

Risk Practice

How banks can ease the pain of negative interest rates

With better governance and data collection, treasurers can staunch the effects of margin erosion.

by Andreas Bohn, Olivier Plantefeve, Thomas Poppensieker, and Sebastian Schneider



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By significantly reducing interest rates, central banks in Europe, Japan, and the United States have sought to stimulate economic activity, stabilize banking systems suffering from nonperforming loans, and manage exchange rates. A few have even pushed reference rates toward zero and below, while also undertaking quantitative easing in the form of bond-buying programs, to push down term rates as well. Against this background, central banks are contemplating broader and more intensive implementation of negative rates in case of a severe downturn.

While economies have benefited, low and negative interest rates come with strong side effects for investors and financial institutions. Over time, negative interest rates hurt profitability by eroding banks' net-interest margins. Japanese banks, for example, first saw net-interest margins increase as client rates on deposits were reduced faster than average rates on loans.¹ Soon thereafter, however, net-interest margins steadily declined as yields on loans and bonds acquired declined, pushed down by the Bank of Japan's quantitative-easing program. The increase in balance-sheet volumes did not offset the decline in net-interest margins.

Economists and business analysts expect that the present squeeze on margins is going to last at least five years, and probably more. Eurozone banks could face a margin decline of eight basis points. But there's good news too: treasurers may be able to mitigate most or all of the forecast depletion, through a combination of effective governance, a clear risk-appetite framework for hedging strategies, and IT and data reporting that achieves transaction-level transparency.

Since 2015, most banking sectors subject to negative-interest-rate policies have experienced a decline in net-interest margins (Exhibit 1).²

The impact on banks of negative-interest-rate policies varies according to the bank's business model. Smaller banks focused on domestic loans and deposits are often hurt more than larger banks, which tend to be more diversified across currencies and have a larger share of fee business. Banks of all sizes should prepare for the long-term effects of negative interest rates and quantitative easing by adopting a comprehensive program of countermeasures. Treasurers will be instrumental in designing and implementing these measures.

The components of net-interest margins

The main components of net-interest margins are structural elements, margins on assets, and margins on liabilities (which depend on the business model and regional setup) (Exhibit 2). The structural elements include benefits from maturity transformation, modeling and hedging the repricing tenor of the bank's own funds, and liquidity buffer income. They account for 15 to 35 percent of net-interest margin and decline due to flattening interest-rate curves and tighter credit spreads for bonds. The other two components—the margins on assets and liabilities—are more closely linked to client business.

Negative interest rates and quantitative easing create specific challenges for each component:

1. Structural elements: Banks have to hold significant amounts of high-quality liquid assets to fulfill requirements set by the liquidity-coverage ratio. These assets predominantly consist of central-bank reserves or government bonds that mostly have negative yields.³ New regulatory requirements for term funding may extend the duration of liabilities requiring matching asset duration.⁴ Furthermore, a flattened yield curve

¹ Christian Weistroffer, "Ultra-low interest rates: How Japanese banks have coped," DB Research, Deutsche Bank, June 10, 2013, dbresearch.com.

² The exception is Sweden, which has experienced healthy economic growth since 2014 with a robust mortgage market. Net-interest margins in the banking sector increased in Sweden during this period, and at the end of 2019, the Riksbank decided to lift its key reference rate (seven-day repo rate) back to zero (the rate for daily marginal deposits was set at –0.10 percent). See Qianying Chen, Mitsuru Katagiri, and Jay Surti, *Banking in a steady state of low growth and interest rates*, International Monetary Fund working paper, Number 18/192, August 2018, imf.org; Kerstin Bernoth and Alexander Haas, "Negative interest rates and the signalling channel," European Parliament, Policy Department for Economic, Scientific and Quality of Life Policies, Monetary Dialogue, September 2018, europarl.europa.eu.

