

APOLLO

**Credit market outlook:  
A default cycle has started, but credit spreads remain tight**

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**Apollo Global Management**

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Unless otherwise noted, information as of November 2023.

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## Thematic credit investing

- 1. Up in quality:** With the Fed keeping rates higher for longer, higher debt costs will continue to weigh on earnings and interest coverage ratios over the coming quarters, and both IG and HY companies will experience higher refinancing costs.
- 2. Large cap:** A default cycle has started with bankruptcy filings rising, and default rates will continue to rise over the coming quarters, impacting in particular middle market companies.
- 3. Lend to firms with low leverage and high interest coverage ratios:** Lagged effects of monetary policy are slowing consumer credit growth with auto and credit card delinquencies rising and bank lending conditions tightening, leading to a significant slowing of loan growth impacting consumers and firms with weak balance sheets.

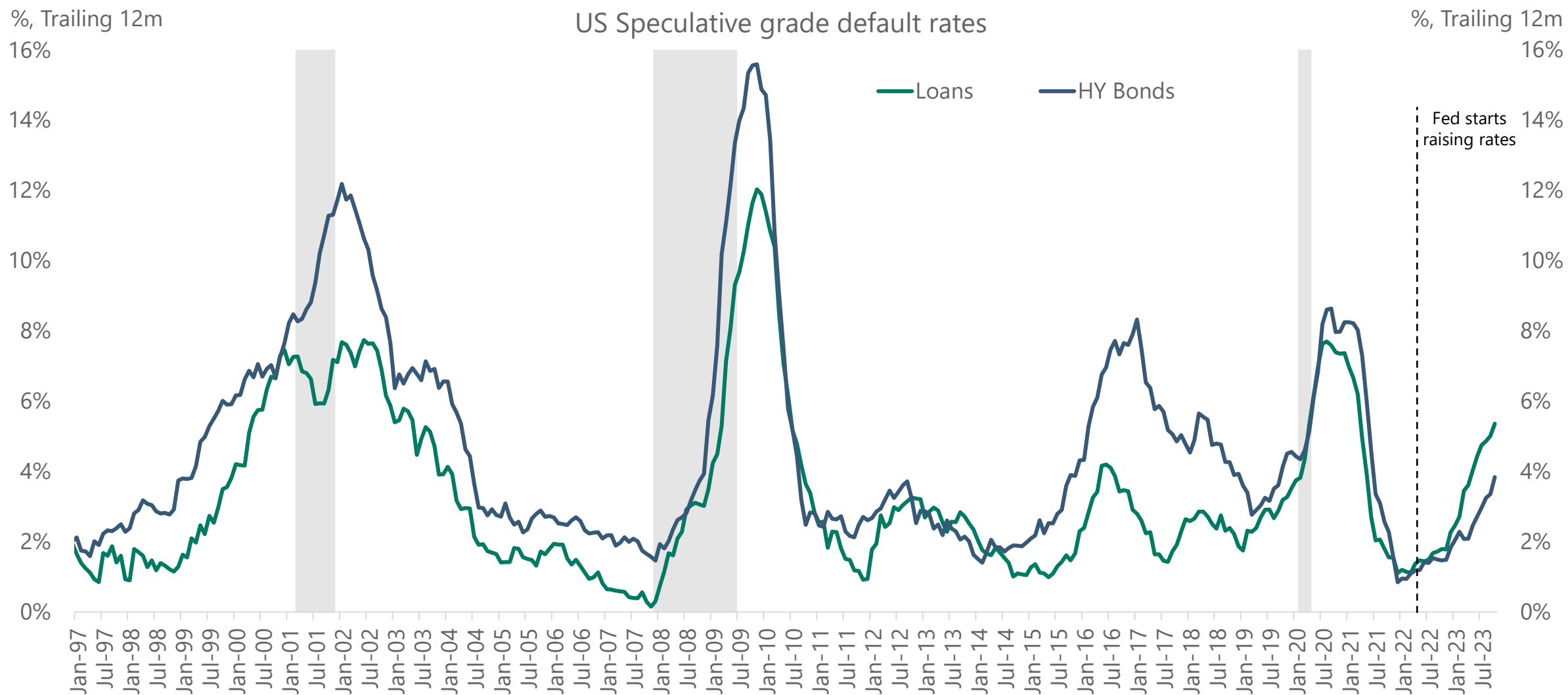
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A default cycle has started

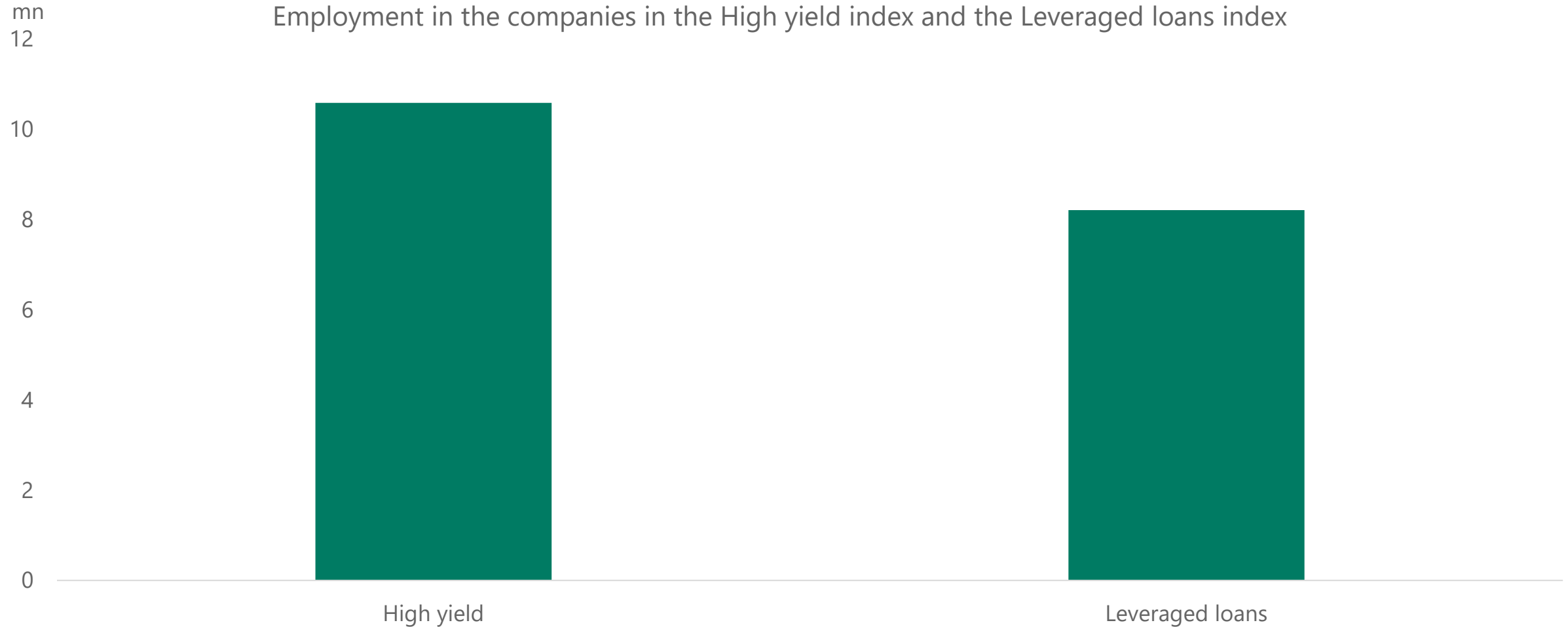


# A default cycle has started



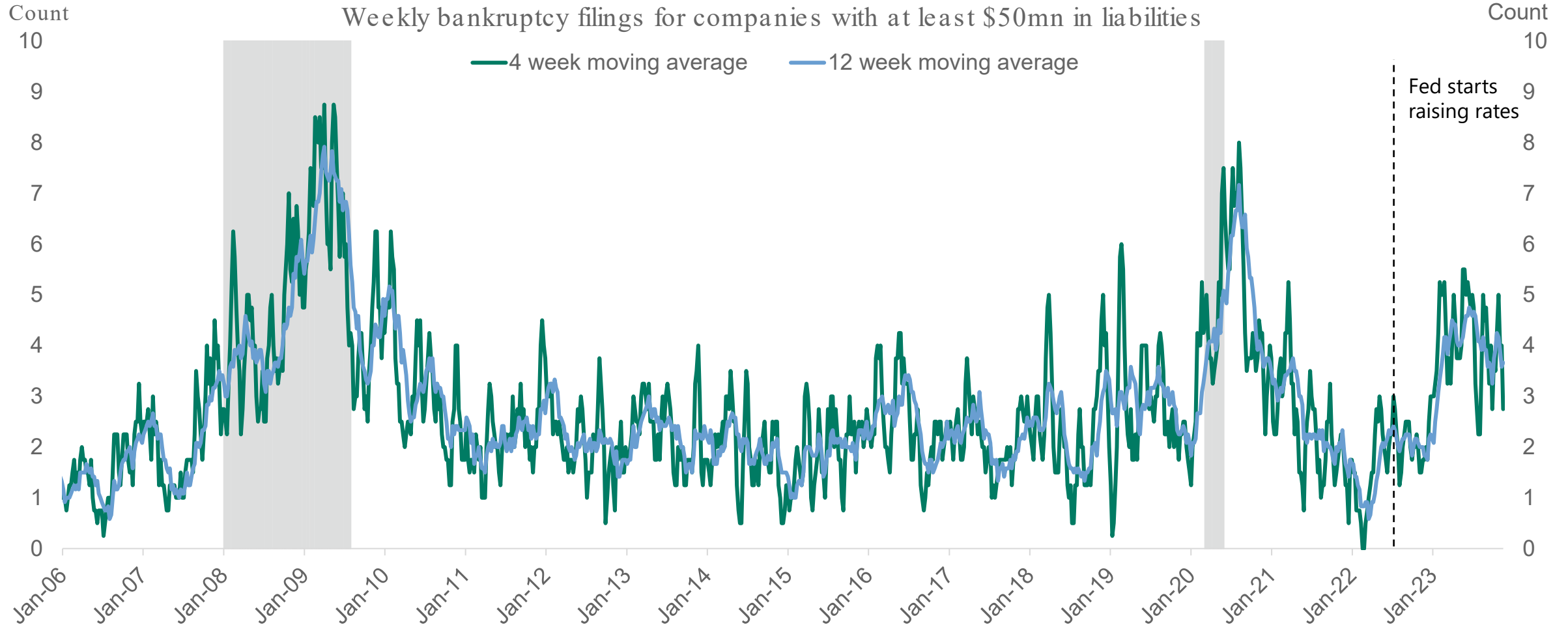
Source: Moody's Analytics, Apollo Chief Economist

Total employment in the US high yield index: 11 million; total employment in the leveraged loans index: 8 million



Source: Bloomberg, ICE BofA H0A0 Index, Morningstar LSTA Index, Apollo Chief Economist. Note: Data includes 842 companies in the HY index with employment data available for 584 companies and median employment assumed for the rest. Similarly, there are 1,073 companies in the leveraged loans index with employment data available for 450 companies and median employment assumed for the rest.

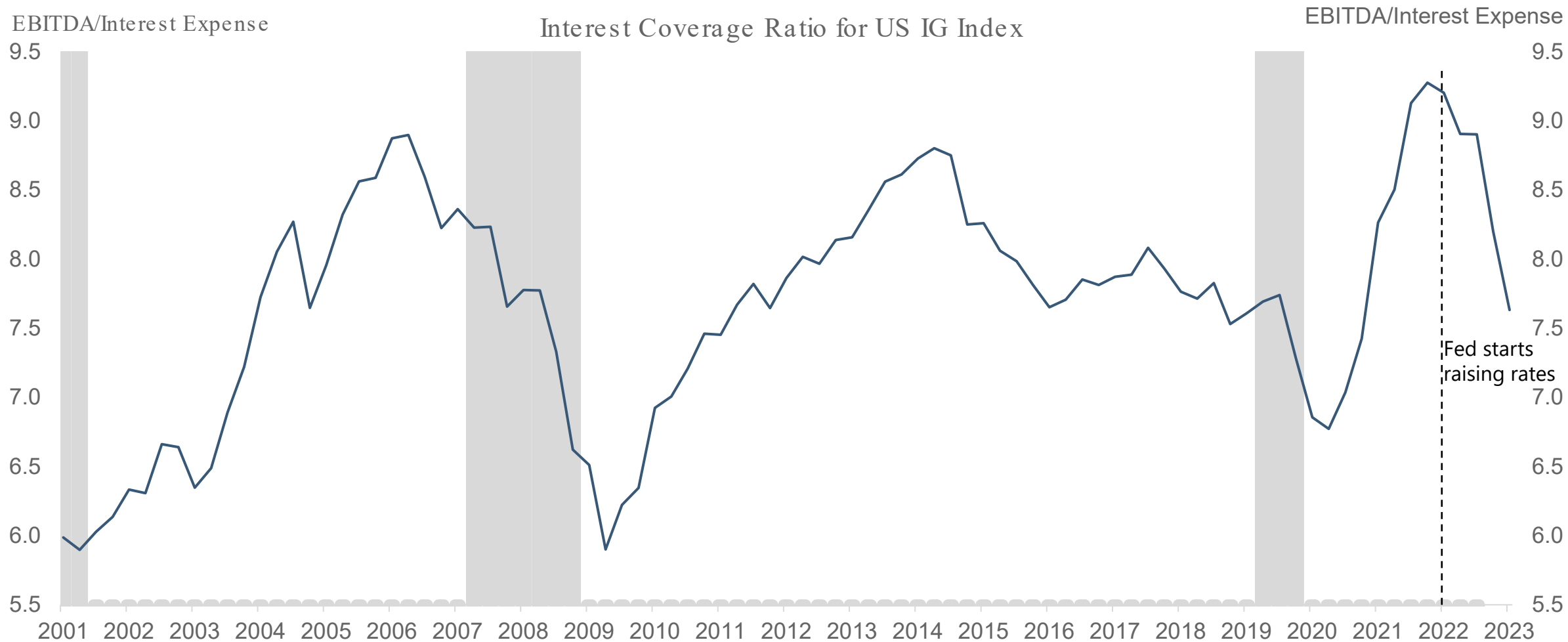
# Weekly bankruptcy filings high because of Fed hikes



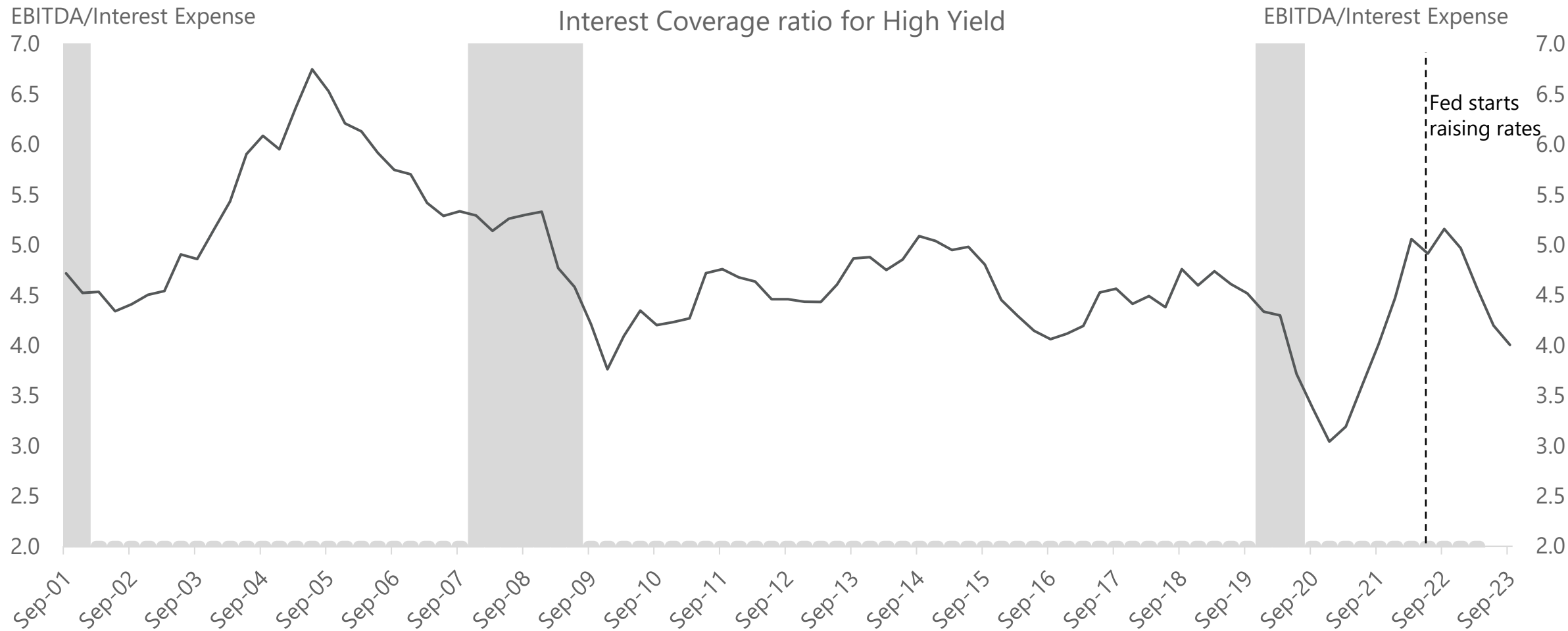
Source: Bloomberg, Apollo Chief Economist. Note: Filings are for companies with more than \$50mn in liabilities. For week ending on November 15, 2023.



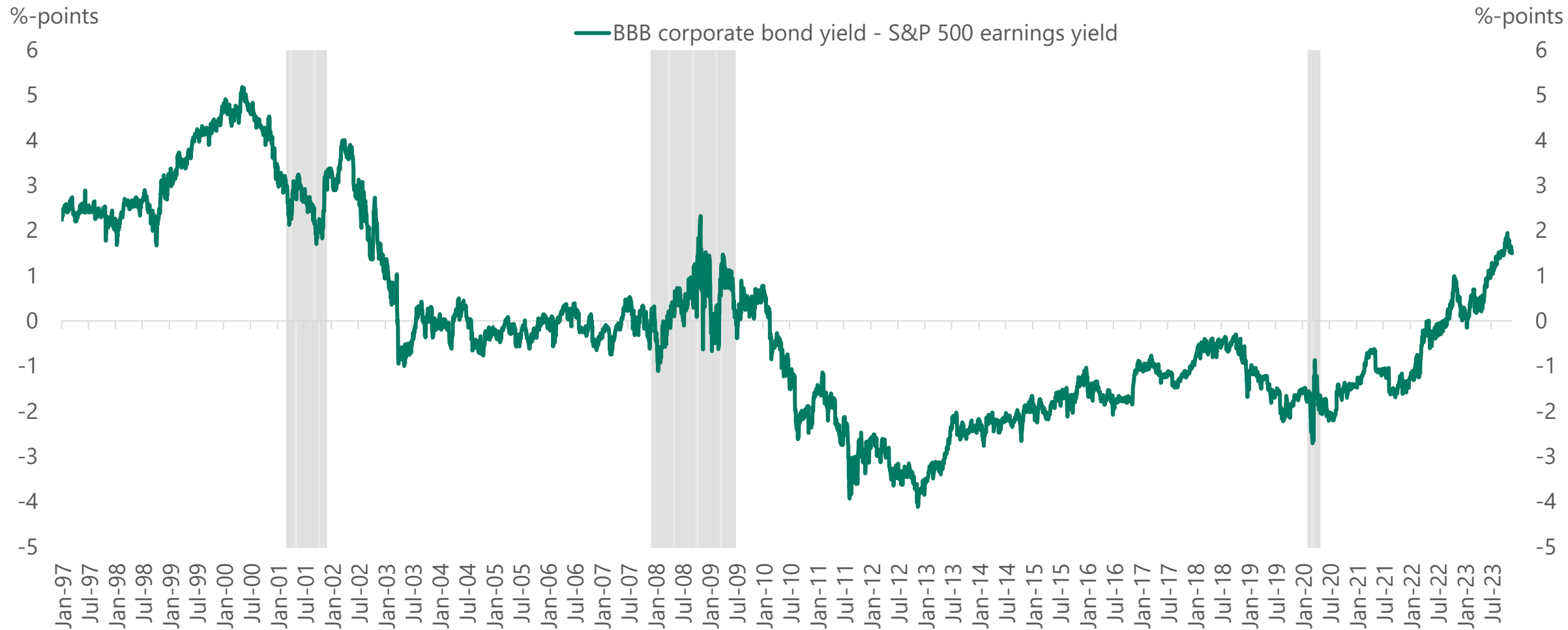
# IG ICR coming down



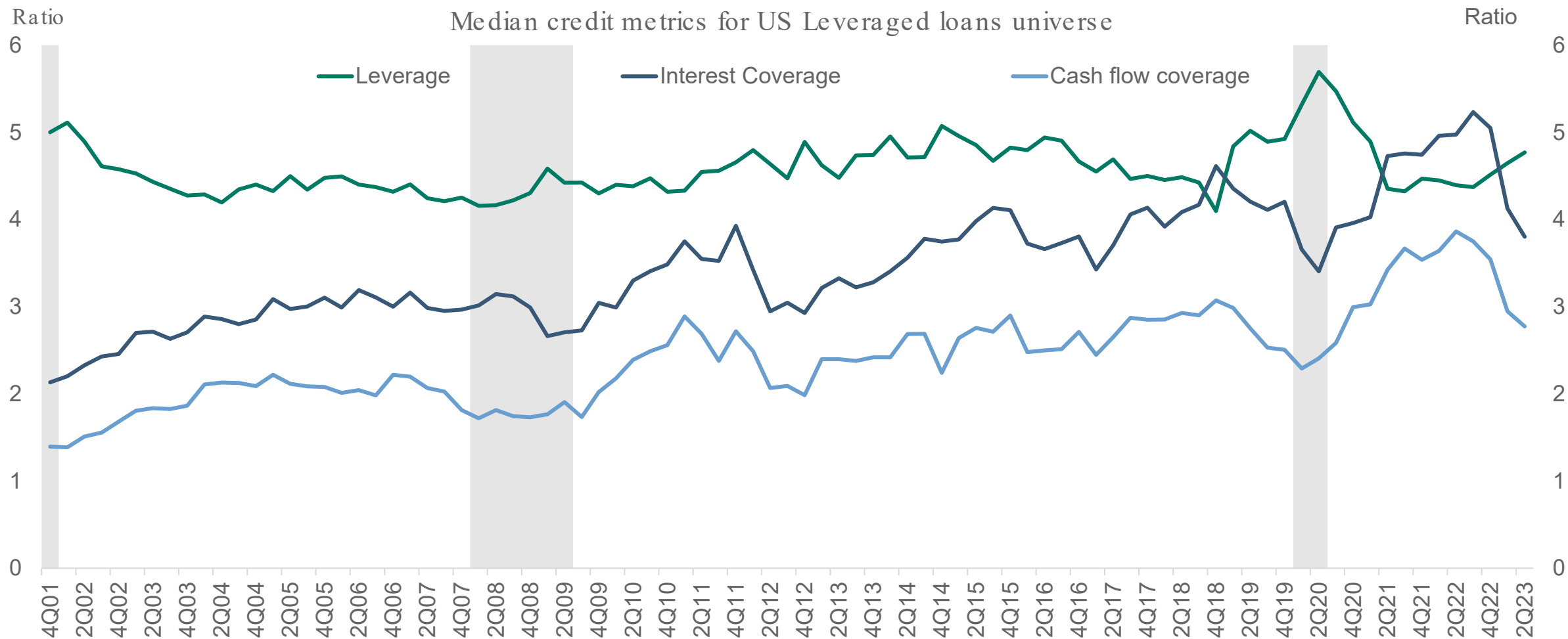
# HY ICR coming down



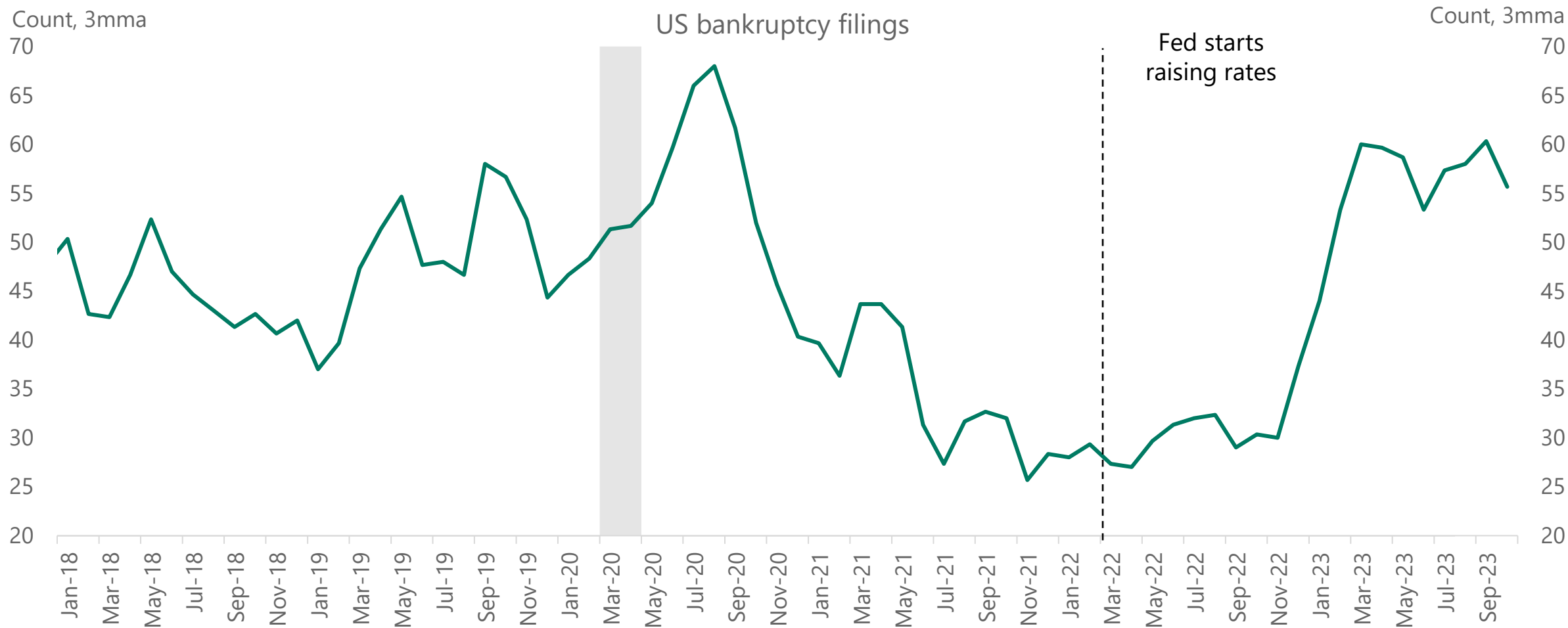
# Bonds more attractive than equities



# Credit metrics for leveraged loan deals: ICR and cash flow down. Leverage up.

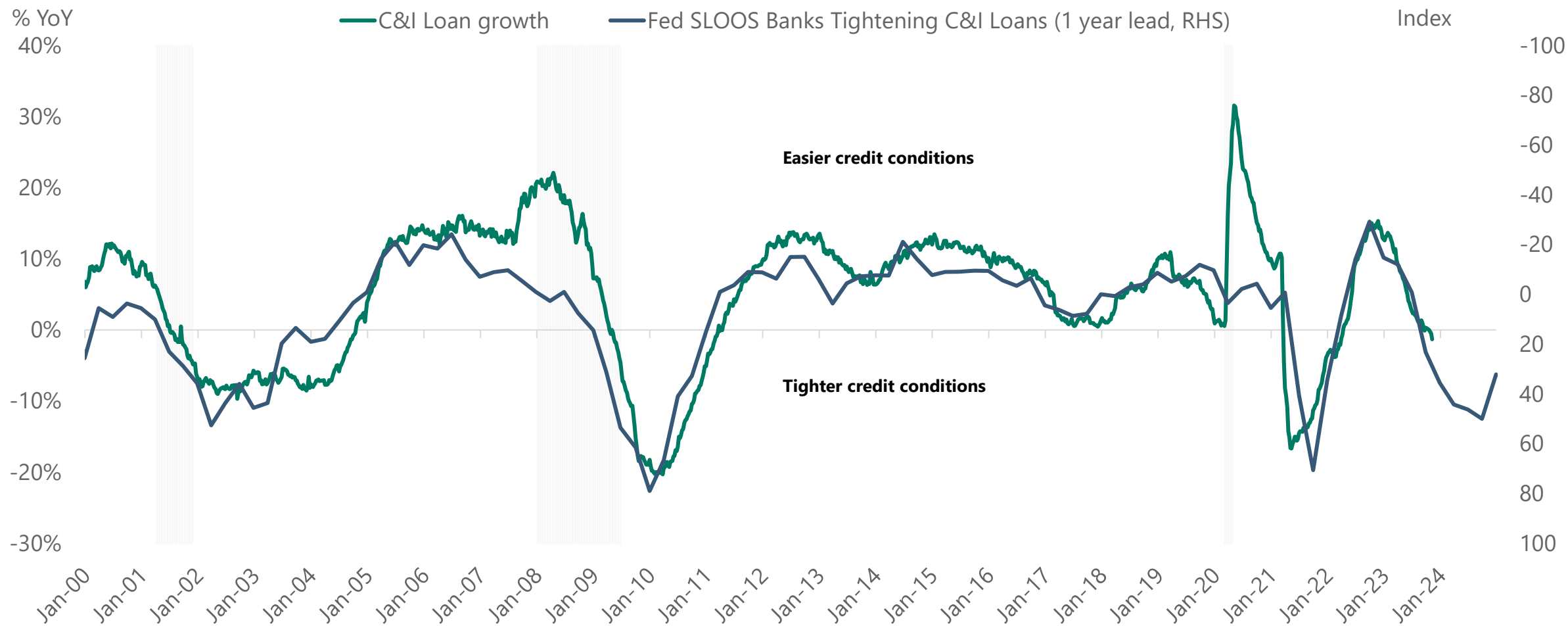


# Fed hikes pushing bankruptcy filings higher

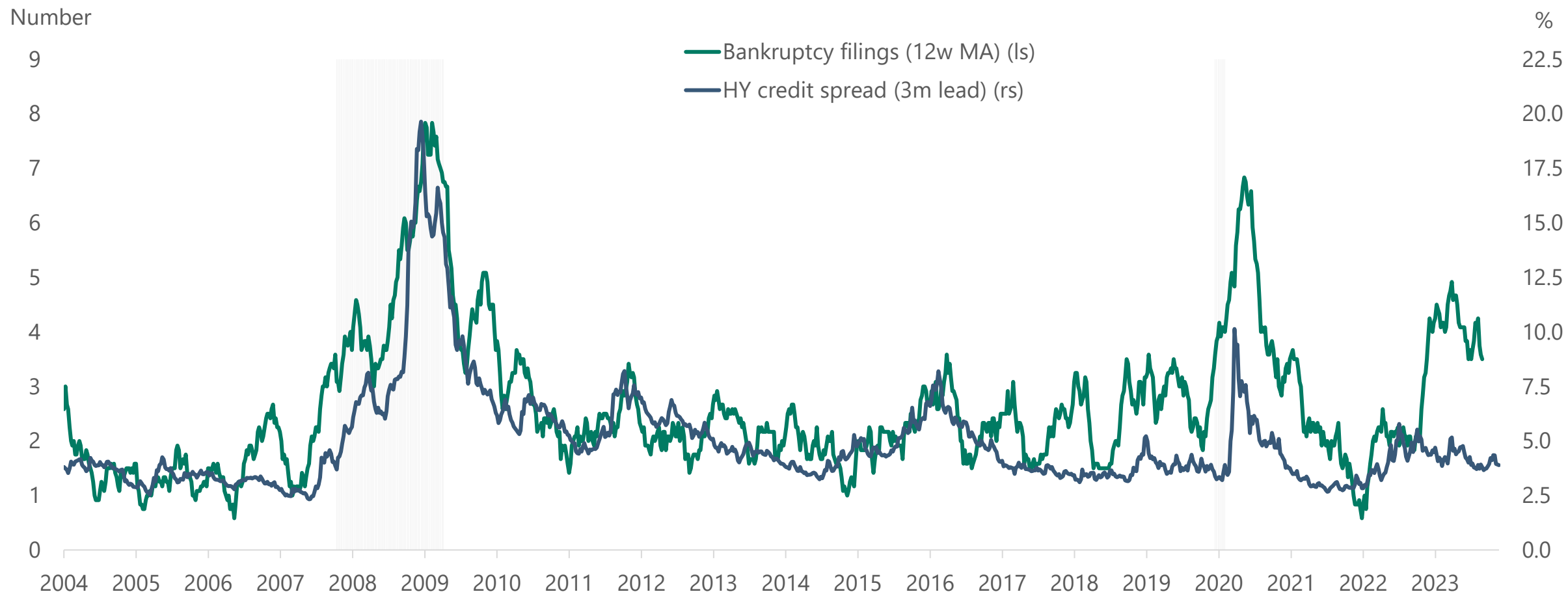


Source: S&P Capital IQ, Bloomberg, Apollo Chief Economist. Note: Bankruptcy figures include public companies or private companies with public debt with a minimum of \$2 million in assets or liabilities at the time of filing, in addition to private companies with at least \$10 million in assets or liabilities.

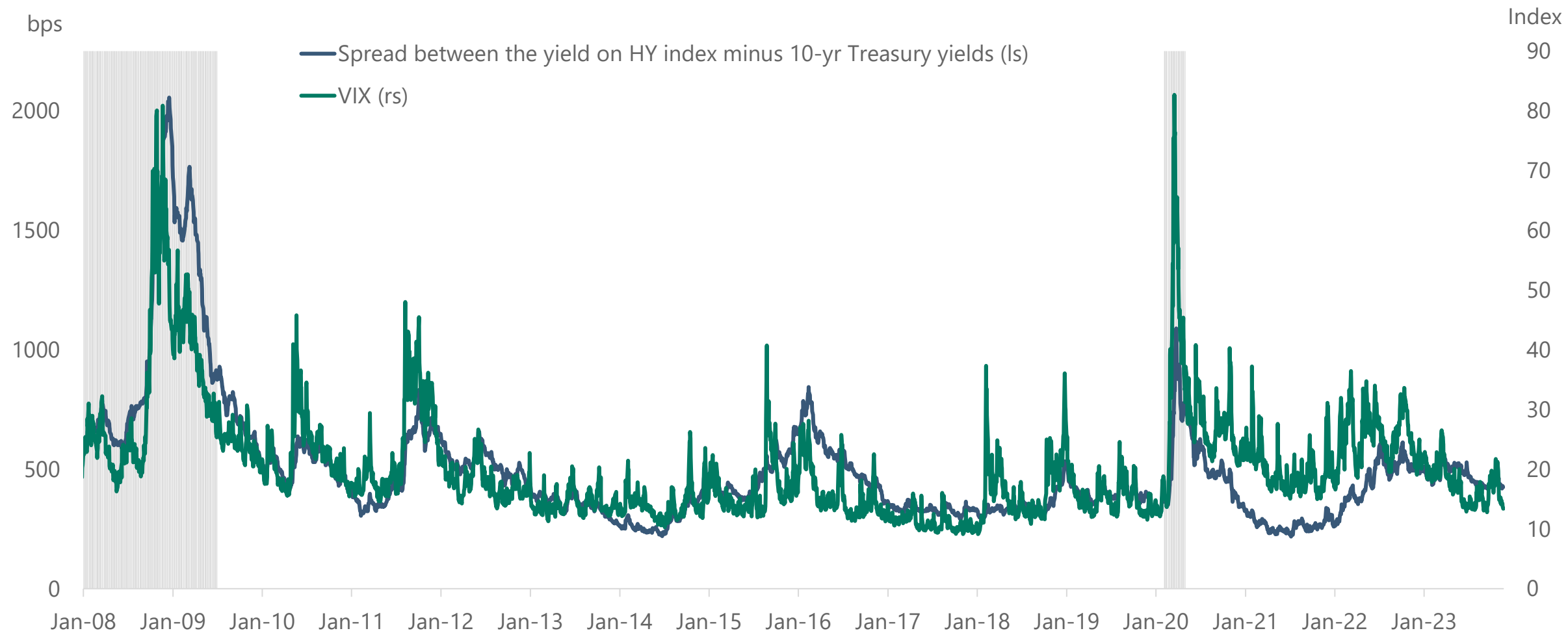
# Bank lending likely to shrink over the coming quarters



# Disconnect between bankruptcy filings and credit spreads

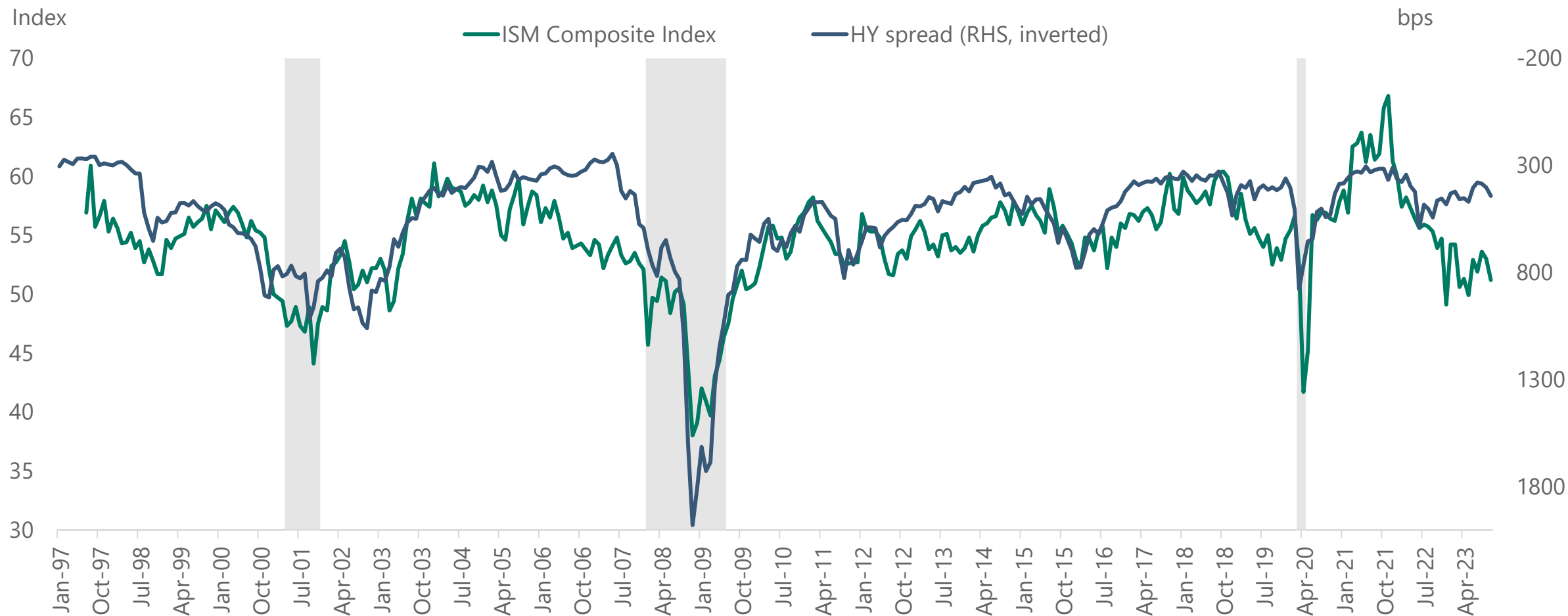


# HY credit spreads and VIX tend to move closely together

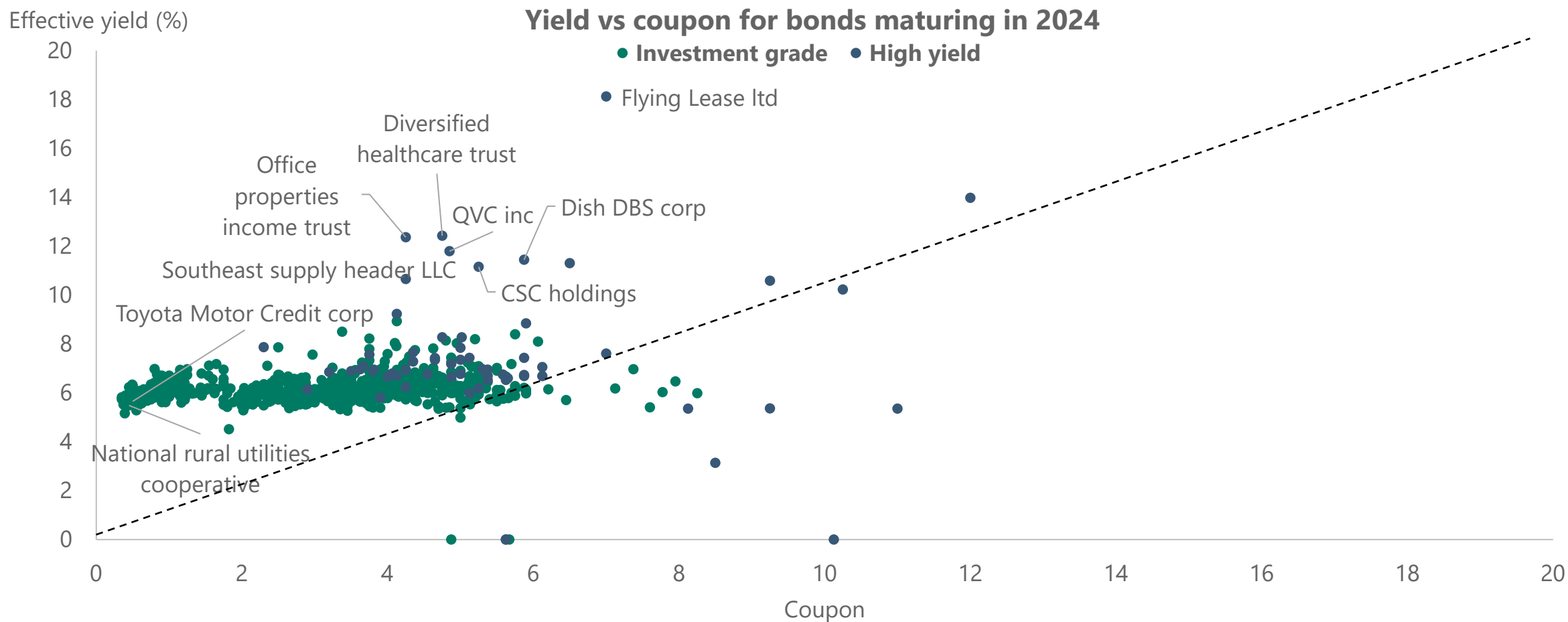




# Disconnect between spreads and economic activity



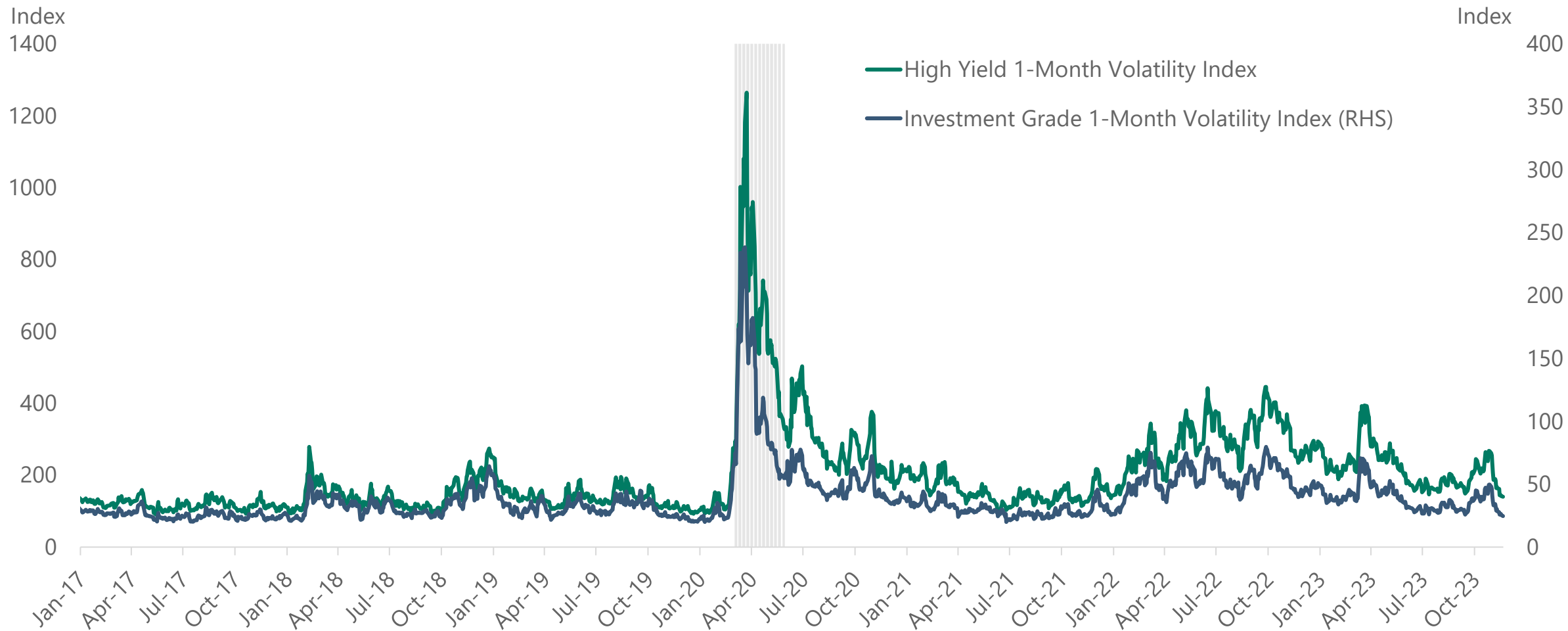
# Comparing coupons and effective yields for IG and HY bonds maturing in 2024



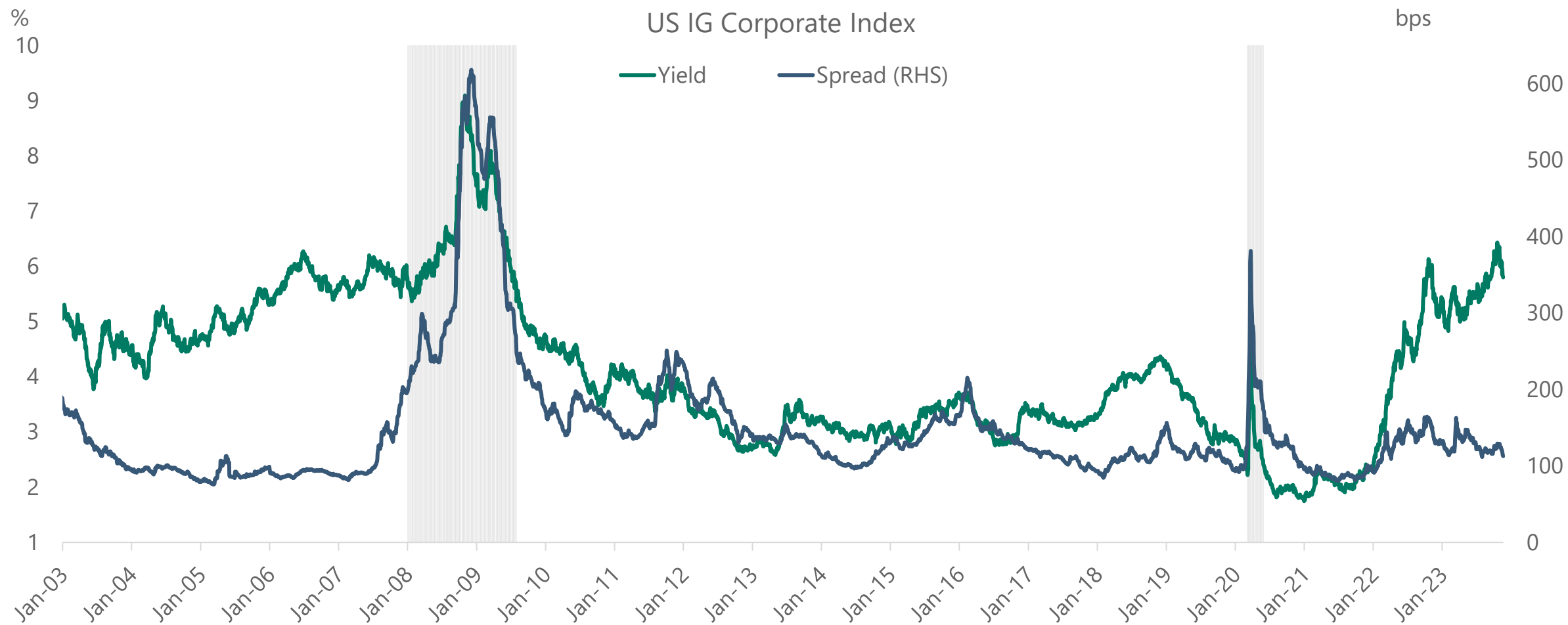
# Rise in yields due to rising risk free rates



# HY and IG implied volatility

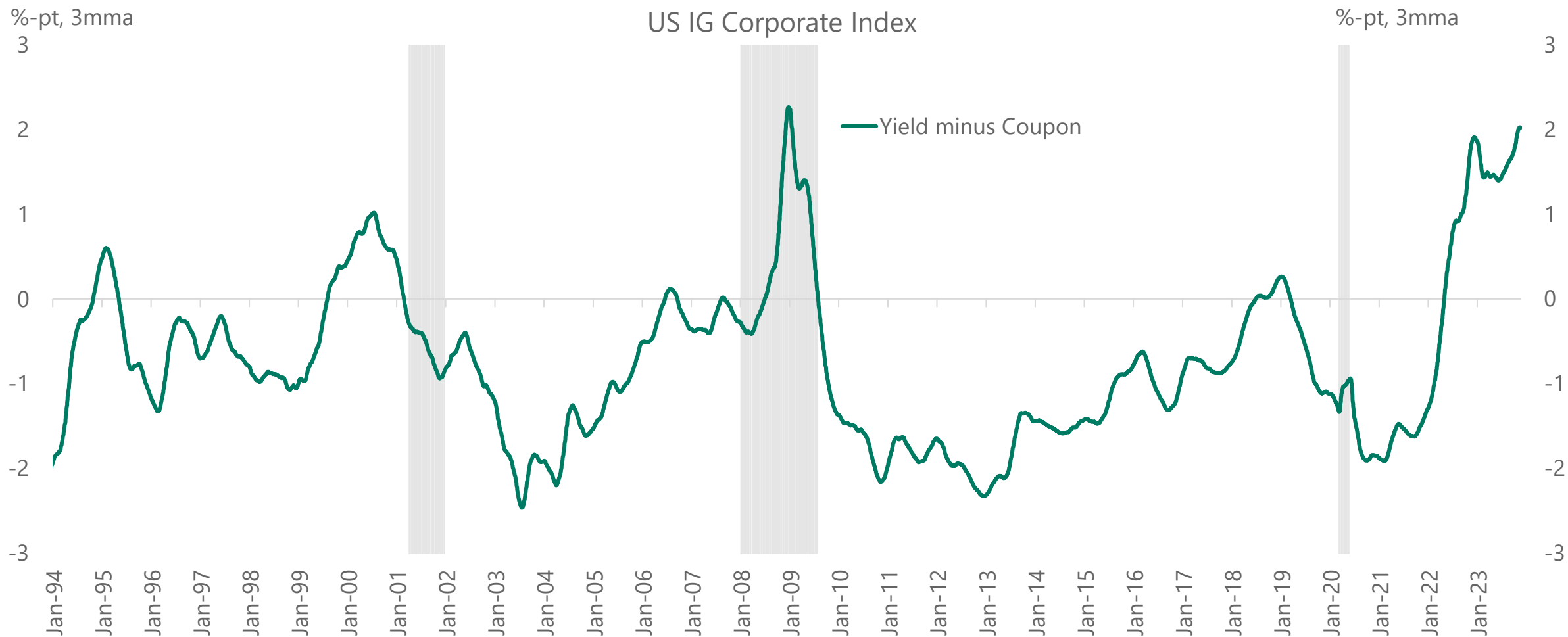


# Disconnect between yield and spreads



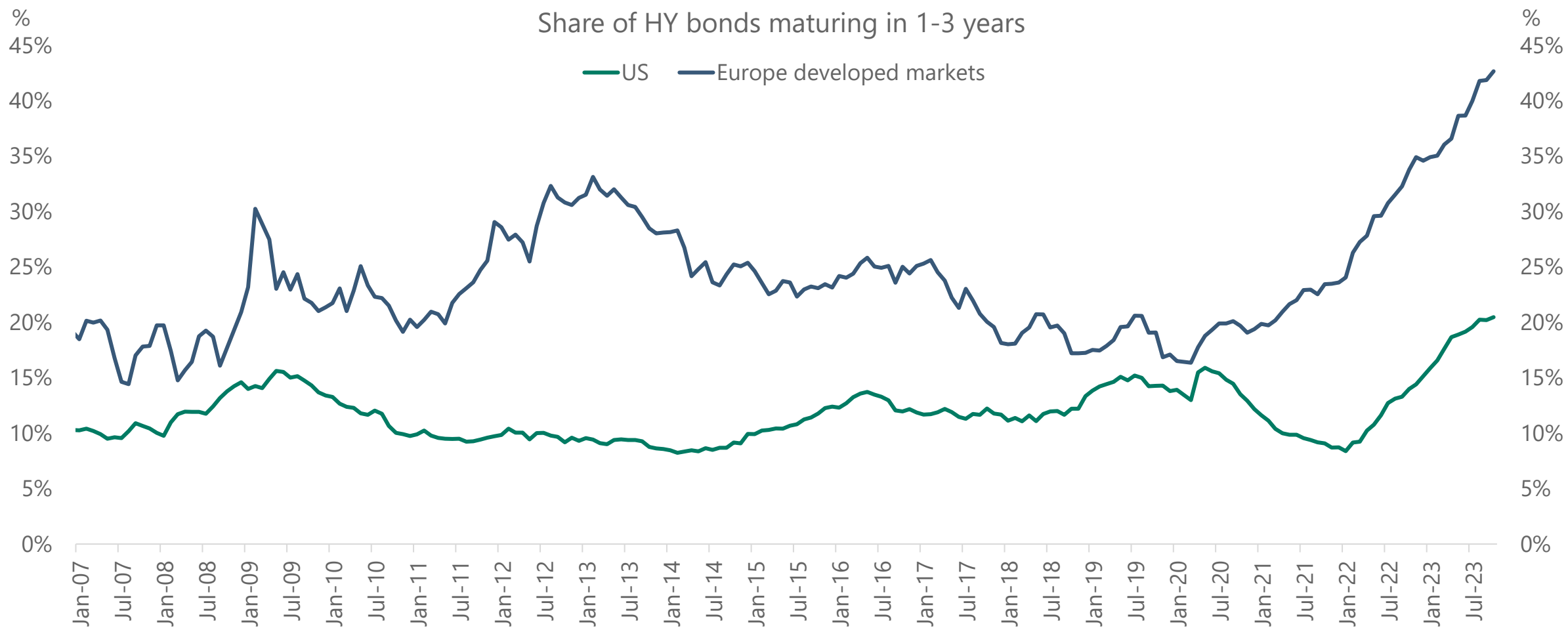
Source: Bloomberg, Apollo Chief Economist. Note: Index used LUACTRUU Index

