WHITE PAPER

Liquidity Risk and Proactive Deposit Management

June 2023

Andrea Bressani, Michele Rigoni, Linda Parisato, Matteo Coppola, Ingmar Broemstrup, Pascal Vogt, Bashir Todai, Roy Choudhury and Paras Malik

Liquidity Risk and Proactive Deposit Management

After years of abundant liquidity and low-to-negative interest rates, we are back to normal in banking. Central banks have raised rates and ended their extraordinary funding programs. Money has a time cost again and inflation has likely peaked and appears headed toward long-term norms. For the first time in more than a decade, client deposits and funding —two pillars of banking—are top-of-mind for bankers.

While normalized interest rates are ultimately beneficial to banks' net interest margins and P&Ls, in the short run financial institutions must navigate the rapid transition that central bankers are driving. In this regard, the fatal asset-liability mismatches at certain U.S. banks following pre-transition managerial mistakes are the smaller story. The bigger story is about the world's healthy banks and their need to update approaches to deposit management for the return to normal—ideally in a way that strengthens the bank's P&L as well as its liquidity profile.

This is an achievable goal. Modernizing the attraction and retention of deposits wasn't a priority for banks during the lengthy low-rate regime, but tools are readily available for doing so in a manner consistent with risk management requirements, regulatory standards and commercial goals. Using these tools, we have designed a rigorous and proactive approach for optimizing a bank's liquidity and deposit strategy—one that meets the objectives of all the executives involved in liquidity management. Banks can use it to balance the priorities of the chief risk officer (CRO), who typically wants to maximize the stability of deposits; the chief financial officer (CFO), who is most concerned with deposit volume; the head of retail, whose focus is profitability; and, of course, the CEO, responsible for reaching the group's overall targets.

The approach is based on learning how different clients, both individually and at a segment level, respond to different interest-rate levels for deposits across four maturities. This information enables a bank to set the rates best suited to its strategy and client mix, adjusting the commercial outreach to each segment accordingly while also monitoring the impact on key liquidity and risk metrics. Individual and small business clients are the focus, since they represent a large portion of the deposits at most banks and are among the cheapest sources of funding. Managing this deposit base and optimizing the impact on liquidity and P&L is a top priority for every bank with a large retail business.

Modeling Customers Through Deposit Rate Elasticity

The heart of the program is a model (see Exhibit 1) that segments clients into three clusters based on their elasticity—that is, how sticky their deposits are in response to changes in deposit rates along the yield curve (the Y axis)—and their value as customers (the X axis). The formula used for the elasticity calculation is shown in Exhibit 2. At the outset, the characteristics that place a customer in one of the clusters are part of an initial hypothesis. The variables that might drive elasticity could include age, length of relationship and other factors, such as net promoter score. Value to the bank could be driven by customer profitability or intermediation margin.

