

APOLLO

# Outlook for US regional banks

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**Apollo Global Management**

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Unless otherwise noted, information as of May, 2023.

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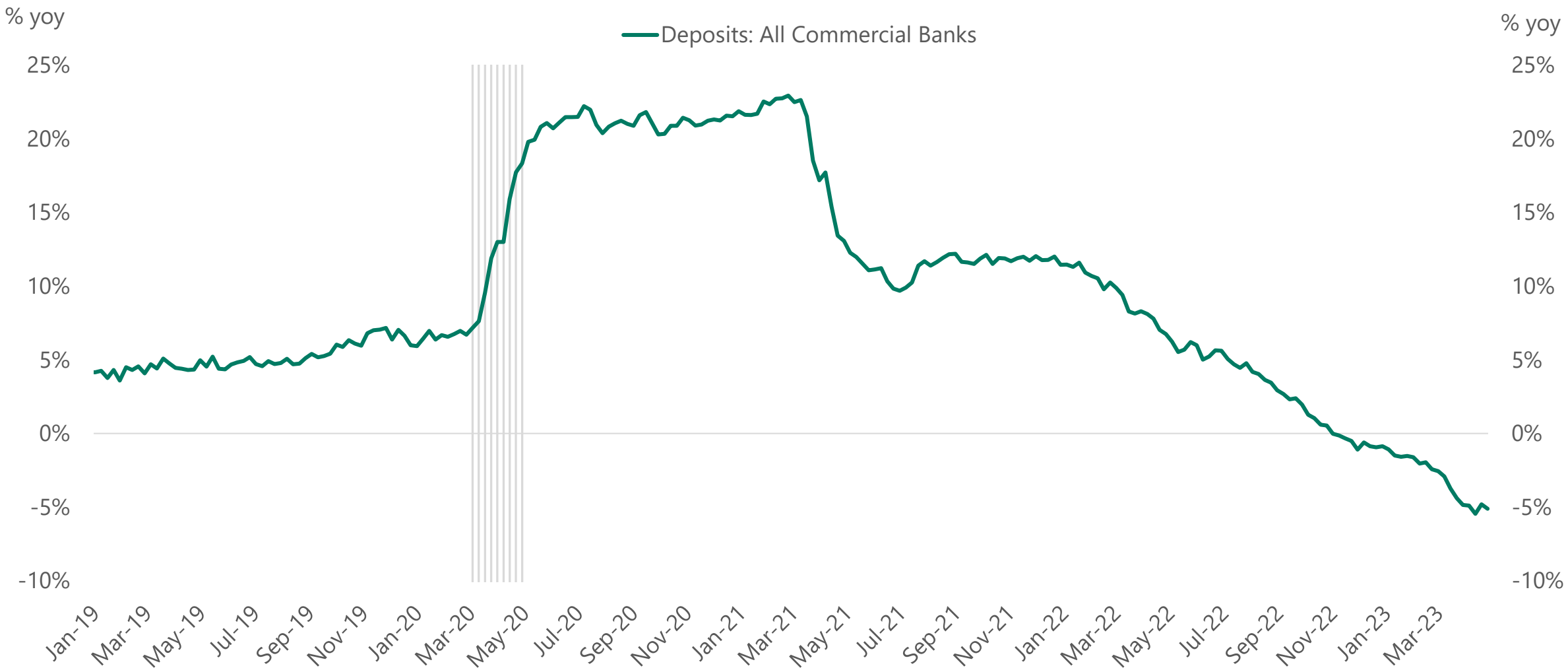
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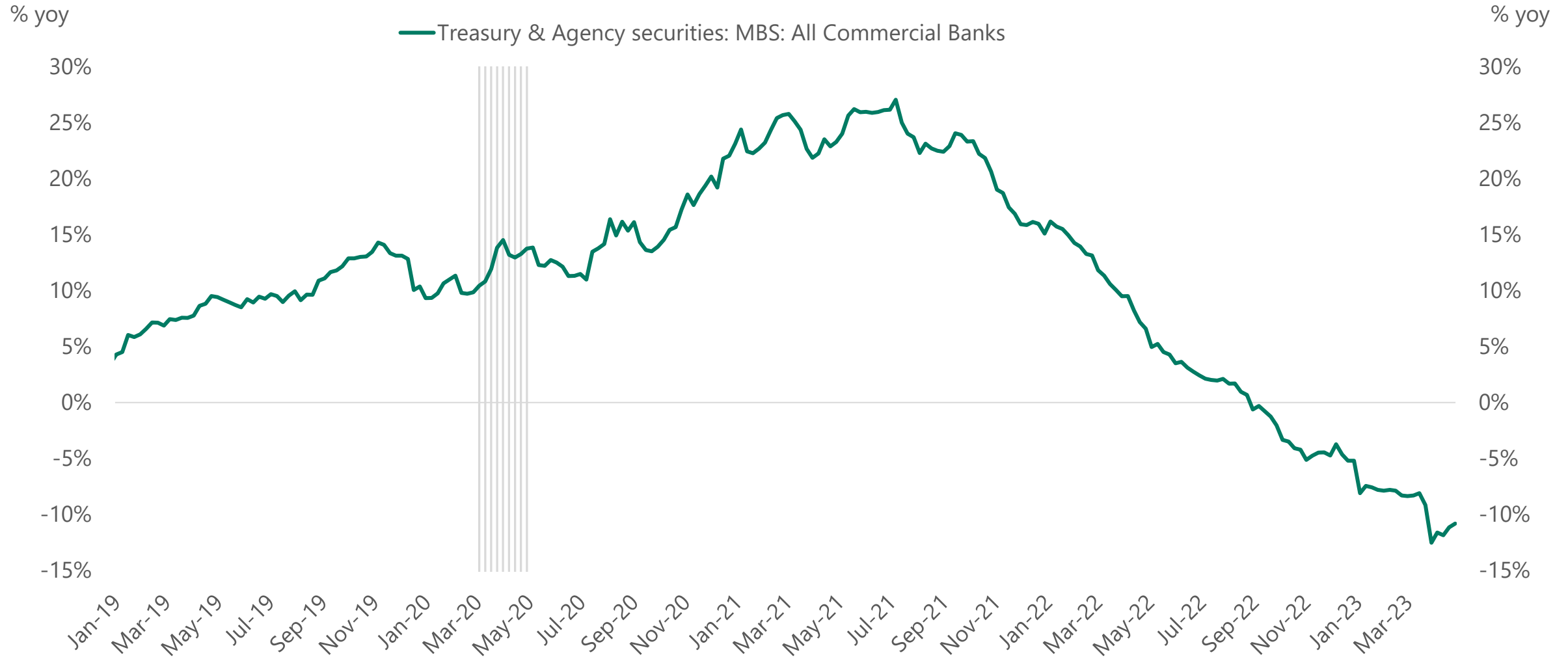
What is the banking sector response to the SVB collapse and associated deposit outflows? Cutting lending and selling mortgages

# Negative growth in deposits

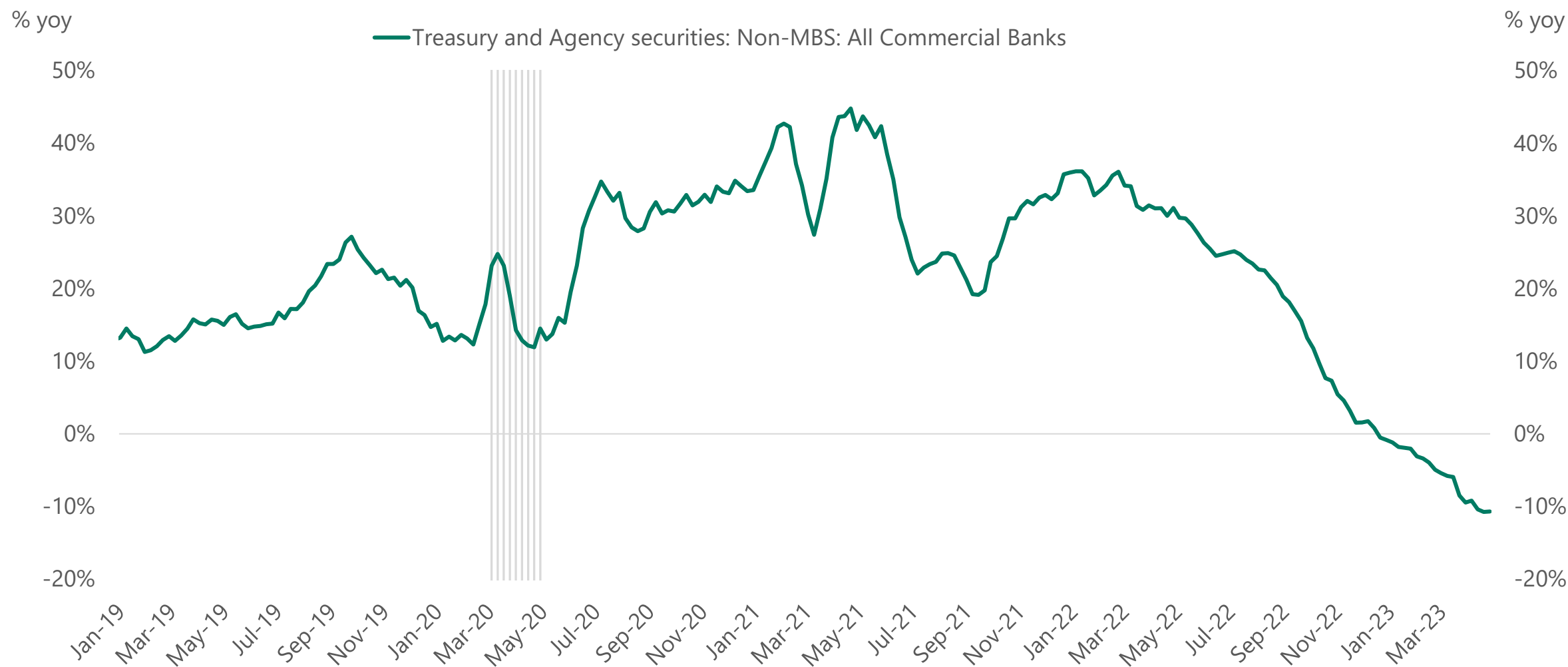


Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

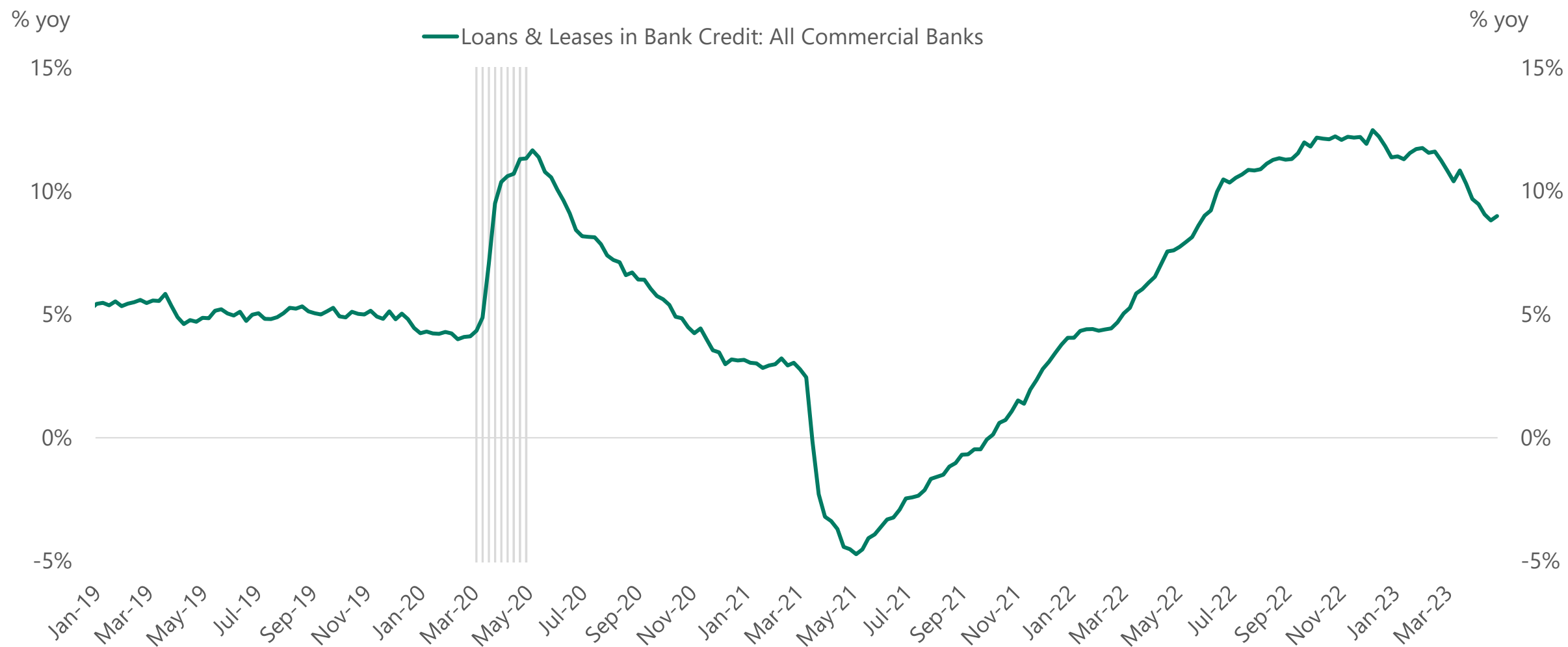
# Negative growth in bank holdings of mortgages



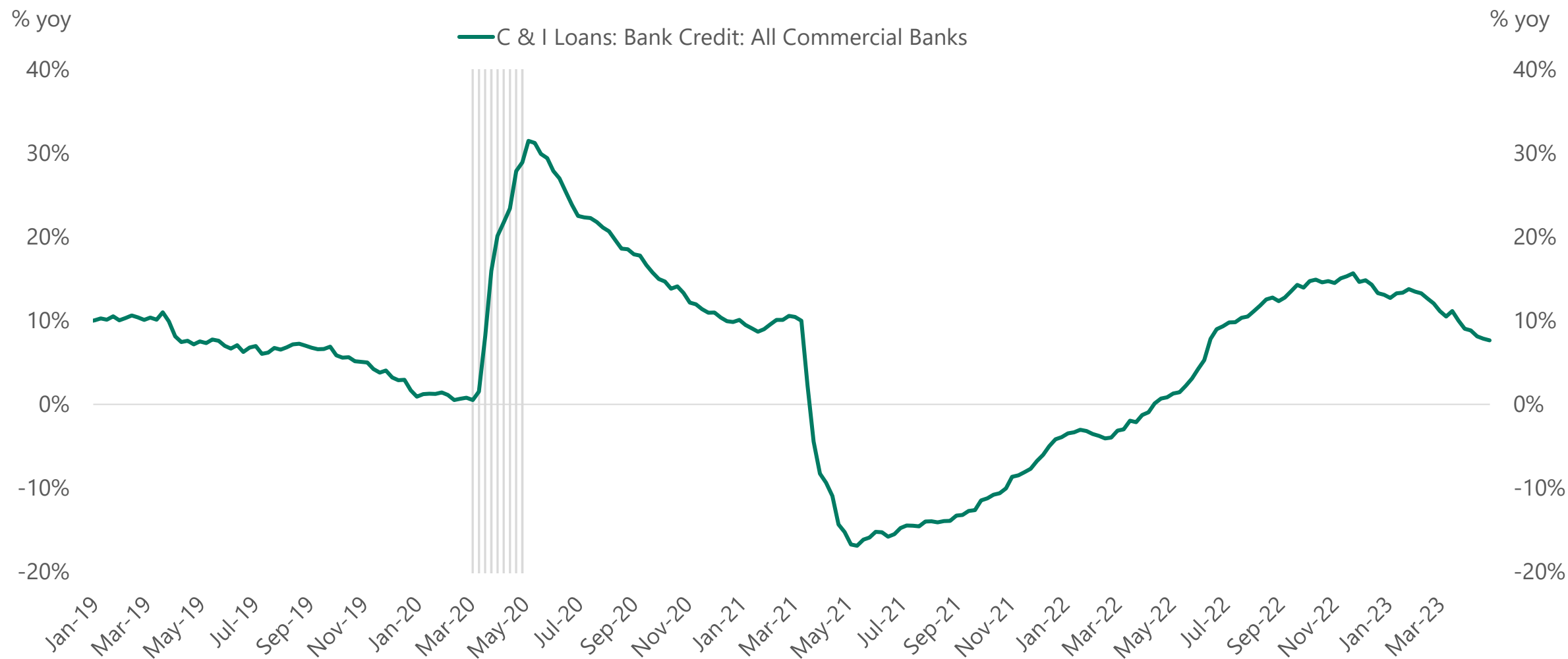
# Growth in bank holdings of Treasuries



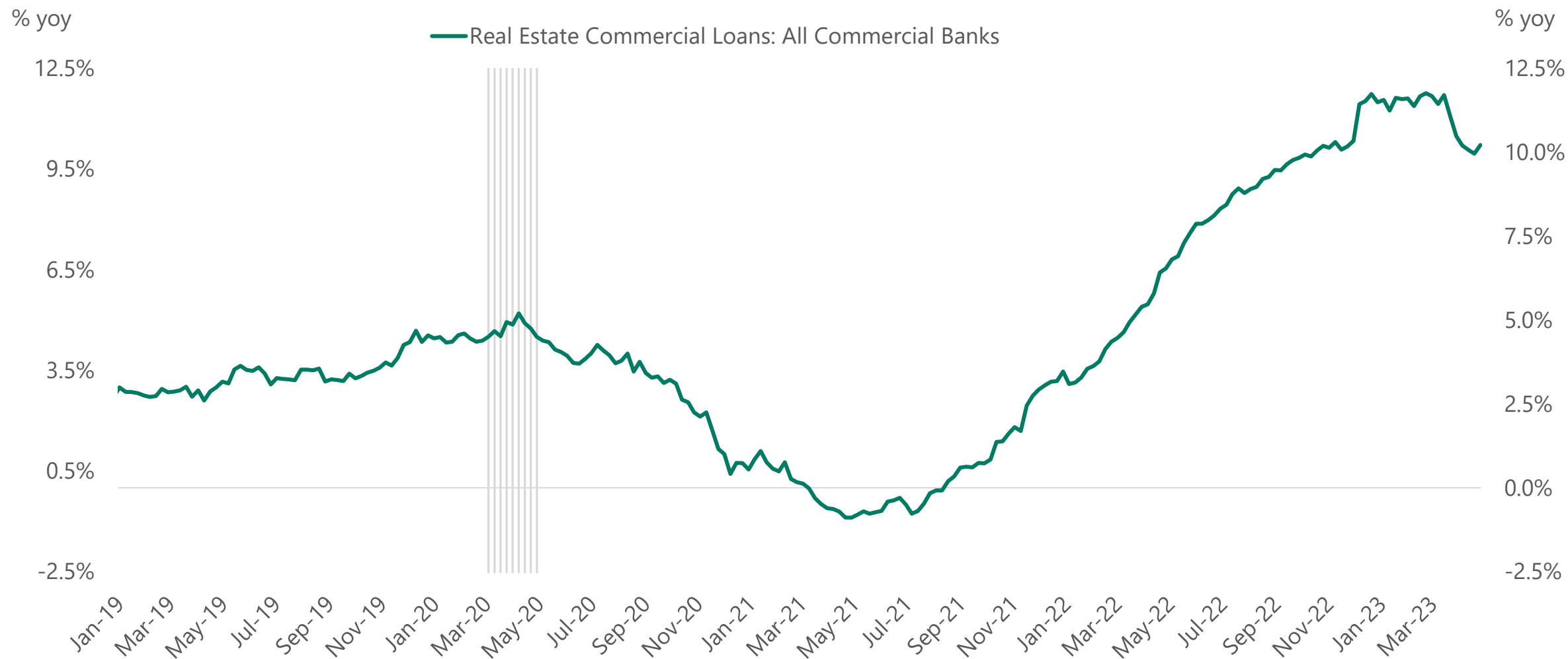
# Some decline in bank lending growth



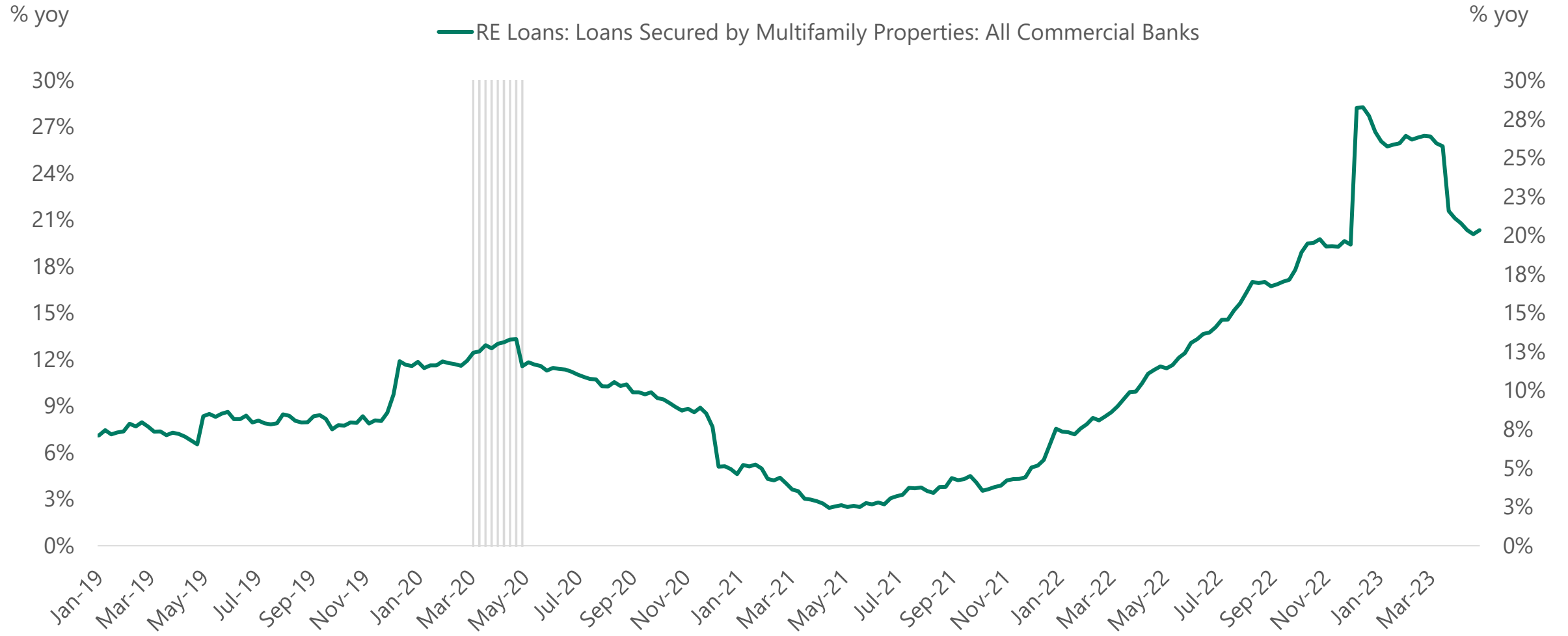
# Decline in growth in lending to corporates



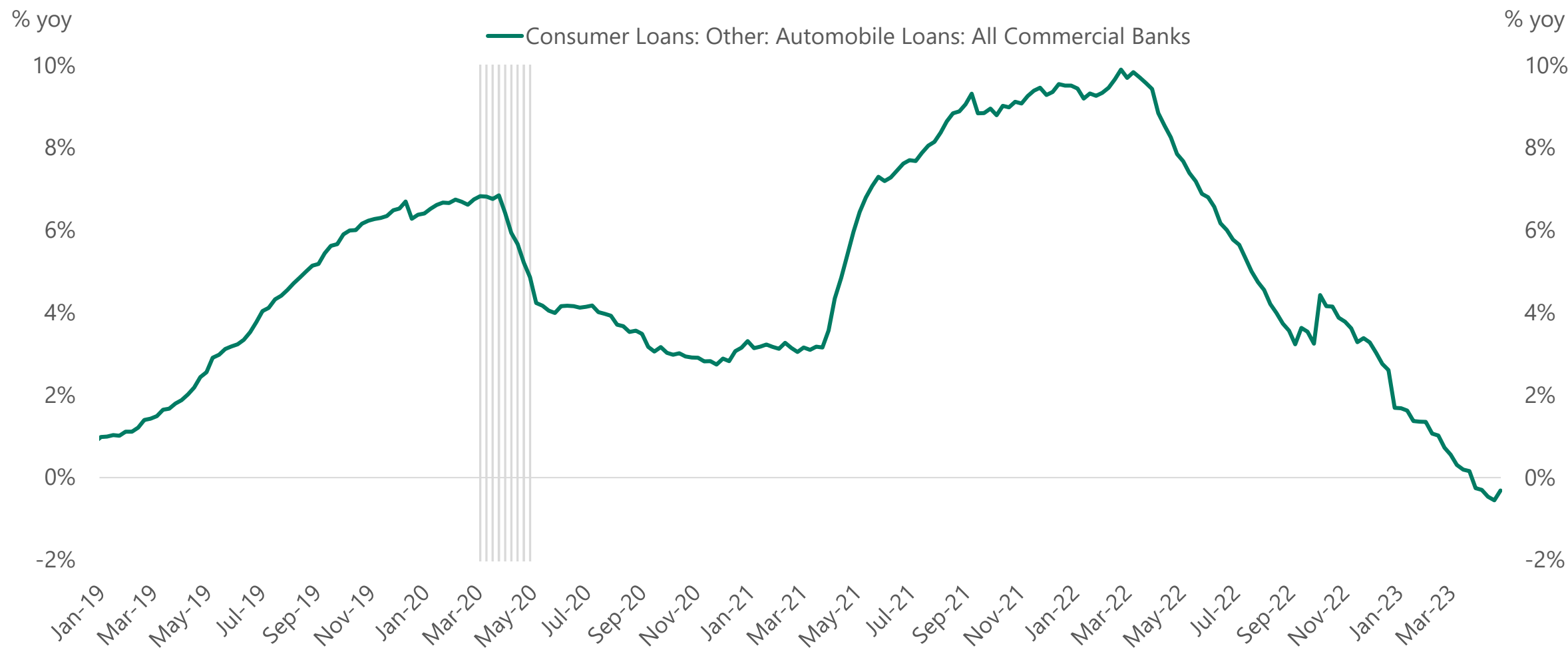
# Decline in growth in real estate lending



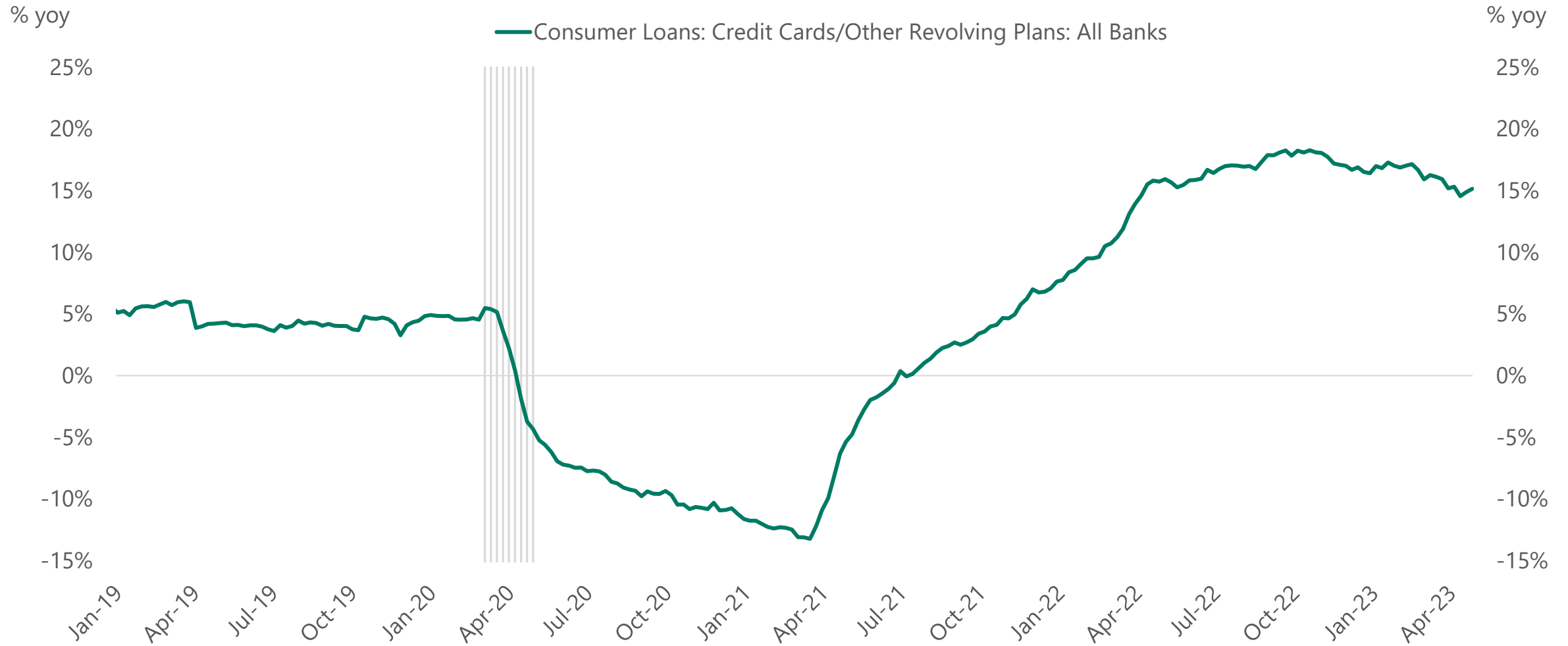
# Decline in growth in lending to multifamily construction



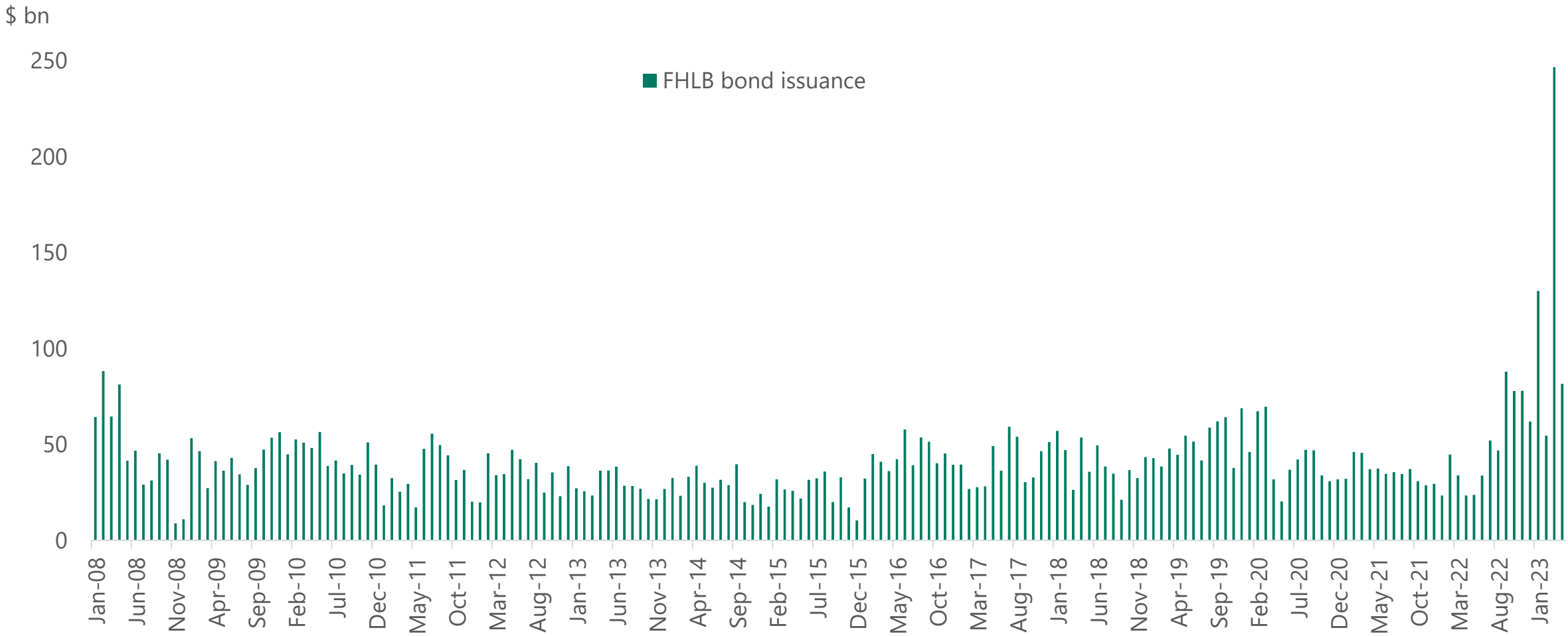
# Negative growth in auto loan lending



# Some decline in growth in credit card lending



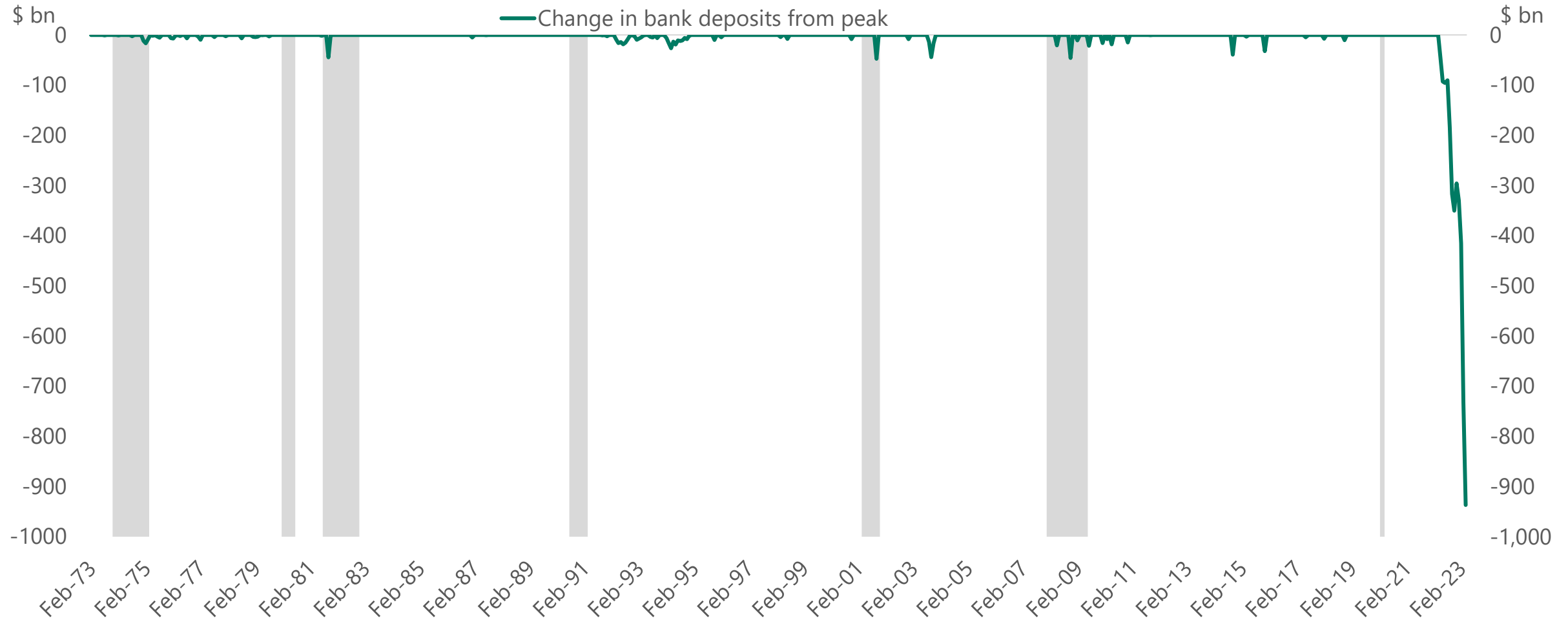
# The FHLB system issued \$247bn in debt in March, significantly higher than in 2008



Source: FHLB, Haver, Apollo Chief Economist.

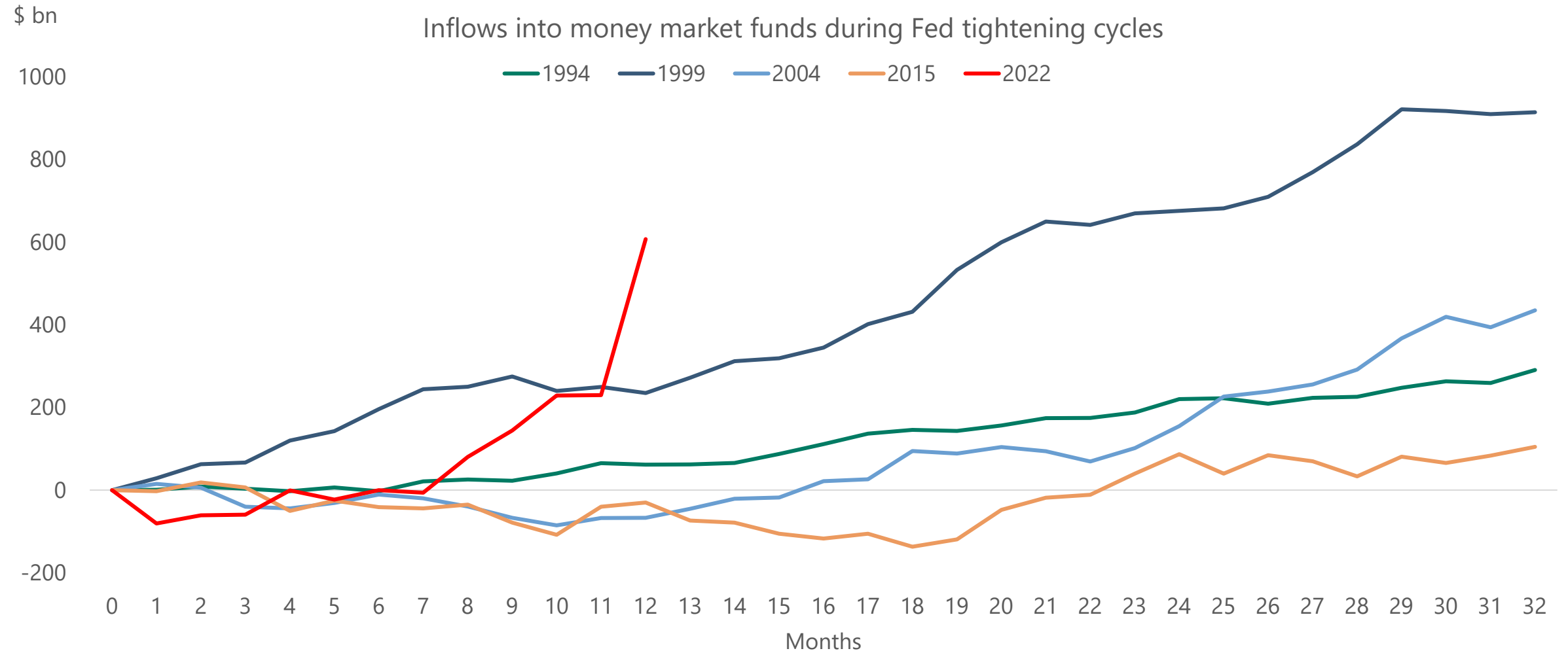
# Overview

\$940bn in deposits have left the banks since the Fed began to raise interest rates, the biggest outflow on record

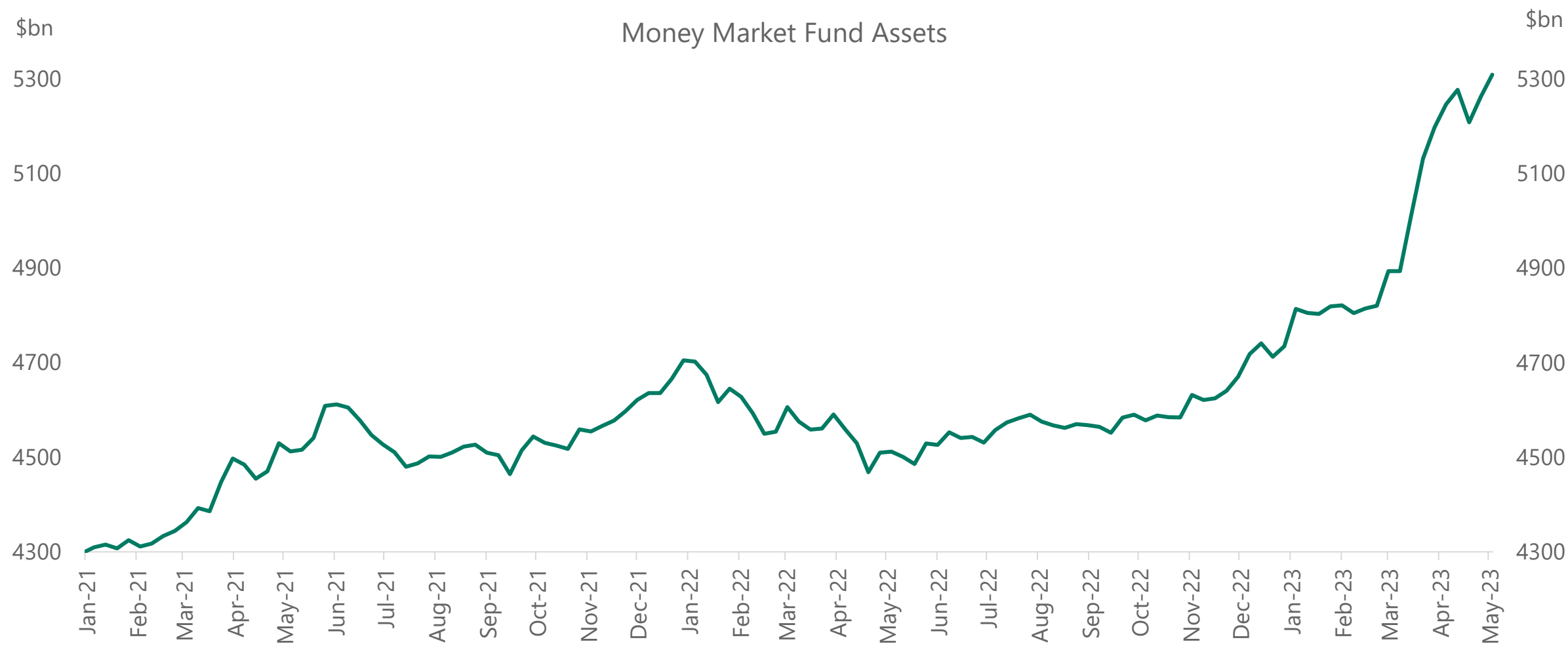


Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist. Note: March data as of 5<sup>th</sup> April 2023. Peak is defined as the month before monthly outflows turn negative

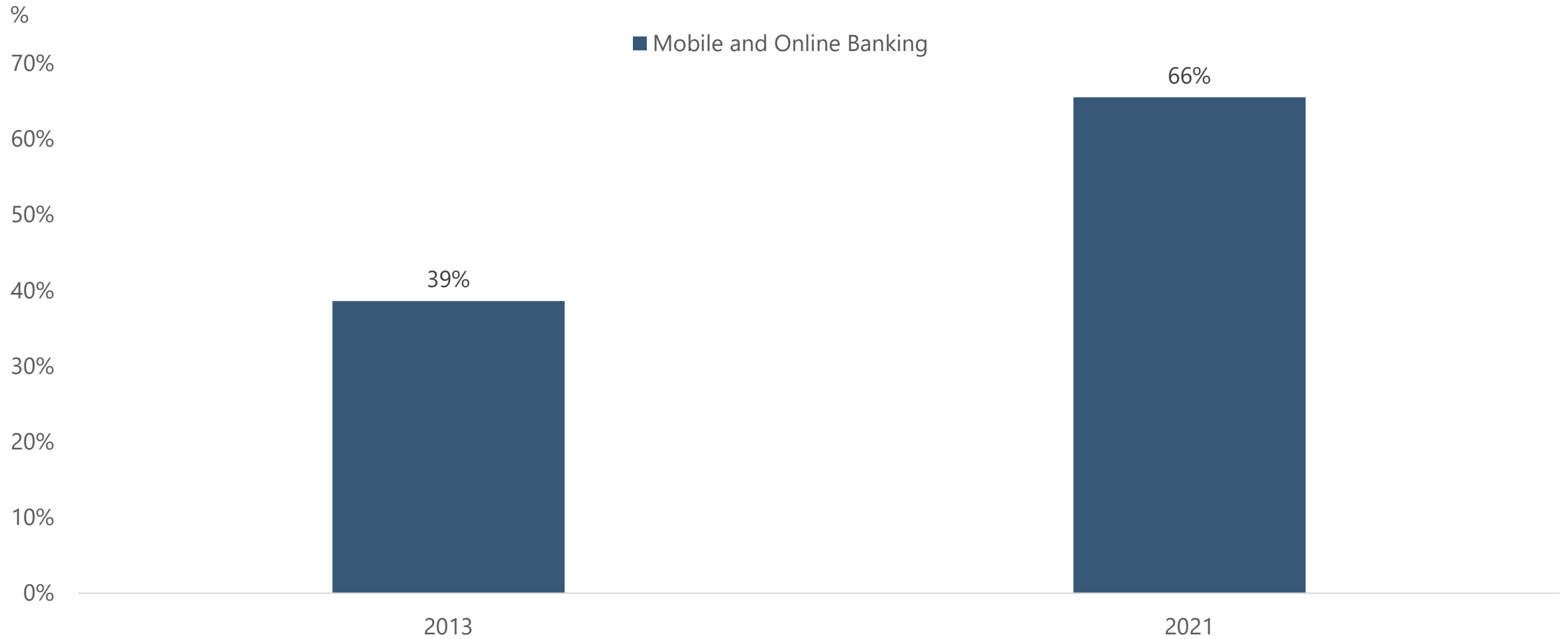
# \$600bn inflows into money market funds during this Fed hiking cycle



