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Credit market outlook:
High rates and slowing economy creating opportunities for credit investors

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Apollo Global Management

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Unless otherwise noted, information as of July 2023.

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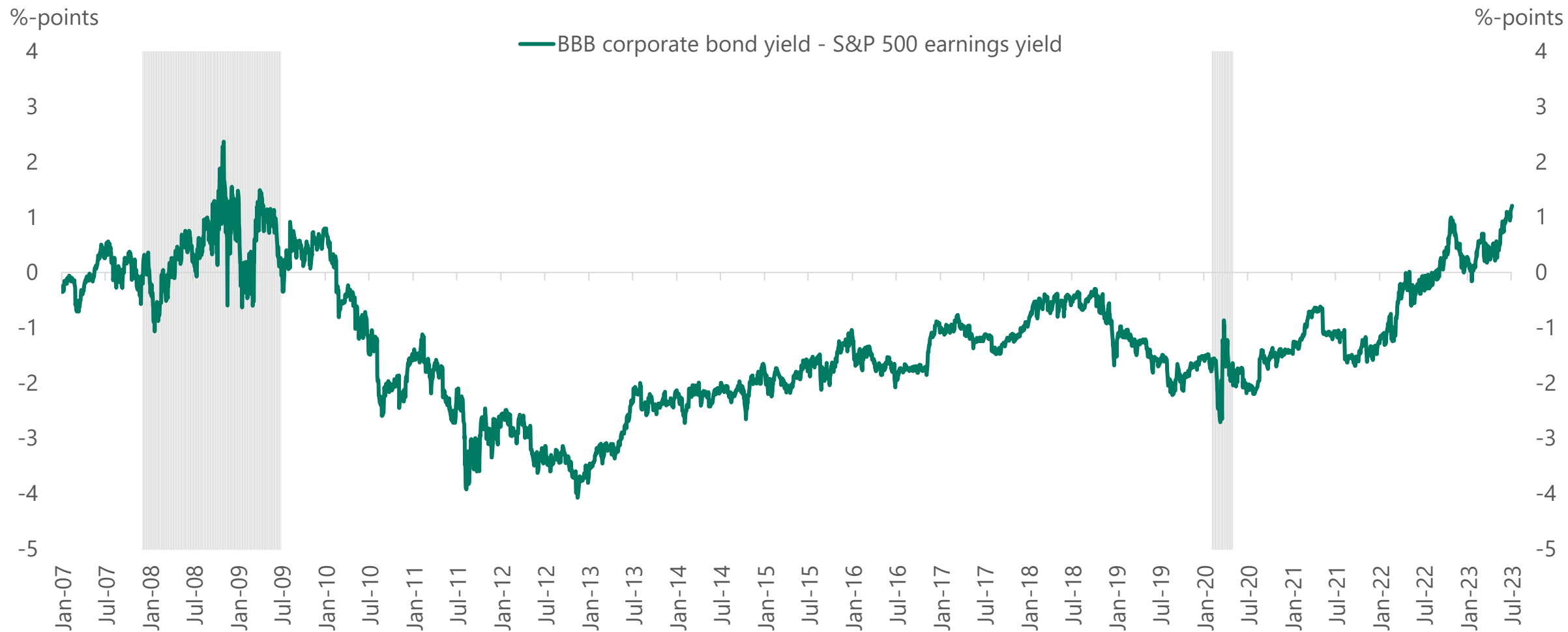
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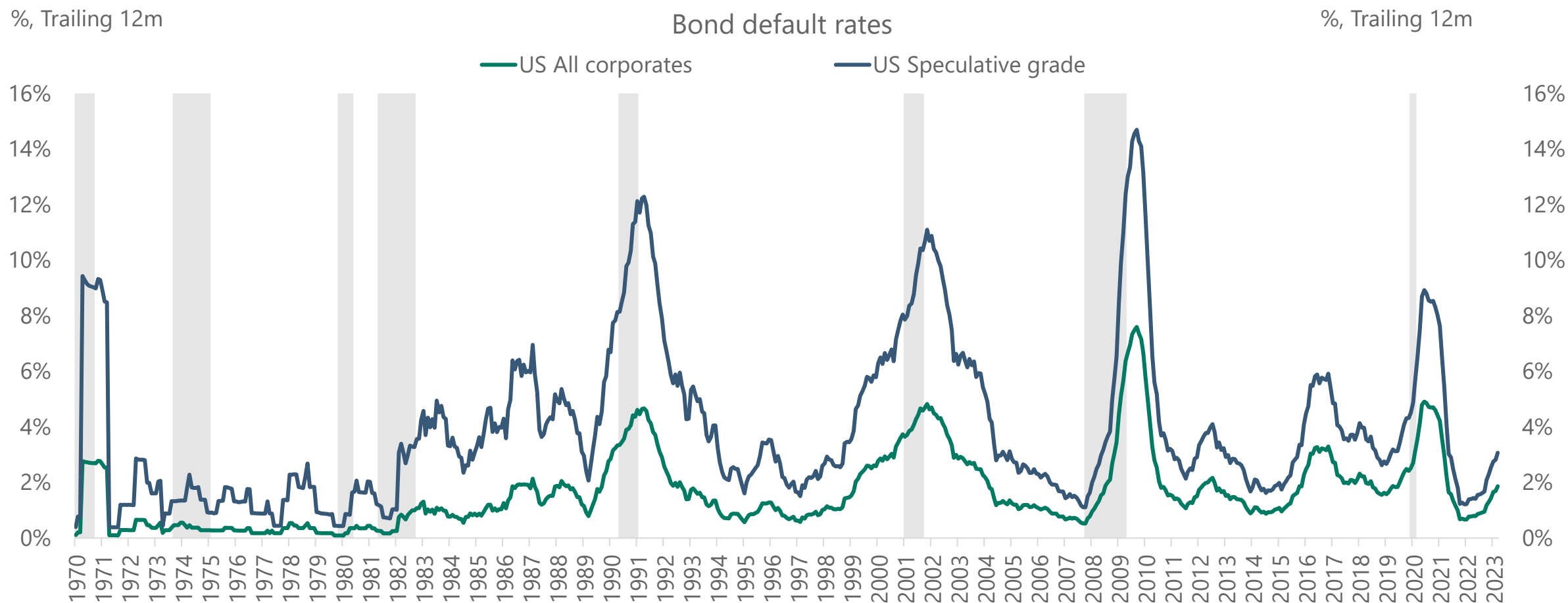
Bonds more attractive than equities



A default cycle has started

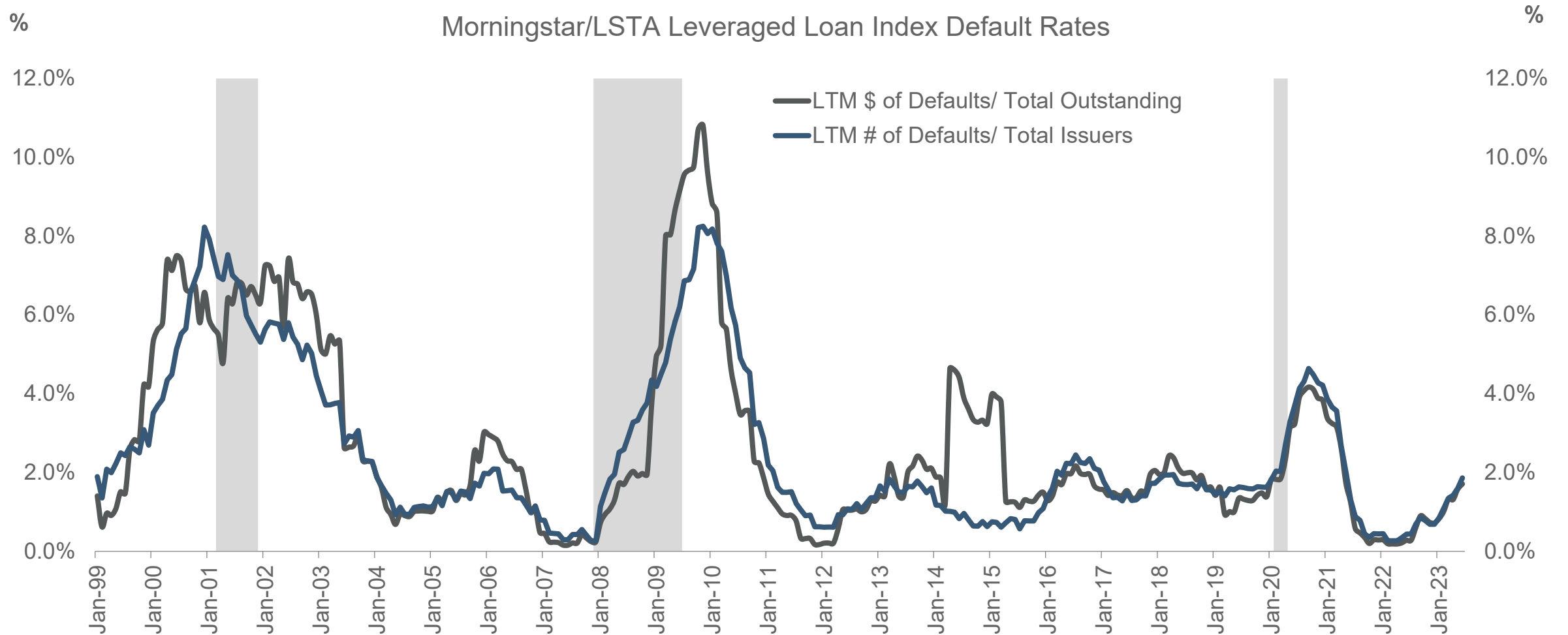


US bond default rates

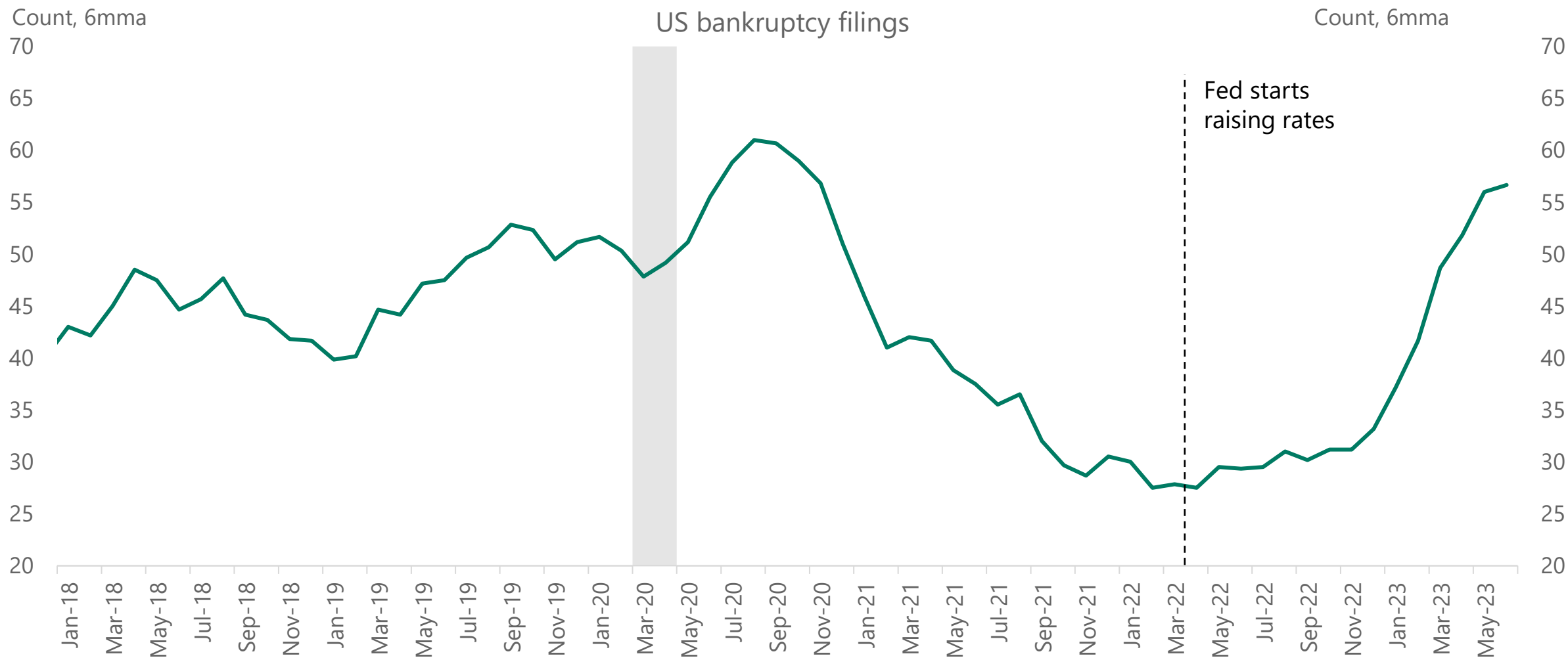


Source: Moody's Analytics, Apollo Chief Economist

Leveraged loan index default rates starting to rise

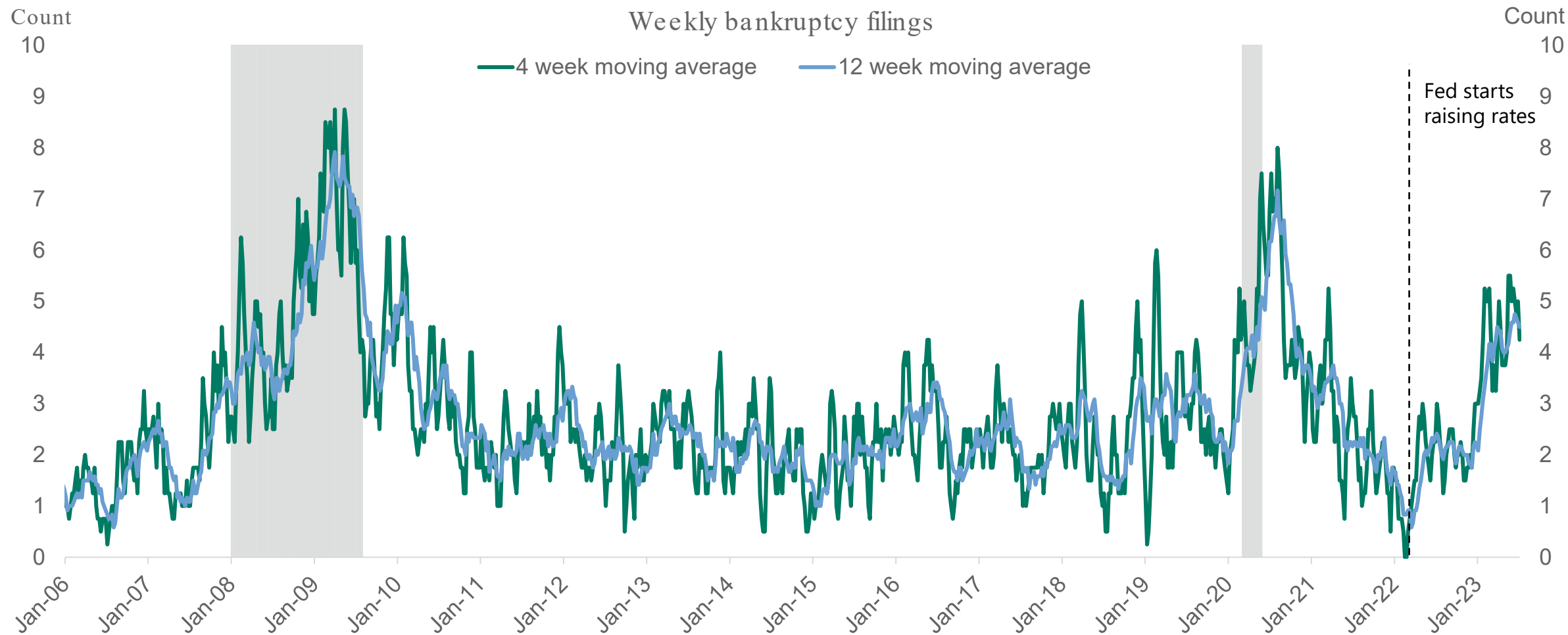


Bankruptcy filings rising for companies with at least \$10mn in liabilities



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.

Weekly bankruptcy filings rising for companies with at least \$50mn in liabilities



Source: Bloomberg, Apollo Chief Economist. Note: Filings are for companies with more than \$50mn in liabilities. For week ending on June 28, 2023.

Yield levels



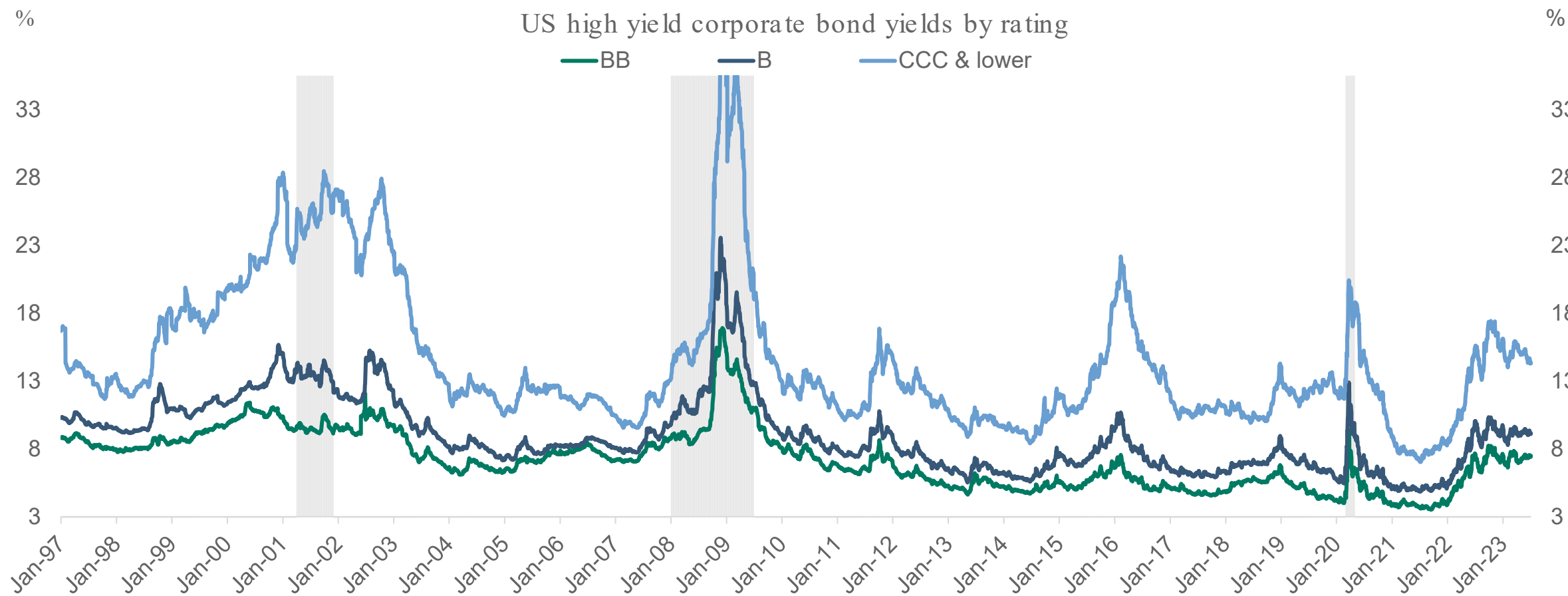
US IG yield around 5.5% and HY yield around 8.3%



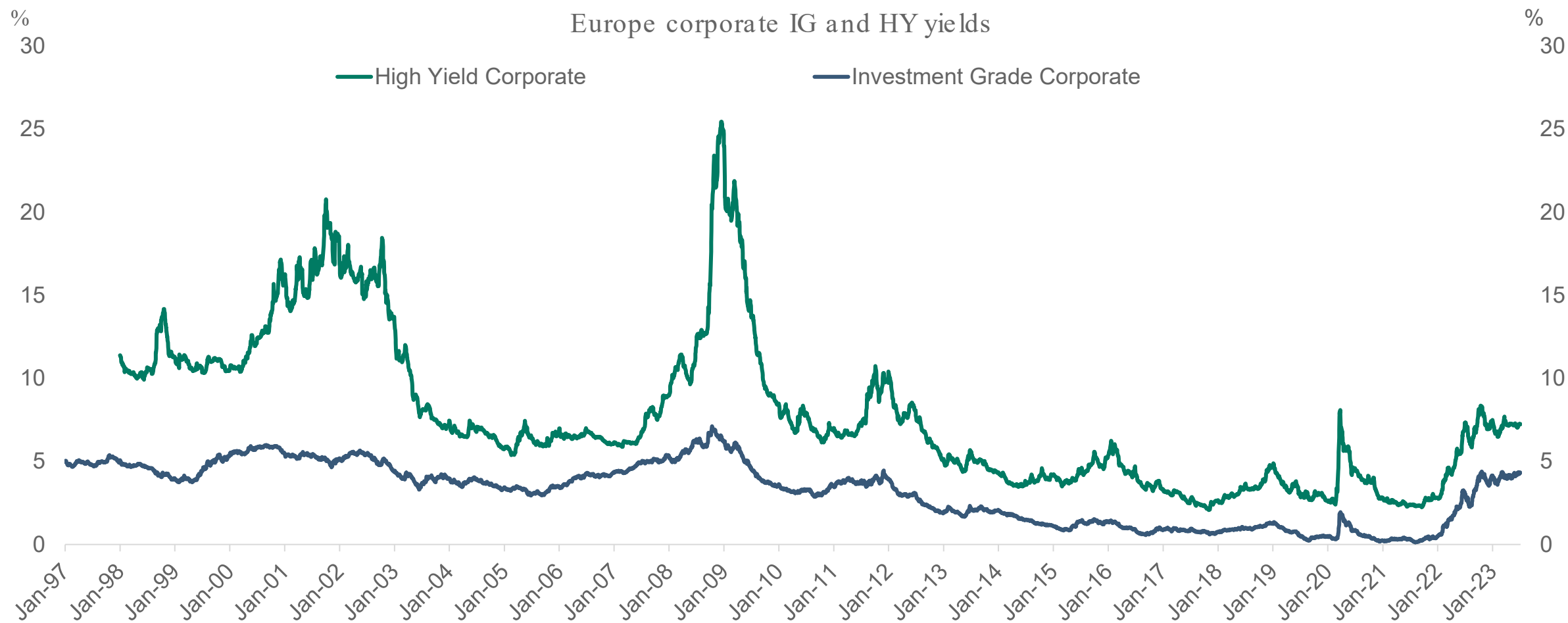
US IG yield levels, by rating



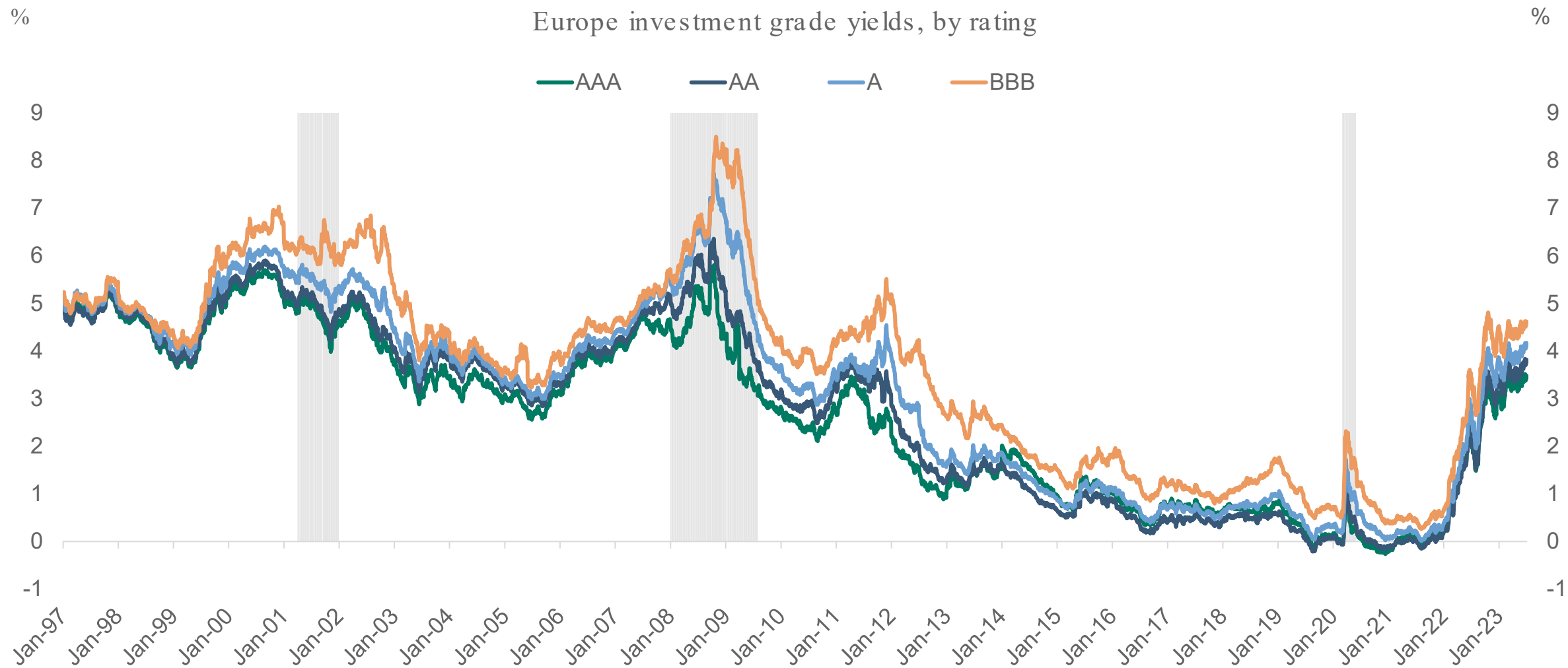
US HY yield levels, by rating



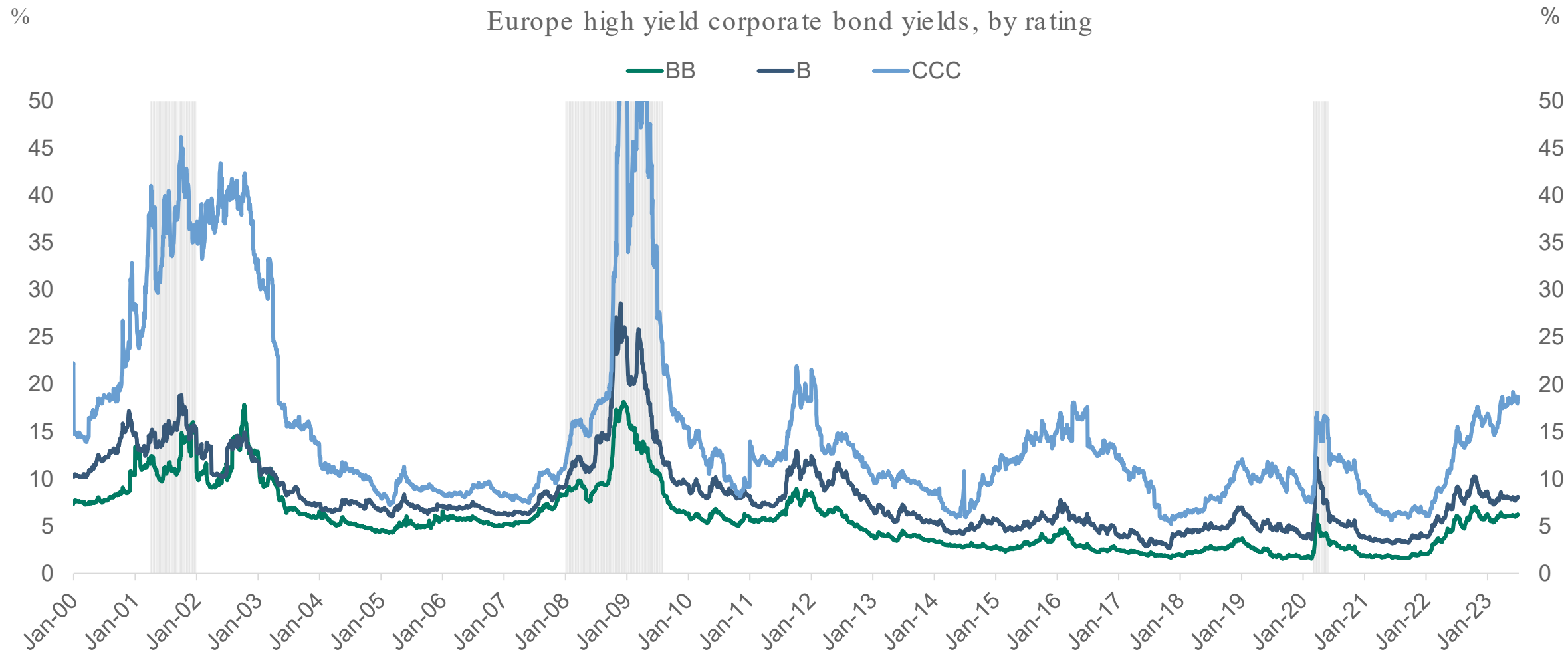
European corporate IG and HY yields



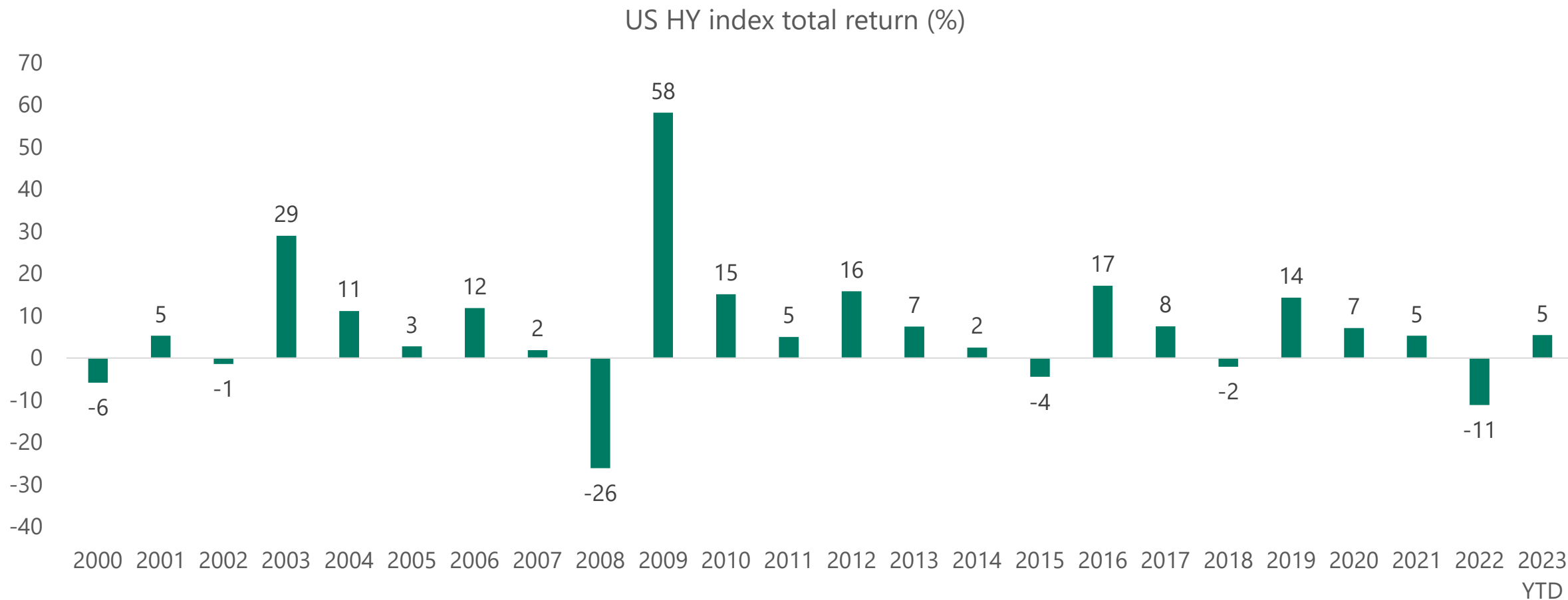
European IG yield levels, by rating



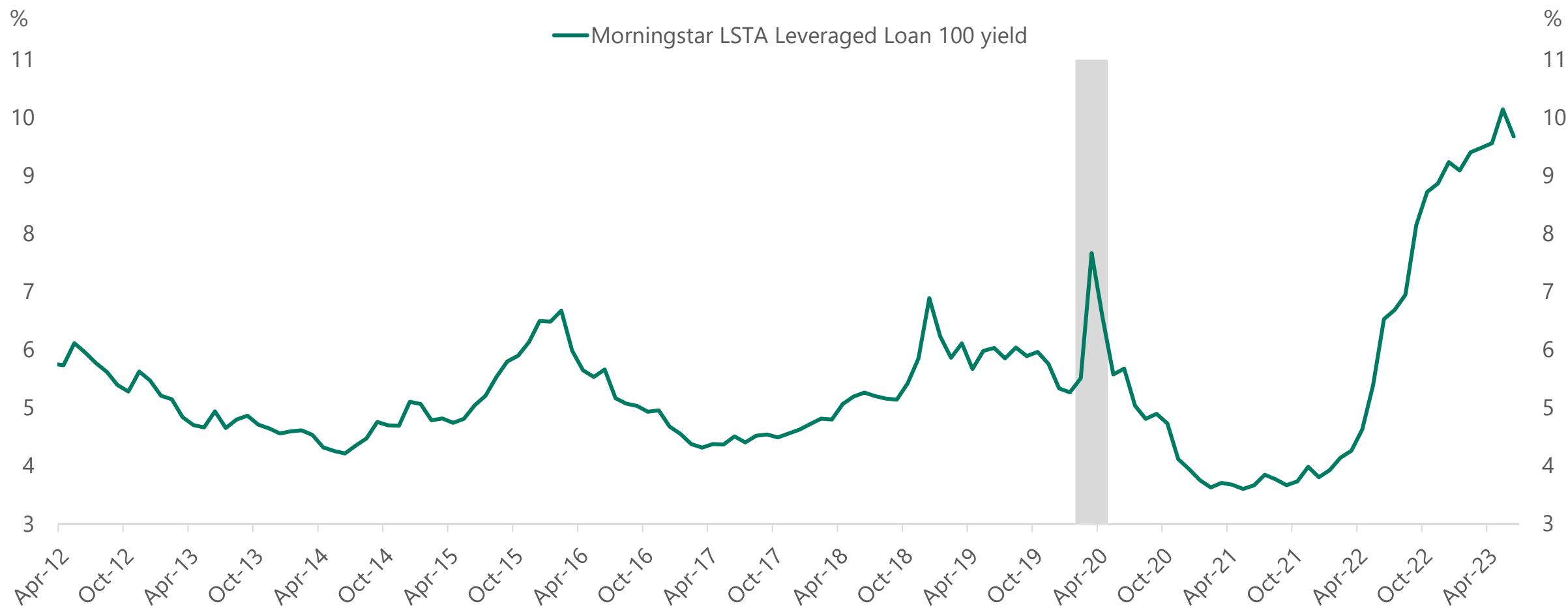
European HY yield levels, by rating



Annual returns for HY



Yield for the leveraged loan index: 10%



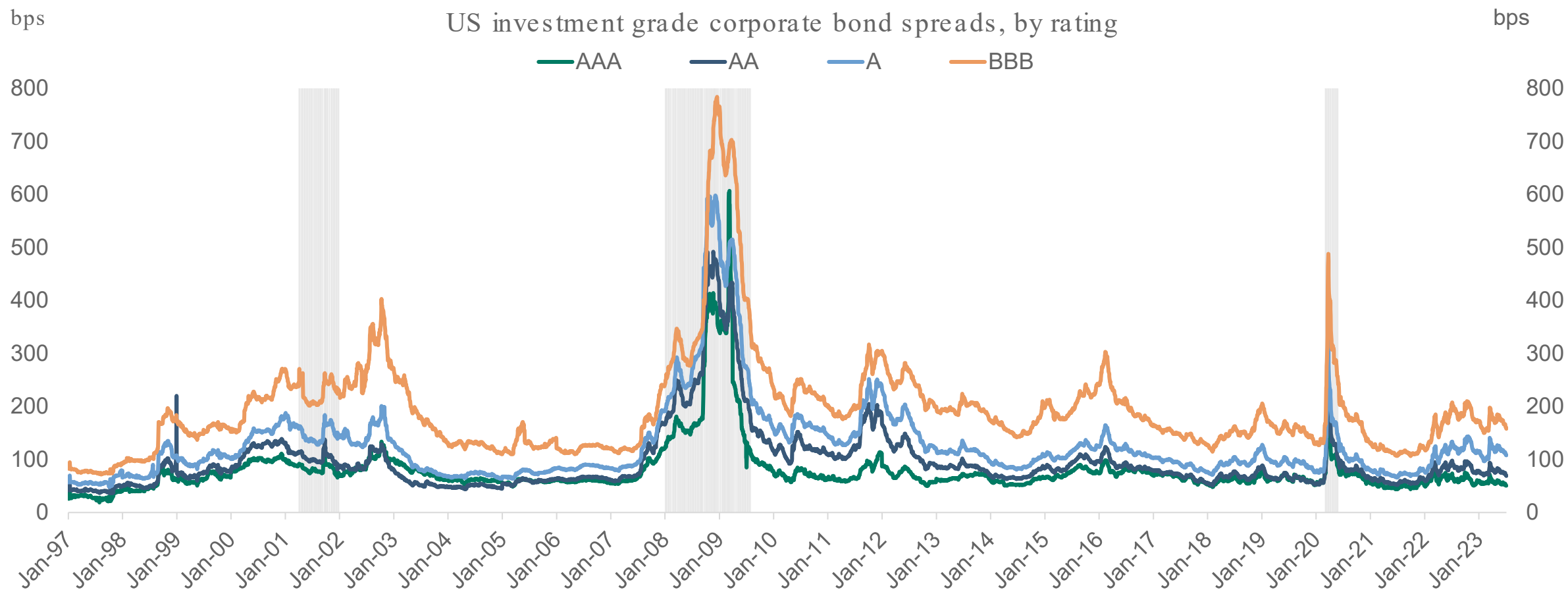
Spread levels



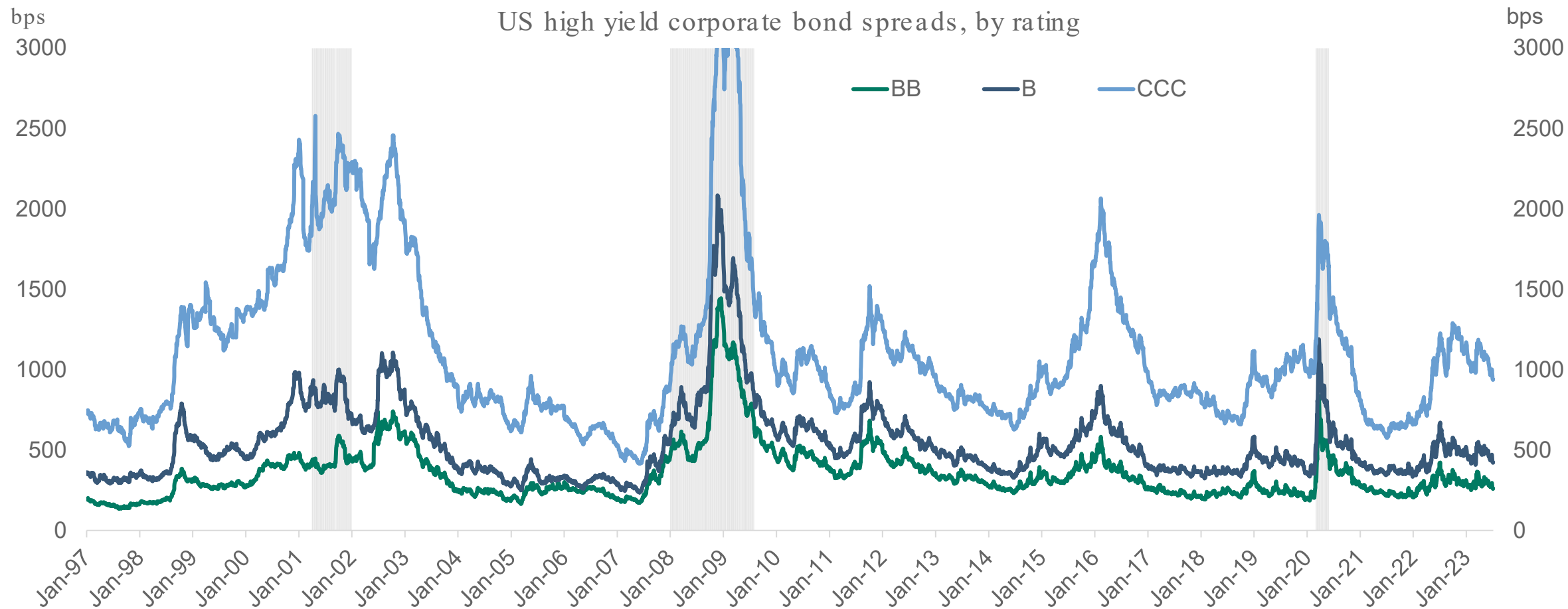
Credit spreads wider, but not pricing in a recession



IG spreads by rating



HY spreads by rating



Source: ICE BofA, Bloomberg, Apollo Chief Economist

IG quality spreads, some differentiation between BBB and single-A



HY quality spreads, less differentiation between CCC and B

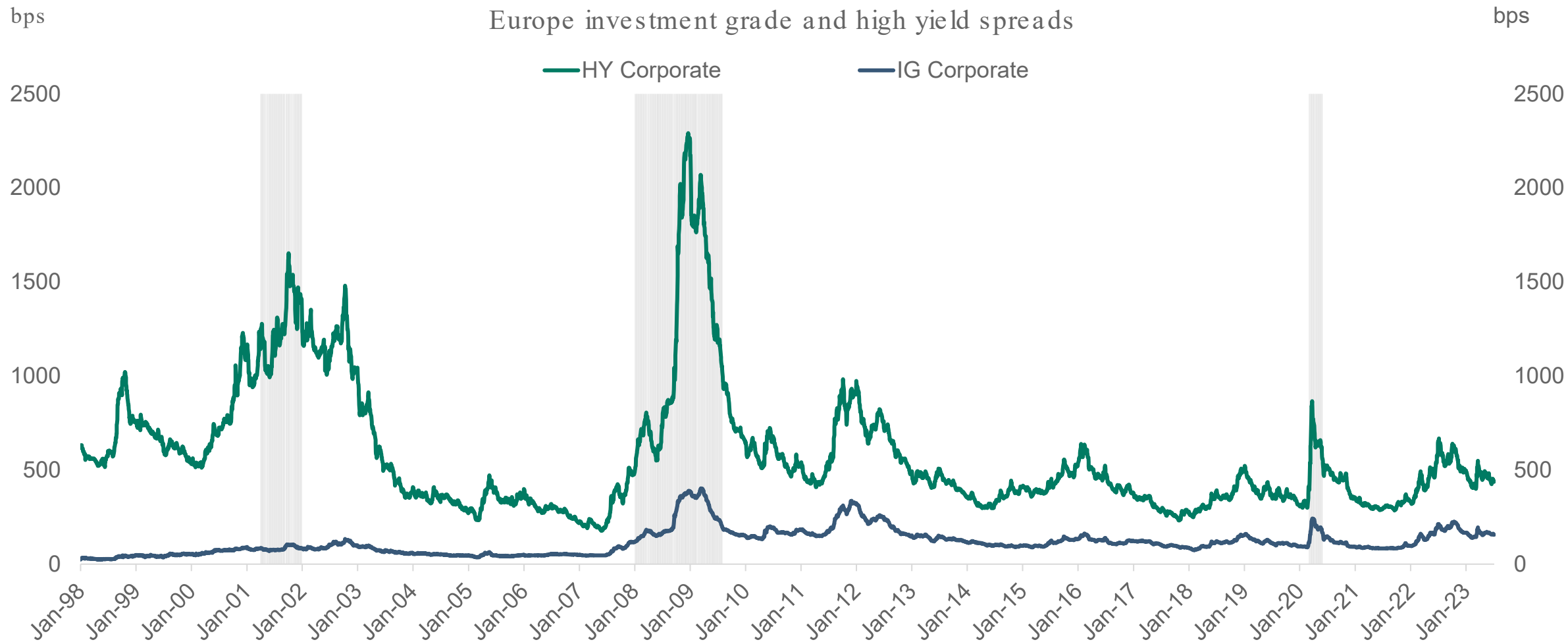


US HY spread minus IG spread



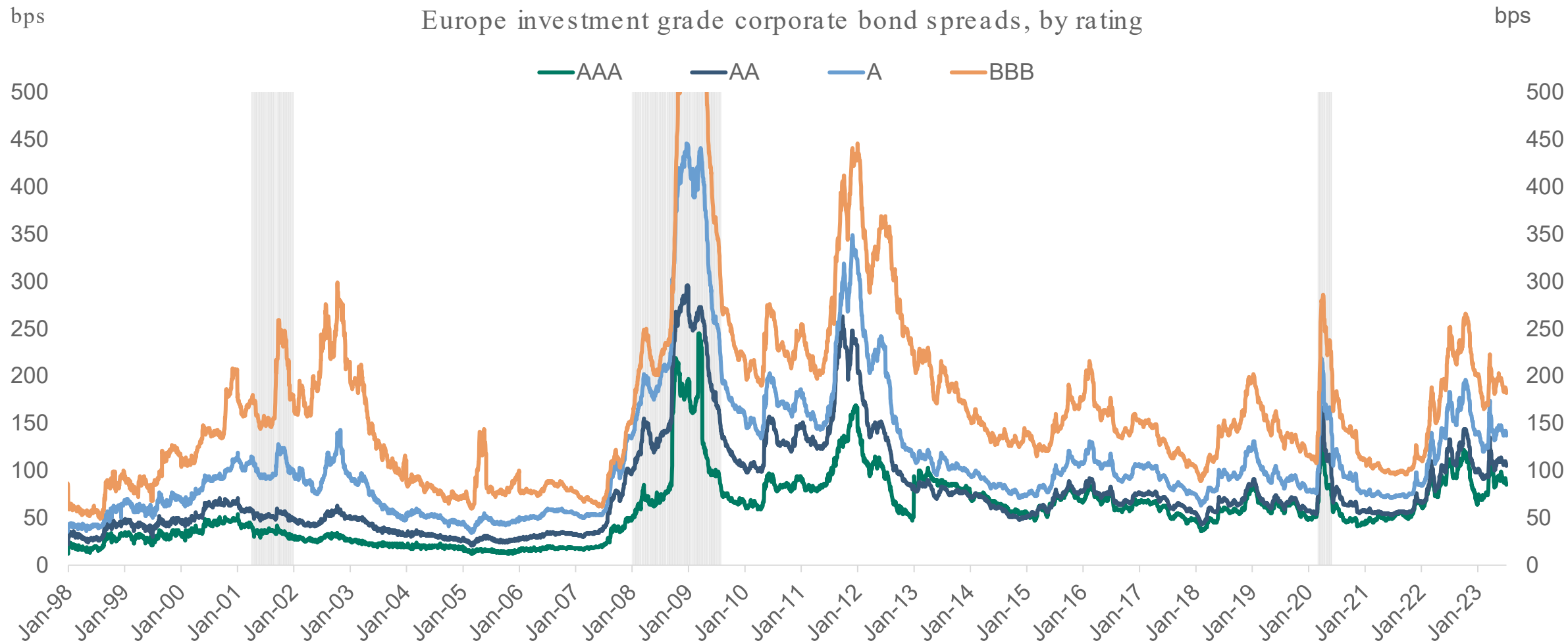
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Bloomberg Index used COA0 Index and H0A0 Index

European IG and HY spreads



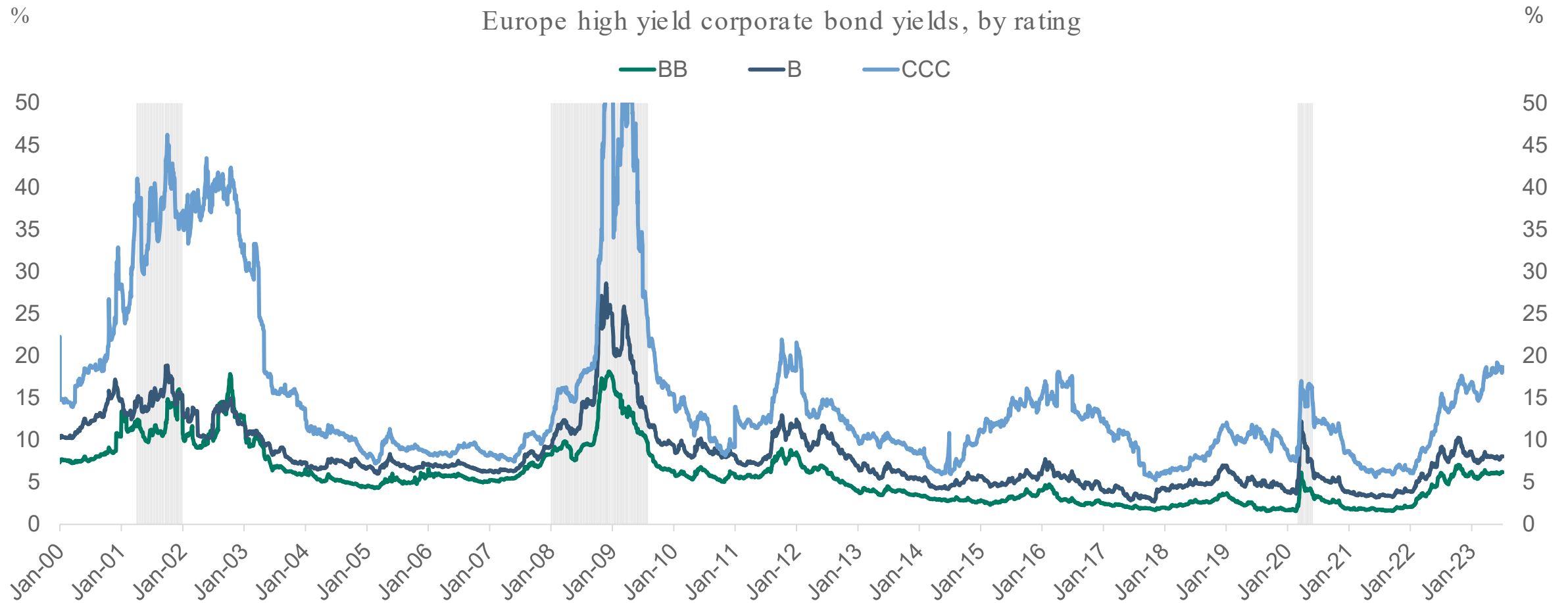
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Ticker used HE00 Index and ER00 Index.

