david green ADVISORS dga

Life Lessons: All Deposits Are Not Above Average

Depository institutions are prone to believe that their deposits have above-average value, that this value is intrinsic and impervious to rising interest rates, above-market asset growth rates and desperate competitors. As a result, they are not prepared for the adverse impact of rising interest rates on earnings and economic value.

Growing up, I always looked forward to episodes of Garrison Keillor's Prairie Home Companion (still going strong after 40+ years…the show that is, but I'm not doing so badly myself). The stories were set in a town far from my South Georgia home, but the life lessons and down-home homily always rang true. In the closing words to Keillor's Lake Wobegon segment, there is a cautionary message that bankers should consider: "Well, that's the news from Lake Wobegon, where all the women are strong, all the men are good looking and all the children are above average." This tongue and cheek is so spot on that the name of the fictional town has been applied to a common psychological tendency called *illusory superiority* ("The Lake Wobegon Effect") which refers to a cognitive bias whereby one overestimates one's capabilities or qualities in relation to others.

For the last two decades, I've worked extensively in the area of interest rate risk (IRR) management. As I ponder the challenges associated with rising interest rates, I am greatly concerned that most bankers think that their deposits (children in the Lake Wobegon analogy) are above average. In conducting deposit studies and ALM model validations over the last several years, I have observed a remarkable tendency for bankers to think that they have done something unique to attract and retain deposits. This belief is reinforced by quantitative studies conducted over the last ten years which show tremendous stickiness of deposits. While this observation may be true, it's interesting that no bank ever attributes this phenomenon to the simple fact that MMMF rates have been zero for several years while banks continue to pay comparatively high interest rates on deposits (which also happen to be insured). Without a doubt, this is the primary reason so many deposits have poured into banks over the last several years; in fact, over $1 trillion of balances have moved out of MMMF since the financial crisis. Many banker believe that the reason for the in-flows and stickiness is exceptional customer service, convenient branches and an on-line banking experience that sets their bank apart from the competition. If this were actually the case, why are most banks

still "paying up" for deposits? I'll repeat: MMMF rates are zero and bank deposits are insured; why do you need to pay anything? Given the complete absence of non-bank competition, it's worth pondering what prevents (or fails to compel) a bank from lowering deposits rates all the way to zero. The only other place for the money to go is to an equally irrational bank across the street. If a bank honestly believes that it offers a unique and compelling service to its customers, it should test the hypothesis by lowering its deposits rates. (For the record, some European banks now pay their customers a *negative* interest rate.) If balances remain, this *might* be affirmative evidence of stickiness, but if they leave, this will put surely put the "above average" myth to bed and we can stop the bloviating. The fact that this hypothesis is never tested is powerful evidence that the deposit market is perfectly competitive; banks are undoubtedly price-takers.

The danger with this "above average" delusion arises when a bank assesses its risk to rising interest rates. In order to quantify this exposure, the asset/liability manager of the bank must estimate the duration of deposits. Duration, in this sense, is a measure of price sensitivity and in arriving at an estimate of it, many bankers are prone to confuse average life with duration. Estimating duration on most deposits is tricky because they are non-maturity. Their behavior is not governed by contracts; the bank can pay any rate it chooses and the customer can decide to keep his money in the bank or take it out at any time. Non-maturity deposits include virtually all DDA, NOW, MMDA and Savings accounts, the majority of funding at most banks and virtually all funding at most credit unions. While a long average life (stickiness) is most certainly a necessary condition for a deposit to have a high duration, it is not a sufficient condition. Long duration deposits must also demonstrate low price sensitivity; that is, for deposits to be truly long, the rate the bank pays the depositor cannot essentially move up bp for bp with increases in the Fed Funds rates. In fact, deposits that behave in this manner are simply floaters; despite a long average life, their duration is *zero*. In an IRR context, they have no more value than overnight funding from the Fed or FHLB, **NONE**. To be clear, the measured rate sensitivity of deposit rates has been zero (or undefined depending on the choice of denominator) for many years as short term market rates haven't really moved, but this numerical fact has absolutely no relevance to how deposit rates will respond once the Fed begins to raise rates. In fact, these data must be completely ignored in the duration estimation or else the estimate will be materially biased upward. In fact, you have to go all of the way back to 2004-6 to measure this sensitivity correctly, but even if you have this information, don't forget that the world in which we live today is markedly different from what it was back then. As a result, past behaviors may not hold.

david.green@davidgreenadvisors.com • davidgreenadvisors.com + almftp.com
404.966.0054 • 16900 N Bay Rd, Suite 1712, Miami, FL 33160

To return to the Lake Wobegon analogy, instead of conducting a rigorous and introspective analysis of their *own* deposits, many banks and credit unions try to get away with buying an industry average of deposit duration with which to populate their IRR models. This practice is tantamount to saying that "we are at least average." Private vendors actually offer such a product for sale and surely know that the higher the duration they market, the more some banks will want to buy it. (I put this practice in the same bucket as participation trophies – pay the registration fee and feel good about your child.) To make matters worse, the OTS used to encourage this behavior by publishing its own quarterly average of deposit durations; as a result, most thrifts never bothered to think critically about their deposits. Thankfully, in subsuming the OTS in 2011, the OCC rightly called this out as an unsafe and unsound practice; any deposit duration estimate must be substantiated by an analysis of a bank's own deposits. Even so, whether a bank or credit union uses an average duration or hires a consultant to produce a duration estimate, these numbers are almost never reconciled to the ubiquitous practice of incenting line of business executives, product managers and tellers on *volume* (not duration) of deposit growth or new account openings or to business strategies, e.g. aggressive loan growth, which require excessively high rates of deposit growth. This latter practice simply forces volume at any price. If the loans are anything other than floating rate commercial loans, this strategy is an IRR disaster waiting to happen. Similar disconnects between behavioral assumptions and actual behavior are evident at banks which use product pricing models that make no reference to duration. How can you expect to get something you don't specifically measure and incent? (The quants in your bank don't determine how the world works; the world determines how the world works.) Volume is easy, duration is hard; the former can be achieved by simply paying a high rate, while the latter requires that the franchise be specifically challenged to attract and retain customers with something other than rates. This is virtually impossible when the competition has a strategy of simply raising rates in line with the market.