# The yield on the IG corporate bond index is 2%-point higher than coupon rate

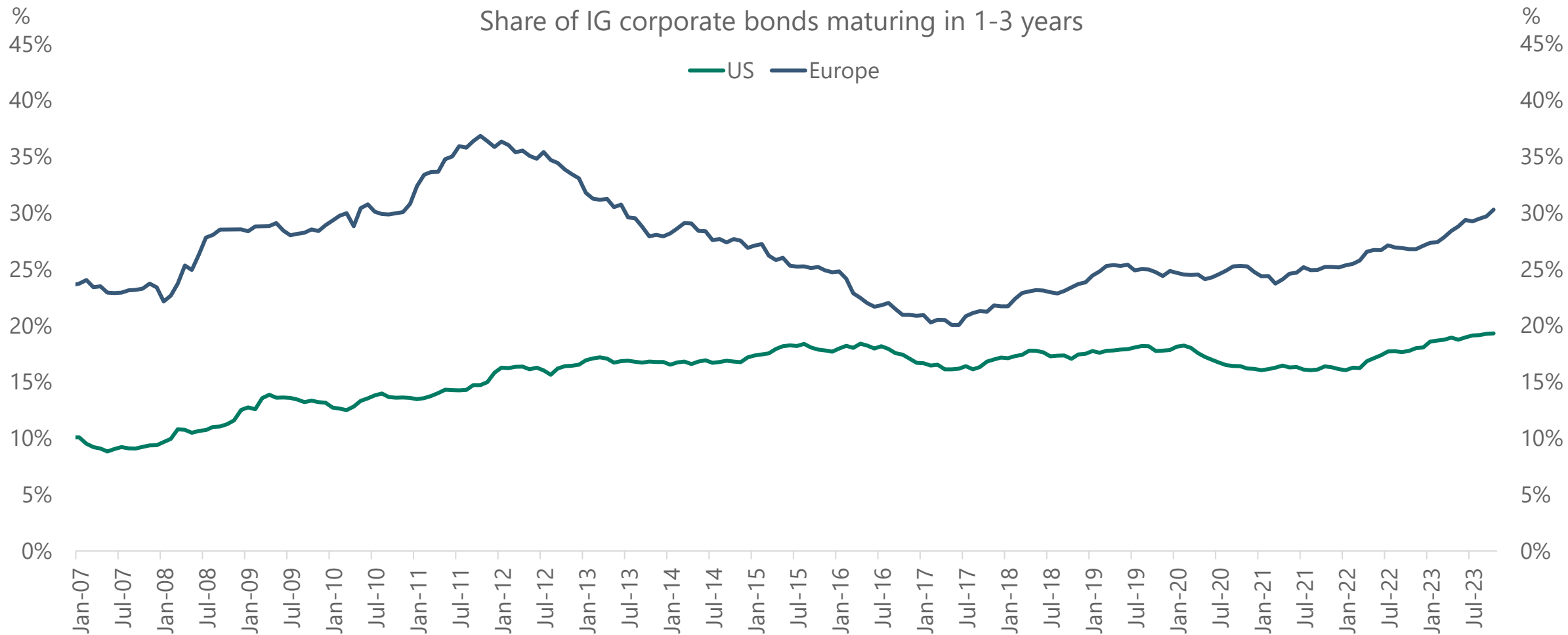


Source: Bloomberg, Apollo Chief Economist. Note: Index used LUACTRUU Index

# Share of high yield bonds maturing in 3 years rising

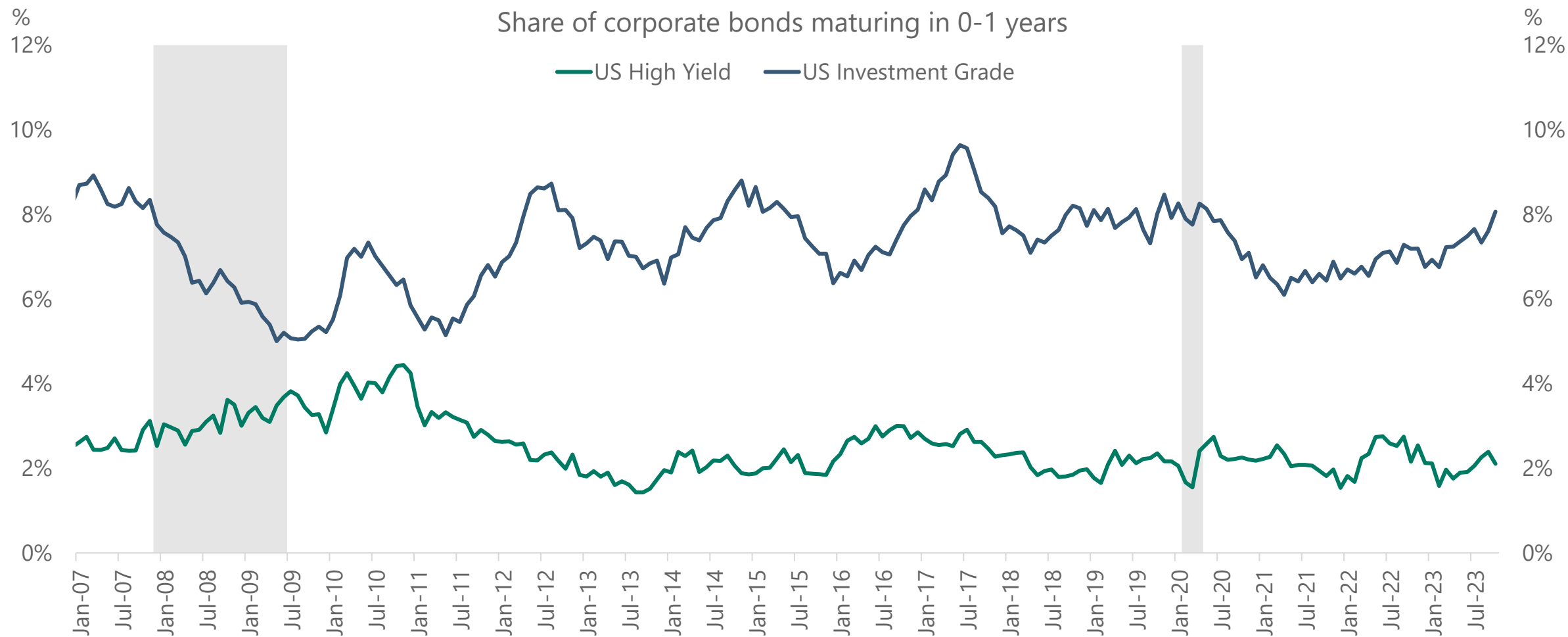


# Share of IG corporate bonds maturing in 3 years

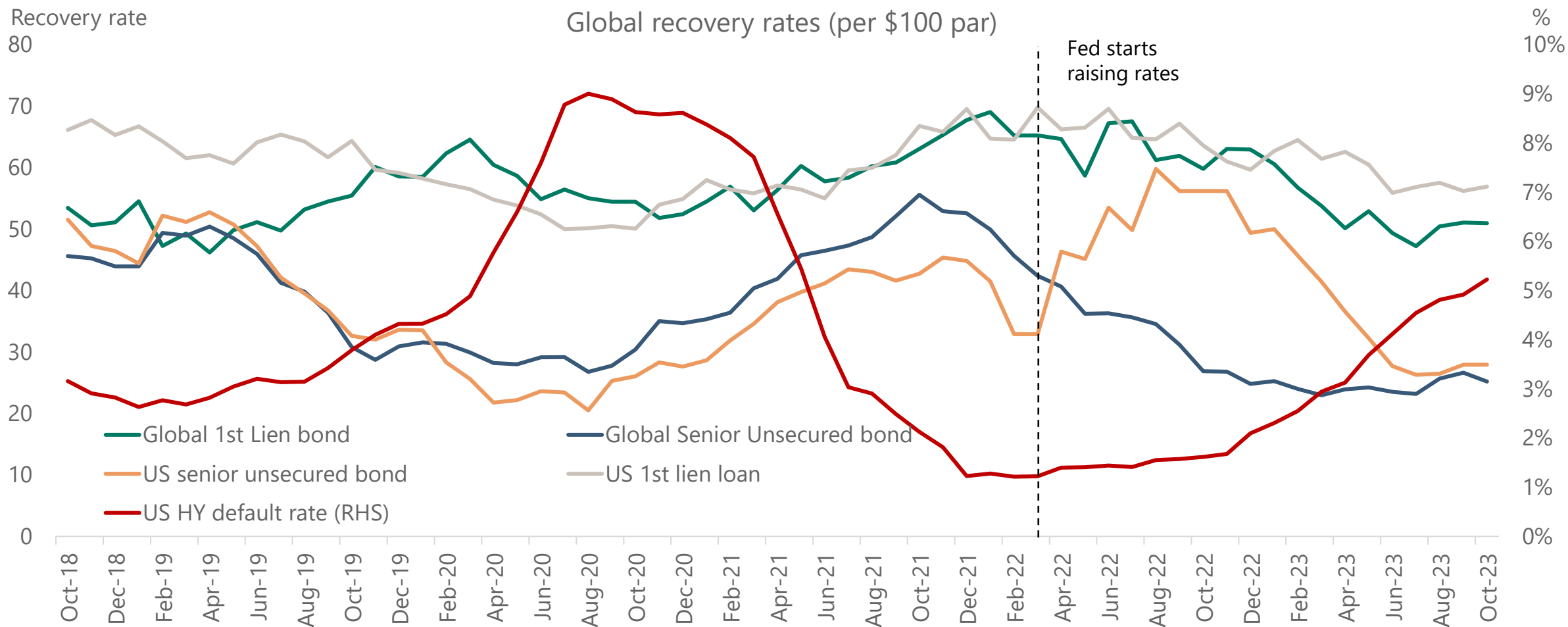




# US corporate bonds maturing within a year



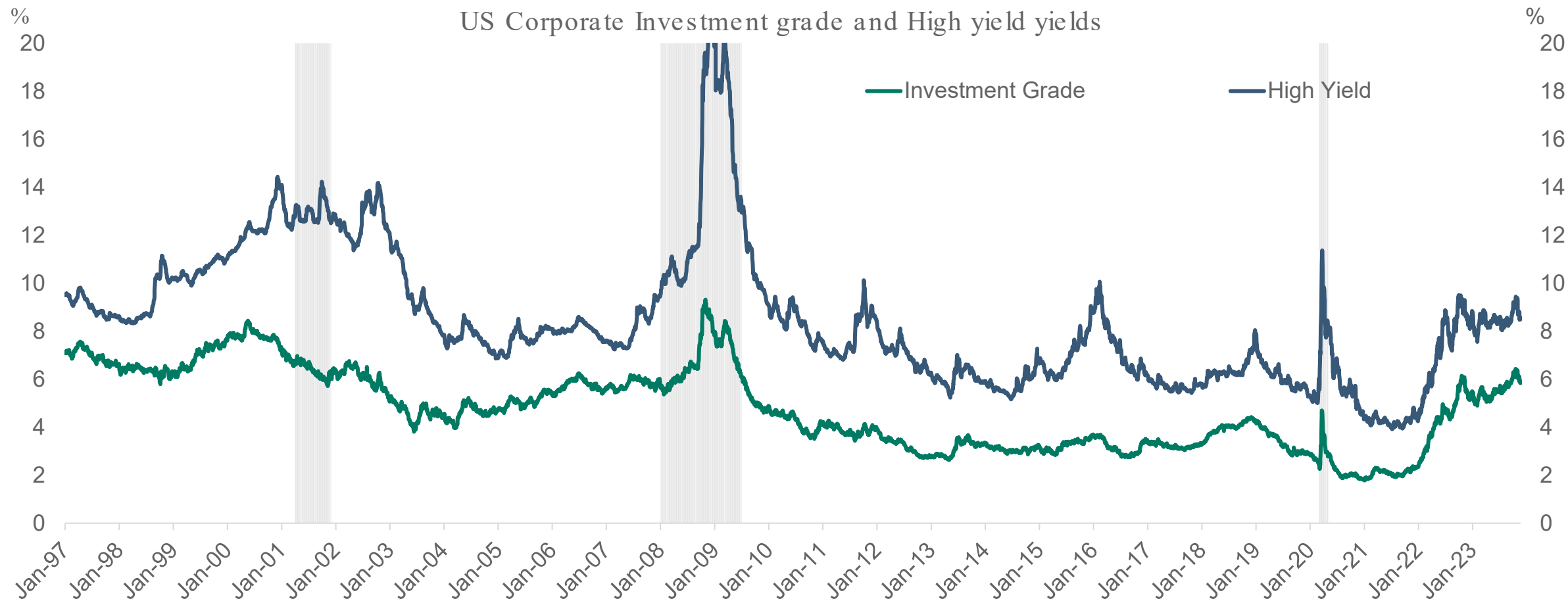
# Recovery rates



Yield levels



# US IG yield around 6.8% and HY yield around 8.5%



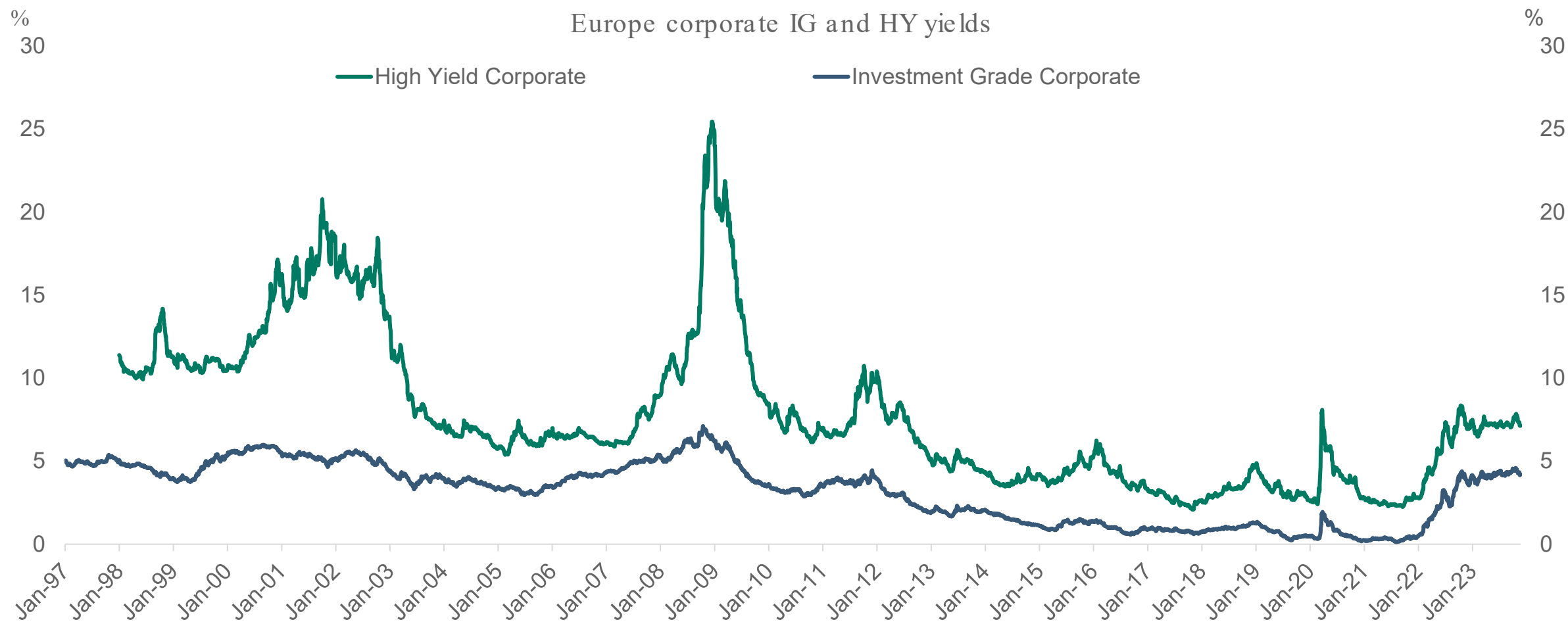
# US IG yield levels, by rating



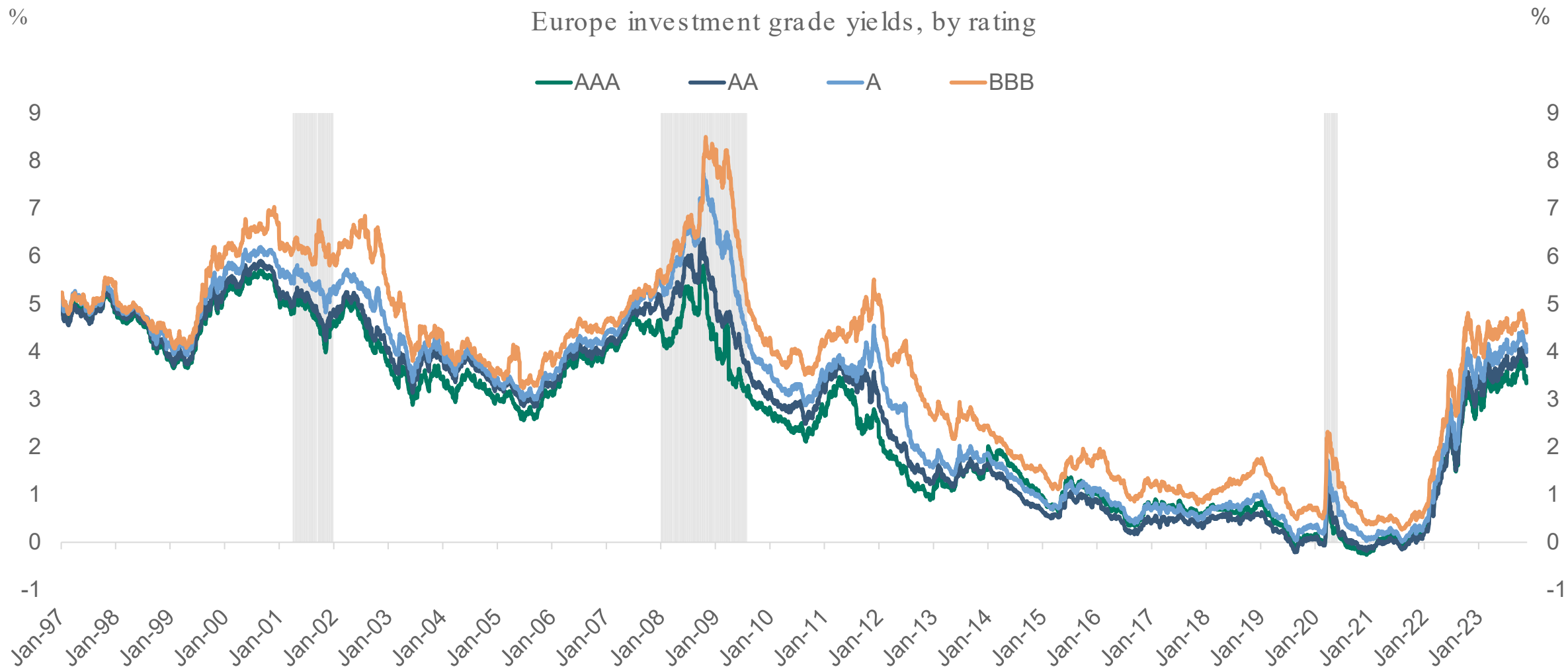
# US HY yield levels, by rating



# European corporate IG and HY yields

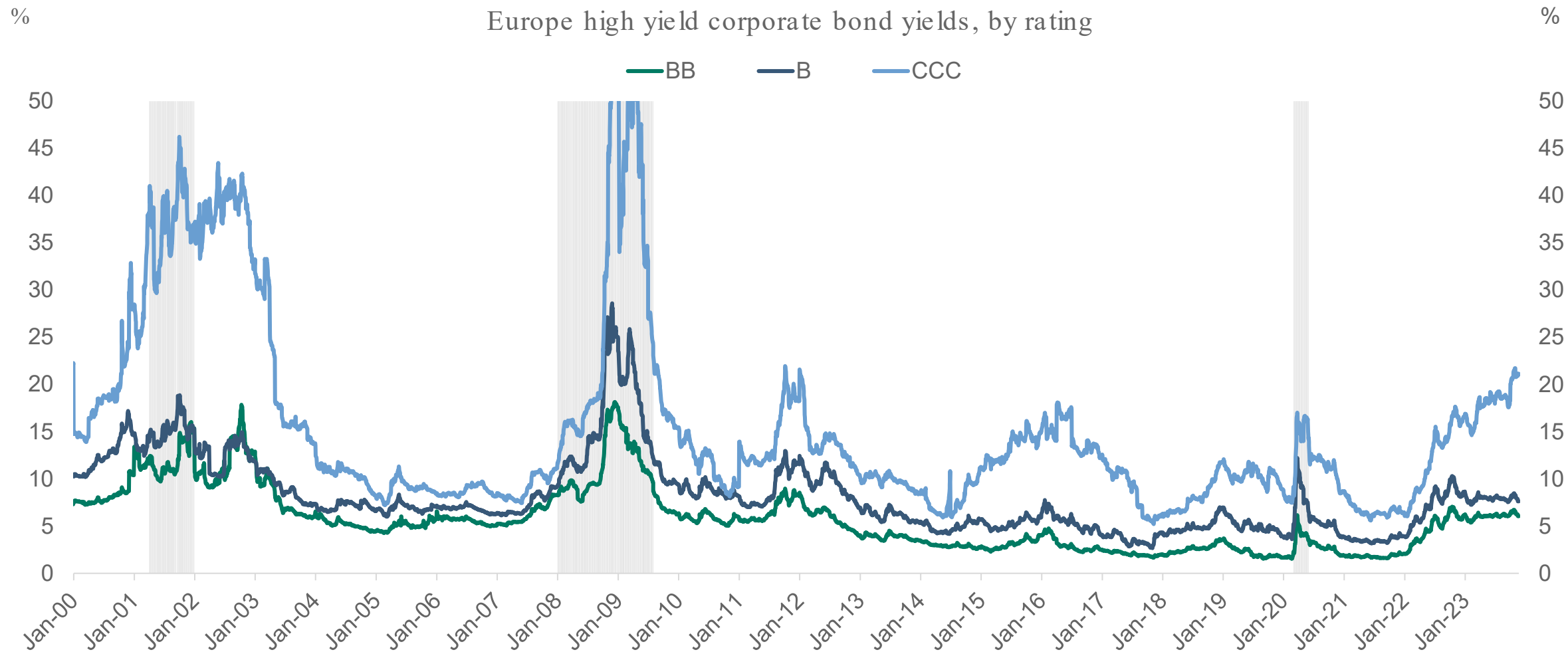


# European IG yield levels, by rating

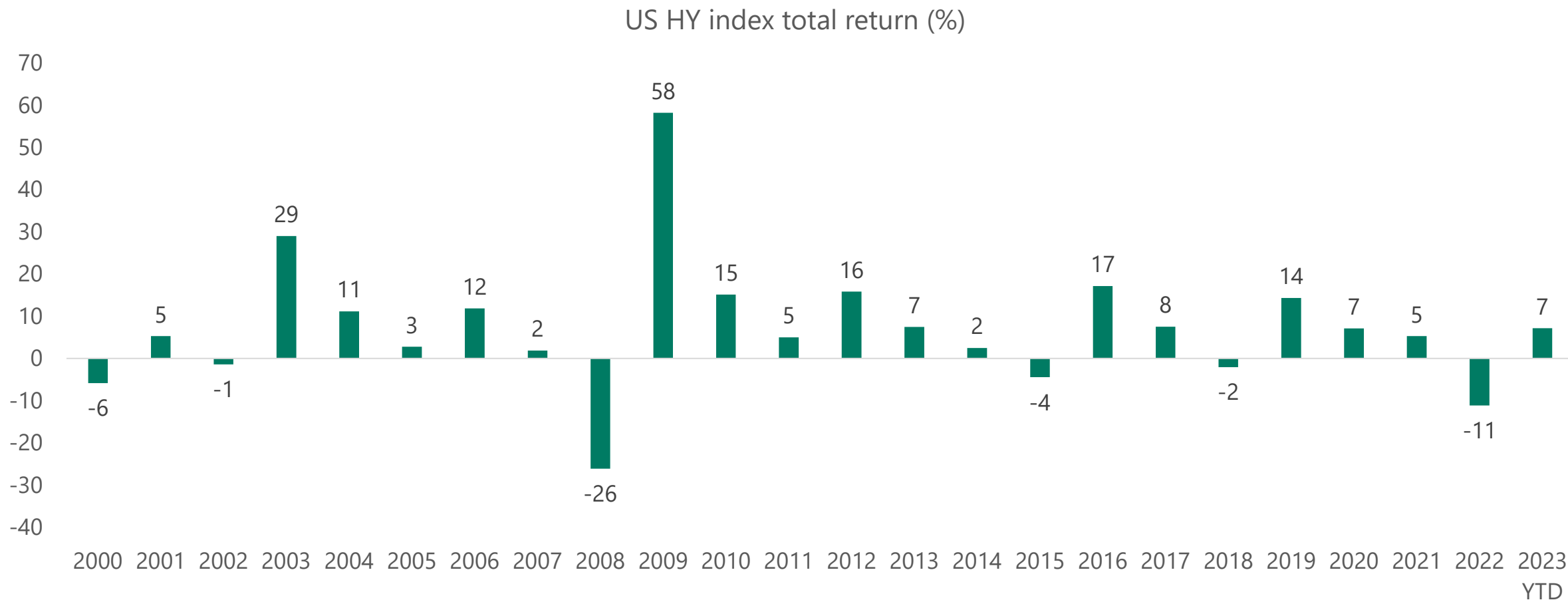




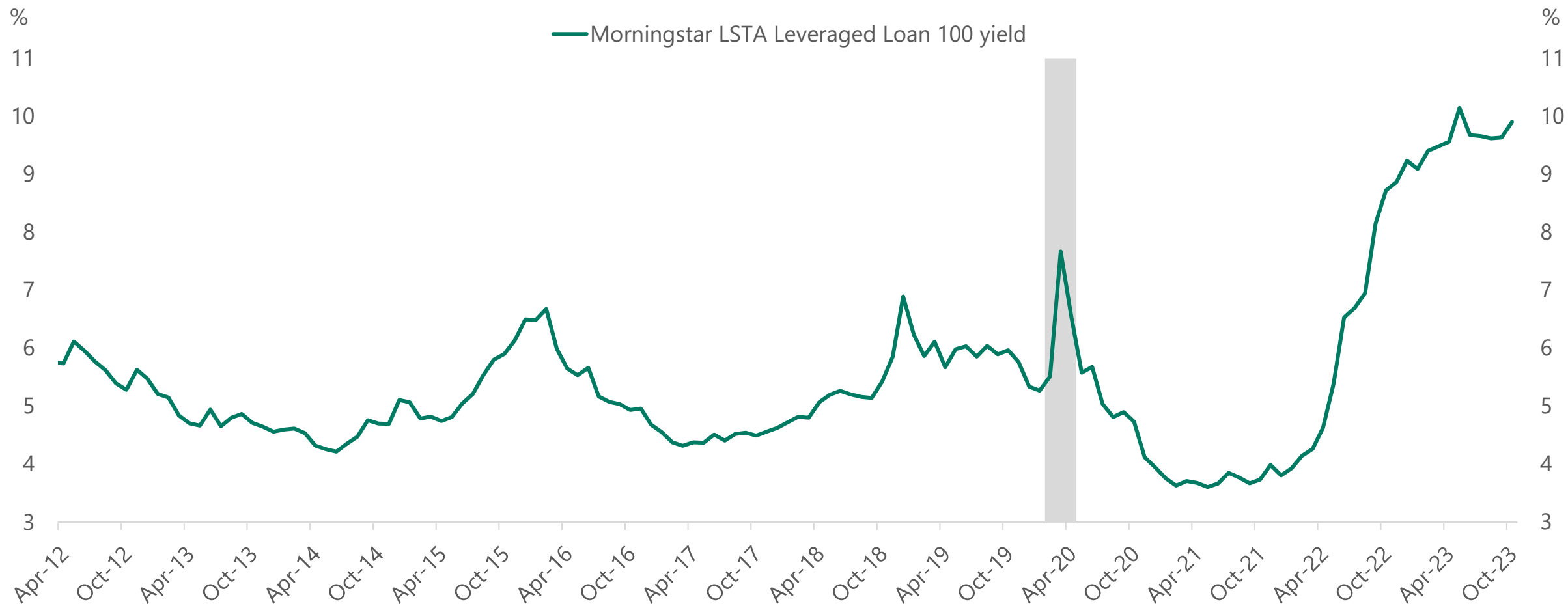
# European HY yield levels, by rating



# Annual returns for HY



# Yield for the leveraged loan index: 9.9%



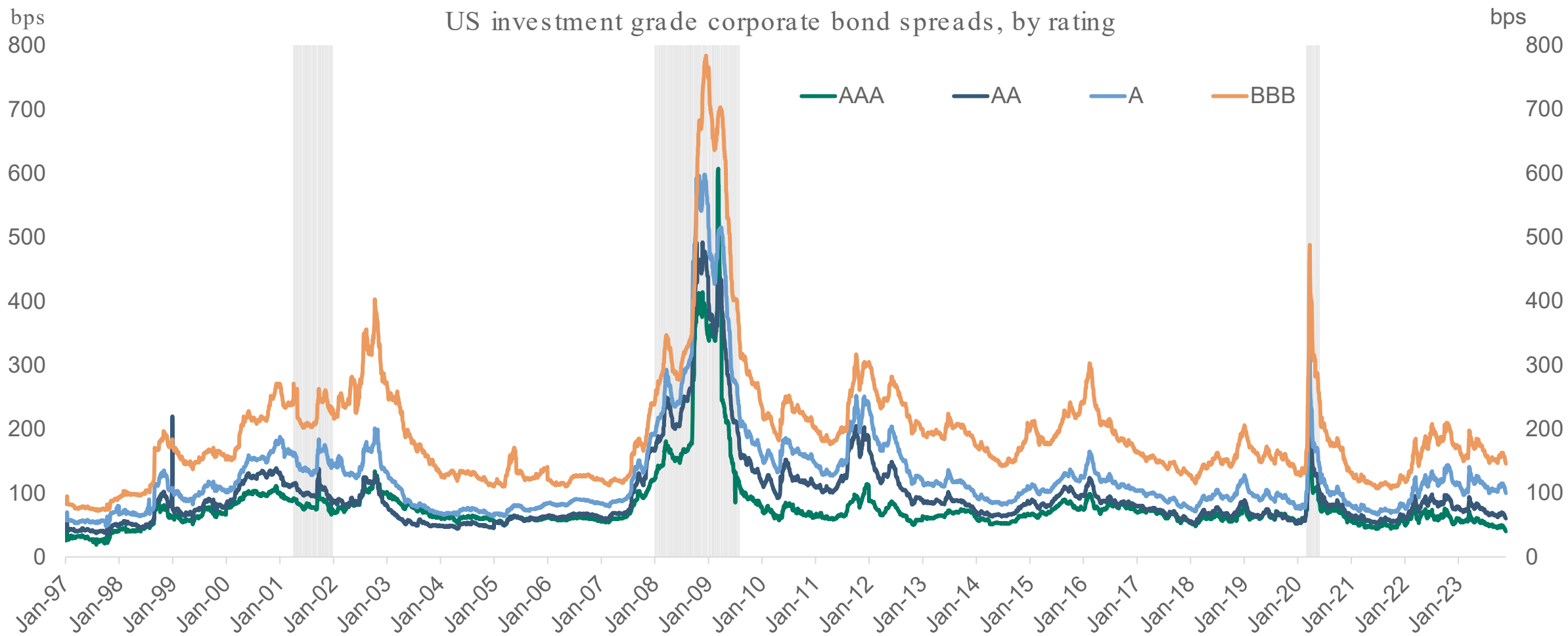
# Spread levels



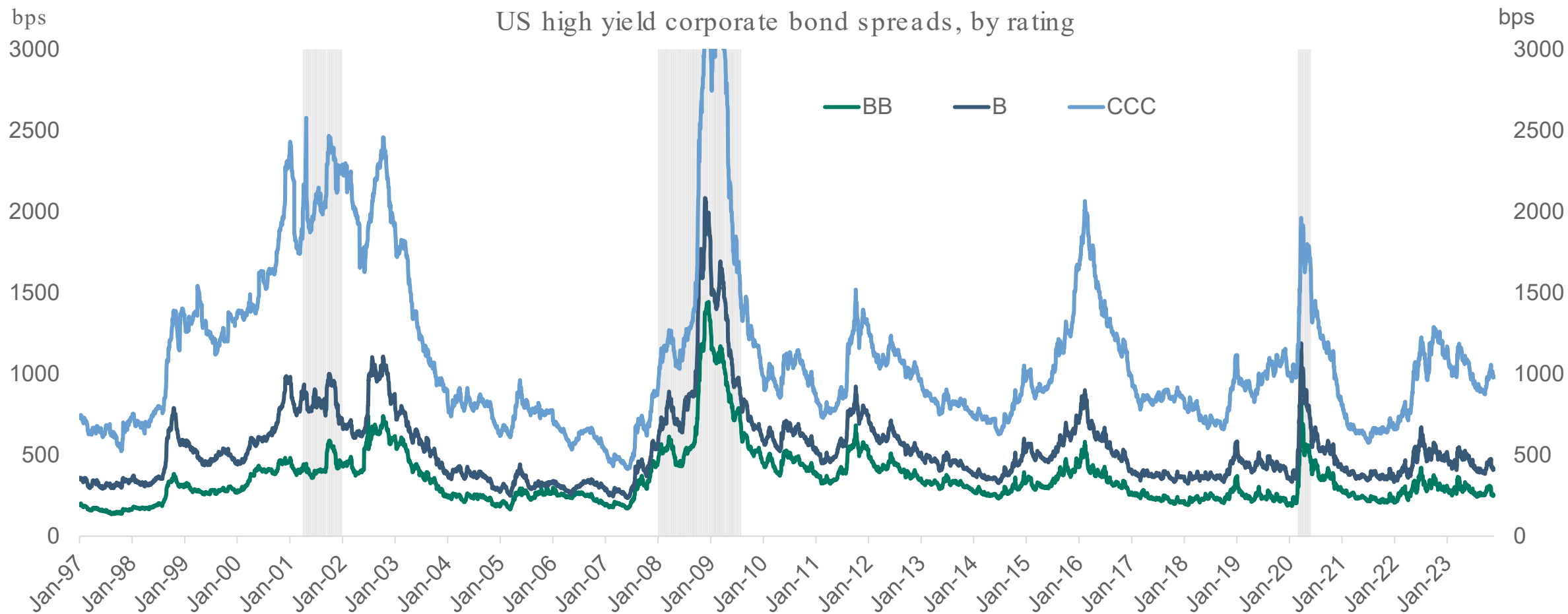
# Credit spreads not pricing in a recession



# IG spreads by rating



# HY spreads by rating



# IG quality spreads, some differentiation between single-A and double-AA





# HY quality spreads, more differentiation between CCC and single-B

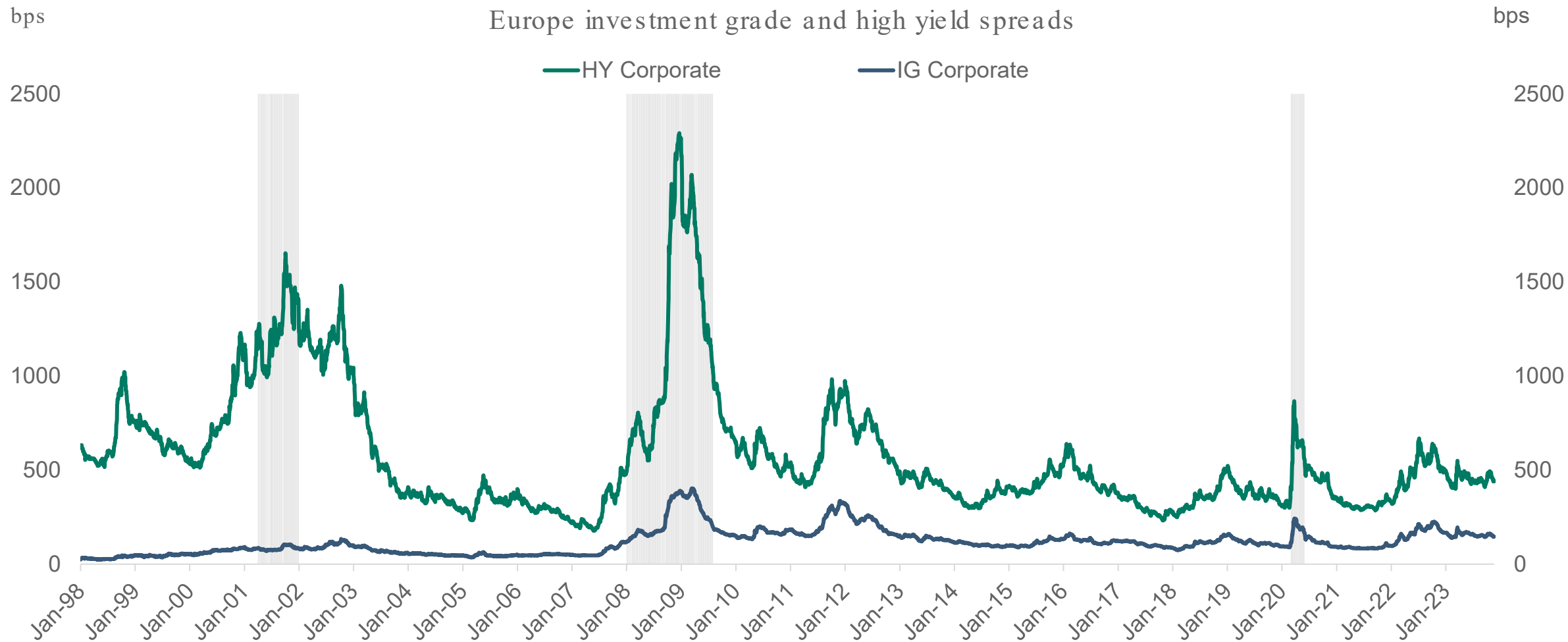


# US HY spread minus IG spread



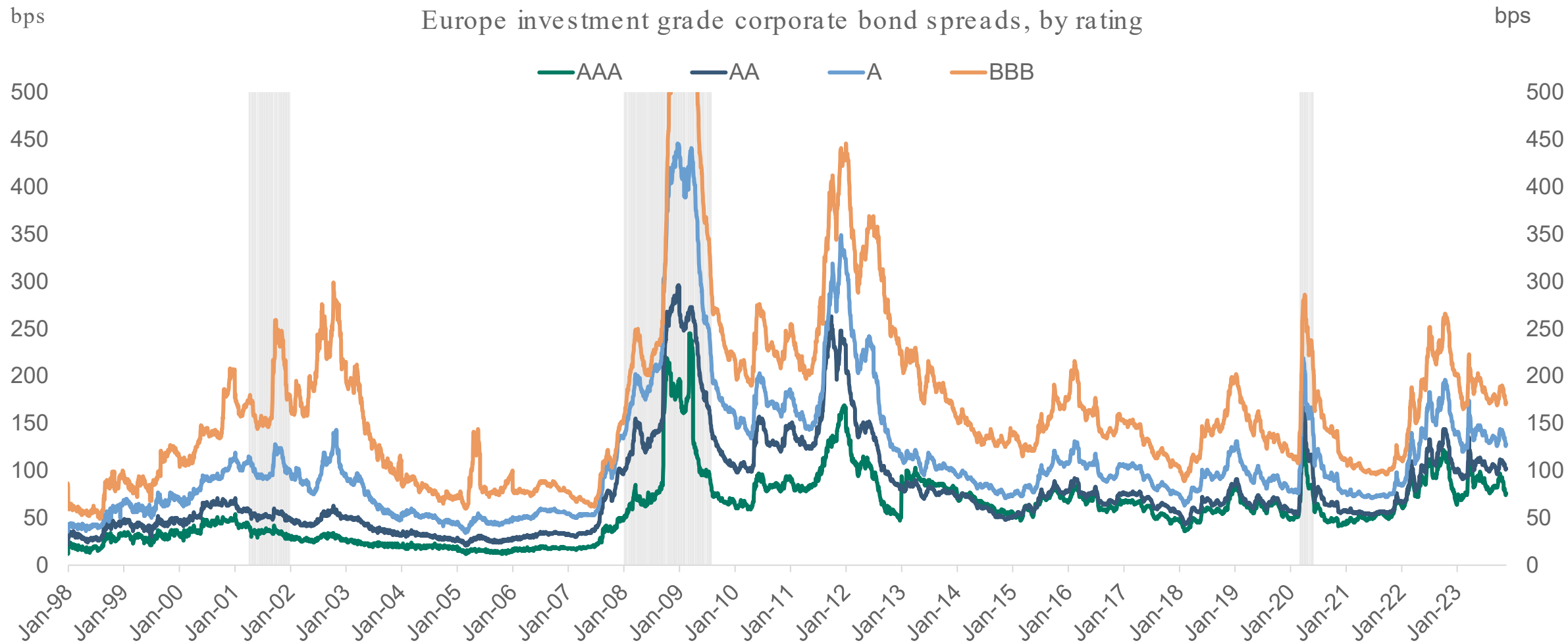
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Bloomberg Index used COA0 Index and H0A0 Index

# European IG and HY spreads



Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Ticker used HE00 Index and ER00 Index.

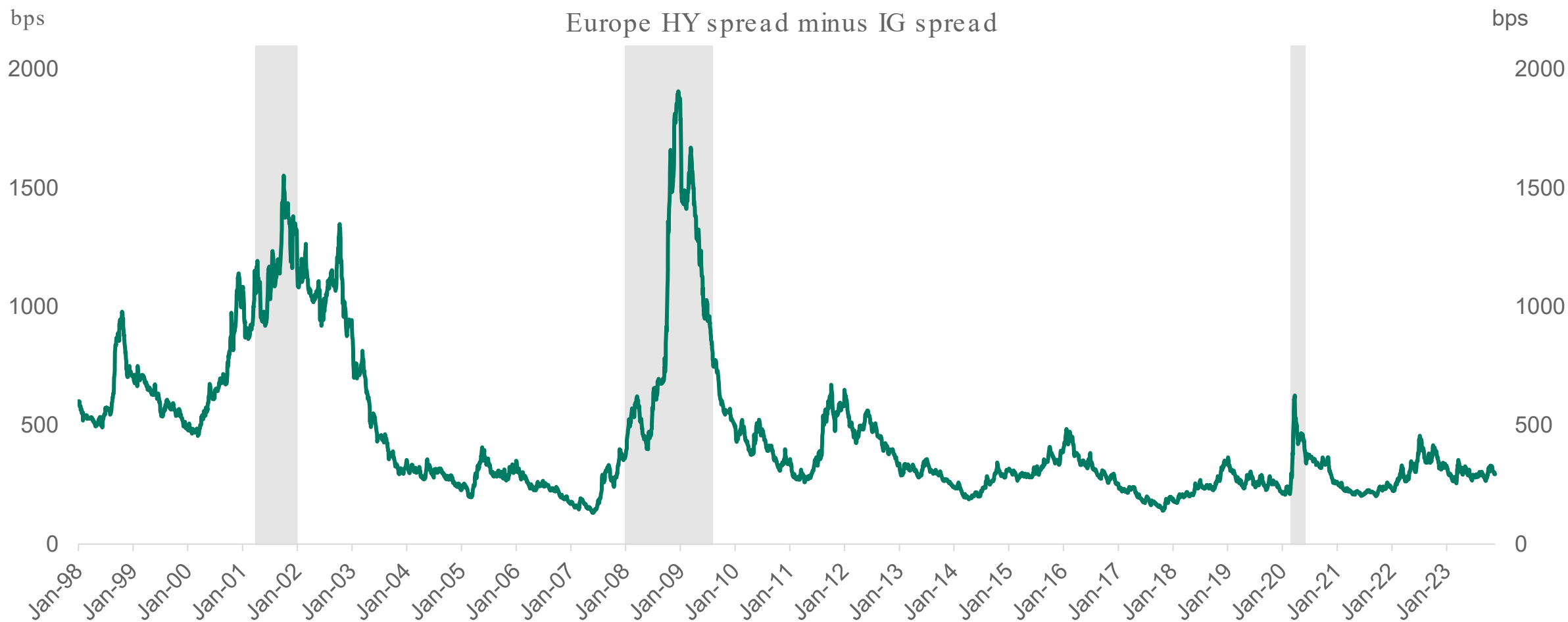
# European IG spreads by rating



# European HY spreads by rating



# European HY spread minus IG spread



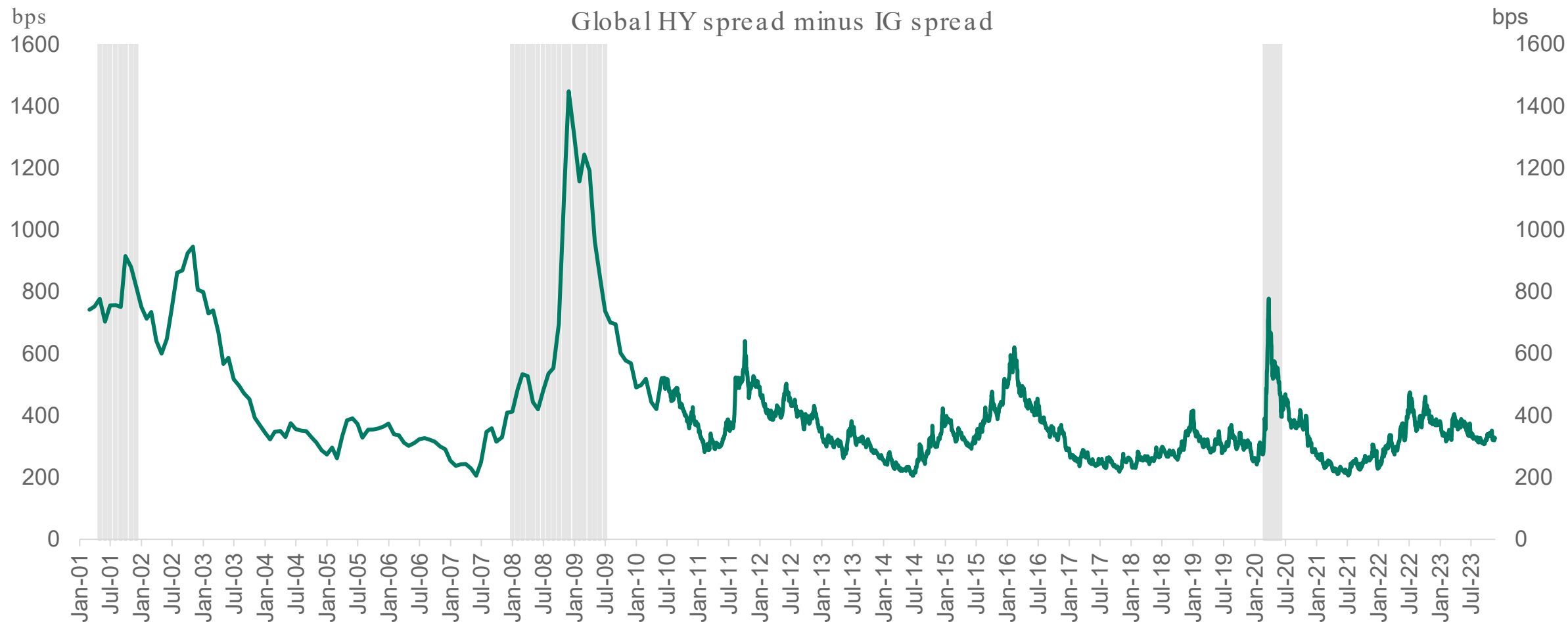
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Ticker used HE00 Index and ER00 Index.

# Spread between Europe HY and IG default swaps



Source: Bloomberg, Apollo Chief Economist. Note: Tickers used ITRXEXE CBBT Curncy and ITRXEBE CBBT Curncy

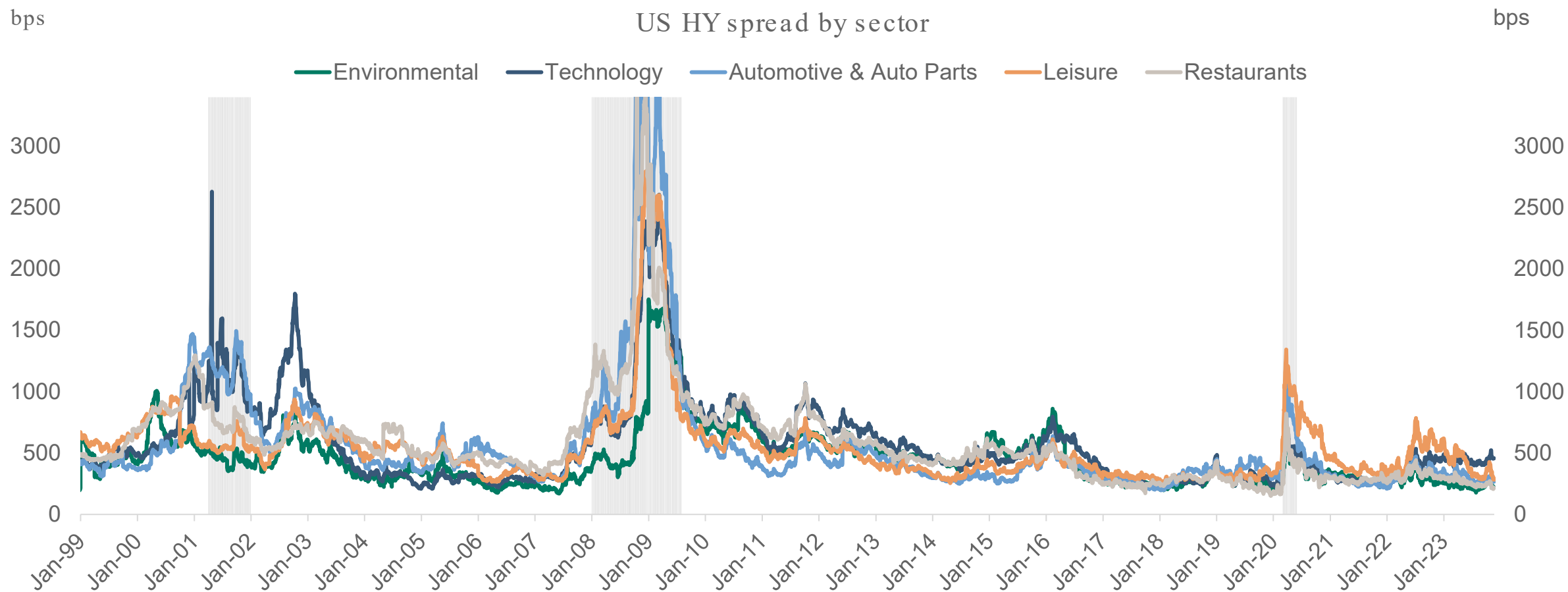
# Global HY spread minus global IG spread



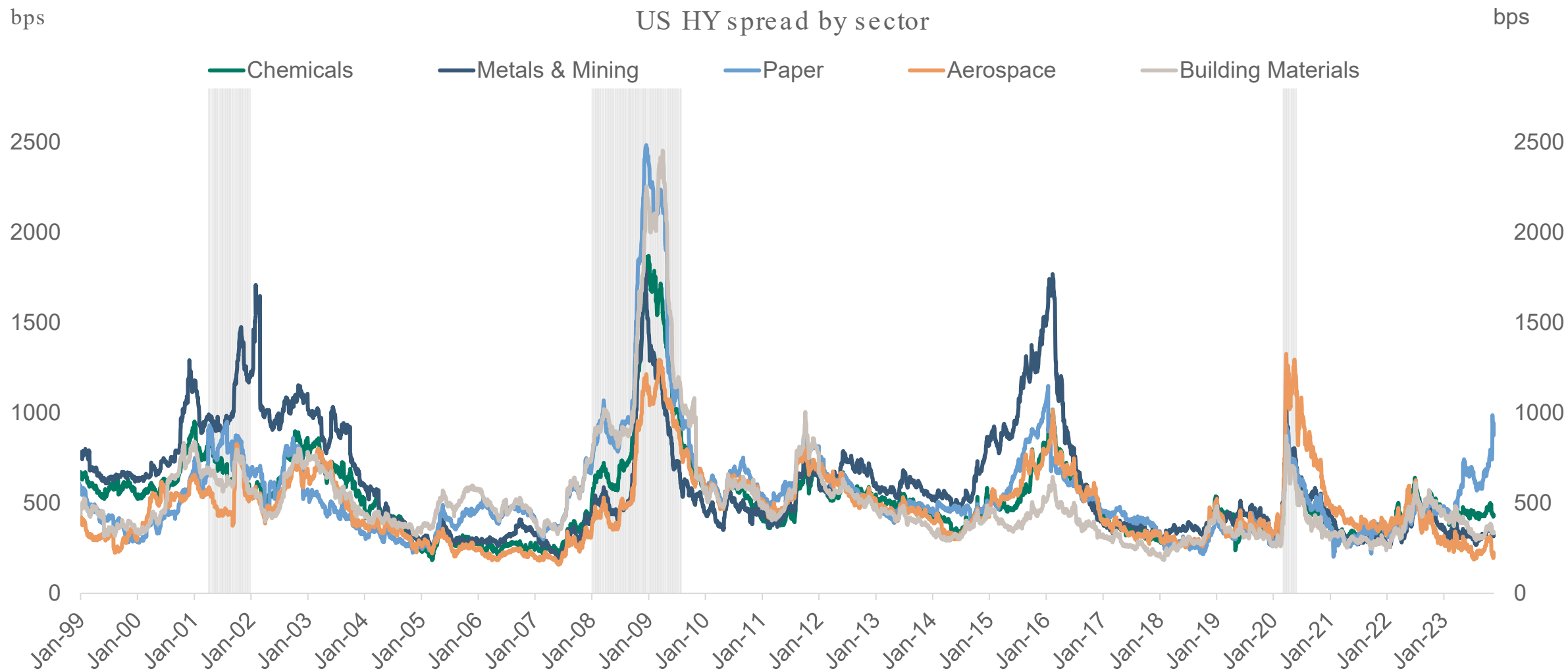
Source: Bloomberg, Apollo Chief Economist. Note: Bloomberg Index used BGLCTRUU index and LG50TRUU Index



# HY spreads by sector: Spread for tech remains wider

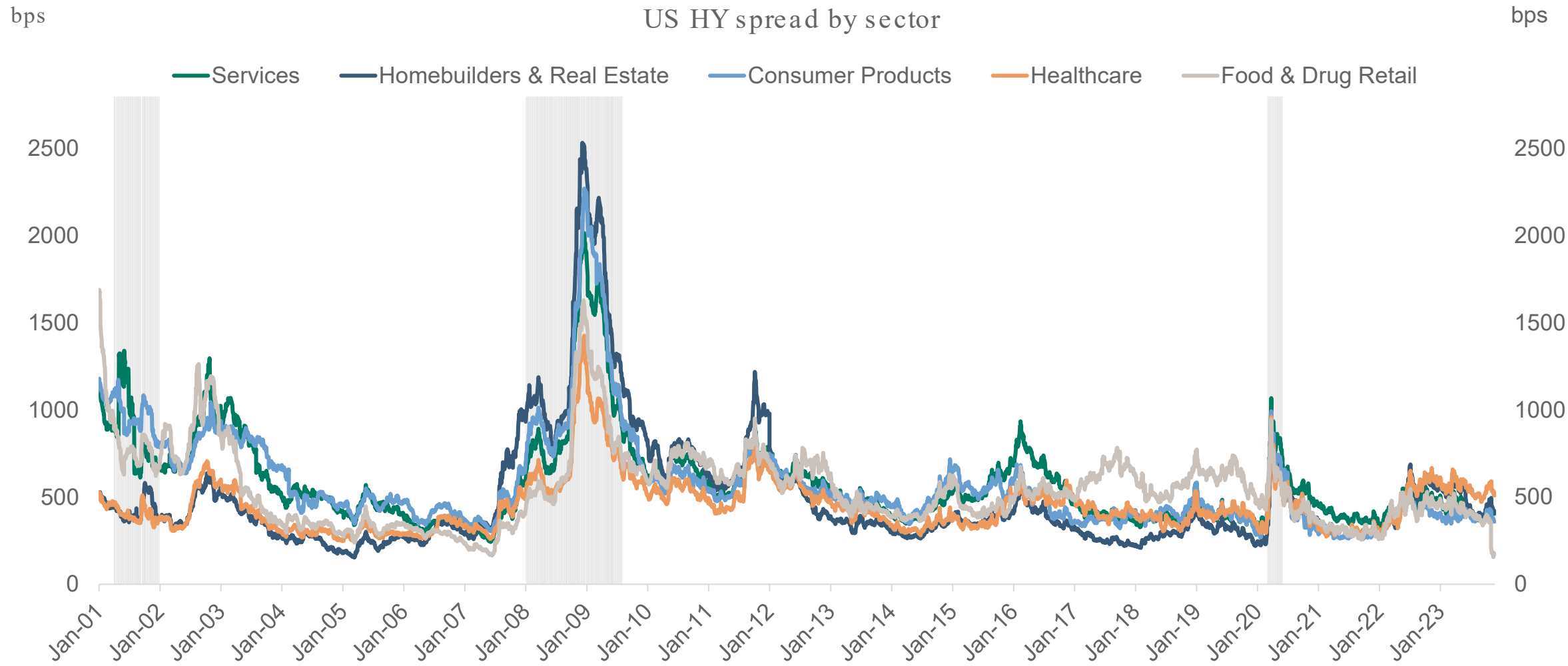


# HY spreads by sector: Spread for paper has widened



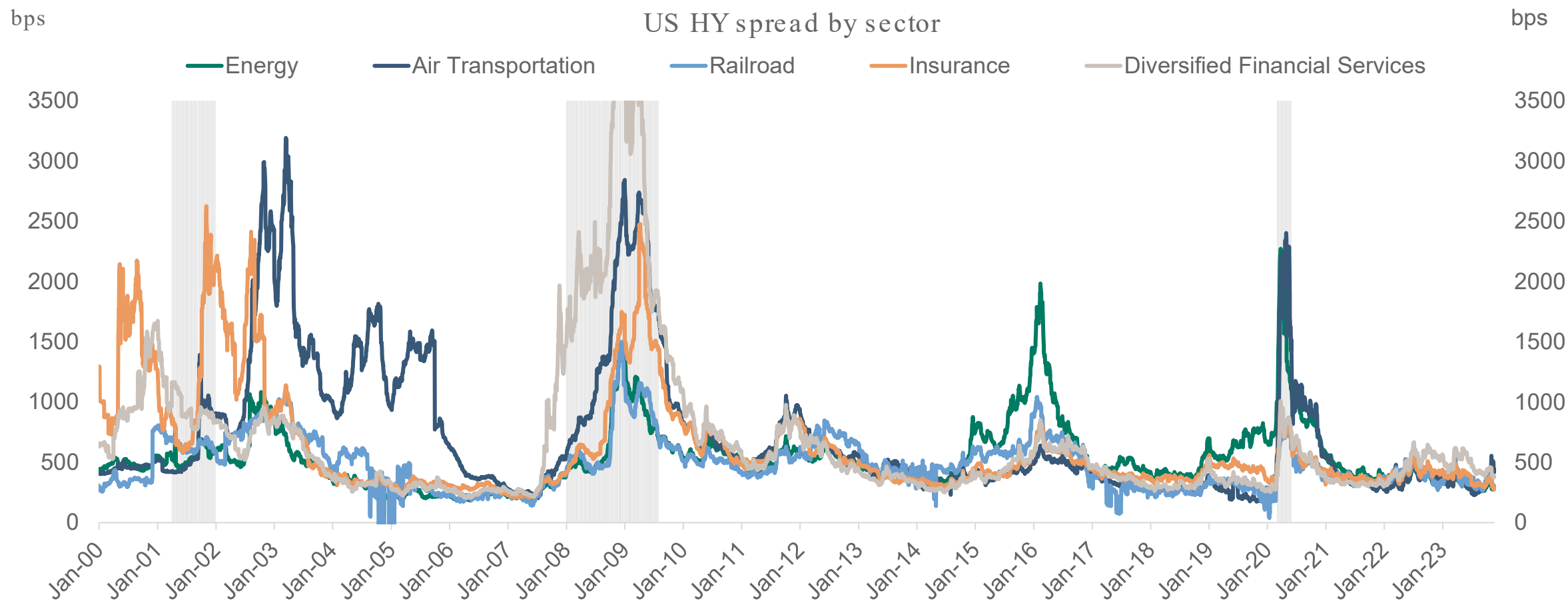
Source: ICE BofA, Bloomberg, Apollo Chief Economist

# HY spreads by sector



Source: ICE BofA, Bloomberg, Apollo Chief Economist

# HY spreads by sector



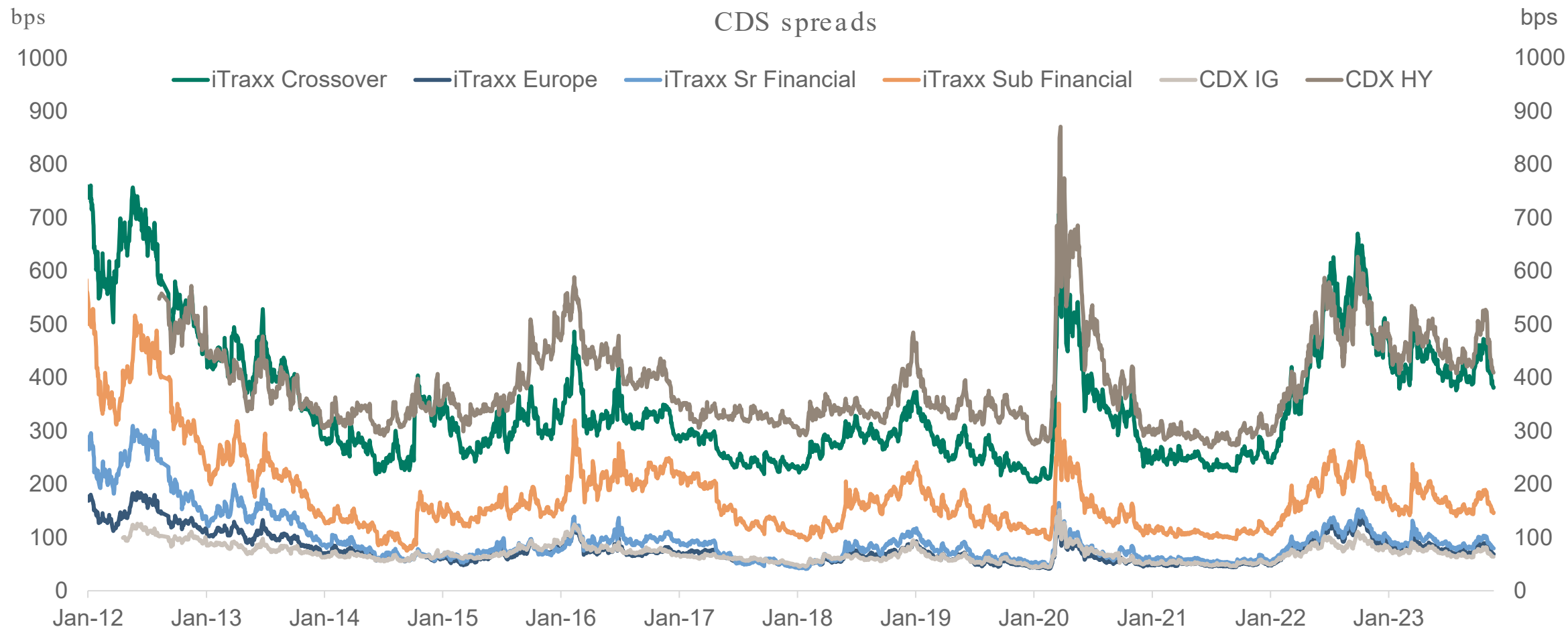
Source: ICE BofA, Bloomberg, Apollo Chief Economist