European IG spreads by rating



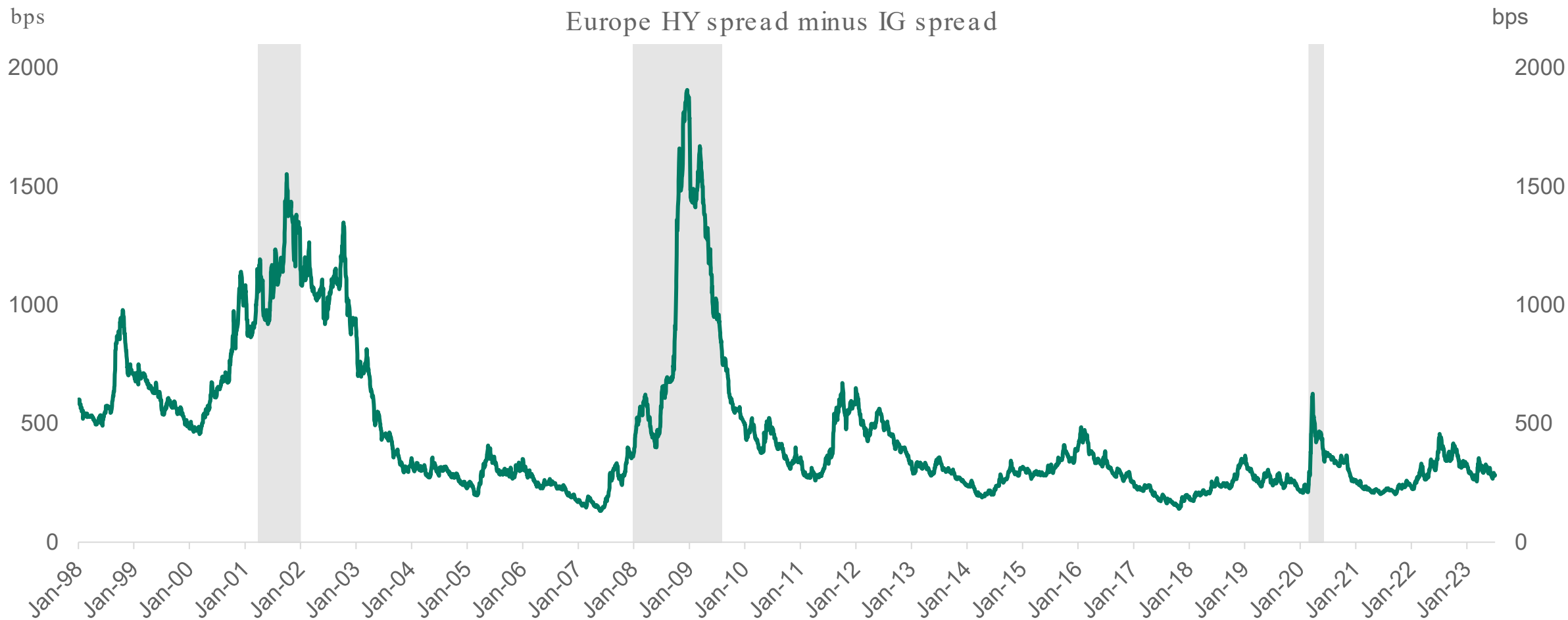
Source: ICE BofA, Bloomberg, Apollo Chief Economist.

European HY spreads by rating



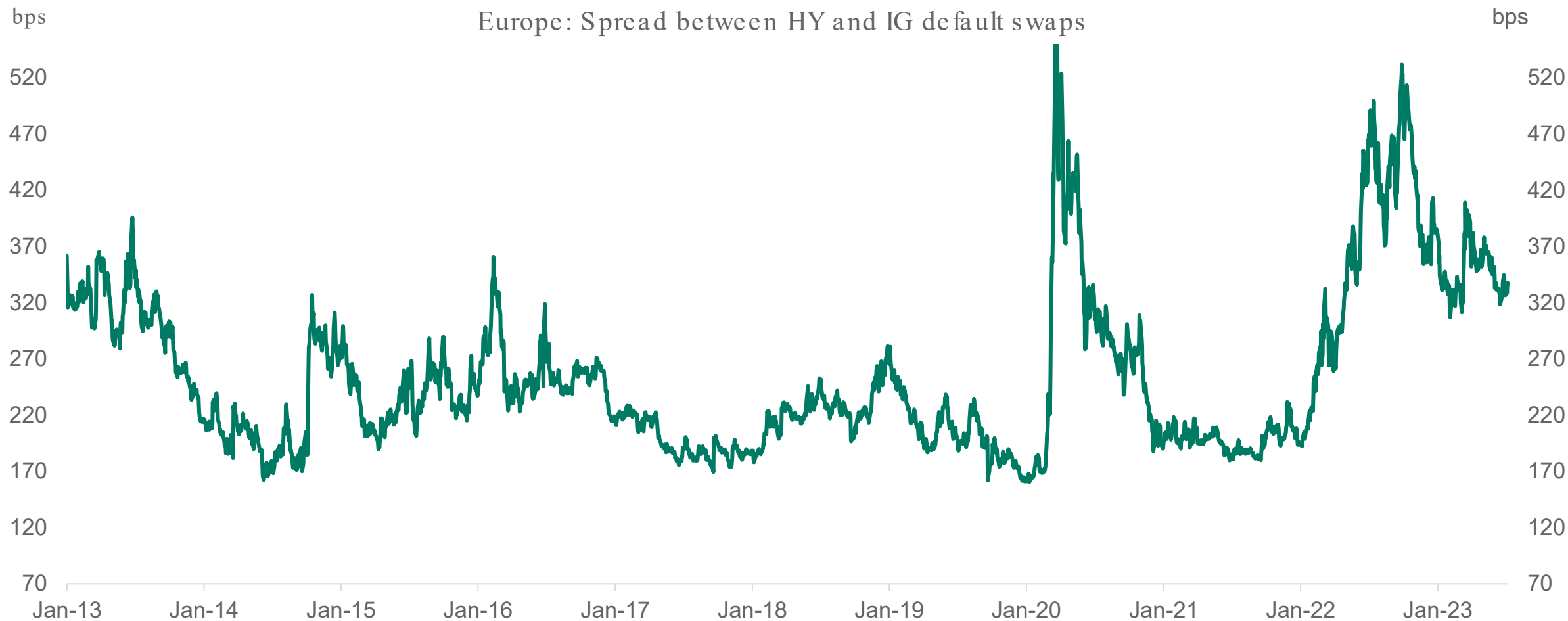
Source: ICE BofA, Bloomberg, Apollo Chief Economist.

European HY spread minus IG spread



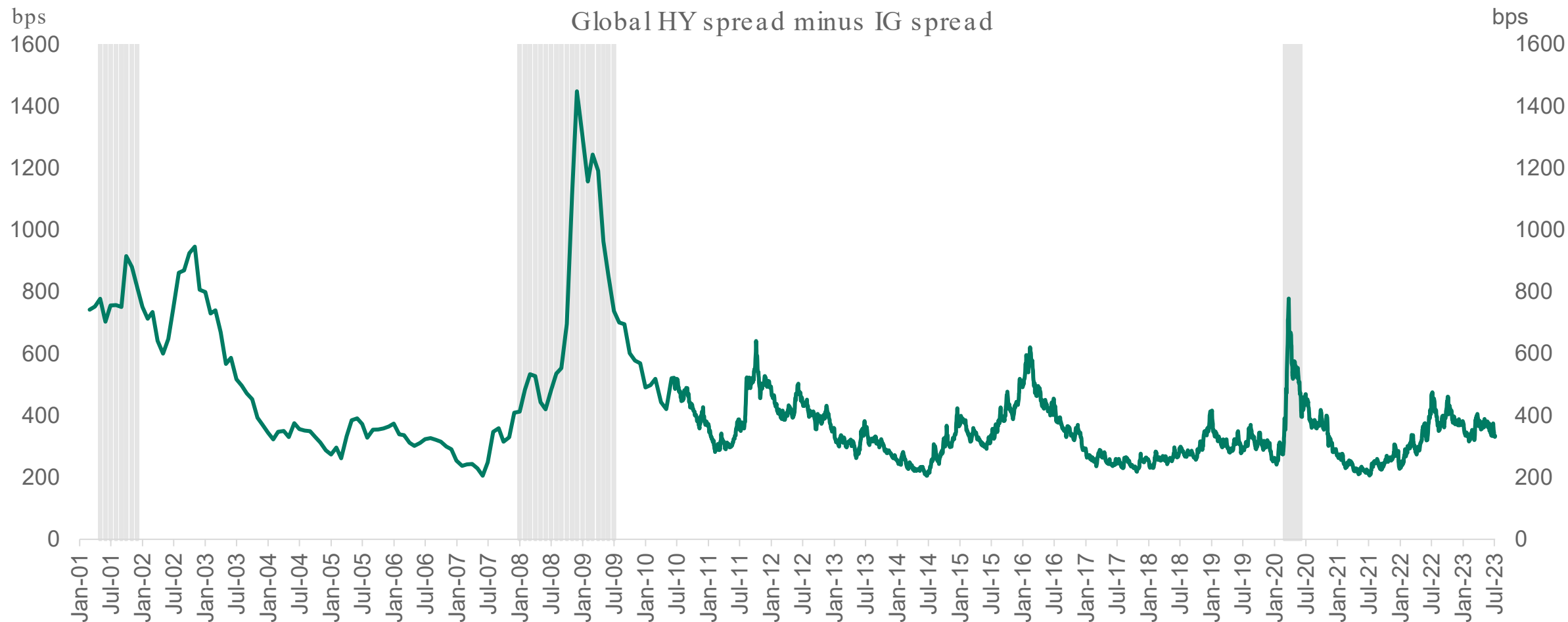
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Ticker used HE00 Index and ER00 Index.

Spread between Europe HY and IG default swaps



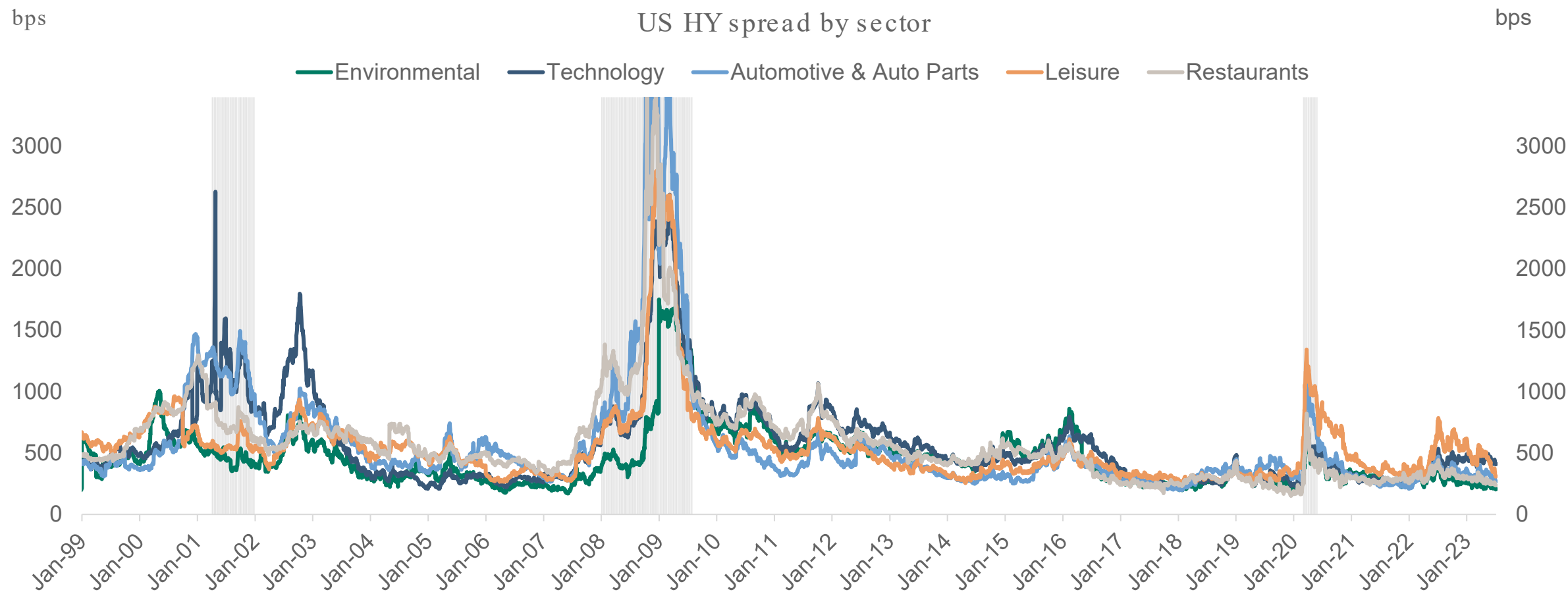
Source: Bloomberg, Apollo Chief Economist. Note: Tickers used ITRXEXE CBBT Curncy and ITRXEBE CBBT Curncy

Global HY spread minus global IG spread

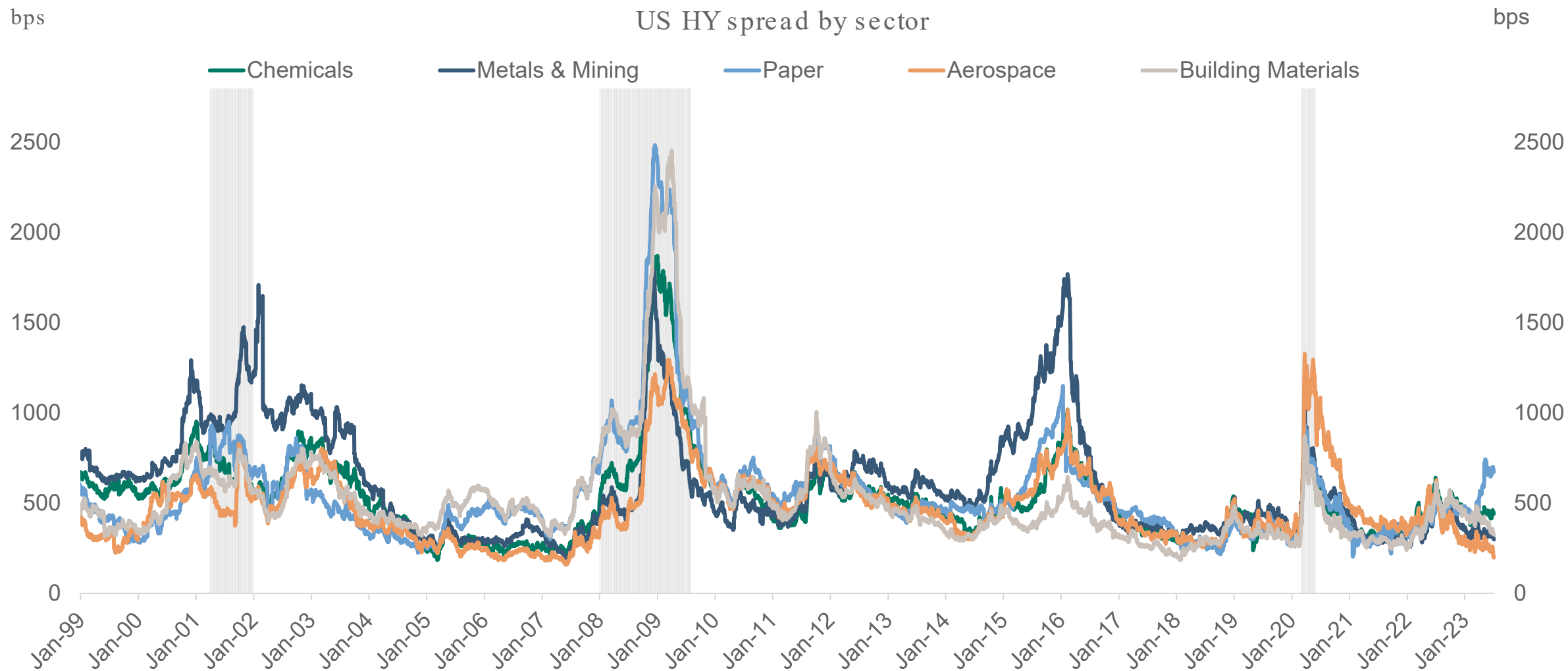


Source: Bloomberg, Apollo Chief Economist. Note: Bloomberg Index used BGLCTRUU index and LG50TRUU Index

HY spreads by sector

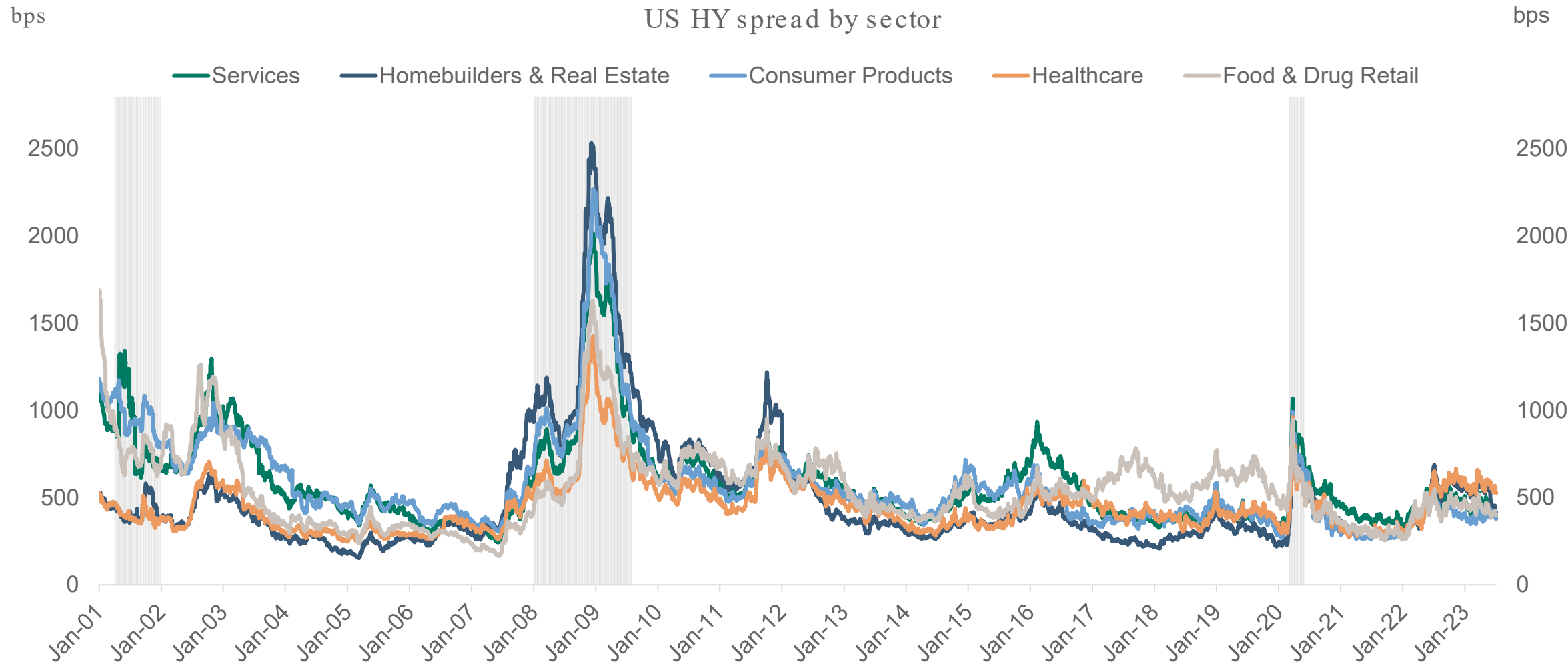


HY spreads by sector

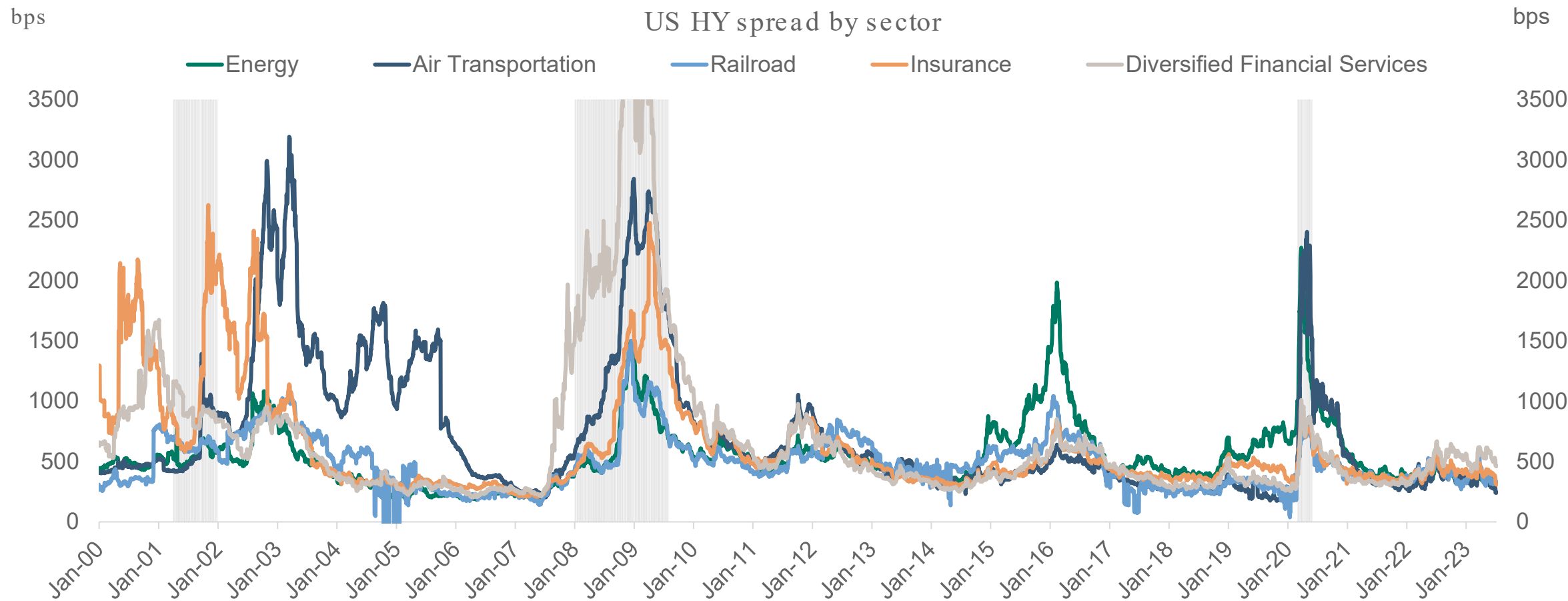


Source: ICE BofA, Bloomberg, Apollo Chief Economist

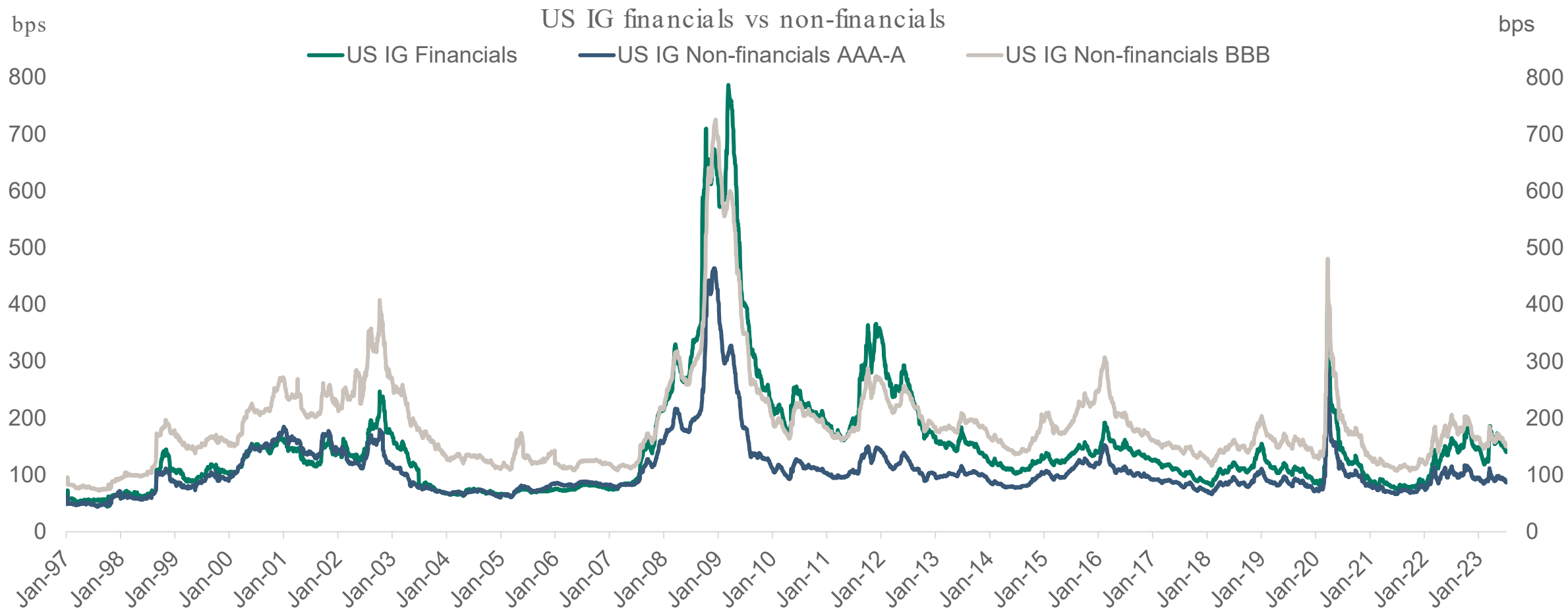
HY spreads by sector



HY spreads by sector

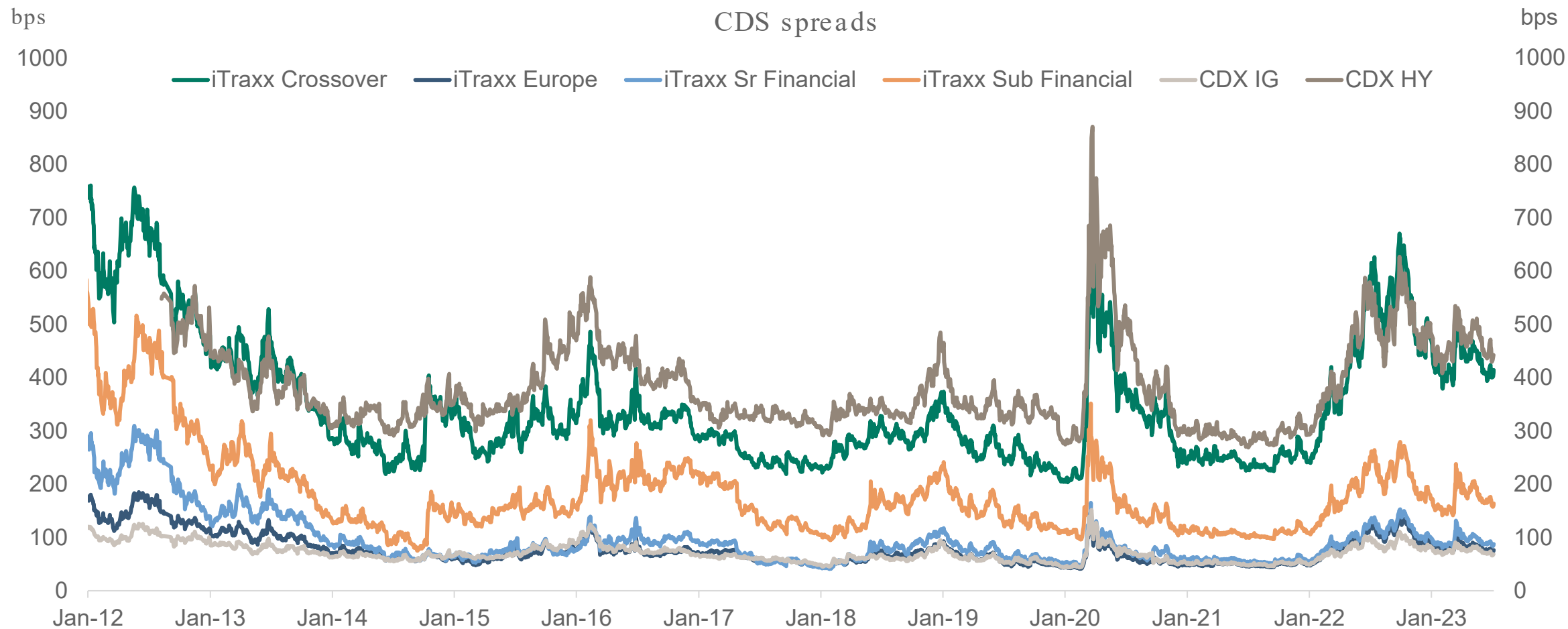


IG spreads for financials and non-financials

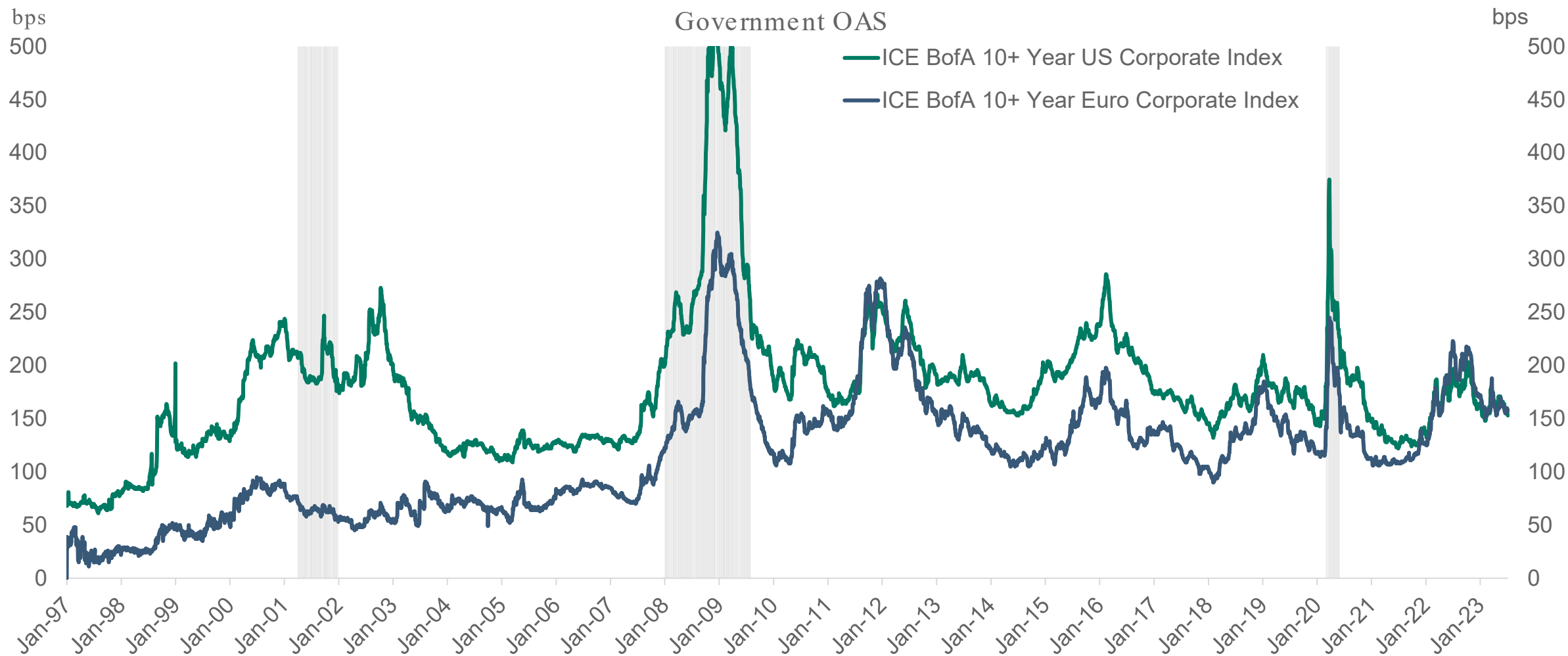


Source: ICE BofA, Bloomberg, Apollo Chief Economist

CDS spreads



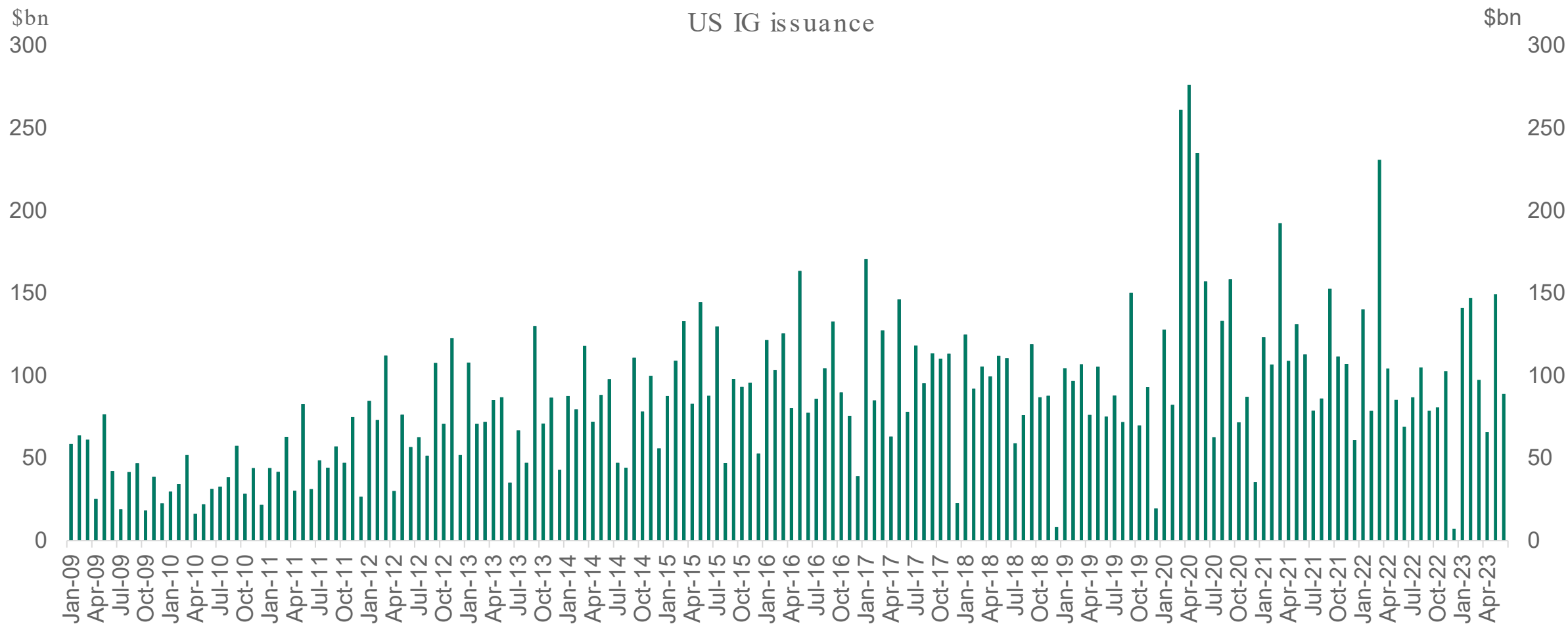
Long-duration IG spreads in US and Europe



New issuance

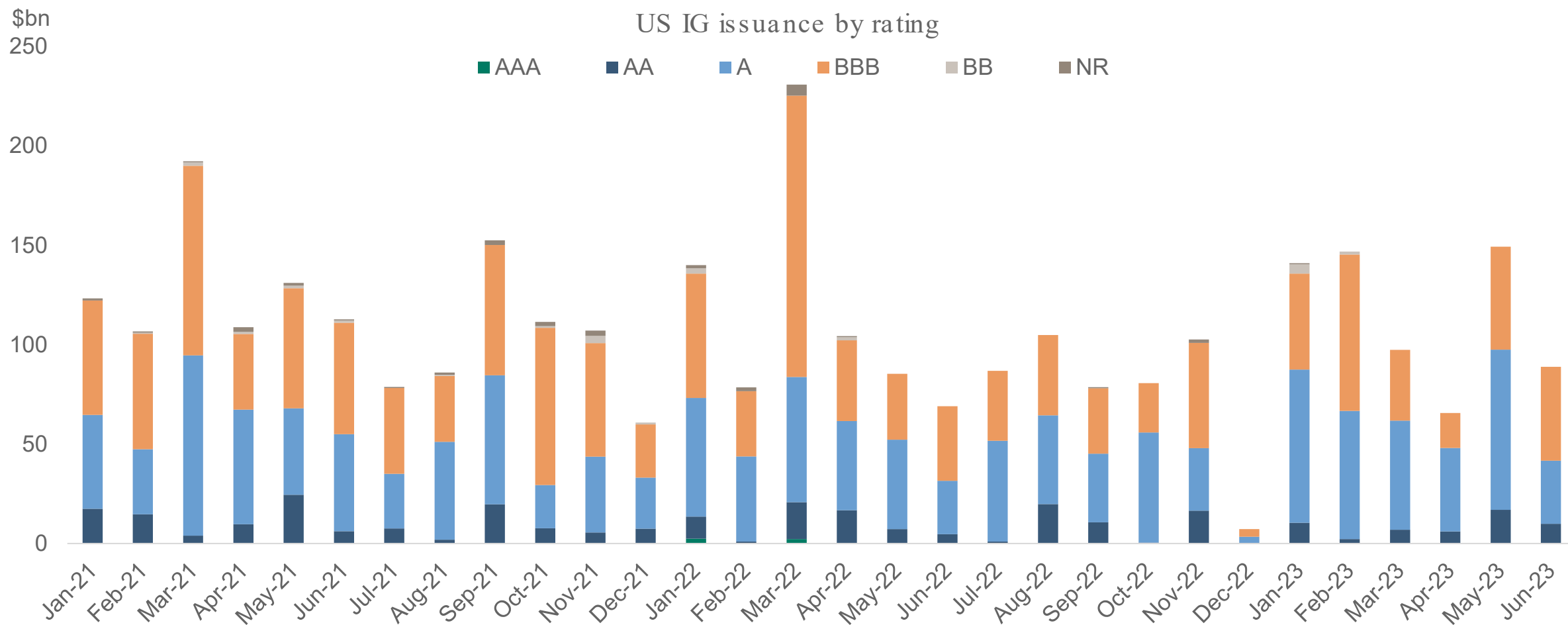


US IG issuance



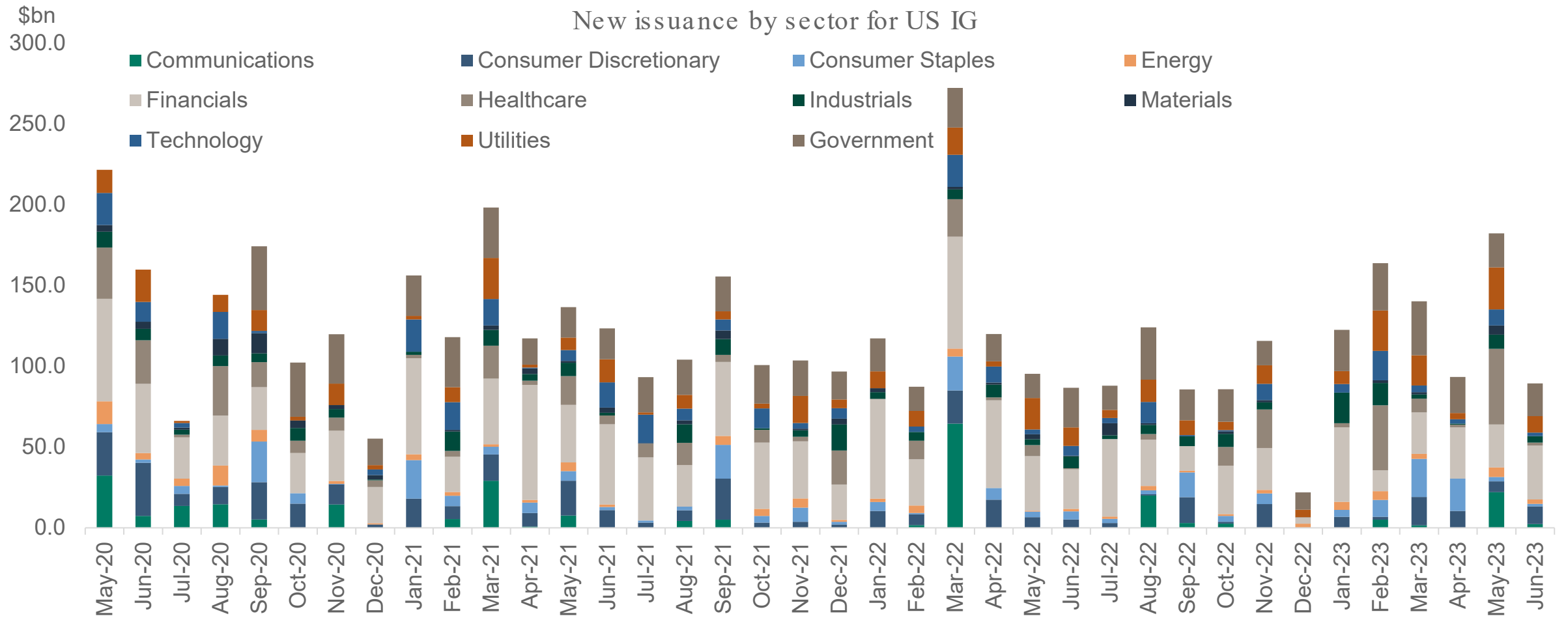
Source: Pitchbook LCD, Apollo Chief Economist

IG issuance by rating



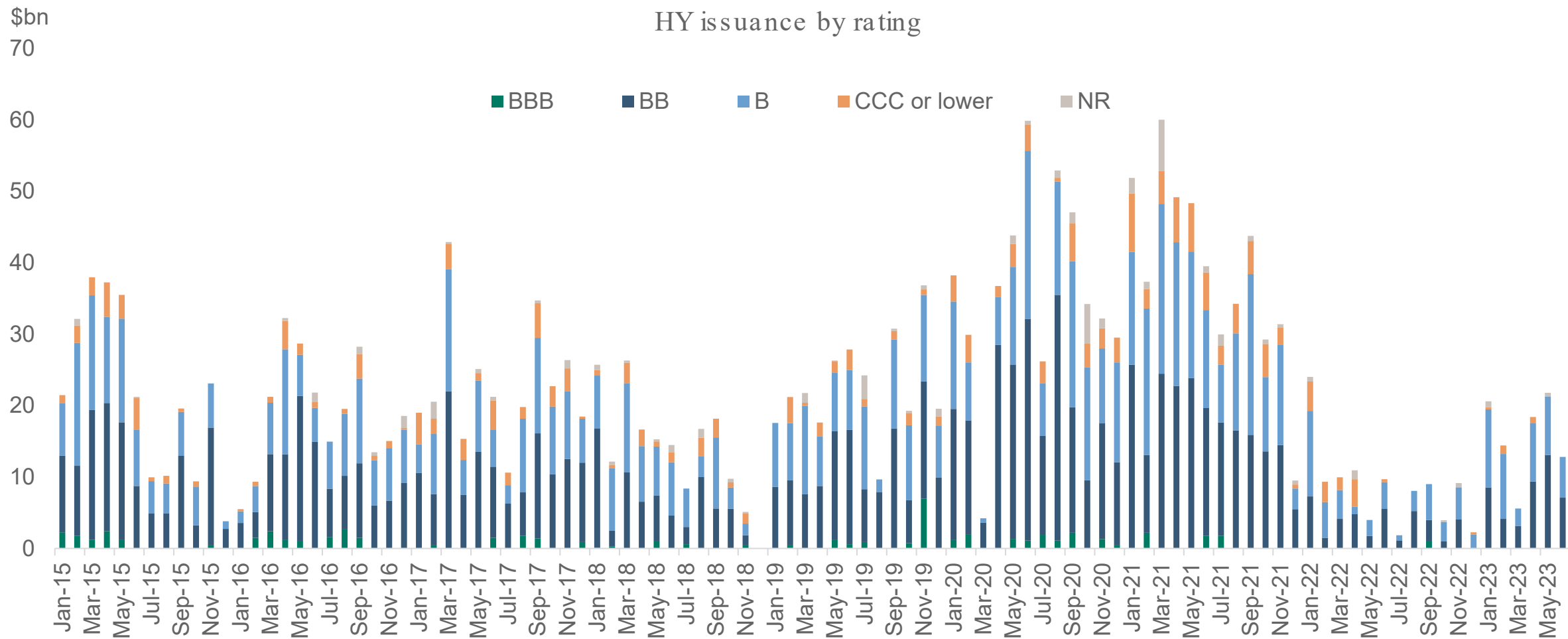
Source: Pitchbook LCD, Apollo Chief Economist.

Sector distribution of new IG issuance



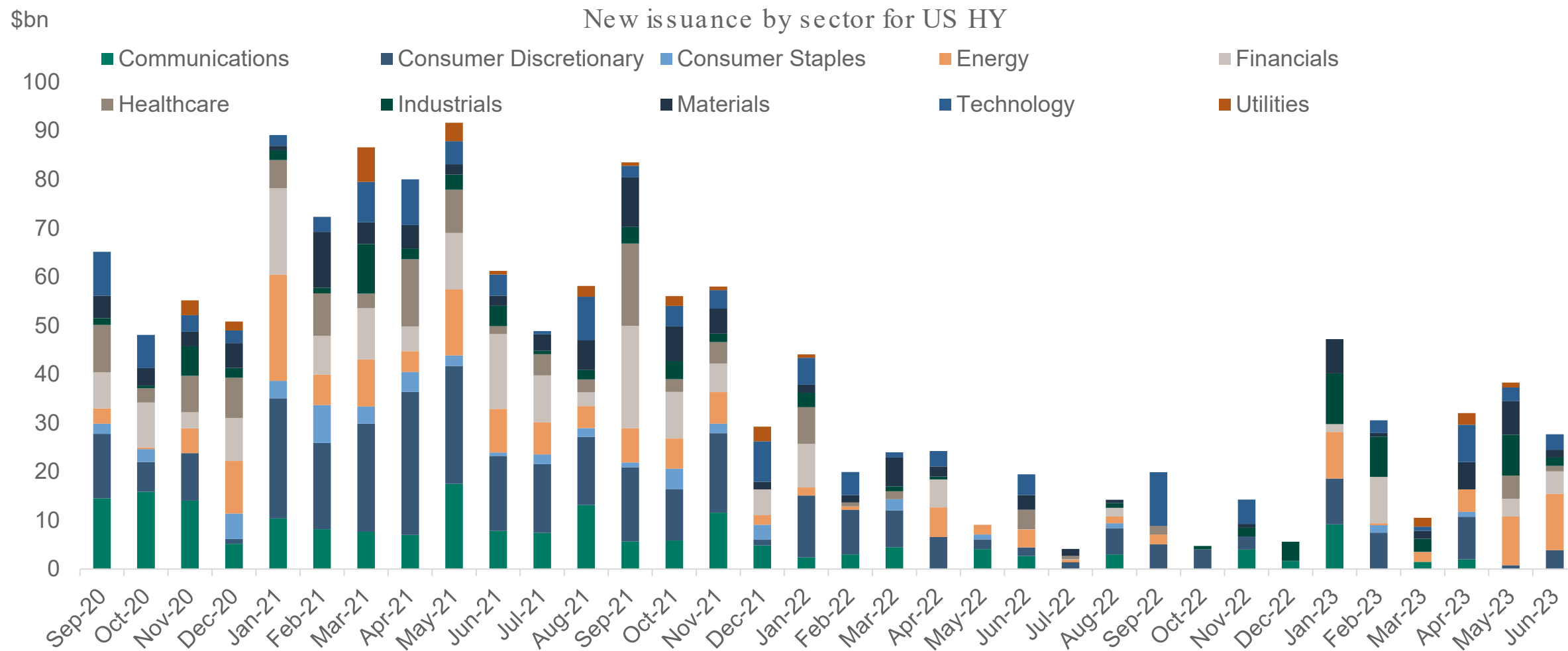
Source: Bloomberg, Apollo Chief Economist. Note: Issuance includes bonds, loans, leveraged loans, and preferred.

HY issuance by rating



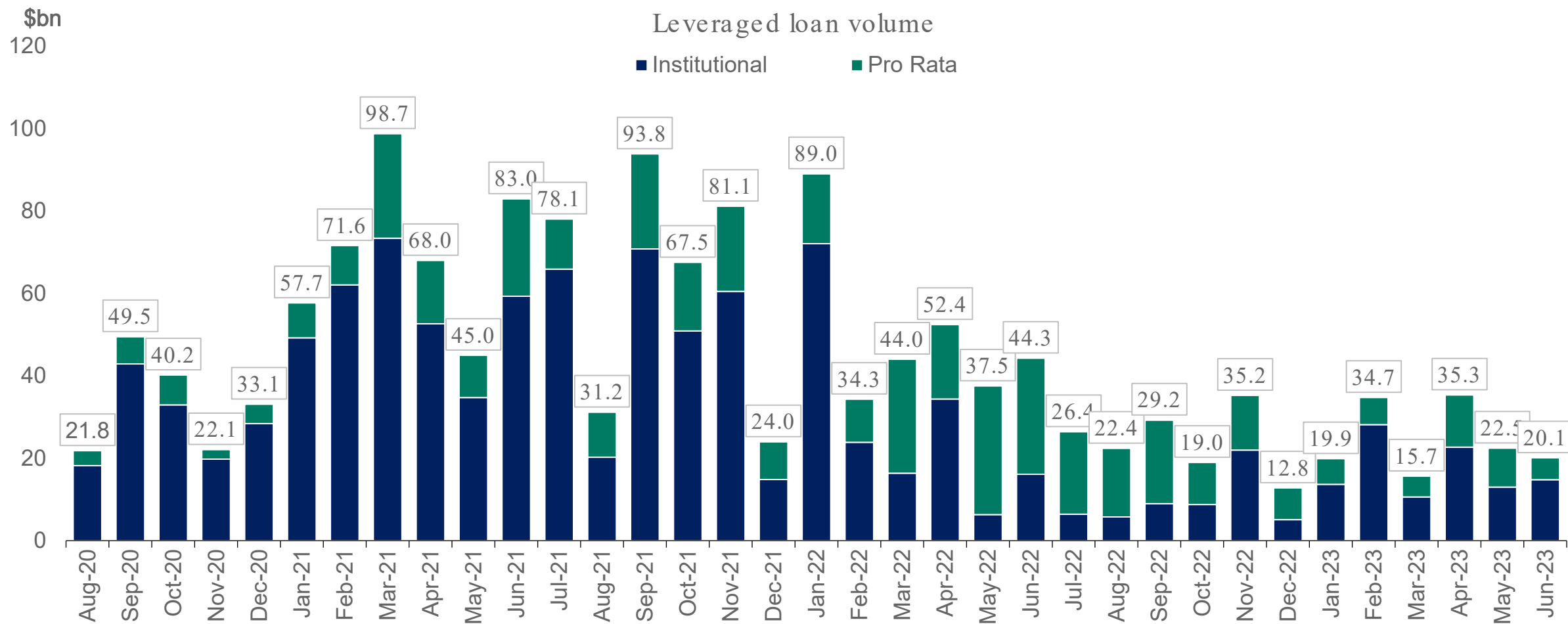
Source: Pitchbook LCD, Apollo Chief Economist.