Let's face it, in any honest accounting of profitability, a key source of bank earnings for the last several years has been sustained liability sensitivity. When the Fed said for years that rates were not going up, you didn't bet against them; you borrowed short and you lent long. Since this has been the case for well over half a decade, why do so many banks in their internal accounting show a mismatch center with zero or *negative* earnings and a deposit franchise with *positive* earnings? (The implication is that ALCO did nothing to generate earnings for the bank.) This type of accounting is only possible when the mismatch center is robbed in order to subsidize the deposit franchise. (A positive profit contribution from deposits is necessary in order to sustain the Lake Wobegon Effect.) Even scarier are banks and credit unions that do not utilize funds

transfer pricing. In such cases, the earnings associated with having been liability sensitive have been *arbitrarily* attributed to deposits. (Why bother going to the trouble of establishing and then robbing the mismatch center?) For such banks, it's going to be a painful reckoning when this source of earnings goes away (as rates rise). Where will they turn then to subsidize unprofitable deposit franchises?

In an environment where depositors have been yield-starved for years, loyalty to banks has weakened, banks can now pay rates on commercial transaction accounts, alternative deposit channels continue to expand and switching costs are essentially zero, isn't it time you took a hard look at your assumptions around deposit behaviors? Is it possible that you love your deposits for no other reason than they are your own? If you don't believe your bank suffers from the disorder I have described, I suggest you go find an old timer who was actually running an IRR model back in 2004-6 and ask them how well their bank understood their deposits. My guess is they'll tell you that their children were definitely not above average.

david.green@davidgreenadvisors.com • davidgreenadvisors.com + almftp.com

404.966.0054 • 16900 N Bay Rd, Suite 1712, Miami, FL 33160

DGA has developed a unique and comprehensive approach to modeling NMDs which is specifically designed to align key behavioral assumptions used in risk management, profitability management and product management processes. Only by aligning these processes and monitoring them closely can an organization establish meaningful measures of deposit value.

Key Design Features:

- Modeling hierarchy recommendations
- Dynamic core/non-core algorithm
- Beta, decay and non-core analytics
- Assumption monitoring
- Effective duration estimates
- Complete times series of FTP rates and spreads
- ALM model feeds
- Real-time product pricing considerations

For more information, see nmdmodel.com.

david.green@davidgreenadvisors.com • davidgreenadvisors.com + almftp.com
404.966.0054 • 16900 N Bay Rd, Suite 1712, Miami, FL 33160

About David Green Advisors

DGA is a boutique advisory firm led by David Green, PhD, CFA. Specializing in risk and profitability management, DGA advises in all aspects of framework development, including policies, quantitative models, operational and management processes and governance structures. A leading provider of risk and profitability workshops around the globe, DGA offers a unique blend of advisory services and educational training that maximizes knowledge transfer and ensures practical consistency throughout the organization.

Areas of Specialization:

- Asset/Liability Management
- Governance Responsibilities of ALCO
- Interest Rate Risk Management
- Liquidity Risk Management
- Funds Transfer Pricing
- Behavioral Modeling of Loans and Non-Maturity Deposits
- Quantitative Model Development, Calibration and Implementation
- Risk and Profitability Management Frameworks
- Executive Training on Risk and Profitability Management
- Live and Web-based Workshops

For more information about DGA, see davidgreenadvisors.com/about.

david.green@davidgreenadvisors.com • davidgreenadvisors.com + almftp.com
404.966.0054 • 16900 N Bay Rd, Suite 1712, Miami, FL 33160

david green ADVISORS dga

Dr. Green is motivated by the understanding that key risk and profitability management functions at a depository institution must be fully aligned in order that the story of how the firm makes money be robust to the dynamics of the business cycle; absent proper alignment, measures of business segment- and product-level profitability will be incorrect and unstable, challenging effective management of the organization.

About David Green, PhD, CFA

Dr. Green is a leading expert in risk and profitability management. His expertise derives from lessons learned in a >20 year career spanning banking, bank regulation, consulting and software development. Prior to consulting for the last decade, he served as the Treasurer at BankUnited, the largest bank headquartered in Florida, where he was responsible for ALM, FTP, the investment portfolio, funding and derivatives as well as secondary marketing. Prior to this, he was the A/L Manager at SunTrust Bank in Atlanta; there he built and managed all of the static and stochastic interest rate risk models for the bank and worked to align a number of business functions including budgeting/ forecasting, funds transfer pricing and strategic balance sheet management.

Dr. Green is a former Chairman of the Georgia Bankers Association's A/L Management Committee. He served as a Bank Examiner at the Federal Reserve Bank of Atlanta, where he also spent two years in research while completing his Ph.D. He was Chairman of SunGard/Bancware's US Client Advisory Council for many years.

Dr. Green holds a Ph.D. in Economics from Georgia State University, a BS in Applied Mathematics from Georgia Tech and is a CFA charter holder. He is a frequent speaker at banking and risk management conferences.

For more information about Dr. Green, connect with him on linkedin/in/drdgreen.

david.green@davidgreenadvisors.com • davidgreenadvisors.com + almftp.com
404.966.0054 • 16900 N Bay Rd, Suite 1712, Miami, FL 33160