

APOLLO GLOBAL MANAGEMENT

Credit market outlook: Approaching the peak in the Fed funds rate

Torsten Slok, Jyoti Agarwal, and Rajvi Shah

tslok@apollo.com

December 2022

Unless otherwise noted, information as of December 2022

Confidential and Proprietary - Not for distribution, in whole or in part, without the express written consent of Apollo Global Management, Inc.

It should not be assumed that investments made in the future will be profitable or will equal the performance of the investments shown in this document.

Legal Disclaimer

Unless otherwise noted, information included herein is presented as of the dates indicated. Apollo Global Management, Inc. (together with its subsidiaries, “Apollo”) makes no representation or warranty, expressed or implied, with respect to the accuracy, reasonableness, or completeness of any of the information contained herein, including, but not limited to, information obtained from third parties. Opinions, estimates and projections constitute the current judgment of the author as of the date indicated. They do not necessarily reflect the views and opinions of Apollo and are subject to change at any time without notice. Apollo does not have any responsibility to update the information to account for such changes. Hyperlinks to third-party websites in these materials are provided for reader convenience only. There can be no assurance that any trends discussed herein will continue.

The information contained herein is not intended to provide, and should not be relied upon for, accounting, legal or tax advice and does not constitute an investment recommendation or investment advice. Investors should make an independent investigation of the information contained herein, including consulting their tax, legal, accounting or other advisors about such information. Apollo does not act for you and is not responsible for providing you with the protections afforded to its clients.

Certain information contained herein may be “forward-looking” in nature. Due to various risks and uncertainties, actual events or results may differ materially from those reflected or contemplated in such forward-looking information. As such, undue reliance should not be placed on such information. Forward-looking statements may be identified by the use of terminology including, but not limited to, “may”, “will”, “should”, “expect”, “anticipate”, “target”, “project”, “estimate”, “intend”, “continue” or “believe” or the negatives thereof or other variations thereon or comparable terminology.