Exhibit 1 - Segmenting Clients by Elasticity and Client Value

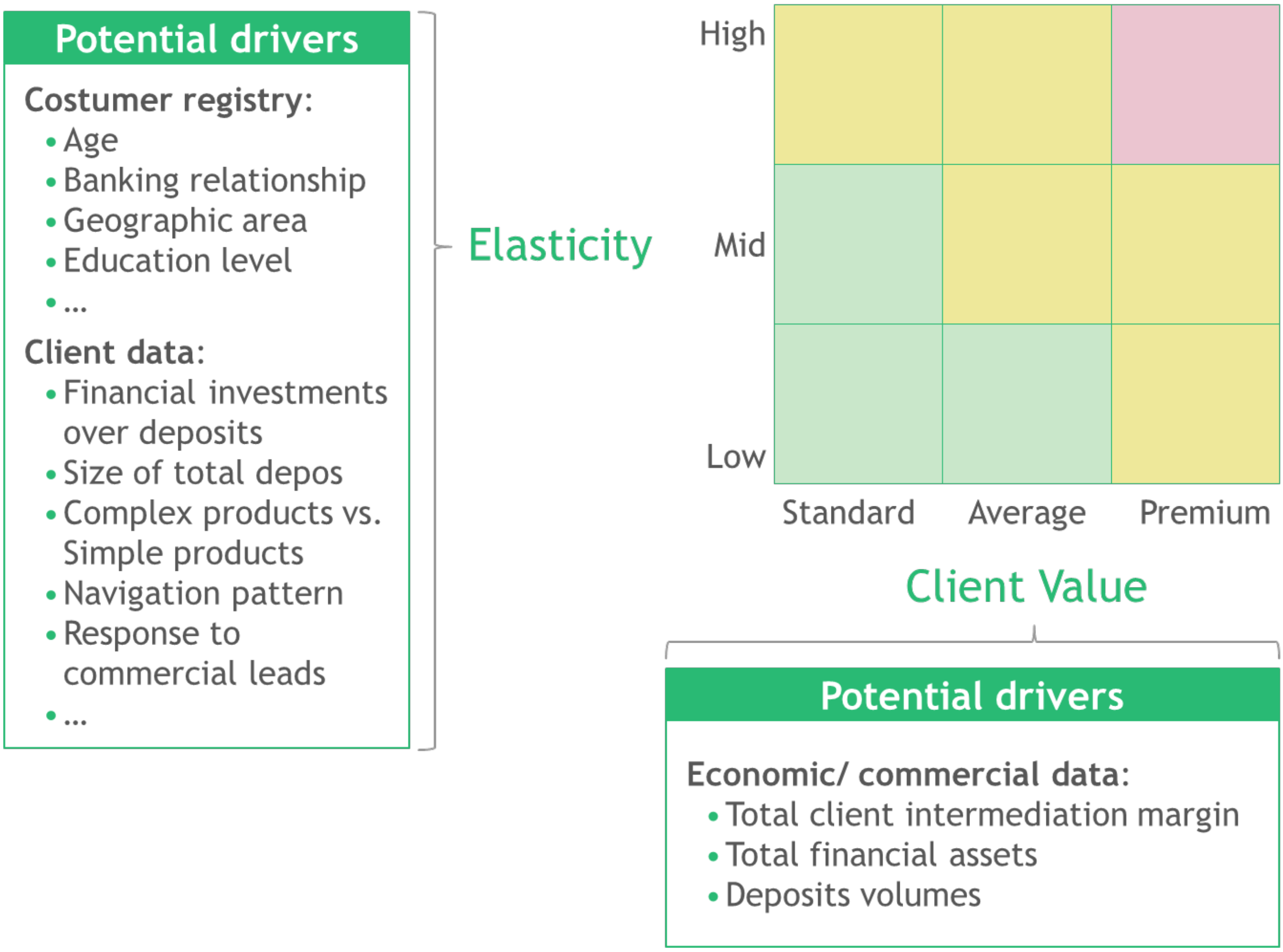


Exhibit 2 - Formula for Calculating the Elasticity to Interest Rates

$$\frac{\dfrac{\partial D}{D}}{\dfrac{\partial I_D}{I_D}}$$

Where:

- D = deposit volumes
- I_D = deposit rates

With the potential drivers selected (typically 10 to 12 for the elasticity function) the measurement phase can begin. One or more groups of statistically relevant clients are selected and offered different combinations of rates and maturities, with their reactions monitored in both quantitative and qualitative ways. Using multi-variate regression to analyze this data, the elasticity to deposit rates can be calculated as a function of a set of variables (typically five to eight) that yield a high desired significance. Following this, client clusters can be formally defined and used to segment the entire client base into elasticity/value clusters. The bank thus gains the ability to predict the responses of depositors to changes in rates at different maturities.

Based on these insights, the bank can dynamically adjust rates in support of its deposit strategy, setting priorities and managing the tradeoffs between increasing net interest income, attracting additional deposits and maintaining a stable deposit base with a low level of churn. (See Exhibit 3.)

Achieving the Goals of the Desired Deposit Strategy

Because regulations require that all clients get the same interest rate for the same maturity—and because the different client segments will react differently to the same rate—tailoring the commercial strategy for each segment is a key part of the program. The tailoring gets underway once the bank has decided upon the rates it will offer along the yield curve. Rates are set to strike the best balance between deposit volumes, profitability and client churn, based on the predicted responses of the different client segments as well as the rates being offered by competitors. Importantly, the bank can now generate contact lists of the specific clients it will need to be most proactive with.