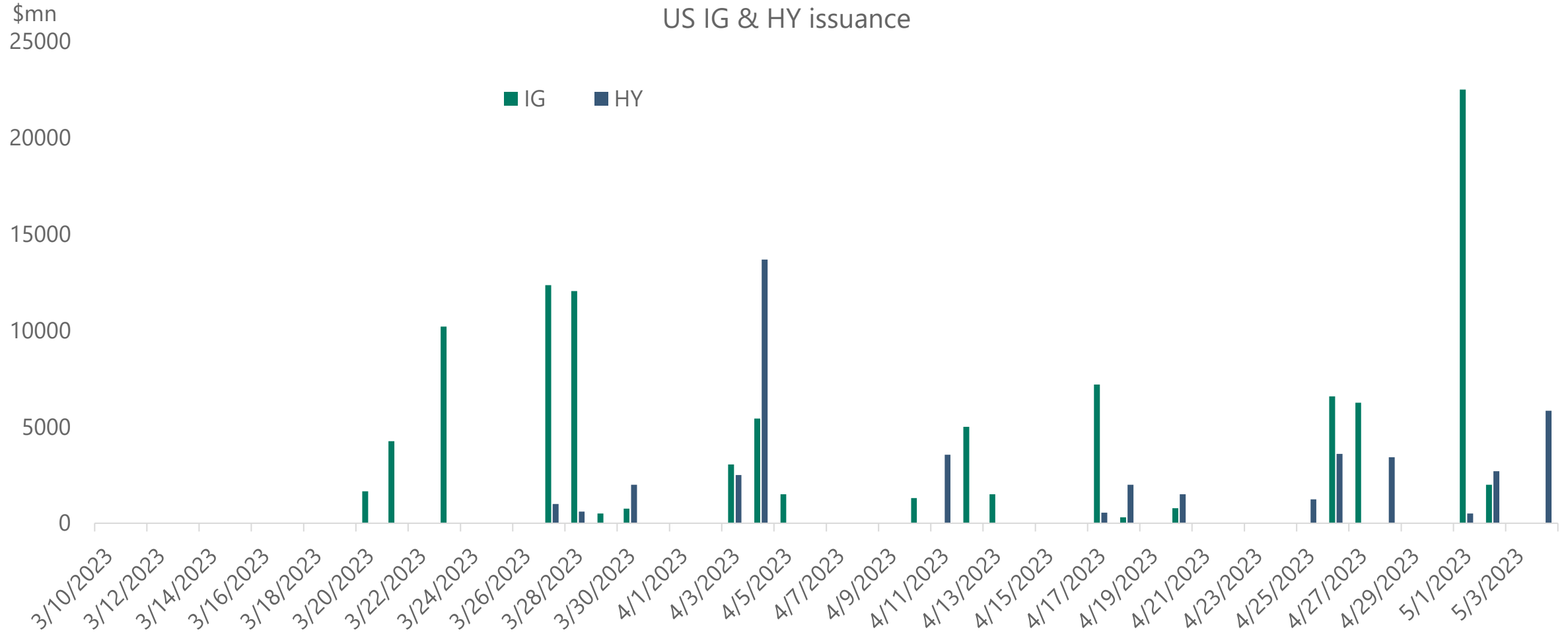
\$350bn has been moved into money market funds since SVB went under



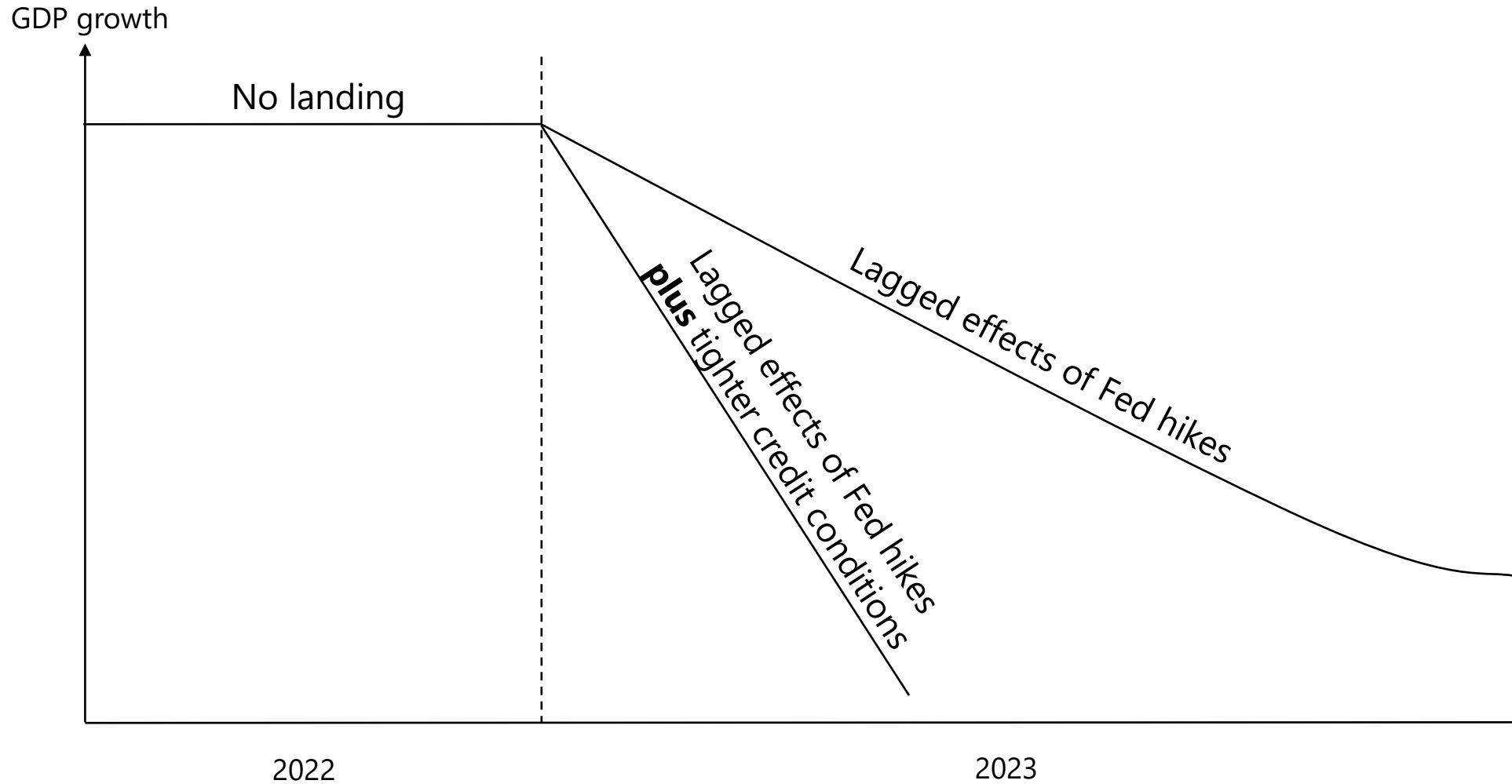
# Primary method of bank account access: More and more households use mobile and online banking



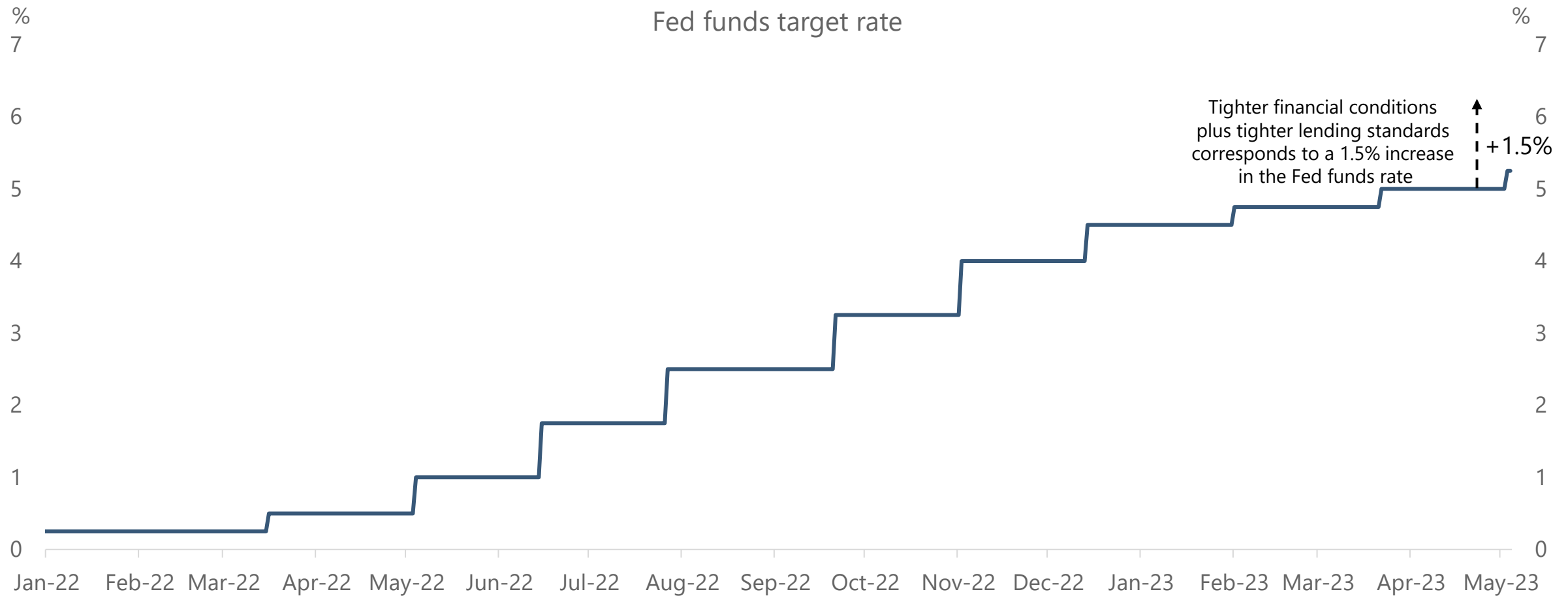
# IG and HY primary issuance slowly coming back



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

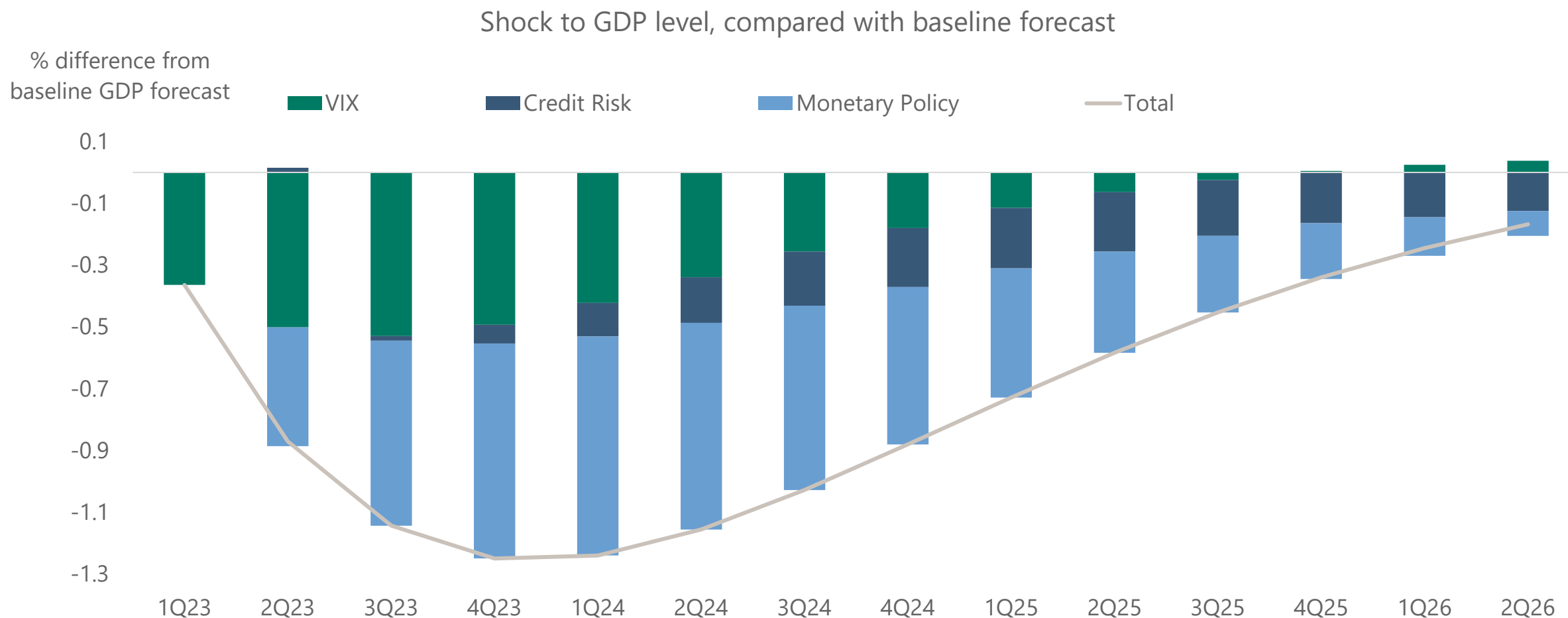


The Fed funds rate effectively pushed 1.5%-points higher after SVB because of tighter financial conditions combined with tighter lending standards



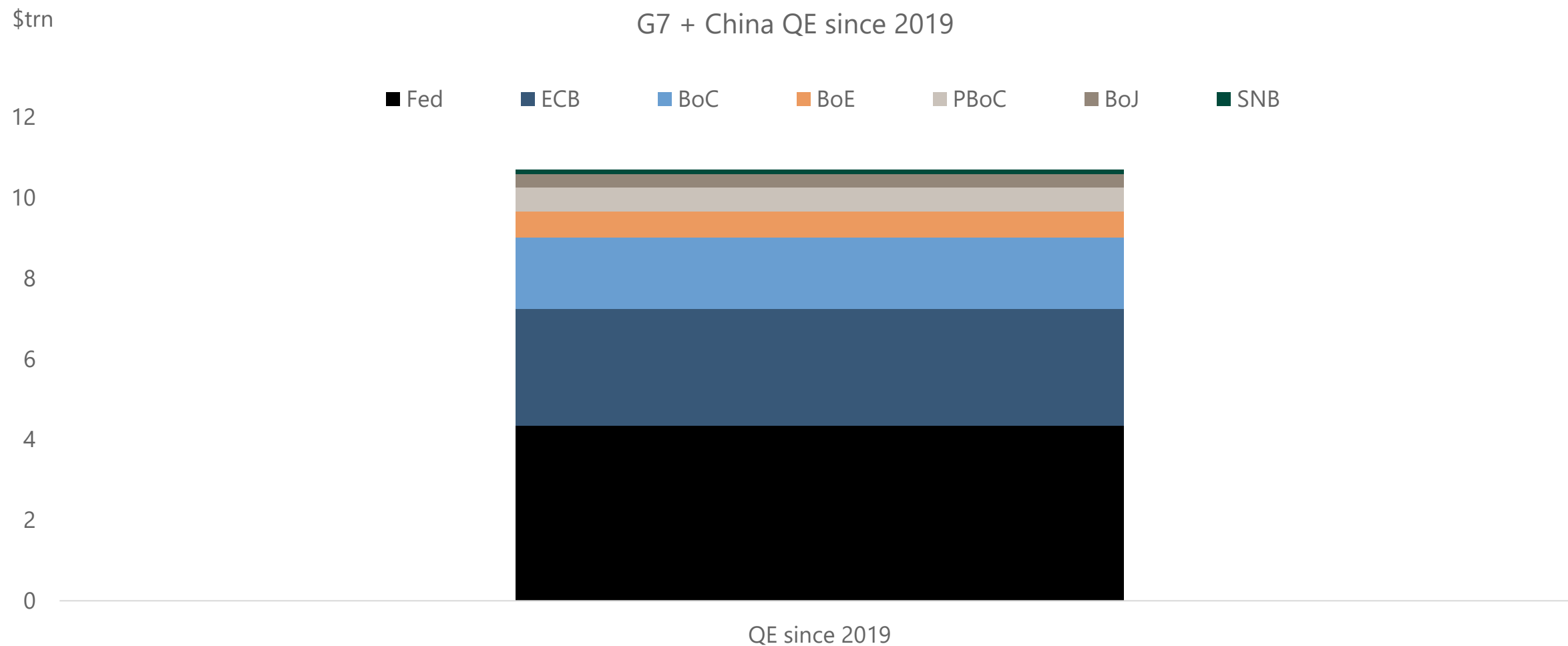
Source: Bloomberg, Apollo Chief Economist. Note: Two regression models with the Fed funds rate on the left-hand side were run to quantify the effect from tighter financial conditions and tighter lending standards, and the estimated coefficients show 0.5% higher Fed funds rate from tighter financial conditions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

# Impact on GDP if the ongoing banking crisis continues



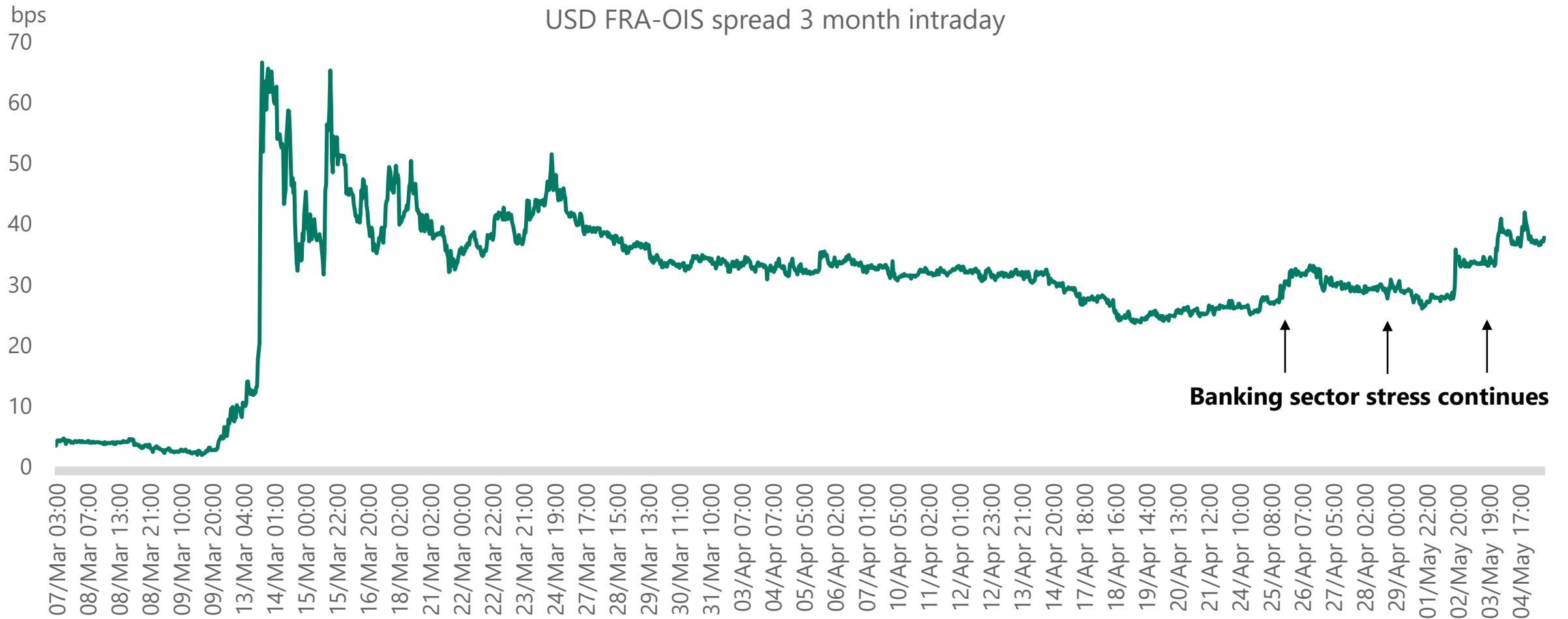
Source: Bloomberg, Apollo Chief Economist. Note: The chart shows difference in baseline forecast adding a 150bps shock to Fed funds rate and 30 bps to credit risk and a two standard deviation shock to VIX, all starting in 1Q23. VIX is currently two standard deviations from its mean since 2010.

# QE added \$12trn to global liquidity since 2019

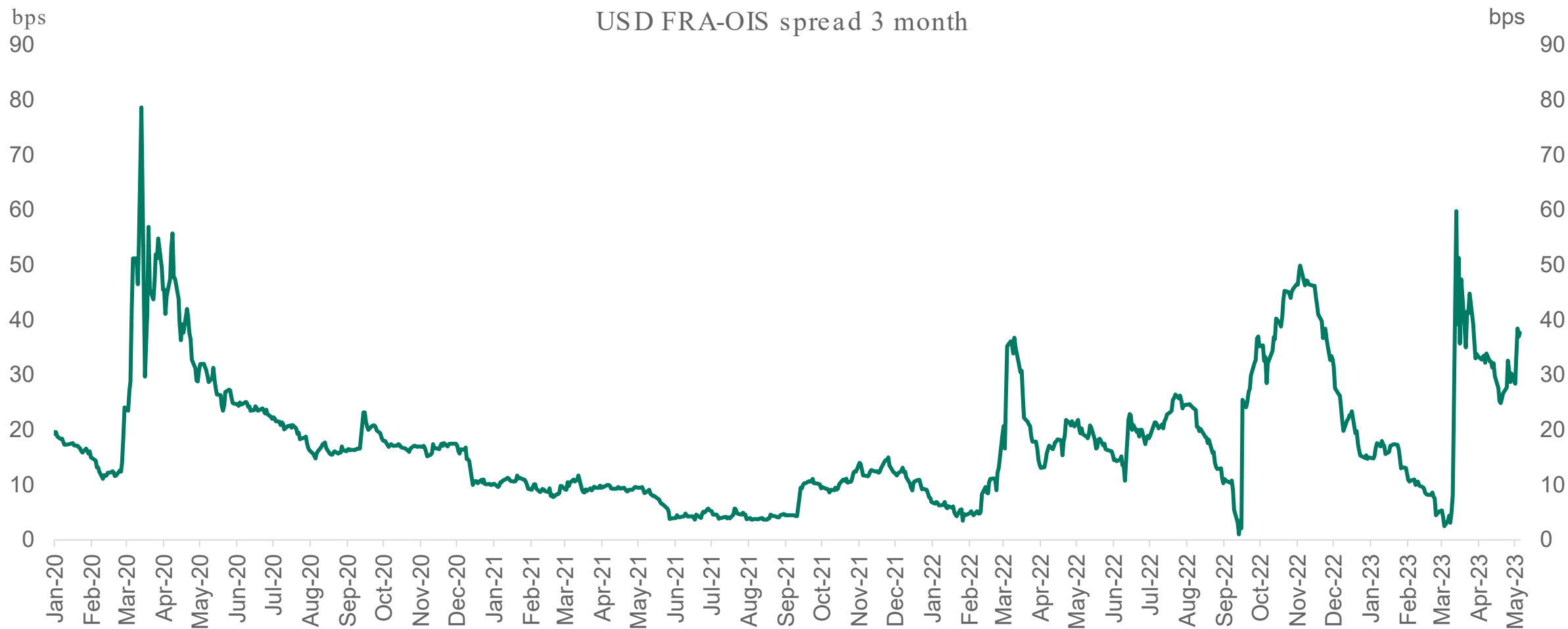


Bank funding pressures:  
Deposits and market-based measures

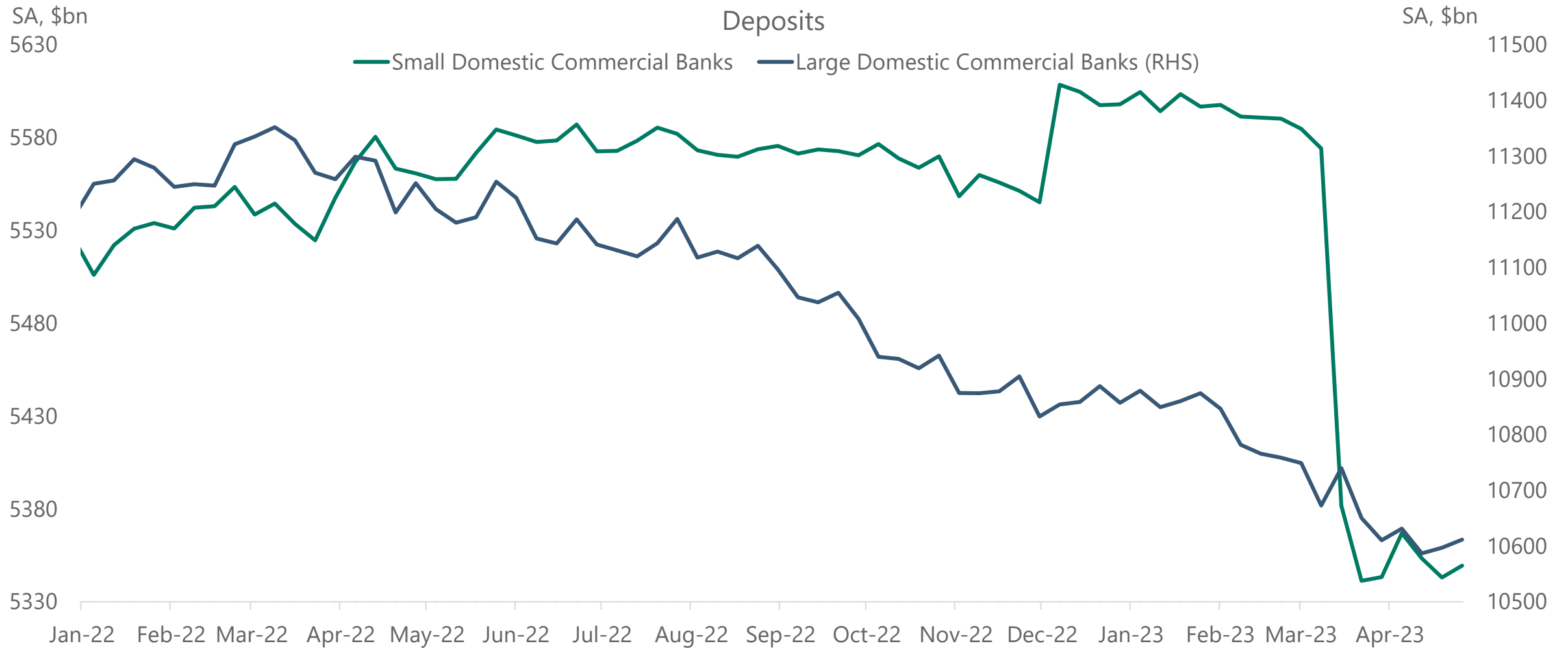
# Bank funding costs widening out: FRA-OIS spread remains elevated



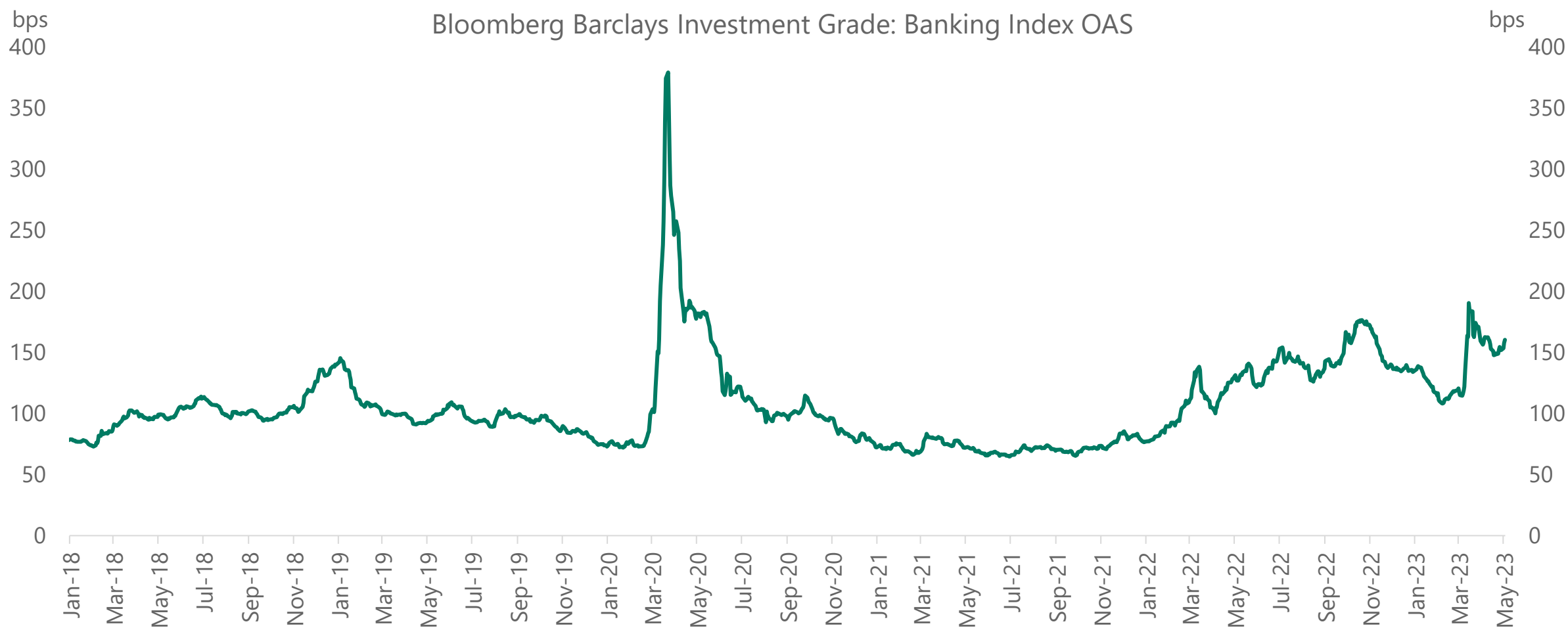
# FRA-OIS spread at levels seen in March 2020



# Deposits in small and large banks

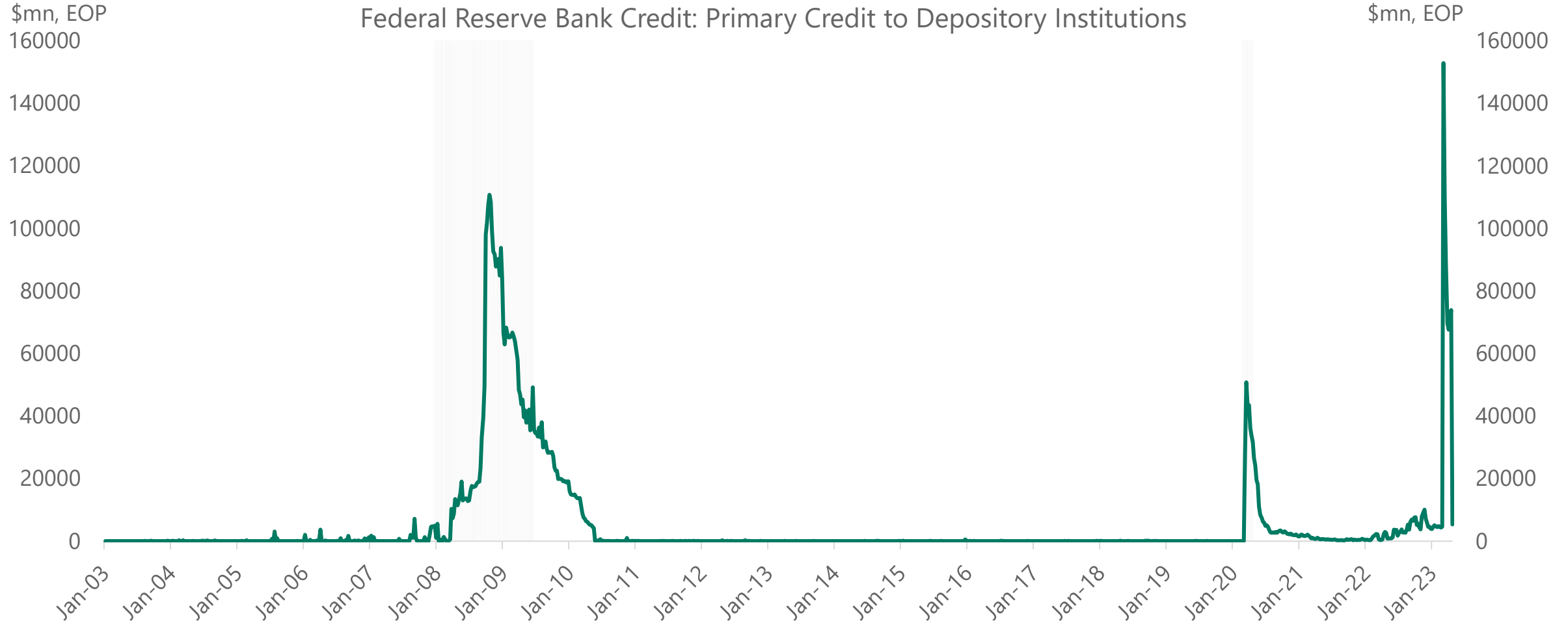


# IG OAS spreads for banks remain elevated

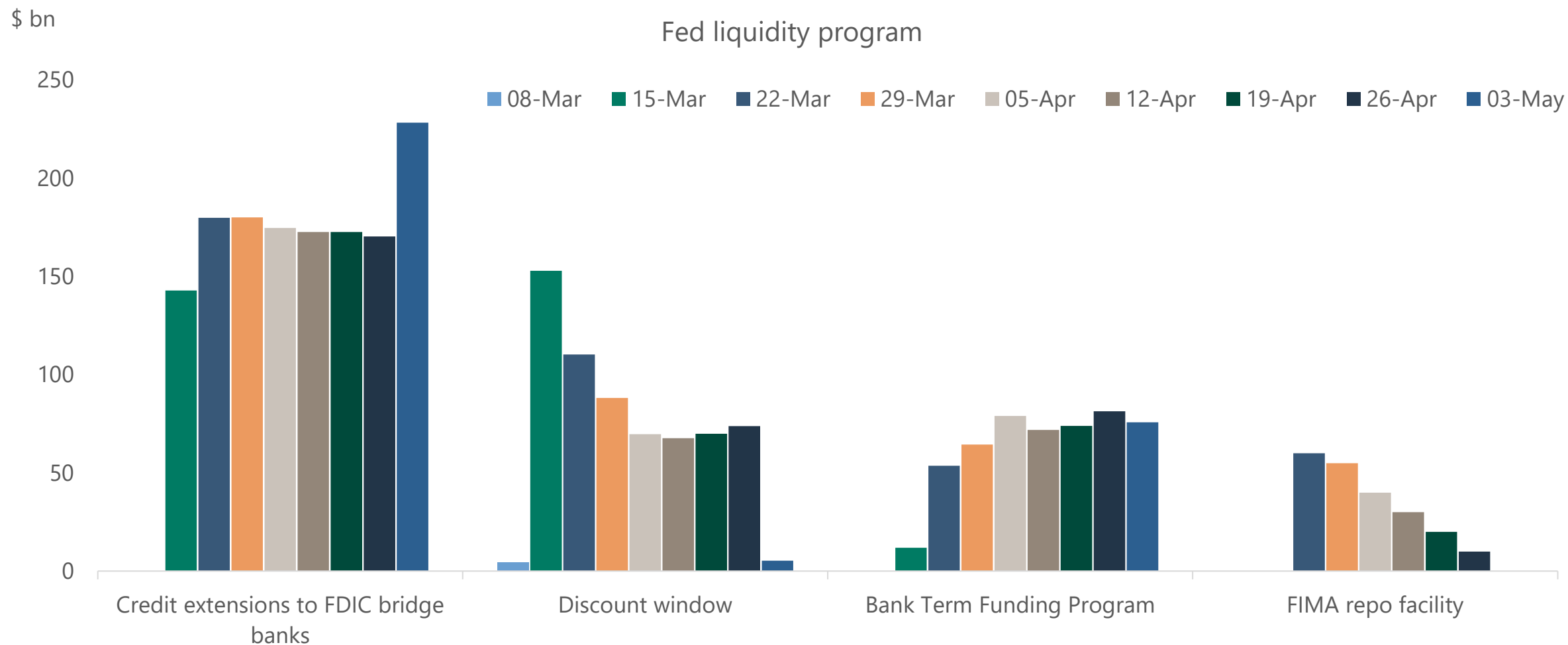


Source: Bloomberg, Apollo Chief Economist. Note: Ticker used I00408US Index. As of March 24, 2023.

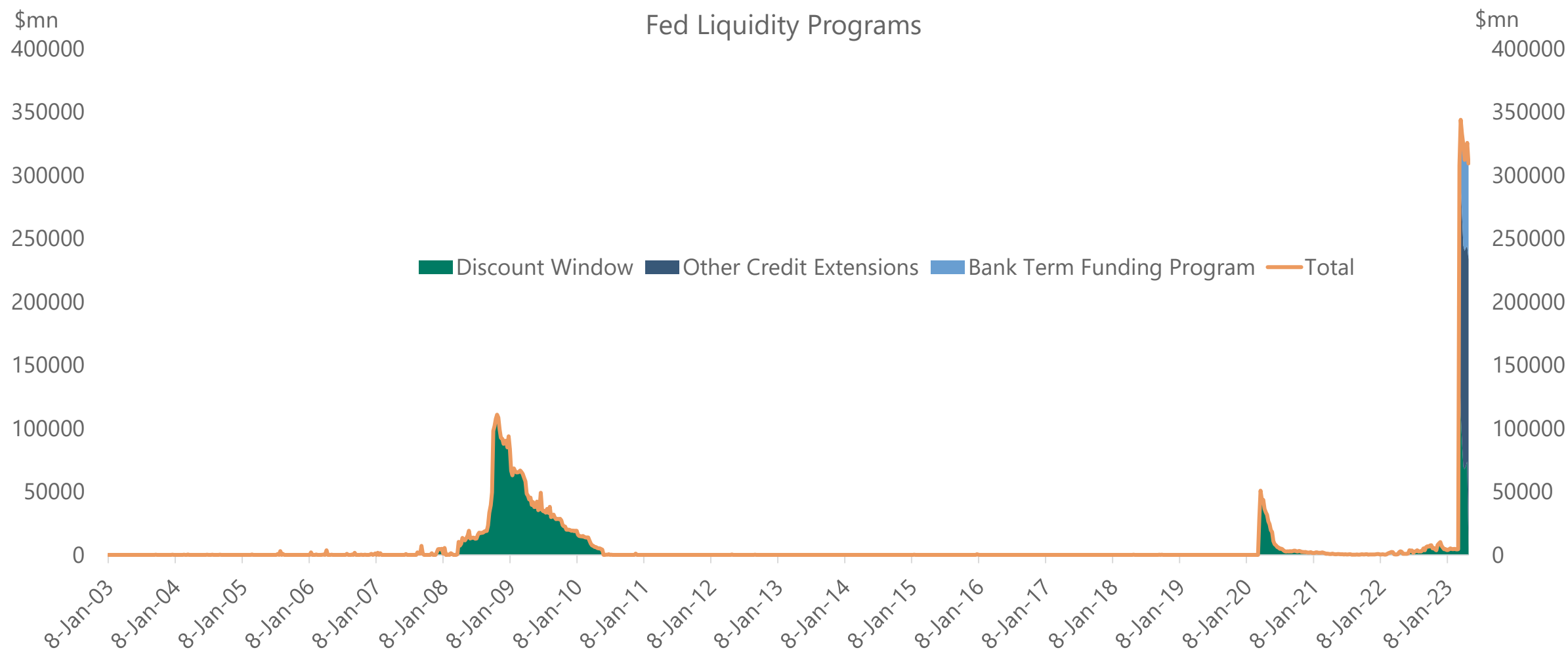
# Fed Discount Window borrowing higher than in 2008



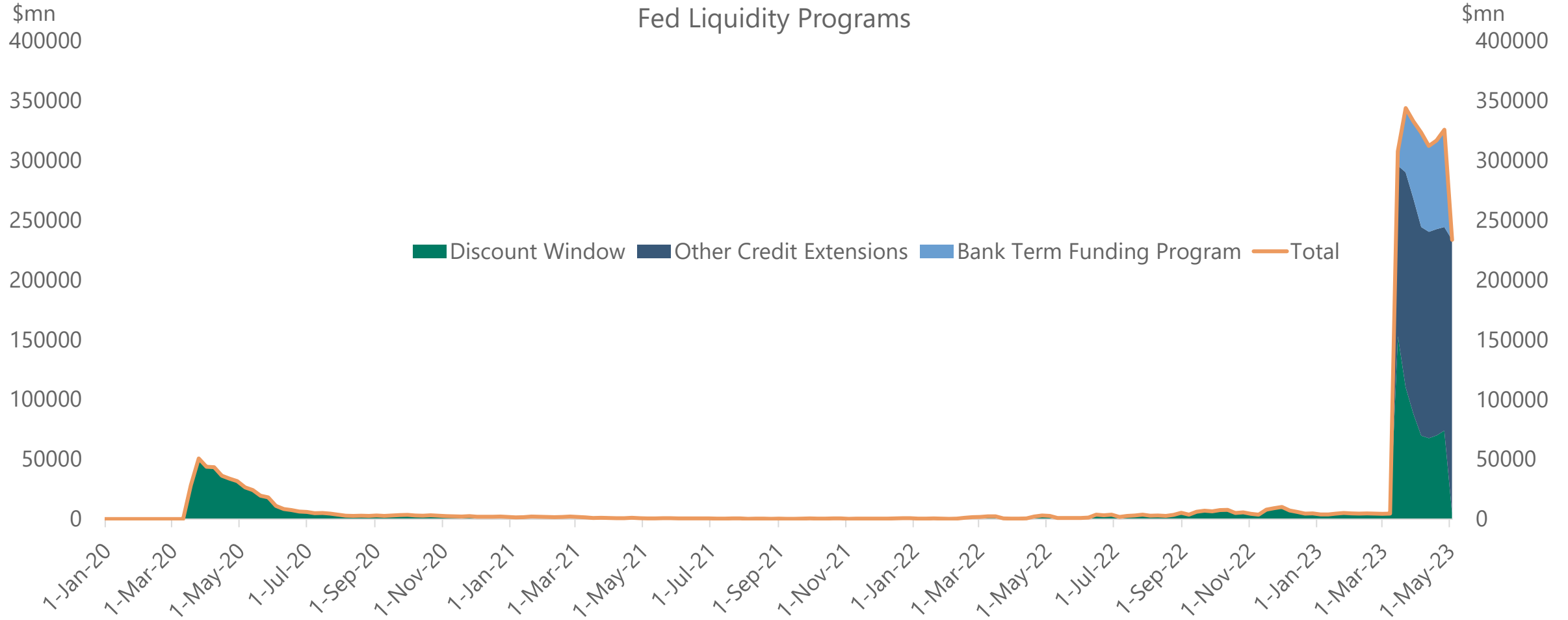
# Fed liquidity program



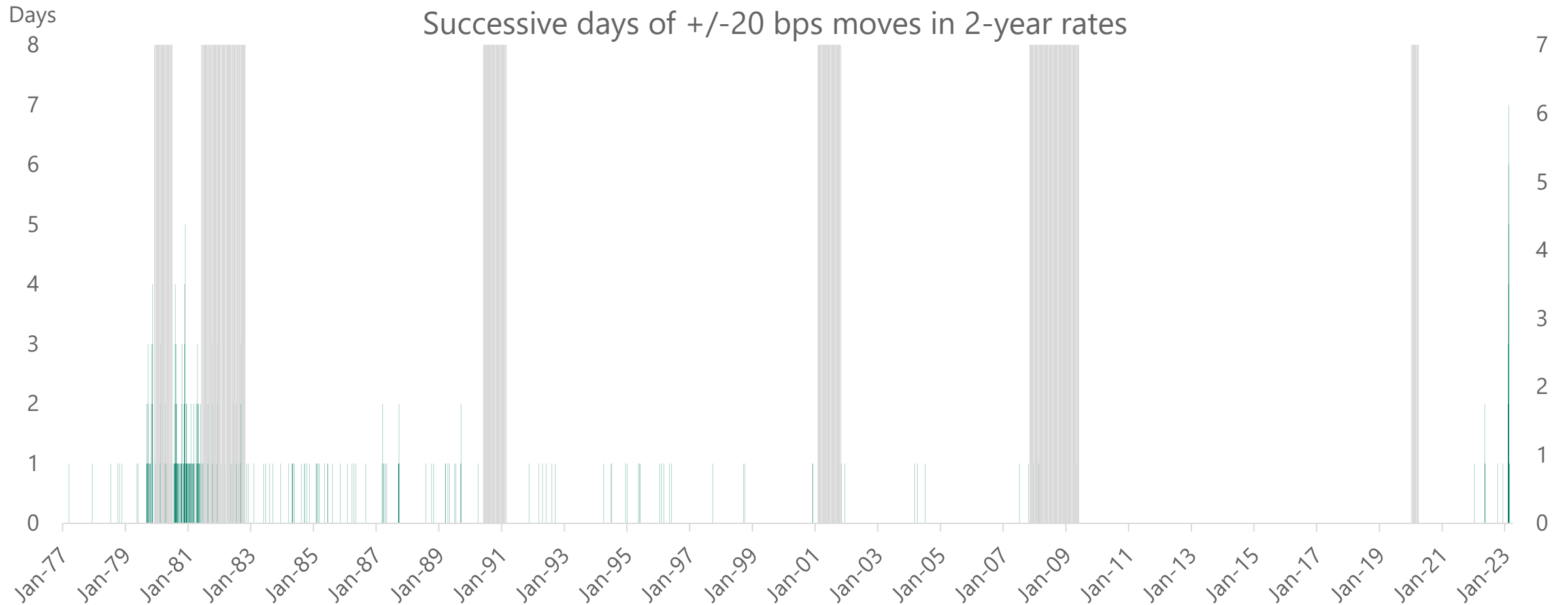
# Fed liquidity borrowing higher than in 2008