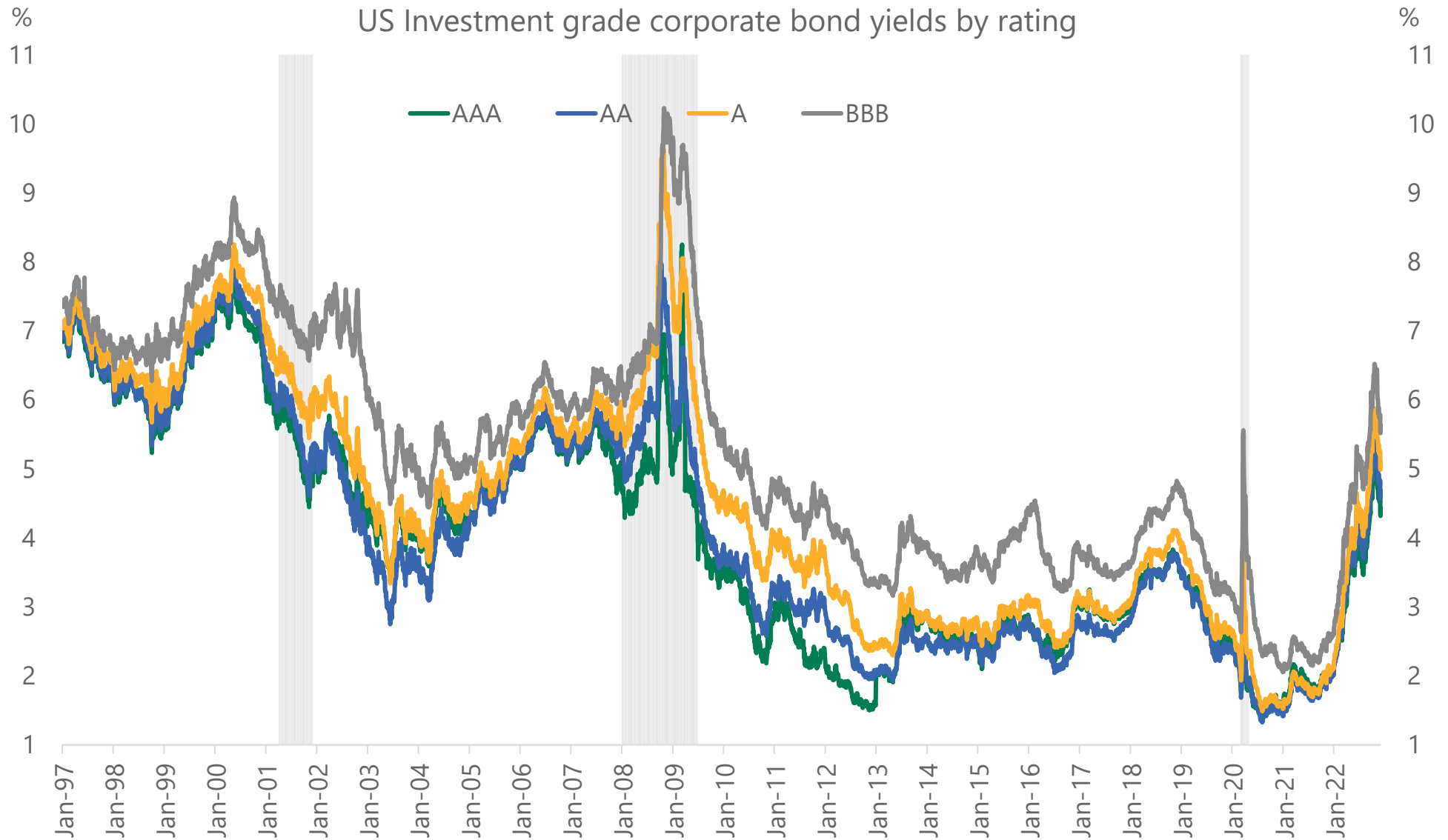
Yields

US IG and HY yield levels now around 5% and 8%, respectively



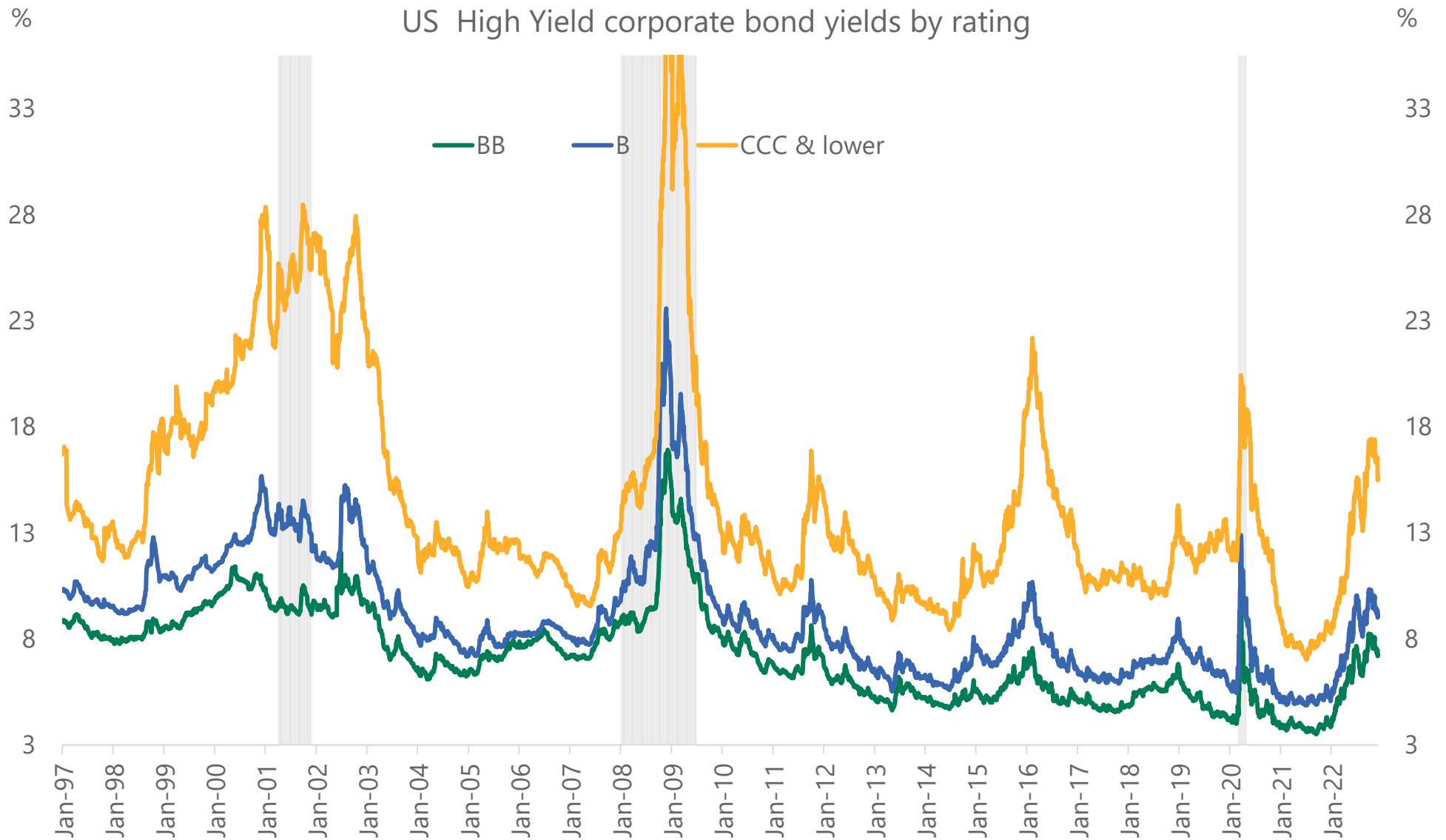
Source: ICE BofA, Haver Analytics, Apollo Chief Economist.

