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Outlook for US regional banks:  
Credit growth slowing and credit conditions deteriorating

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Unless otherwise noted, information as of July 2023.

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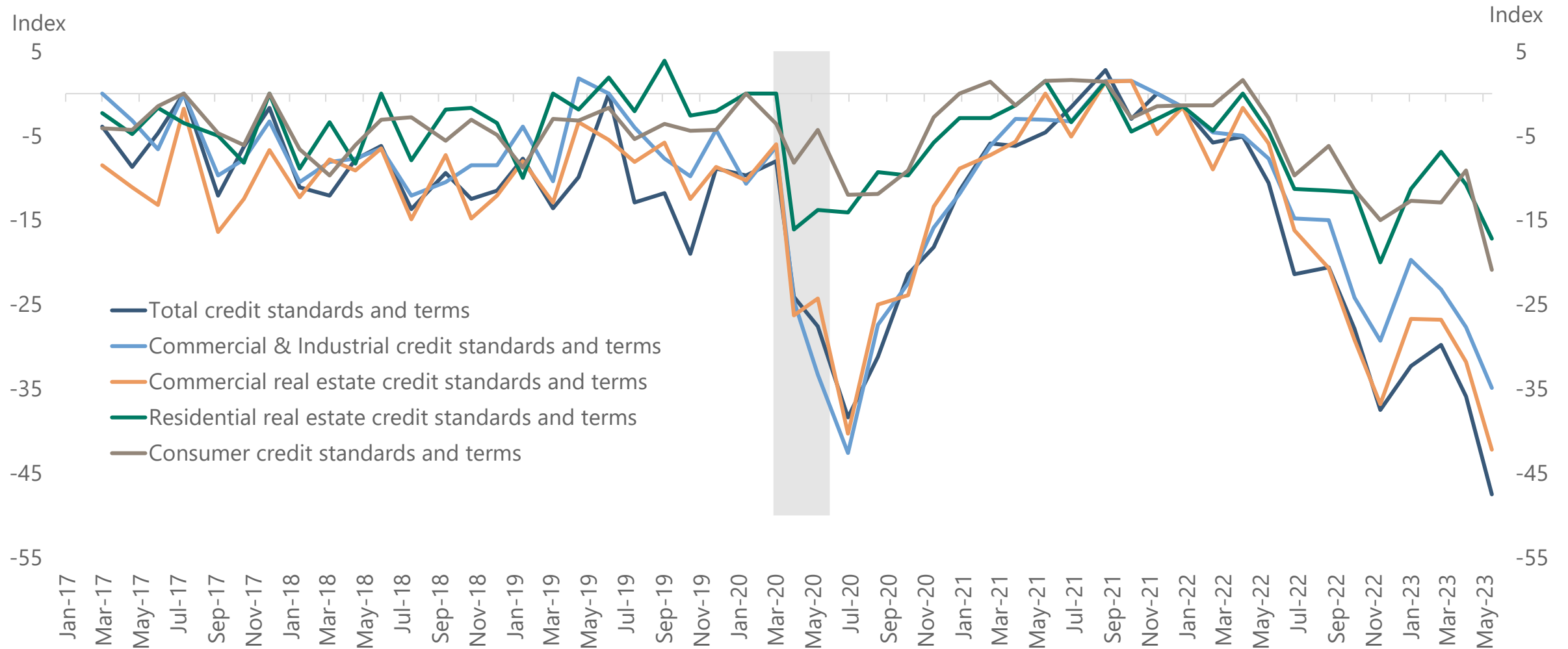
# Table of contents

1. Overview
2. What is the banking sector response to the SVB collapse?
3. Bank funding pressures: Deposits and market-based measures
4. What is happening with deposits in regional banks?
5. Weekly data for bank lending by small and large banks
6. US banks by asset size: The importance of regional banks for the US economy
7. Regional banks' asset concentration in CRE
8. Measures of banking sector liquidity and capital ratios
9. Sources of financing for small businesses
10. Small business loans
11. Fed funds rate versus national average interest rate on checking accounts and CDs
12. Community banks

Overview:

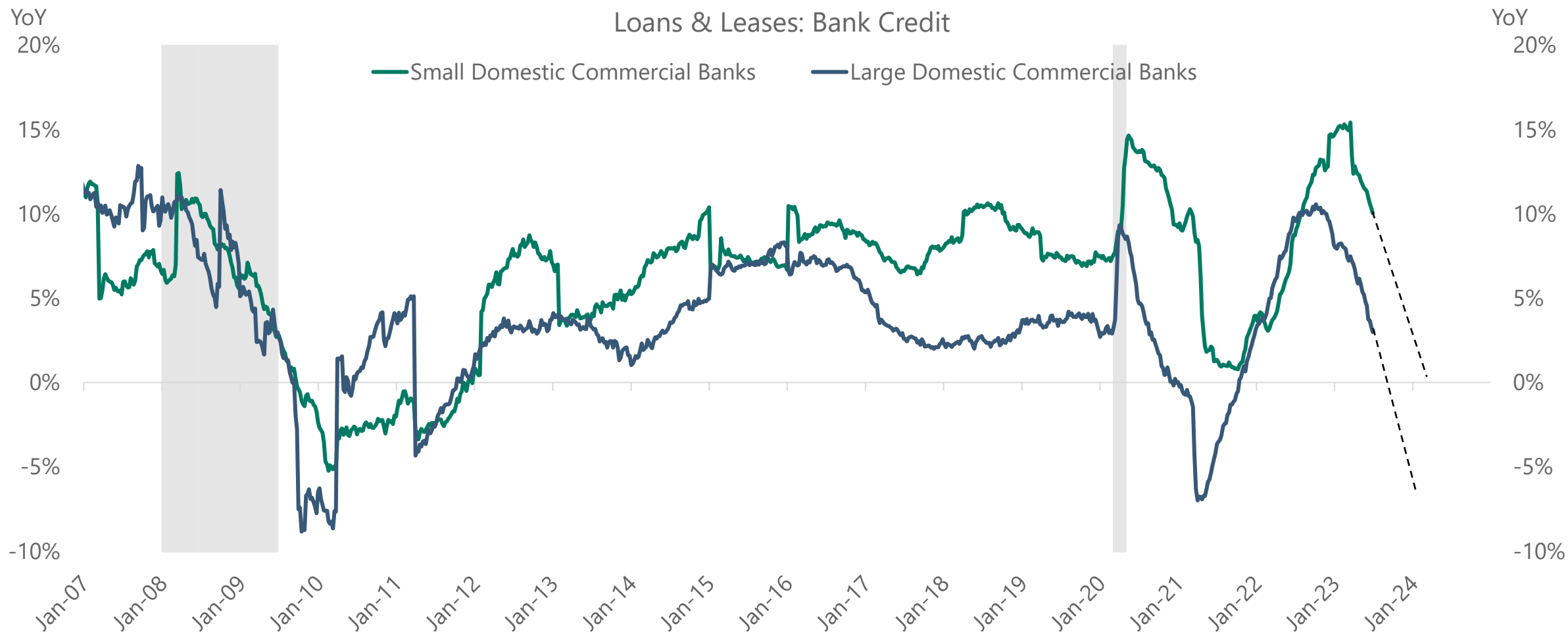
Credit growth slowing and credit conditions deteriorating

# Monthly Fed data for credit standards continue to deteriorate. Near 2020 levels



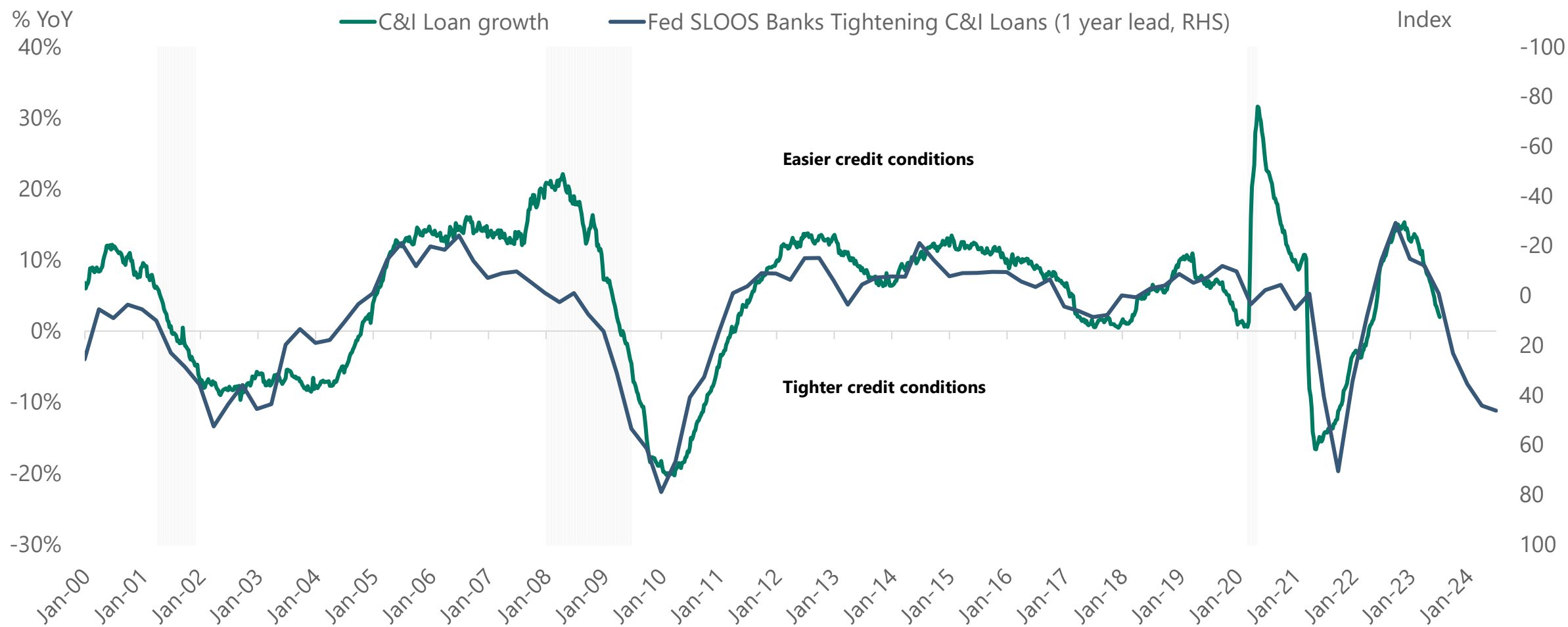
Source: Banking Conditions Survey, Federal Reserve Bank of Dallas, Apollo Chief Economist. Note: Data were collected May 2–10, and 67 financial institutions responded to the survey headquartered in the Eleventh Federal Reserve District.

# Small and large bank lending growth slowing rapidly

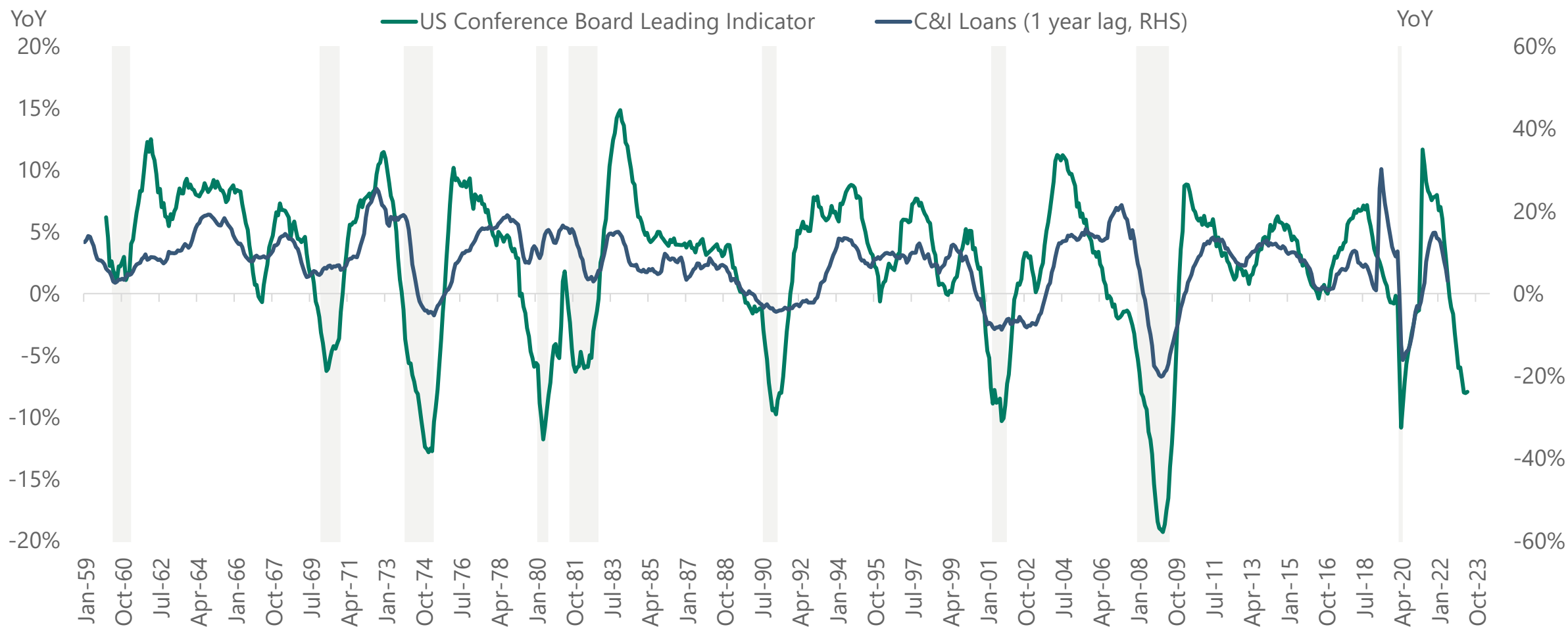


Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Bank lending will shrink significantly over the coming quarters



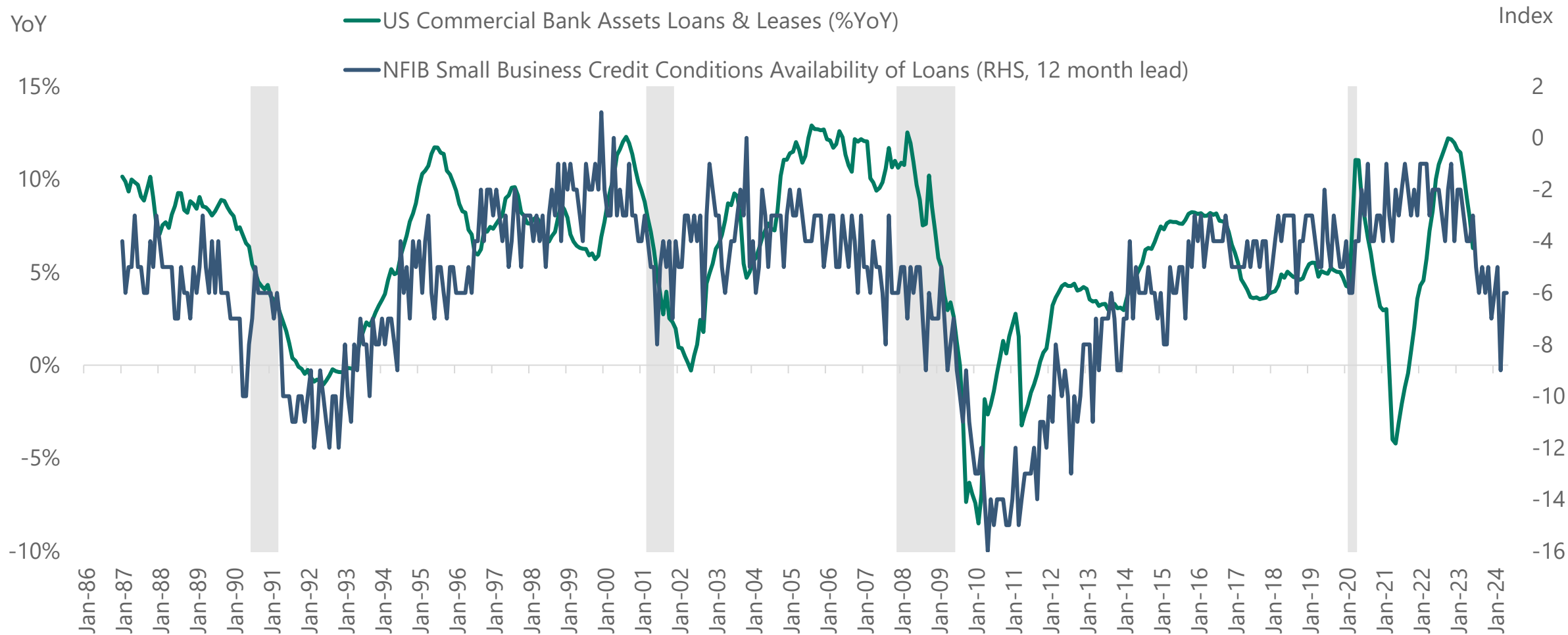
# Tighter credit conditions dragging down the economy



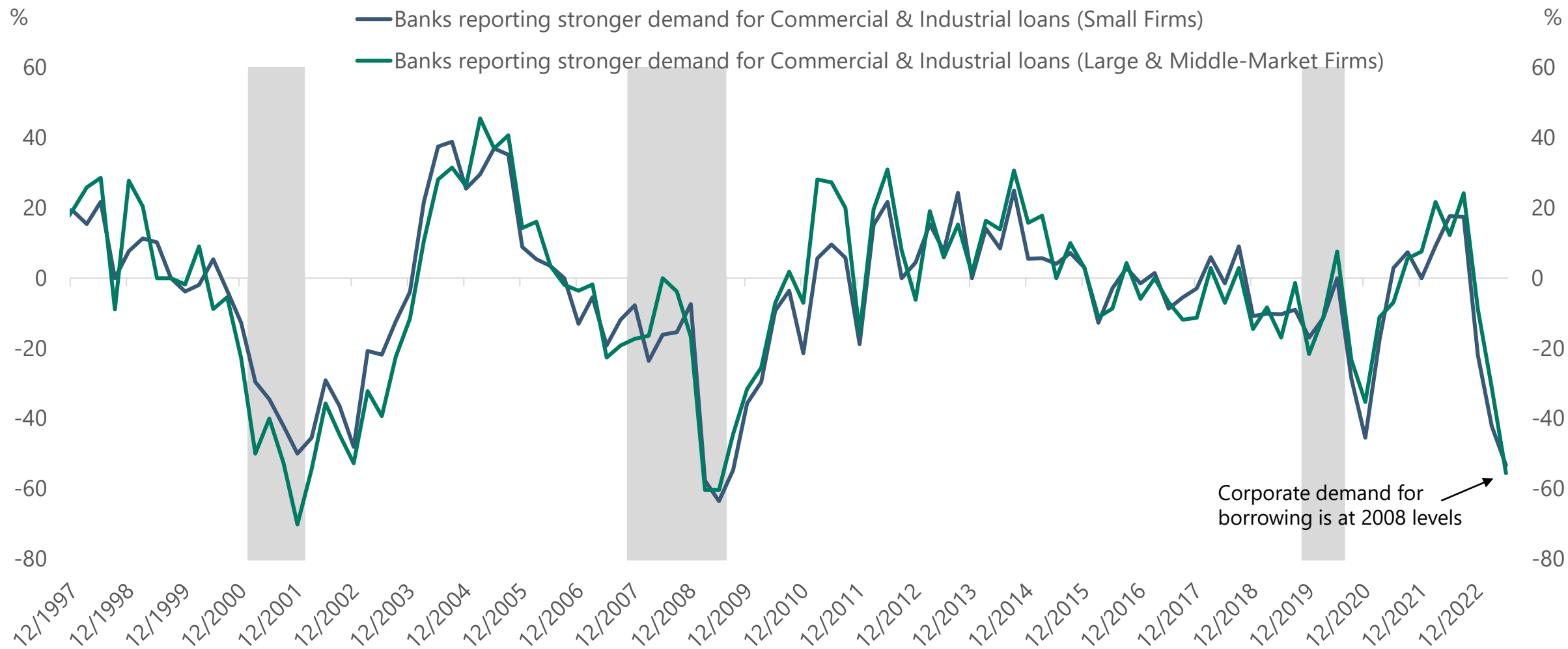
Source: Conference Board, FRB, Haver Analytics, Apollo Chief Economist



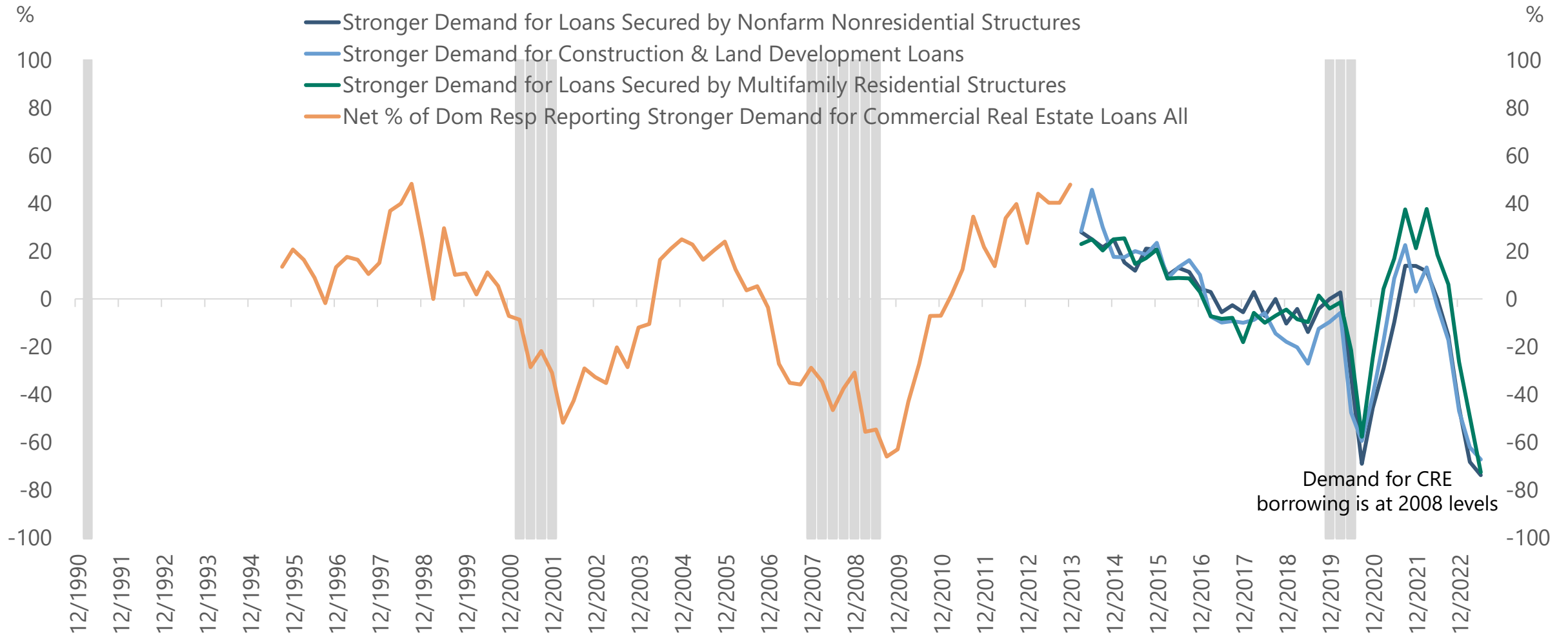
# Tighter credit conditions dragging down the economy



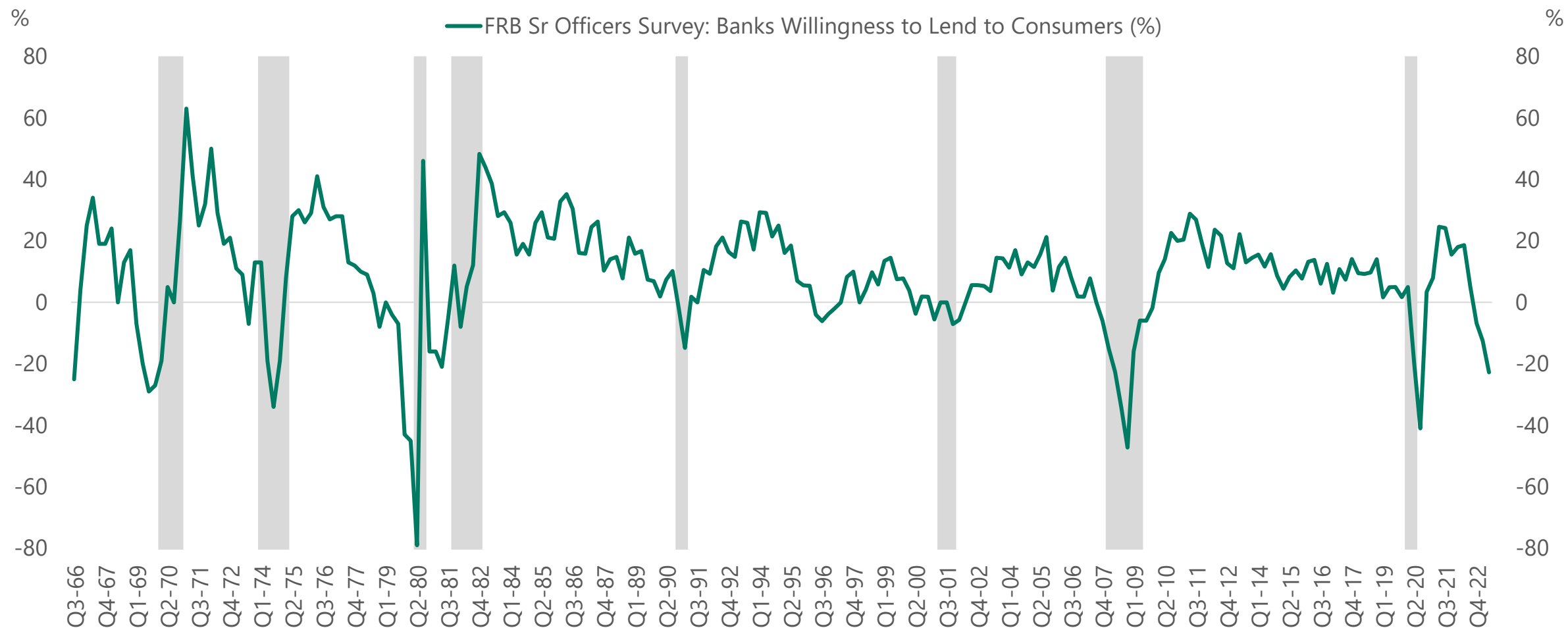
# Demand for corporate loans is at 2008 levels



# Demand for commercial real estate loans is at 2008 levels

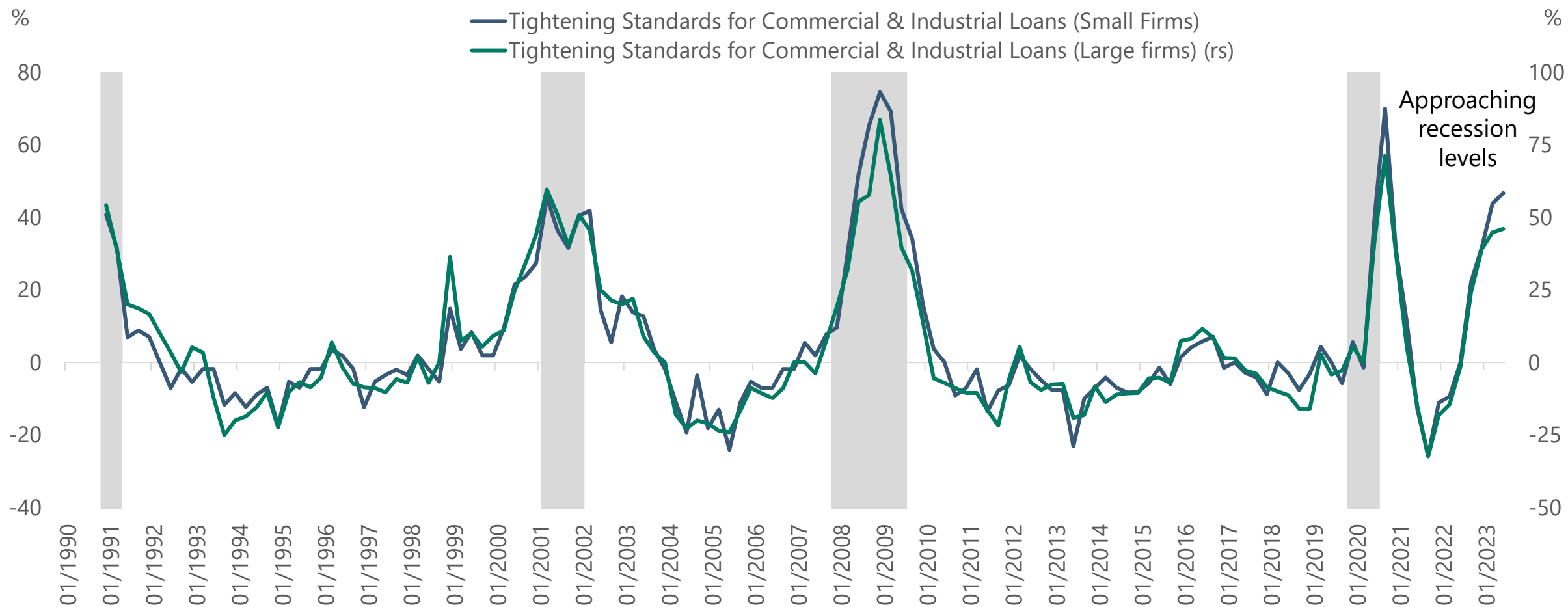


# Banks' willingness to lend to customers approaching 2008 levels

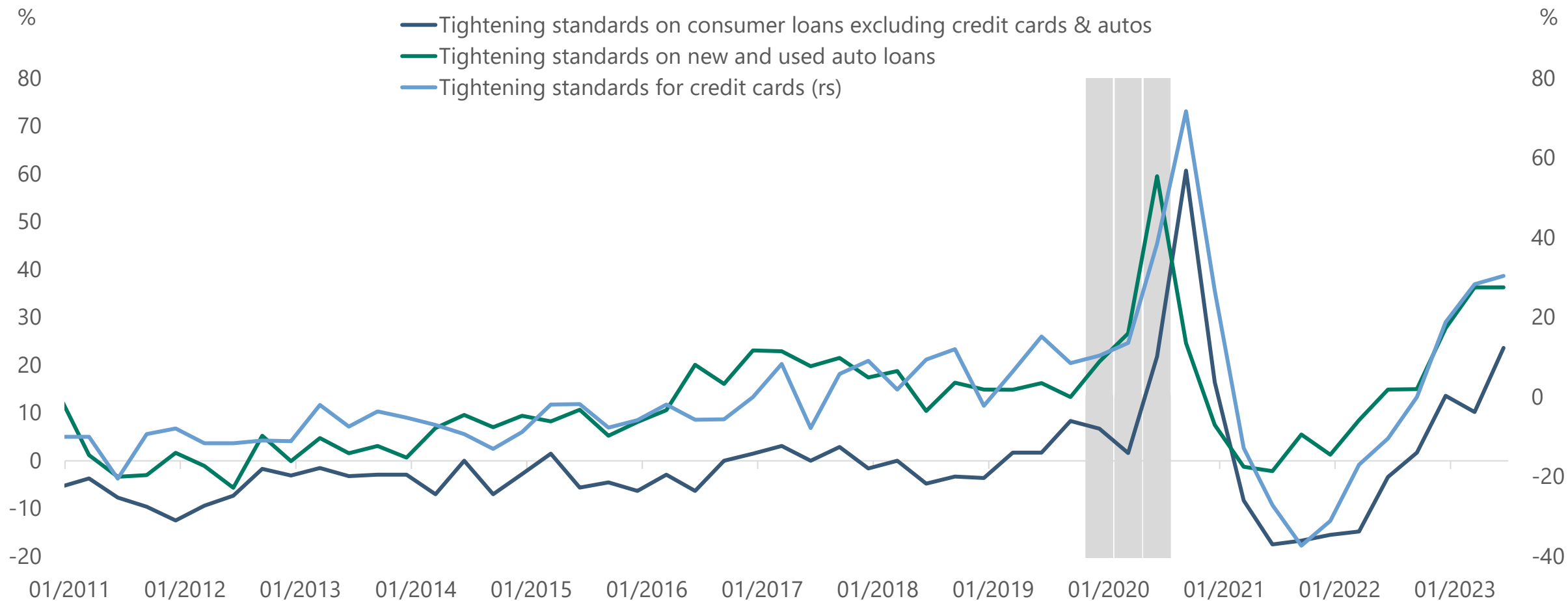


Source: FRB, Bloomberg, Apollo Chief Economist.

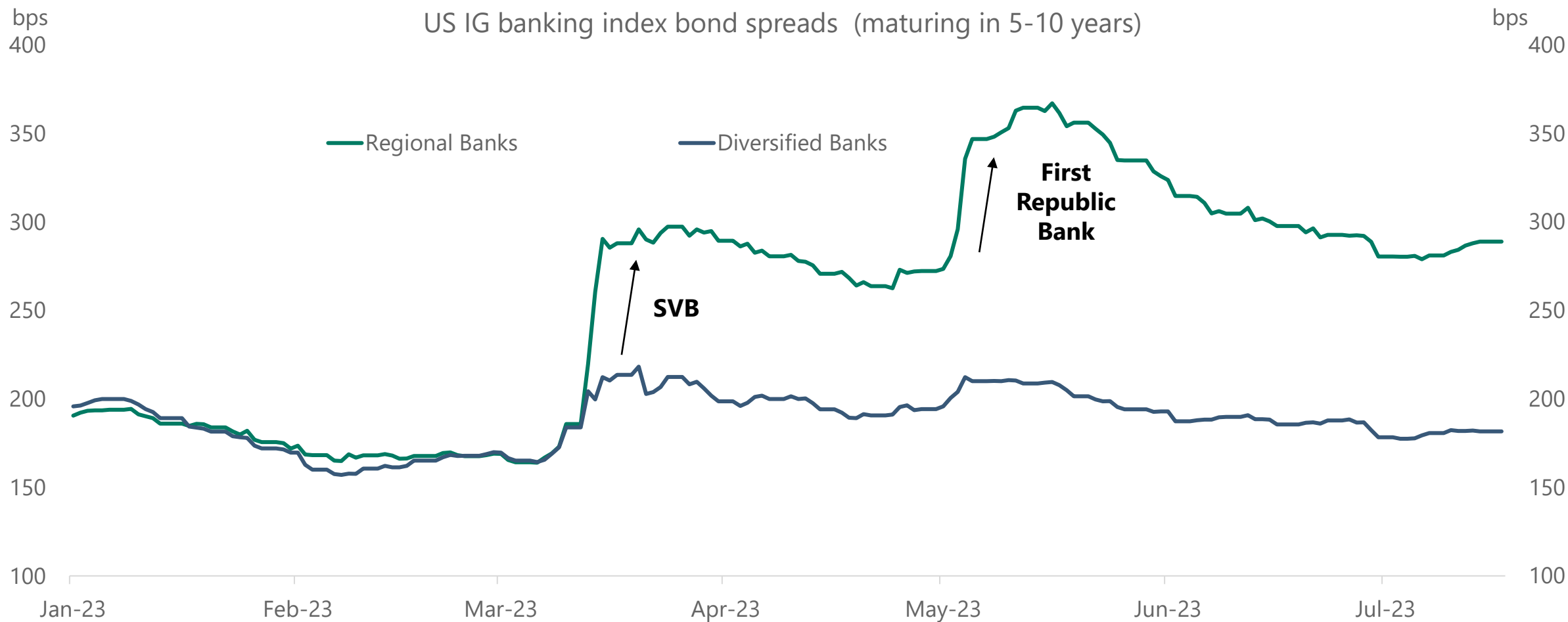
# Banks are tightening lending standards significantly, near 2008 levels



# Lending standards are tightening for consumers, approaching 2008 levels

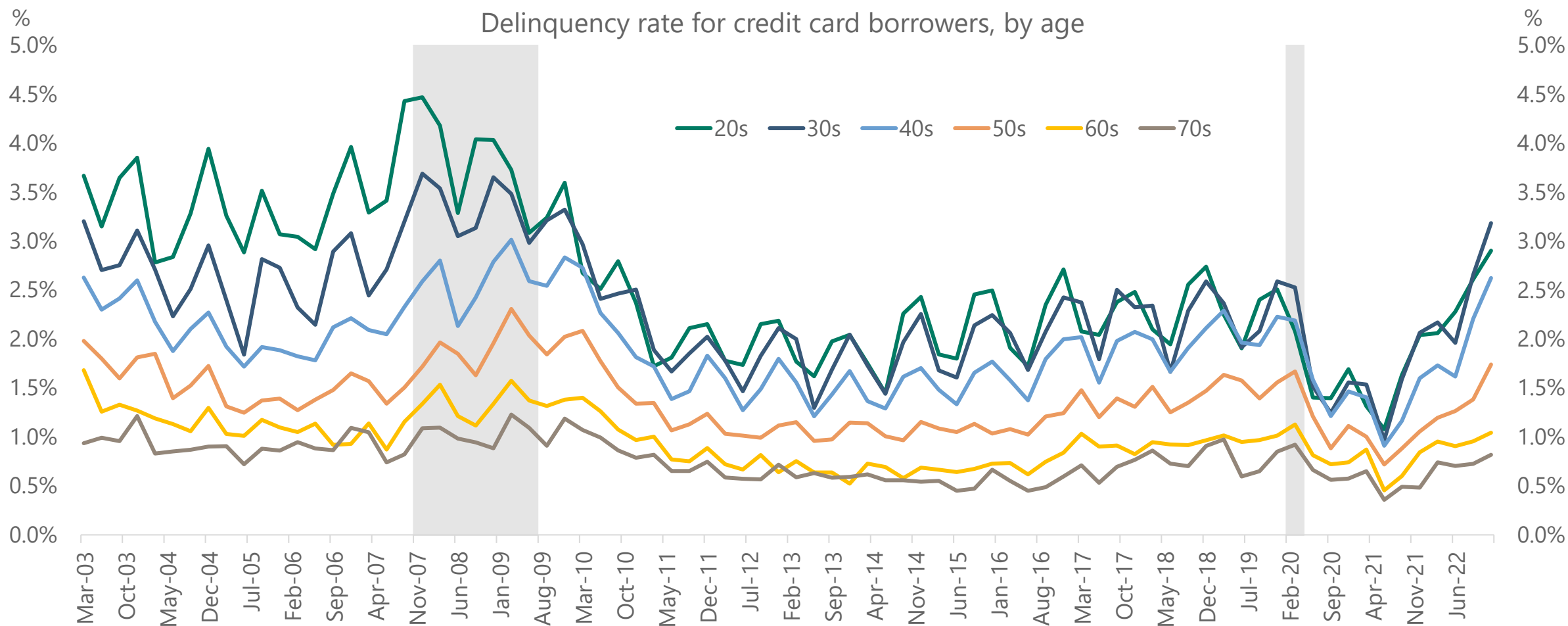


# SVB and FRC lifted funding costs for banks permanently



Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Unweighted average spreads of bonds from ICE 5-10 Year US Banking Index, C6PX Index for bonds issued before 1<sup>st</sup> Jan 2023. There are 8 banks in the Regional index and 41 banks in the Diversified index, and Regional banks include BankUnited, Citizens Financial, Huntington, and Zions, and Diversified banks include JP Morgan, Citibank, and Bank of America.

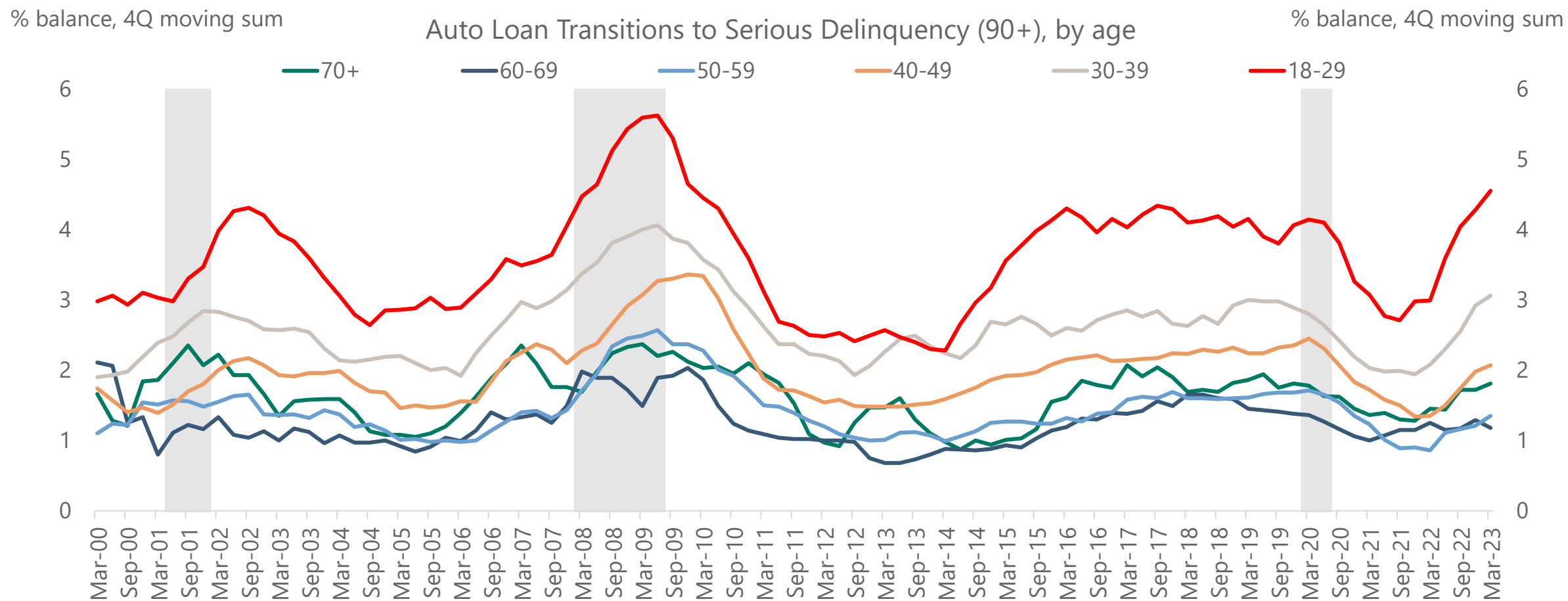
# Credit card delinquency rates at 2008 levels



Source: New York Fed Consumer Credit Panel / Equifax, Apollo Chief Economist

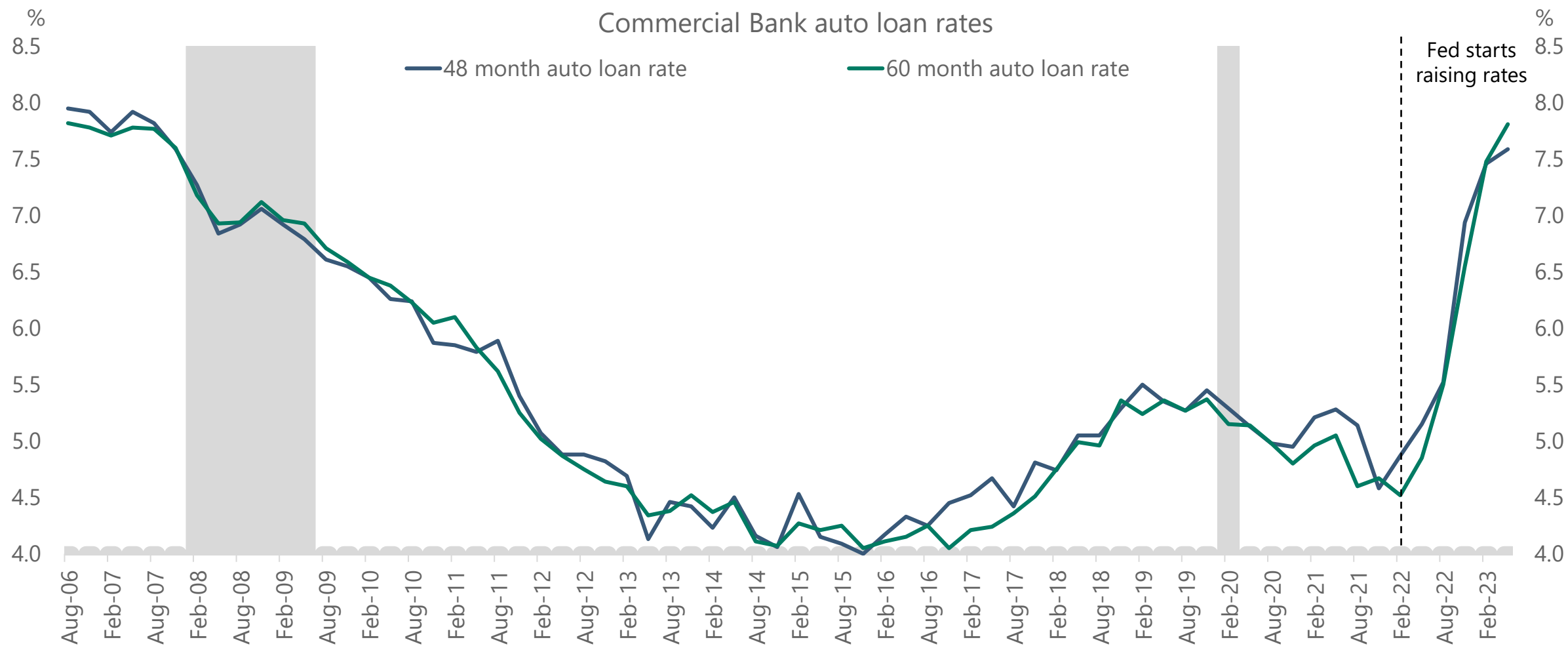


# Auto loan transitions to serious delinquency approaching 2008 levels



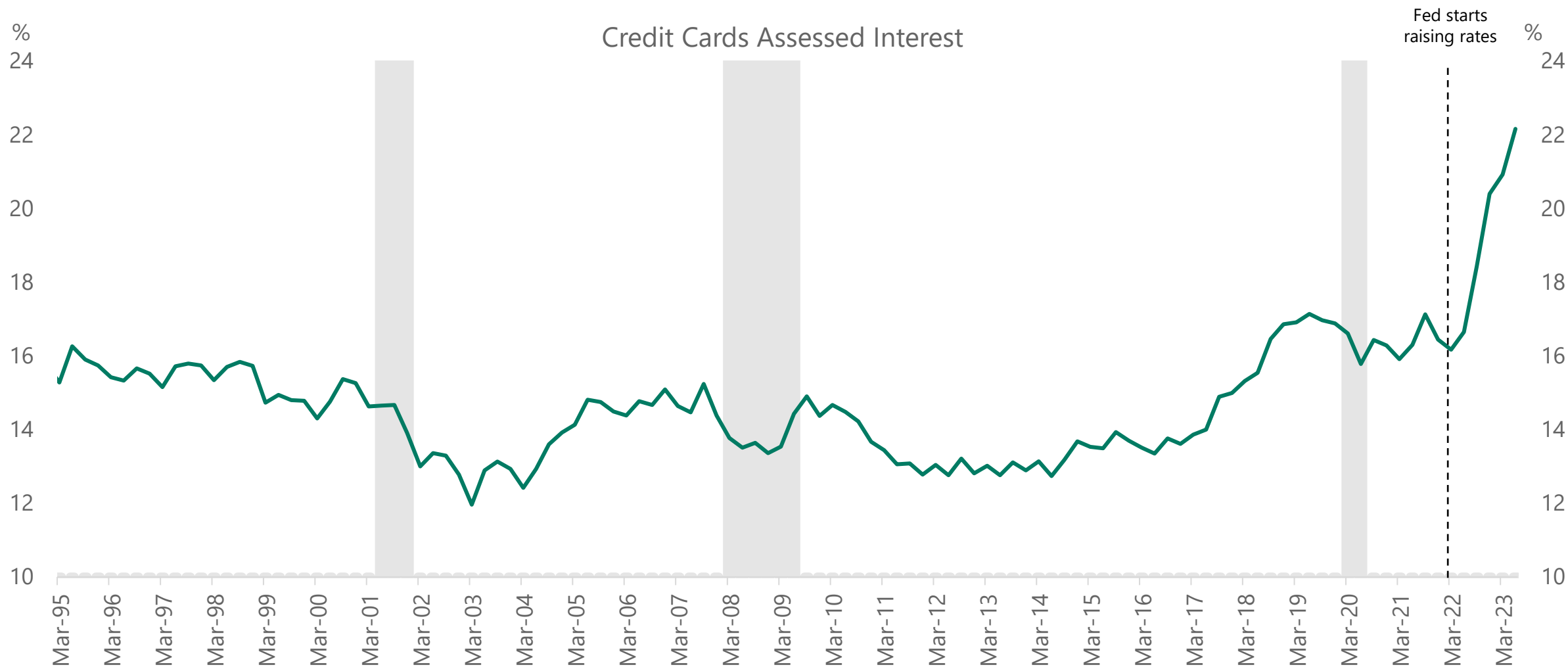
Source: FRBNY Consumer Credit Panel, Equifax, Haver Analytics, Apollo Chief Economist

# Interest rate on auto loans

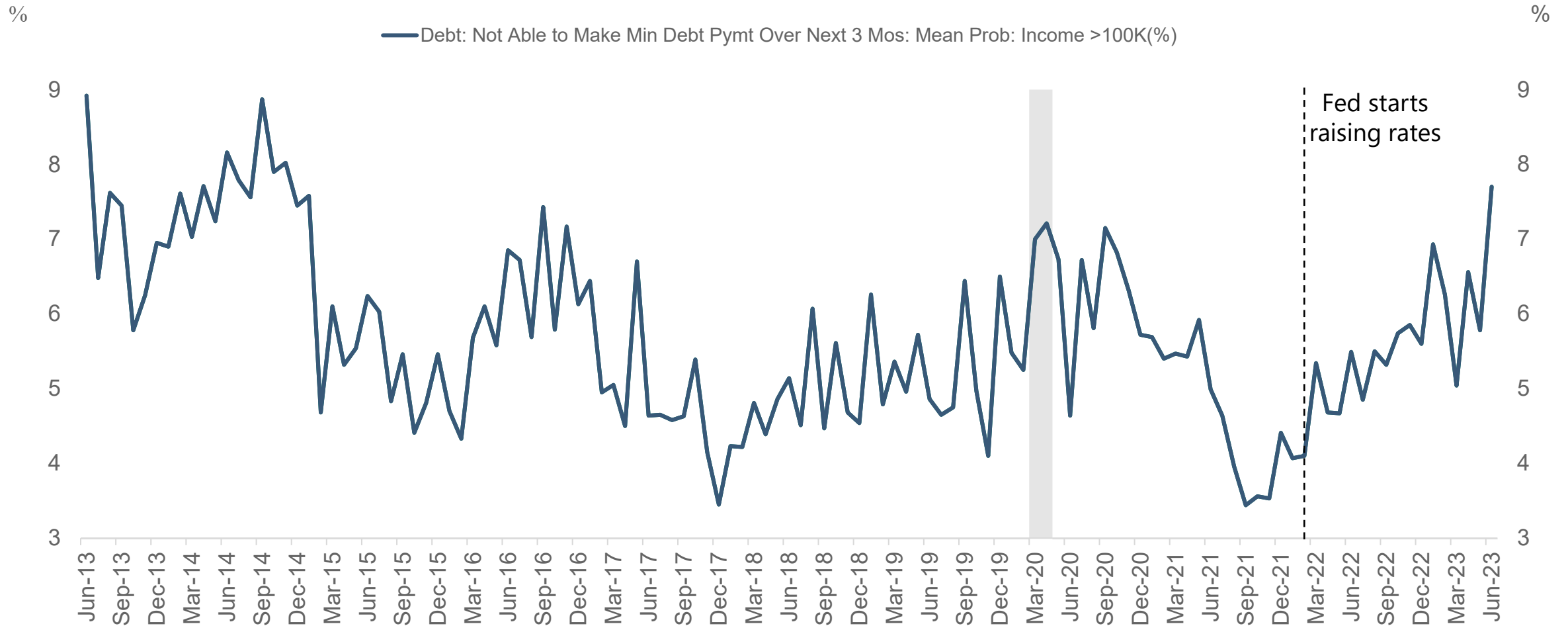


Source: FRB, Bloomberg, Apollo Chief Economist

# Interest rate on credit cards

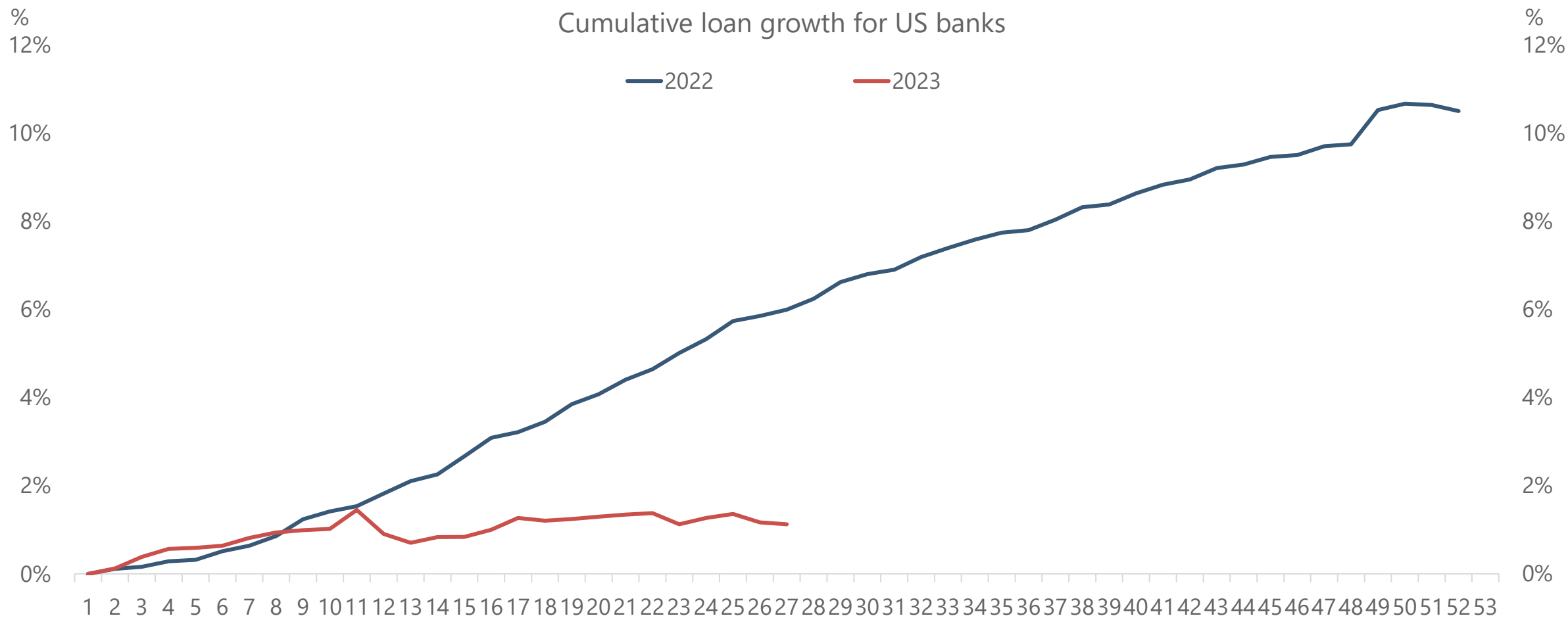


# Higher income households starting to worry about whether they can make minimum debt payments



Source: FRBNY, Haver Analytics, Apollo Chief Economist. Note: The data shows the average probability of not being able to make minimum debt payment over the next three months for people earning (income) greater than \$100K.