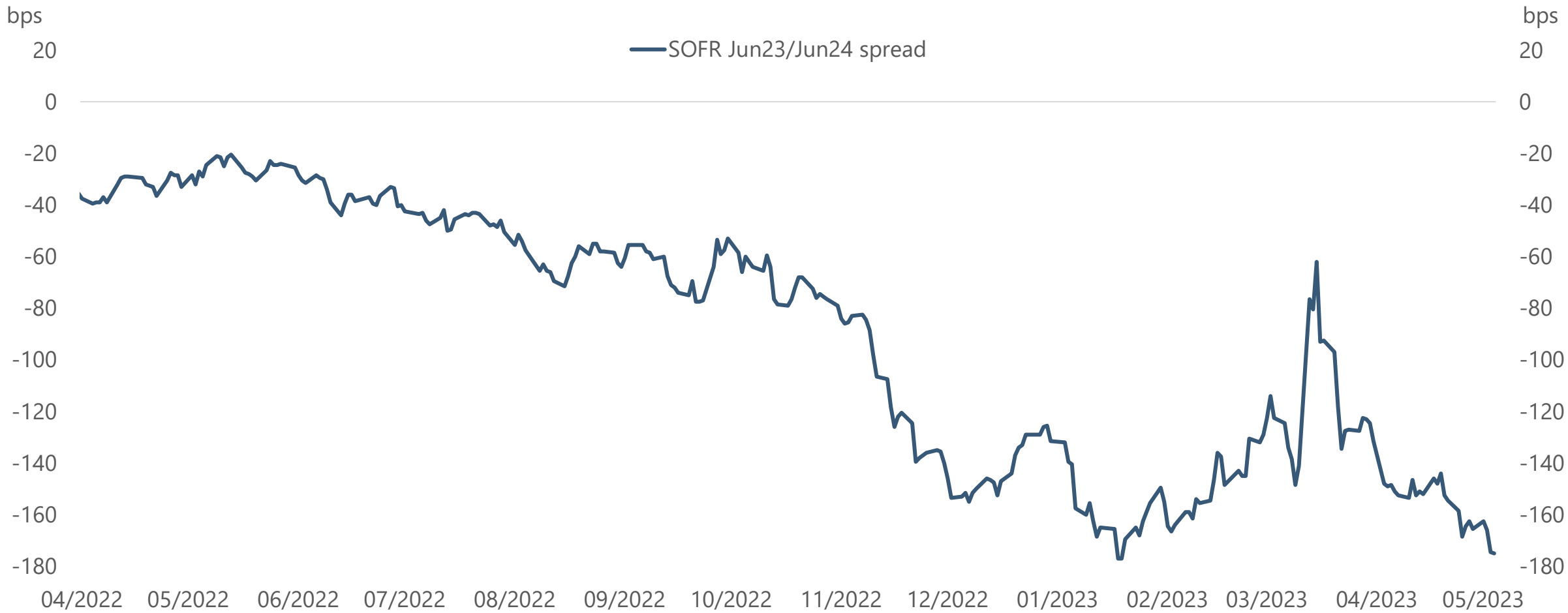
# Fed liquidity programs



# Record-high volatility in fixed income markets

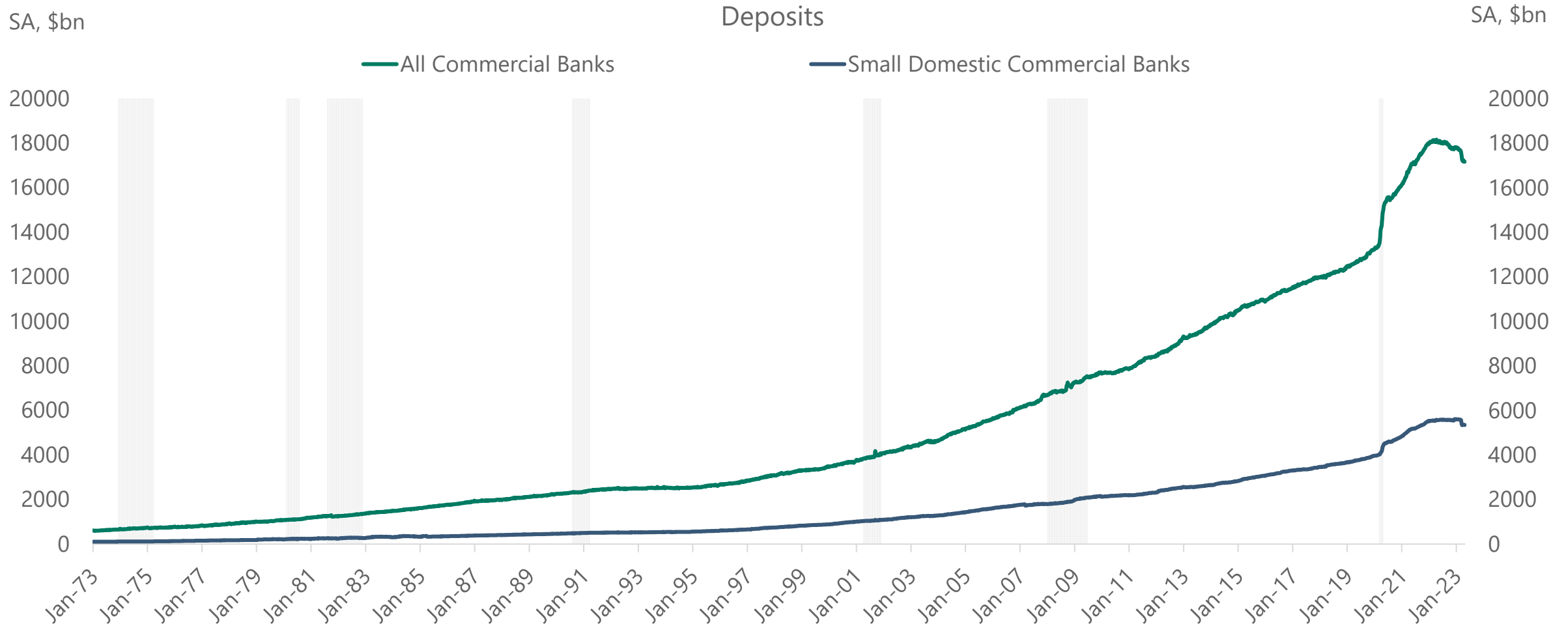


# SOFR spreads currently pricing aggressive rate cuts

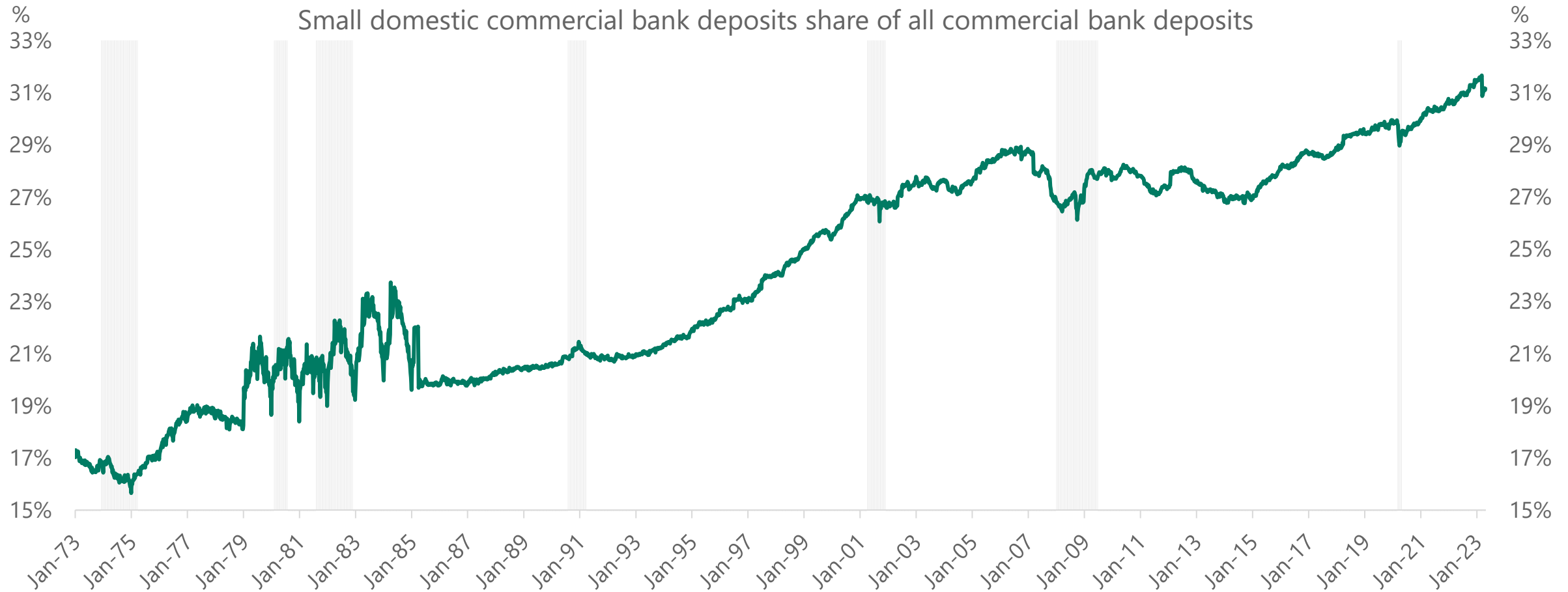


What is happening with deposits in regional banks?

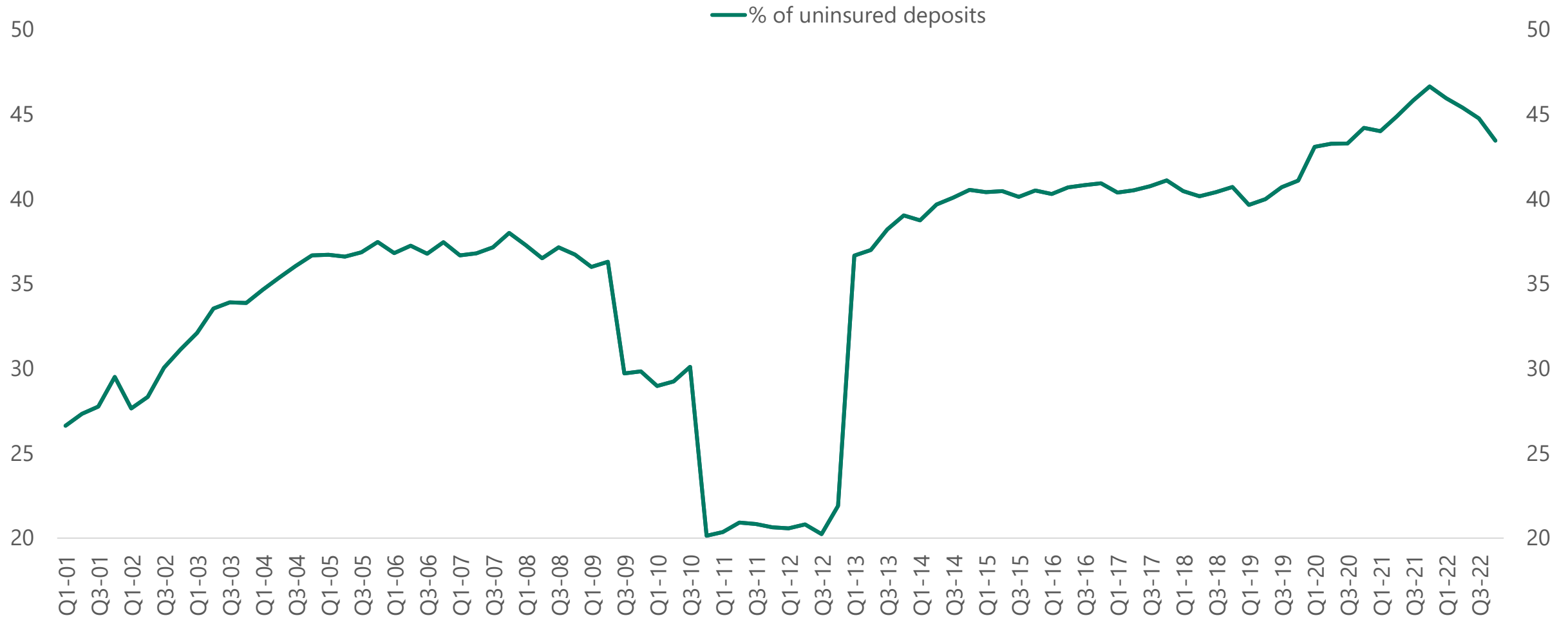
# Small banks account for roughly a third of all deposits in the banking sector



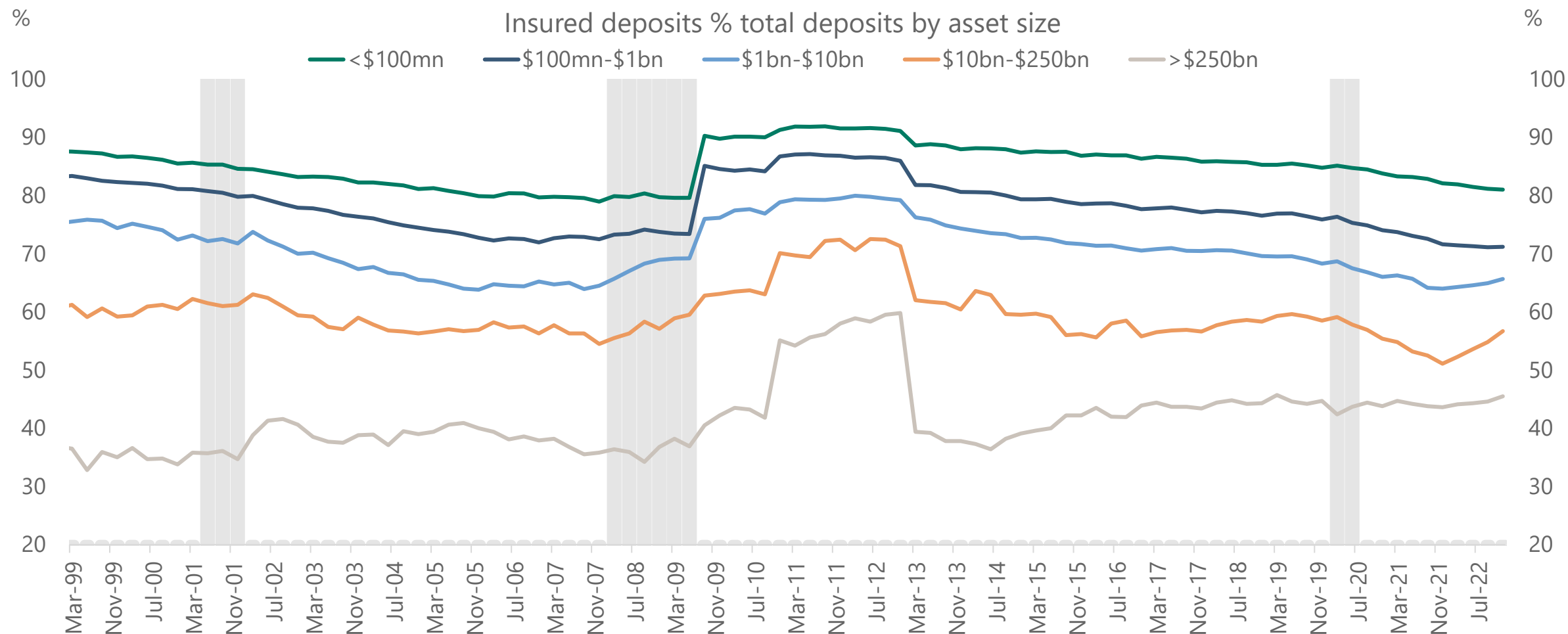
Small banks account for about 1/3 of total deposits in the banking sector and the share has been rising since the 2008 financial crisis



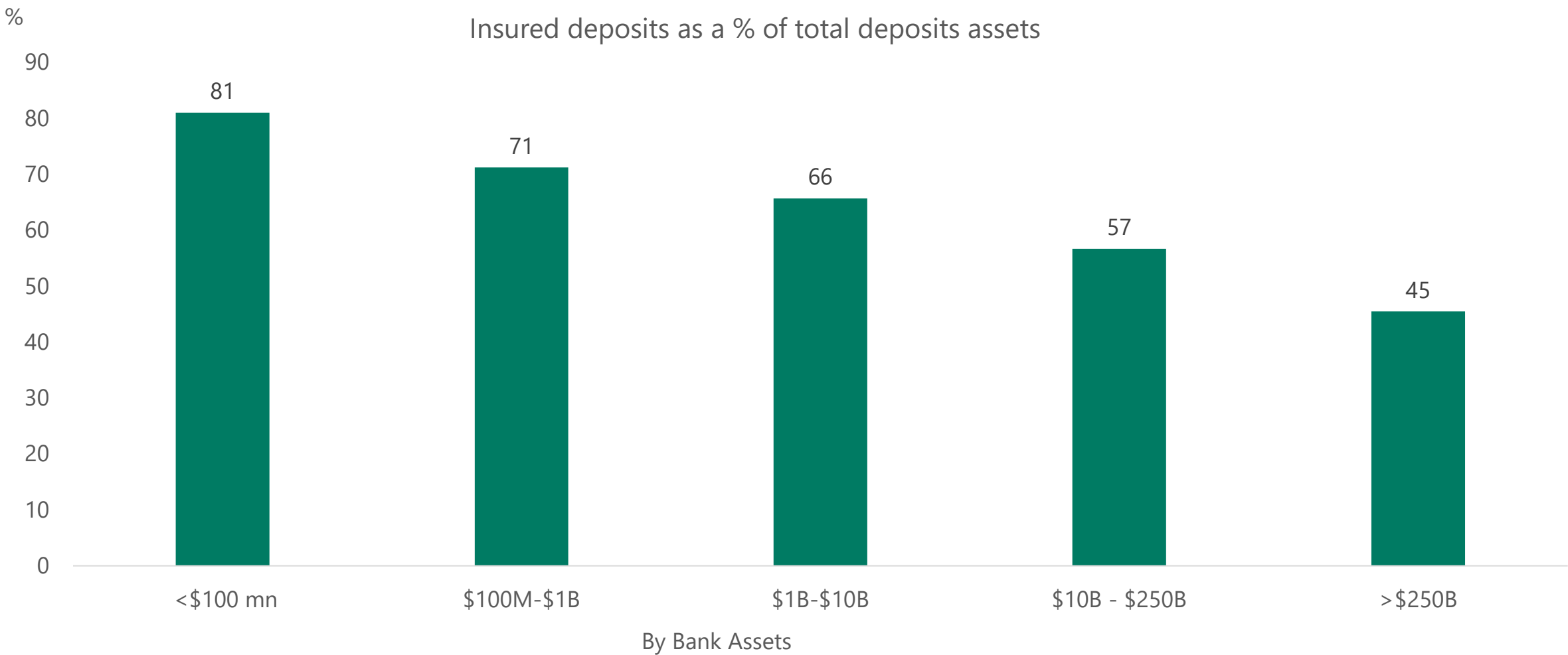
# Share of total bank deposits that are uninsured: 43%



# Share of insured deposits, by bank size

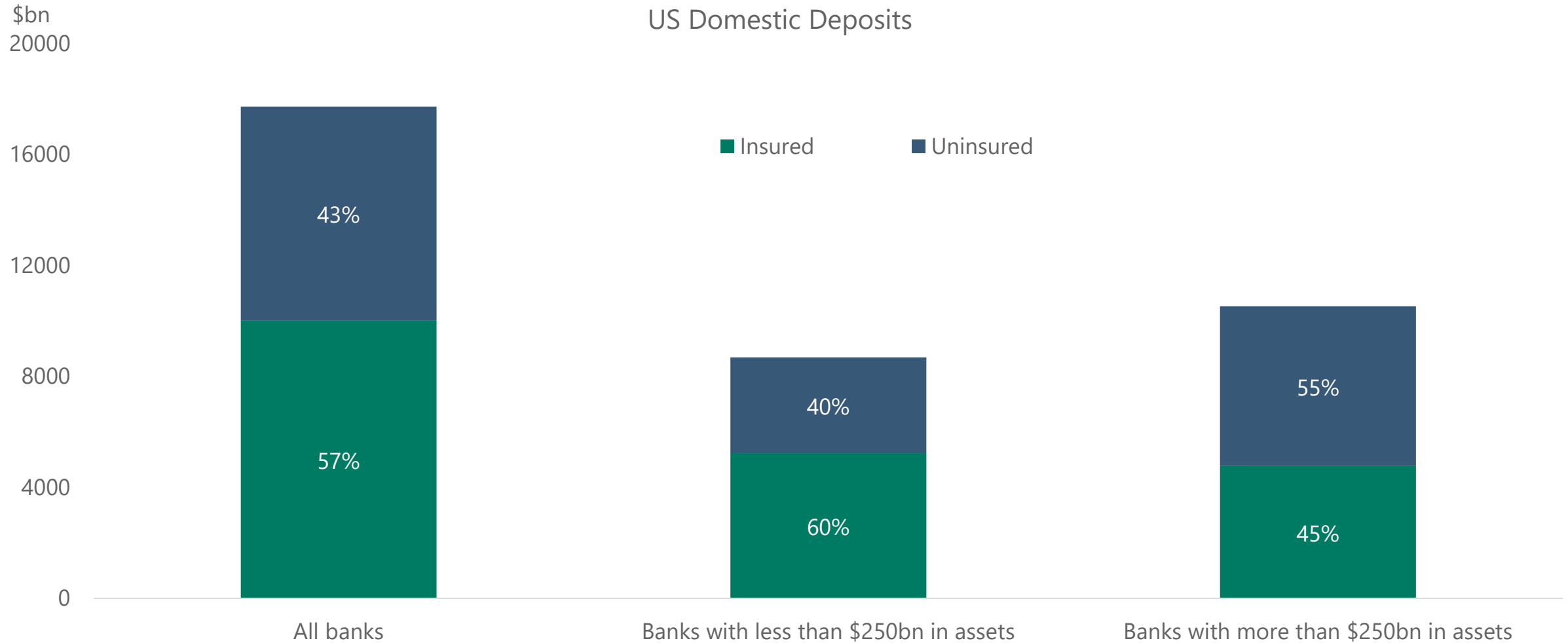


# Share of insured deposits, by bank size

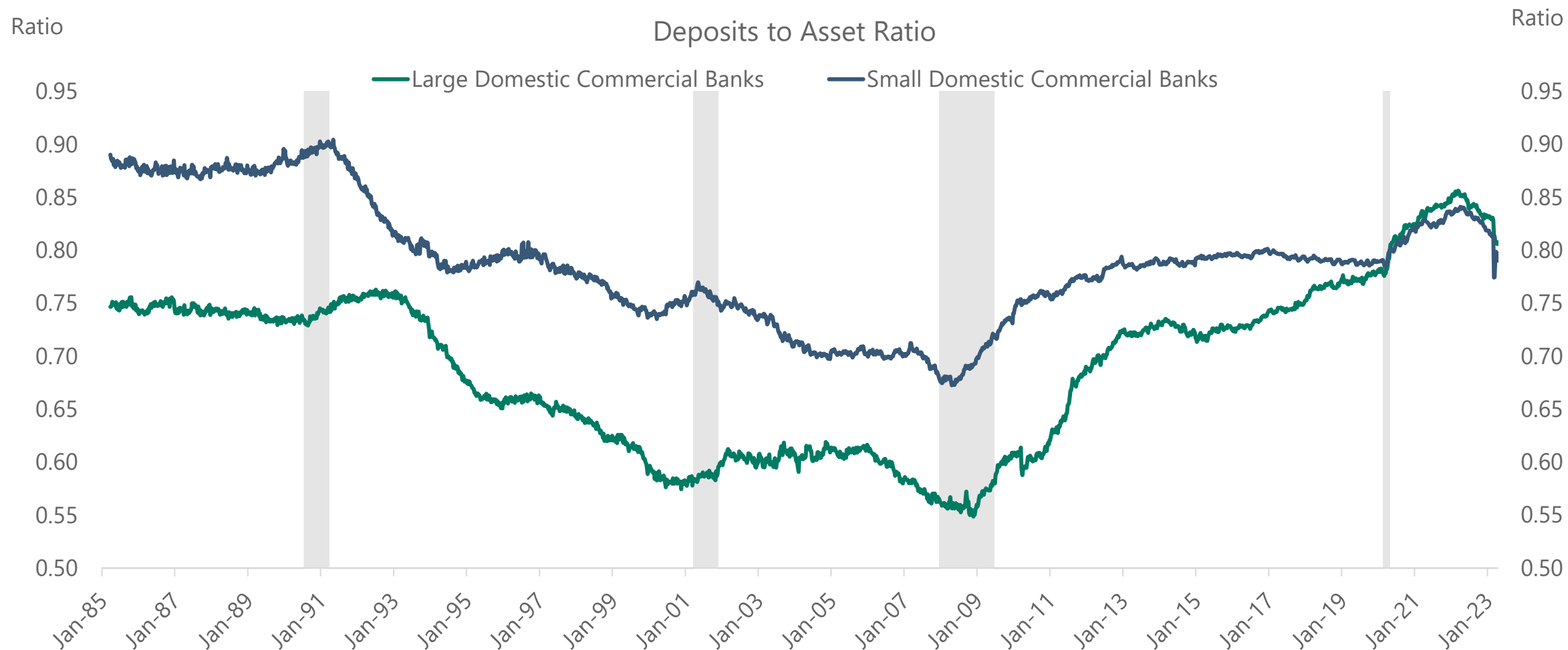


Source: FDIC, Haver Analytics, Apollo Chief Economist. As of Q4 2022

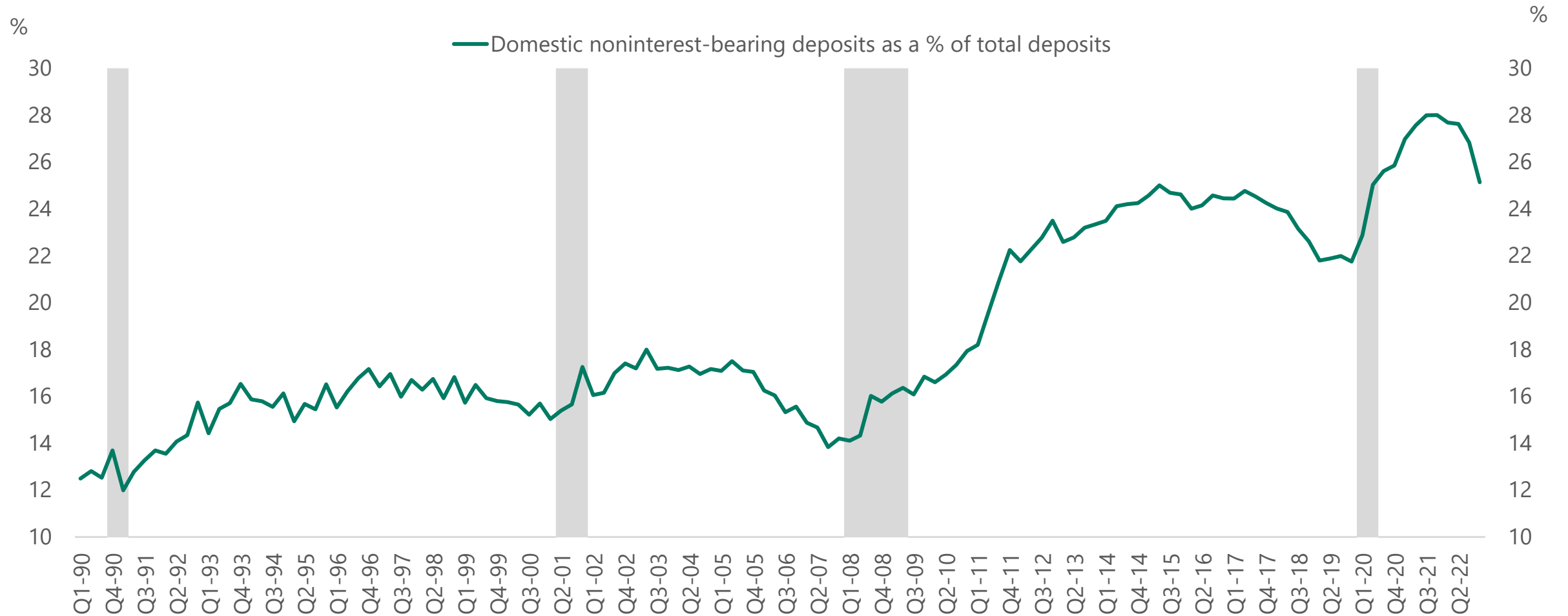
# Share of insured deposits, by bank size



# Deposit to asset ratio for large and small banks

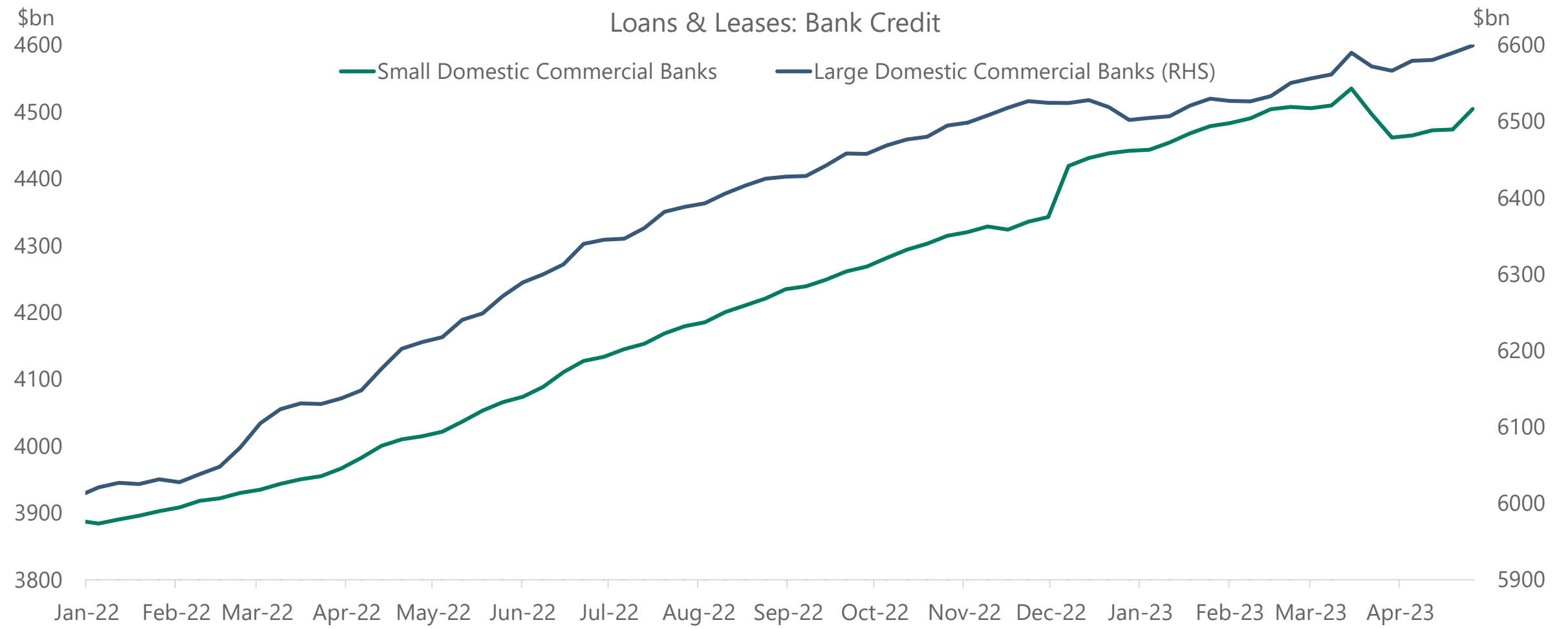


# The share of bank deposits paying zero interest rate is declining



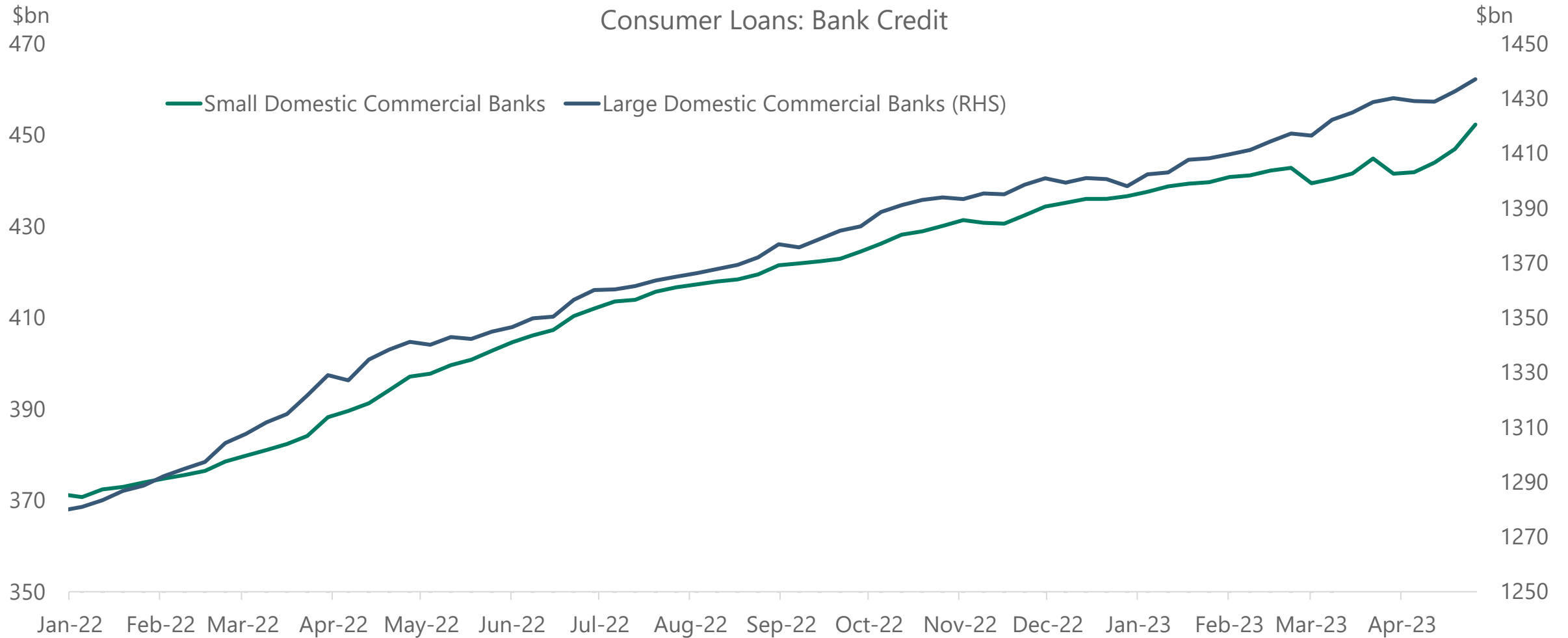
Weekly data for bank lending by small and large banks

# Weekly data for overall bank lending

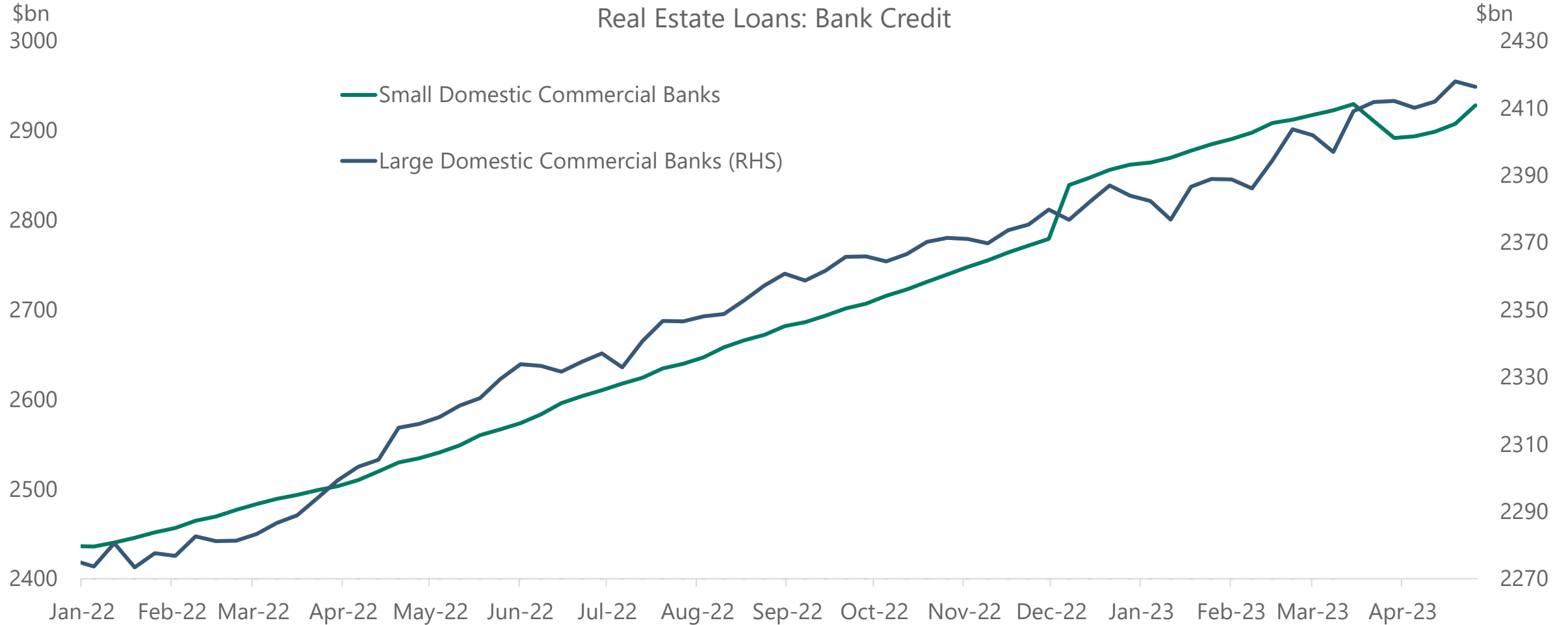


Source: Federal Reserve Board, Haver Analytics, Apollo Chief Economist.

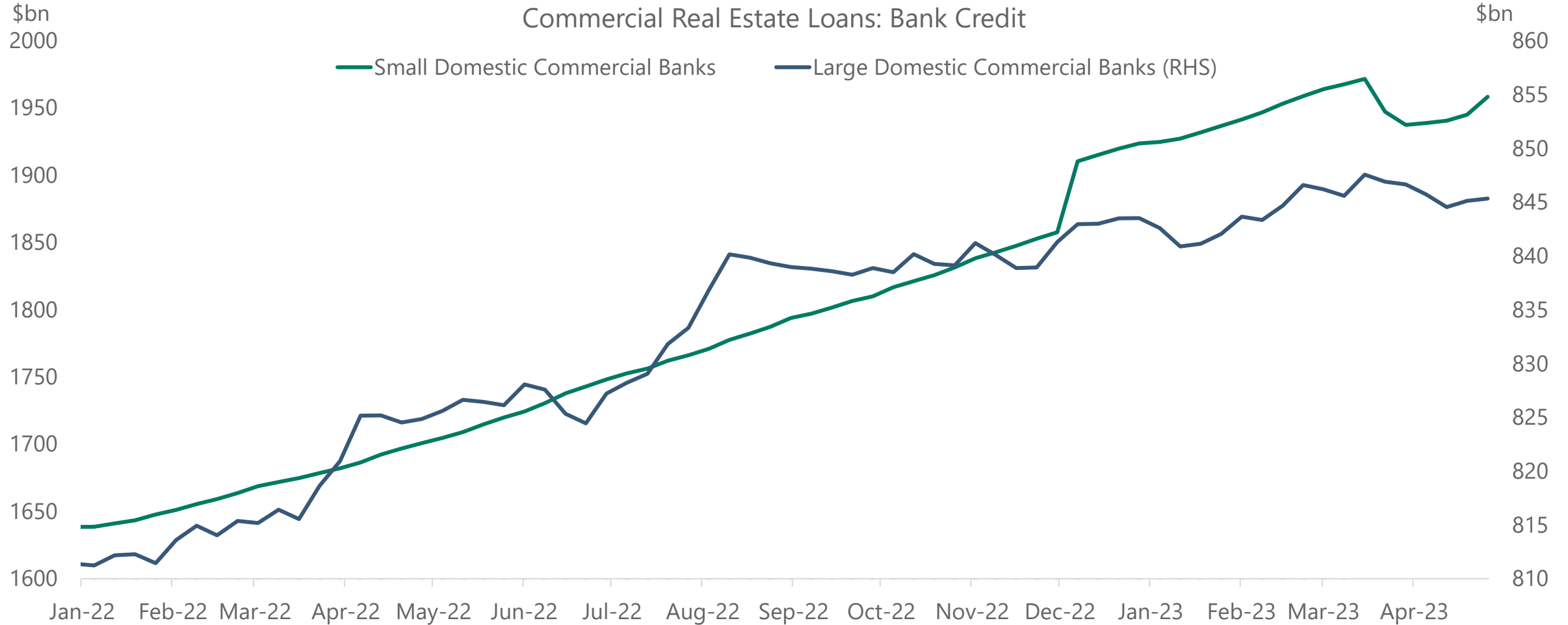
# Weekly data for lending to consumers by small and large banks



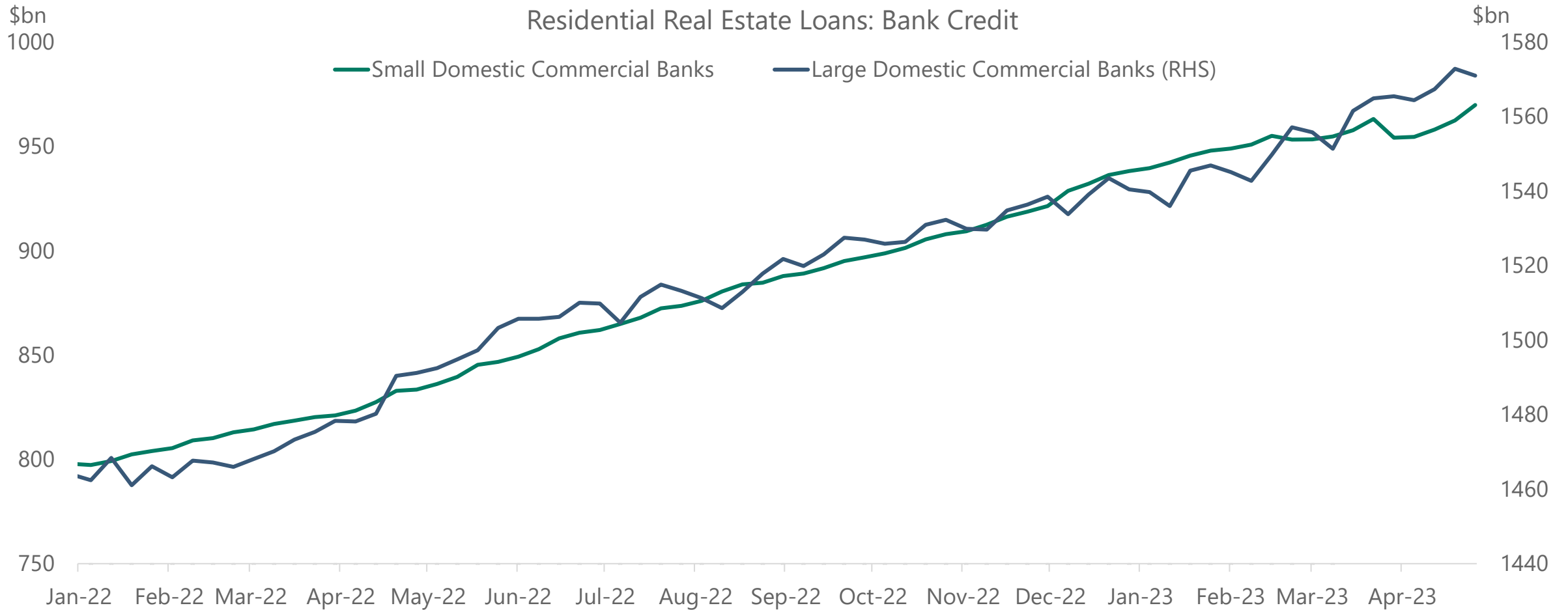
# Weekly data for real estate lending by small and large banks



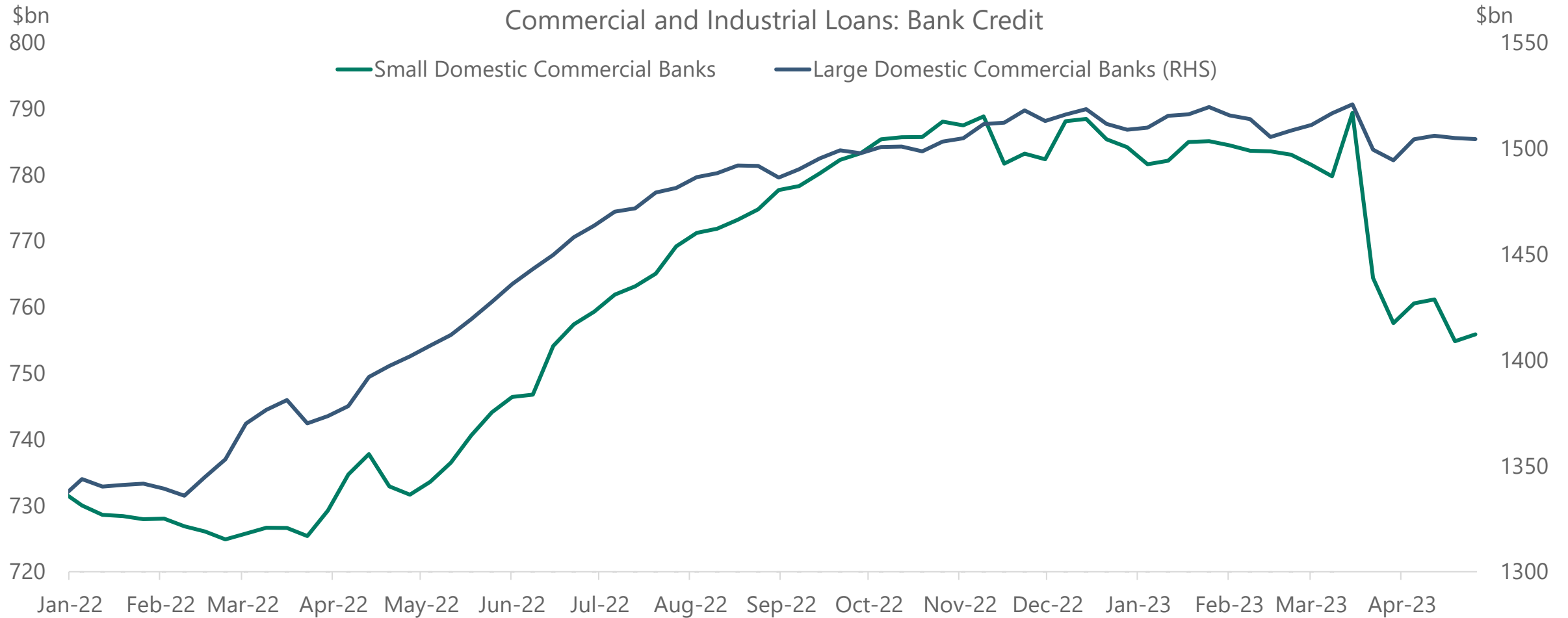
# Weekly data for commercial real estate lending by small and large banks