IG yield levels, by rating



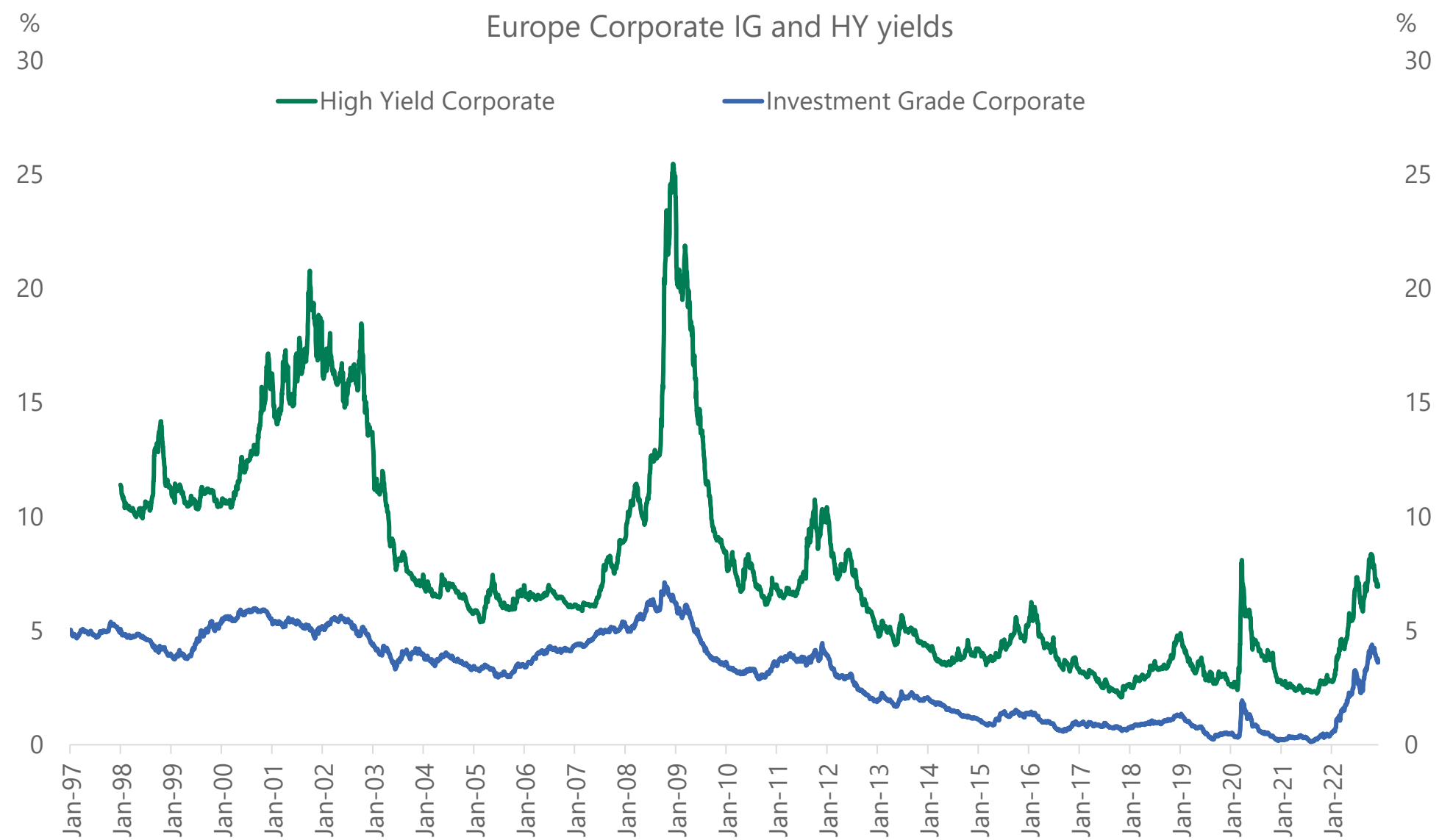
Source: ICE BofA, Haver Analytics, Apollo Chief Economist