# Loan growth is dramatically weaker than in 2022

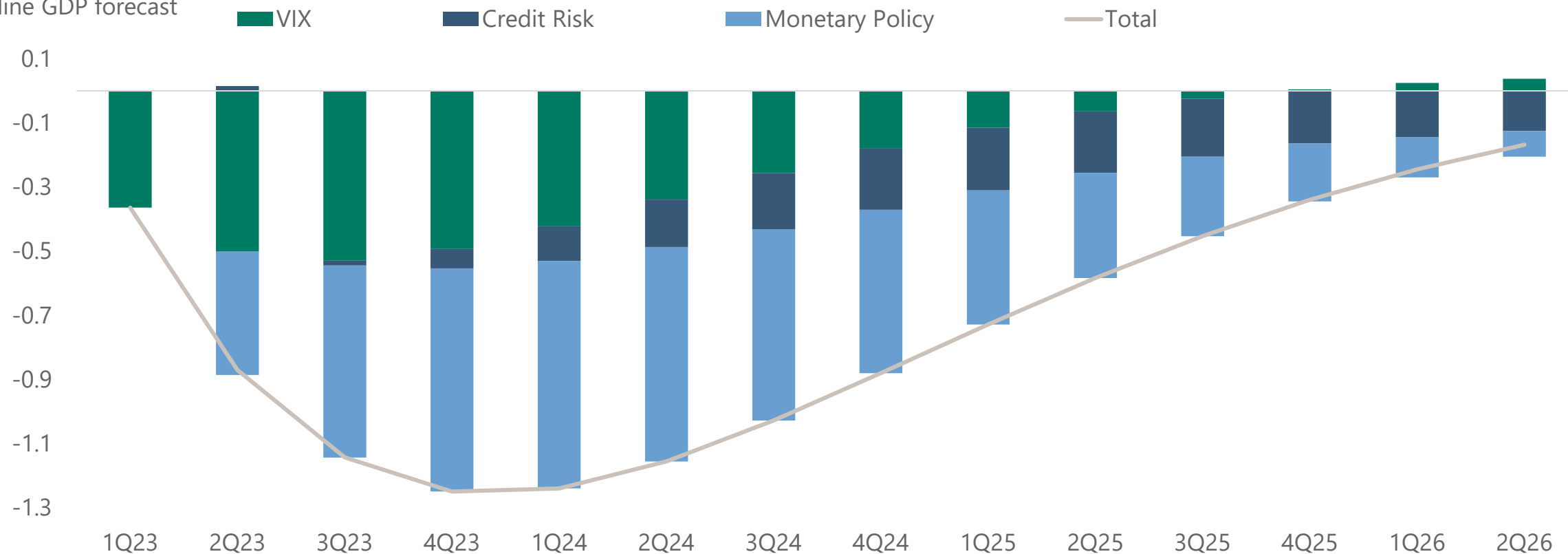


Source: FRB, Bloomberg, Apollo Chief Economist. X-axis represents weeks of year.

# Impact of the regional banking crisis on GDP

Shock to GDP level, compared with baseline forecast

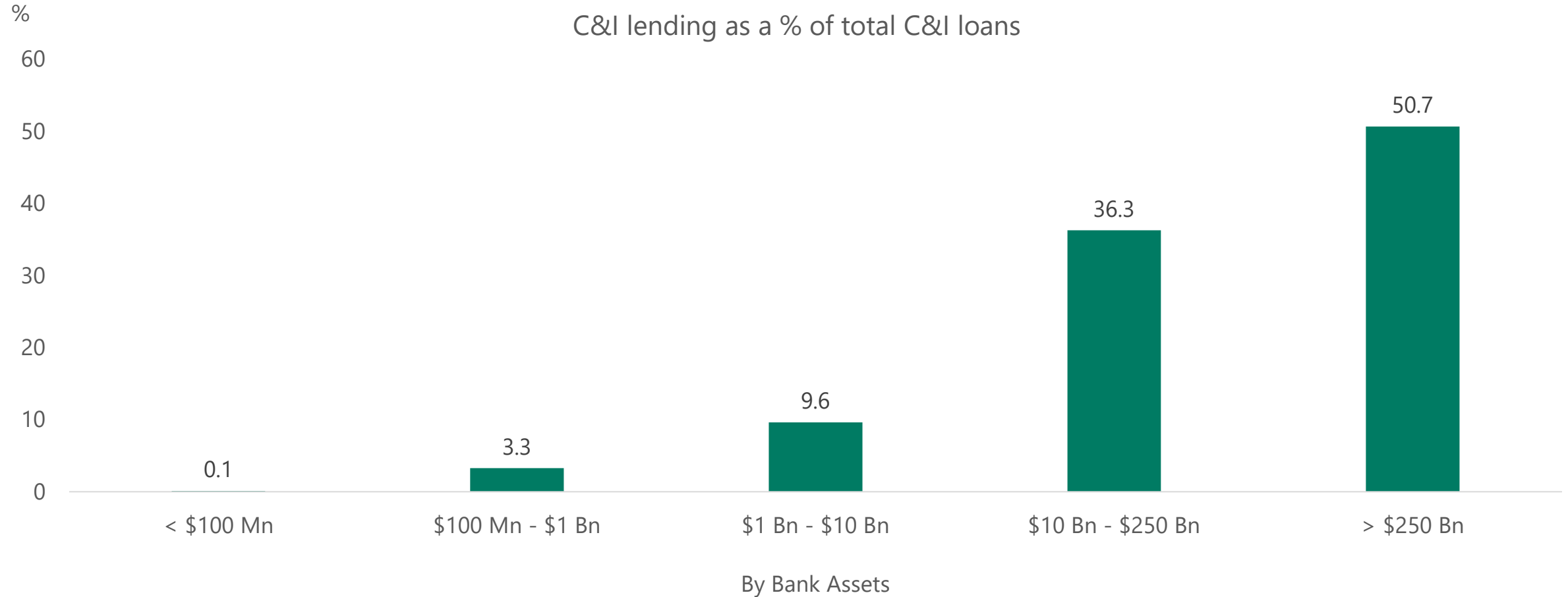
% difference from baseline GDP forecast



Source: Bloomberg, Apollo Chief Economist. Note: The chart shows difference in baseline forecast adding a 150bps shock to Fed funds rate and 30 bps to credit risk and a two standard deviation shock to VIX, all starting in 1Q23.

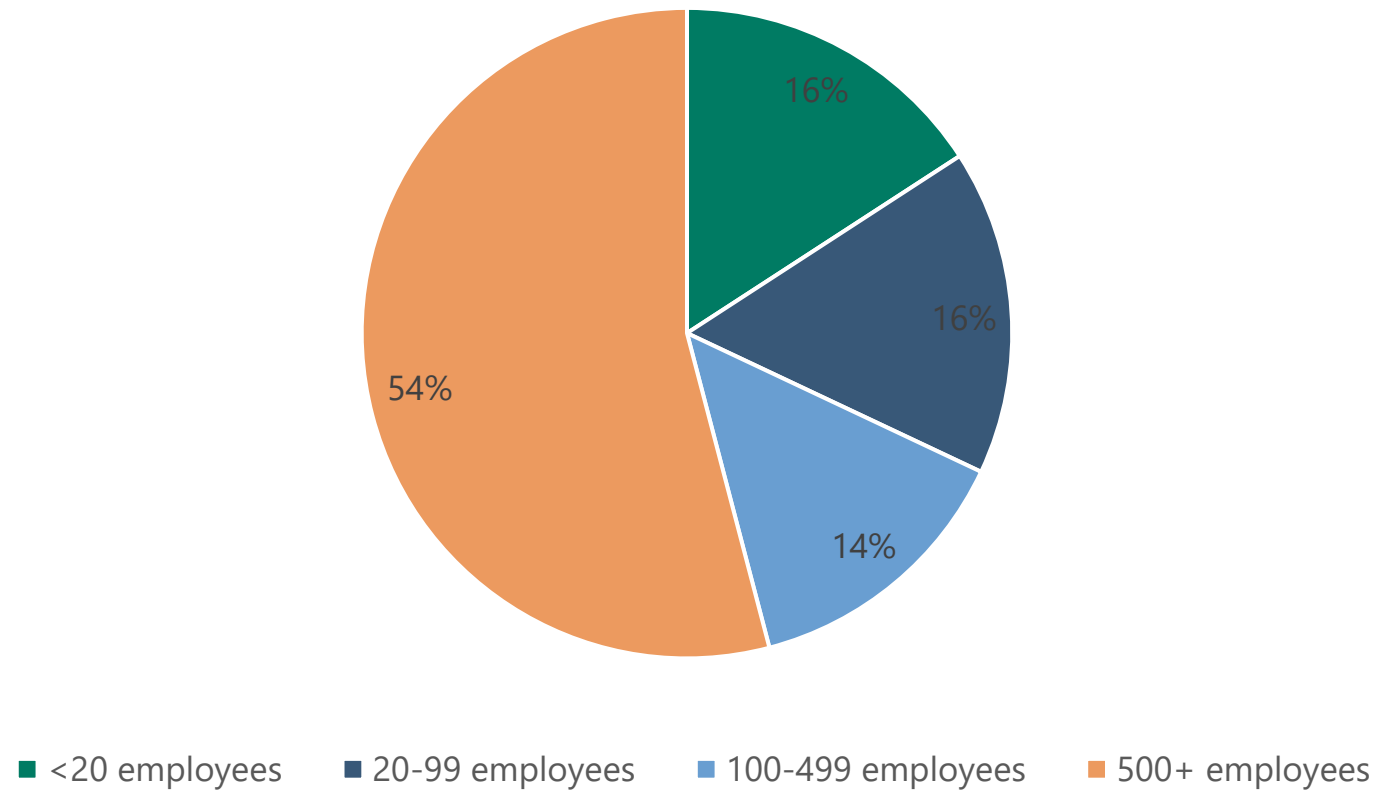
## Small banks lend to small businesses

Banks with less than \$250bn in assets account for 50% of commercial and industrial lending



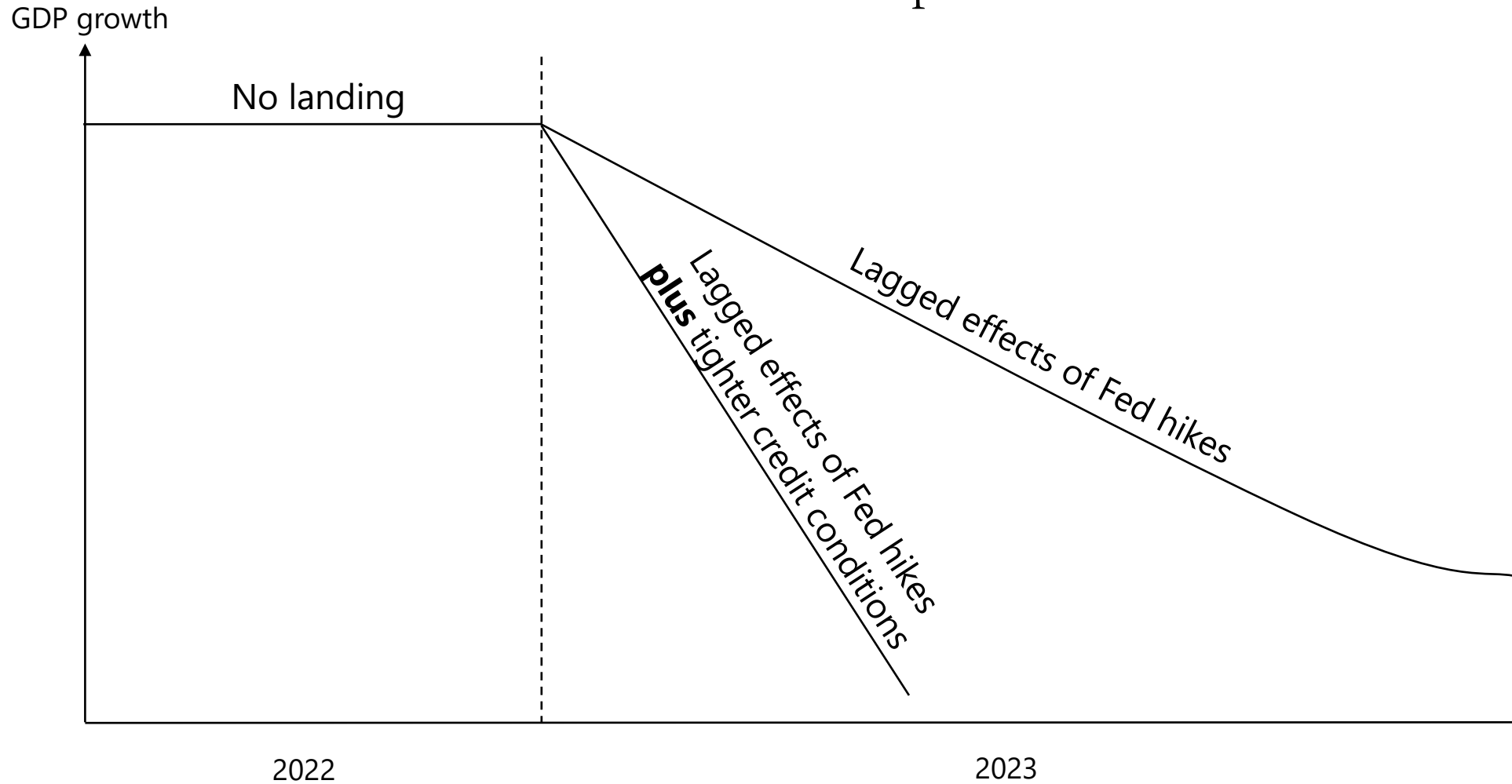
# Half of US employment is in firms with fewer than 500 employees

Share of total employment by employment size of the firm, 2020



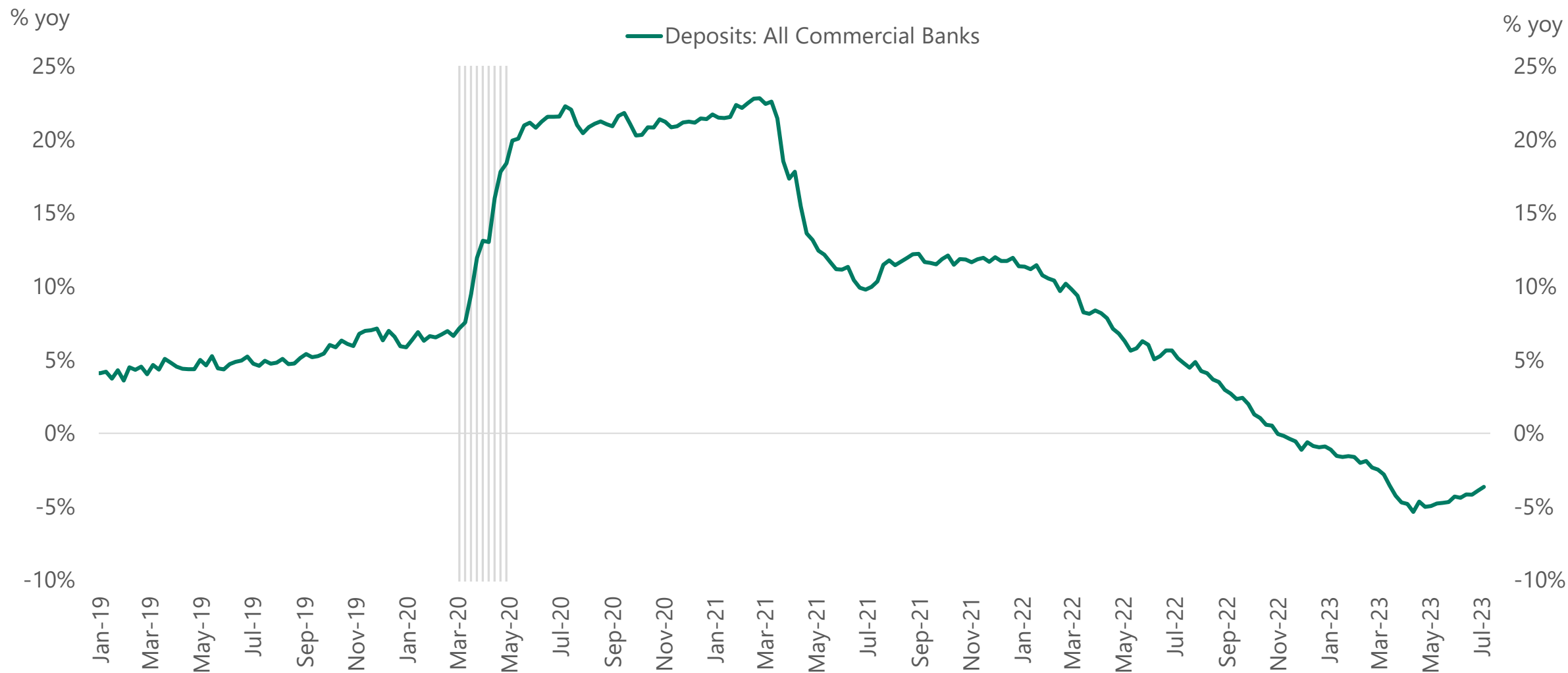


# Lagged effects of Fed hikes combined with tighter credit conditions will create a sharper slowdown in the economy



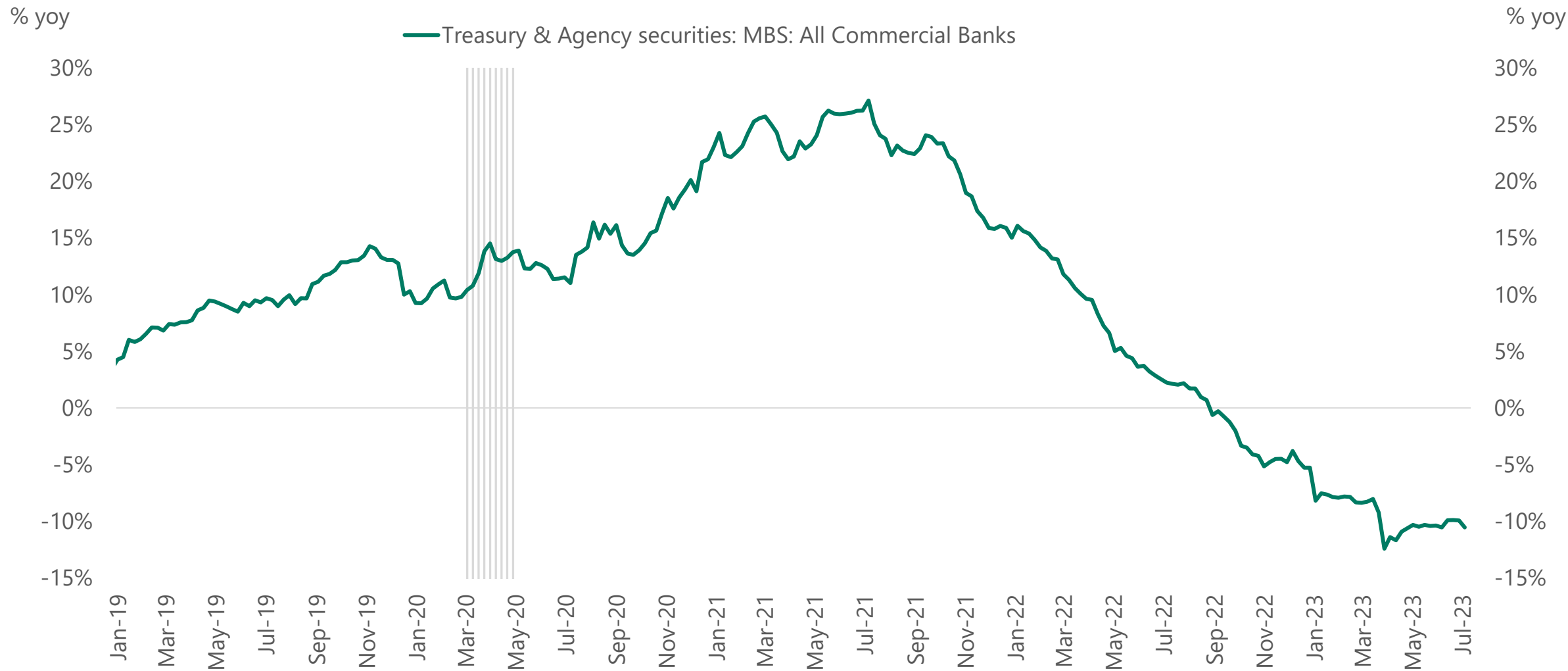
What is the banking sector response to the SVB collapse and associated deposit outflows? Cutting lending and selling mortgages

# Negative growth in deposits



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Negative growth in bank holdings of mortgages



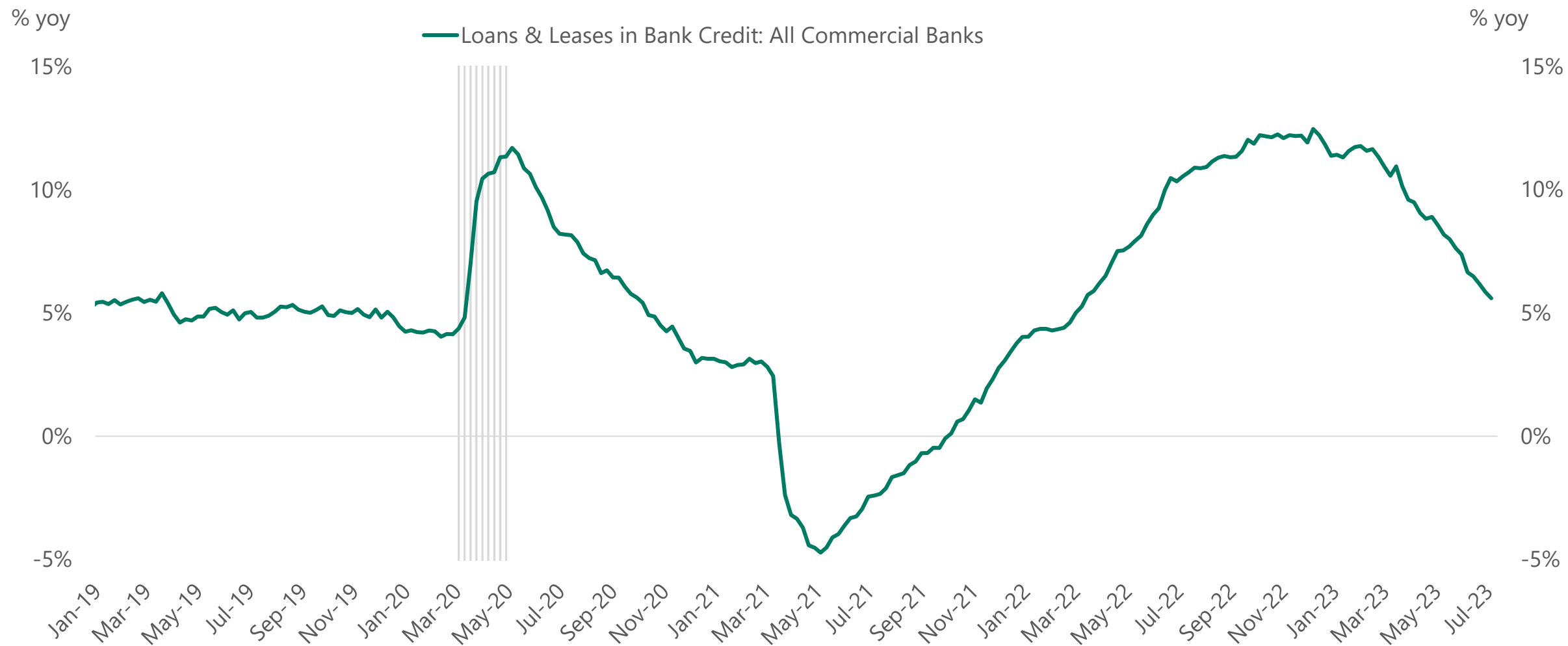
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Growth in bank holdings of Treasuries



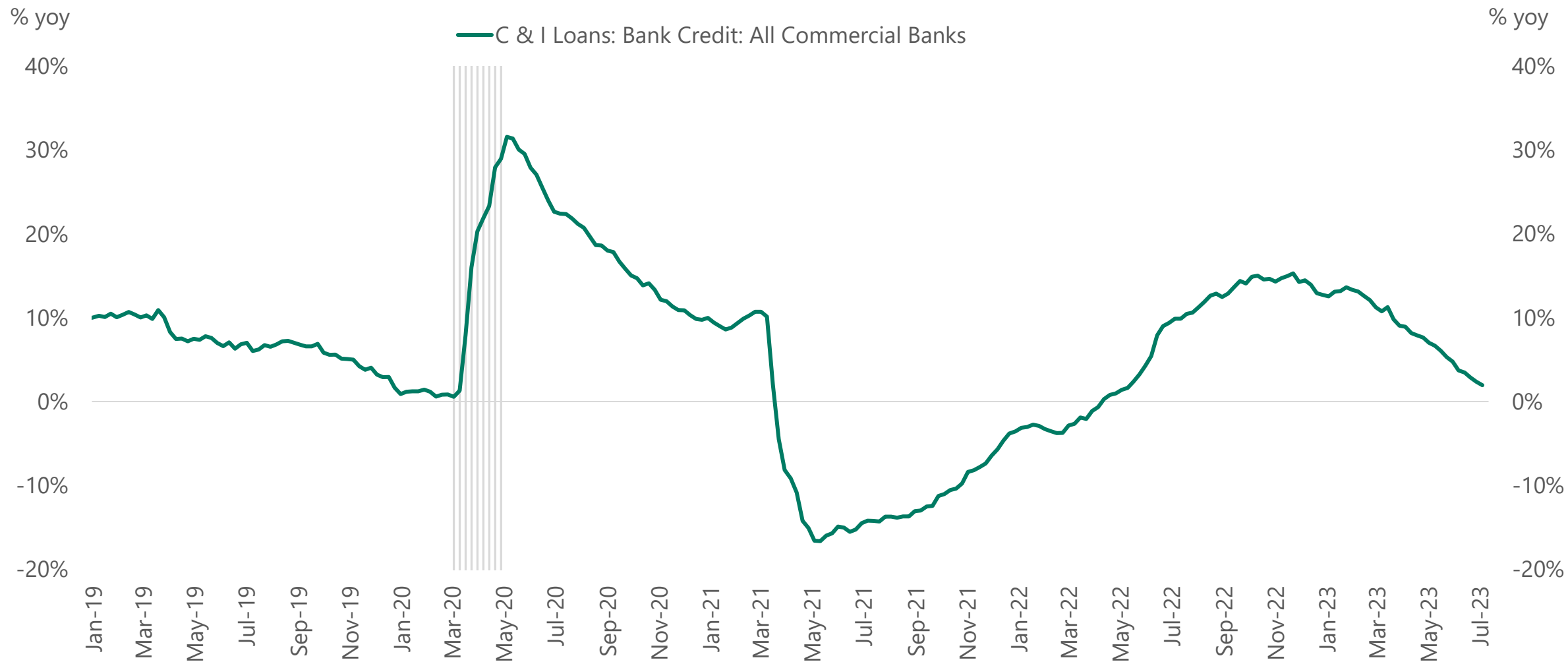
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Some decline in bank lending growth



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Decline in growth in lending to corporates



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

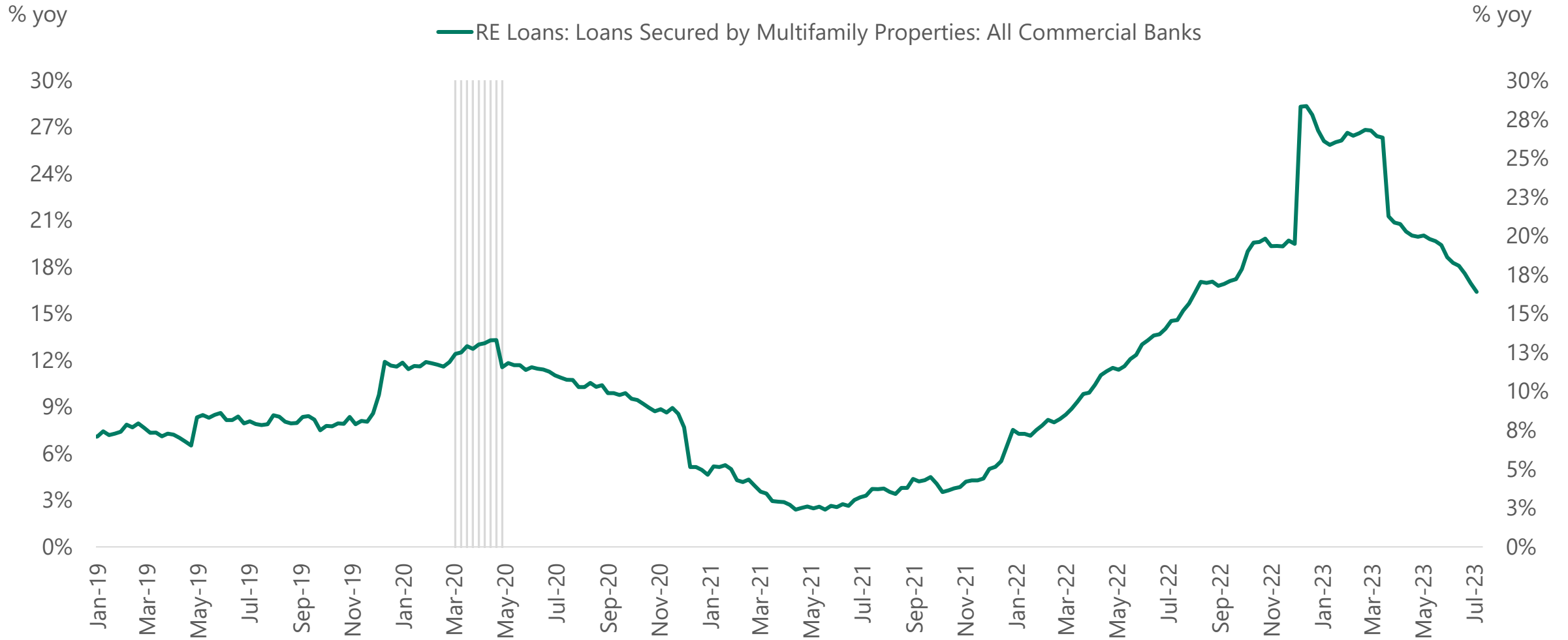
# Decline in growth in real estate lending



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

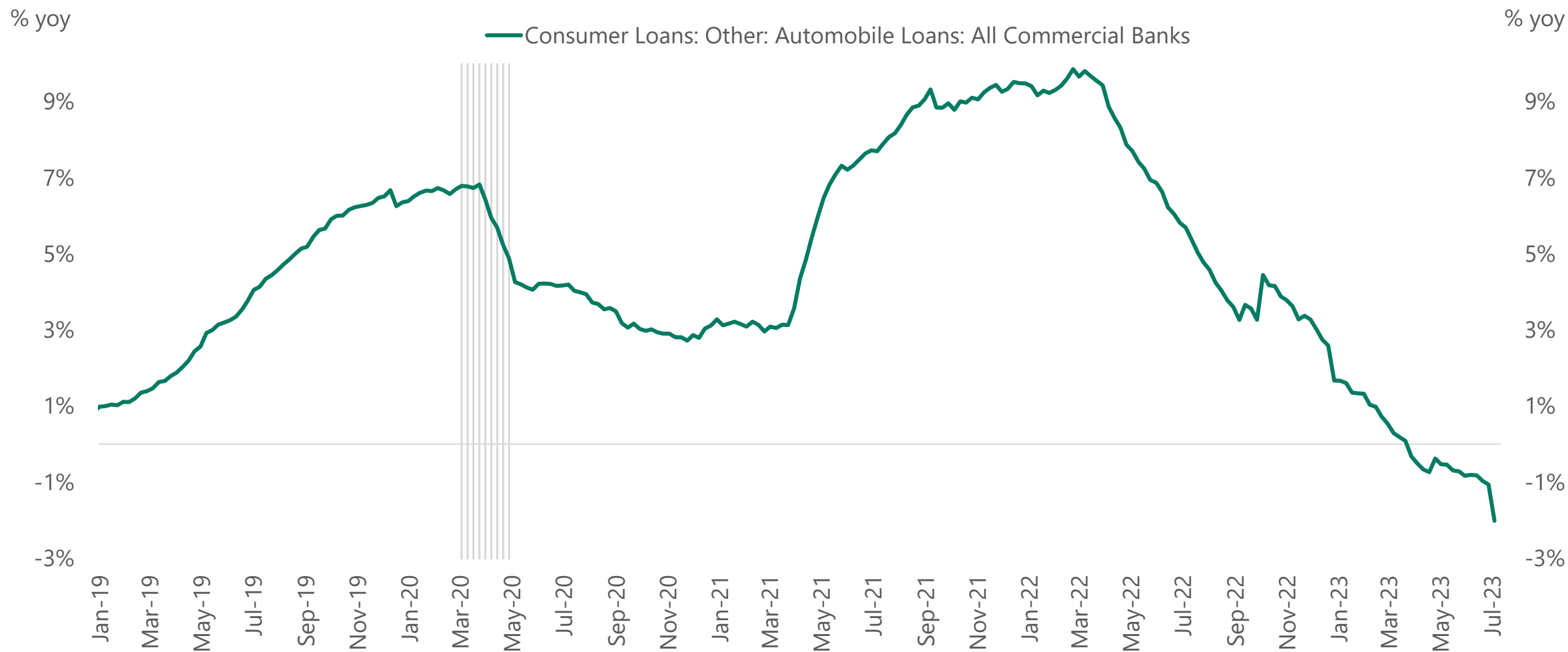


# Decline in growth in lending to multifamily construction



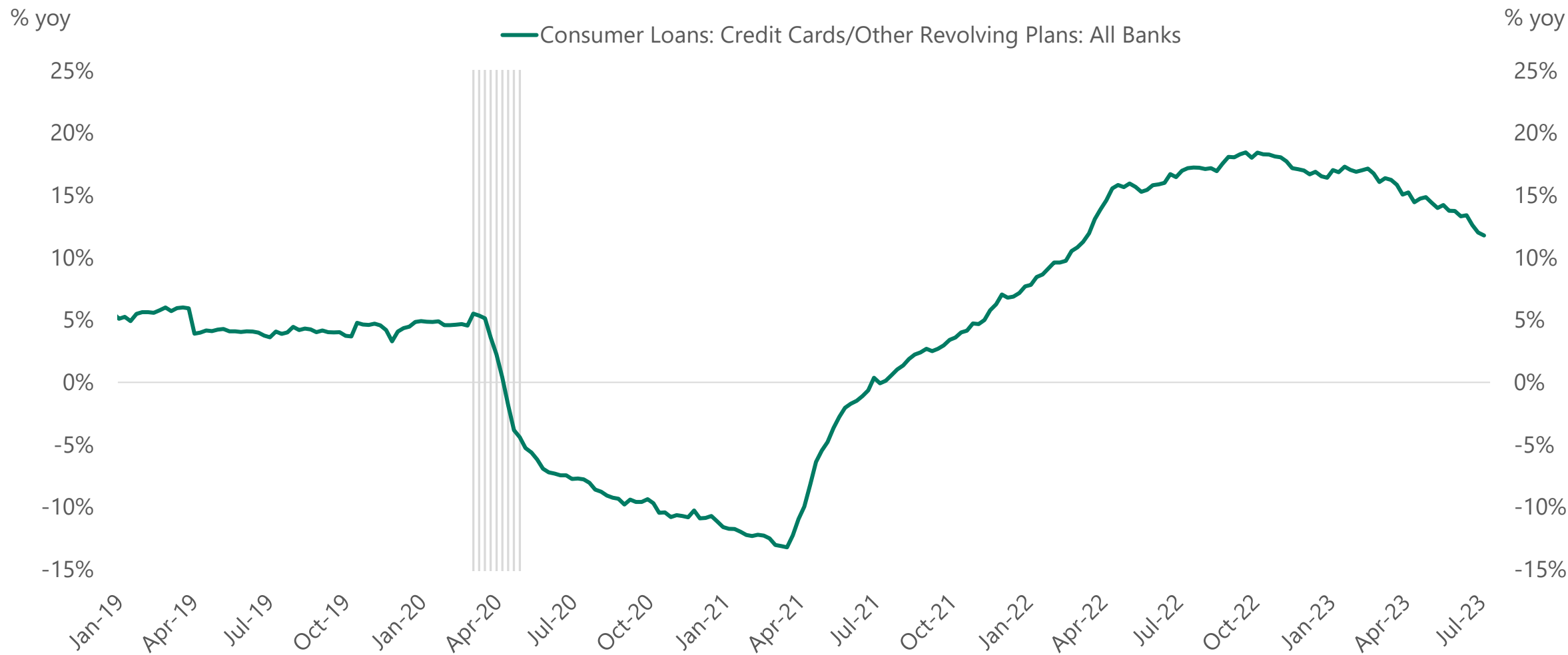
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Negative growth in auto loan lending



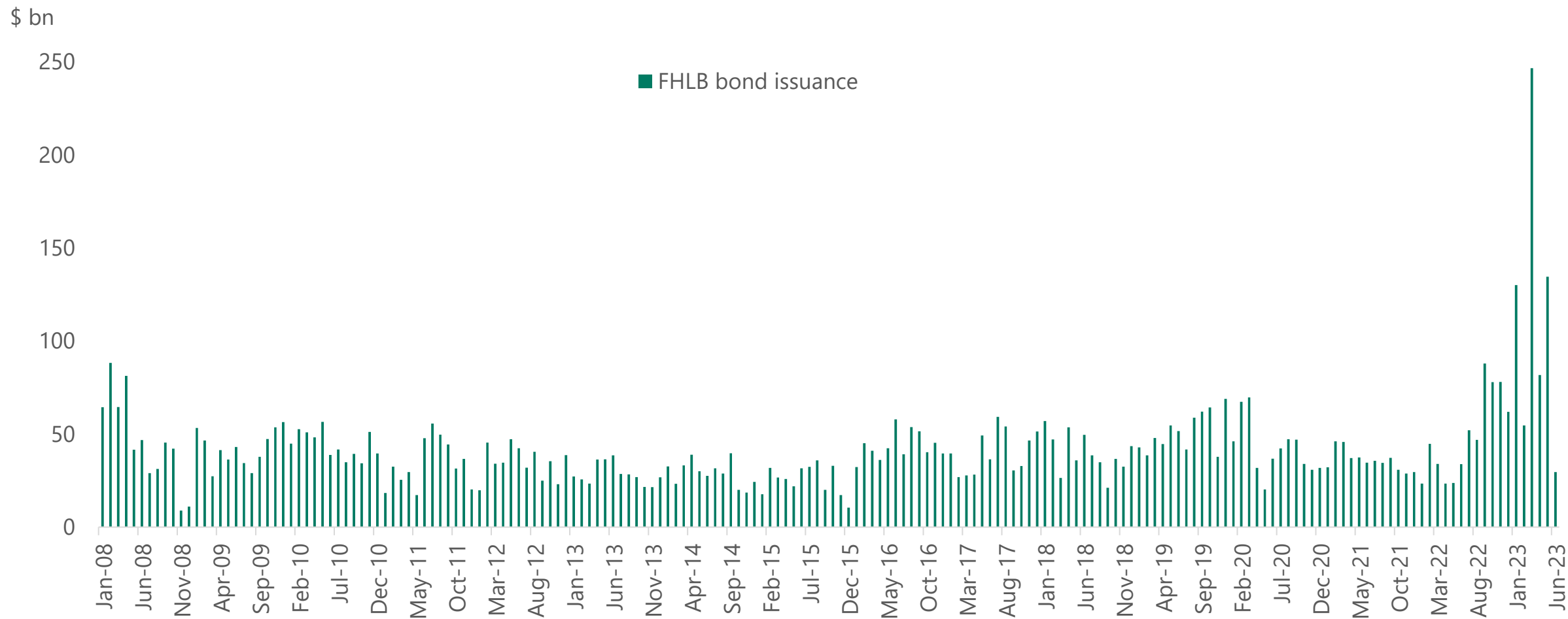
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Some decline in growth in credit card lending



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

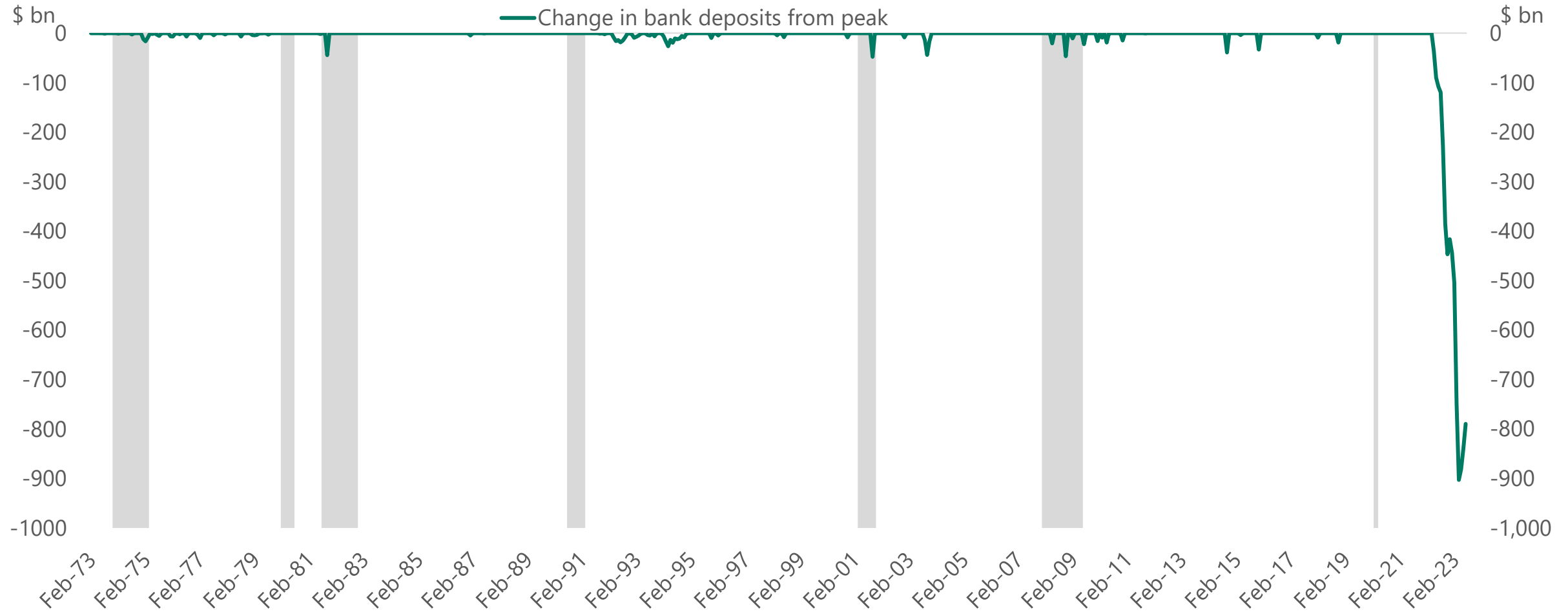
# The FHLB system remains elevated



Source: FHLB, Haver, Apollo Chief Economist.