Commercial strategies for each segment are shown in Exhibit 4. Clients in Segment 1, with low-to-mid-level elasticity and standard- to-average client value, get the simplest offering—essentially, just the necessary information on what the new rates will be. The main channels for Segment 1 customers are the website and branches.

Exhibit 3 - Outcome of the Elasticity Function for a Sample Client

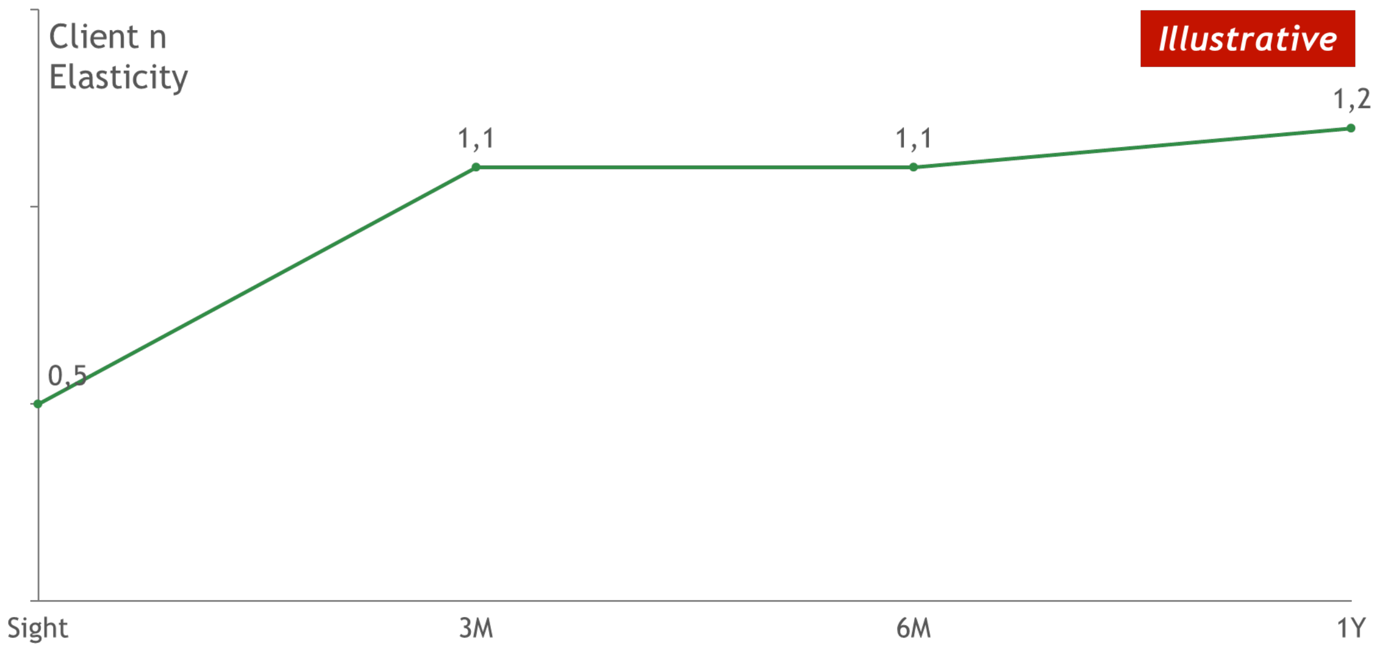
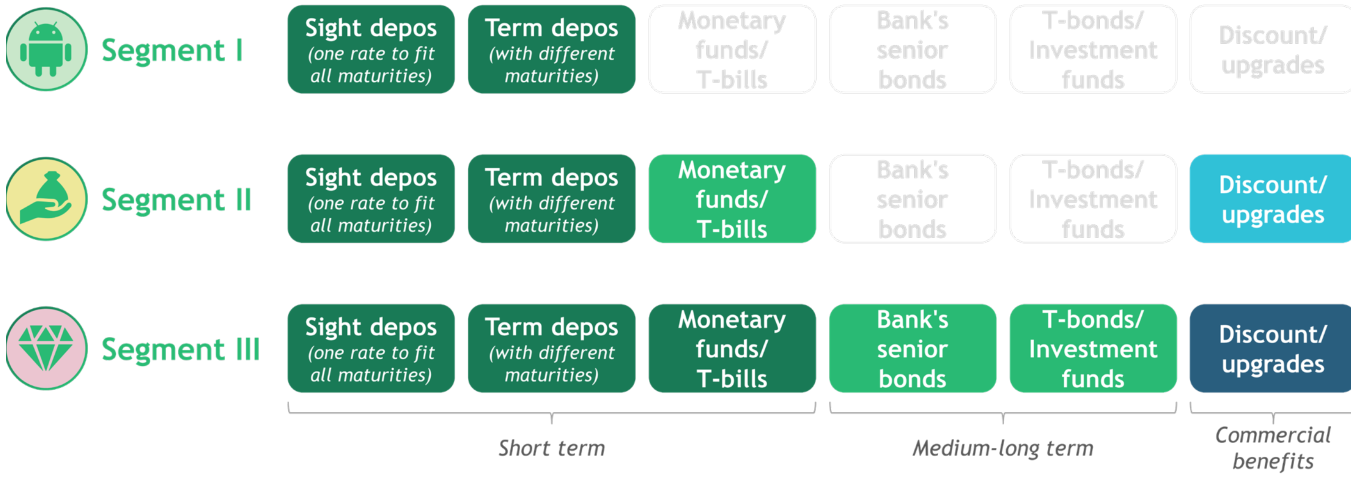


