP), it will likely take nine months to a year for an in-house system, and perhaps four to six months if it is outsourced. If setting a system up internally, you should have at least one person devoted full-time to the project and to running the systems thereafter.

The steps involved in administering the implementation process are roughly similar, whether in-house or outsourced. I will discuss several of these topics in more depth later in the paper:

- Evaluate in-house versus outsourcing options, and develop cost estimates for each. Obtain budgetary approval from senior management.
- Evaluate staffing needs and begin the recruitment process, if necessary.
- Contact vendors for demonstrations and select software – be sure to involve your information technology (IT) department early on regarding
network, hardware, license and data security issues. Consider the vendor’s software implementation support, both to educate personnel and help administer the project.

- Have a project kickoff meeting to assemble a team, and define member roles.
- Work with the project team to determine your reportable profit center units and products; while Finance staff may make recommendations, this is an important group decision.
- Evaluate the current state of your general ledger chart of accounts. You must determine whether your general ledger accounts and responsibility centers match up well to the new unit and product list. Product balances, interest, fee income and direct expenses must be accurately assigned to the proper responsibility centers. Spend time reviewing the loan and deposit transaction-level interface to general ledger, to ensure core-system transactions are mapped to the accounts, products and units you desire.
- Install a funds transfer pricing (FTP) system. Set up steps include data mapping (the process whereby detailed application type codes are assigned to product groups, yield curves, key interest rates and terms), developing extract files by account for loans, deposits, and investments, system coding and testing. The project team will also need to reach consensus on FTP methods, including non-maturity deposit funds credit rates.
- Install Organizational and Product Profitability (several of these steps may overlap). Major tasks include: a) performing employee time studies; b) developing cost and revenue allocation methodologies (for example, how to allocate marketing department expense); c) creating data warehouse extracts (such as numbers of accounts, balances, numbers of transactions); d) developing capital assignment methodologies for product lines (to report risk-adjusted returns on equity); e) system mapping and coding; f) testing, including reconciling output back to source data; and g) developing report templates.
- Finance will have their hands full setting up the software during the implementation phase. Be sure that operating procedures are well-documented after the system is set up, as there will be outsized reliance (perhaps on one particular person) to maintain the system.

In-house versus outsourcing options

Once the decision to pursue a profitability measurement system takes hold, it is extremely important to understand resource requirements. These requirements vary considerably between in-house and outsourcing alternatives.

In-house alternative:

- There are several software programs necessary to run a profitability measurement process, including the general ledger. An internal asset /
liability (A/L) model contains account-level data amenable to establish FTP. Alternatively, a data warehouse system contains a great deal of useful statistical information to drive expense and revenue allocations.

- You will purchase vendor software for the other system components and incur the vendor’s software support fees on an annual basis. While attending product demos, be sure to involve your IT department. Three critical areas to consider when evaluating software features: the systems must be able to import and export a wide variety of data file formats, be as fully integrated with each other as possible, and have user-friendly reporting capabilities. You do not want to spend a lot of time developing your own reports (or creating them after the implementation is finished).
- Don’t entertain thoughts that an in-house profitability system can be implemented and run on a regular basis by existing staff; this is a full-time job. Recruiting can be a big burden as well, as people with experience in profitability measurement are difficult to find; factor in several months to locate a qualified person. Software vendors will offer consulting services to help guide the system implementation, and may be a wise choice.
- Plan on confronting many obstacles during the implementation process, and expect to need nine to 12 months to finish.

Outsourcing option:

- The outsource provider sets up and maintains the profitability software. One big advantage to outsourcing is that report formats are already in place and the provider prepares the reports for you.
- The outsource provider manages the implementation process, with assistance from a management team and in particular a “point person” within Finance. The “point person” may need to spend 33% of their time for a few months to fulfill his / her responsibilities. The outsource provider will conduct a time study with much of the Bank’s personnel, similarly to an in-house process.
- One of the significant drawbacks of an outsourcing arrangement may be the willingness or capability of the provider to expand their system to utilize data warehouse or other activity driver inputs. One may have to accept less accurate calculations as a result.
- Plan on four to six months to finish the project, but make sure to negotiate this deliverable with the outsource provider. The outsource provider must be able to dedicate large blocks of time to the project to avoid delays.
- After the system is implemented, 10% to 15% of a skilled person’s time will be required on an ongoing basis to work with the outsource provider.