# IG spreads for financials and non-financials

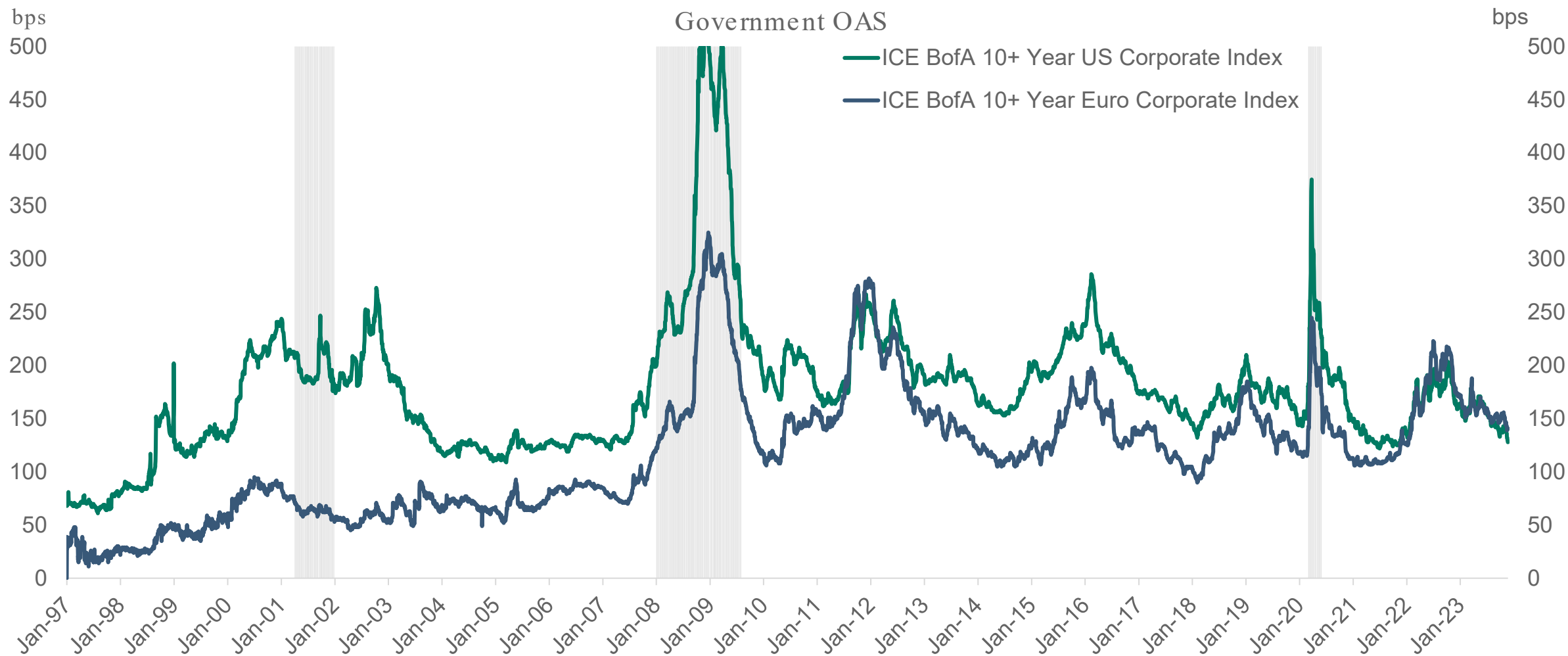


Source: ICE BofA, Bloomberg, Apollo Chief Economist

# CDS spreads



# Long-duration IG spreads in US and Europe

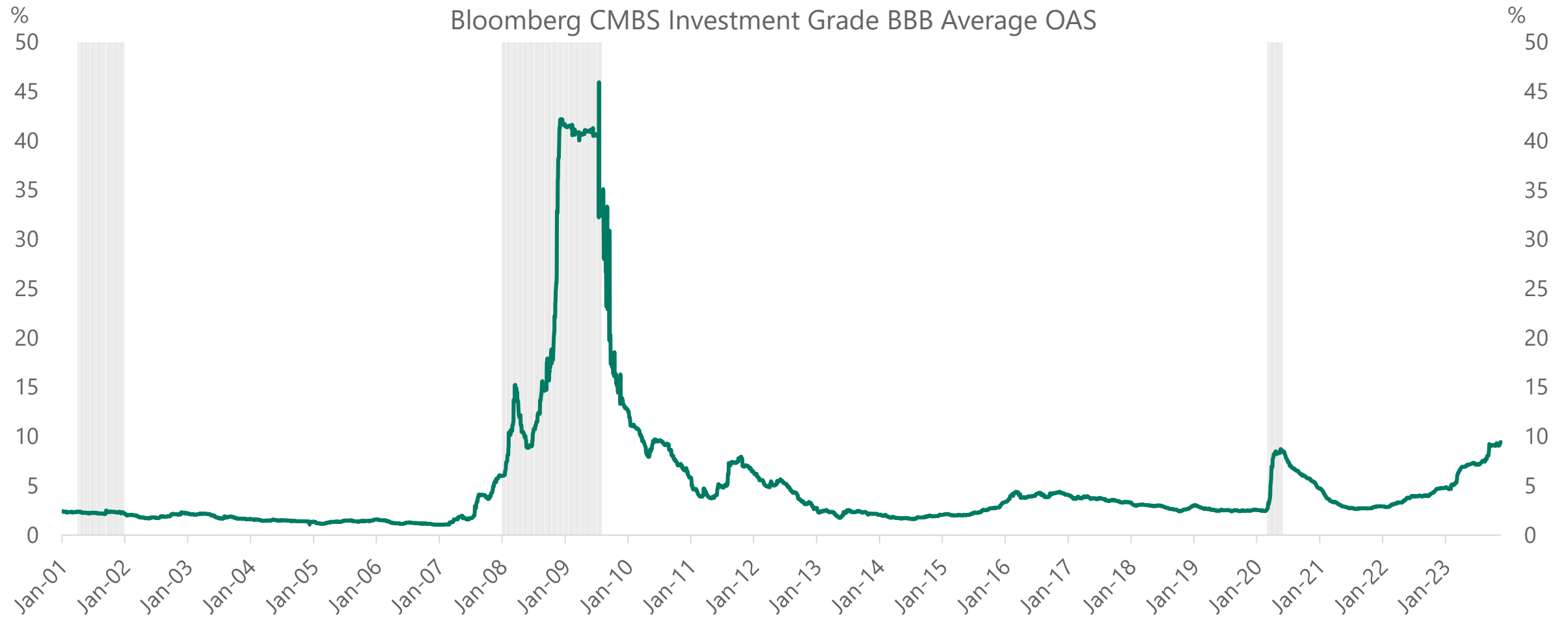


# Divergence between and US and Europe lower rated junk bond spreads





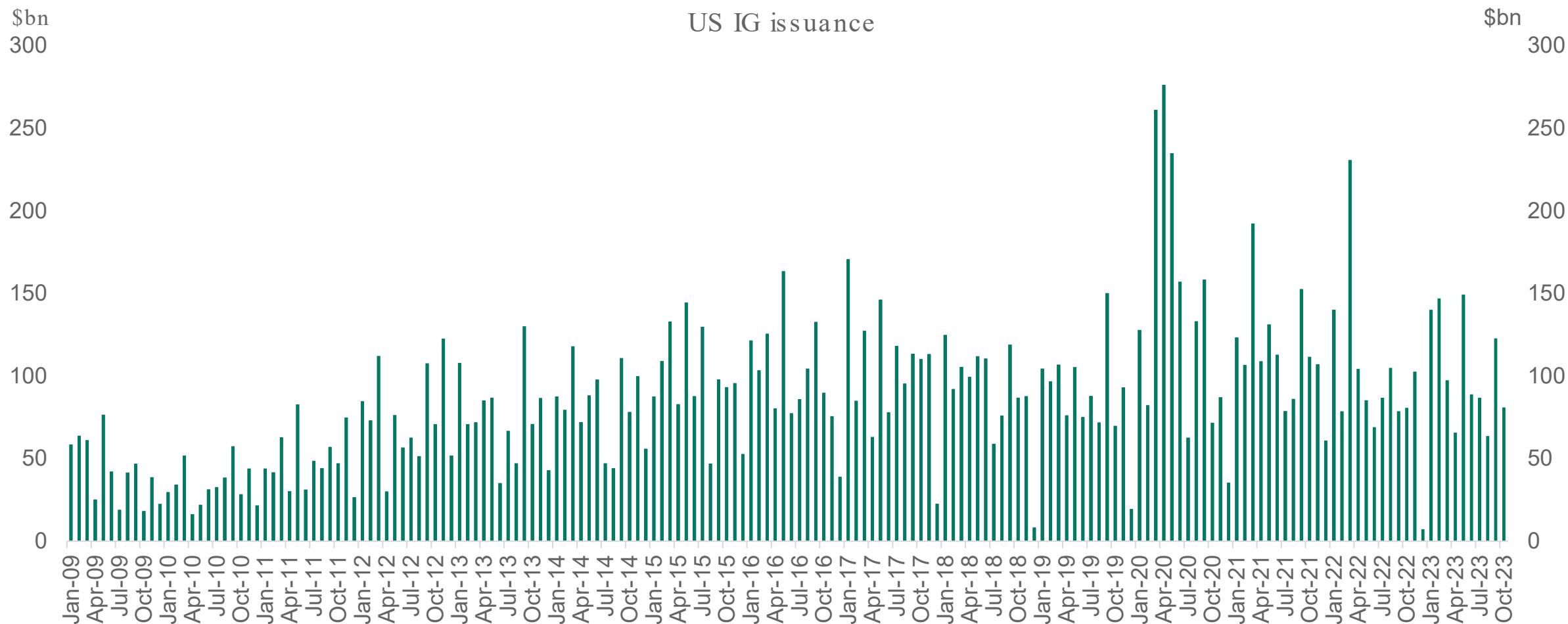
# CMBS BBB spreads



New issuance

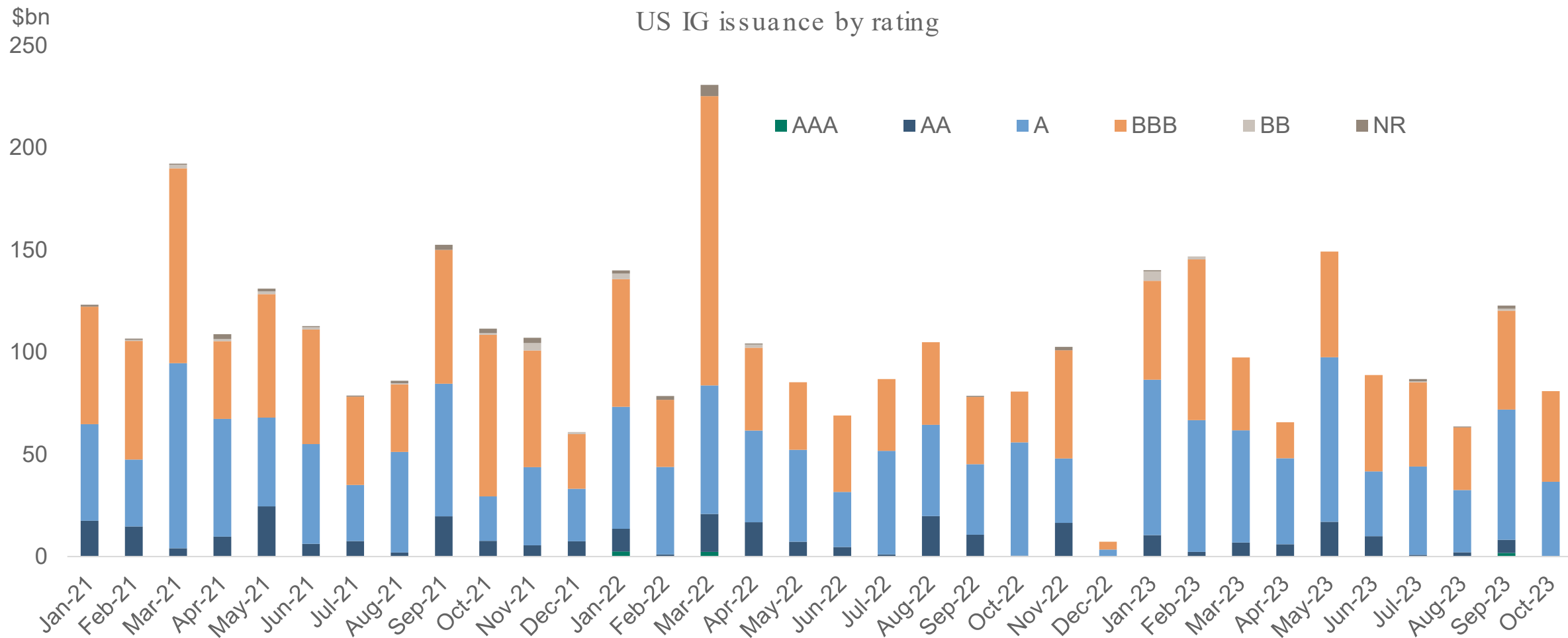


# US IG issuance



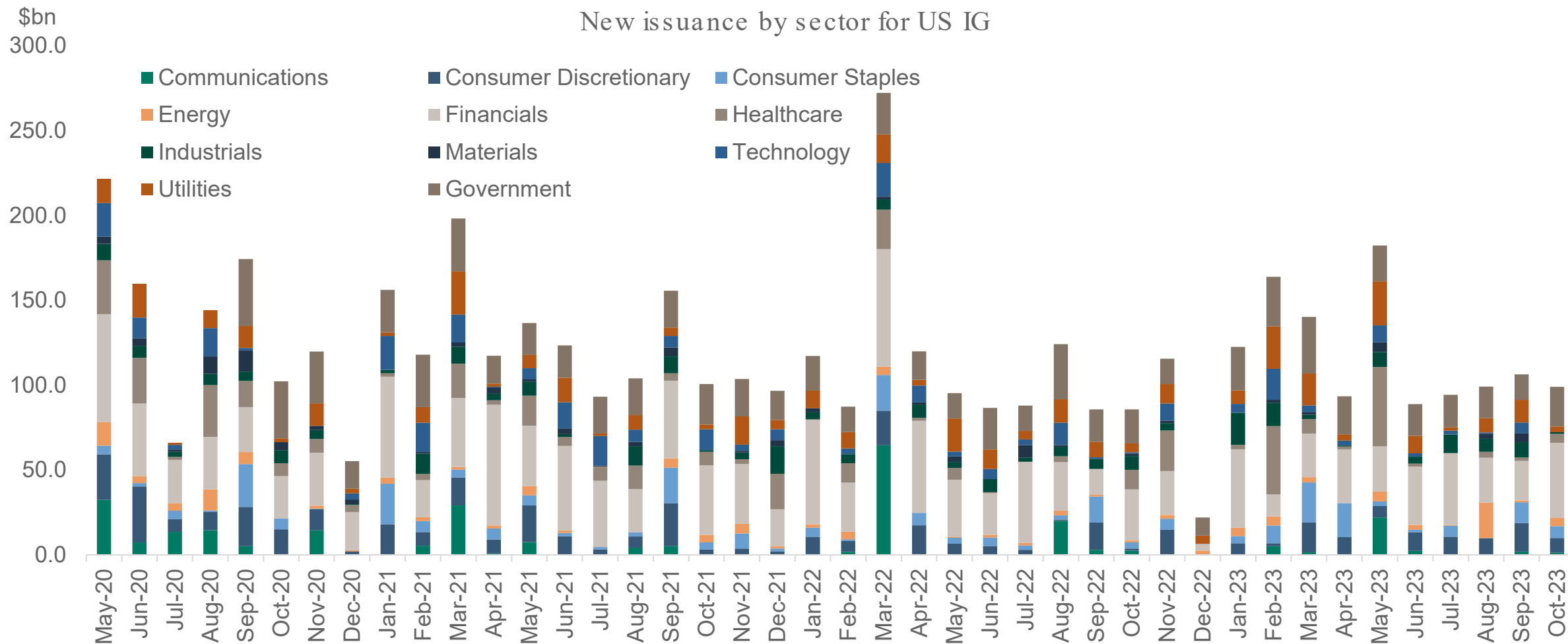
Source: Pitchbook LCD, Apollo Chief Economist

# IG issuance by rating



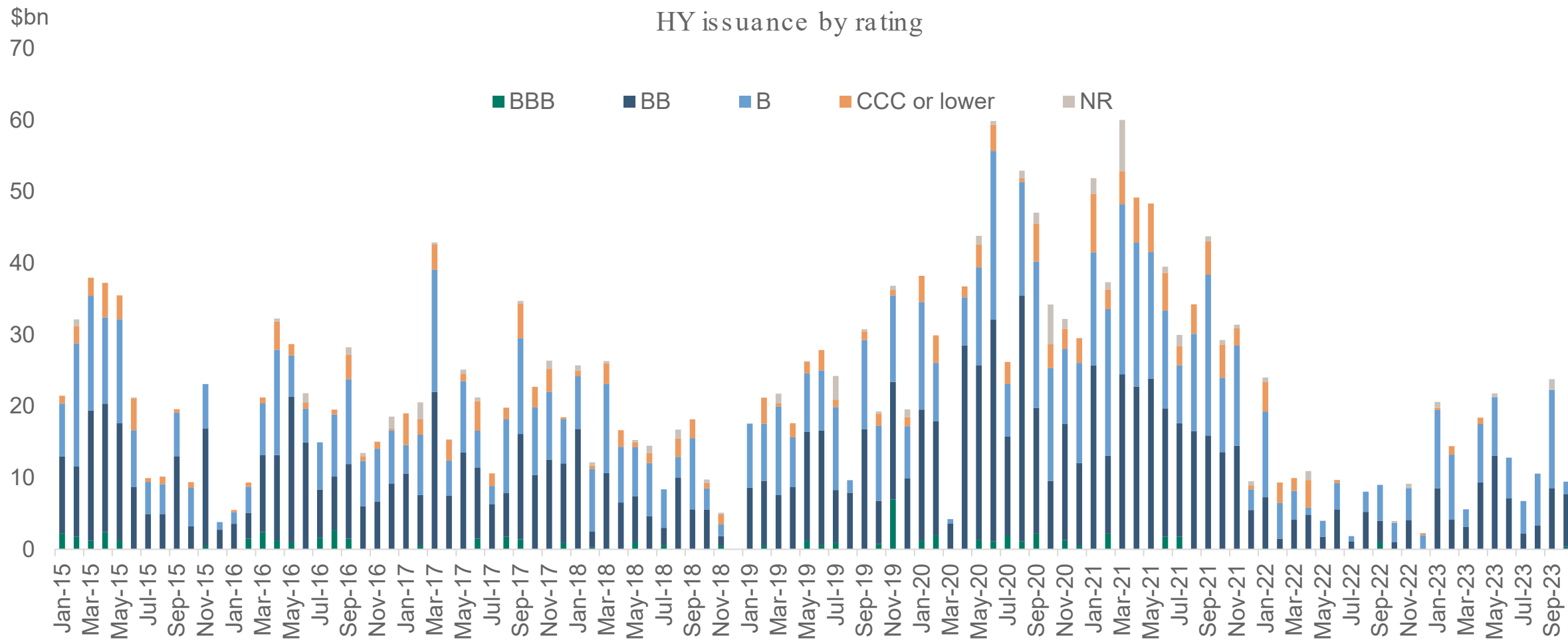
Source: Pitchbook LCD, Apollo Chief Economist.

# Sector distribution of new IG issuance



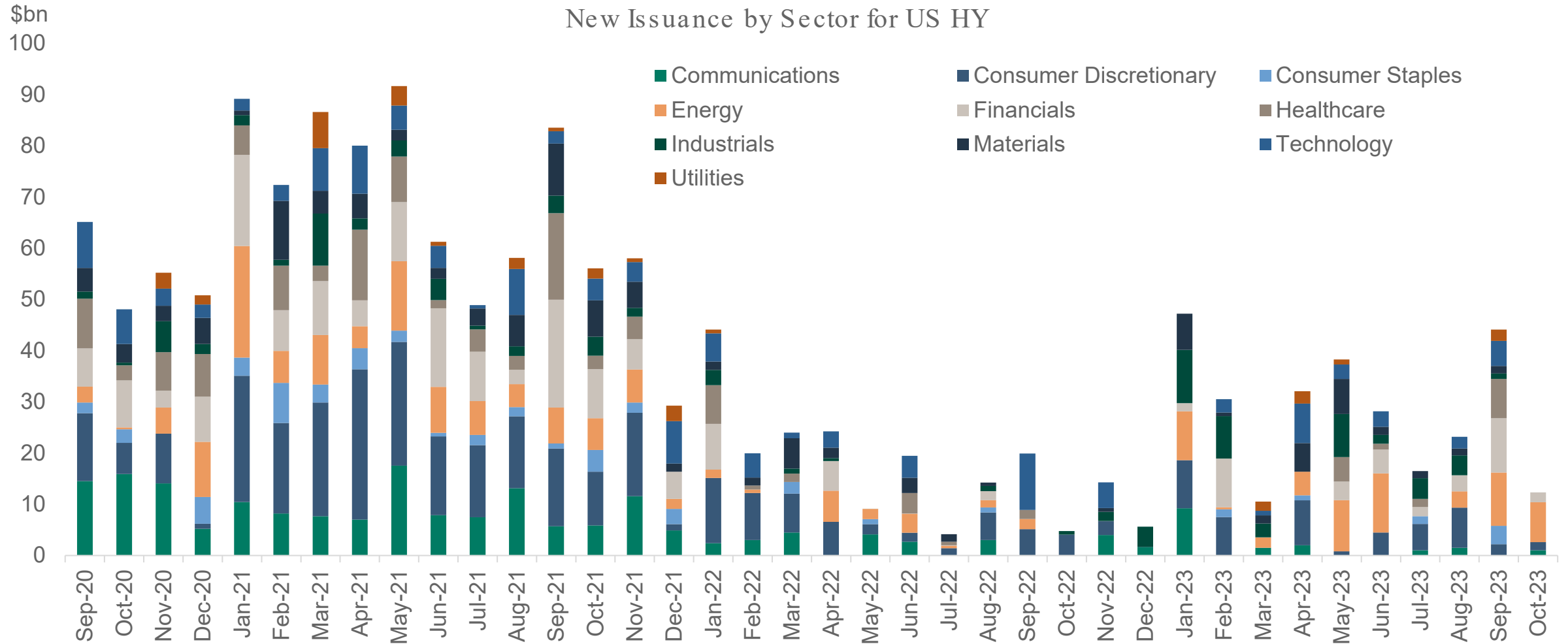
Source: Bloomberg, Apollo Chief Economist. Note: Issuance includes bonds, loans, leveraged loans, and preferred.

# HY issuance by rating



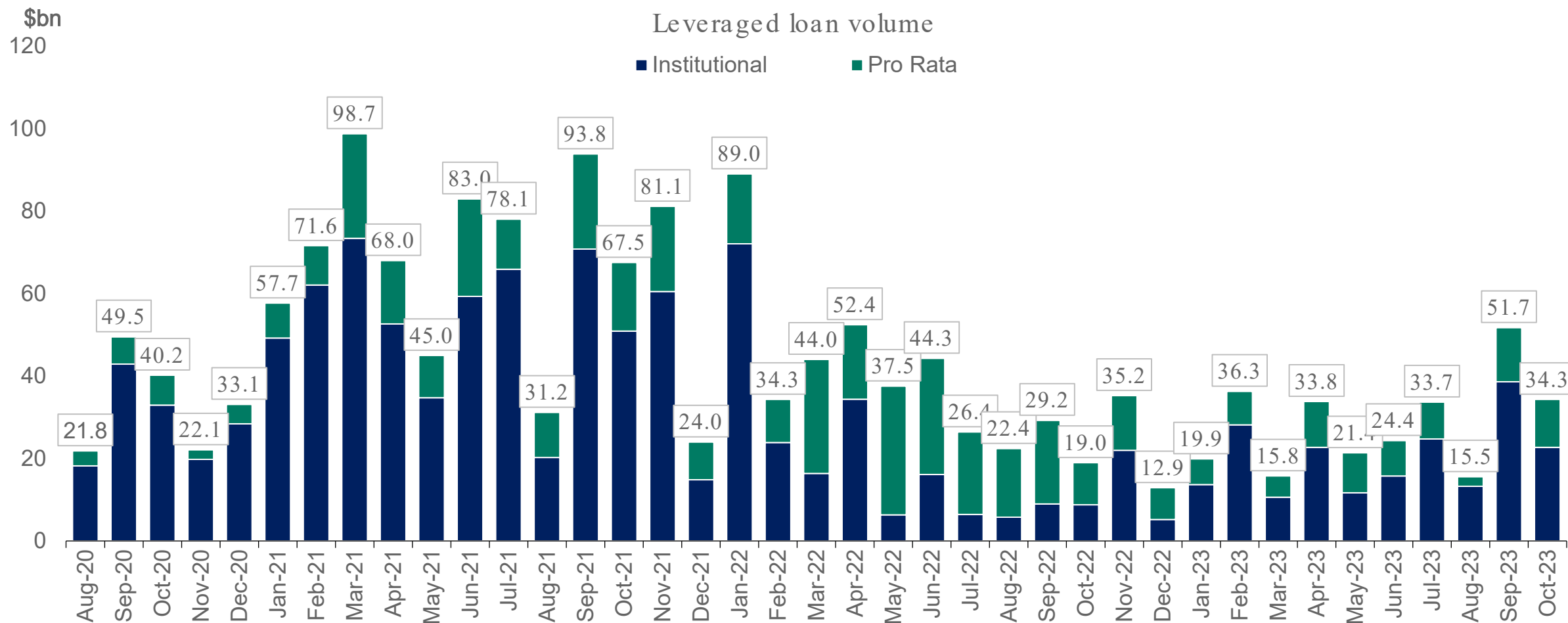
Source: Pitchbook LCD, Apollo Chief Economist.

# Sector distribution of new HY issuance



Source: Bloomberg, Apollo Chief Economist. Note: Issuance includes bonds, loans, leveraged loans and preferred.

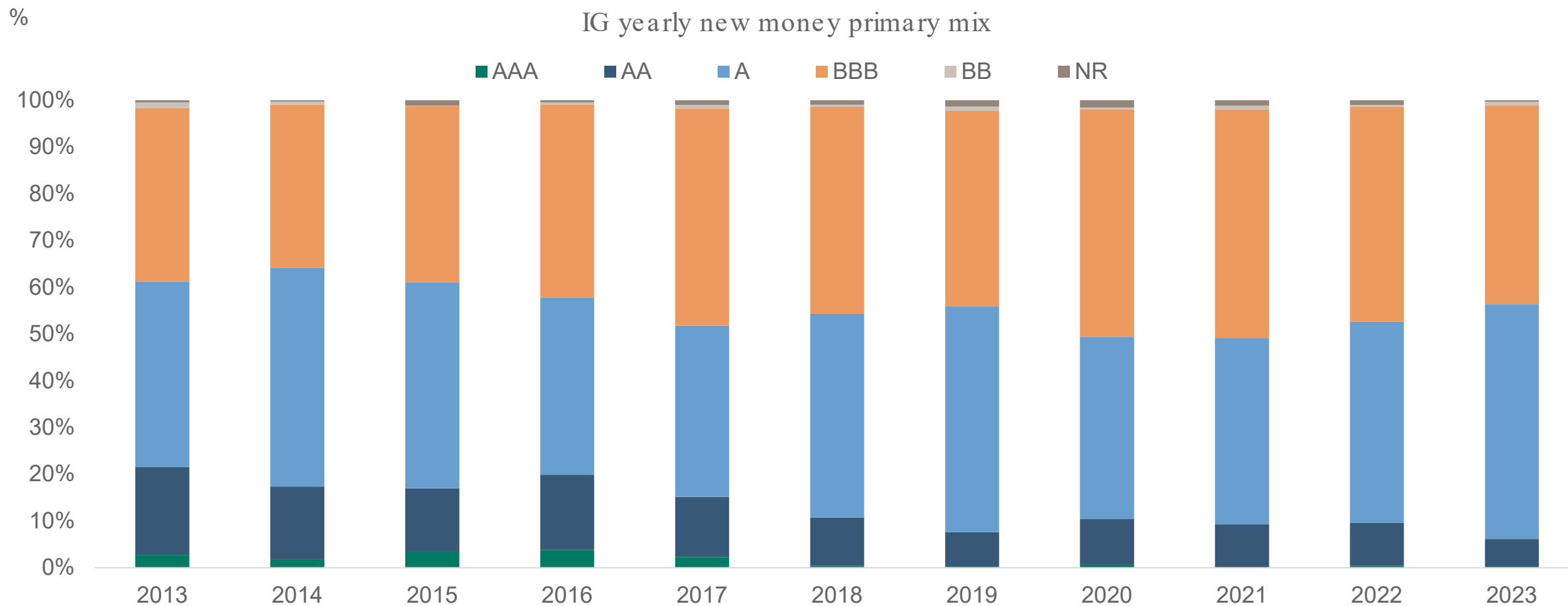
# Leveraged loan volume



Source: Pitchbook LCD, Apollo Chief Economist.

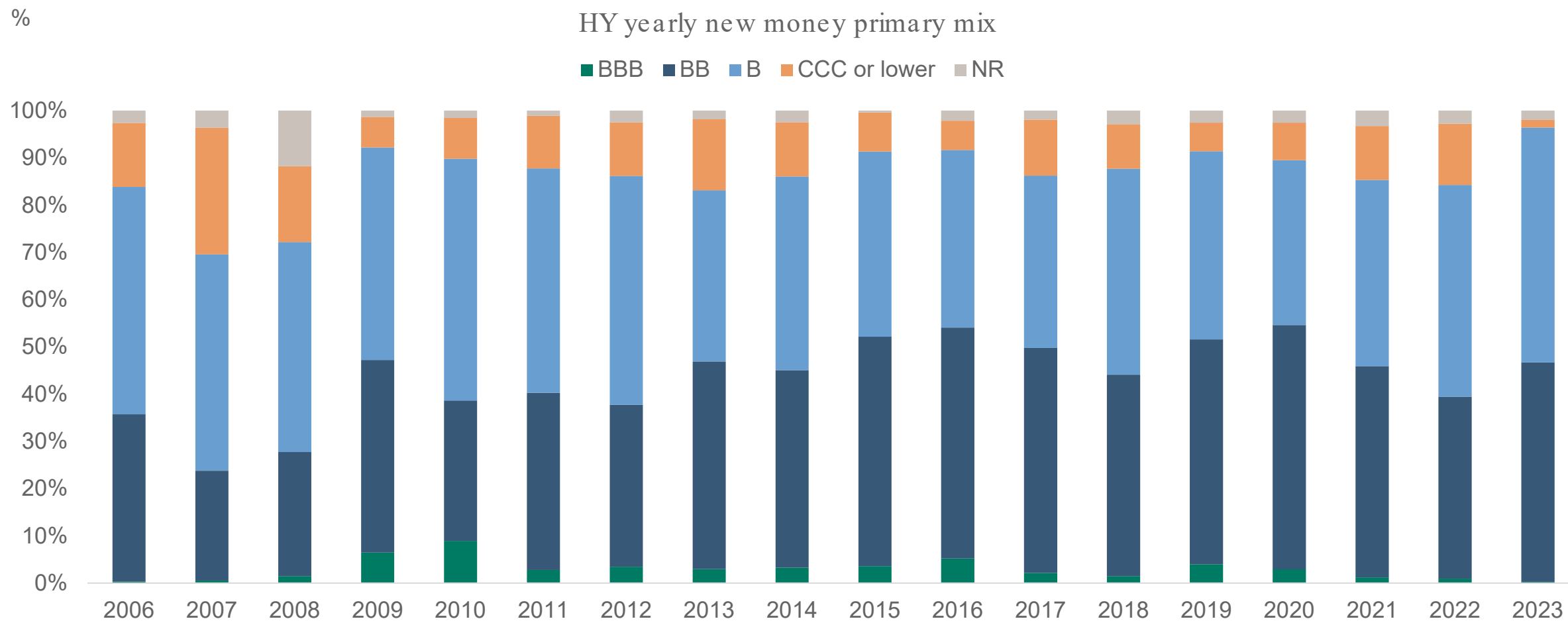


# IG new money primary mix



Source: Pitchbook LCD, Apollo Chief Economist. Note: Data as of 31<sup>st</sup> October 2023.

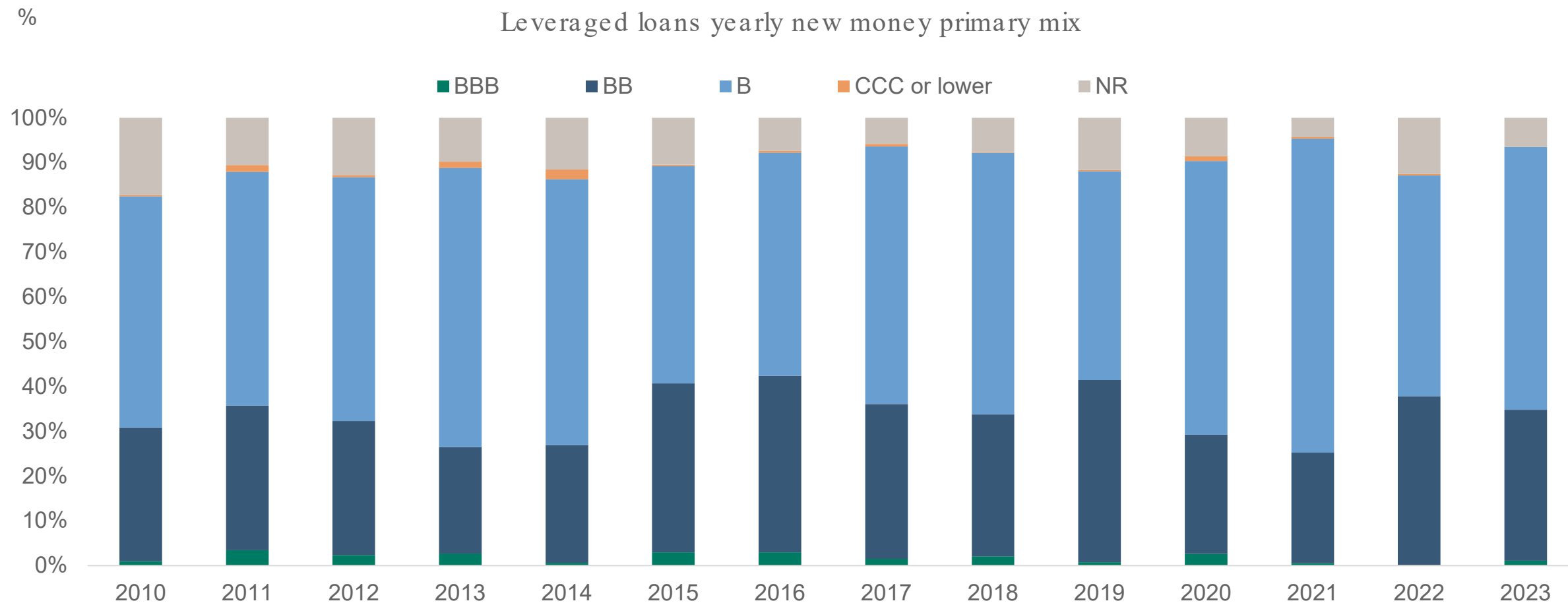
# HY new money primary mix



Source: Pitchbook LCD, Apollo Chief Economist. Note: Data as of 31<sup>st</sup> October 2023

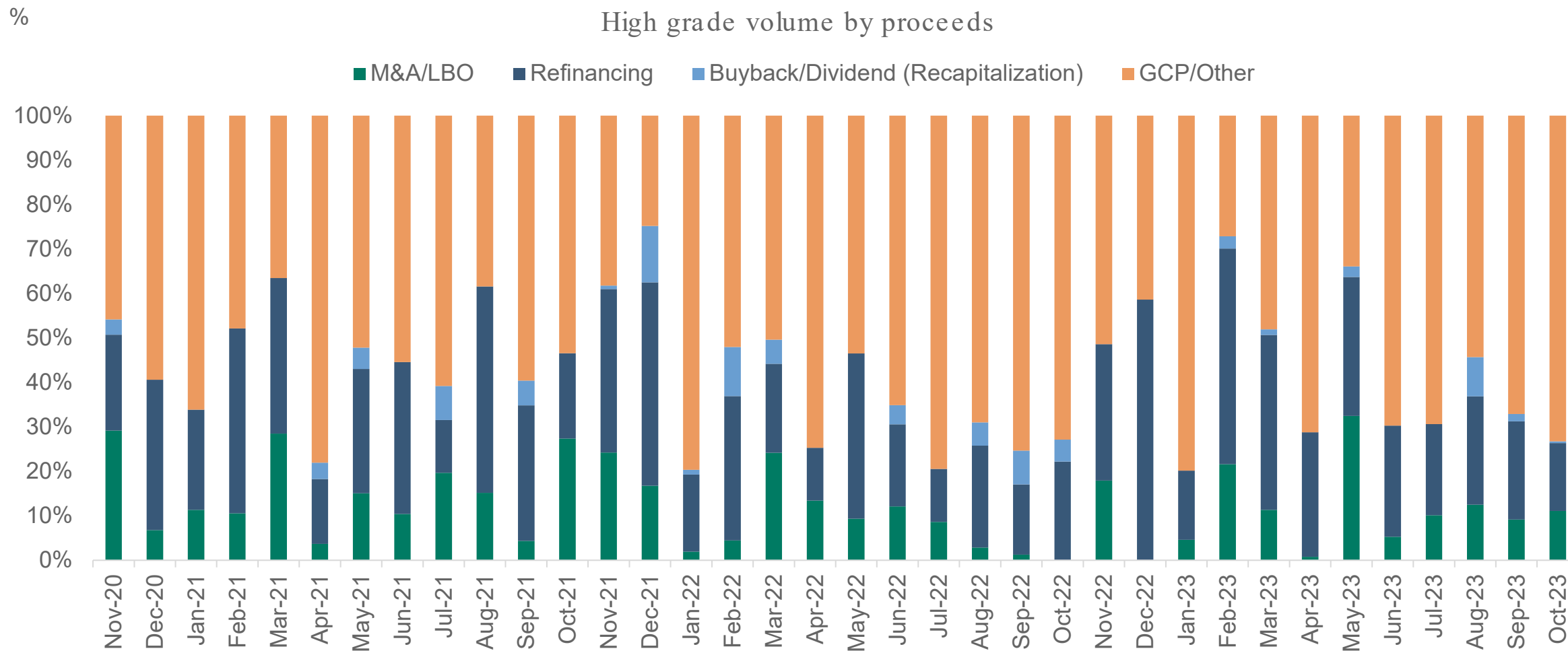
# Loans new money primary mix

Leveraged loans yearly new money primary mix

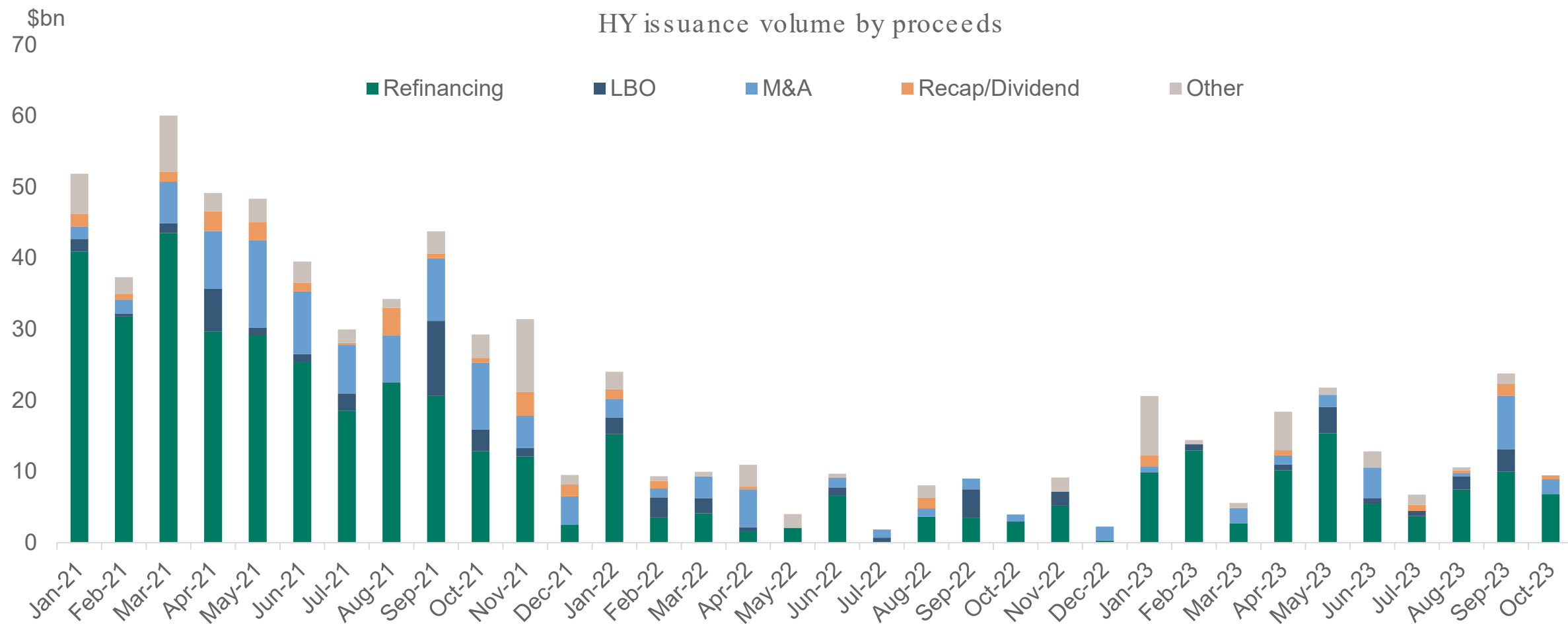


Source: Pitchbook LCD, Apollo Chief Economist. Note: 2022 YTD till of 31<sup>st</sup> October 2023

# High grade volume by proceeds

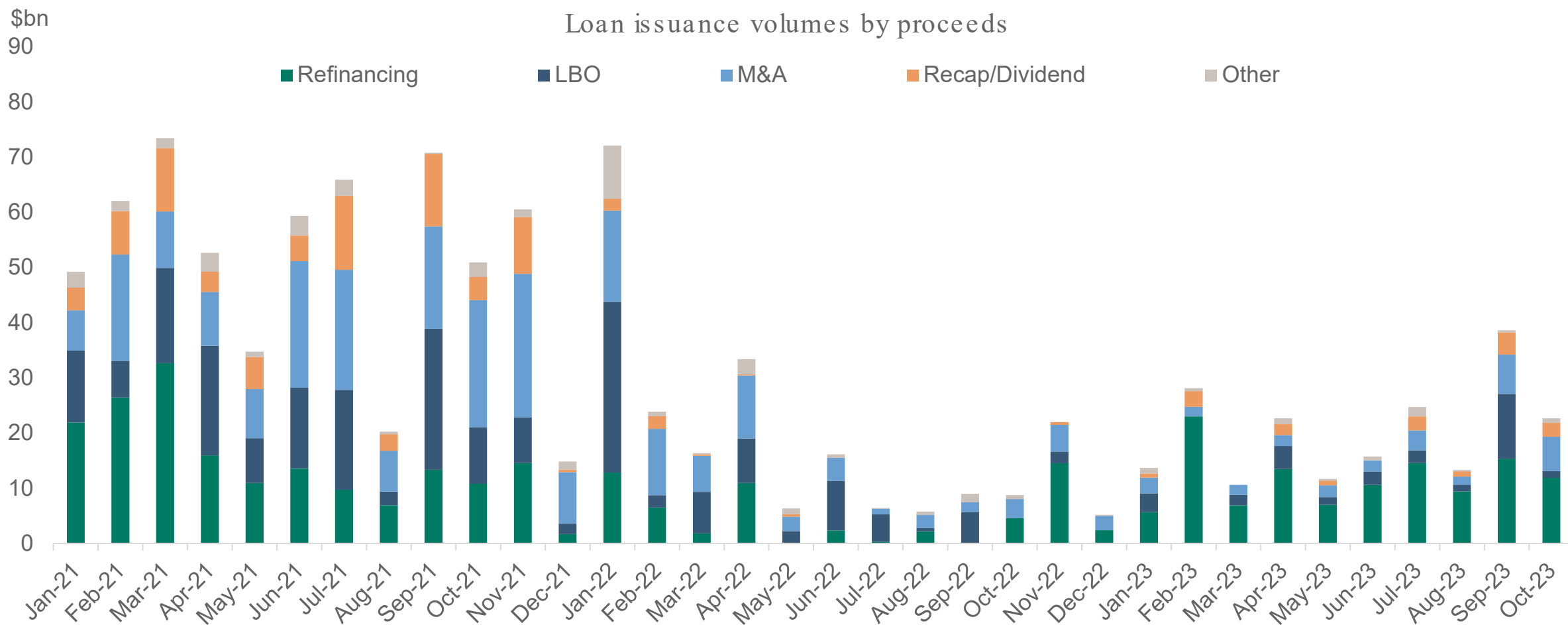


# High yield volumes by proceeds



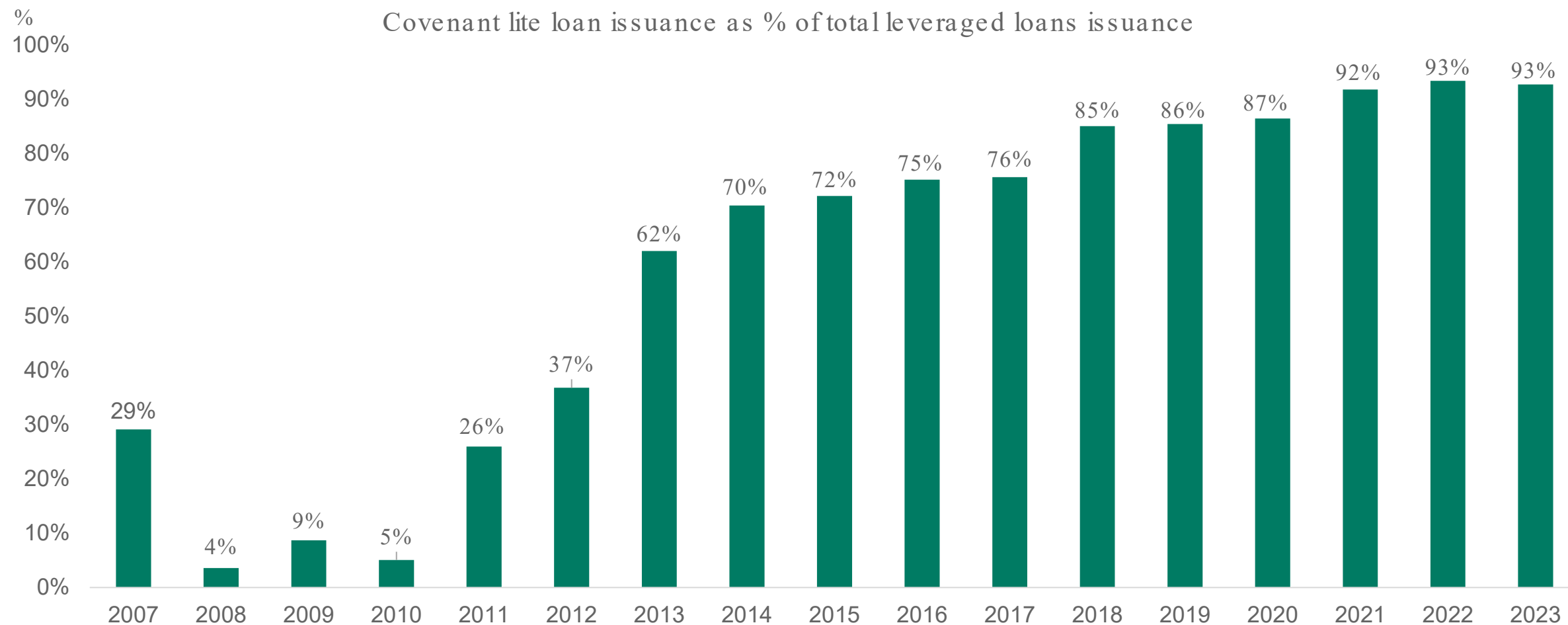
Source: Pitchbook LCD, Apollo Chief Economist

# Loan volumes by proceeds



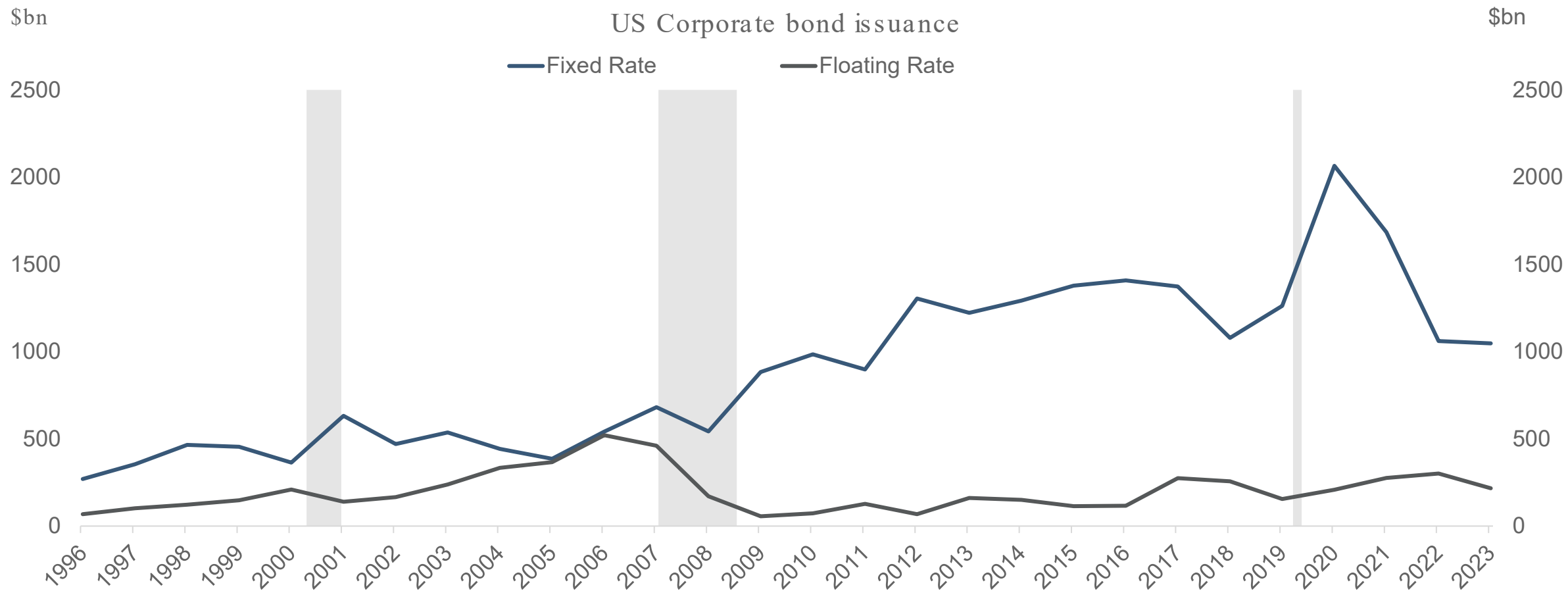
Source: Pitchbook LCD, Apollo Chief Economist

# Covenant lite loan issuance



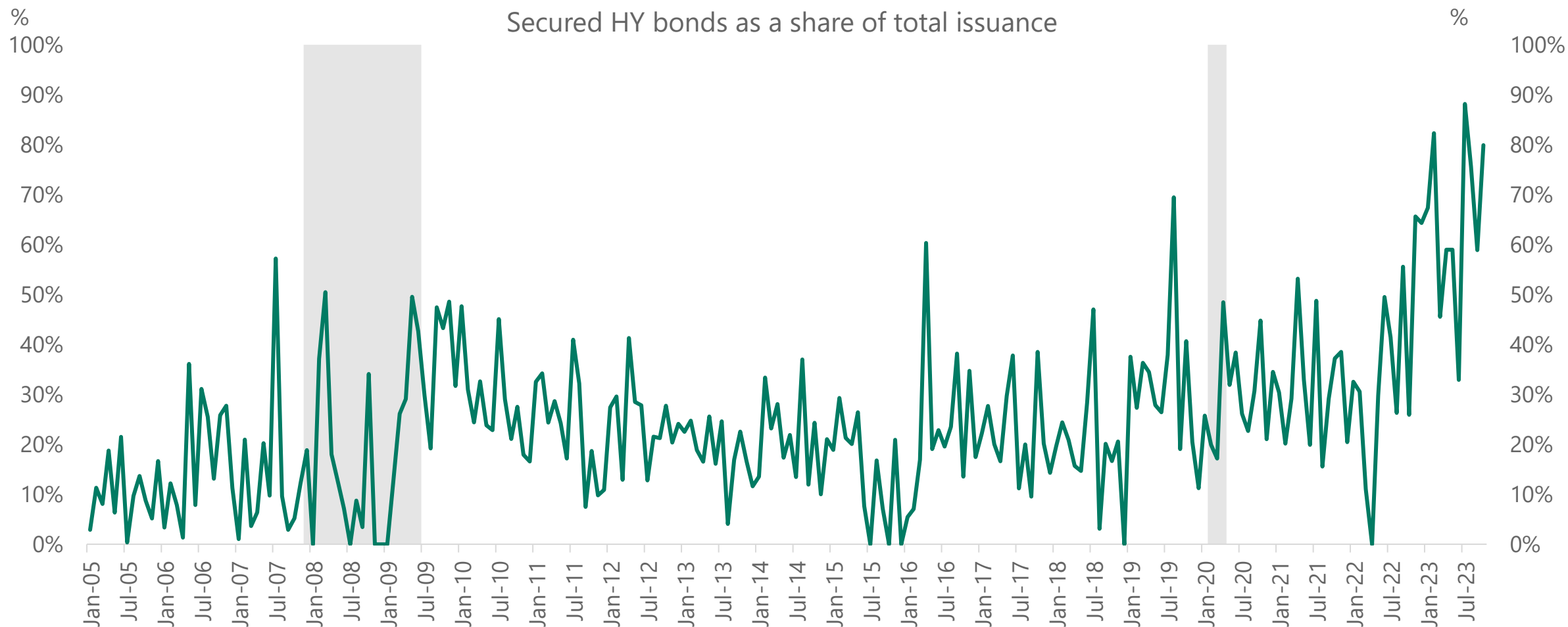
Source: Pitchbook LCD, Apollo Chief Economist.. Note: A covenant-lite loan is a type of financing with fewer restrictions on the borrower and fewer protections for the lender, often used in leveraged buyouts. Data as of 31<sup>st</sup> October 2023.

# Corporate bond issuance





# Secured HY bond issuance volume

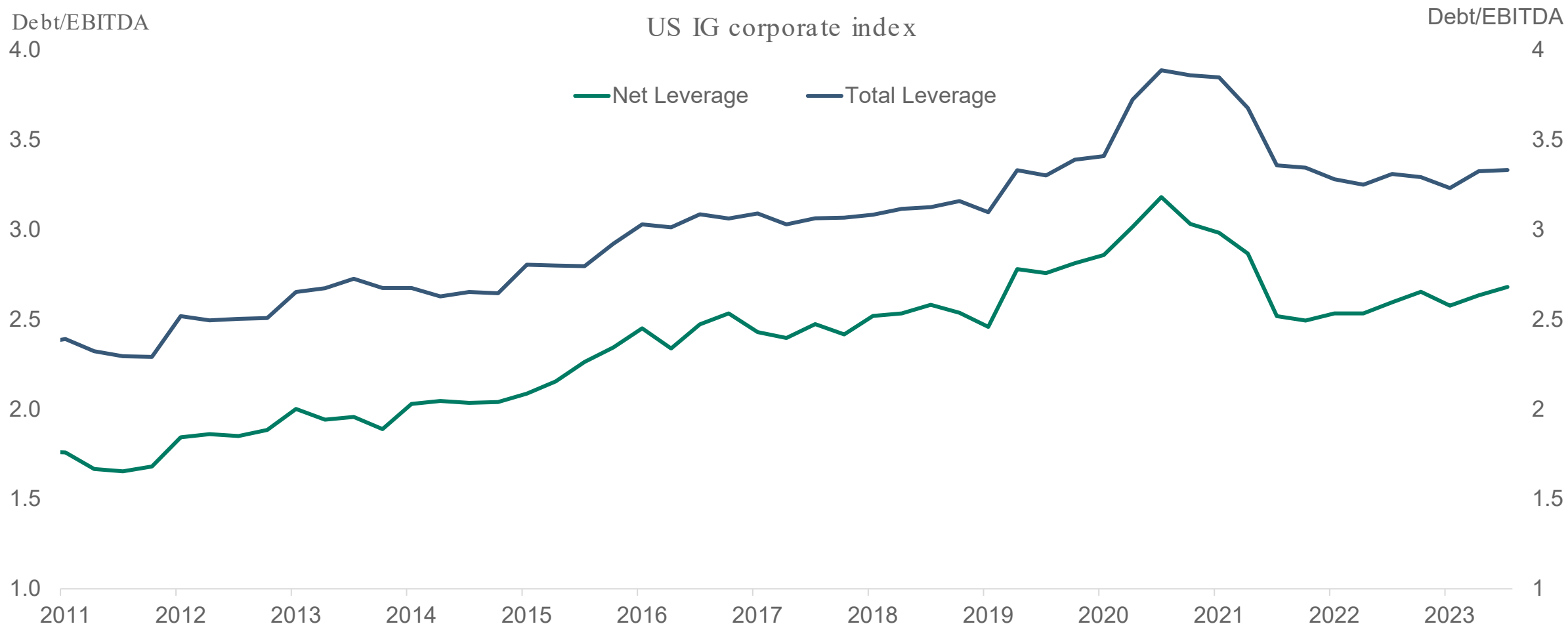


Source: Pitchbook LCD, Apollo Chief Economist. Note: A secured bond is the bond issued with the collateral as a security for the bond

# Credit fundamentals

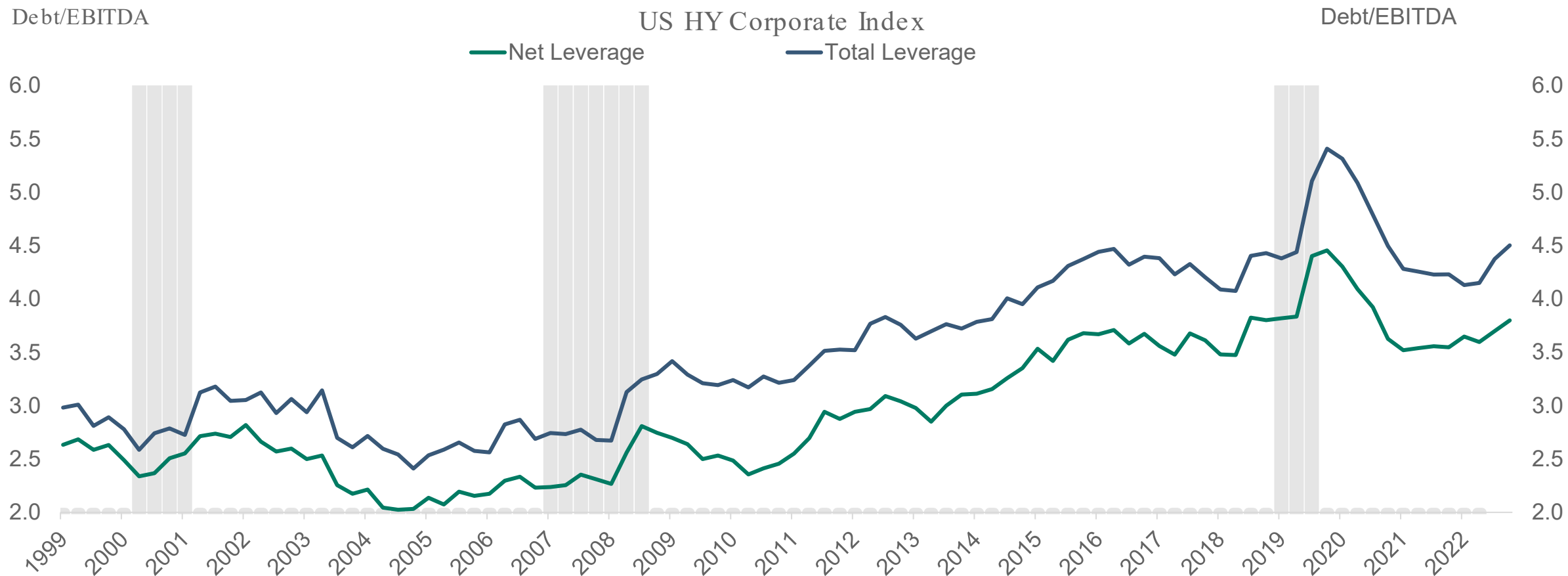


# IG leverage has come down after the pandemic



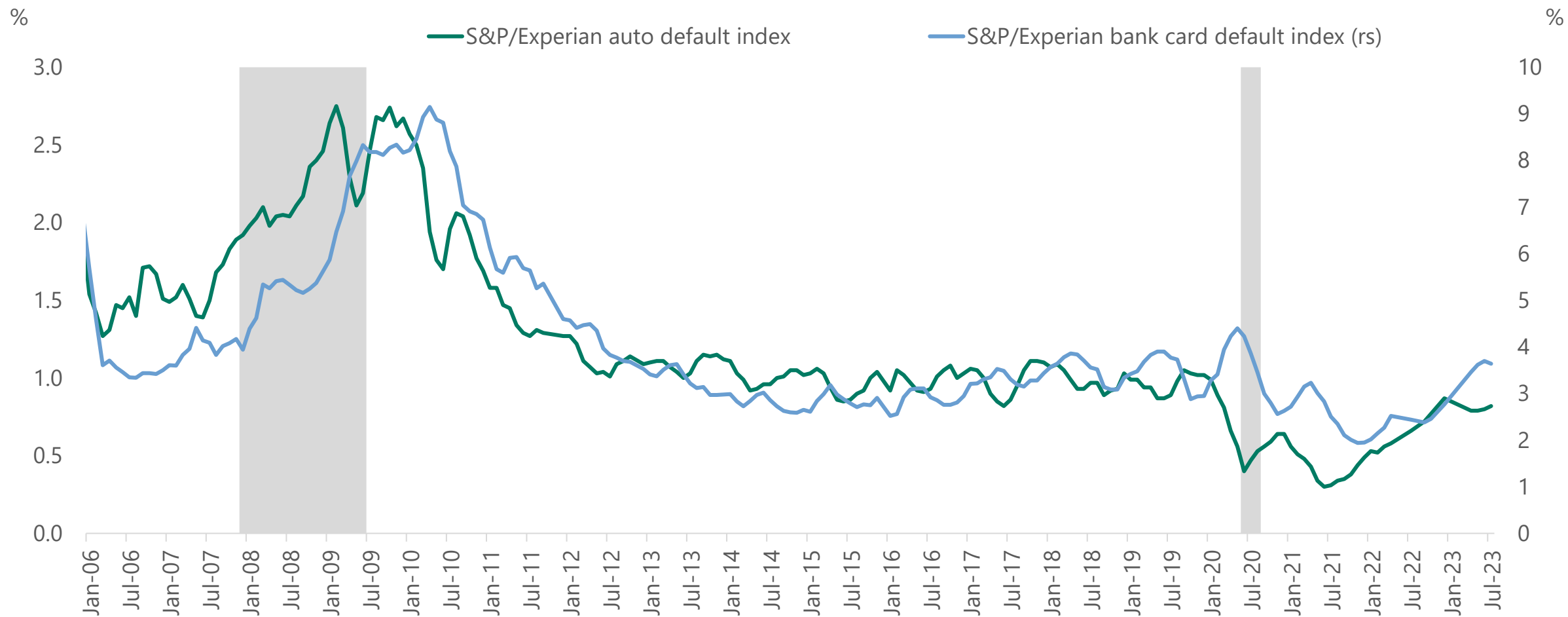
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Index used COA0 Index

# High yield leverage rising recently

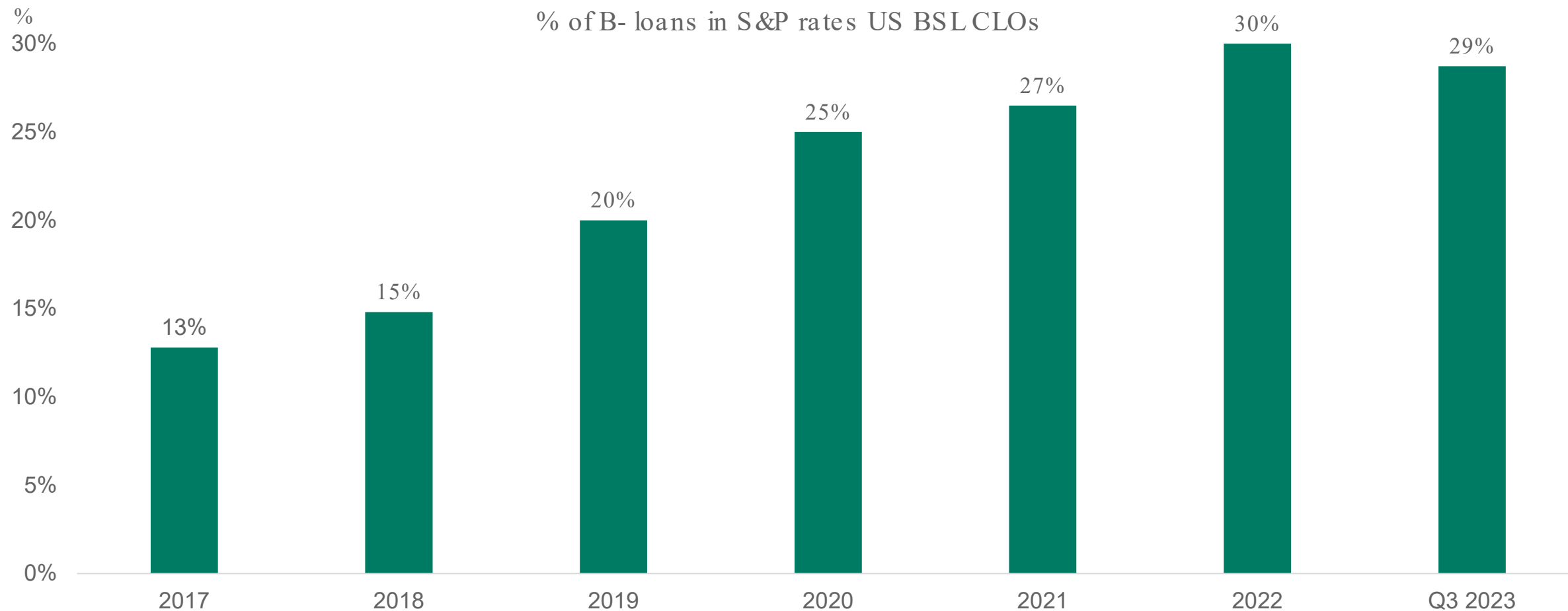


Source: Bloomberg, Apollo Chief Economist. Note: Median leverage for the bonds in H0A0 index