Exhibit 4 - Tailoring commercial offers for the Three Client Segments



For Segment 2, with higher elasticity and client value, the offering is more complex and may include recommendations for mixing different maturities, or a combination of deposits and short term fixed income funds. The channel is higher-touch, using call centers and e-mail. Segment 3 (highest elasticity and value) gets the most attractive offering (a mix of sight and term deposits, short term FI funds plus other benefits such as discounts or upgrades) and the highest level of service, via a call from a relationship manager.

Optimizing the product mixes in the three segment strategies—in coordination with the fund transfer pricing provided by the CFO team—enables the bank to confidently manage the effects of the deposit strategy, set at group level, on the P&L of the retail division.

This is the program in a nutshell. By calculating client elasticity to deposit rates, monitoring results and costs and adjusting rates and segment offerings as conditions change, banks that implement it can take a proactive approach to deposit management.

Managing the Crucial Tradeoffs

Because of the intrinsic tradeoffs between liquidity risk, volume of deposits and profits generated, this proactive approach to deposit management calls for tight coordination among the CRO, the CFO and the head of the retail division. All will find that the program can help them do their jobs better.

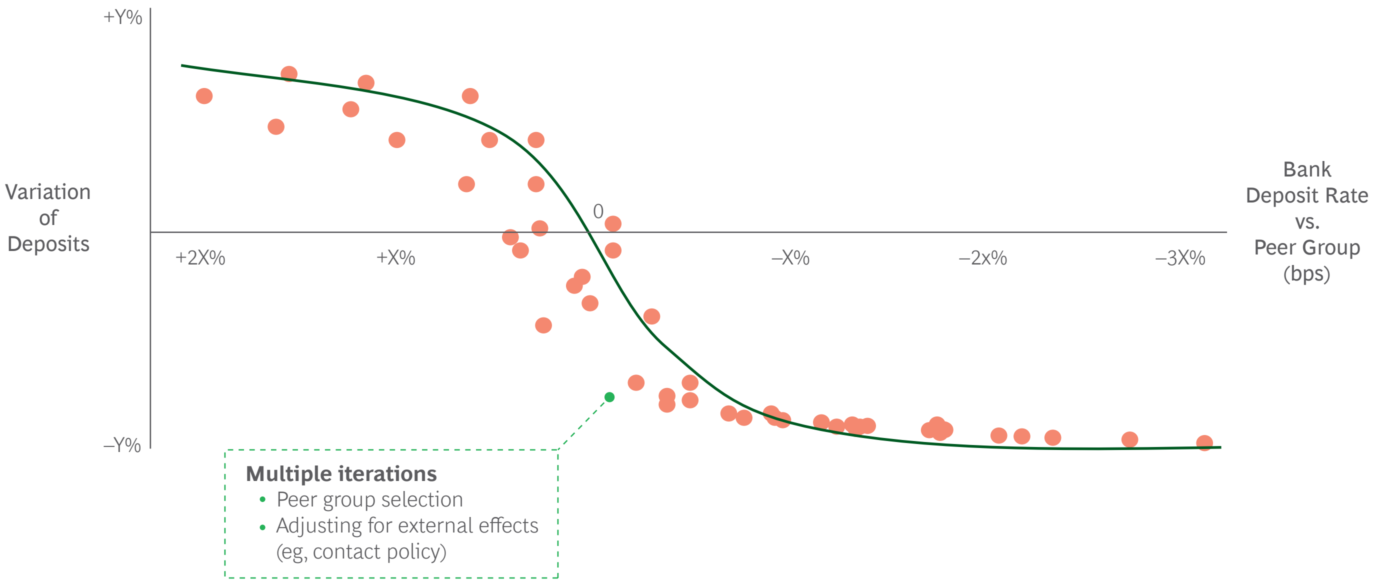
As shown in Exhibit 5, the analysis of the customer groups allows us to plot the variation of the bank deposit volumes as a function of the relative interest rates relative to peers. The s-curve, allows banks to optimize the trade-off between deposit volumes and deposit margins.

With deposit outflows likely to rise, bank liquidity indicators such as the liquidity coverage ratio the net stable funding ratio are being even more closely watched. Historically based assumptions about the stickiness of retail deposits are coming under scrutiny, and adjustments by central banks to the proportion of sight deposits that can be included in these calculations could be ahead.

In this climate, chief risk officers will find a quantitative and collaborative approach to deposit management especially helpful. For a desired deposit strategy at group level, this approach enables the CRO team to constructively interact with the retail division on optimizing the stickiness of the higher elasticity/higher value customers. The quantitative approach is also helpful in managing the stability of retail deposits in the eyes of regulators.