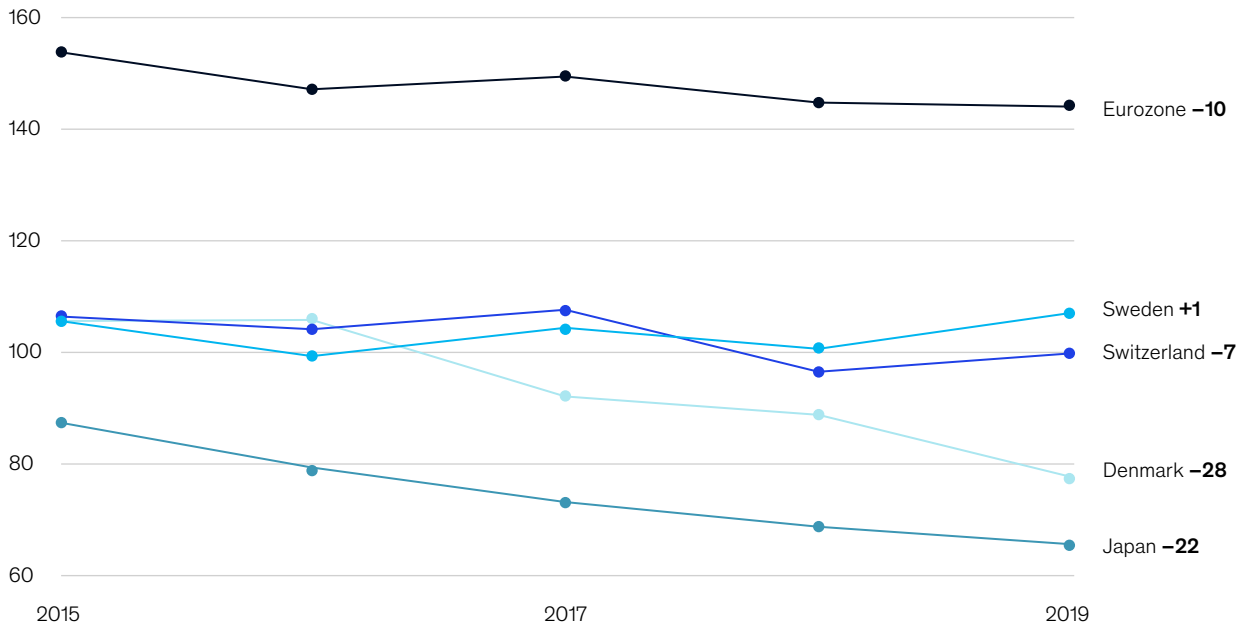
³ The largest part of central-bank reserves receives negative interest rates although a minimum amount may be exempted. The tiering can be set as a multiple of the minimum reserve requirements or discretionally for an individual bank. Many government bonds, the most suitable alternative to central-bank cash, exhibit negative yields due to quantitative easing.

⁴ Examples for regulatory term-funding requirements are the net stable funding ratio and the minimum requirements to issue eligible bail-in debt.

Exhibit 1

Net-interest margins mainly declined in economies subject to negative-interest-rate policies.

Net-interest margins 2015–19, basis points

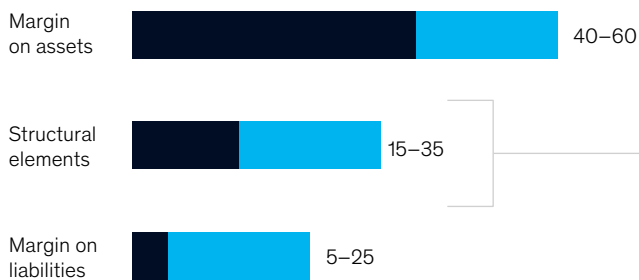


Source: European Banking Authority Risk Dashboard; SNL Financial

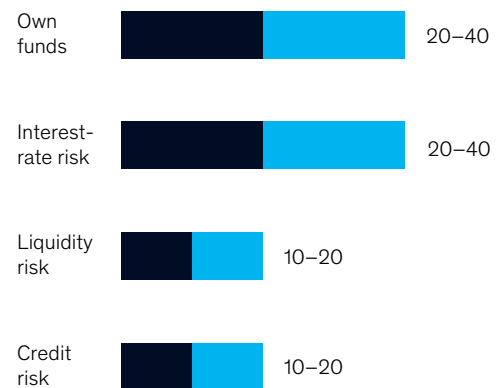
Exhibit 2

The three major components of net-interest margins are structural elements, margin on assets, and margin on liabilities.

3 major components of net-interest margins, %



Breakdown of structural elements, %



Source: Federal Financial Supervisory Authority (BaFin)—Deutsche Bundesbank

diminishes the benefits of maturity transformation. Additionally, the stability of new deposits—and hence their eligibility for maturity transformation—is uncertain.