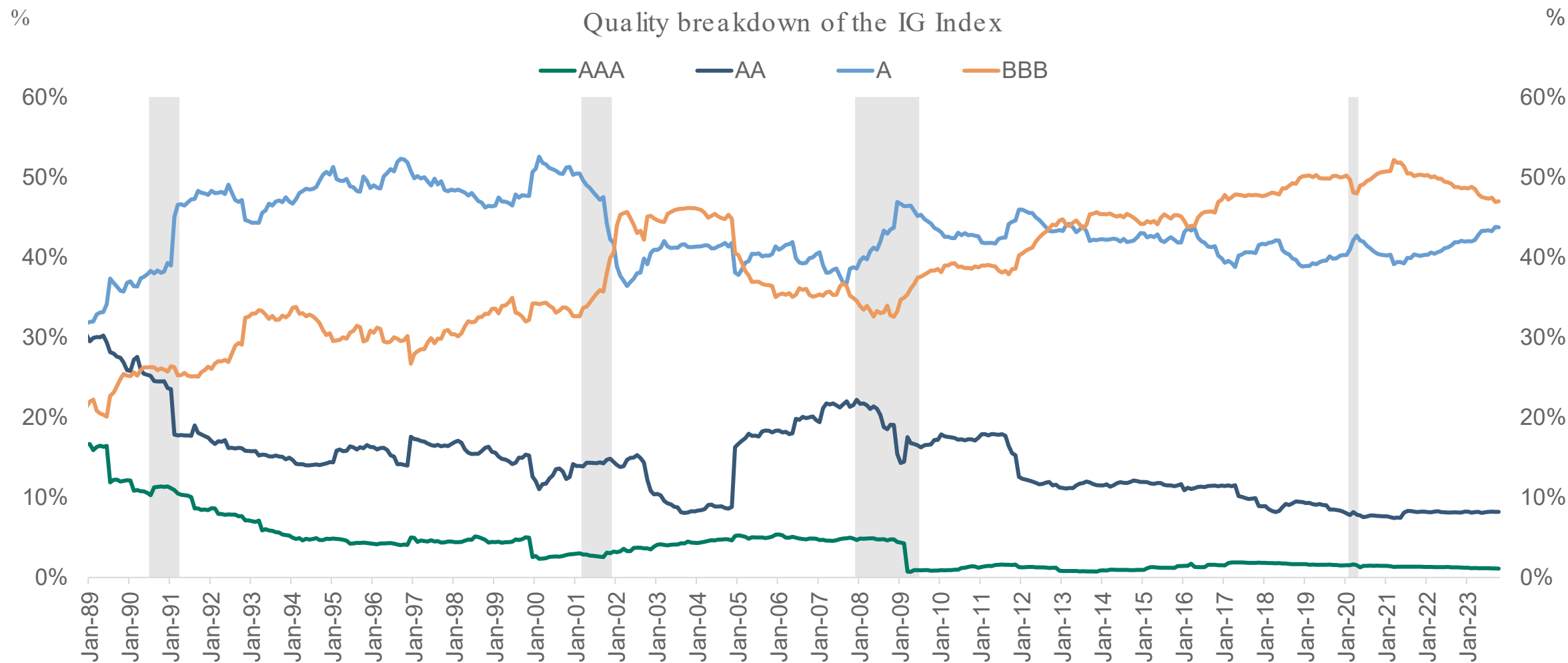
# Default rates for auto loans and credit cards moving higher



# 29% of the loans in the Morningstar LSTA Leveraged Loan Index are rated B-

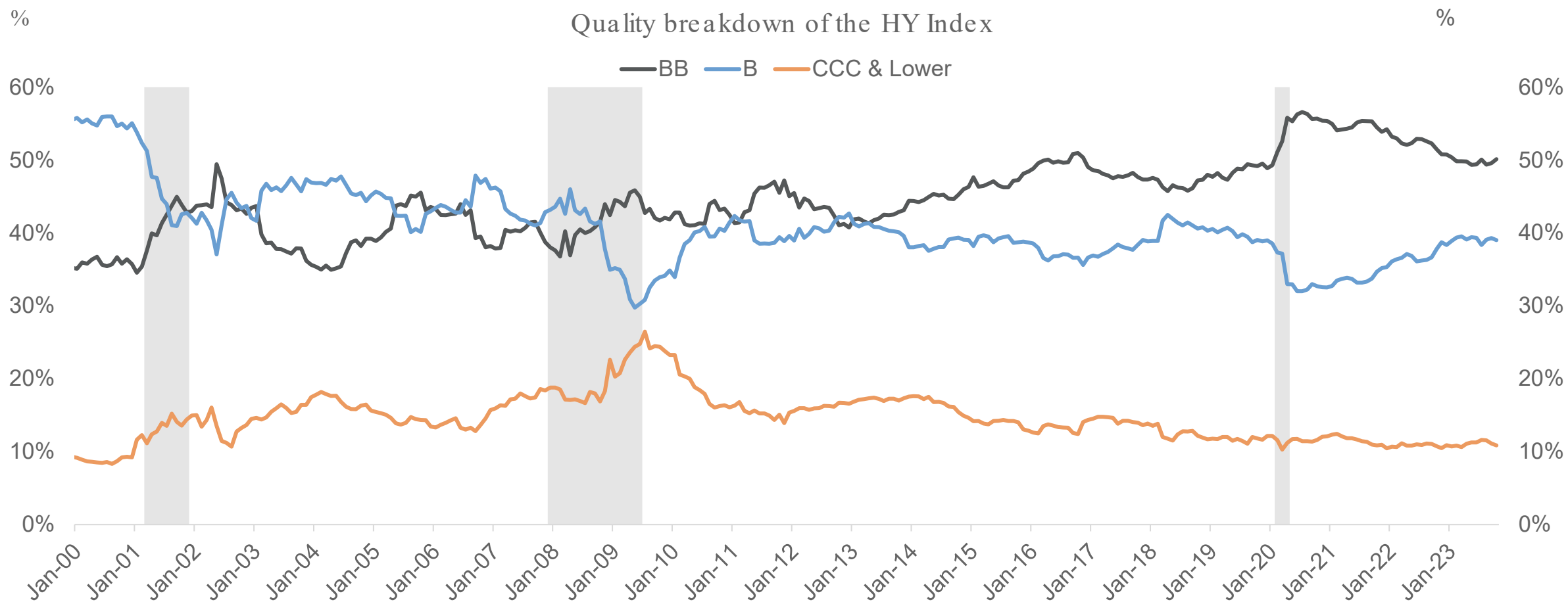


# Quality composition of the IG Index



Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Breakdown by market value. Data as of 31st October 2023

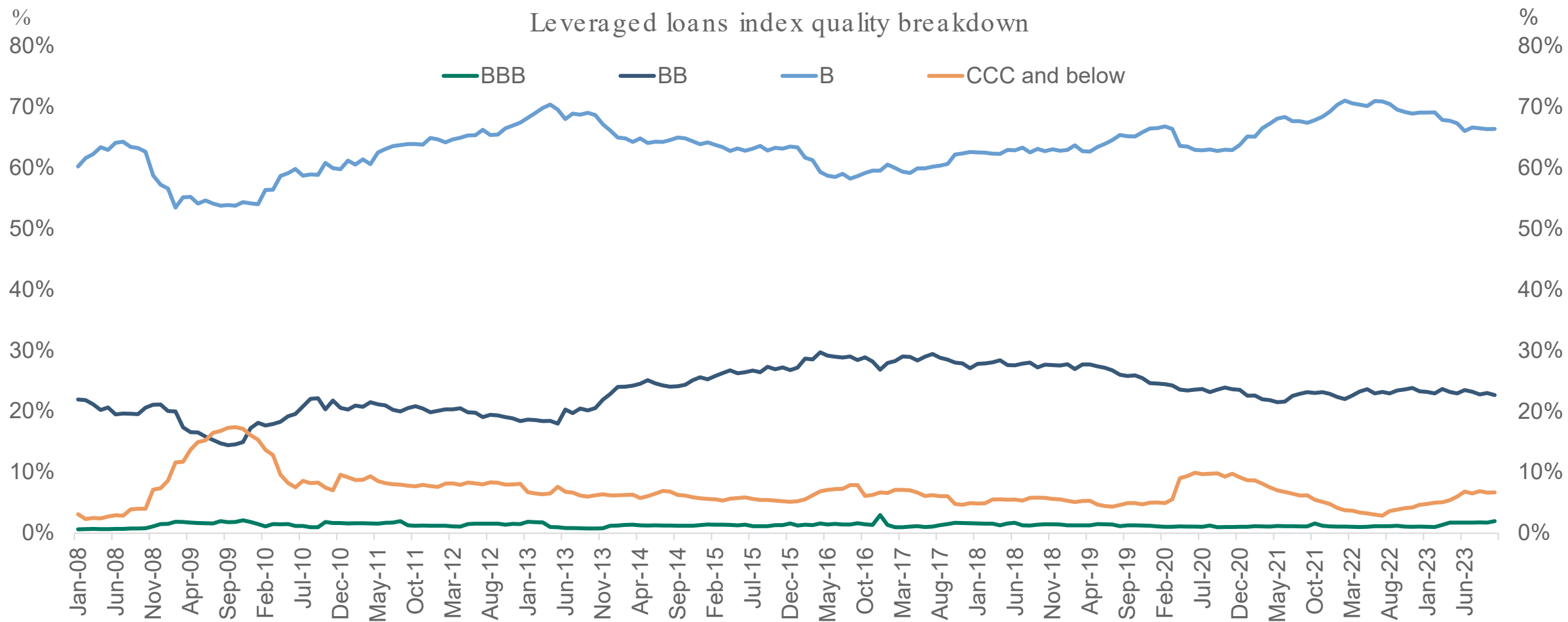
# Quality composition of the HY Index



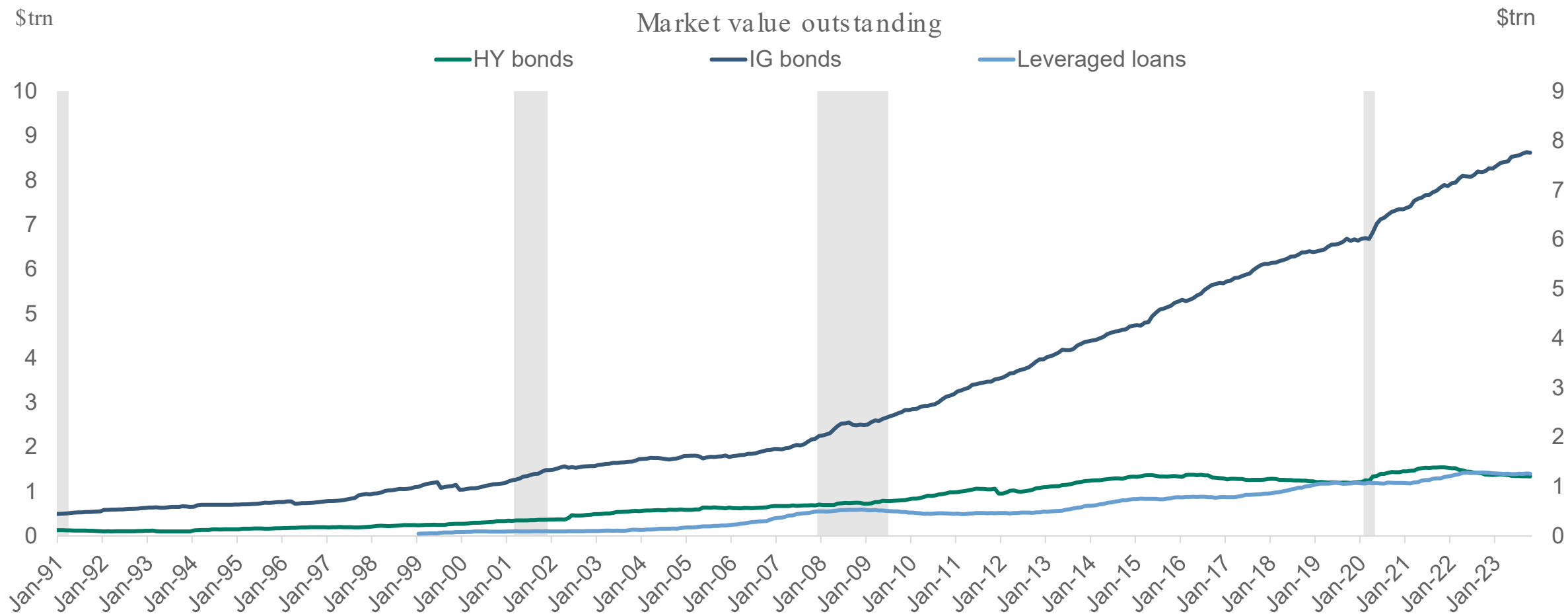
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Breakdown by market value. Data as of 31st October 2023



# Quality composition of the leveraged loans index

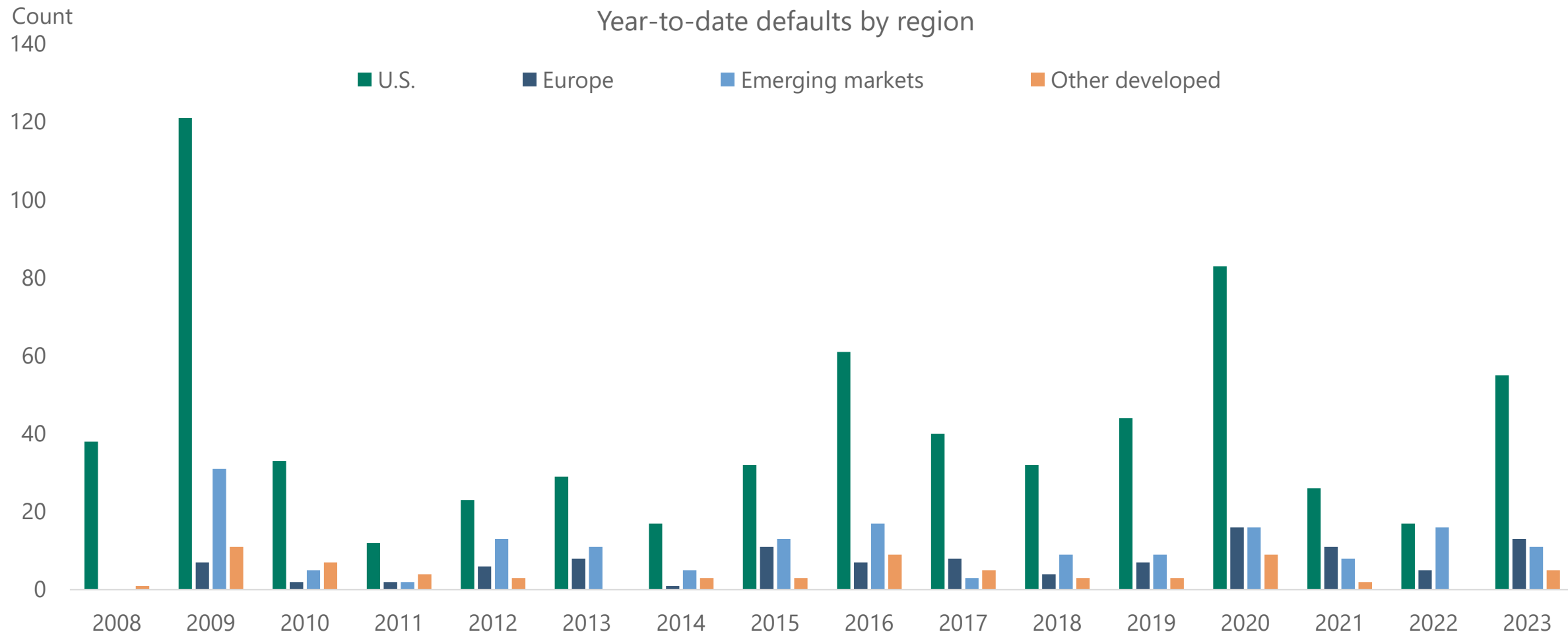


# IG market is eight times bigger than HY and eight times bigger than the loan market



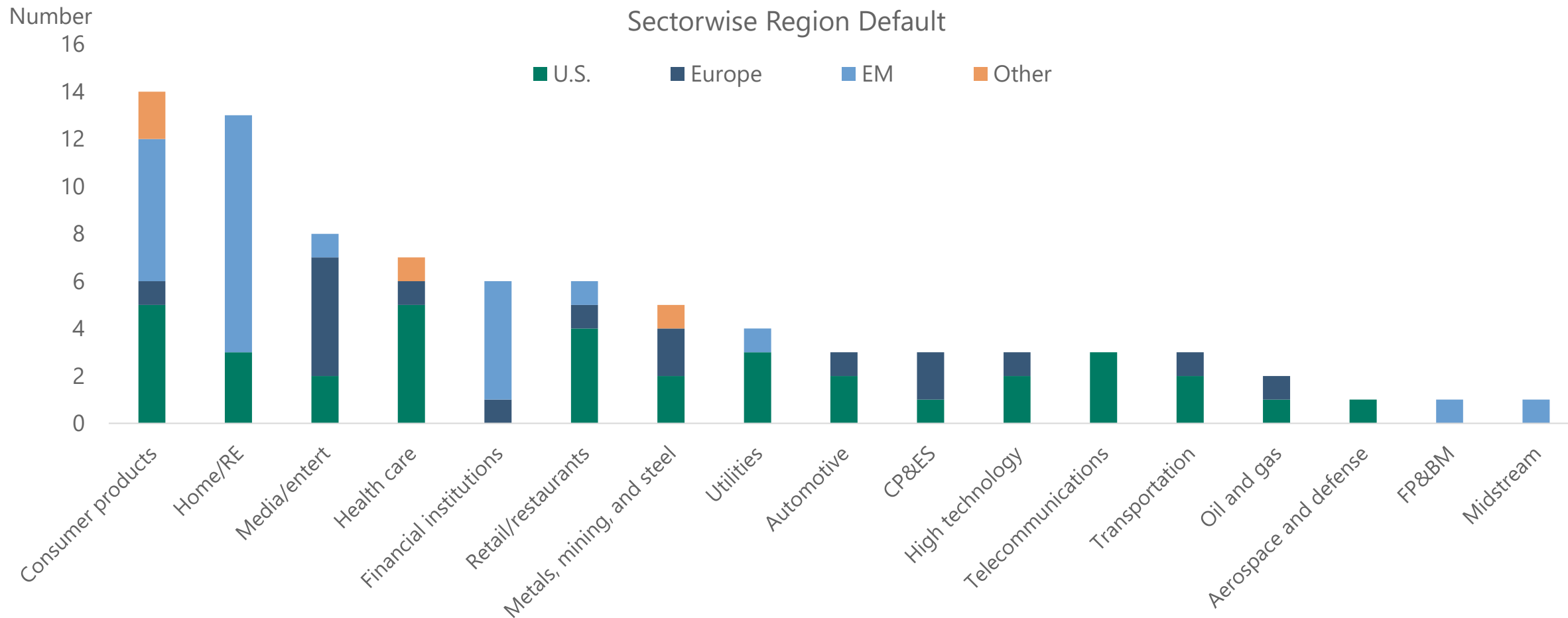
Source: ICE BofA, Bloomberg, Pitchbook LCD, Apollo Chief Economist. Note: Ticker used for HY is H0A0 Index and for IG it is C0A0 Index and for Loans it is SPBDALB Index.

# Global default rates rising in US and Europe

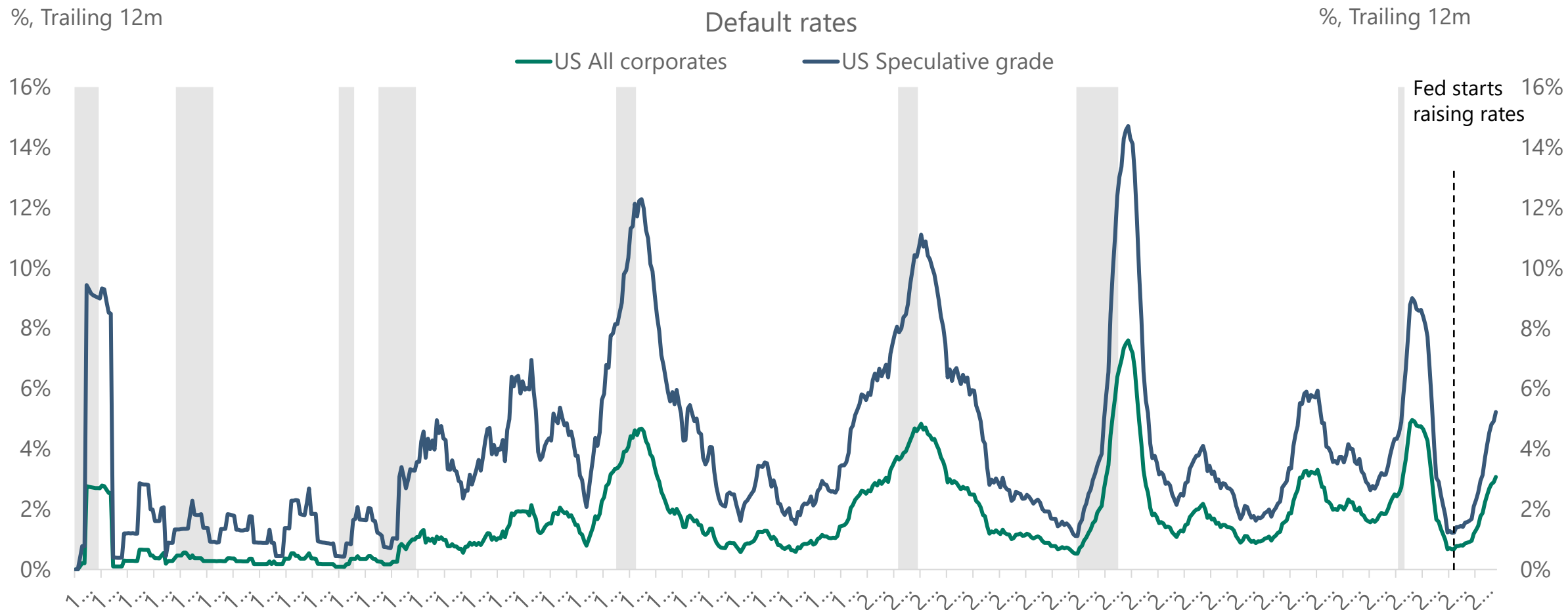


Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®, Apollo Chief Economist. Note: Data as of 30<sup>th</sup> June 2023

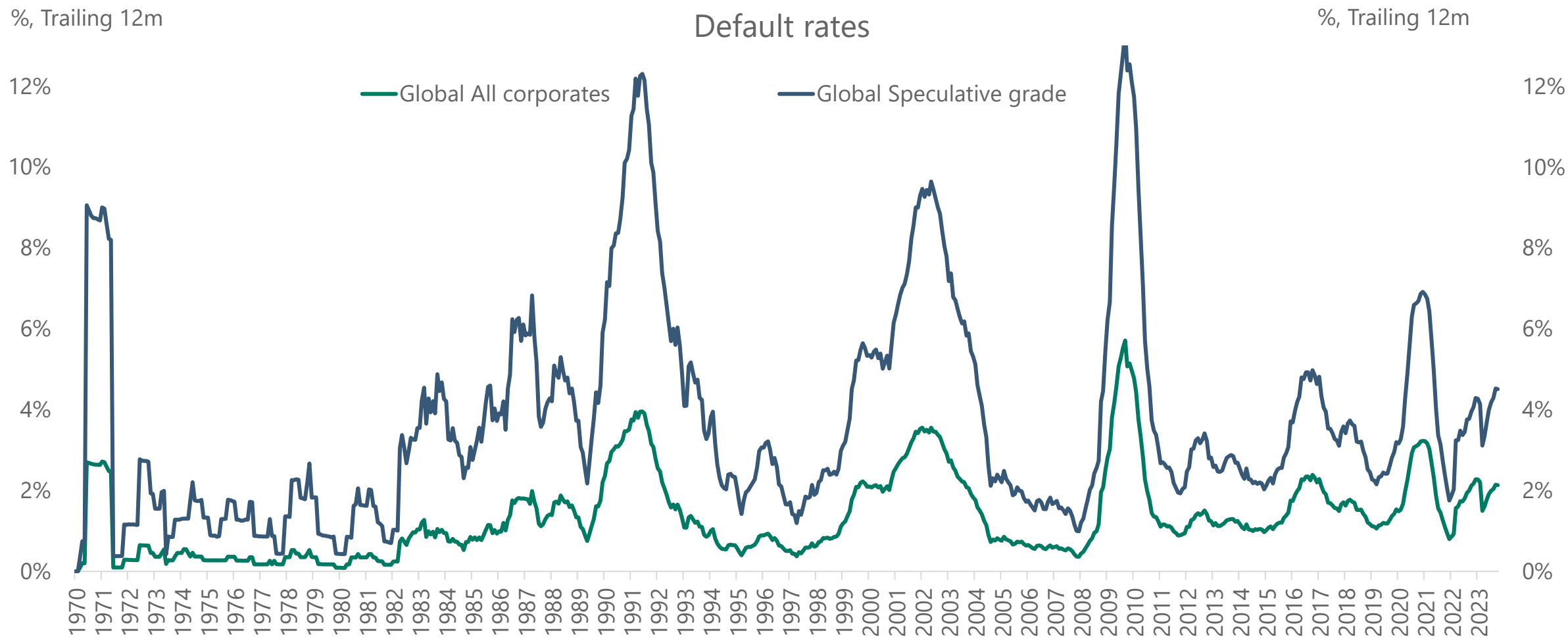
# Default rates differ across sectors



# A default cycle has started

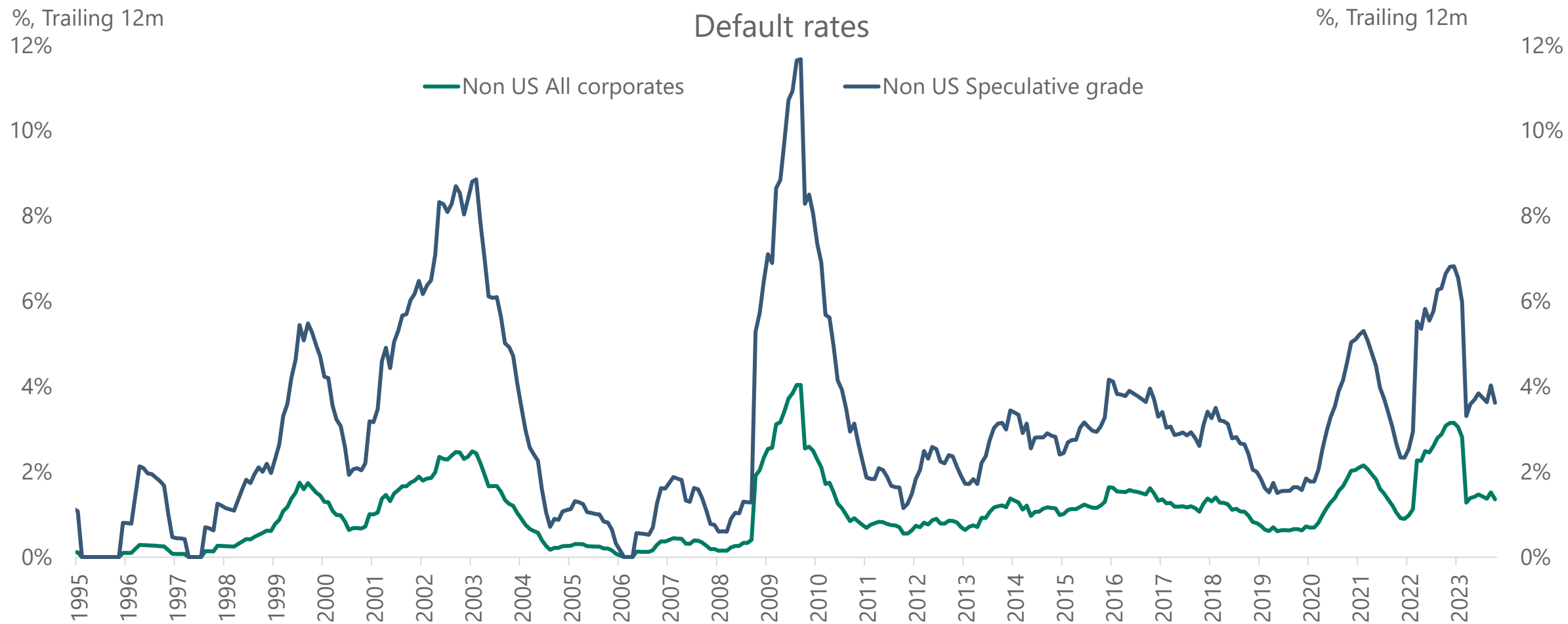


# Global corporate default rates



Source: Moody's Analytics, Apollo Chief Economist

# Non-US corporate default rates

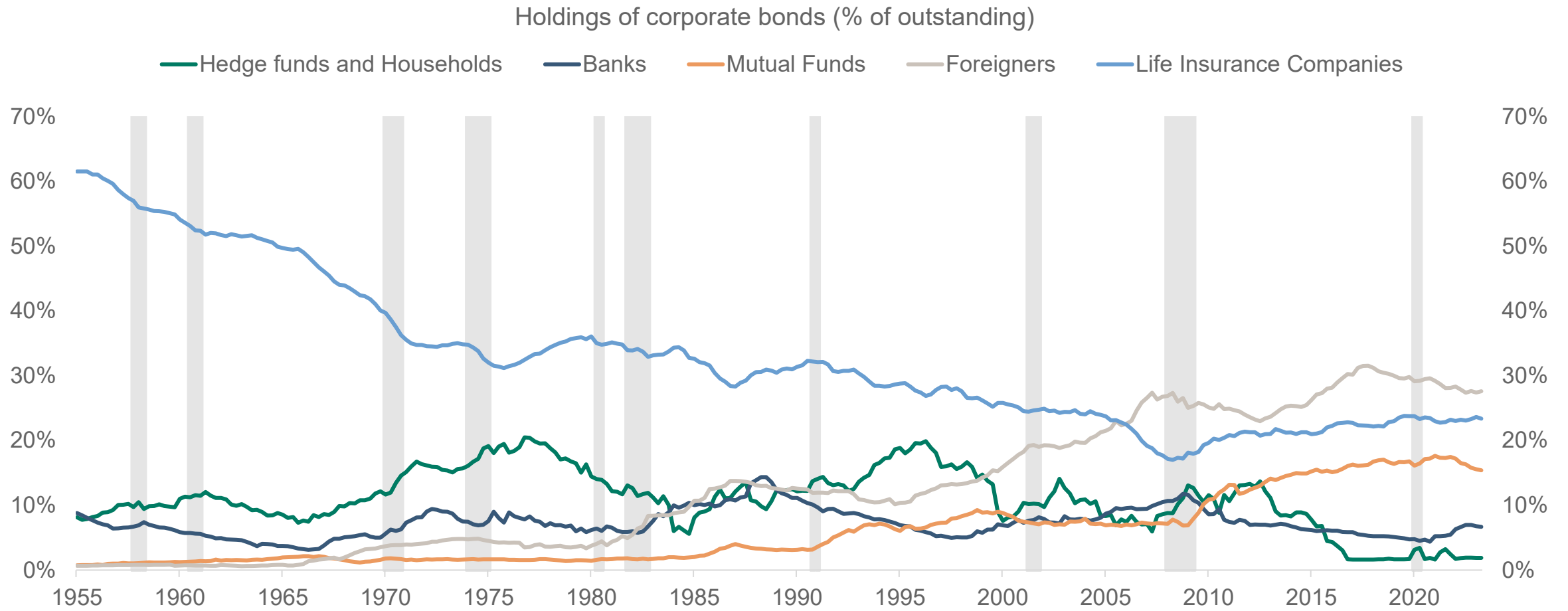


# Corporate bond holdings

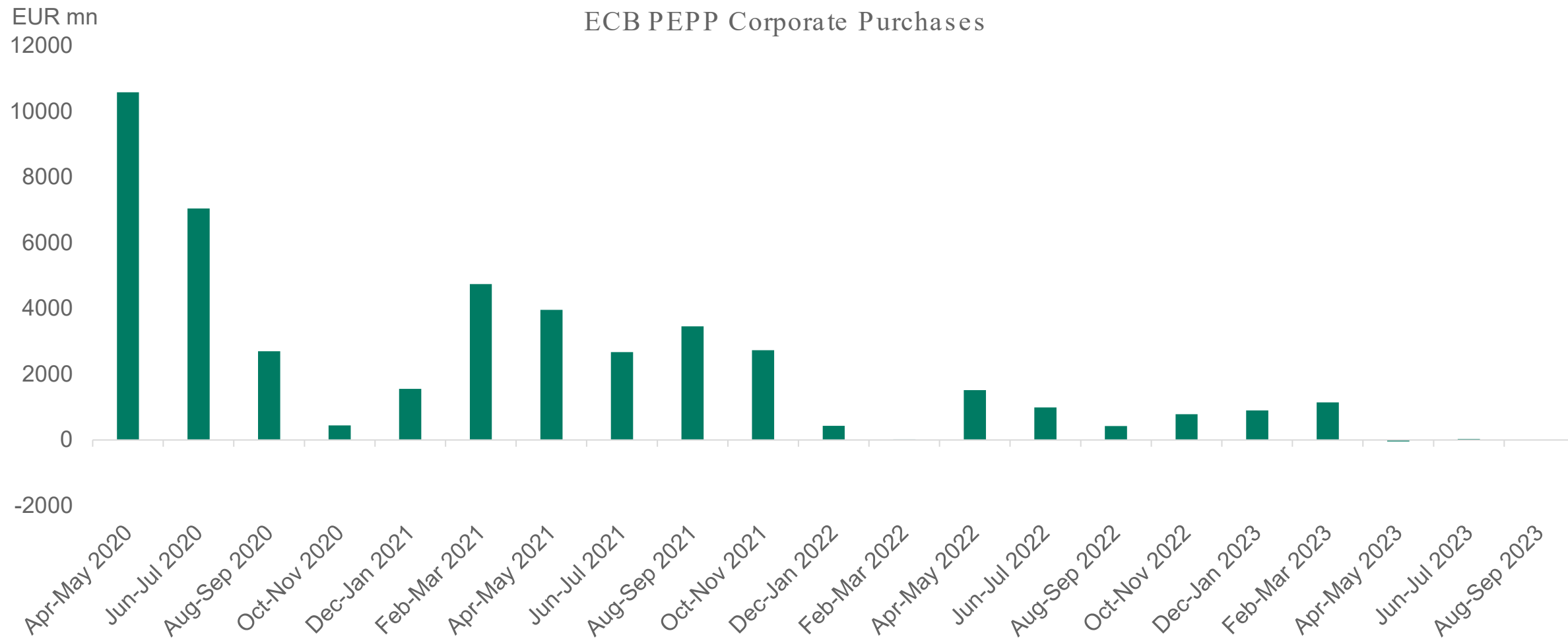




# The biggest holder of US corporate bonds is foreigners

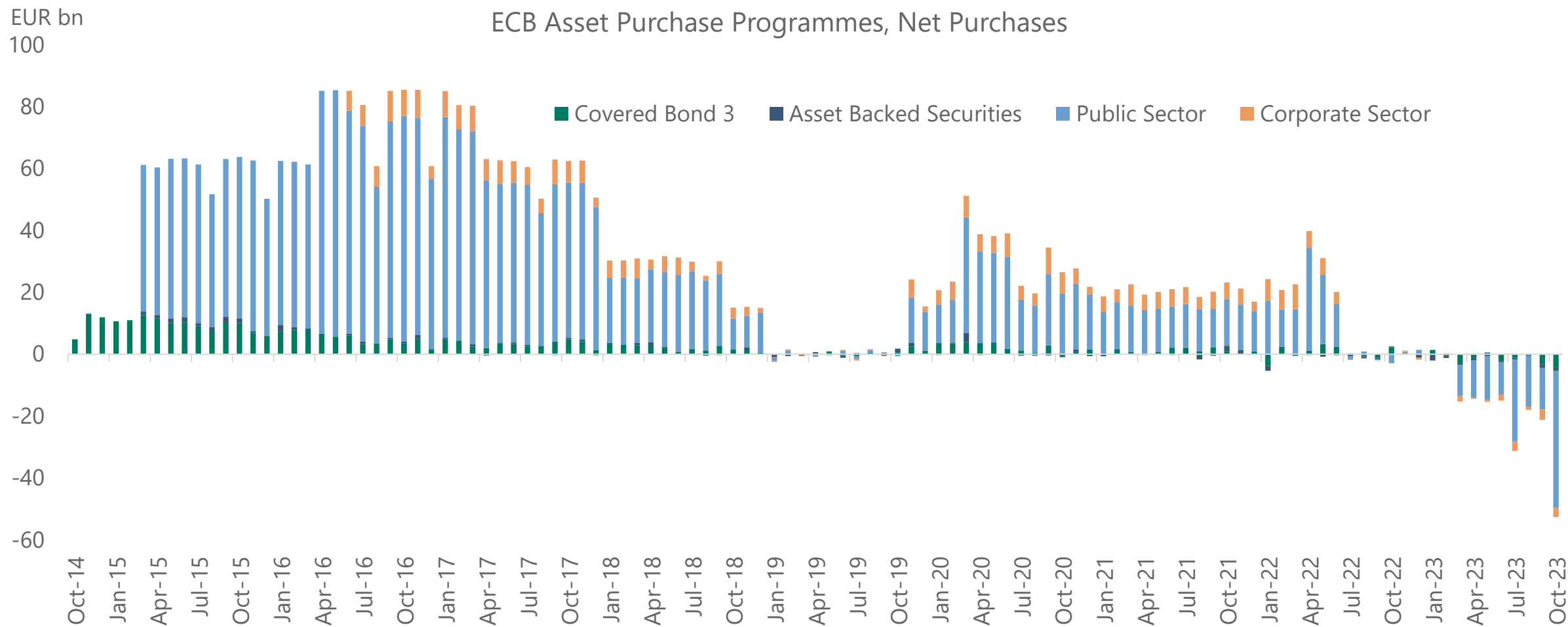


# ECB purchases of corporate bonds



Source: ECB, Bloomberg, Apollo Chief Economist

# ECB doing QT



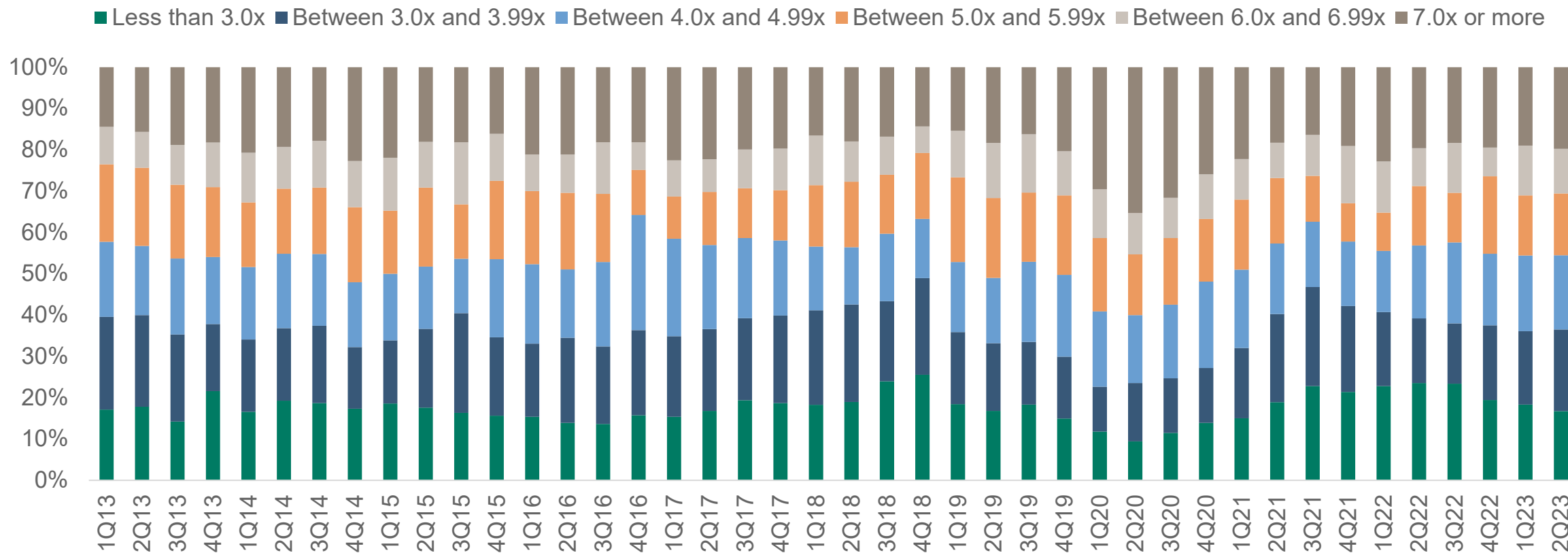
Source: ECB, Bloomberg, Apollo Chief Economist

Loans/CLOs



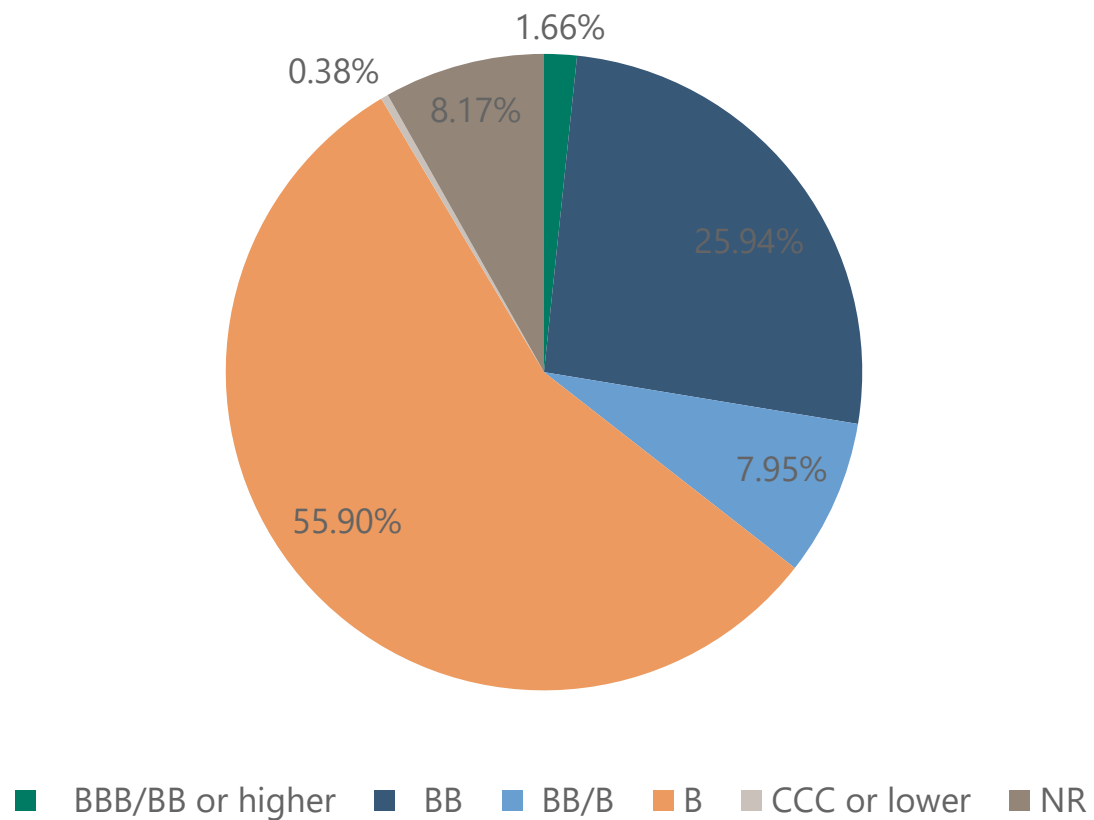
# Leveraged loan deals, by multiple

Share of leveraged deals



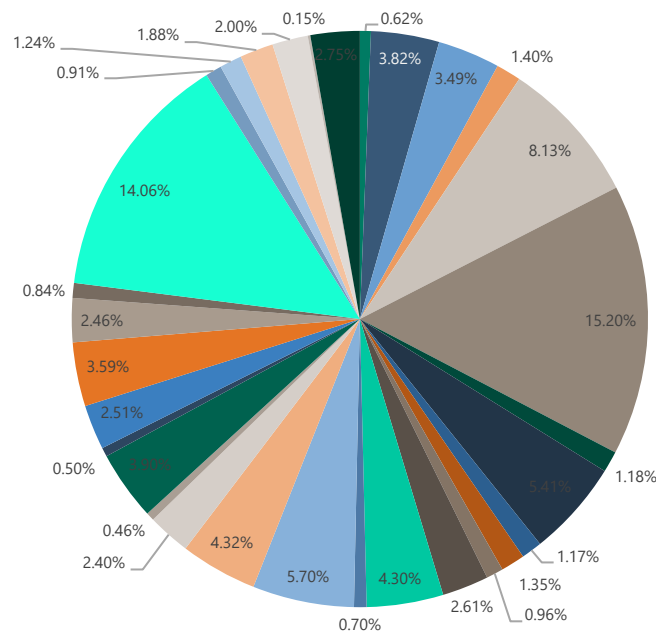
# Leveraged loans rating distribution, 2023Q3

US leveraged loan rating distribution



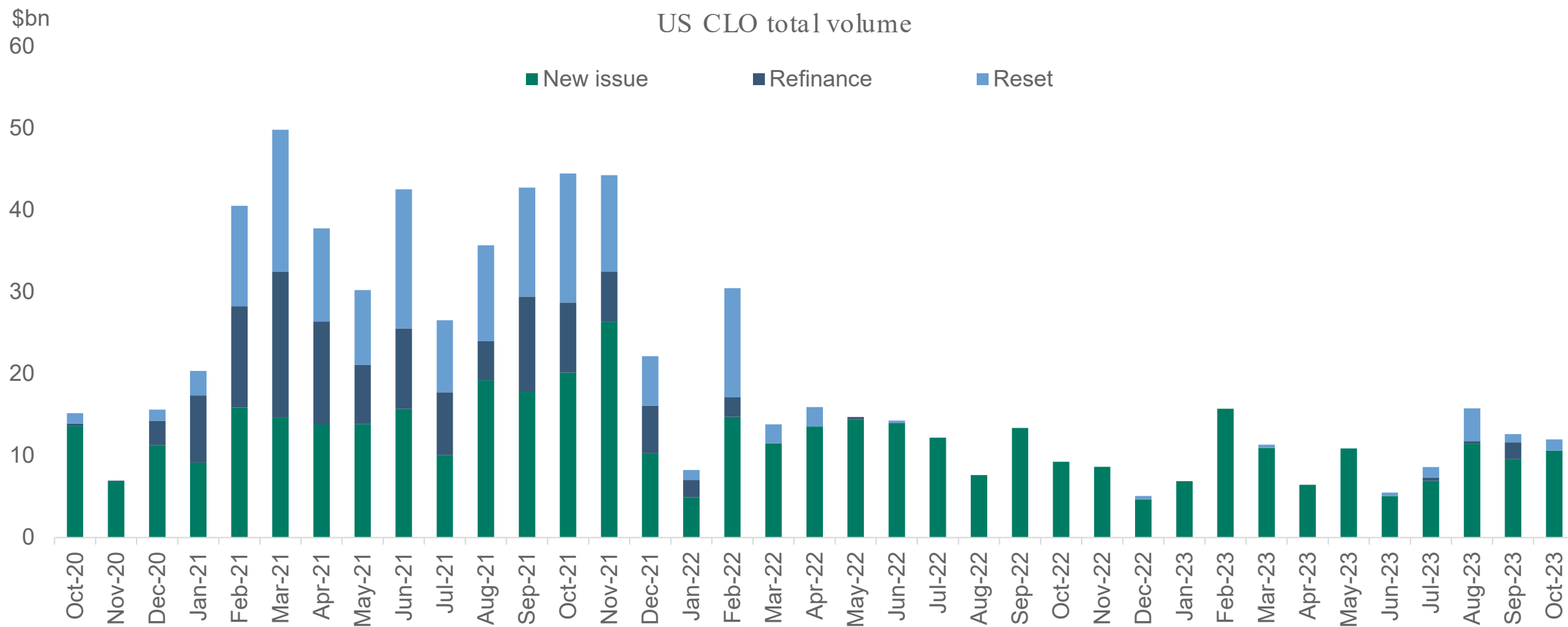
# Leveraged loans distribution, by industry, 2023Q3

US leveraged loan industry distribution



- Aerospace & Defense
- Automotive
- Building Materials
- Cable
- Chemicals
- Computers & Electronics
- Consumer Nondurables
- Entertainment & Leisure
- Environmental
- Food & Beverage
- Forest Product
- Gaming & Hotel
- Healthcare
- Home Furnishings
- Insurance
- Manufacturing & Machinery
- Metals & Mining
- Not for Profit
- Oil & Gas
- Printing & Publishing
- Real Estate
- Restaurants
- Retail
- Retail Food & Drug
- Services & Leasing
- Telecom
- Telecom Equipment
- Textile & Apparel
- Transportation
- TV
- Utilities

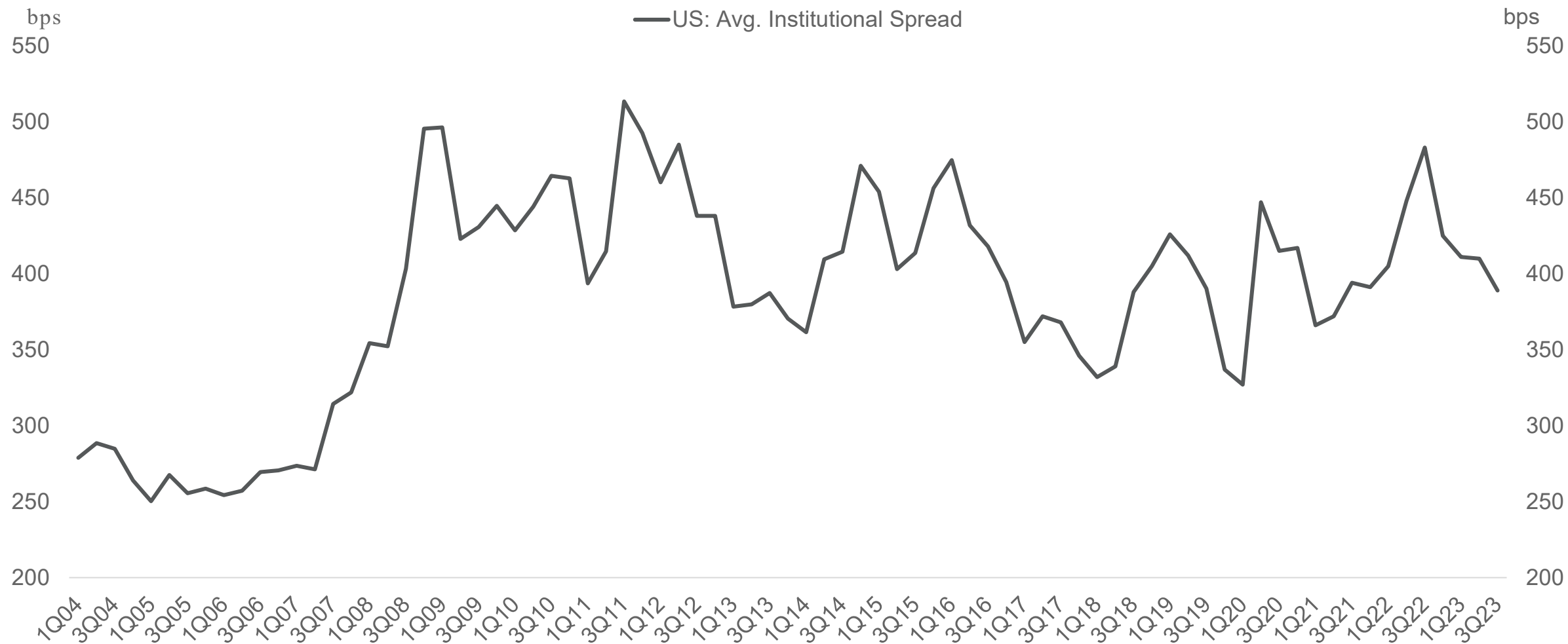
# US CLO total volume



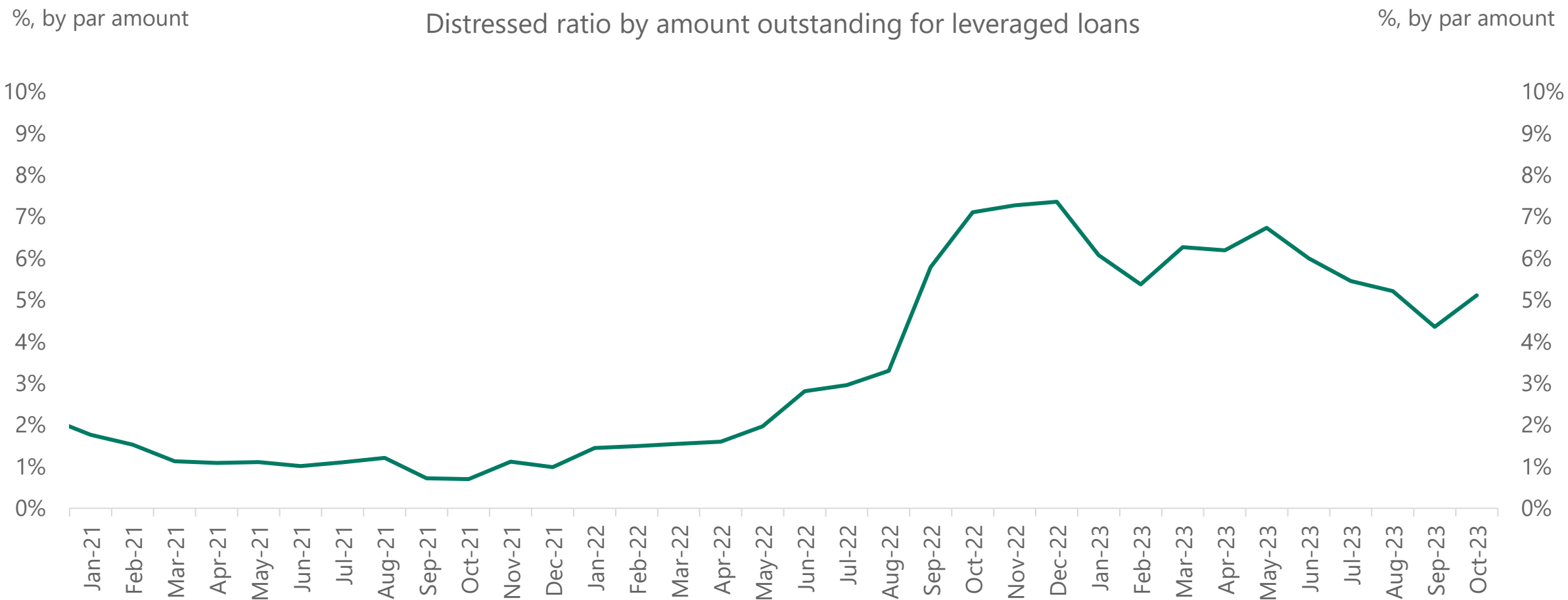
Source: Pitchbook LCD, Apollo Chief Economist.