Sector distribution of new HY issuance



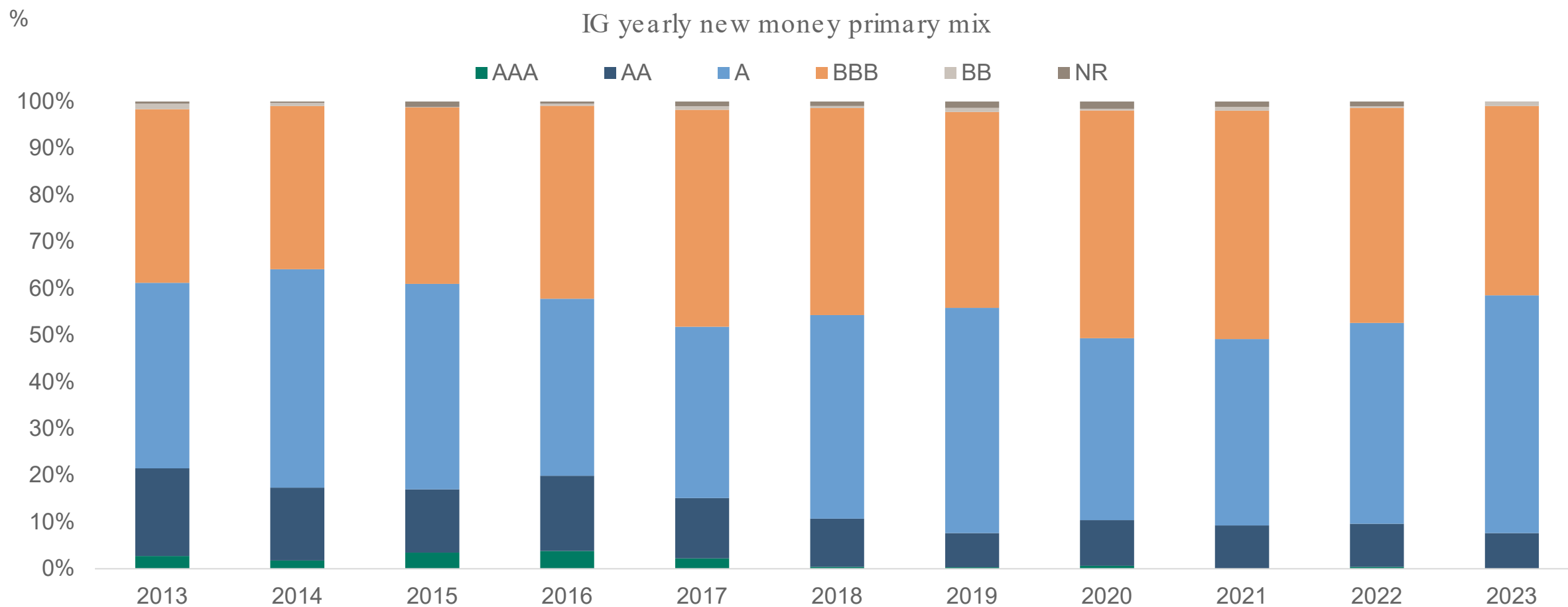
Source: Bloomberg, Apollo Chief Economist. Note: Issuance includes bonds, loans, leveraged loans and preferred.

Leveraged loan volume



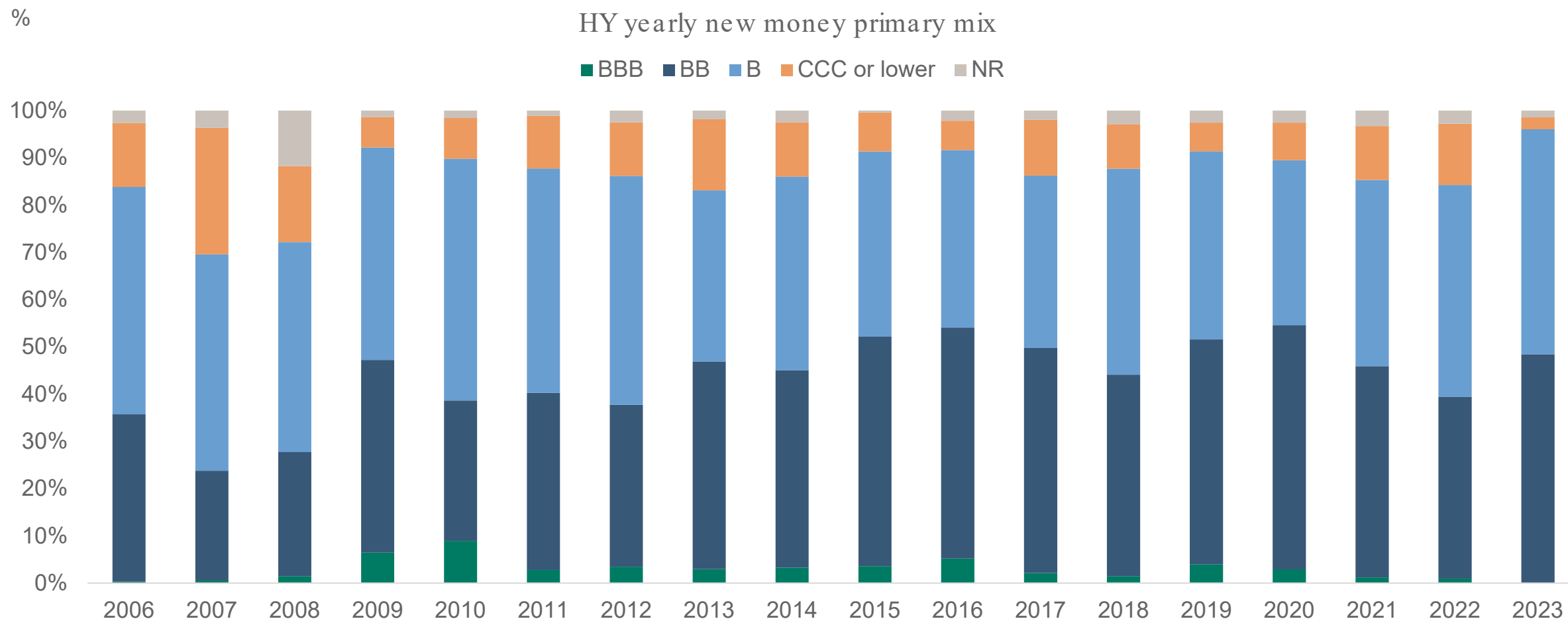
Source: Pitchbook LCD, Apollo Chief Economist.

IG new money primary mix

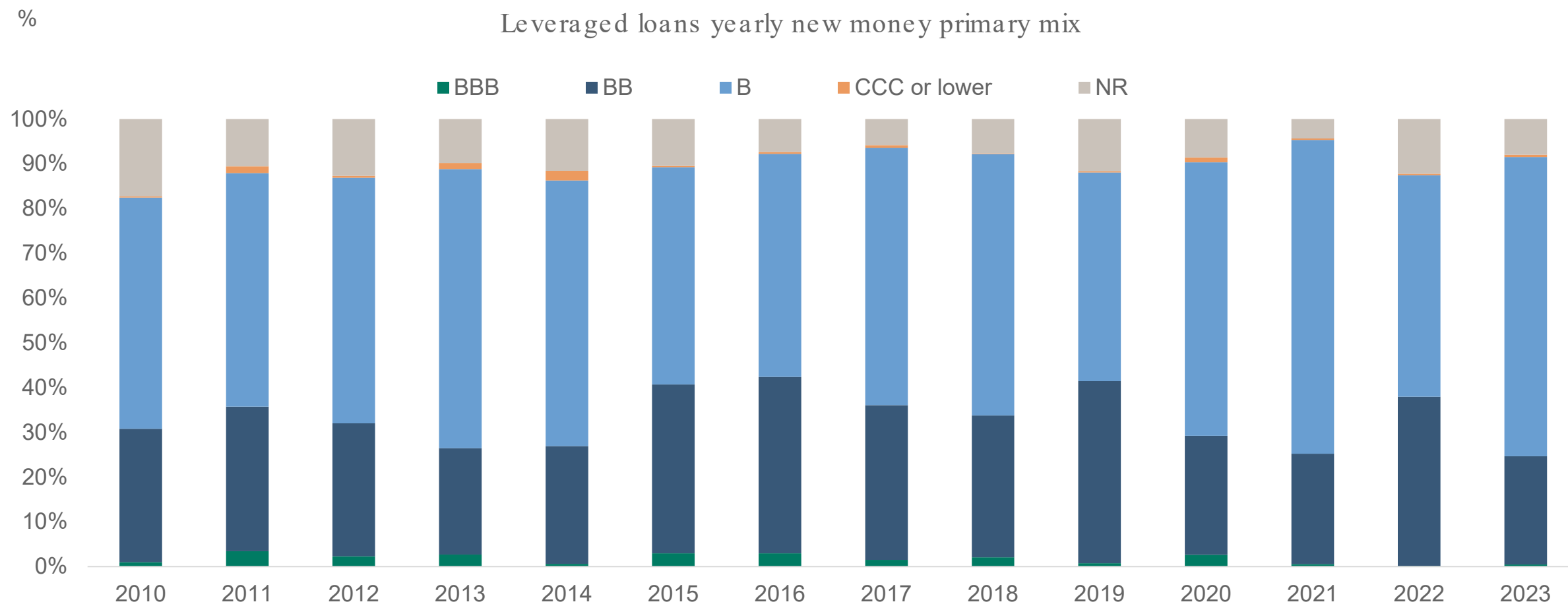


Source: Pitchbook LCD, Apollo Chief Economist. Note: Data as of 30th June 2023.

HY new money primary mix

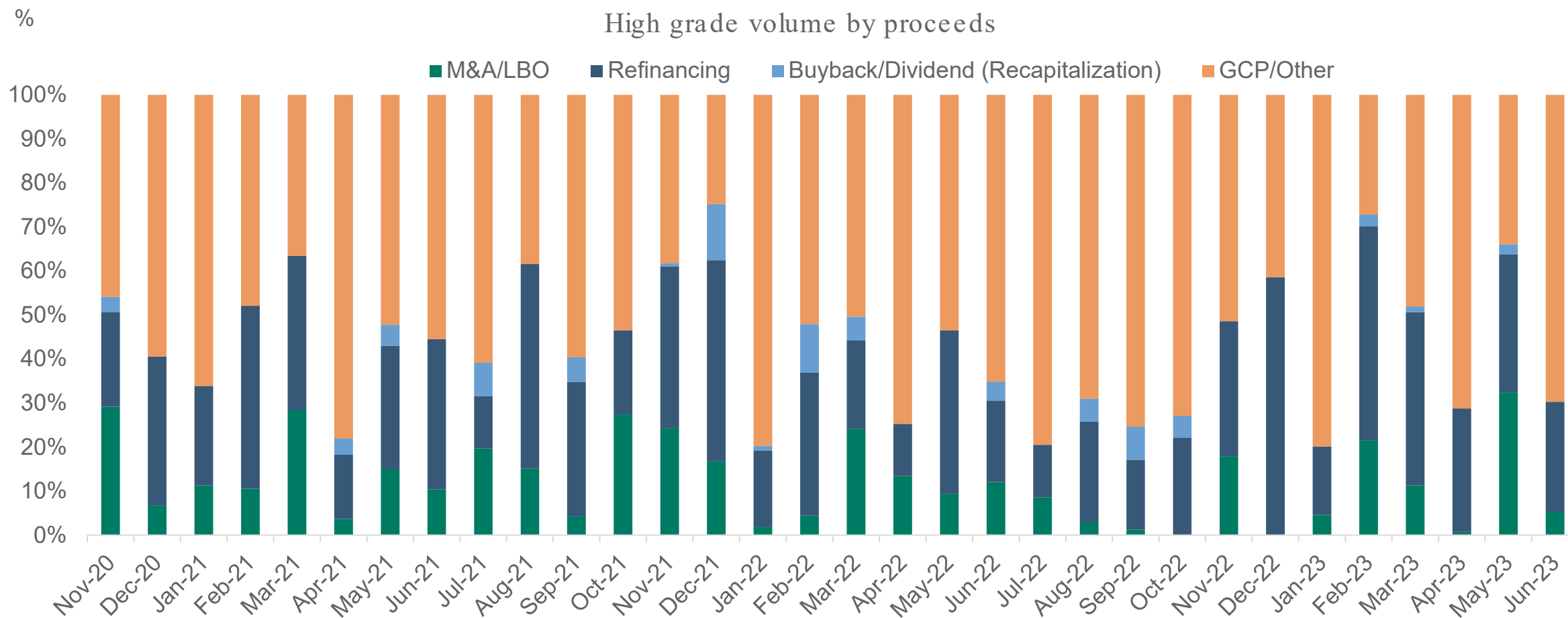


Loans new money primary mix

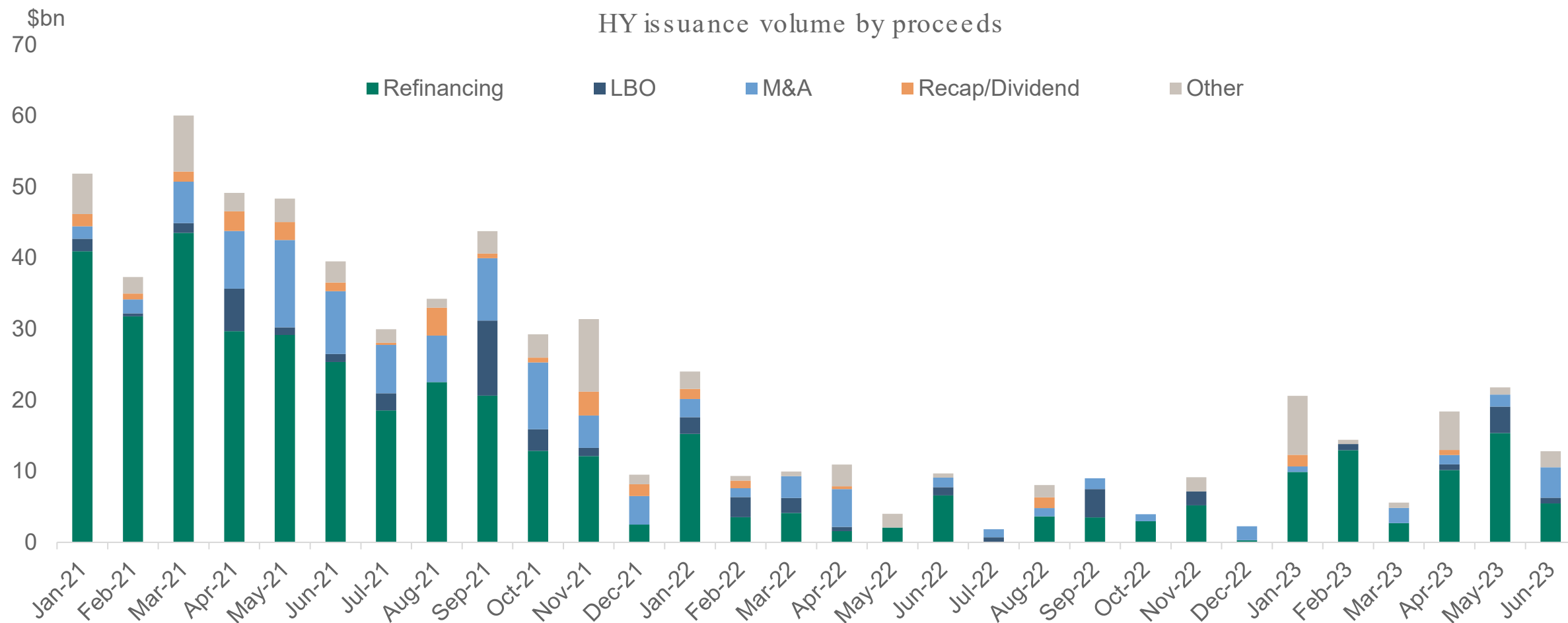


Source: Pitchbook LCD, Apollo Chief Economist. Note: 2022 YTD till 30th June 2023

High grade volume by proceeds

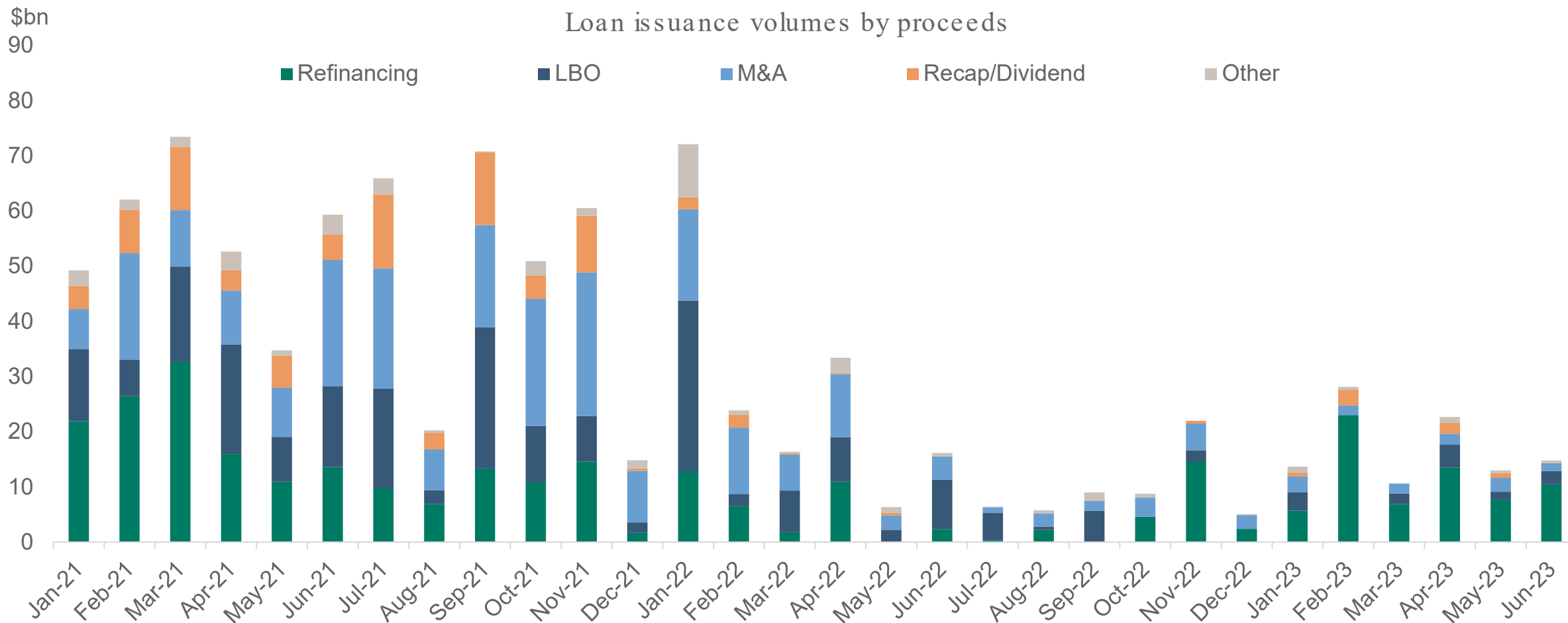


High yield volumes by proceeds



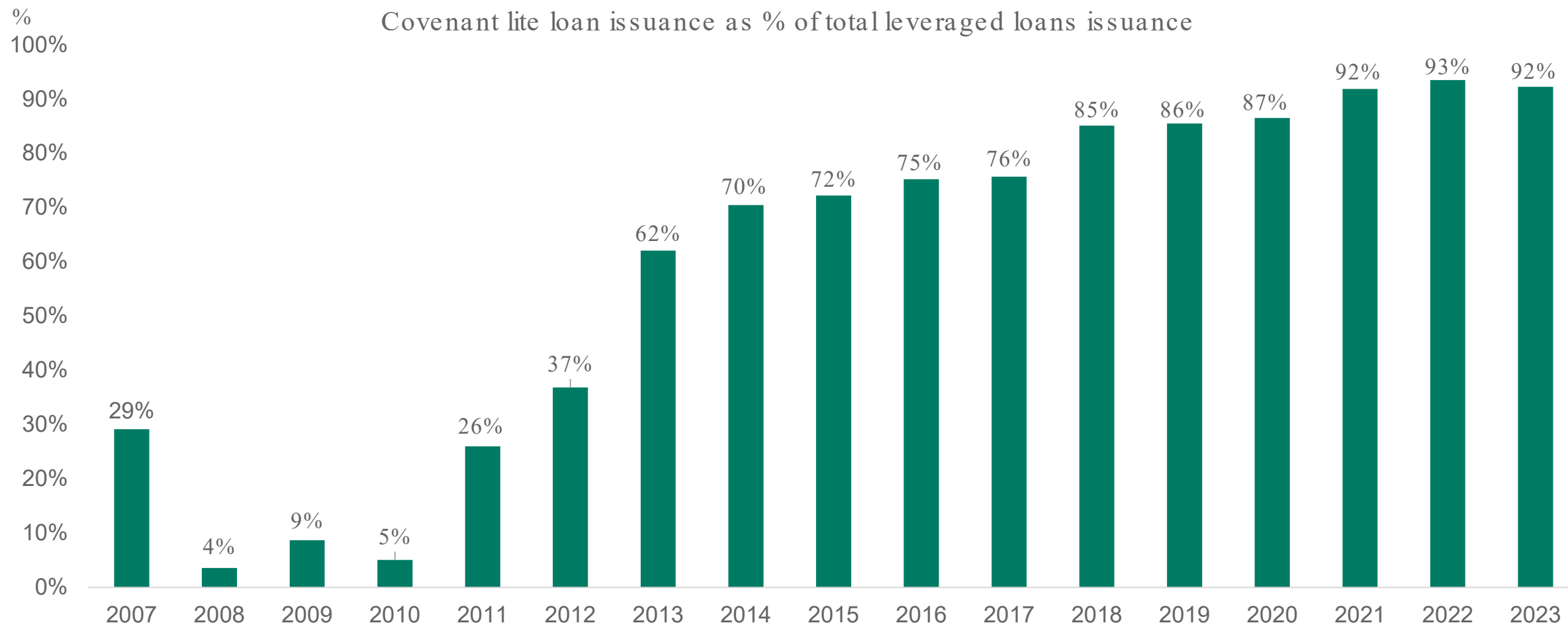
Source: Pitchbook LCD, Apollo Chief Economist

Loan volumes by proceeds

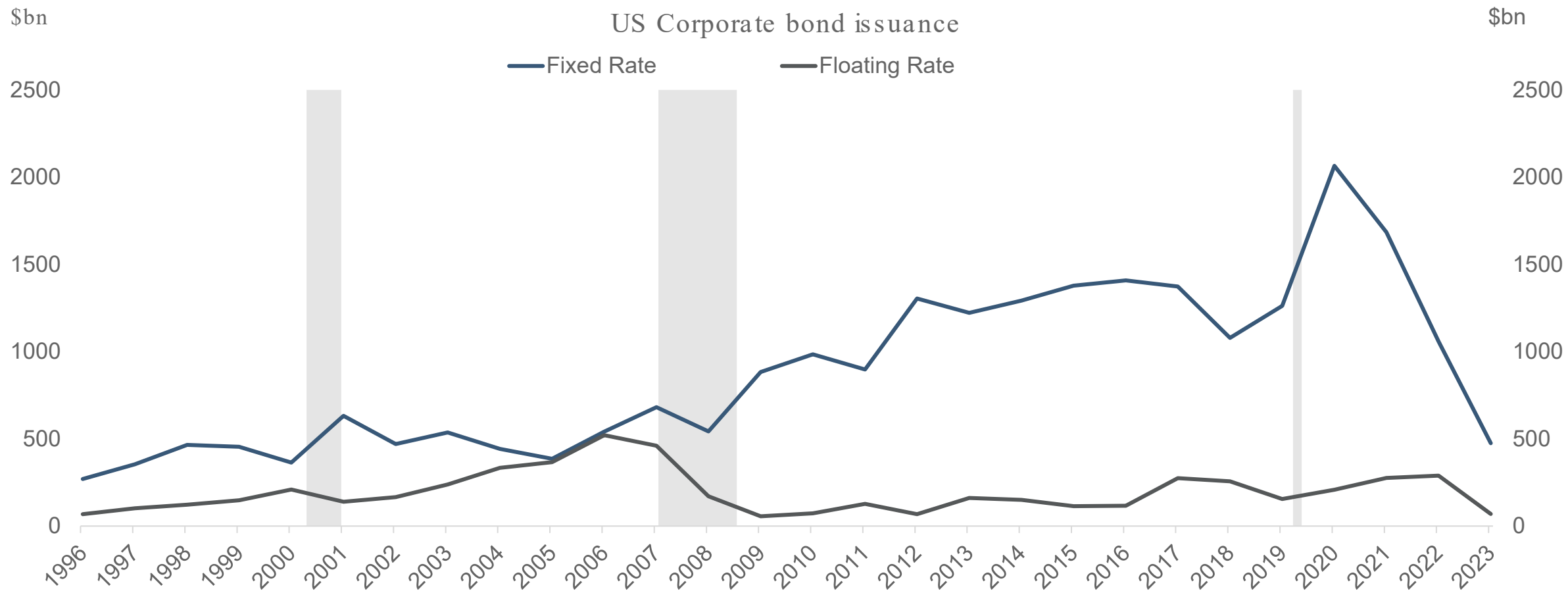


Source: Pitchbook LCD, Apollo Chief Economist

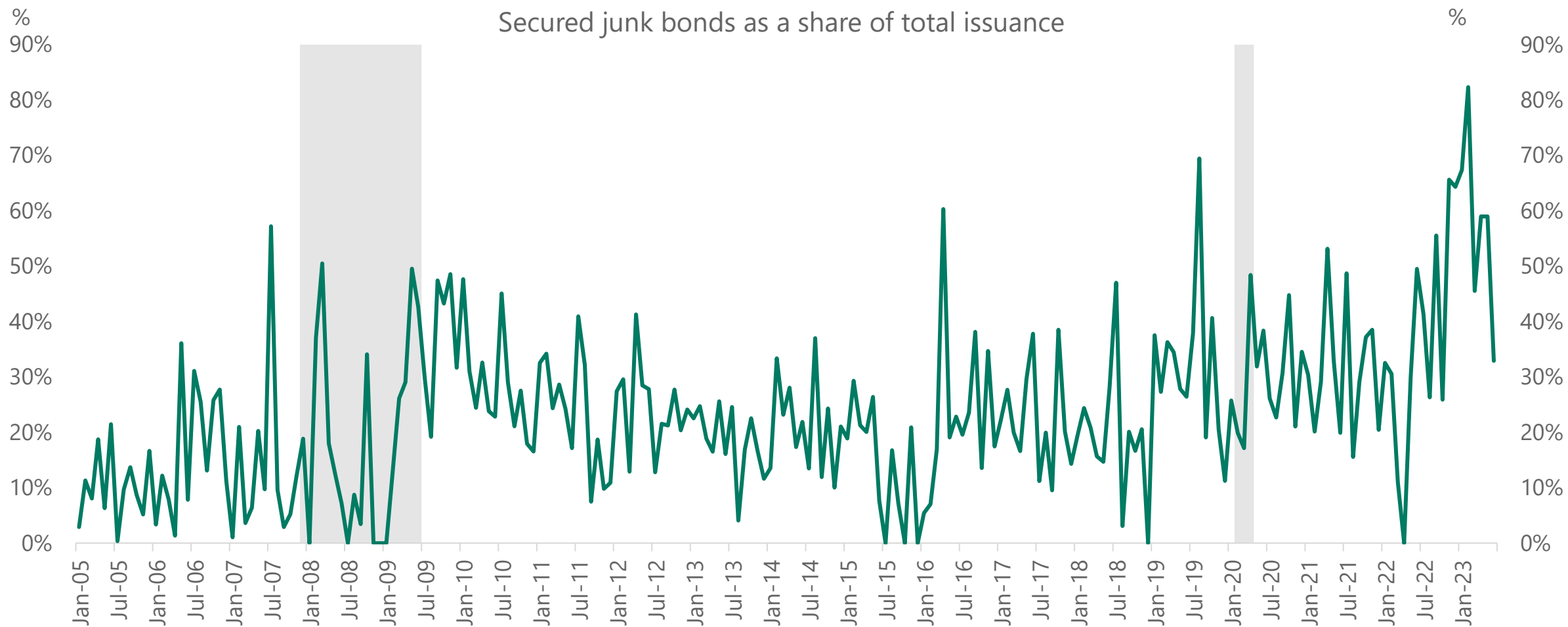
Covenant lite loan issuance



Corporate bond issuance



Secured junk bond issuance volume

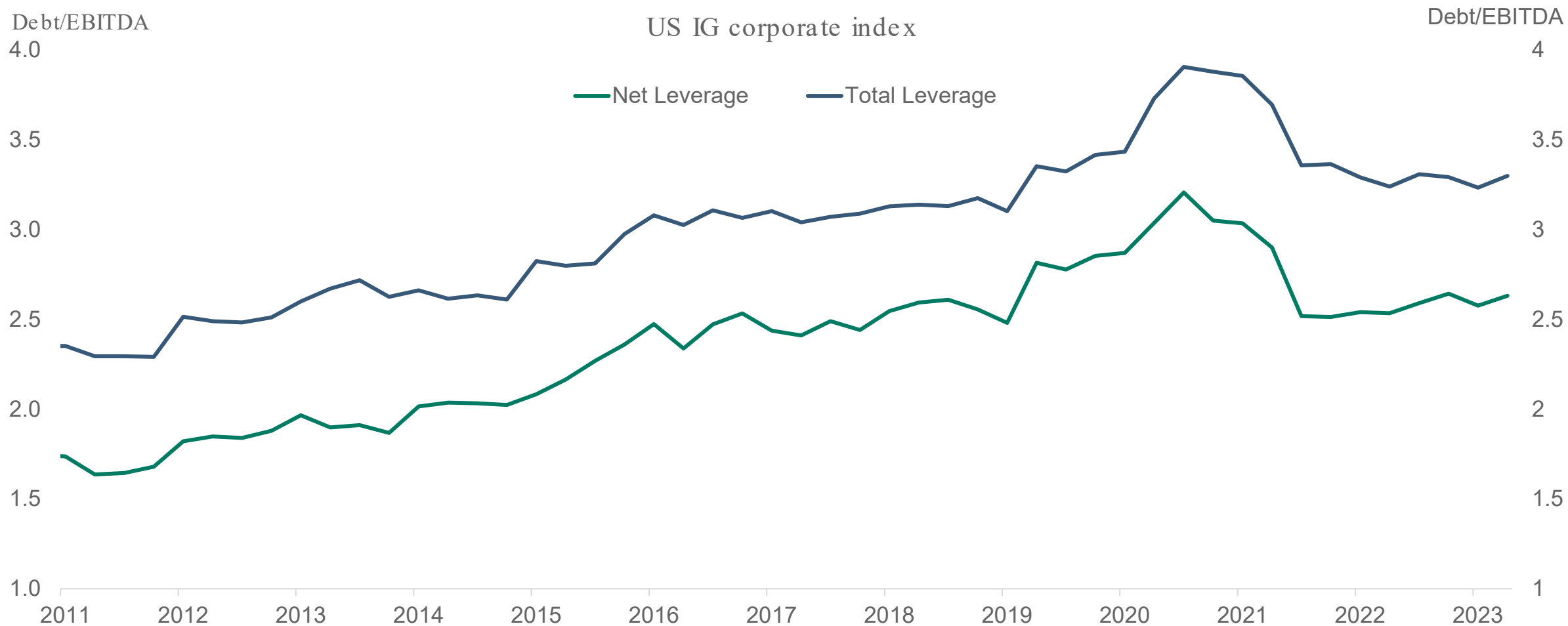


Source: Pitchbook LCD, Apollo Chief Economist. Note: A secured bond is the bond issued with the collateral as a security for the bond

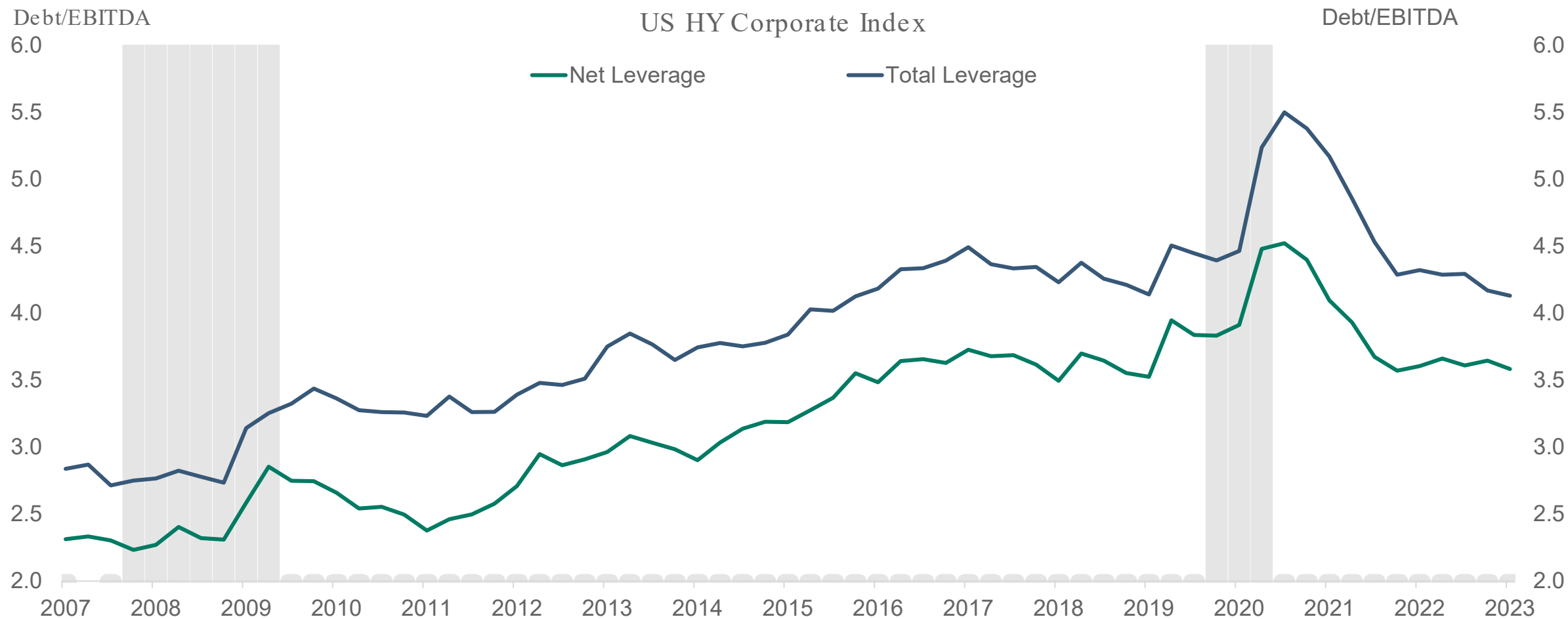
Credit fundamentals



IG leverage has come down after the pandemic

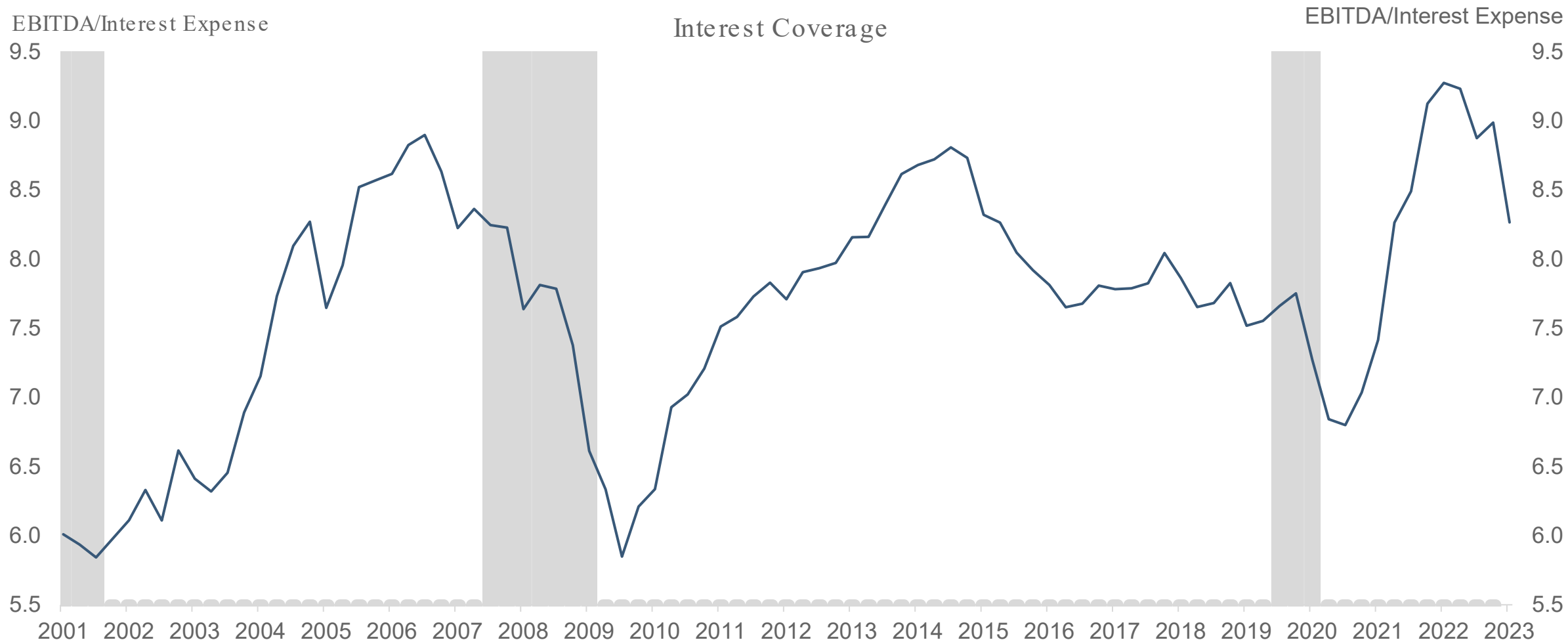


High yield leverage has come down after the pandemic

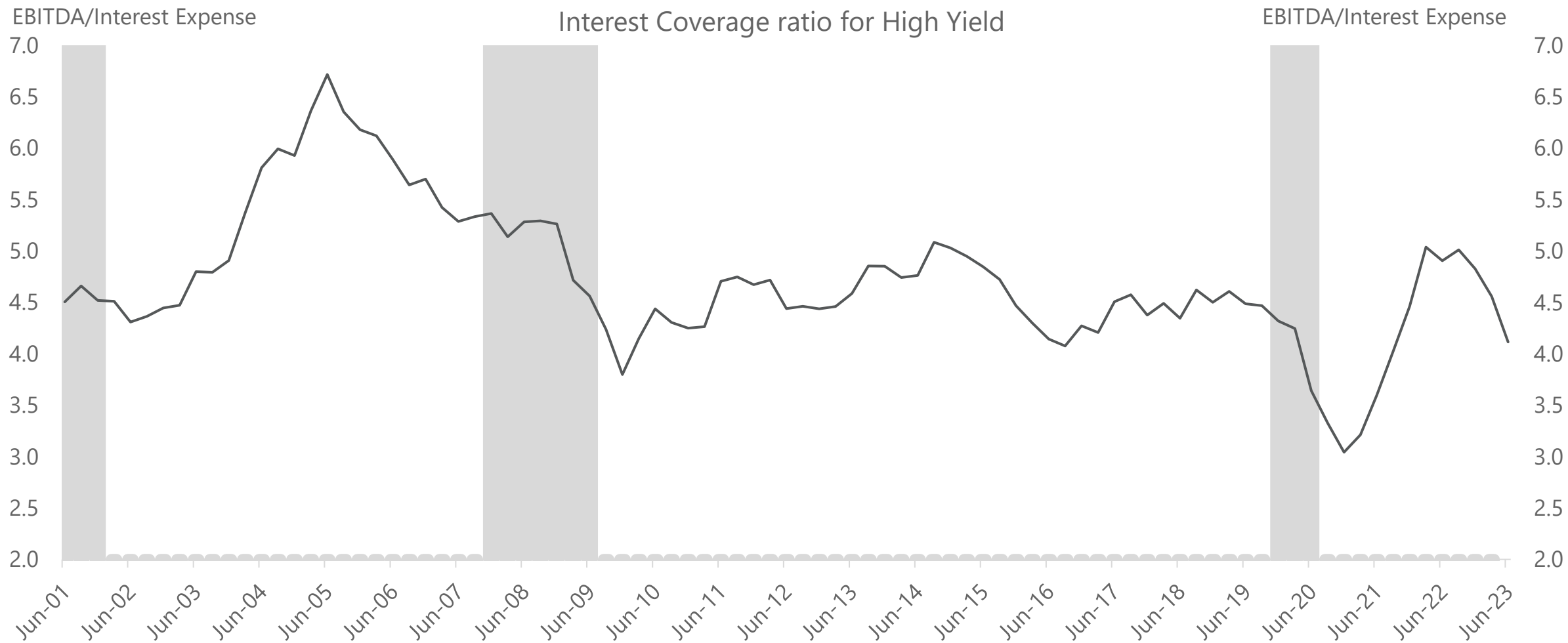


Source: Bloomberg, Apollo Chief Economist. Note: Median leverage for the bonds in H0A0 index