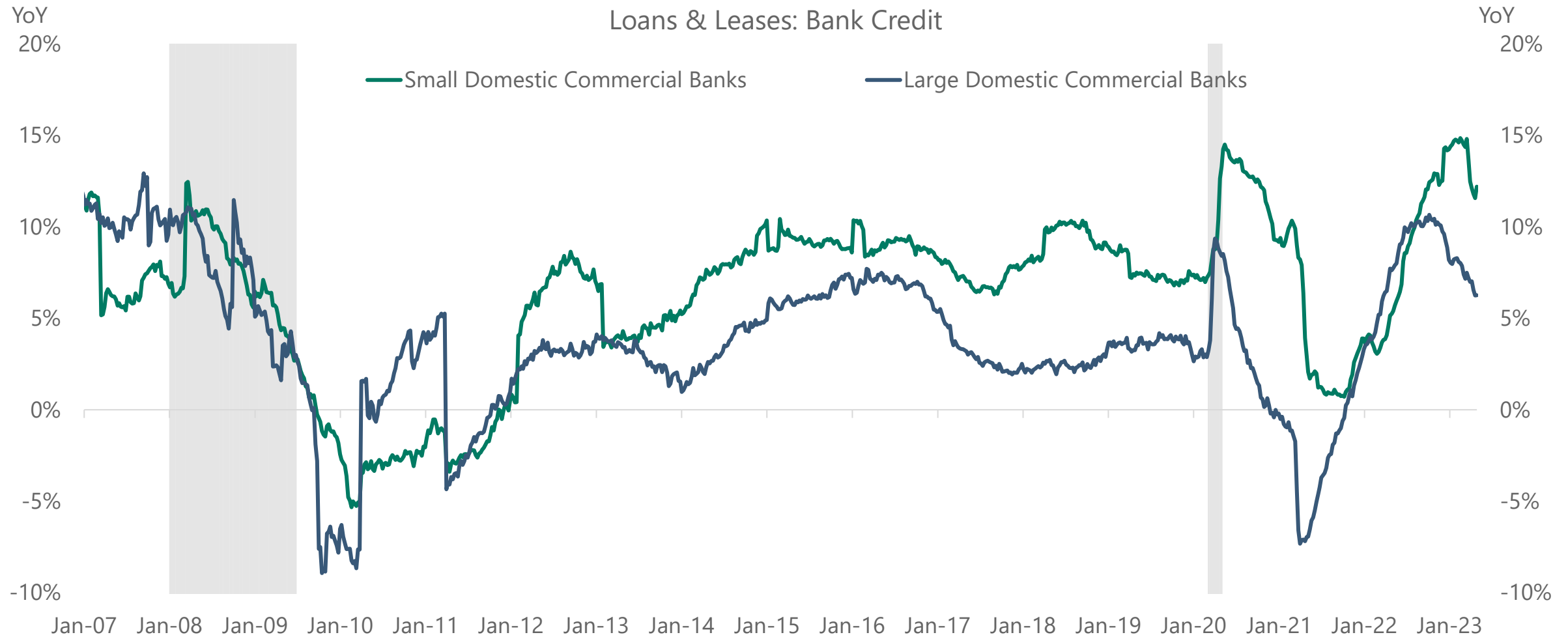
# Weekly data for residential real estate lending by small and large banks



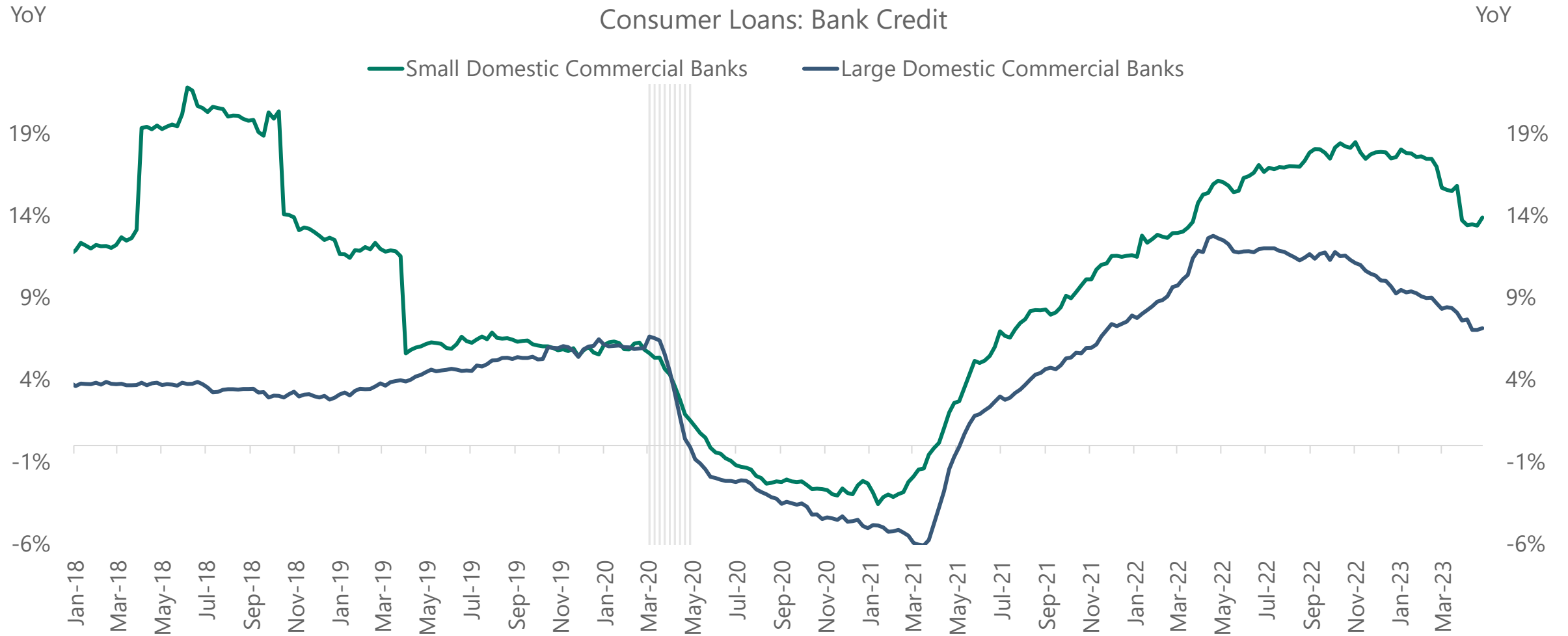
# Weekly data for commercial and industrial lending by small and large banks



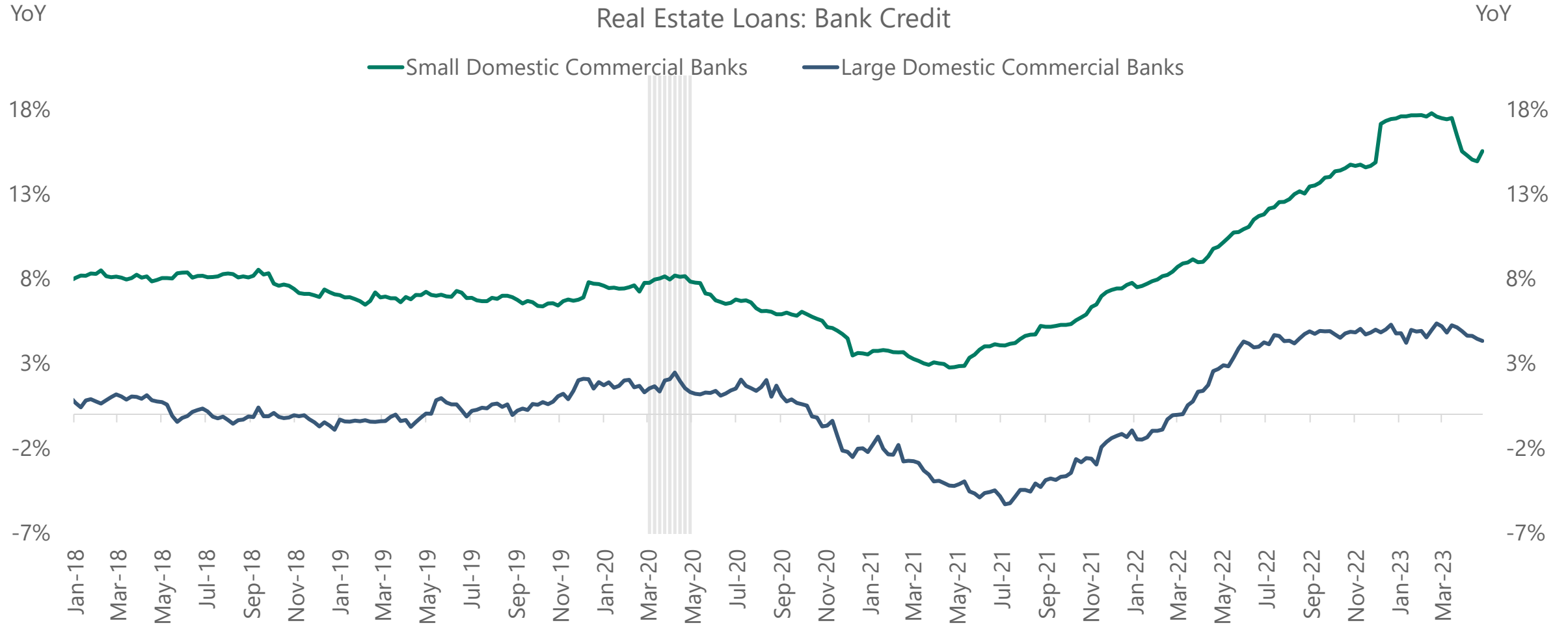
# Divergence between small bank and large bank lending growth over the past year



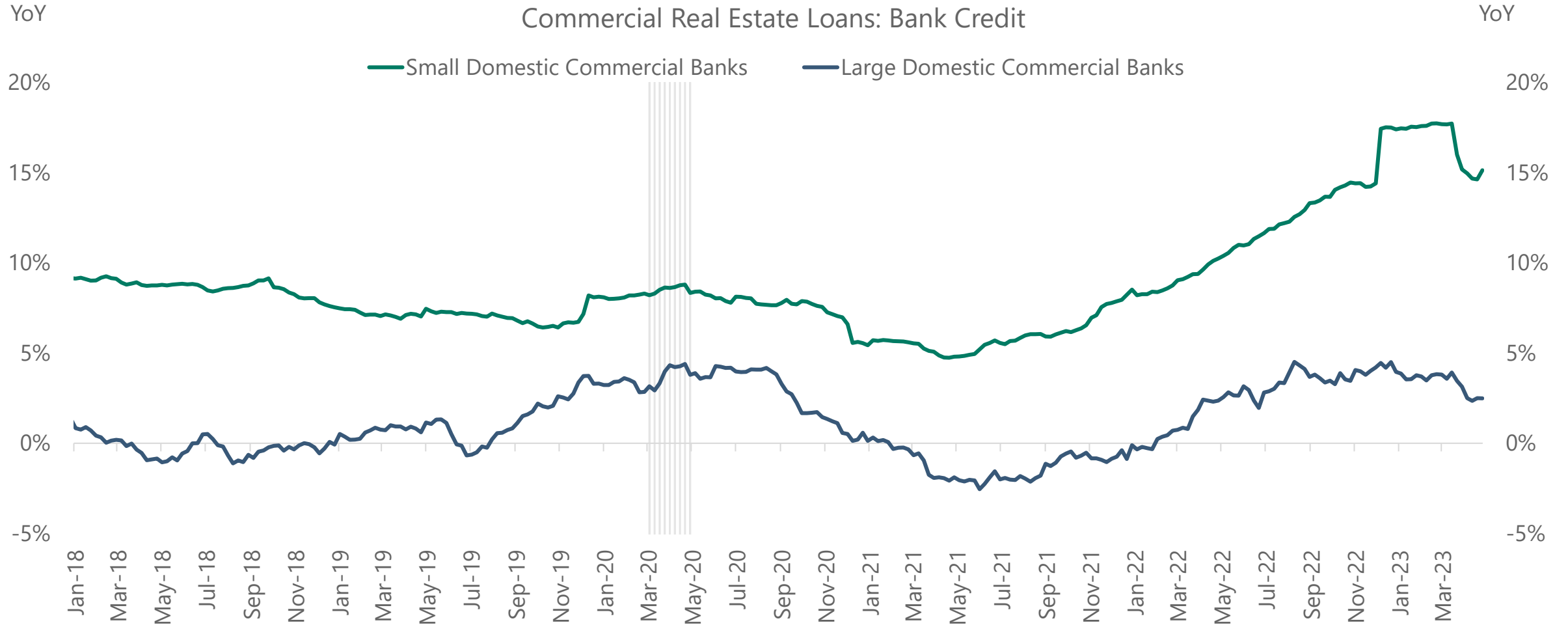
# Lending to consumers has been growing faster for smaller banks



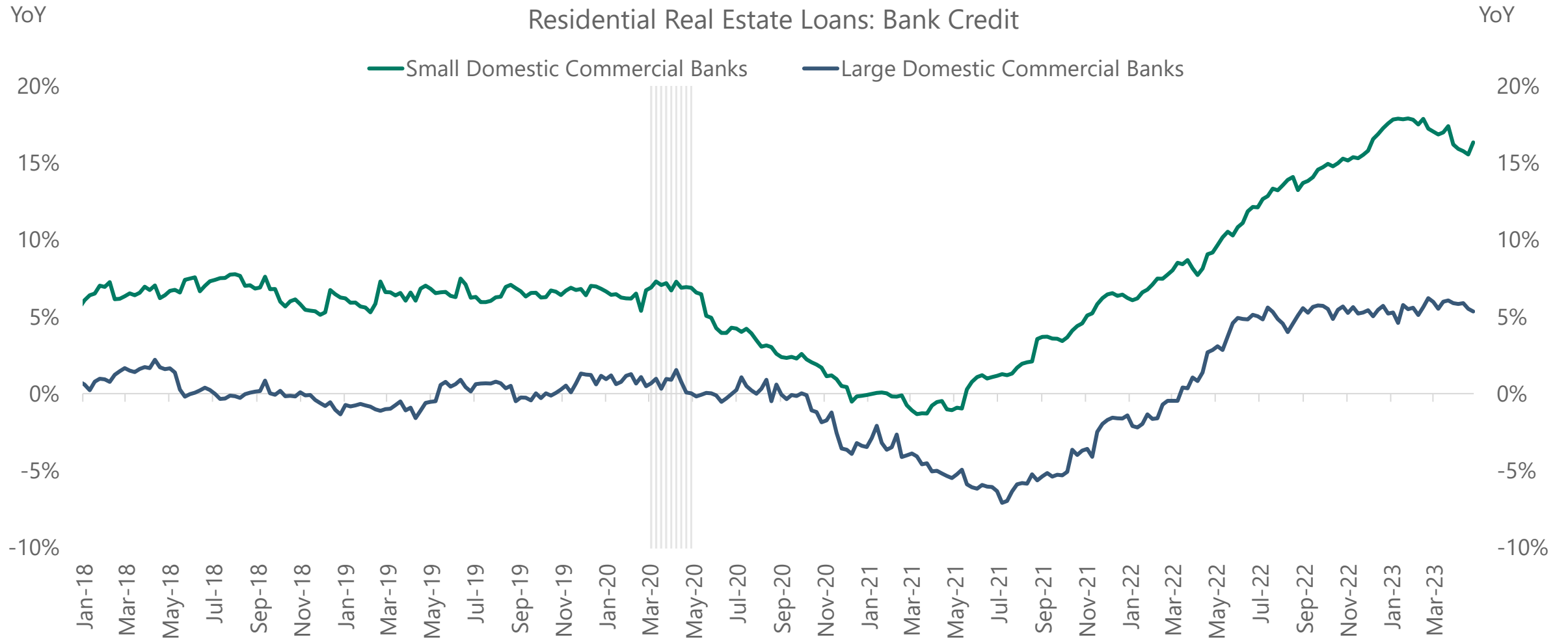
# Real estate lending has been growing faster for smaller banks



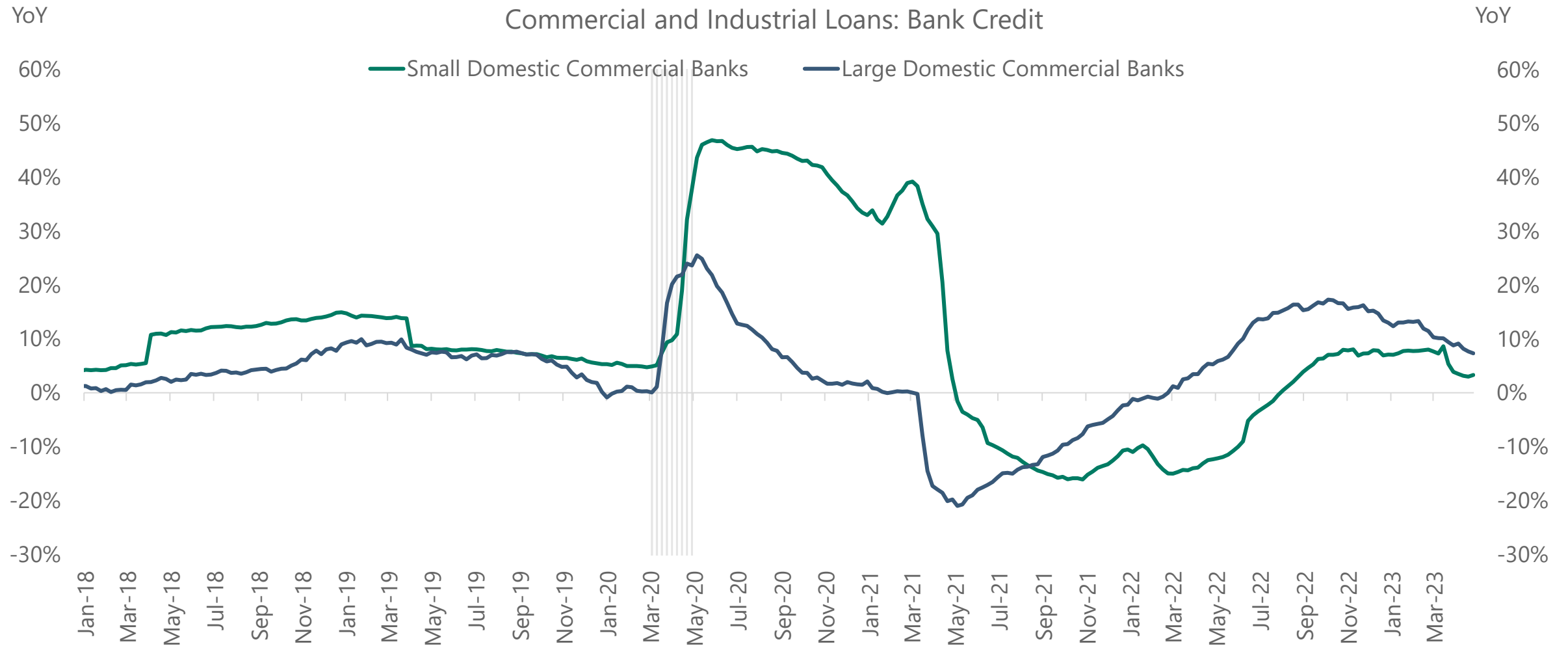
# Commercial real estate lending has been growing faster for smaller banks



# Residential real estate lending has been growing faster for smaller banks

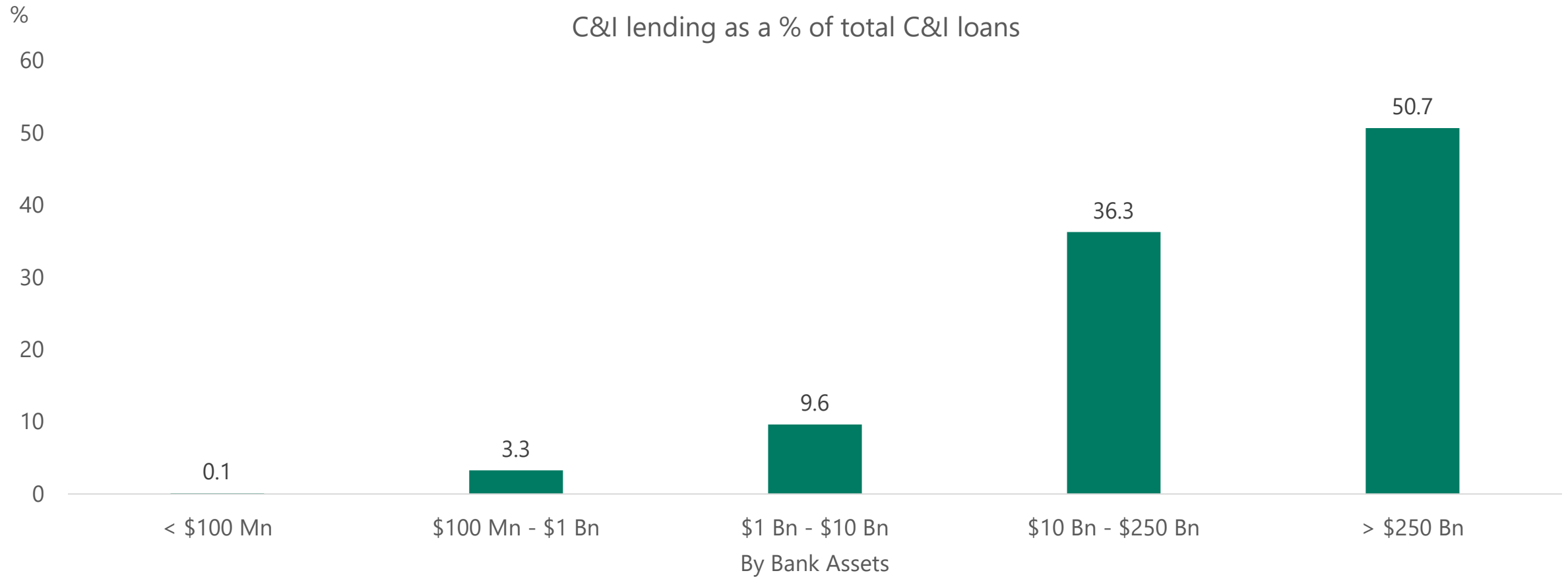


# Lending to corporates among small and large banks



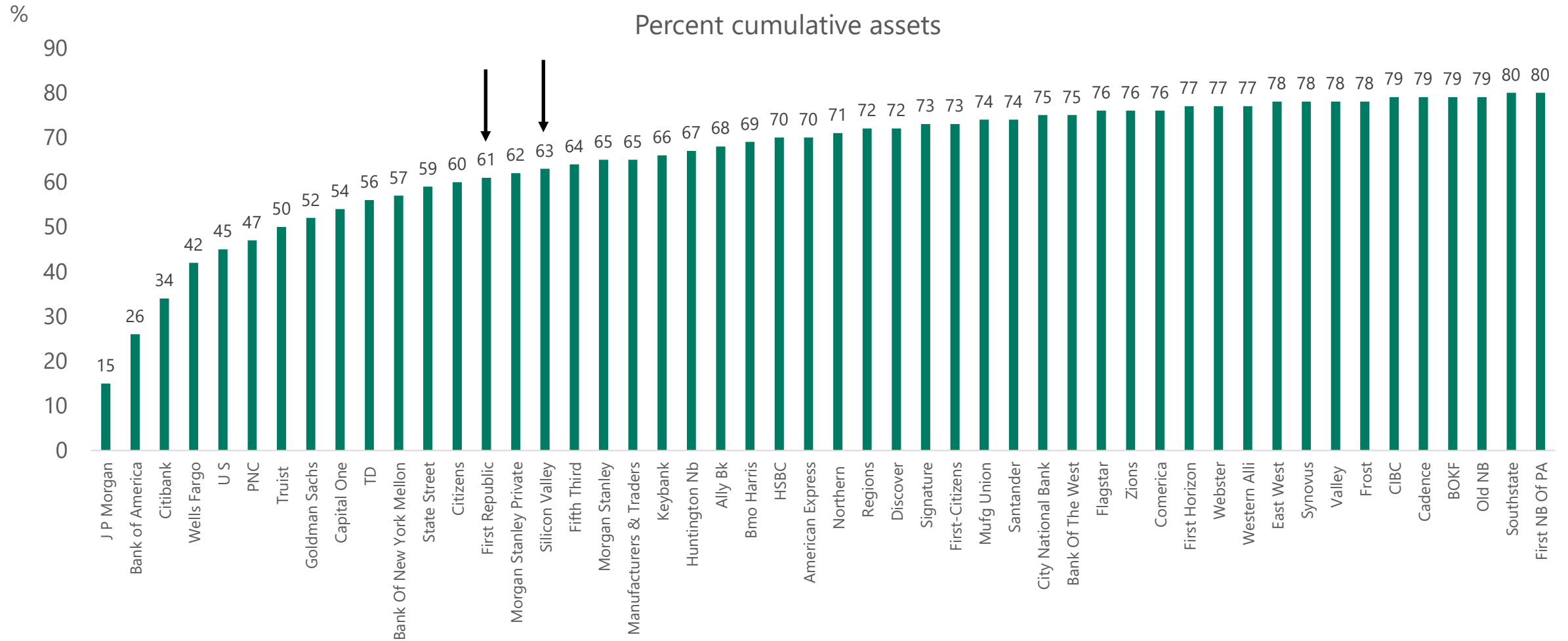
## Small banks lend to small businesses

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

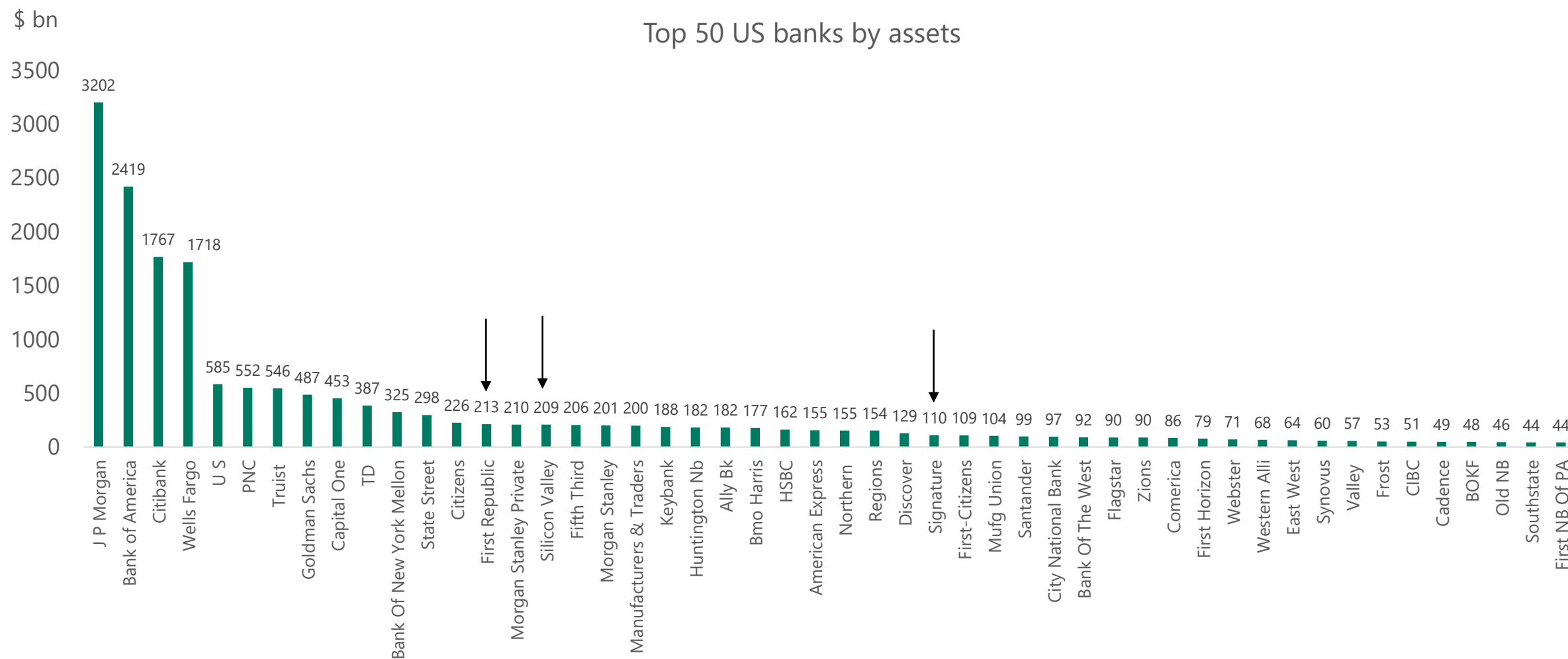


US banks by asset size:  
The importance of regional banks for the US economy

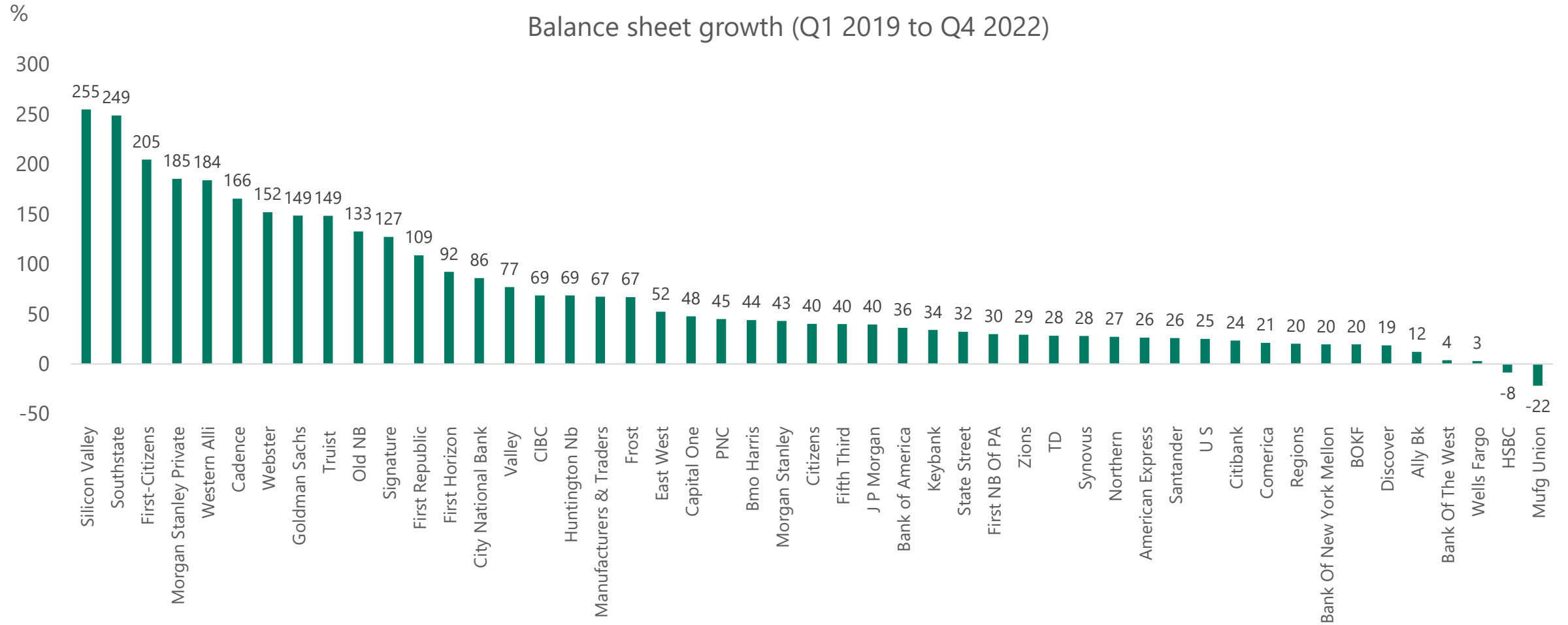
# Tighter credit conditions are coming: Banks “to the right” of SVB are likely to start reorganizing their balance sheets



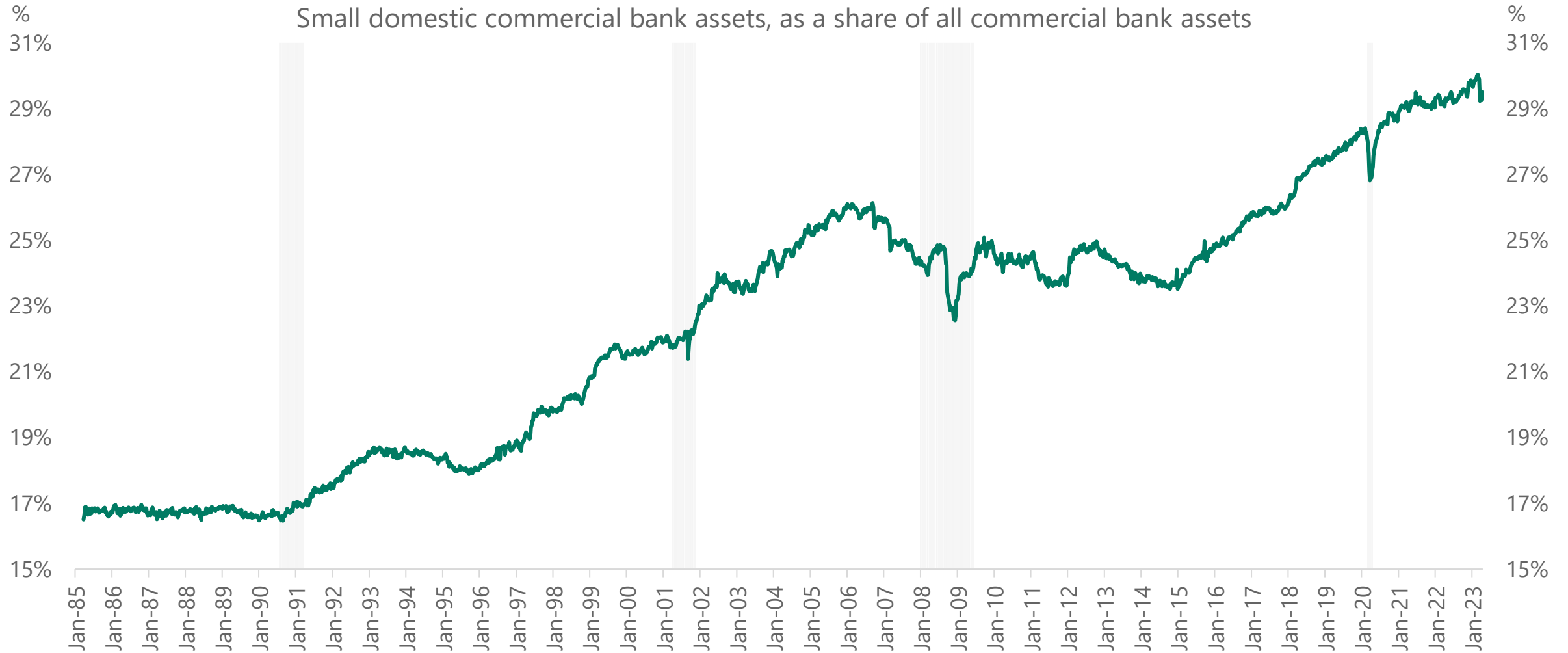
# Top 50 US banks by assets



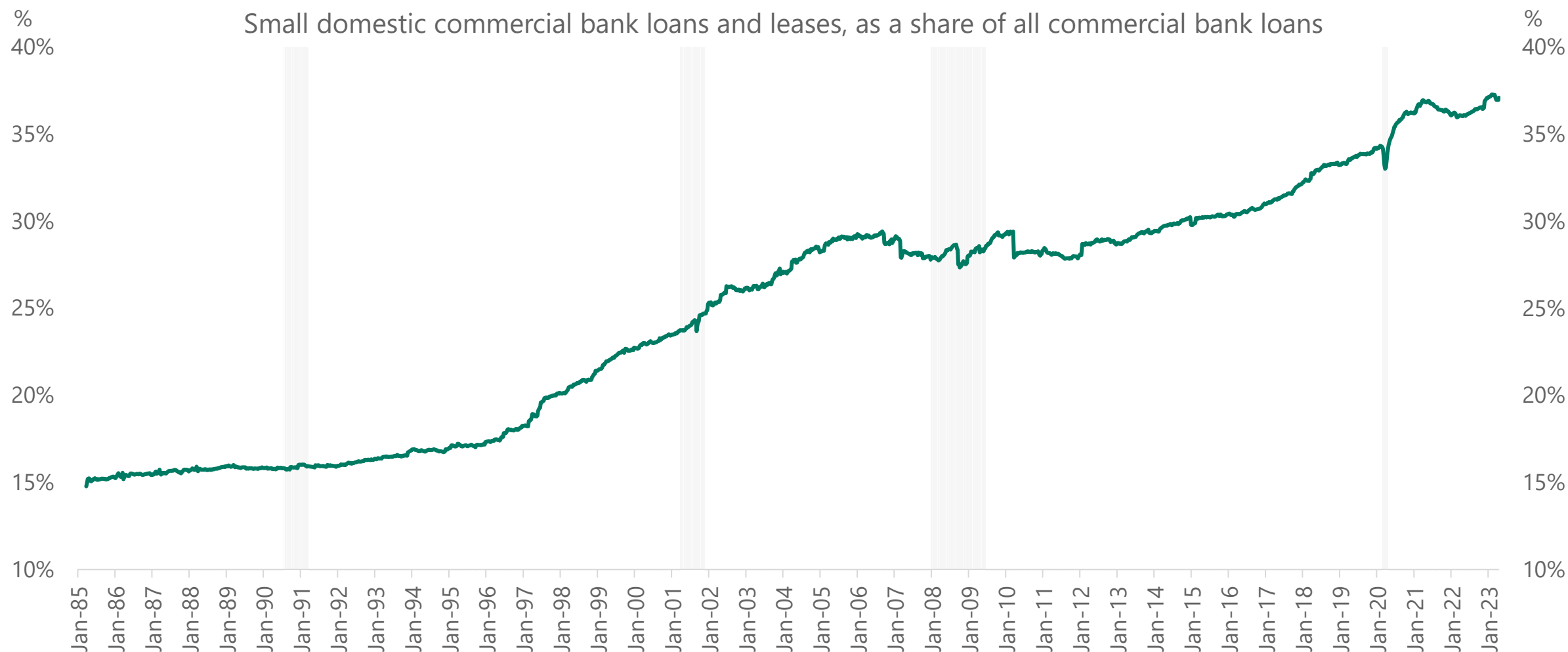
# Balance sheet growth of US banks, ranked by fastest growth in percent



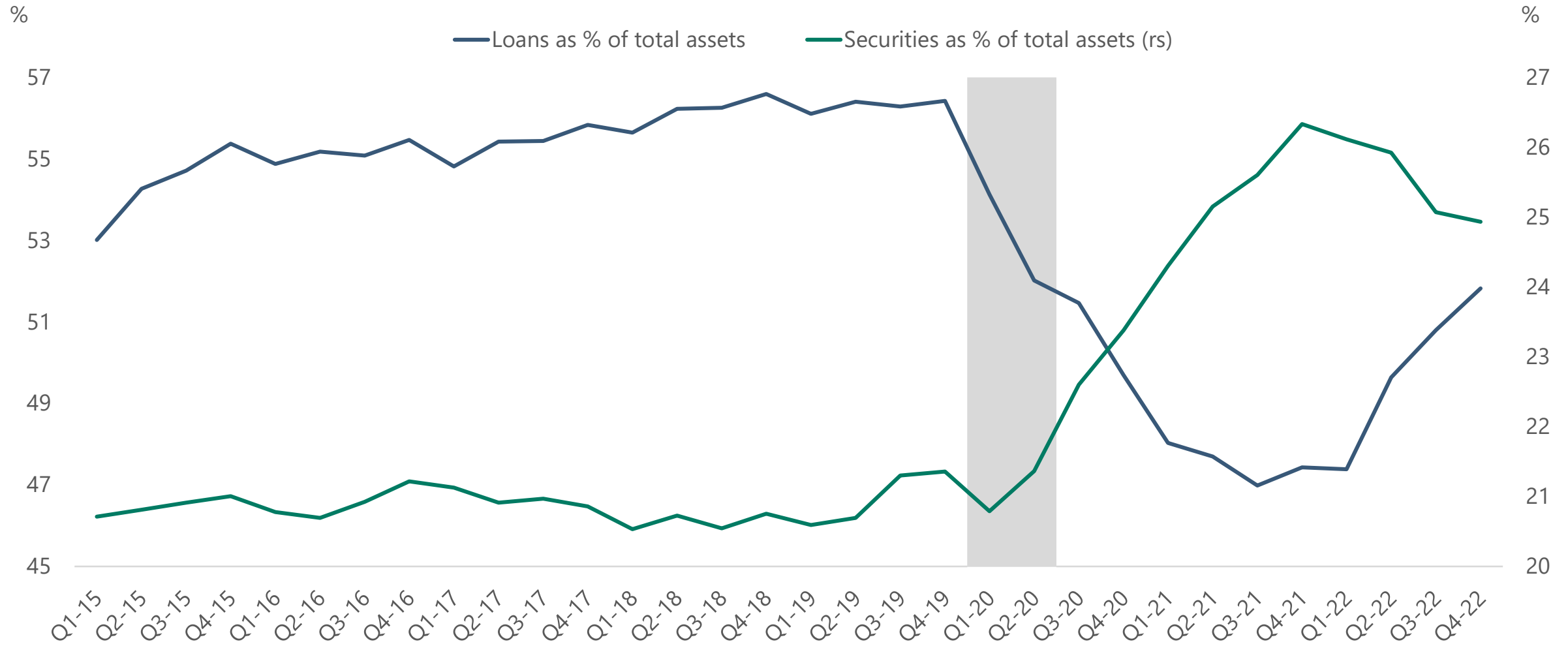
# Small bank assets as a share of total banking sector assets



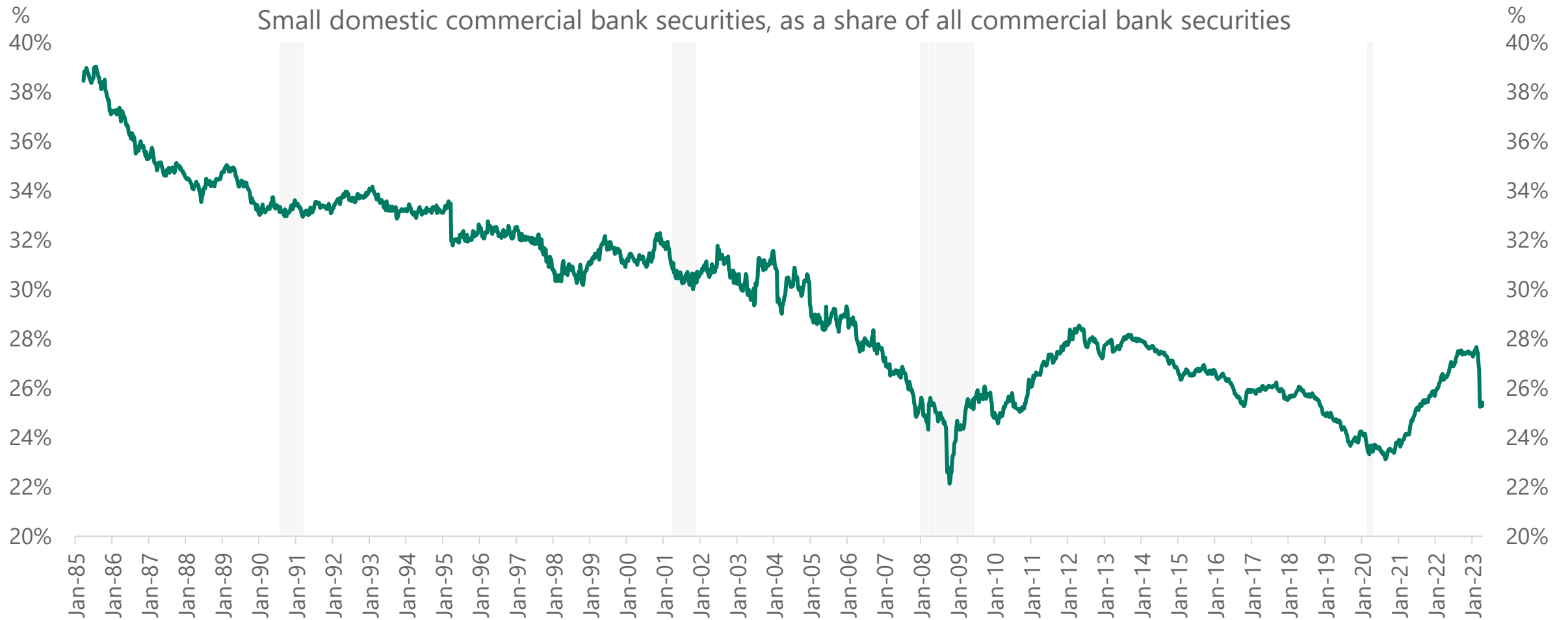
# Share of lending by smaller banks



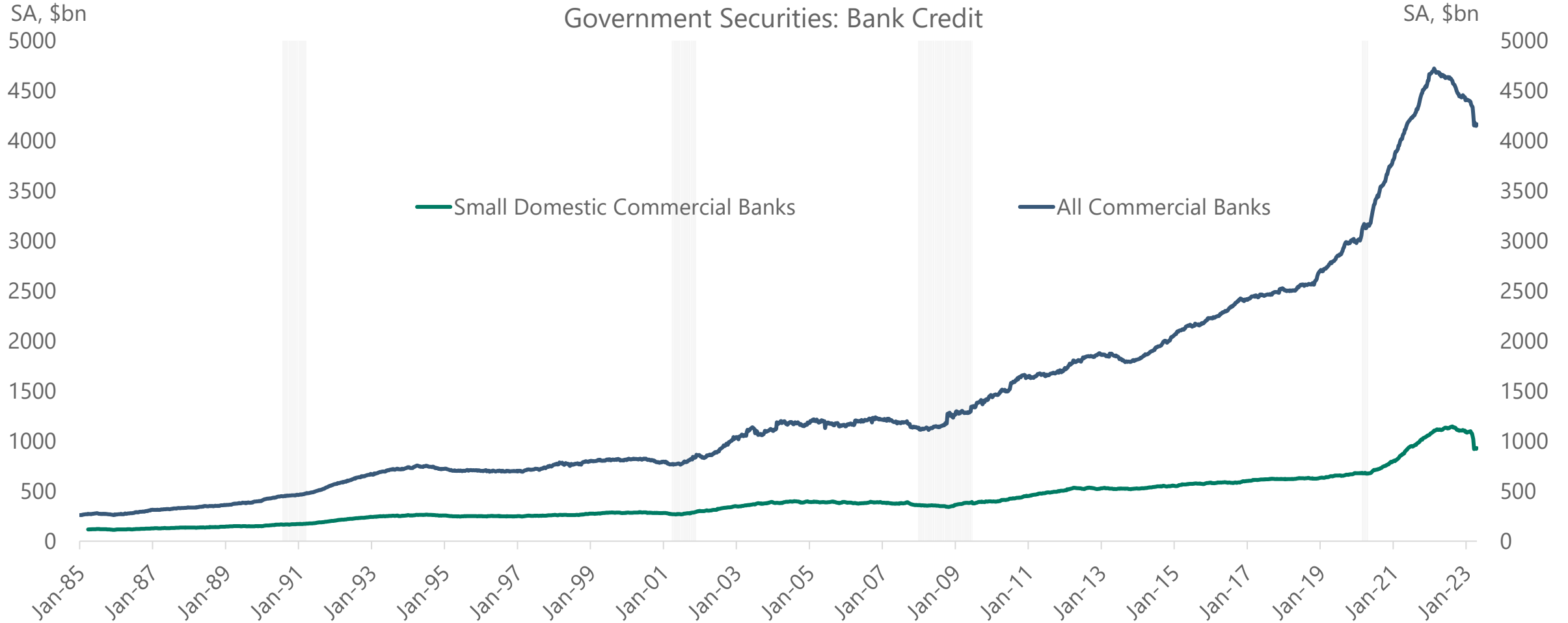
# During the pandemic, banks shifted from lending to holding securities