# Loans: Institutional spread relative to bespoke loans

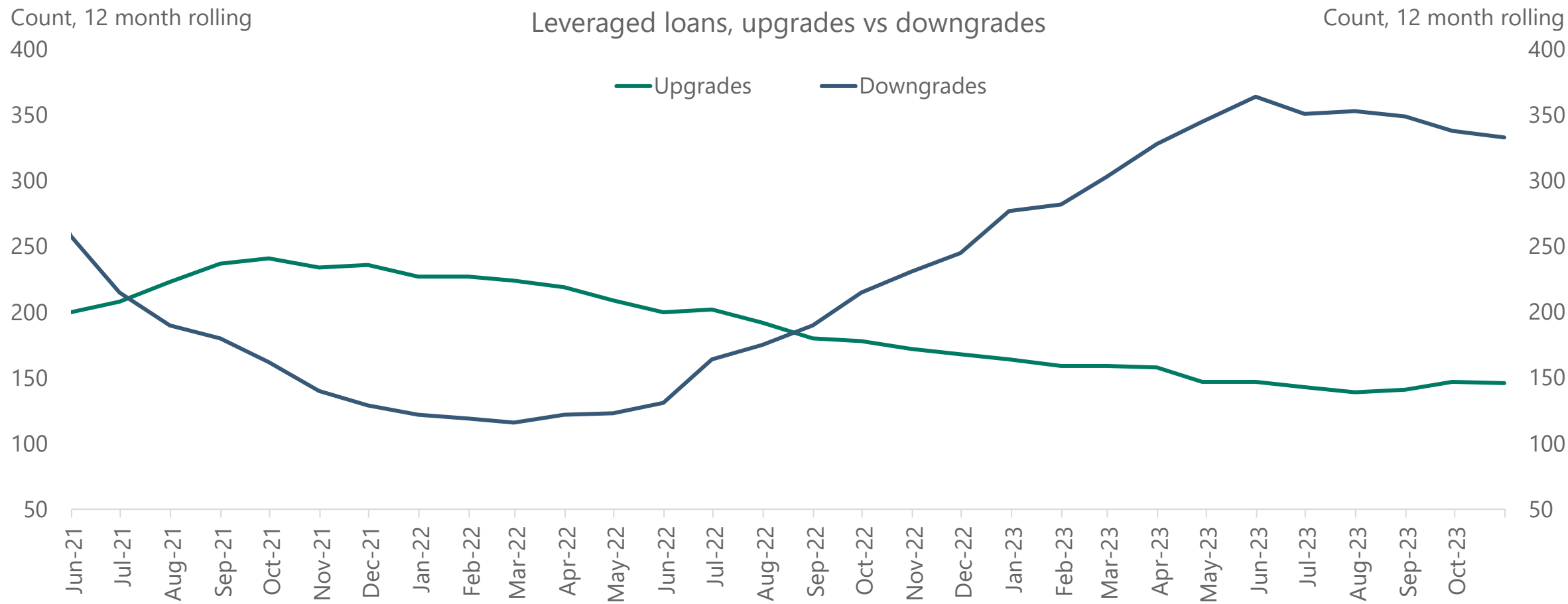


# Distressed ratio for leveraged loans has risen



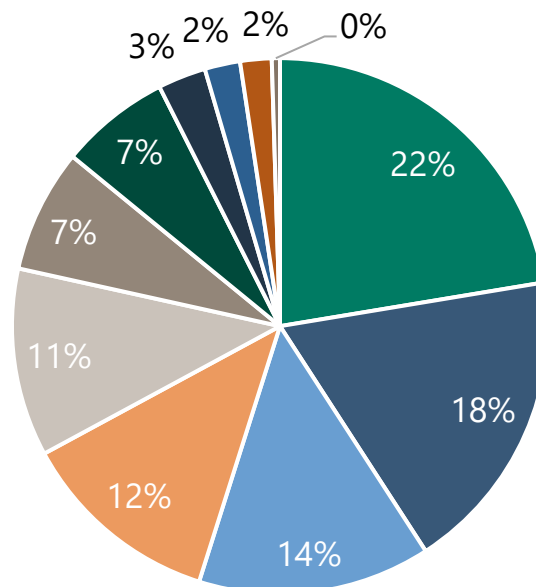
Source: Pitchbook LCD, Apollo Chief Economist. Note: For percent loans priced below 80

# More downgrades than upgrades



# Leveraged loans index weights

Morningstar leveraged loans index weights

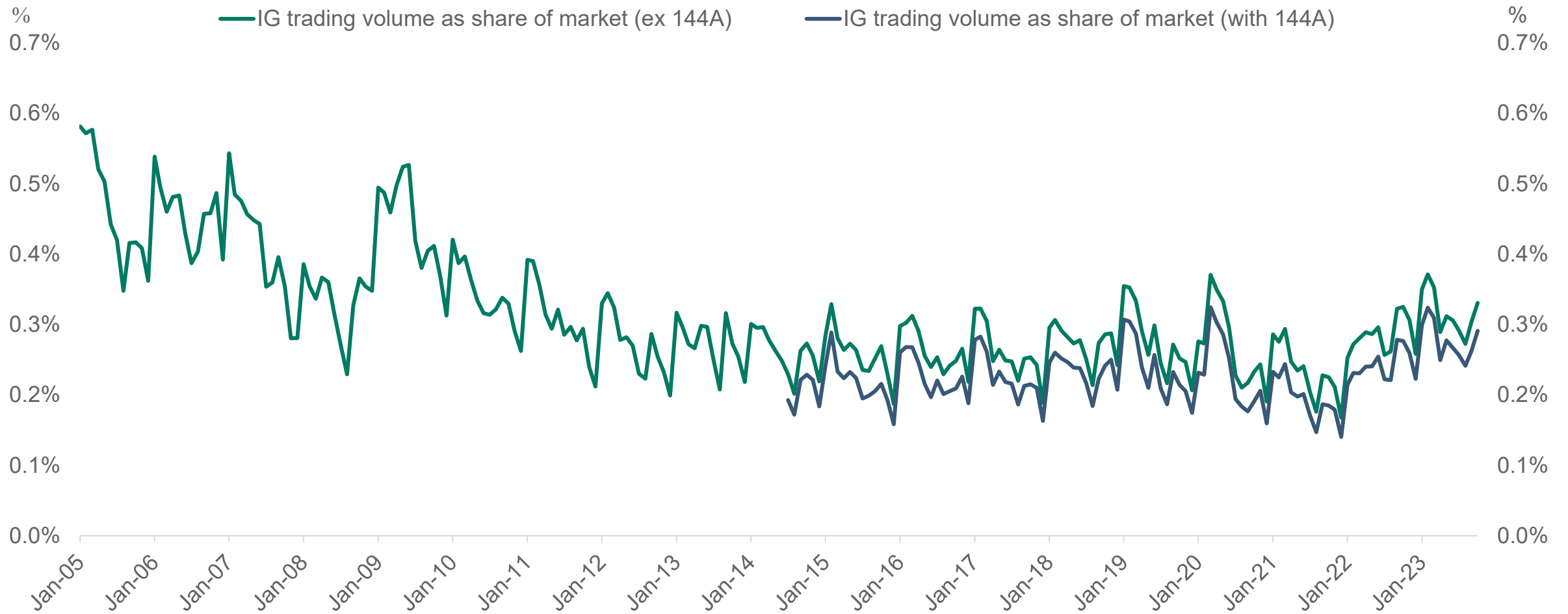


- Industrials
- Information Technology
- Consumer Discretionary
- Health Care
- Communication Services
- Materials
- Financials
- Consumer Staples
- Utilities
- Energy
- Real Estate

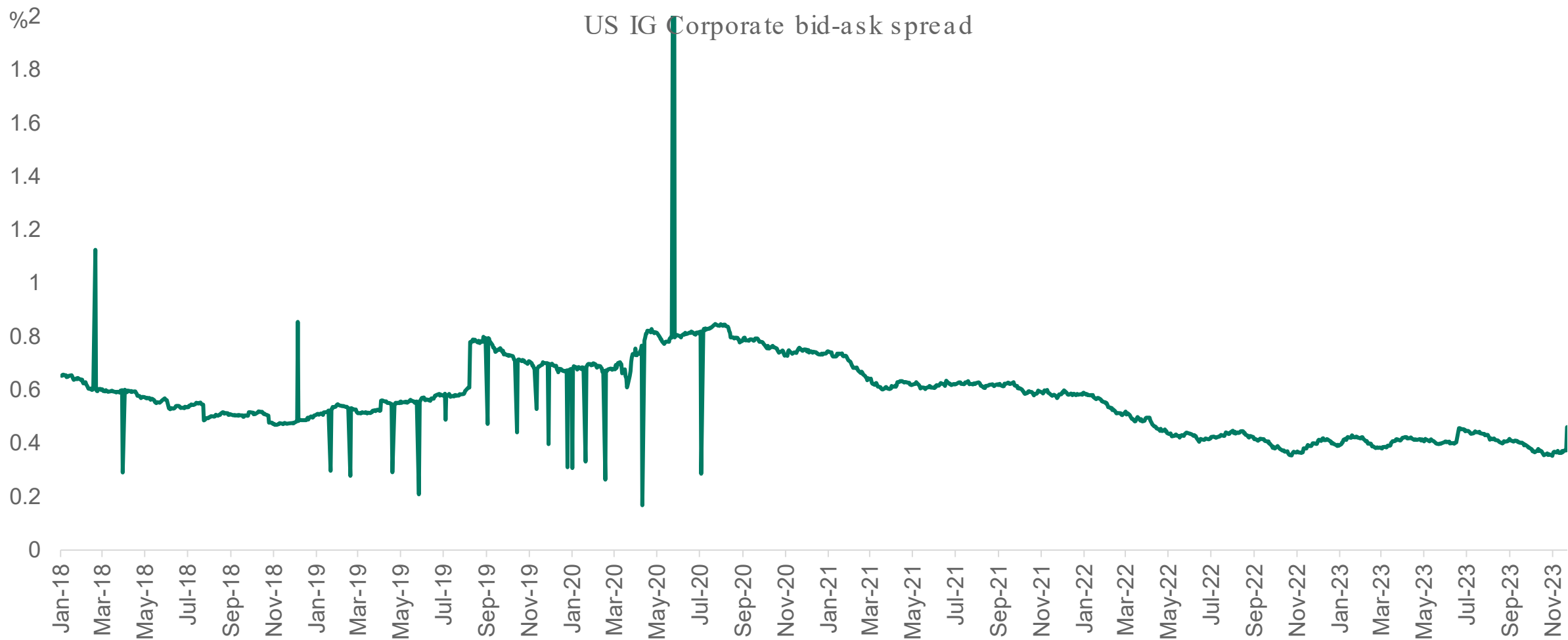
# Liquidity in US credit markets



# IG trading liquidity

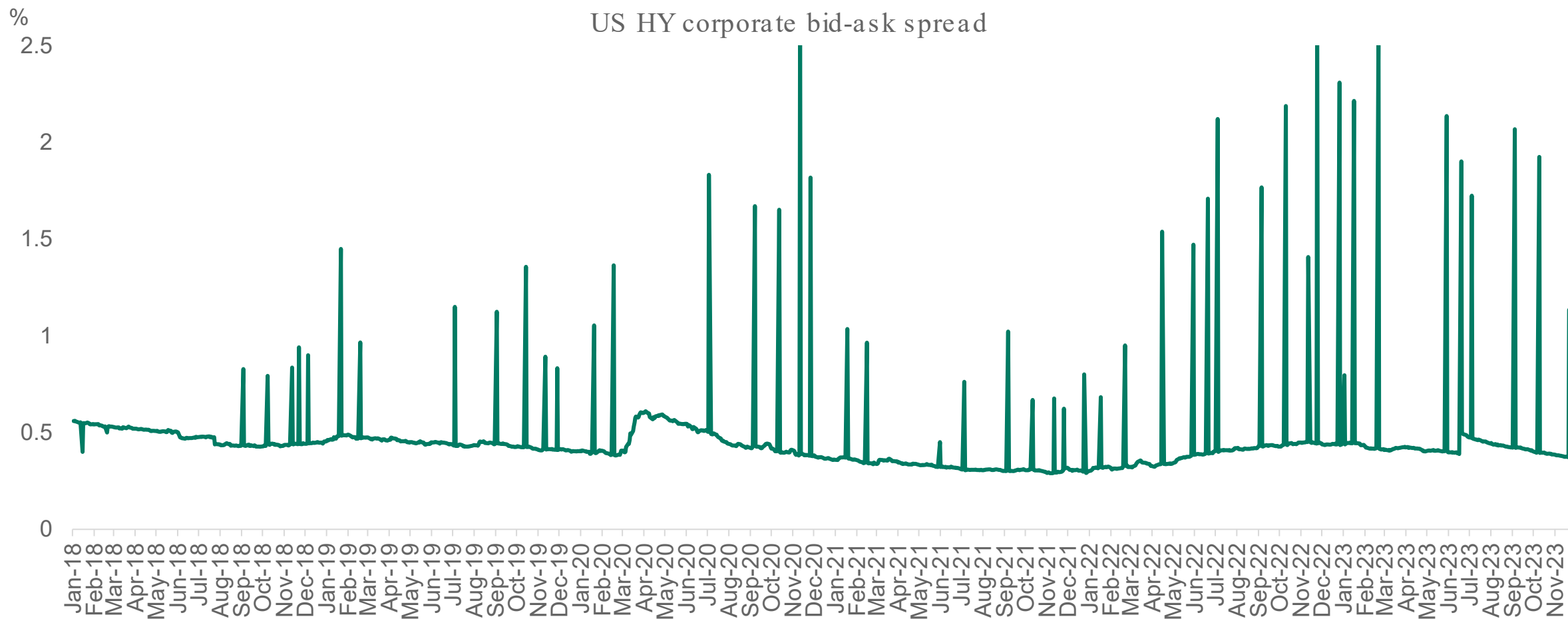


# Bid-ask spread for US IG



Source: Bloomberg, Apollo Chief Economist. Note: The bid-ask spread is the weighted average of Bloomberg Barclays US IG Index

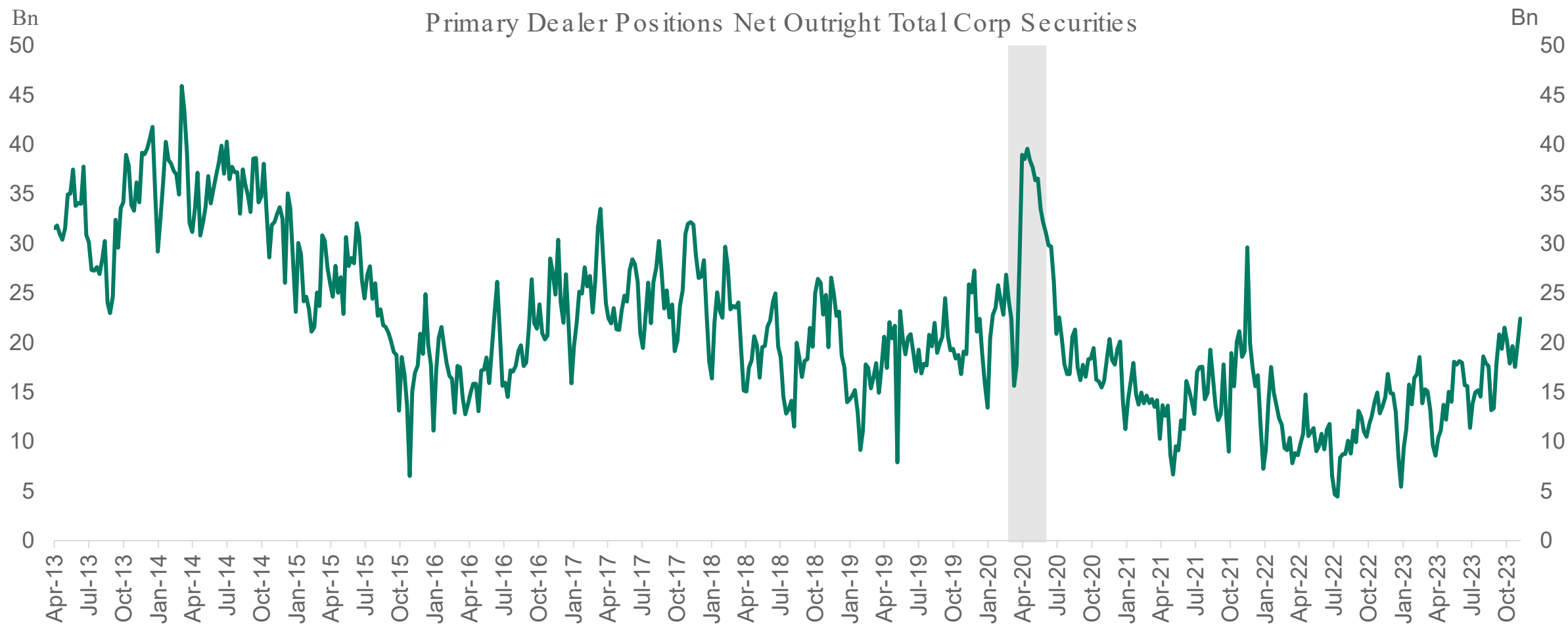
# Bid-ask spread for US HY



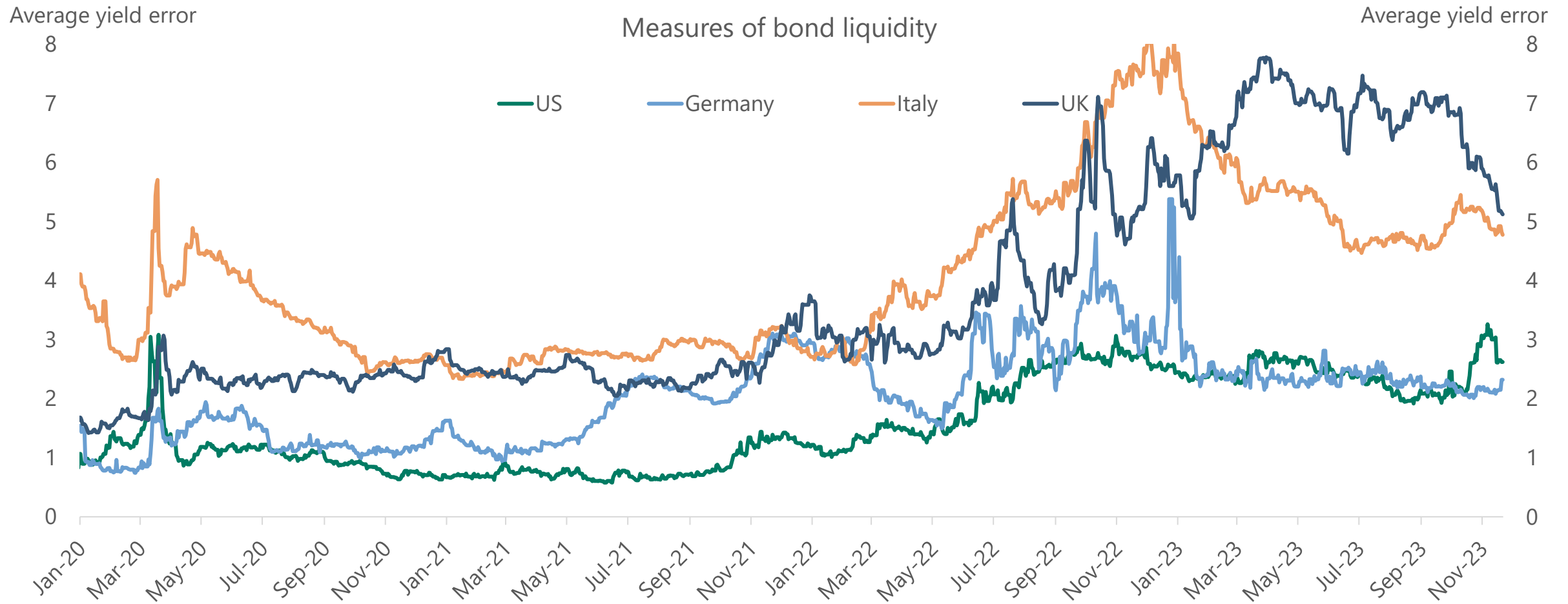
Source: Bloomberg, Apollo Chief Economist. Note: The bid-ask spread is the weighted average of Bloomberg Barclays US HY Index



# Dealer inventory of corporate bonds (IG+HY)

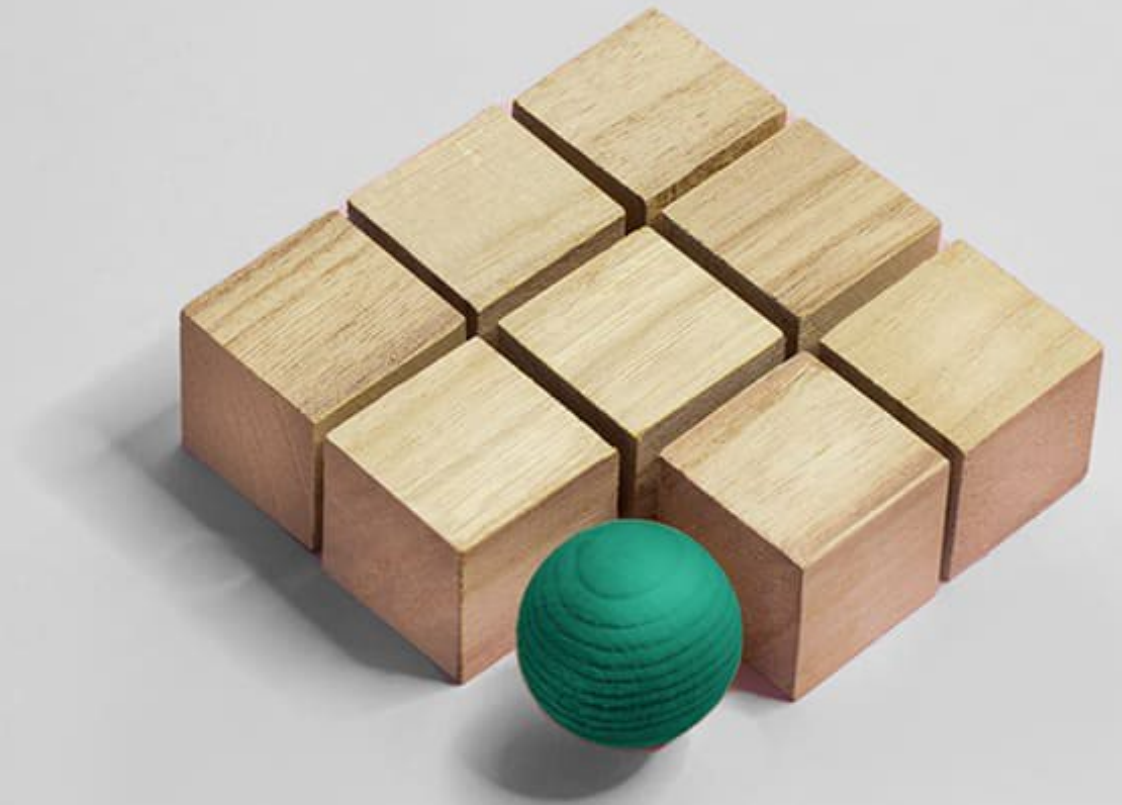


# Worse liquidity in the UK bond market



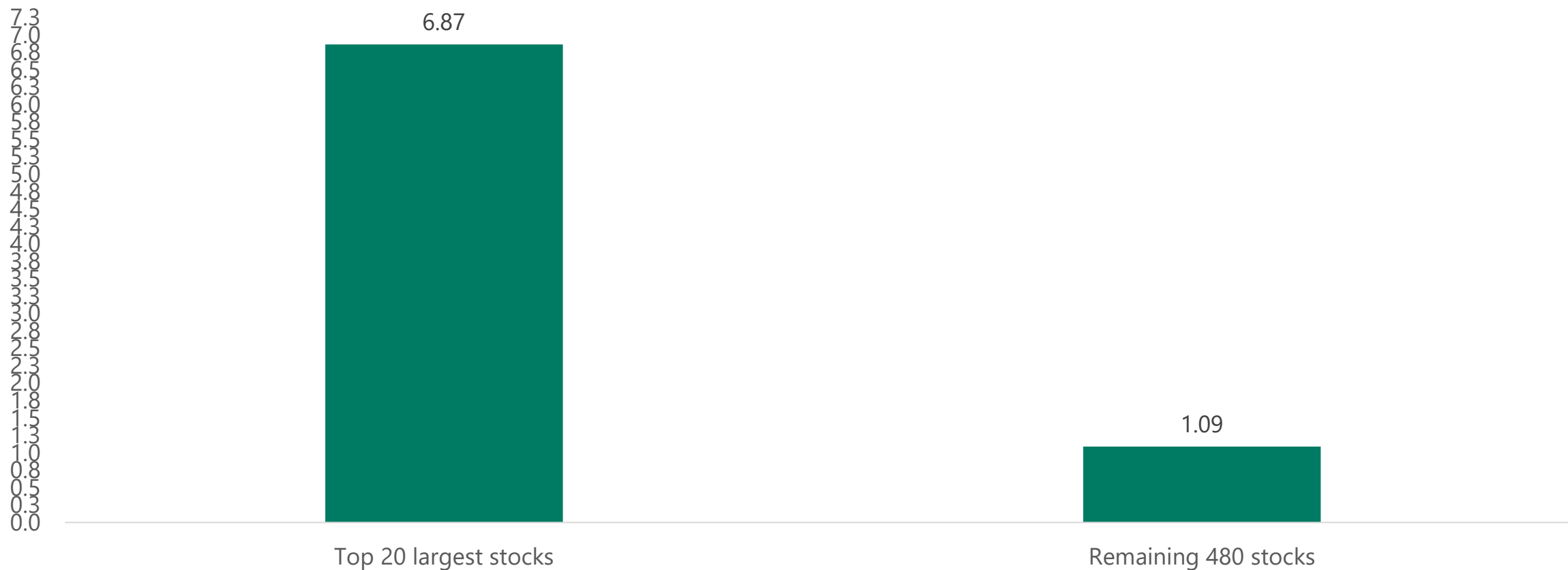
Source: Bloomberg, Apollo Chief Economist. Note: The index displays the average yield error across the universe of government notes and bonds with remaining maturity 1-year or greater, based off the intra-day Bloomberg relative value curve fitter. When liquidity conditions are favorable the average yield errors are small as any dislocations from fair values are normalized within a short time frame. Average yield error is defined as an aggregate measure for dislocations in Treasury securities across the curve.

# Market technicals

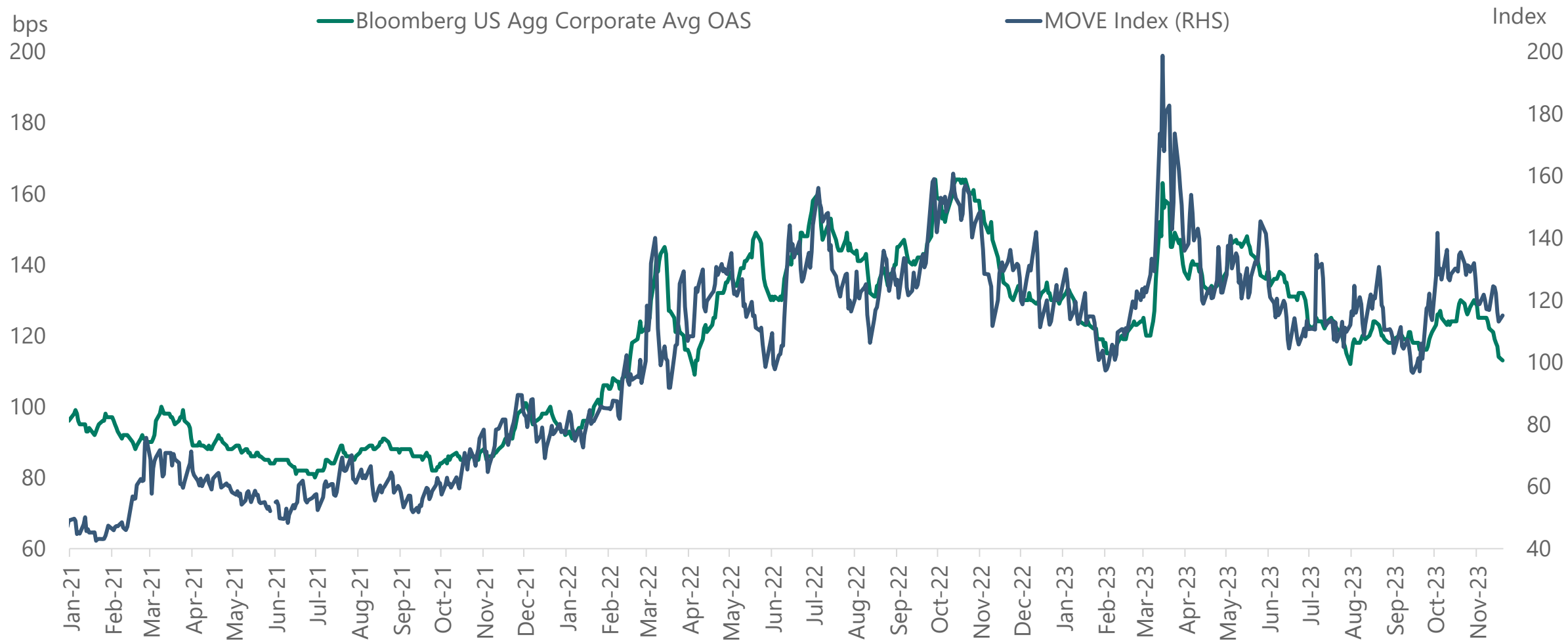


# 2023: Not a broad-based rally in the S&P500

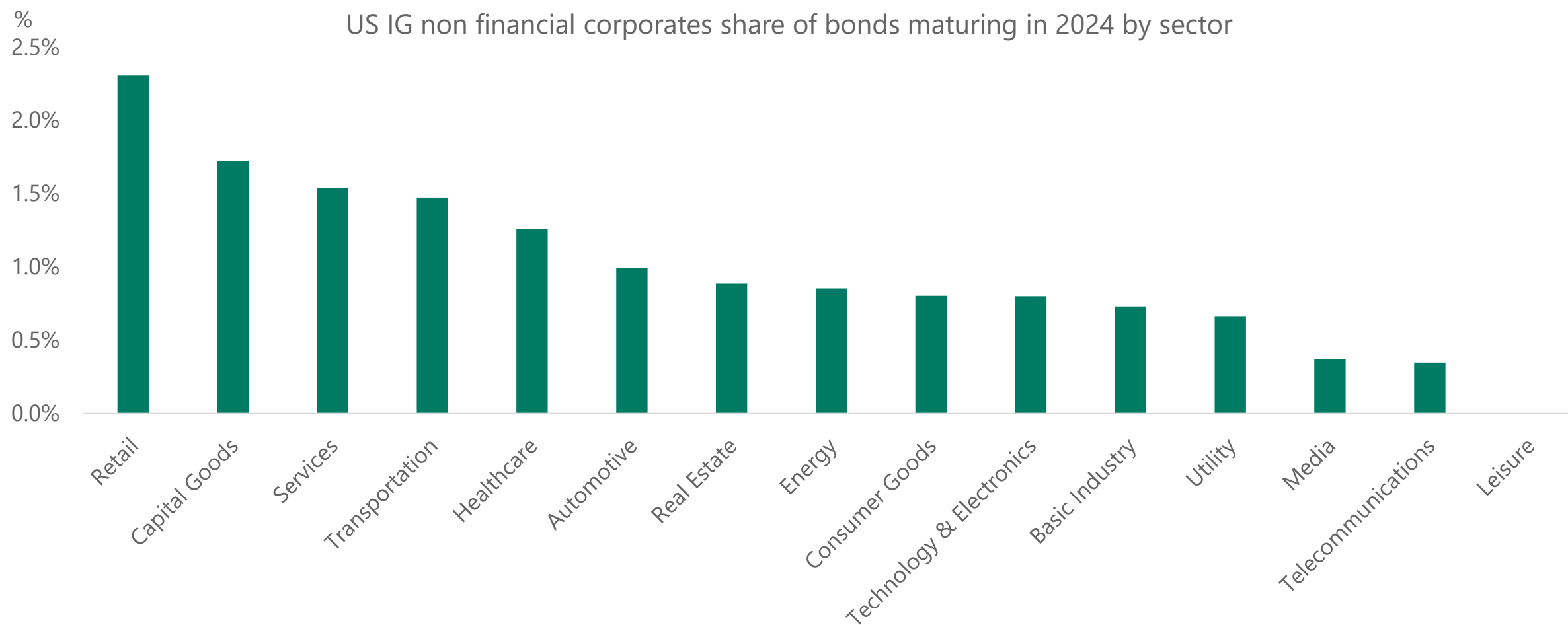
\$ trn S&P 500: Market Cap change YTD, in \$trn



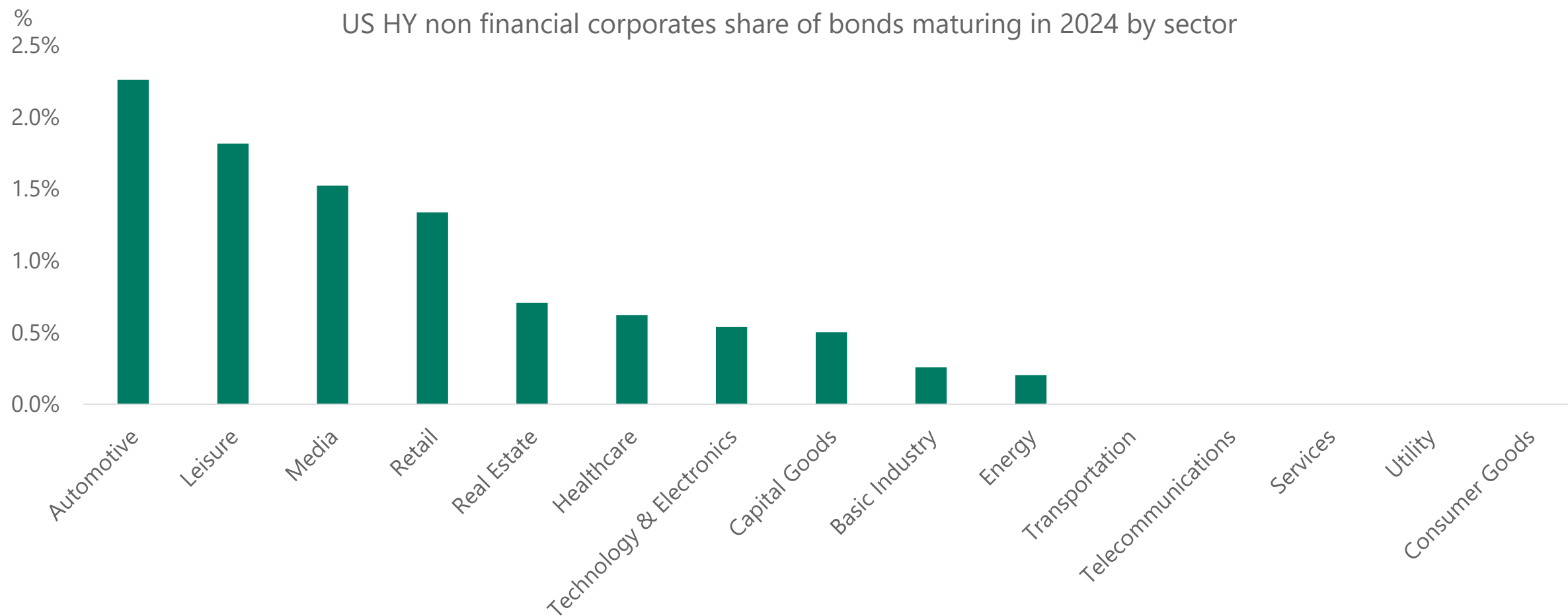
# US IG spread highly correlated with implied rates vol



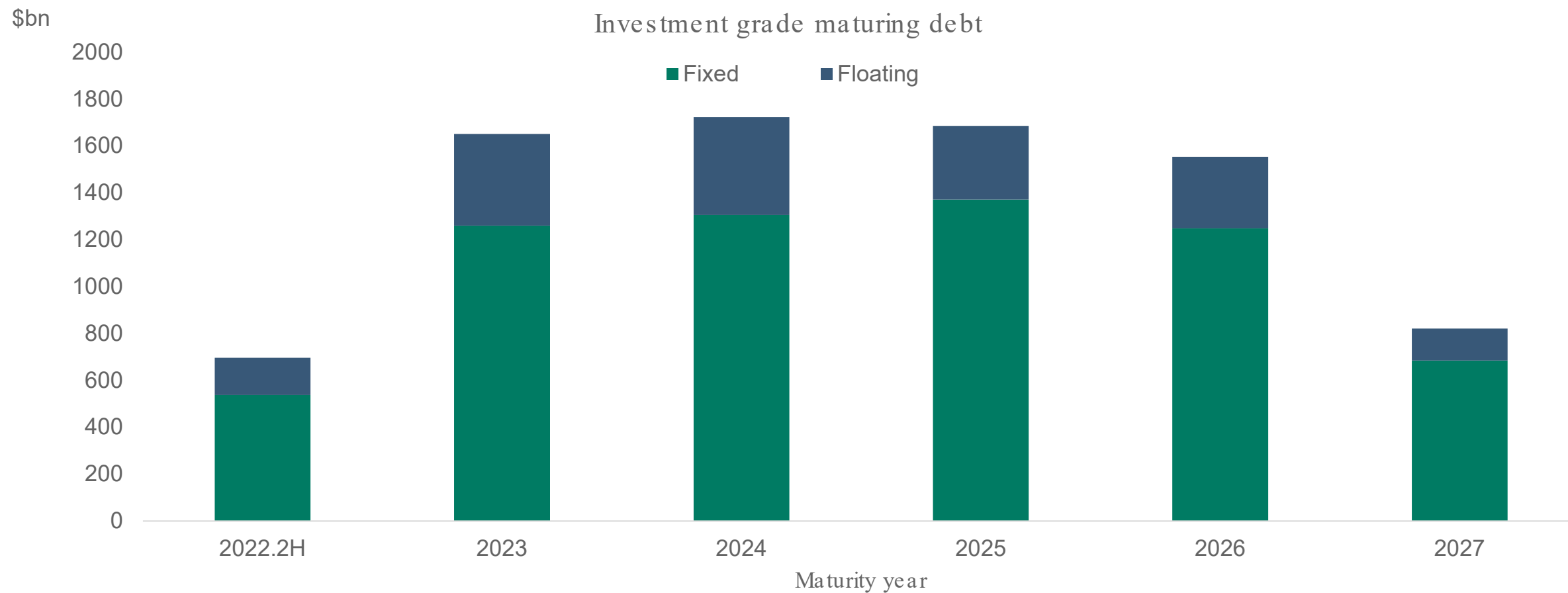
# Investment grade maturity by sector in 2024



# High yield maturity by sector in 2024



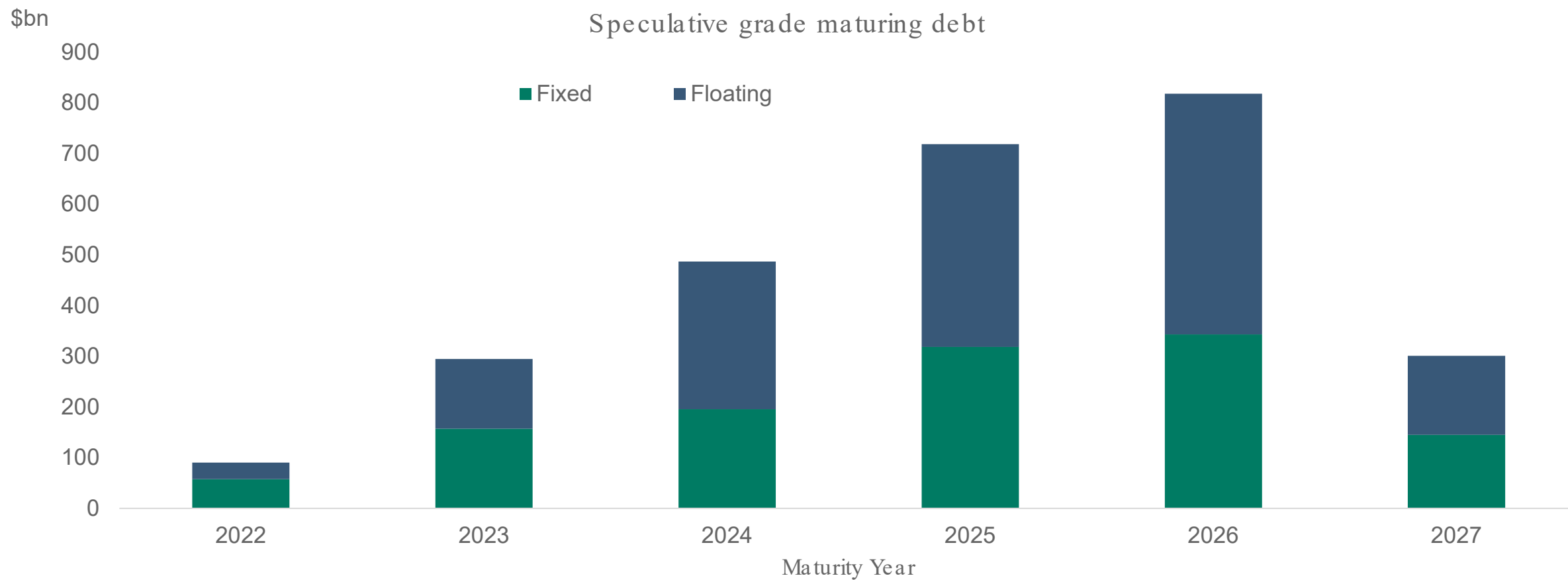
# Investment grade maturity wall



Source: S&P Global ratings Research, Apollo Chief Economist. Note: Data as of July 1, 2022. Includes issuers' investment-grade bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings.

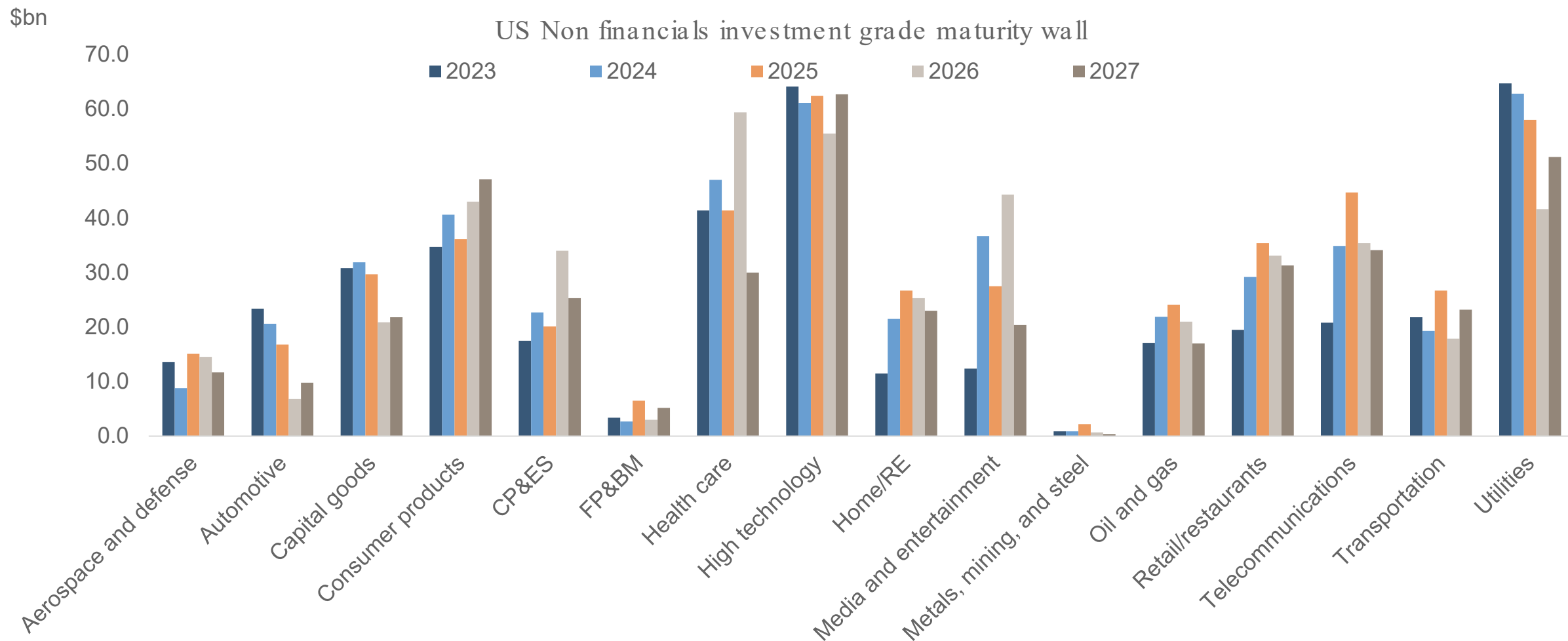


# High yield maturity wall



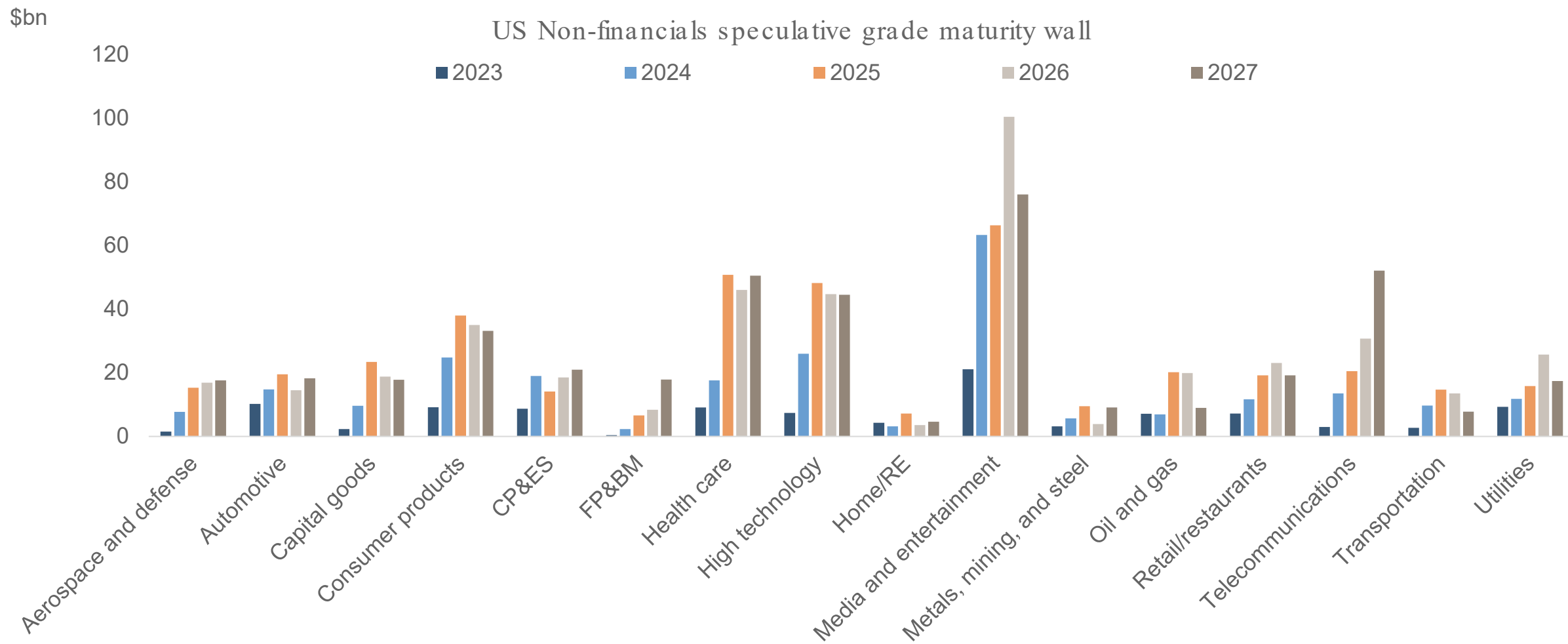
Source: S&P Global ratings Research, Apollo Chief Economist. Note: Data as of July 1, 2022. Includes issuers' speculative-grade bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings.

# IG: US Non financials maturity wall



Source: S&P, Apollo Chief Economist. Note: CP&ES--Chemicals, packaging, and environmental services. FP&BM--Forest products and building materials. Media and entertainment includes the leisure sector. Includes bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings. Data as of Jan 1, 2023.

# HY: US Non financials maturity wall

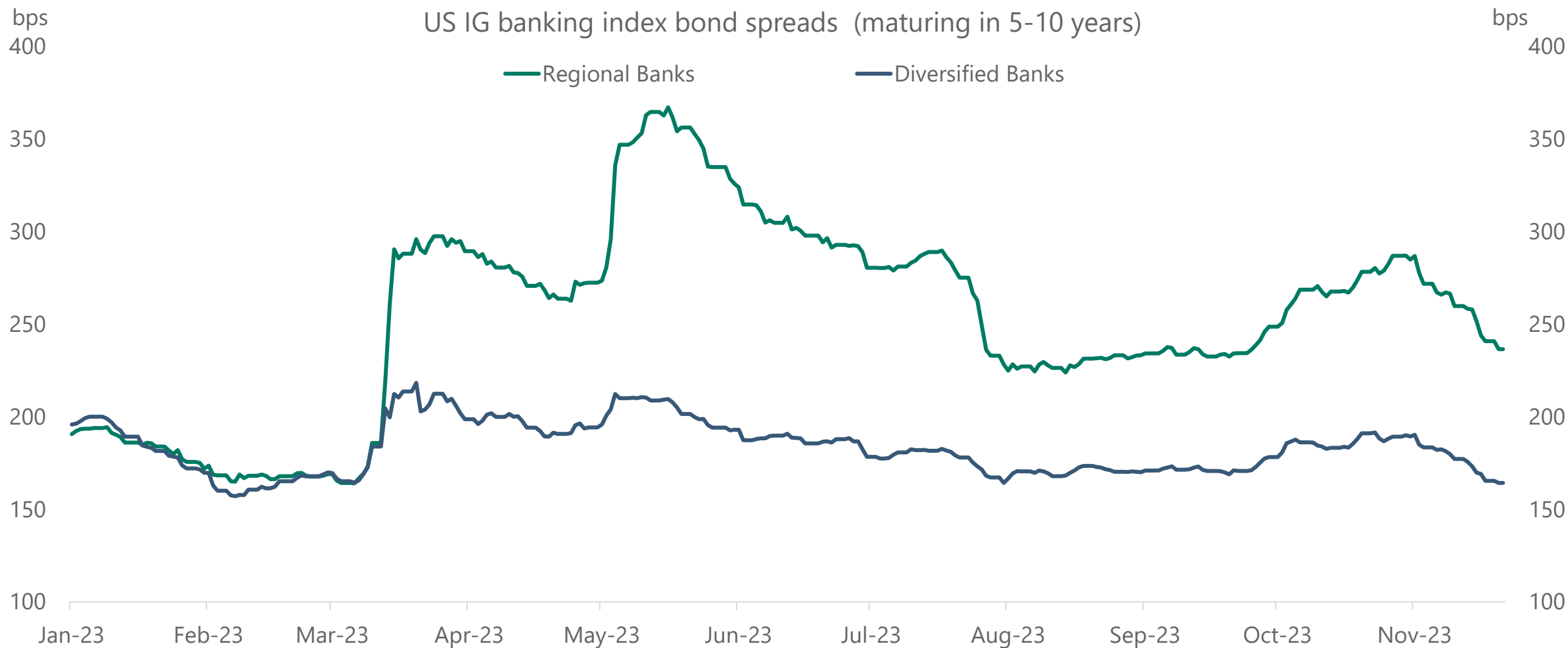


Source: S&P, Apollo Chief Economist. Note: CP&ES--Chemicals, packaging, and environmental services. FP&BM--Forest products and building materials. Media and entertainment includes the leisure sector. Includes bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings. Data as of Jan 1, 2023.

# Regional banks

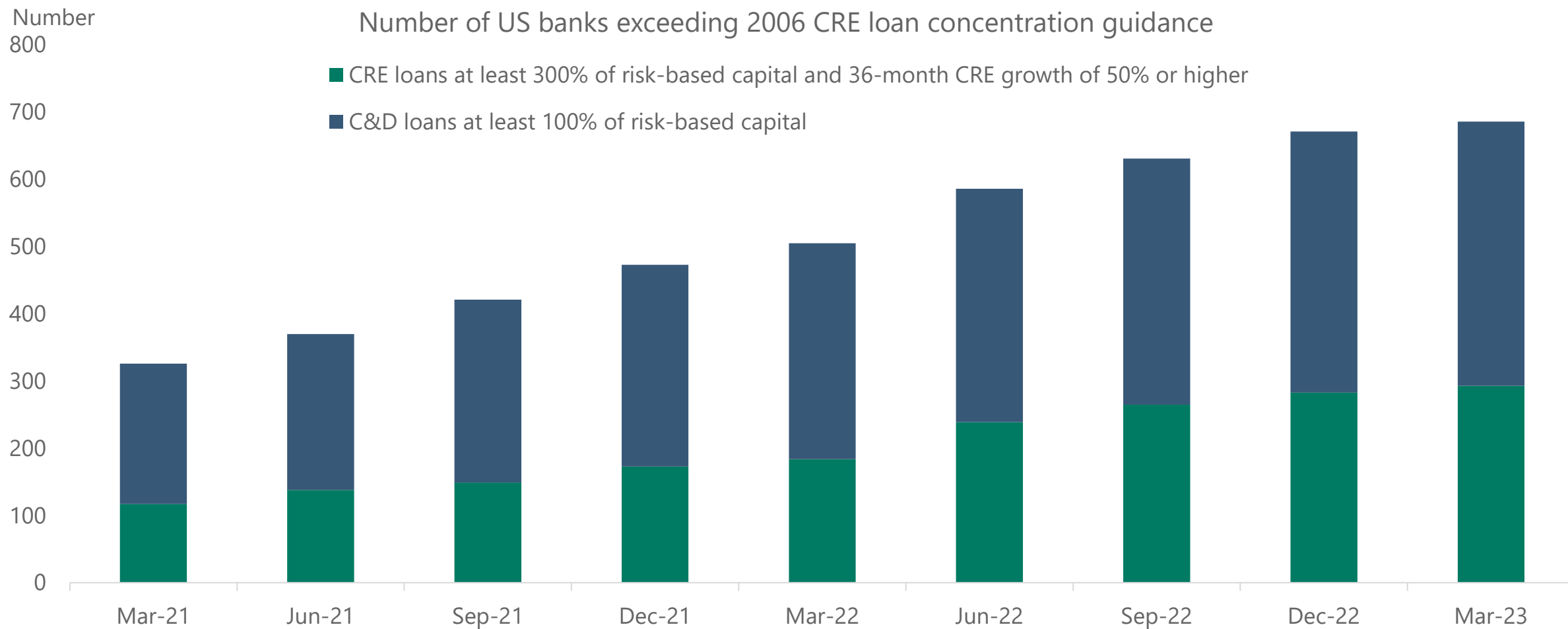


# Regional bank spreads have widened recently



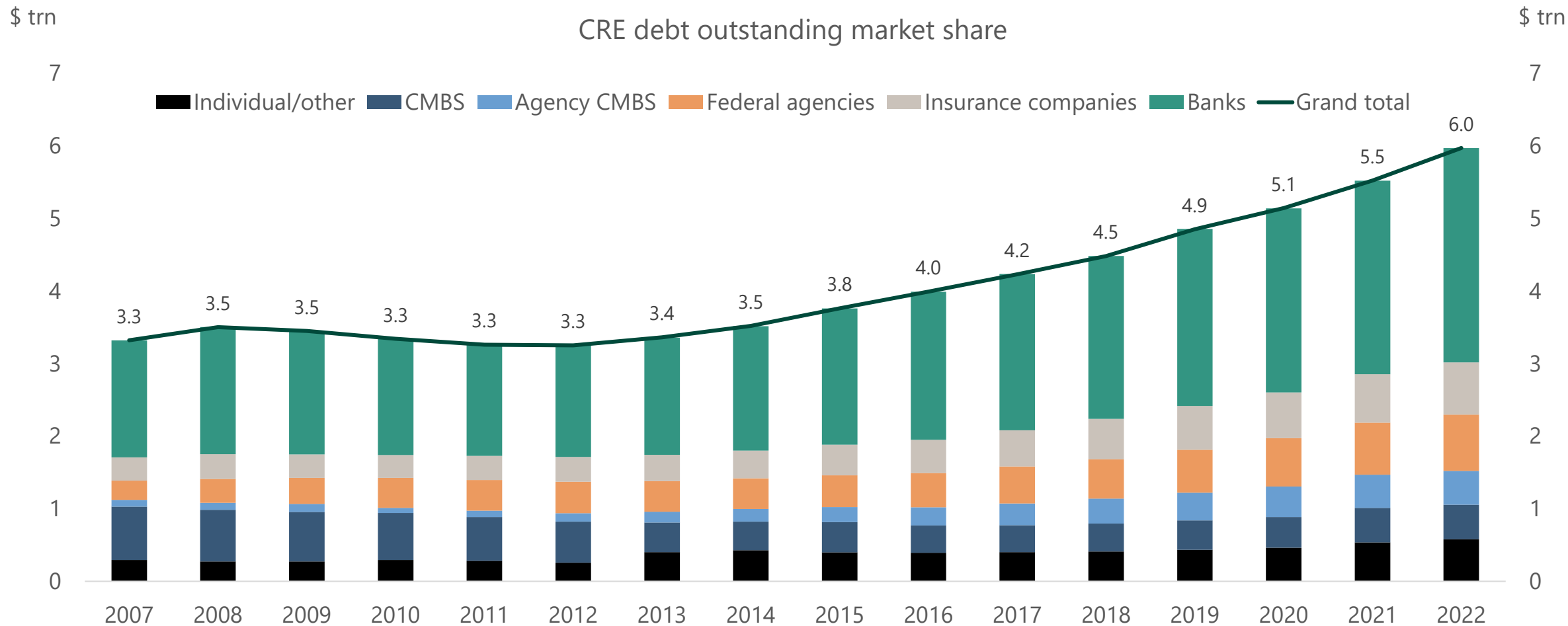
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Unweighted average spreads of bonds from ICE 5-10 Year US Banking Index, C6PX Index for bonds issued before 1st Jan 2023. There are 8 banks in the Regional index and 41 banks in the Diversified index, and Regional banks include BankUnited Inc, Citizens Financial Group, Huntington Bancshares Incorporated, Regions Financial Corporation, Truist Financial Corporation, Webster Financial Corp, Wintrust Financial Corp, Zions, and Diversified banks includes JP Morgan, Citibank, Bank of America, etc

# Almost 700 US banks exceed the 2006 CRE loan concentration guidance

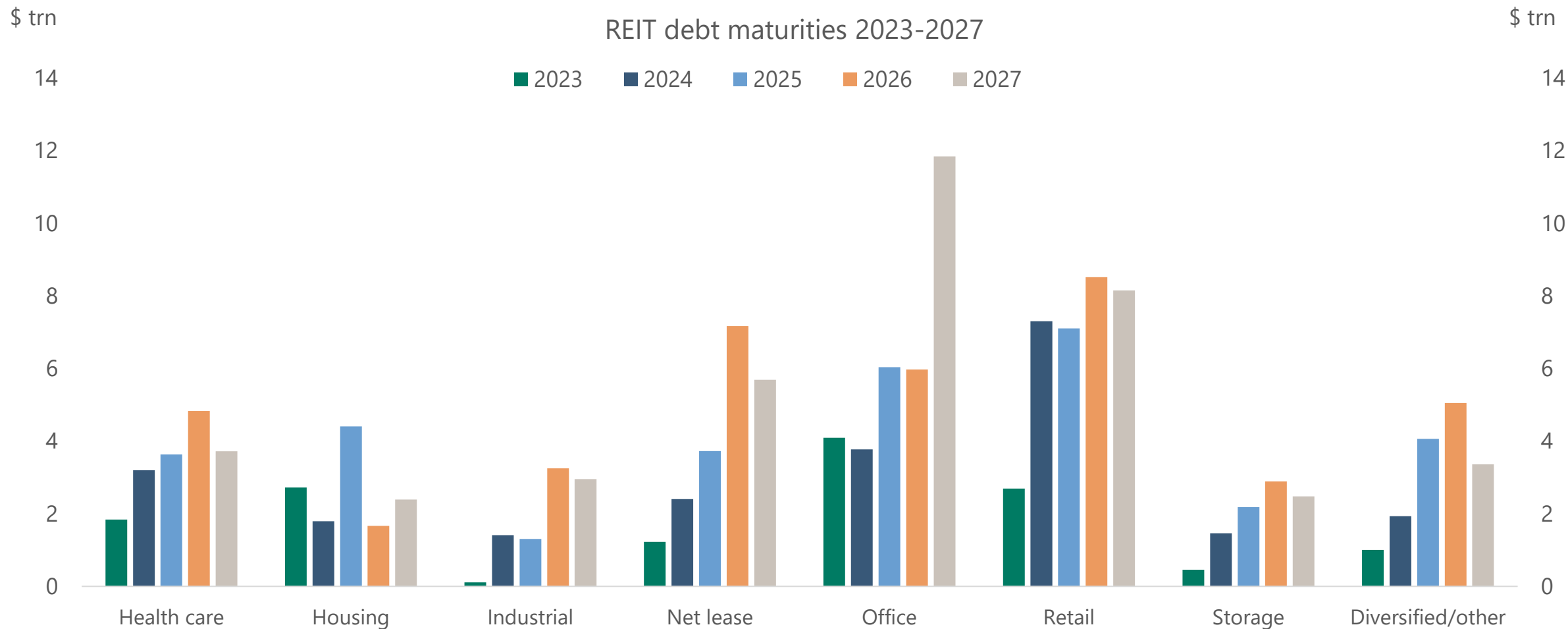


Source: S&P Global Market Intelligence, Apollo Chief Economist. Note: C&D = Construction and Development, data as of May 2023 and based on regulatory filings

# US banks account for the bulk of CRE lending



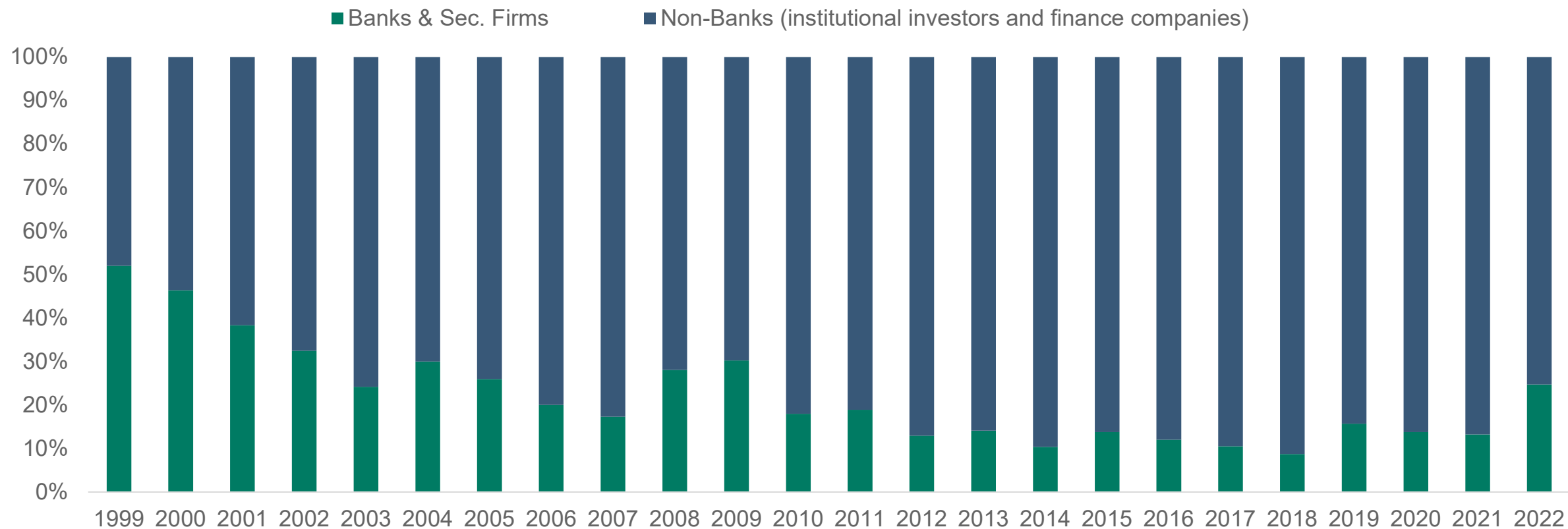
# U.S. REITs hold approximately \$14 billion of debt maturing this year





# More leveraged loans are held by banks

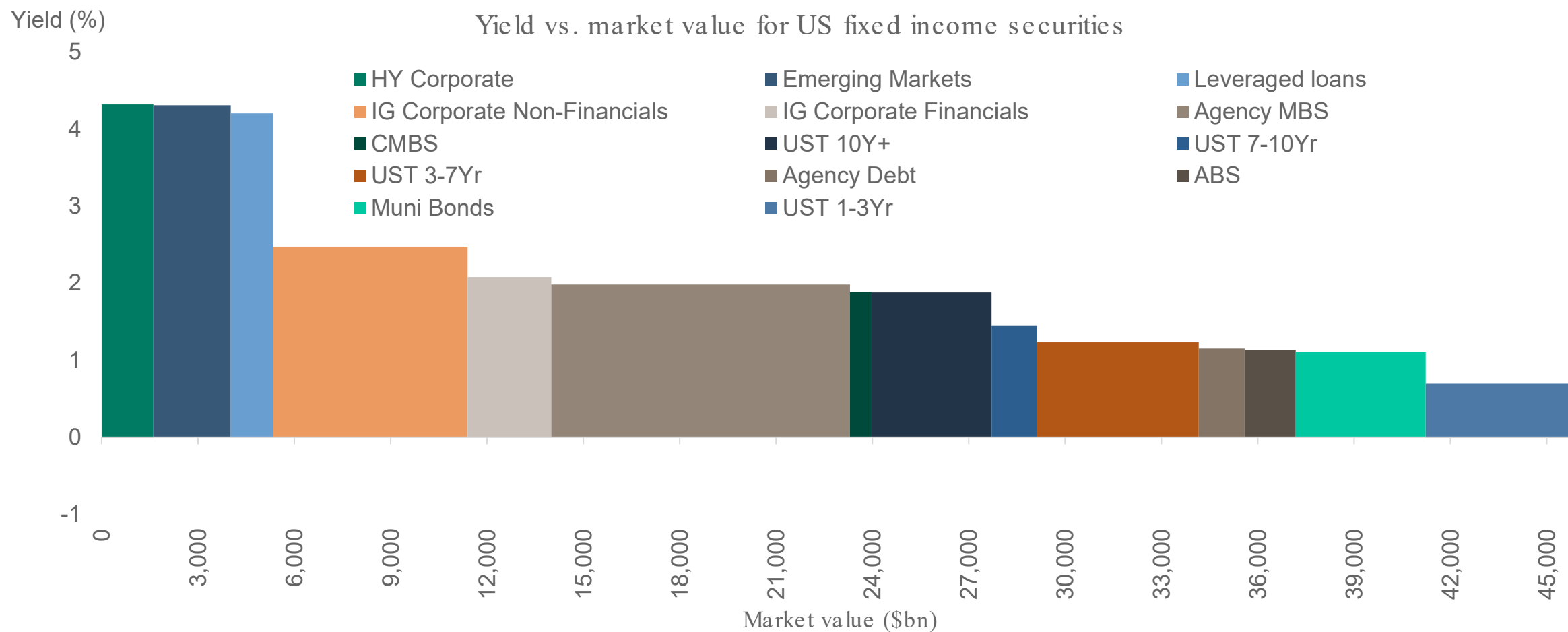
Primary investor market: leveraged loans