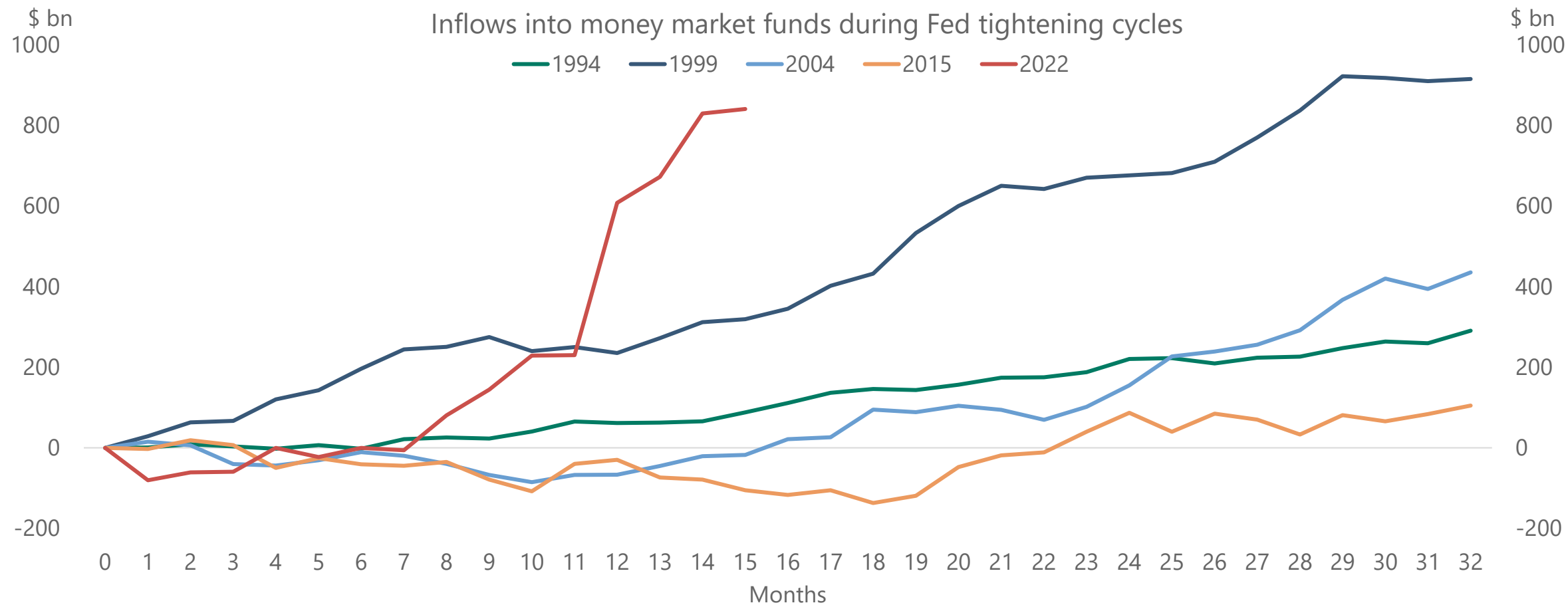
Bank funding pressures:  
Deposits and market-based measures

# \$789bn in deposits have left the banks since the Fed began to raise interest rates



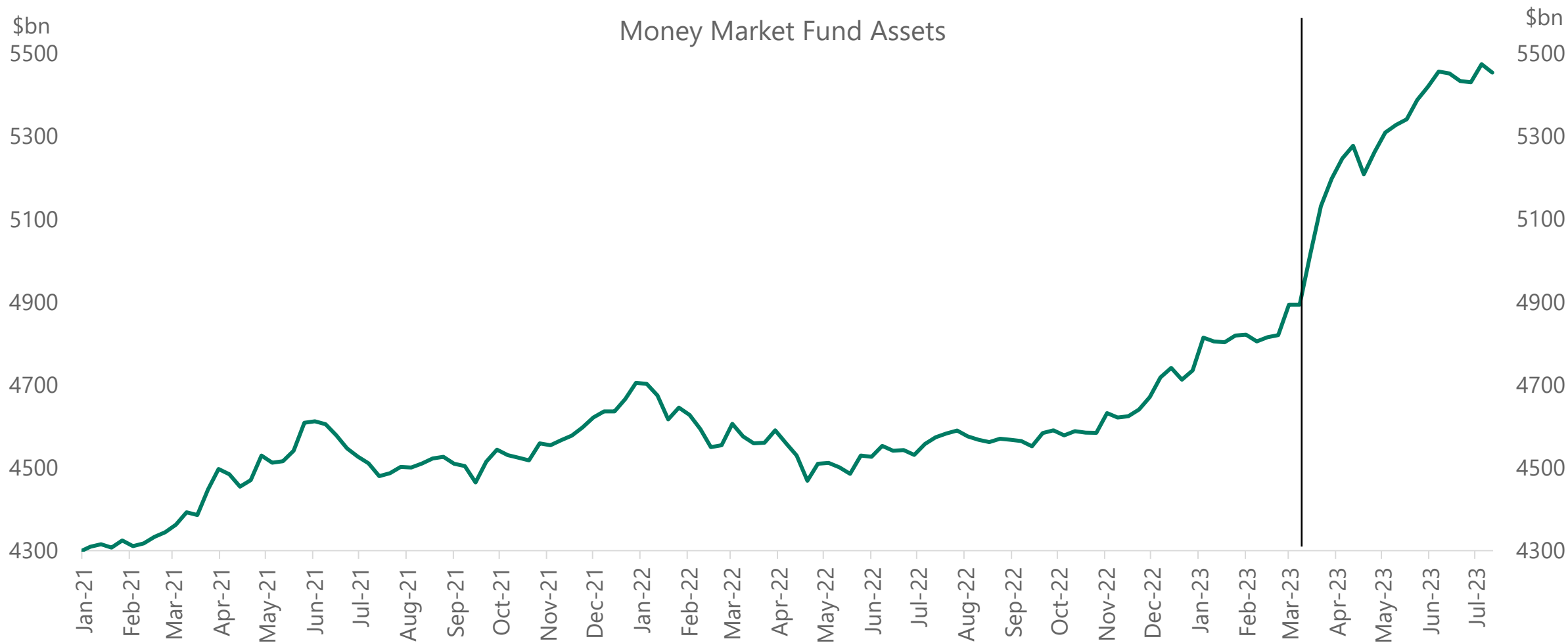
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist. Note: March data as of 10<sup>th</sup> May 2023. Peak is defined as the month before monthly outflows turn negative

# \$840bn inflows into money market funds during this Fed hiking cycle



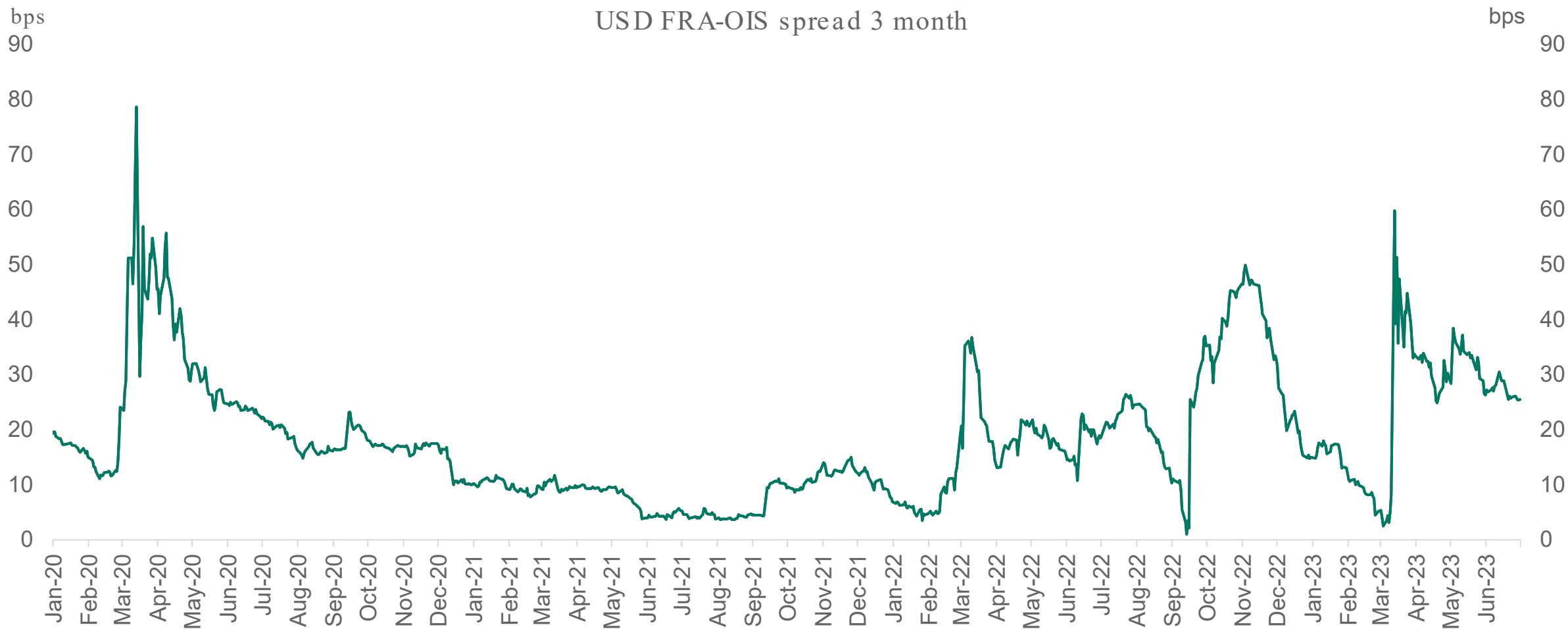
Source: FRB, ICI, Bloomberg, Apollo Chief Economist.

# \$500bn has been moved into money market funds since SVB went under



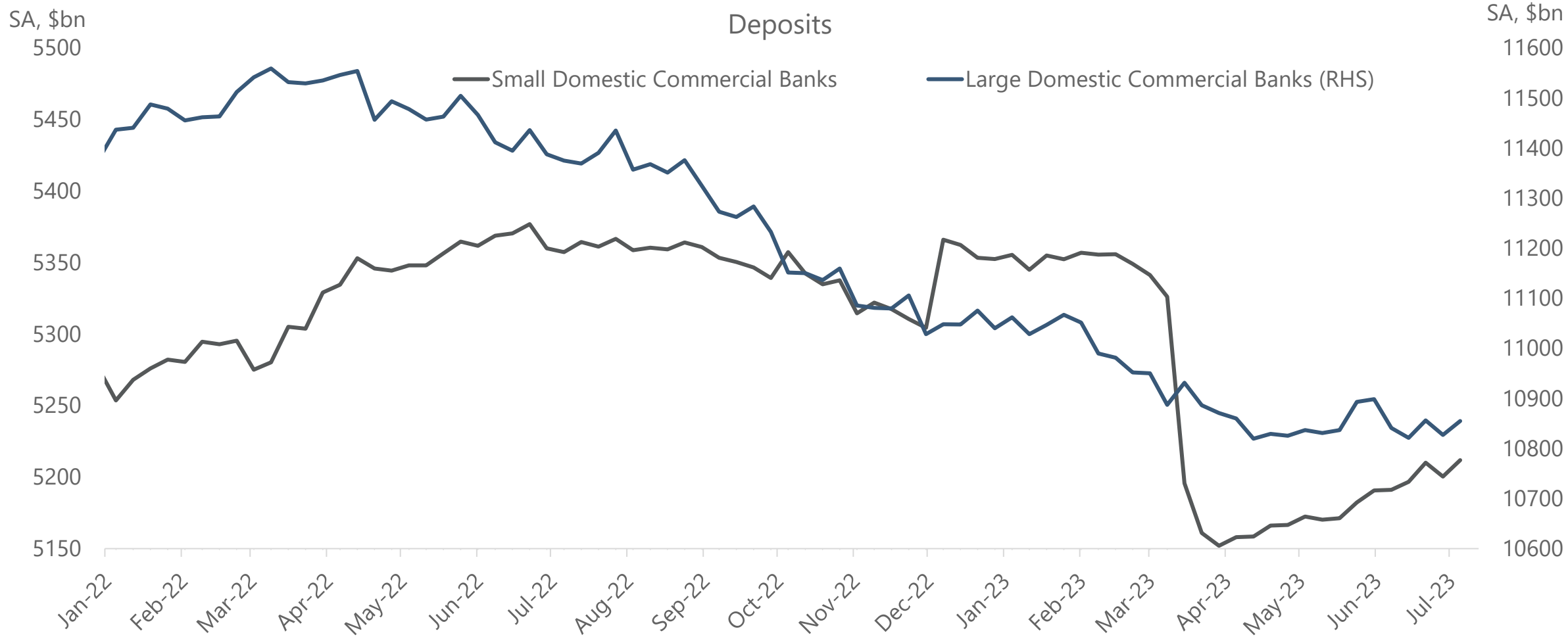


# FRA-OIS spread



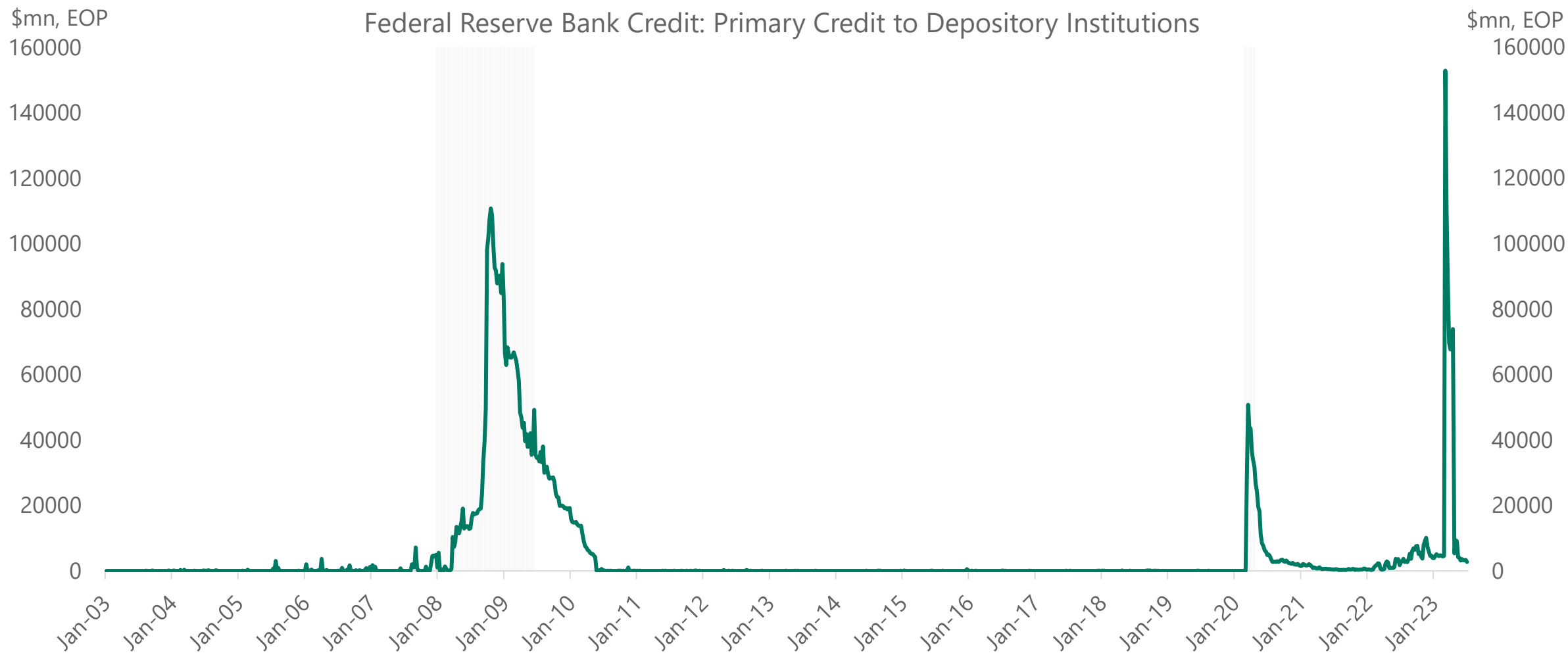
Source: Bloomberg. Note: Ticker used USFOSC1 BGN Currency. As of March 24, 2023.

# Deposits stabilizing in small and large banks



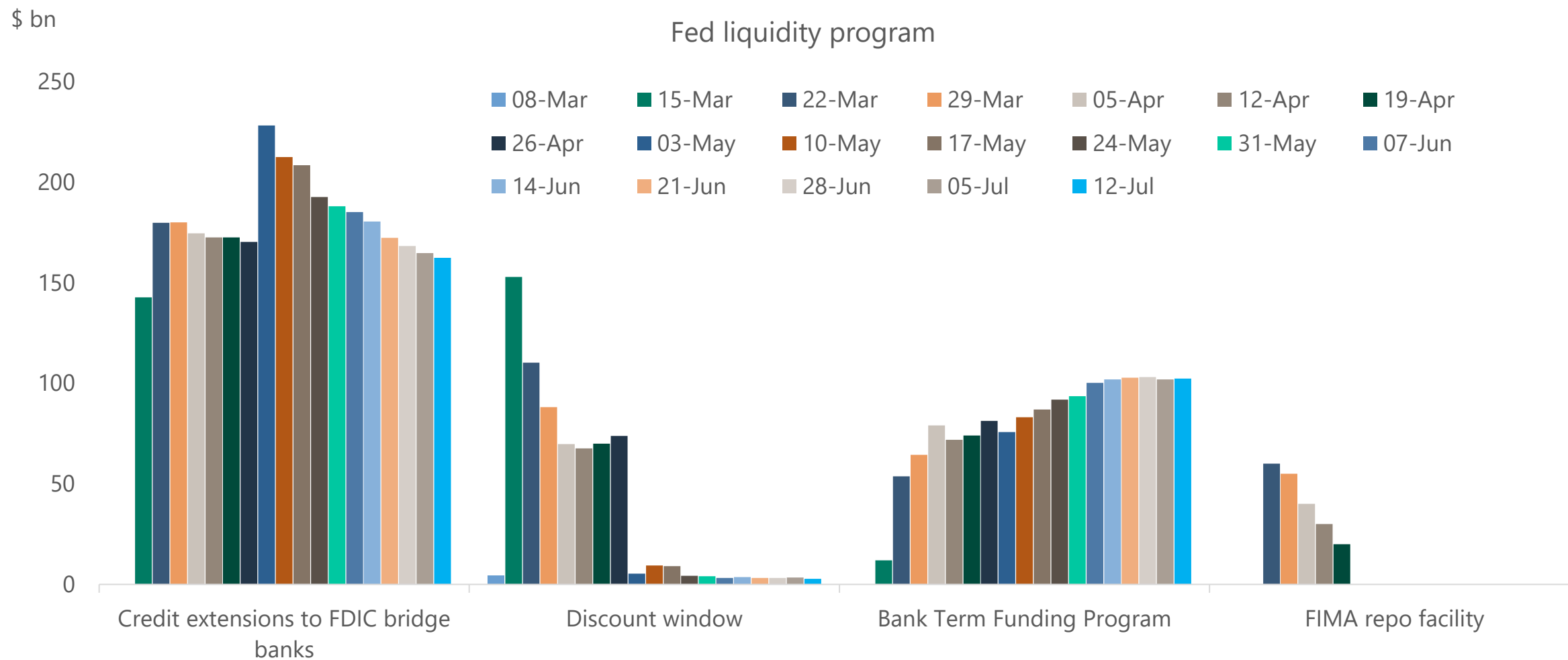
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Fed Discount Window borrowing higher than in 2008



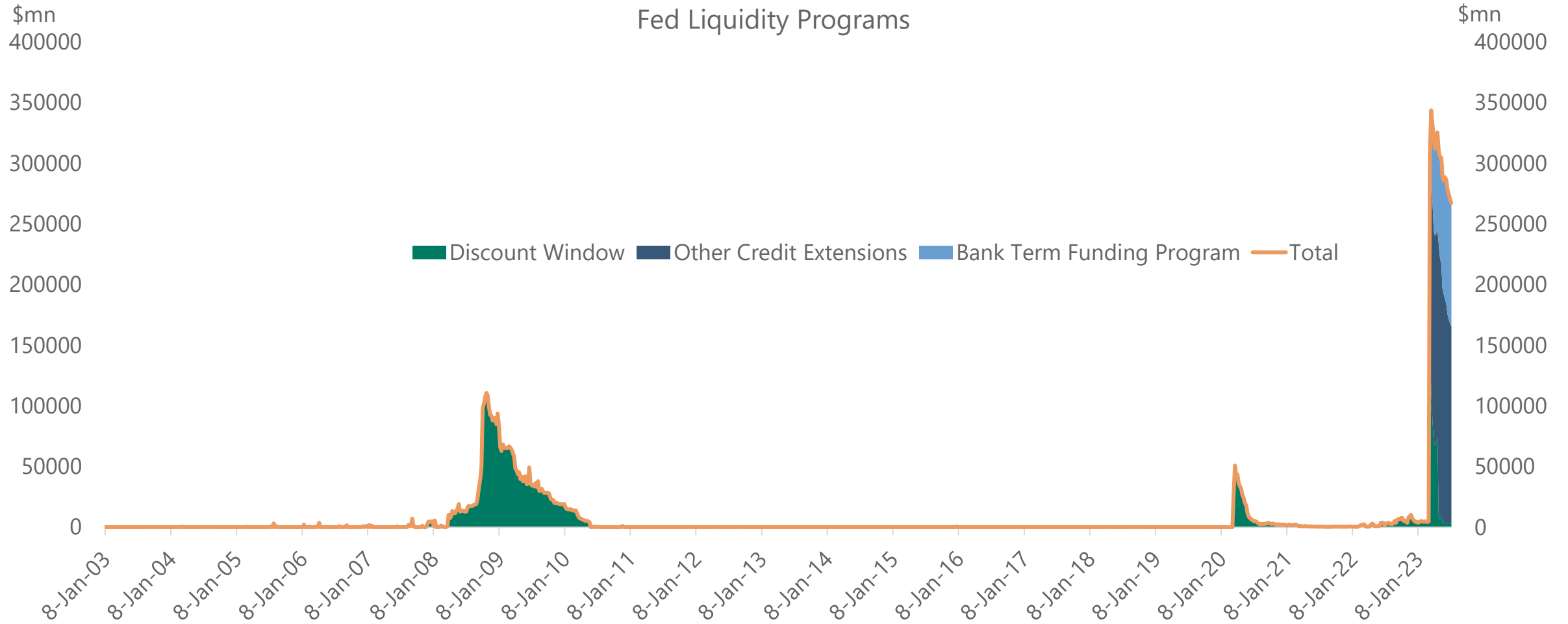
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Fed liquidity programs

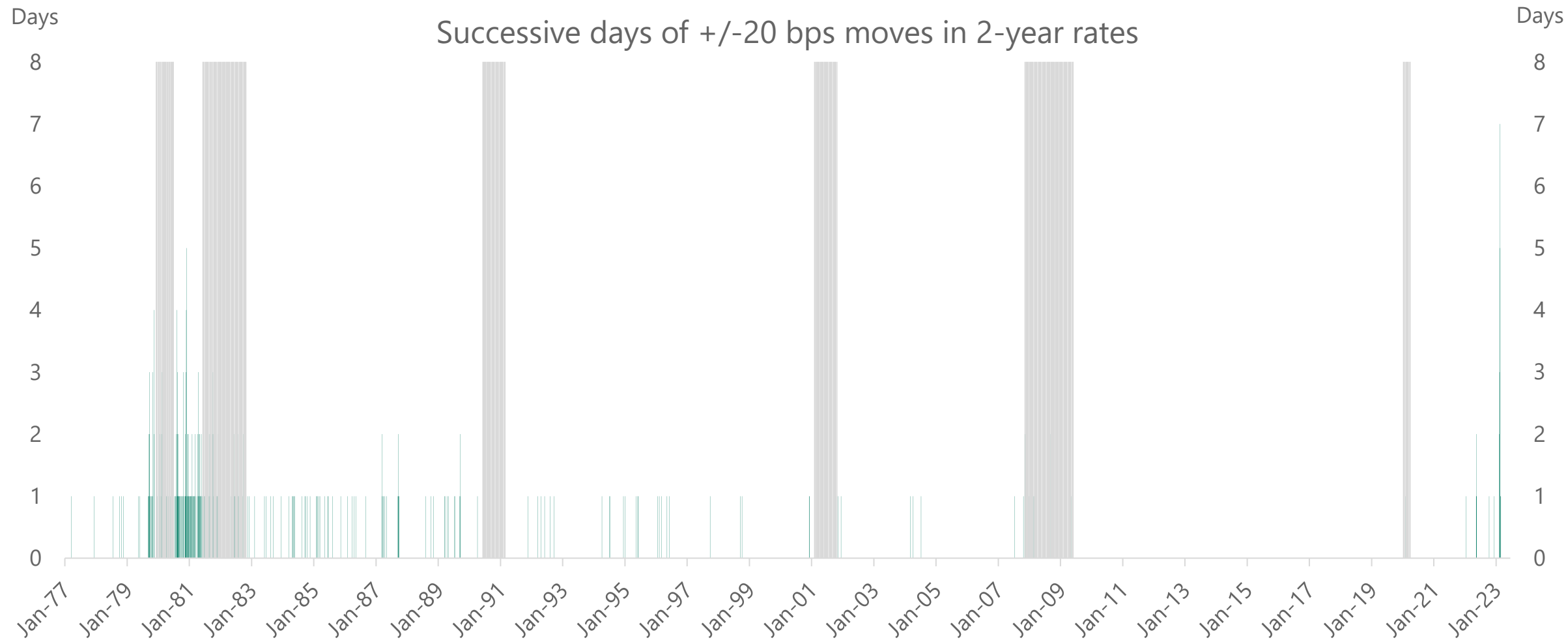


Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

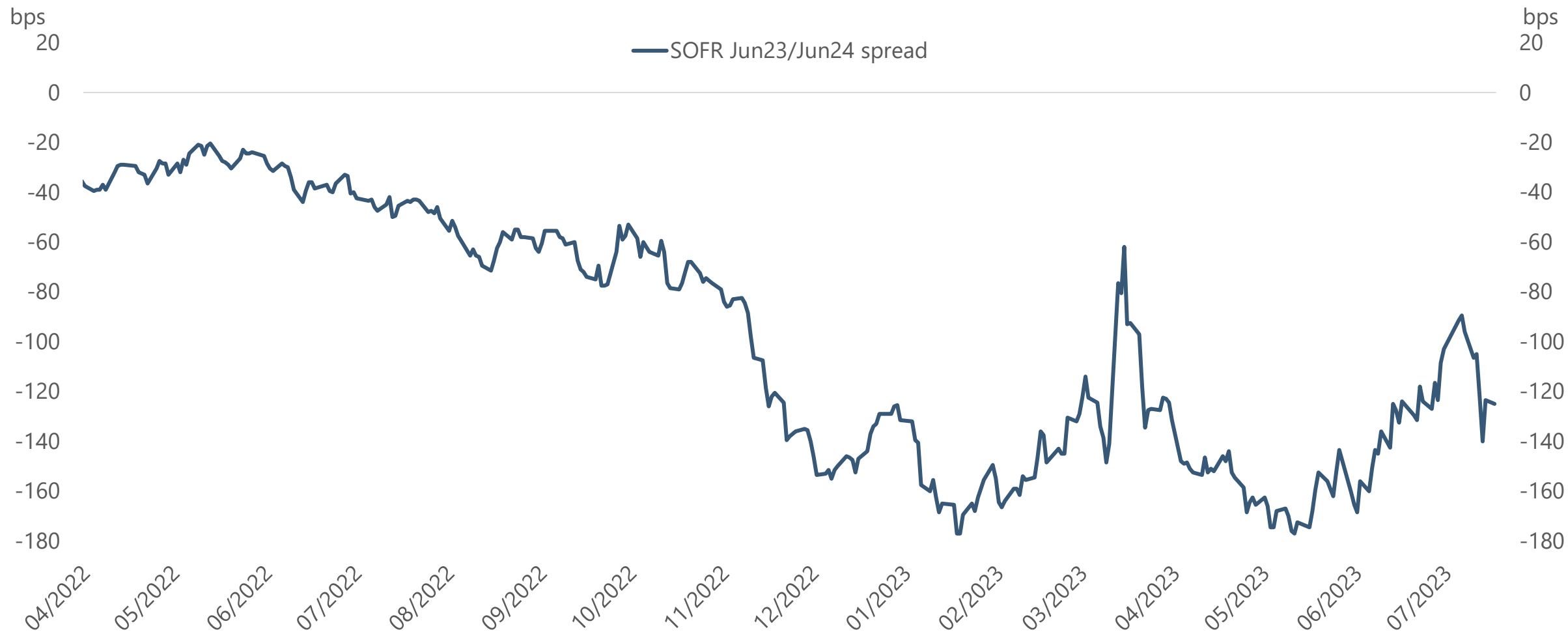
# Fed liquidity borrowing higher than in 2008



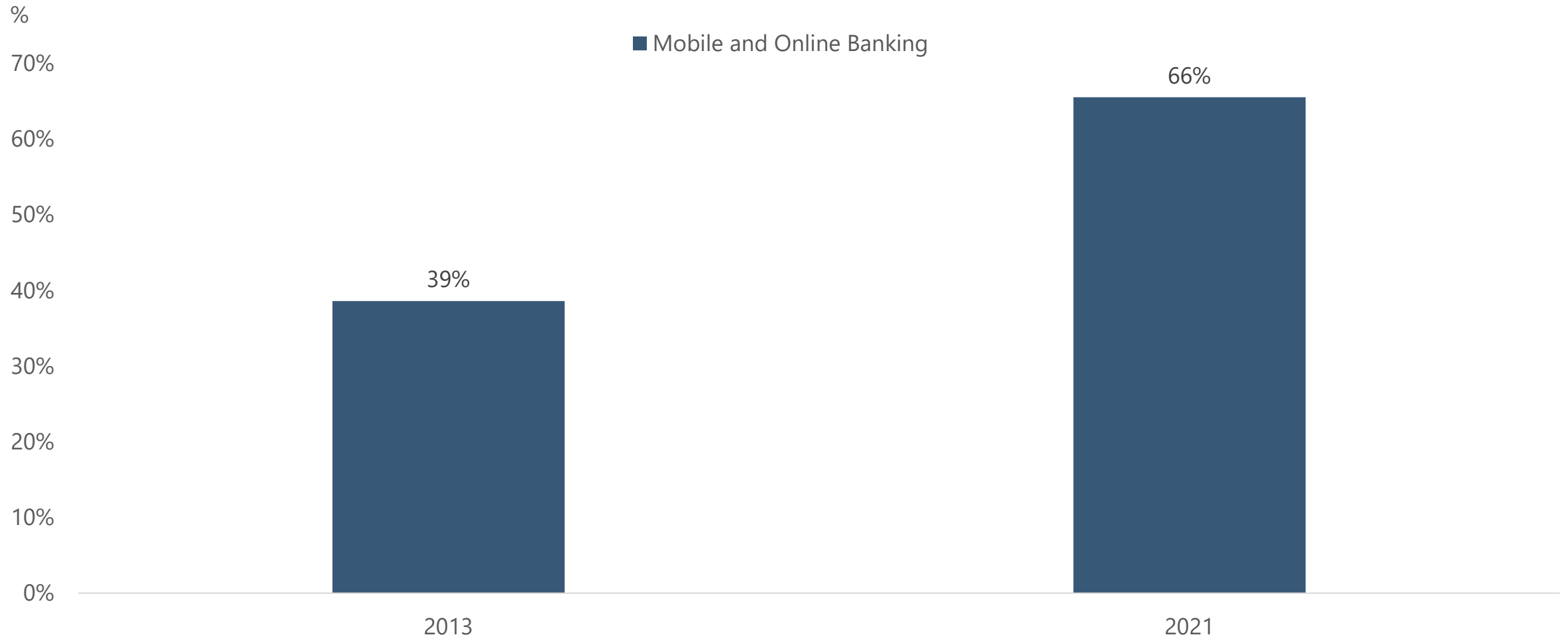
# Record-high volatility in fixed income markets



# SOFR spreads currently pricing aggressive Fed cuts in 2024



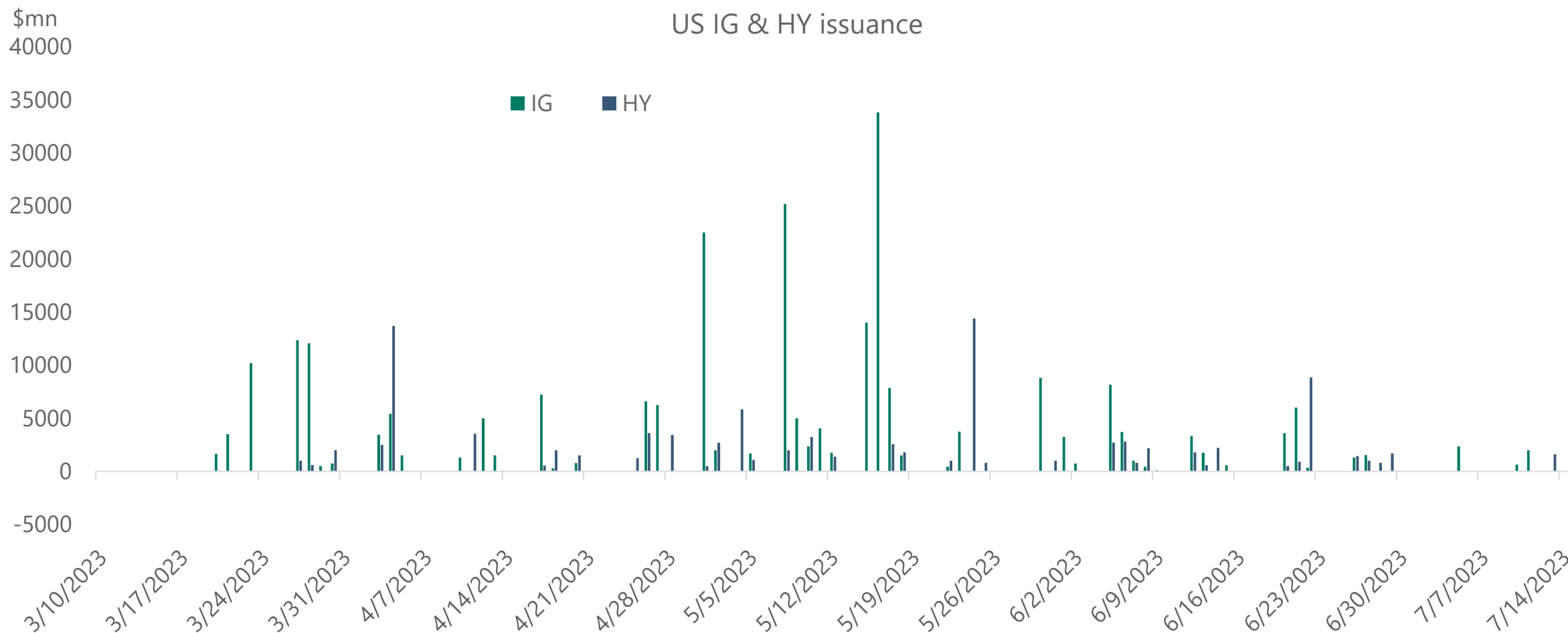
# Primary method of bank account access: More and more households use mobile and online banking



Source: FDIC, Apollo Chief Economist. Note: The data shows the sum of households using mobile and online banking, some respondents may use both.

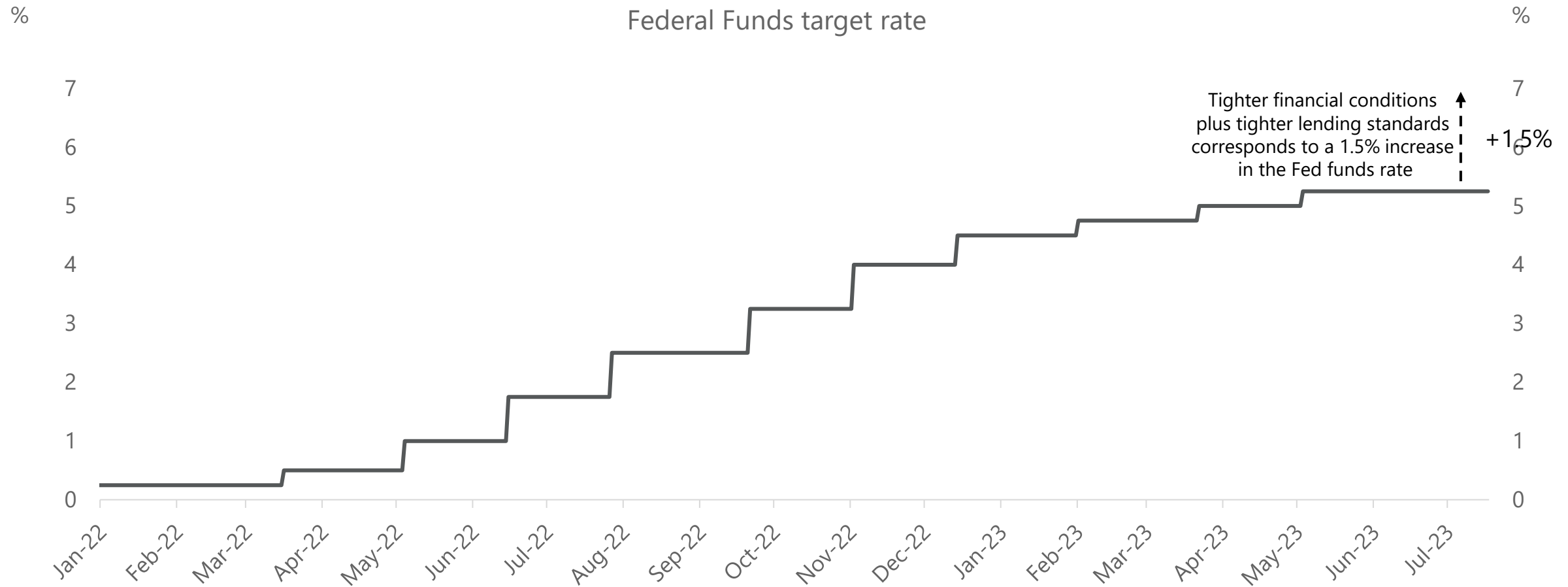


# IG and HY primary issuance coming back



Source: Bloomberg, Apollo Chief Economist. Note: Data from NIM <GO>, IG excludes government and financials issuance.

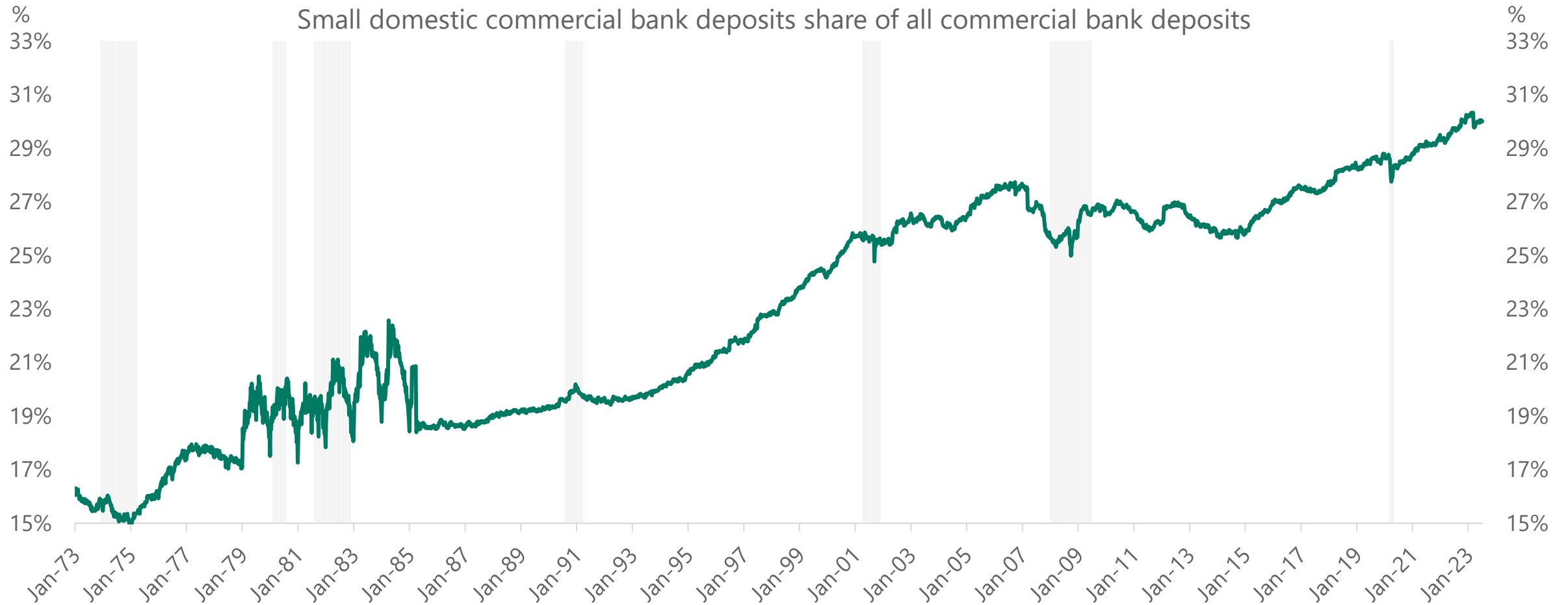
The Fed funds rate effectively pushed 1.5%-points higher after SVB because of tighter financial conditions combined with tighter lending standards



Source: Bloomberg, Apollo Chief Economist. Note: Two regression models with the Fed funds rate on the left-hand side were run to quantify the effect from tighter financial conditions and tighter lending standards, and the estimated coefficients show 0.5% higher Fed funds rate from tighter financial conditions and 1% higher Fed funds rate from tighter lending standards.

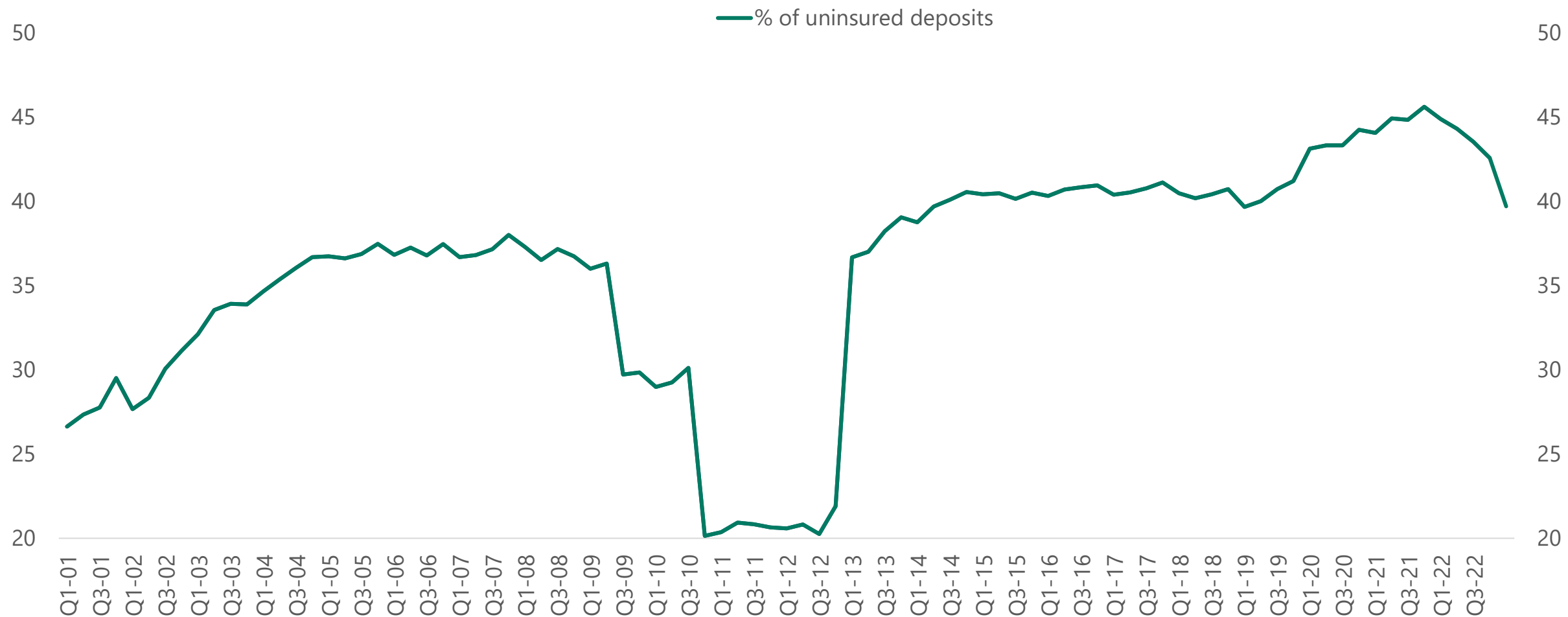
What is happening with deposits in regional banks?

Small banks account for about 1/3 of total deposits in the banking sector and the share has been rising since the 2008 financial crisis



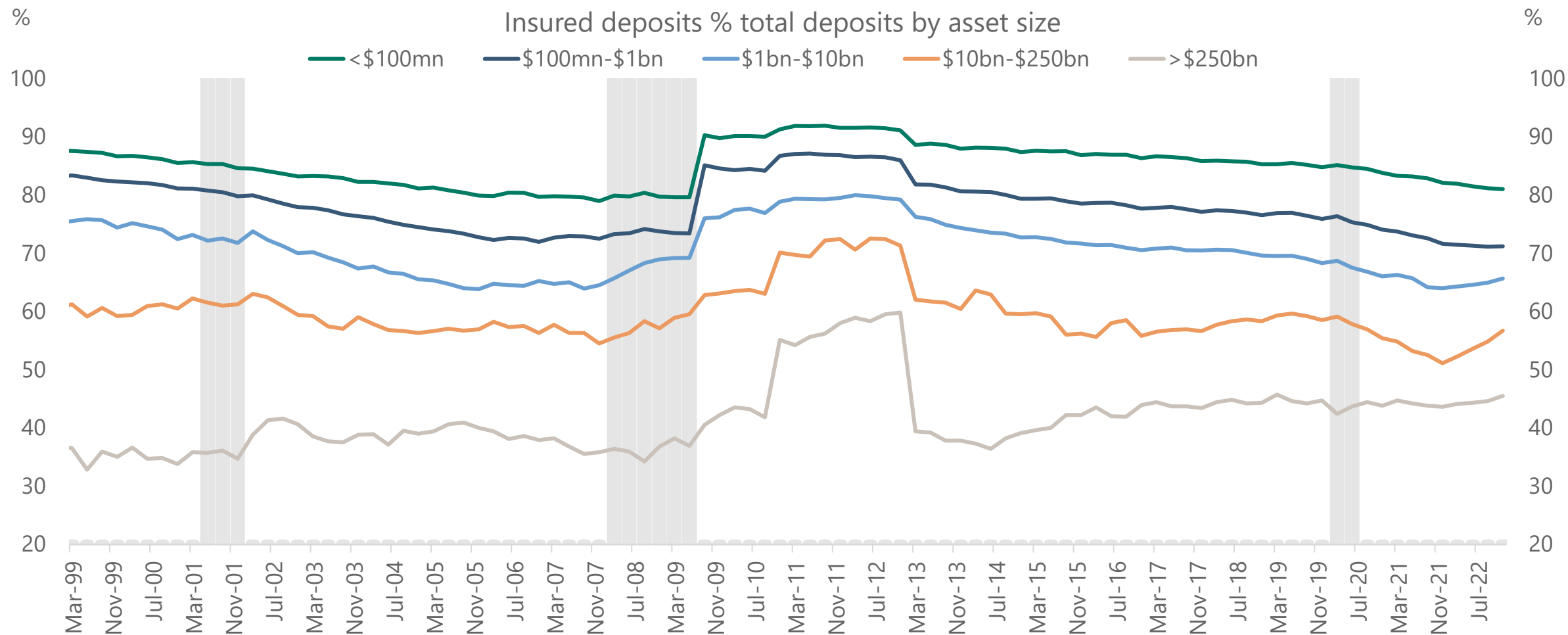
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Share of total bank deposits that are uninsured: 40%



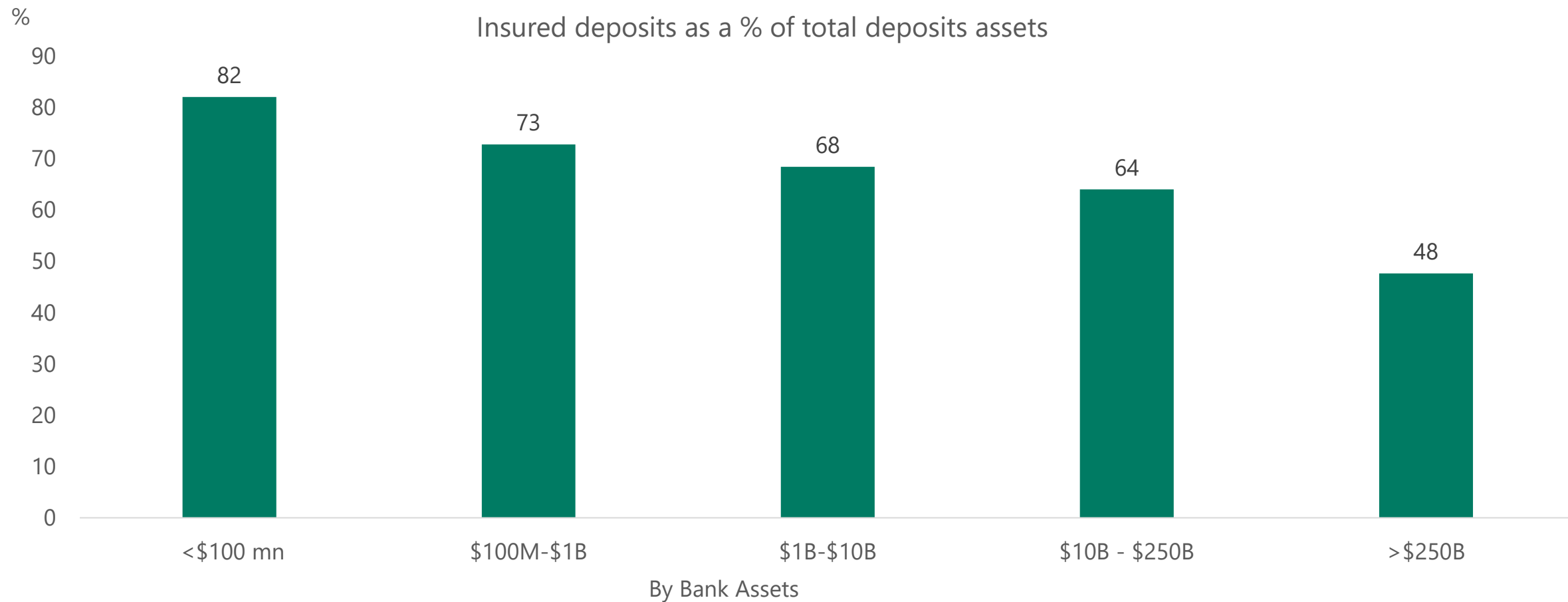
Source: FDIC, Haver Analytics, Apollo Chief Economist.