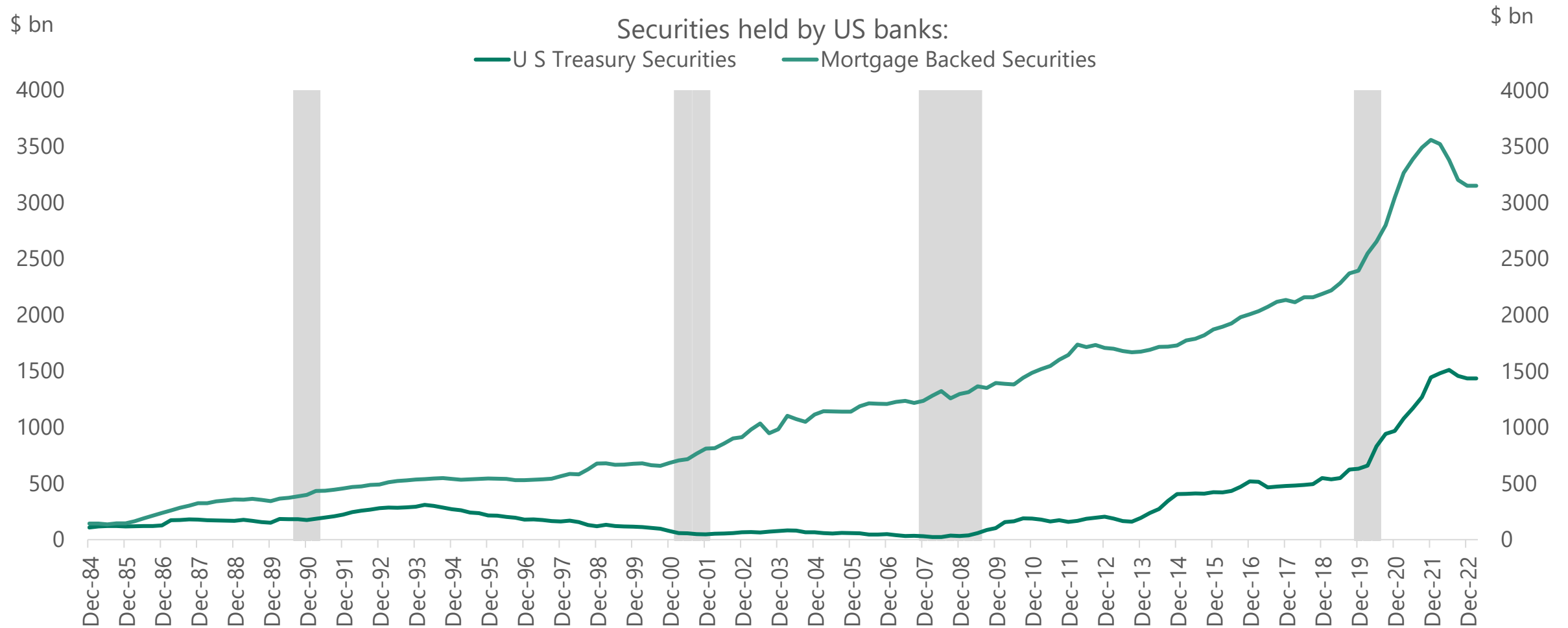
# Share of securities in the banking sector held by small banks



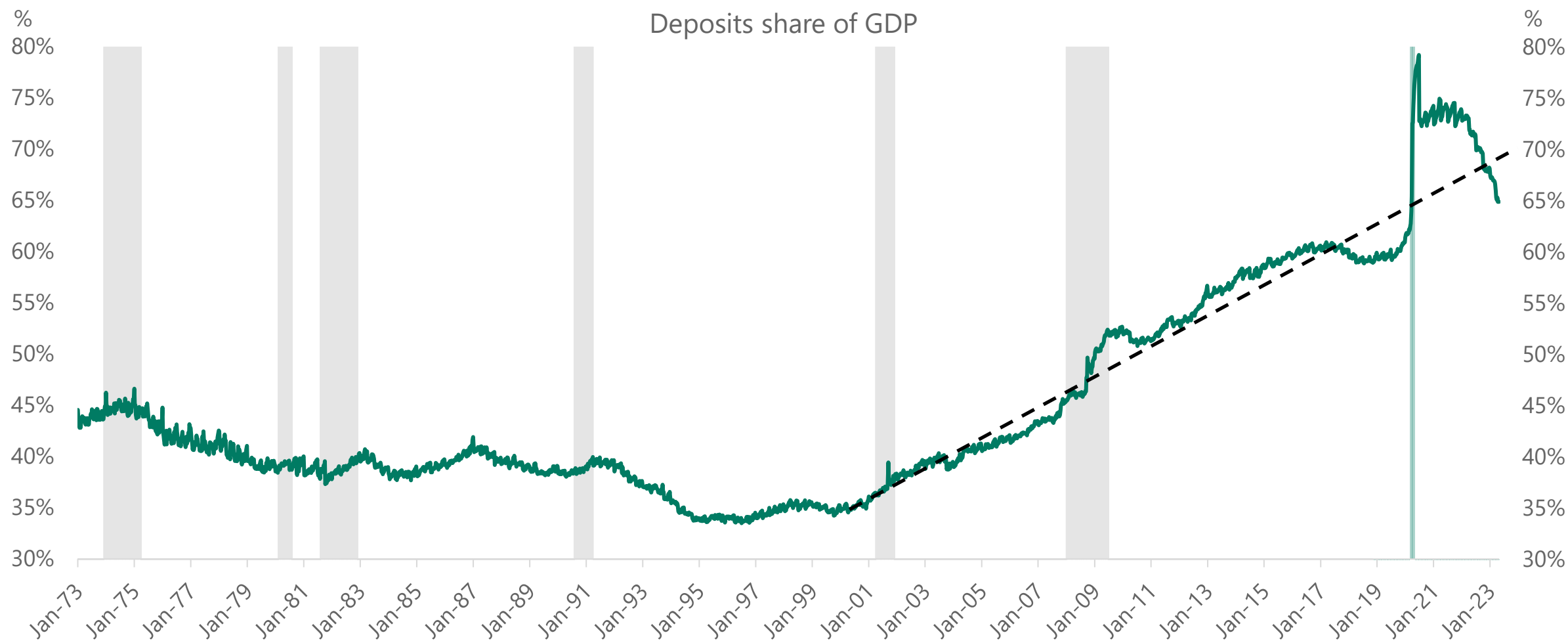
# Small banks hold about \$1trn in Treasuries



# Securities held by FDIC-insured banks



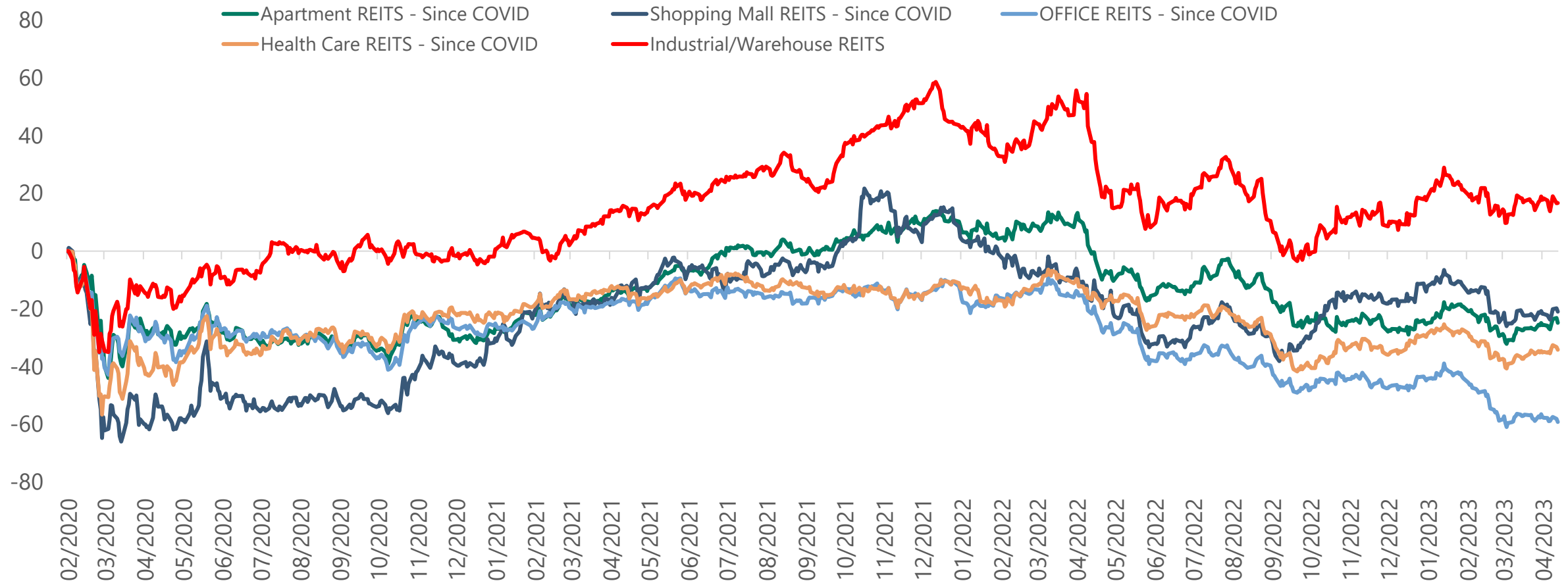
# Deposits as a share of GDP now below trend



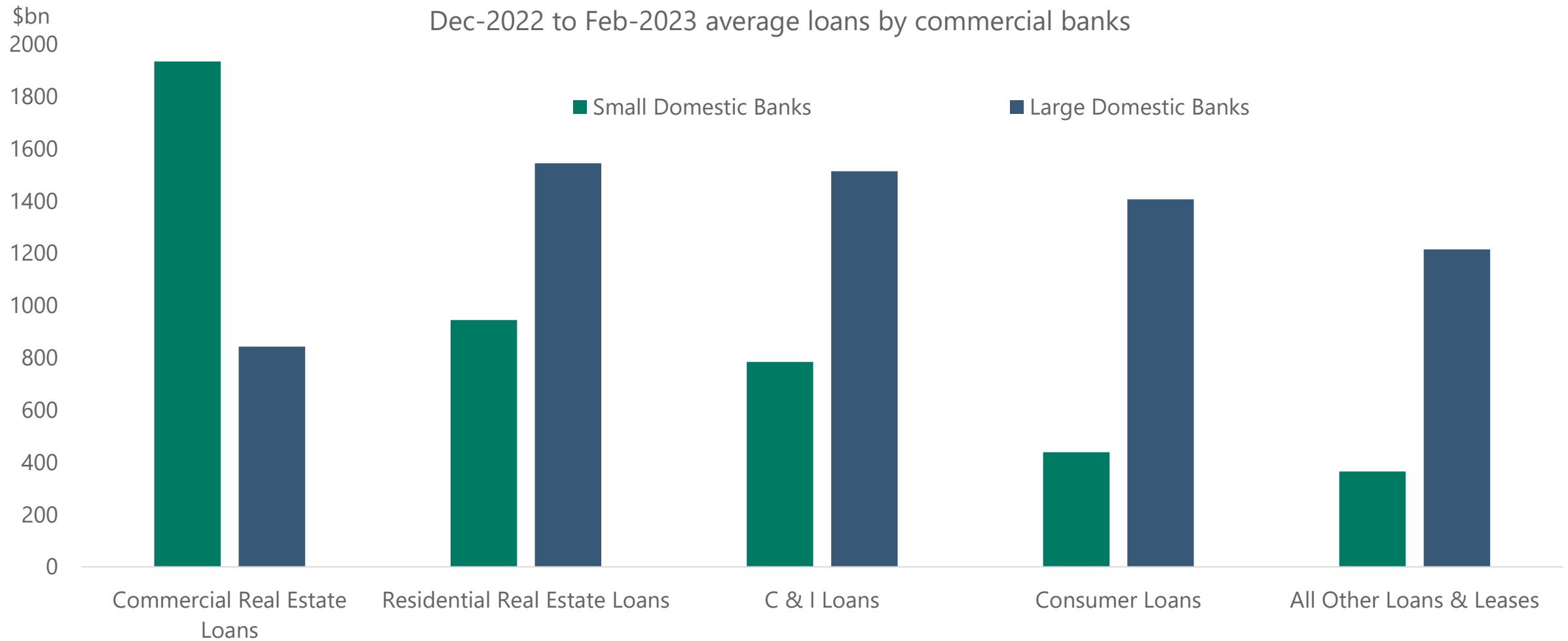
# Regional banks' asset concentration in CRE

# Where are the problems in CRE?

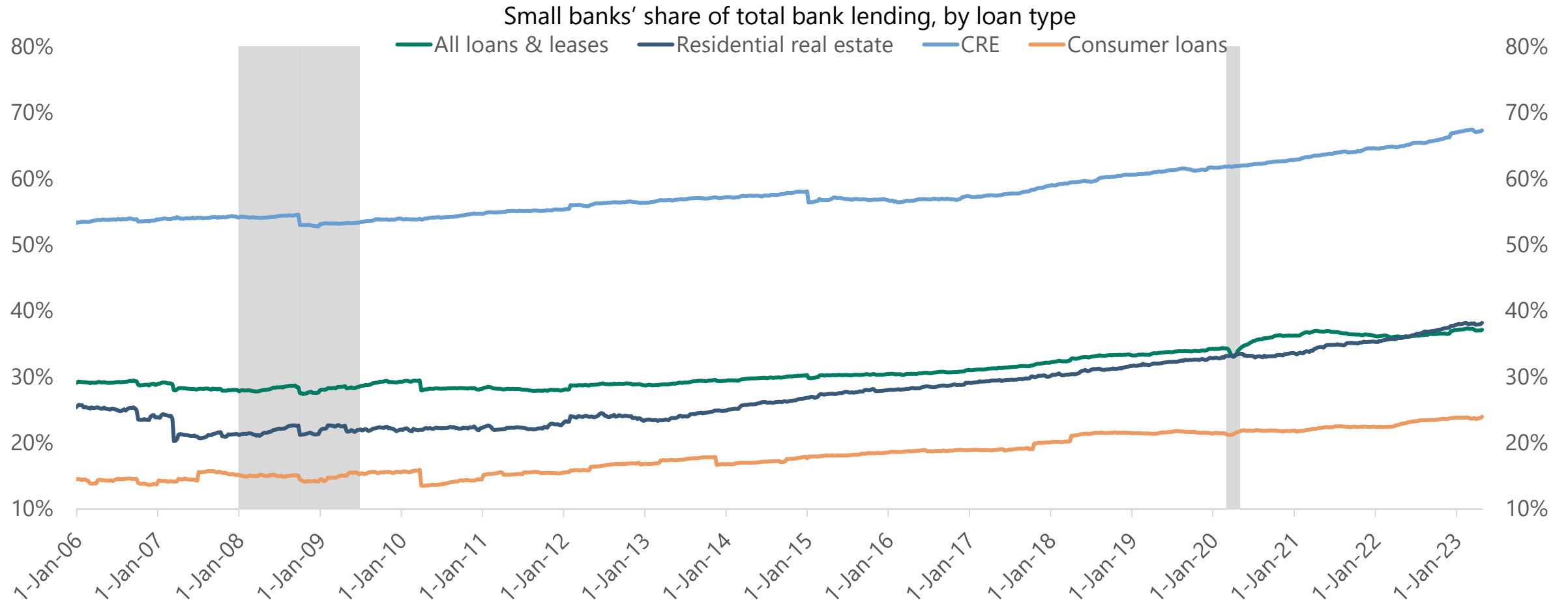
Normalized as of 20 Feb 2020



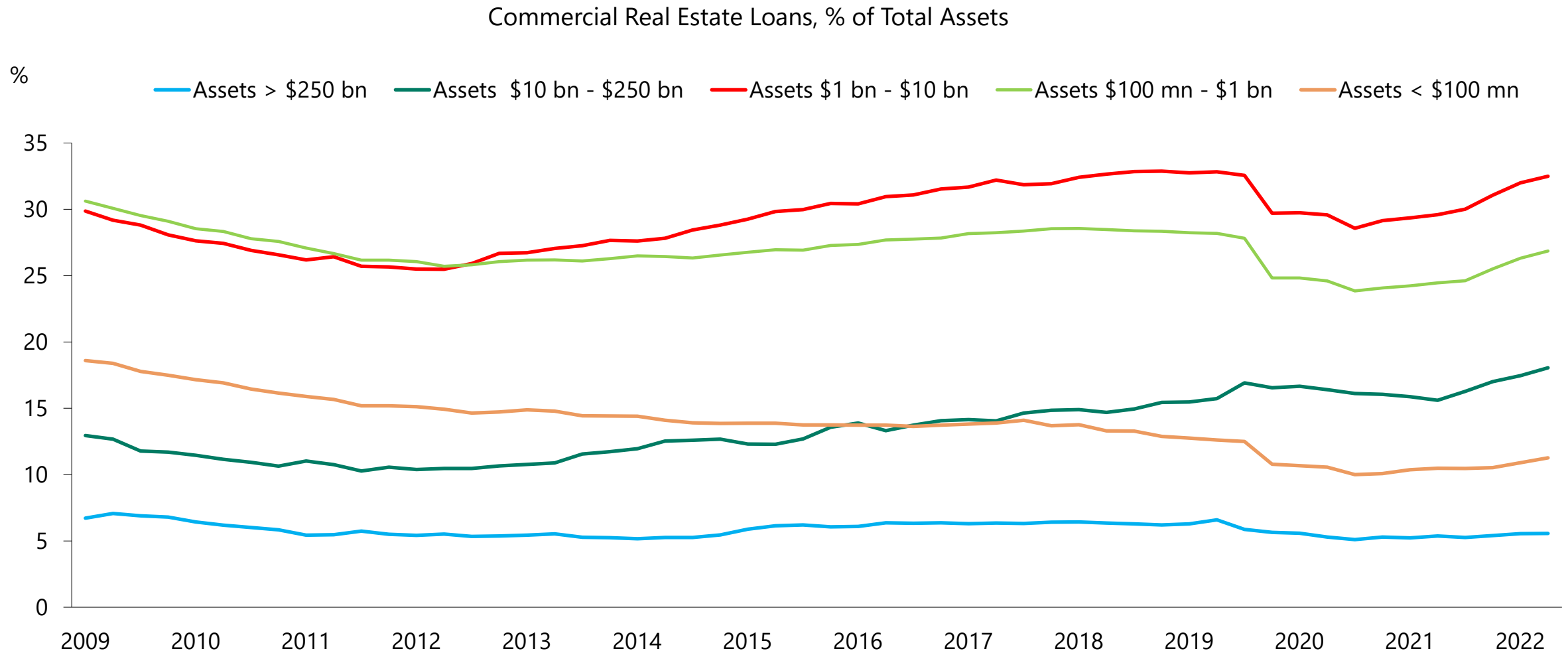
# High concentration of commercial real estate in small banks



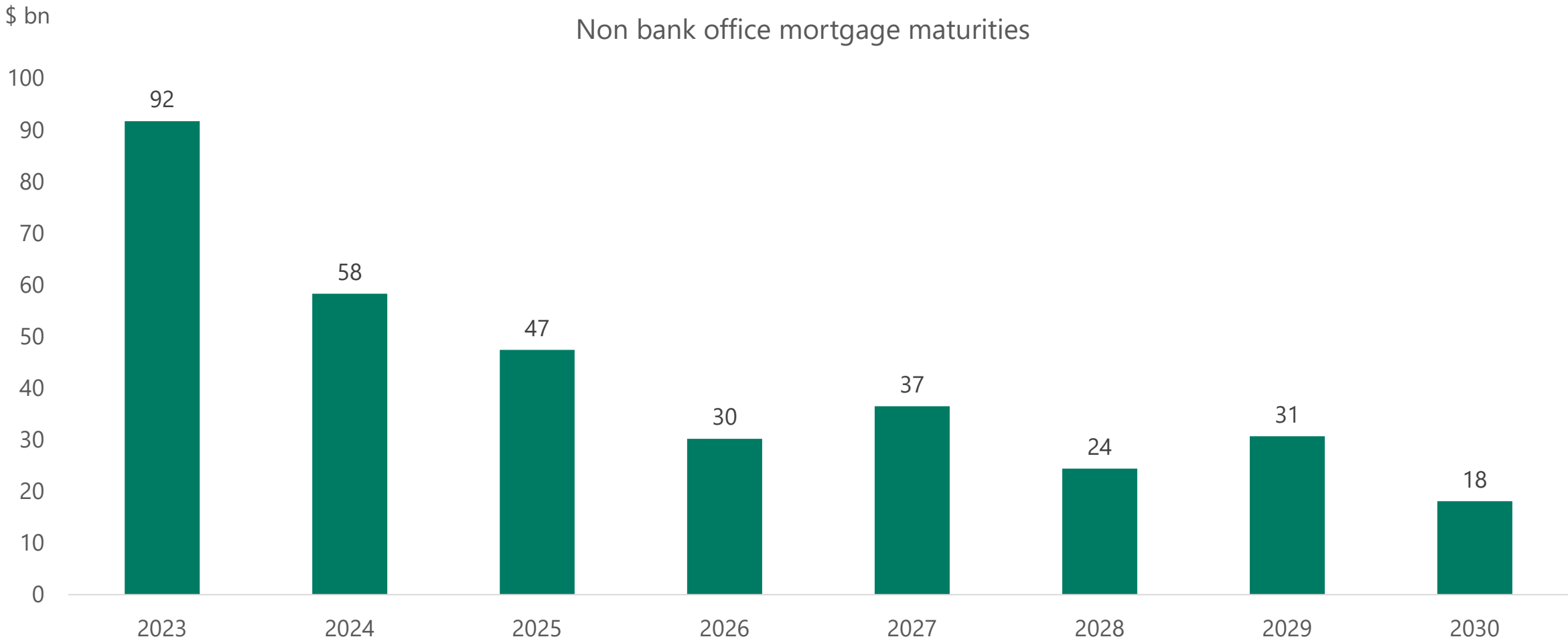
# Small banks account for almost 70% of all commercial real estate loans outstanding



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

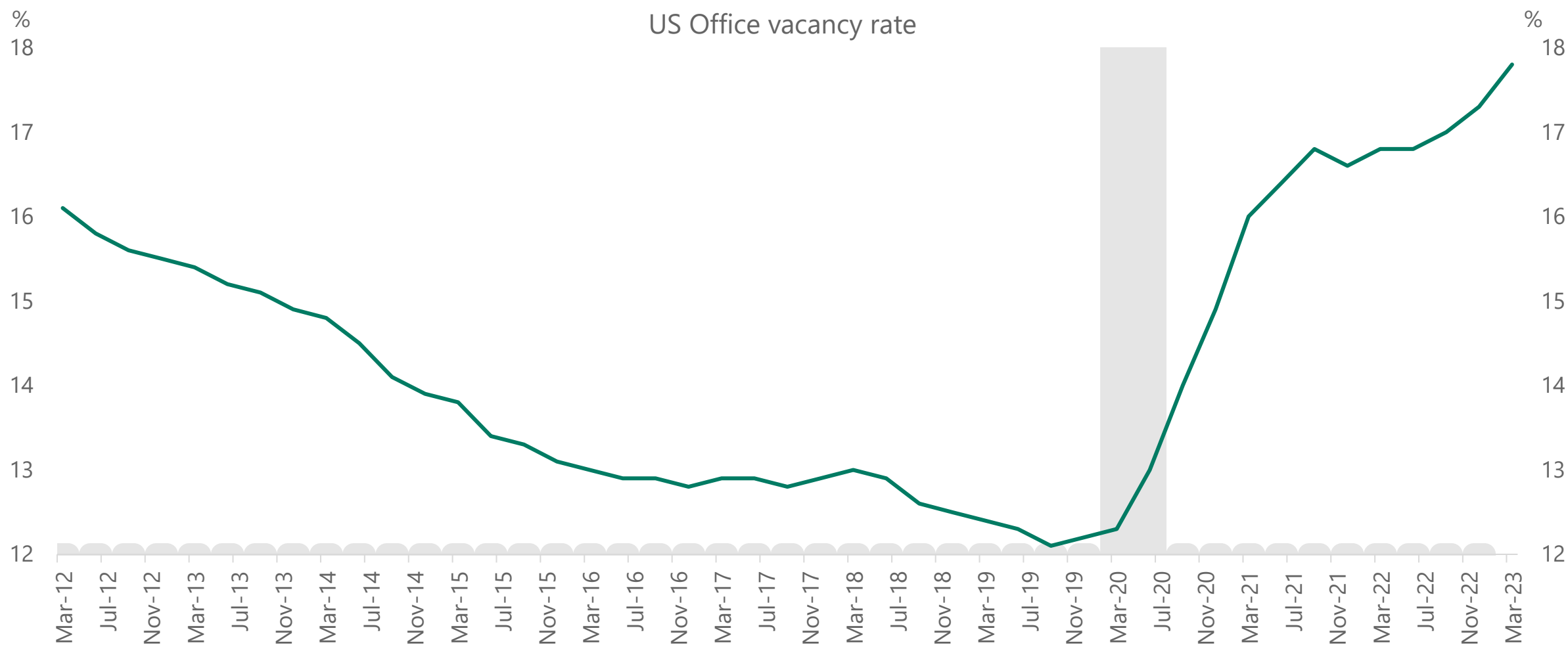


# Nearly \$92 bn of nonbank office debt is set to mature this year

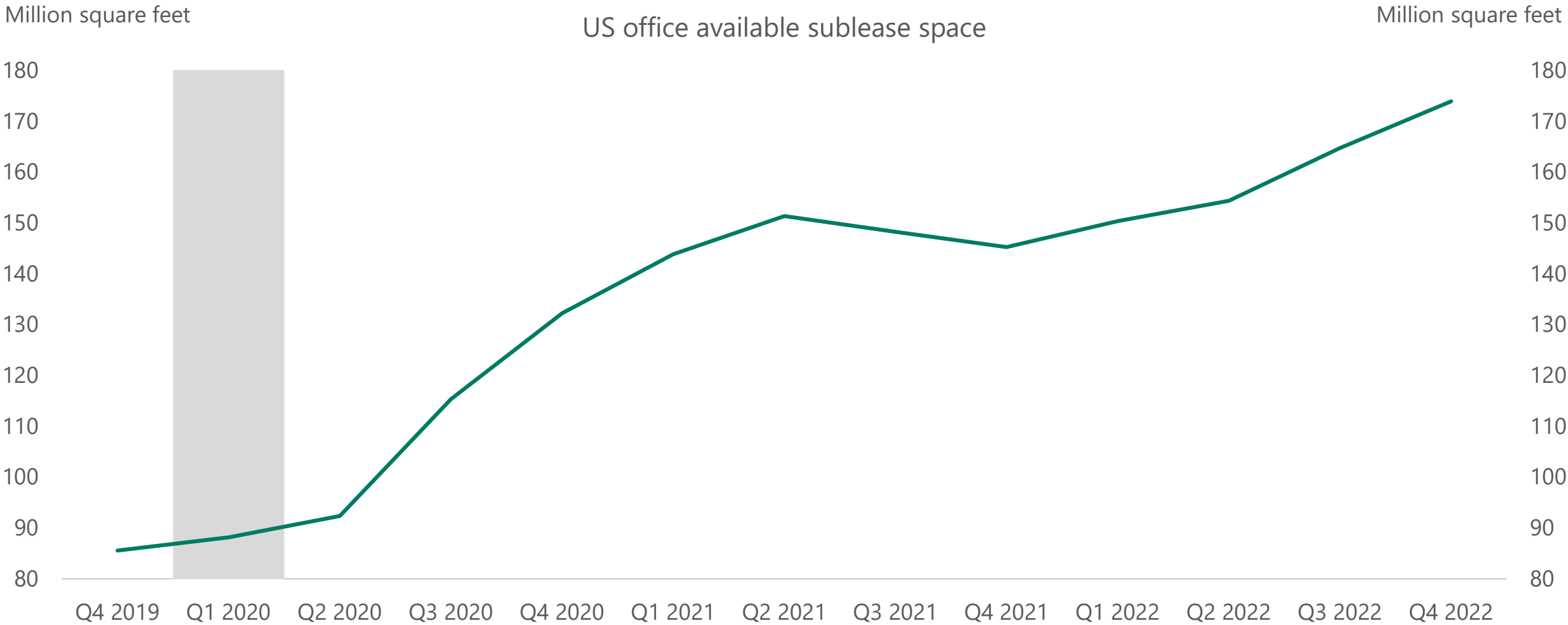


Source: MBA, Bloomberg, Apollo Chief Economist

# US Office vacancy rate rising

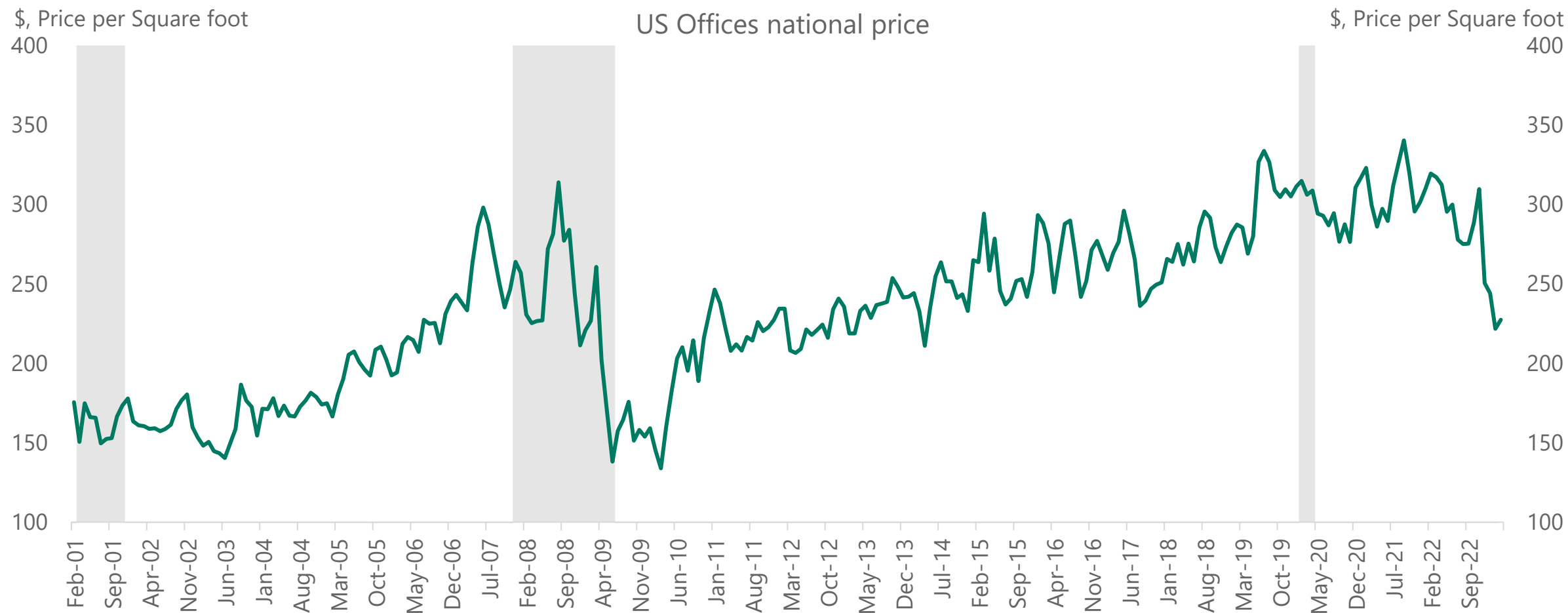


# Available US office space rising

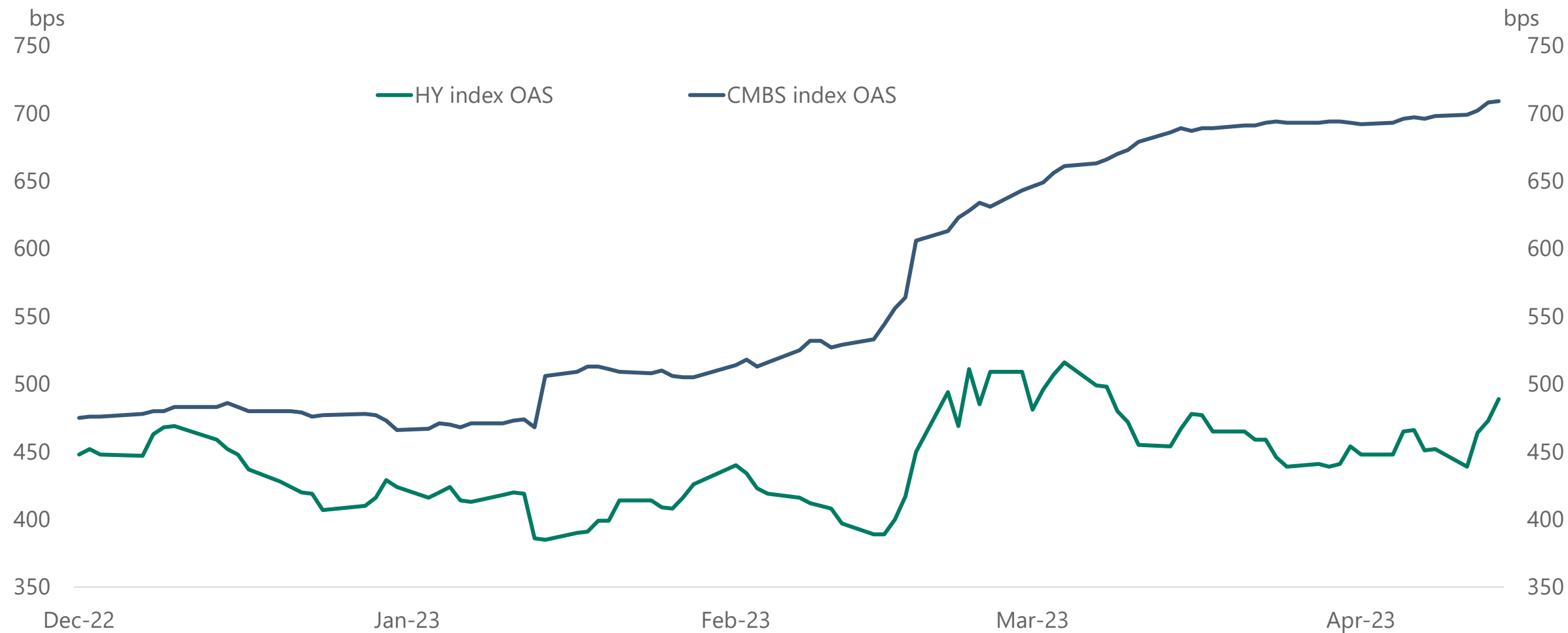


Source: Savills US Markets, Bloomberg, Apollo Chief Economist.

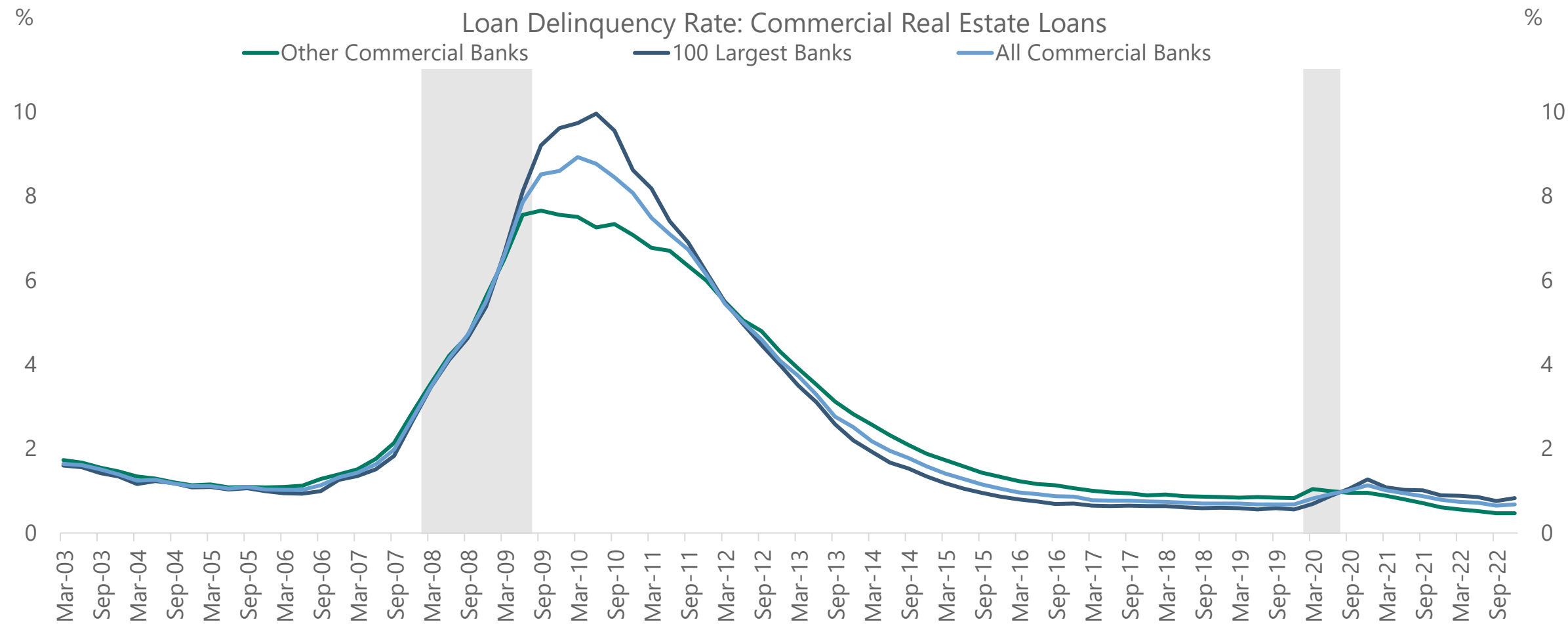
# Price per square foot for US offices falling



# CMBS spreads compared with HY spreads



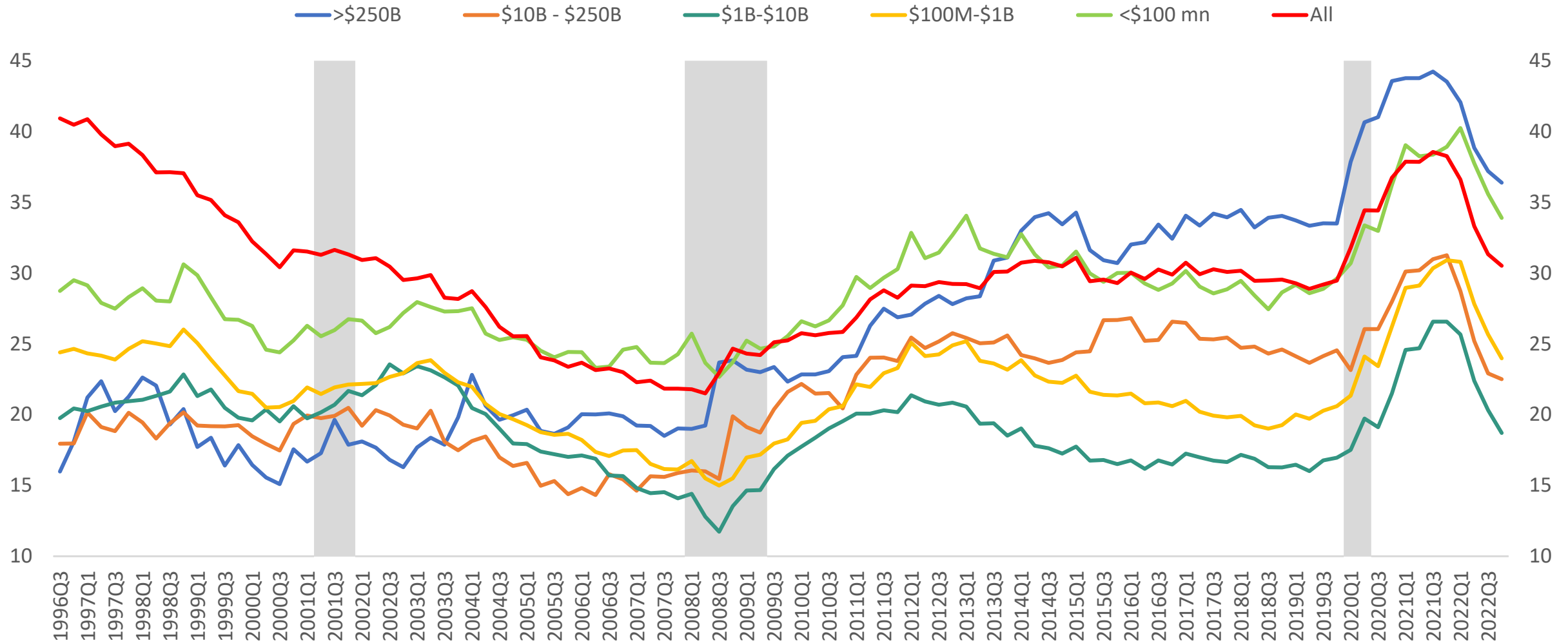
# CRE delinquency rate



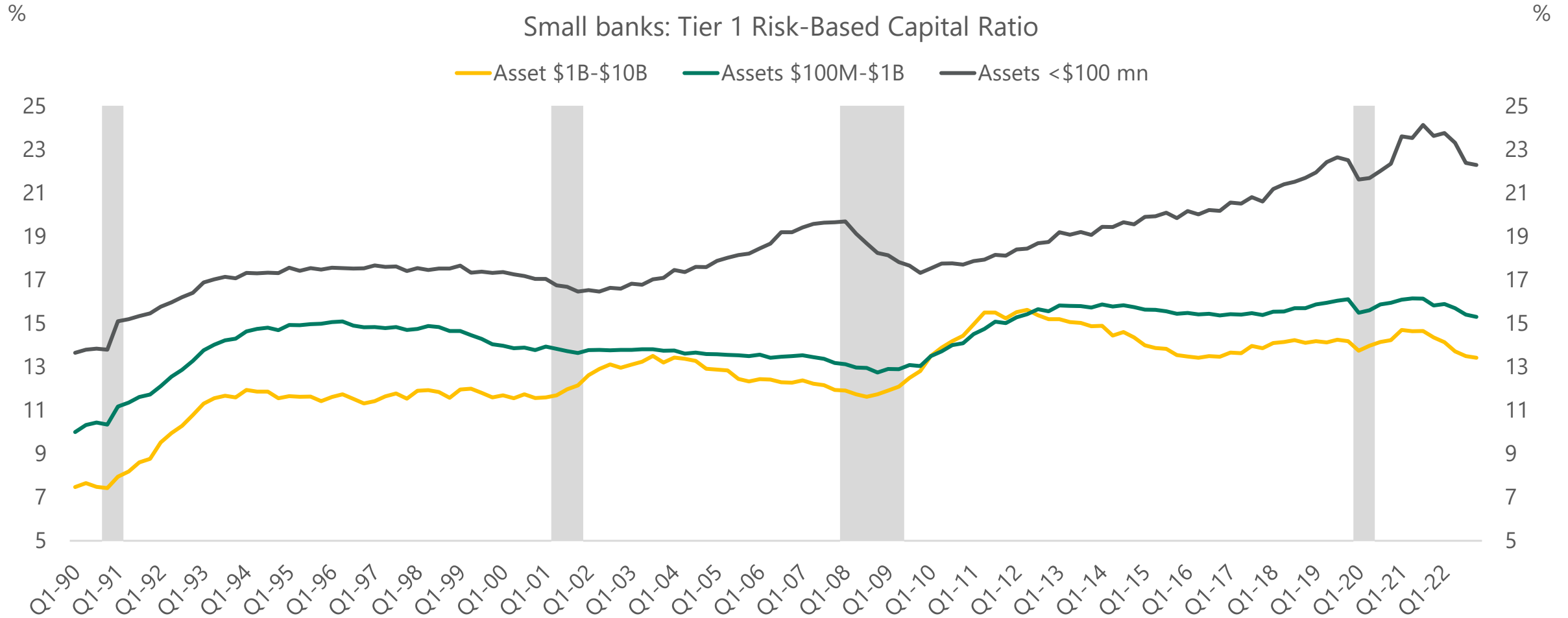
Source: FRB, Haver Analytics, Apollo Chief Economist