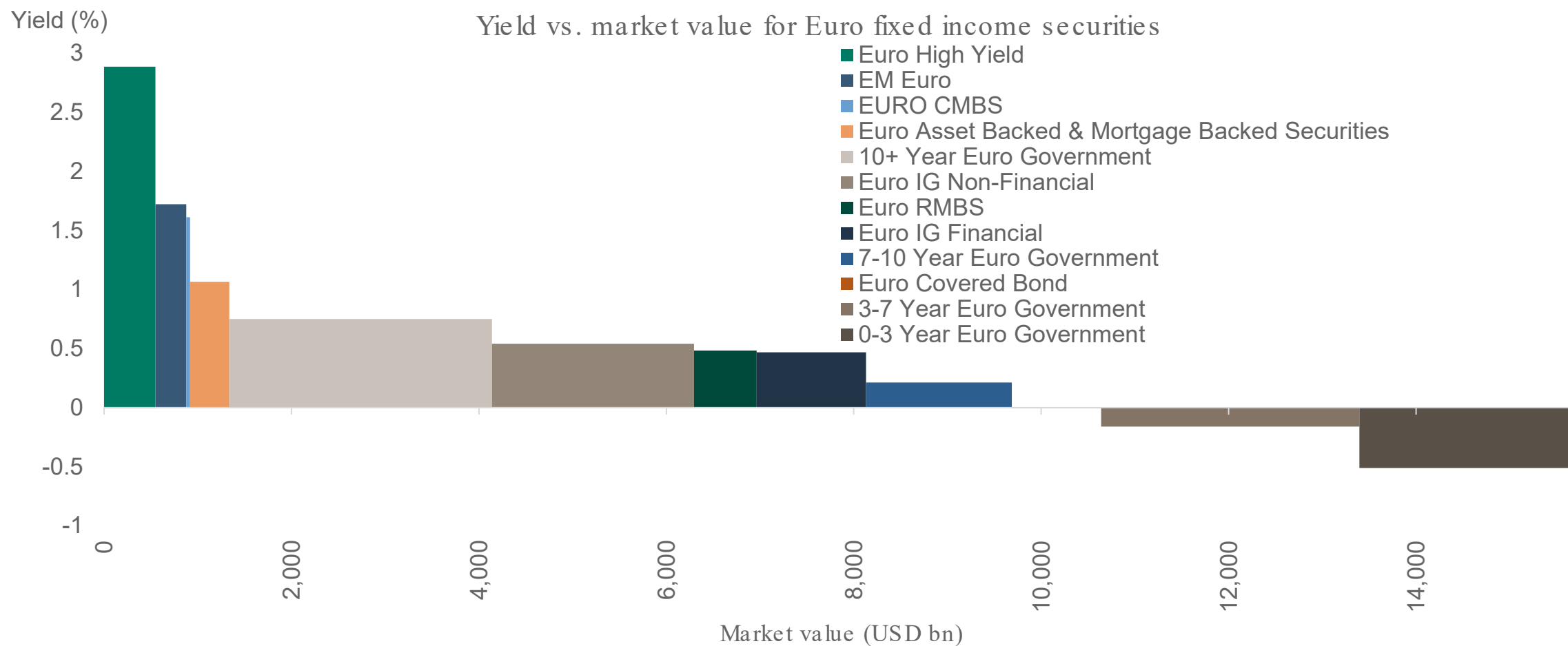
Credit markets in a  
broader perspective



# US fixed income markets by yield and size

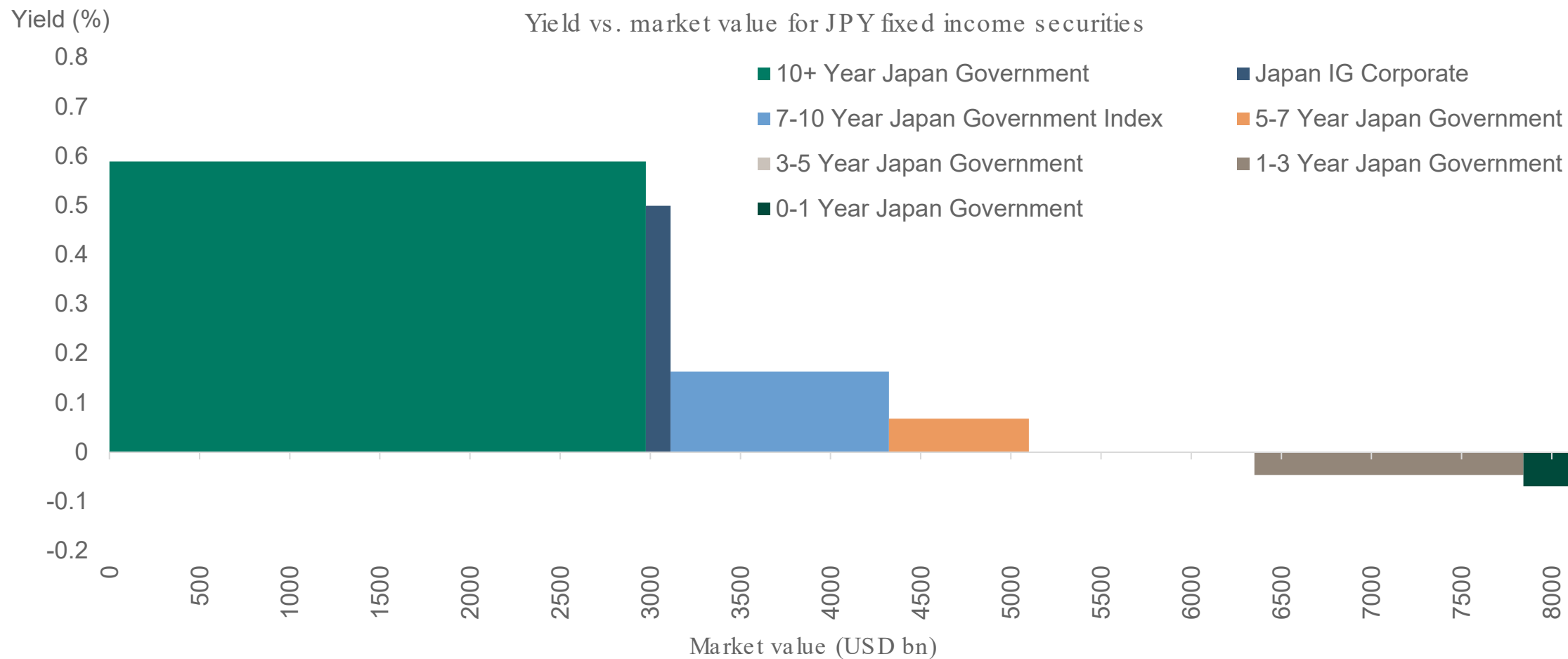


# European fixed income markets by yield and size



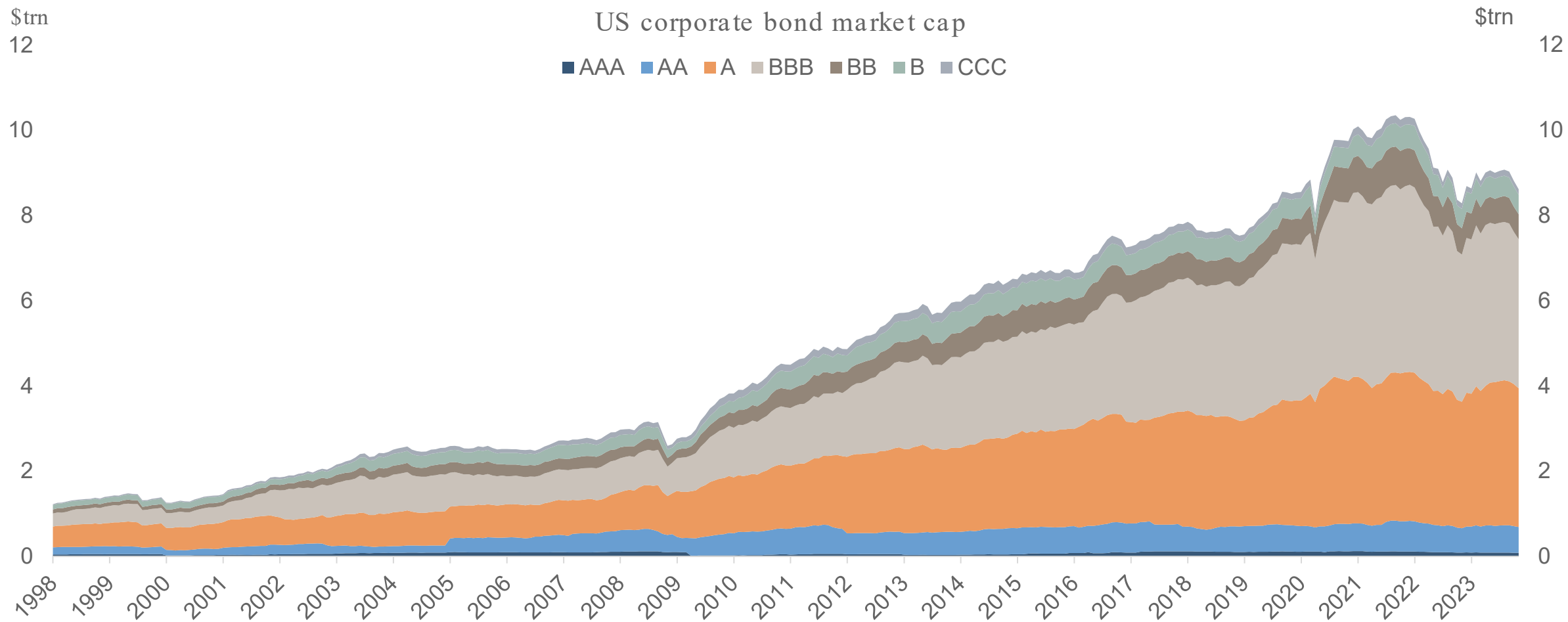
Source: Bloomberg Barclays, AFME, ICE BofA, Pitchbook LCD, Bloomberg, Apollo Chief Economist. Note: data as of 4Q21

# Japanese fixed income markets by yield and size



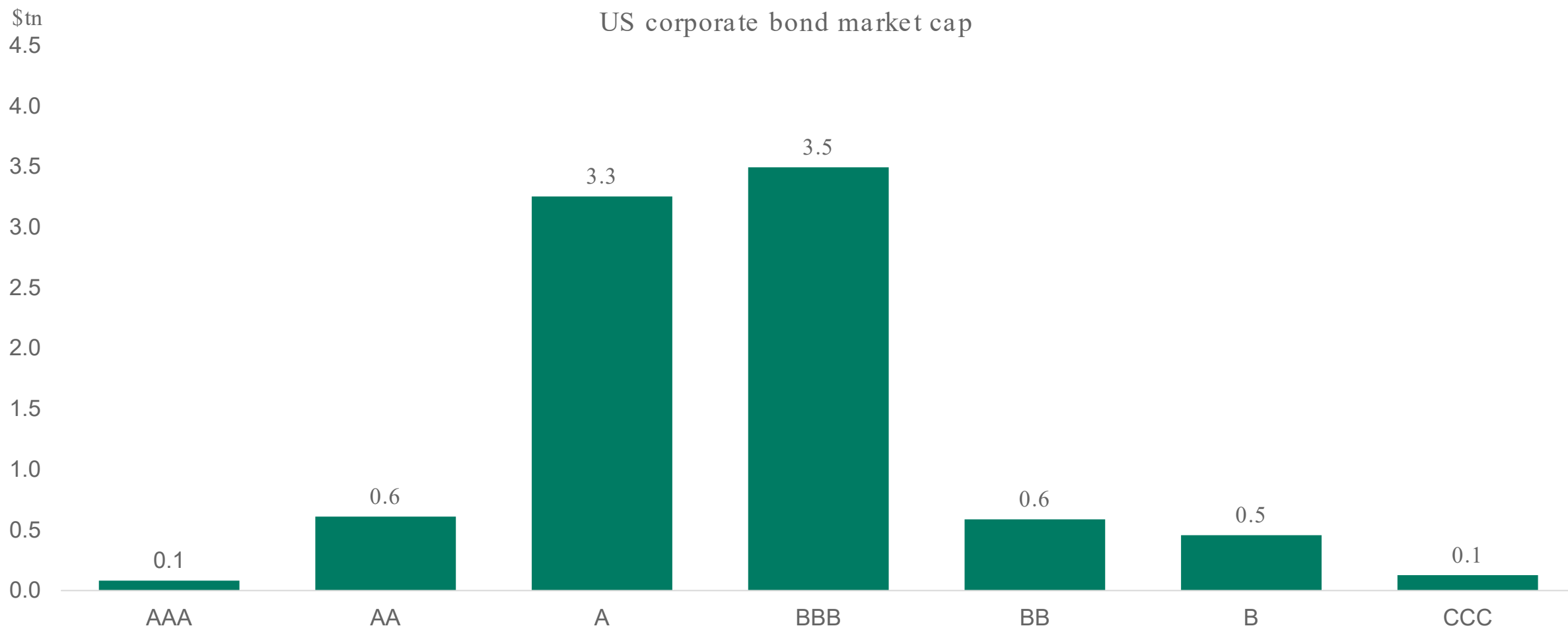
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Data as of 1Q22

# Total market cap of US corporate bond markets: \$9trn

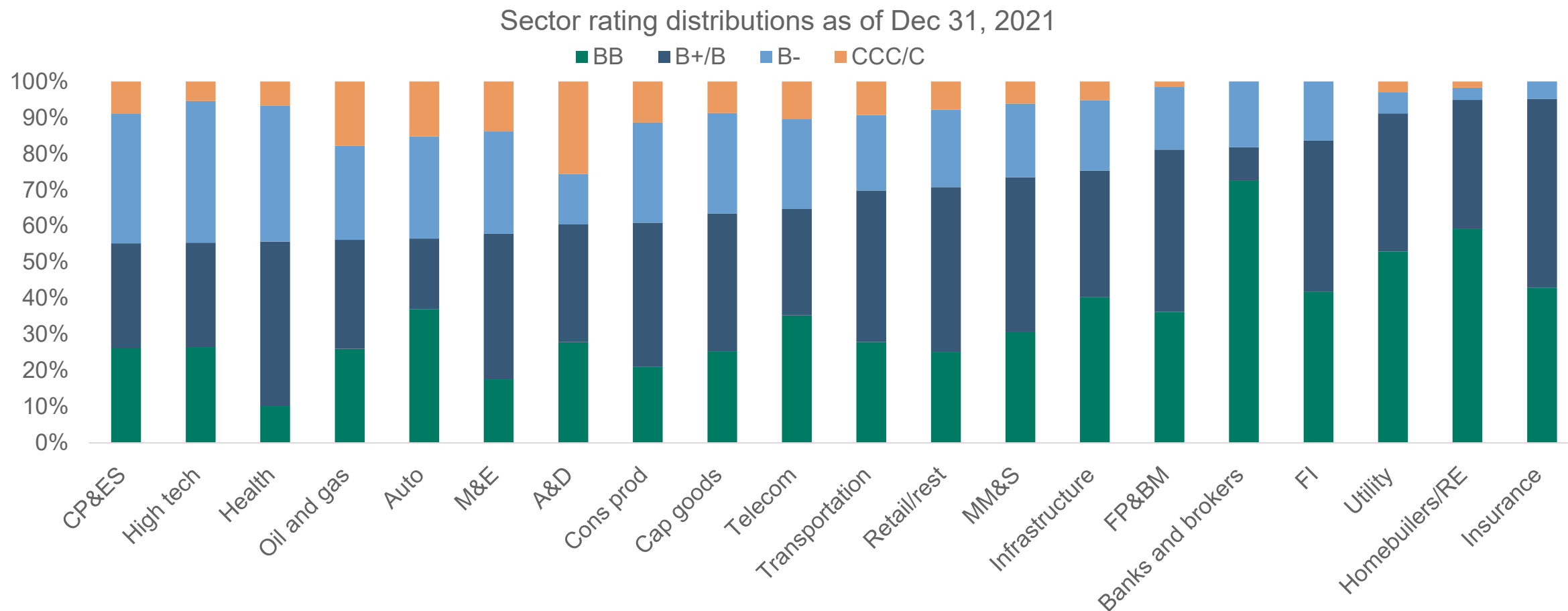


Source: ICE BofA, Bloomberg, Apollo Chief Economist.

# Corporate bond market cap, by rating



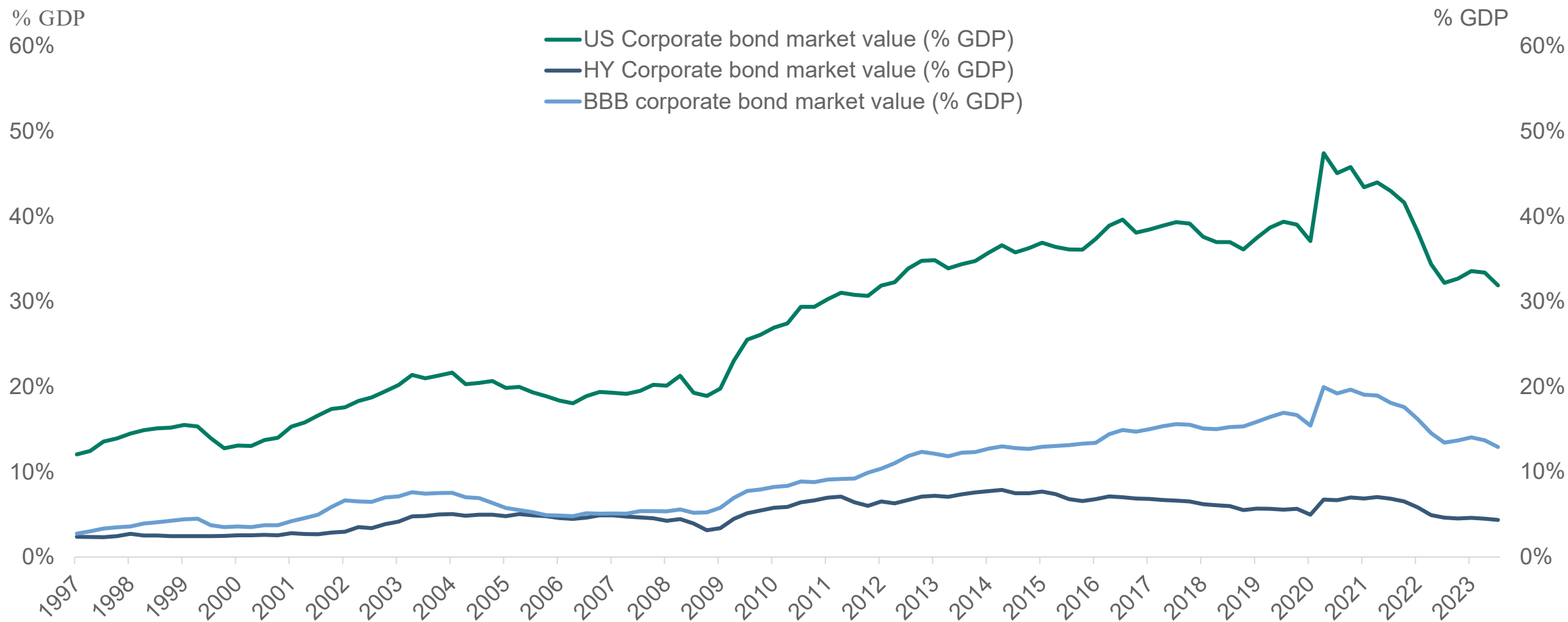
# HY sector rating distributions



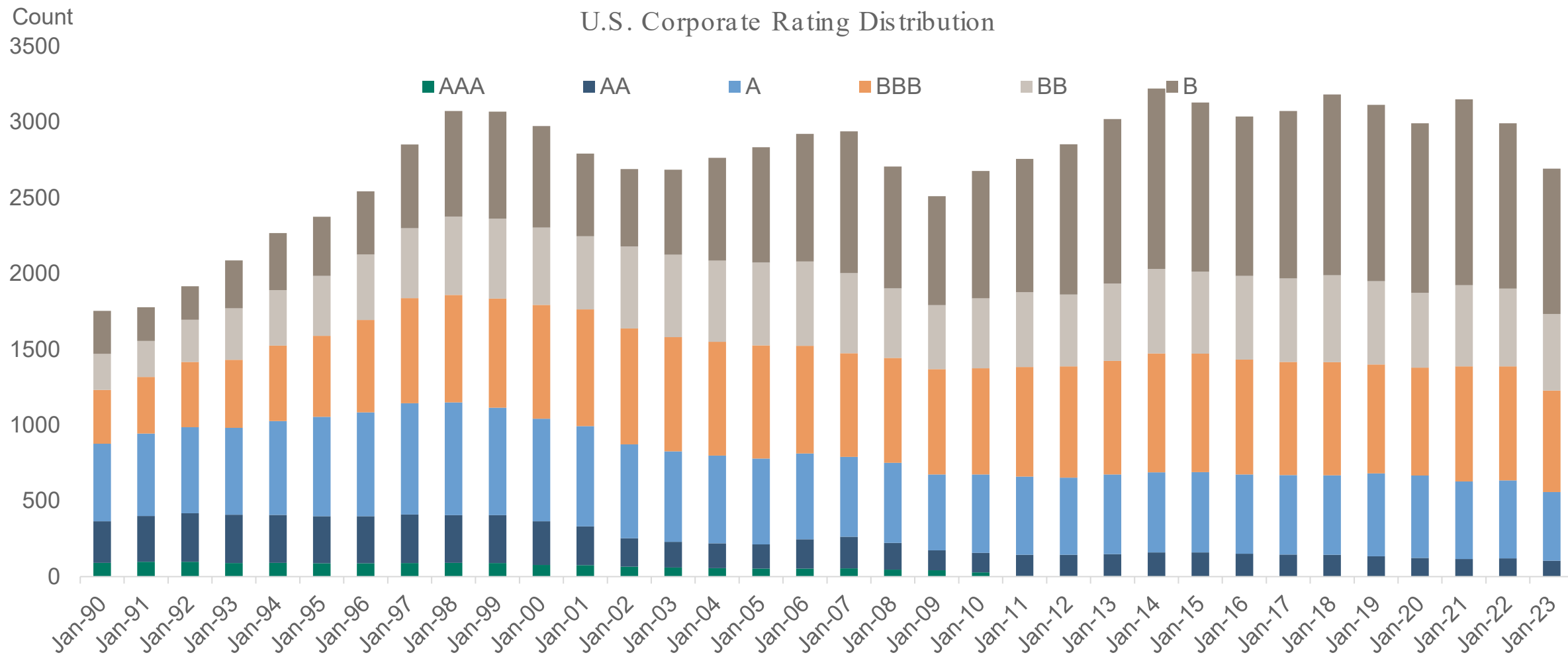
Source: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®, Apollo Chief Economist. Note: Numbers in parentheses represent overall sector's proportion of the speculative-grade population. CP&ES--Chemicals, packaging, and environmental services. FP&BM--Forest products and building materials. Home/RE--Homebuilders and real estate companies.



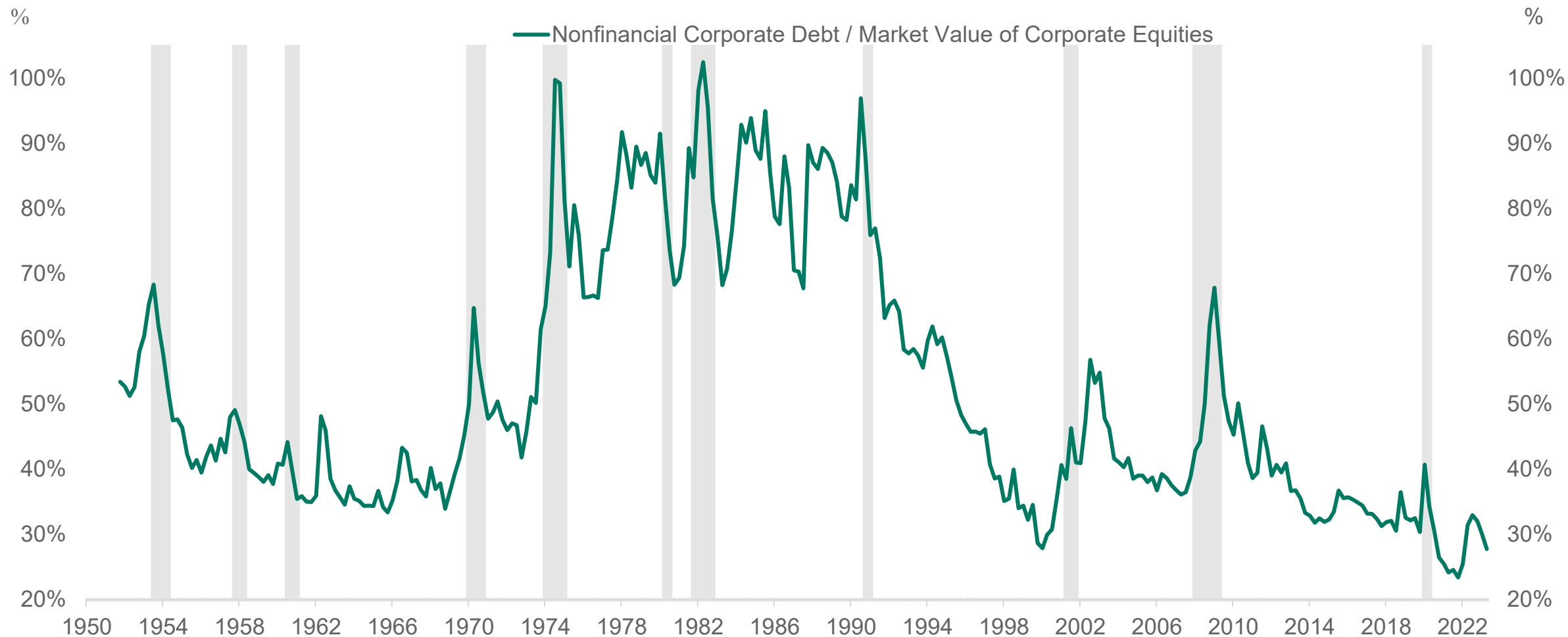
# US corporate bond markets as a share of GDP



# Distribution of corporate credit ratings

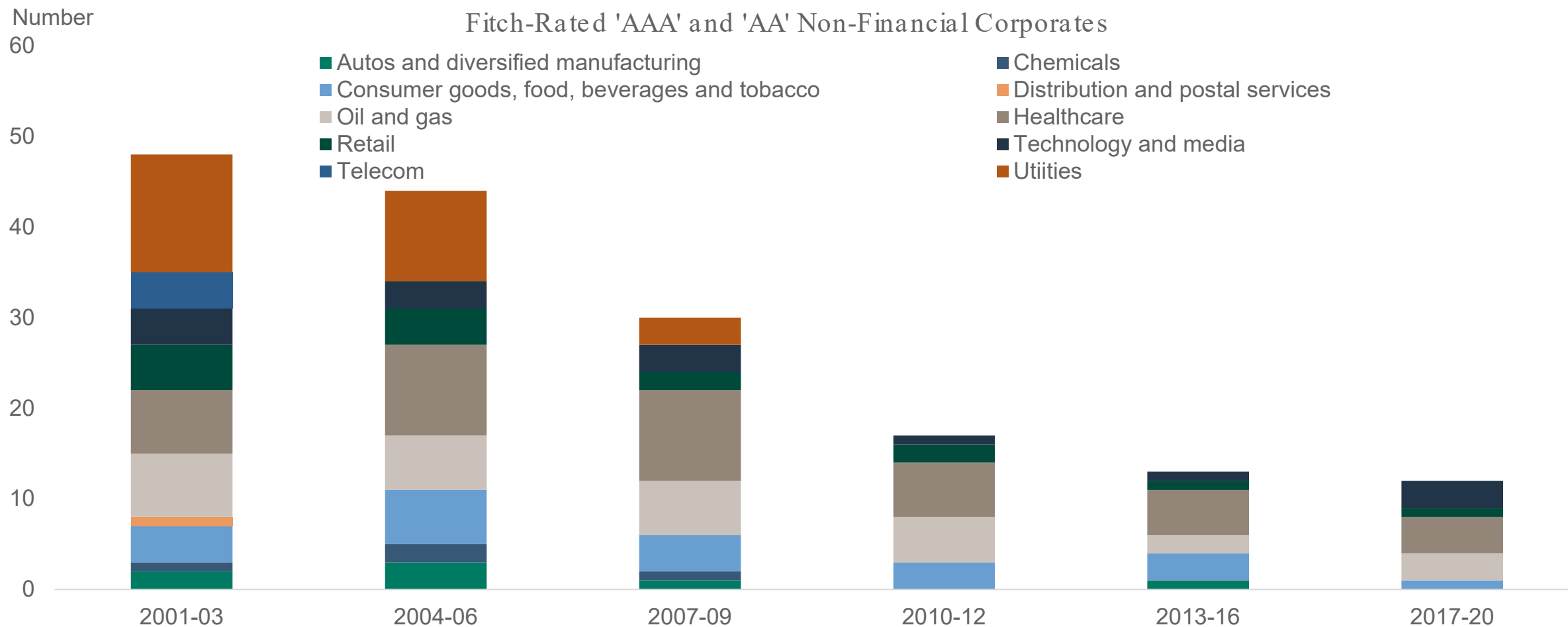


# Debt-to-equity ratio is very low for corporate America



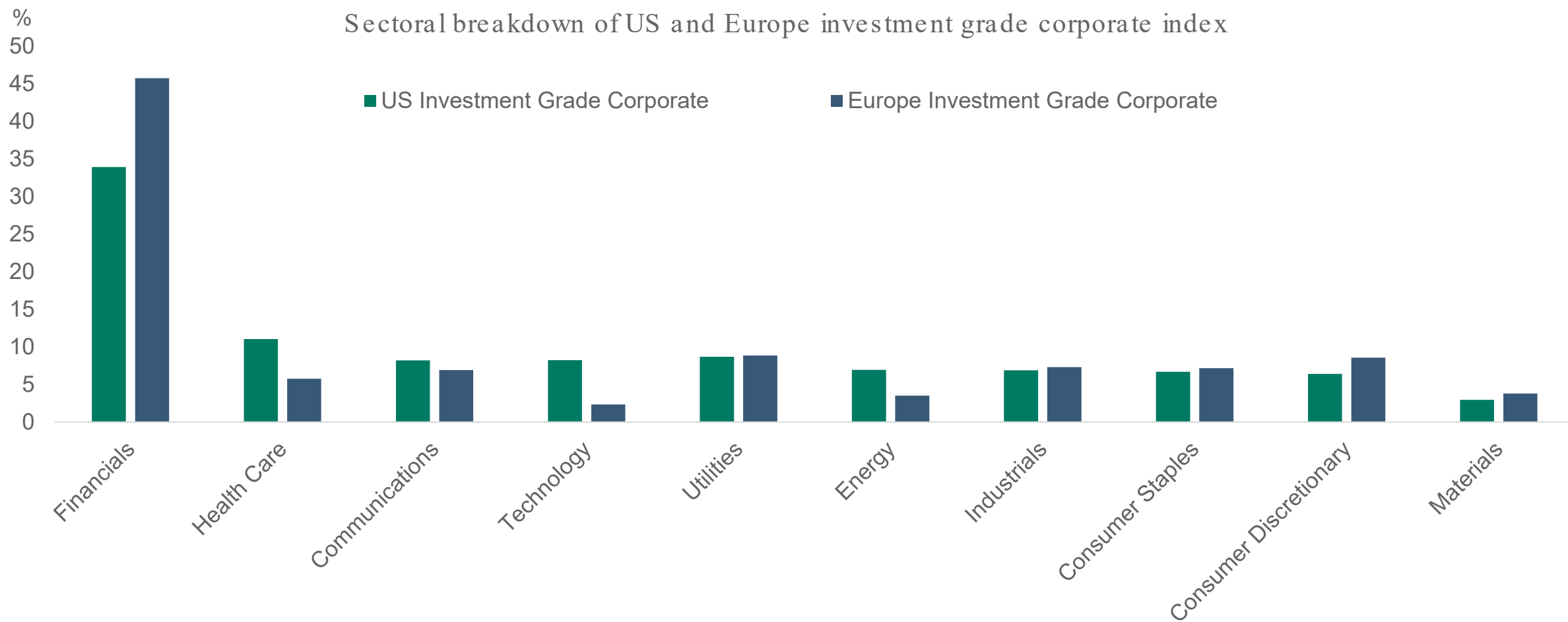
Source: FRB, Haver Analytics, Apollo Chief Economist.

# Fewer and fewer corporate bonds are rated AAA and AA

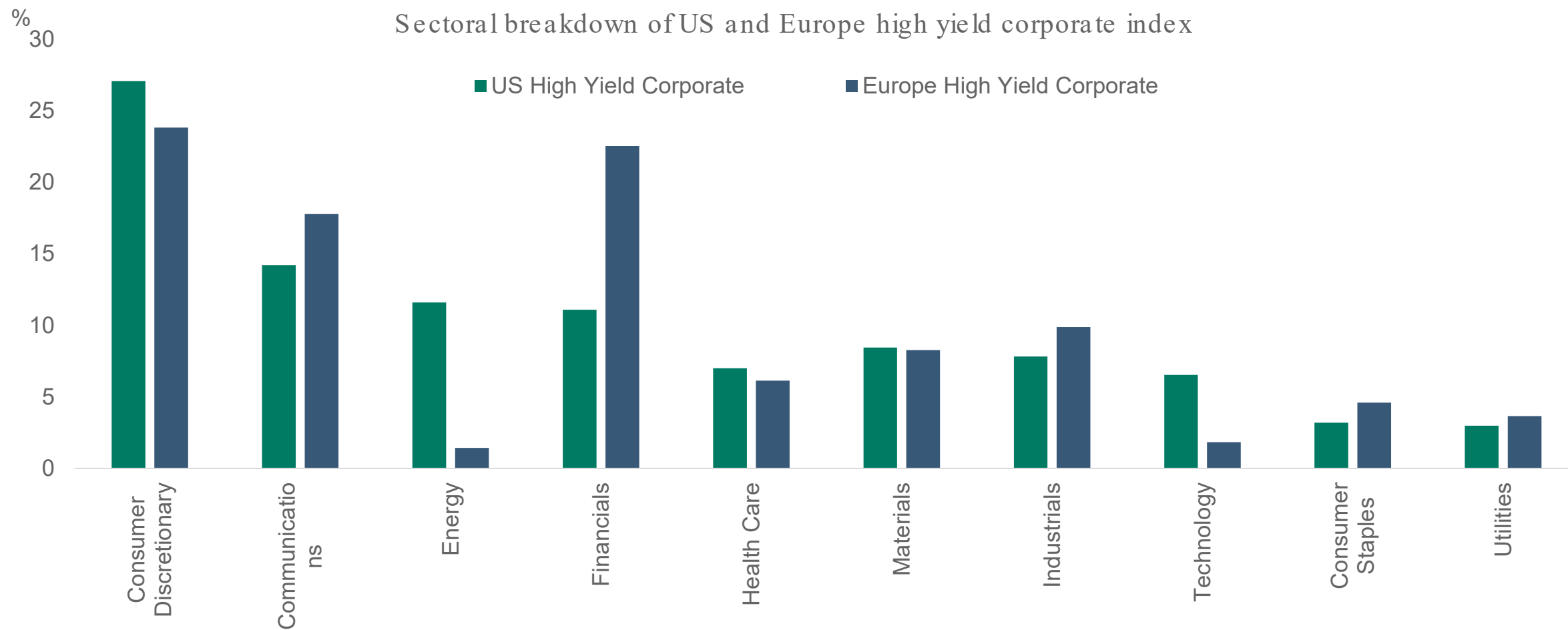


Source: Fitch Ratings, Apollo Chief Economist. Note: Including state-linked issuers with Standalone Credit Profiles in the 'AA' category. Data cover issuers that have been rated for at least six years or at end-2020.

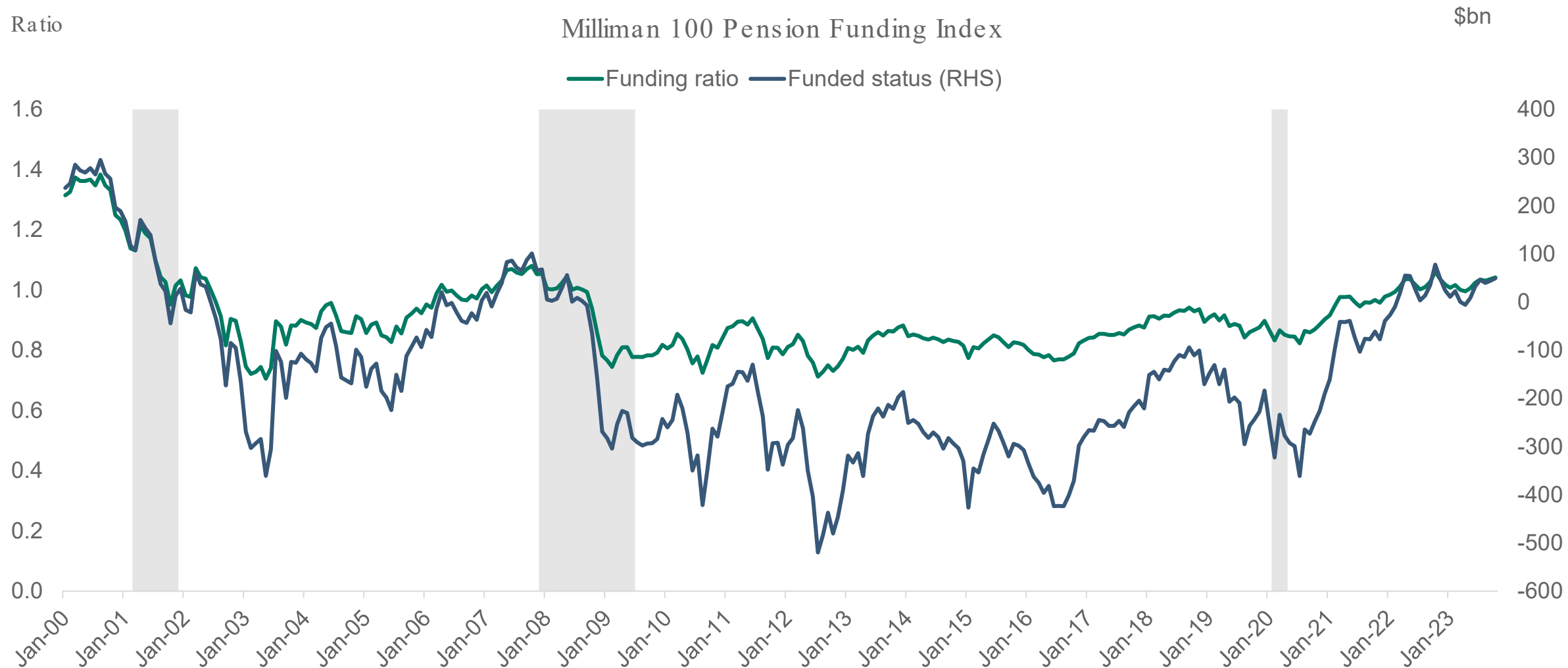
# Comparing the US IG index with the EU IG index



# Comparing the US HY index with the EU HY index

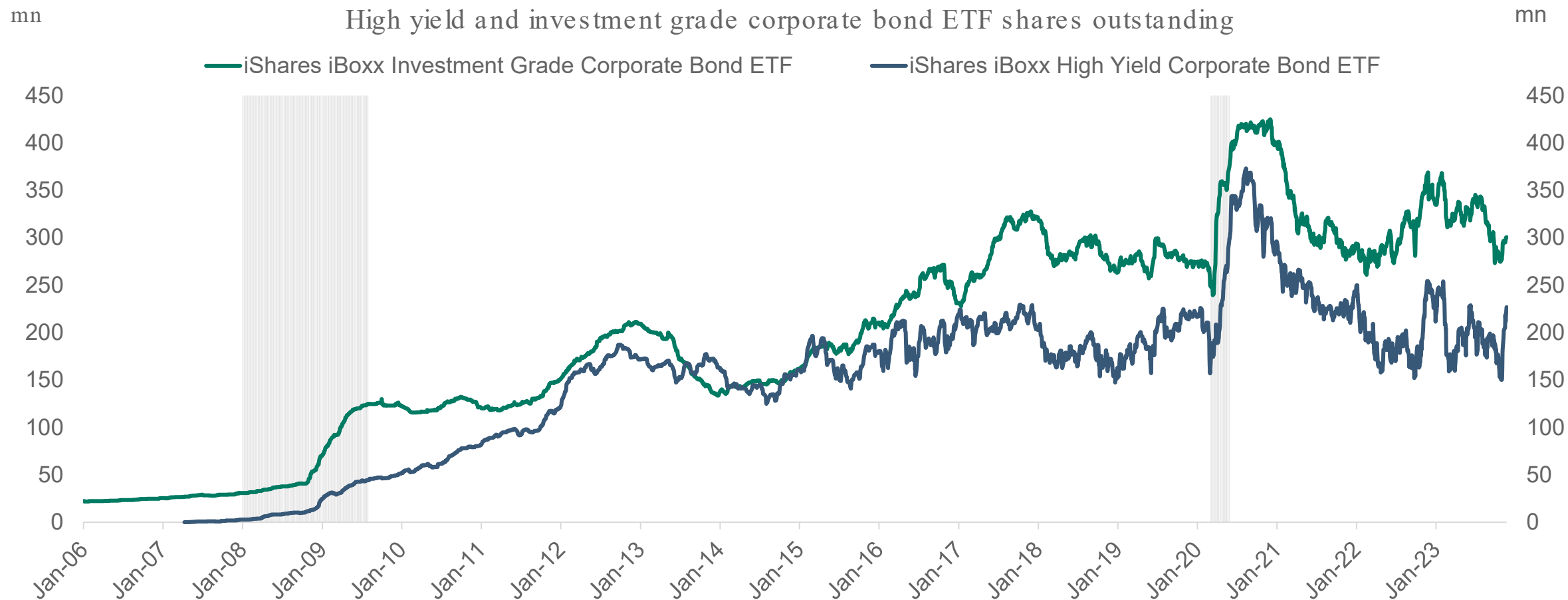


# Pension funding status has improved



Source: Milliman, Bloomberg, Apollo Chief Economist. Note: Funded status measures planned assets minus projected benefit obligation

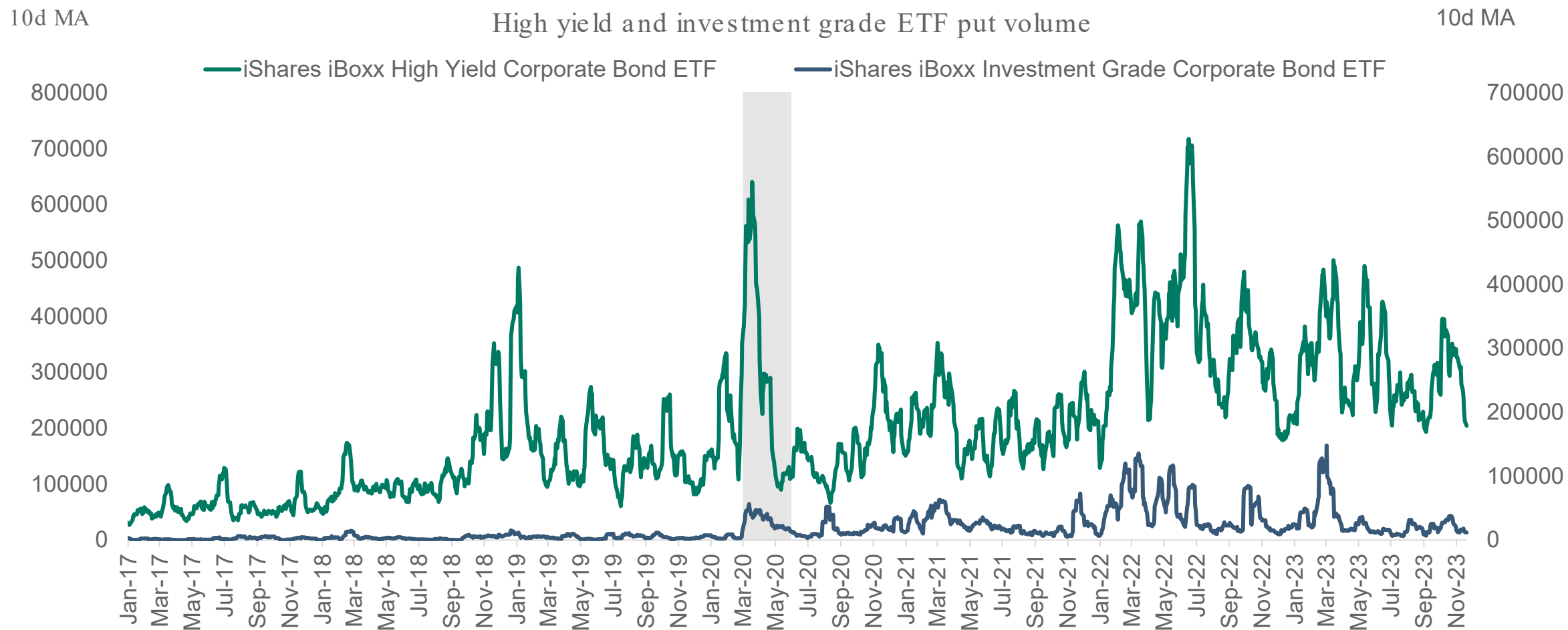
# Retail investor activity in IG and HY



Source: Bloomberg, Apollo Chief Economist. Note: Tickers used HYG US Equity and LQD US Equity



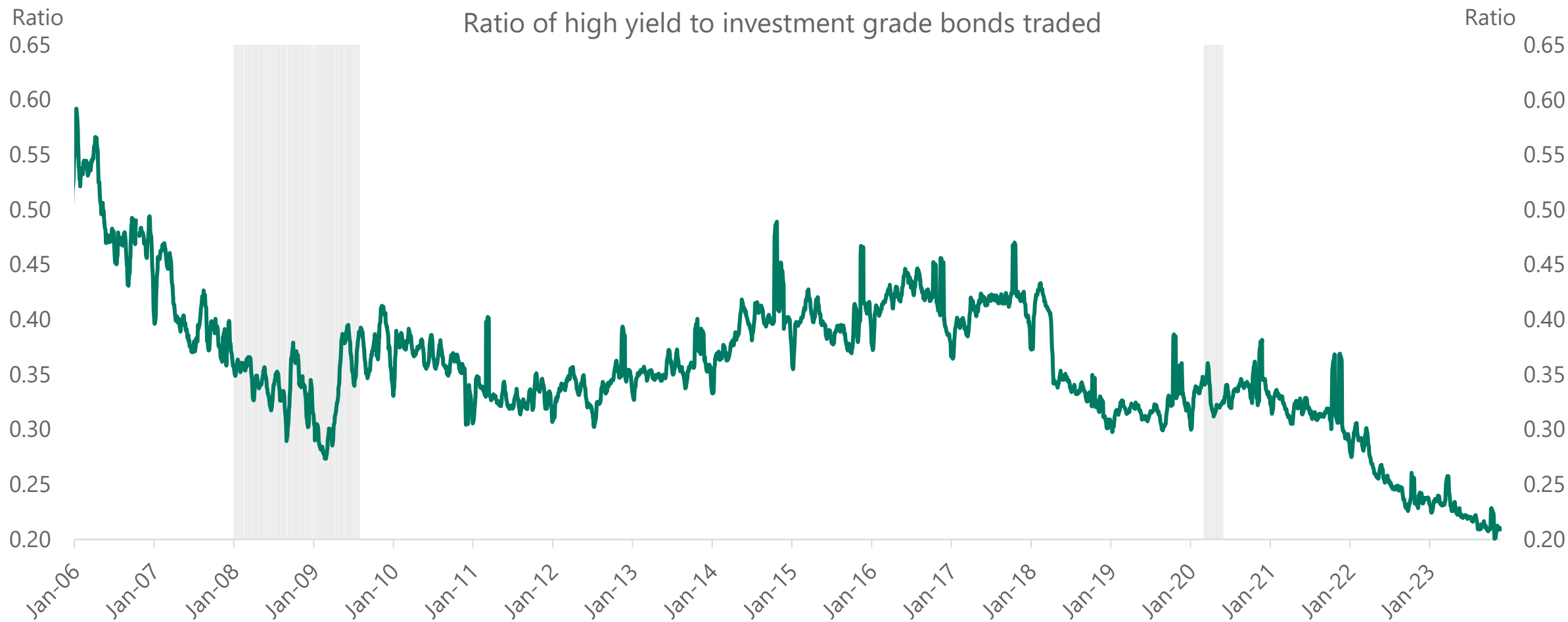
# Put volumes for IG and HY ETF



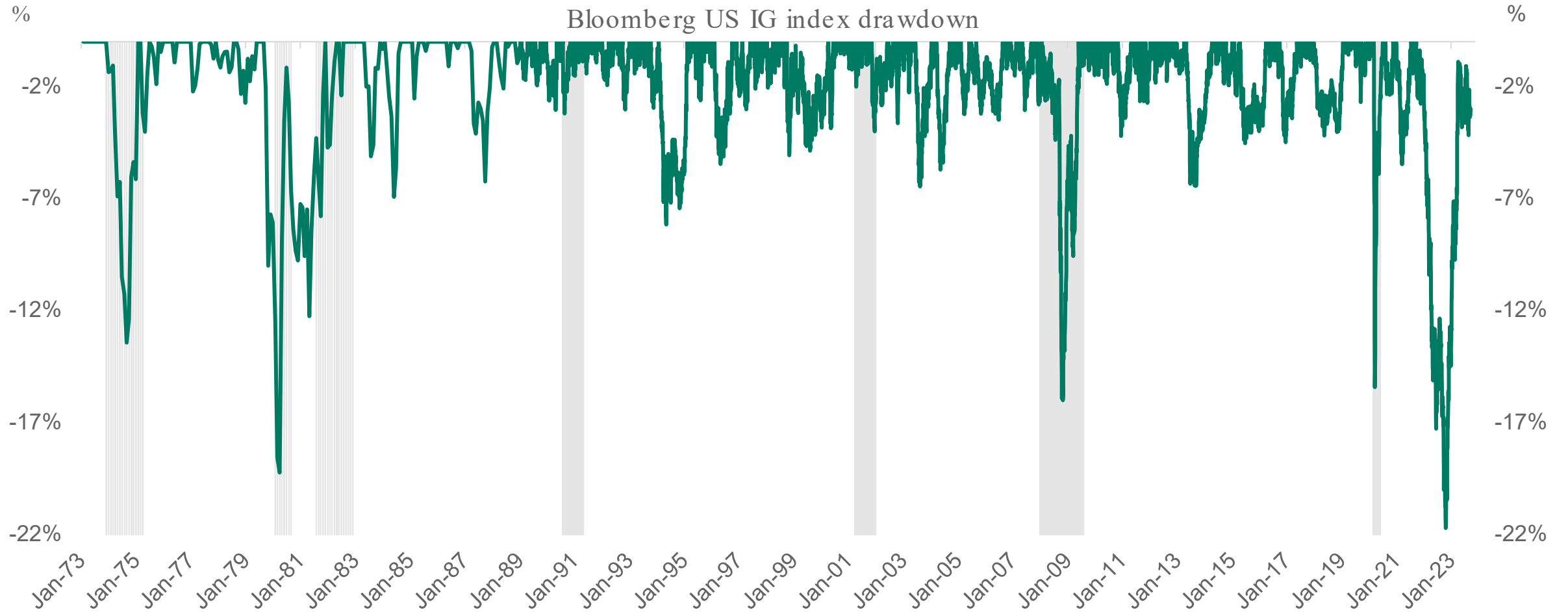
Source: Bloomberg, Apollo Chief Economist

# Fewer high yield bonds being traded

Ratio of high yield to investment grade bonds traded



# IG index drawdown

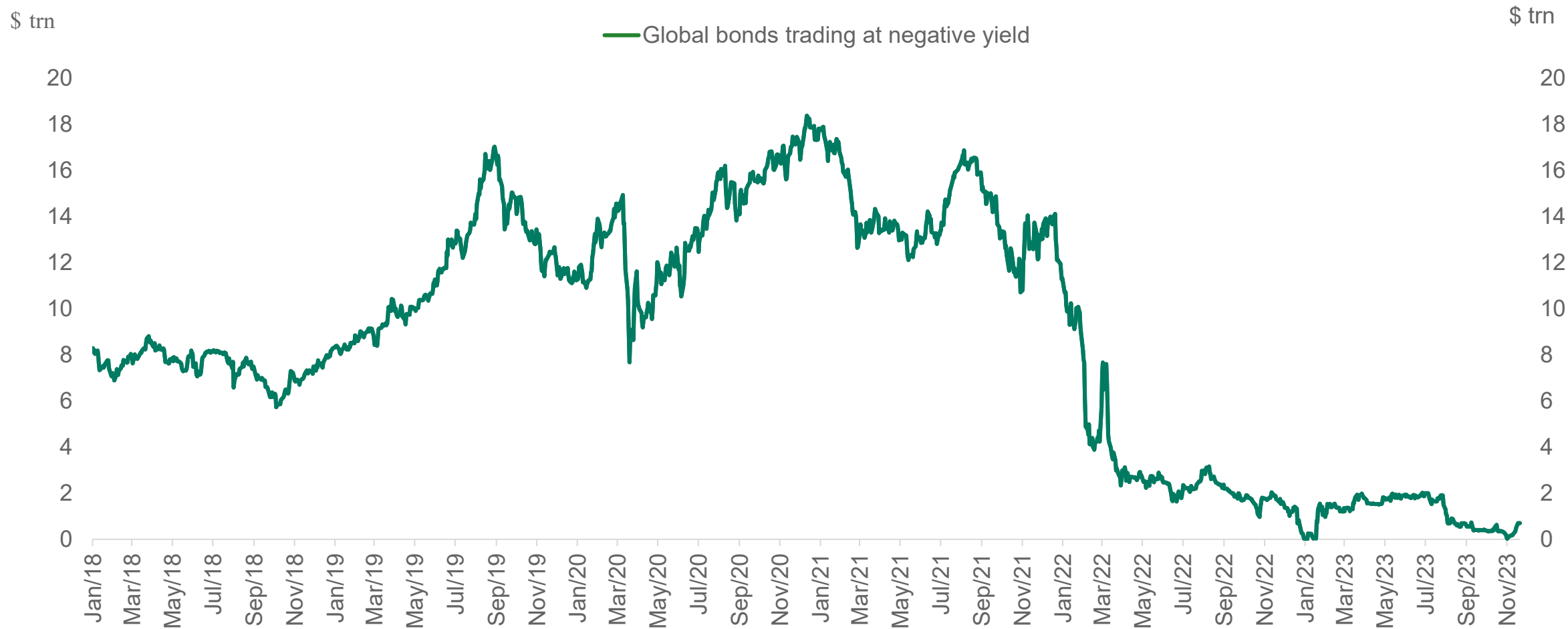


Source: Bloomberg, Apollo Chief Economist. Note: Index used LUACTRUU Index

# Bonds outstanding trading at negative interest rates



# The total value of negative yielding debt in the world



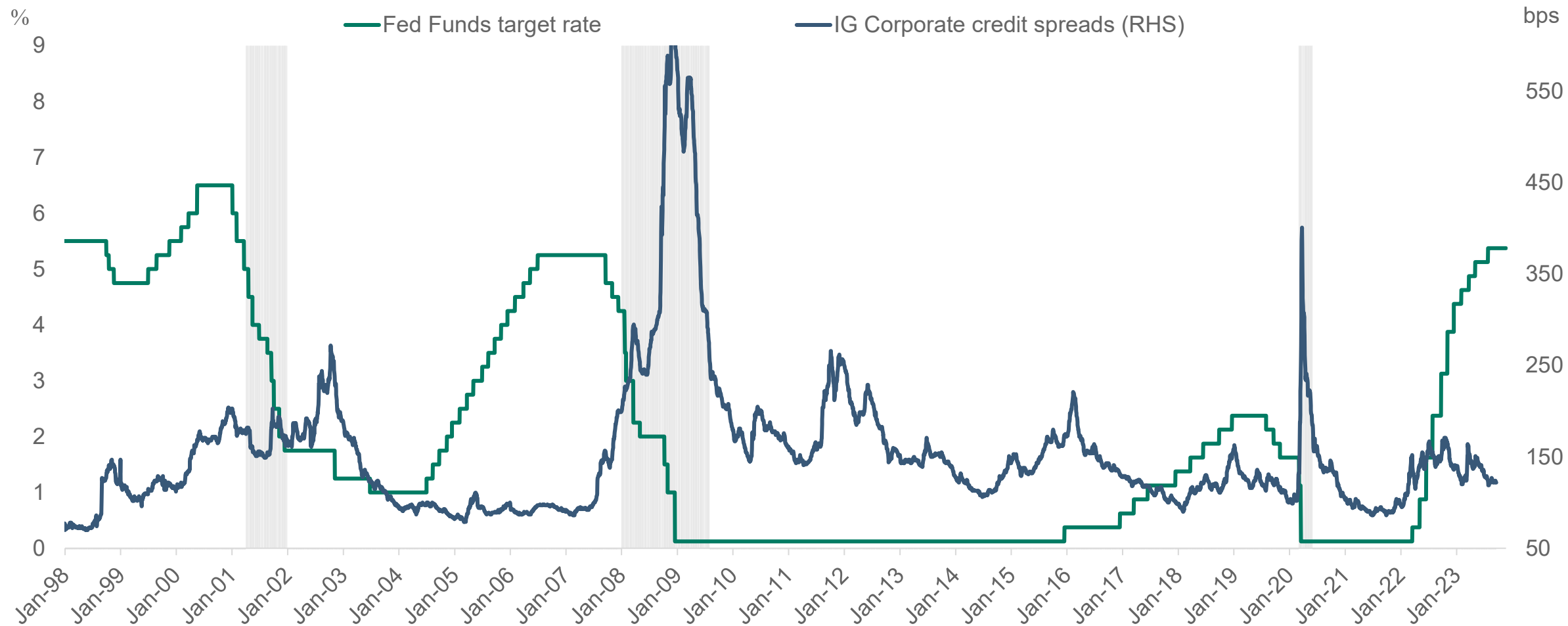
Source: Bloomberg, Apollo Chief Economist