# Share of insured deposits, by bank size

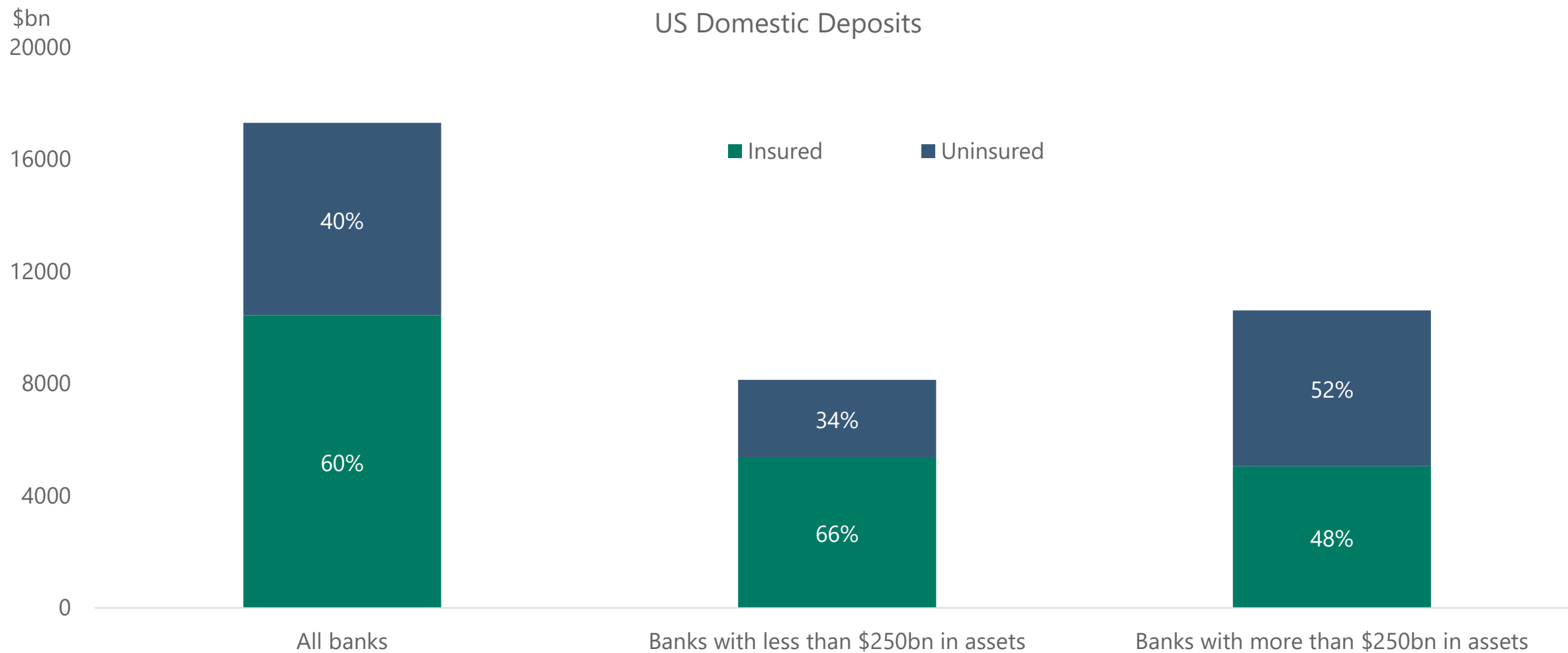


Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Share of insured deposits, by bank size



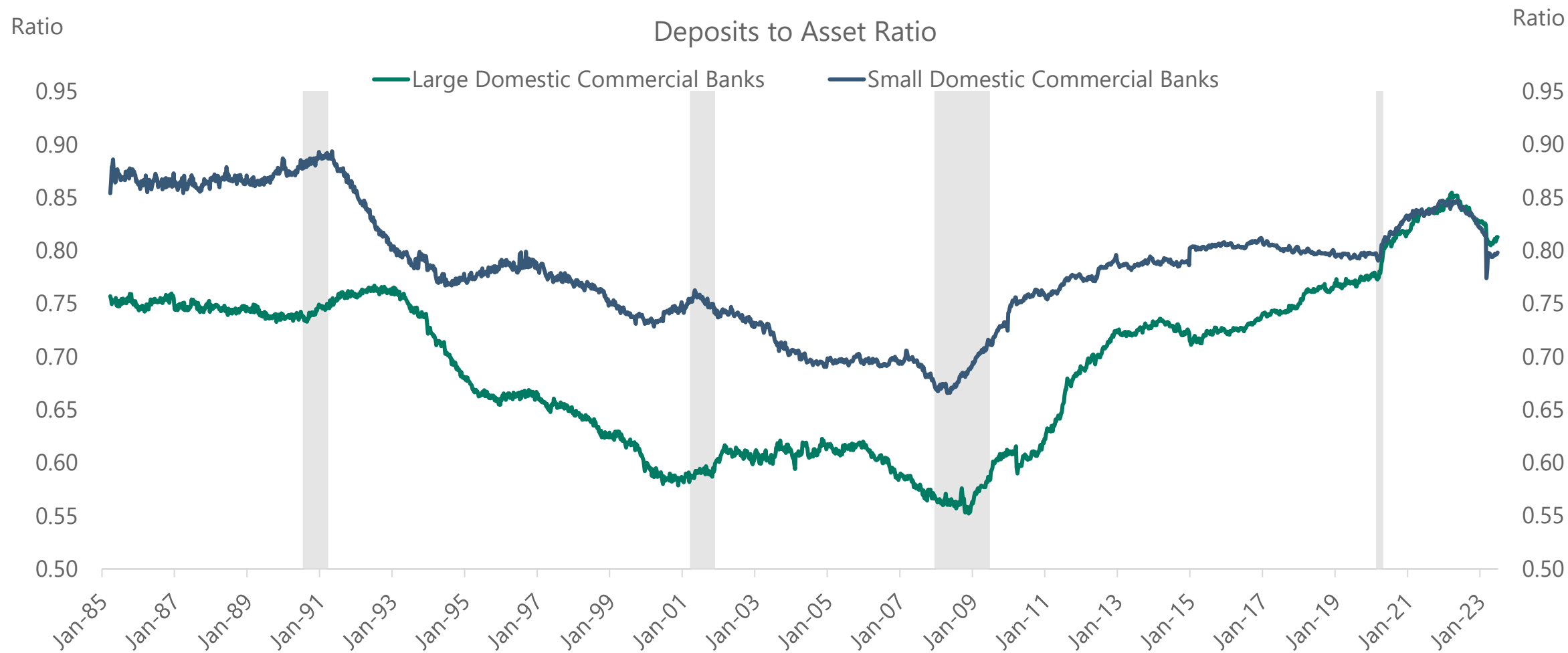
# Share of insured deposits, by bank size



Source: FDIC, Haver Analytics, Apollo Chief Economist. As of Q1 2023

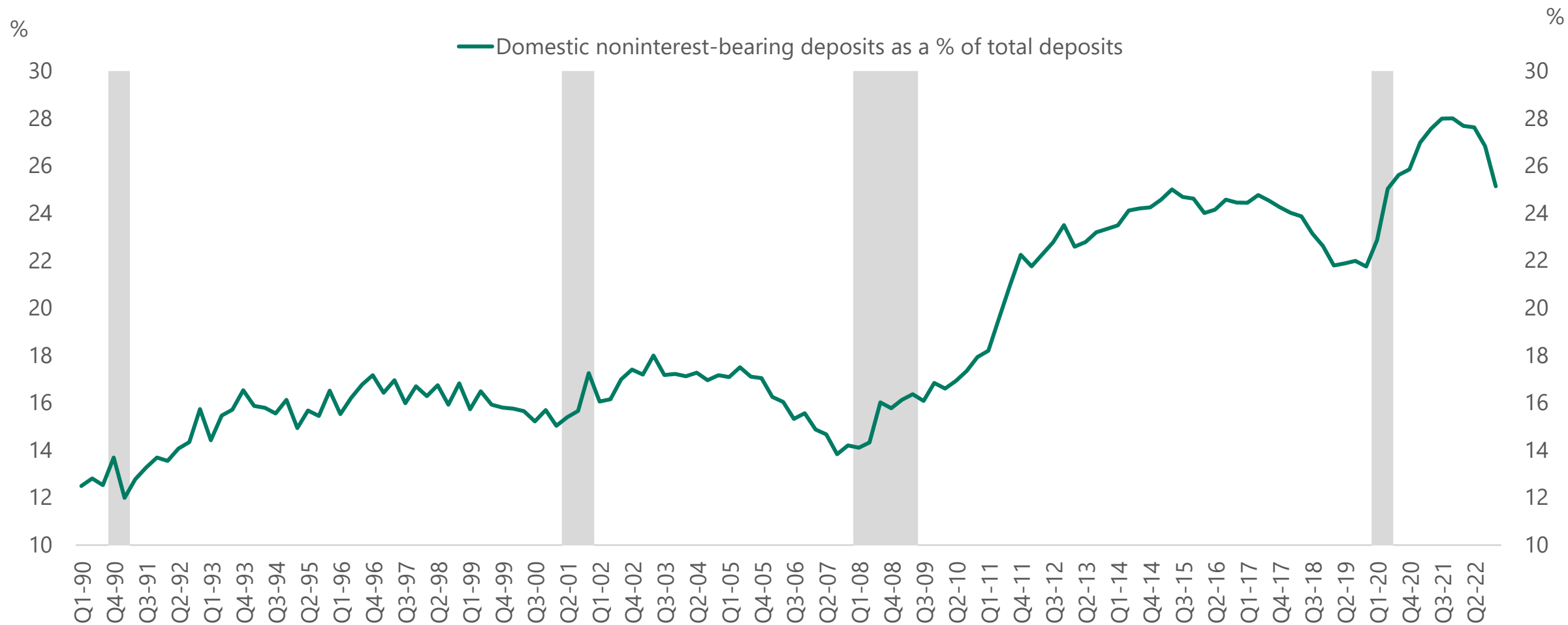


# Deposit to asset ratio for large and small banks

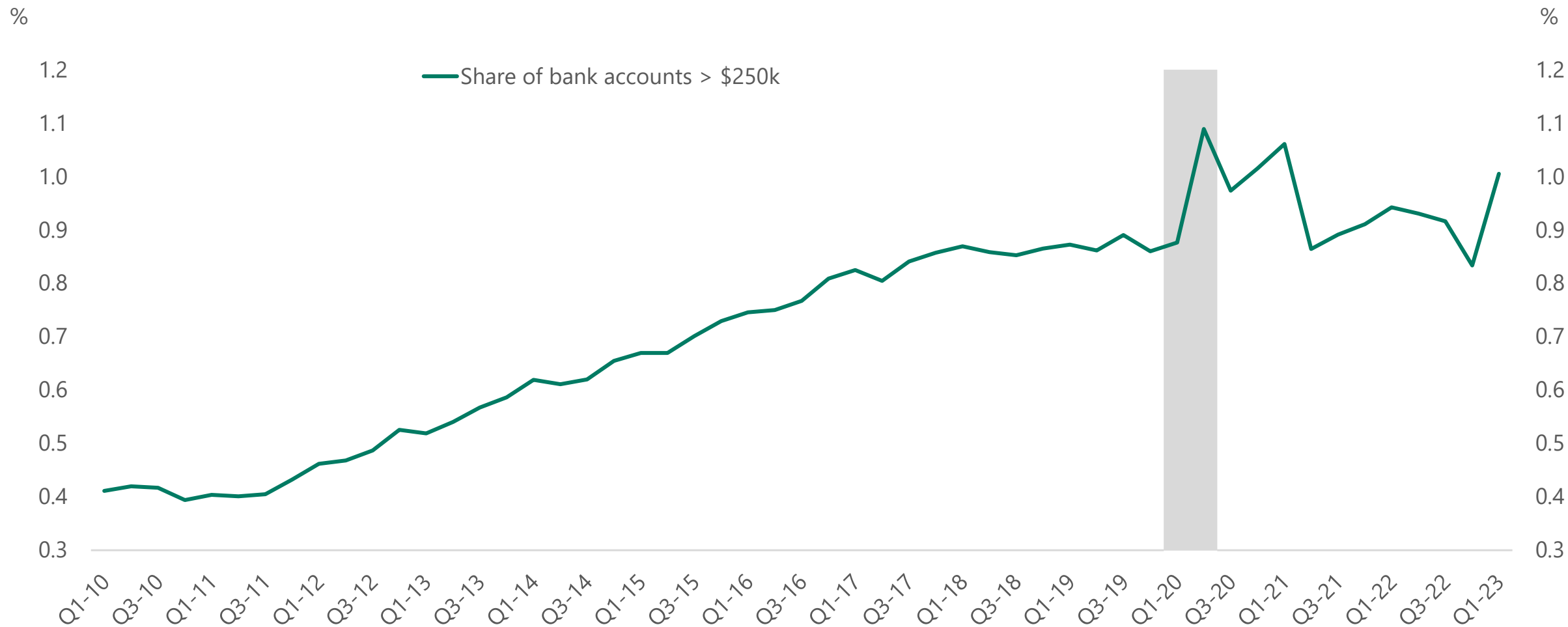


Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# The share of bank deposits paying zero interest rate is declining

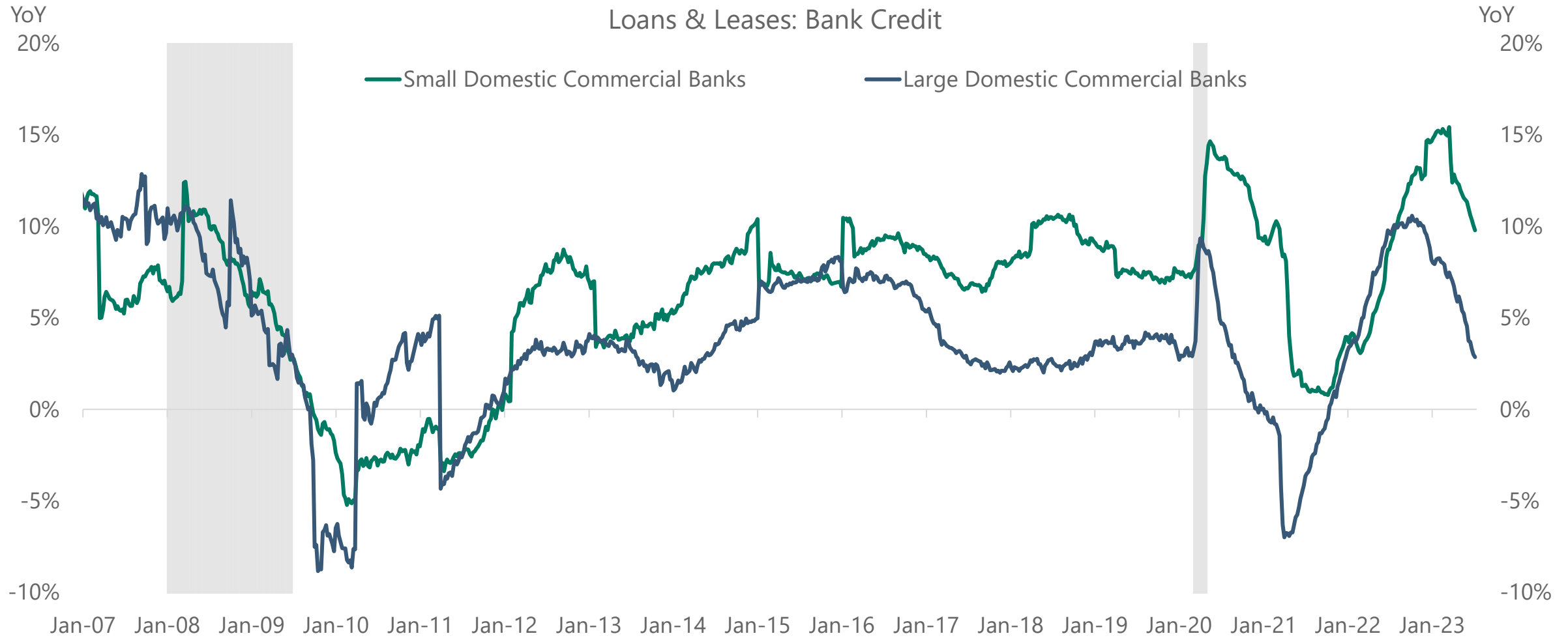


# Less than 1% of bank accounts have a balance higher than \$250k



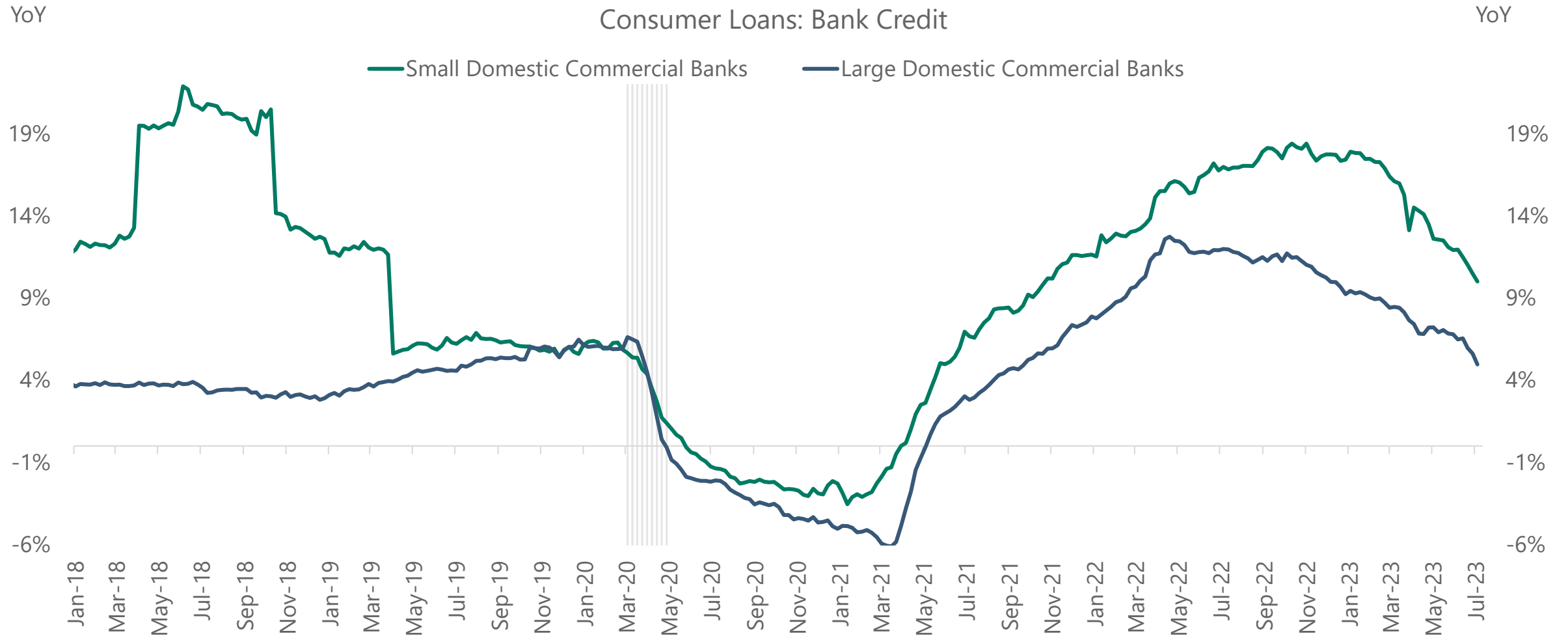
# Weekly data for bank lending by small and large banks

# Divergence between small bank and large bank lending growth over the past year



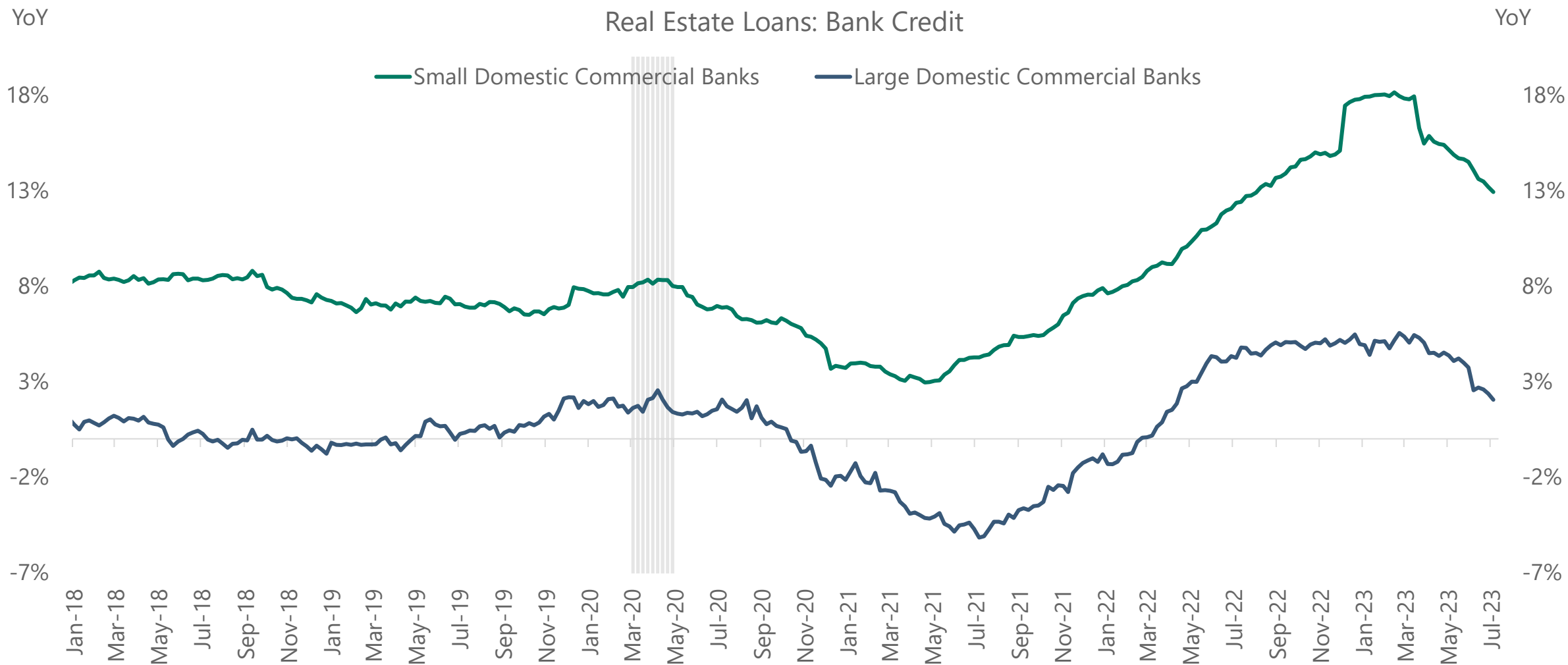
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Lending to consumers is slowing for both small and large banks



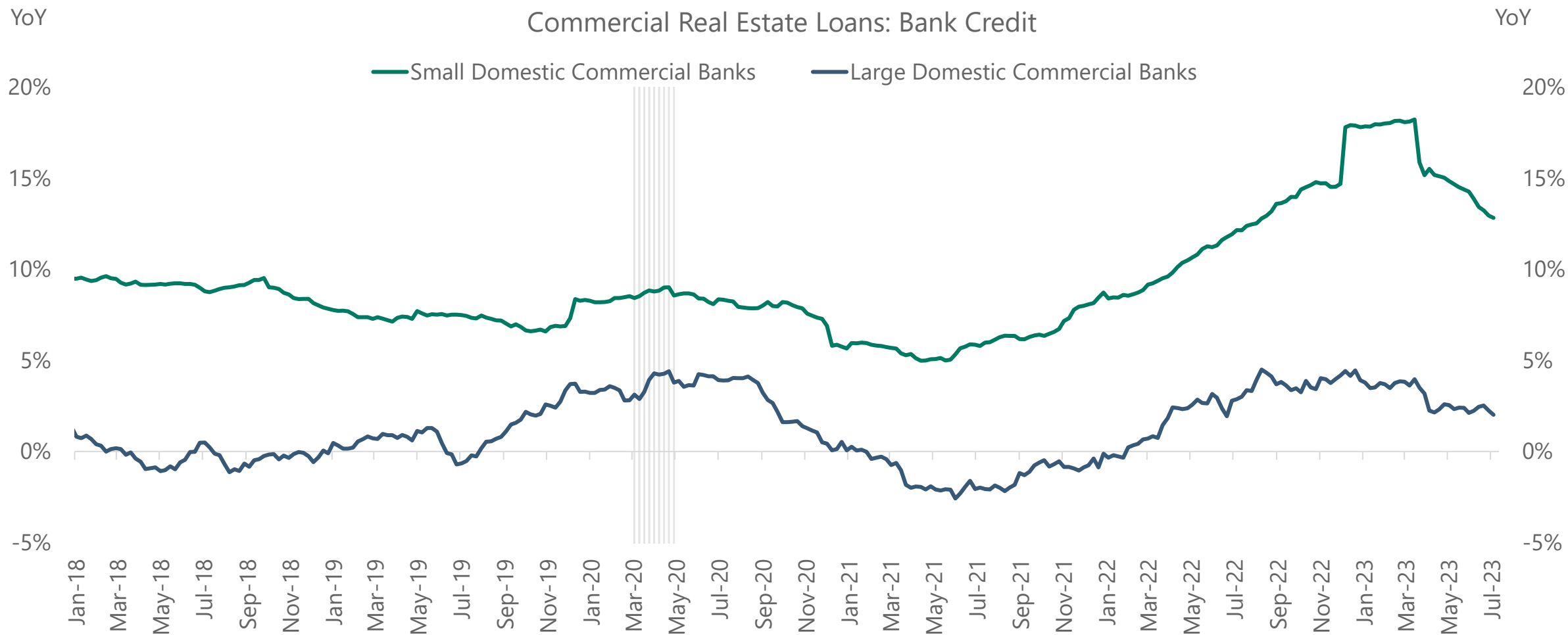
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Real estate lending is slowing for both small and large banks



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

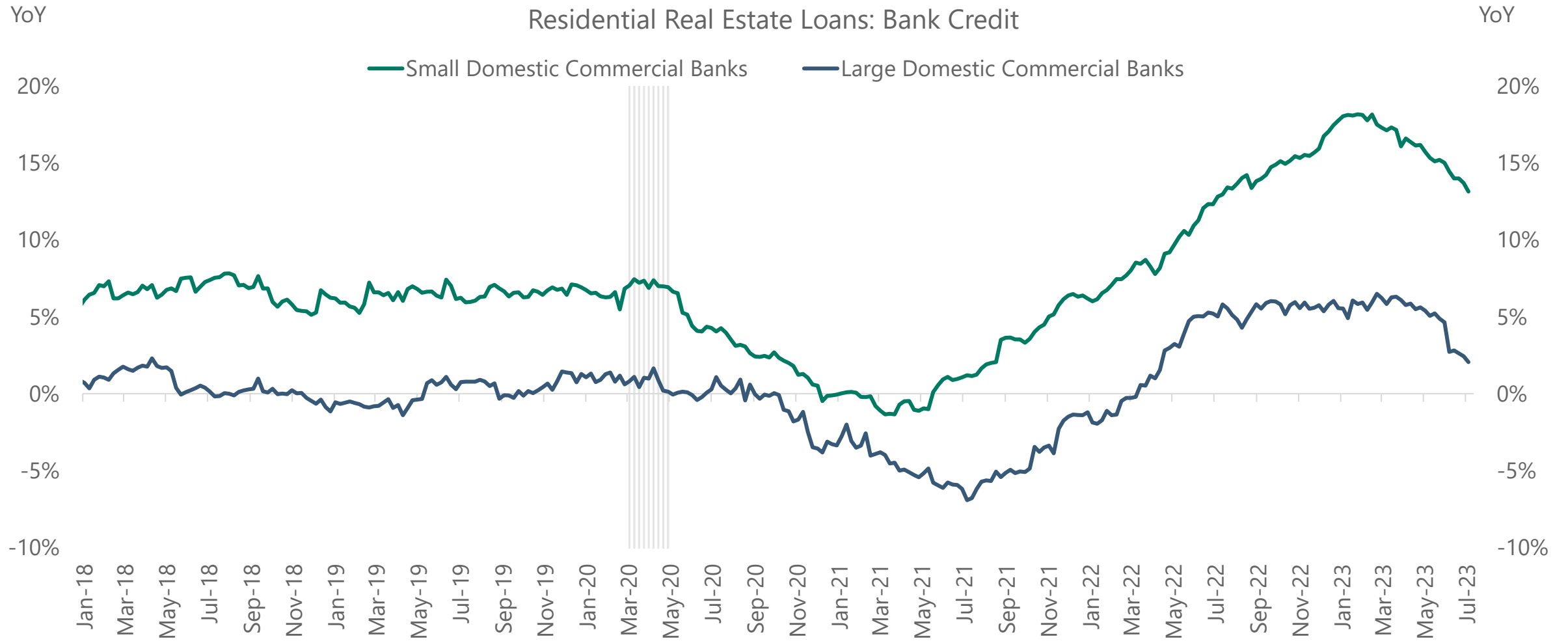
# Commercial real estate lending is slowing for both small and large banks



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

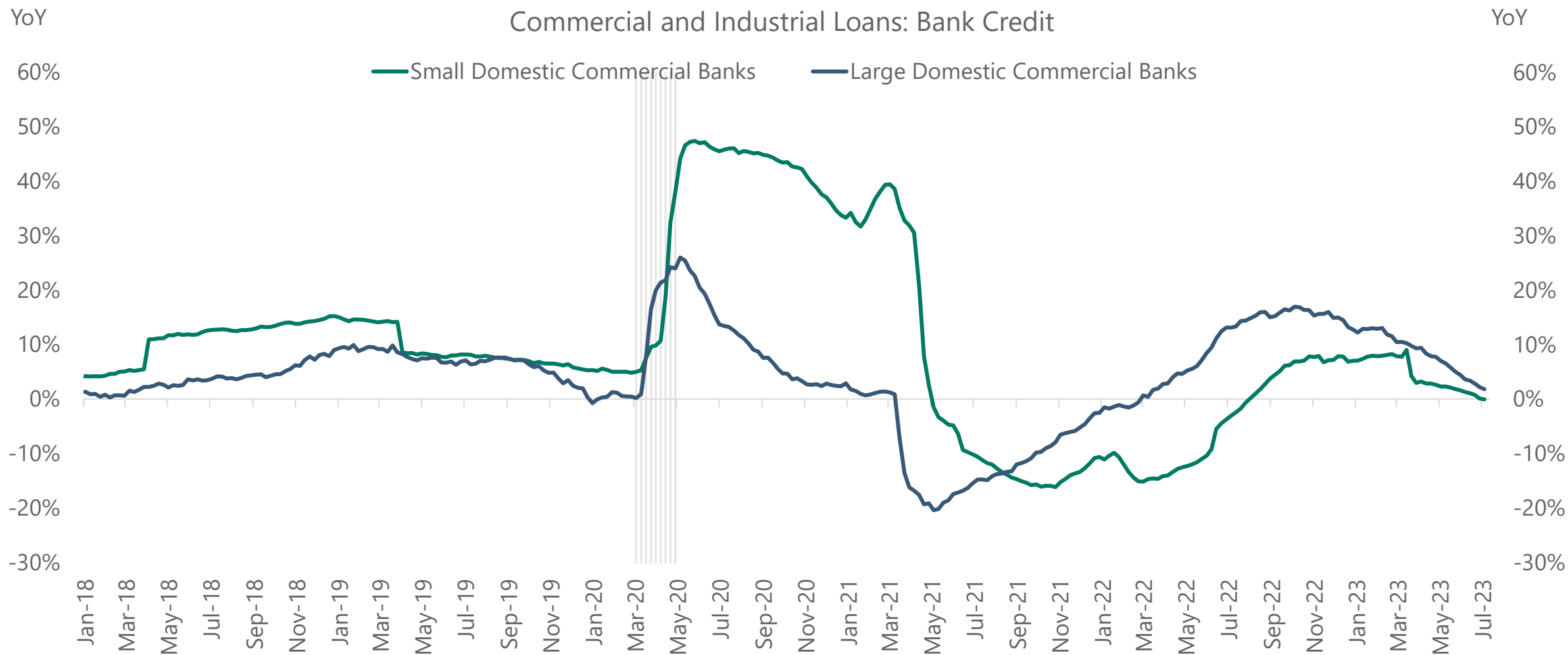


# Residential real estate lending is slowing for both small and large banks



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Lending to corporates is slowing for both small and large banks

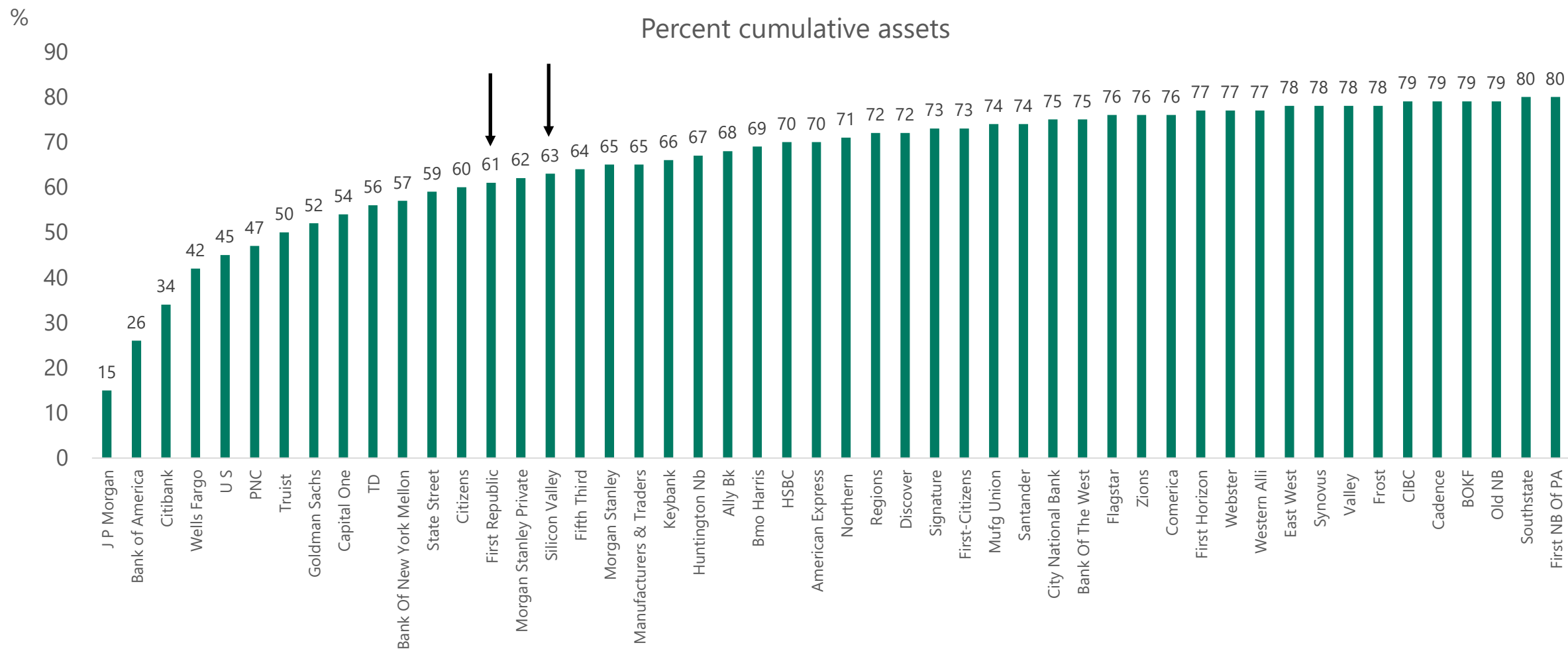


Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

US banks by asset size:

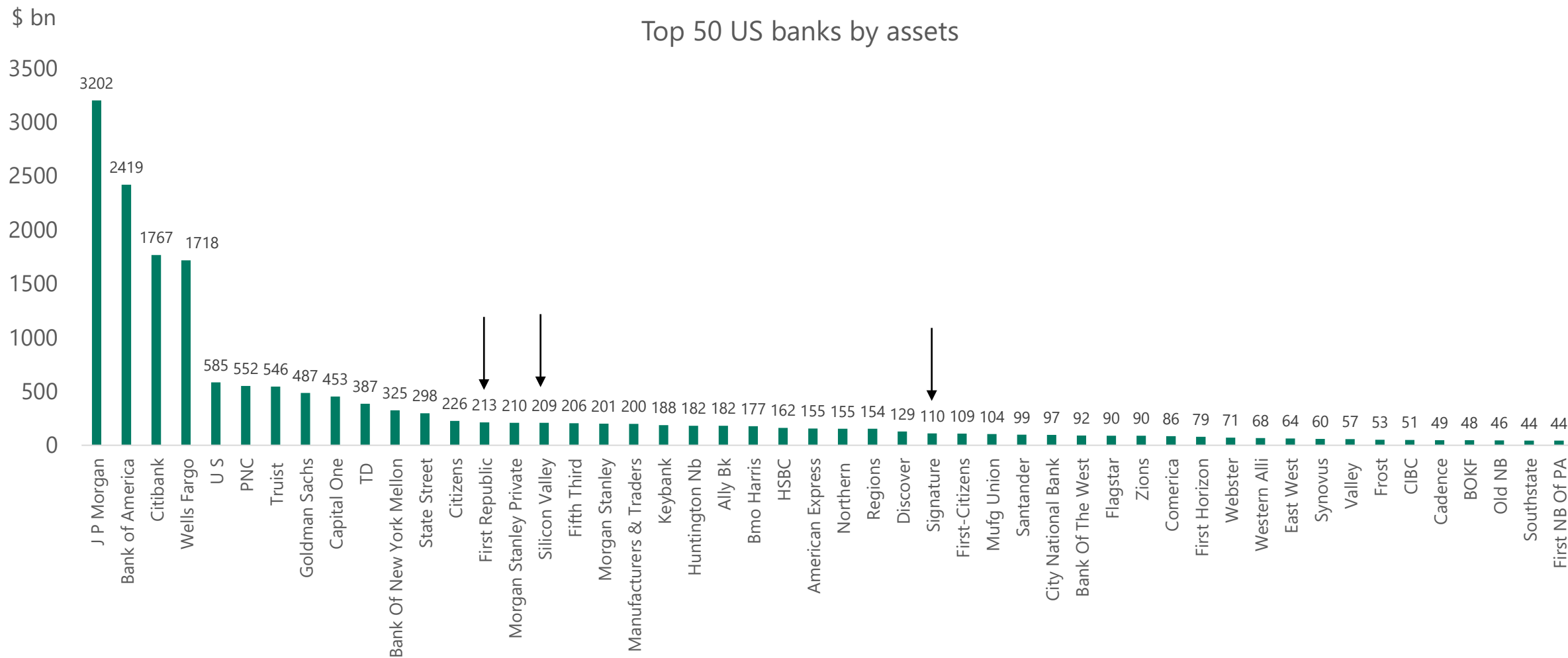
The importance of regional banks for the US economy

# Tighter credit conditions are coming: Banks “to the right” of SVB are likely to start reorganizing their balance sheets



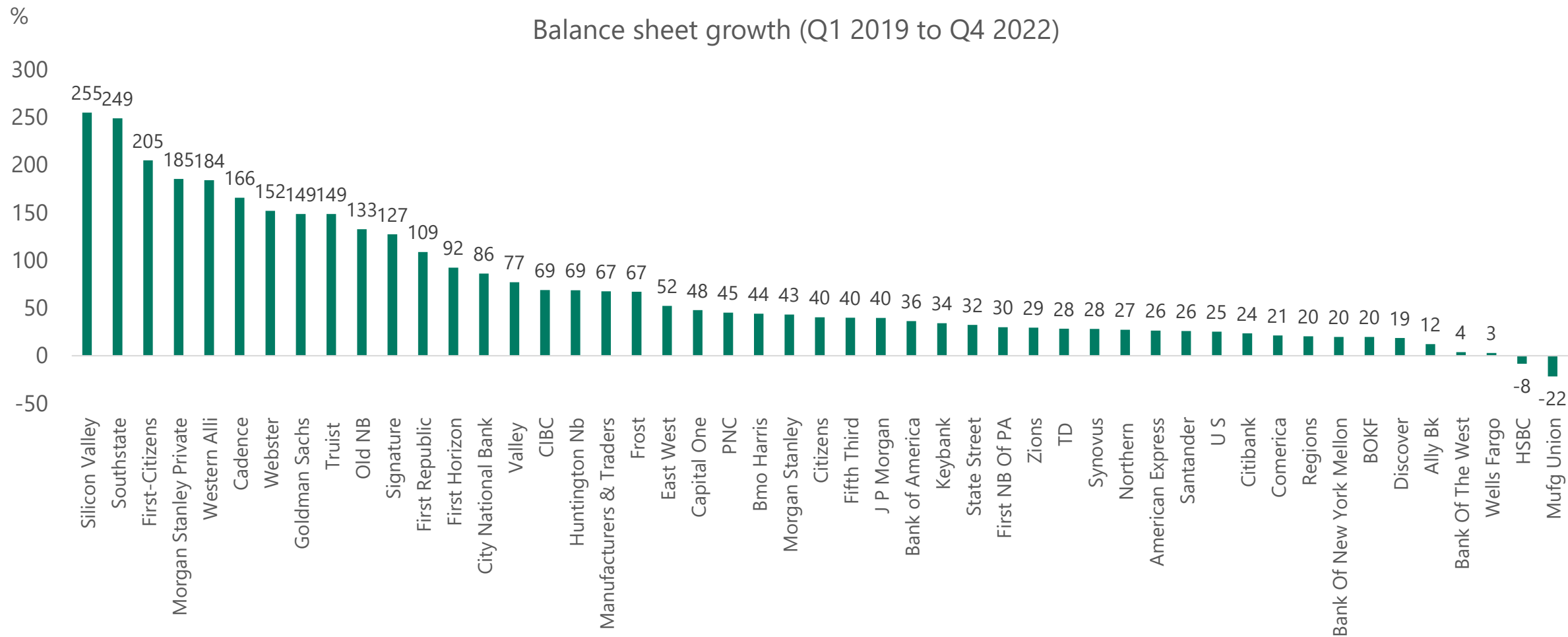
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist. As of Q4 2022. Represents the views and opinions of Apollo's Chief Economist. Subject to change at any time without notice.

# Top 50 US banks by assets



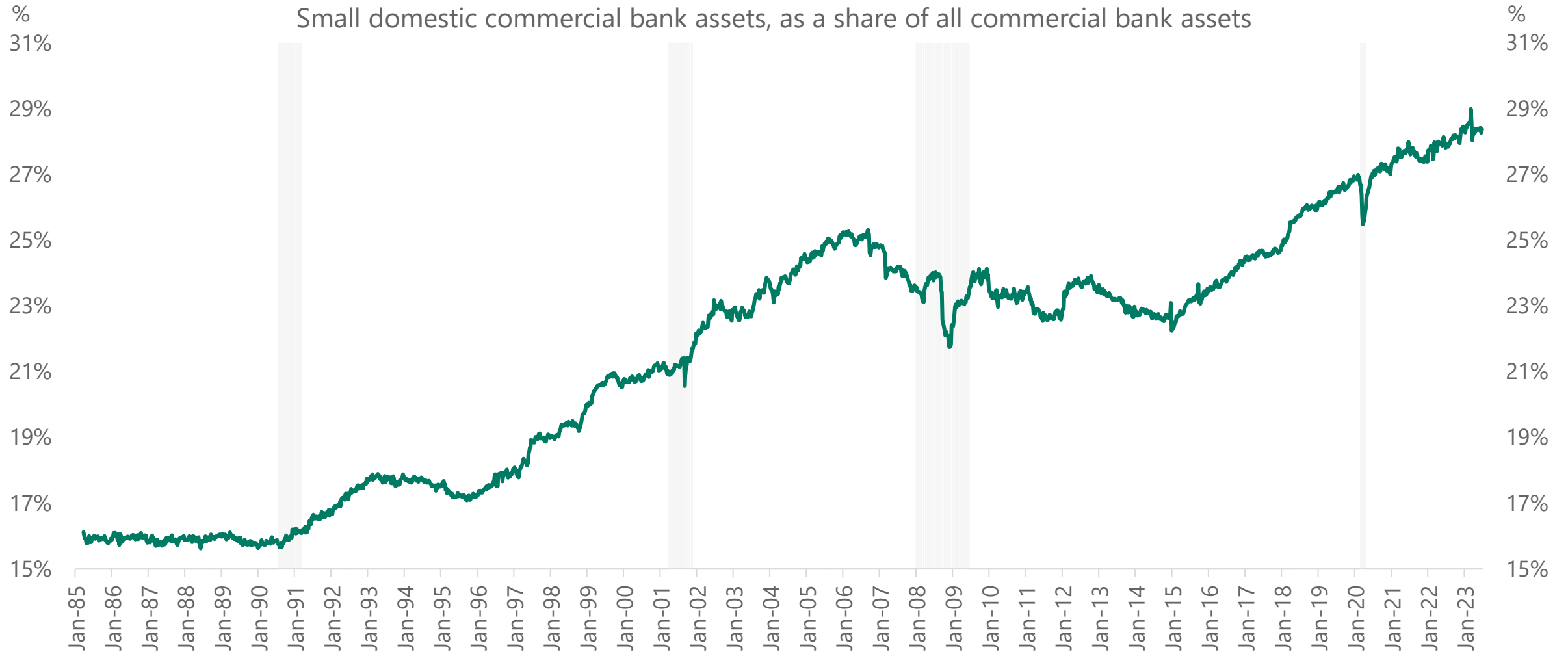
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist. As of Q4 2022.