For CFOs, a more effective and quantitative way to manage the cheapest and most abundant source of funding has obvious appeal. Retail chiefs, for their part, gain a new lever with significant potential to help them improve profitability. Even a 0.1% improvement in the return generated by a deposit base measured in the tens or hundreds of billions is a major contribution.

Exhibit 5 - Variation of Bank's Deposits as a Function of Deposit Rates Relative to Peers



A New Normal in Customer Relations

While banking is returning to normal in terms of the interest rate and liquidity picture, there is no turning back the clock on the way companies interact with their customers. Digital media now enable clients to instantly compare bank offerings on their smartphones, and digital banking apps make it easy for them to take advantage of the ones that appear most attractive. Elasticity to deposit rates—and the propensity of clients to switch banks—will continue to increase.

Most industries have responded to this new and more level playing field by learning more about their customer segments and tailoring offerings accordingly, and banks are no exception. In the deposit realm, many already employ early warning systems for anticipating client churn or even outflows, combining historical data on past steps customers have taken prior to moving deposits with forward-looking data from website engagement tools such as interest-rate calculators or articles on how to maximize yields.

Early warning systems are an important precursor to the program outlined here, but they are defensive in nature. To meet their risk, liquidity and profitability goals in the years ahead, banks need to take a proactive approach to managing deposits.

About the Authors

Andrea Bressani (Partner and Director)

Michele Rigoni (Partner)

Linda Parisato (Project Leader, Risk & Compliance)

Matteo Coppola (Managing Director and Senior Partner)

Ingmar Broemstrup (Managing Director and Partner)

Pascal Vogt (Partner and Director, Treasury)

Bashir Todai (Managing Director and Partner)

Roy Choudhury (Managing Director and Partner)

Paras Malik (Managing Director and Partner)

For Further Contact

If you would like to discuss this report, please contact the authors.


bcg.com