# All corporate bonds now have positive yields

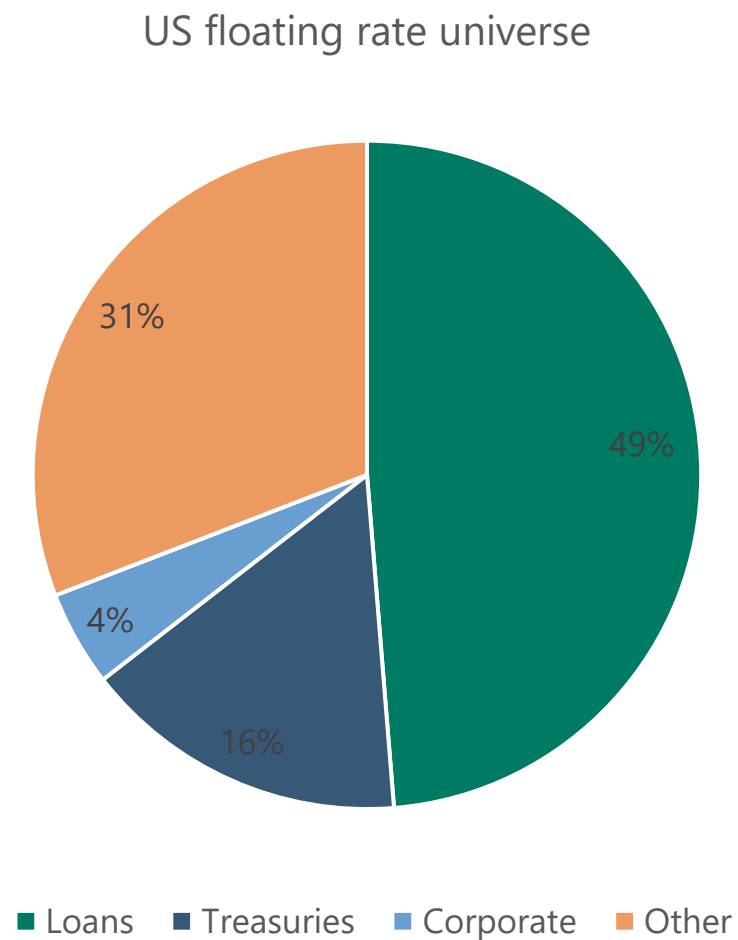


Source: Bloomberg, Apollo Chief Economist

# Credit spreads normally widen when the Fed is hiking

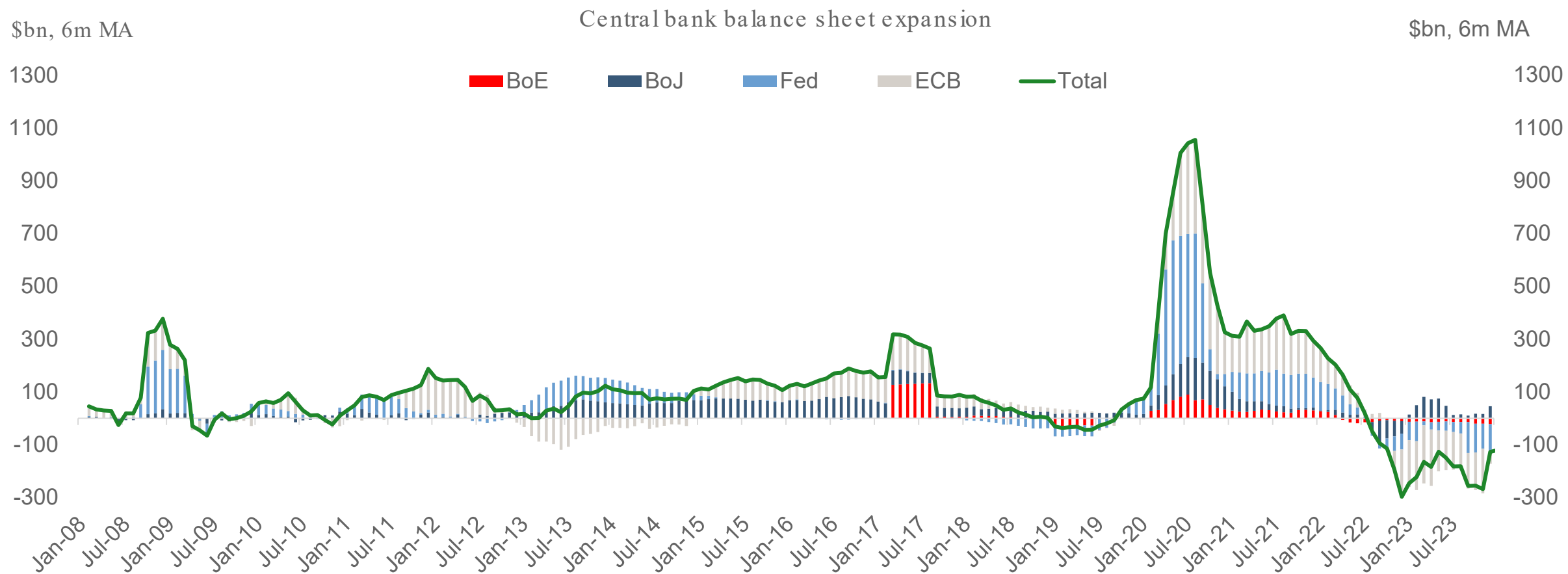


# US: Floating rate bonds outstanding, November 2023



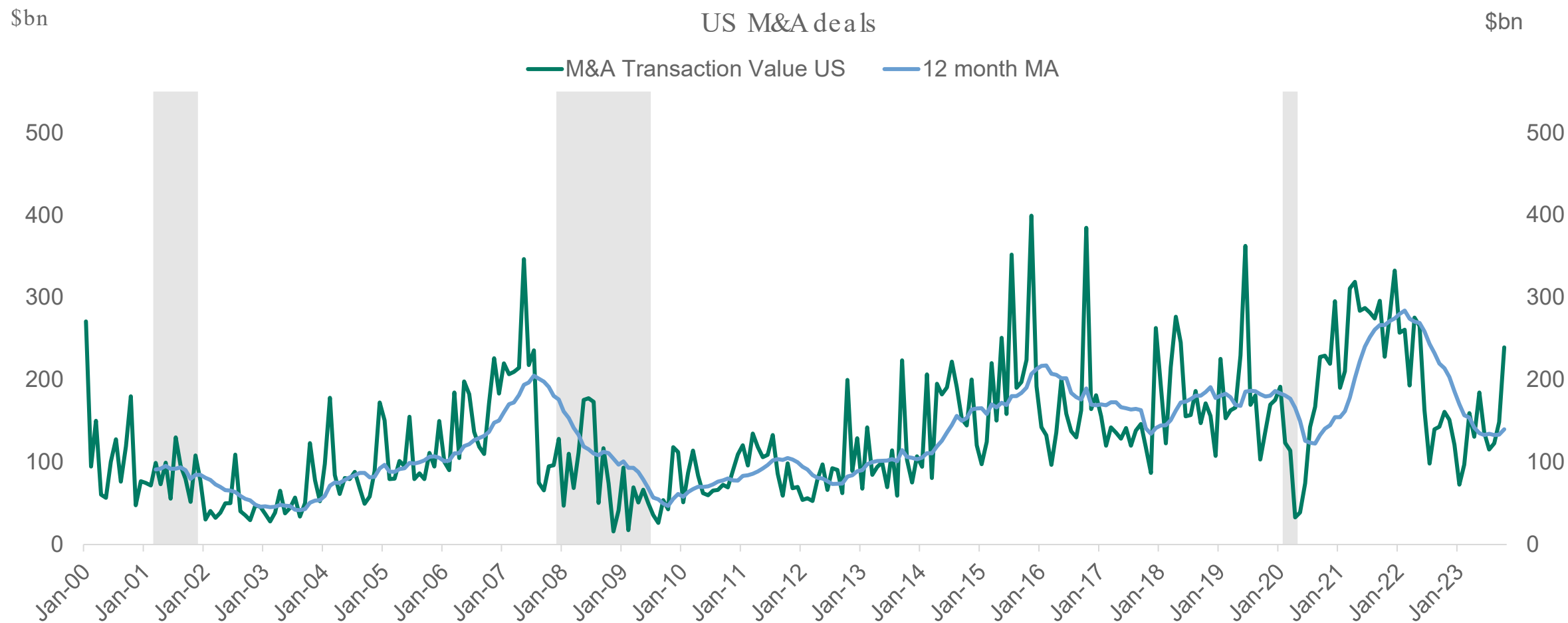


# From QE to QT



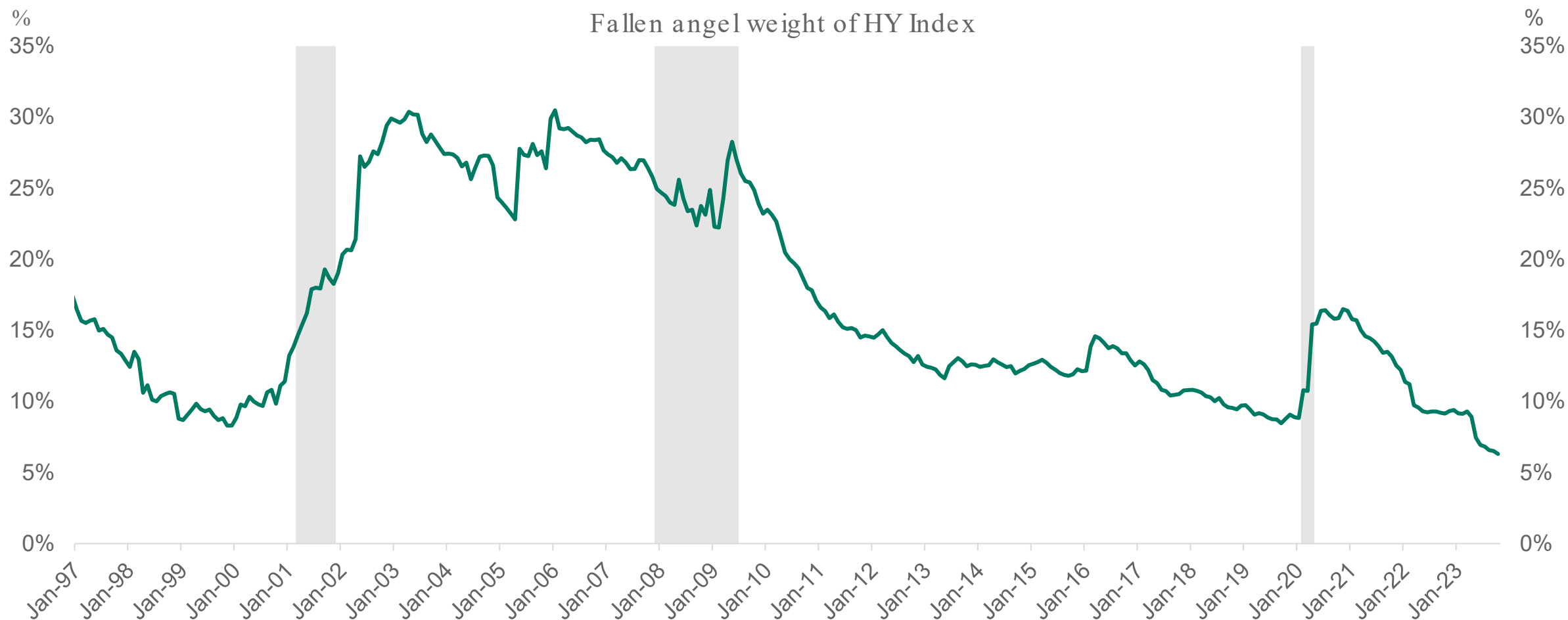
Source: Bloomberg, Apollo Chief Economist. Pace of purchases for 2021: BOE: £3.4bn per week till mid December 2021, FED: USD120bn per month with wind down from December with purchases ending in March 2022, ECB: Euro 90bn per month (20 bn APP + 60 bn PEPP), PEPP till March 2022, Euro 40bn in April, Euro 30bn in May and Euro 20bn in June, and only redemptions reinvested from August. BOJ: USD 60bn per month. For 2022: All programs are expected to wind down linearly from January 2022 to December 2022. Fed QT \$ 95 per month from May 2022. BoE starts to sell GBP80 bn in the next 12 months and ECB starts QT in 2Q23

# M&A activity declining



Source: Bloomberg, Apollo Chief Economist. Note: Ticker used is MAATUS Index

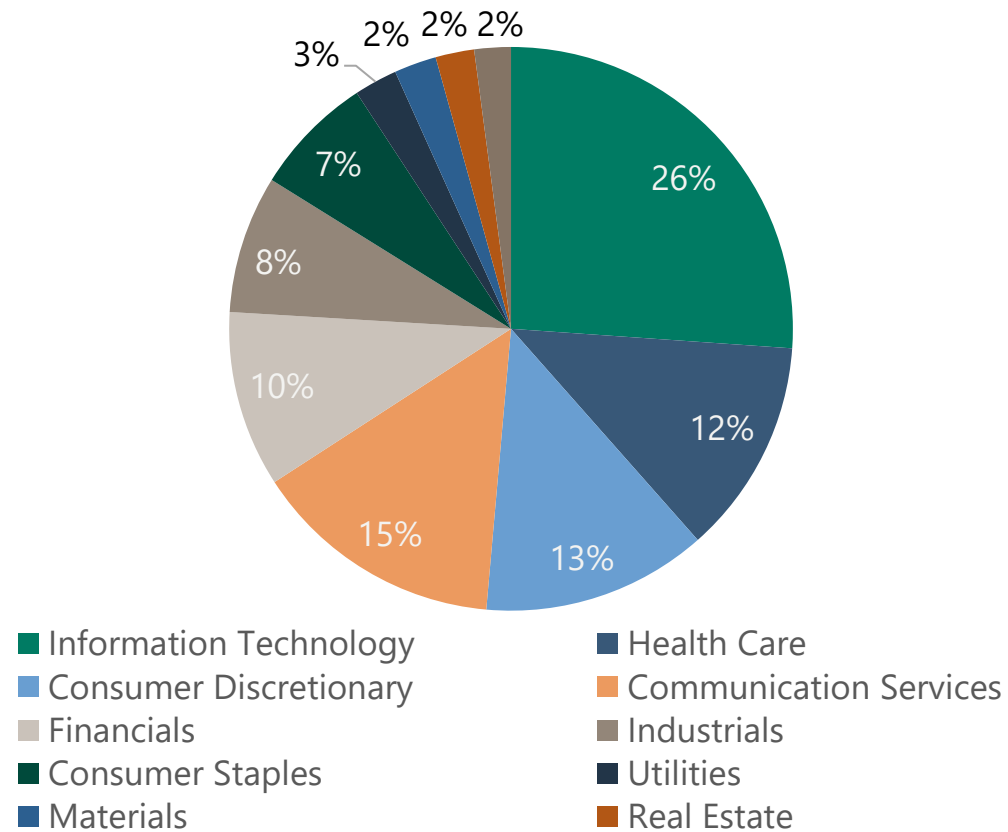
# Declining share of fallen angels in the HY index



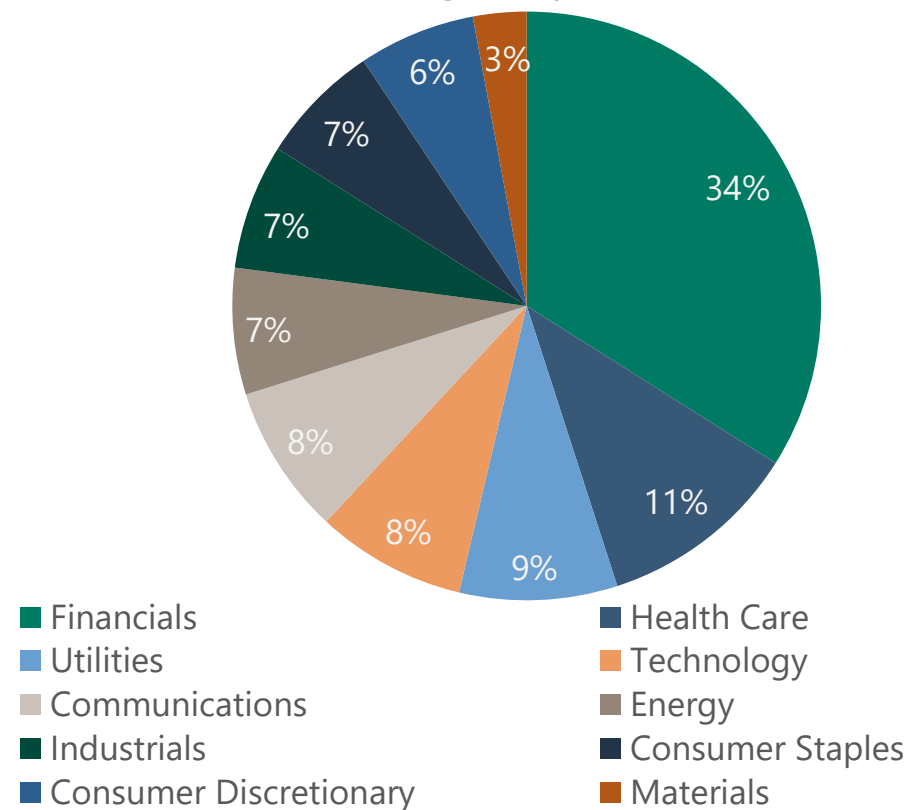
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Tickers used H0A0 Index and H0FA Index

# Big differences between weights in the S&P500 and the IG index

S&P 500 Index weight by market cap

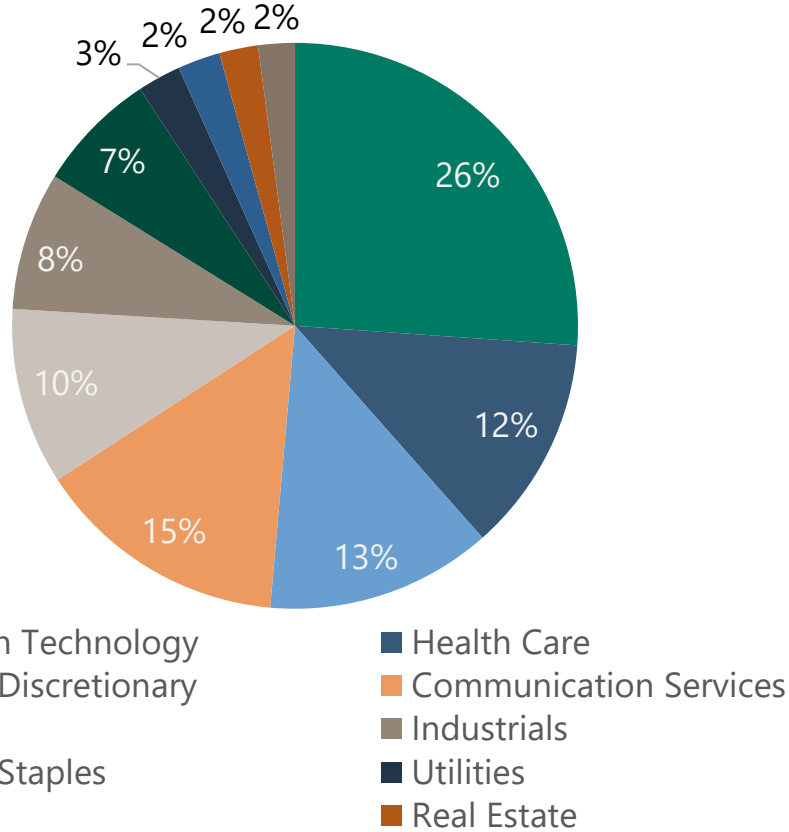


Barclays corporate IG index weights by market cap

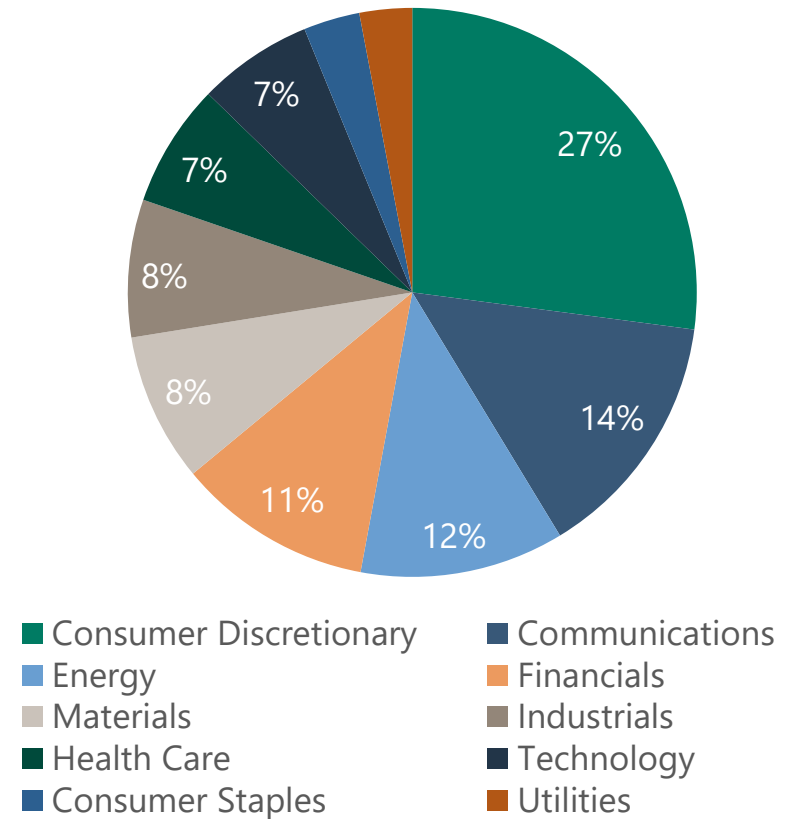


# Big differences between weights in the S&P500 and the HY index

S&P 500 index weight by market cap

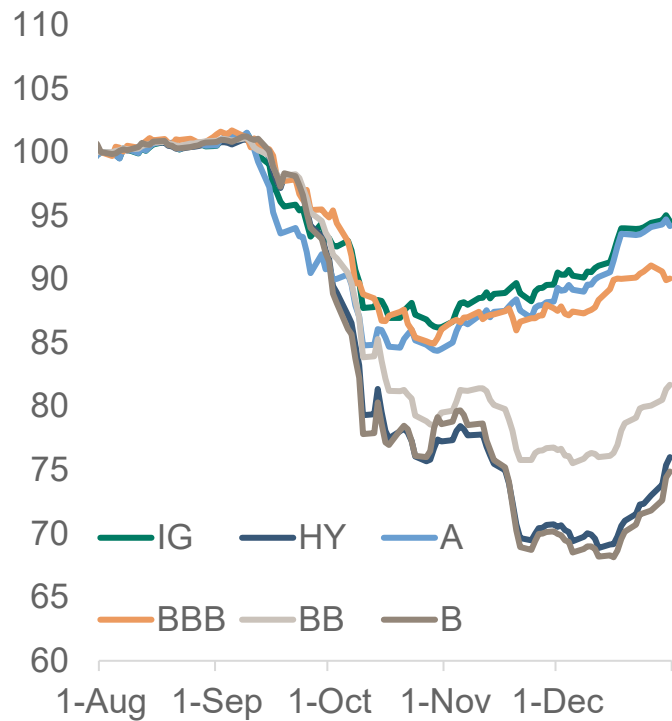


Bloomberg Barclays HY index weights by mkt cap

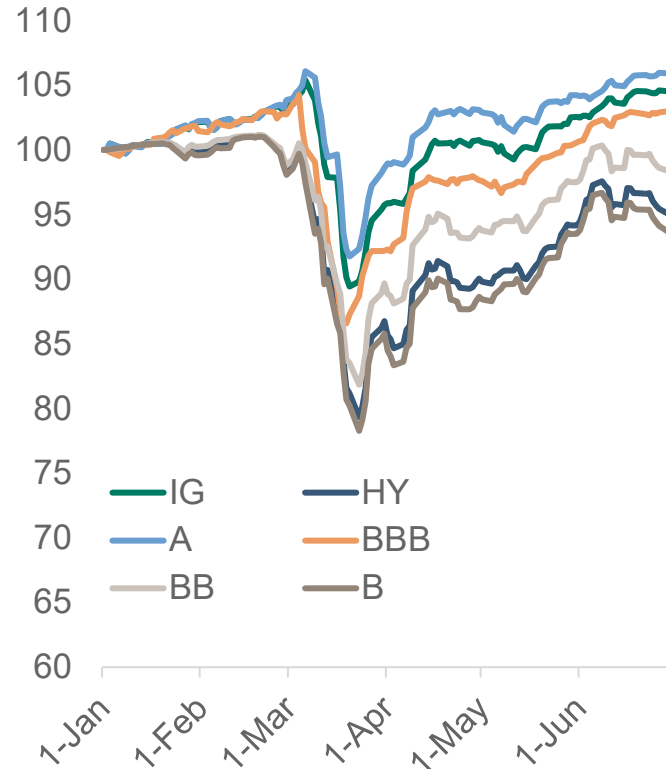


Synchronized sell-off in credit so far. Little differentiation between credits compared with 2008 and March 2020 episodes.

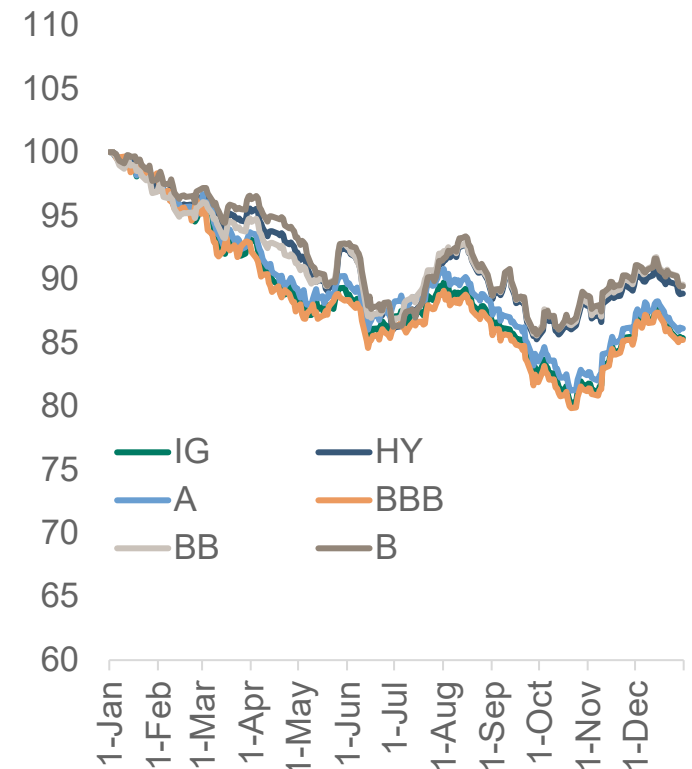
Aug 1st=100 US total returns, 2008



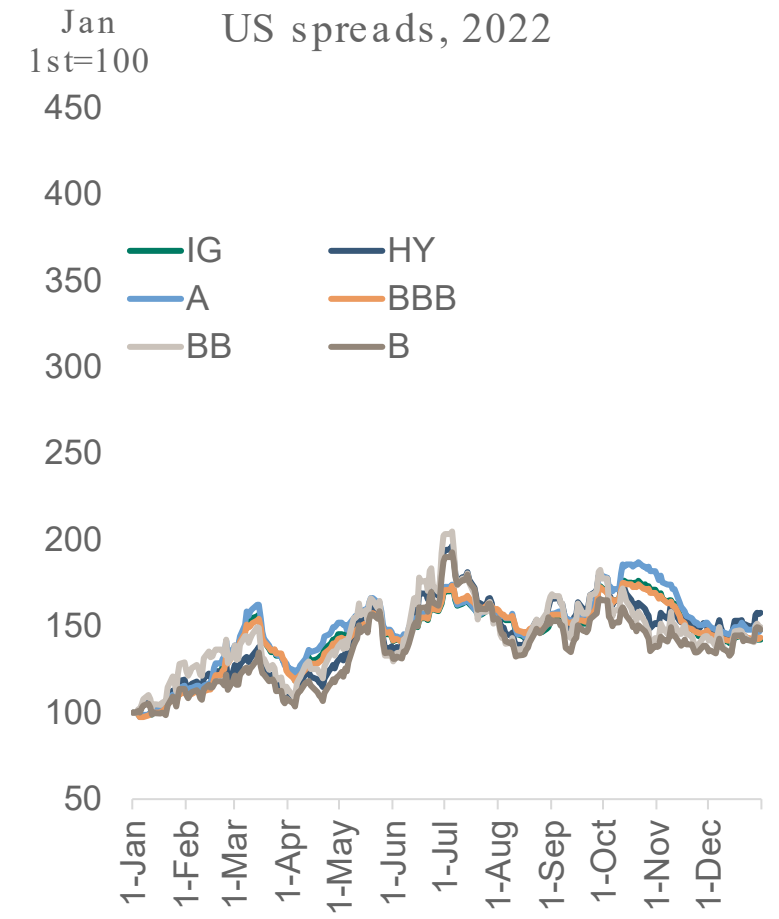
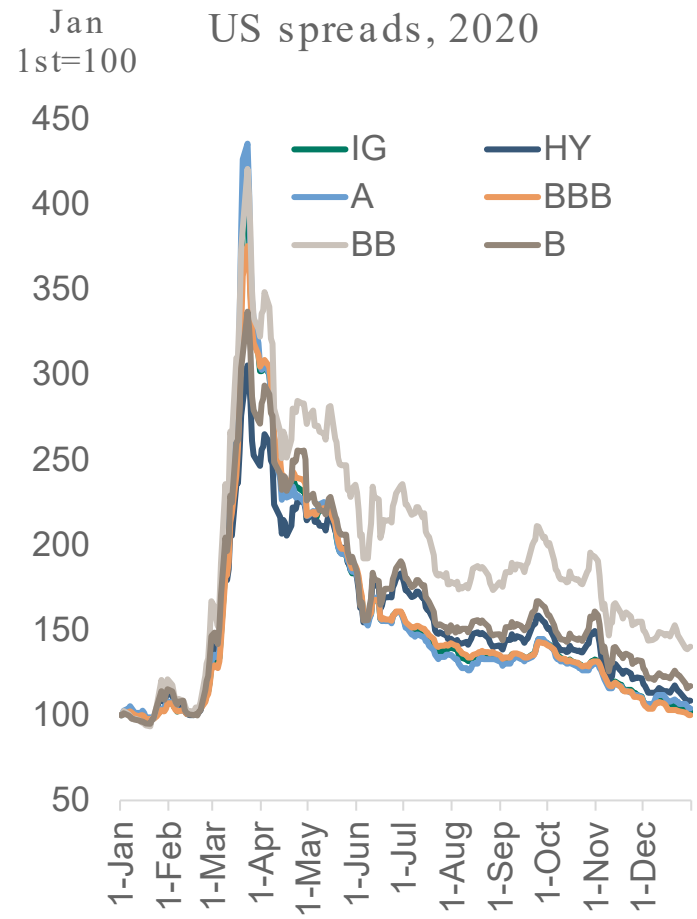
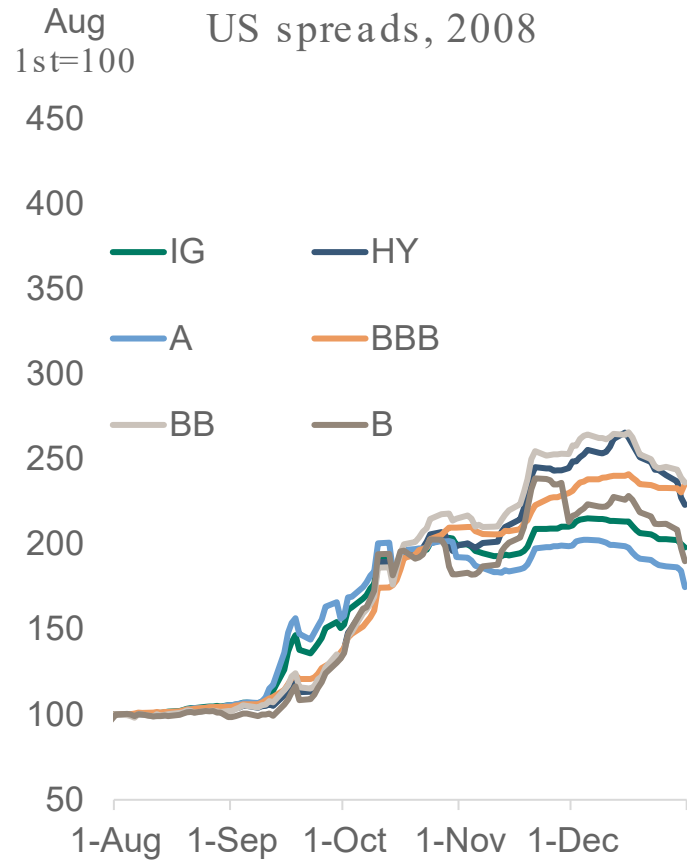
Jan 1st=100 US total returns, 2020



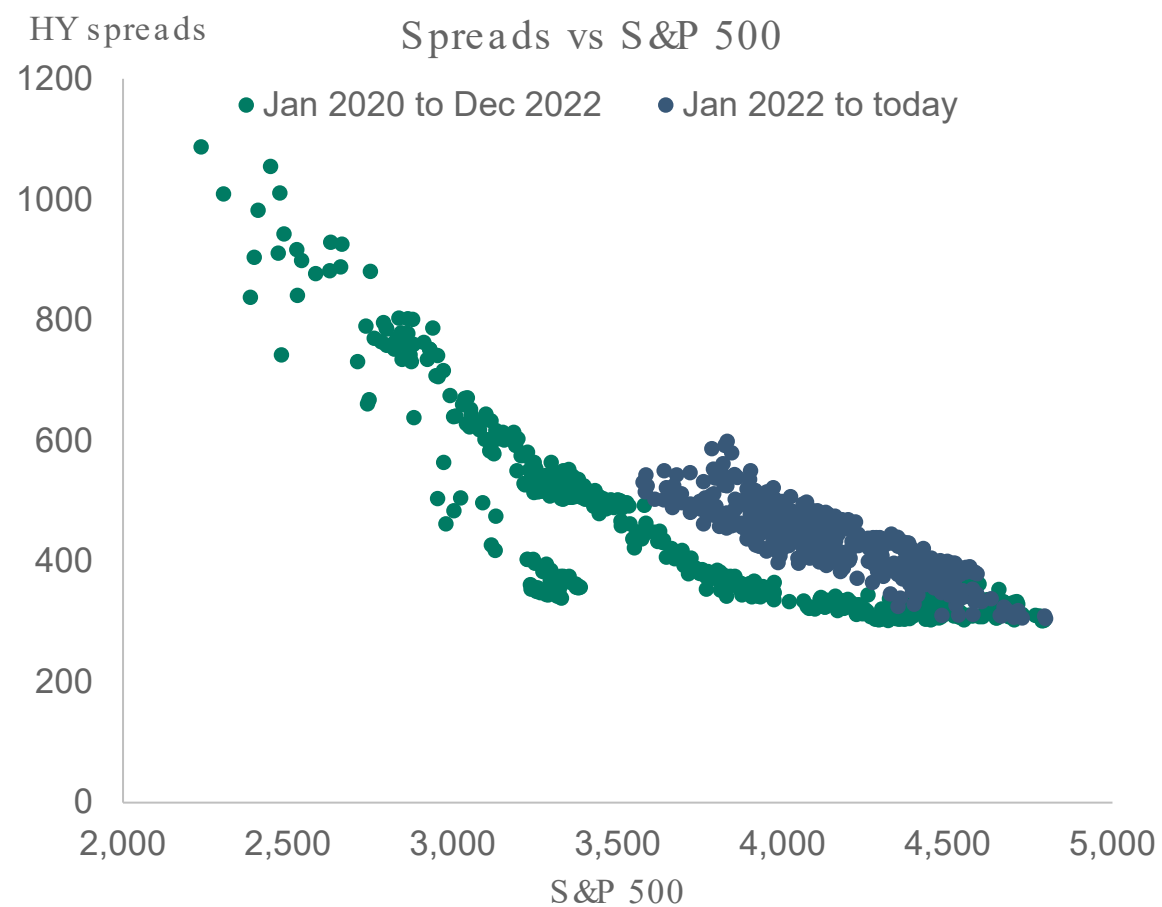
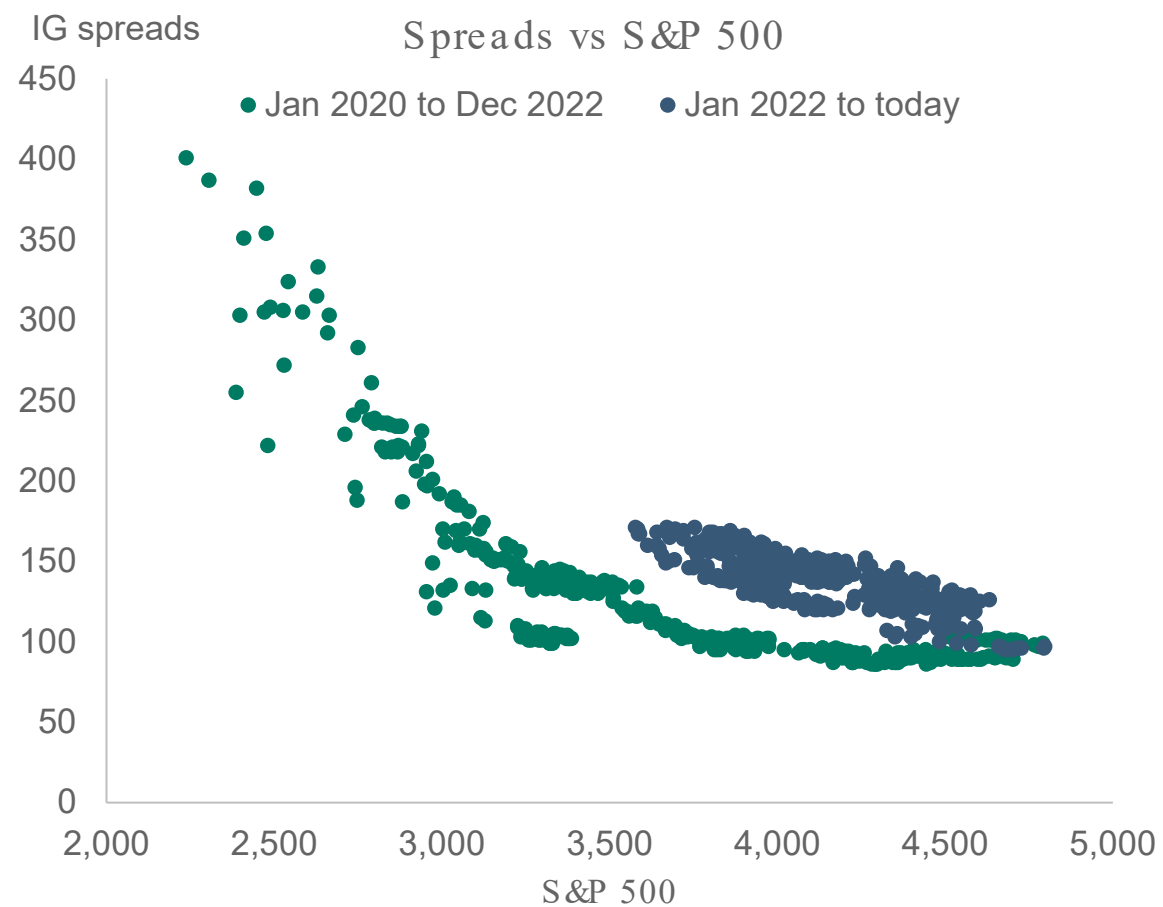
Jan 1st=100 US total returns, 2022



Synchronized sell-off in credit so far. Little differentiation between credits compared with 2008 and March 2020 episodes.

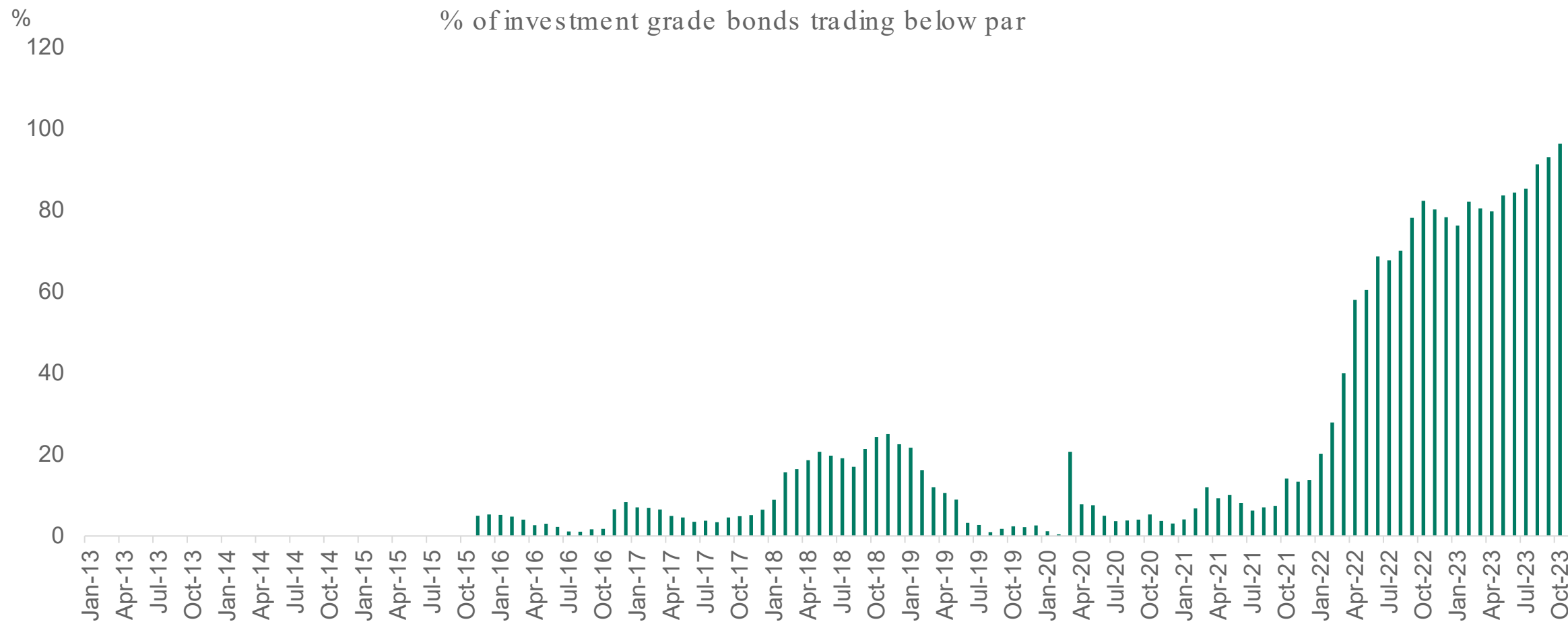


# Valuation of credit versus equities



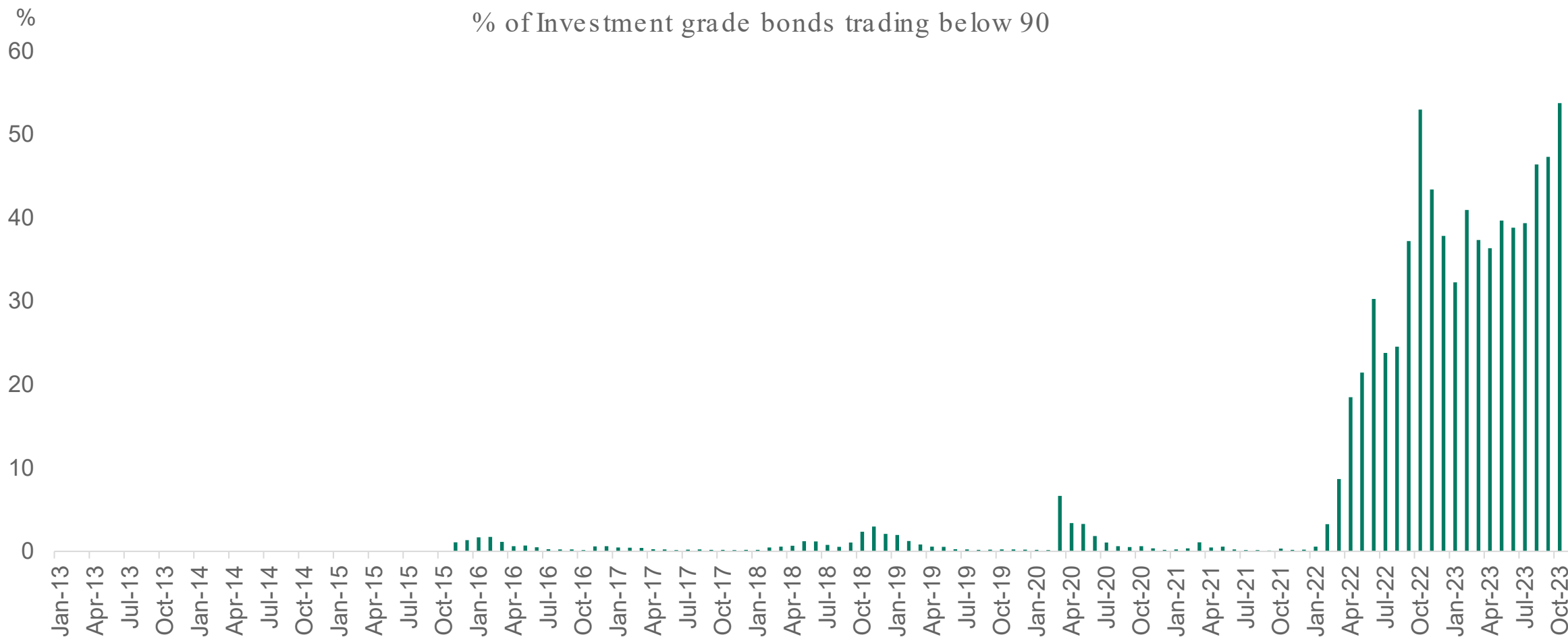


# 91% of the US IG market trading below par



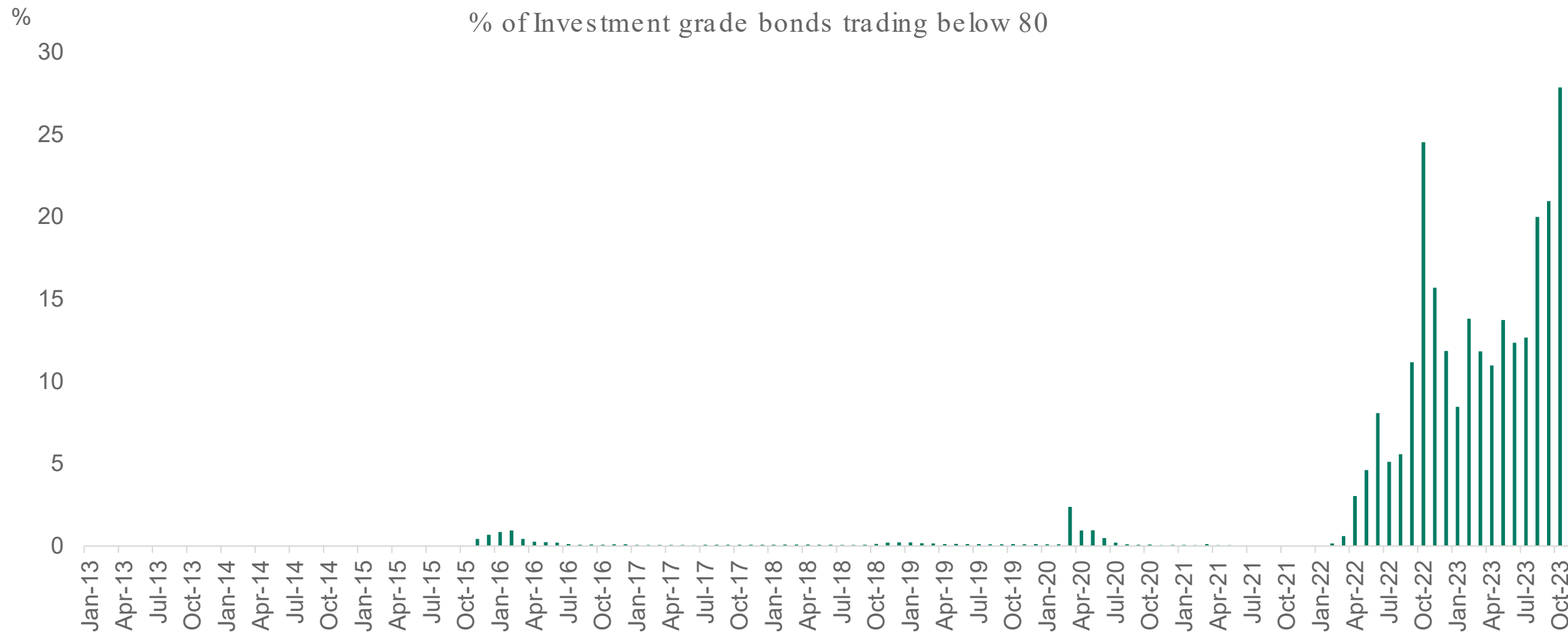
Source: Bloomberg, Apollo Chief Economist. Note: Data used for members in the LBUSTRUU Index.

# 44% of the US IG market trading below 90



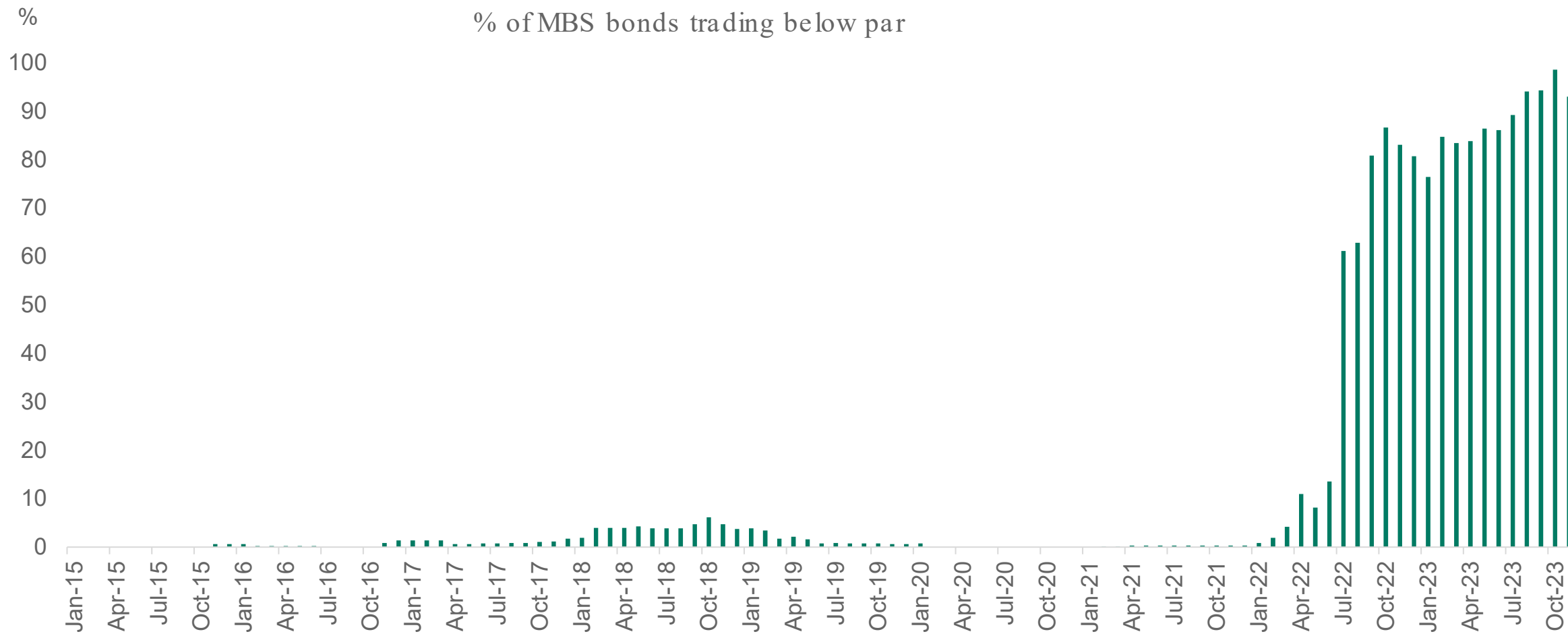
Source: Bloomberg, Apollo Chief Economist. Note: Data used for members in the LBUSTRUU Index.

# 19% of the US IG market trading below 80



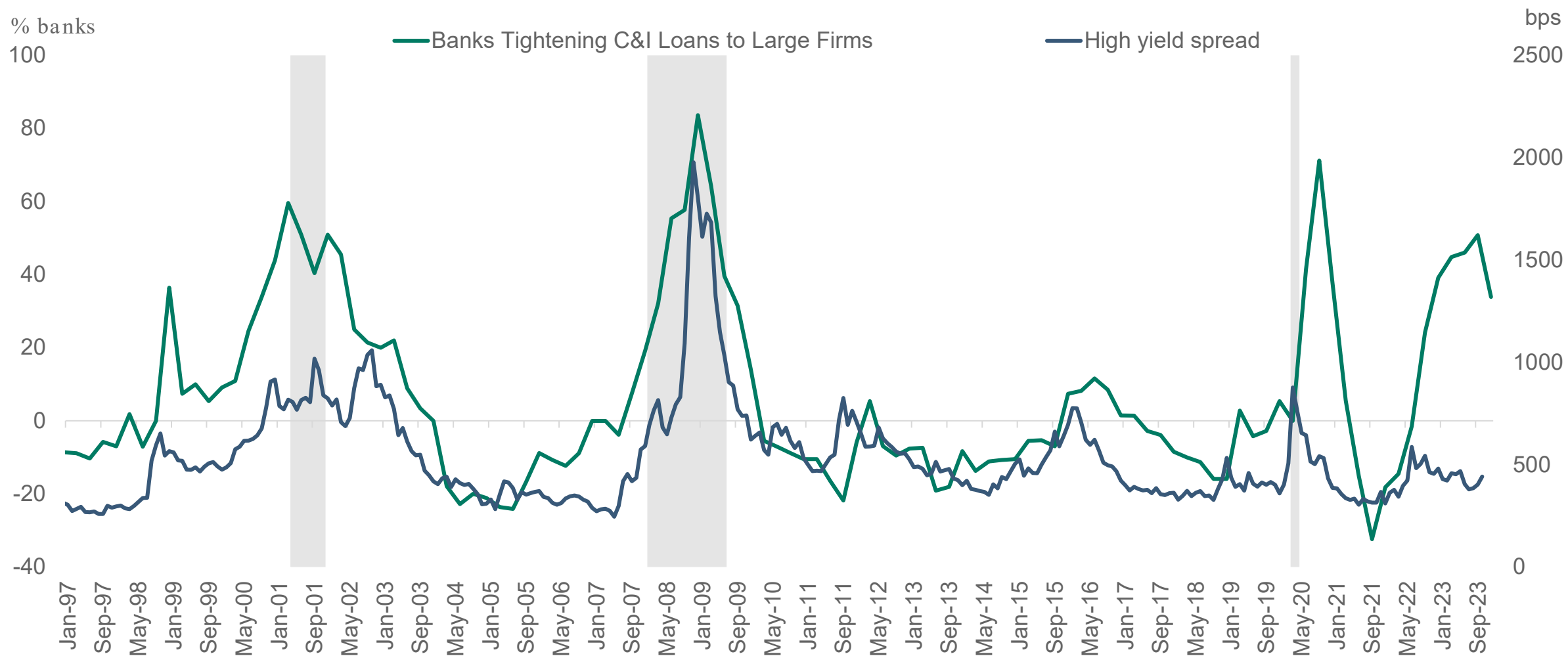
Source: Bloomberg, Apollo Chief Economist. Note: Data used for members in the LBUSTRUU Index.

# 93% of the US MBS market trading below par

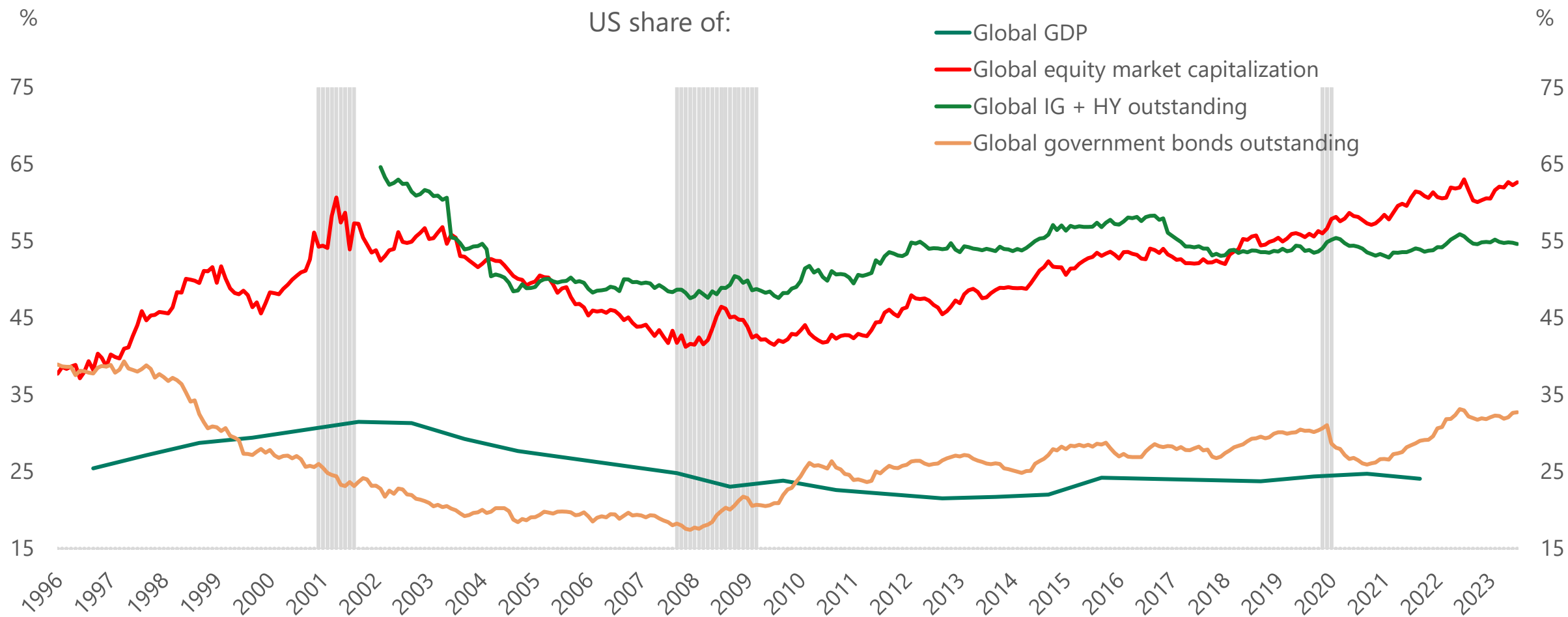


Source: Bloomberg, Apollo Chief Economist. Note: Data used for members in the LD10TRUU Index.