HY yield levels, by rating



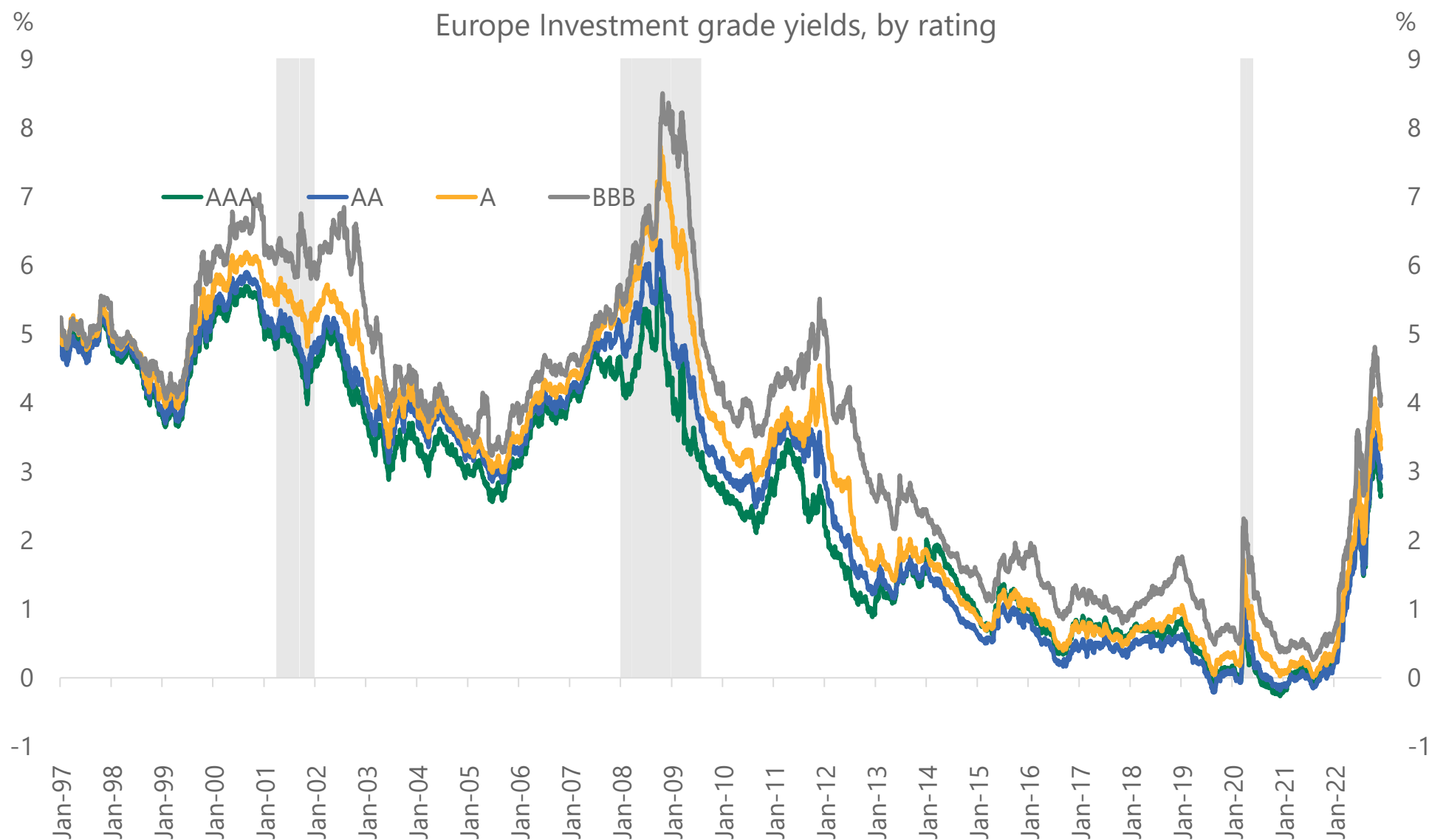
Source: ICE BofA, Haver Analytics, Apollo Chief Economist