2. Margin on assets: Banks accumulating excess liquidity from deposits have a particular incentive to increase lending to absorb this liquidity.⁵ Some may increase their risk appetite for investments in securities and more risky loans, possibly compromising too much on the margin for term loans.⁶

3. Margin on liabilities: The ability to reprice deposits faster than assets helps at the beginning. While repricing corporate deposits below the

zero boundary is feasible to some degree, retail deposits are more difficult to reprice, because deposits would become inferior to cash holdings. In addition, banks tend to experience significant inflows of client deposits.⁷

Even if interest rates remain stable over the next five years, the impact of negative rates will continue to squeeze net-interest margins, especially the structural elements. Consequently, the net-interest margin for banks in the eurozone could decline by another 8 basis points during this period. If the interest-rate curve were to move down another 50 basis points, the net-interest margin would drop by a further 8 basis points—or more—depending on the reaction of banks and clients (Exhibit 3).⁸

⁵ Selva Demiralp, Jens Eisenschmidt, and Thomas Vlassopoulos, *Negative interest rates, excess liquidity and retail deposits: banks' reaction to unconventional monetary policy in the euro area*, European Central Bank working paper 2283, May 2019, ecb.europa.eu.

⁶ Florian Heider, Farzad Saidi, and Glenn Schepens, *Life below zero: bank lending under negative policy rates*, European Central Bank working paper 2173, August 2018, ecb.europa.eu.

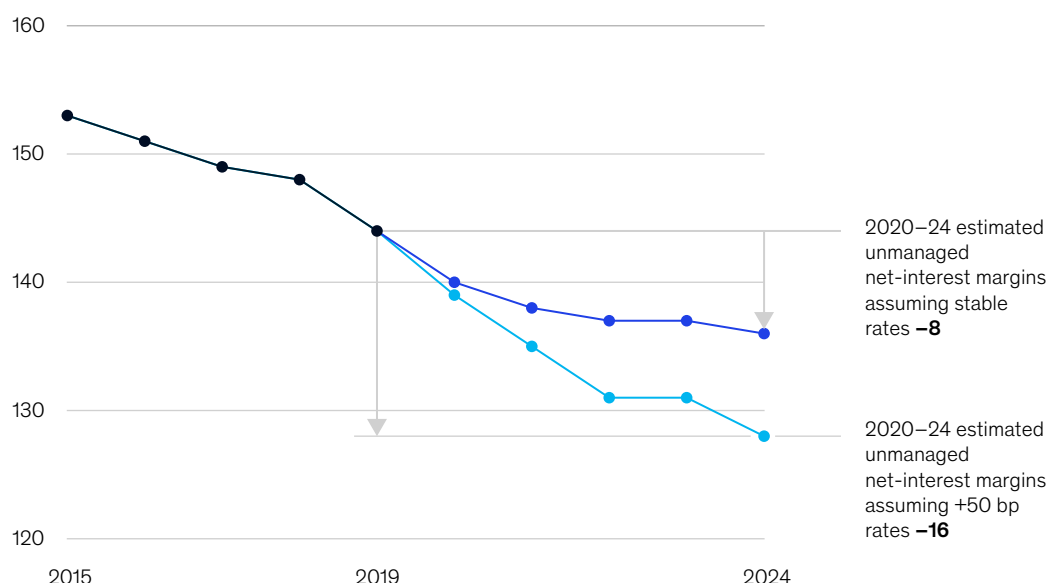
⁷ Carlo Altavilla, Lorenzo Burlon, Mariassunta Giannetti, and Sarah Holton, *Is there a zero lower bound? The effects of negative policy rates on banks and firms*, European Central Bank Working Paper 2289, June 2019, ecb.europa.eu.

⁸ For similar results, see "Results of the 2019 LSI stress test," BaFin, September 23, 2019, bafin.de; see also "Sensitivity Analysis of IRRBB – stress test 2017," European Central Bank, February 28, 2017, bankingsupervision.europa.eu.

Exhibit 3

The projection for unmanaged development of net-interest margins over the next five years for banks in the eurozone shows a decline of eight to 16 basis points.