# Banks tightening credit conditions, HY spread not responding

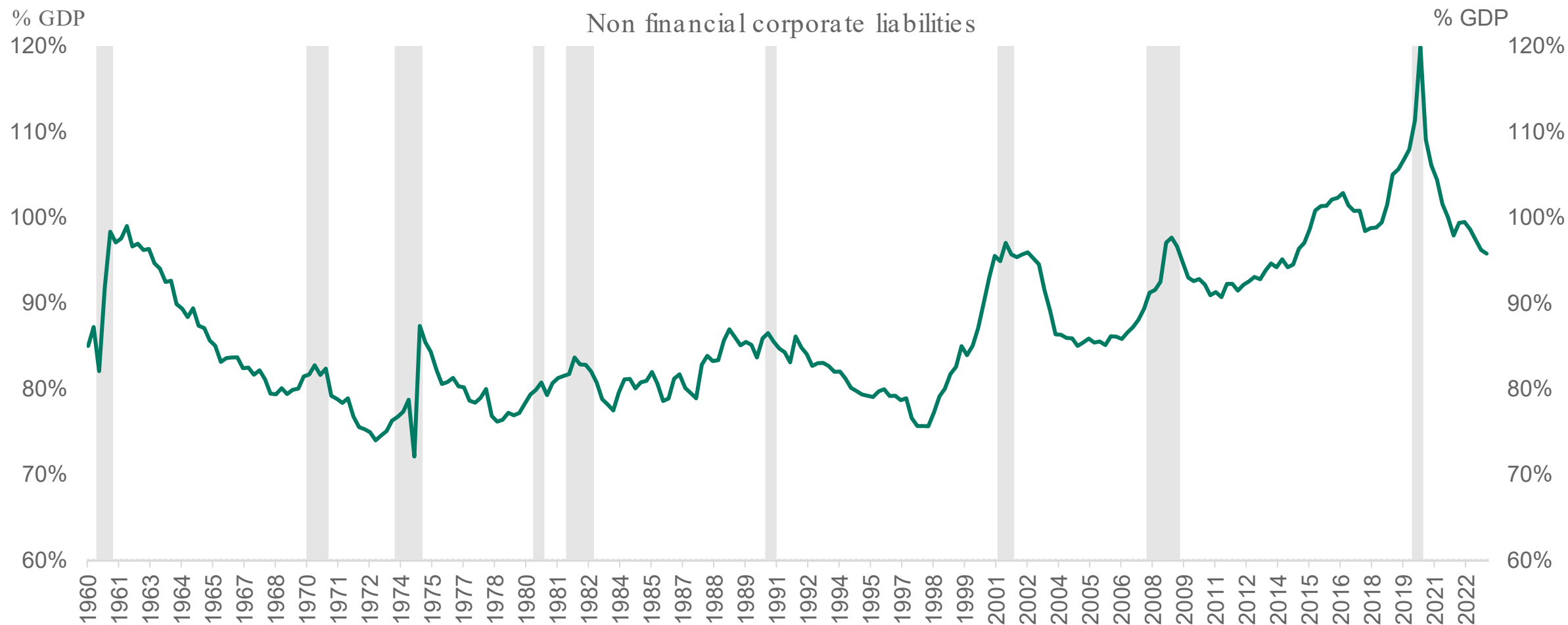


# US share of the world economy and global financial markets



Source: Bloomberg, Haver, Apollo Chief Economist (Note: Bloomberg tickers: MXUS Index, MXWD Index, LUATTRUU Index, BTSYTRUU Index, LF98TRUU Index, LG30TRUU index, LUACTRUU Index, I09805US index)

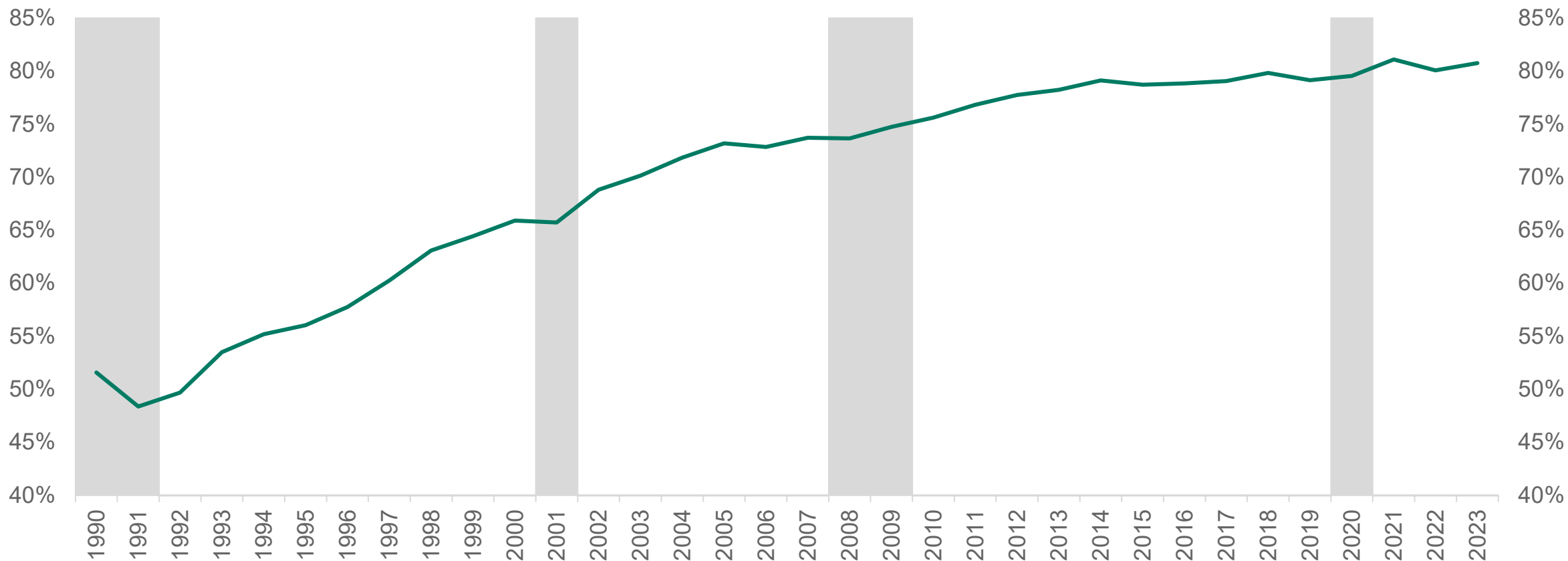
# Corporate debt is coming down as a share of GDP



Source: FRB, Haver Analytics, Apollo Chief Economist

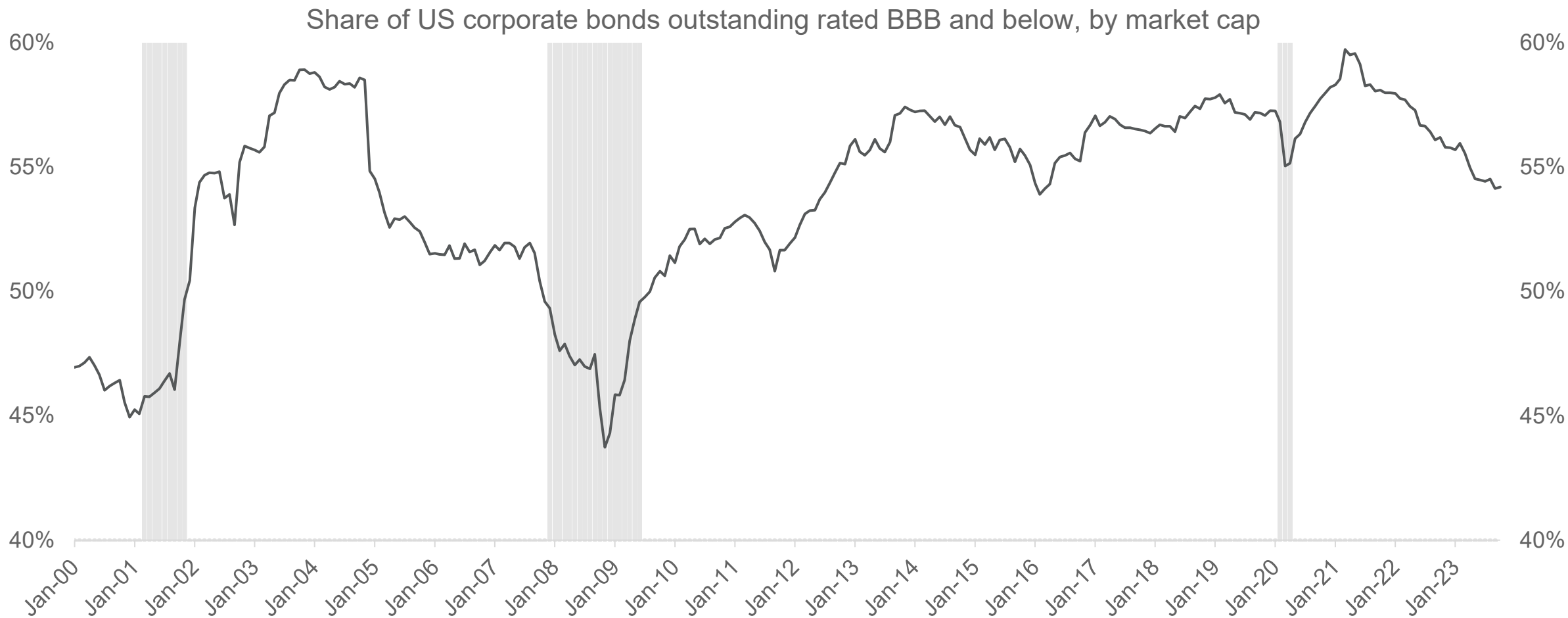
# Lower-rated firms are by definition more vulnerable to rising interest rates

Share of corporate bonds rated BBB and below



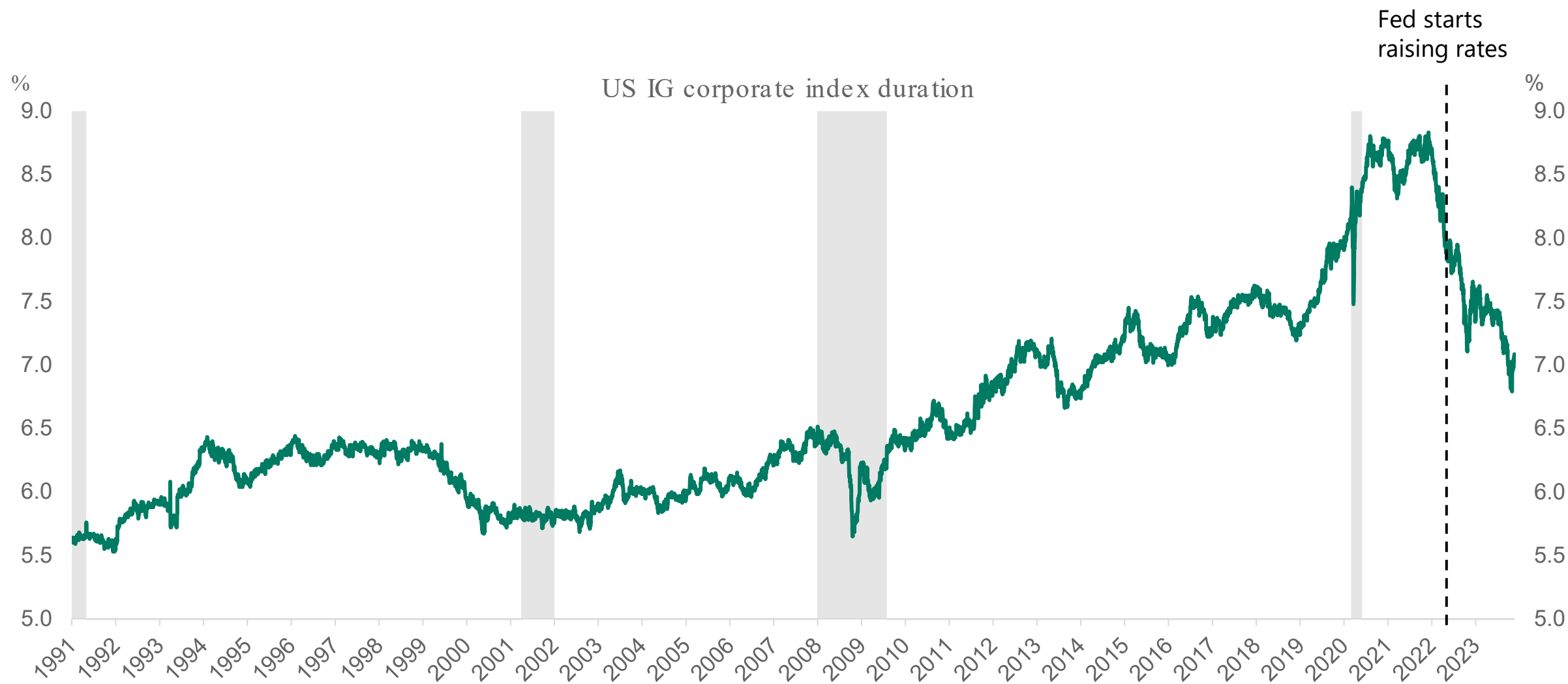


# Share of corporate bond market value outstanding rated BBB and below



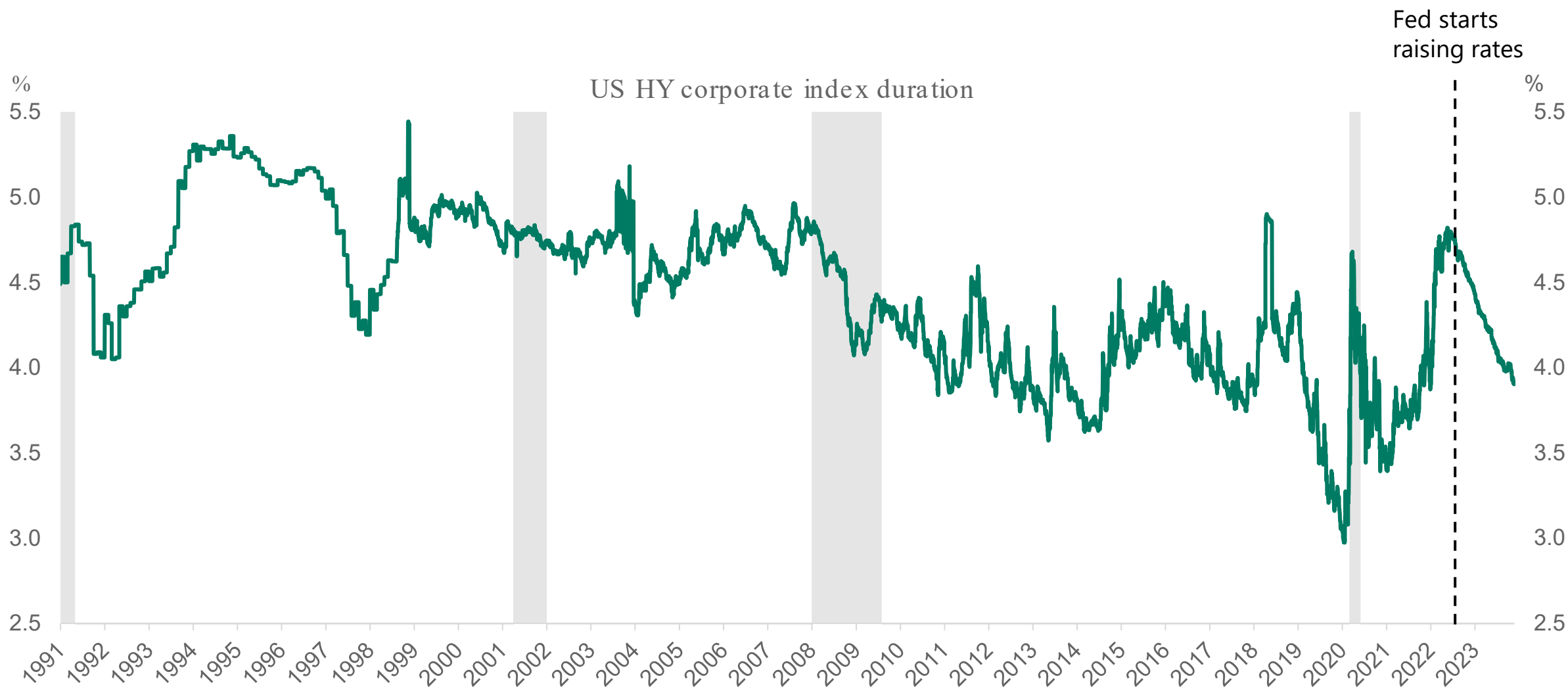
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Data as of 31st October 2023

# IG index duration declining



Source: Bloomberg, Apollo Chief Economist. Note: The measure used is modified duration, which measures the expected change in a bond's price to a 1% change in interest rates.

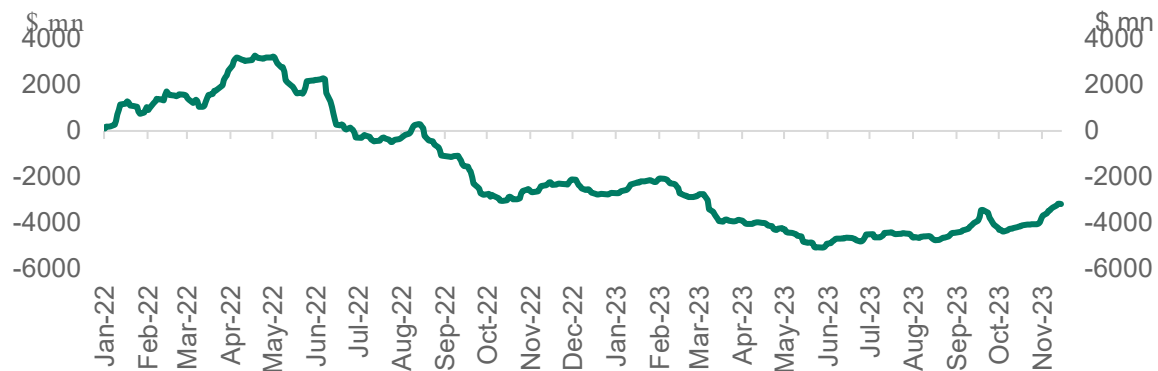
# HY index duration declining



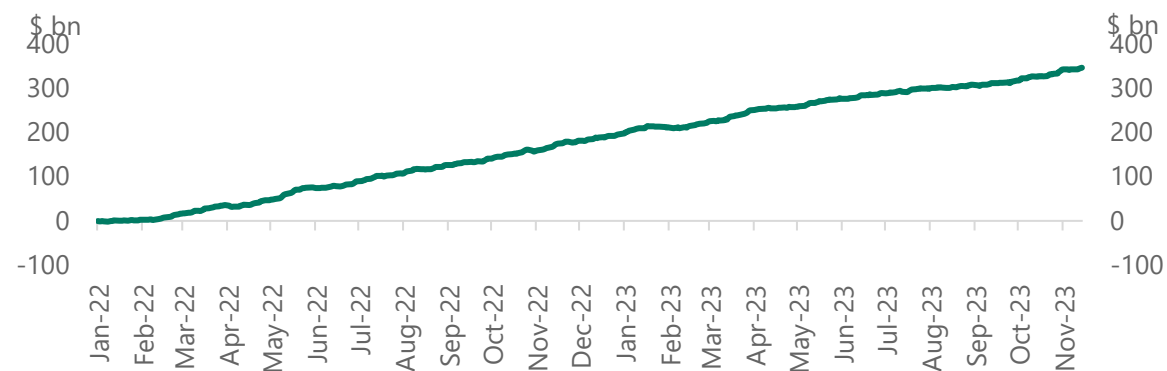
Source: Bloomberg, Apollo Chief Economist. Note: The measure used is modified duration, which measures the expected change in a bond's price to a 1% change in interest rates.

# Flow monitor

US bank loans ETF flows



IG ETF flows



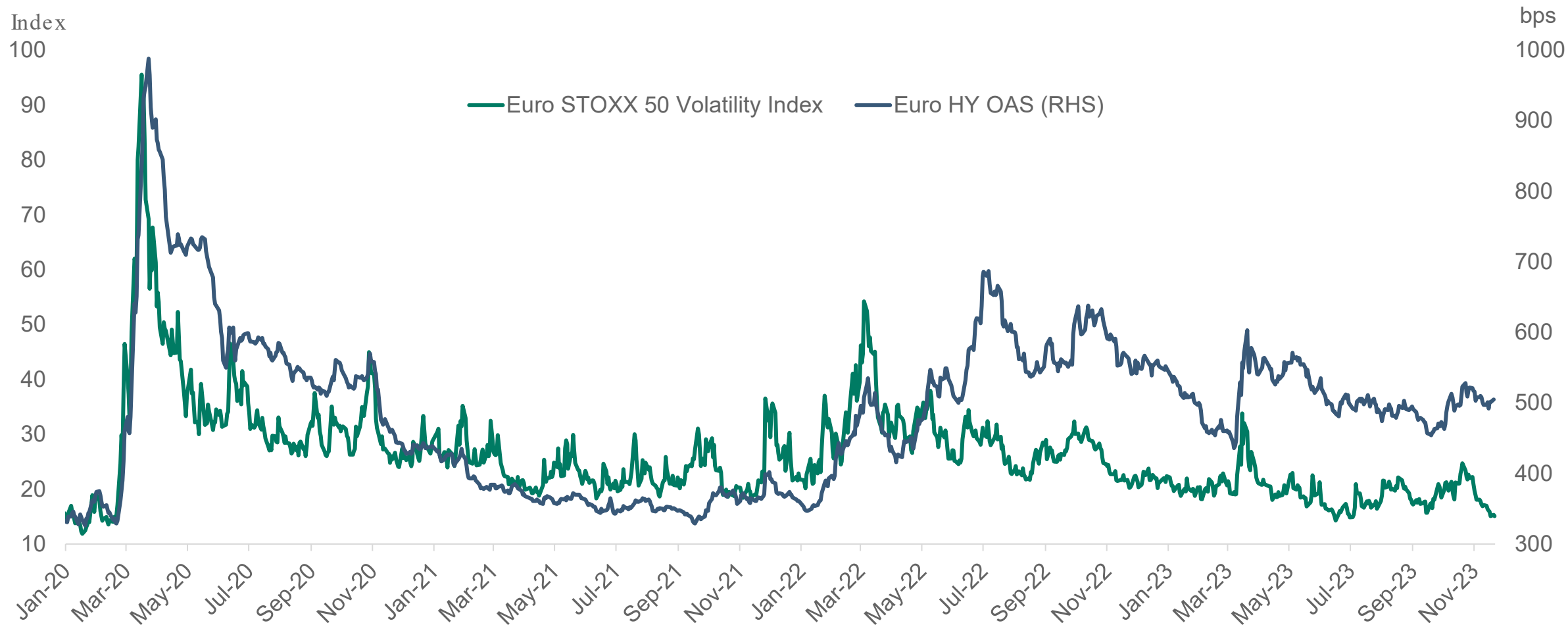
HY ETF Flows



Crypto ETF flows



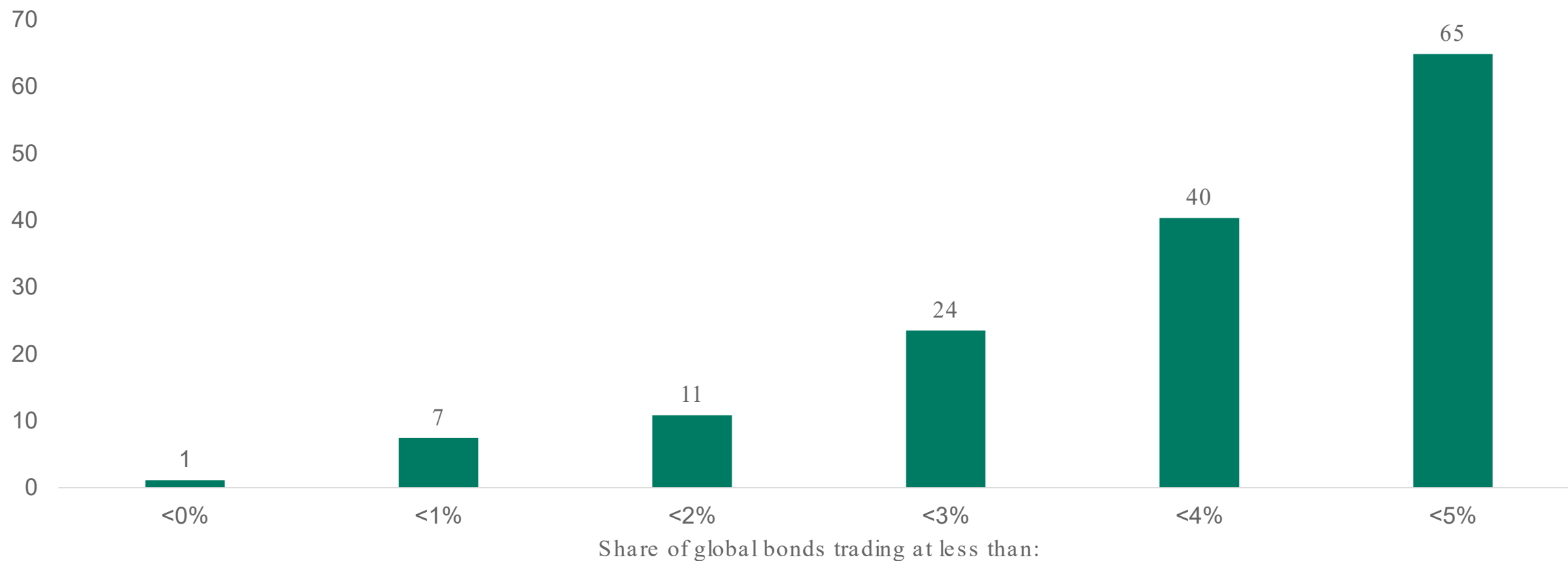
# Convergence between EU equity vol and EU HY spreads



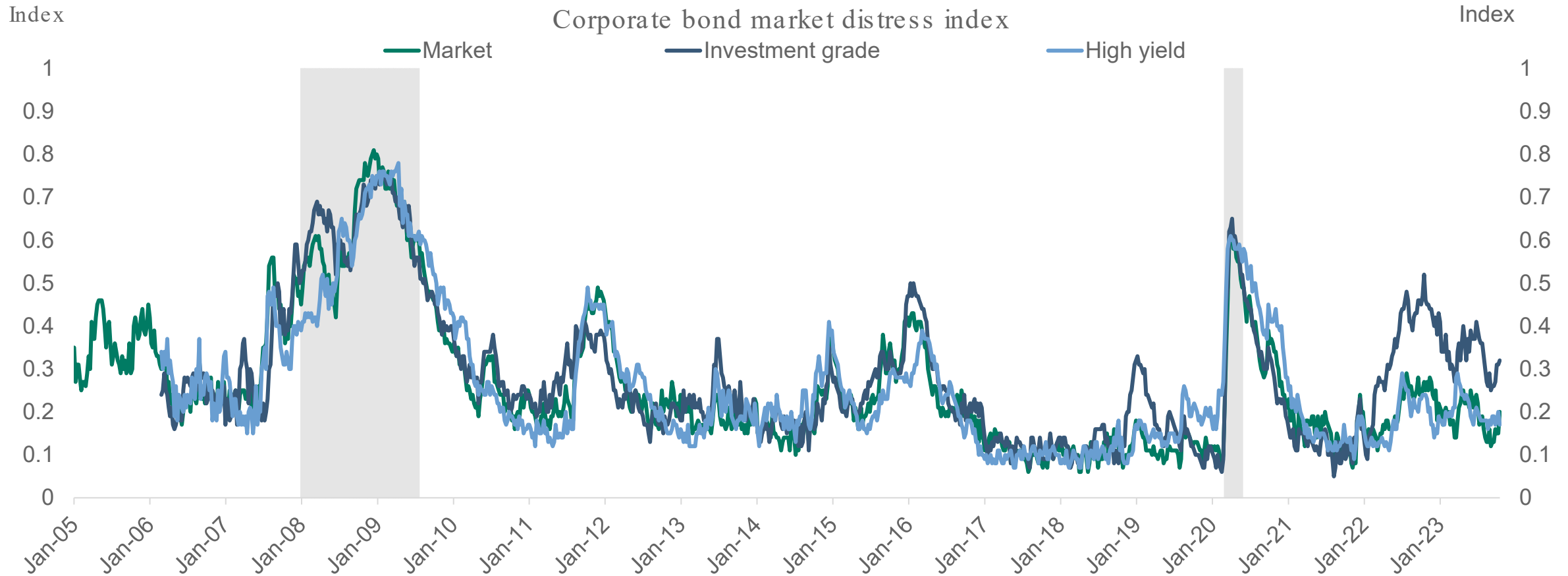
Source: Bloomberg, Apollo Chief Economist. Note: Tickers used are V2X Index and LP01OAS Index

# 24% of bonds in the world trading at less than 3% yield

% global bonds outstanding

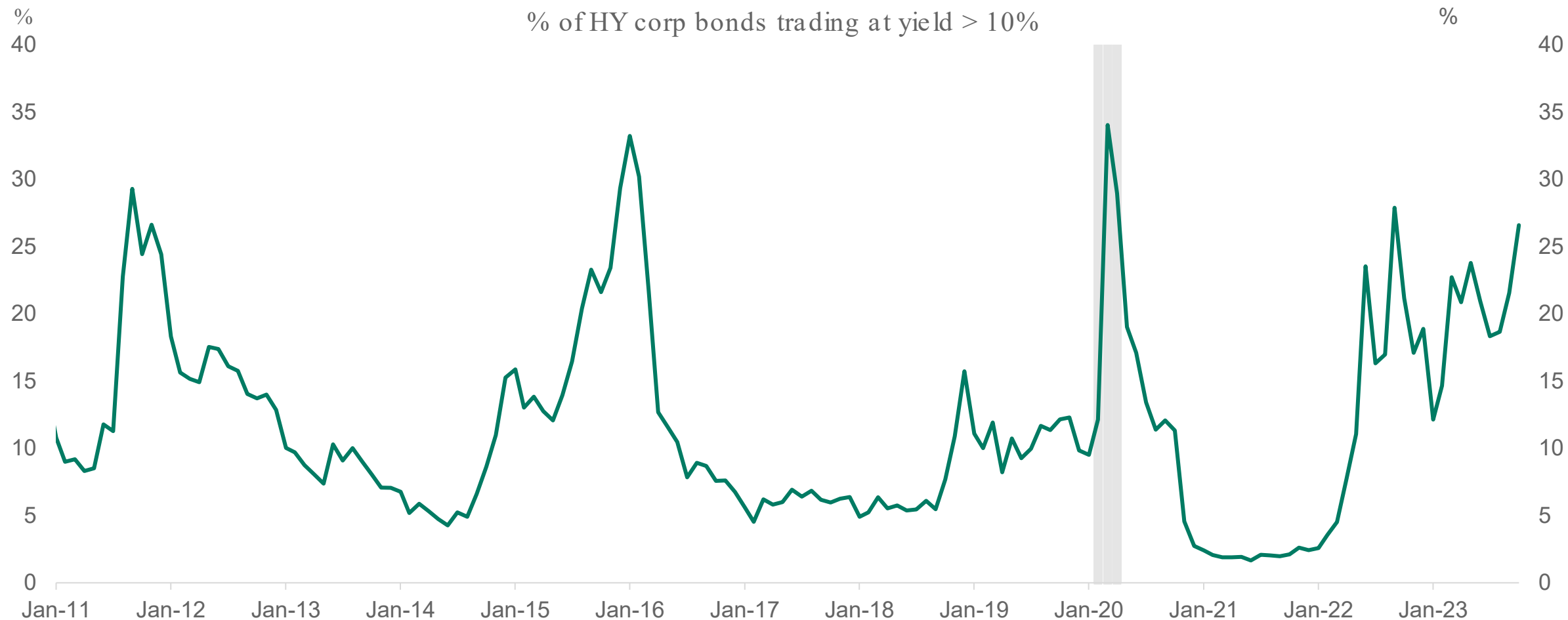


# NY Fed measure of corporate bond market functioning



Source: FRB of New York, Apollo Chief Economist (Note: Corporate bonds are a key source of funding for U.S. non-financial corporations and a key investment security for insurance companies, pension funds, and mutual funds. Distress in the corporate bond market can thus both impair access to credit for corporate borrowers and reduce investment opportunities for key financial sub-sectors. CMDI offers a single measure to quantify joint dislocations in the primary and secondary corporate bond markets. Ranging from 0 to 1, a higher level of CMDI corresponds with historically extreme levels of dislocation. CMDI links bond market functioning to future economic activity through a new measure.

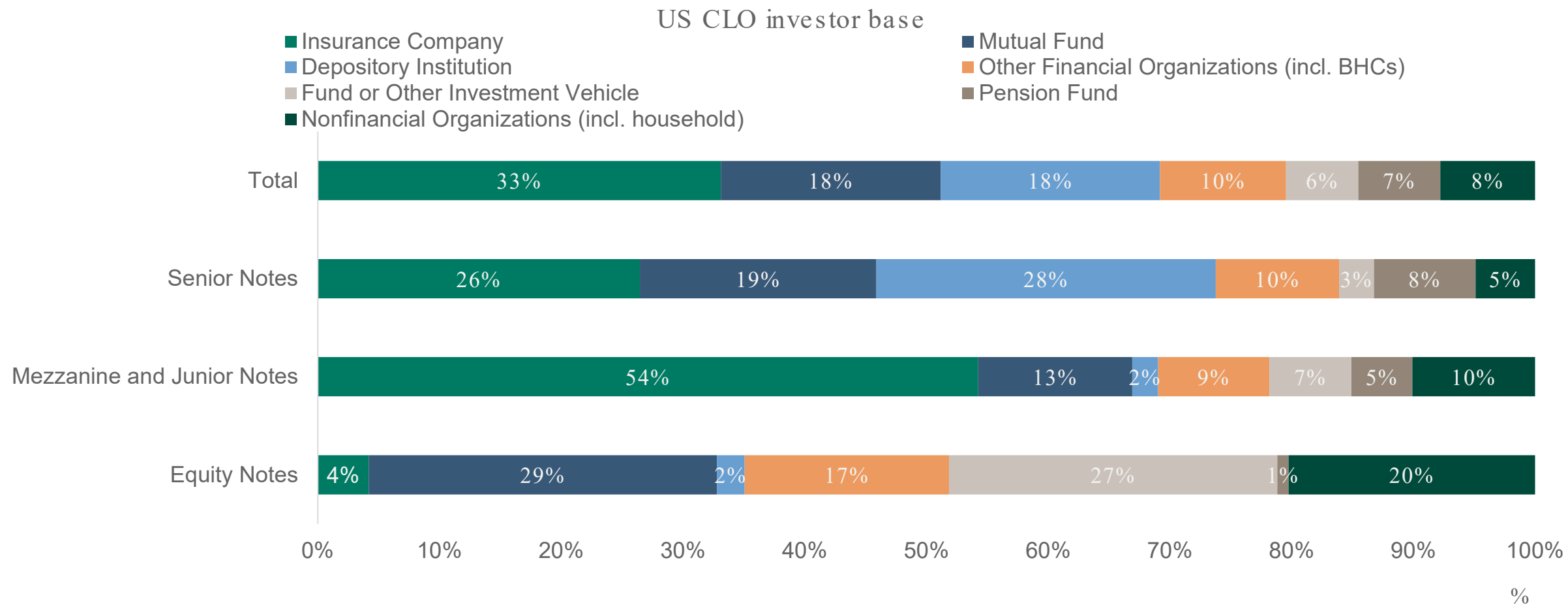
# 27% of bonds in the HY index are trading with a yield higher than 10%



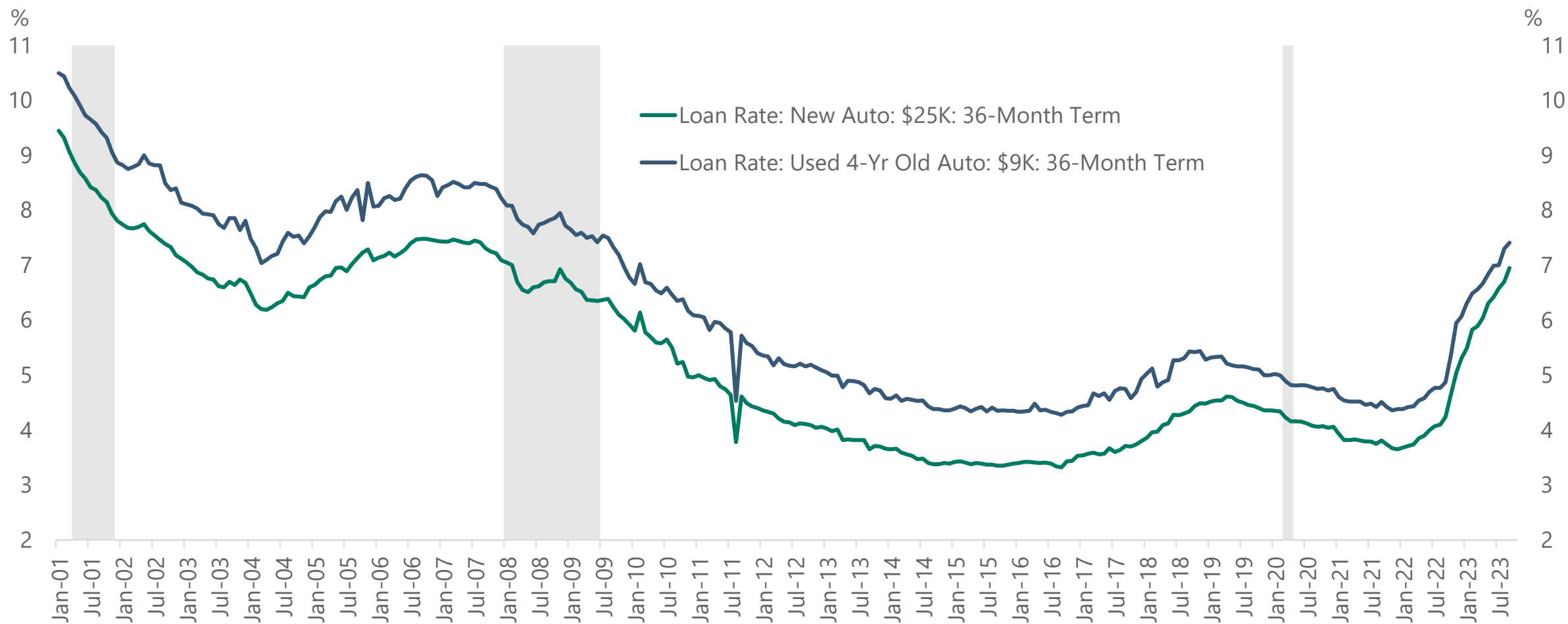
Source: Bloomberg, Apollo Chief Economist. Note: HY bond universe is H0A0 Index



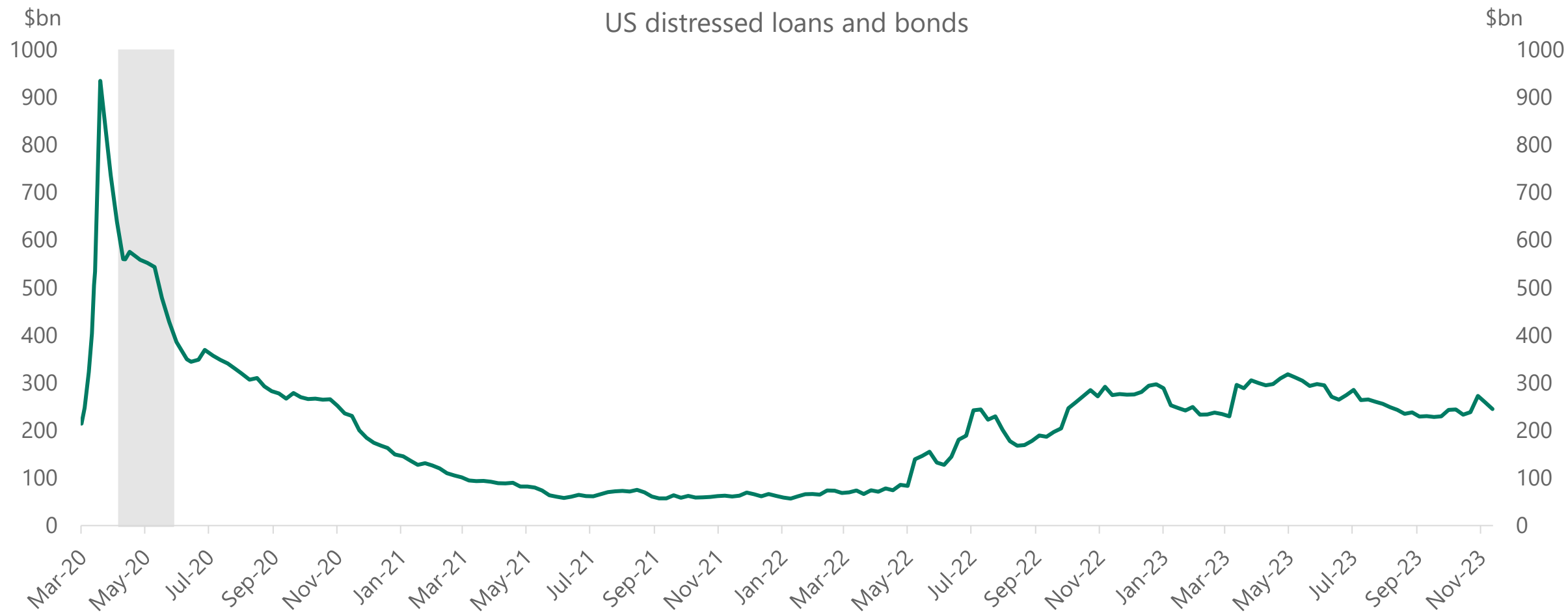
# US CLO investor base by tranche



# Auto loan rates rising

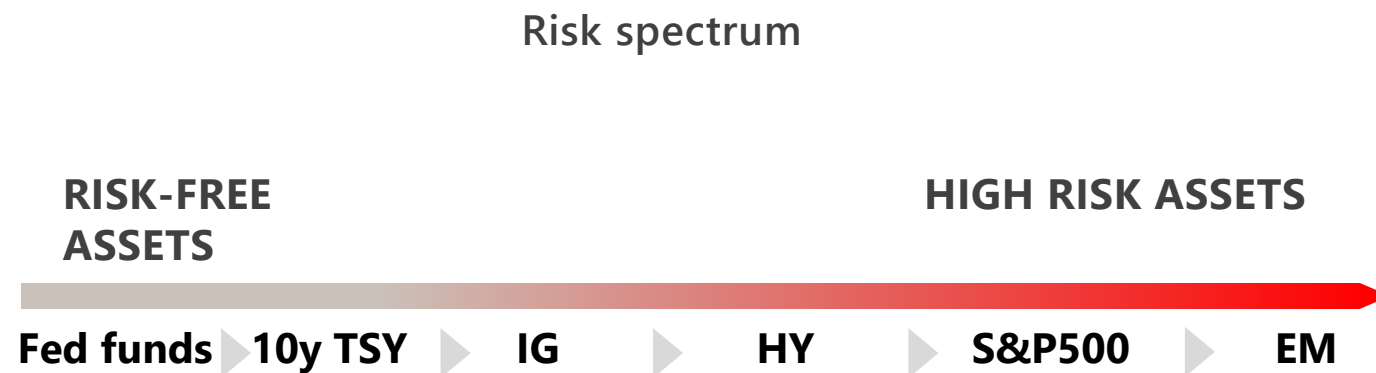


# Distressed debt outstanding

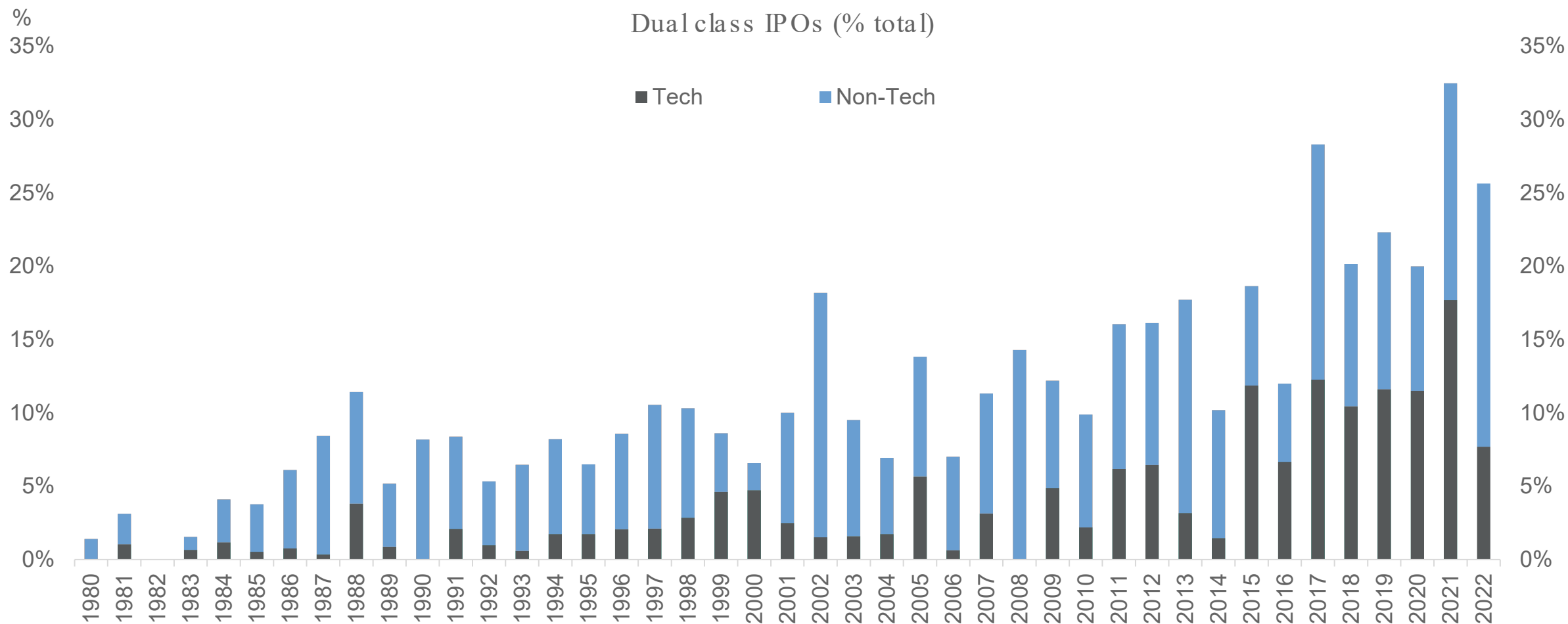


Source: Bloomberg, Apollo Chief Economist. Note: Distressed bonds are Corporate Bonds in Americas with spreads > 1,000 bps and distressed loans defined as USD Loans trading at or below 80 in Americas

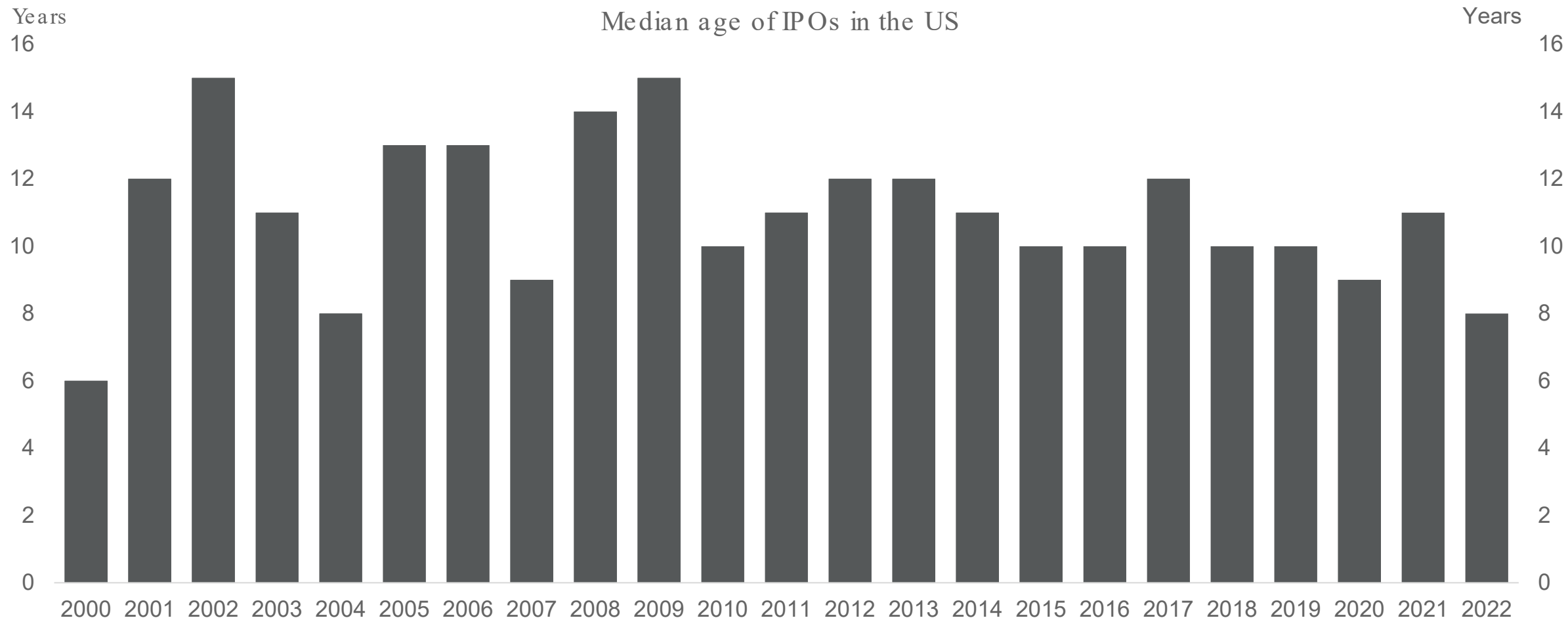
# Inflation is reversing the hunt for yield



# Dual class IPOs, driven by tech



# Median age of IPOs



China HY

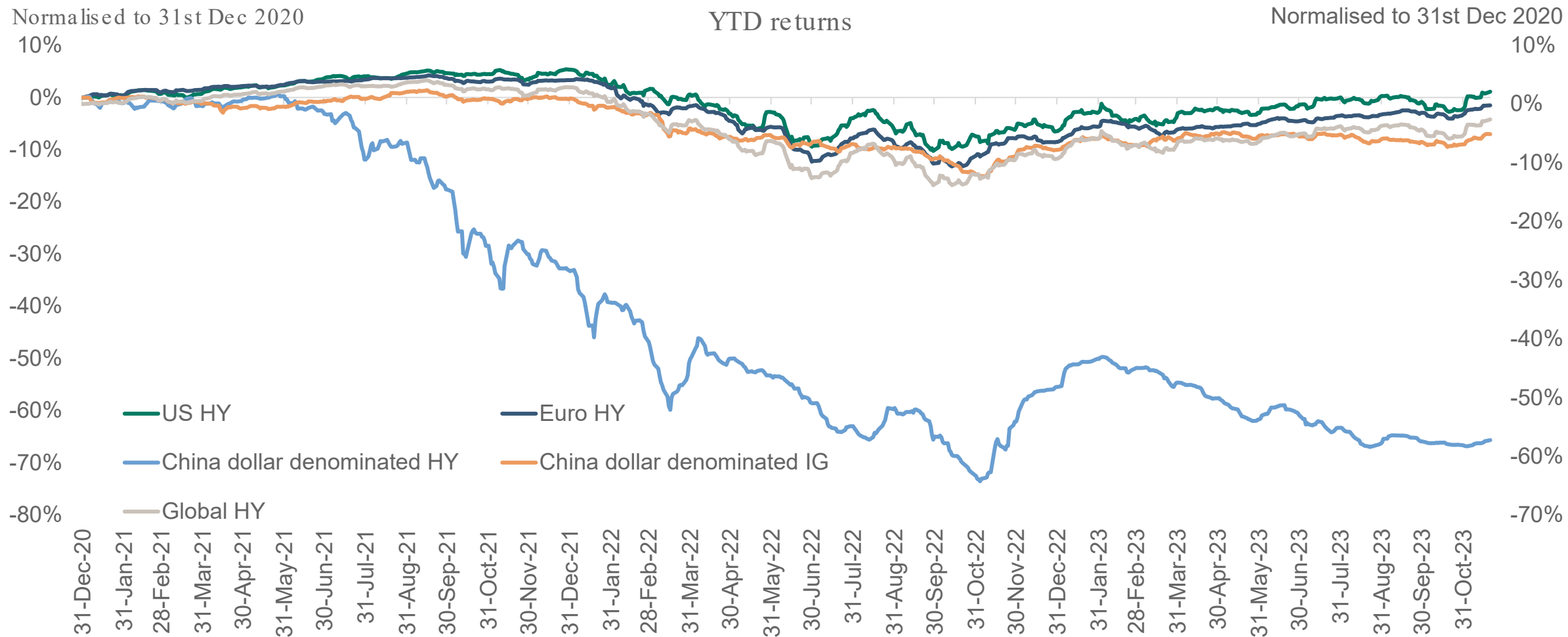


# The yield on China HY is now at 18%





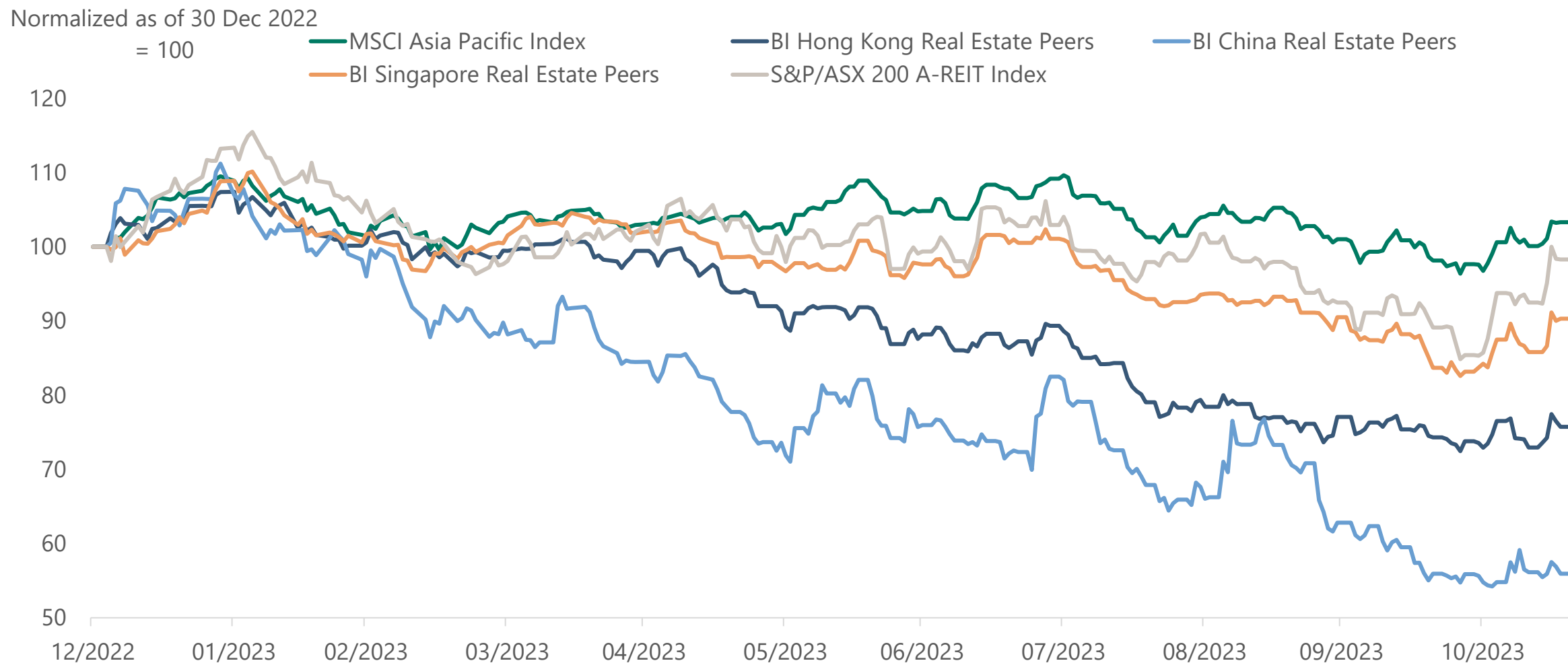
# Little contagion from China HY to US and EU credit markets



# China property crisis intensifying



# China real estate sector performance compared to its peers



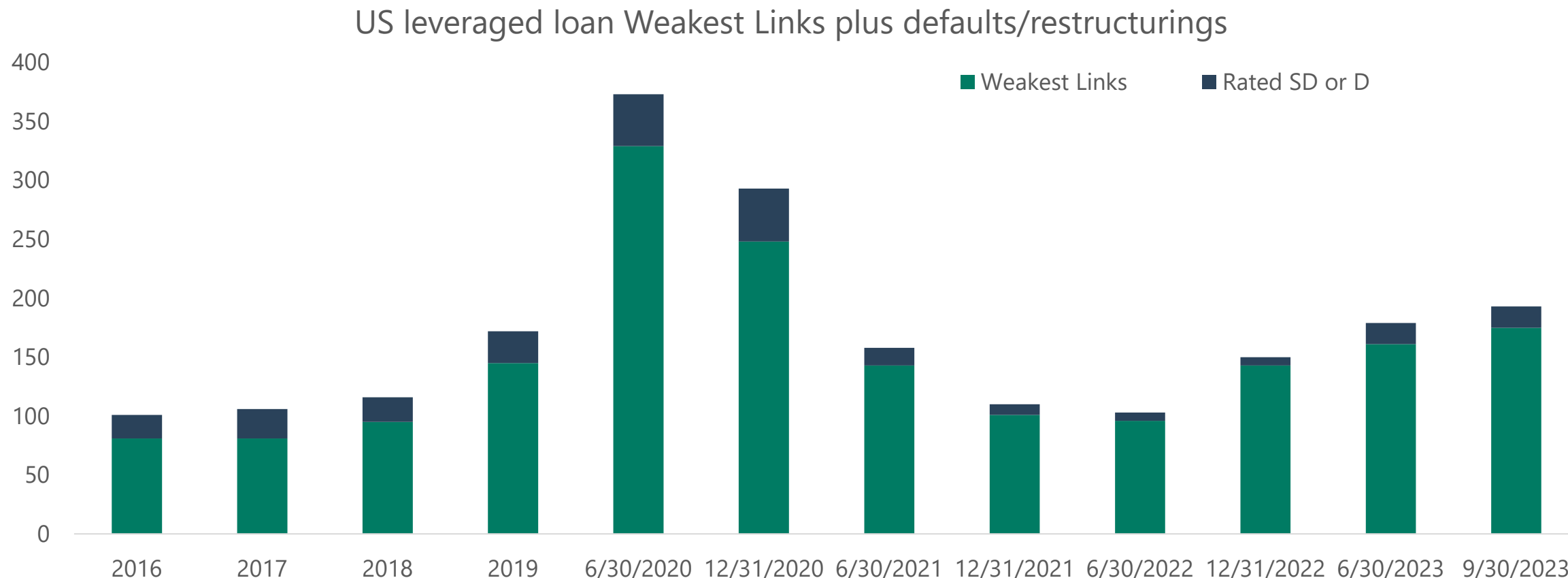
Top issuer names



# Top issuer names for IG and HY

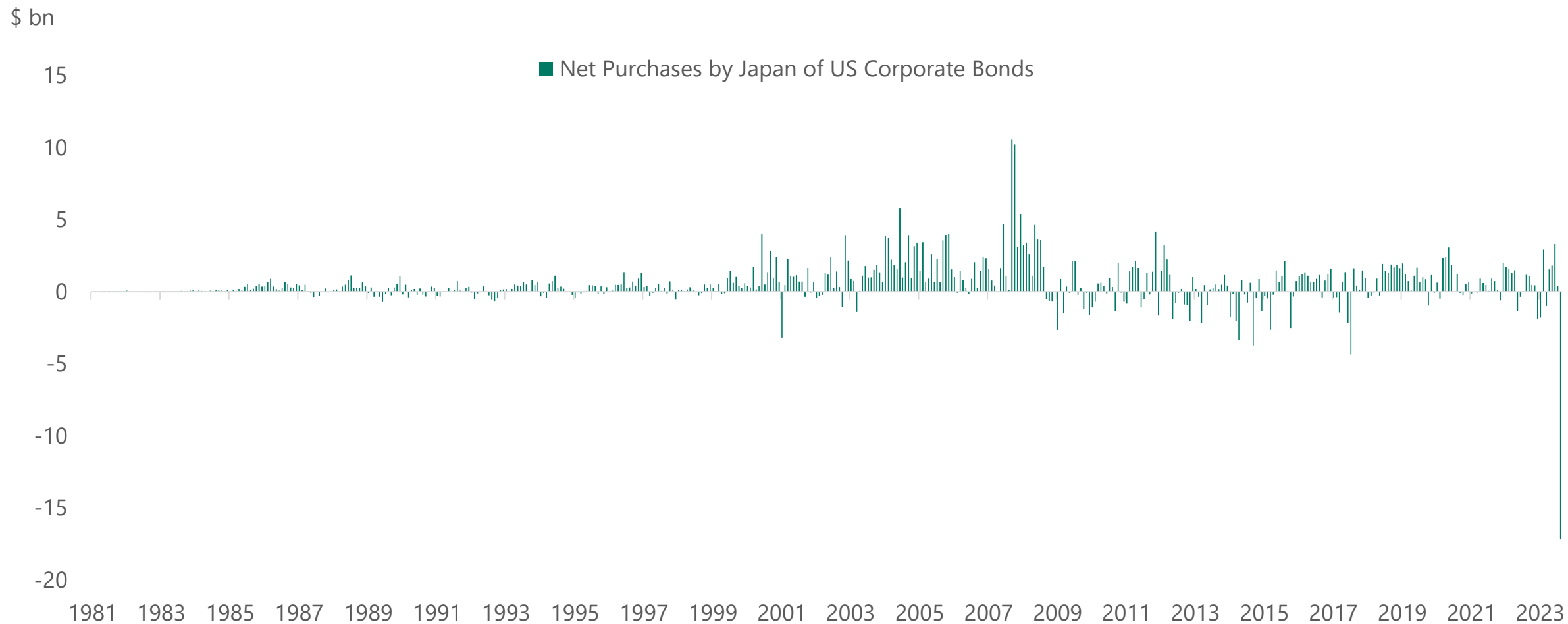
	<b>Top 50 Investment Grade corporate bond issuers</b>	<b>Top 50 High Yield corporate bond issuers</b>
1	Bank of America Corporation	Ford Motor Credit Company LLC
2	JPMorgan Chase & Co.	CCO Holdings LLC/ CCO Holdings Capital Corp.
3	Morgan Stanley	Tenet Healthcare Corporation
4	Citigroup Inc.	TransDigm Inc.
5	Goldman Sachs Group Inc.	Carnival Corporation
6	Wells Fargo & Company	Ford Motor Company
7	Apple Inc.	Royal Caribbean Group
8	HSBC Holdings PLC	CSC Holdings LLC
9	AT&T Inc	Community Health Systems Incorporated
10	Oracle Corporation	DISH DBS Corporation
11	Verizon Communications Inc.	Bausch Health Companies Inc
12	Comcast Corporation	Caesars Entertainment Inc New
13	UnitedHealth Group Inc.	Sirius Xm Radio Inc
14	Amazon.com Inc.	Iron Mountain Inc.
15	Amgen Inc.	OneMain Financial Corporation
16	UBS Group AG	AAAdvantage Loyalty IP Ltd/ American Airlines Inc
17	CVS Health Corp	Albertsons Cos Inc / Safeway Inc / New Albertsons LP / Albertsons LLC / (Albertsons Safeway LLC)
18	T-Mobile USA Inc.	Mozart Debt Merger Subordinated Inc.
19	Mitsubishi UFJ Financial Group Inc.	Equitrans Midstream Corporation
20	AbbVie Inc.	Altice France S.A
21	The Boeing Company	1011778 B.C. Unlimited Liability Company / New Red Finance Inc.
22	Intel Corporation	Bombardier Inc.
23	Microsoft Corporation	Ball Corporation
24	Barclays PLC	United Rentals (North America) Inc.
25	Sumitomo Mitsui Financial Group Inc.	Hilton Domestic Operating Co Inc.
26	Walt Disney Company	Calpine Corporation
27	Charter Communications Operating LLC/Charter Communications Operating Capital Corp.	Icahn Enterprises L.P. / Icahn Enterprises Finance Corporation
28	Home Depot Inc	Post Holdings Inc.
29	Walmart Inc	Level 3 Financing Inc.
30	Lowe's Companies Inc.	Univision Communications Inc.
31	Anheuser-Busch InBev Worldwide Inc.	Vistra Operations Co LLC
32	Pfizer Investment Enterprises Pte Ltd.	The Goodyear Tire & Rubber Company
33	HCA Inc.	Venture Global LNG Inc.
34	General Motors Financial Company Inc	FirstEnergy Corp.
35	Pacific Gas and Electric Company	Uniti Group LP/Uniti Fiber Holdings Inc/Uniti Group Finance 2019 Inc/CSL Capital LLC
36	Energy Transfer LP	HUB International Ltd.
37	Broadcom Inc	Bath & Body Works Inc
38	BNP Paribas SA	Service Properties Trust
39	Royal Bank of Canada	Carvana Co
40	Bristol-Myers Squibb Company	Transocean Inc.
41	Raytheon Technologies Corporation	Venture Global Calcasieu Pass LLC
42	International Business Machines Corporation	YUM Brands Inc
43	Merck & Co. Inc	Newell Brands Inc.
44	Toyota Motor Credit Corp.	GFL Environmental Inc.
45	Shell International Finance B.V.	Uber Technologies Inc
46	Philip Morris International Inc.	Navient Corporation
47	U.S. Bancorp.	NCL Corporation Ltd.
48	The Bank of New York Mellon Corporation	Standard Buildings Solutions Inc.
49	Exxon Mobil Corporation	Mauser Packaging Solutions Holding Company
50	Pepsico Inc	Vodafone Group PLC

# US: More downside risk in credit as leveraged loan weakest links increase in Q3



Source: Pitchbook, LCD; Morningstar LSTA US Leveraged Loan Index, Apollo Chief Economist (Data through June 30, 2023) (SD and D - An obligor rated 'SD' (Selective Default) or 'D' has failed to pay one or more of its financial obligations (rated or unrated) when it came due. A 'D' rating is assigned when Standard & Poor's believes that the default will be a general default and that the obligor will fail to pay all or substantially all of its obligations as they come due. An 'SD' rating is assigned when Standard & Poor's believes that the obligor has selectively defaulted on a specific issue or class of obligations, but it will continue to meet its payment obligations on other issues or classes of obligations in a timely manner.)

# Japanese investors record selling of US credit





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**Chief Economist**

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 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.