Outsourcing arrangements will save considerable expense and staff time. However, you lose a degree of flexibility and control when you outsource, particularly after the implementation is complete. Be certain to inform the outsource provider of any significant changes to your departments and products as time goes on. The provision of up-to-date personnel data by department, in
particular, is most critical in an outsourced system, as the majority of expense allocations are tied to staffing data.

**Education**

Education regarding profitability measurement is a major challenge but one that must be addressed often in the implementation process. Management will likely have varying levels of prior experience with profitability measurement systems, and have a wide range of expectations of the system’s benefits. End users must ultimately have confidence in the output of the profitability system, and that will not occur if they do not understand the core accounting concepts, are solicited for their opinions, and “buy in” to implementation decisions.

Confusion can abound regarding complex management accounting concepts such as funds transfer pricing, capital assignment and cost allocations. Early in the implementation process, well before the first comprehensive set of reports are produced, provide management with examples to help them understand techniques and calculations. Notify management early on what approaches you’d recommend to allocate costs to products. Our in-house implementation involved time studies of over 130 persons, including approximately 40% of the employees in our branch network. We also prepared step-by-step examples for cost allocations, including how the interview results for a deposit operations clerk ultimately resulted in an expense allocation for a certain product.

**Important decisions / consensus building**

Implementation of a profitability measurement process is difficult and it is absolutely critical that senior management, particularly the CEO and CFO, provide advocacy and leadership to ensure the process moves along.

The Finance group is well-suited to make many decisions involved in setting up a profitability system. However, line divisions will surely be protective of their customer base, and it is important that consensus on major decisions is reached to maintain good working relationships between departments. Here are a few examples of up-front questions that require consensus decisions at the highest organizational levels:

- **How do we define the products that we wish to measure?** It is extremely important that the project team aggregates all of its products and services into a smaller number of product and service lines. Implementation of the product profitability segment entails surveys and interviews of employees to discern how much time they spend originating or servicing products. This work can not feasibly be un-wound later.
- **Will the commercial lending unit receive credit for commercial deposits that they have generated?** Commercial lending units are often charged with goals to generate deposits, and it is reasonable to assume they should receive credit for the funds in a profitability system. However,
branch units consume most of the resources necessary to service the accounts once they are established.

- Do branches or centralized lending units receive credit for residential mortgage loans and consumer loans that are originated? Your project team will be confronted with the choice of whether to assign ownership of residential mortgage and/or consumer loan balances to lending units or to branches. Your branches may be the sales force that generates the loans, and may perform some of the underwriting process as well. However, it is likely a centralized unit is also involved with the loan origination, and services the loans once they are booked. Be sure to collect information in the interviews and surveys that allows for inter-departmental charges, regardless of which ownership option is selected.

- Do branches receive ownership for the deposit accounts they originate, or those that they regularly service? A deposit customer may open an account in one office but regularly transact business in another branch. If branches are staffed in reasonable proportion to their in-store transaction levels, one may draw improper conclusions on their efficiency unless the servicing burdens are accounted for.

- How do we determine funds transfer pricing rates for non-maturity deposits and fixed-rate loans? While not an ownership issue, product profitability results are influenced strongly by decisions regarding the economic “term” of non-maturity deposits and fixed rate loans. It might be best to start with simple approaches or rules-of-thumb at implementation, and be consistent with asset/liability model assumptions.

These decisions will be influenced by the structure of established loan, deposit, and/or general ledger systems. For example, if commercial deposits are contained in a separate branch on the host deposit or general ledger system, it would be easier to evaluate alternatives on what unit to house them in.

**Funds Transfer Pricing (FTP)**

Organizational, product, and customer profitability segments all incorporate FTP. The primary objective of FTP is to measure and assign management accountability for the components of net interest margin. Loosely defined, an FTP rate is the offset interest rate assumed to be incurred (or credited) when making the loan (or gathering the deposit).