Net-interest margins, basis points (bp)



Source: European Banking Authority Risk Dashboard; SNL Financial

The treasurer's role in building resilience

Bank treasurers can play a central role in countering the impact of negative interest rates. They can do this by taking action in the following areas: identify and understand all relevant risks; implement measures to shore up and stabilize the components of net-interest margins, including the structural and client-related elements; and actively cooperate with top management to help steer the business in the negative-interest-rate environment.

Capturing risks

To identify and understand all relevant risks, treasurers need reporting systems that capture, model, and simulate interest-rate, funding, and liquidity risks. The IT and data architecture for reporting should create transaction-level transparency across legal entities. With these systems in place, treasurers can take these important actions:

- Choose a sufficiently long time horizon (such as five years) for capturing the impact of negative rates on net-interest margins and the balance sheet.
- Assess the impact of political, legal, or reputational risks, such as the implied zero percent floor for retail deposit and mortgage rates.
- Review the dynamics of pension and insurance risks due to changes in interest rates and the interplay with inflation rates, credit spreads, and longevity.
- Identify the characteristics of implicit and behavioral options, such as prepayment risk in loans and attrition risk in deposits, even if they are not accounted at fair value. Quantify the risk arising from negative convexity in the balance sheet positions (when bond prices move in the same direction as interest rates).
- When calculating scenario analysis for the economic value of equity, also consider the impact on commercial margins. Perform reverse stress tests to identify critical moves in interest rates across different currencies.

Optimizing the risk–return profile of the structural components of net-interest margins

To optimize the risk–return profile of the structural components of net-interest margins, banks need to formulate an effective governance model and a clear risk-appetite framework for hedging strategies. These measures will allow the treasurer and related risk managers to make transparent, informative, and effective proposals. The objective is to obtain clear and timely decisions in the following areas:

- Behavioral models for nonmaturing deposit balances feeding into interest-rate risk models and hedging strategies.
- Adjustments for mismatched maturity profiles of assets and liabilities.
- Positions with positive convexity (financial instruments which could disproportionately benefit from further declines in interest rates and offset negative-convexity positions).
- Assumptions regarding the interest-rate tenor of equity and respective replicating hedge positions.
- Assumptions on the size, composition, and funding tenor of the liquidity buffer as well as of collateral for payment and clearing and settlement systems.
- Utilization of liquidity in foreign subsidiaries or branches, which can become trapped on local balance sheets due to legal or regulatory requirements.

Stabilizing client-related components

To stabilize the client-related components of net-interest margins (assets and liabilities), treasurers also need a funds-transfer pricing mechanism and limit system that does four things: provide business lines with incentives to generate interest-bearing assets, bring down funding costs, increase the stability of deposits, and minimize liquidity buffer requirements. Treasurers can attain the leverage necessary to accomplish these objectives by taking certain measures:

- Providing incentives to increase loan volumes in currencies with positive interest-rate levels.

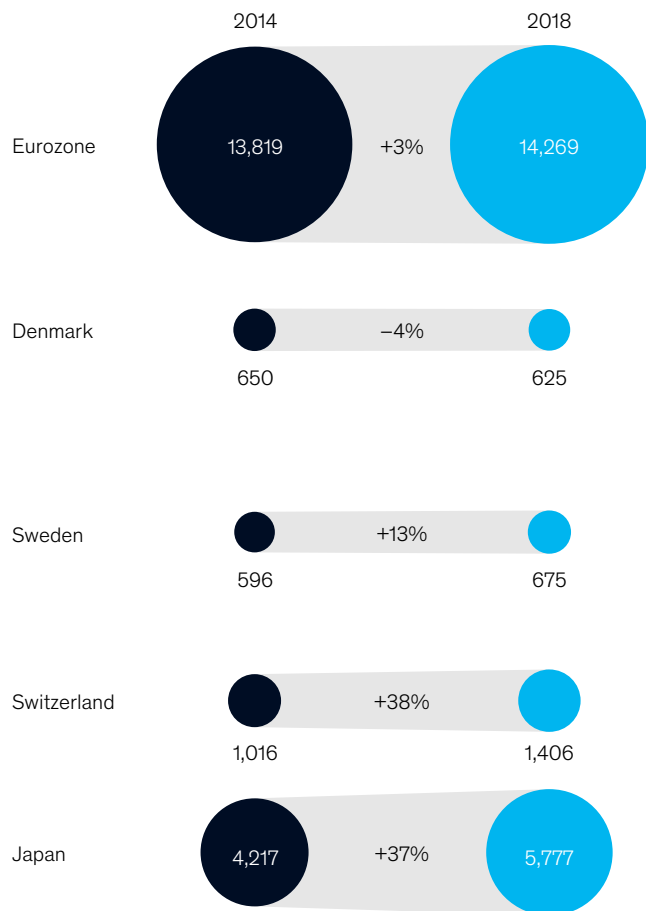
- Encouraging new loan products and loan products with digital distribution channels that are scalable and can provide stable margins due to fast processing and positive client experience.
- Linking mortgages and covered bond issuances more closely with respect to issuance volumes and yields.
- Adjusting client rates for current accounts, short-term deposits, and savings deposits by offering “account packages” with fixed fees.
- Introducing tiered pricing for larger deposit balances and reference deposit rates to central-bank rates as appropriate for client group and purpose of deposits.
- Classifying hurdle rates for client deposits as particularly stable from an internal-risk-management or regulatory perspective.
- Stimulating the shift of unstable deposits with a zero interest-rate floor into alternative investment products.