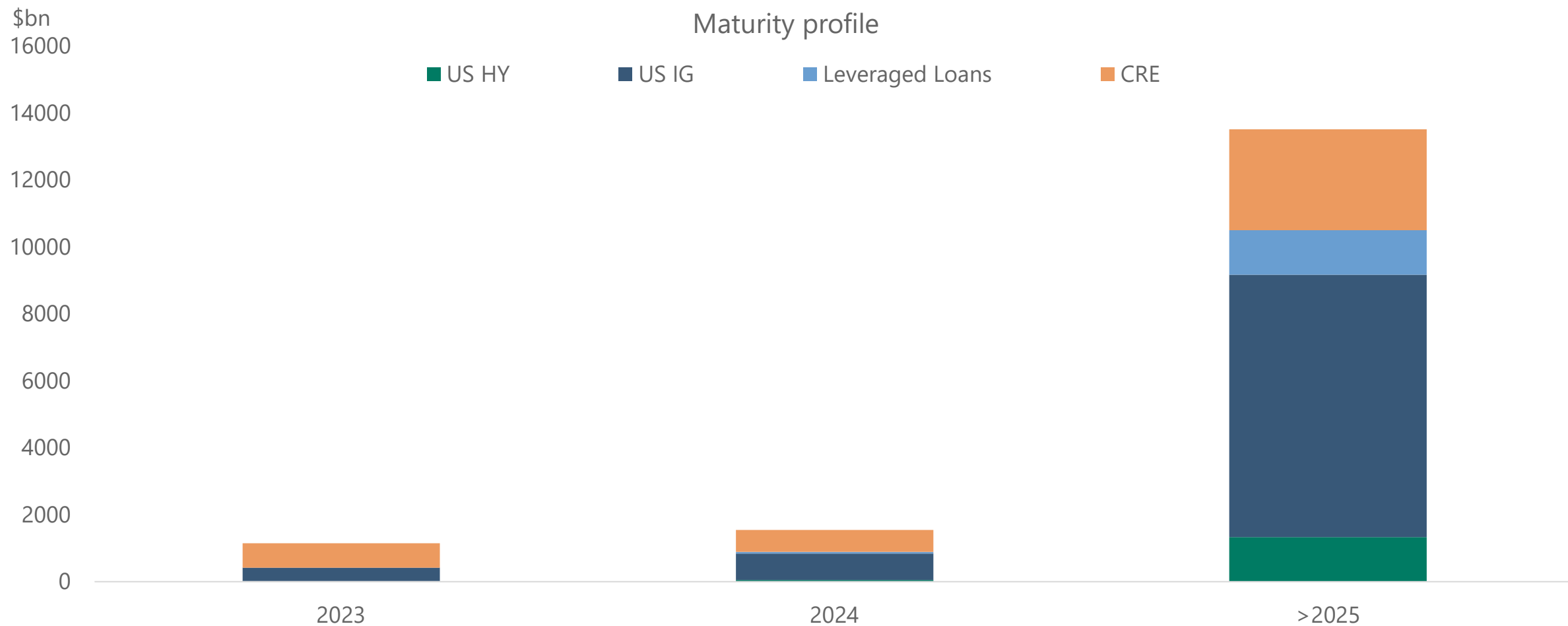
IG ICR



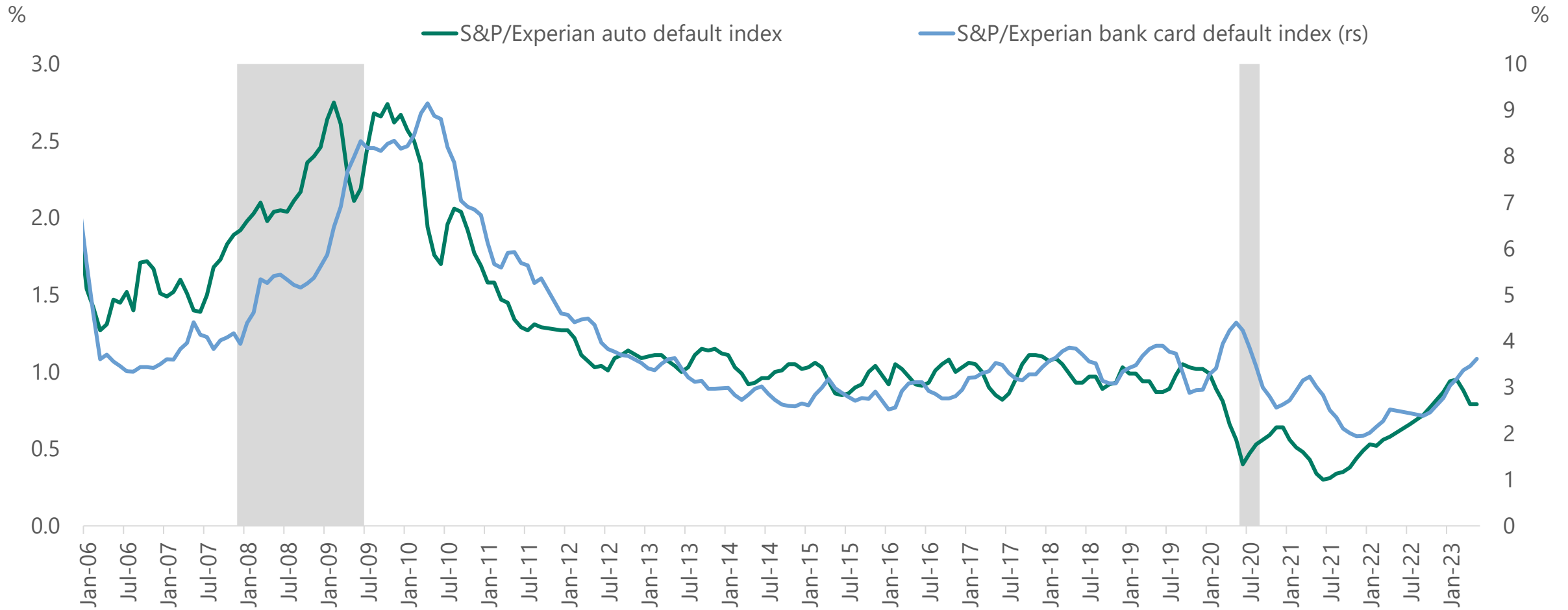
HY ICR



Maturity profile for US fixed income

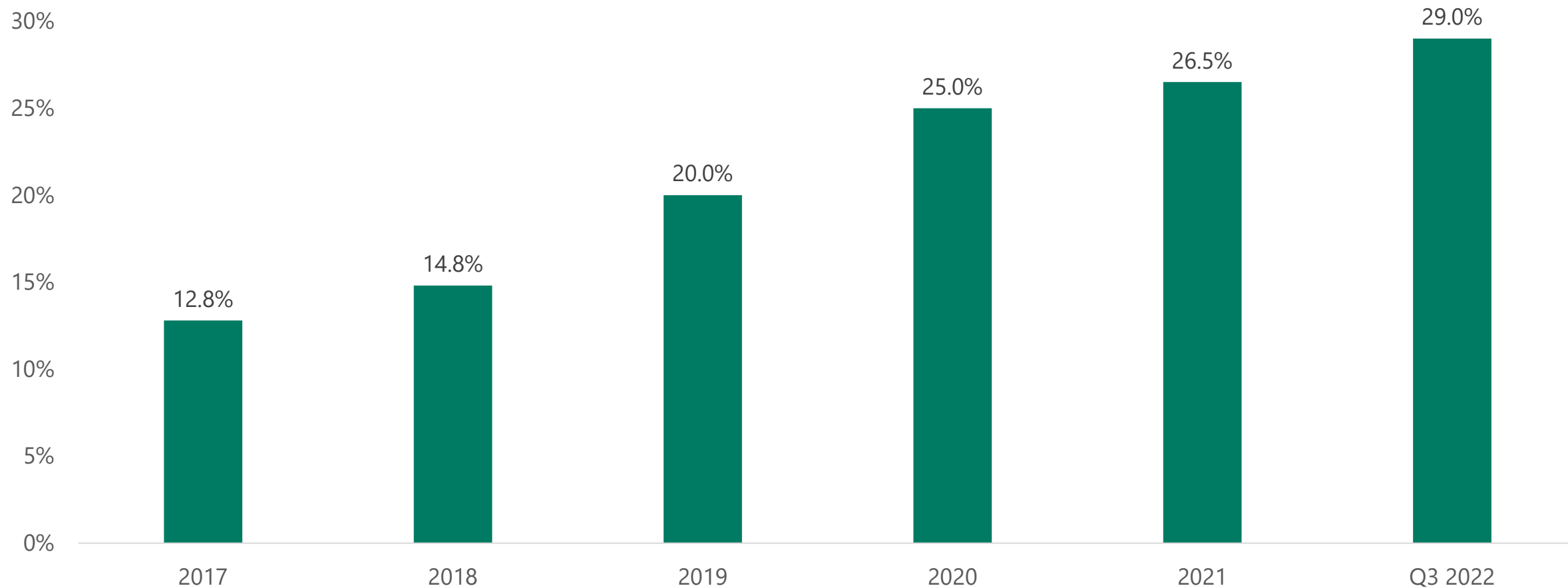


Default rates for auto loans and credit cards are moving higher

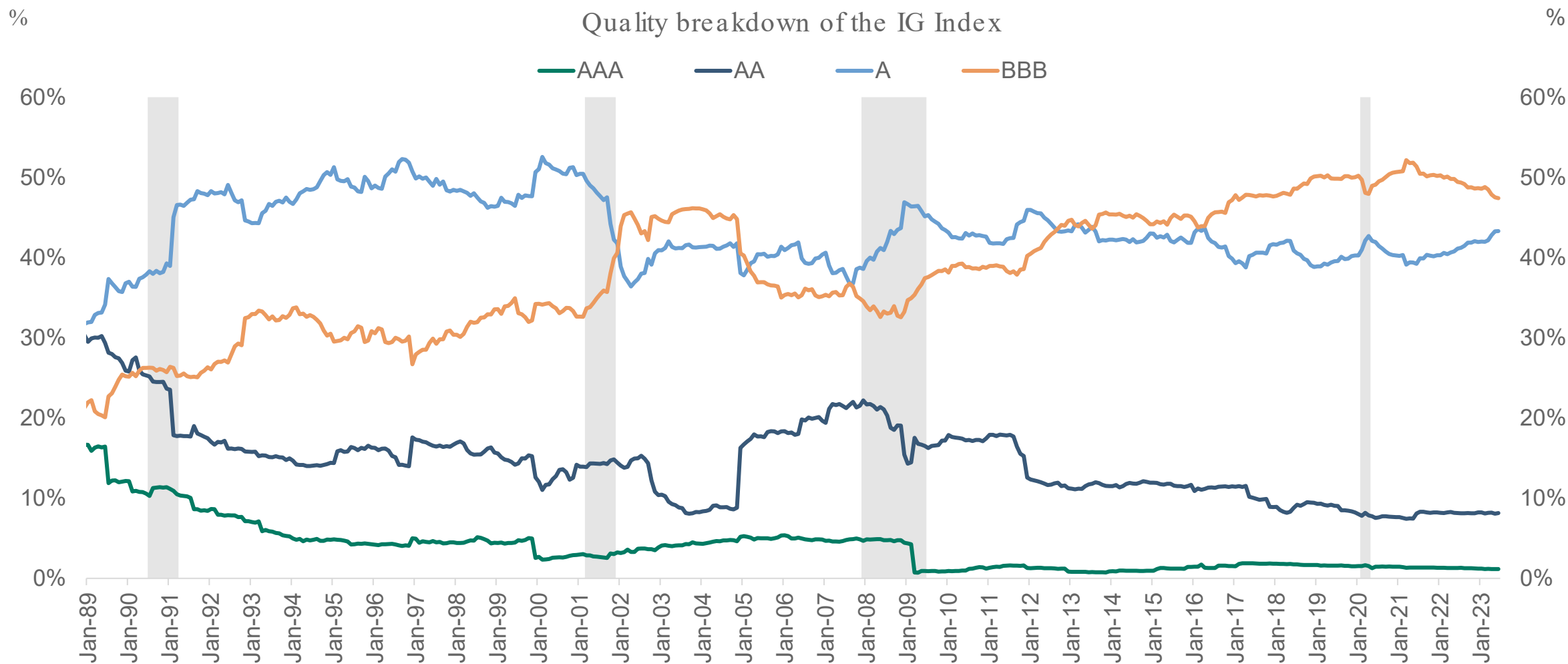


29% of the loans in the Morningstar LSTA Leveraged Loan Index are rated B-

% of B- loans in S&P rated US BSL CLOs

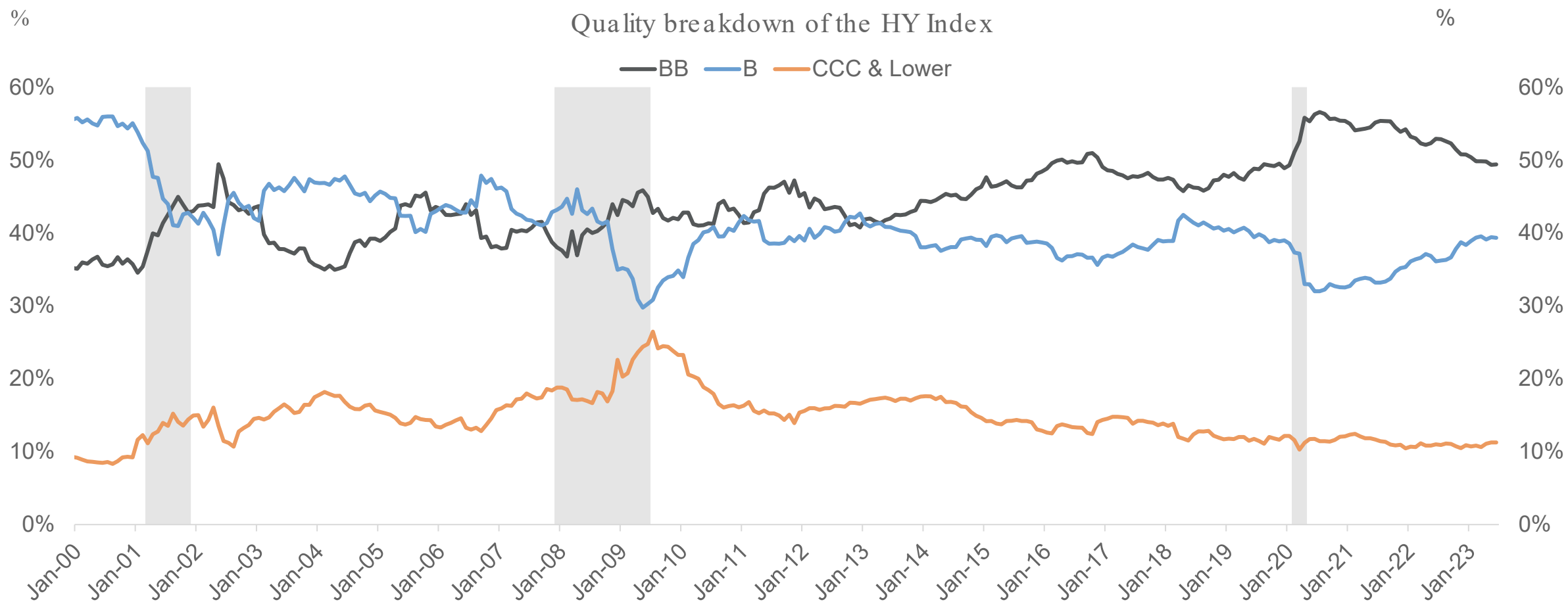


Quality composition of the IG Index



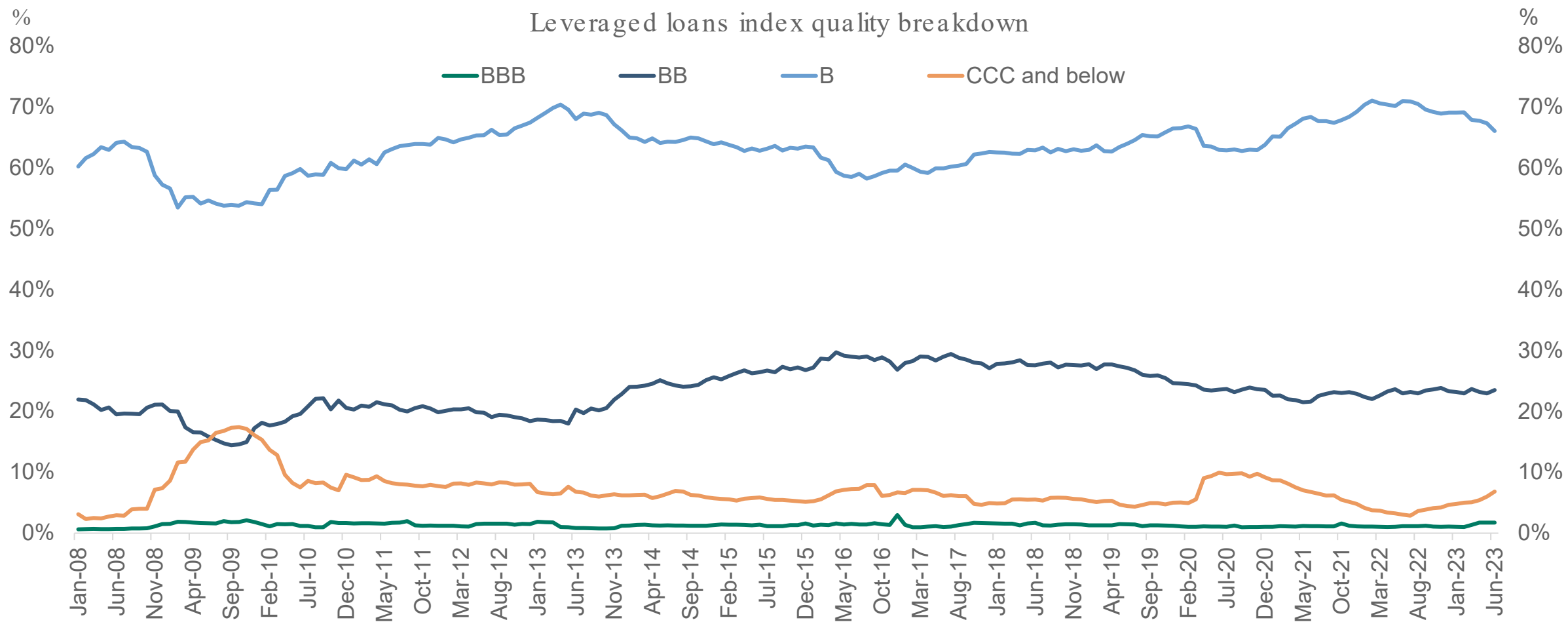
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Breakdown by market value. Data as of 30th June 2023

Quality composition of the HY Index



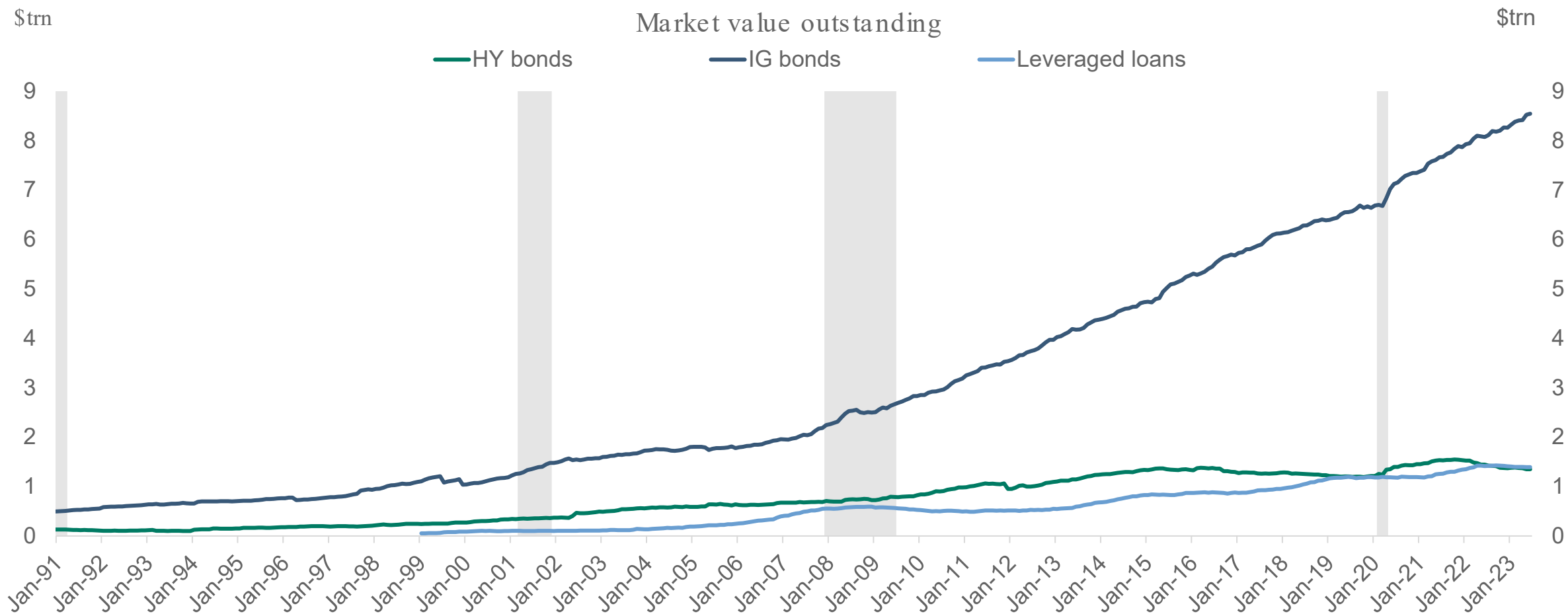
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Breakdown by market value. Data as of 30th June 2023

Quality composition of the leveraged loans index



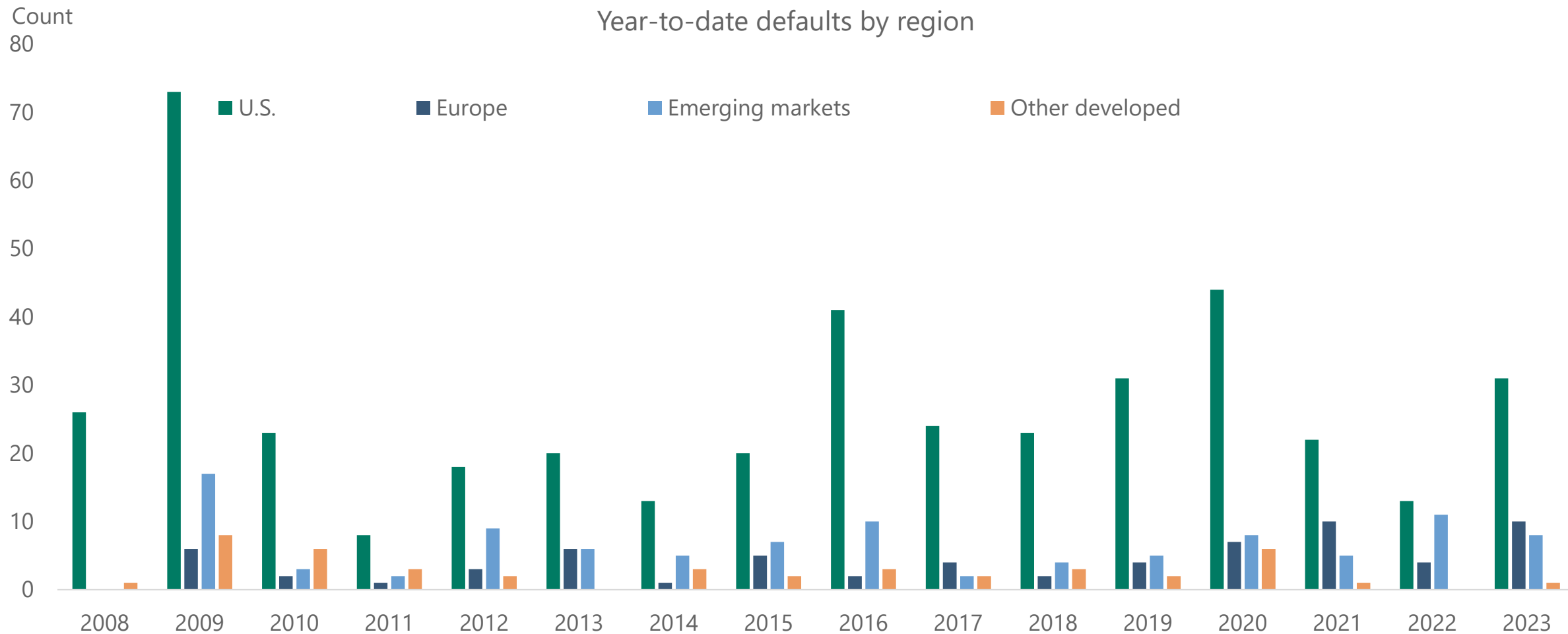
Source: Pitchbook LCD, Apollo Chief Economist

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



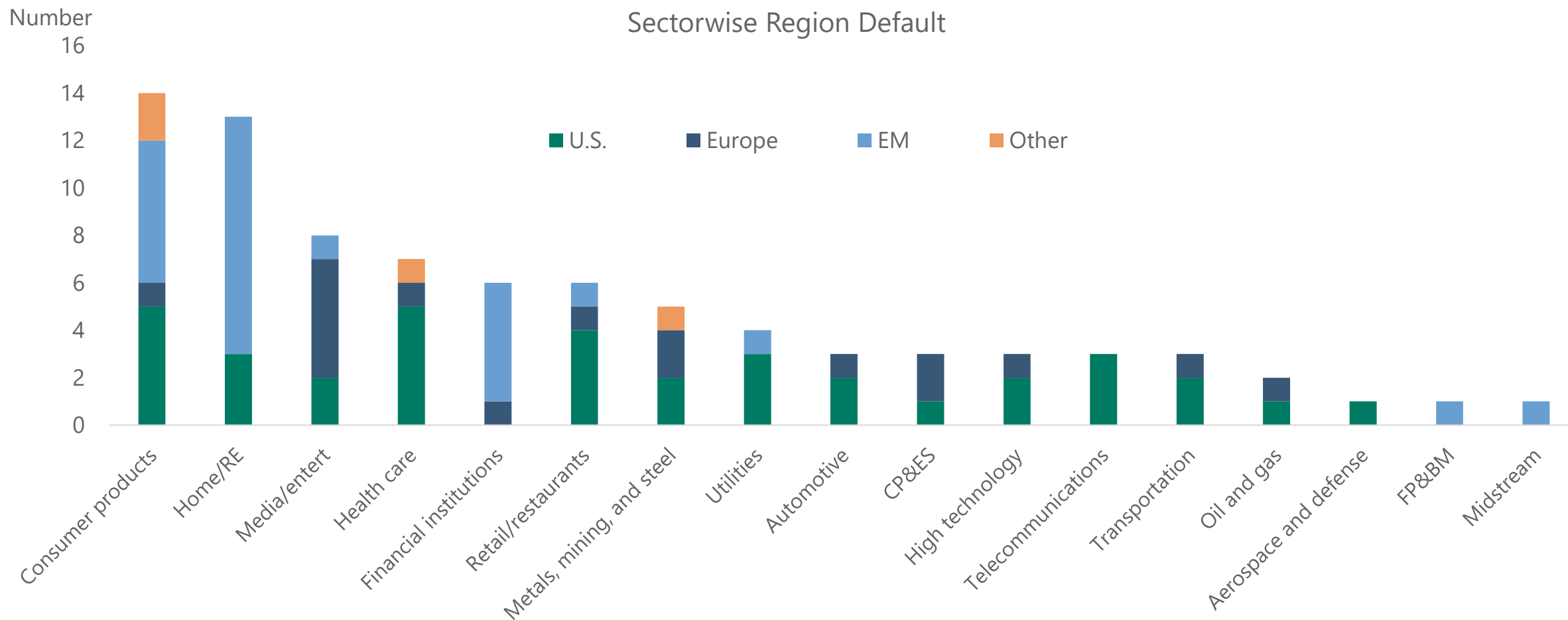
Source: ICE BofA, Bloomberg, Pitchbook LCD, Apollo Chief Economist. Note: Ticker used for HY is H0A0 Index and for IG it is C0A0 Index and for Loans it is SPBDALB Index.

Global default rates rising

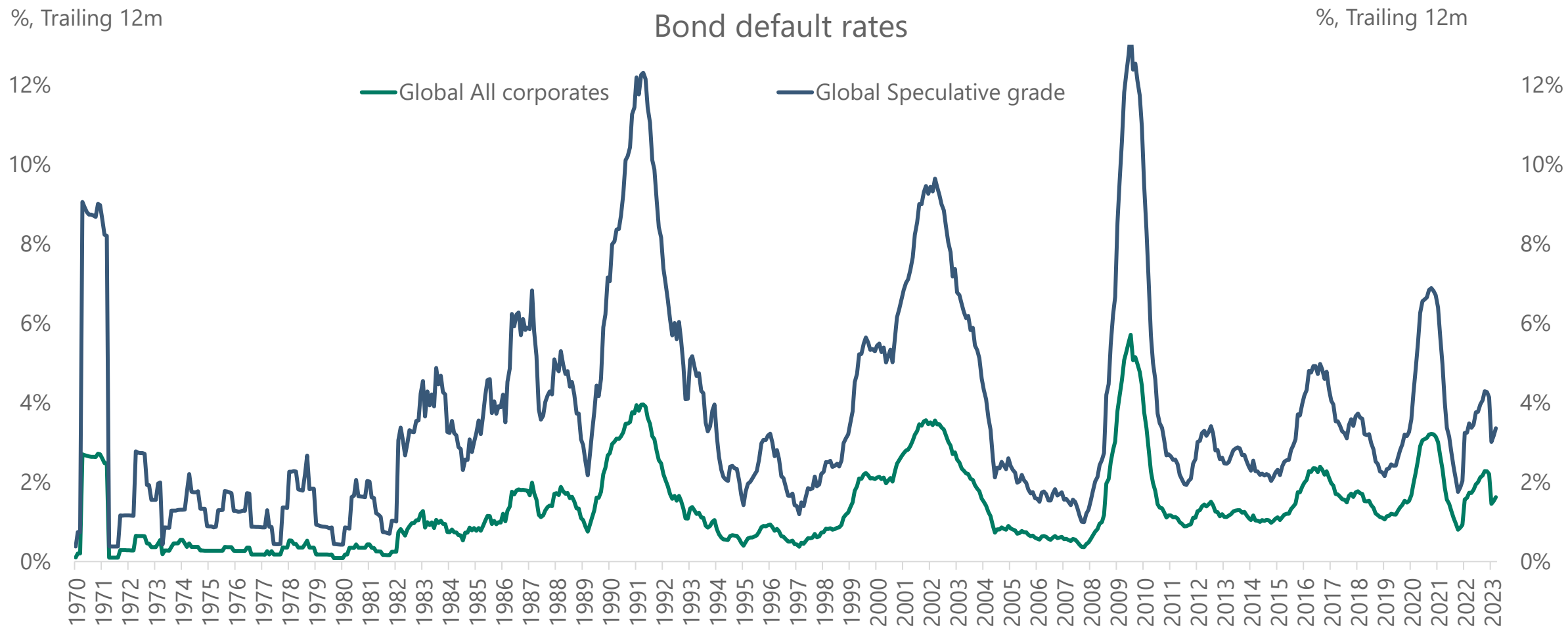


Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®, Apollo Chief Economist. Note: Data as of 30th April 2023

Default rates differ across sectors

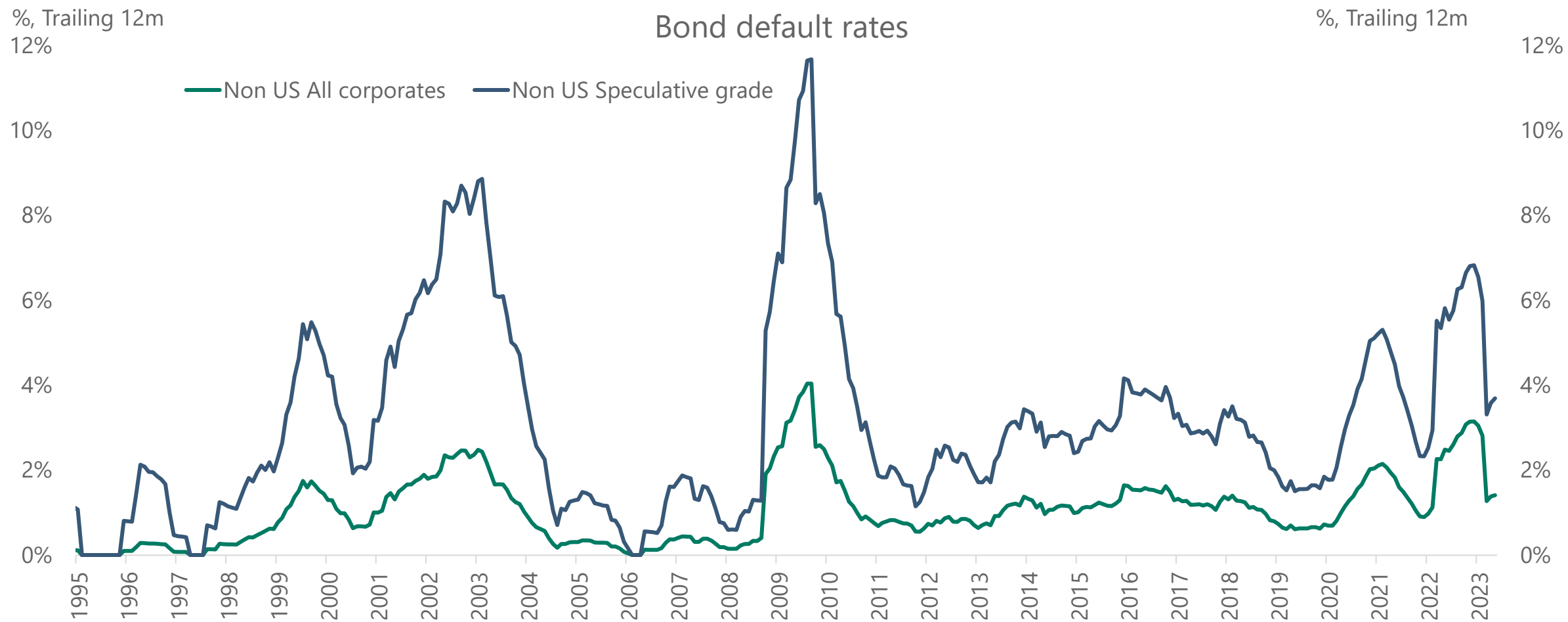


Global bond default rates



Source: Moody's Analytics, Apollo Chief Economist

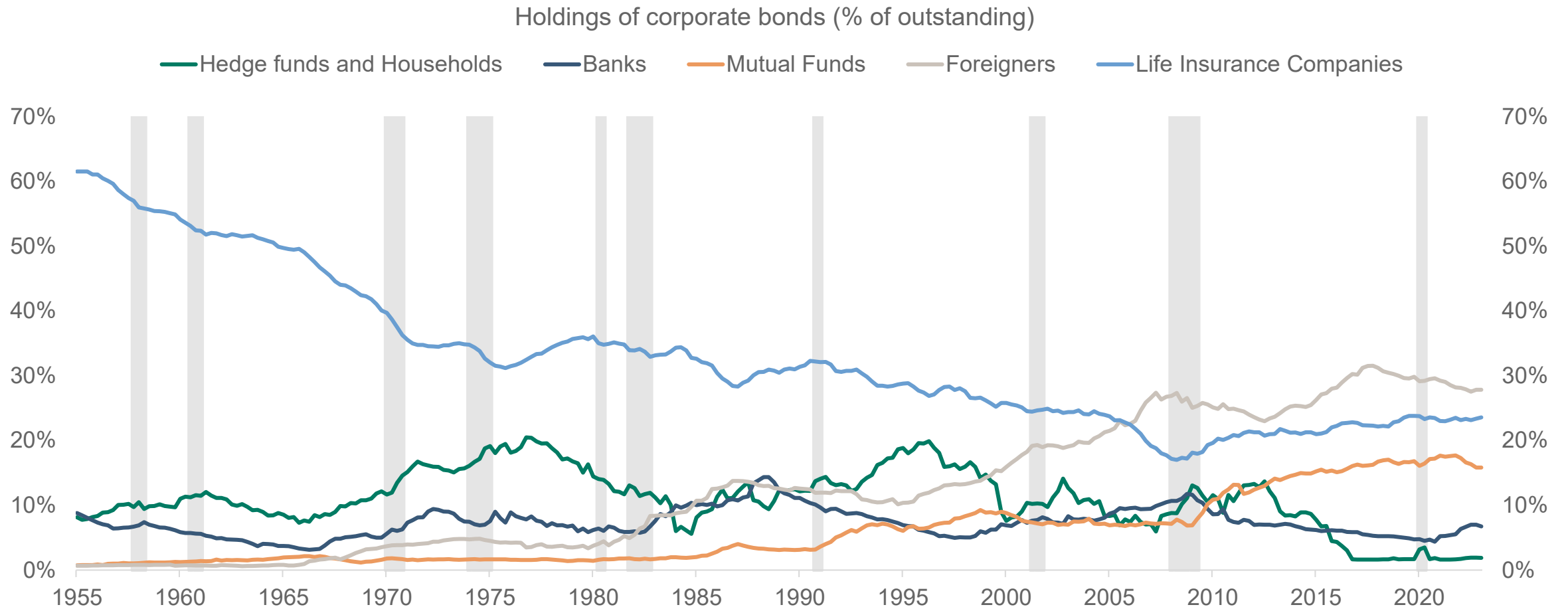
Non-US bond default rates



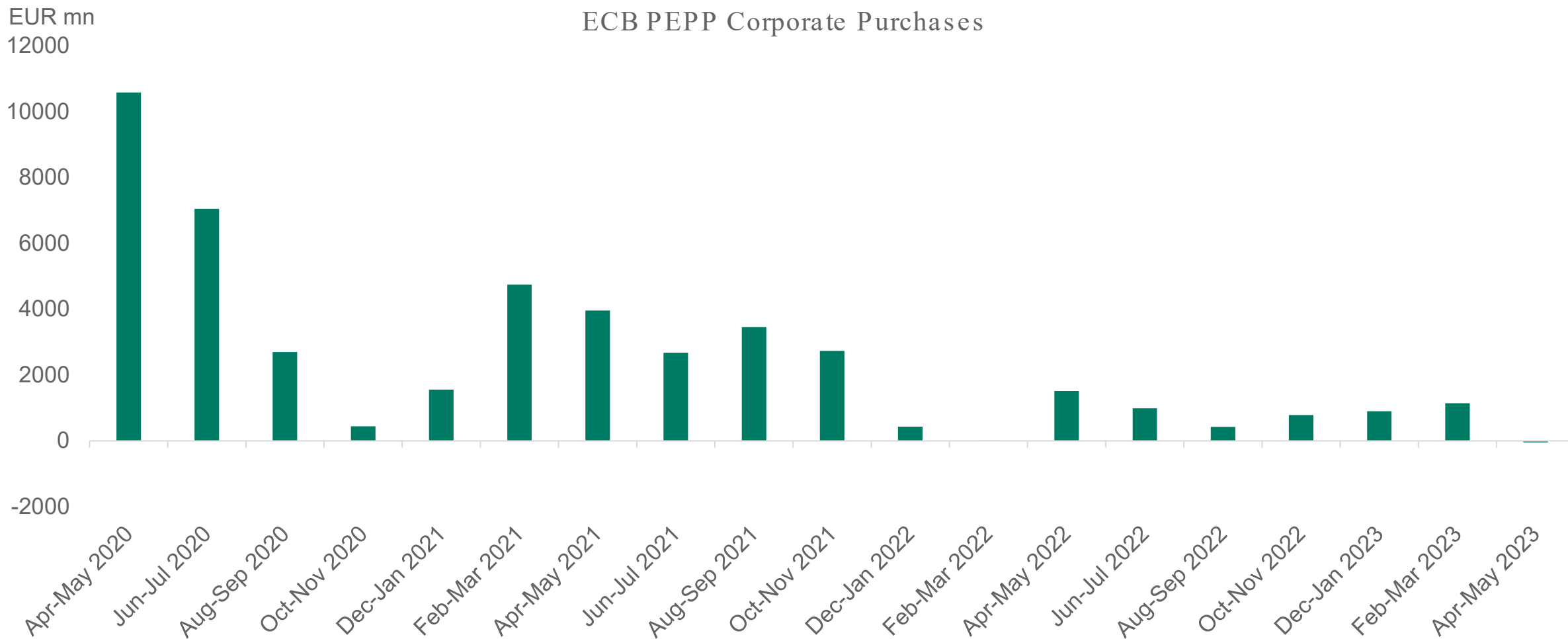
Corporate bond holdings



The biggest holder of US corporate bonds is foreigners

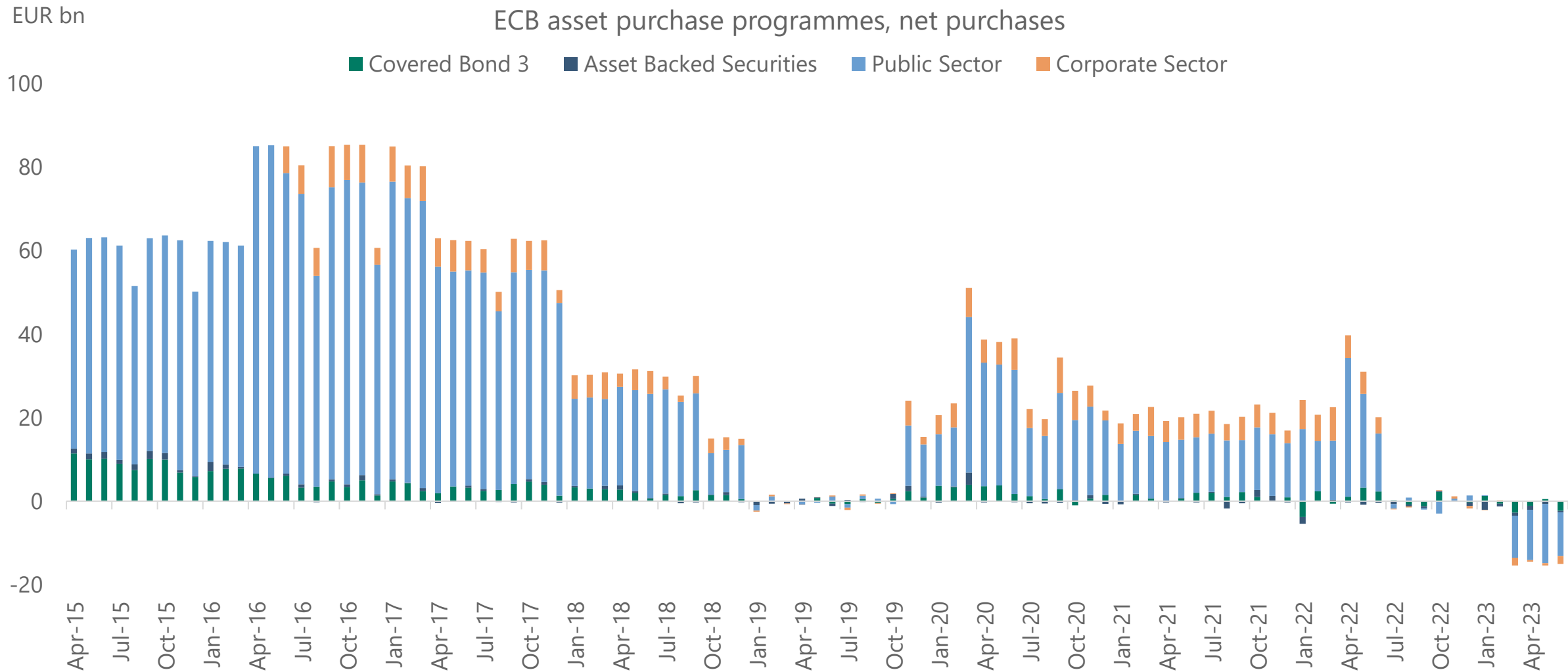


ECB purchases of corporate bonds



Source: ECB, Bloomberg, Apollo Chief Economist

ECB QE ending

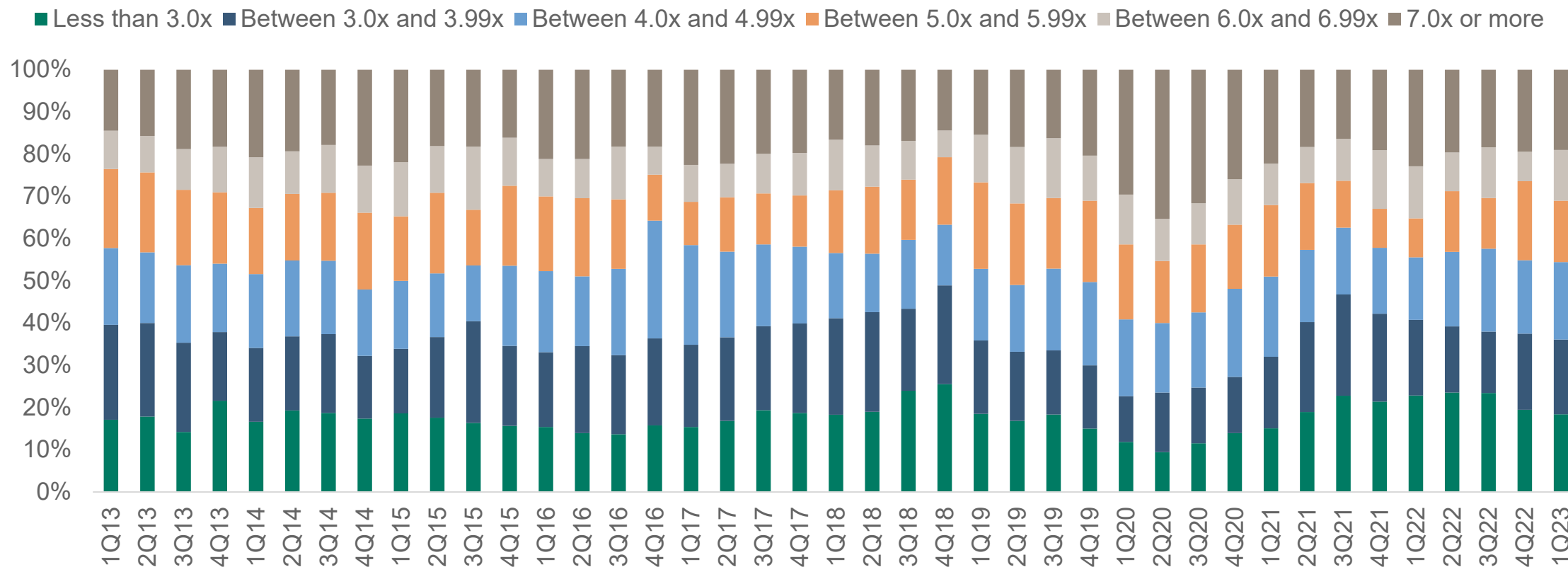


Loans/CLOs

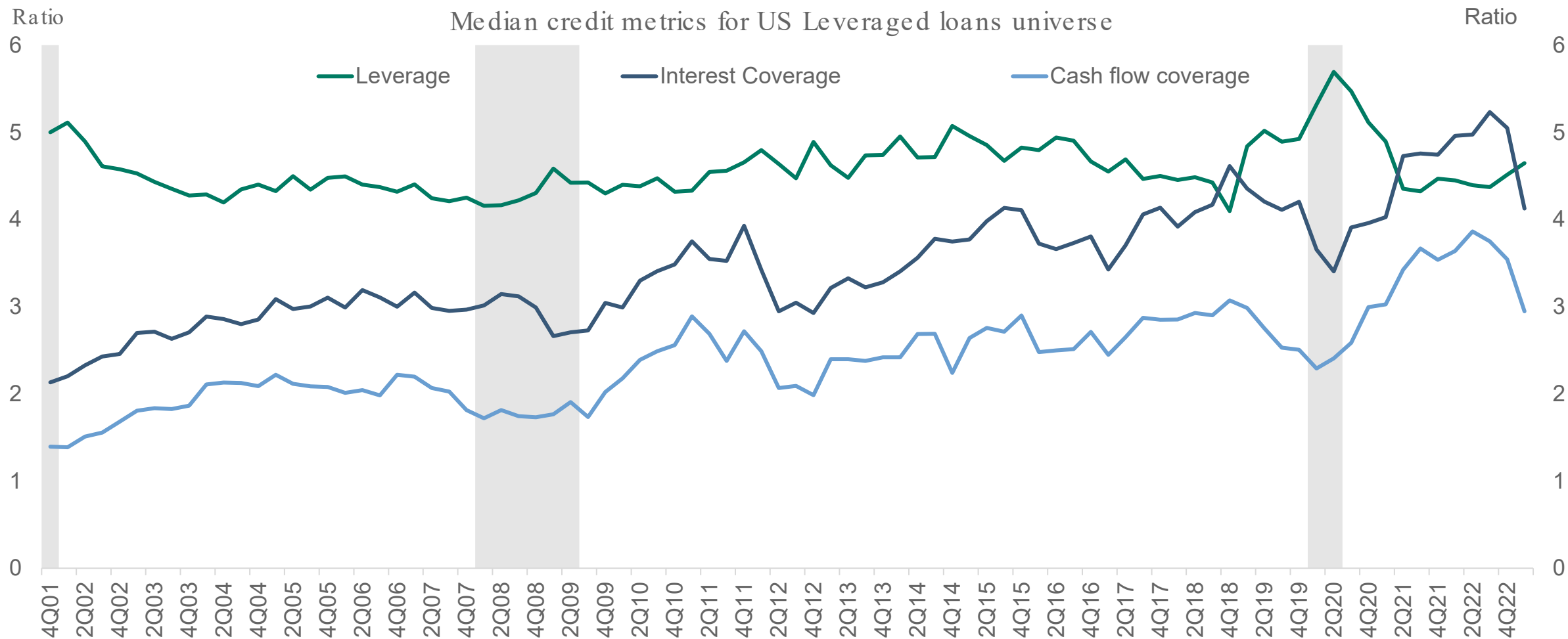


Leveraged loan deals, by multiple

Share of leveraged deals

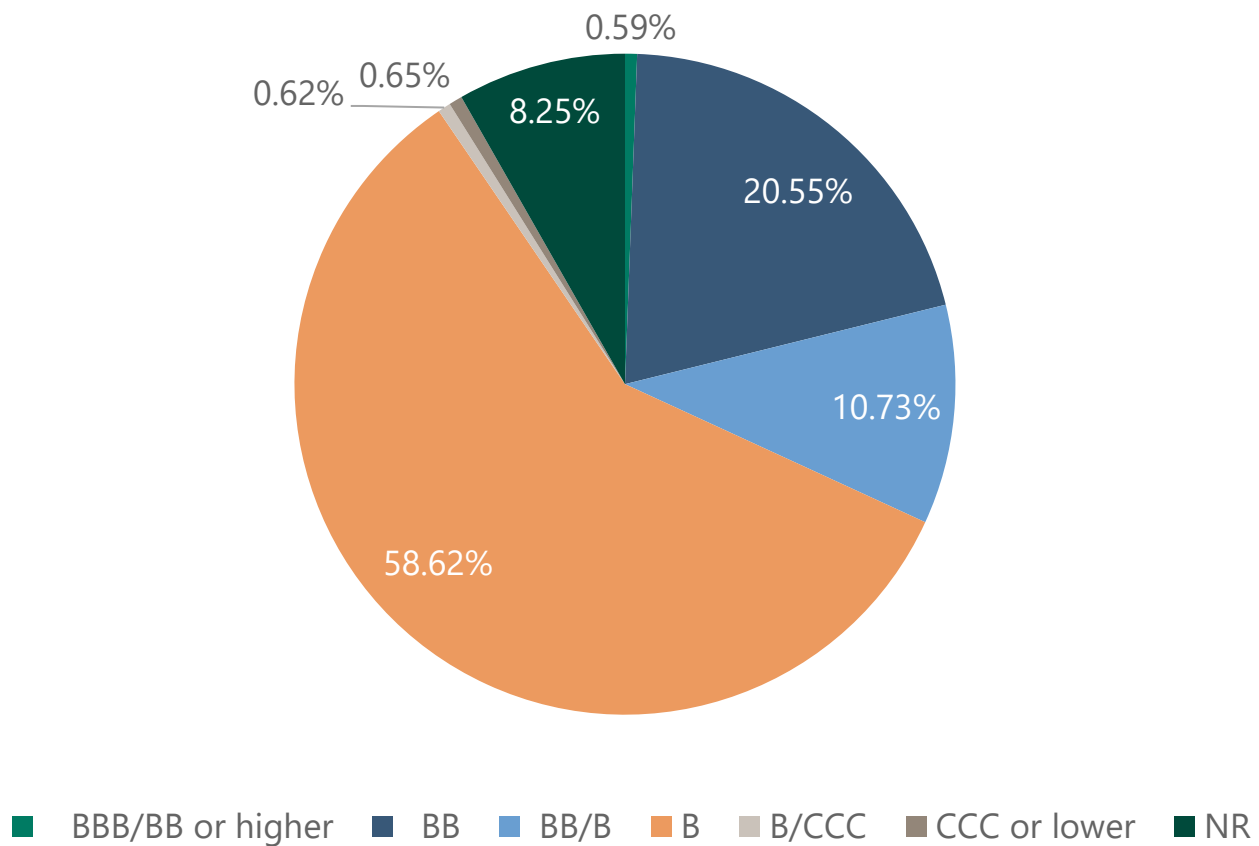


Credit metrics for leveraged loan deals



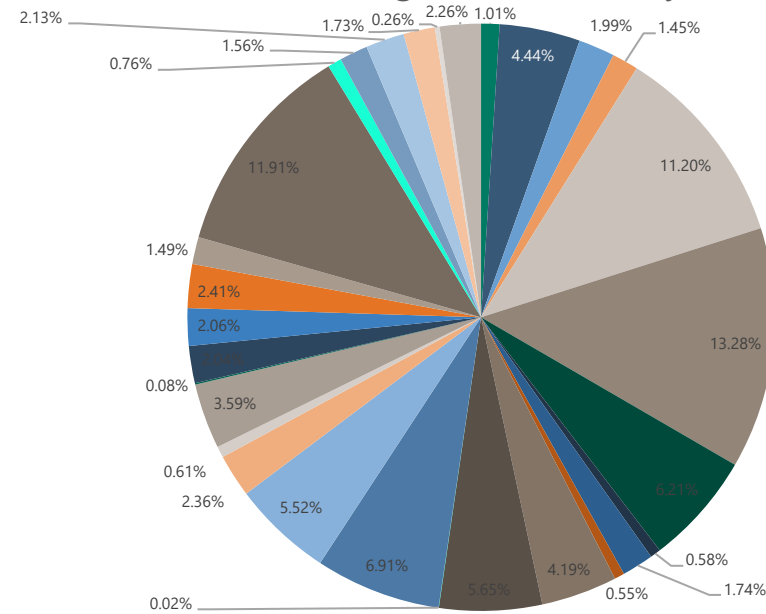
Leveraged loans rating distribution, 2023Q2

US leveraged loan rating distribution



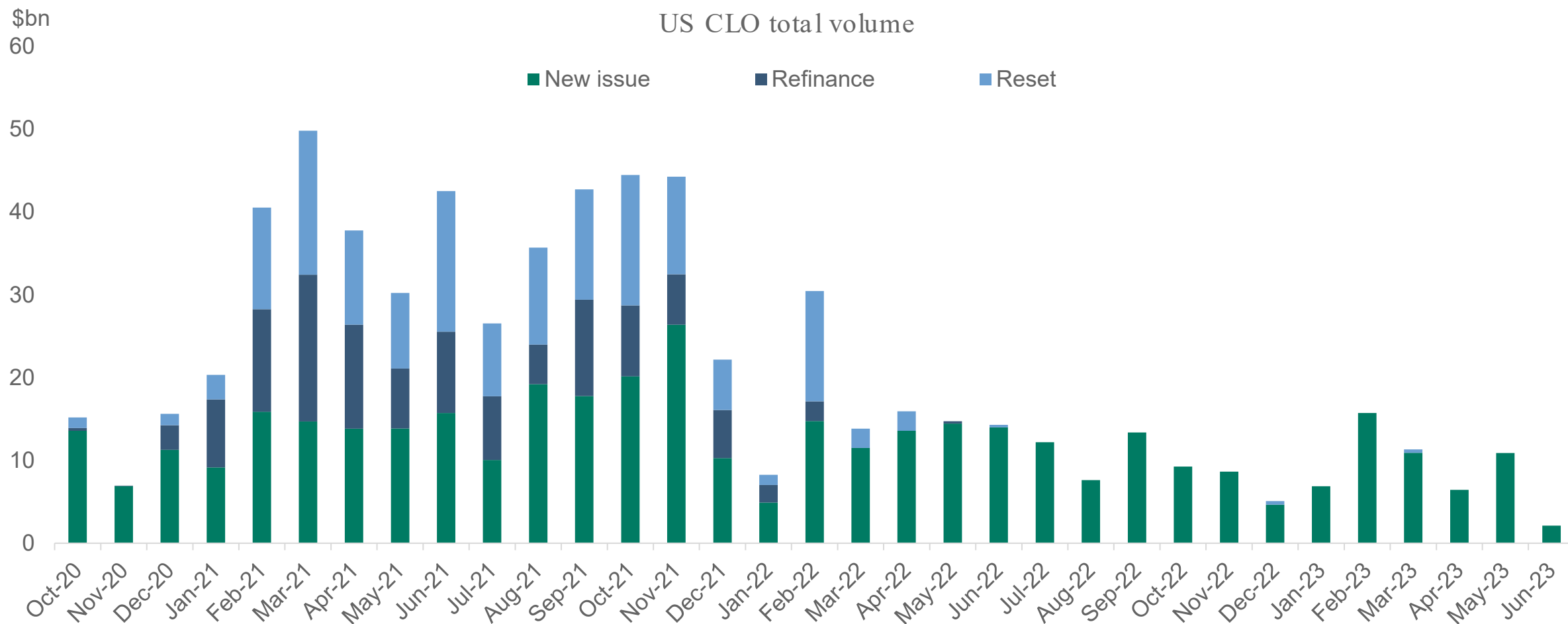
Leveraged loans distribution, by industry, 2023Q2

US leveraged loan industry distribution



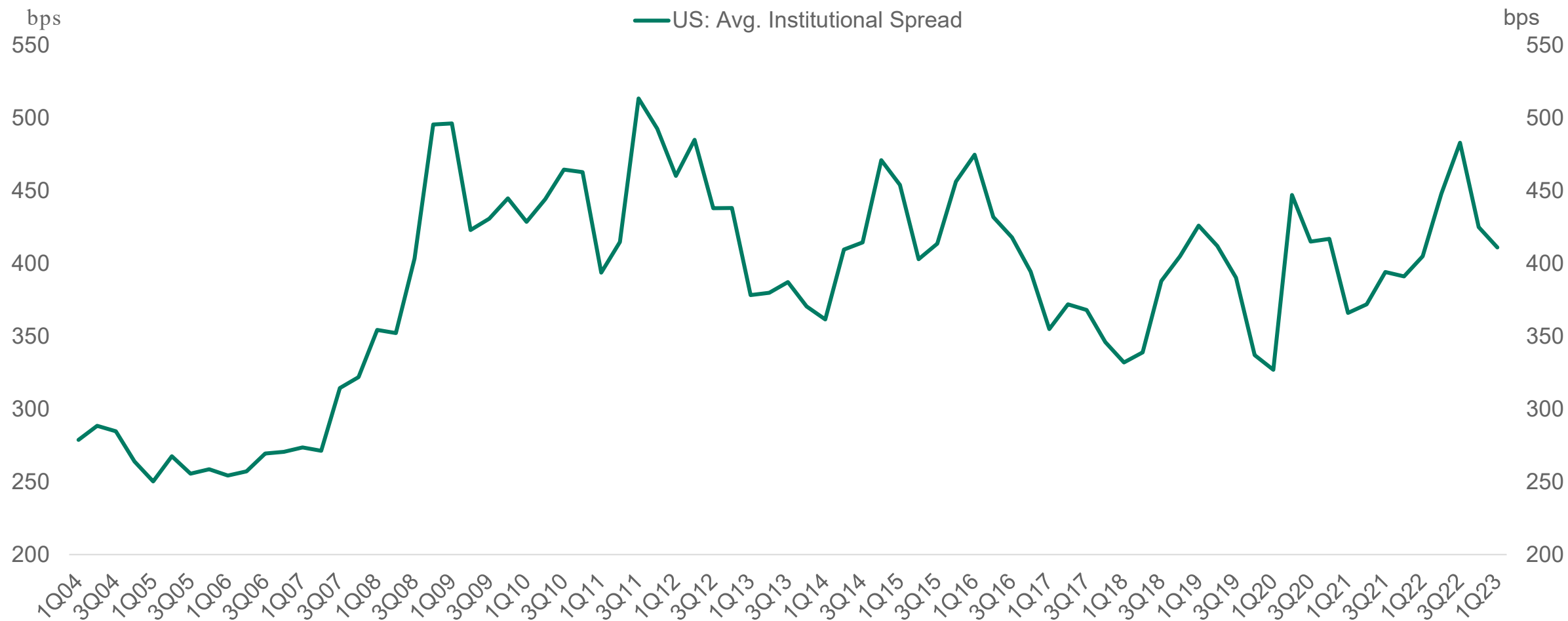
- Aerospace & Defense
- Automotive
- Building Materials
- Cable
- Chemicals
- Computers & Electronics
- Entertainment & Leisure
- Environmental
- Food & Beverage
- Forest Product
- Gaming & Hotel
- Healthcare
- Home Furnishings
- Insurance
- Manufacturing & Machinery
- Metals & Mining
- Not for Profit
- 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.