There are many theoretical methods in place to calculate funds transfer rates. The matched-term method, considered “best practice” at this time, requires loan, deposit, and investment data by individual account or issue. Data file feeds into existing asset/liability (A/L) models can be adapted to calculate FTP. However, expect to spend time revising the A/L data feeds to meet the unique needs of a FTP system. For example, FTP mechanics rely upon a “last re-price date” on CD’s and adjustable rate assets that may not be currently populated in your A/L data feeds.
In a matched-term FTP system, the net interest margin for most individual accounts (non-maturity deposits are an exception) is "locked in" at its origination date. A market-based yield curve, such as an FHLB advance curve, is used to determine the offset rate for both assets and liabilities at the time of origination or re-pricing. For example, the transfer credit rate for a certificate of deposit would be the FHLB advance rate corresponding to the term of the deposit, and the transfer charge rate for an adjustable rate loan would be the FHLB advance rate corresponding to the loan’s first re-price date. The use of a single, independent market-based curve will isolate pricing decisions made by lenders versus deposit gatherers so they may each pursue their own interests independently.

Non-maturity deposits represent a special challenge in FTP. A matched-term system works well when instruments have pre-defined original or re-pricing terms, but savings and money market accounts have neither. An accepted approach is to divide product balances into a mix of short, medium, and long term portions; for example, you may segregate “hot” funds from “core” funds and assign three month and 5-year term rates, respectively to them. If this segregation is not intuitive, it can be helpful to chart out product balances and rates over an entire economic rate cycle and view the low balance point as the "core" funds portion.

To illustrate how this might work, here are some examples from our outsourced implementation of the terms we adopted for non-maturity deposit products:

- **Money market accounts**: 10% 3 MO + 10% 6 MO + 20% 1 YR + 60% 3YR (25 months)
- **Non-interest bearing personal demand accounts**: 10% 3 MO + 30% 1 YR + 60% 5YR (40 months)
- **Savings accounts**: 20% 6 MO + 30% 3 YR + 50% 7YR (54 months)

Establish consistency to your A/L model assumptions. If your A/L model treats certain non-maturity deposits as being extremely rate-sensitive, those deposit products should have a short term assumption for FTP.

FTP will be the first new system you implement in the profitability project. Reporting upon the net interest spread for each product can jump start the decision-making process many months before expense allocations and other issues are settled upon. Find a way to report net interest spread results early on, and give management confidence in the progress that is being made.

**Interviews and surveys**
The ultimate success of the implementation clearly depends upon the quality of the interviews and surveys of bank staff. Time studies are important to measure organizational profitability, but are critical for product profitability.
Perhaps 50% to 75% of product costs may ultimately be assigned or allocated based on interview / survey results.

It is extremely important before engaging in interviews or surveys that staff are pre-informed and realize the overall objectives of the project. Staff may be defensive or cautious about the process and the interviewer must take pains to communicate that job performance is not being evaluated.

When preparing an in-house system, your surveys or interview questions should try to condense a person’s job into perhaps 8 to 10 meaningful activities:

- Depending upon how large your bank is, you may decide to interview all people, a sample of incumbents within each job position, and / or a sample of branches within your network. Ask branch managers to assist in defining the meaningful activities for branch-level positions, such as teller or CSR, to standardize the process.
- Separate the meaningful activities between origination and maintenance / support. Data warehouse volume statistics, such as number of new loans by product (origination activity) or number of loan payoffs (support activity) will work in combination with time allocations and salary data to drive product expense calculations.
- Gear the definition of meaningful activities as much as possible to link to a quantifiable statistic. For example, our in-house survey for a deposit specialist included the following activities: process return deposit items, safe deposit activity, stop payments, retirement processing, and online decisioning. These activities were linked to related data warehouse volume drivers, such as the number of rented safe deposit boxes, the number of return deposit items, and the number of IRA deposit accounts.

One of the significant difficulties you can confront in the interview process is to ask staff what particular products they work on. A commercial and industrial lender, for example, can not define the proportion of time he or she spends on term loans versus lines of credit. You may choose to ask the lender instead to “weight” the amount of time needed to originate a line of credit versus a term loan (on a per unit basis) to get around this difficulty.

Be sure to document interview and survey results in a spreadsheet and discuss them with each department or division manager as you proceed. You will see outliers in the data that indicate someone didn’t understand the process. Once the department or division head signs off that the interview / survey results are reasonable, the process gains a great deal of credibility.