# Measures of banking sector liquidity and capital ratios

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

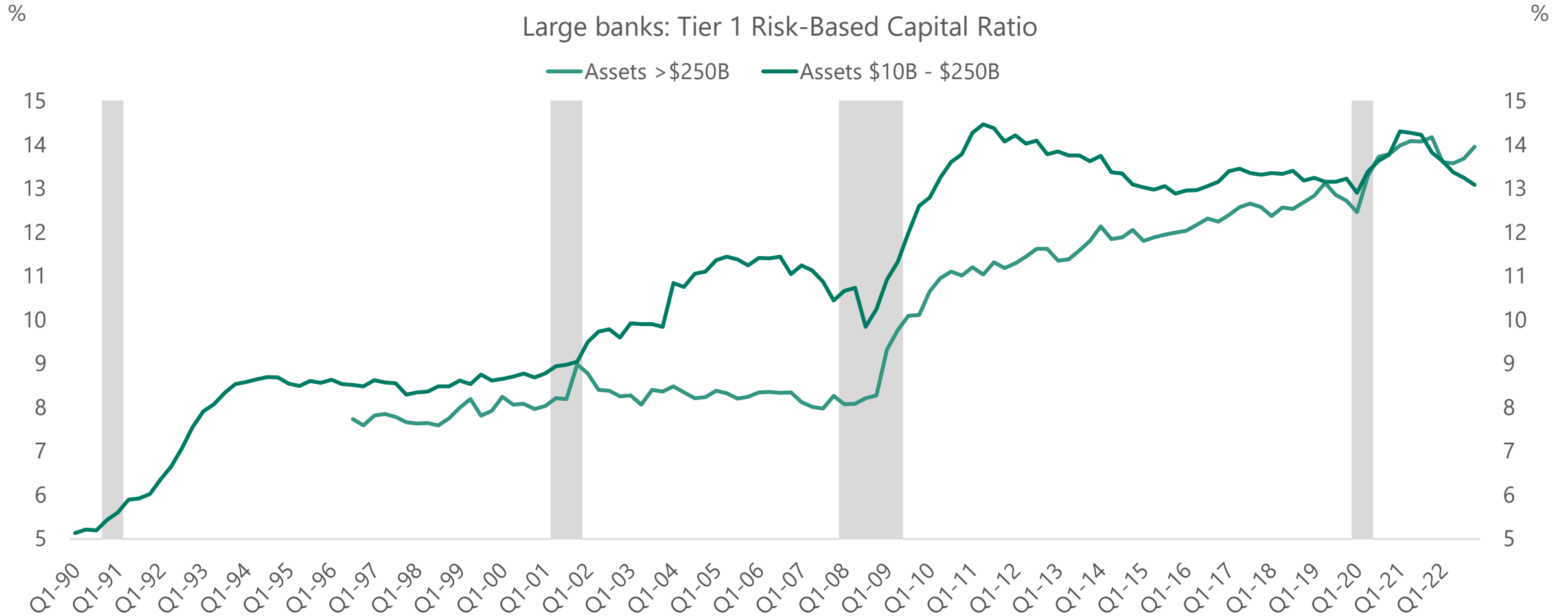


# Tier-1 risk-based capital ratio for banks, by size



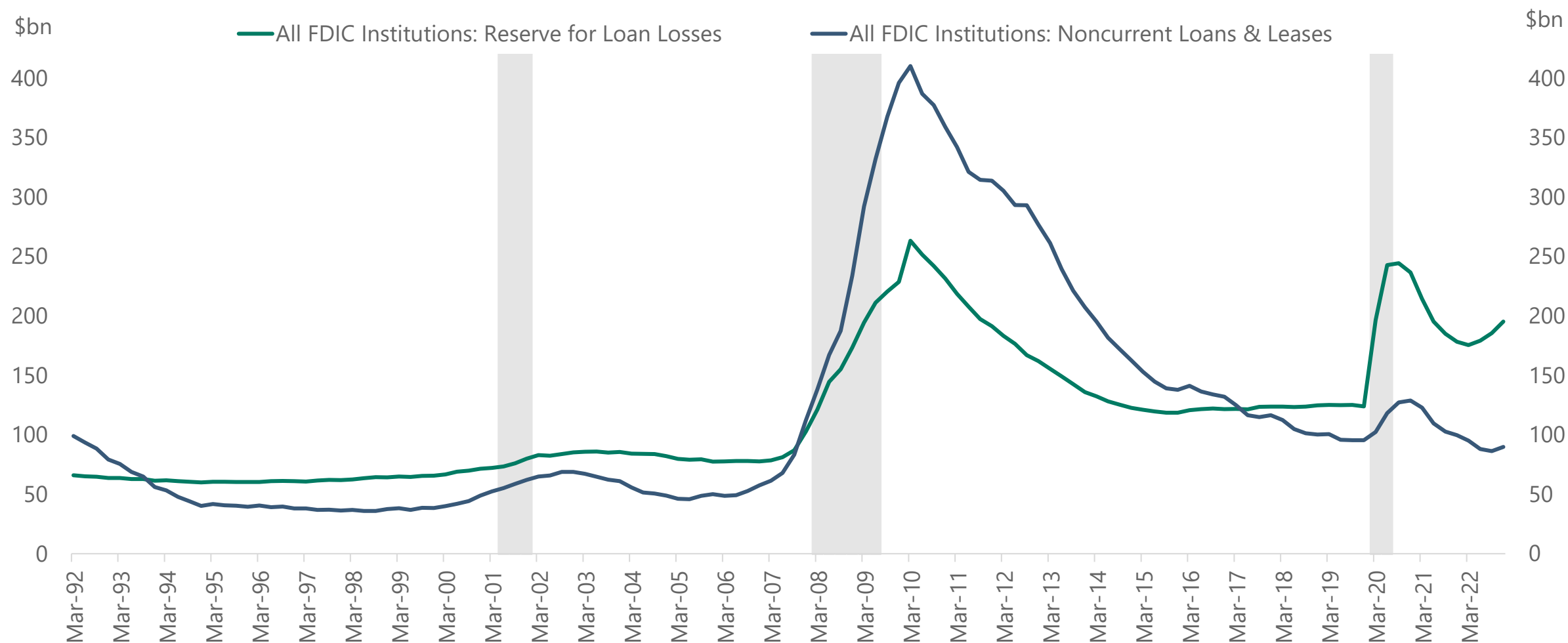
Source: FDIC, Apollo Chief Economist. Note: As per FDIC, large banks are defined as institutions with total assets of \$10 billion or more and small banks have total assets under \$10 billion.

# Tier 1 risk-based capital ratio for larger banks

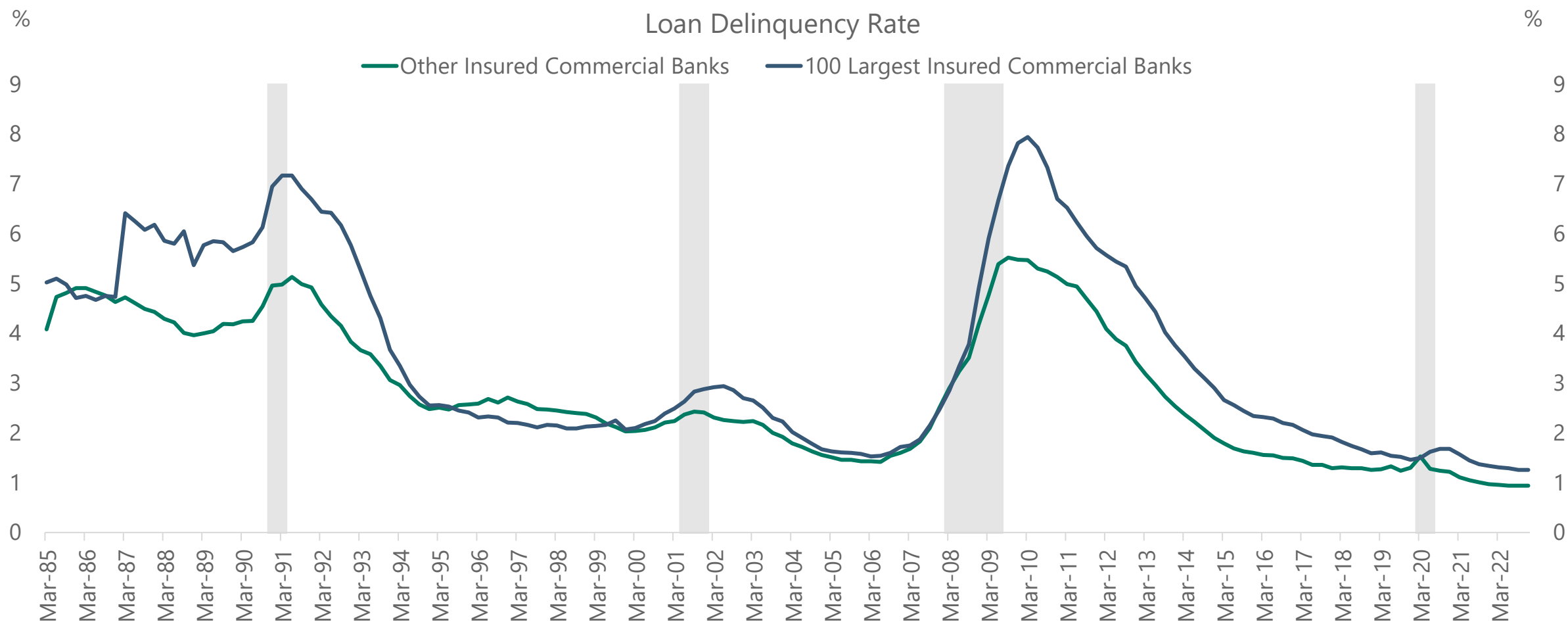


Source: FDIC, Apollo Chief Economist. Note: As per FDIC, large banks are defined as institutions with total assets of \$10 billion or more and small banks have total assets under \$10 billion..

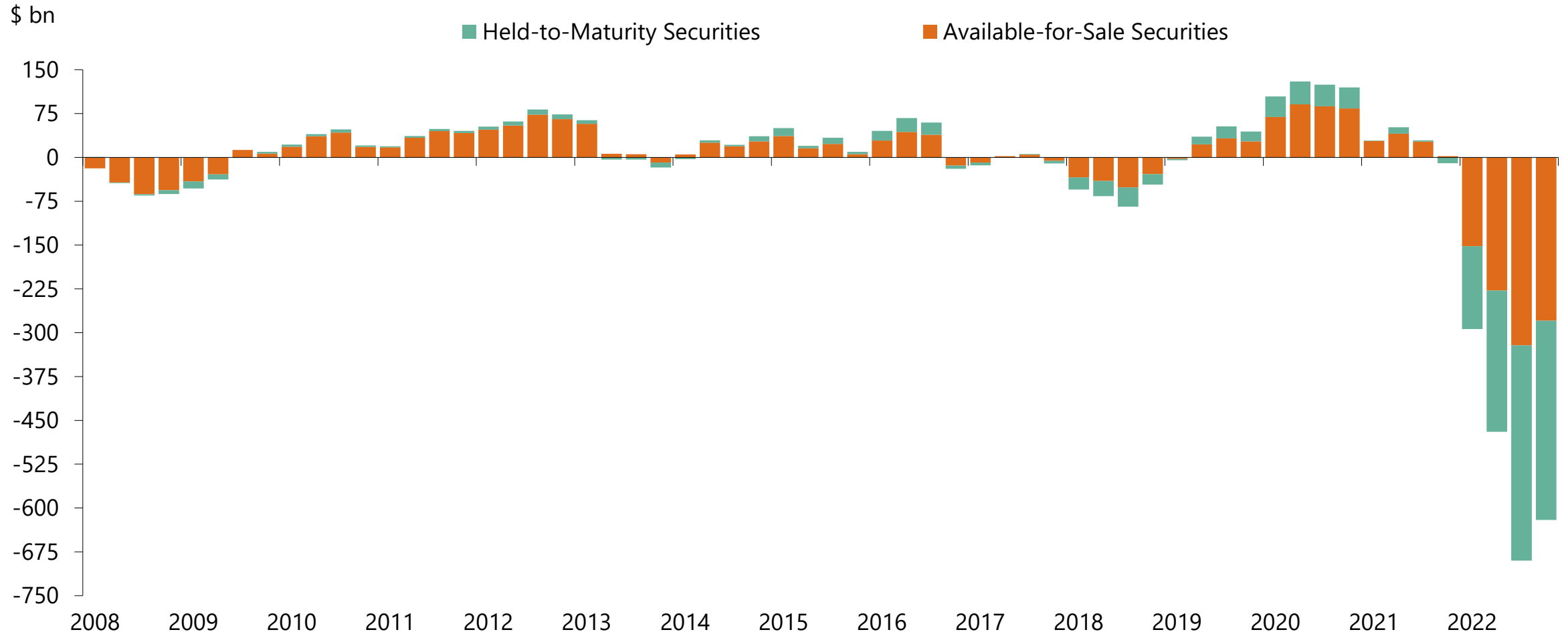
# Reserves for loan losses



# Loan delinquency rates for large and small banks

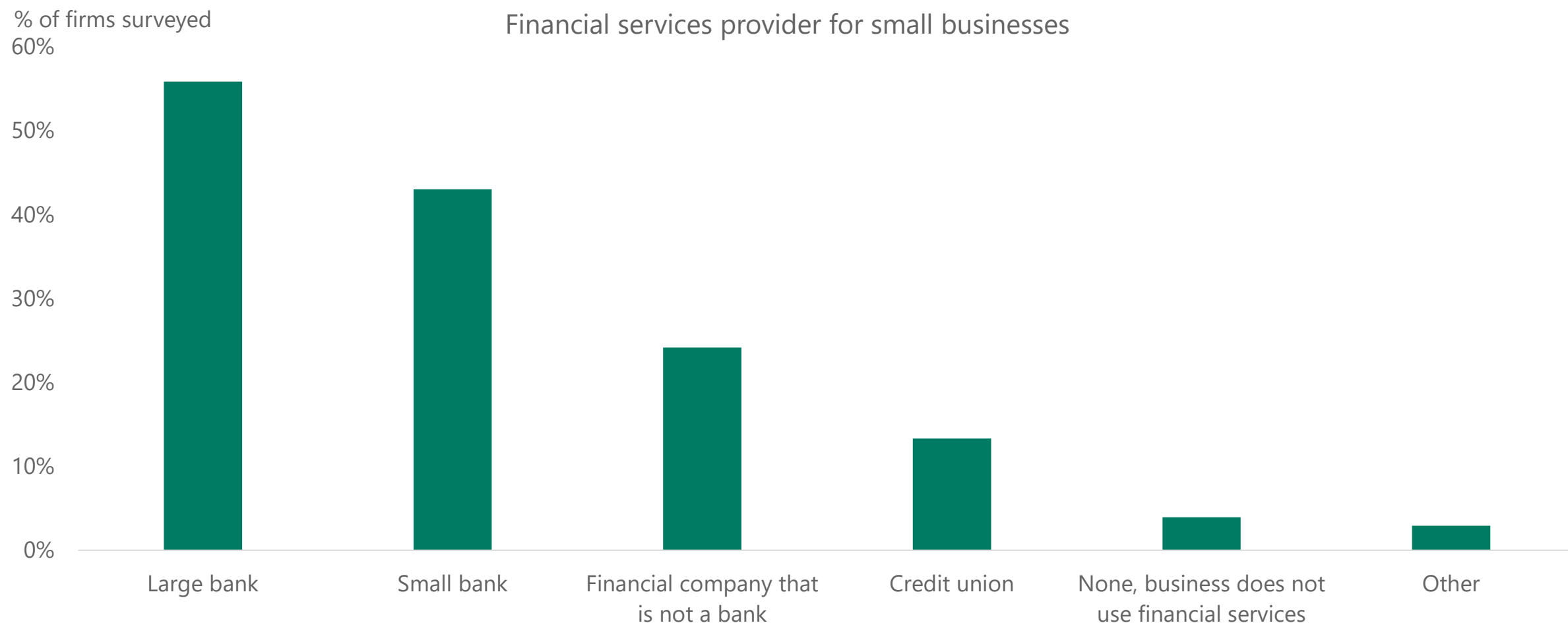


# Unrealized Gains (Losses) on investment securities for banks, as of 2022Q4

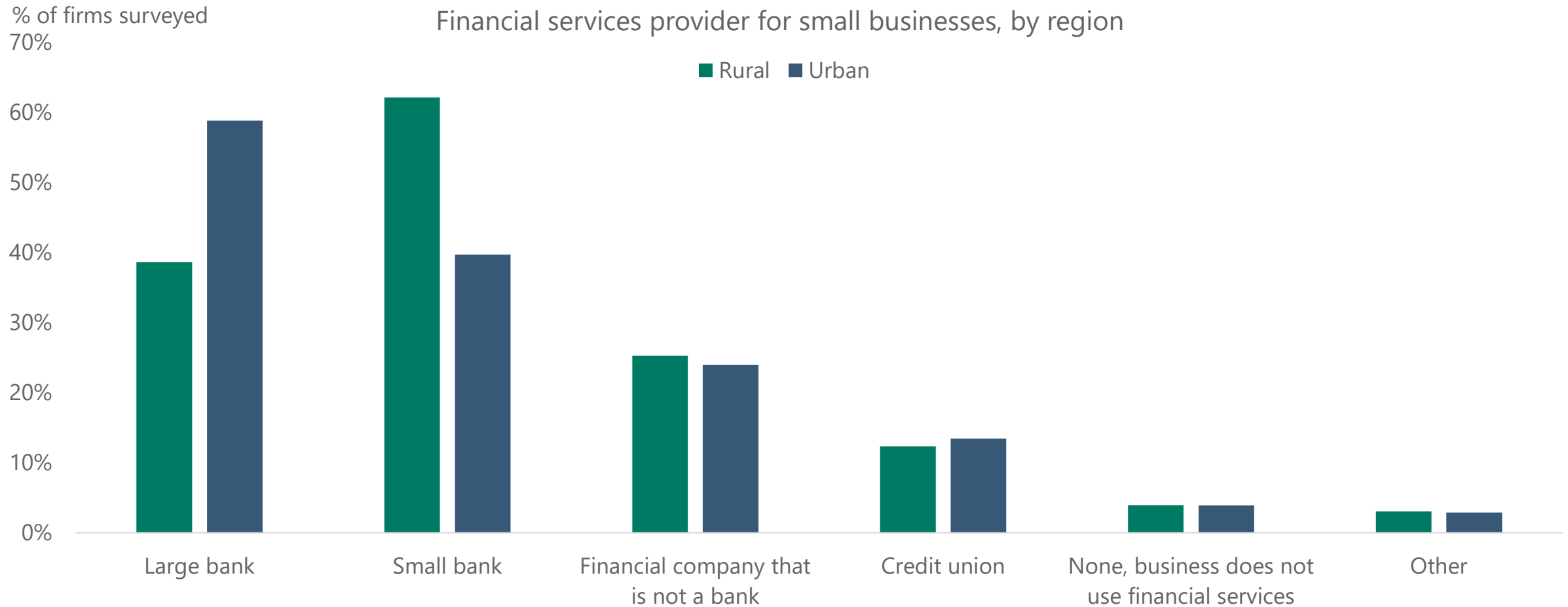


# Sources of financing for small businesses

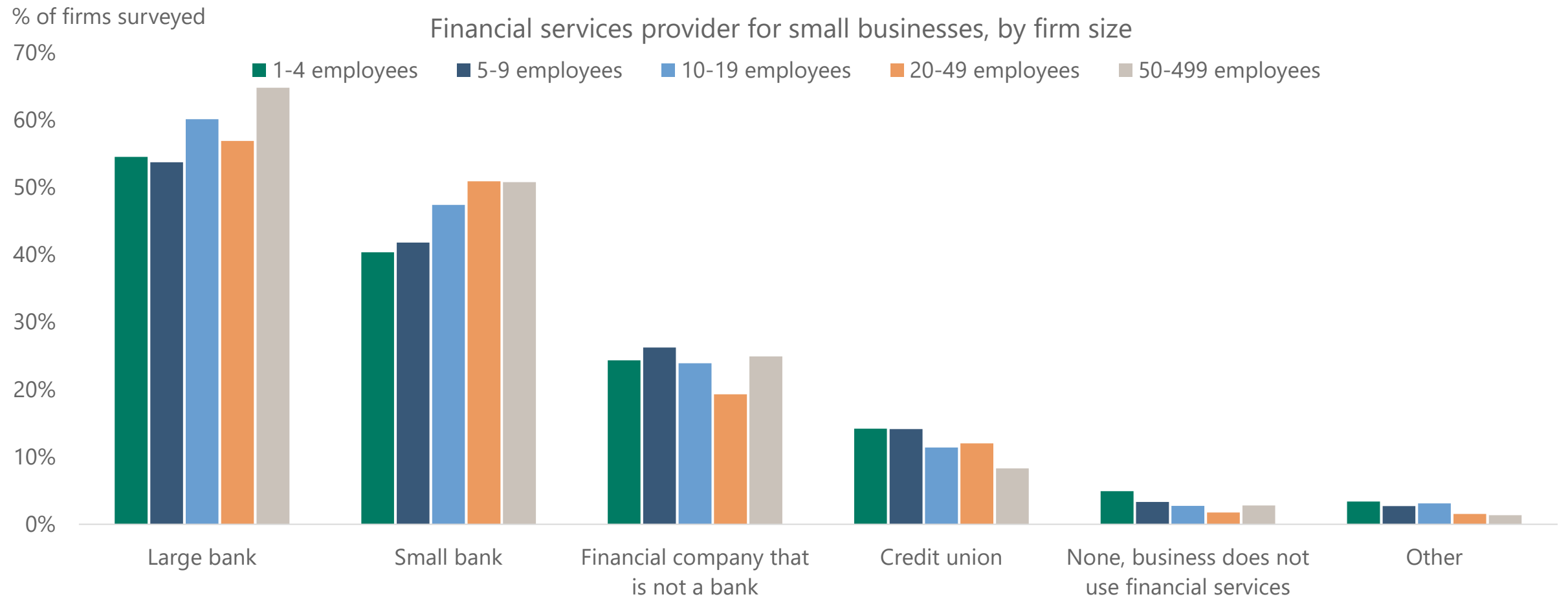
# Sources of financing for small businesses



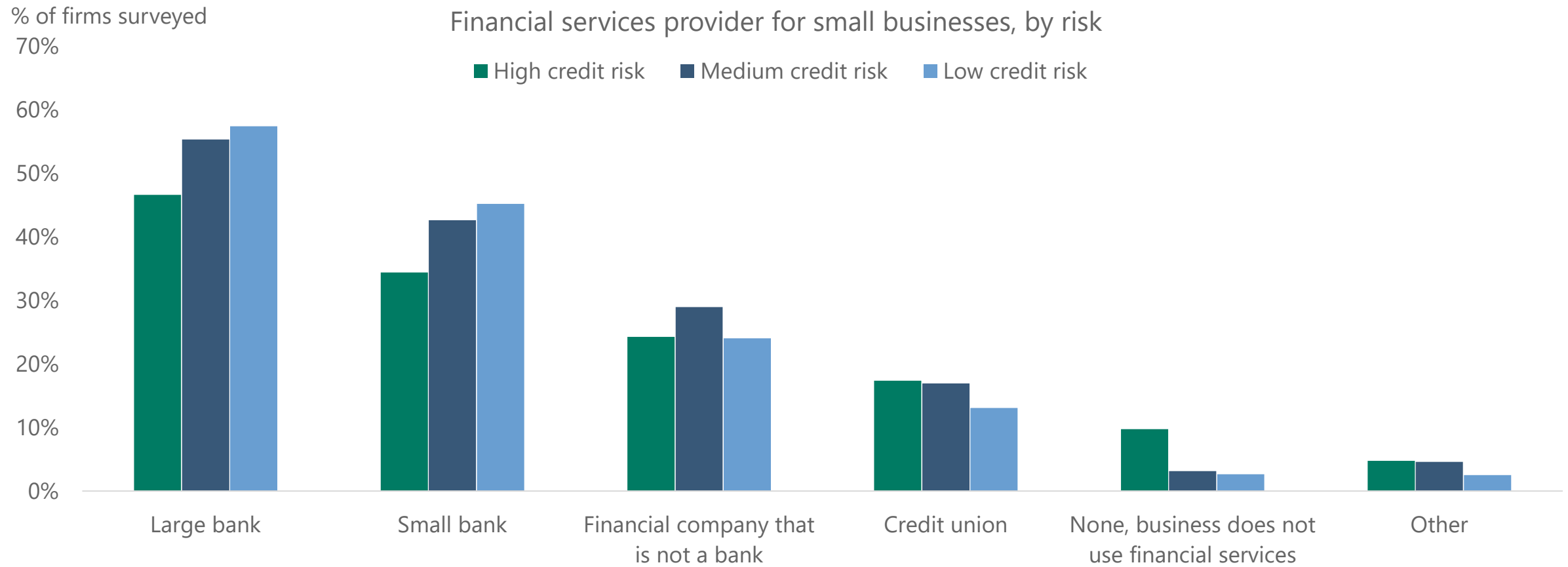
Small banks provide 60% of lending for small businesses in rural areas and 40% in urban areas



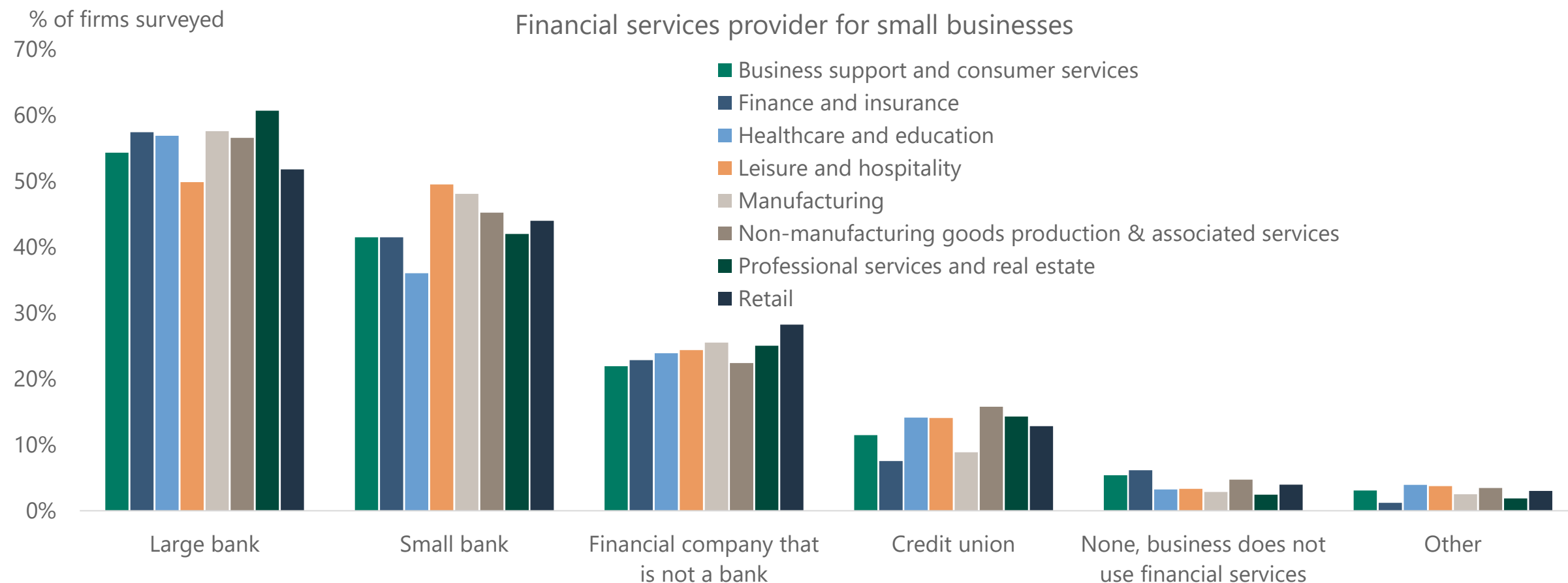
# Sources of financing for small businesses, by firm size



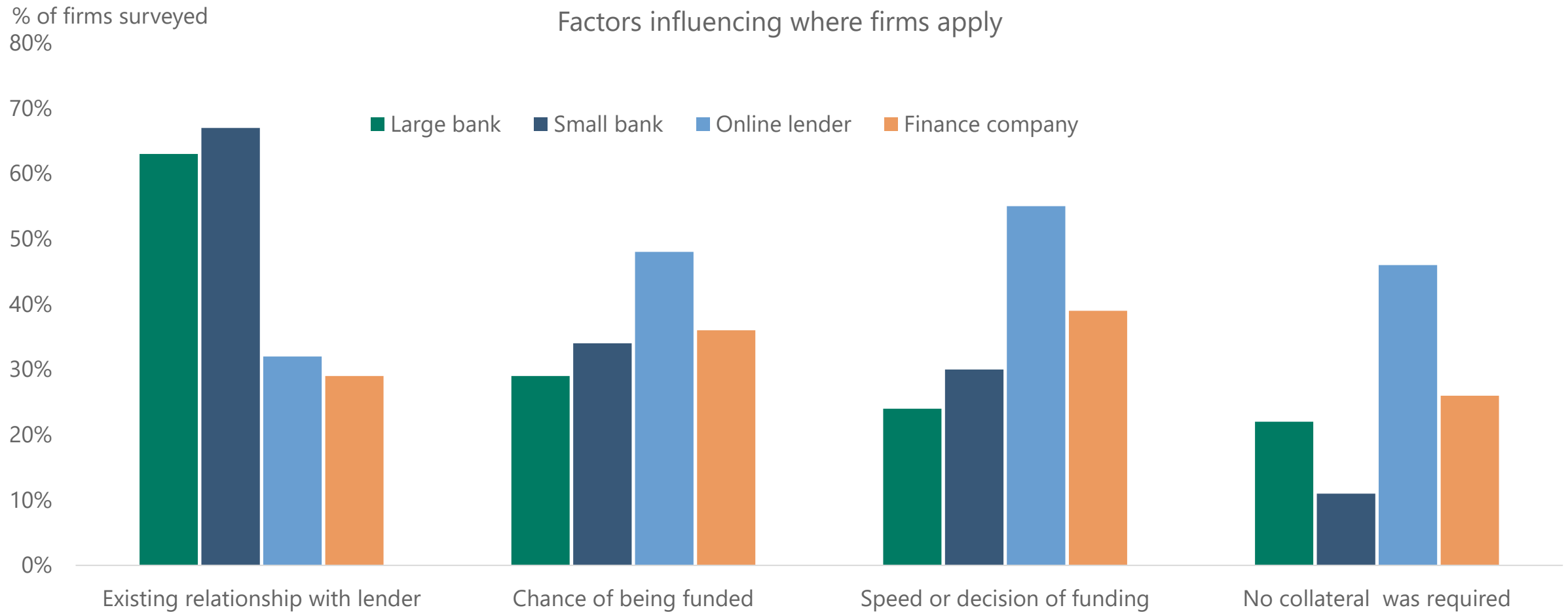
# Sources of financing for small businesses, by risk of the firm



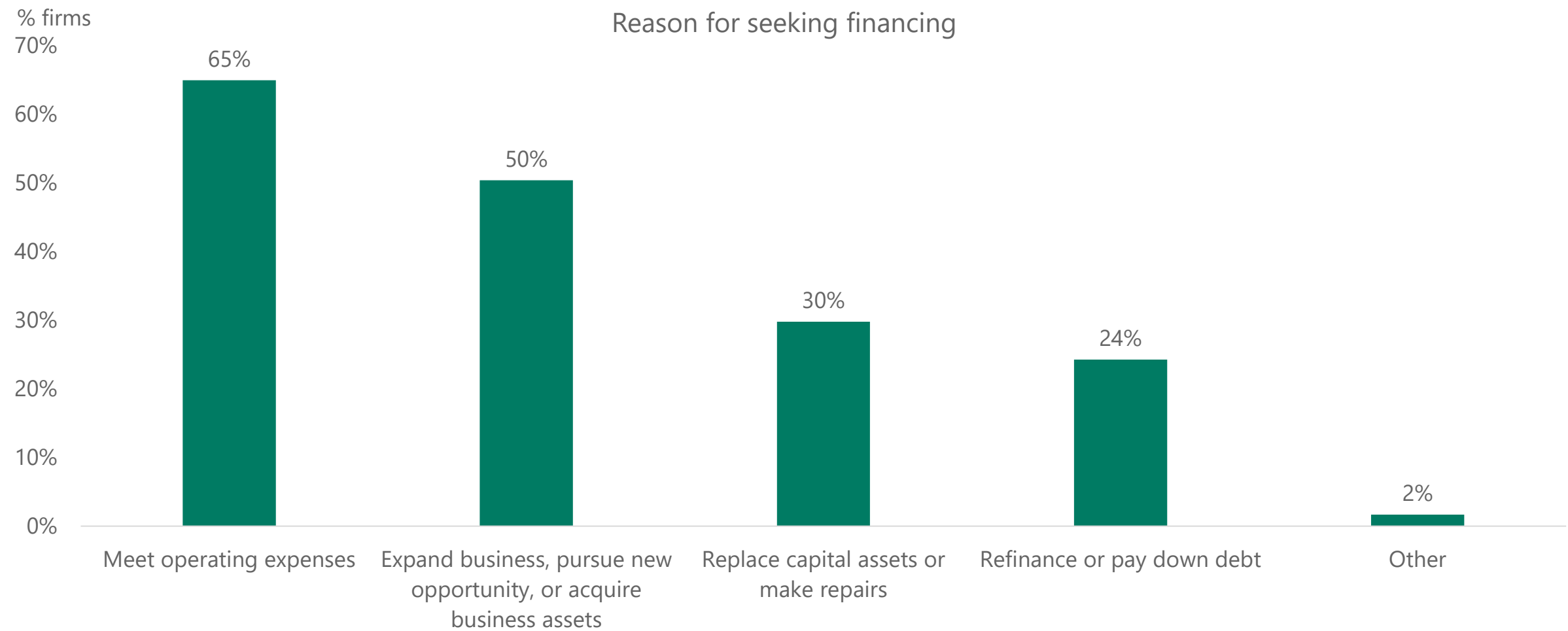
# Sources of financing for small businesses, by firm industry



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

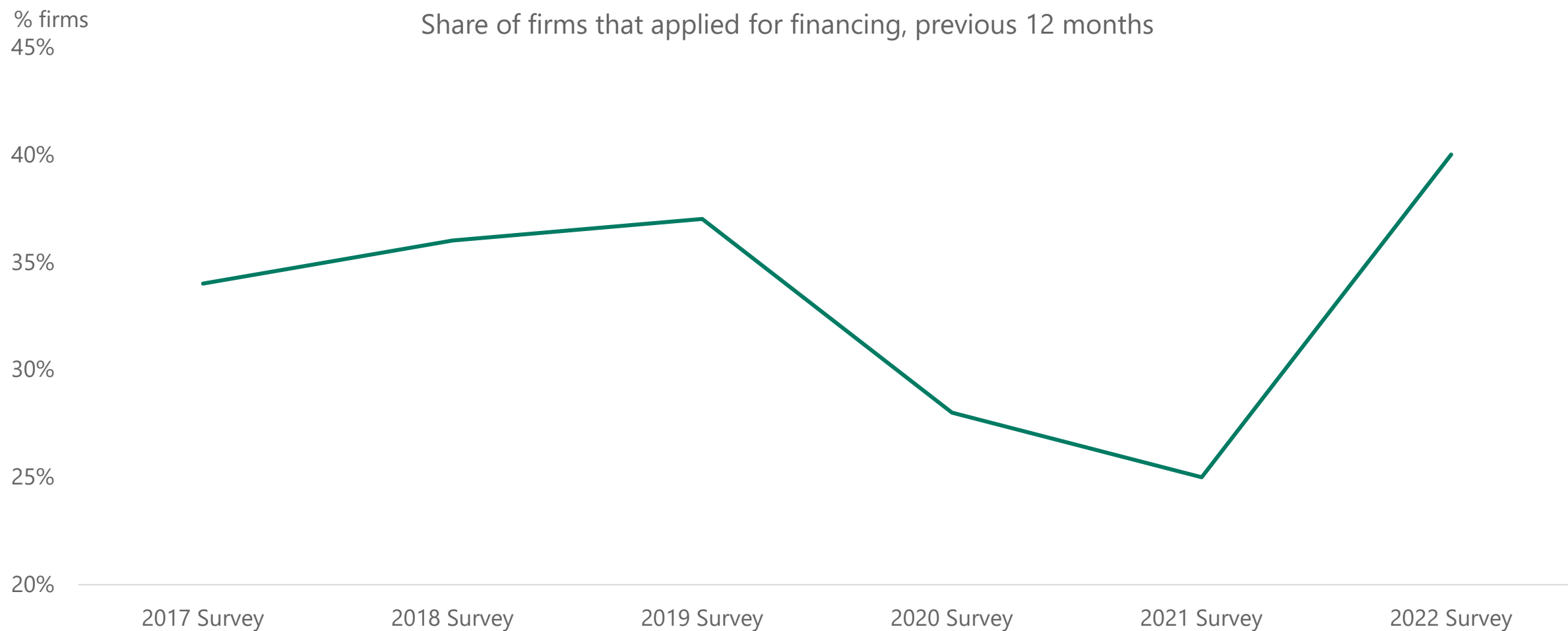


# Purpose of seeking financing for small businesses

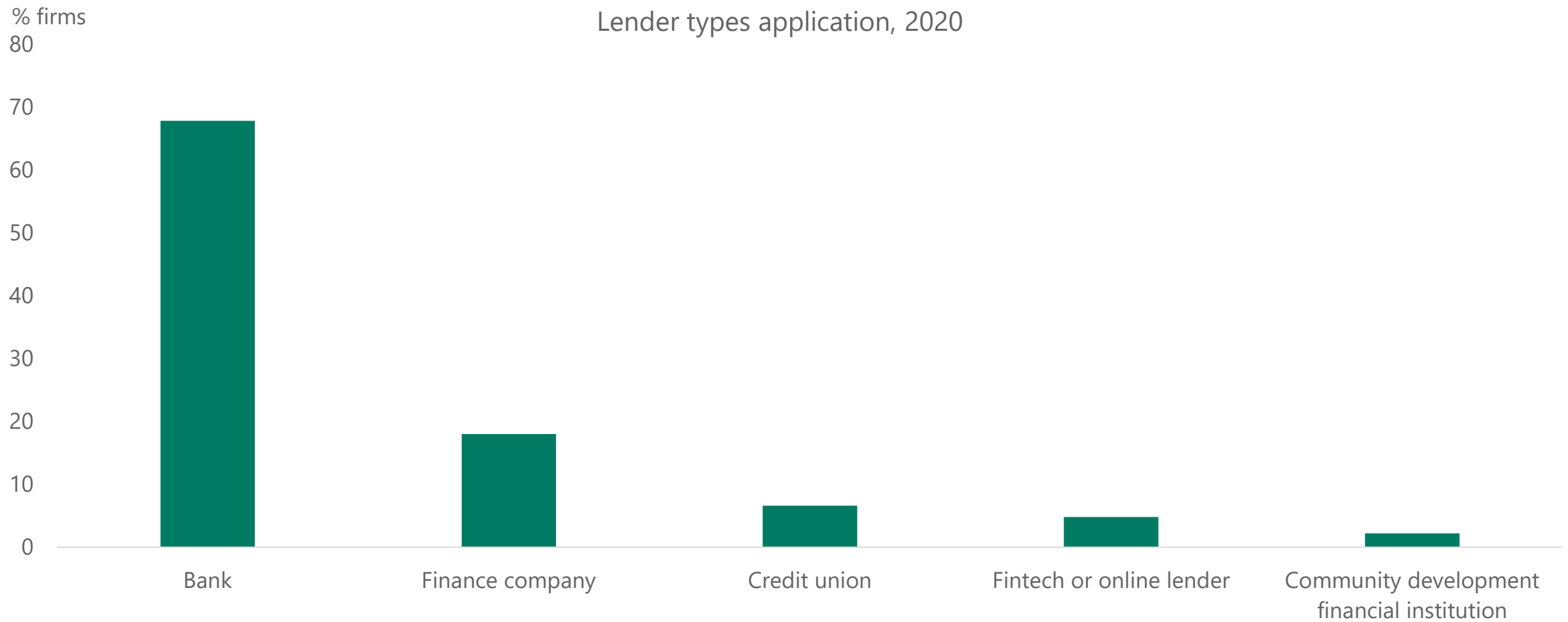


Source: Small Business Credit Survey, Federal Reserve, Apollo Chief Economist. Note: 2022 survey, prior to 12 months of survey year