Europe Corporate IG and HY yields



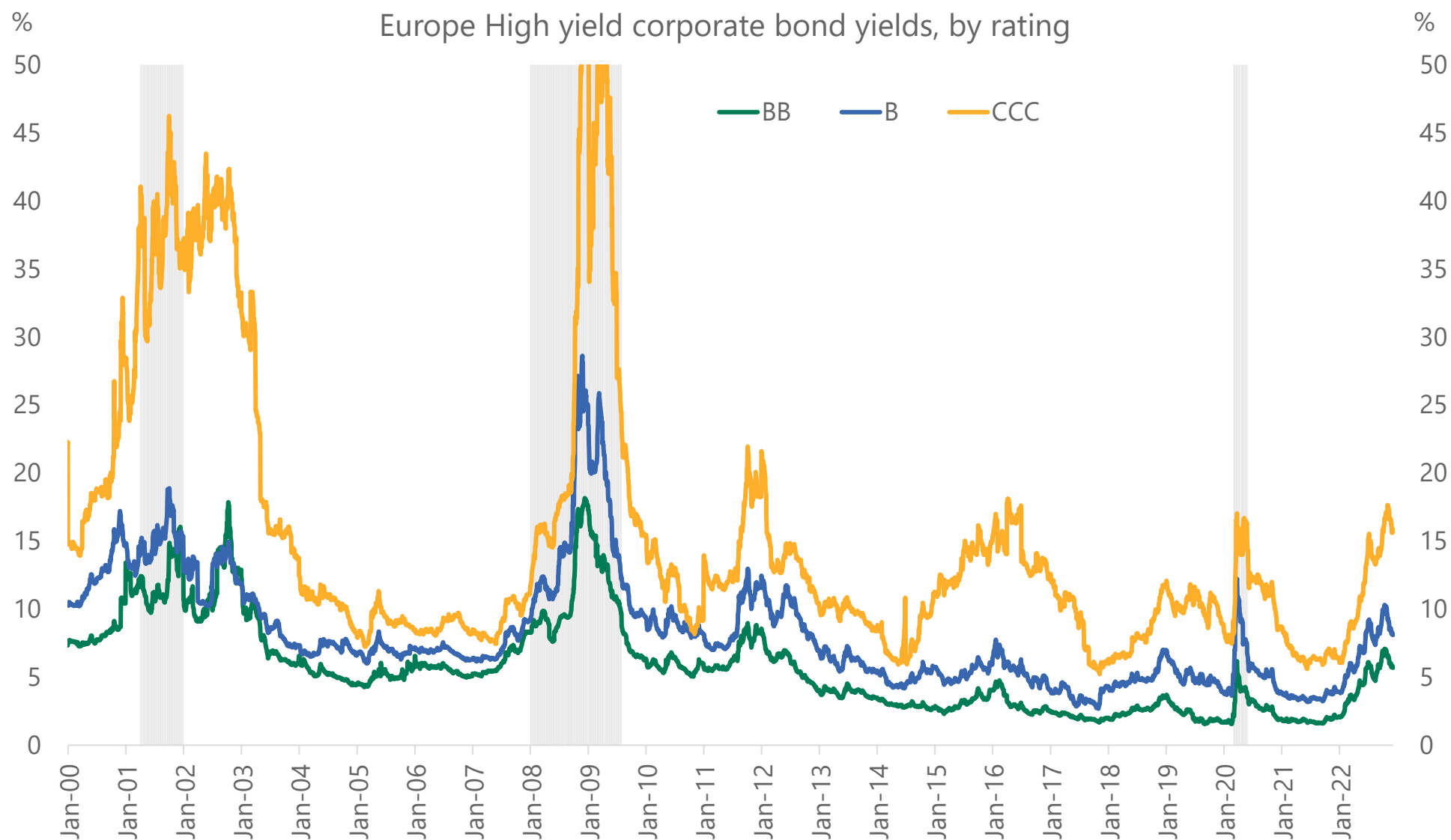
Source: ICE BofA, Bloomberg, Apollo Chief Economist