# Balance sheet growth of US banks, ranked by fastest growth in percent



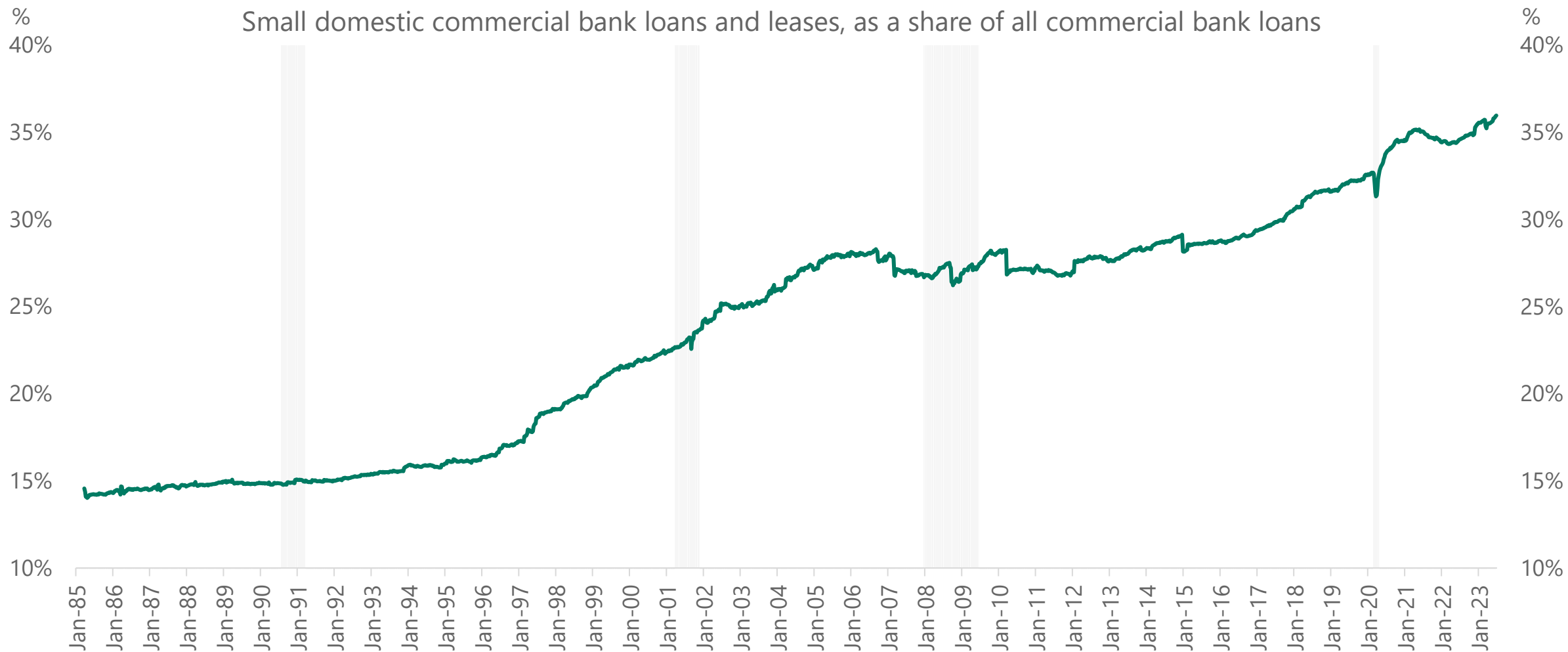
Source: FDIC, Apollo Chief Economist.

# Small bank assets as a share of total banking sector assets



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

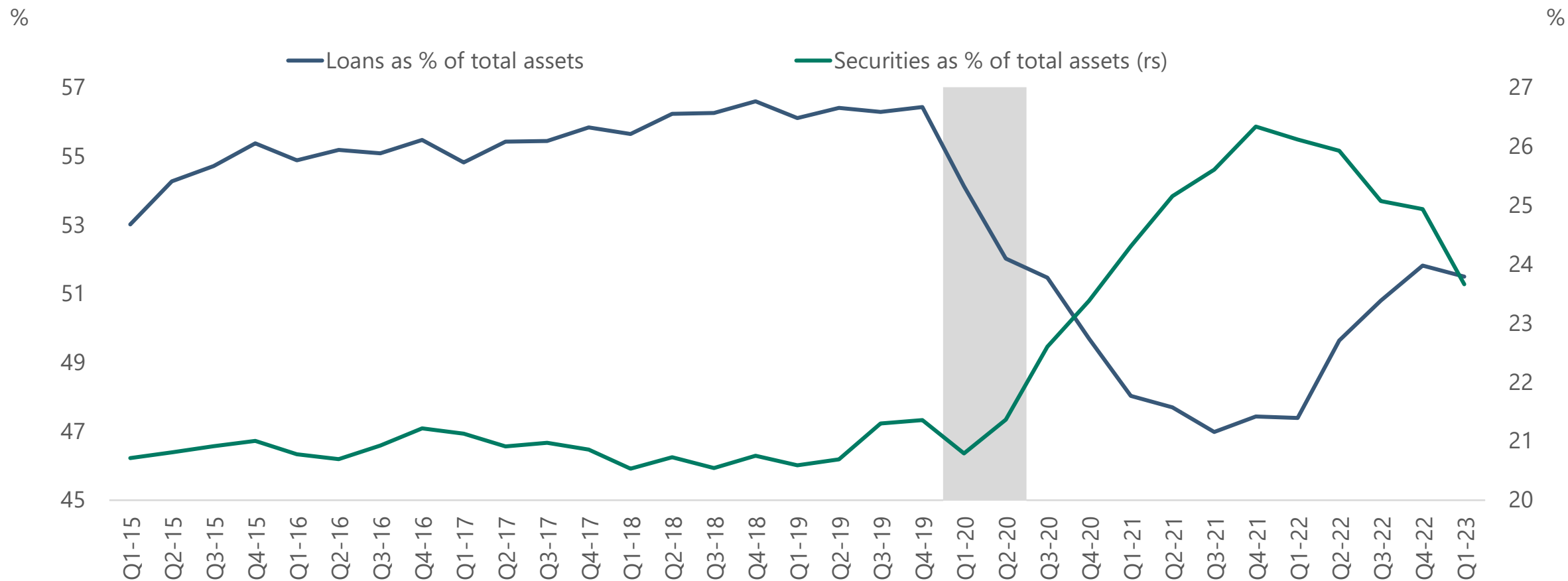
# Share of lending by smaller banks



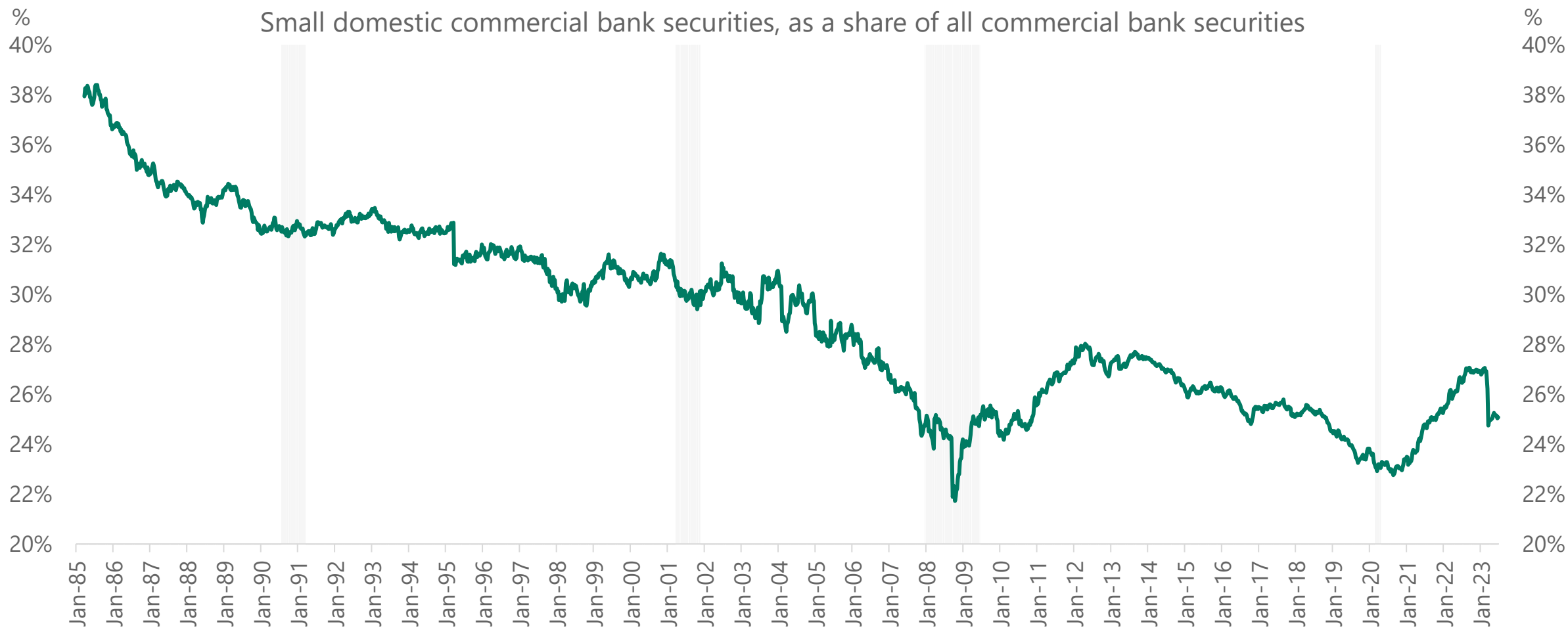
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.



# During the pandemic, banks shifted from lending to holding securities

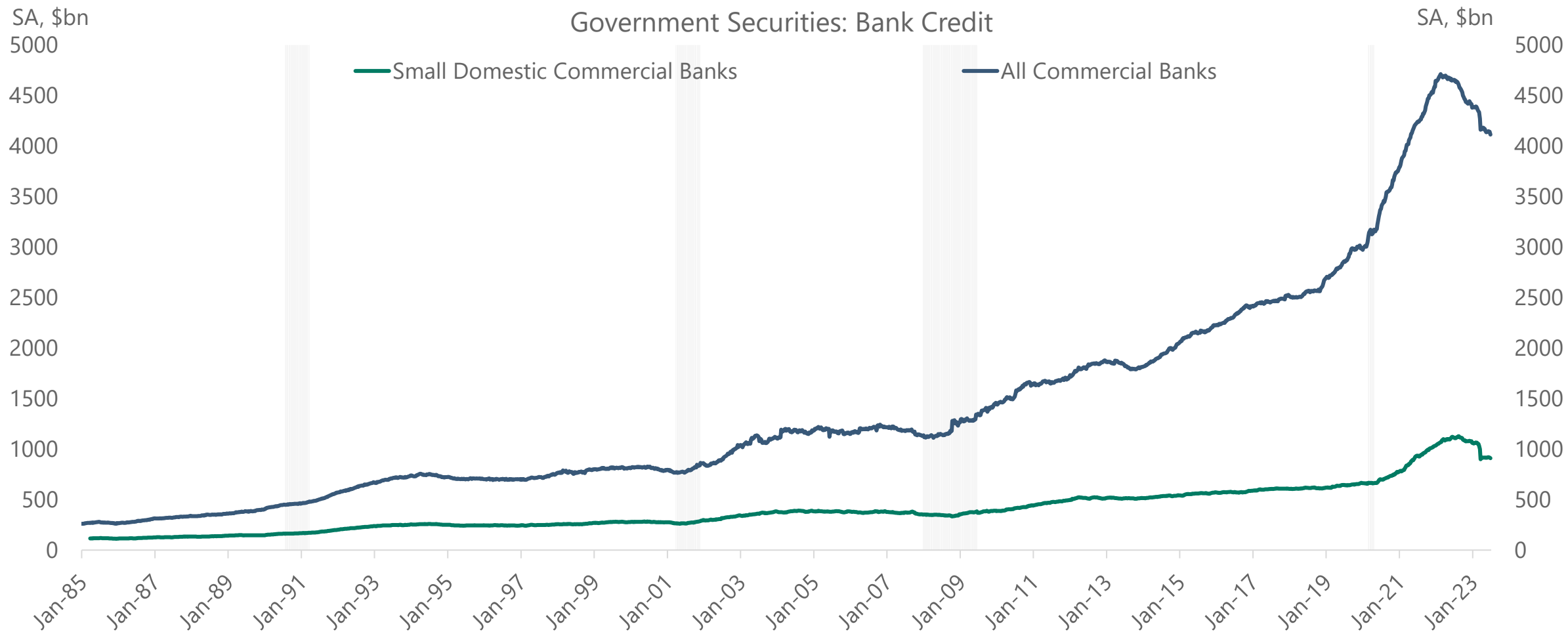


# Share of securities in the banking sector held by small banks



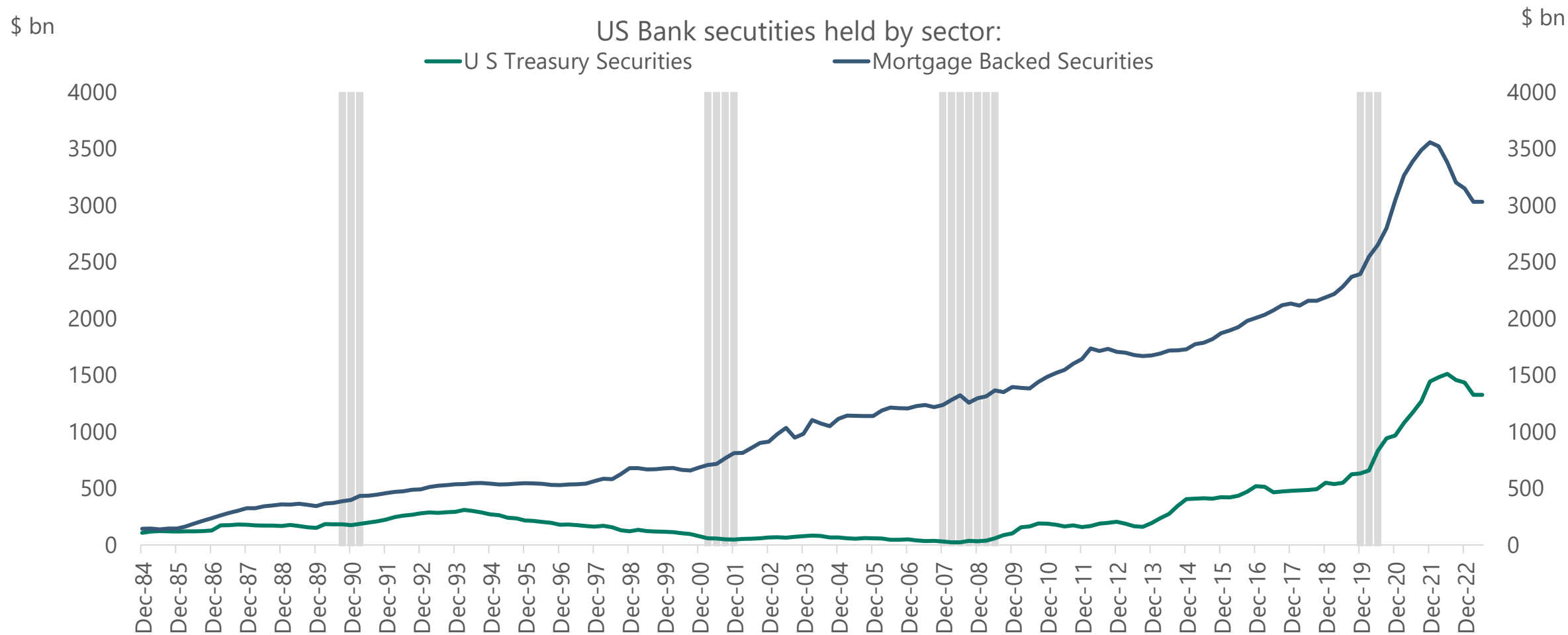
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Small banks hold about \$1trn in Treasuries



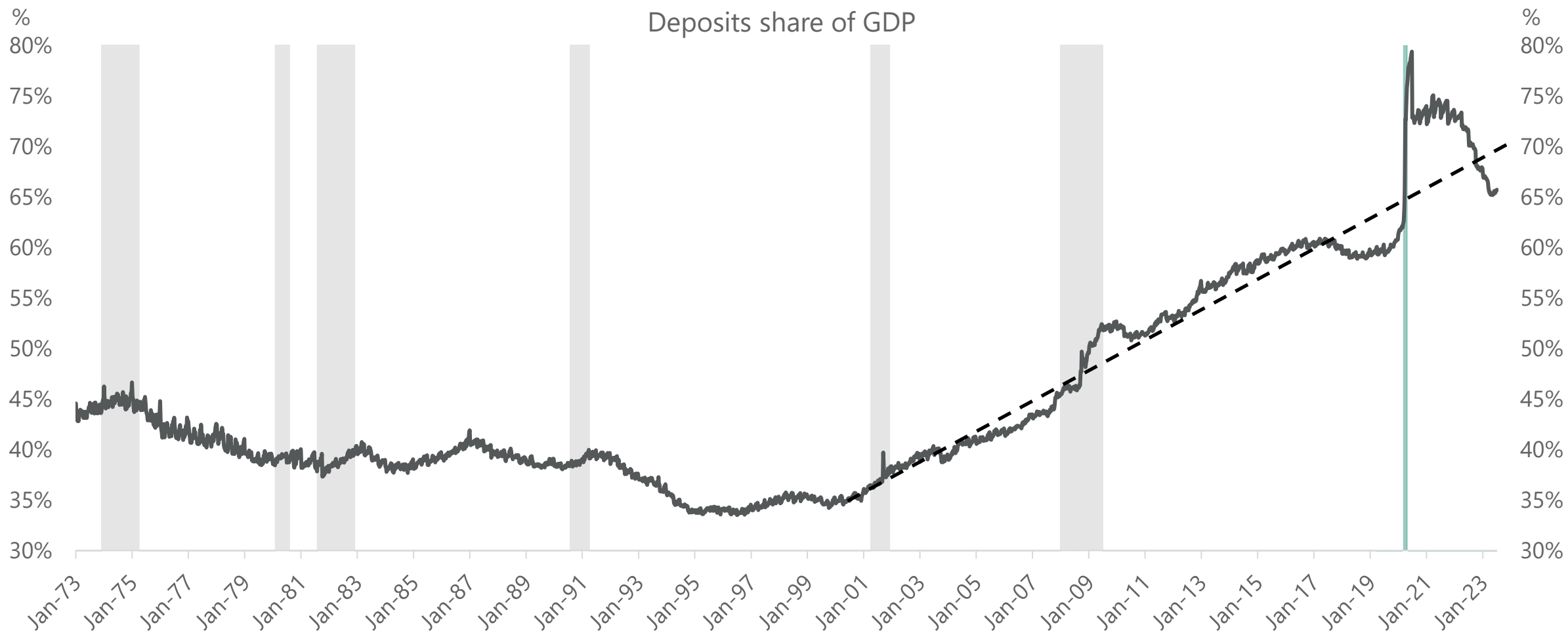
Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

# Securities held by FDIC-insured banks



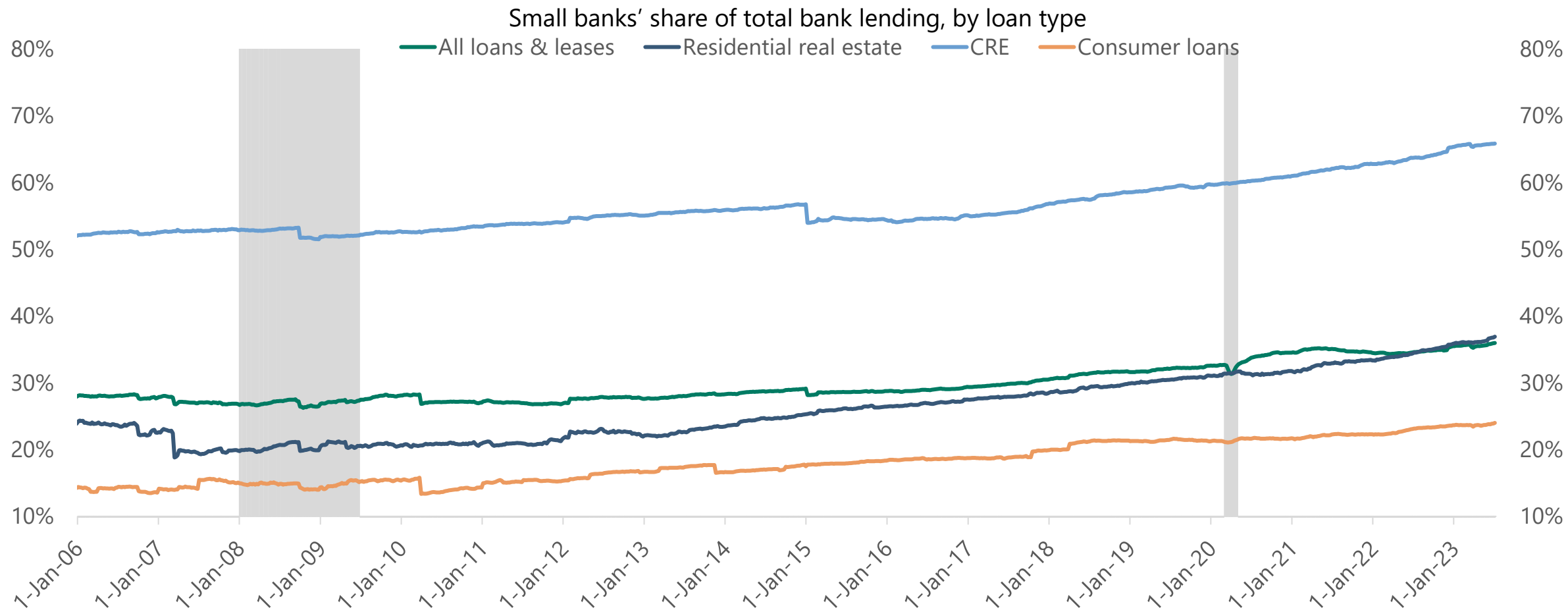
Source: FDIC, Bloomberg, Apollo Chief Economist.

# Deposits as a share of GDP now below trend



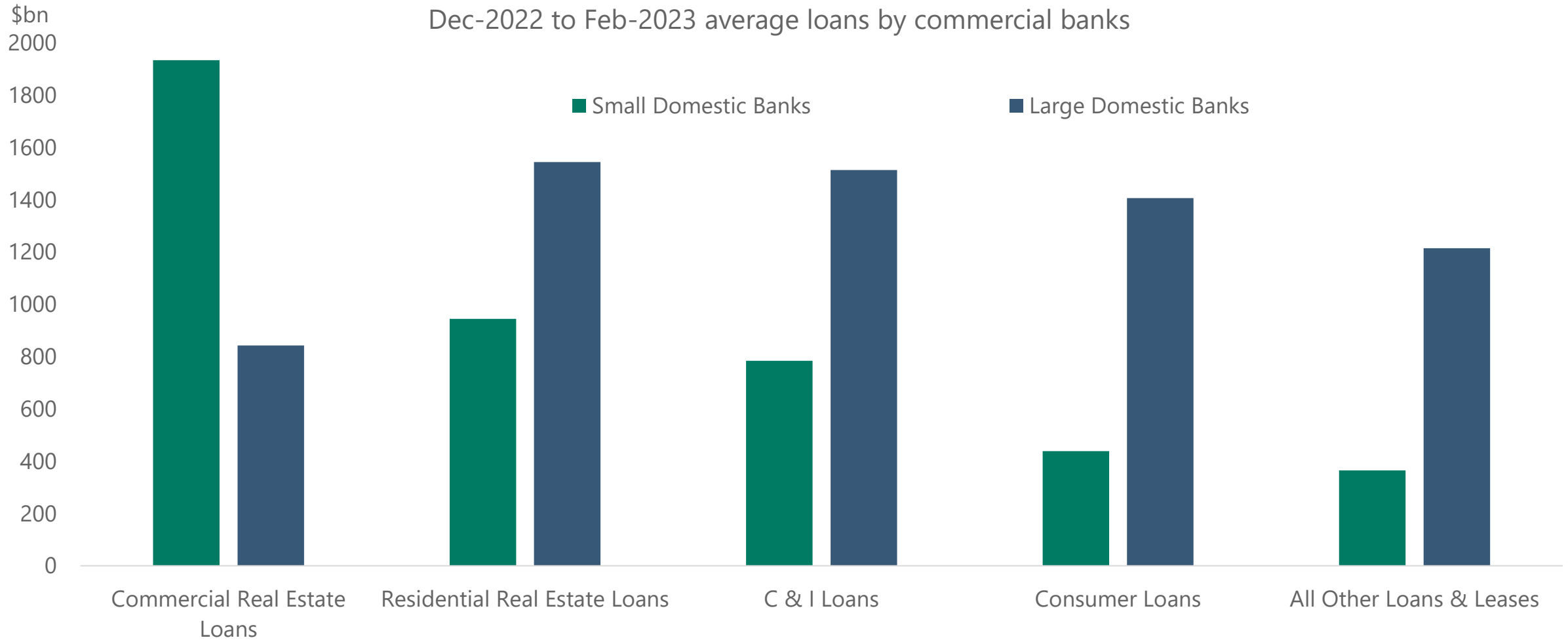
# Regional banks' asset concentration in CRE

# Small banks account for almost 70% of all commercial real estate loans outstanding



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

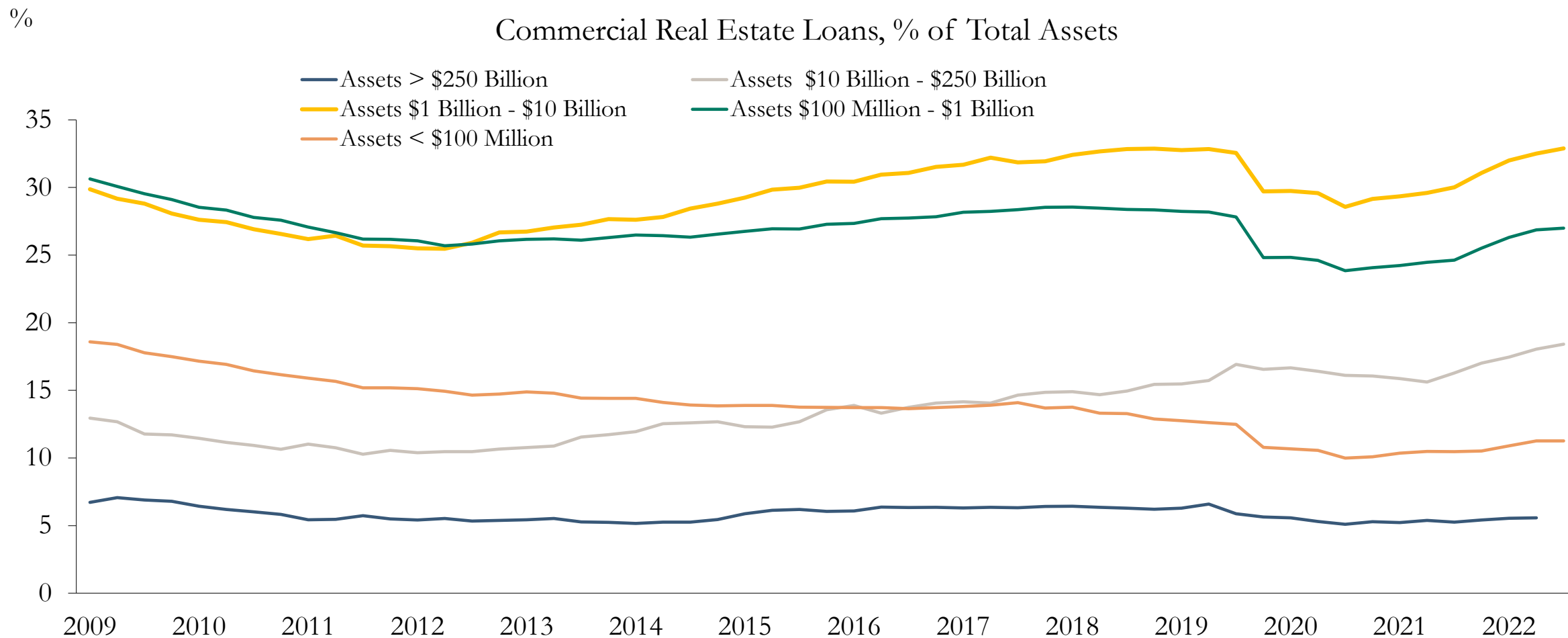
# High concentration of commercial real estate in small banks



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist. Note: Data covers average from December 2022 to February 2023.

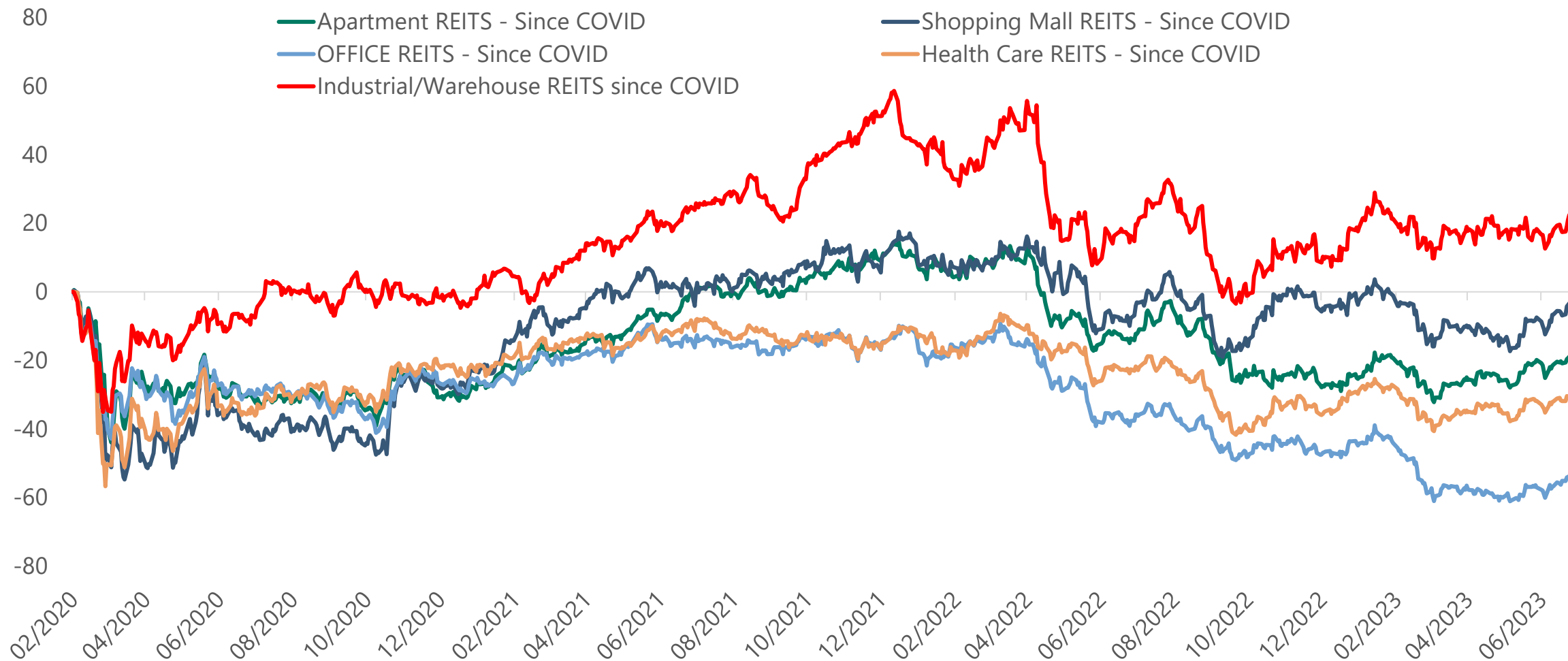


# Banks with total assets between \$100mn and \$10bn are more exposed to CRE loans

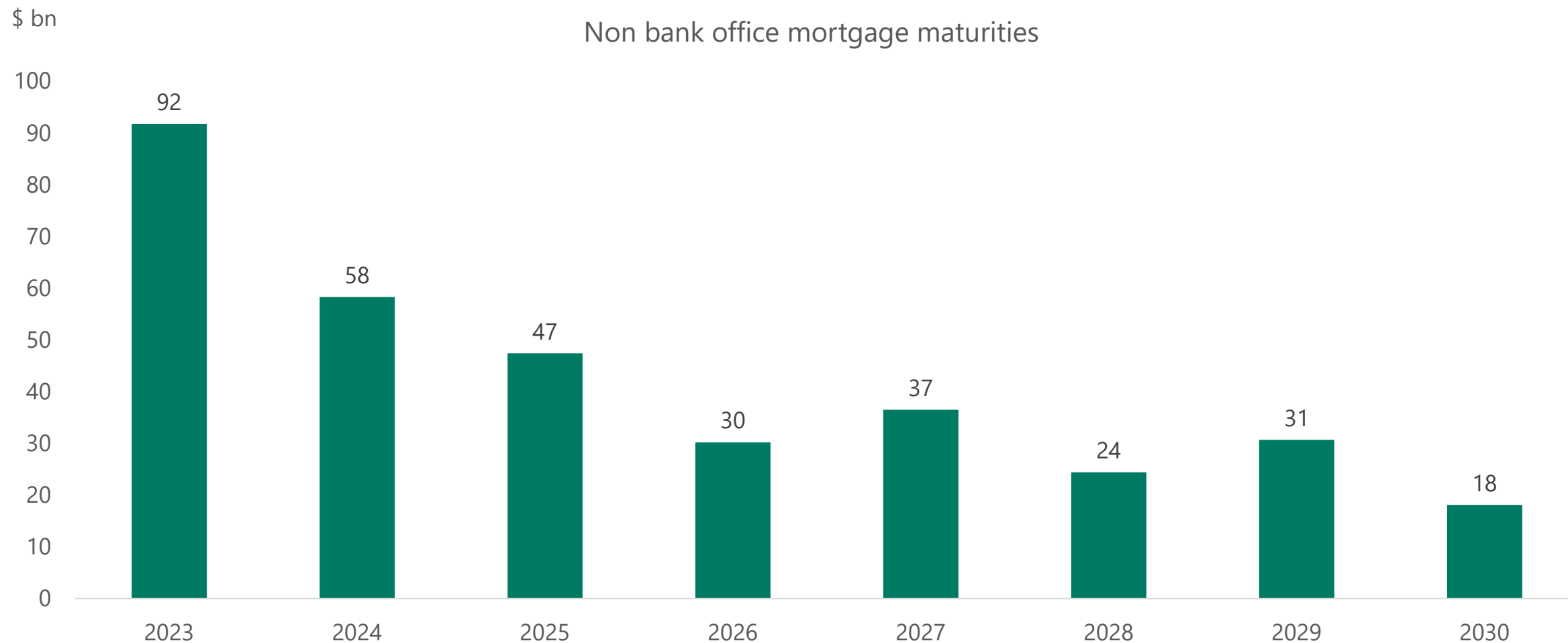


# Where are the problems in CRE?

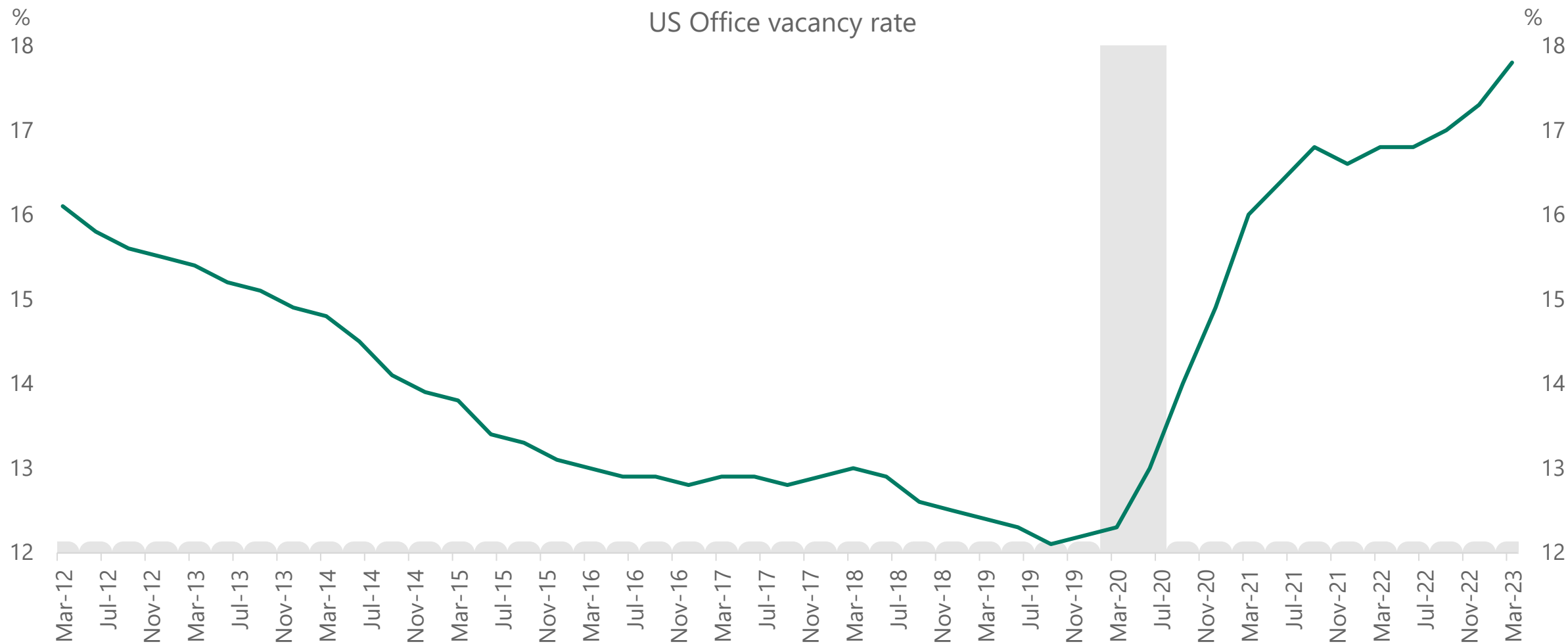
Normalized as of 20 Feb 2020



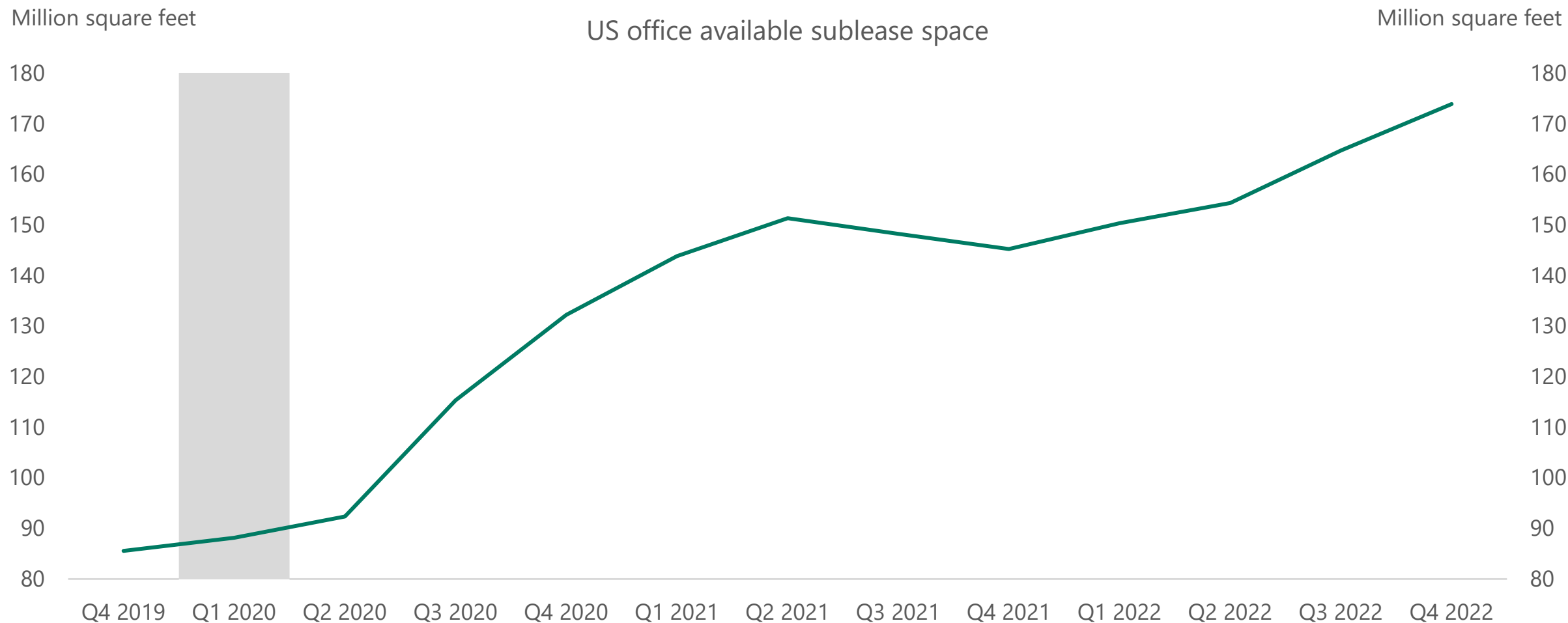
# Nearly \$92 bn of nonbank office debt is set to mature this year



# US Office vacancy rate rising

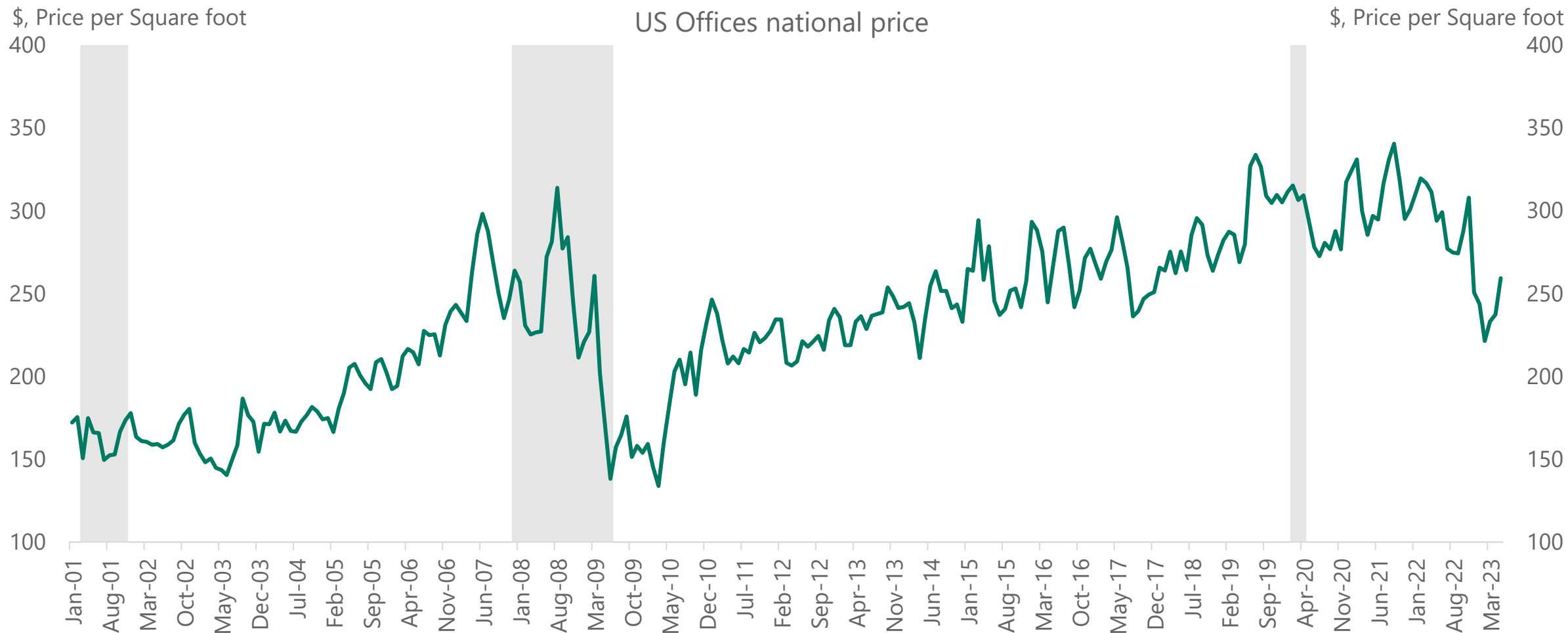


# Available US office space rising

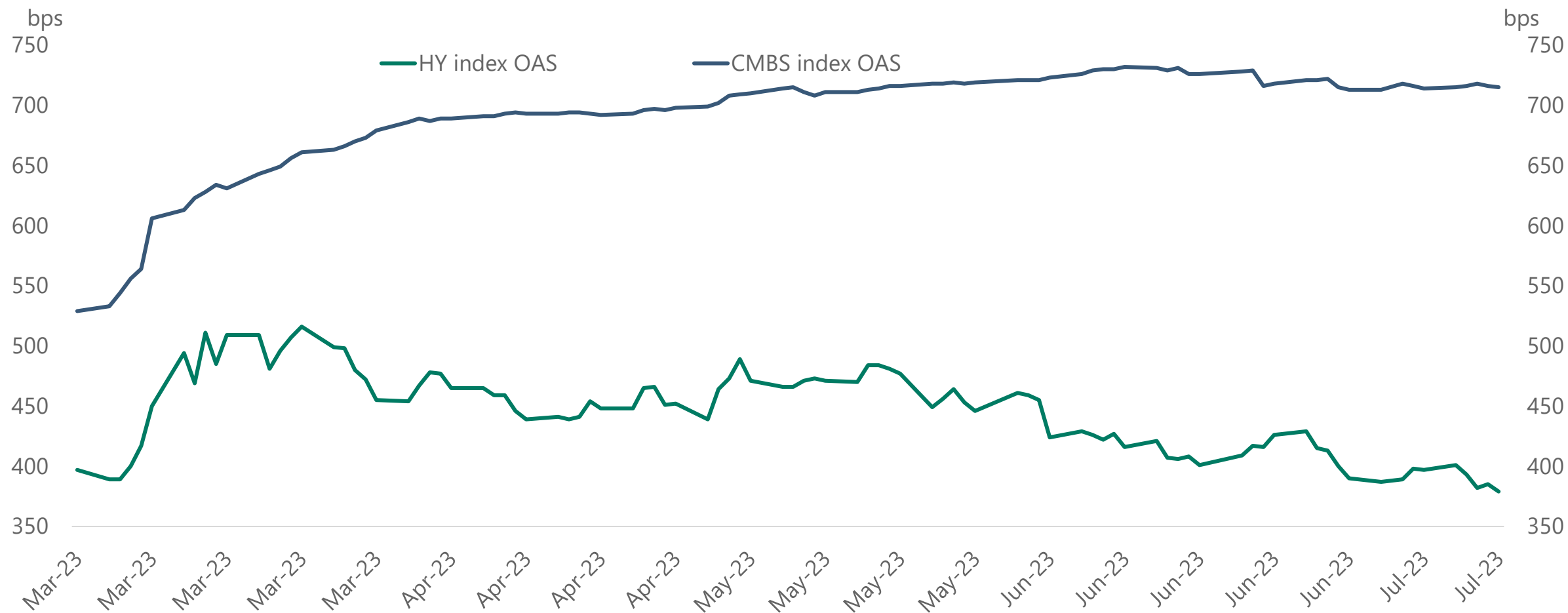


Source: Savills US Markets, Bloomberg, Apollo Chief Economist.