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

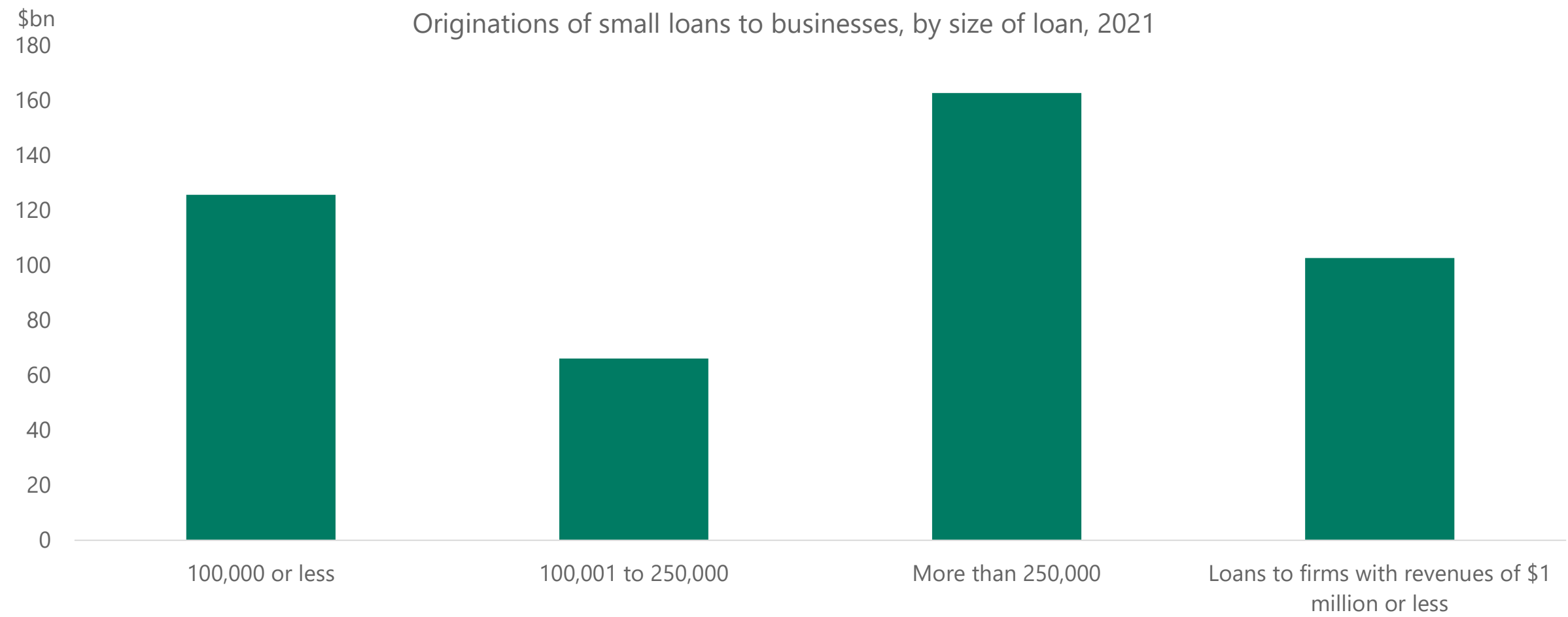


# Banks are the most important source of financing for small businesses



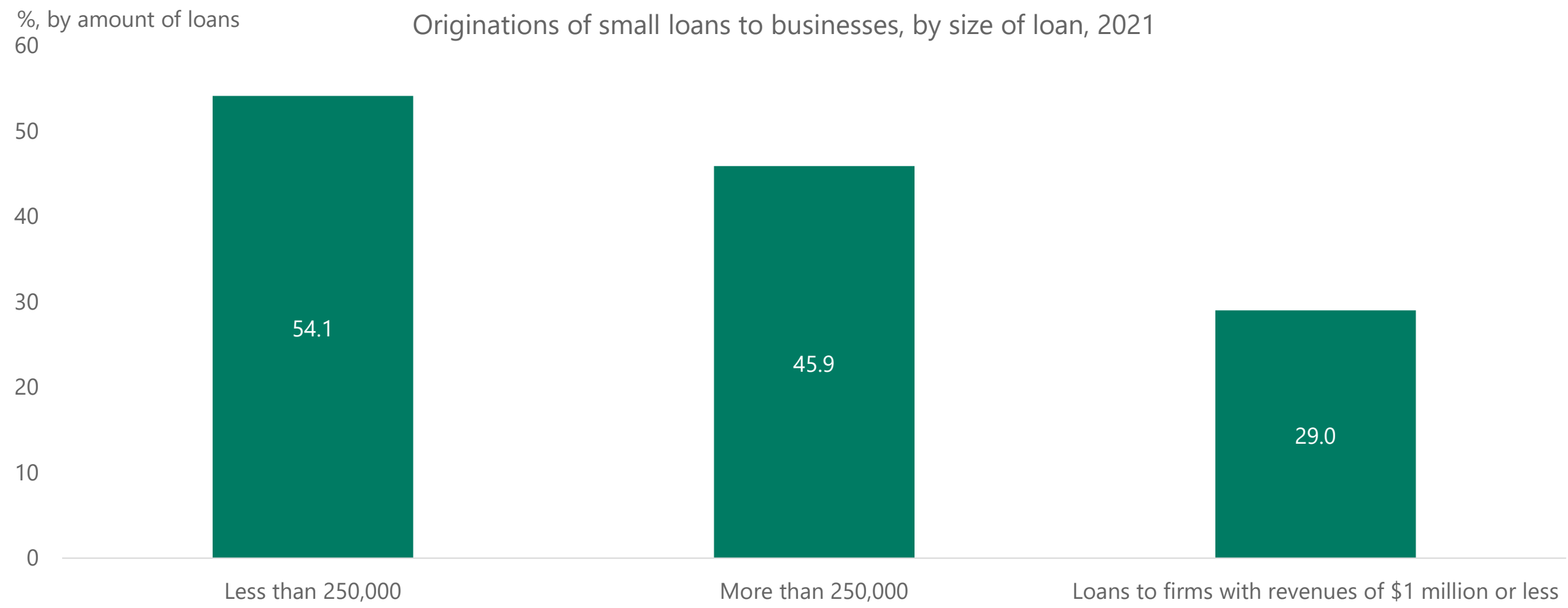
Small business loans

# Size of small loans to businesses



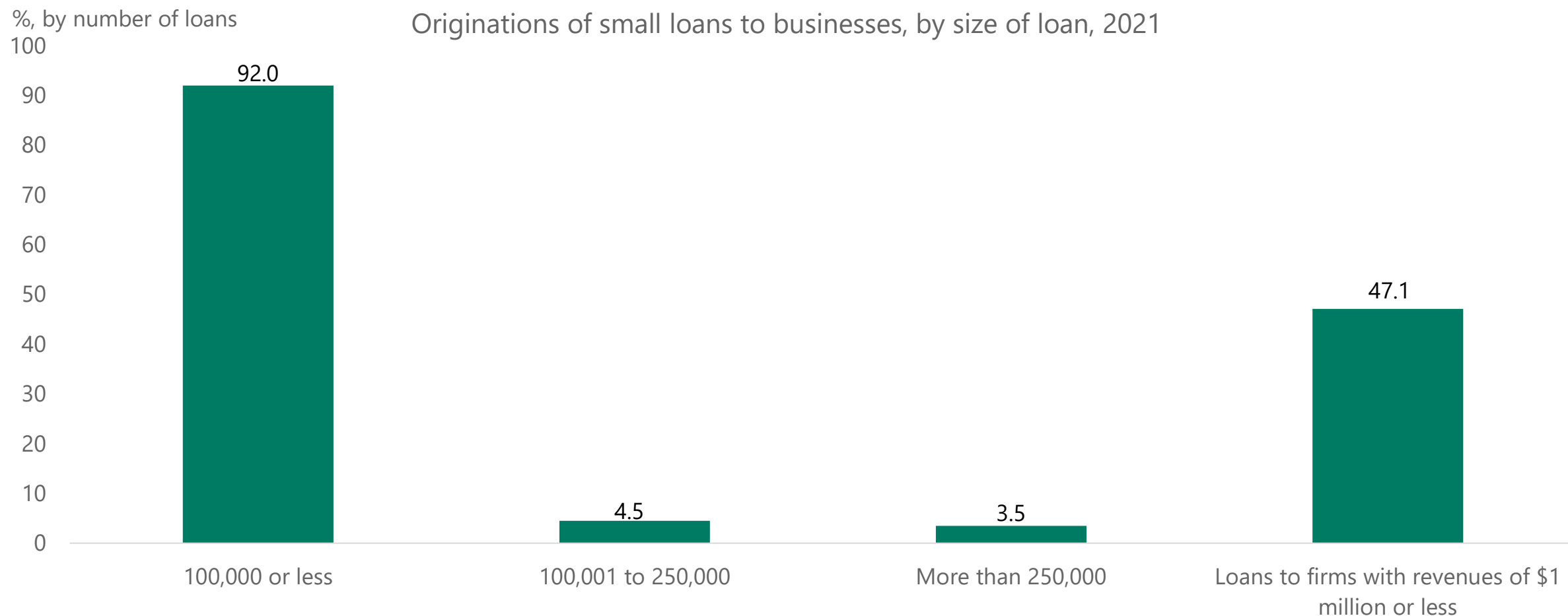
Source: CRA, Apollo Chief Economist. <https://www.ffiec.gov/craadweb/naaghelp.htm>

# Share of loans to small businesses, by loan size

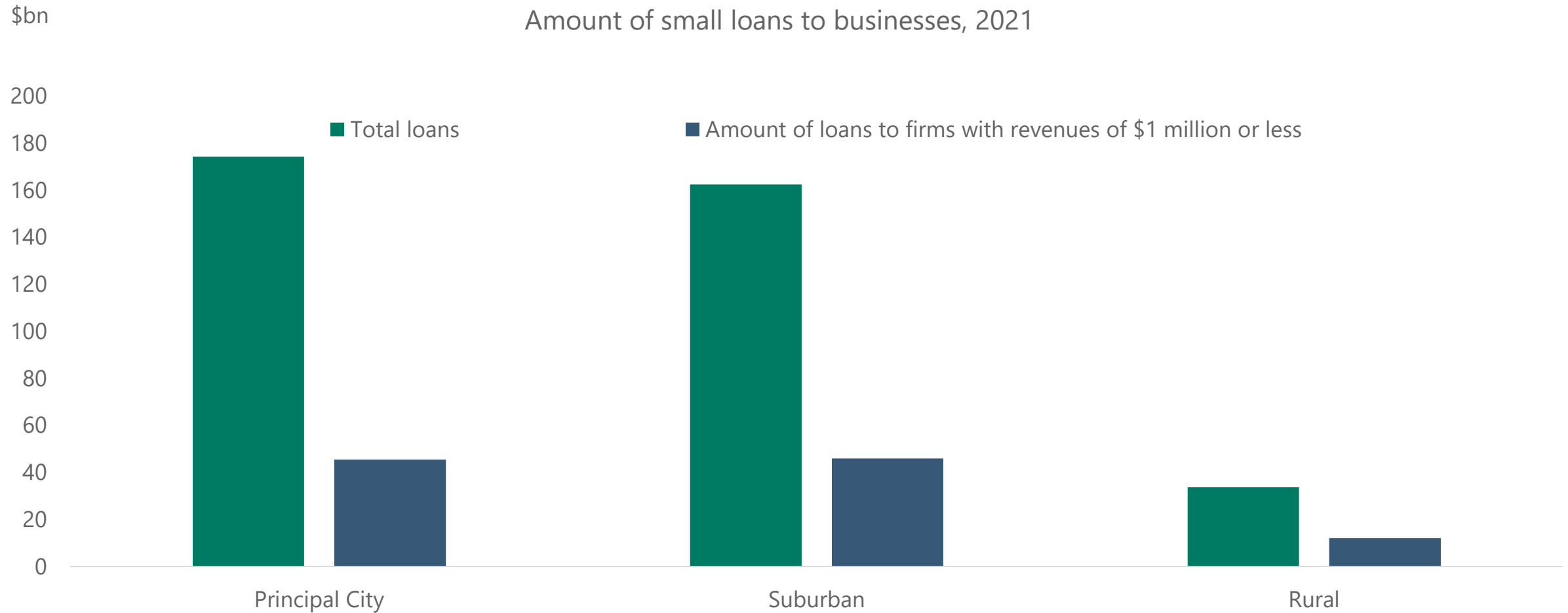


Source: CRA, Apollo Chief Economist. <https://www.ffiec.gov/craadweb/naaghelp.htm>

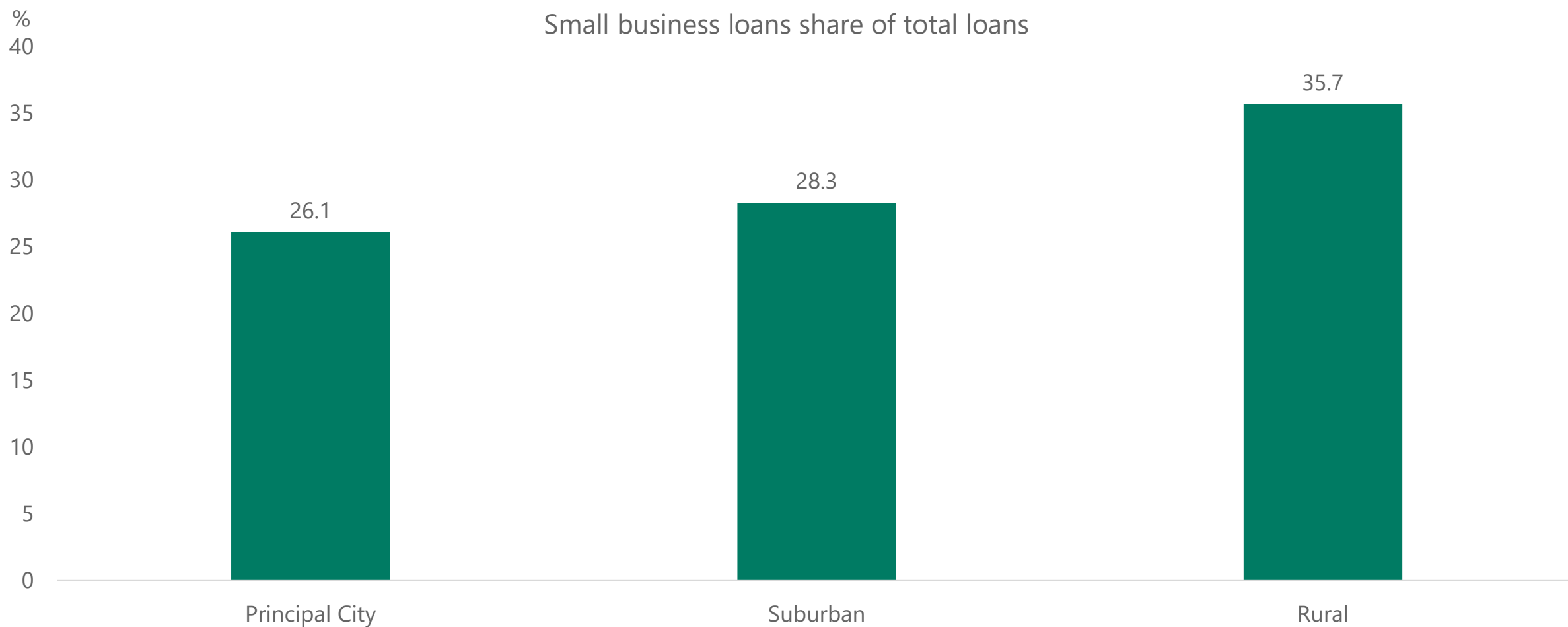
# 92% of all loans to small businesses in the US are less than \$100,000



# Total loans vs loans to small businesses by neighborhood characteristic

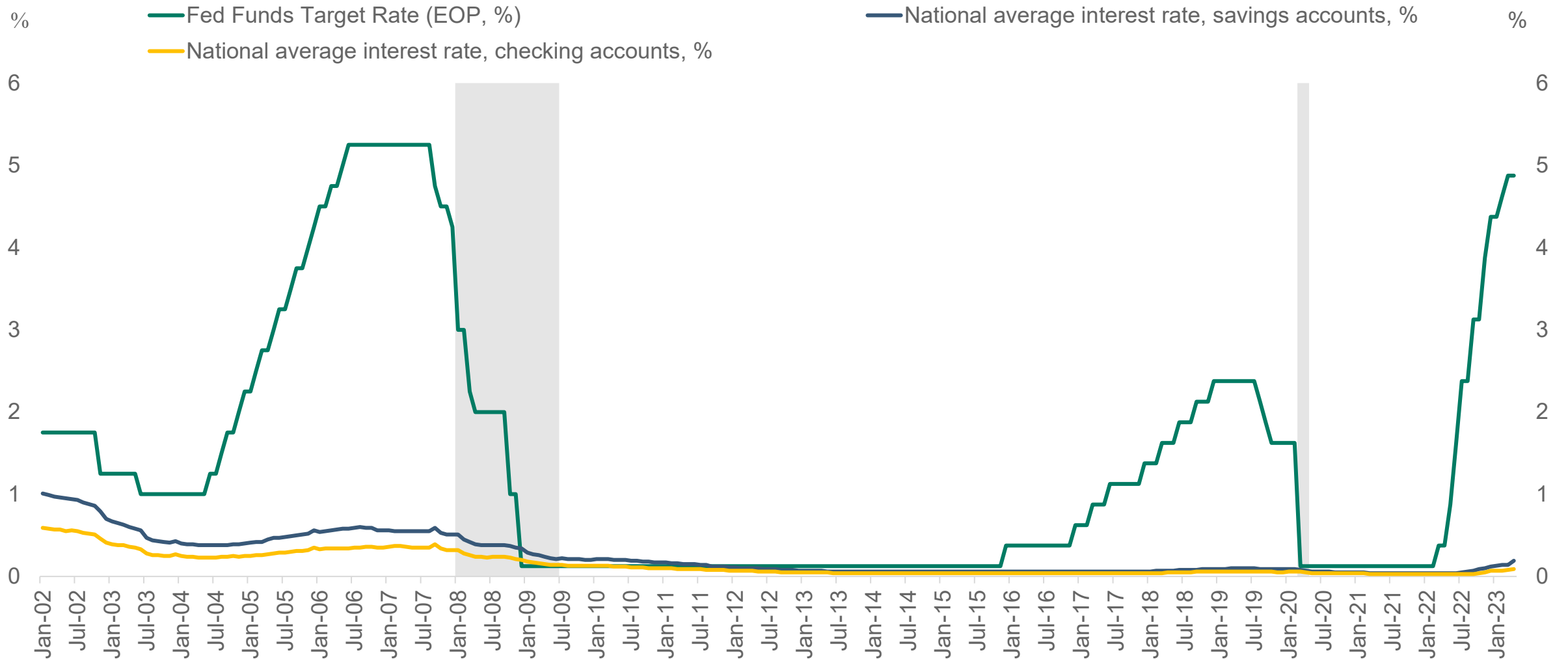


# Share of loans to small businesses by neighborhood characteristic

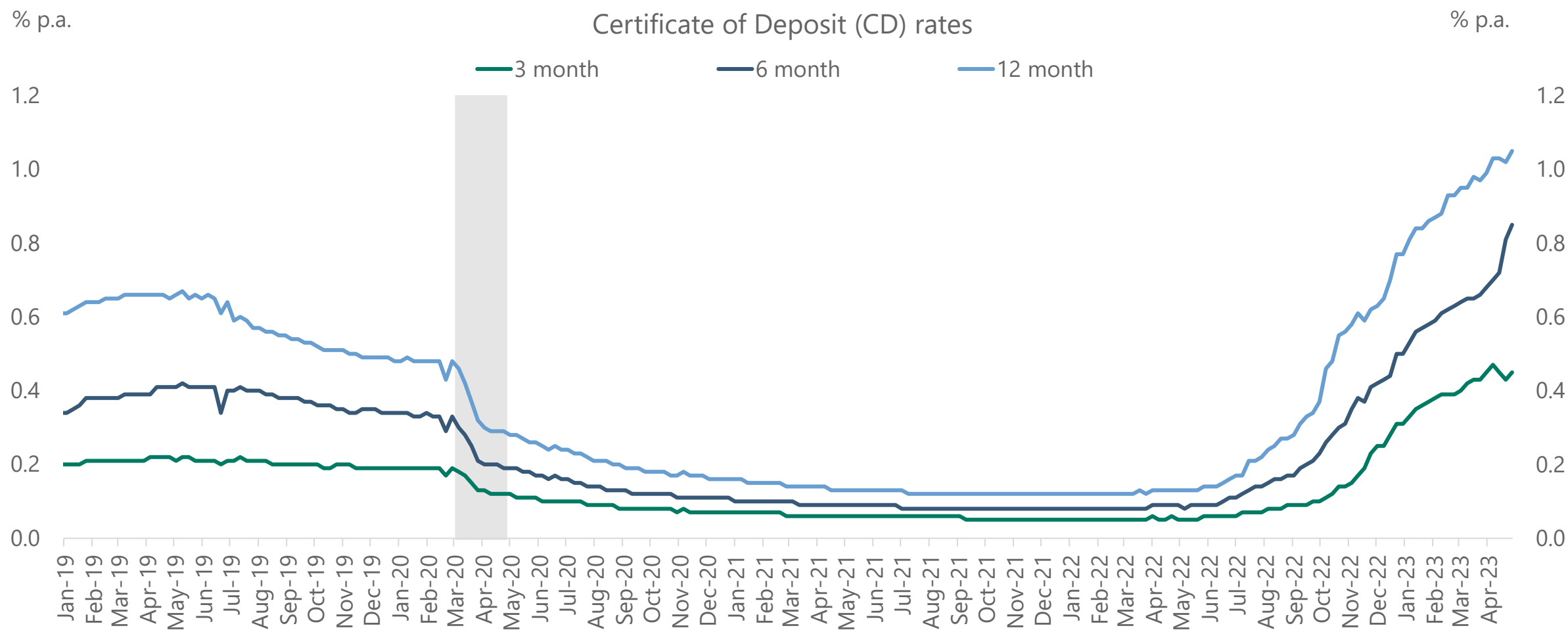


Fed funds rate versus national average  
interest rate on checking accounts

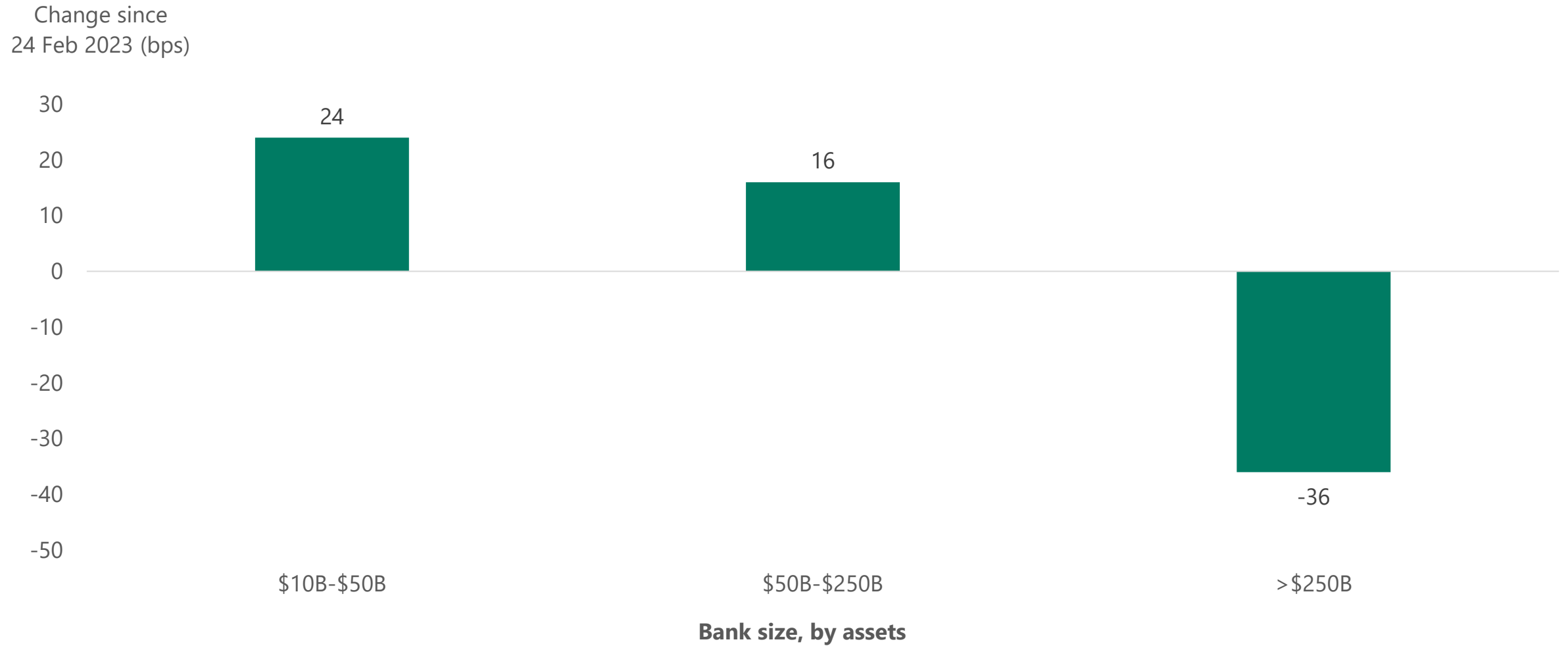
# Interest rate on checking accounts versus the Fed funds rate



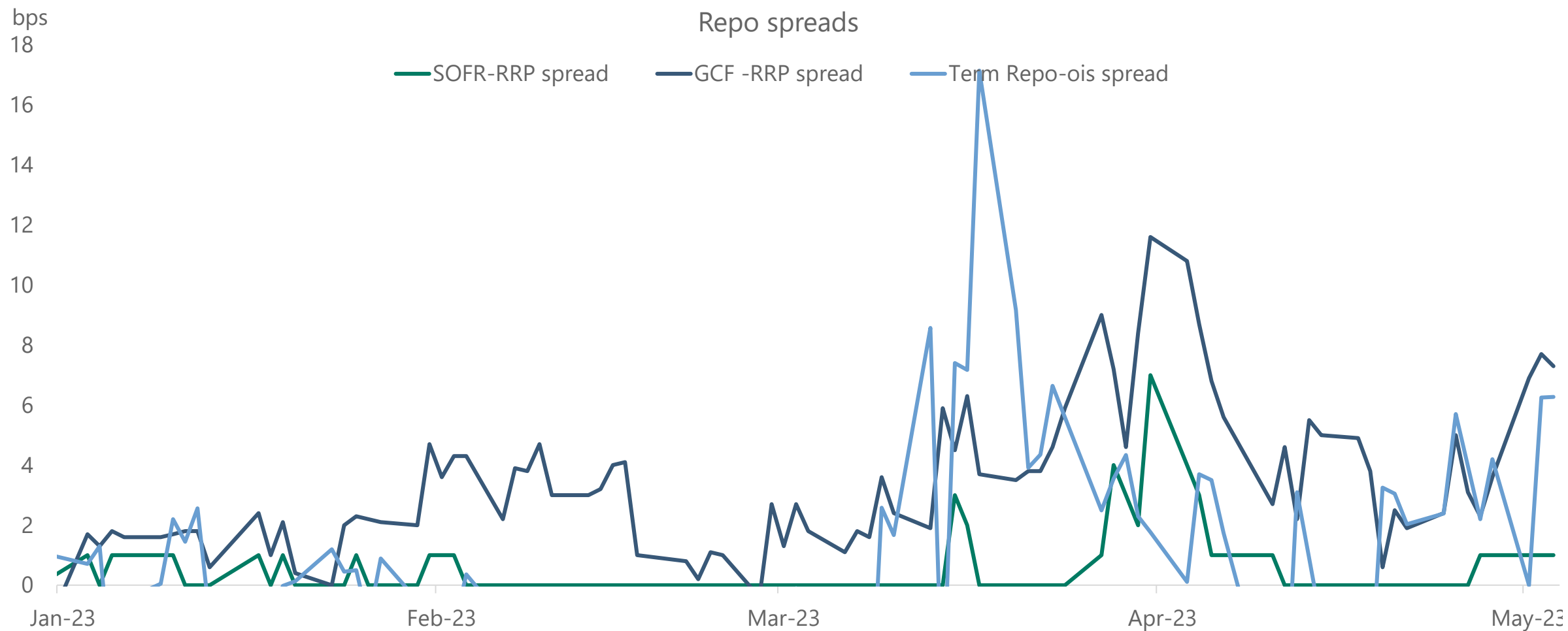
# CD rates have slowly increased as the Fed has raised interest rates



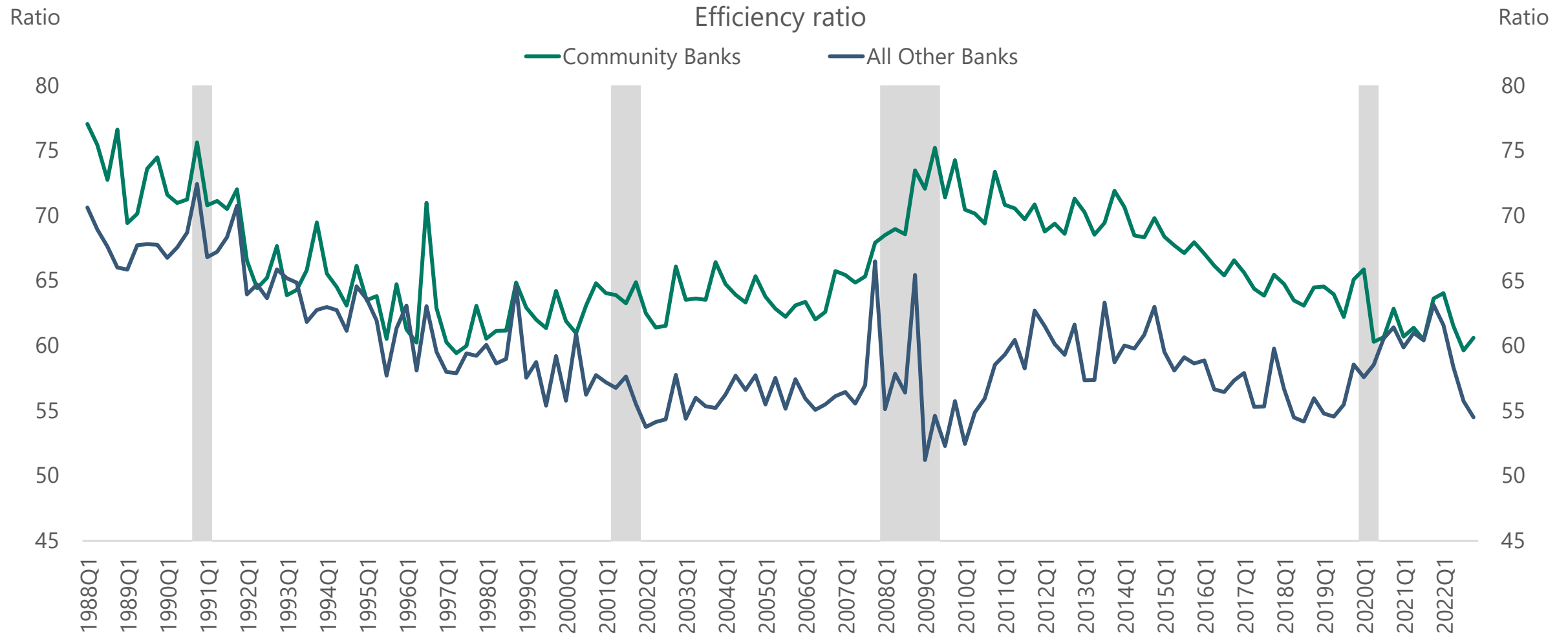
# After SVB: Change in 3-month CD rates at US banks, by size of bank



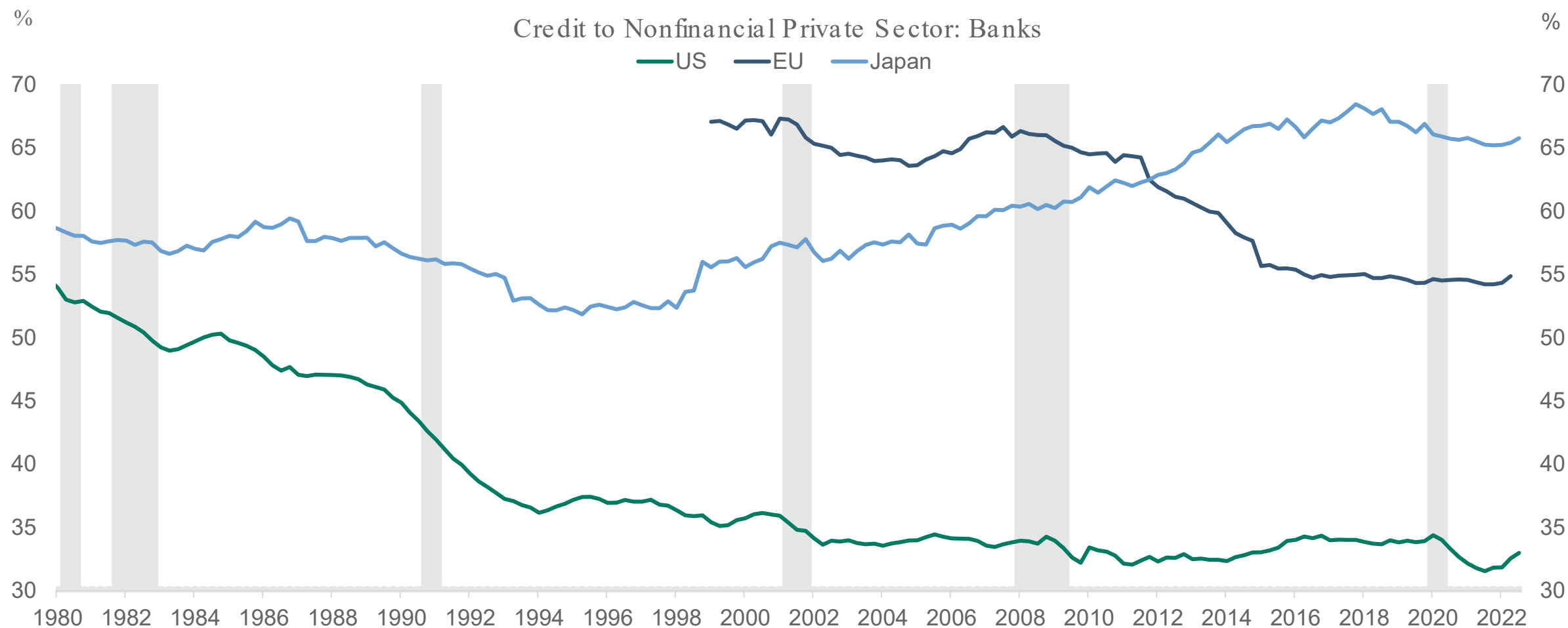
# Monitoring repo spreads for stresses in money markets



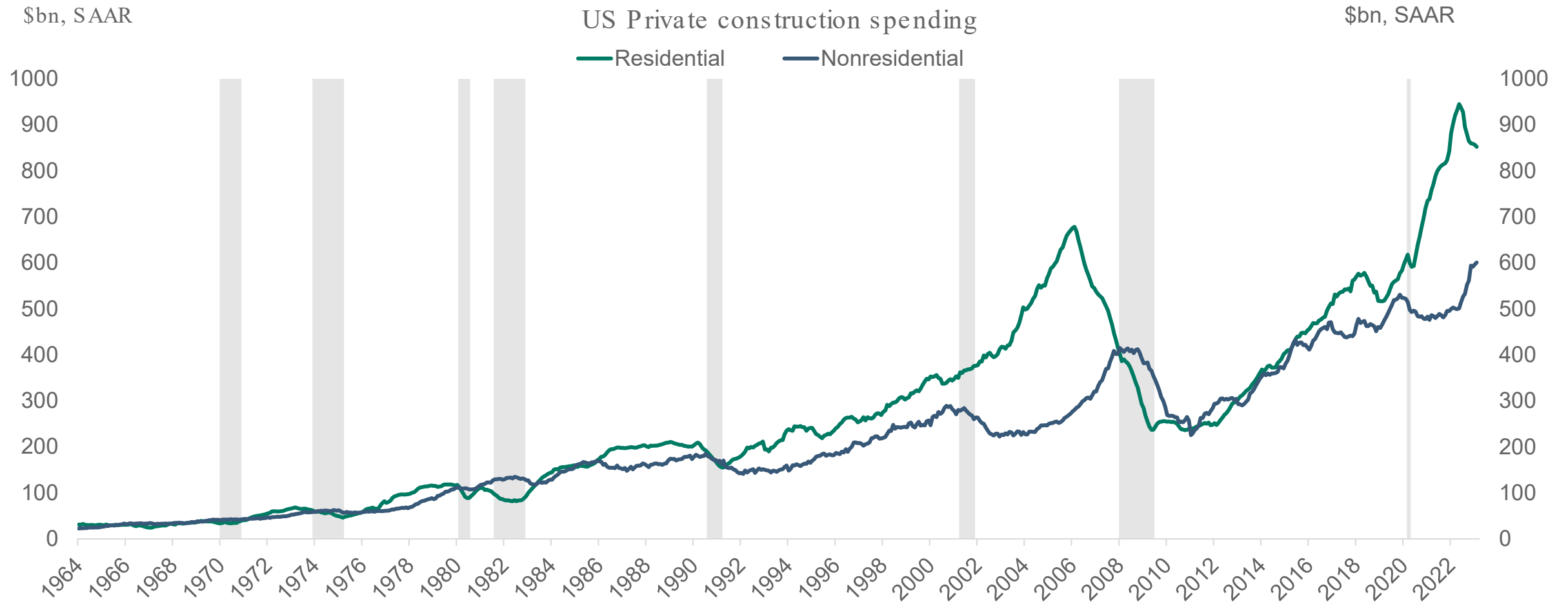
The average efficiency ratio for community banks is around 61% compared with 55% for noncommunity banks.



# Share of bank lending lower in the US



# Residential construction spending elevated

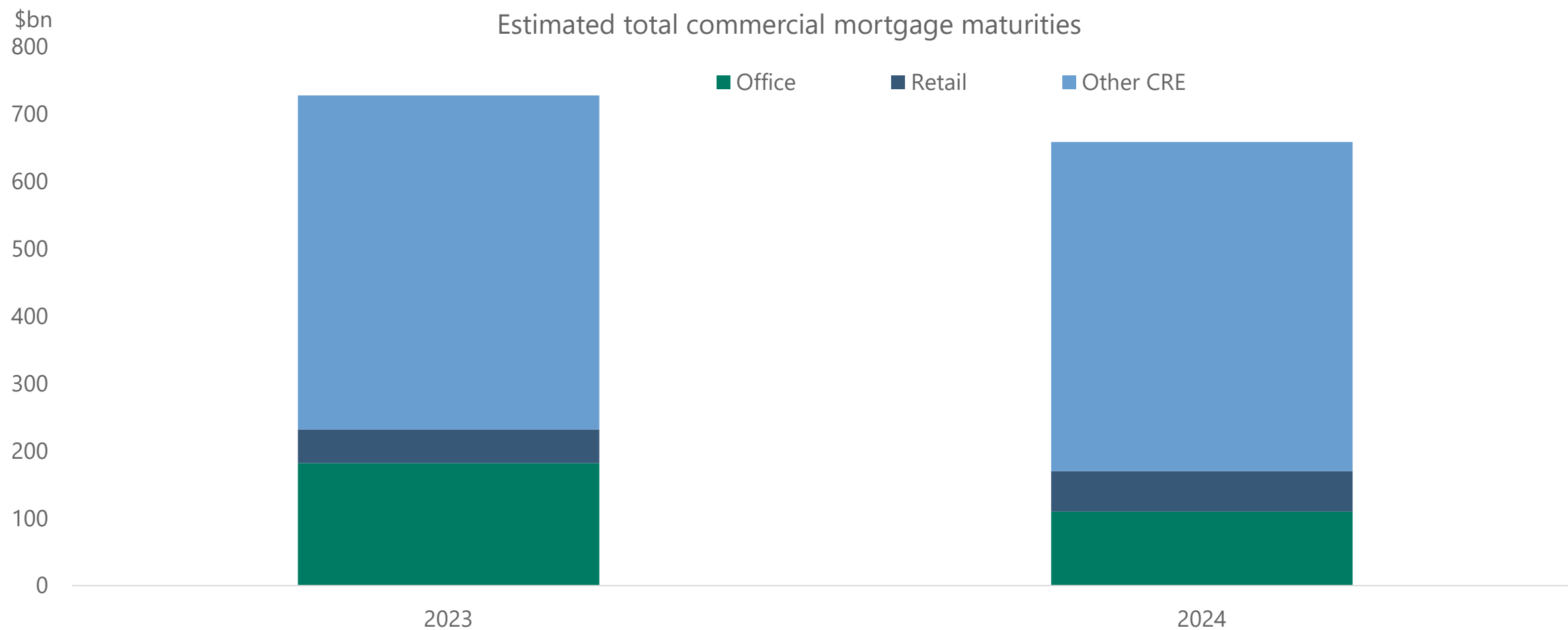


# Maturity profile for US fixed income

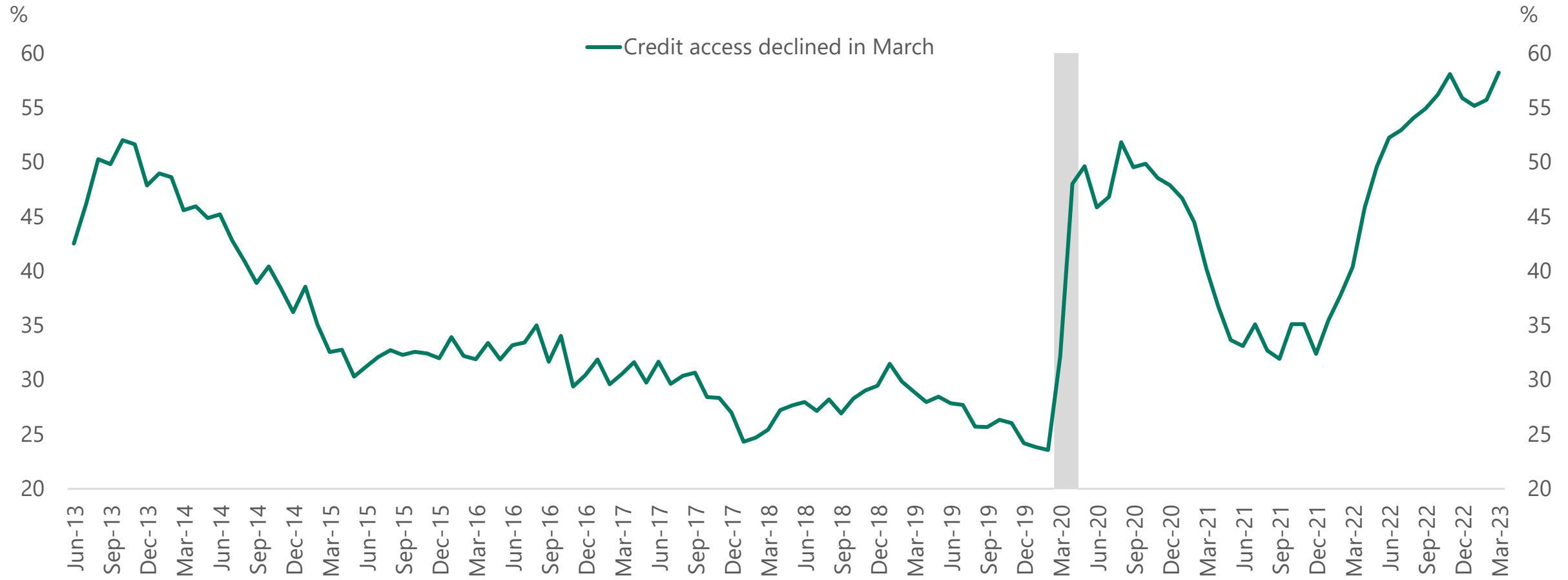


Source: ICE, Bloomberg, Pitchbook LCD, Mortgage Bankers Association, Apollo Chief Economist

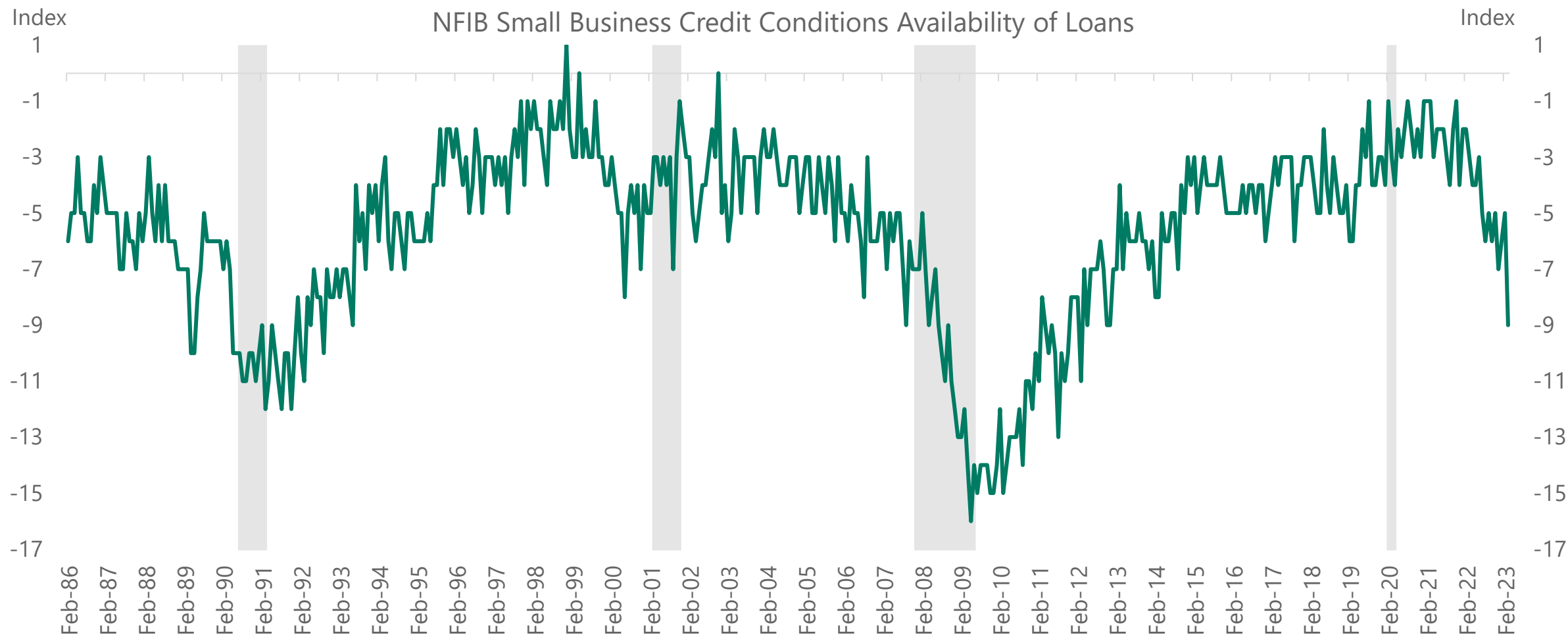
# CRE maturity profile



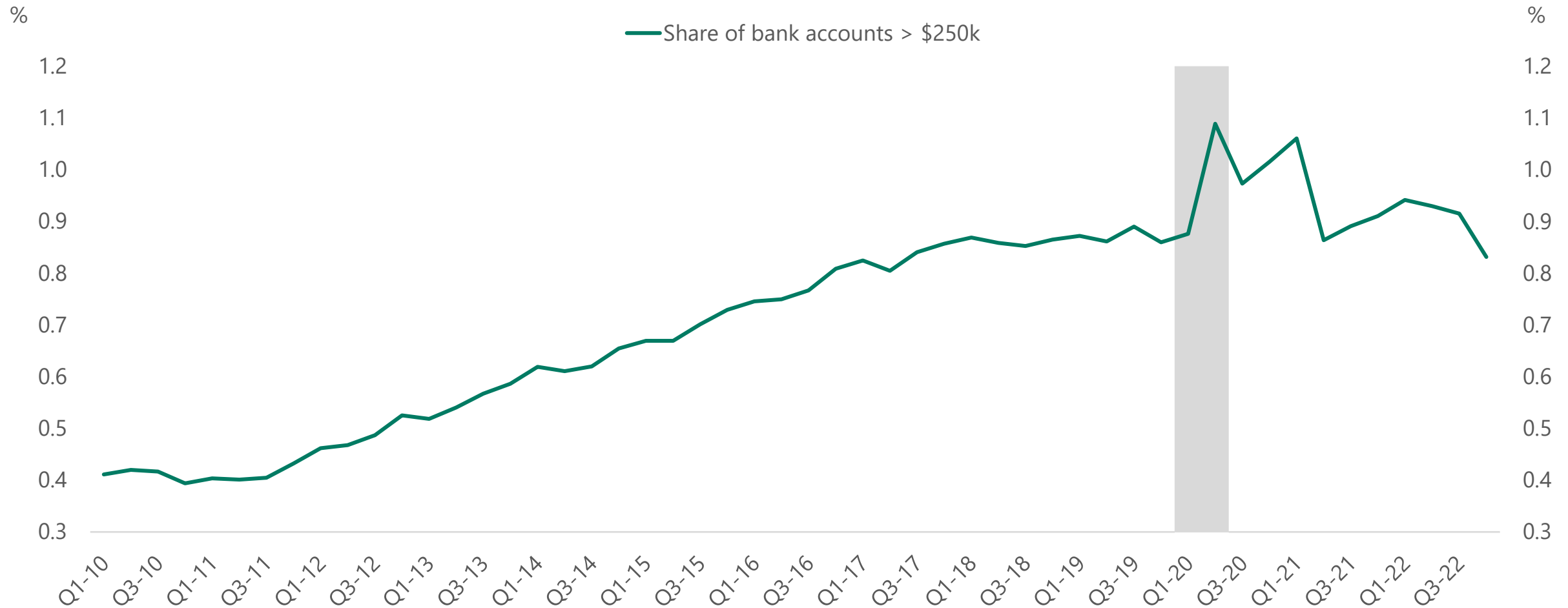
The share of households reporting it is harder to obtain credit than one year ago increased to the highest level since the survey was launched in 2013



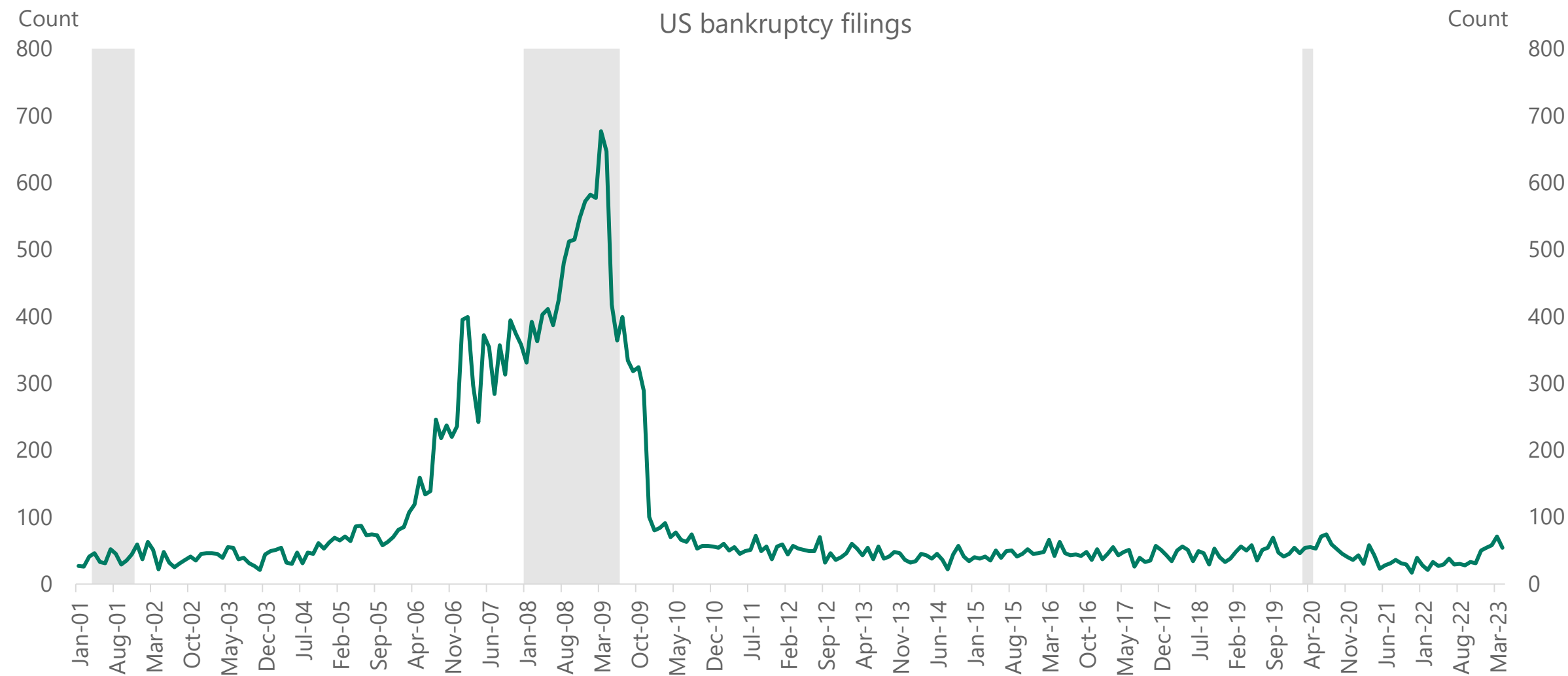
9% of small firms reported that financing was harder to get



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

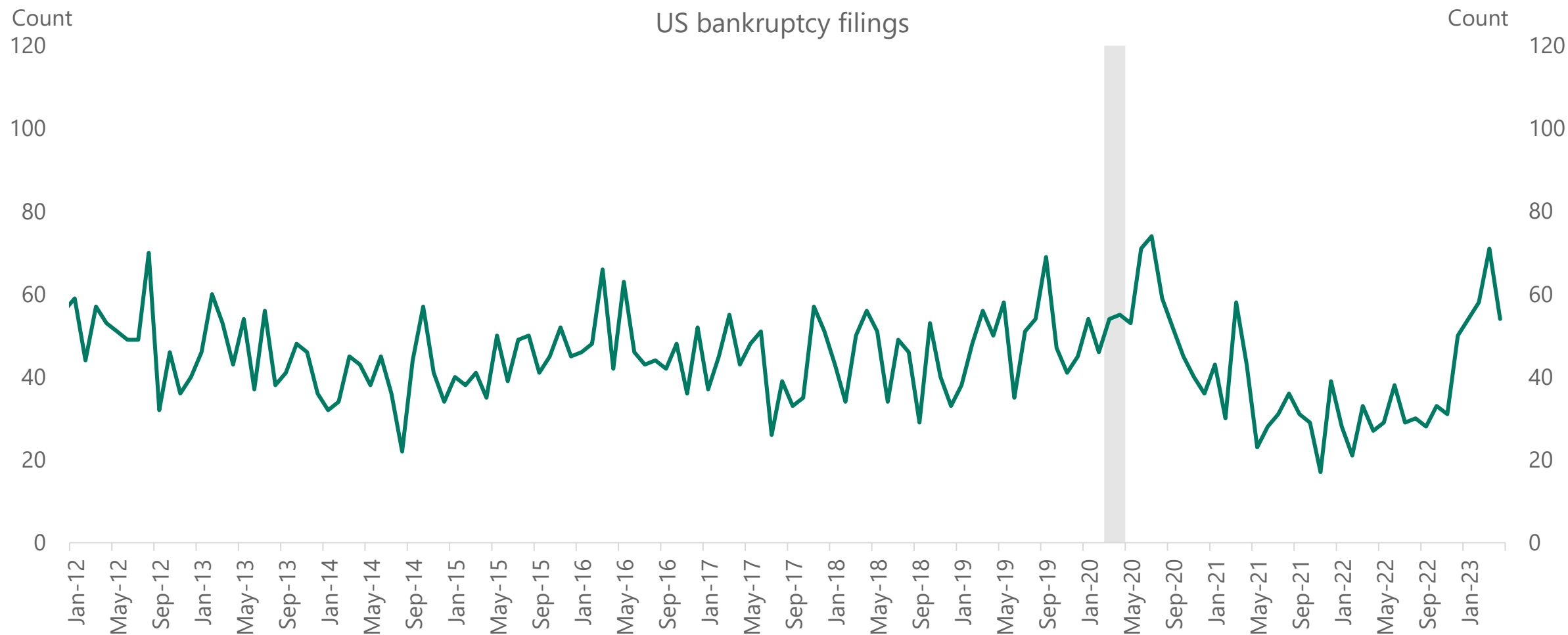


# Bankruptcy filings



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.