Europe IG yield levels, by rating



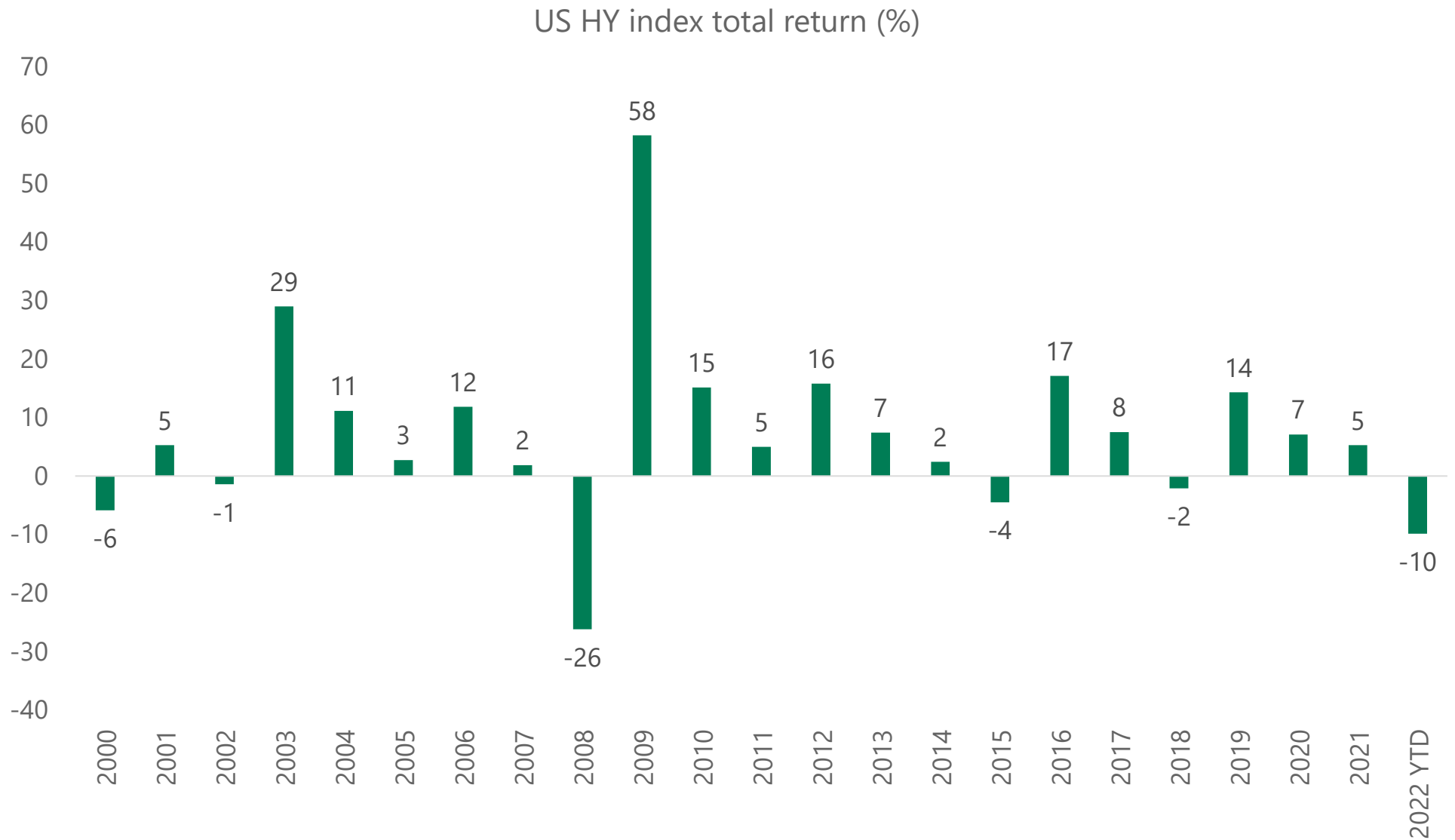
Source: ICE BofA, Bloomberg, Apollo Chief Economist