Know before you start your interviews and surveys if unusual projects or activities are taking place within departments. In our in-house implementation, the branch network told us they were spending 8% of their time developing non-deposit investment product business. We made a mistake up-front in not
determining this time allocation was skewed based on an incentive campaign taking place at the time. This was a mistake that cost some credibility, and we needed to redress these time allocations later.

While outsourced providers have prior experience in conducting surveys and interviews, they do not know how your company is organized and how it operates. It is critical that your internal point person be involved with the interview process, perhaps by attending a few of the interview sessions.

**Cost allocations**

Developing the approaches to allocate costs to products (including interviews and surveys) might represent the most significant time burden involved in the implementation process. It is extremely important when developing an in-house system to link the cost allocations as much as possible to general ledger and data warehouse volume drivers to ease ongoing maintenance and provide the most accurate results on an ongoing basis.

The best cost allocation method overall is a targeted general ledger chart of accounts. If the product list is incorporated into the general ledger, there will be fewer rules and allocations to make anywhere else. To accommodate the desired deposit product list during our outsourced project, we re-mapped the host-system interface and opened up several general ledger accounts (balances, interest expense, and service charges) to carve out our premium-priced products and distinguish business versus personal ownership. You may also wish to open up new general ledger accounts to isolate operating expenses for products: for example, we broke out ATM and Internet Banking expense accounts on our general ledger (from a broader Computer Processing account) to target those costs to DDA and NOW transaction accounts.

A second terrific way to allocate costs efficiently is to utilize data warehouse statistics. For our in-house implementation, we built a large number of extracts from our data warehouse for activity drivers. By branch, center, and / or product, this list included: number and average balance of deposit accounts, number of ATM withdrawals and deposits, number of deposits, withdrawals and transfers for deposit accounts, number of checks cashed, number of ACH transactions, number of wire transfers, number of return deposit items, number of NSF charges levied, number and average balance of loans, number of new loans, loan payments, and loan payoffs, and number of loan accounts renewed.

To recap, here are the steps required to setup product profitability from your financial statements, and reduce ongoing maintenance once the process is built (many of these steps apply to organizational profitability as well):

- To the greatest degree possible, create general ledger accounts to map directly to your product list; most of the product balances, interest income and expense, loan fees and service charges should be allocated this way.
The primary means of assigning operating expenses to products is the time study of employees that sell or service the products.

Banks have a large number of operating expense accounts that can be linked to people (Payroll taxes, telephone, training, dues, etc.). Linking these expenses to products using the same proportions as salary calculations will save much time.

For non-interest income and operating expense general ledger accounts not directly assignable to products or linked to salaries, various allocations using data warehouse statistics can be employed.

Some large or volatile expenses may require periodic manual calculations, such as the loan loss provision or marketing expense. Be very careful to minimize manual calculations, because the production cycle can become bogged down. In our outsourced environment, we allocated the loan loss provision each quarter by calculating the change in the required reserve for each high-level portfolio group. There were few other allocations we choose to calculate manually each quarter.

General overhead expenses are typically allocated proportionally to profit centers or products based on overall resource utilization and rarely cause much discussion. Be sure, however, that the income statement reports clearly segregate these expenses as line managers do not control their size or their movement over time.

**Reporting**

After many months building systems, end users are keenly interested in seeing the results. What are the most important characteristics of effective reporting?

Profitability results for organizational units and products can be analyzed in three dimensions: you can rank results versus other units and products, you can compare products and units against themselves in a time trend analysis, and you can compare products and units versus peer groups. Peer group data is very helpful to both gain confidence in the quality of your internal results as well as differentiate your competitive strengths and opportunities. If outsourcing, ask if the provider has access and is willing to share peer data.

While management has anxiously awaited the first set of comprehensive reports, defer your first presentation until you have at least two quarterly time periods to compare. Managers will logically be skeptical at rollout, regardless of how well you have educated them and solicited their input along the way. If you inform managers in a group meeting of their results for just one single period, they may feel put upon to justify the numbers. Trend results, on the other hand, allow for a more constructive analysis. Managers will buy-in to trend results if they see that allocations are applied consistently in the system from period to period.