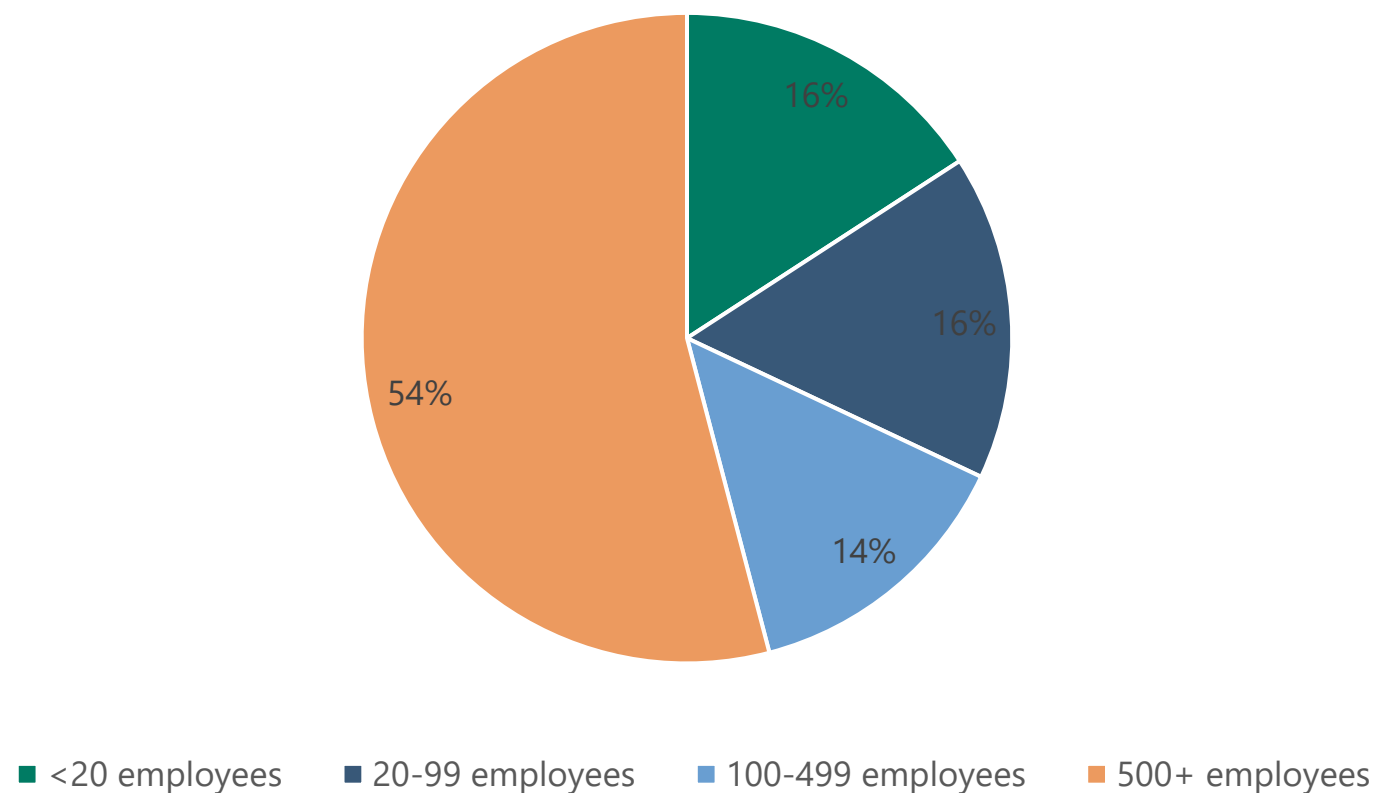
# Bankruptcy filings recently have moved lower



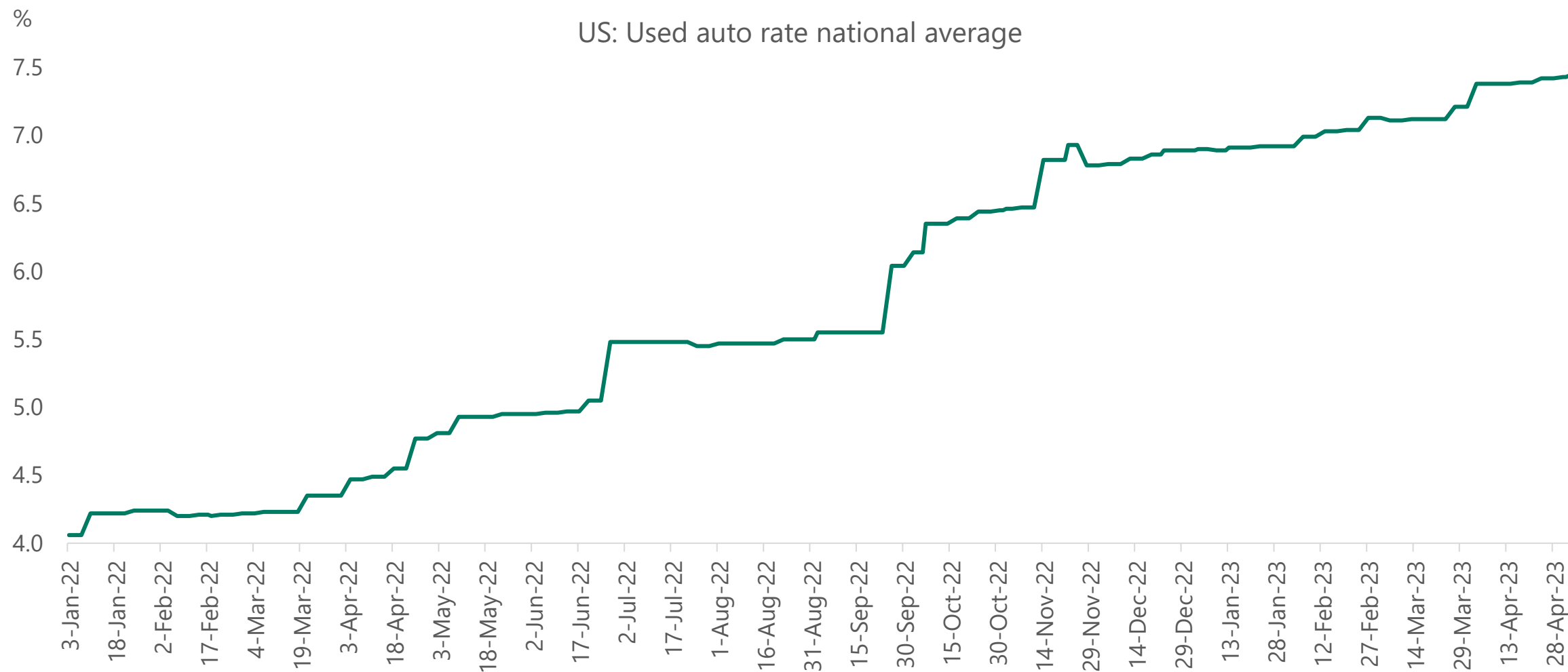
Source: S&P Capital IQ, Bloomberg, Apollo Chief Economist. Note: Bankruptcy figures include public companies or private companies with public debt with a minimum of \$2 million in assets or liabilities at the time of filing, in addition to private companies with at least \$10 million in assets or liabilities.

# Half of US population employed in firm size of <500 employees

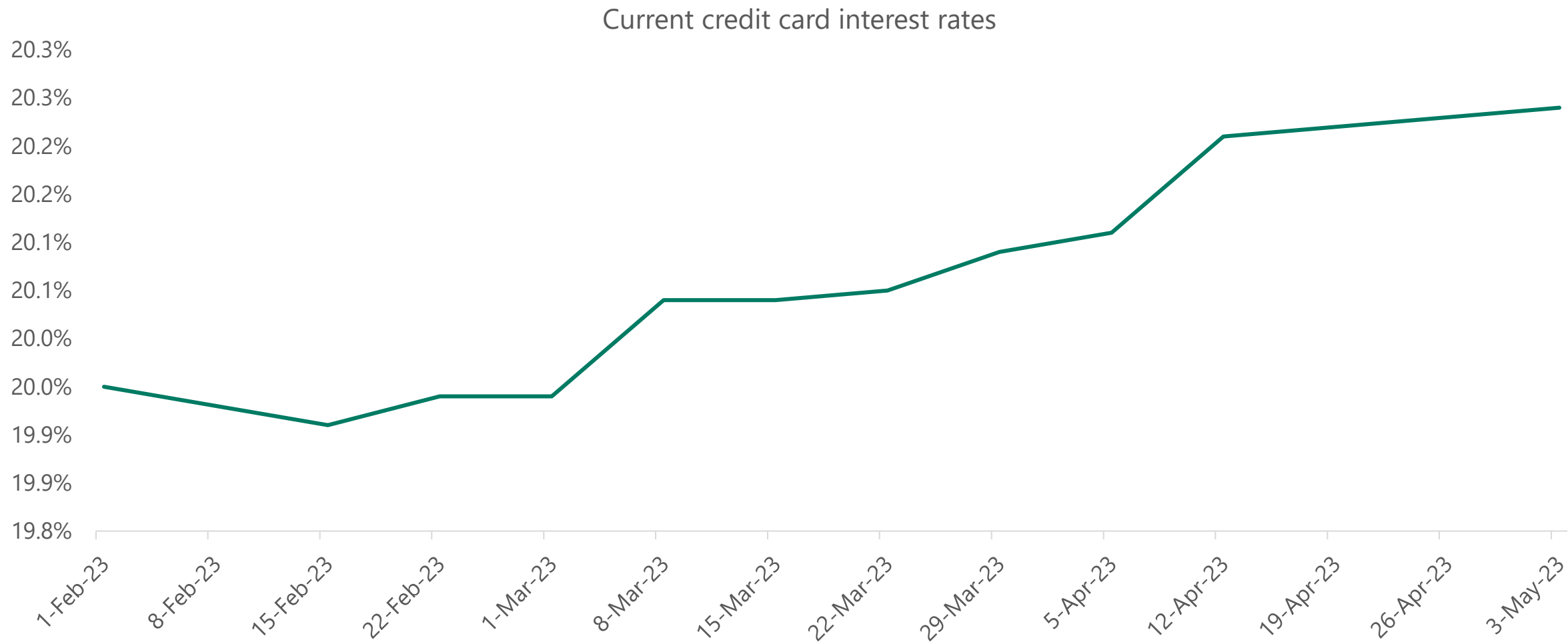
Share of total employment by employment size of the firm, 2020



# Interest rate on auto loan

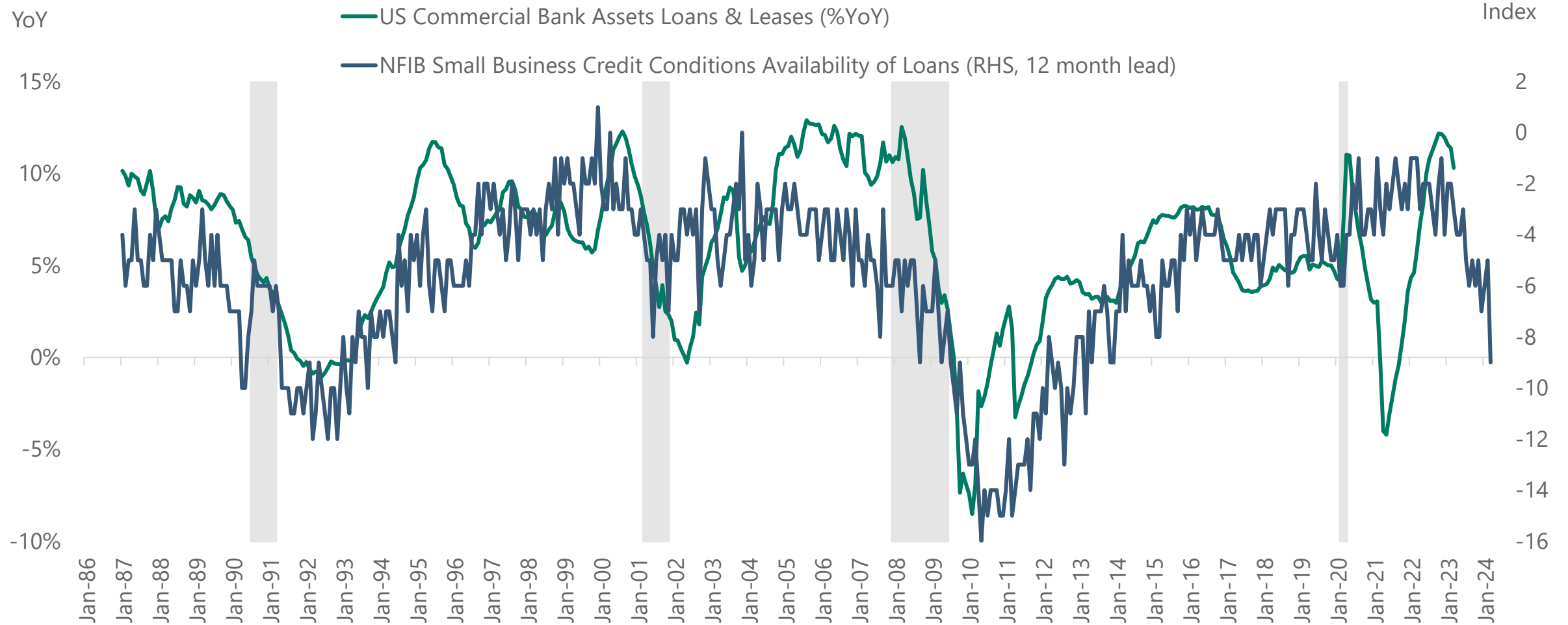


# Interest rate on credit card

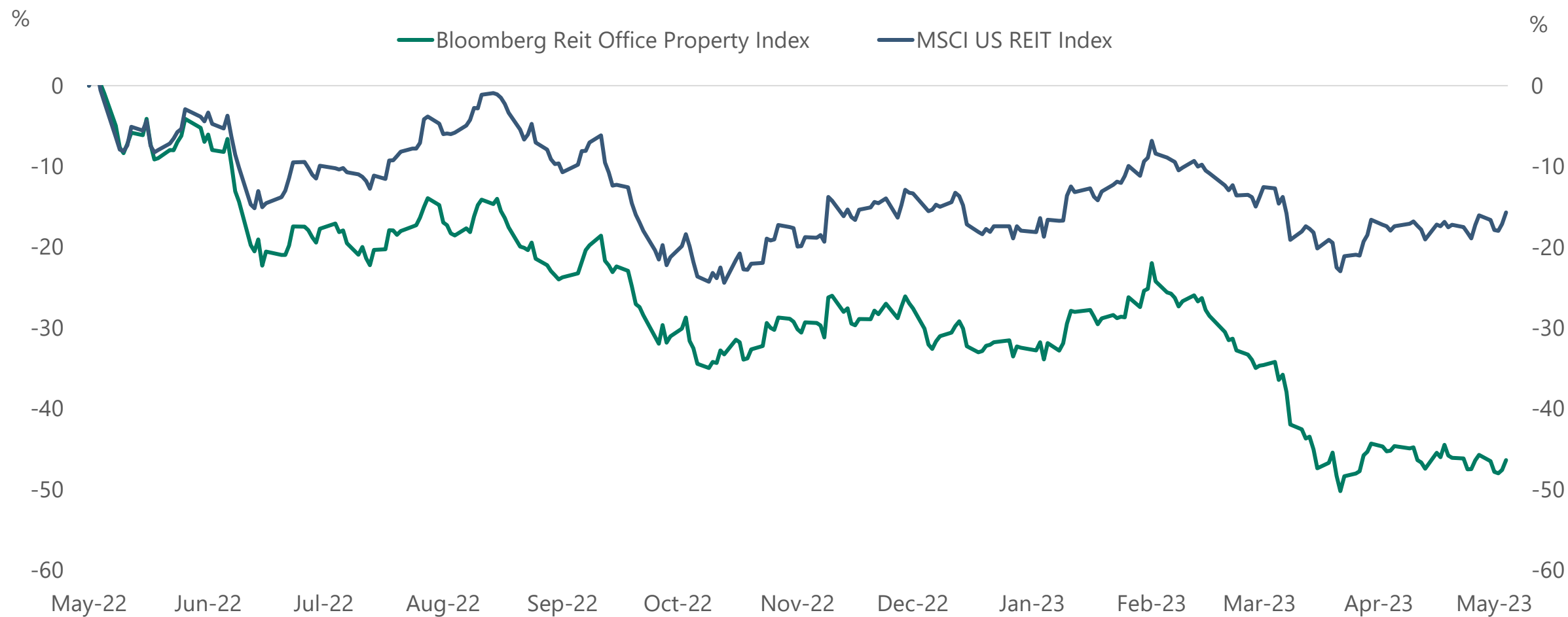


Source: Bankrate.com, Apollo Chief Economist

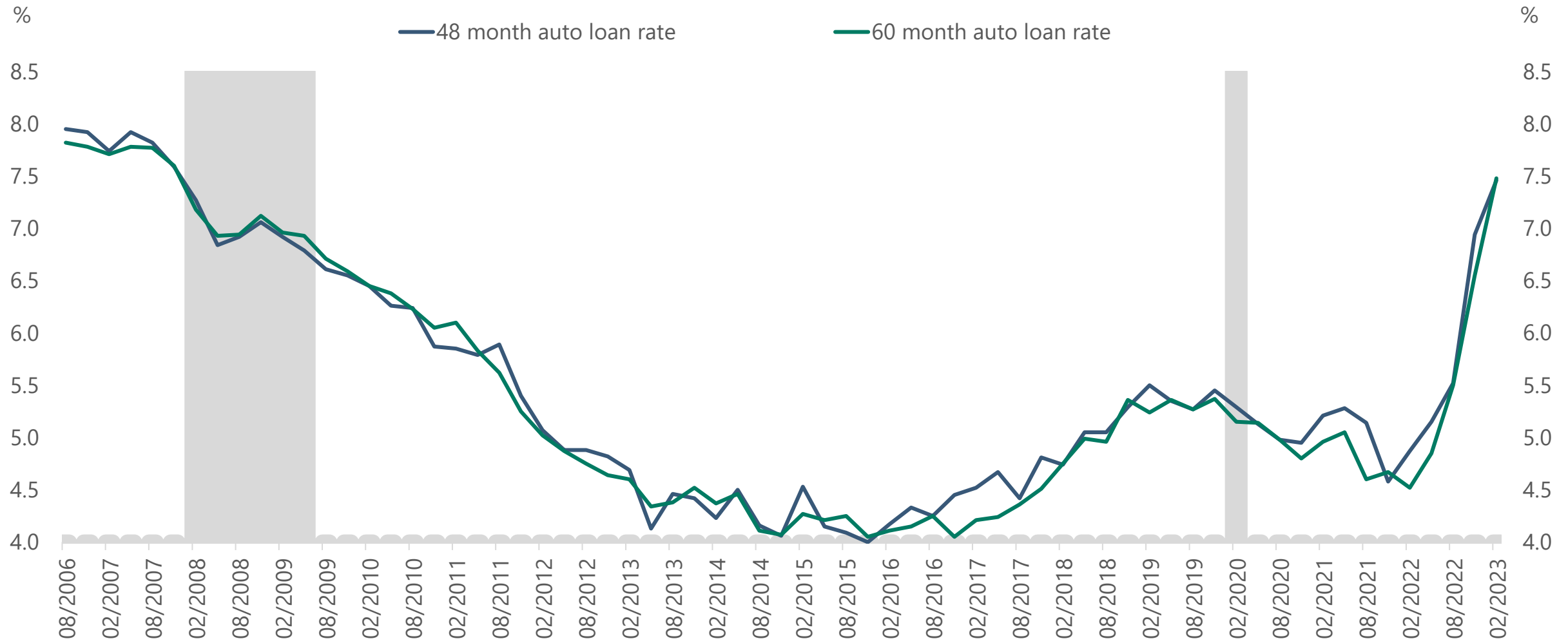
# Loan growth expected to fall



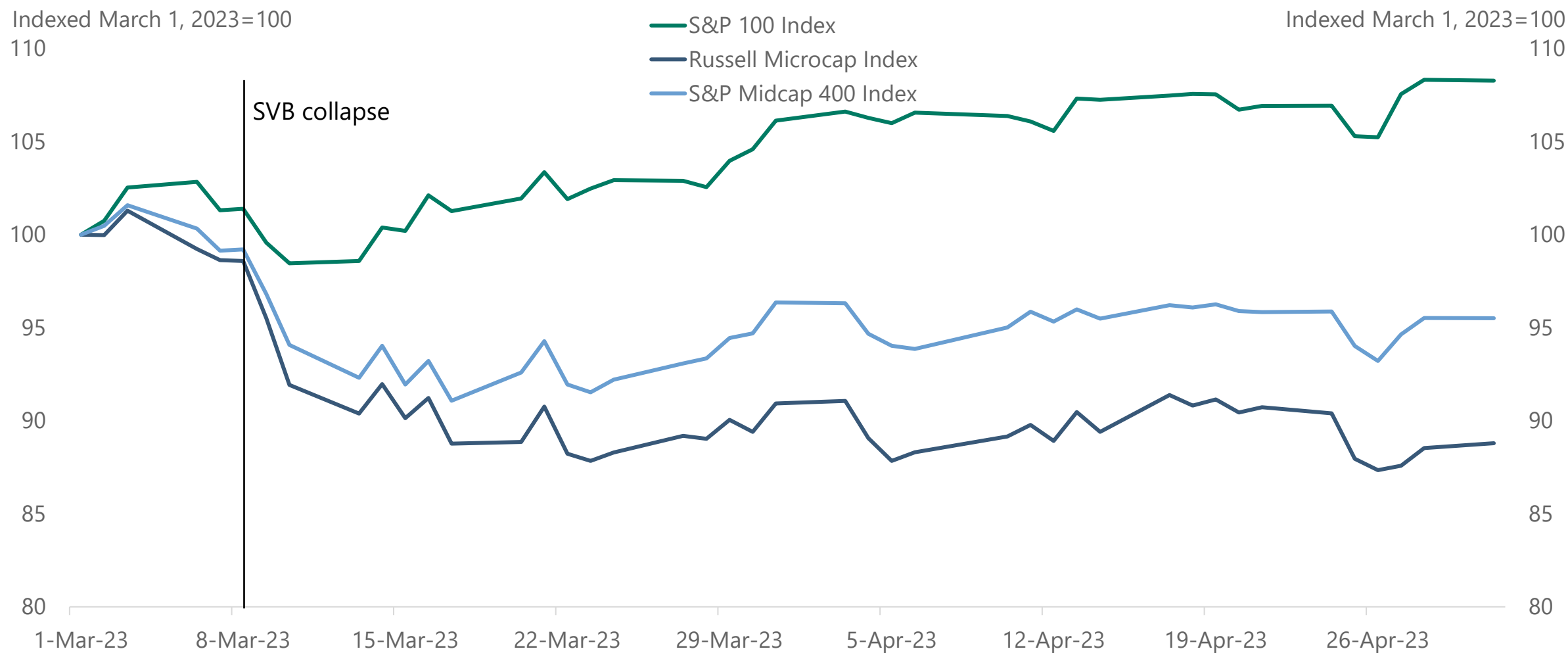
# Office property index is underperforming



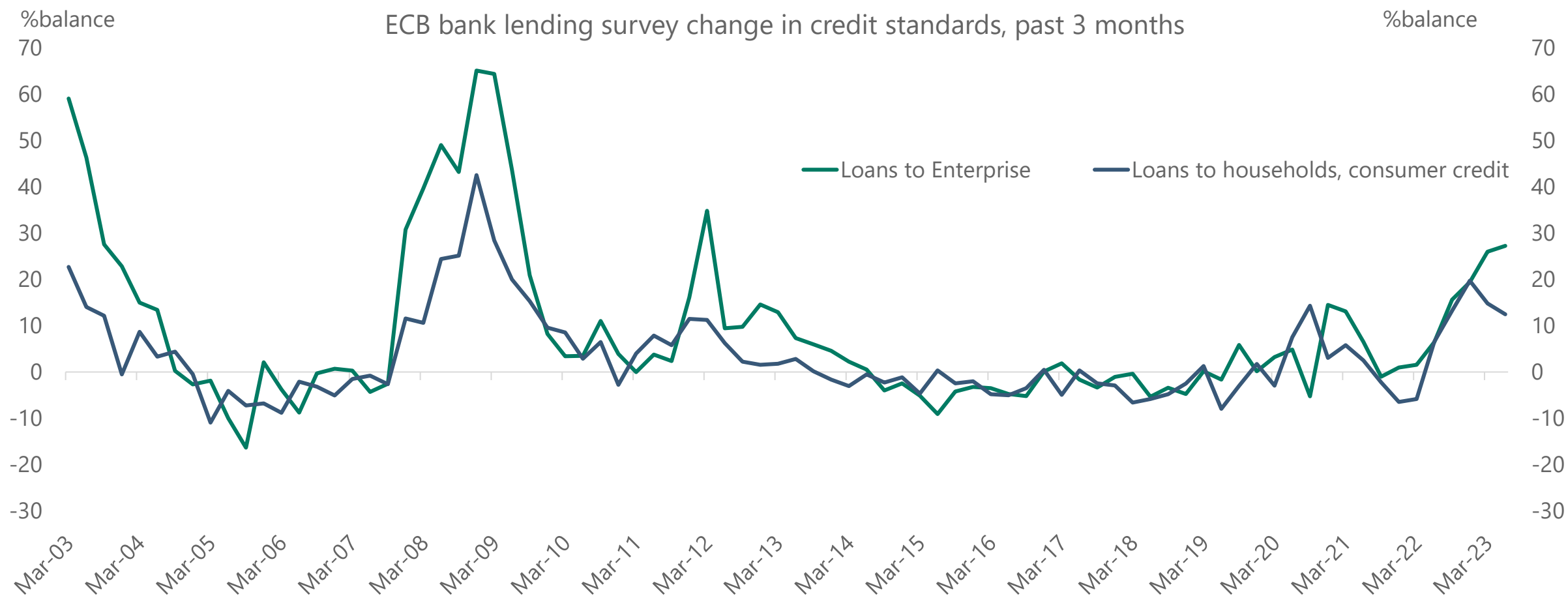
# Commercial Bank auto loan rates highest since 2008



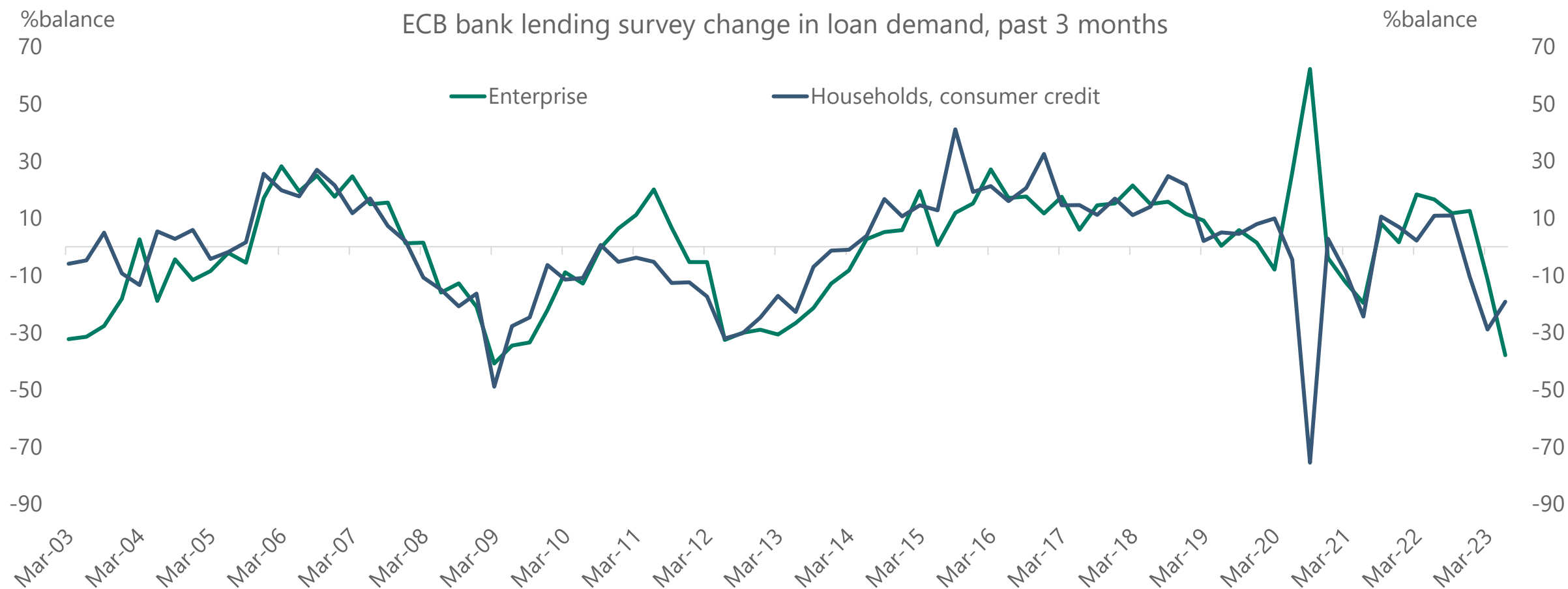
# Banking crisis having negative impact on small and medium-sized companies



# Euro Area credit conditions tightening

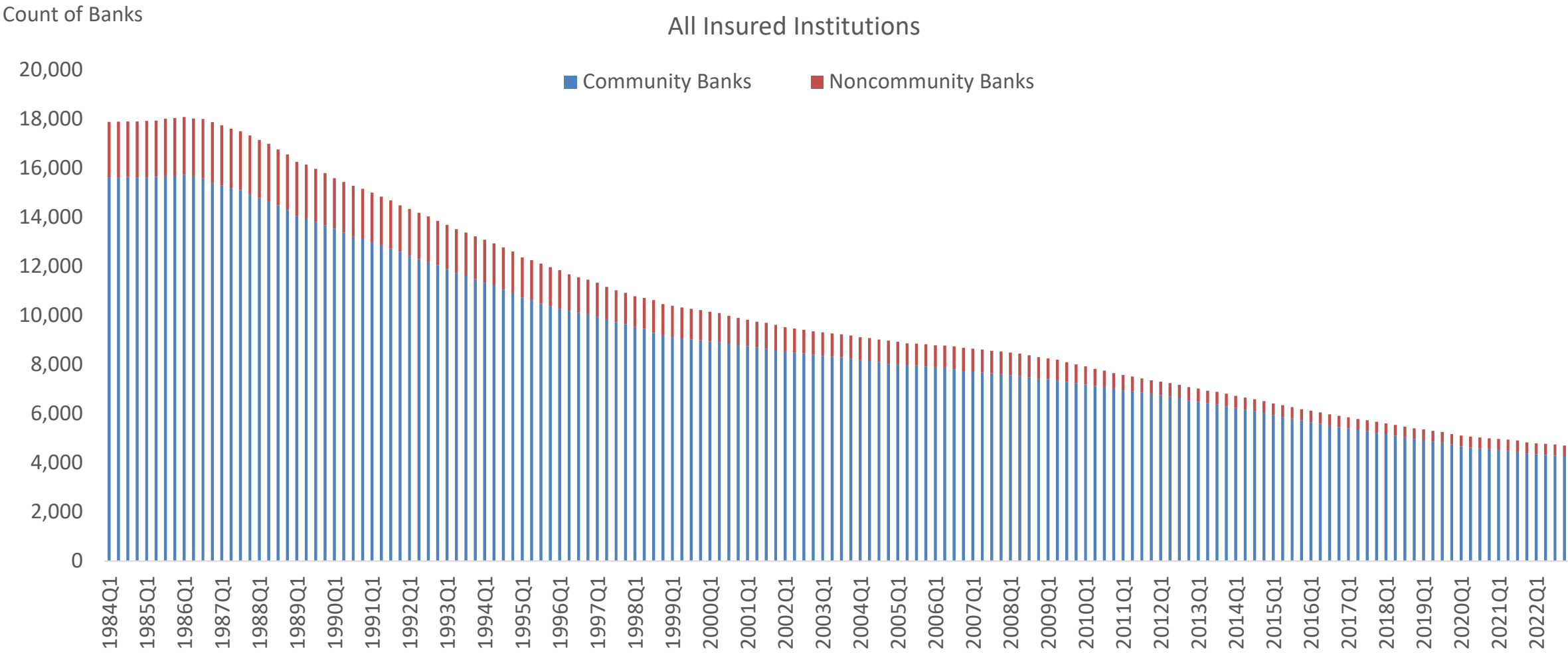


# Euro Area loan demand falling



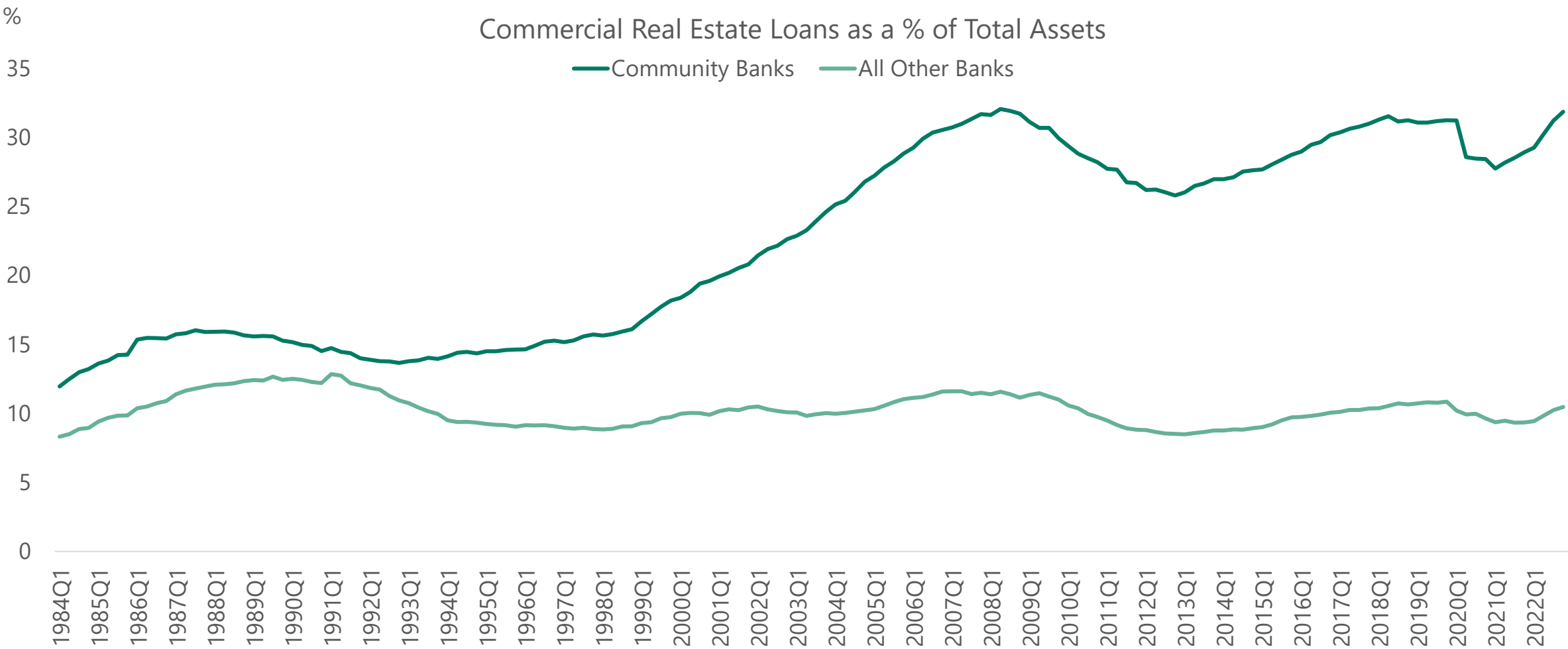
Community banks

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



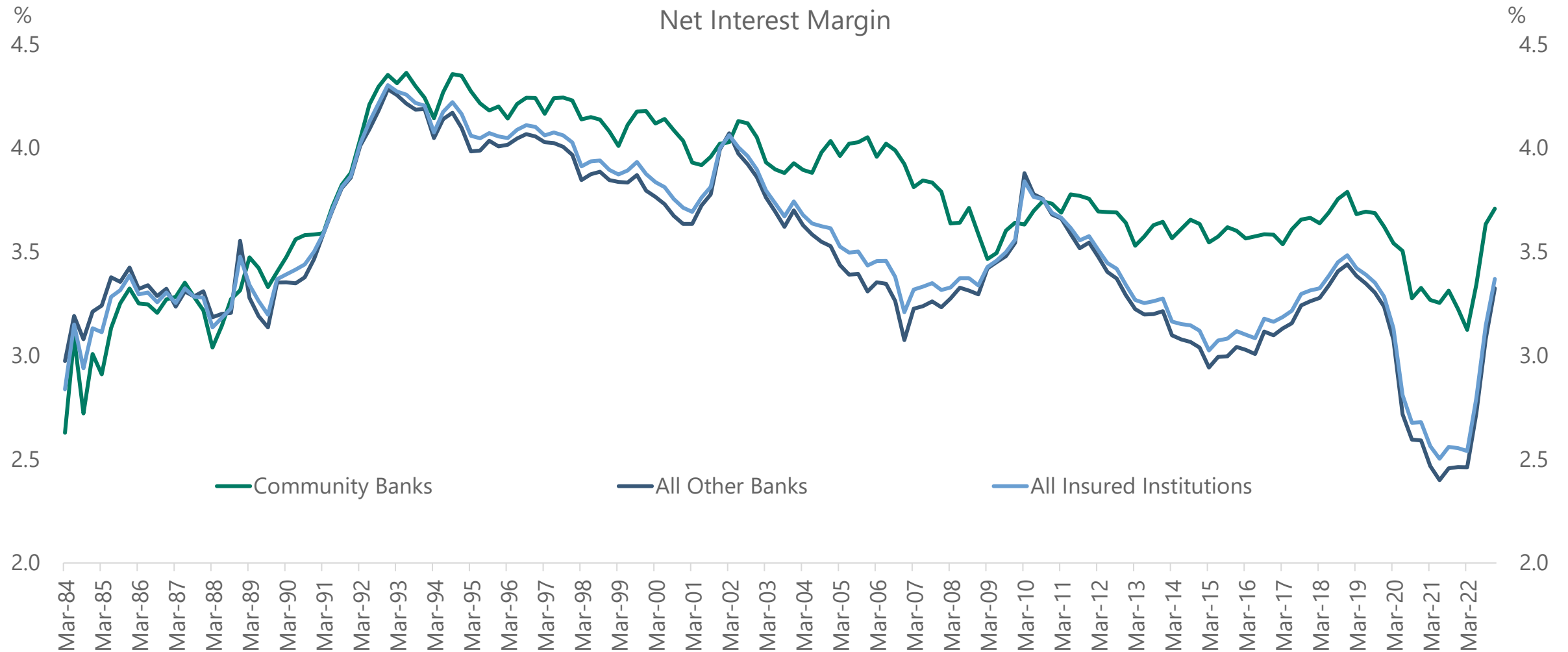
Source: FDIC, Apollo Chief Economist.

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



Source: FDIC, Apollo Chief Economist.

# Net interest margin higher for community banks





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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 at Deutsche Bank where his team was top ranked in the annual Institutional Investor survey for a decade. Prior to joining Deutsche Bank Mr. Slok worked at the IMF in Washington, DC and at the OECD in Paris.

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