# Price per square foot for US offices falling

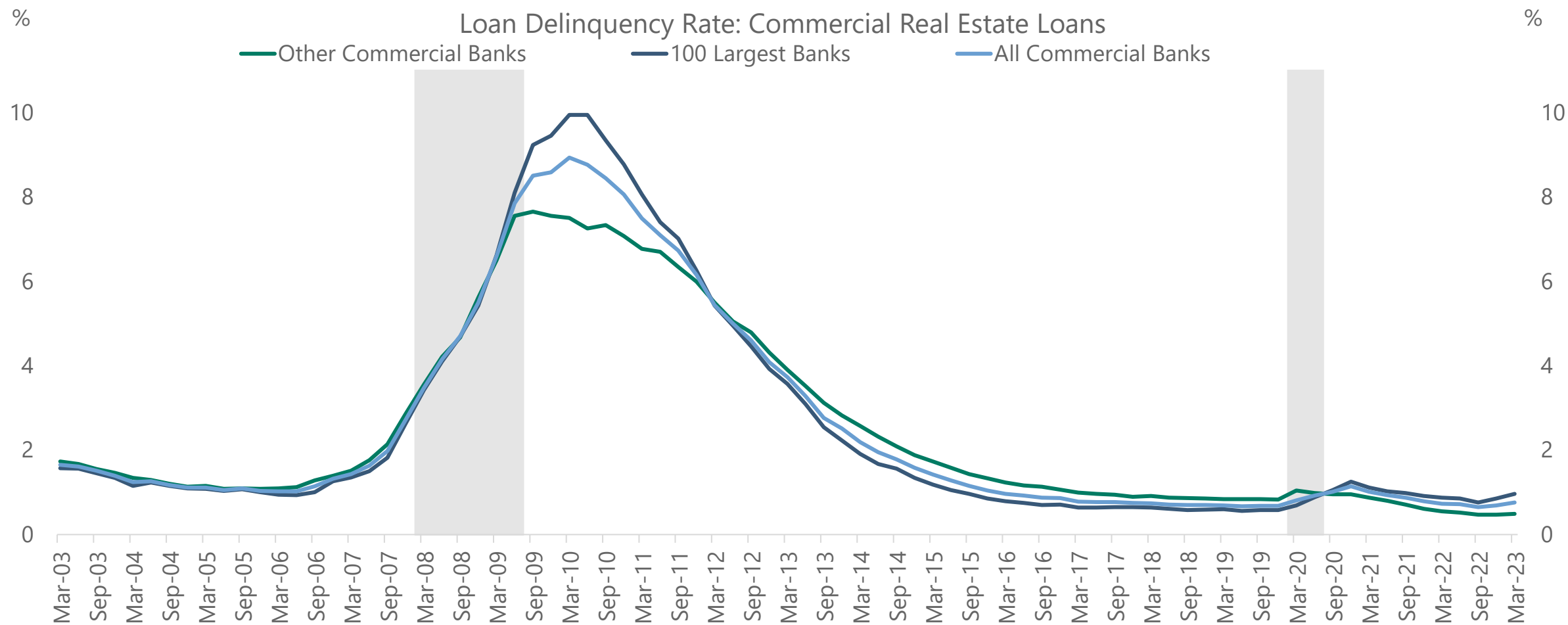


# CMBS spreads compared with HY spreads



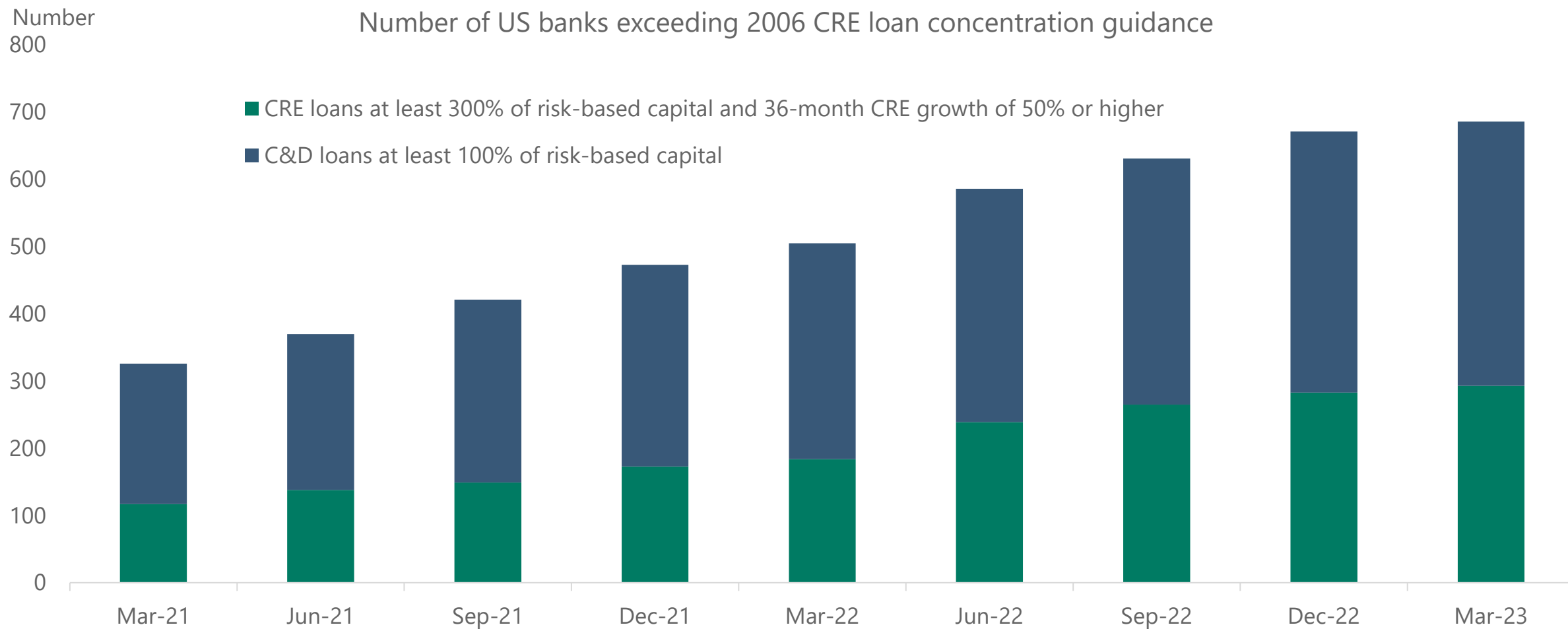
Source: Bloomberg, Apollo Chief Economist. (Note: BBG Ticker: LF98OAS Index, LC31OAS Index)

# CRE delinquency rate





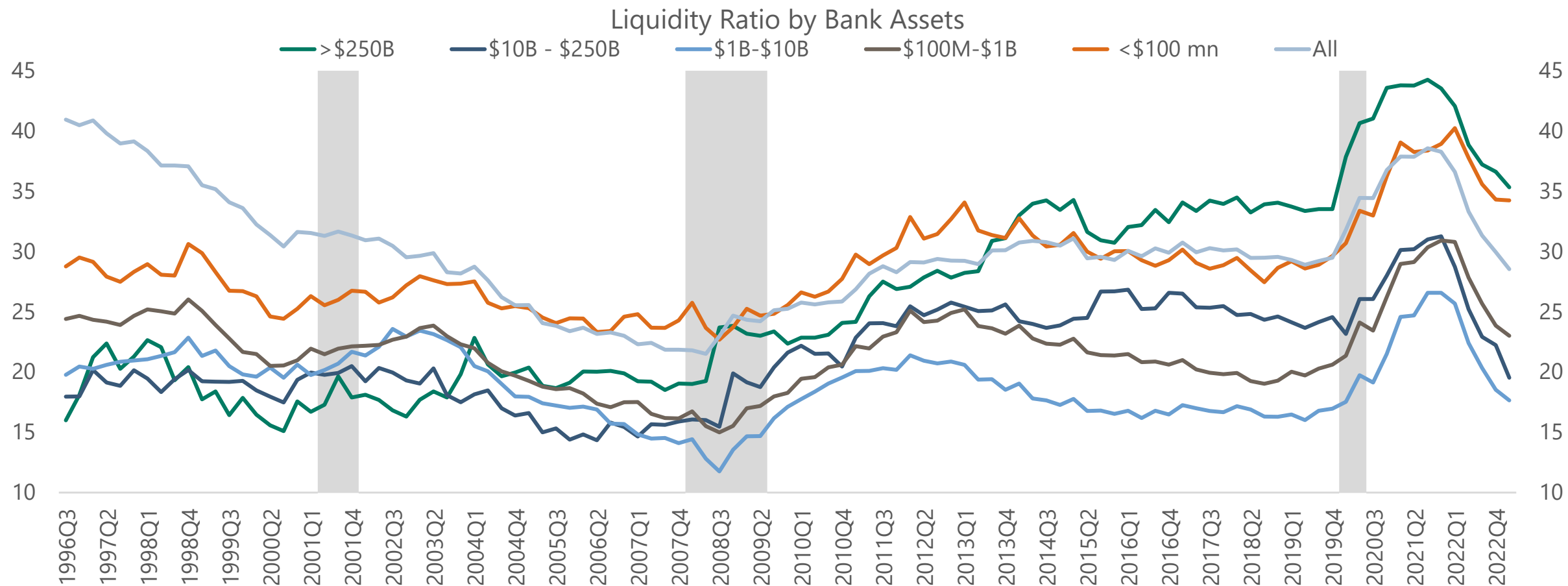
# Number of banks with CRE exposure rising



Source: S&P Global Market Intelligence, Apollo Chief Economist. Note: CRE= commercial real estate and C&D= construction and development, data as of May 2023 and based on regulatory filings

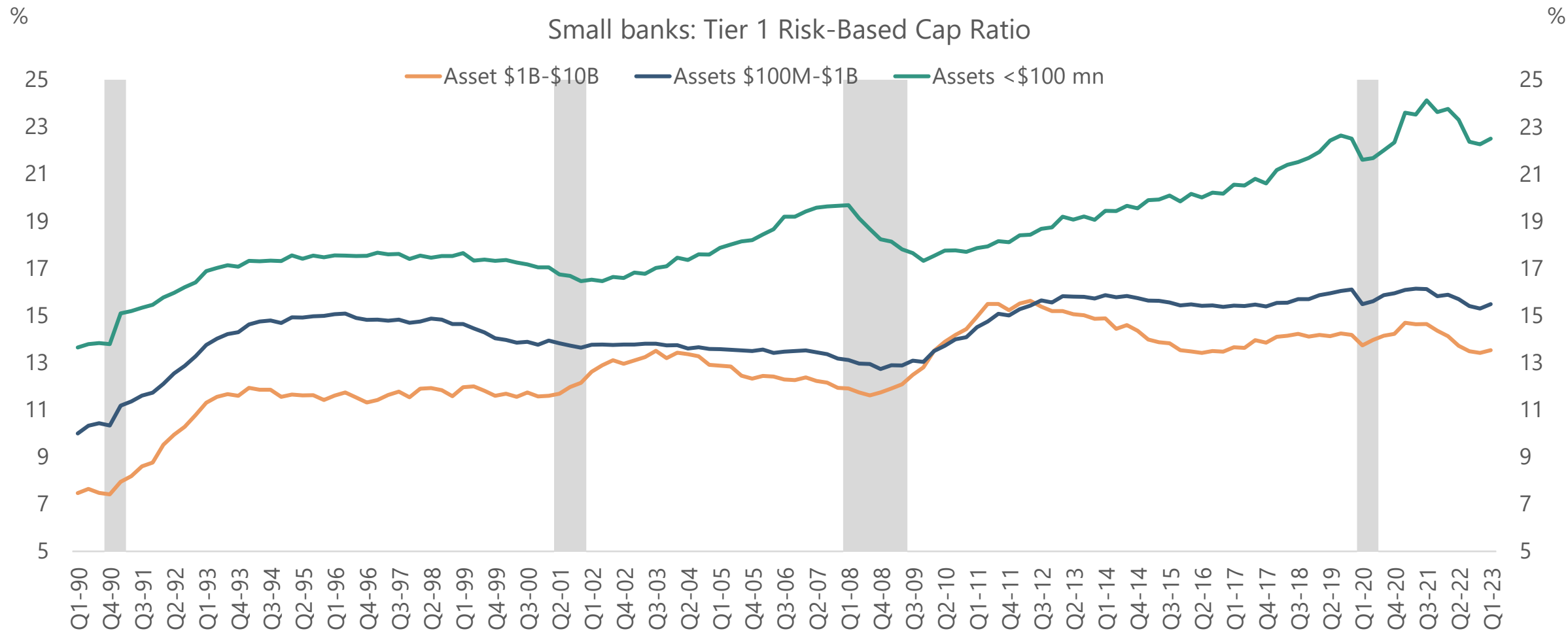
# Measures of banking sector liquidity and capital ratios

# Liquidity ratio, by bank assets: Banks from \$1bn to \$10bn have the least liquidity



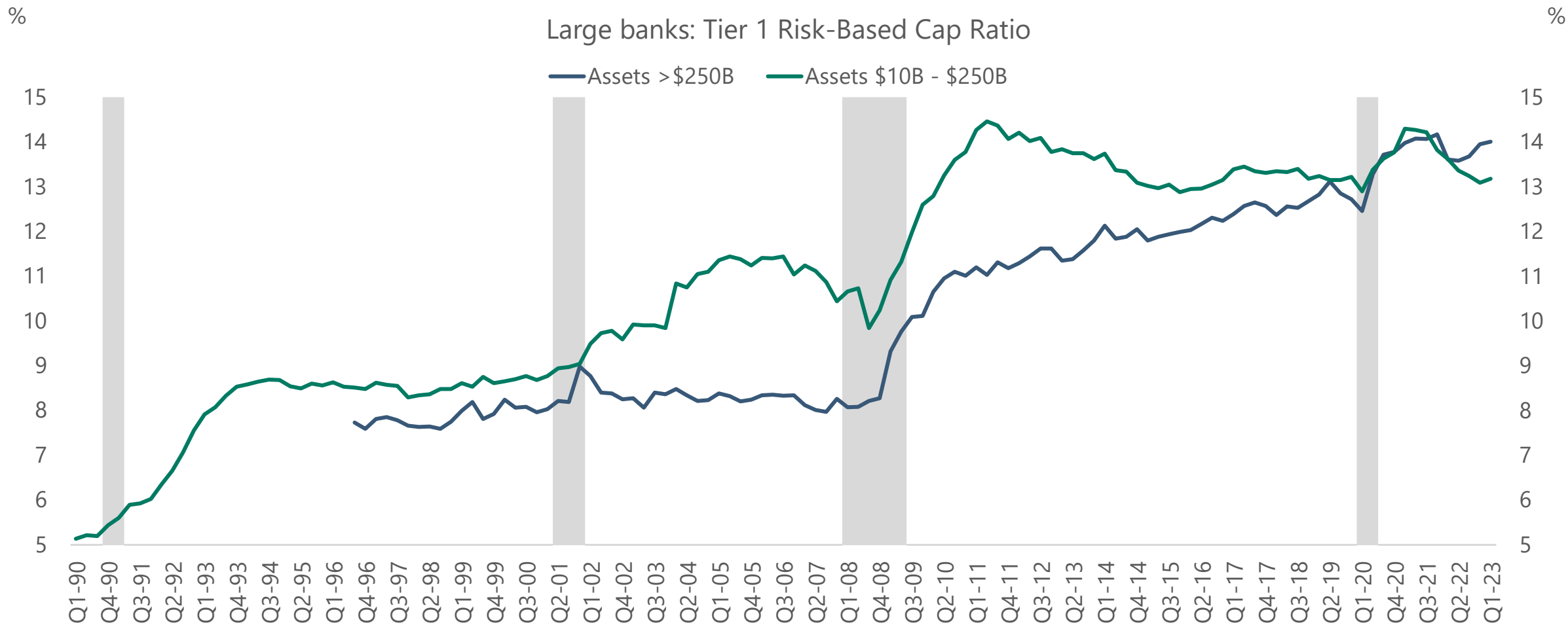
Source: FDIC, Bloomberg, Apollo Chief Economist.

# Tier-1 risk-based capital ratio for banks, by size



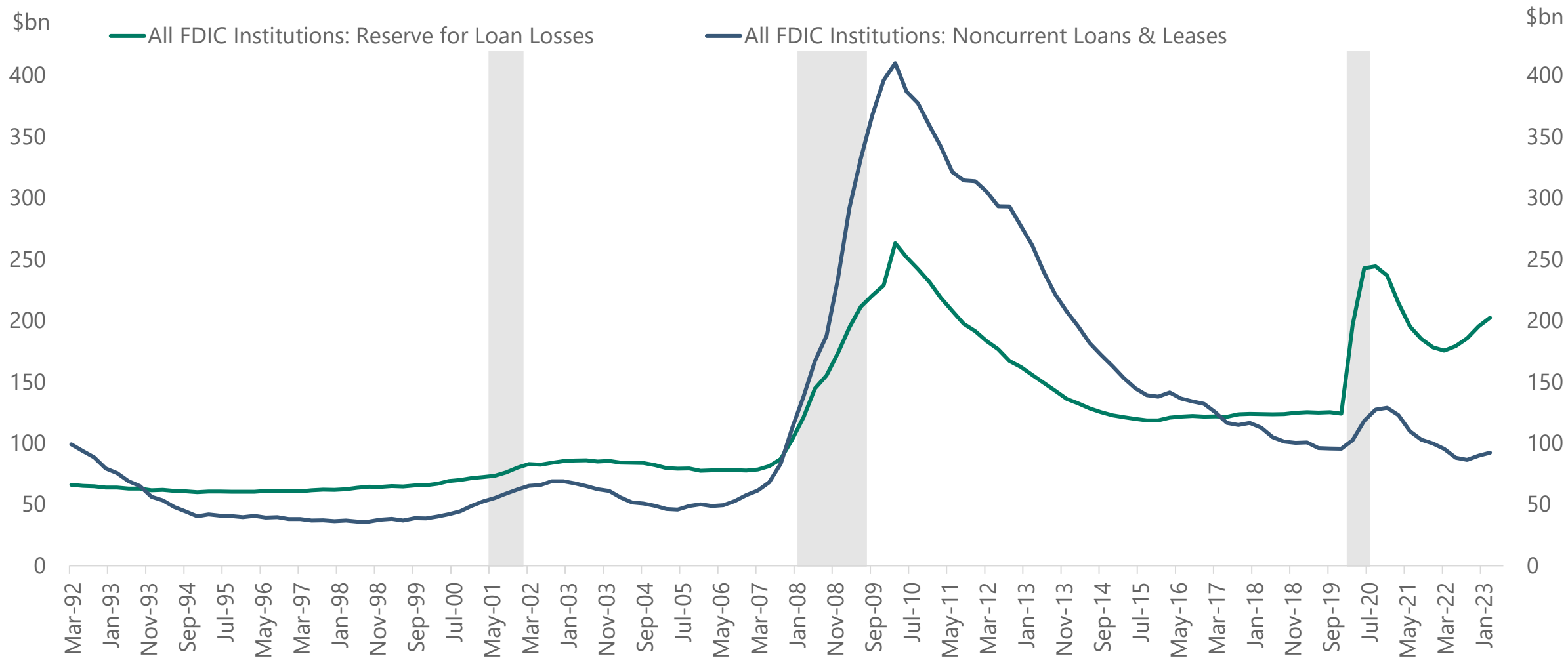
Source: FDIC, Apollo Chief Economist. Note: As per FDIC, large banks are defined as institutions with total assets of \$10 billion or more and small banks have total assets under \$10 billion.

# Tier 1 risk-based capital ratio for larger banks



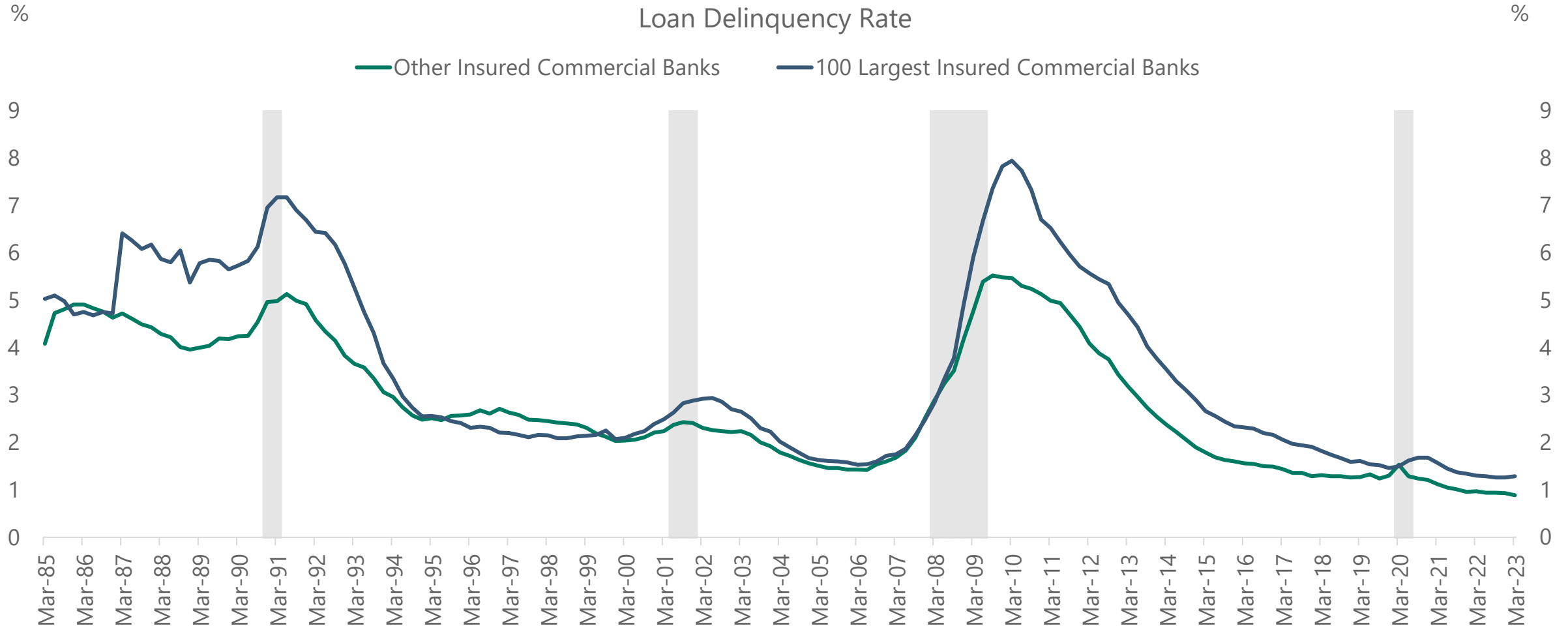
Source: FDIC, Apollo Chief Economist. Note: As per FDIC, large banks are defined as institutions with total assets of \$10 billion or more and small banks have total assets under \$10 billion..

# Reserves for loan losses



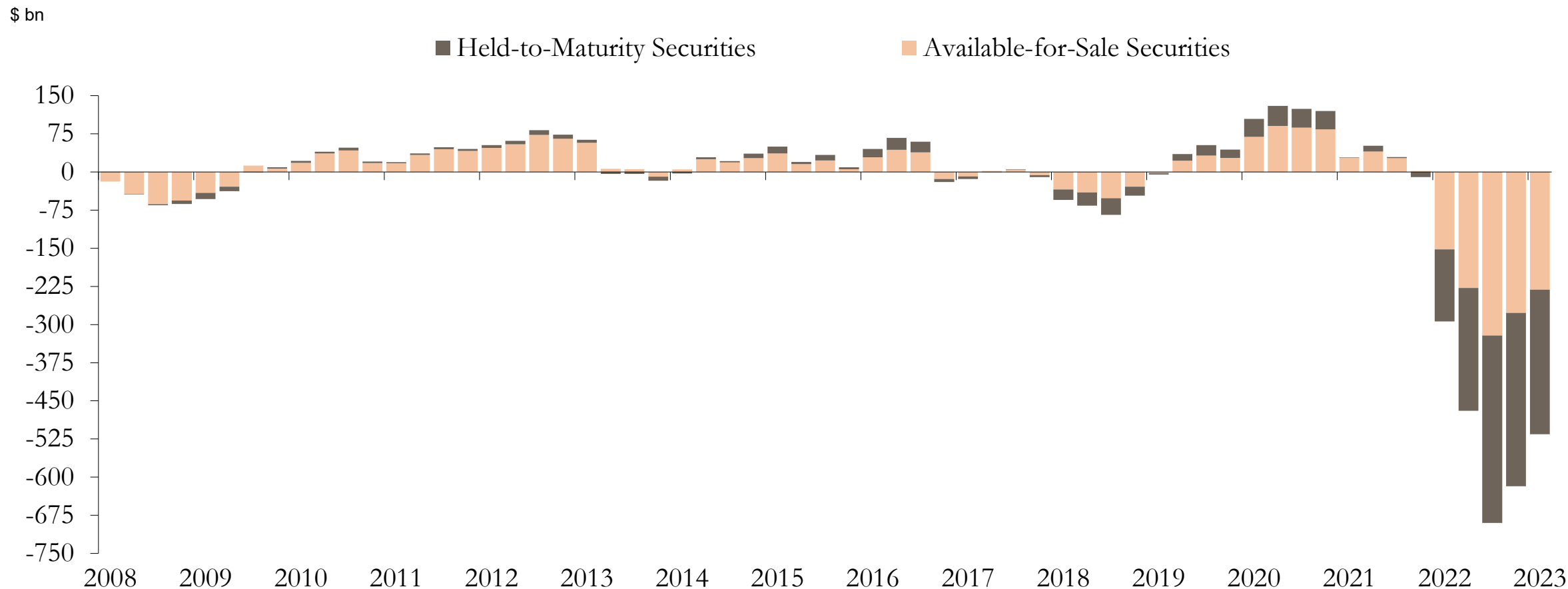
Source: FDIC, Haver Analytics, Apollo Chief Economist.

# Loan delinquency rates for large and small banks



Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

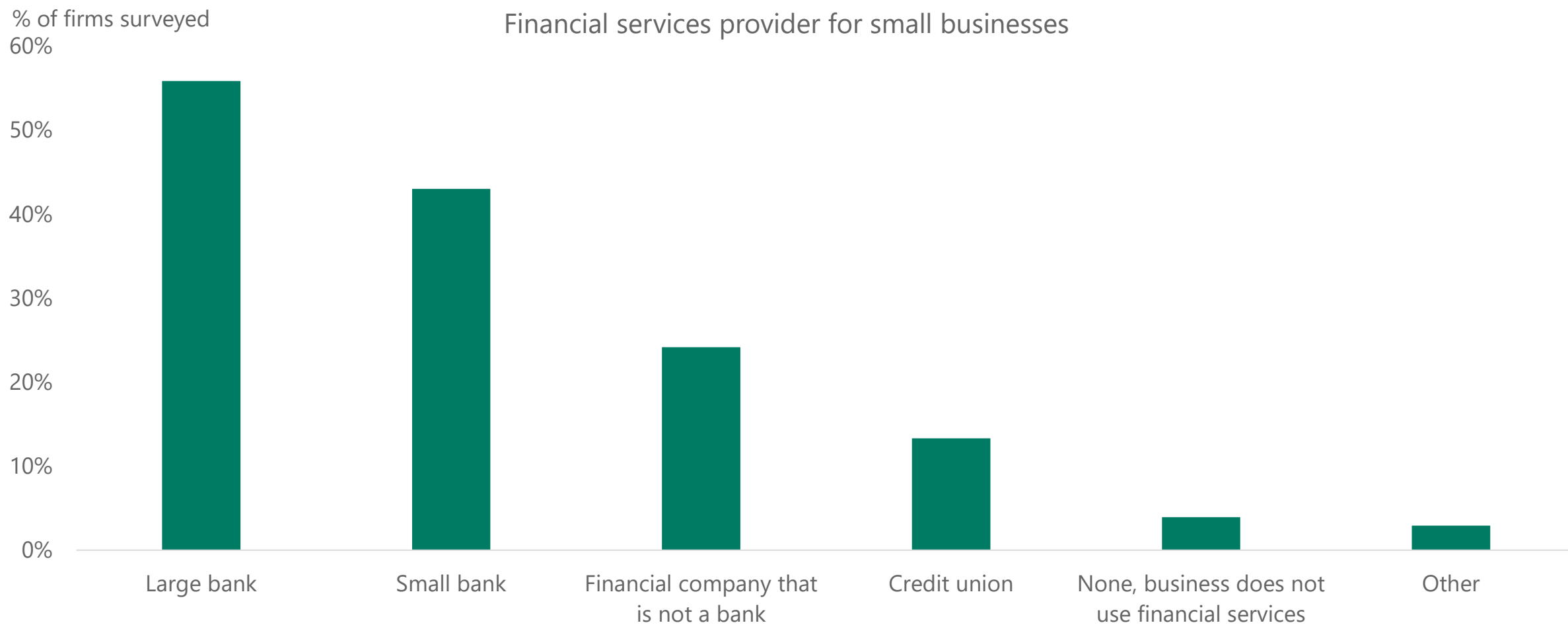
# Unrealized Gains (Losses) on investment securities for banks, as of 2023Q1



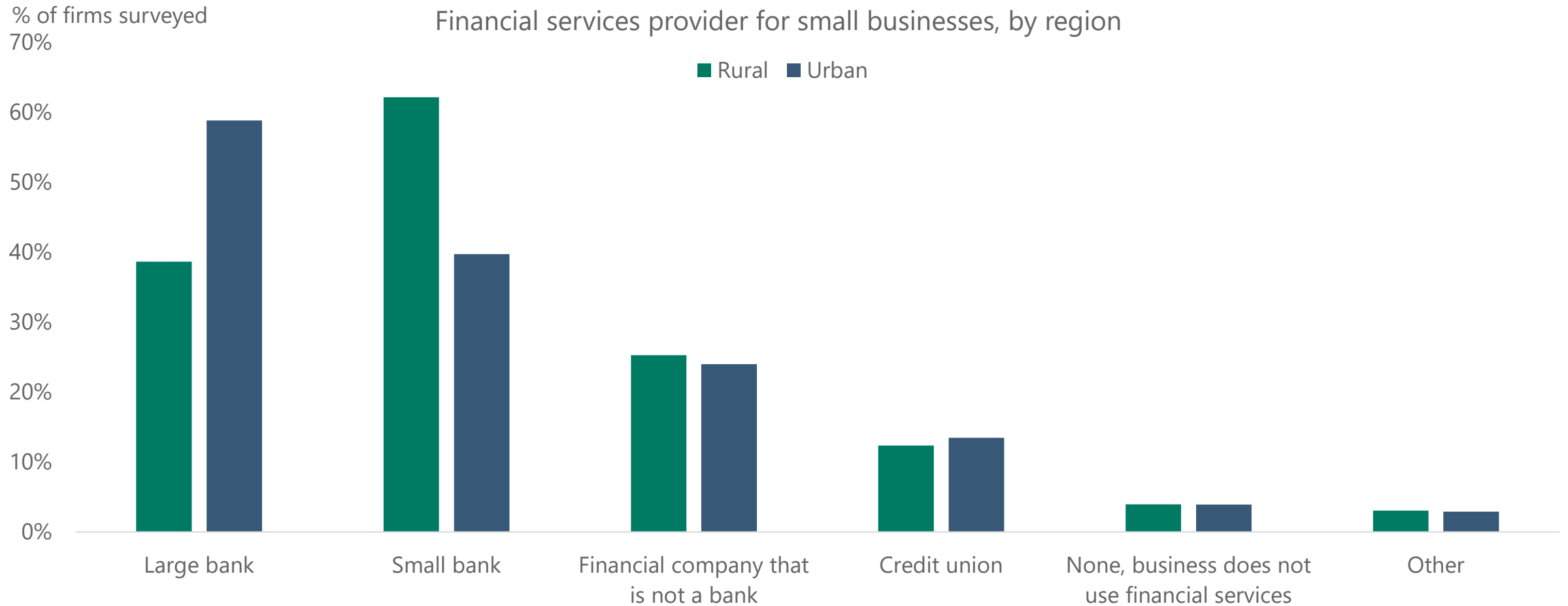


# Sources of financing for small businesses

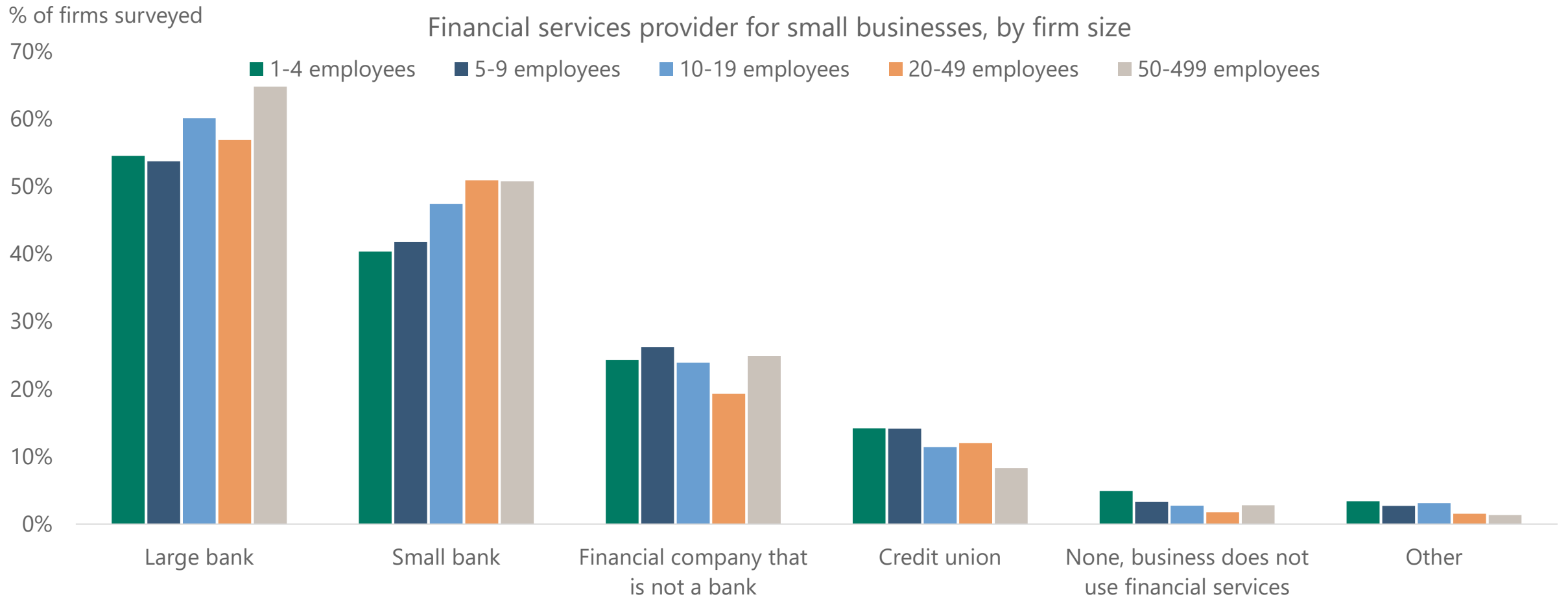
# Sources of financing for small businesses



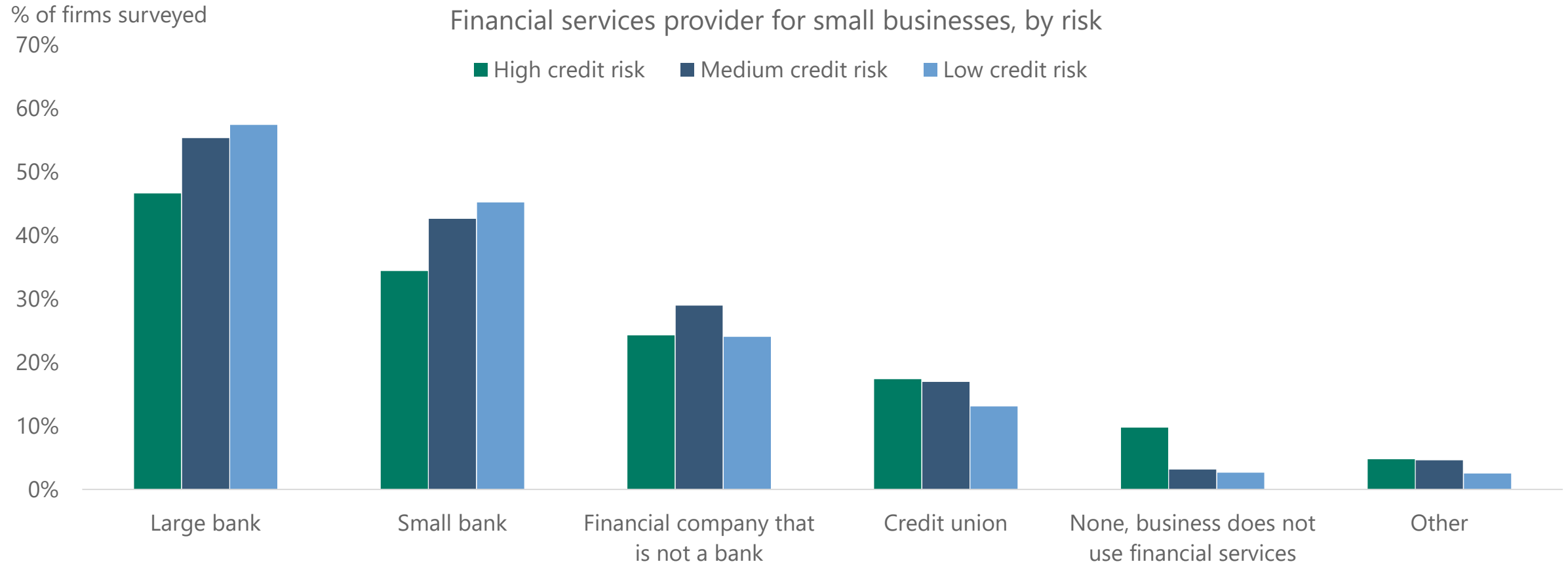
# Small banks provide 60% of lending for small businesses in rural areas and 40% in urban areas



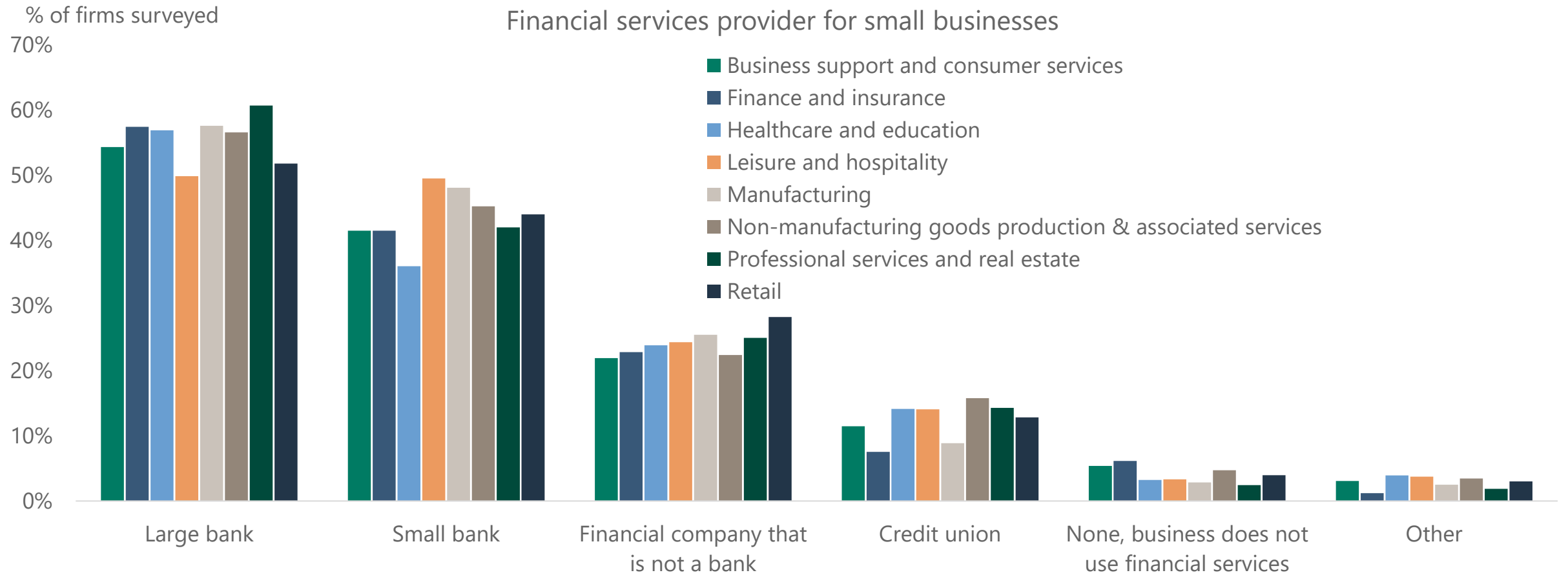
# Sources of financing for small businesses, by firm size



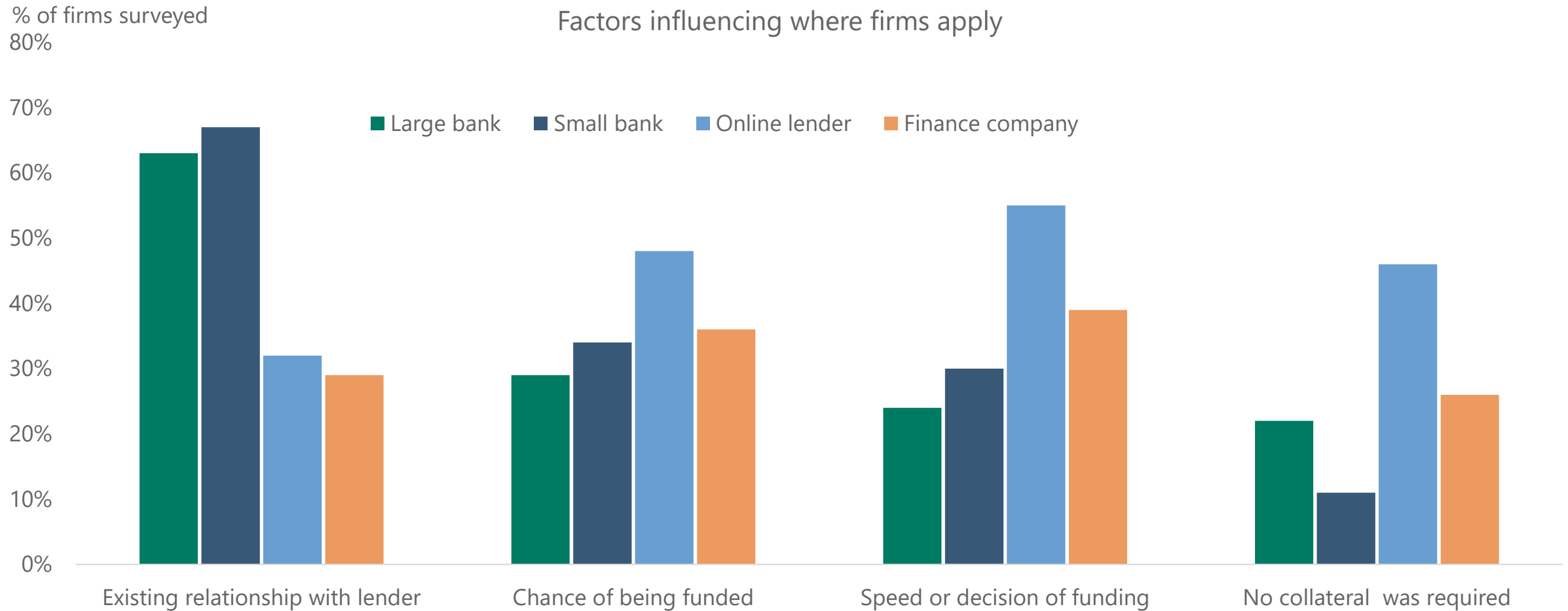
# Sources of financing for small businesses, by risk of the firm



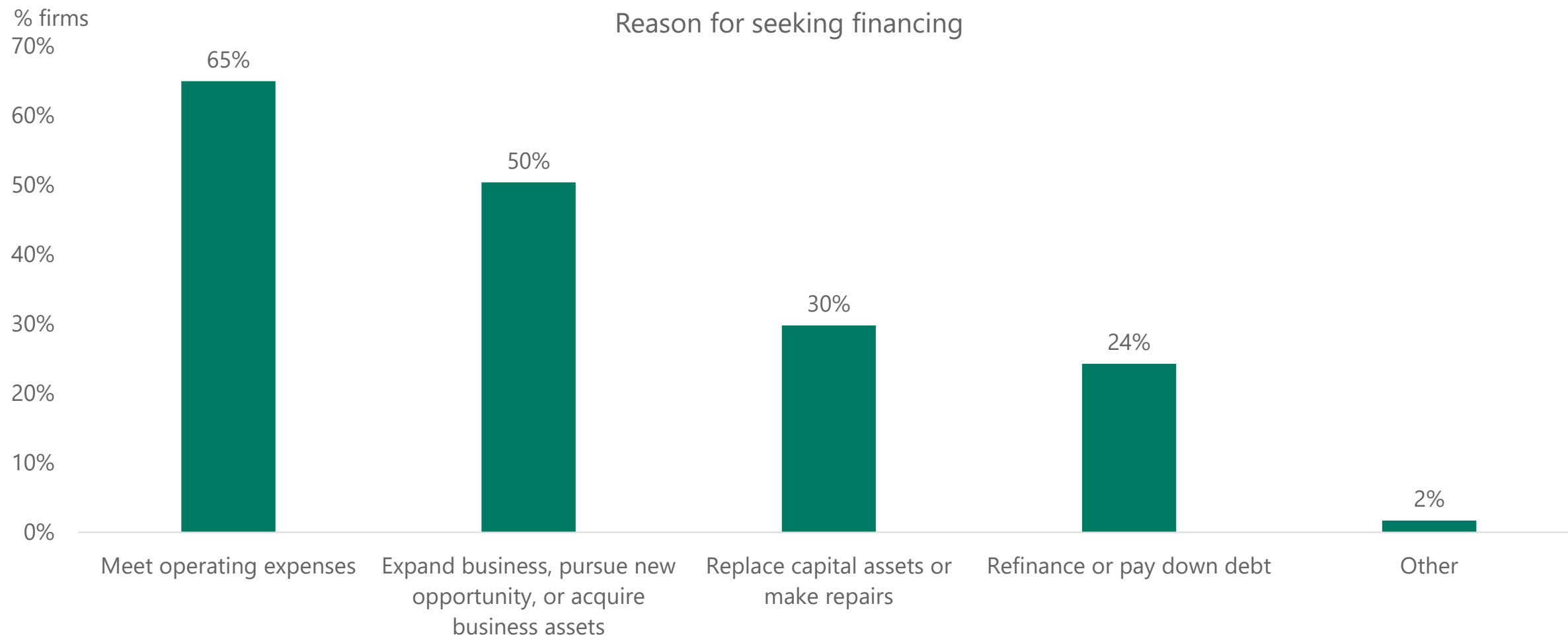
# Sources of financing for small businesses, by firm industry