When developing reports for organizational profitability, be sure to distinguish operating expenses between direct expenses, indirect expenses, and overhead.
allocations. Profit center heads want to know what expenses are directly controllable within the measured unit. If annual budgets are prepared on a departmental level, department heads should be able to draw many similarities of direct expenses in their profitability report to their budgets. When developing reports for product profitability, be sure to distinguish operating expenses between new business expenses, support / maintenance activities, and overhead allocations as well.

Here are a number of other characteristics of a strong reporting process:

- The reports must be balanced to internal financial statements and loan, deposit and investment application data.
- All totals on reports must have audit trails in the system, and users should be able to drill down in the system to trace to original source data.
- Report formats should mirror the sequence of traditional top-level balance sheets and income statements.
- Each income statement should contain both dollar volumes and ratios as a percent of product or portfolio balances.
- Meaningful statistical information should be reported, such as number of accounts, average balance per account, annualized fee income and operating expense by account, efficiency ratios and return on equity.

Decision making information

Once the profitability system is in place, there are many potential applications for taking action:

- Pricing decisions: You may notice net interest margin movements that indicate competitive pressure or internal pricing issues. Our in-house implementation included a useful FTP system report that displayed product net interest margin components for new account originations by month. This report was also used to improve our A/L model pricing assumptions.
- Review of fee income: Use the results, in combination with surveys of market peers, to increase your fees.
- Branch resource allocations: Organizational profitability is often used to analyze branch trends, including growth and mix of deposits in the office. Strategic reviews of resource allocations and market potential may follow.
- Review of incentive compensation programs: The reports will indicate which product lines produce the best profits. Look to adjust incentive programs to target these products. Does your bank incent branch managers to generate CD’s at the same rate as non-maturity deposits?
- Product resource allocations: The results may indicate products that don’t earn profit after deducting direct or indirect costs (before overhead). Strategic direction may be re-evaluated upon this review.
• Targeting marketing strategies: The results will indicate opportunities to adjust marketing emphasis for products and markets.
• Product development: By understanding the interest margin, revenue and cost structures of existing products it becomes much easier to model potential performance of new products, including an understanding of volumes needed to break even.
• What-if projections: The results can also be applied to develop what-if scenarios regarding expansion of product lines.
• Analysis of production and workflow: When used in conjunction with peer benchmarks (Cornerstone Advisors has good publications available for mid-size banks), the results may indicate opportunities to review operational processes or line area production.
• Development of loan pricing models: One can create or refine their commercial customer loan pricing models utilizing FTP and product profitability results, with a great deal of confidence.
• Analysis of officer volumes and profitability: The system can be set up or expanded to include reports segmented by officers.

Examples of results and applications
Here are a few examples of how my employers utilized the profitability results once we completed the implementation process:

• For a new premium-priced NOW account product, we used reports to track our progress toward break-even, and help make pricing decisions based on product line growth and the amount of cannibalization from other deposit products.
• For a new business sweep account product, we used reports to track our progress toward break-even and make pricing decisions based on product line growth and competitive pricing analysis.
• Our outsourced vendor worked voluntarily with us to generate net interest margin reports by the commercial loan officer, once we were able to provide a few more fields in our loan and deposit data extracts.

To perform an assessment of the entire small business customer segment, we aggregated profitability results for the deposit product line with the loan product line (managed by different organizational units) to review our overall success.

We prepared a pro-forma analysis to indicate what portfolio size would be necessary for a new consumer loan product line to break even, in light of tight initial net interest margins. The product profitability system was also modified to carve out the product line separately from similar other loans since the origination cost structures and net interest margins were so different.

Conclusions
The implementation of a profitability process is time-consuming and can be expensive. However, the output provides meaningful analysis of organizational
performance that serves as a basis for confident strategic and tactical actions that will improve future performance well beyond the costs of implementation.

**About the author**

John Westwood currently serves as the Senior Vice President and Treasurer at Mansfield Bank in Mansfield, Massachusetts. He was engaged in the implementation of profitability systems at his two prior publicly-traded employers, ranging near $1 billion in assets at the time. John has served on the Financial Manager’s Society Finance council since 2004.