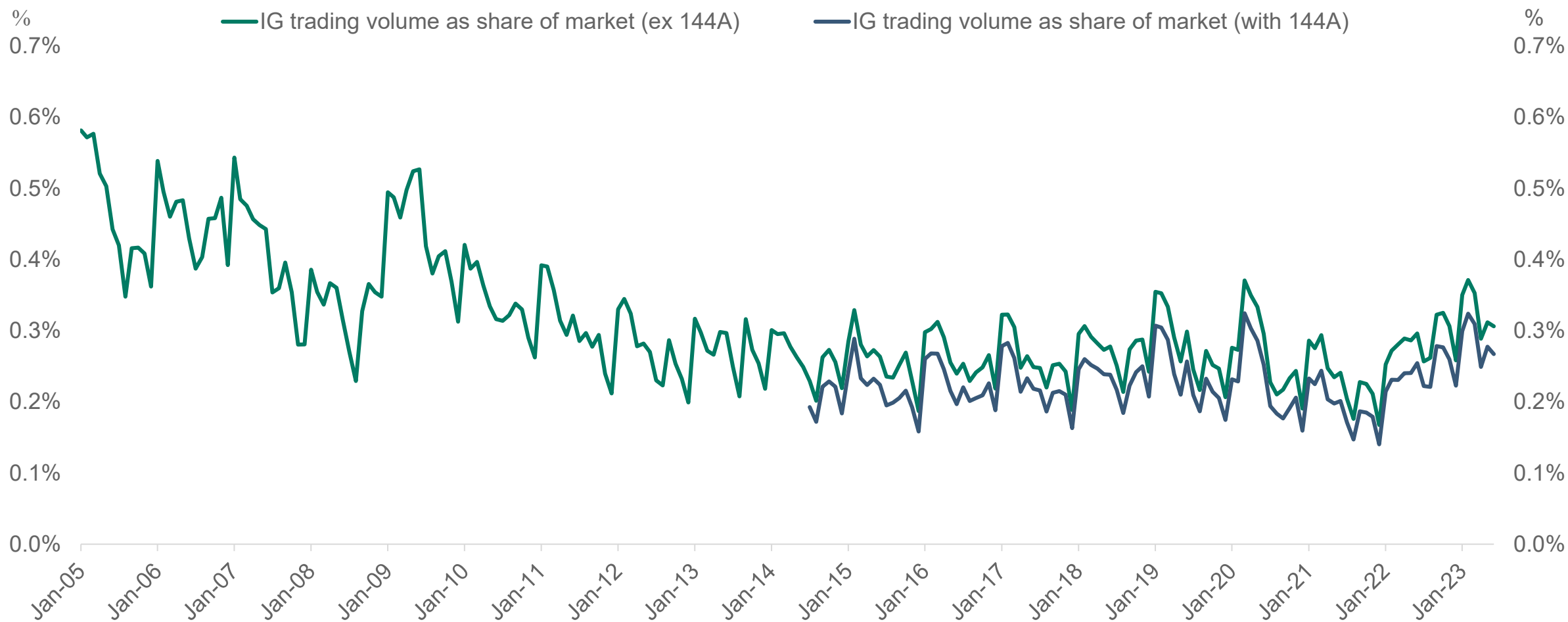
Loans: Institutional spread relative to bespoke loans



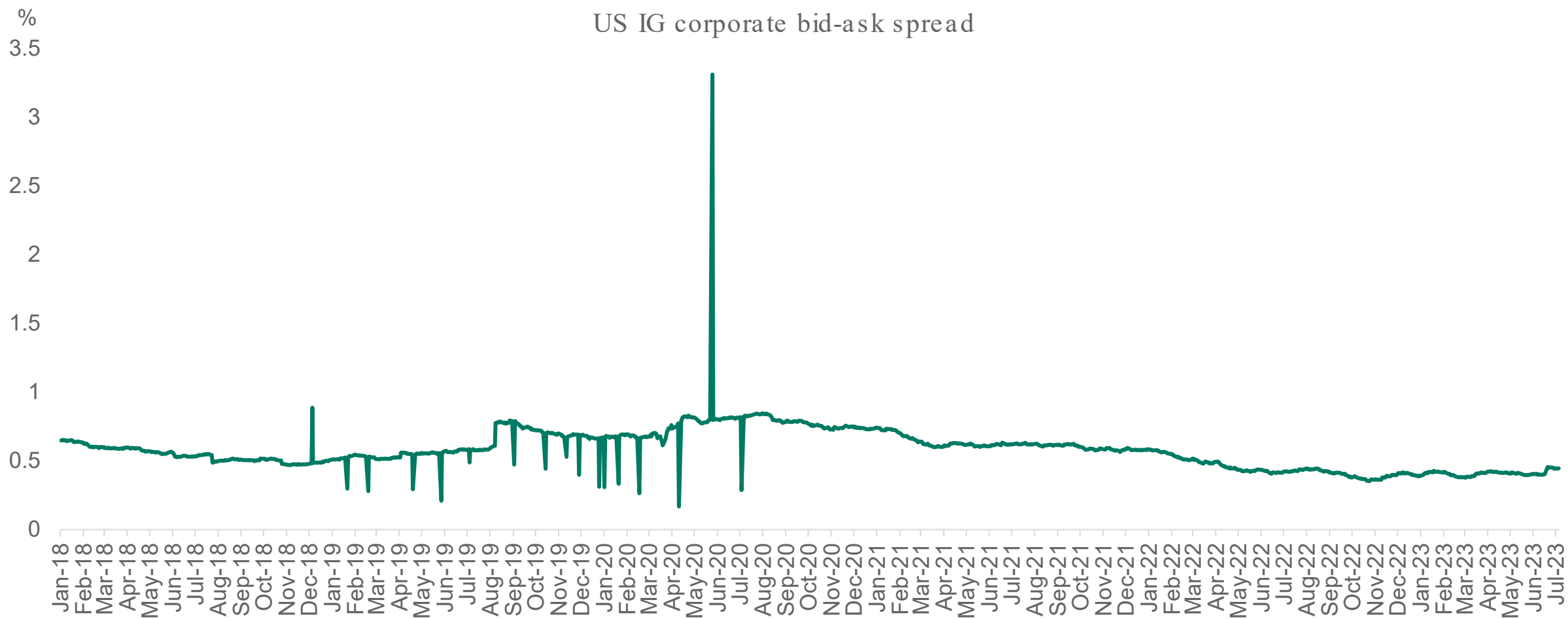
Liquidity in US credit markets



IG trading liquidity

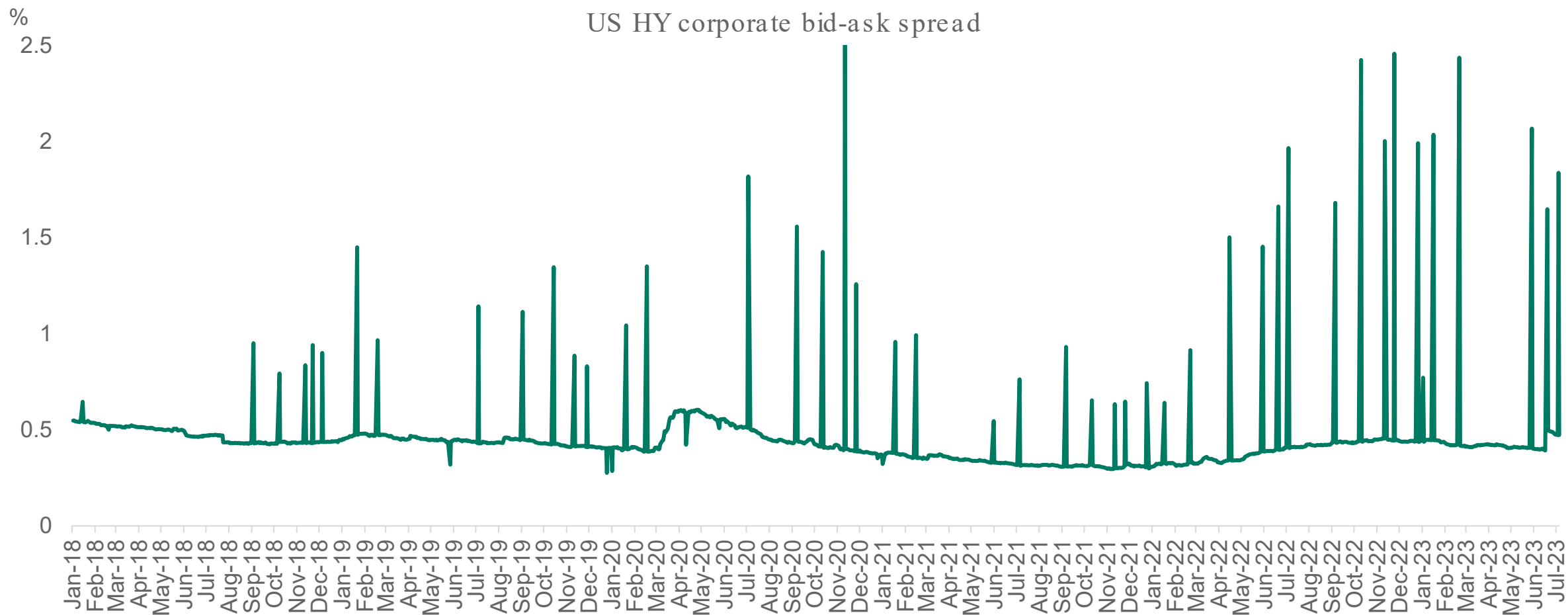


Bid-ask spread for US IG



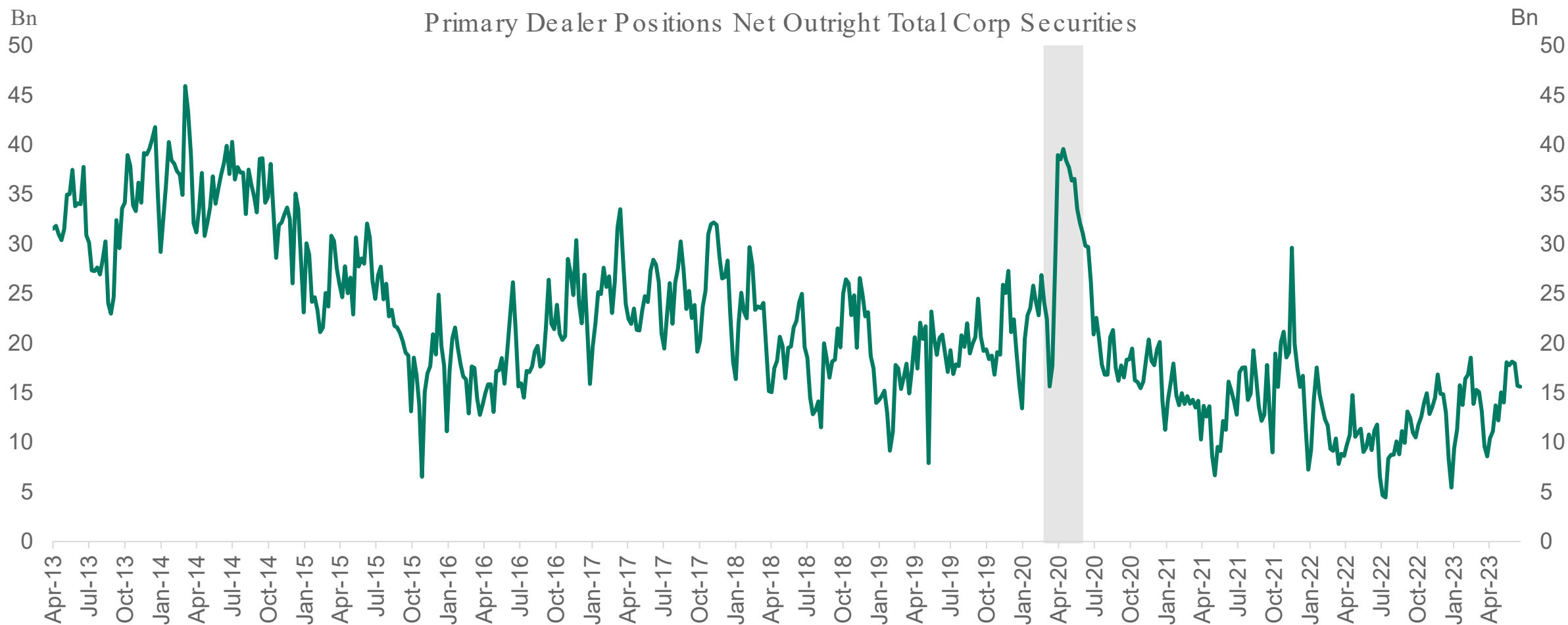
Source: Bloomberg, Apollo Chief Economist. Note: The bid-ask spread is the weighted average of Bloomberg Barclays US IG Index

Bid-ask spread for US HY

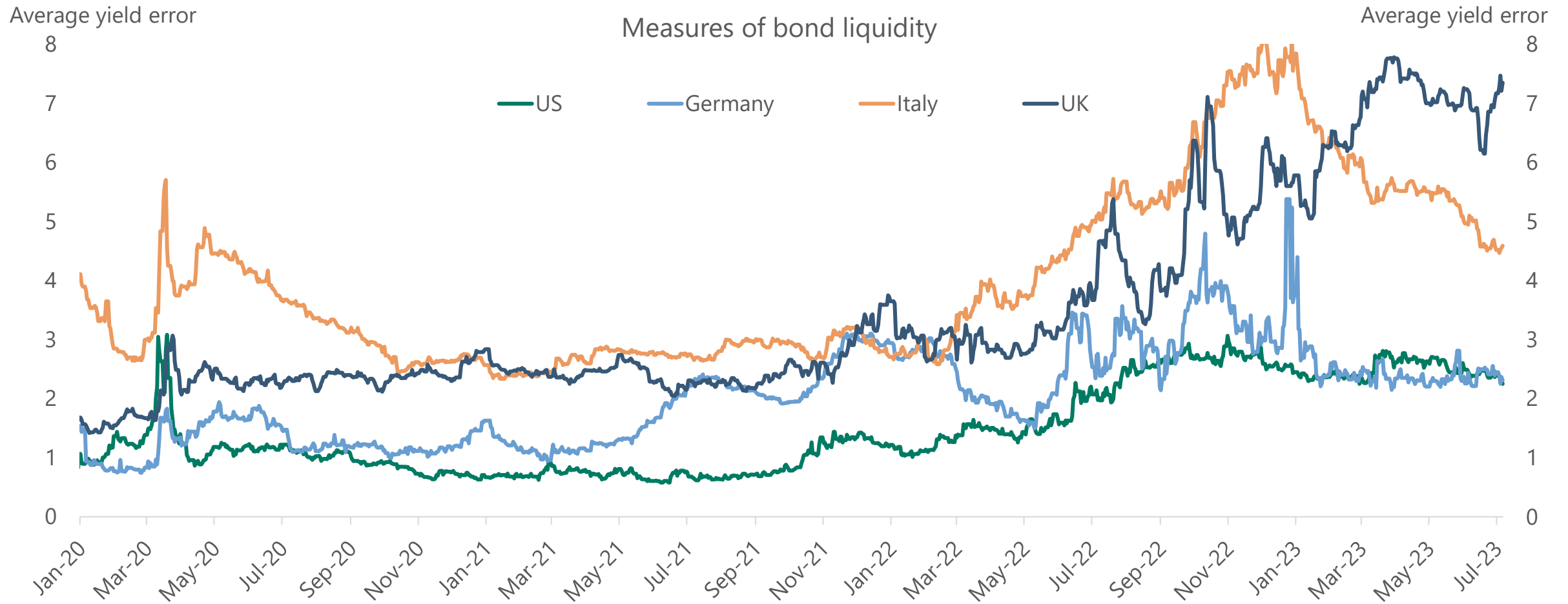


Source: Bloomberg, Apollo Chief Economist. Note: The bid-ask spread is the weighted average of Bloomberg Barclays US HY Index

Dealer inventory of corporate bonds (IG+HY)



Liquidity deteriorating in 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



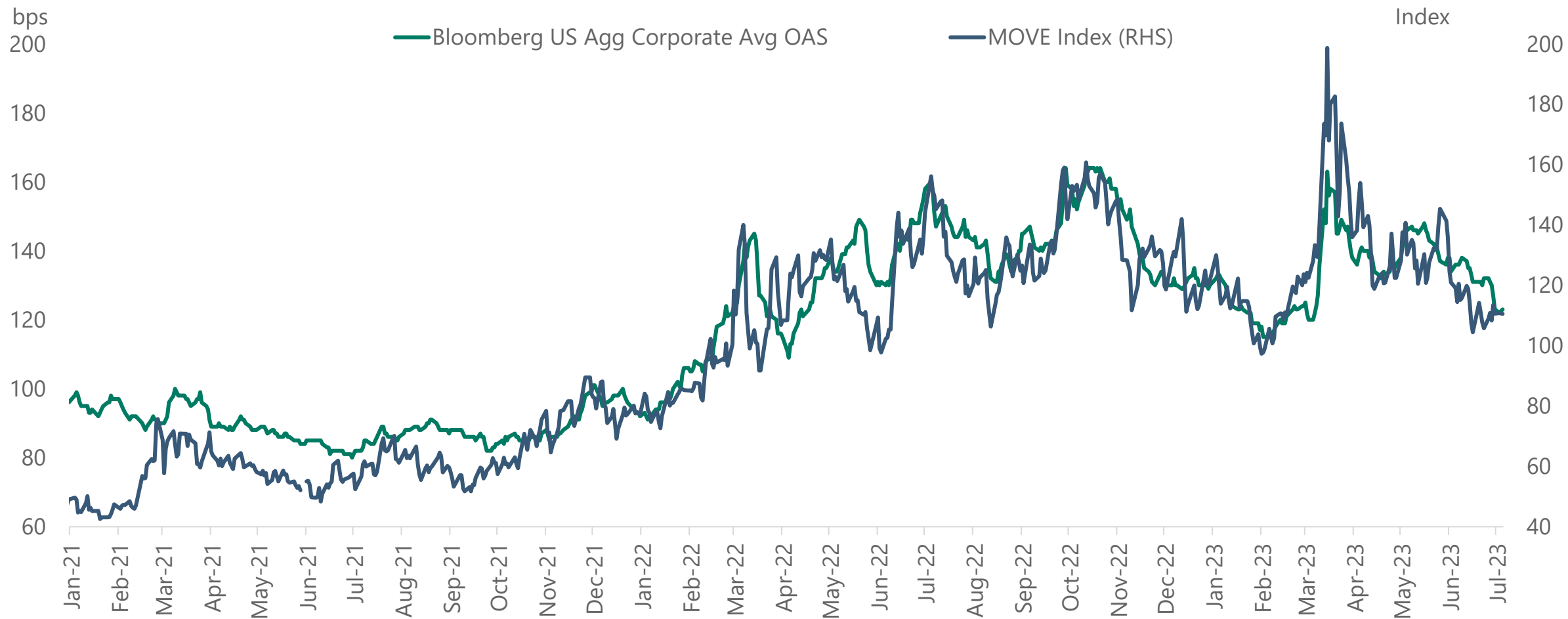
Not a broad-based rally in the S&P500

\$ trn

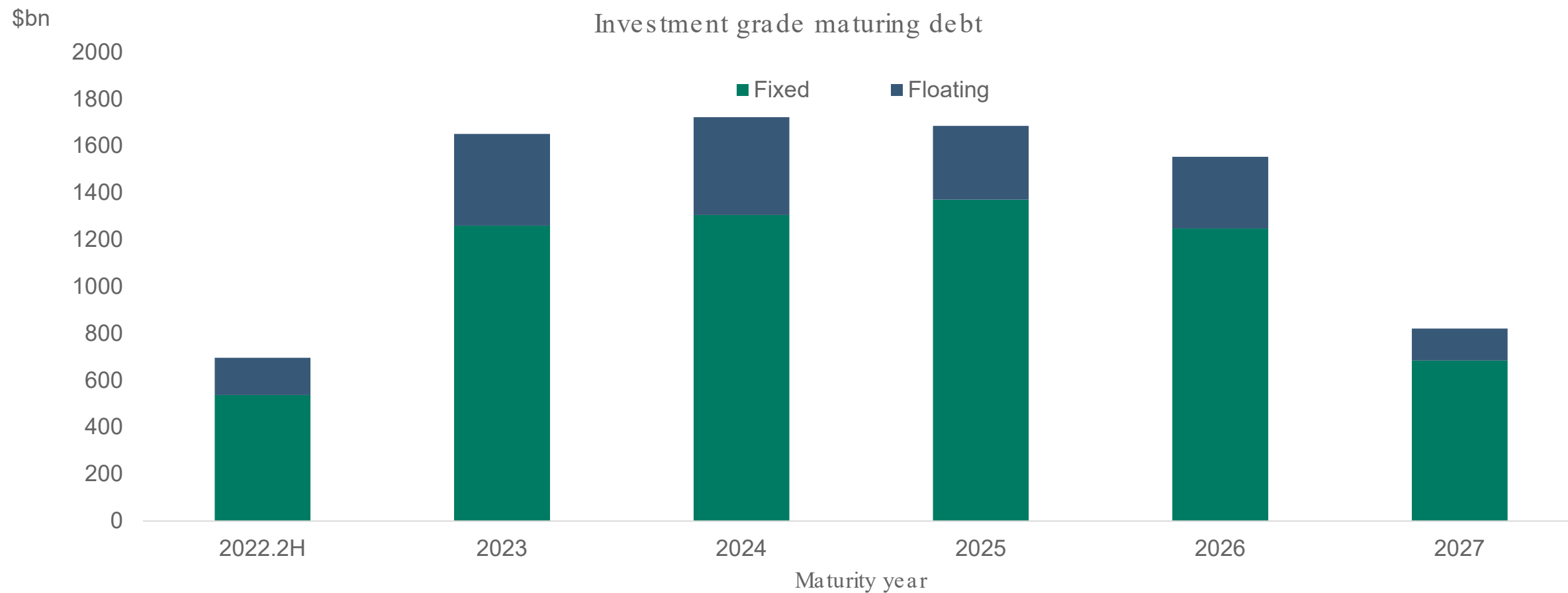
S&P 500: Market Cap change YTD



US IG spread highly correlated with implied rates vol

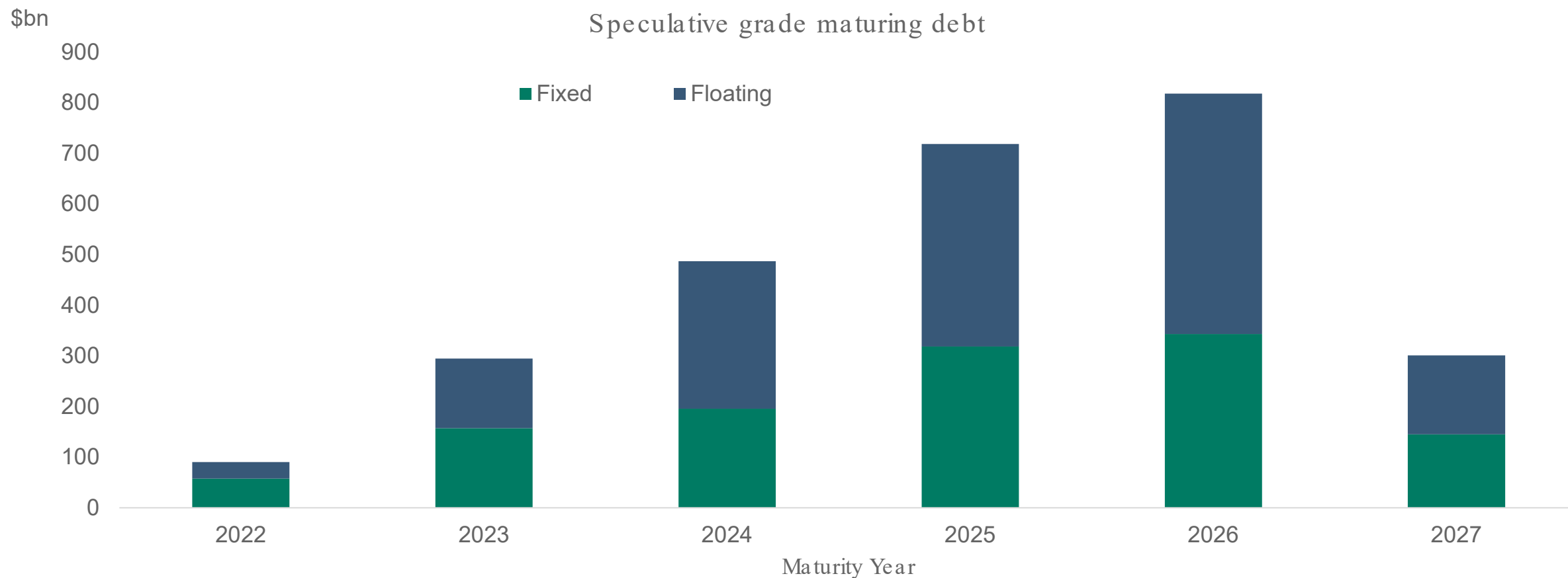


Investment grade maturity wall



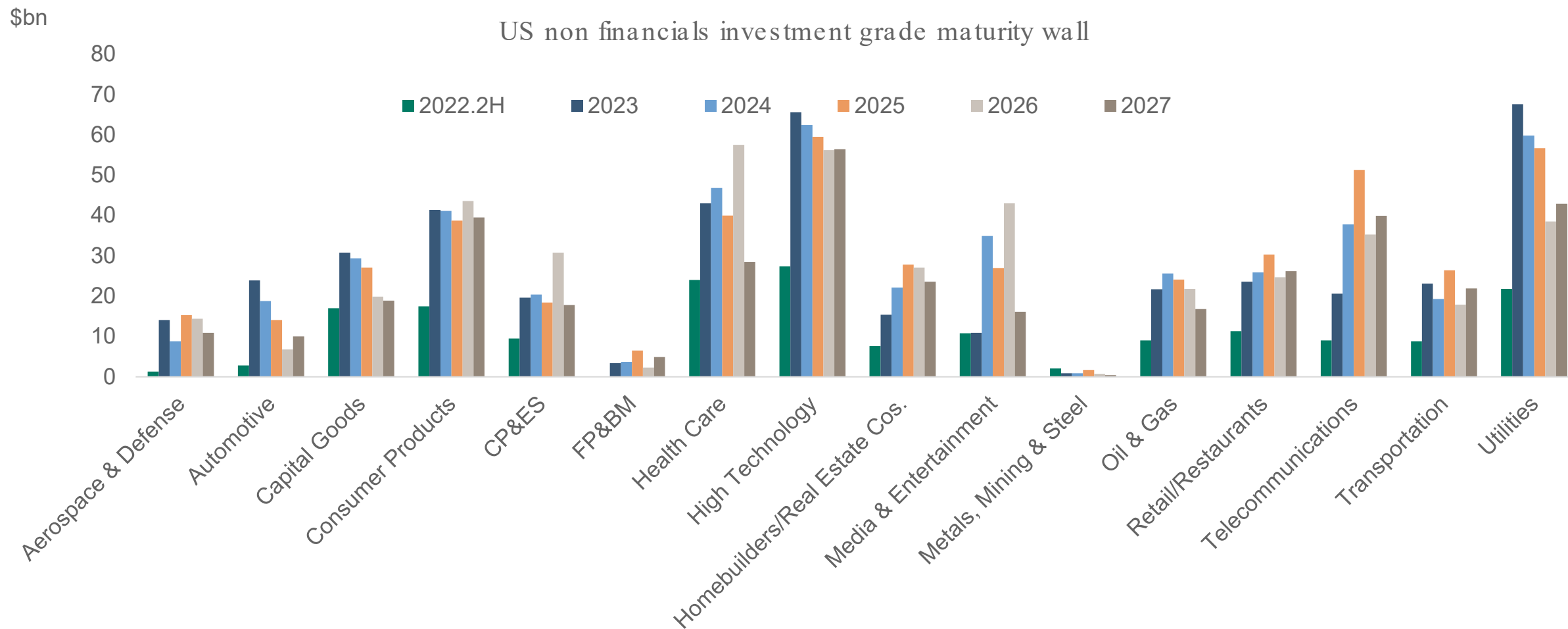
Source: S&P Global ratings Research, Apollo Chief Economist. Note: Data as of July 1, 2022. Includes issuers' investment-grade bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings.

High yield maturity wall



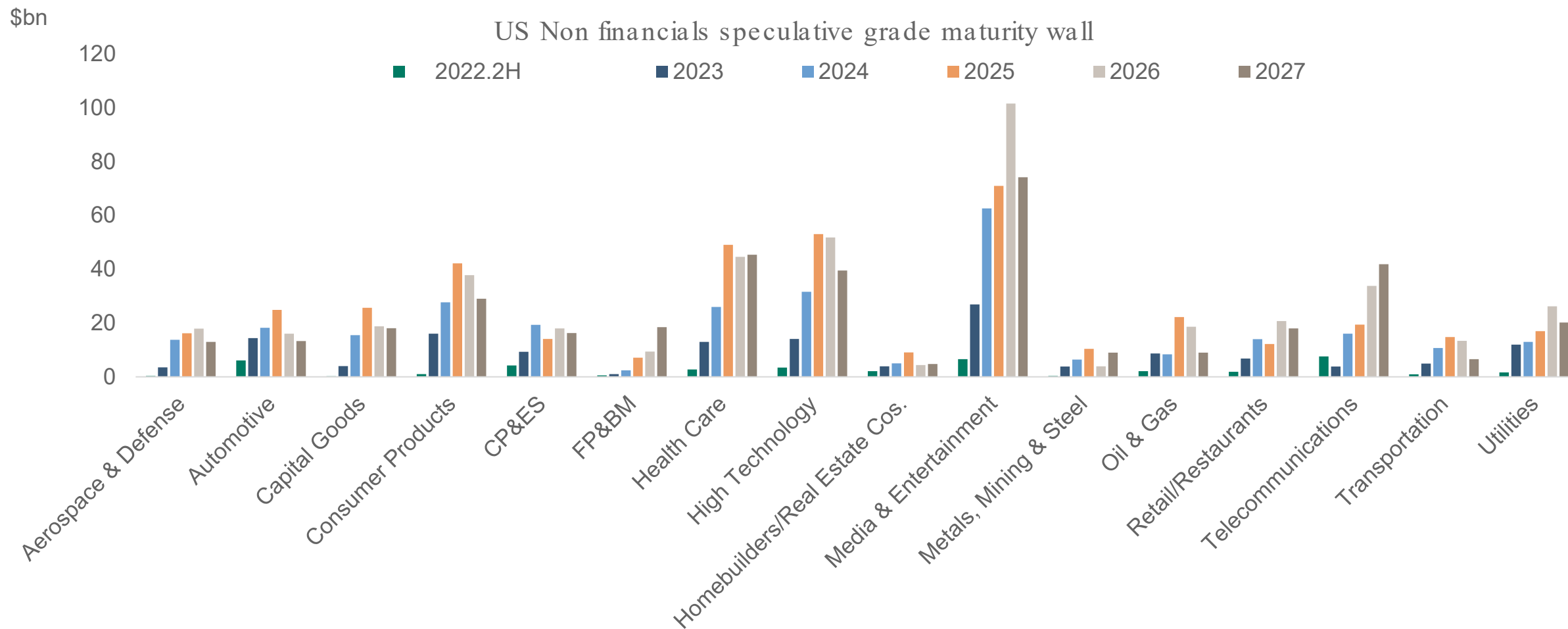
Source: S&P Global ratings Research, Apollo Chief Economist. Note: Data as of July 1, 2022. Includes issuers' speculative-grade bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings.

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 July 1, 2022.

HY: US Non financials maturity wall

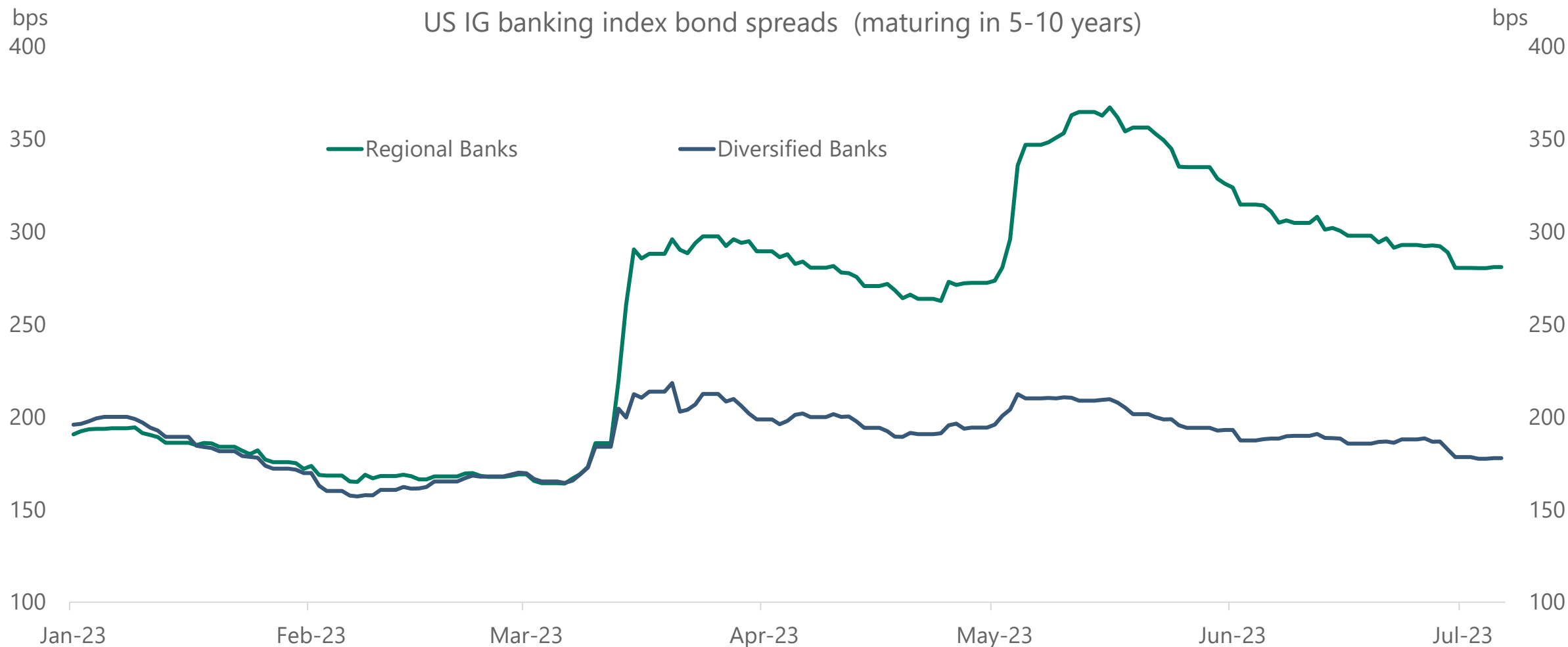


Source: S&P, Apollo Chief Economist. Note: CP&ES--Chemicals, packaging, and environmental services. FP&BM--Forest products and building materials. Media and entertainment includes the leisure sector. Includes bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings. Data as of July 1, 2022.

Regional banks

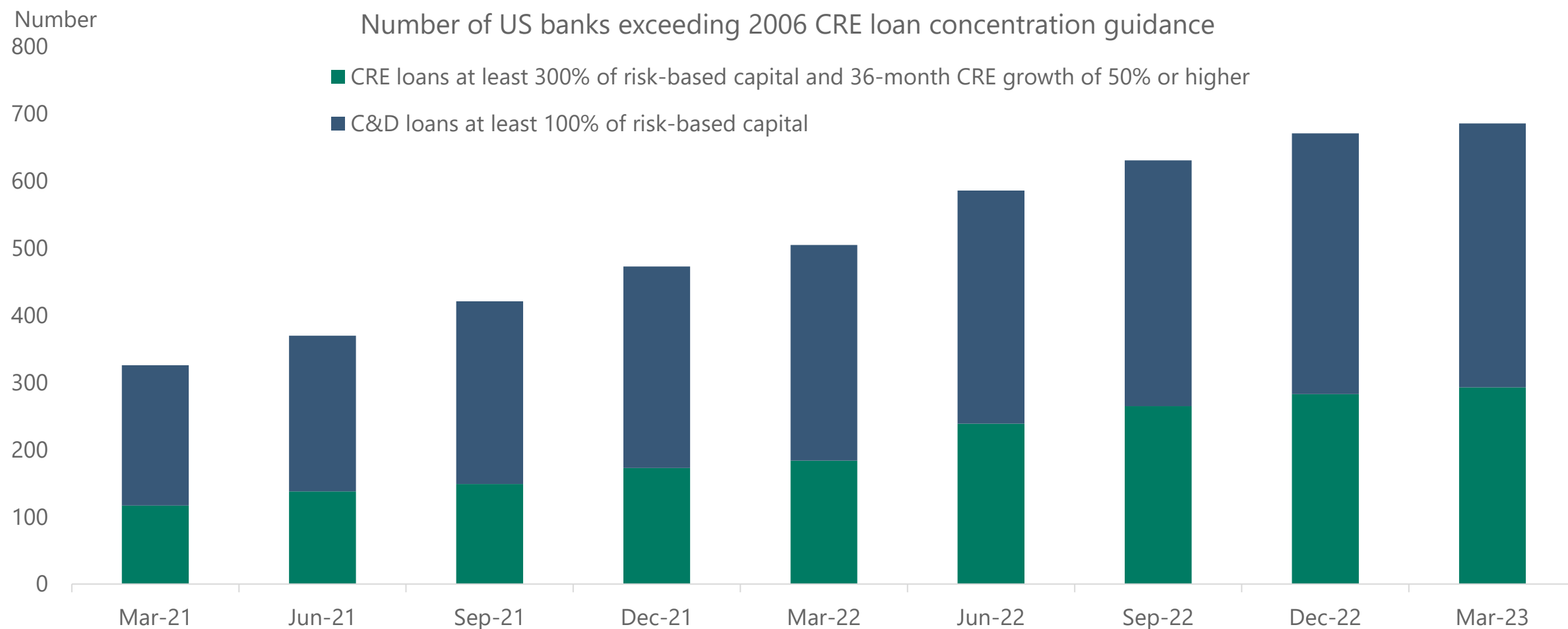


Regional bank spreads still very wide

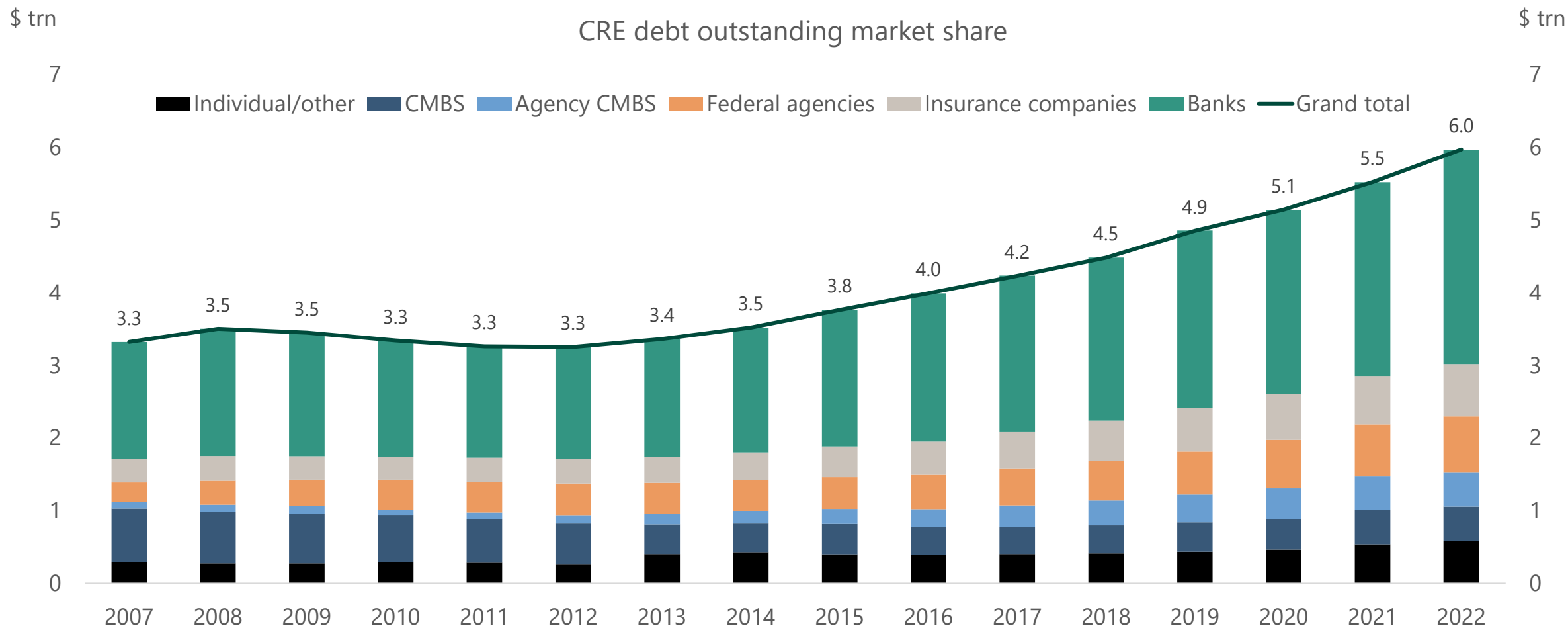


Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Unweighted average spreads of bonds from ICE 5-10 Year US Banking Index, C6PX Index for bonds issued before 1st Jan 2023. There are 8 banks in the Regional index and 41 banks in the Diversified index, and Regional banks include BankUnited Inc, 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

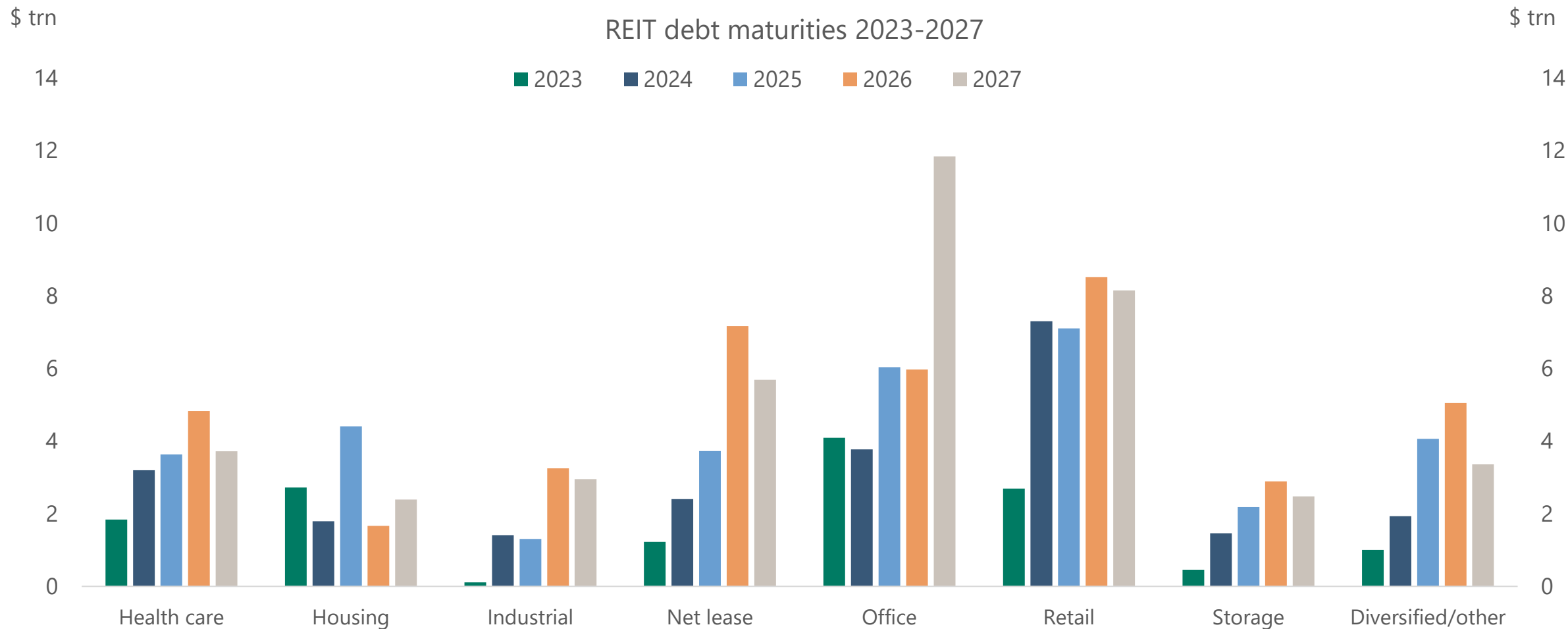
Almost 700 US banks exceed the 2006 CRE loan concentration guidance



US banks account for the bulk of CRE lending

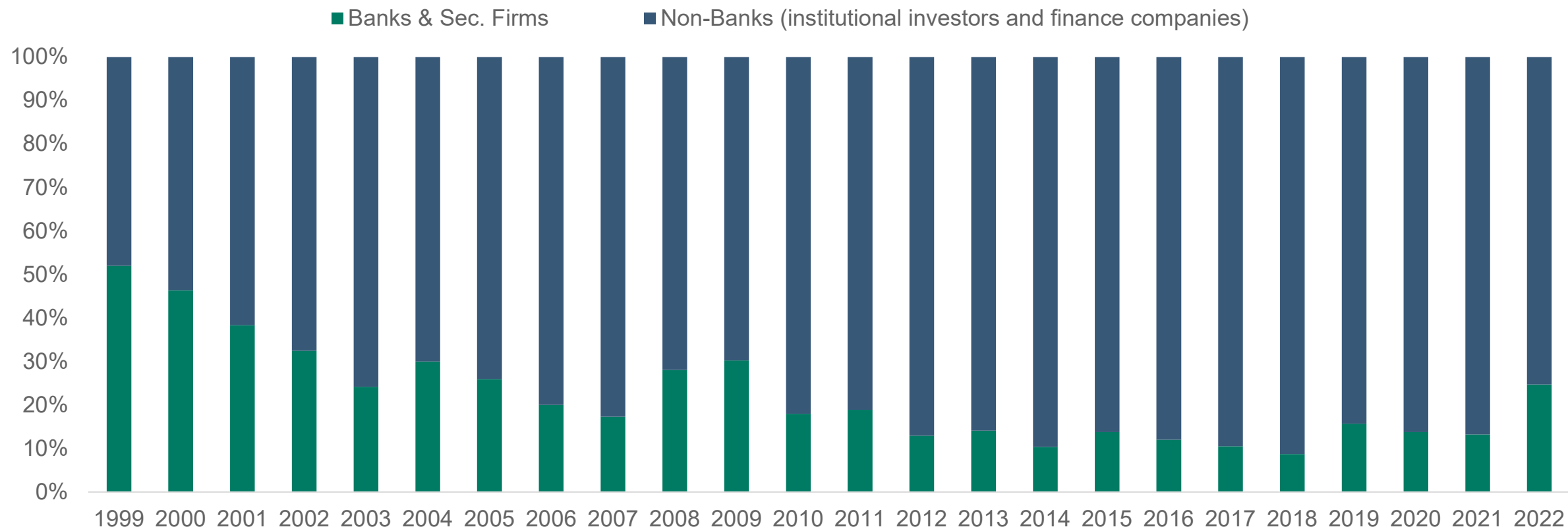


U.S. REITs hold approximately \$14 billion of debt maturing this year



More leveraged loans are held by banks

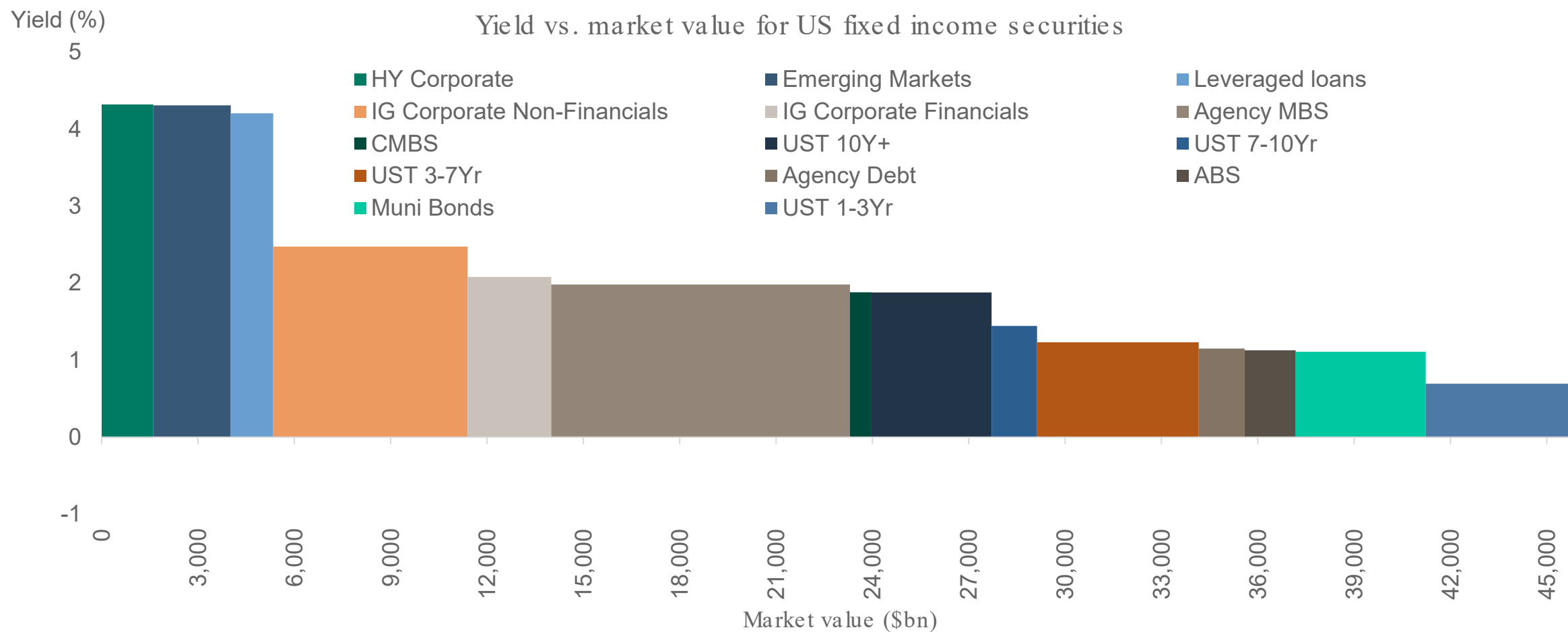
Primary investor market: leveraged loans