# Factors influencing where small businesses apply for a loan. Relationship is important for small bank lending

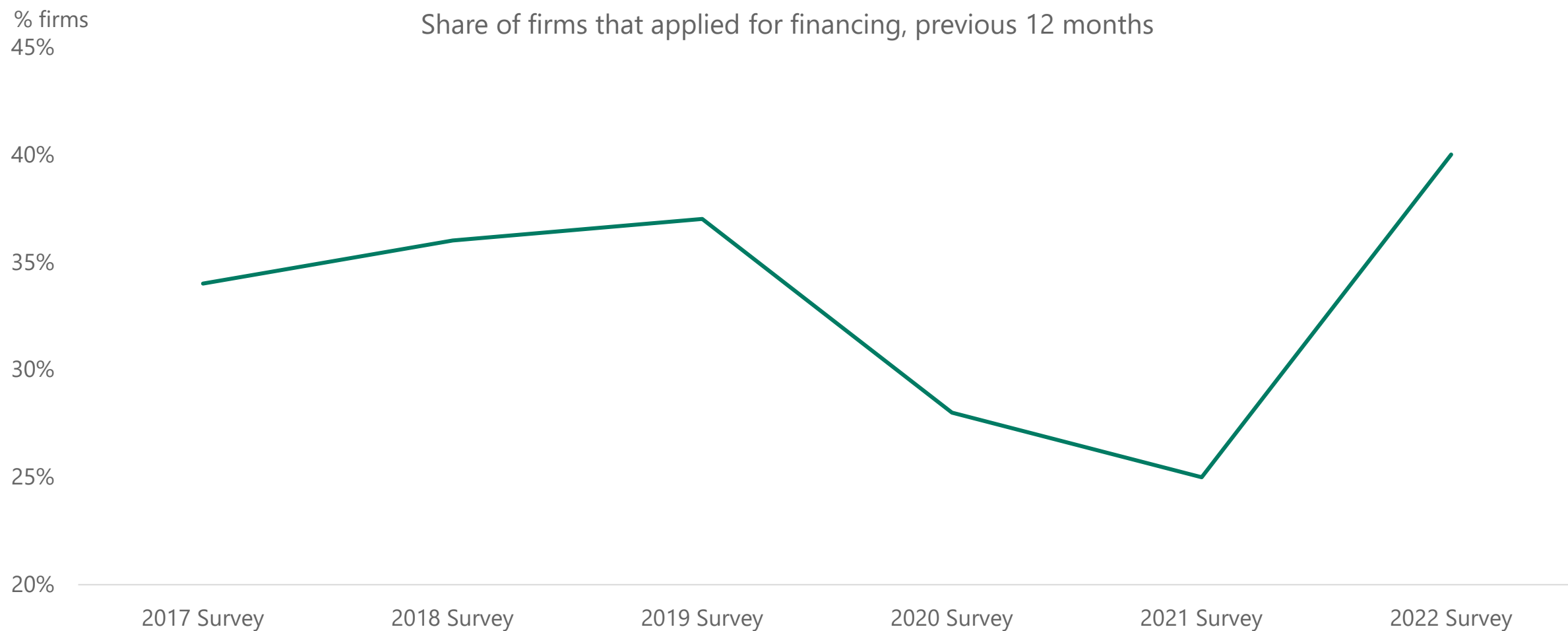


# Purpose of seeking financing for small businesses

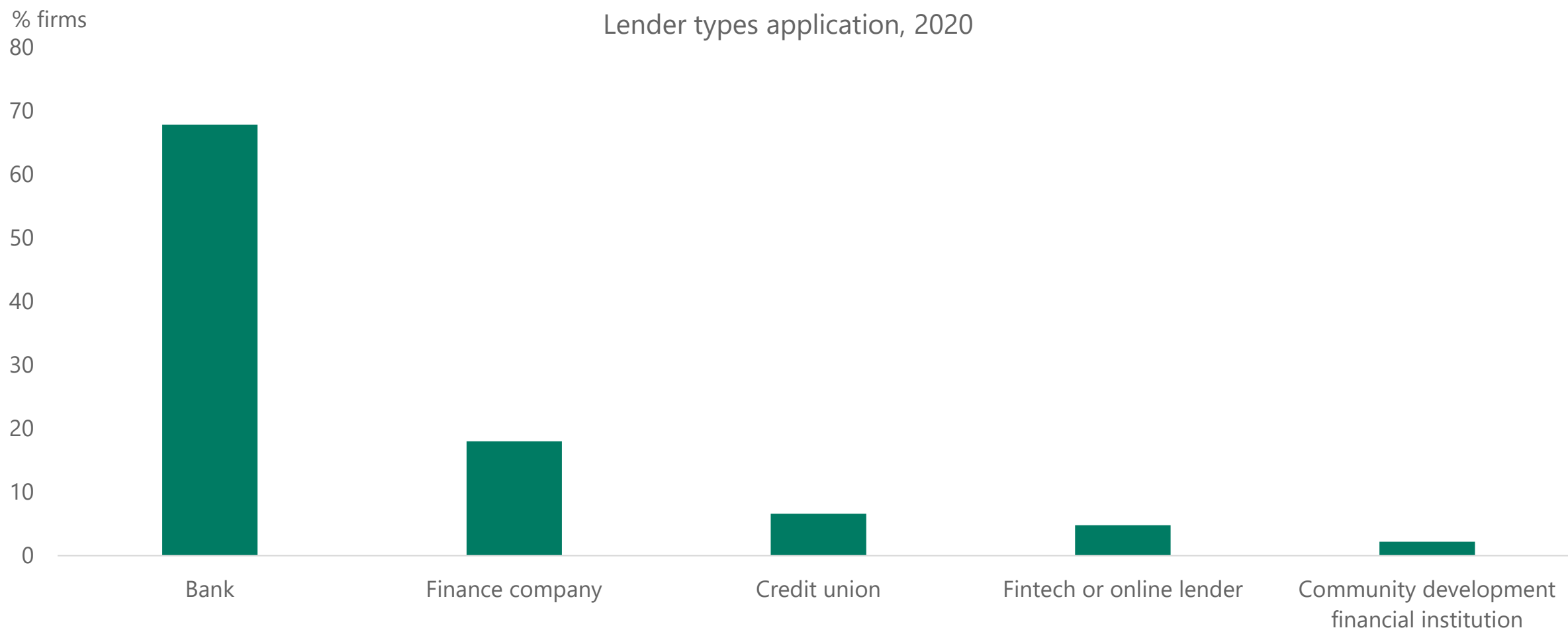




# 40% of small firms have applied for financing in the past 12 months

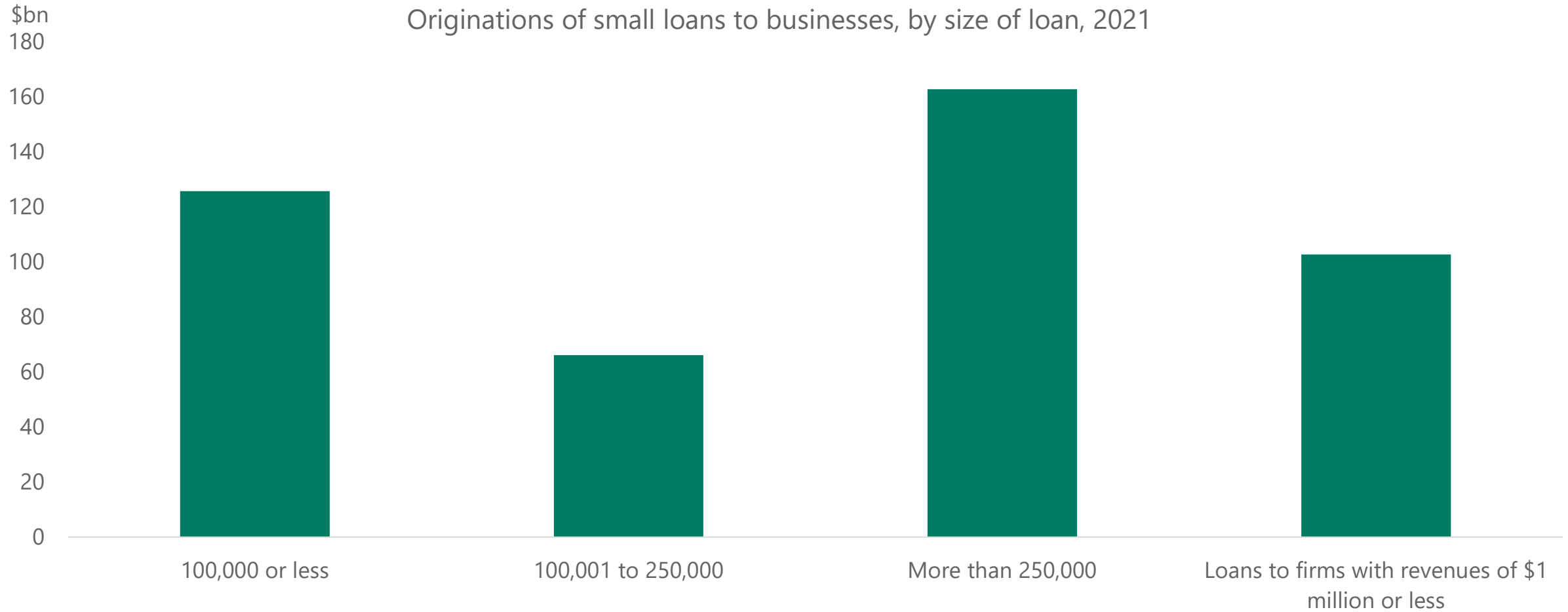


# Banks are the most important source of financing for small businesses



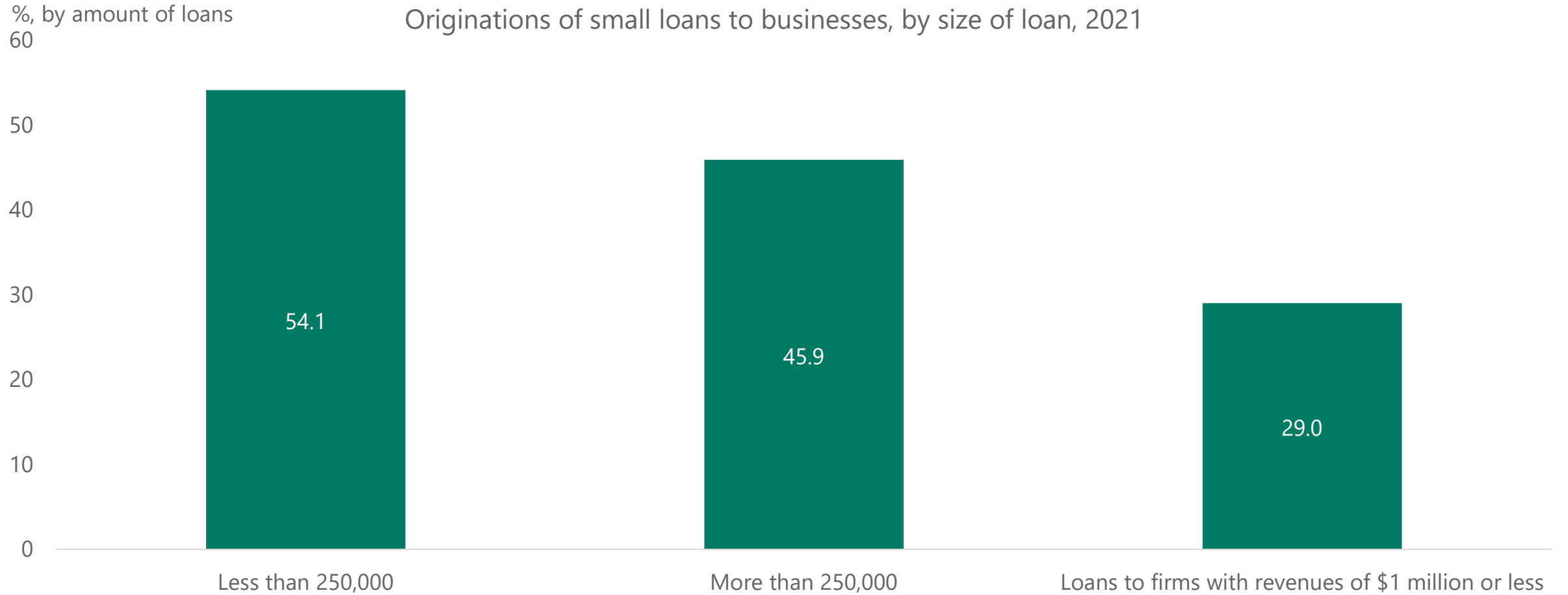
# Small business loans

# Size of small loans to businesses

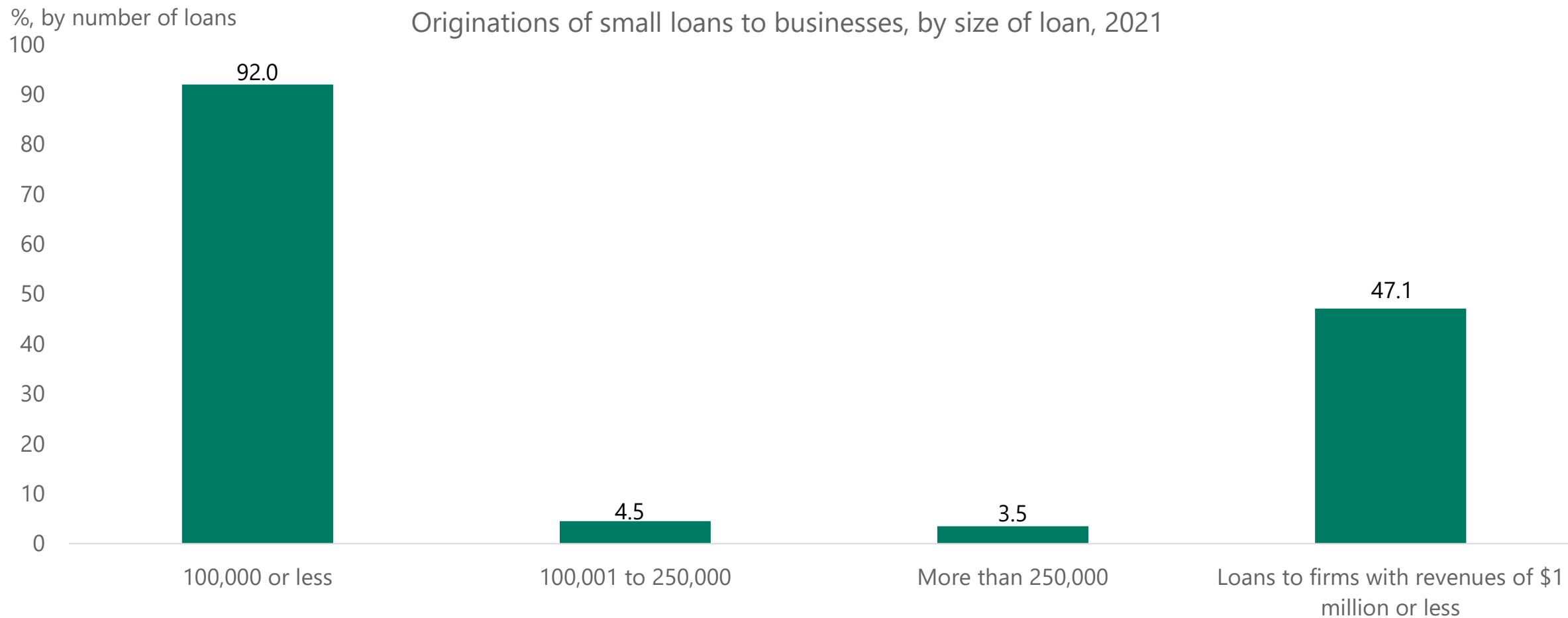


Source: CRA, Apollo Chief Economist. <https://www.ffiec.gov/craadweb/naaghelp.htm>

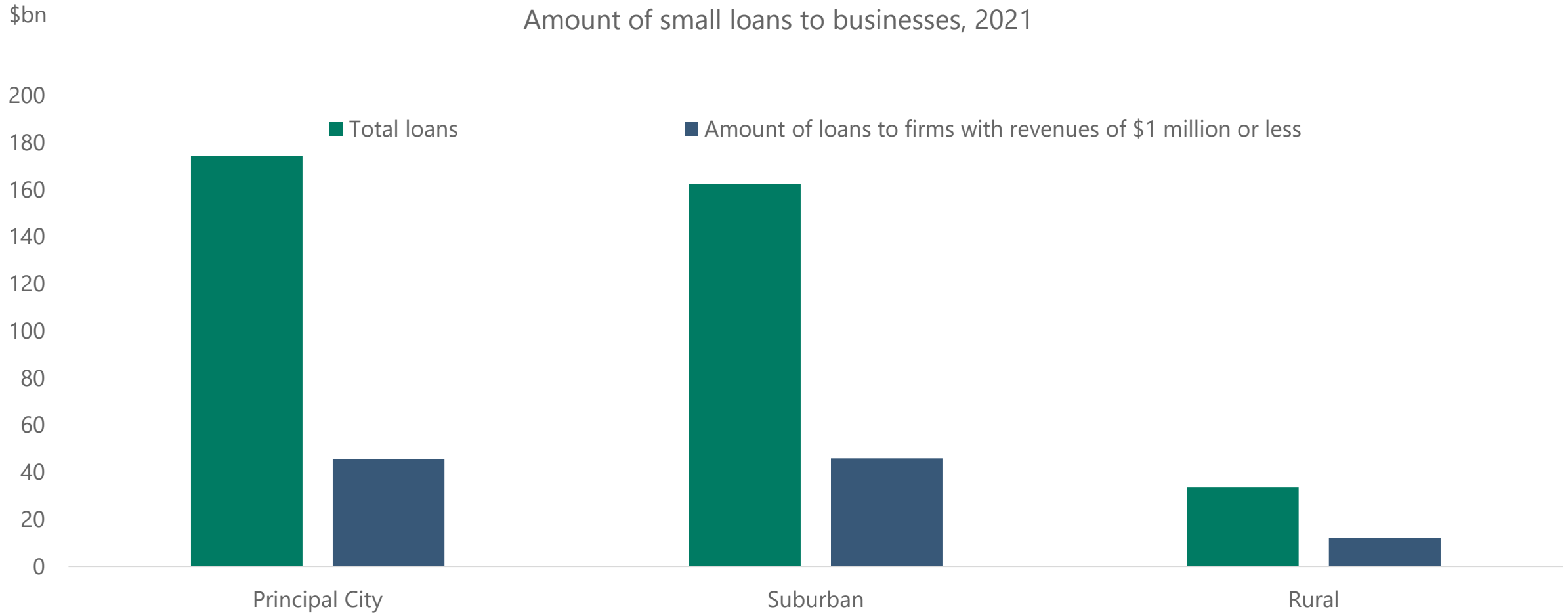
# Share of loans to small businesses, by loan size



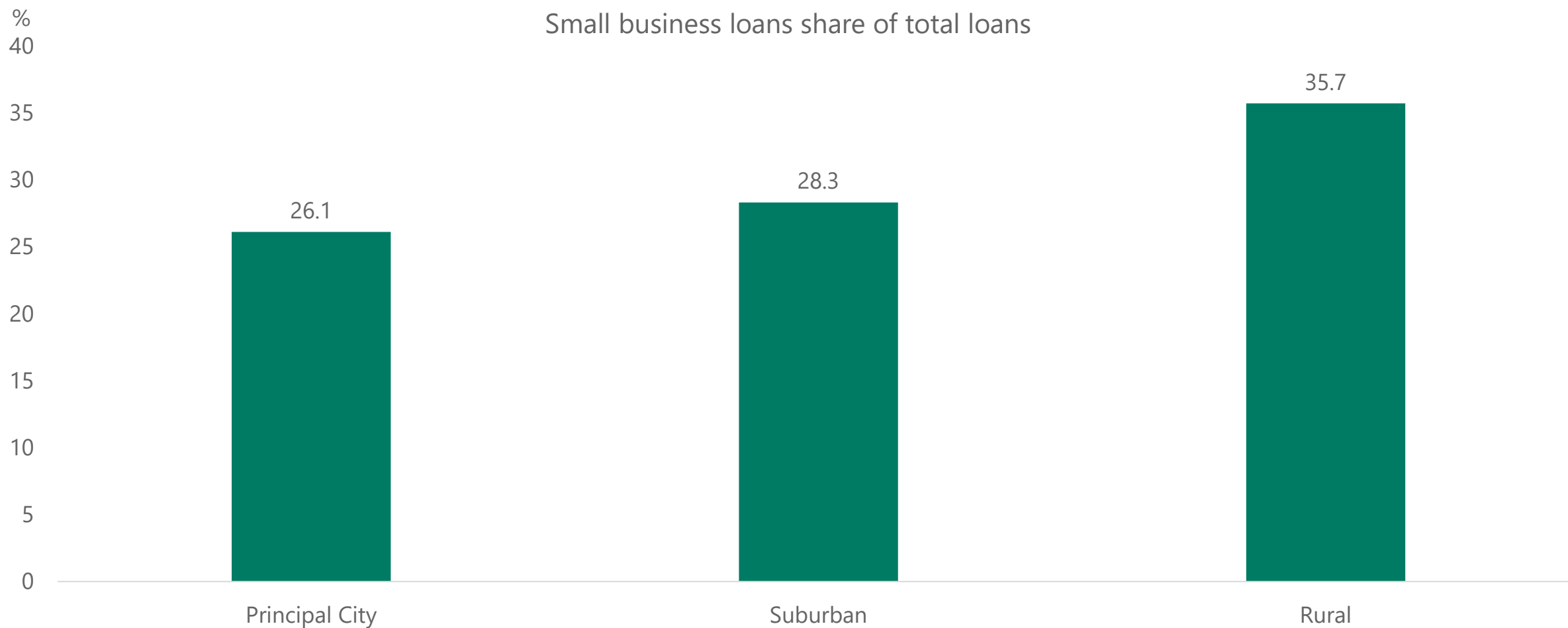
# 92% of all loans to small businesses in the US are less than \$100,000



# Total loans vs loans to small businesses by neighborhood characteristic



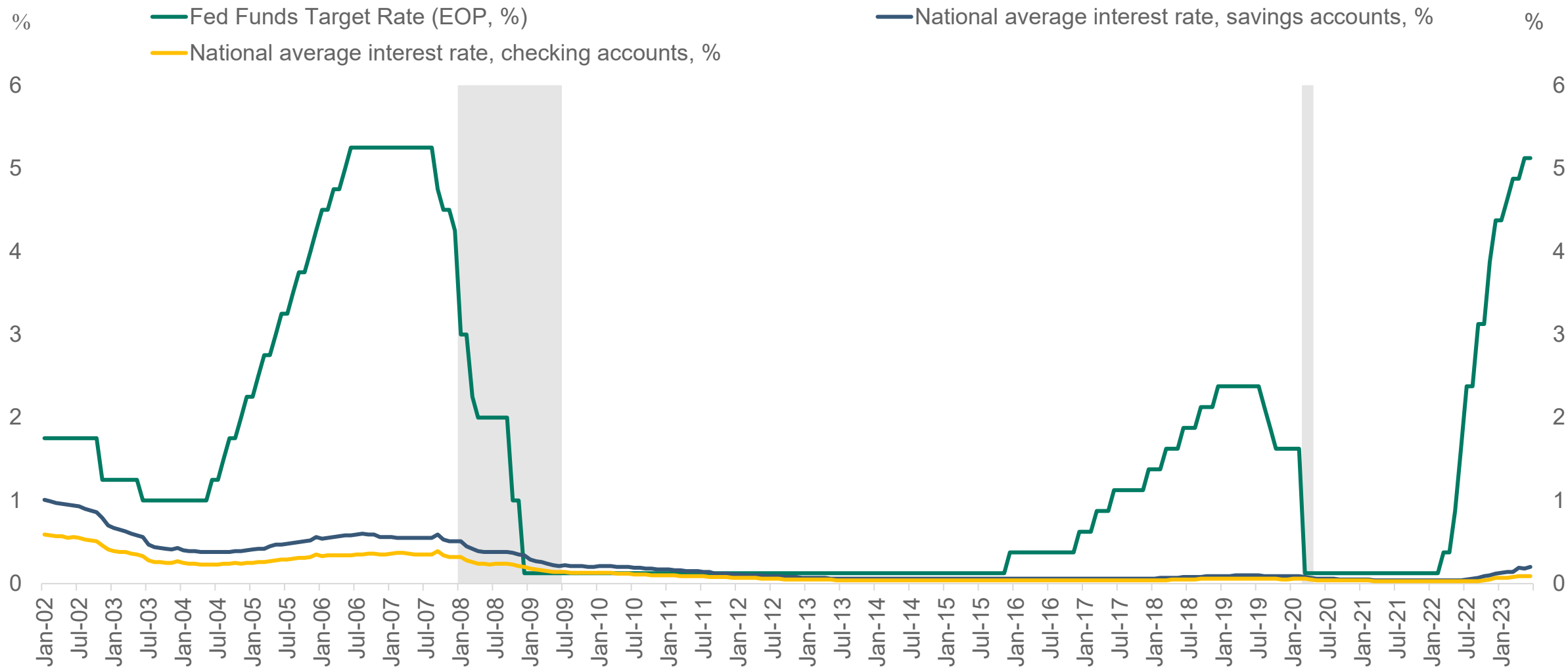
# Share of loans to small businesses by neighborhood characteristic





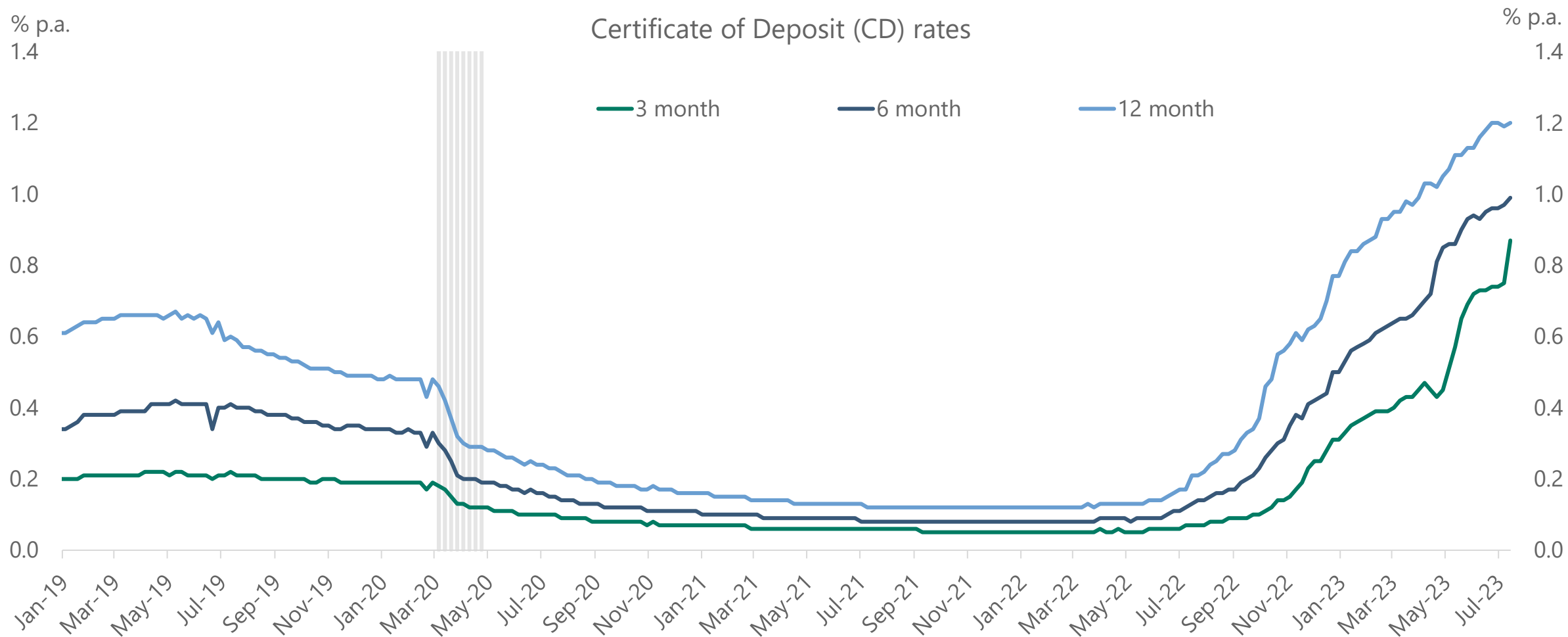
Fed funds rate versus national average  
interest rate on checking accounts and CDs

# Interest rate on checking accounts versus the Fed funds rate



Source: FRB, RateWatch, Haver Analytics, Apollo Chief Economist.

# CD rates have slowly increased as the Fed has raised interest rates



Source: RateWatch, Haver Analytics, Apollo Chief Economist. Note: For \$10,000 Minimum CD

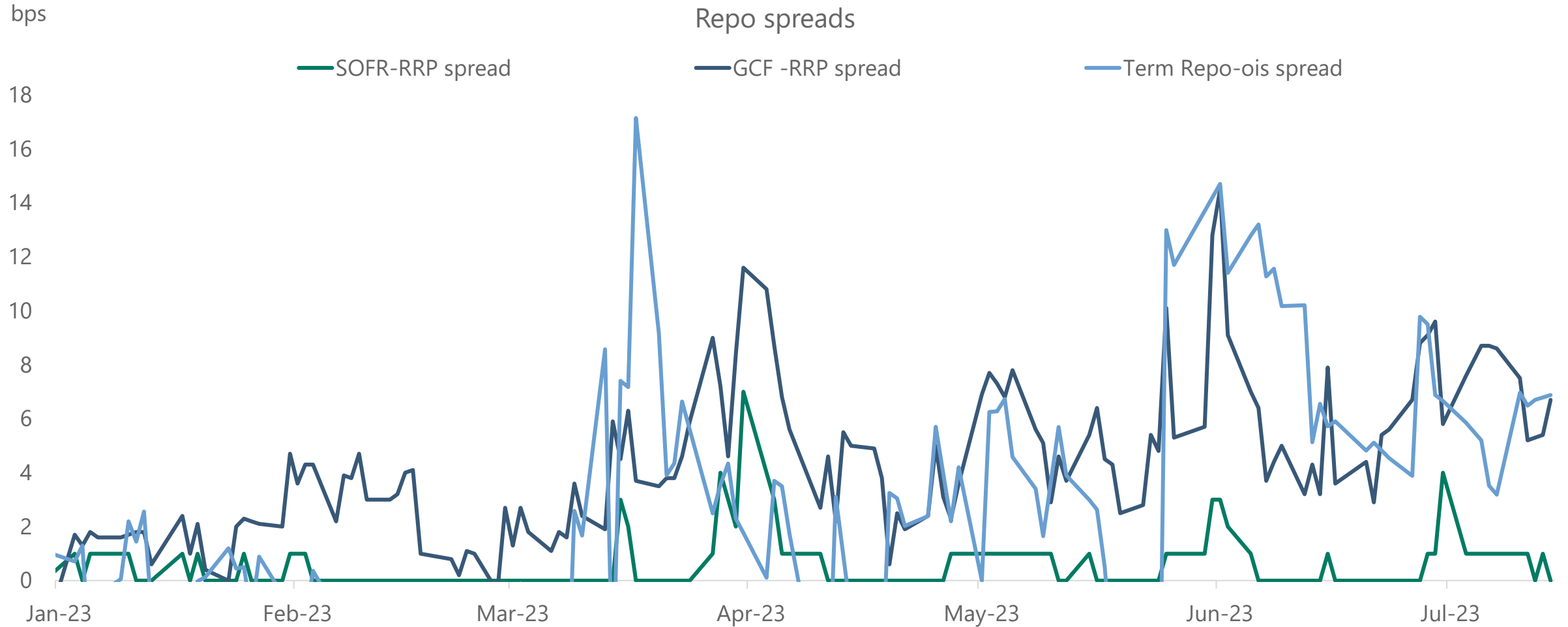
# After SVB: Change in 3-month CD rates at US banks, by size of bank

Change since  
24 Feb 2023 (bps)

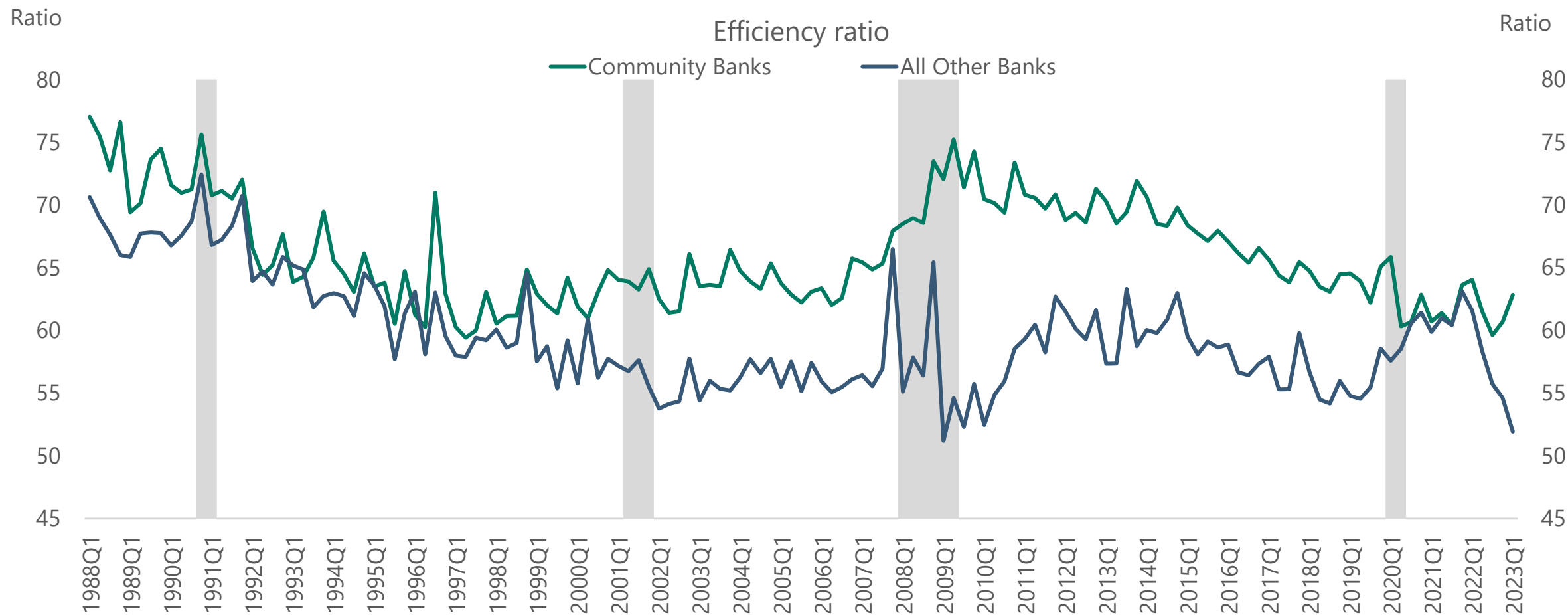
CD rates at US banks by asset size



# Monitoring repo spreads for stresses in money markets

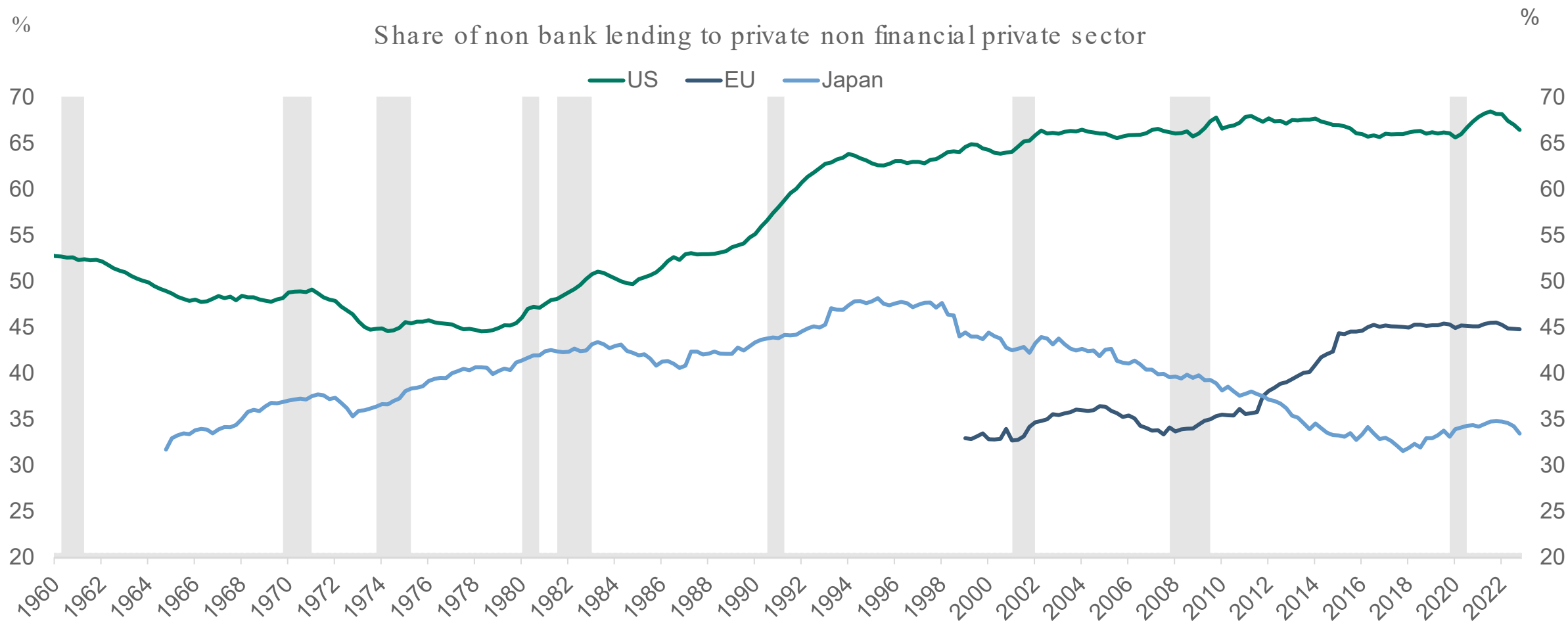


The average efficiency ratio for community banks is around 63% compared with 52% for noncommunity banks.

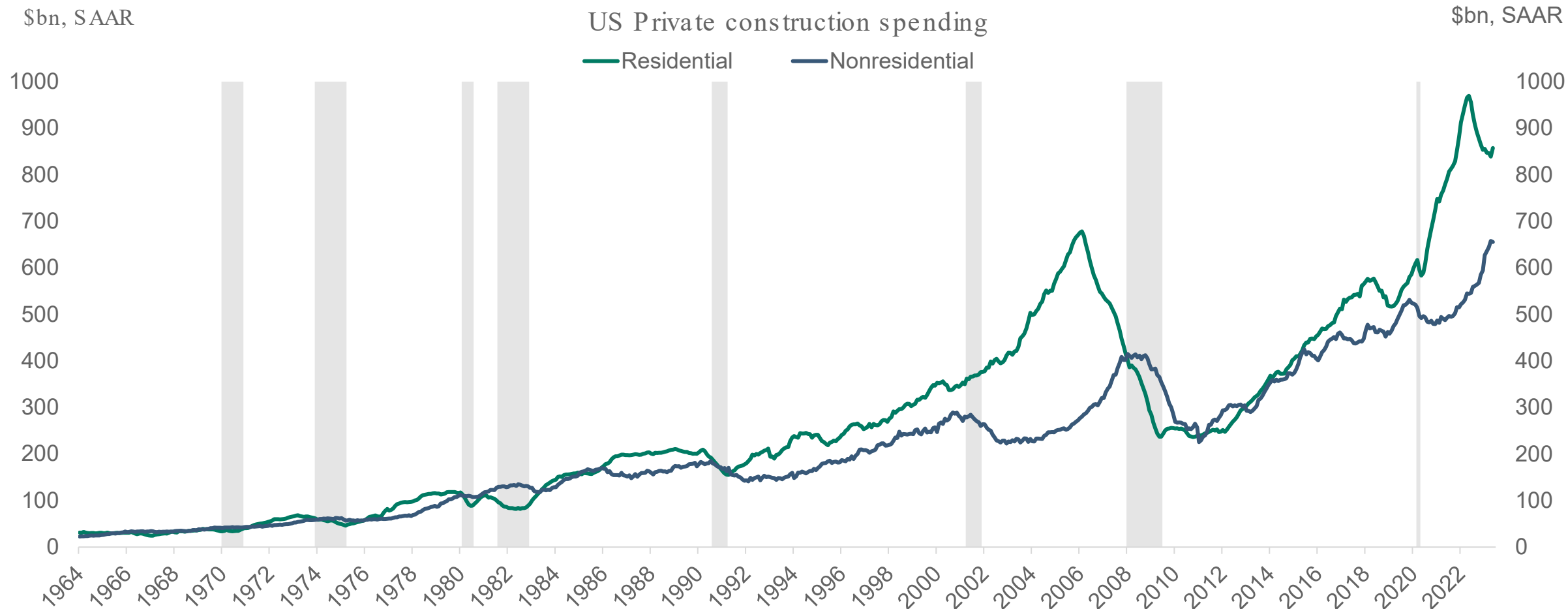


Source: Haver Analytics, Bloomberg, Apollo Chief Economist. A bank's efficiency ratio is defined as the ratio of a bank's non-interest expense to revenues. Higher efficiency ratios indicate less efficient banks.

# Share of bank lending lower in the US



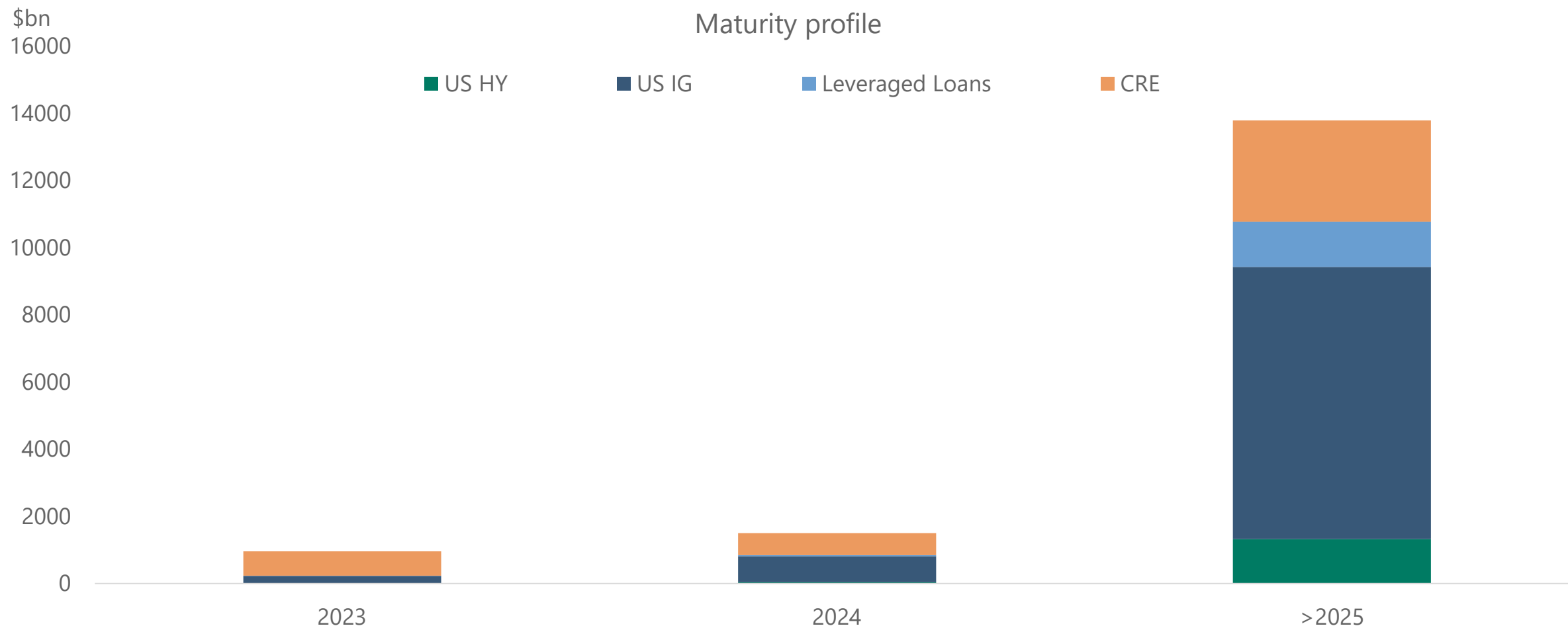
# Residential construction spending elevated



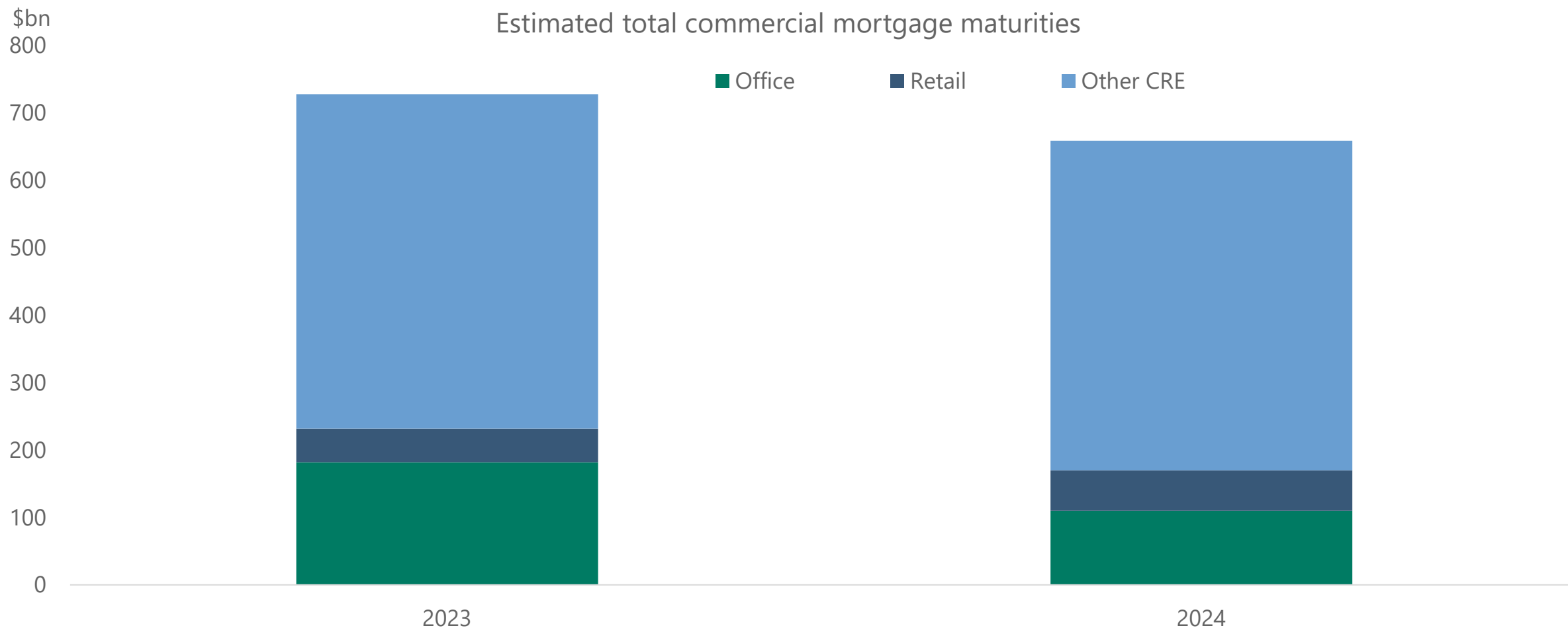
Source: Census Bureau, Haver Analytics, Apollo Chief Economist.



# Maturity profile for US fixed income

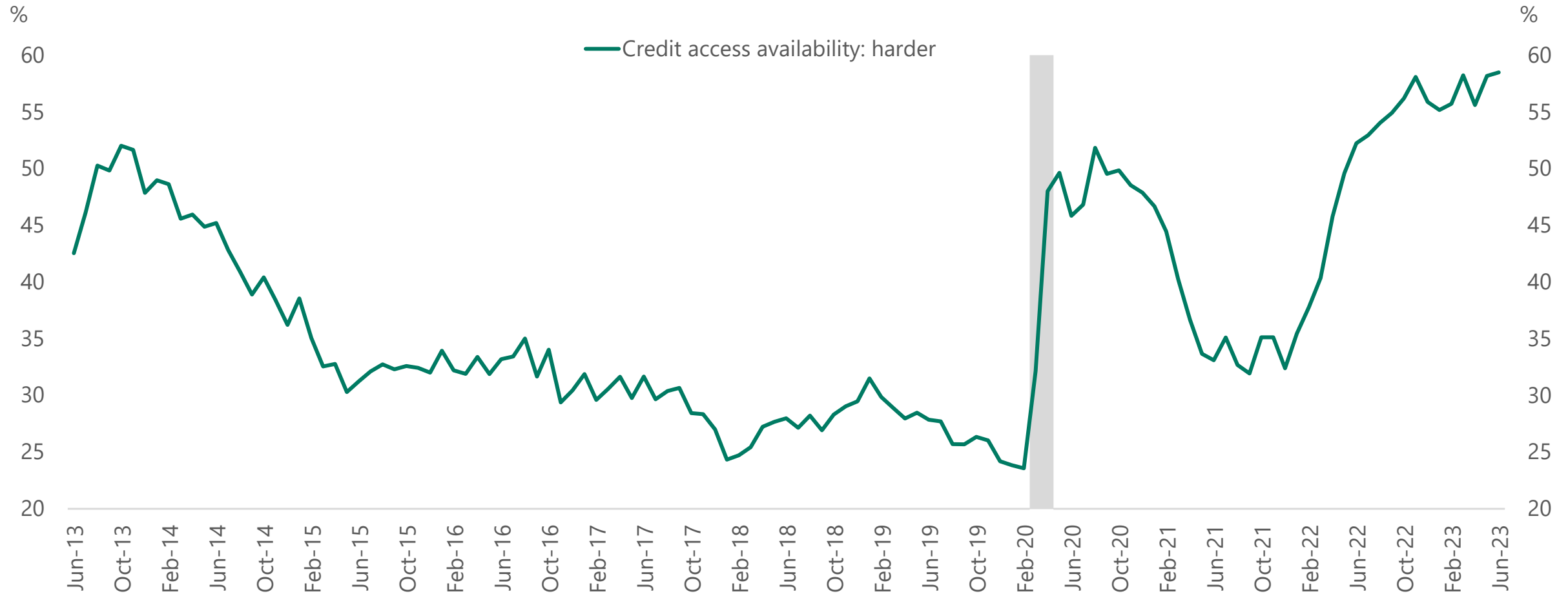


# CRE maturity profile



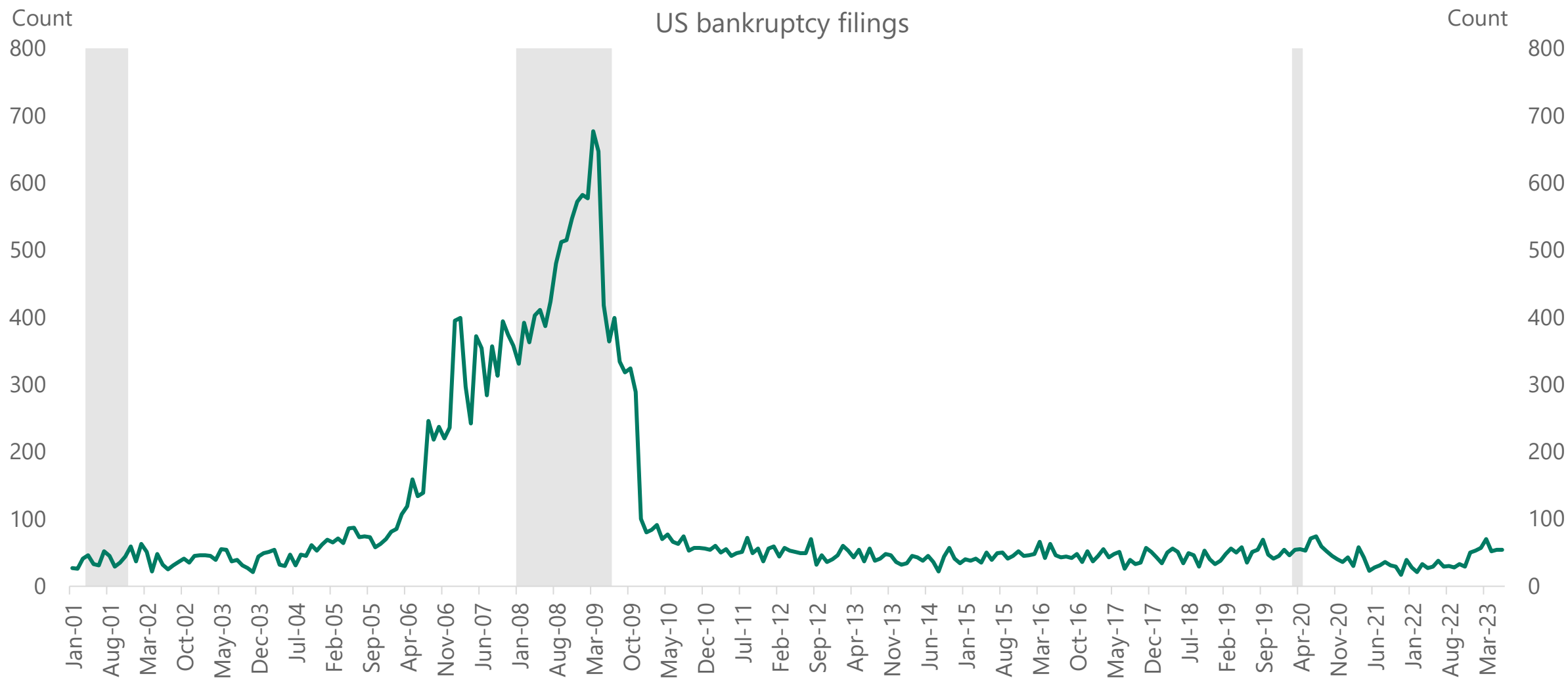
Source: MBA, Apollo Chief Economist. Note: Other CRE includes multifamily, industrial/warehouse, hotel/motel, healthcare and others.