These actions may include a temporary increase in the loan-to-deposit ratio, reversing the traditional paradigm of targeting a low loan-to-deposit ratio. Denmark, Japan, Sweden, and Switzerland all took this approach from 2014 to 2018 (Exhibit 4).

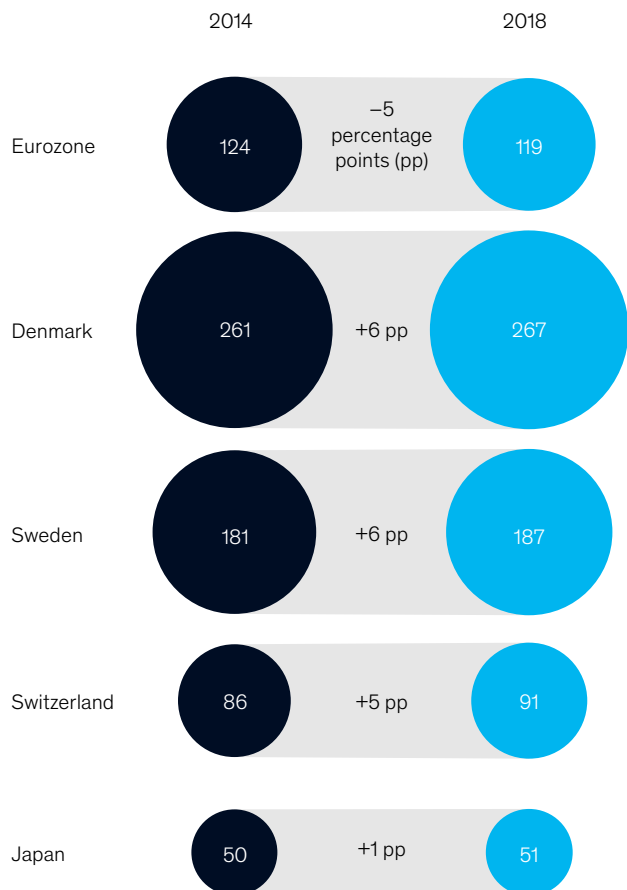
Exhibit 4

To stabilize the client-related components of net-interest margins (assets and liabilities), Denmark, Japan, Sweden, and Switzerland temporarily increased loan-to-deposit ratios.

Net-customer-loan volumes, € billion



Loan-to-deposit ratios, %



Source: SNL Financial

Our experience and analysis suggest that treasurers may be able to mitigate most or all of the forecast depletion of net-interest margins for the next five years, through a combination of these mitigating measures (Exhibit 5).⁹ The degree of mitigation will depend on a bank's business model, its risk appetite, its ability to employ more capital, and the degree to which the specific levers discussed above have already been deployed. The exact shape of the yield curve will also play a role.

Steering the business

To help senior leaders steer the businesses within the negative-interest-rate environment, treasurers must understand each business line's specific business model and criteria for success. To be effective in their consultative capacity, treasurers must help ensure that the roles and responsibilities among treasury, finance, risk, and the business lines are clearly defined and universally understood. The group needs to establish a shared view on balance-sheet planning (including capital, liquidity,

and funding needs), legal entities, and strategic planning. Modern technology in fact makes such management overlays relatively easy to create. Establishing organizational units that bridge business lines and treasury departments can help facilitate communication and implement measures.

