

WHAT YOUR DATA IS OR IS NOT TELLING YOU

by [Steve Brown](#)

We are huge fans of using statistics to assist in running a bank. No one probably knows better than us that the largest problem in using data isn't that it is misleading, but rather that managers often read too much or too little into it. Here are a couple of items that we always struggle with:

Watch the distribution - Some reports rely heavily on the arithmetic mean. The famous example of this issue is for banks that conduct customer satisfaction surveys. On a scale of 1 to 5, 5 being "very satisfied," your customers give you a 3 for average. There is a difference in the data if you received a bunch of "3s" or if you earned lots of "5s" and "1s." In similar fashion, when we look at deposit data, there is usually a municipality, casino or other single customer that contributes the bulk of deposits. These entities are in very limited supply, but can contribute 25x more to deposit balances than other customers. Outliers like these often misrepresent the data and lead to sub-optimal conclusions. Understanding your data and its distribution (usually just captured by looking at the

standard deviation); helps you understand the quality of data.

Don't confuse casualty with correlation - for banks, the number of branches and deposits are positively correlated. This single supposition has caused many to build more branches, with a hypothesis that deposits equal profitability. This is oftentimes a false assumption, as branches can cost as much as \$2mm each and the number of branches opened after 2006 are only

correlated to profitability about half the time.

Before you jump to any conclusions about your data, ask

yourself whether there is an association between the two variables? Could something else account for this correlation? Do you have your cause and effect right? Sometimes at banks, deposits increase on a same store basis and that causes management to build more branches. However, perhaps it is some other factor that is causing increased deposits at new branches (such as the addition of sales people, more training or a new incentive plan). Going back to our example above, a casino contributed close to \$10mm to a new branch. This pushed the average way up and the bank was led to believe that if it opened another branch in the next town it would also be profitable within the first 2Ys. The problem was that there were no casinos in that town. A better course of action would be to get the casino as a customer first and then open a branch to service them (if you wanted that risk). Only by testing each correlation and by eliminating other factors can bankers verify if their data is leading to the correct conclusions.

Margin of Error - With statistics, nothing is 100% certain. Extracting data from a random or limited sample only hints at a possible conclusion. With any sampling, a normal distribution is assumed and banking is anything but normal. What happens if it is not a normal distribution, such as with loan profitability for many community banks? Or, you might have a normal distribution, but not a big enough sample size. Drawing conclusions from 10 customers is not the same as polling 100 customers. If you have a normal distribution and a large enough sample size, you still have to choose what your confidence or error factor is. For example, if you conduct a customersatisfaction survey (the same 1 to 5 scale) and your mean is a score of 3.9 for 2008 and 4.1 for 2009, did you improve?

The answer could be no, because in this case, 4.1 and 3.9 fall within the normally used 95% "confidence interval" and are not statistically different. The error rate is such that both numbers are about the same. The smaller the sample size, the more room for error and the smaller the confidence interval turns out to be.

Using data and statistics can be extremely useful when it comes to running a bank, but it is important not to get too carried away. As long as bankers understand the limitation of statistics and test themselves to make sure they are drawing solid conclusions; making decisions on data could put you above most other banks that still manage their bank from gut instinct alone.

BANK NEWS

TAG Extension

The ICBA is urging the FDIC to extend the Transaction Account Guarantee (TAG) component of the Temporary Liquidity Guarantee Program (TLGP) for an additional 12 months. TAG fully guarantees non-interest-bearing transaction accounts, certain NOW accounts and ILTA's until June 30, 2010. ICBA has also asked the FDIC to support a permanent insurance program for transaction accounts, which we also wholeheartedly endorse.

FRB Power

The Senate Banking Committee is reportedly interested in creating a new consumer protection agency inside the FRB that would have a presidentially approved director and an independent budget.

ALLL Changes

FASB is finalizing changes to disclosures for the loan loss allowance which will become effective during the 1Q of 2011. Key items that changed following bank input include: there is no longer a requirement to disaggregate loans and receivables by FAS 5/114 impairment methodology; there is no requirement to link internal risk ratings of credit quality to external ratings; banks are not required to disclose fair values by portfolio segment; there are no specific disclosures required for purchased credit-impaired loans; loans measured at fair value or at lower of cost or fair value are excluded from ALLL.

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