# The share of households reporting it is harder to obtain credit than one year ago



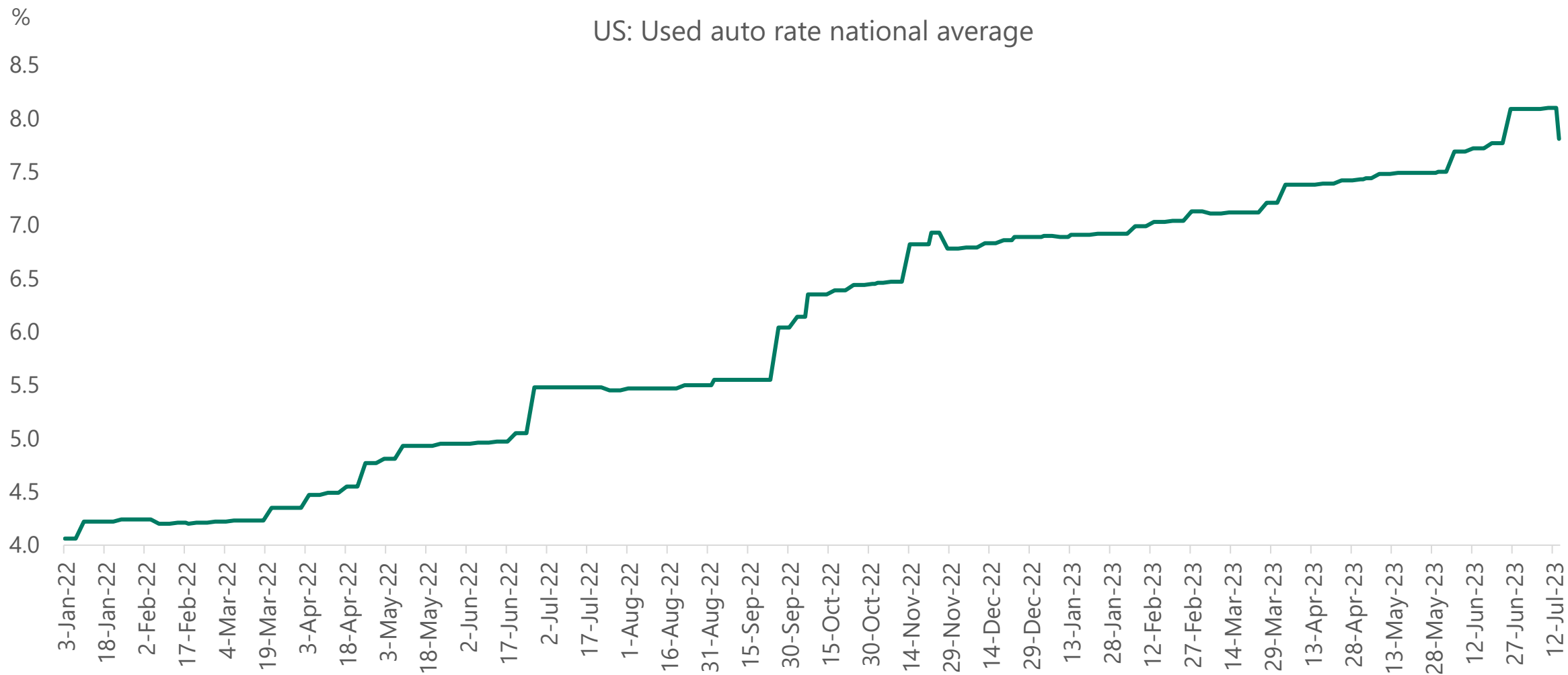
Source: FRBNY, Haver Analytics, Apollo Chief Economist (Harder = much harder + somewhat harder)

# Bankruptcy filings



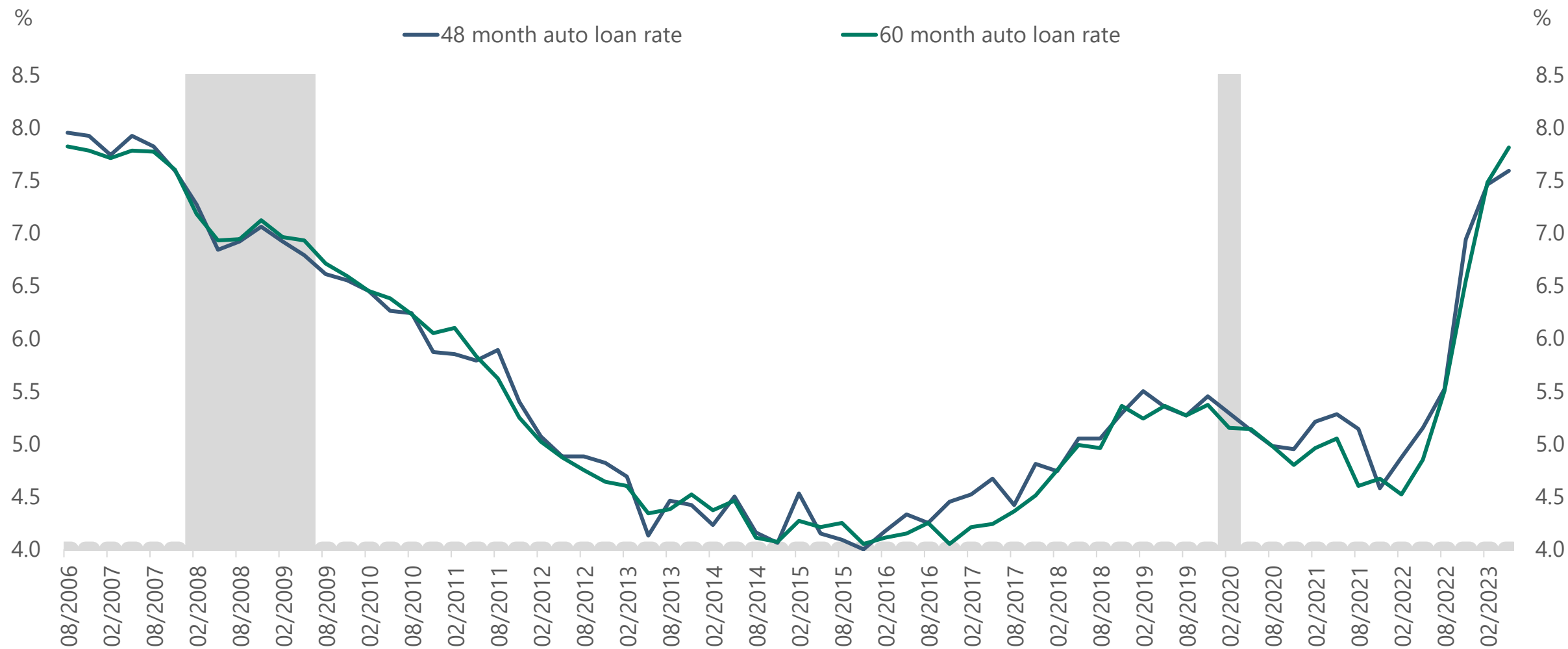
Source: S&P Capital IQ, Bloomberg, Apollo Chief Economist. Note: Bankruptcy figures include public companies or private companies with public debt with a minimum of \$2 million in assets or liabilities at the time of filing, in addition to private companies with at least \$10 million in assets or liabilities.

# Interest rate on auto loans



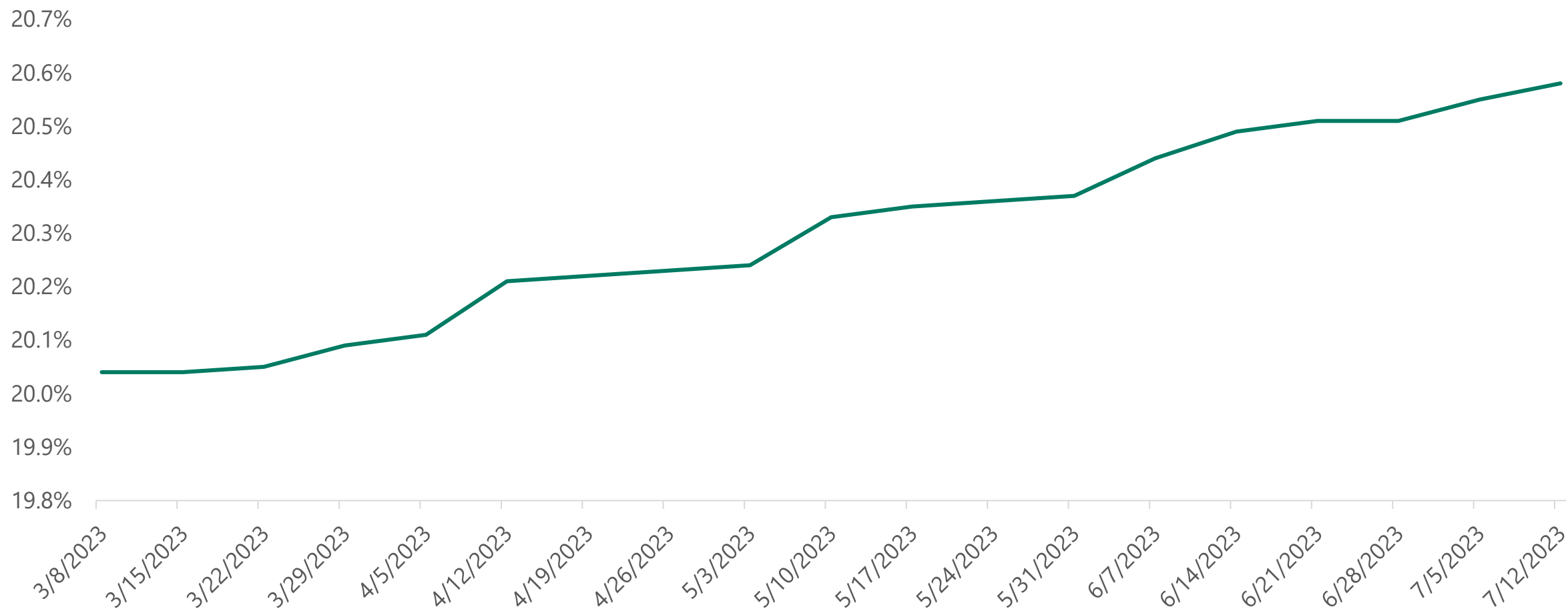
Source: Bankrate.com, Apollo Chief Economist

# Commercial Bank auto loan rates highest since 2008

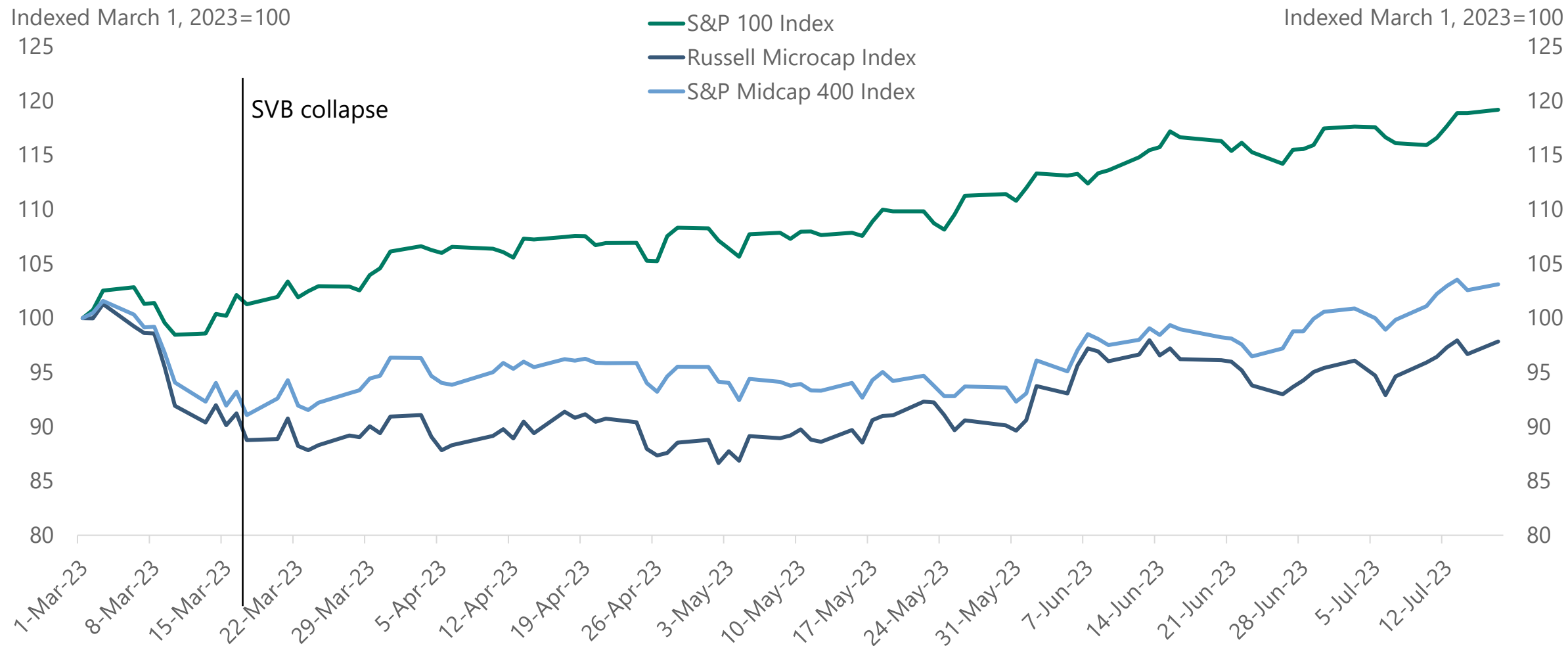


# Interest rate on credit cards

Current credit card interest rates

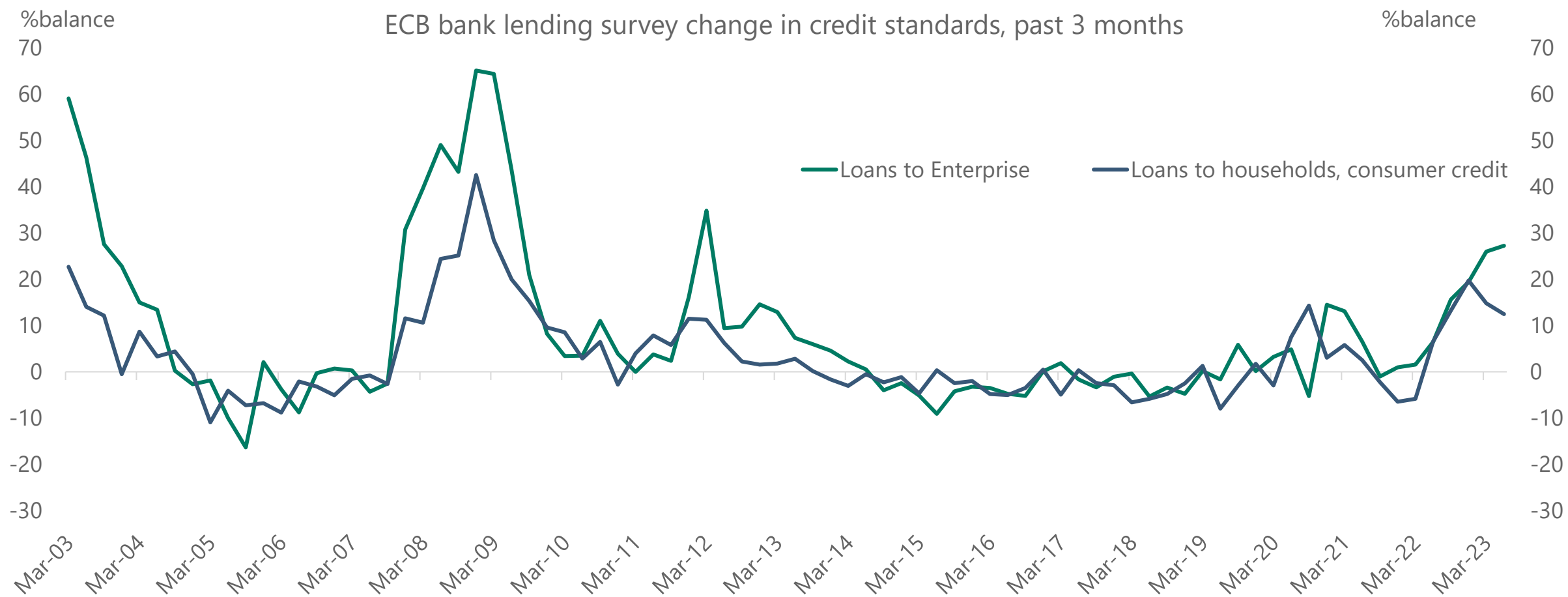


# Banking crisis having negative impact on small and medium-sized companies



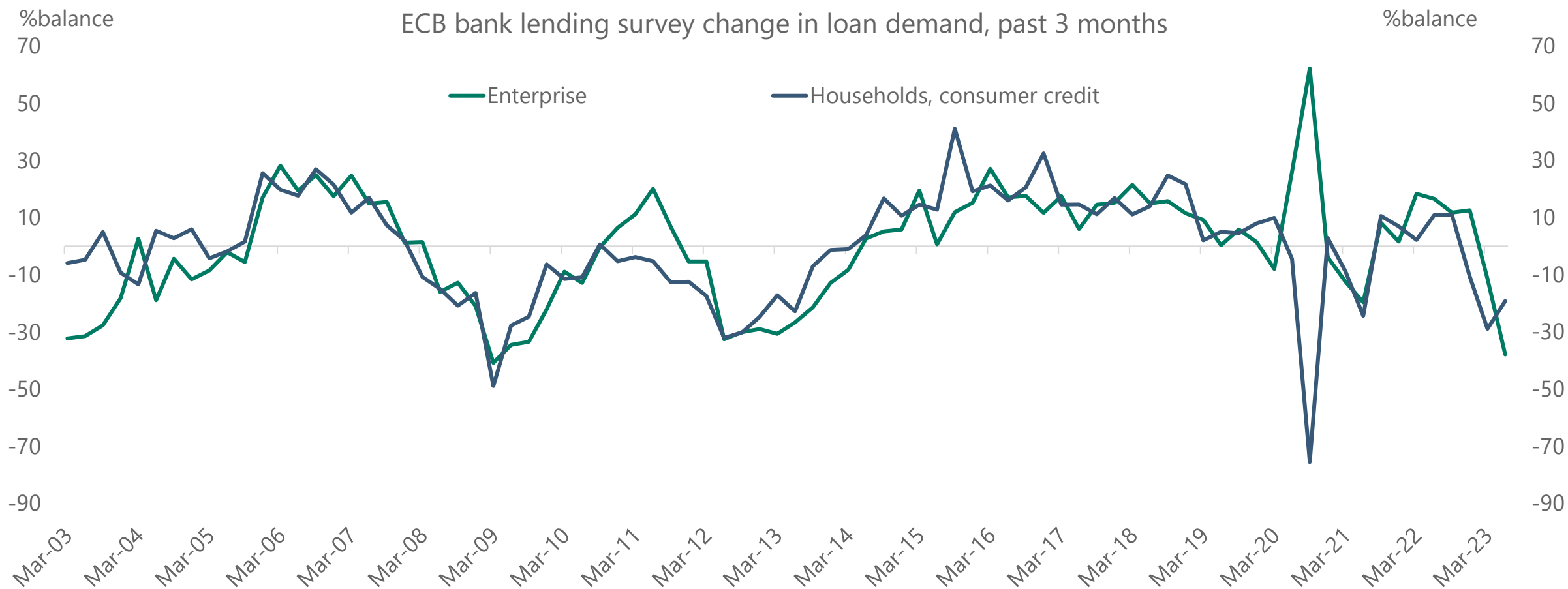


# Euro Area credit conditions tightening



Source: ECB Bank Lending Survey, Bloomberg, Apollo Chief Economist

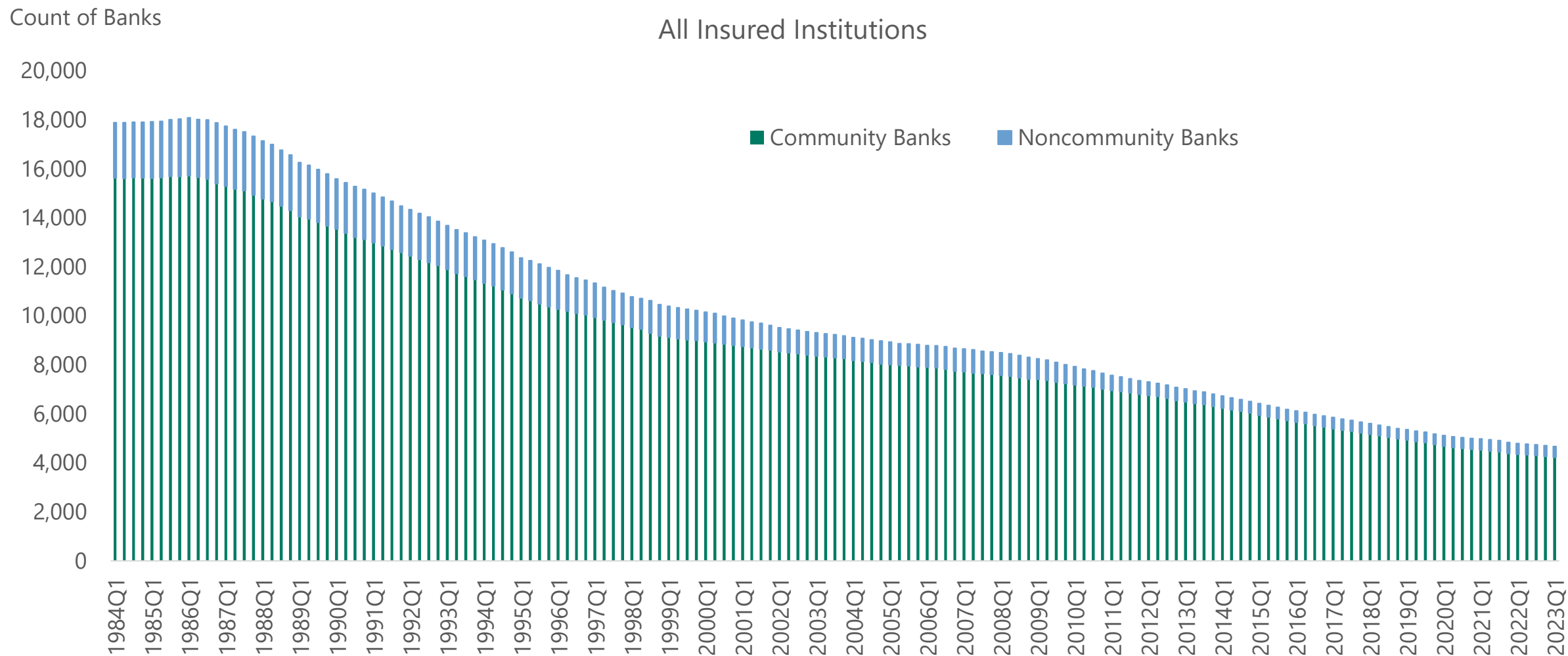
# Euro Area loan demand falling



Source: ECB Bank Lending Survey, Bloomberg, Apollo Chief Economist

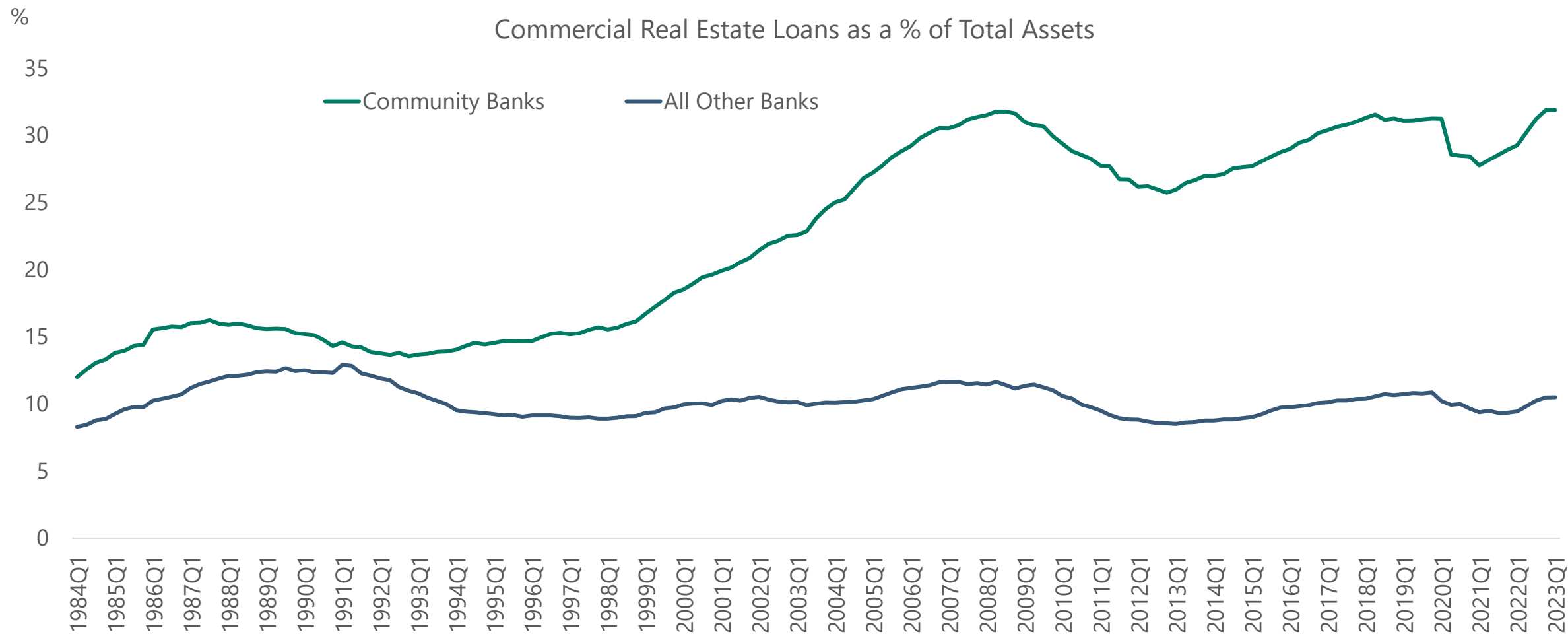
# Community banks

# 90% of all banks in the US are community banks



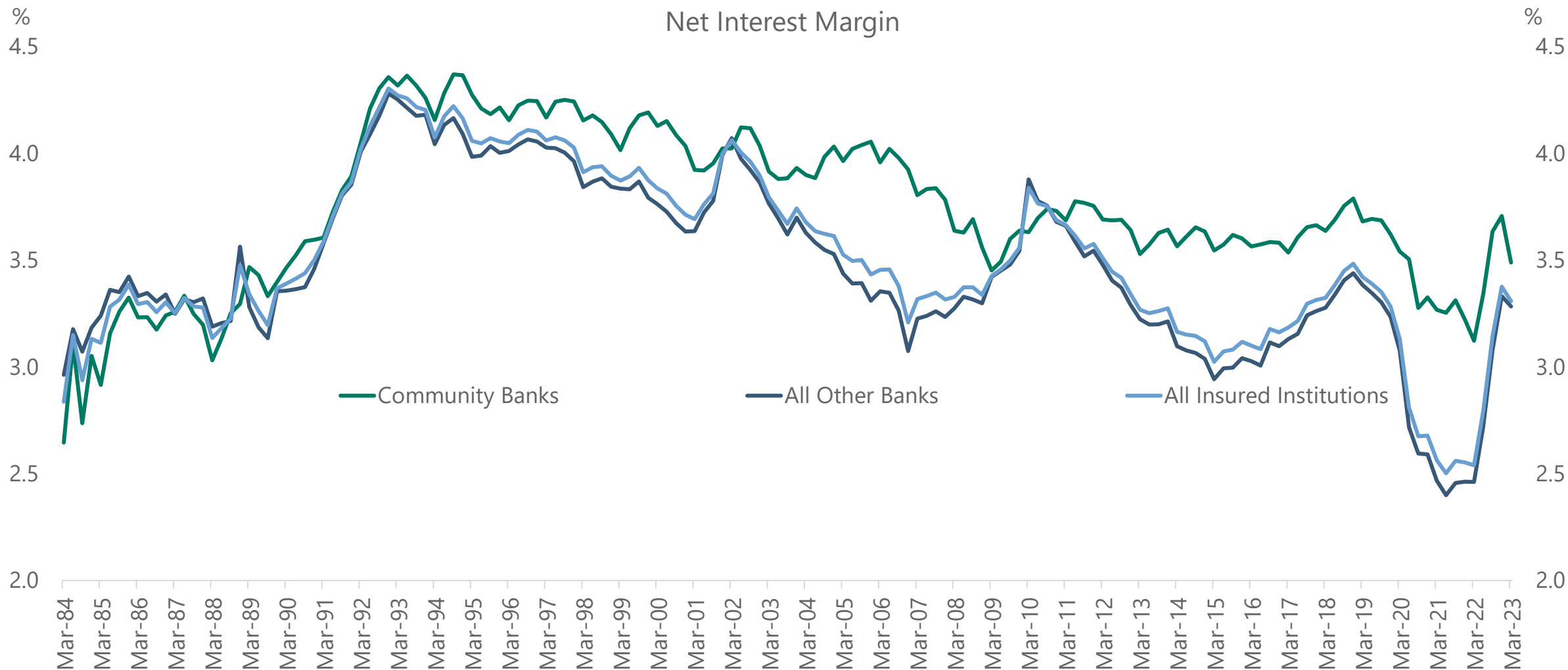
Source: FDIC, Apollo Chief Economist.

# CRE loans make up a significant share of community banks' assets



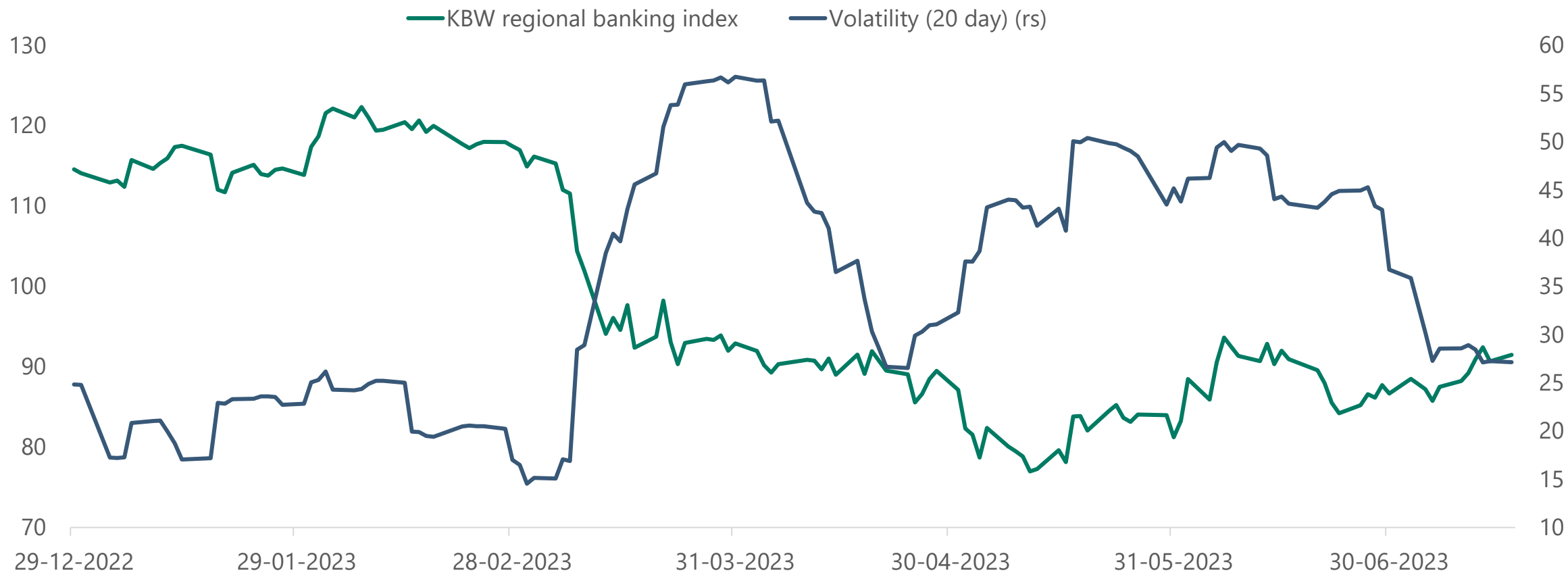
Source: FDIC, Apollo Chief Economist.

# Net interest margin higher for community banks

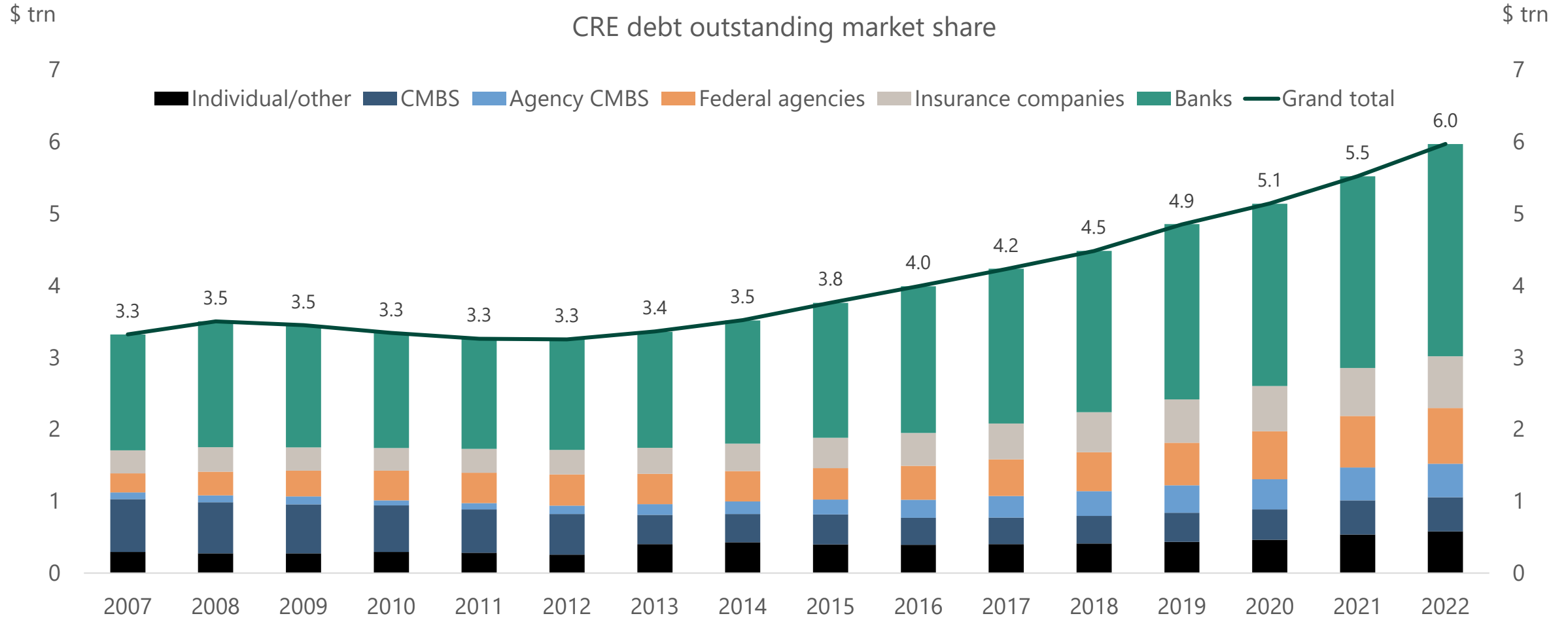


Source: FDIC, Apollo Chief Economist.

# Regional Bank volatility declined



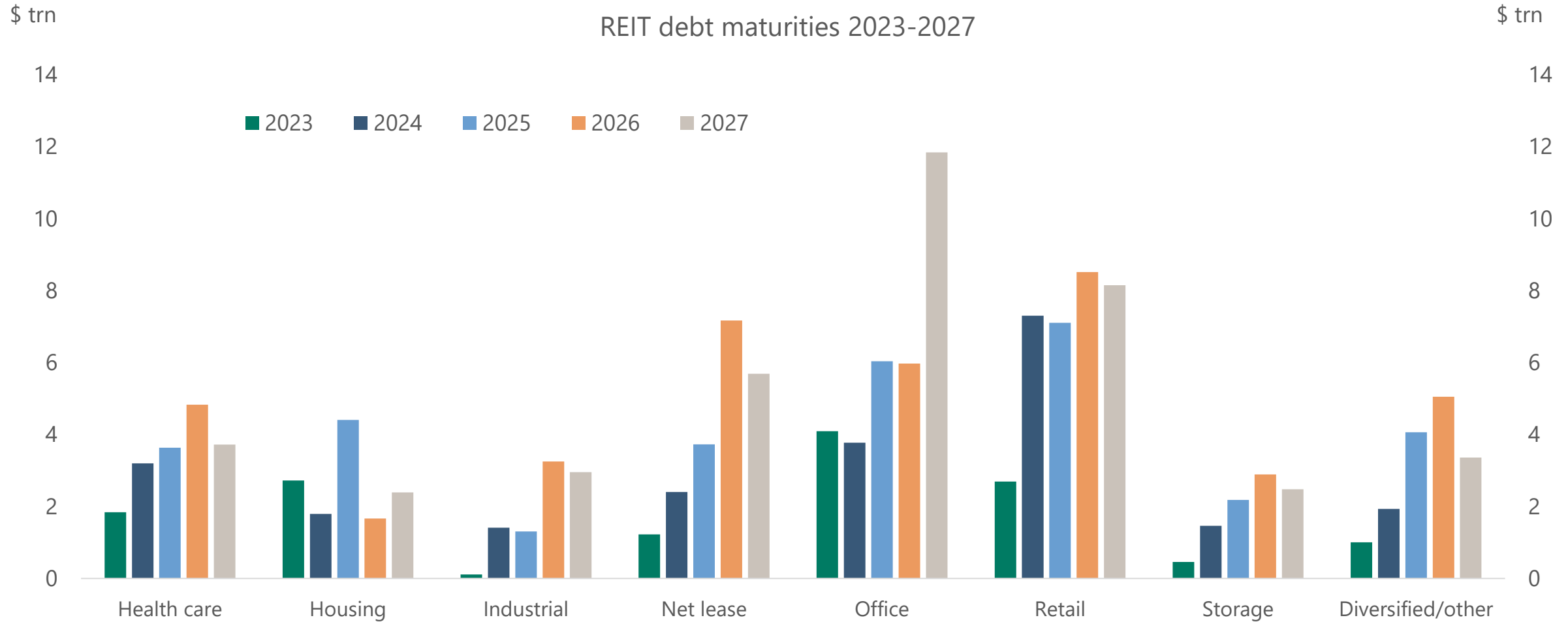
# US banks account for the bulk of CRE lending



Source: S&P Capital IQ, Apollo Chief Economist

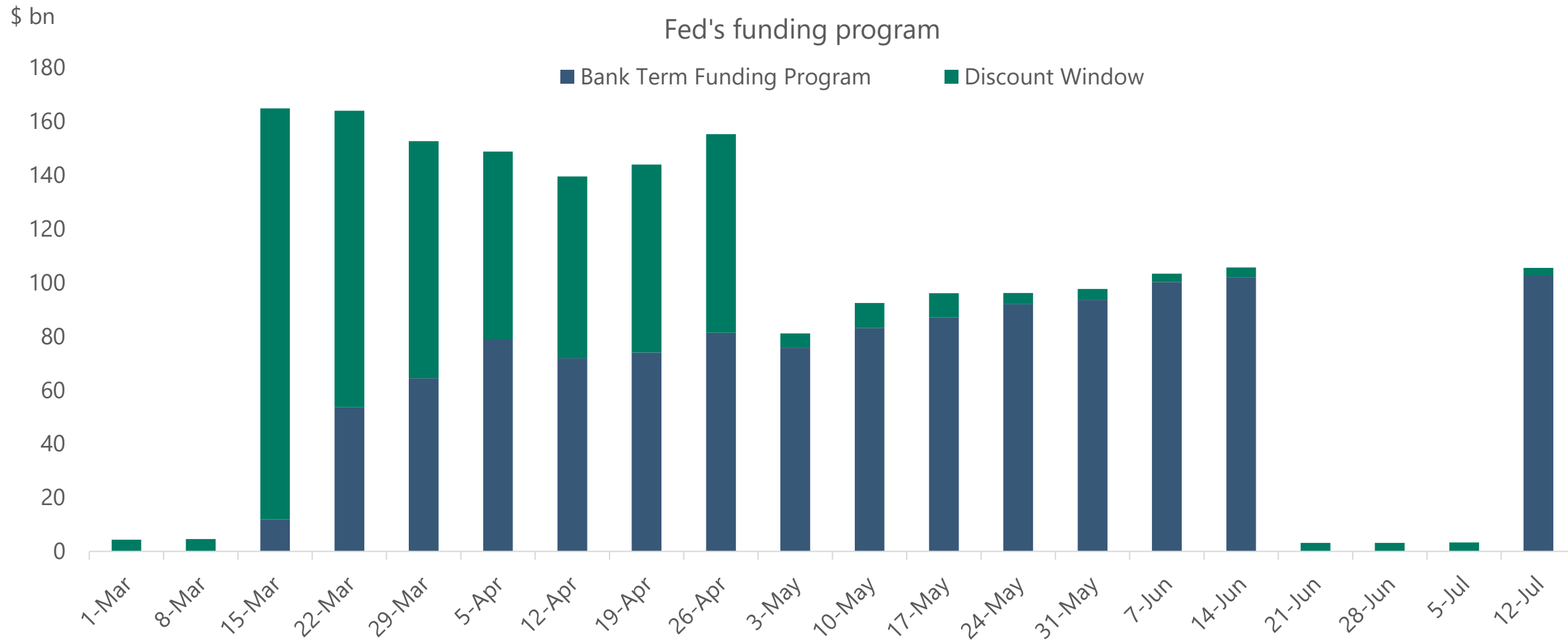


# U.S. REITs hold approximately \$14 billion of debt maturing this year



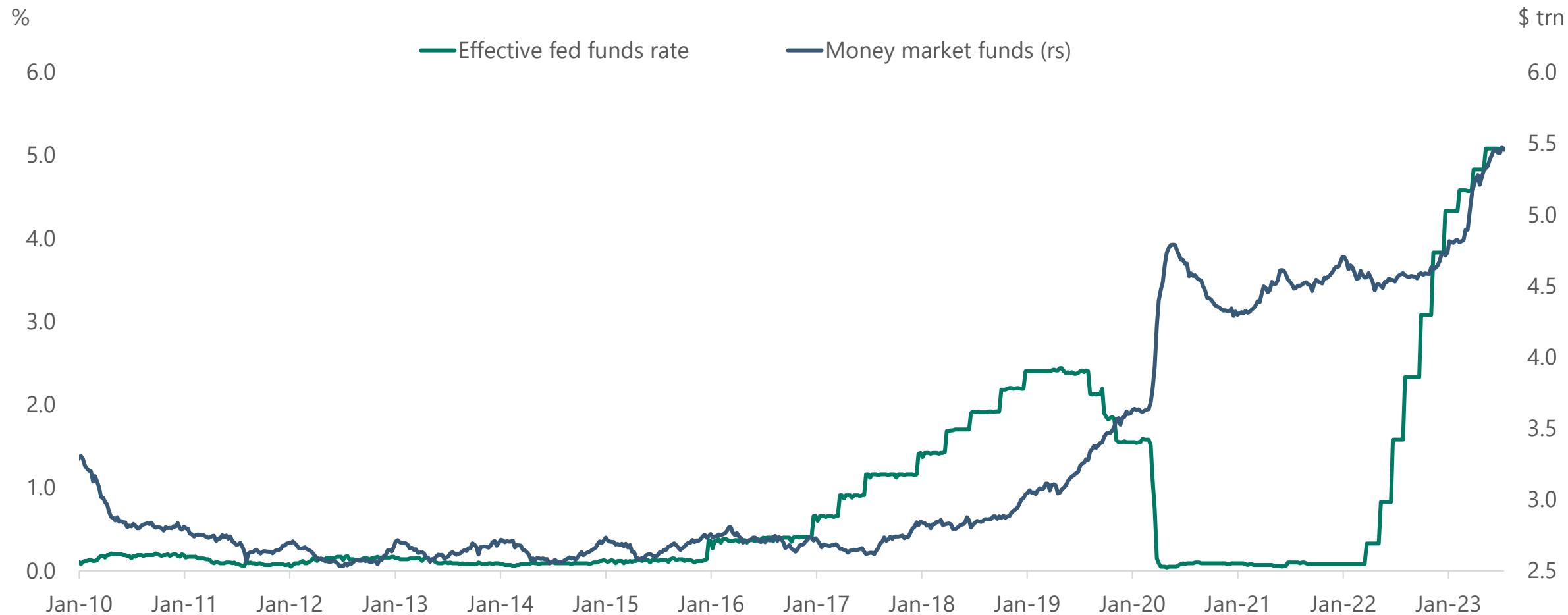
Source: S&P Capital IQ, Apollo Chief Economist

# Increased borrowing through the Bank Term Funding Program

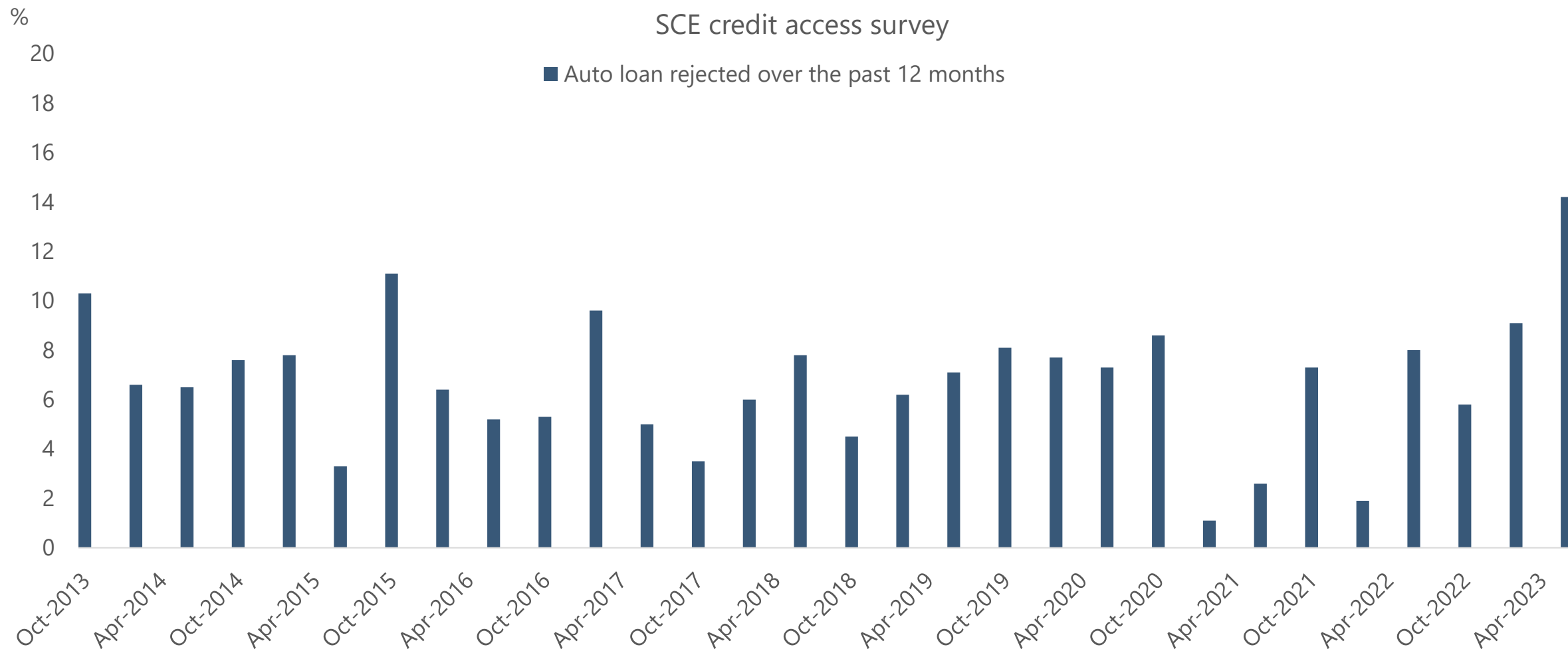


Source: Federal Reserve Board, Bloomberg, Apollo Chief Economist.

# Money market funds during the current tightening cycle



# Auto loan rejection rate over the past 12 months





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Apollo Global Management

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Torsten Slok joined Apollo in August 2020 as Chief Economist and he leads Apollo's macroeconomic and market analysis across the platform.

Prior to joining, Mr. Slok worked for 15 years as Chief Economist on the sell-side where his team was top ranked in the annual Institutional Investor survey for a decade. Mr. Slok has also worked at the IMF in Washington, DC and at the OECD in Paris.

Mr. Slok has a Ph.D in Economics and studied at the University of Copenhagen and Princeton University.