Credit markets in a broader perspective

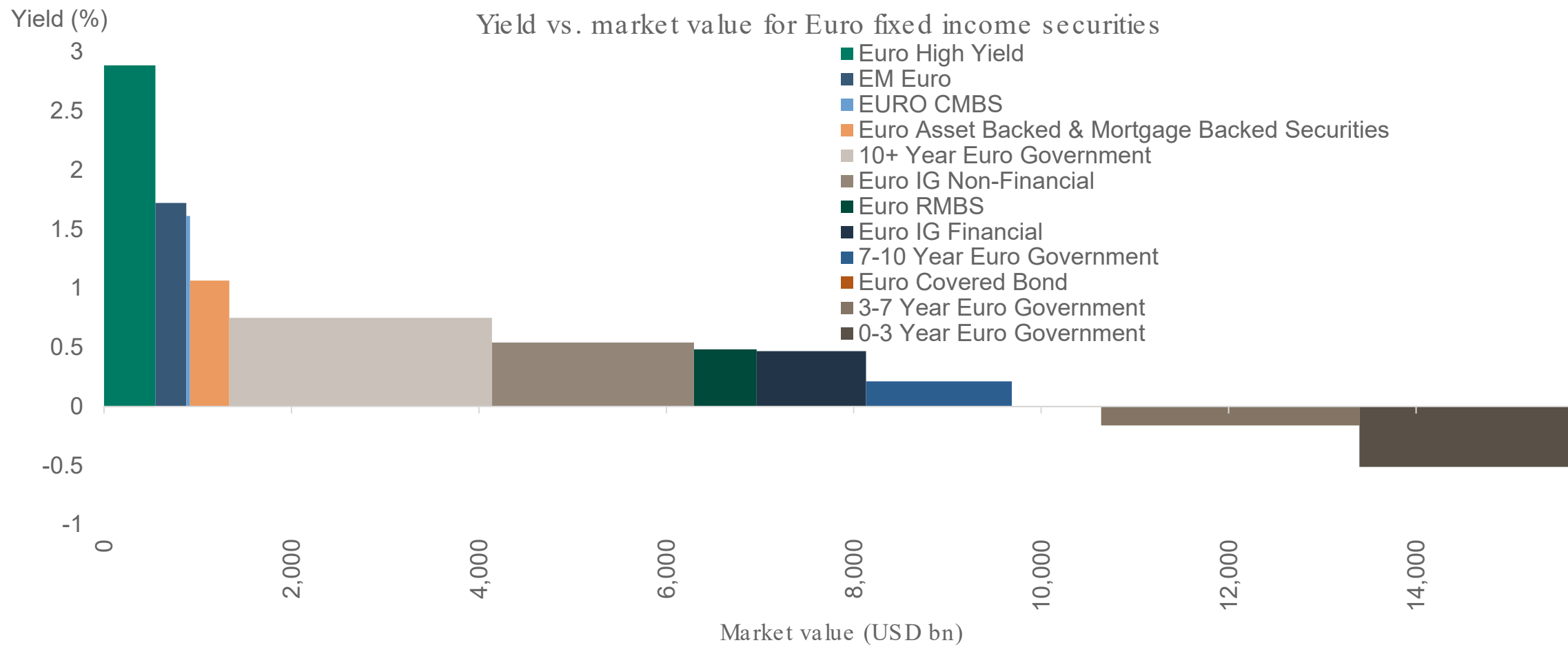


US fixed income markets by yield and size

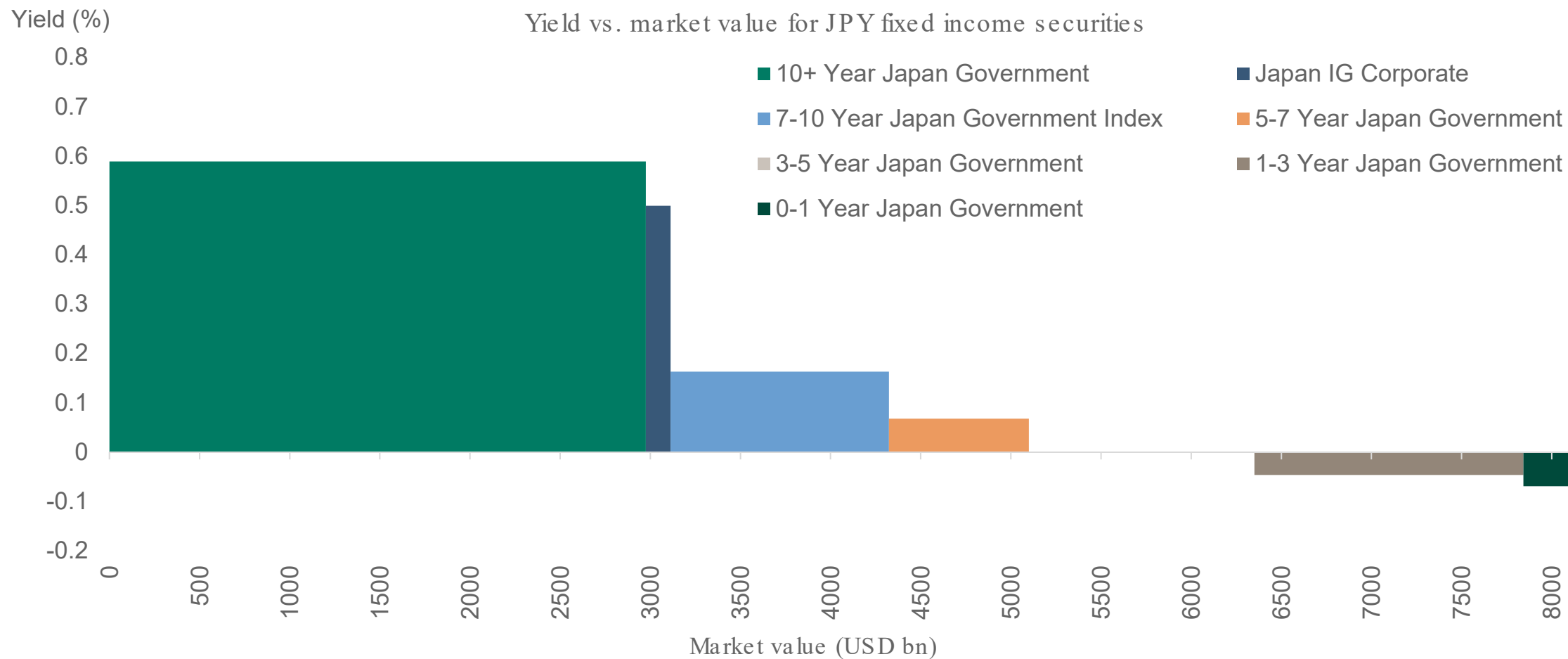


Source: Bloomberg Barclays, SIFMA, ICE BofA, Pitchbook LCD, Bloomberg, Apollo Chief Economist. Note: data as of 4Q21

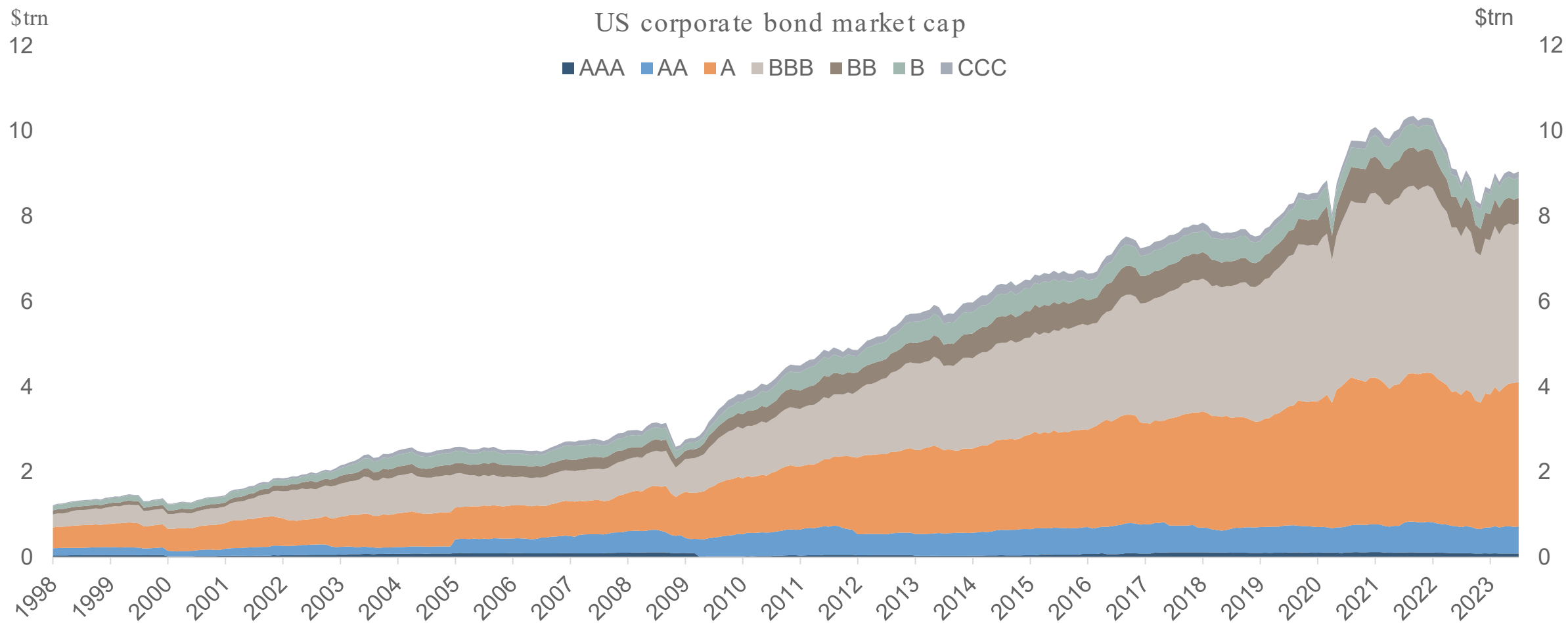
European fixed income markets by yield and size



Japanese fixed income markets by yield and size



Market cap of US credit markets

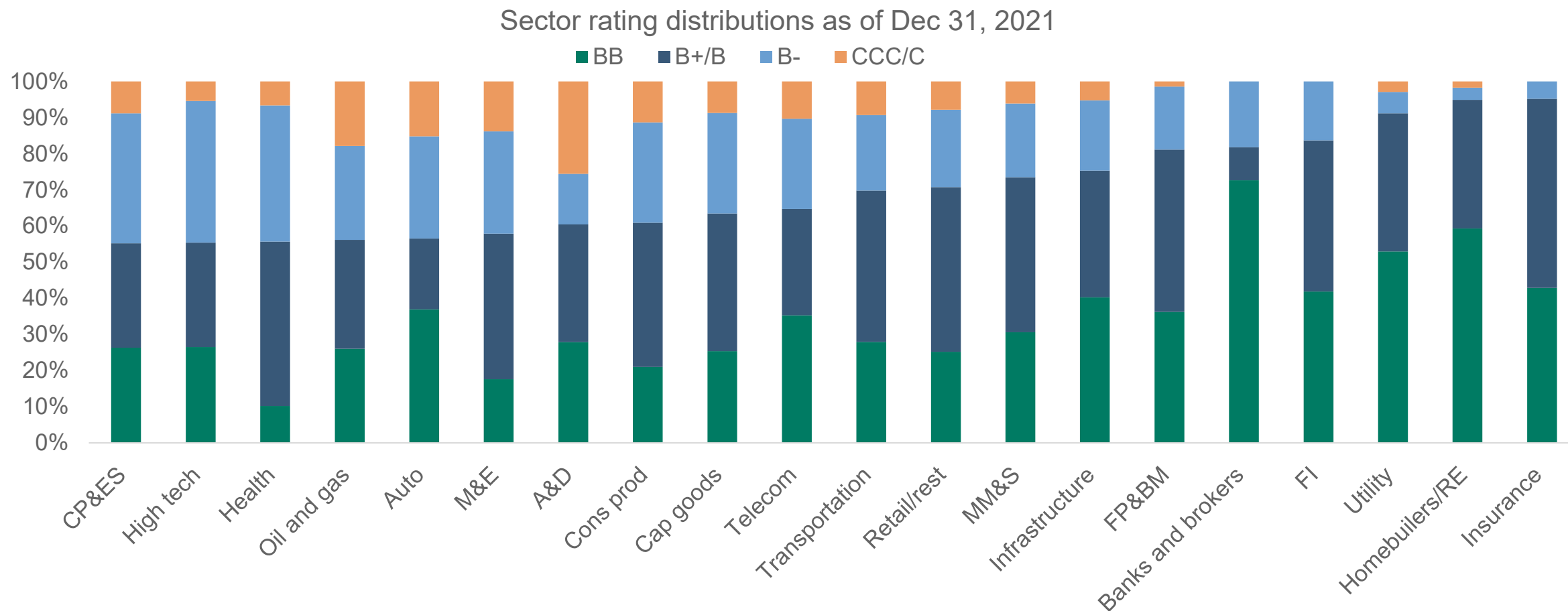


Source: ICE BofA, Bloomberg, Apollo Chief Economist. Data as of 30th June 2023

Corporate bond market cap, by rating

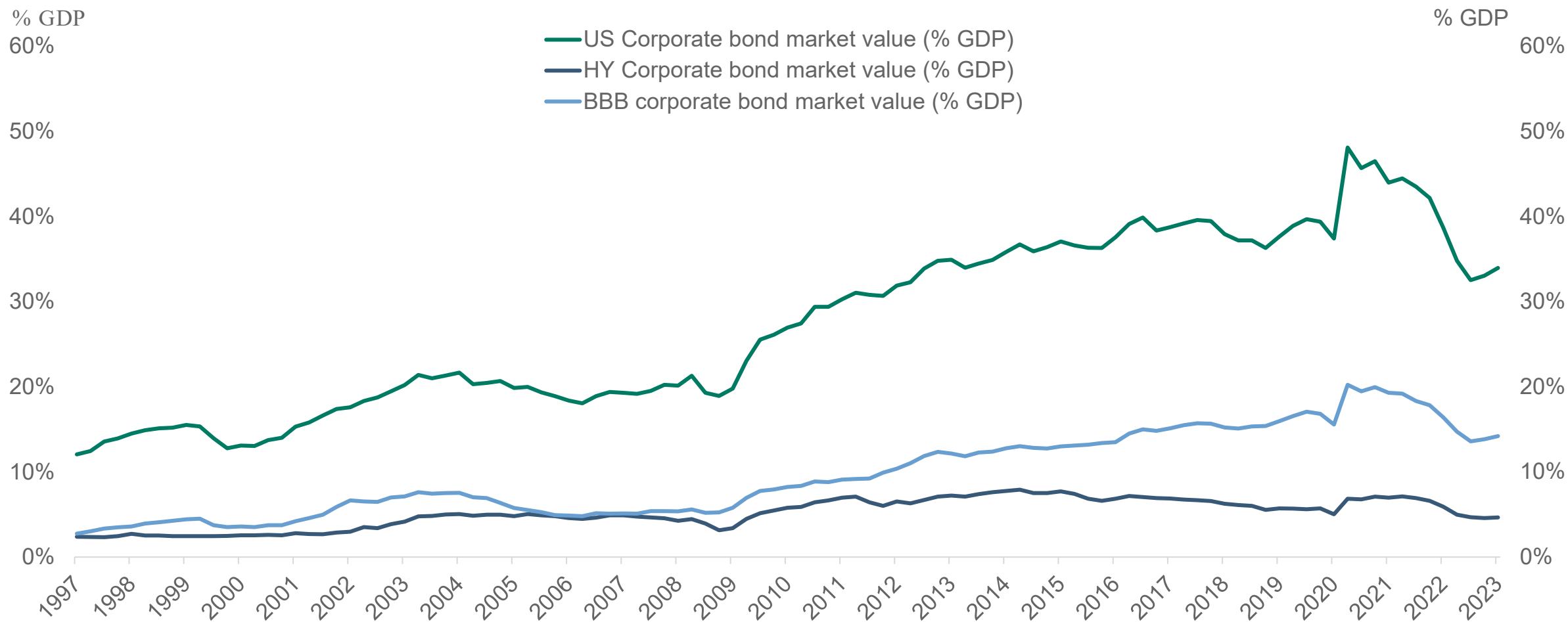


HY sector rating distributions

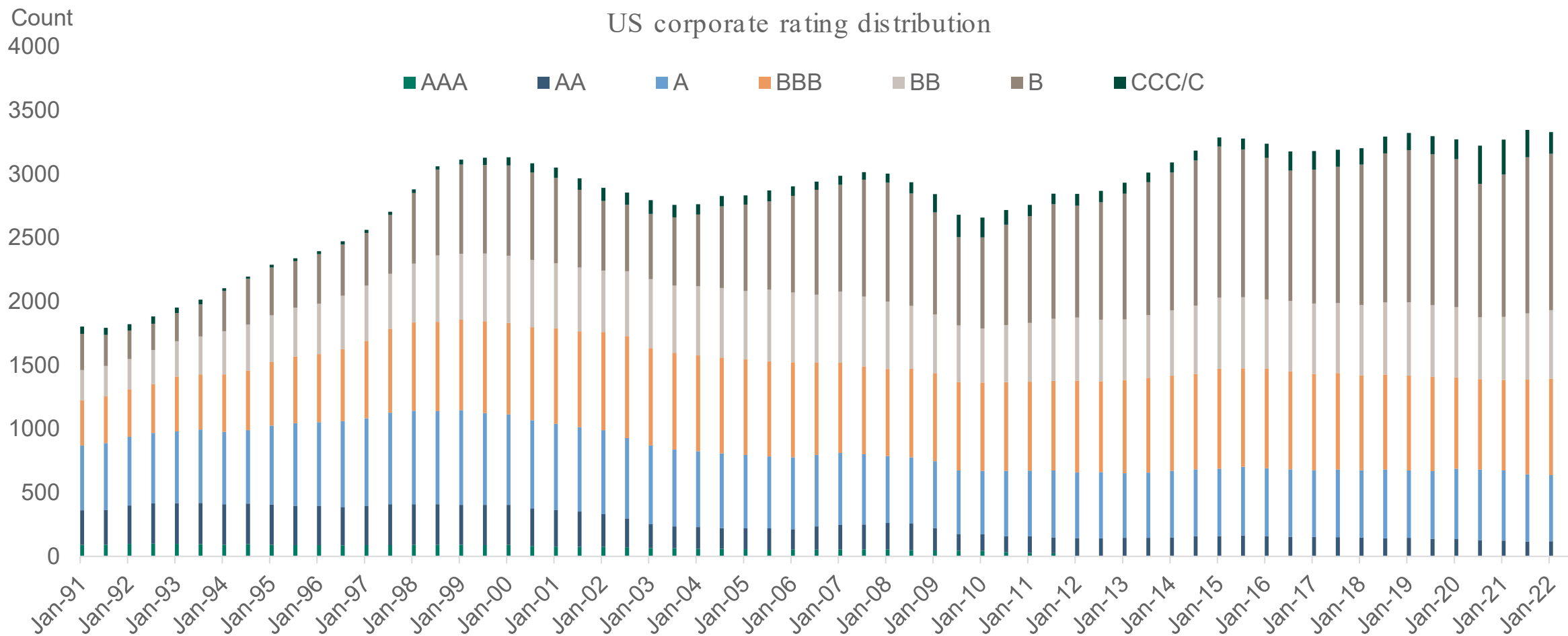


Source: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®, Apollo Chief Economist. Note: Numbers in parentheses represent overall sector's proportion of the speculative-grade population. CP&ES--Chemicals, packaging, and environmental services. FP&BM--Forest products and building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

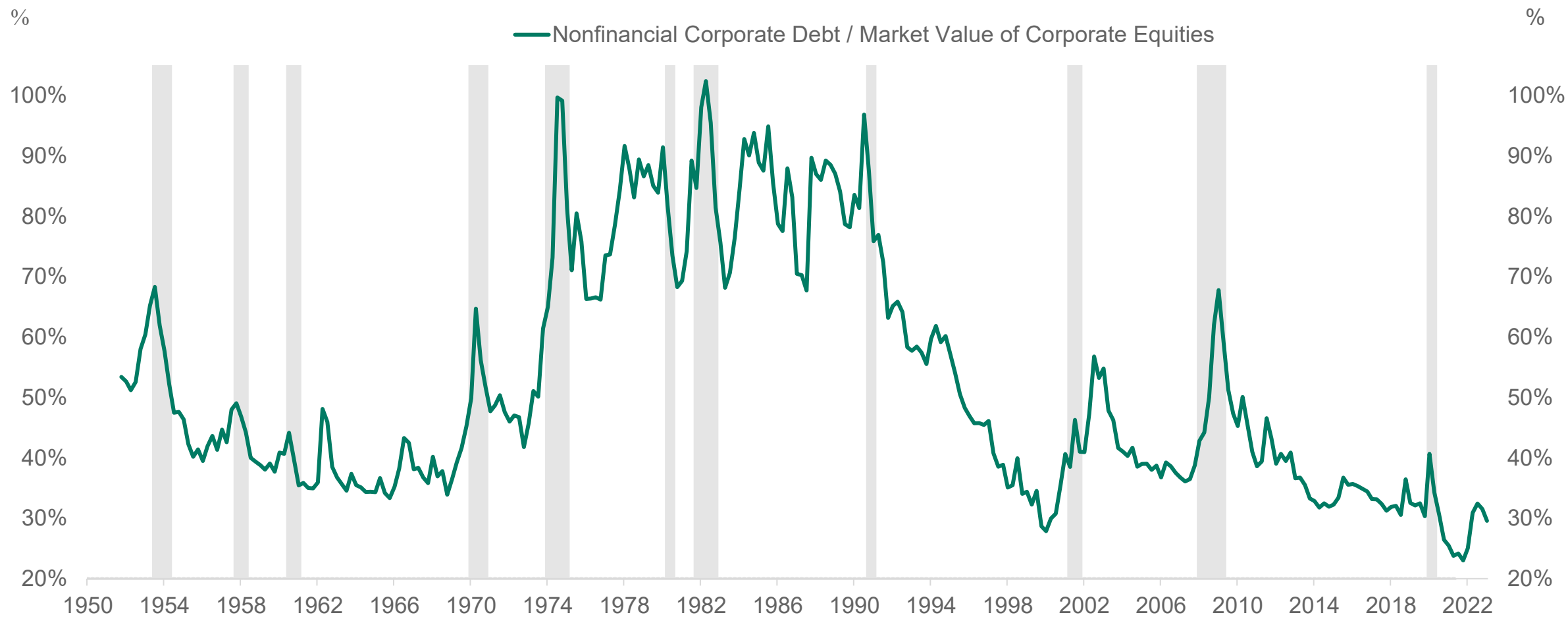
US corporate bond markets as a share of GDP



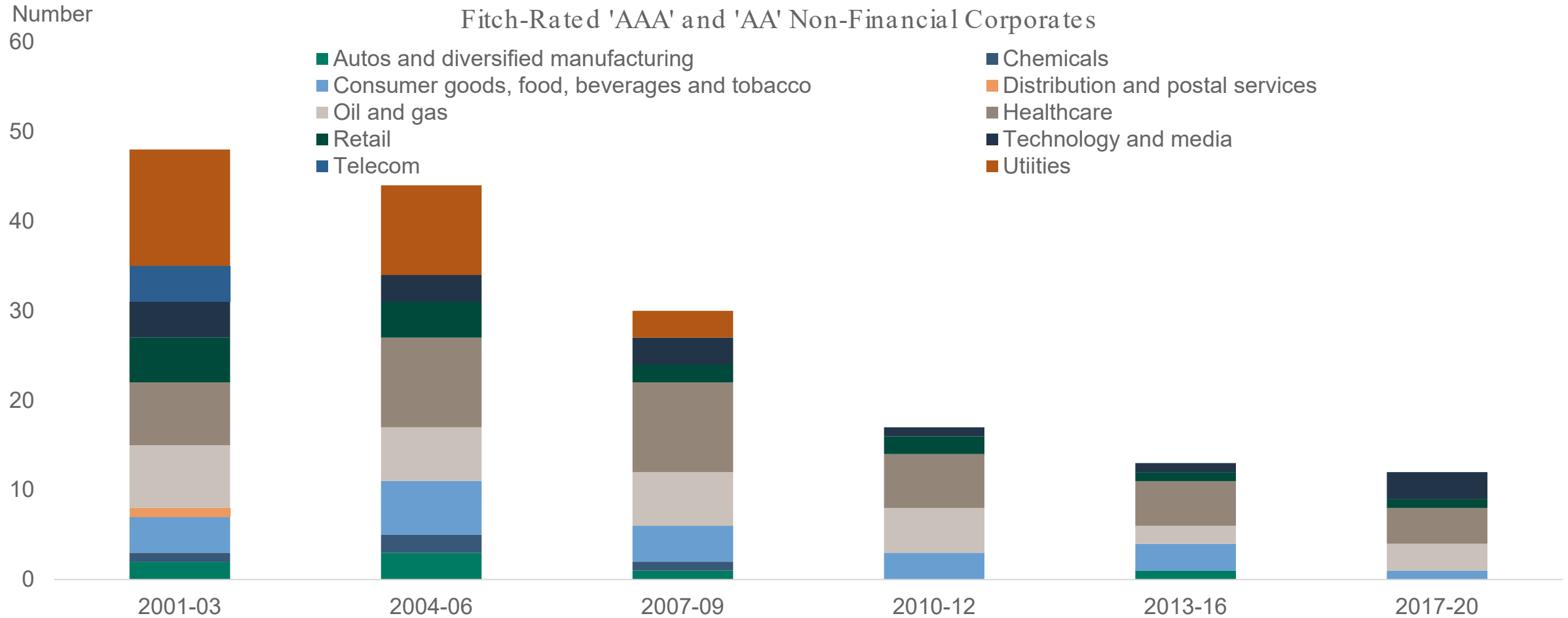
Distribution of corporate credit ratings



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

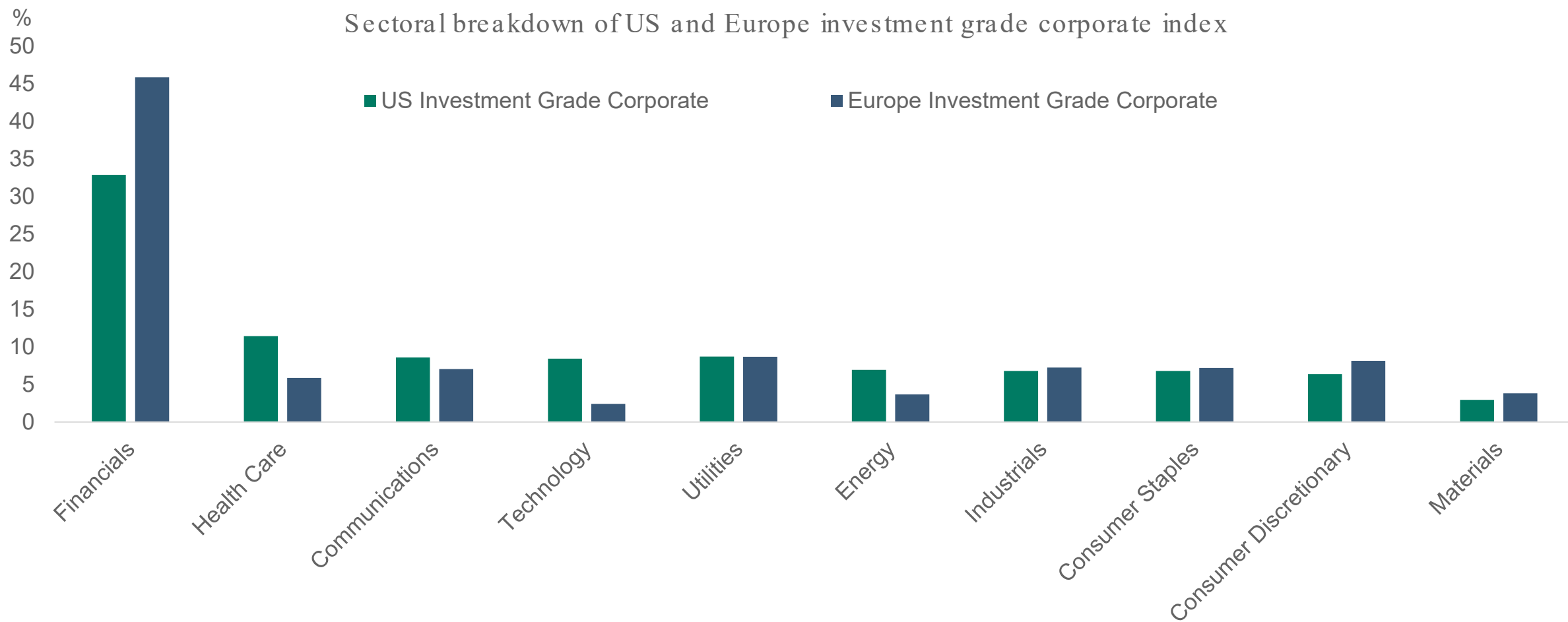


Fewer and fewer corporate bonds are rated AAA and AA

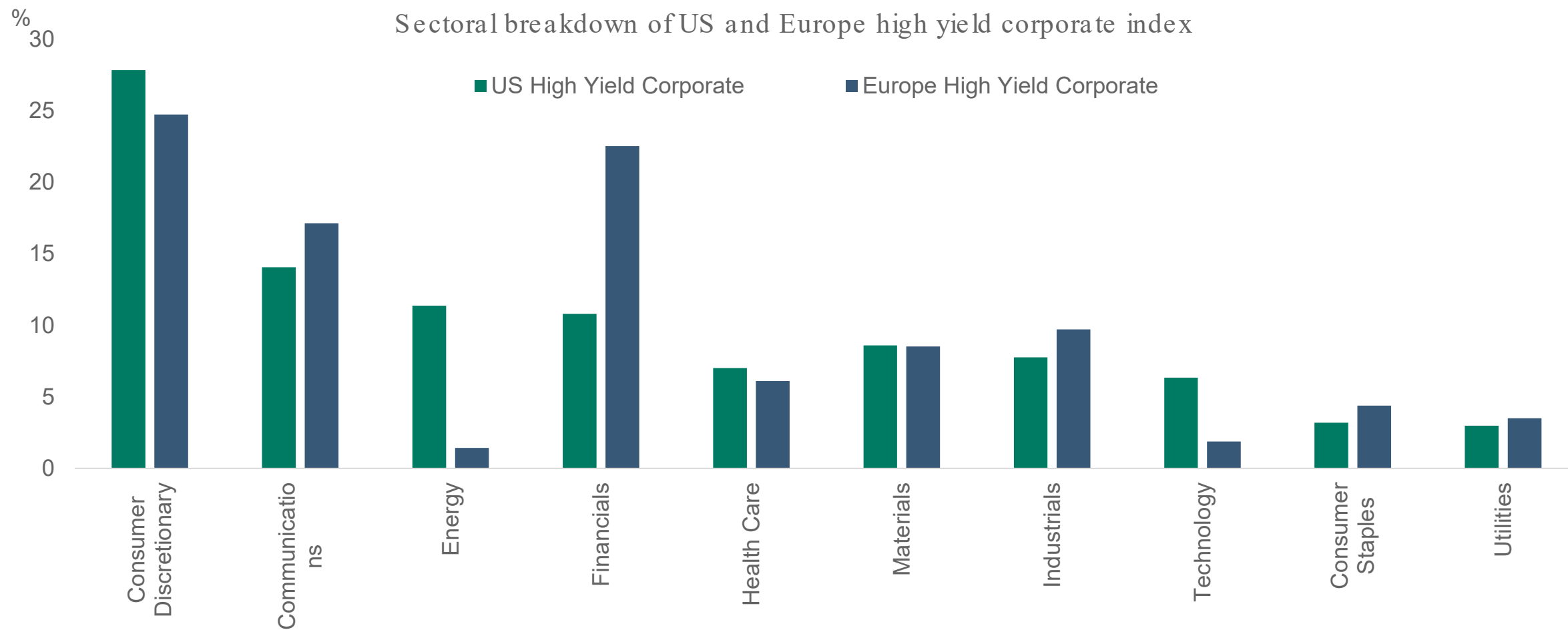


Source: Fitch Ratings, Apollo Chief Economist. Note: Including state-linked issuers with Standalone Credit Profiles in the 'AA' category. Data cover issuers that have been rated for at least six years or at end-2020.

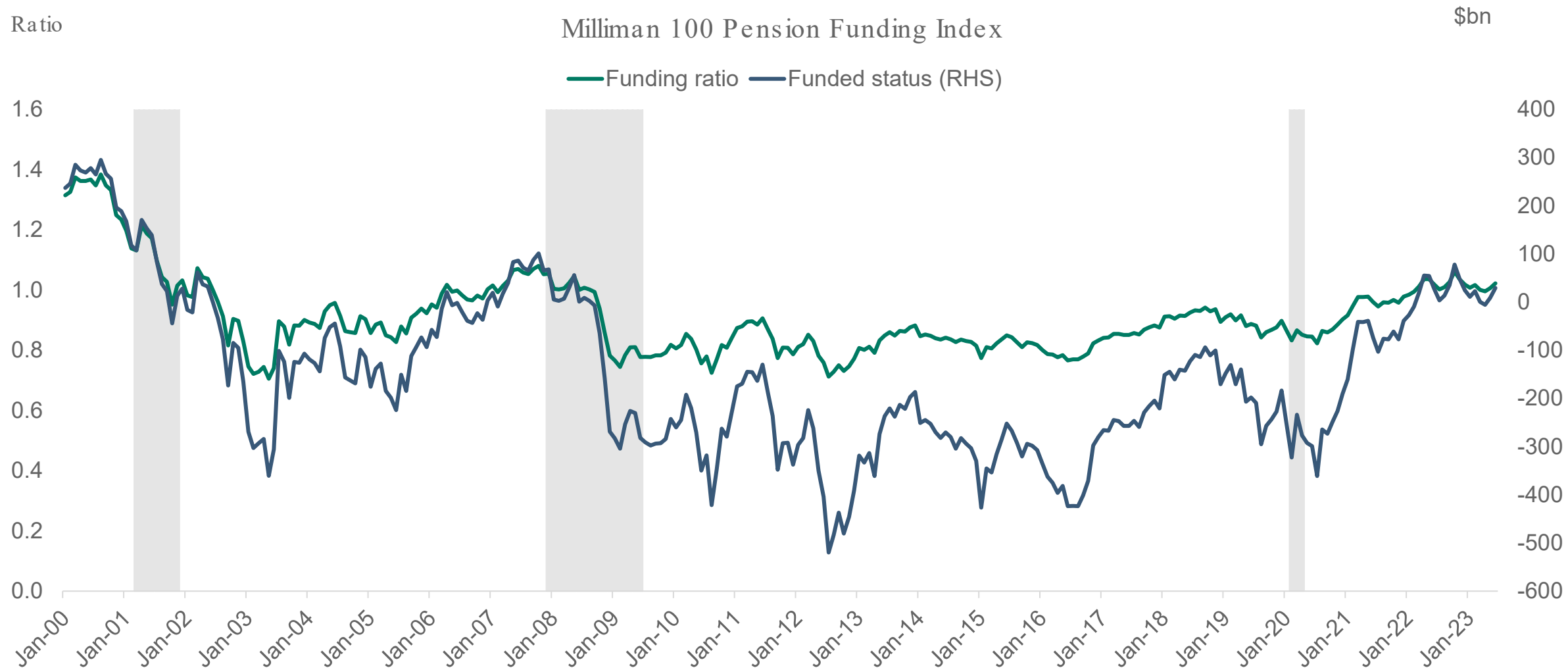
Comparing the US IG index with the EU IG index



Comparing the US HY index with the EU HY index

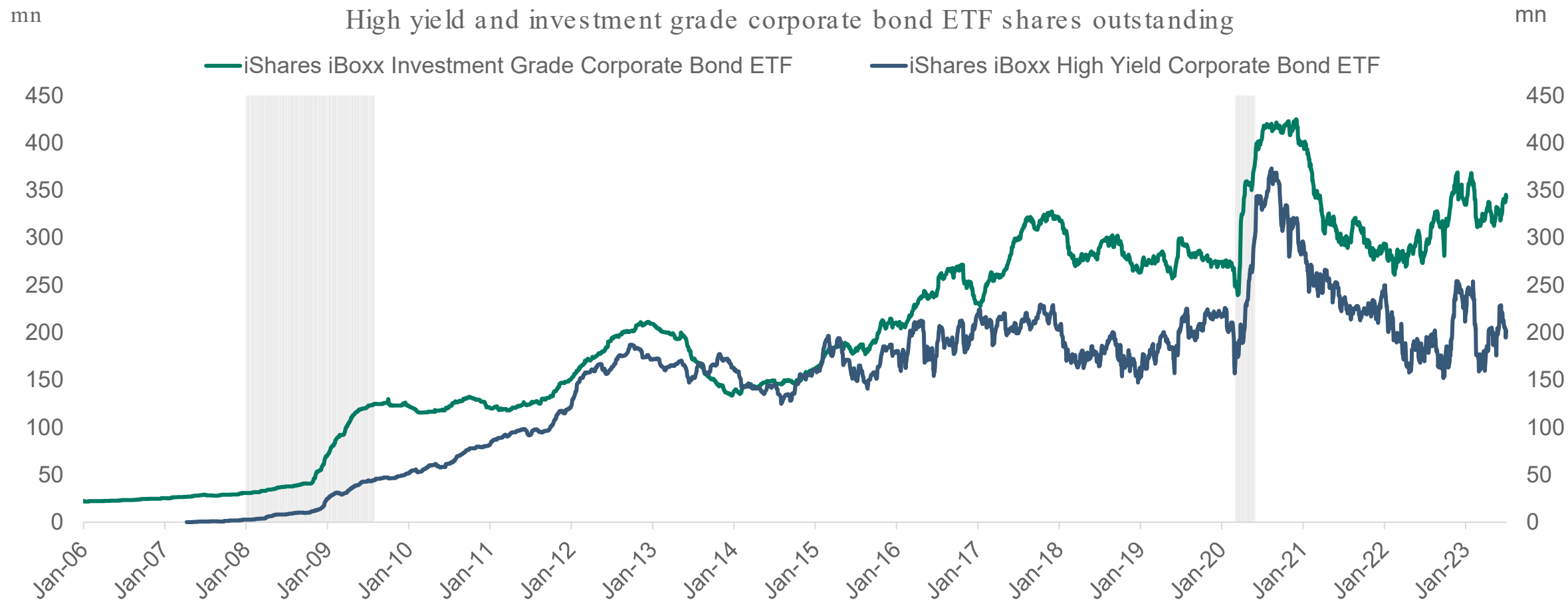


Pension funding status has improved



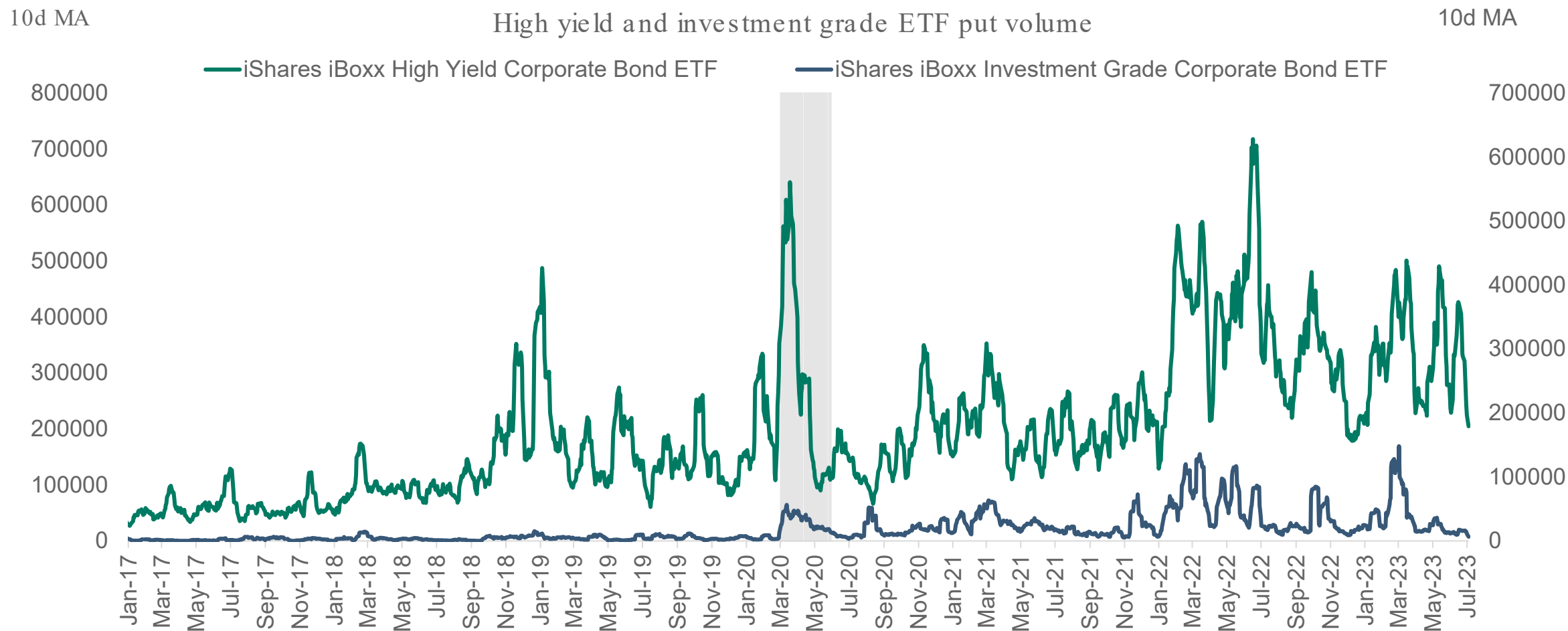
Source: Milliman, Bloomberg, Apollo Chief Economist. Note: Funded status measures planned assets minus projected benefit obligation

Retail investor activity in IG and HY



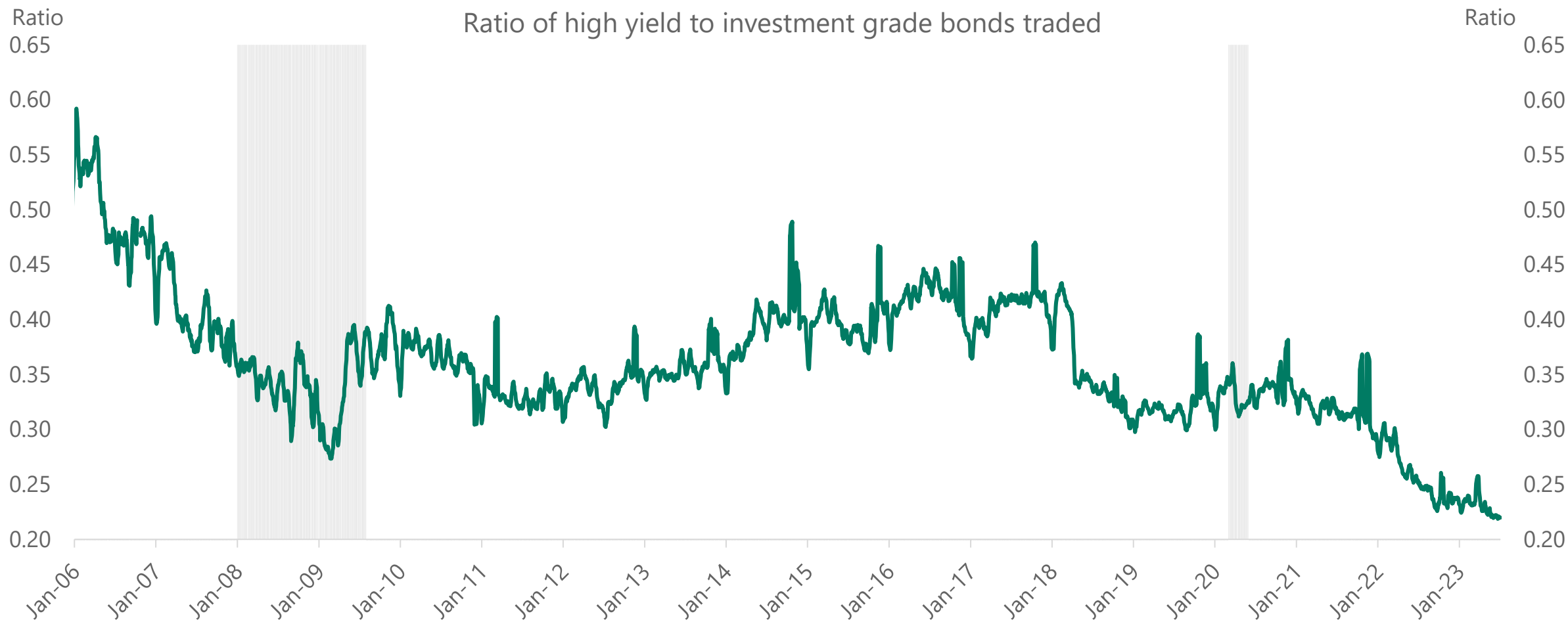
Source: Bloomberg, Apollo Chief Economist. Note: Tickers used HYG US Equity and LQD US Equity