Ongoing strategic management is needed

Simply stabilizing the net-interest margin will not sufficiently drive significant and sustainable income growth. Banks need to take a strategic approach to manage real growth. Treasurers can facilitate that strategy by taking calculated steps in the following areas:

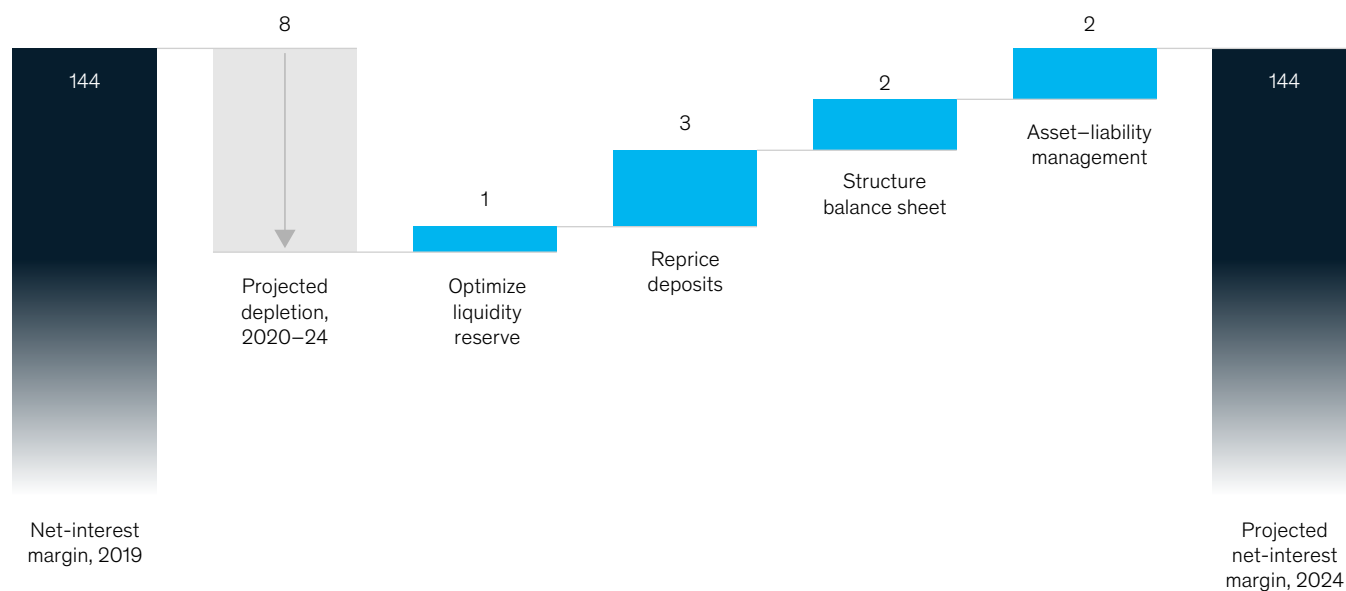
- Expand off-balance sheet investment solutions, such as deposit platforms, sweeps, fund solutions, cash exchange-traded funds, and insurance-based savings plans.

⁹ "2020: Europe rising—at the break of dawn," Morgan Stanley, December 2019.

Exhibit 5

Treasurers can implement measures to mitigate projected depletion of net-interest margins.

Mitigating measures, basis points



- Renew emphasis on fee- and commission-based products, such as payments, advisory business, and asset management.
- Use incentives and capital allocation to expand loan volumes in high-margin businesses such as consumer finance and credit cards.

Treasurers can thus increase the efficiency of their own oversight and bring valuable counsel to the executive suite. Depending on the business model, the regional setup of the bank, and the deployment of additional capital, a comprehensive program can improve net-interest margins by up to 10 basis points. But timely and decisive action is of essential importance.

While today's interest-rate environment poses enormous challenges to growth in the banking sector, many of the tools for addressing the challenges are well known to treasurers. By taking a more holistic approach to using these tools, bringing their own considerable expertise to bear, and establishing a joint-management view on strategic planning and balance sheet–capital management, treasurers can play a vital role in their banks' financial success in the next period.

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