Put volumes for IG and HY ETF

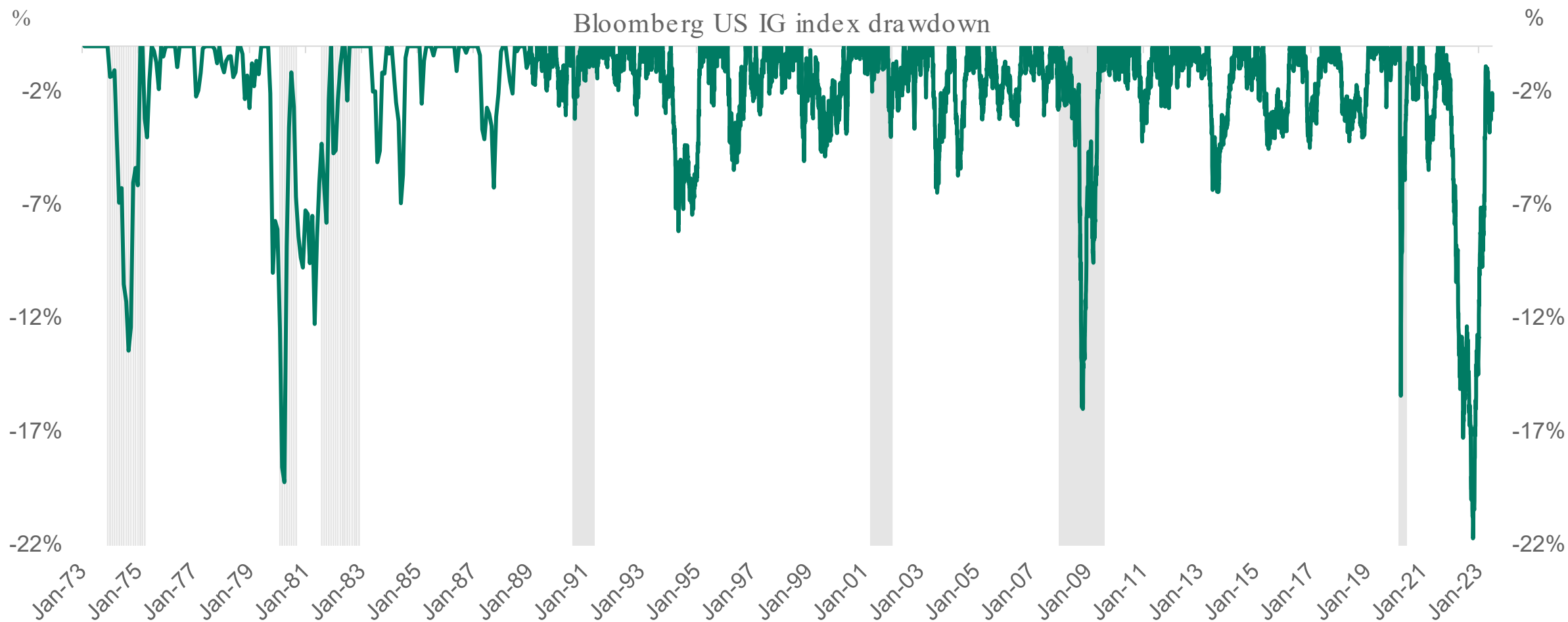


Fewer high yield bonds being traded

Ratio of high yield to investment grade bonds traded

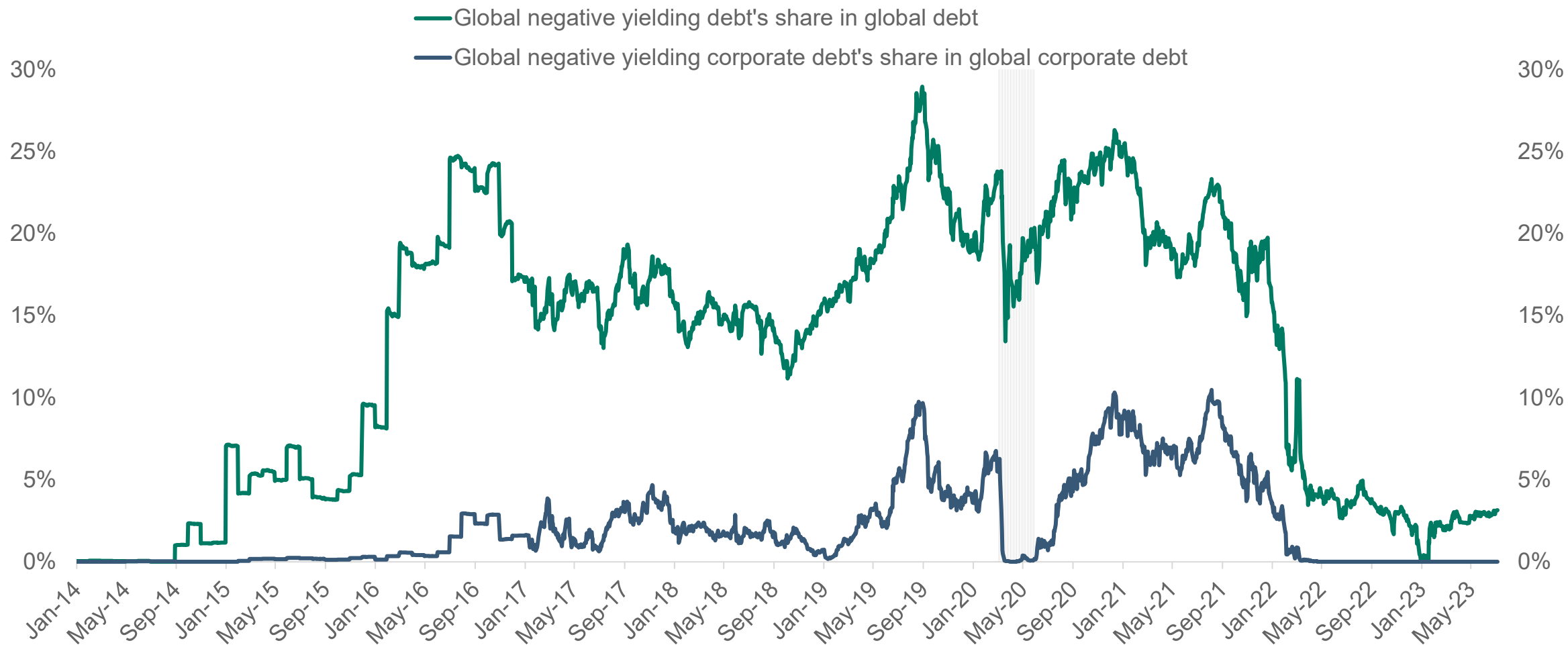


IG index drawdown

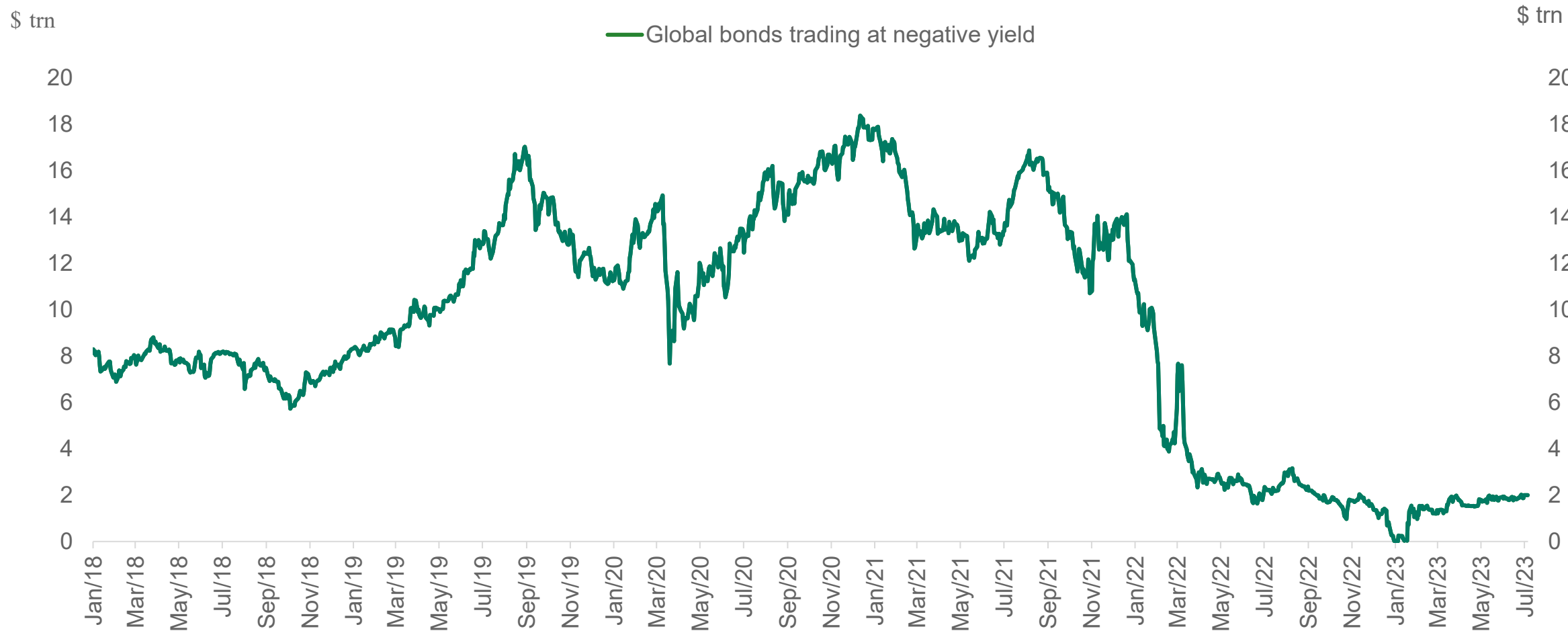


Source: Bloomberg, Apollo Chief Economist. Note: Index used LUACTRUU Index

Bonds outstanding trading at negative interest rates



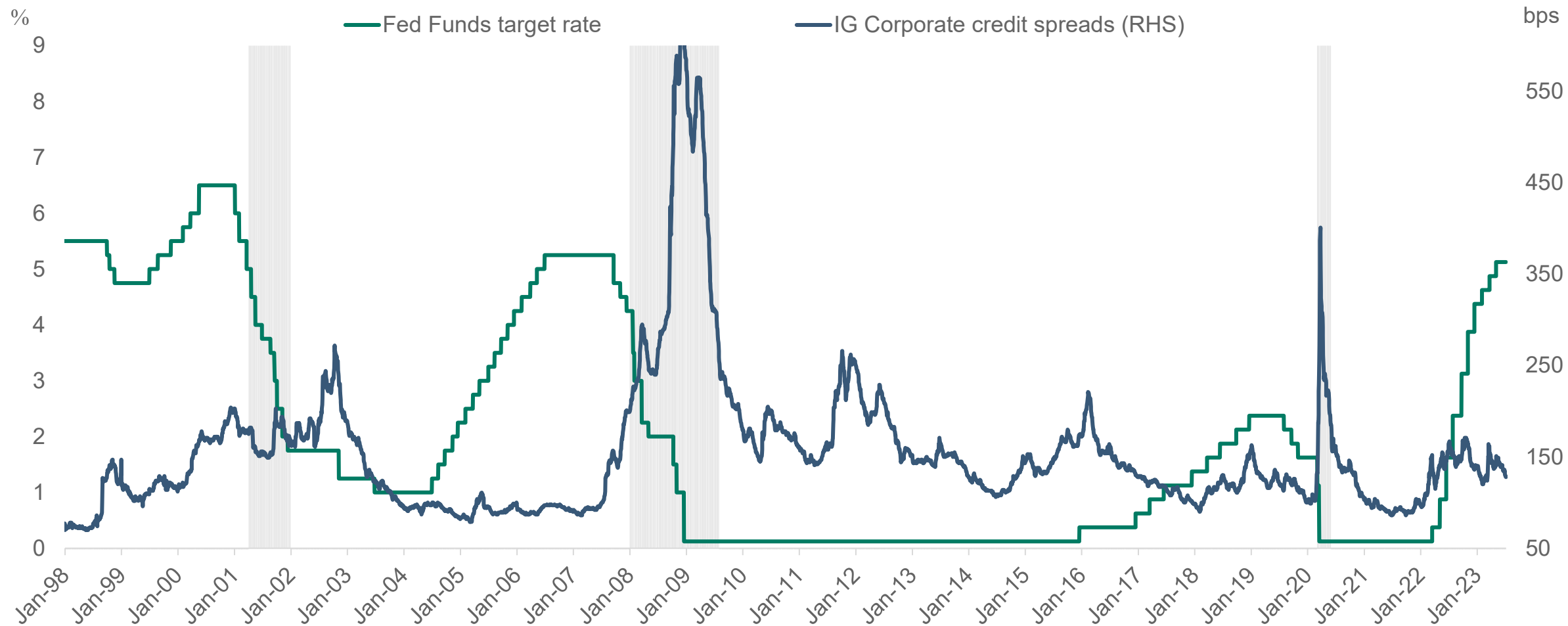
The total value of negative yielding debt in the world



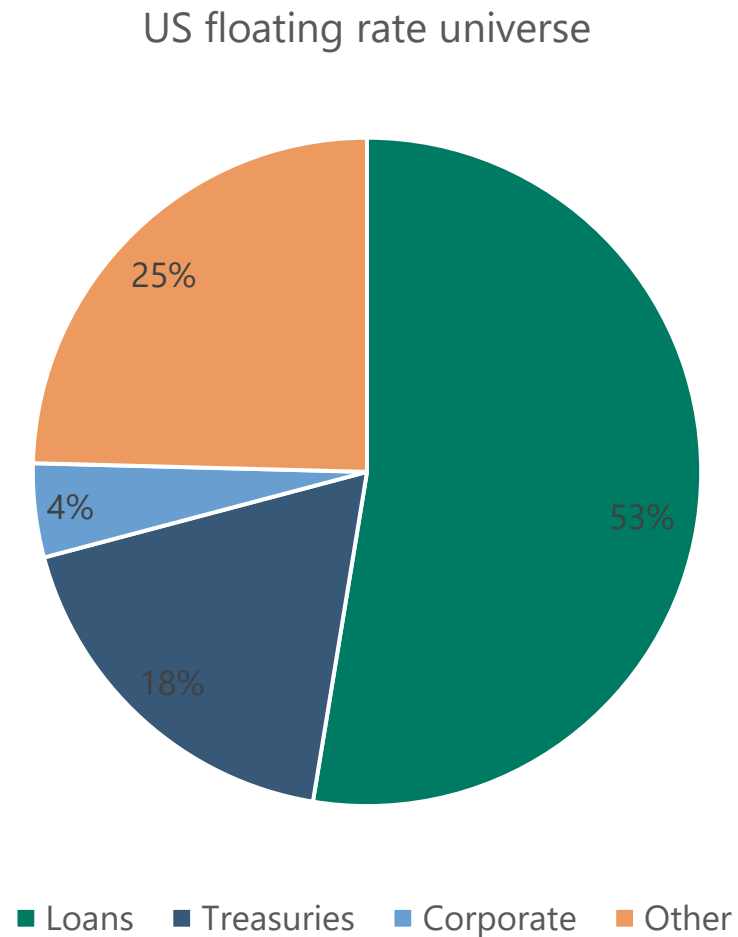
All corporate bonds now have positive yields



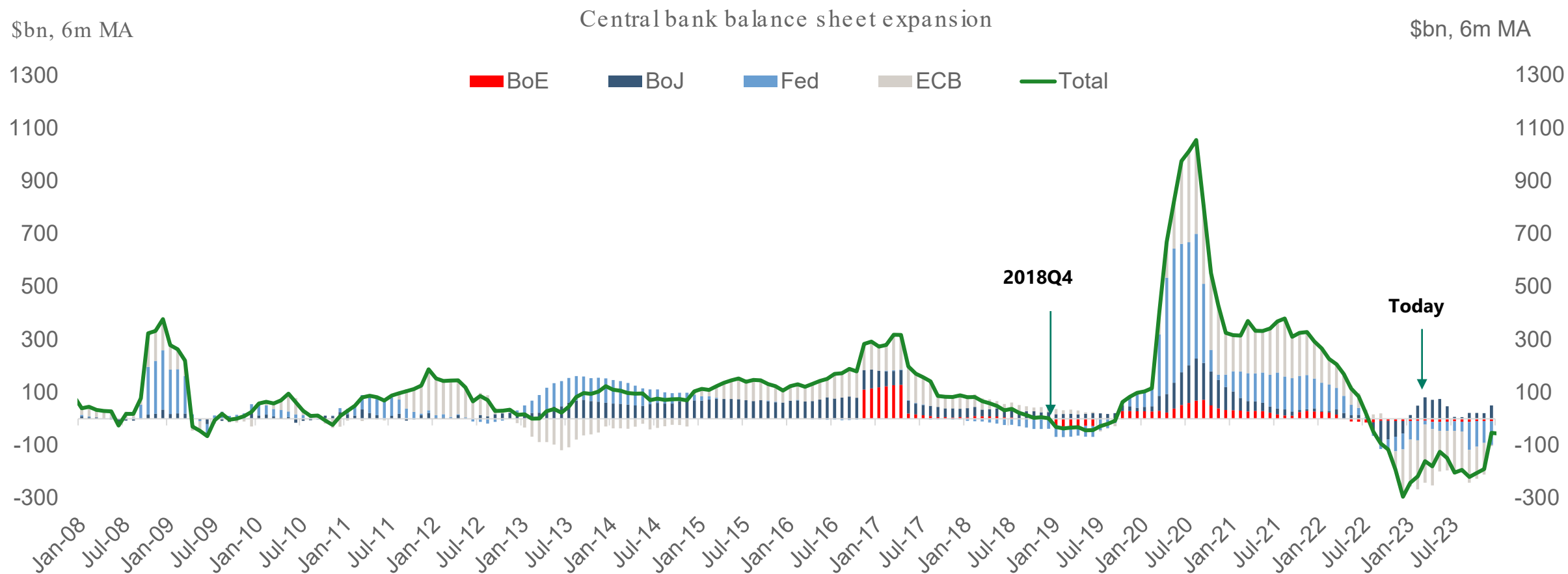
Credit spreads normally widen when the Fed is hiking



US: Floating rate bonds outstanding, July 2023

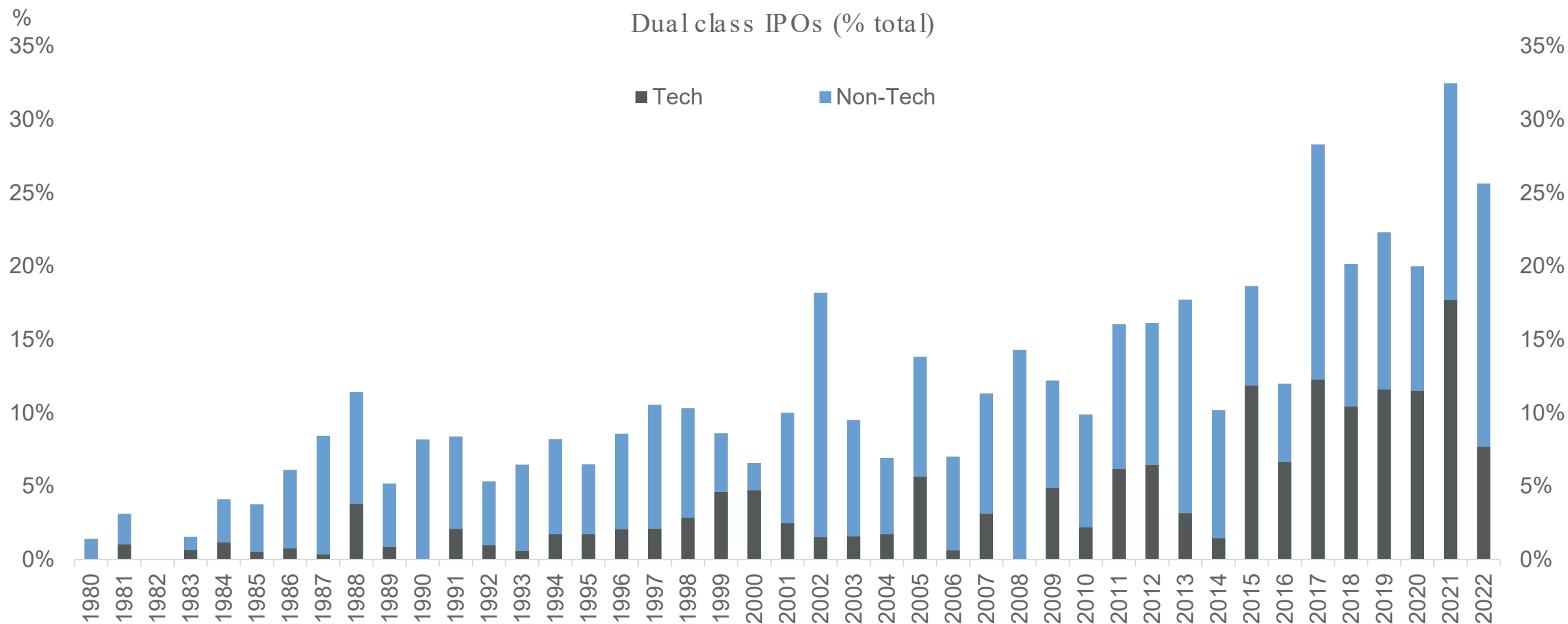


From QE to QT to BoJ QE (to maintain YCC)

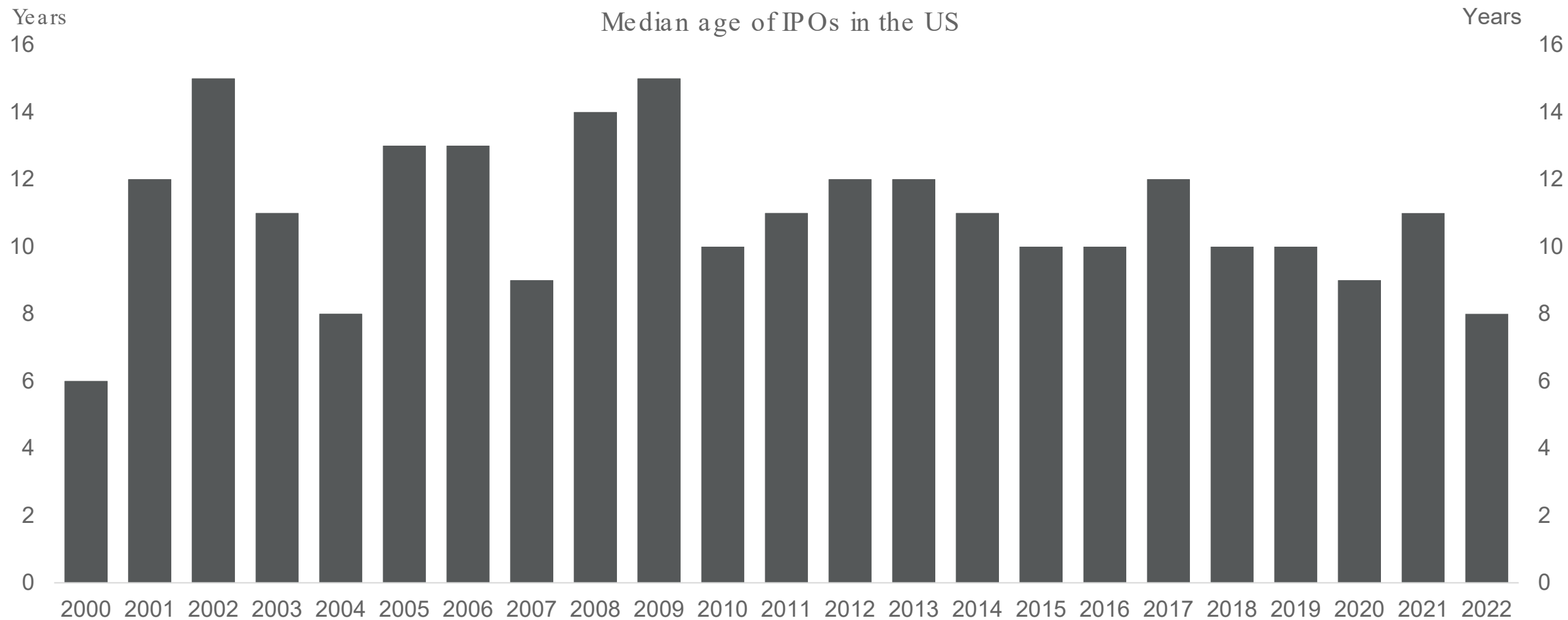


Source: Bloomberg, Apollo Chief Economist. Pace of purchases for 2021: BOE: £3.4bn per week till mid December 2021, FED: USD120bn per month with wind down from December with purchases ending in March 2022, ECB: Euro 90bn per month (20 bn APP + 60 bn PEPP), PEPP till March 2022, Euro 40bn in April, Euro 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

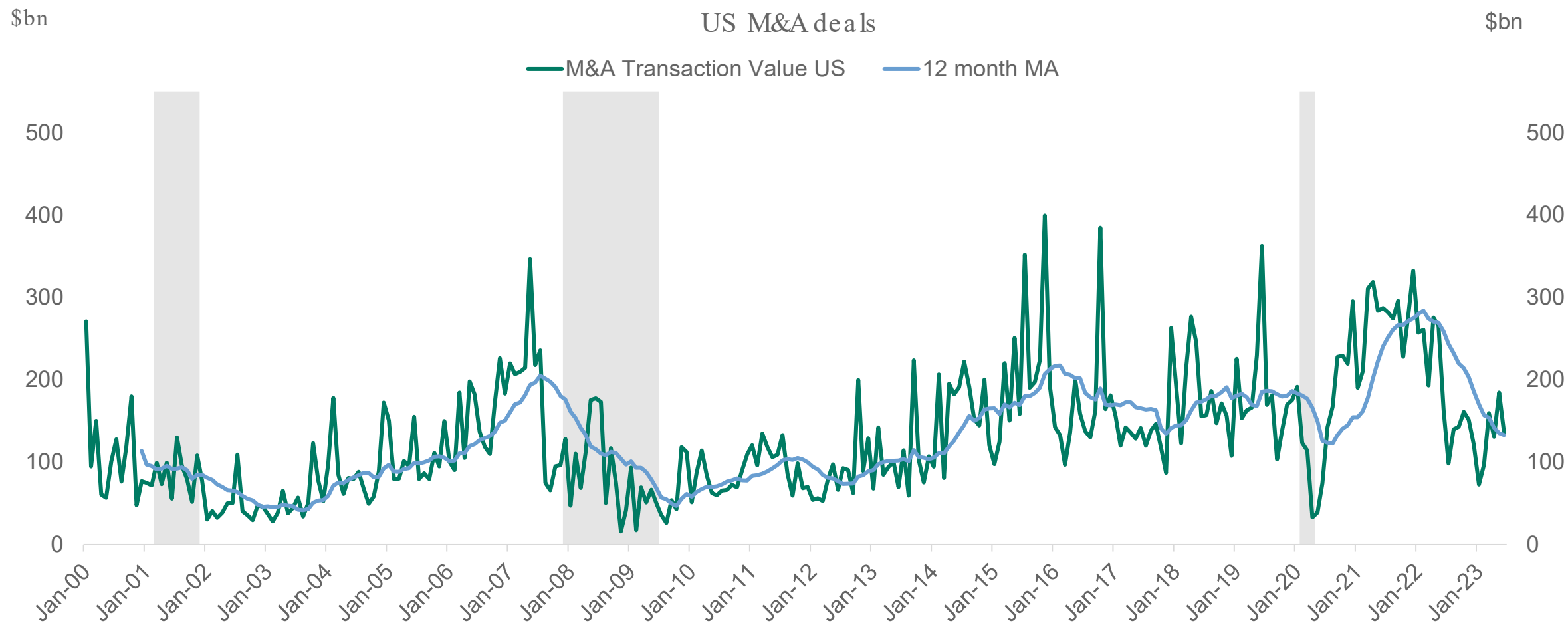
Dual class IPOs, driven by tech



Median age of IPOs

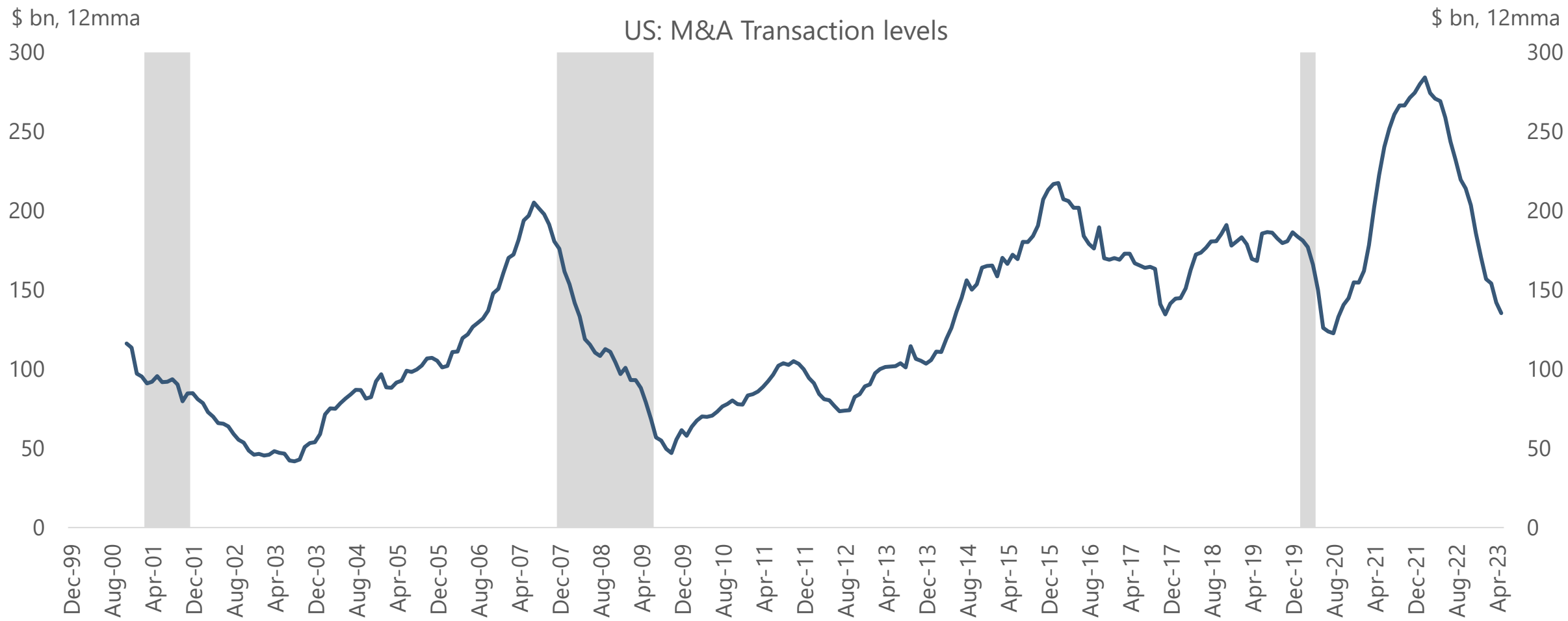


M&A activity declining



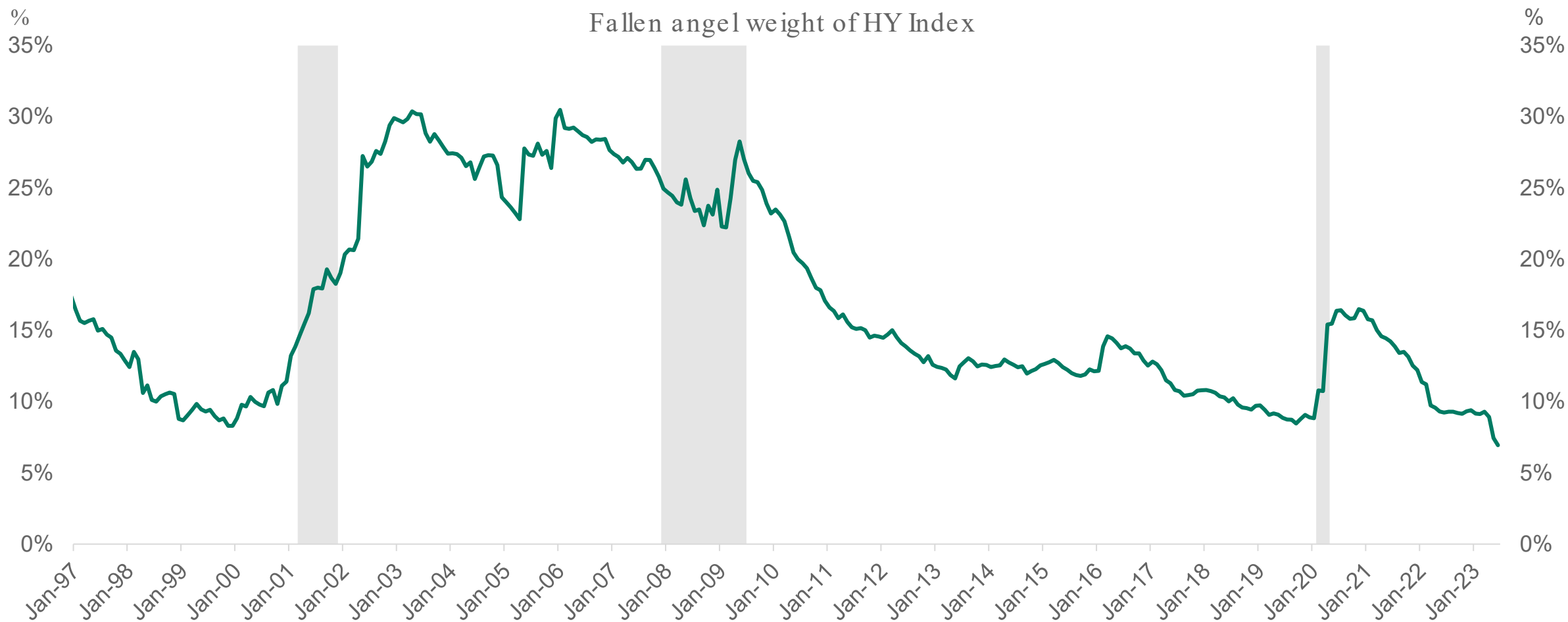
Source: Bloomberg, Apollo Chief Economist. Note: Ticker used is MAATUS Index

M&A activity declining



Source: Bloomberg, Apollo Chief Economist.

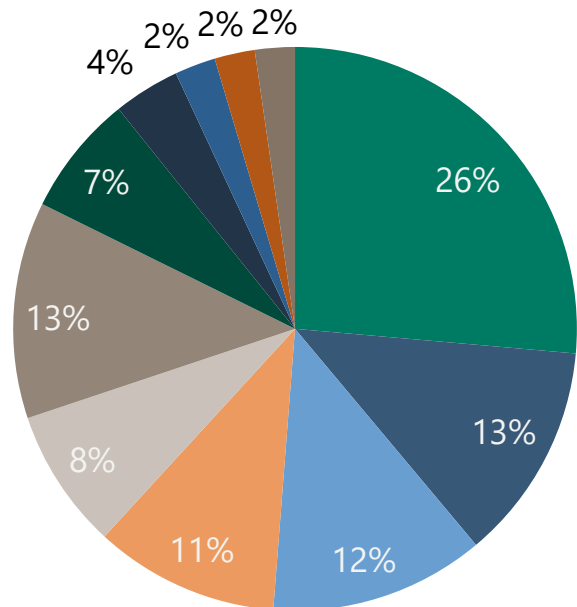
Declining share of fallen angels in the HY index



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

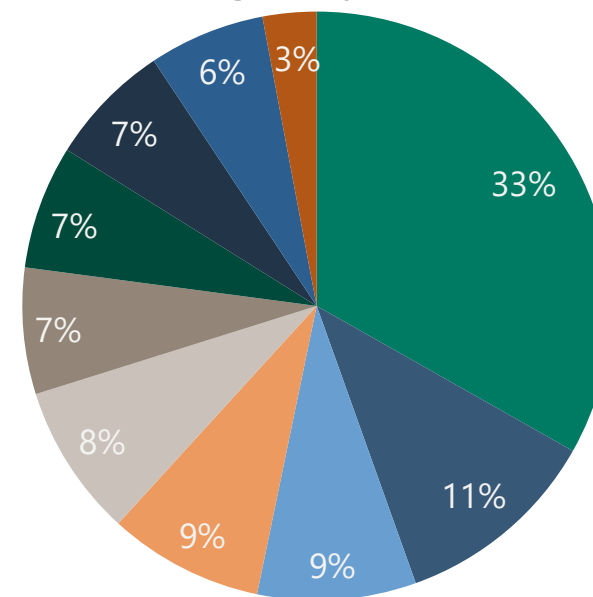
Big differences between weights in S&P500 and IG index

S&P 500 Index weight by market cap



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

Barclays corporate IG index weights by market cap

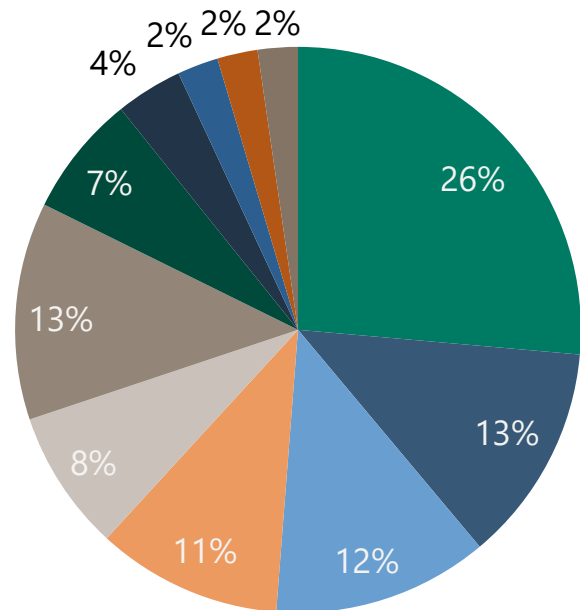


- Financials
- Utilities
- Technology
- Consumer Staples
- Consumer Discretionary
- Health Care
- Communications
- Energy
- Industrials
- Materials

Note: Data as of 30th June 2023. Source: Bloomberg, Apollo Chief Economist

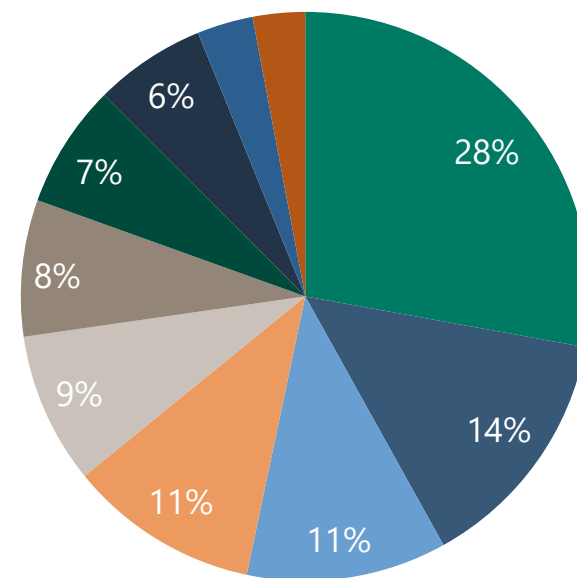
Big differences between weights in S&P500 and HY index

S&P 500 index weight by market cap



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

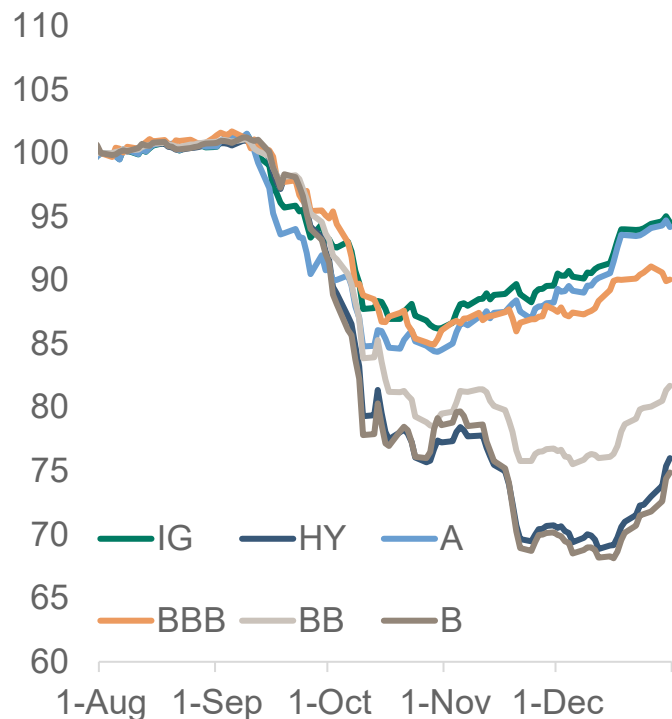
Bloomberg Barclays HY index weights by mkt cap



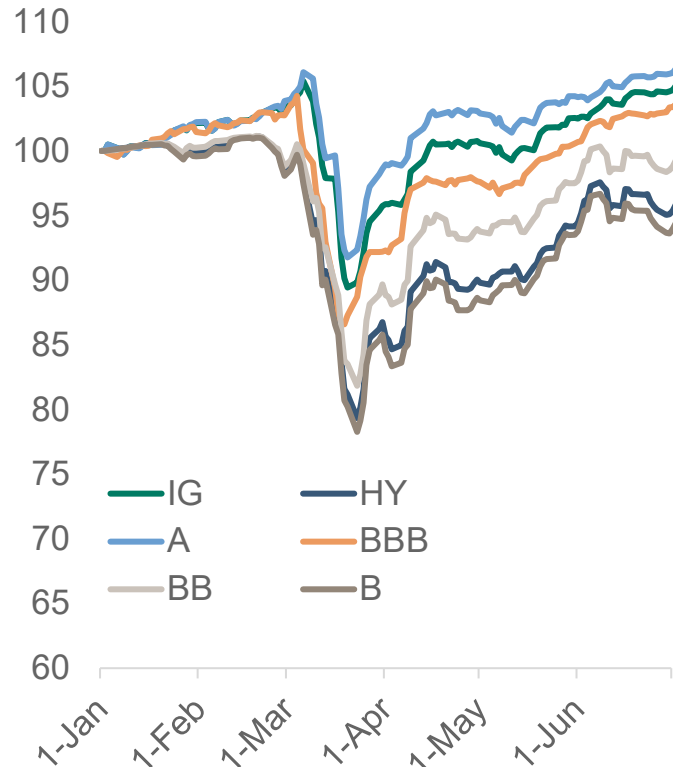
- Consumer Discretionary
- Energy
- Materials
- Health Care
- Consumer Staples
- Communications
- Financials
- Industrials
- Technology
- Utilities

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

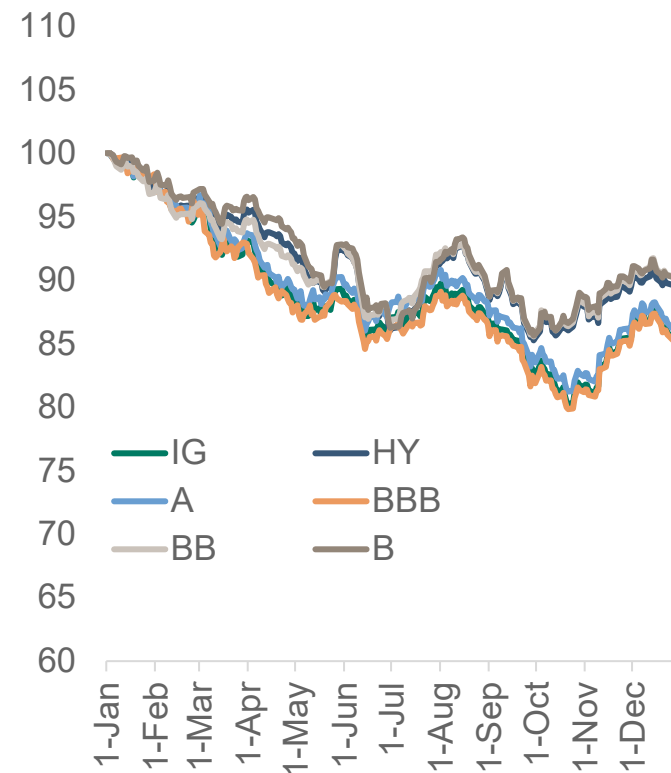
Aug 1st=100 US total returns, 2008



Jan 1st=100 US total returns, 2020

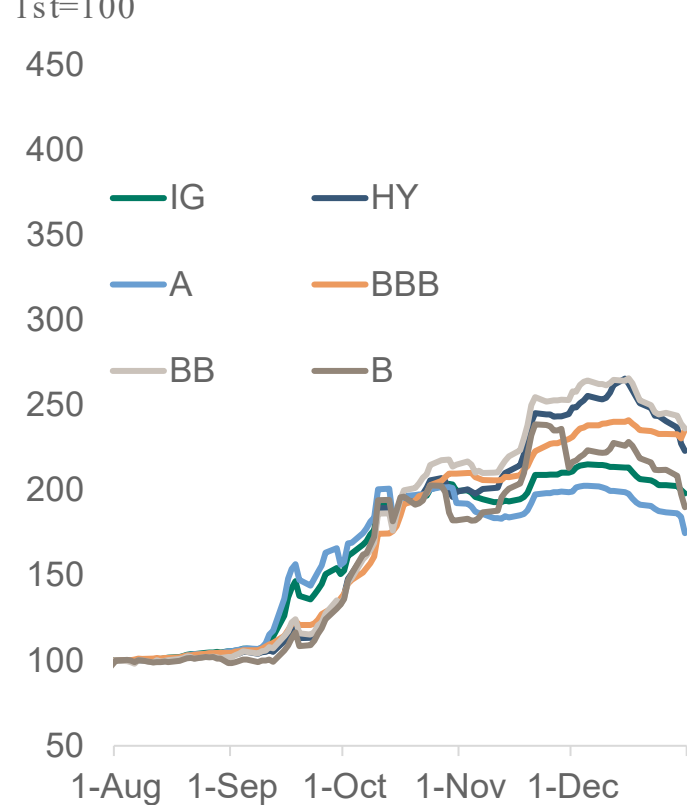


Jan 1st=100 US total returns, 2022

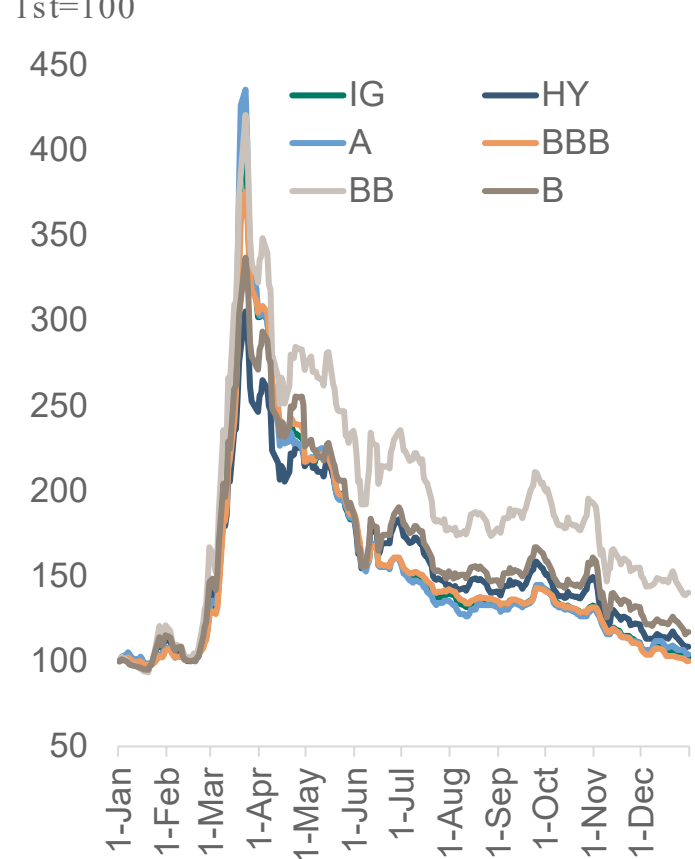


Synchronized sell-off in credit so far. Little differentiation between credits compared with 2008 and March 2020 episodes.

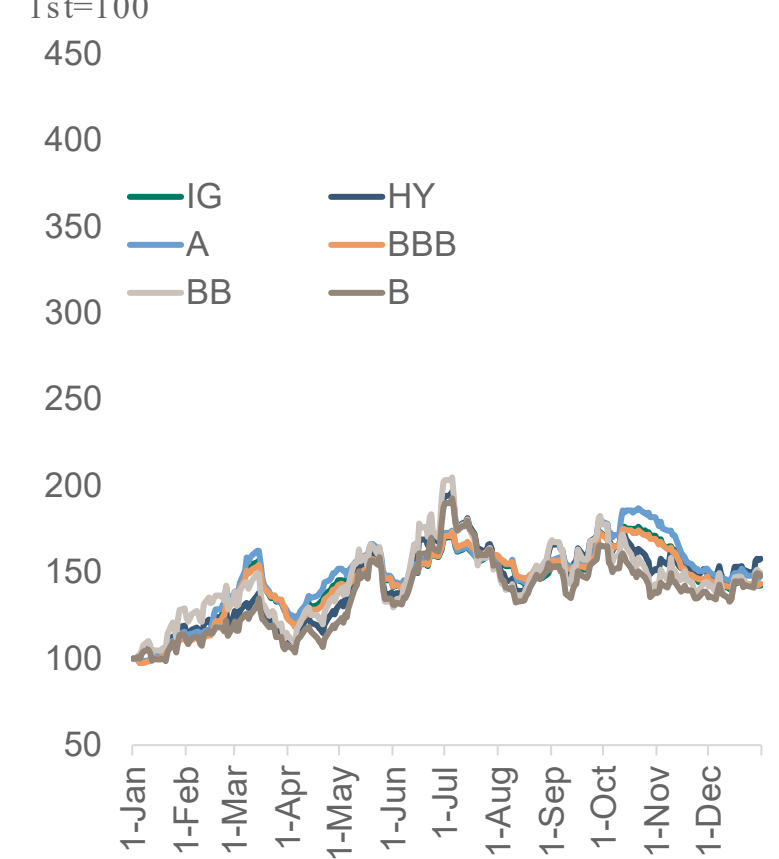
Aug 1st=100 US spreads, 2008



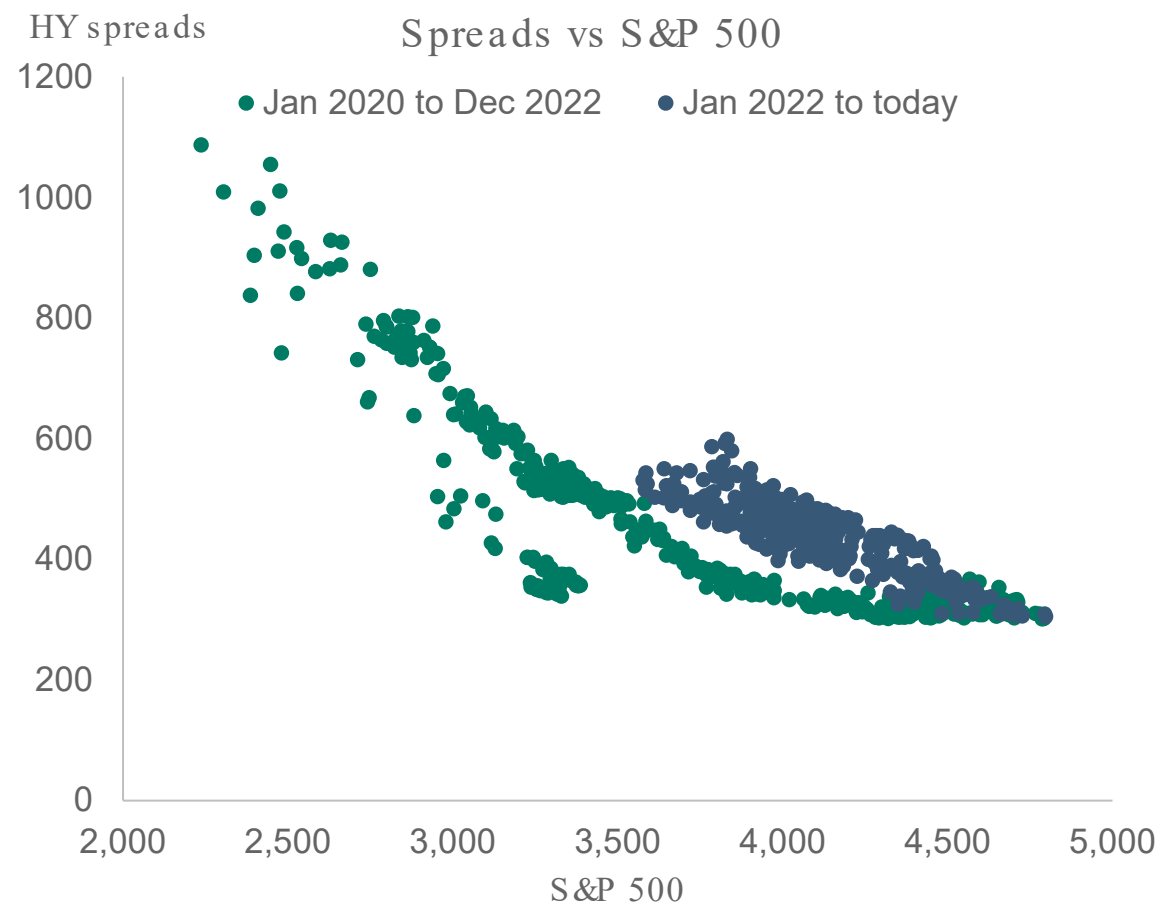
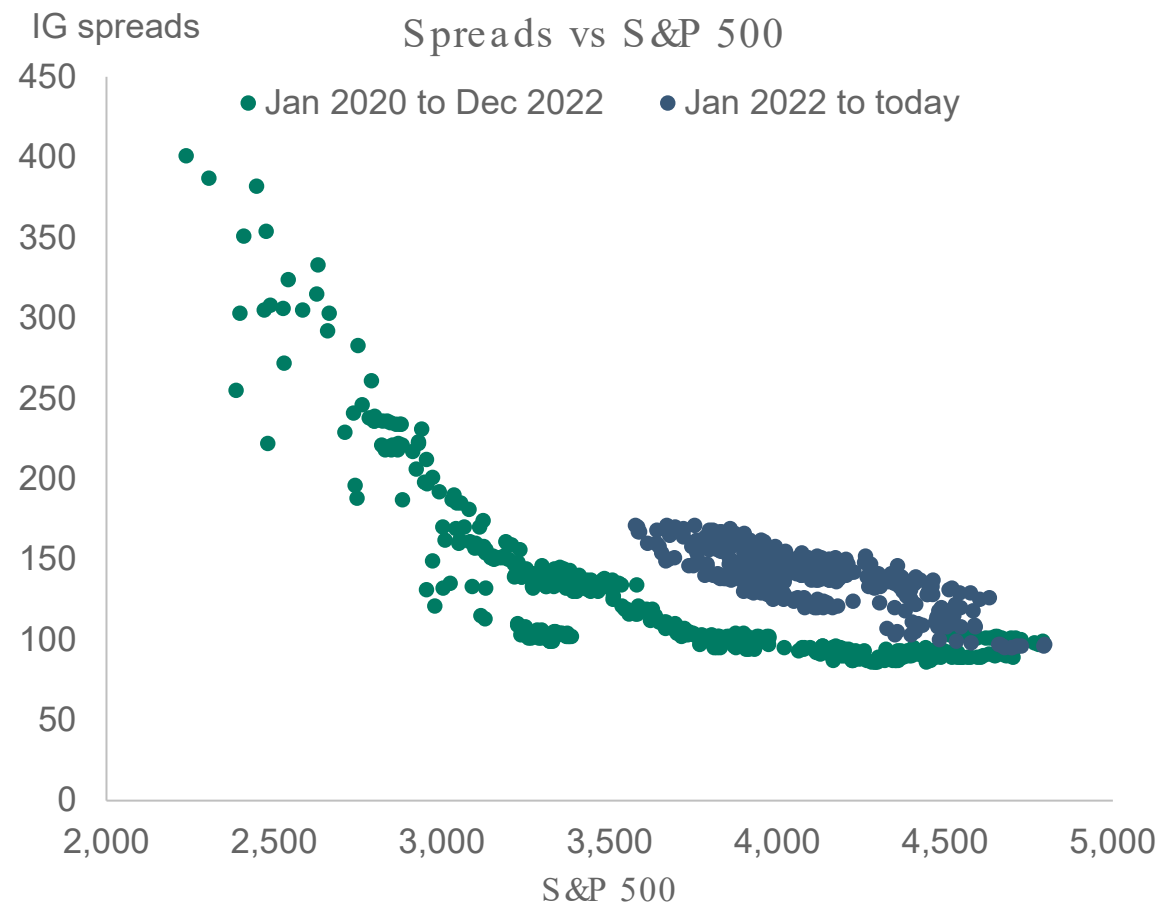
Jan 1st=100 US spreads, 2020



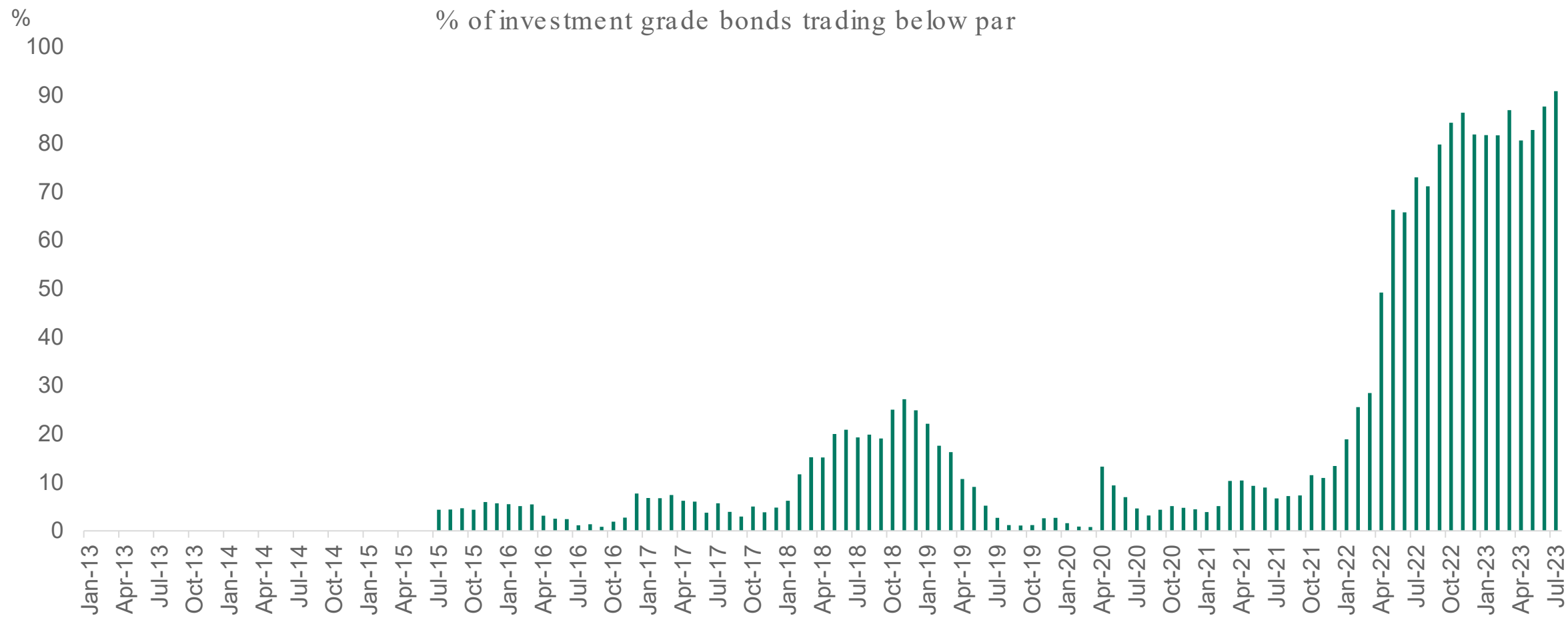
Jan 1st=100 US spreads, 2022



Valuation of credit versus equities

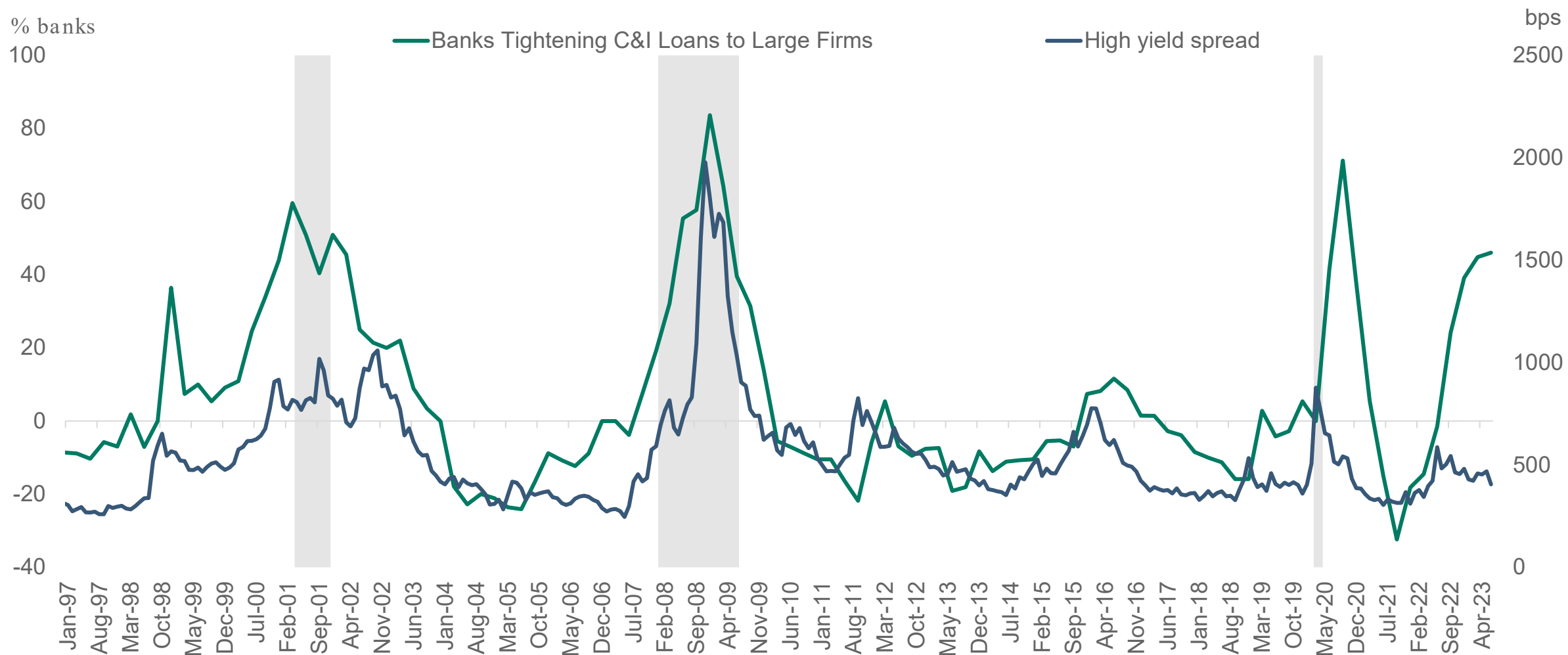


90% of the US IG market trading below par

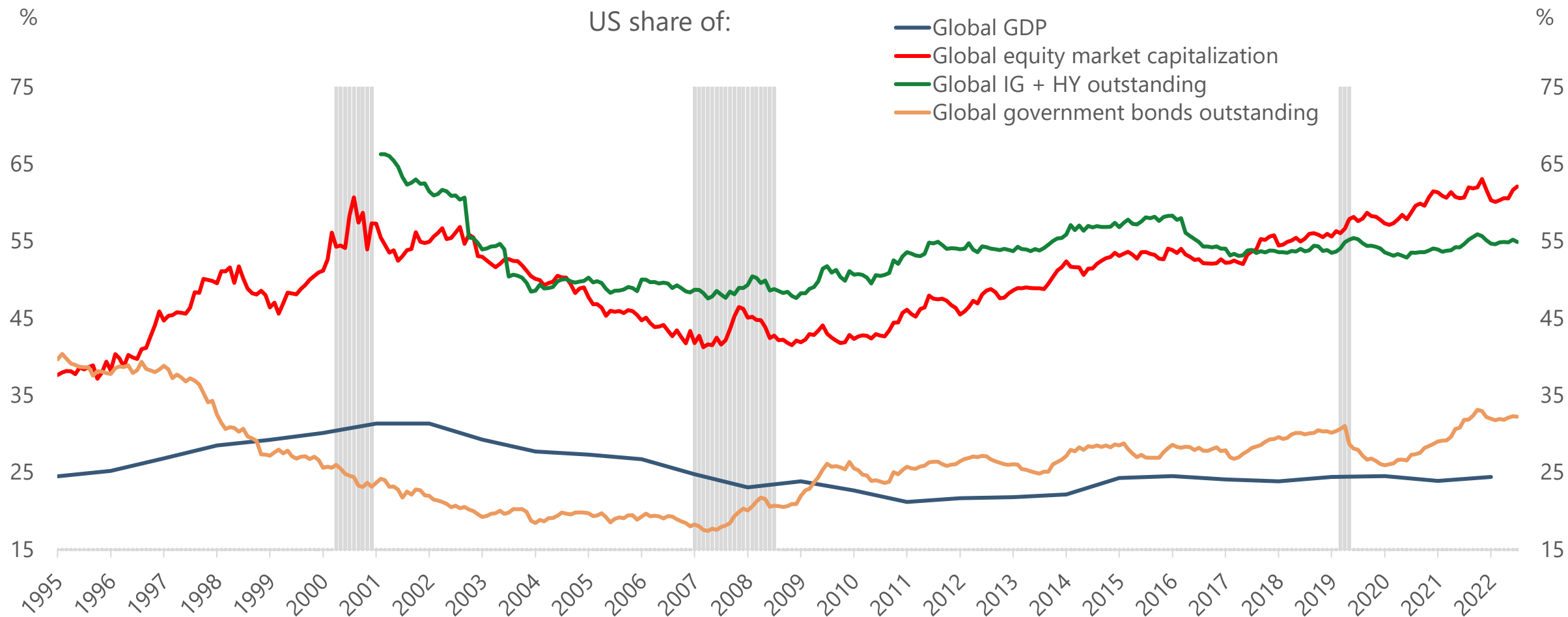


Source: Bloomberg, Apollo Chief Economist. Note: Data used for members in the LBUSTRUU Index as of 6th July 2023

Banks tightening credit conditions, HY spread should be trading wider

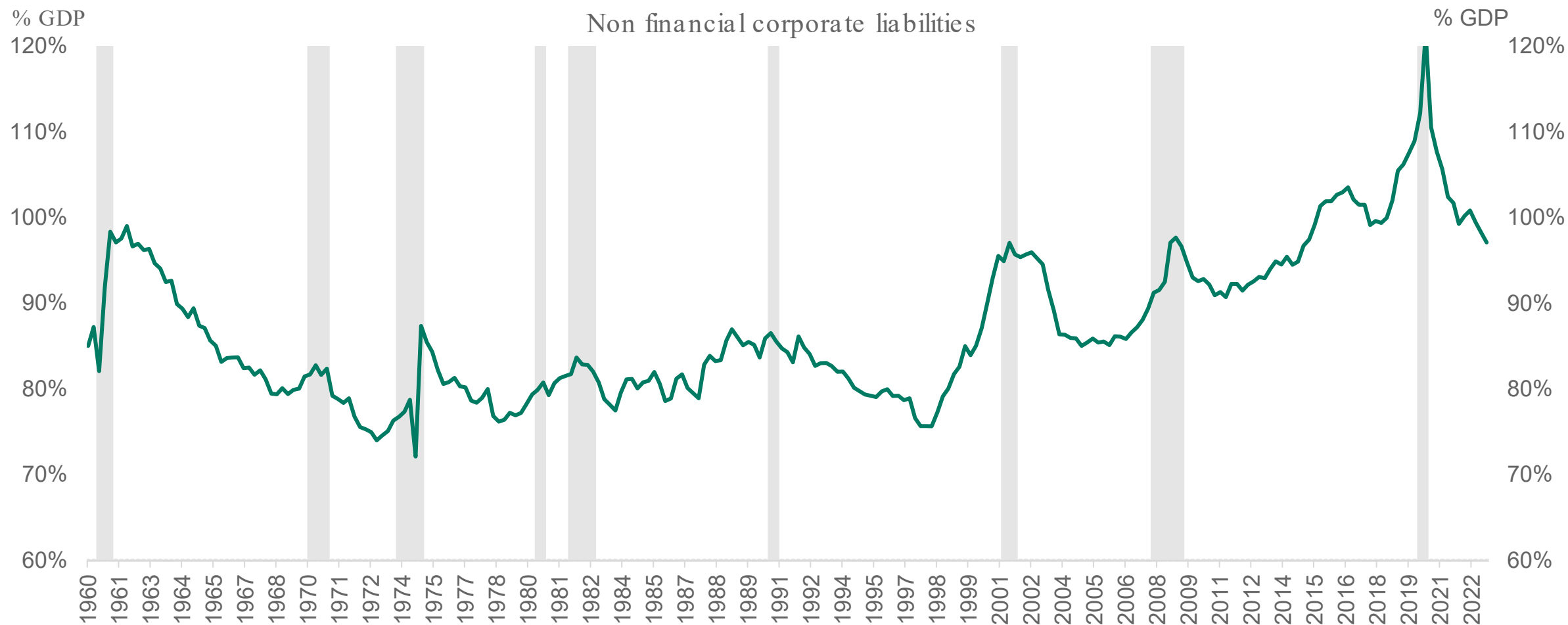


US share of the world economy and global financial markets



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)

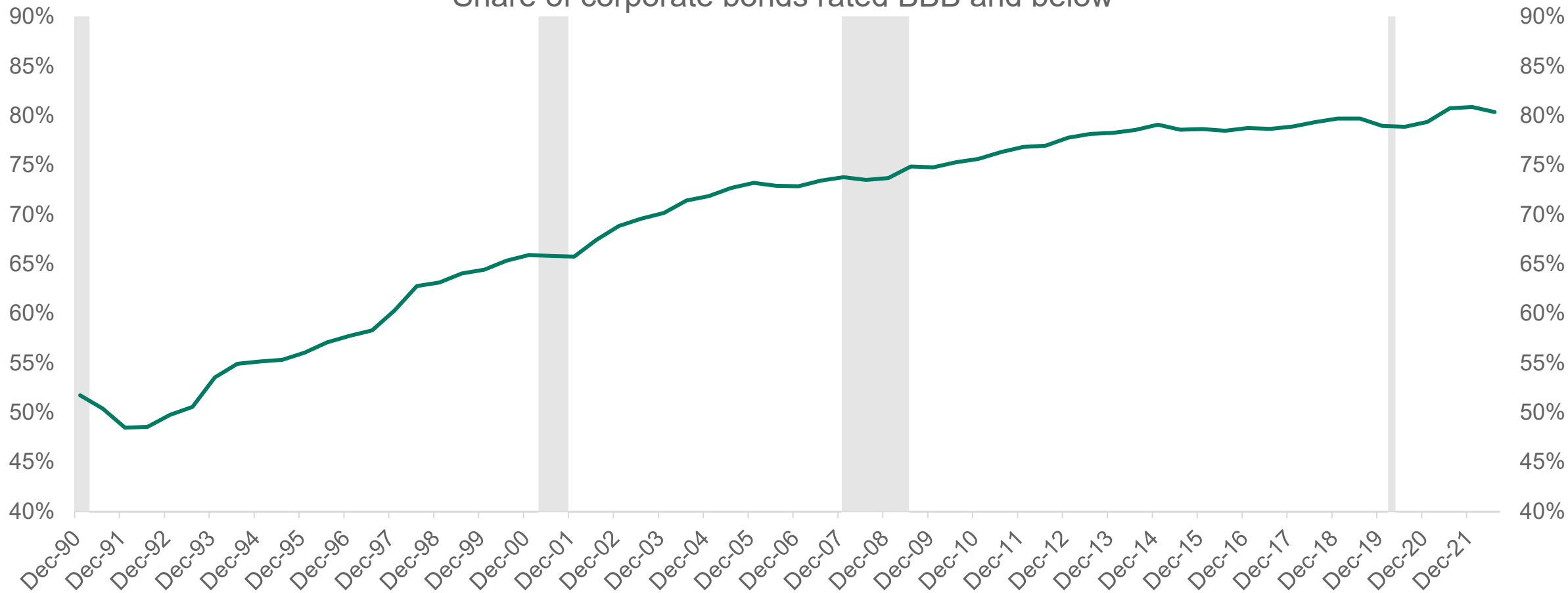
Corporate debt is coming down as a share of GDP



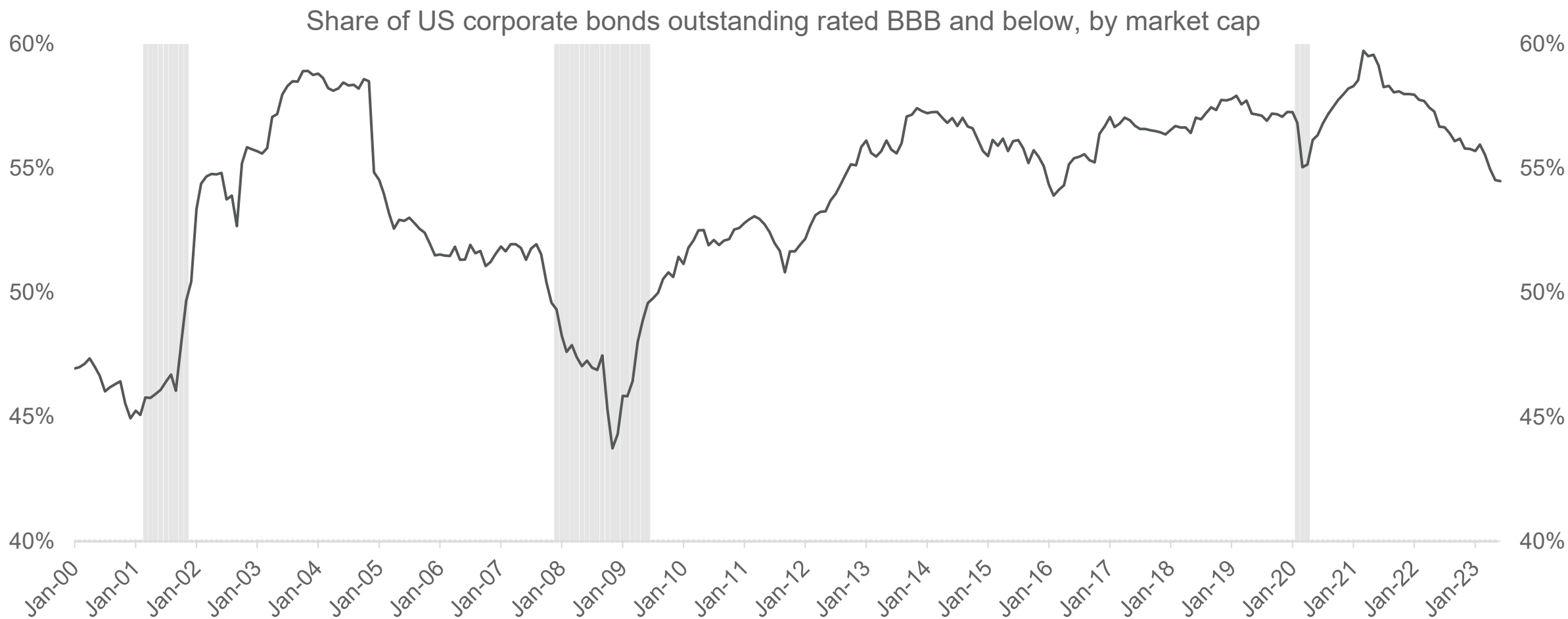
Source: FRB, Haver Analytics, Apollo Chief Economist

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



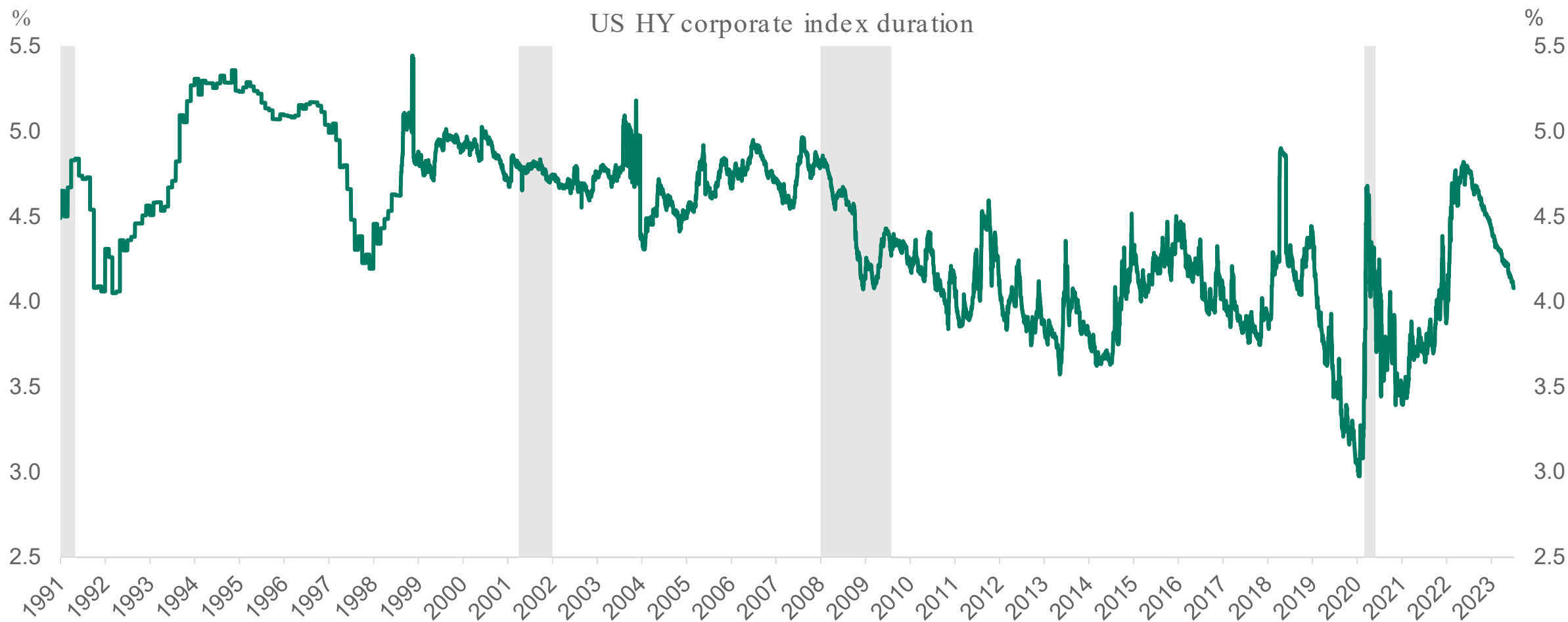
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Data as of 30th June 2023

IG credit 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 credit index duration



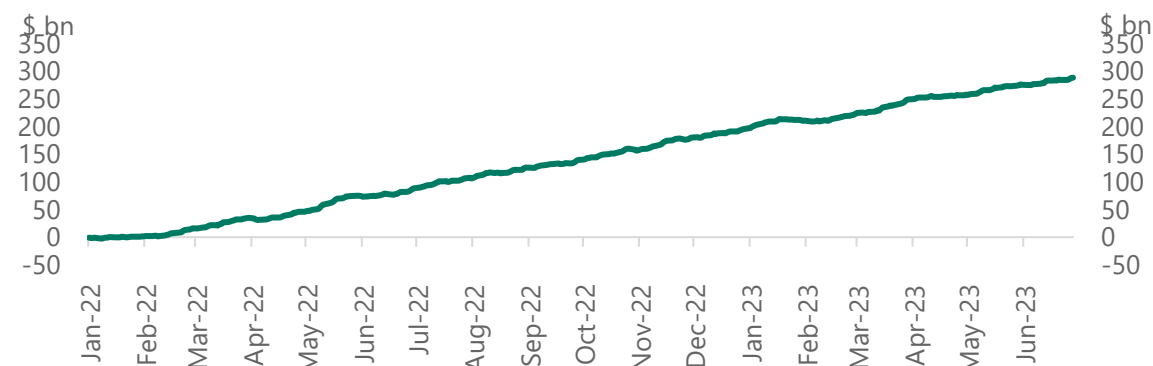
Source: Bloomberg, Apollo Chief Economist. Note: The measure used is modified duration, which measures the expected change in a bond's price to a 1% change in interest rates.

Flow monitor

US bank loans ETF flows



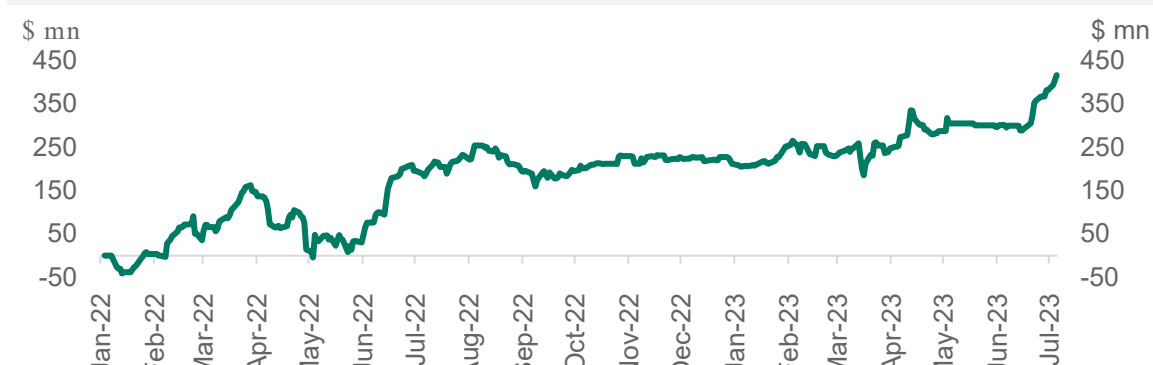
IG ETF flows



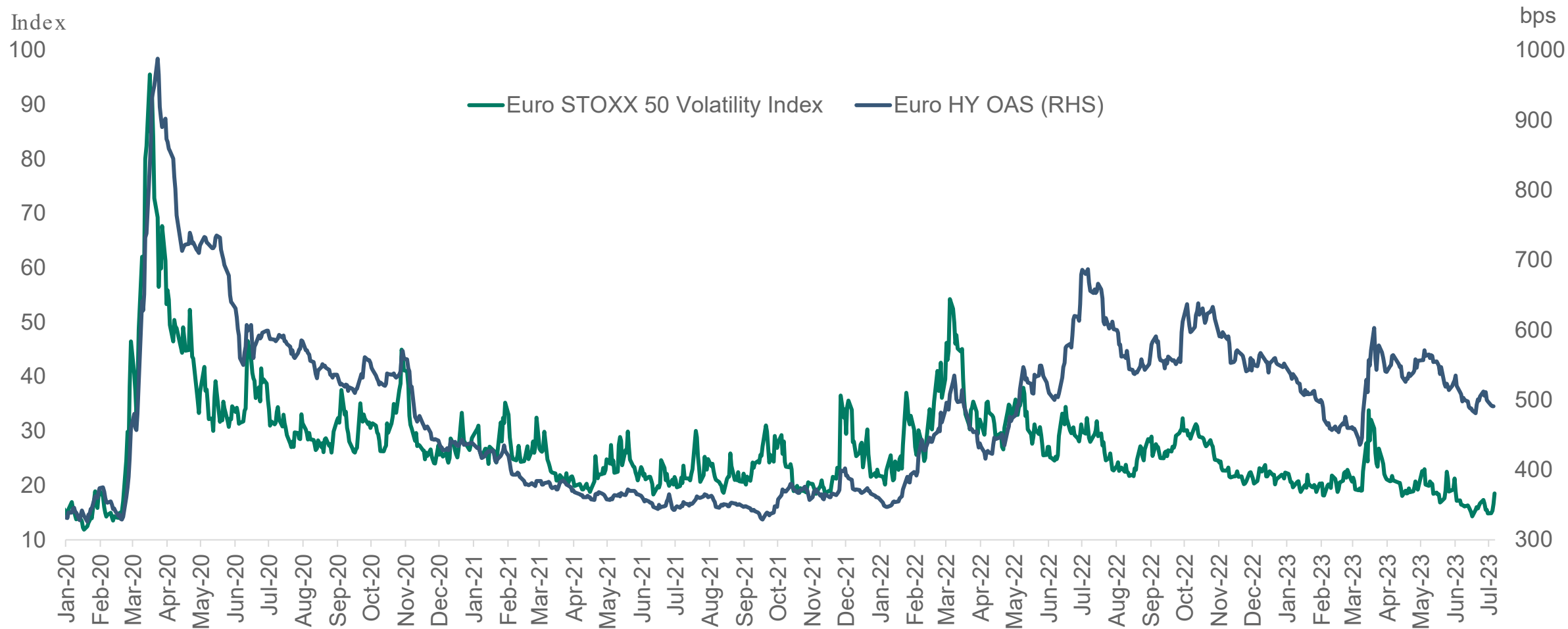
HY ETF Flows



Crypto ETF flows



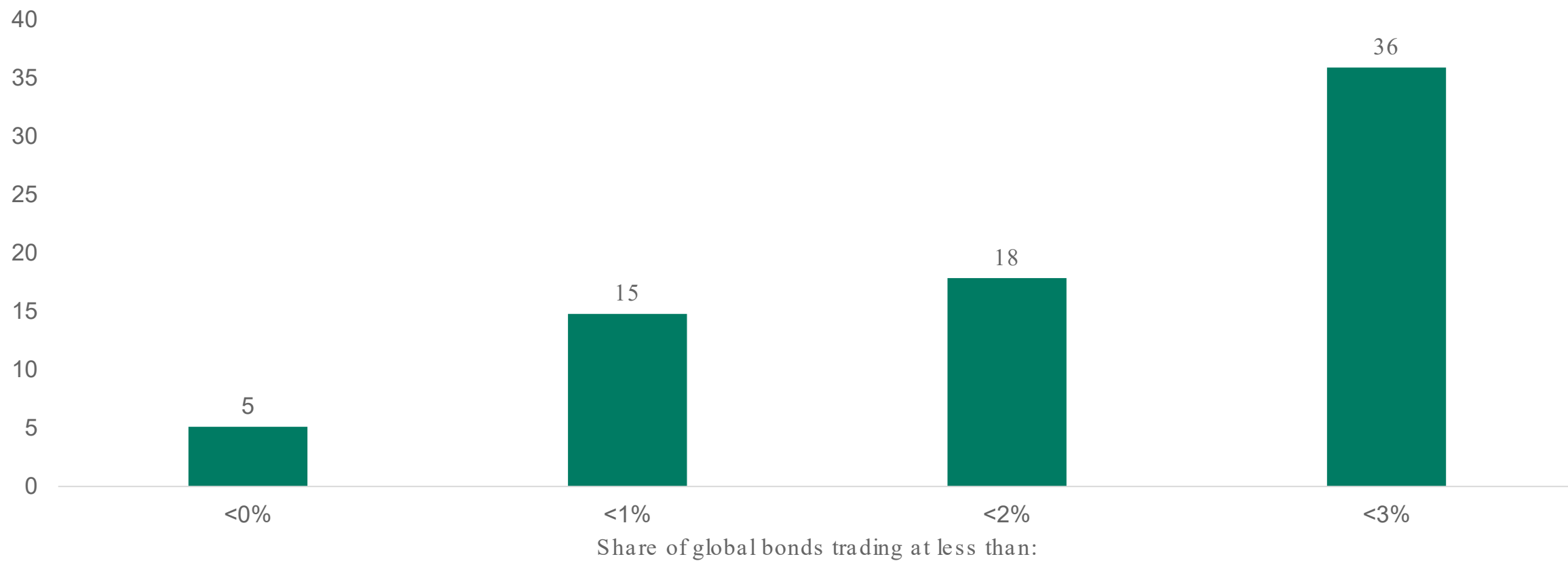
Convergence between EU equity vol and EU HY spreads



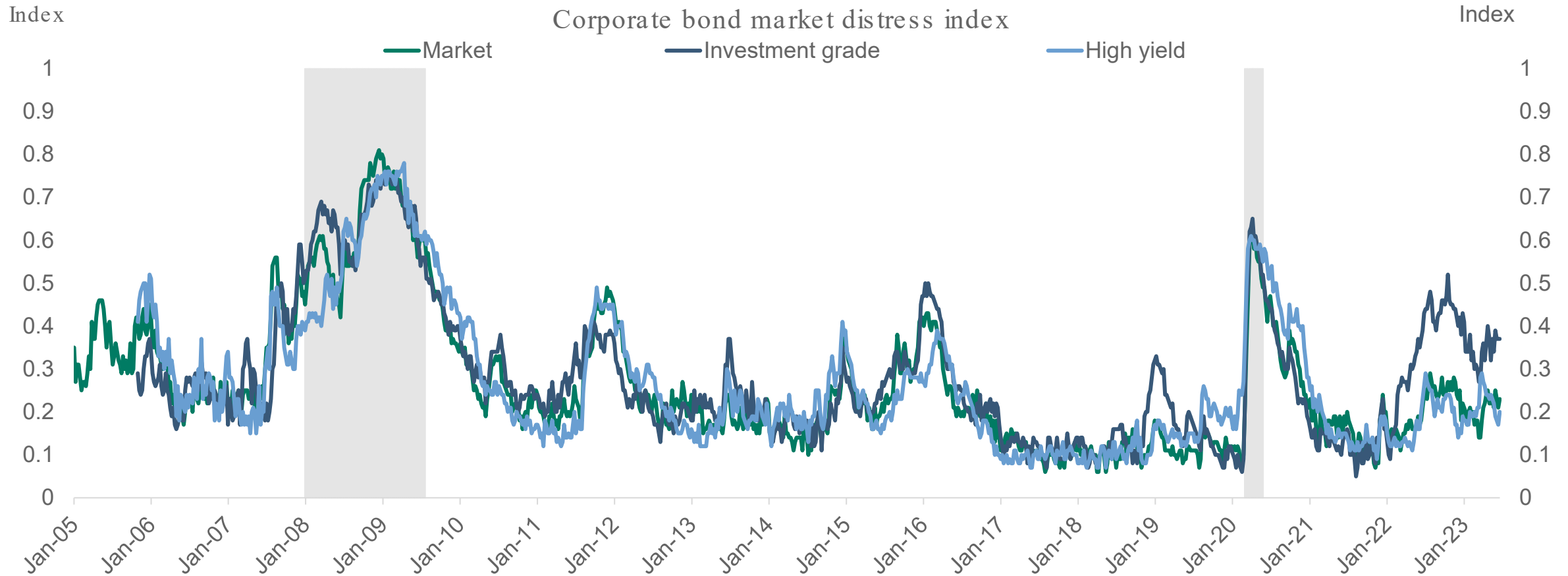
Source: Bloomberg, Apollo Chief Economist. Note: Tickers used are V2X Index and LP01OAS Index

18% of bonds in the world trading at less than 2% yield

% global bonds outstanding



NY Fed measure of corporate bond market functioning elevated level of distress in IG



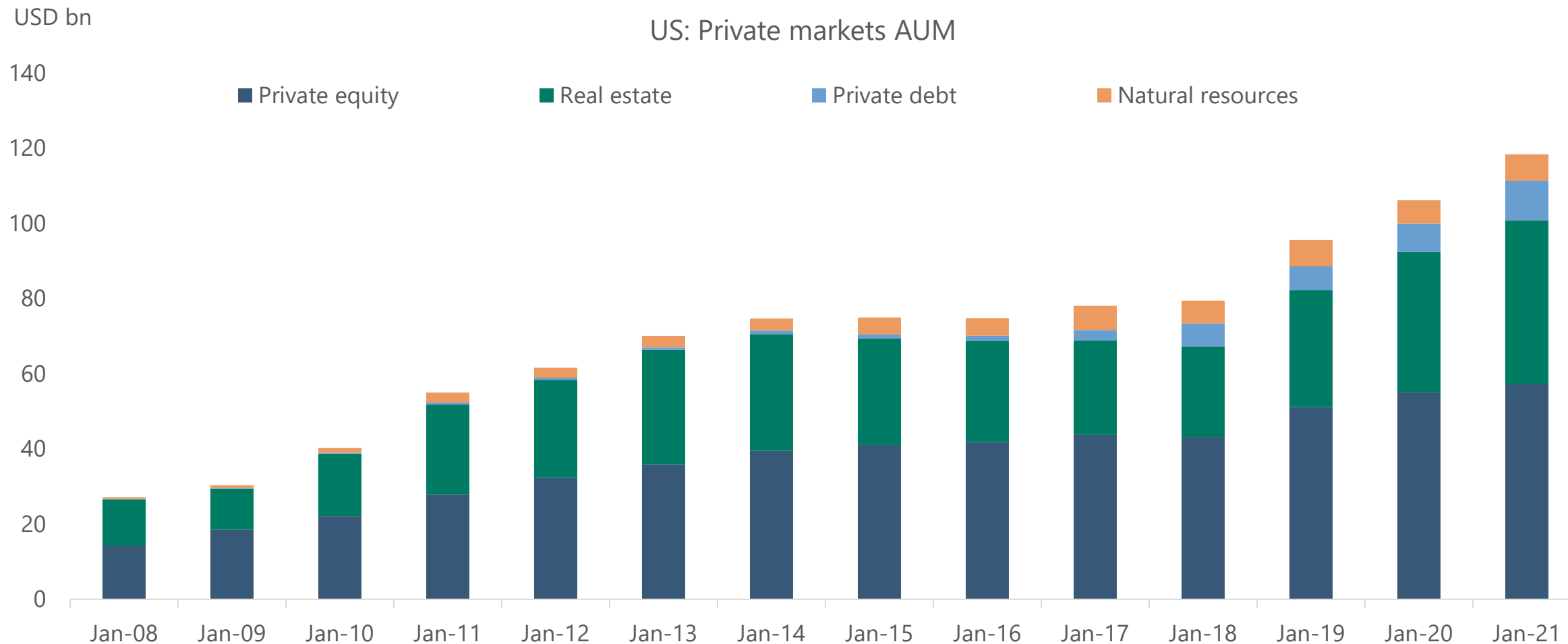
Source: FRB of New York, Apollo Chief Economist (Note: Corporate bonds are a key source of funding for U.S. non-financial corporations and a key investment security for insurance companies, pension funds, and mutual funds. Distress in the corporate bond market can thus both impair access to credit for 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.

20% of HY bonds trading with yield higher than 10%



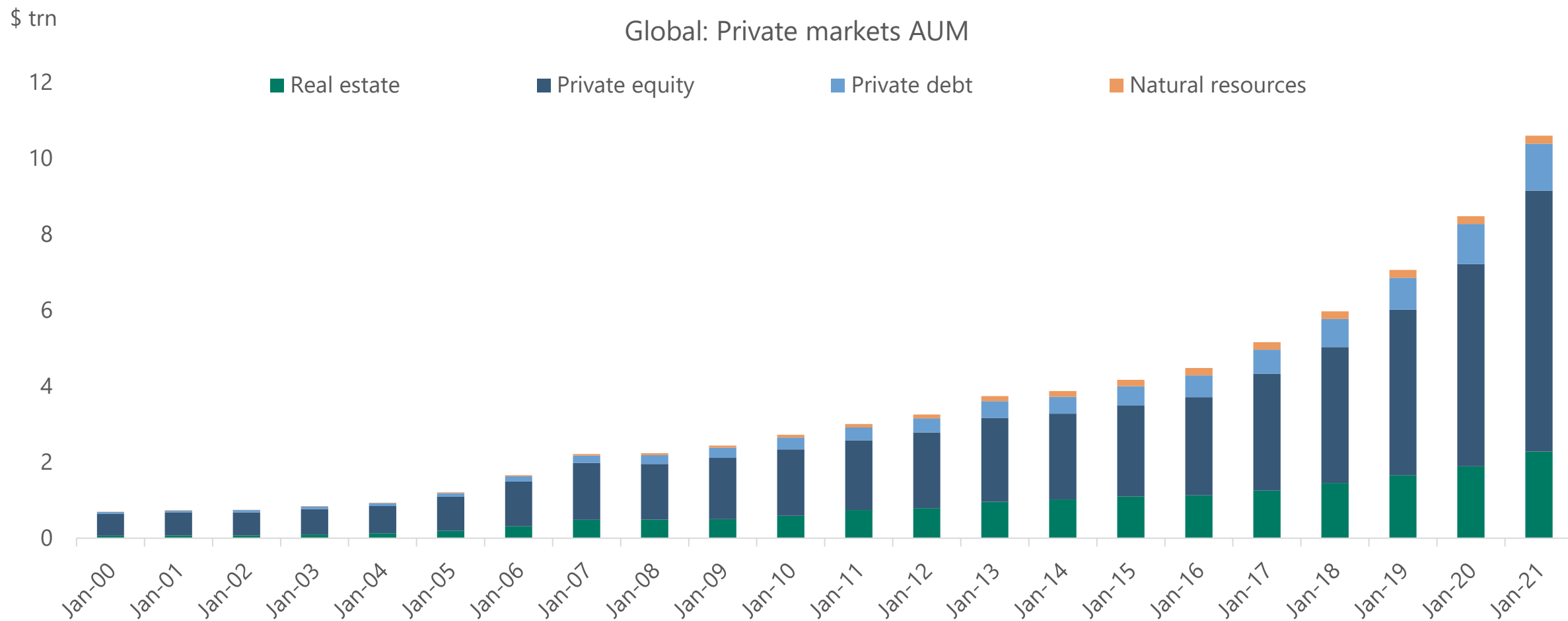
Source: Bloomberg, Apollo Chief Economist. Note: HY bond universe is H0A0 Index

US: Total assets under management in private markets



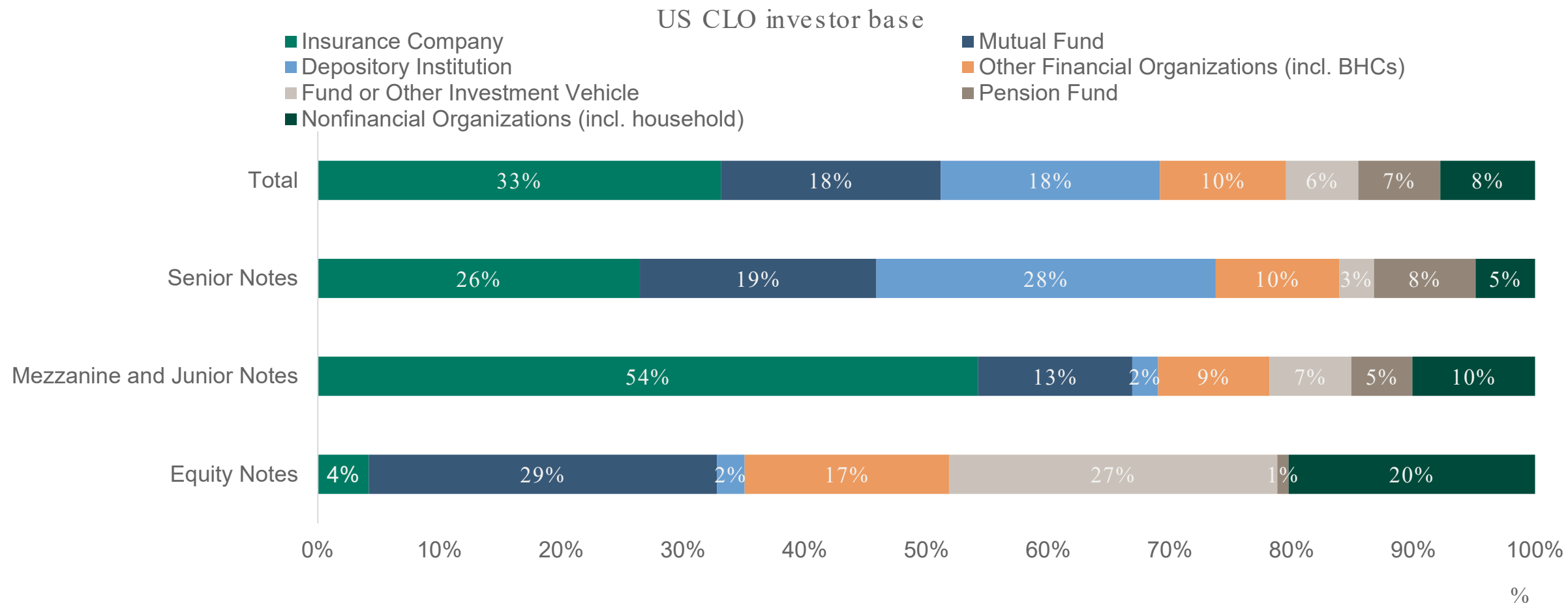
Source: Preqin, Apollo Chief Economist (Note: Real estate includes private real estate and infrastructure funds)

Total assets under management in private markets funds globally



Source: Preqin, Apollo Chief Economist (Note: Real estate includes private real estate and infrastructure funds)

US CLO investor base by tranche



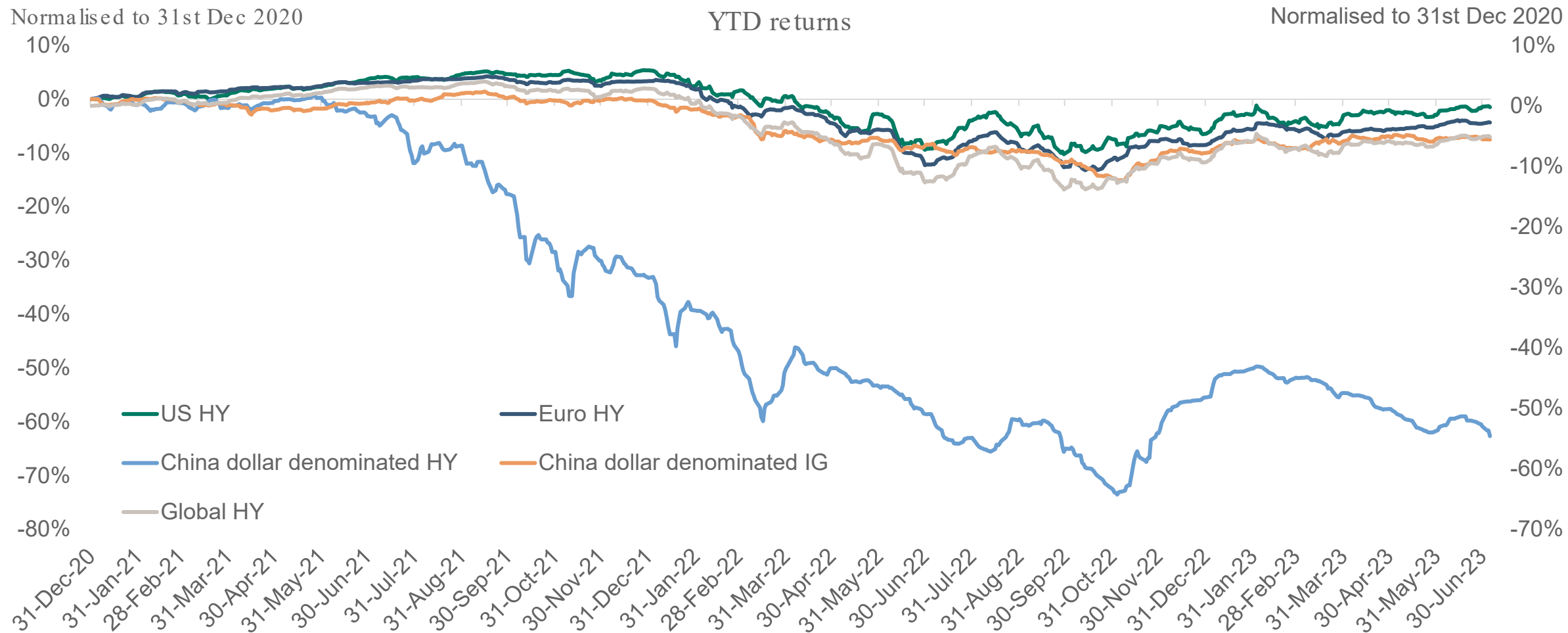
China HY



The yield on China HY is now at 20%



Little contagion from China HY to US and EU credit markets



Top issuer names



Top issuer names for IG and HY

	Top 50 Investment Grade corporate bond issuers	Top 50 High Yield corporate bond issuers
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



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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.