Europe HY yield levels, by rating



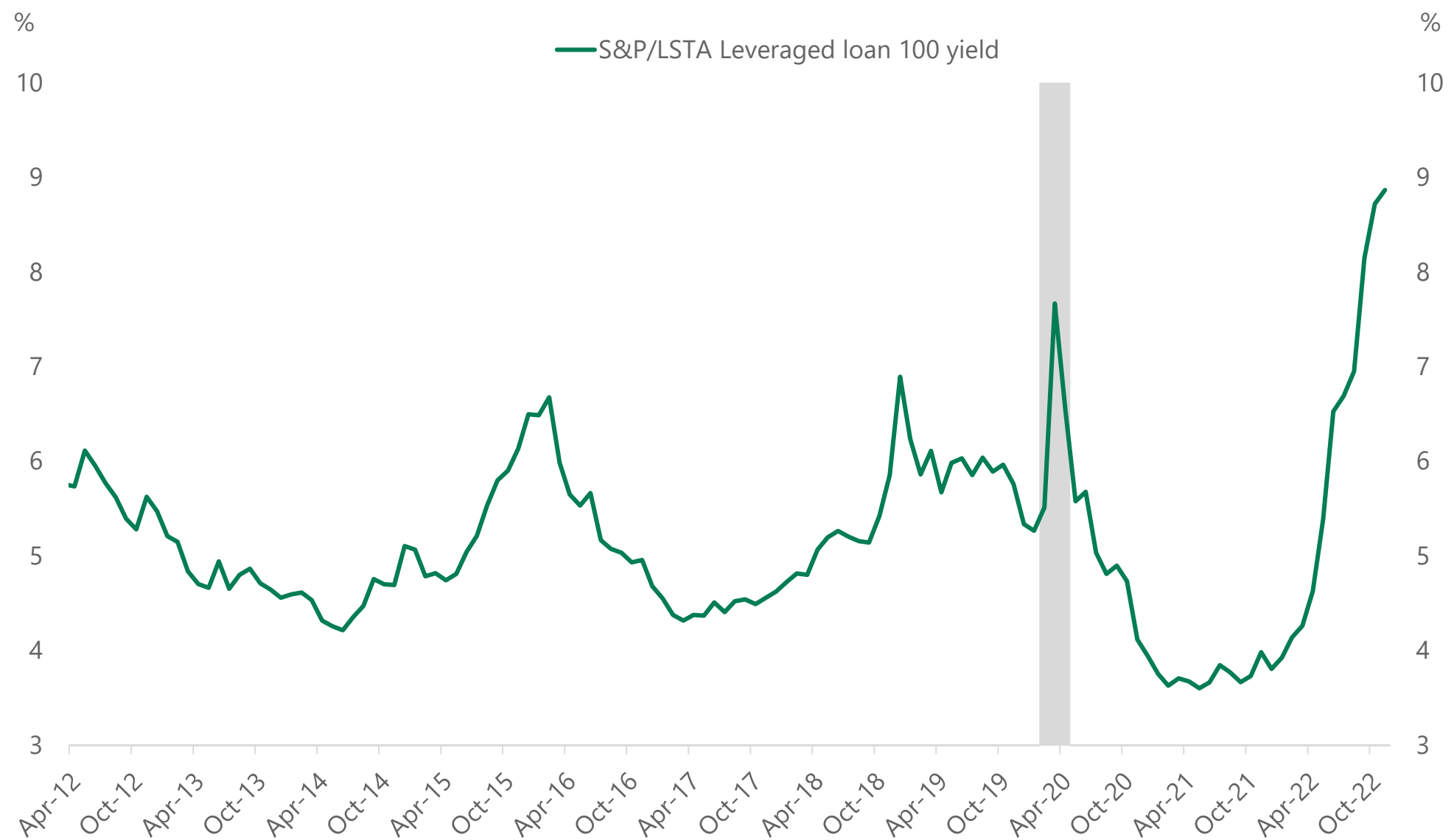
Source: ICE BofA, Bloomberg, Apollo Chief Economist

Annual returns for HY



Source: Bloomberg, Apollo Chief Economist

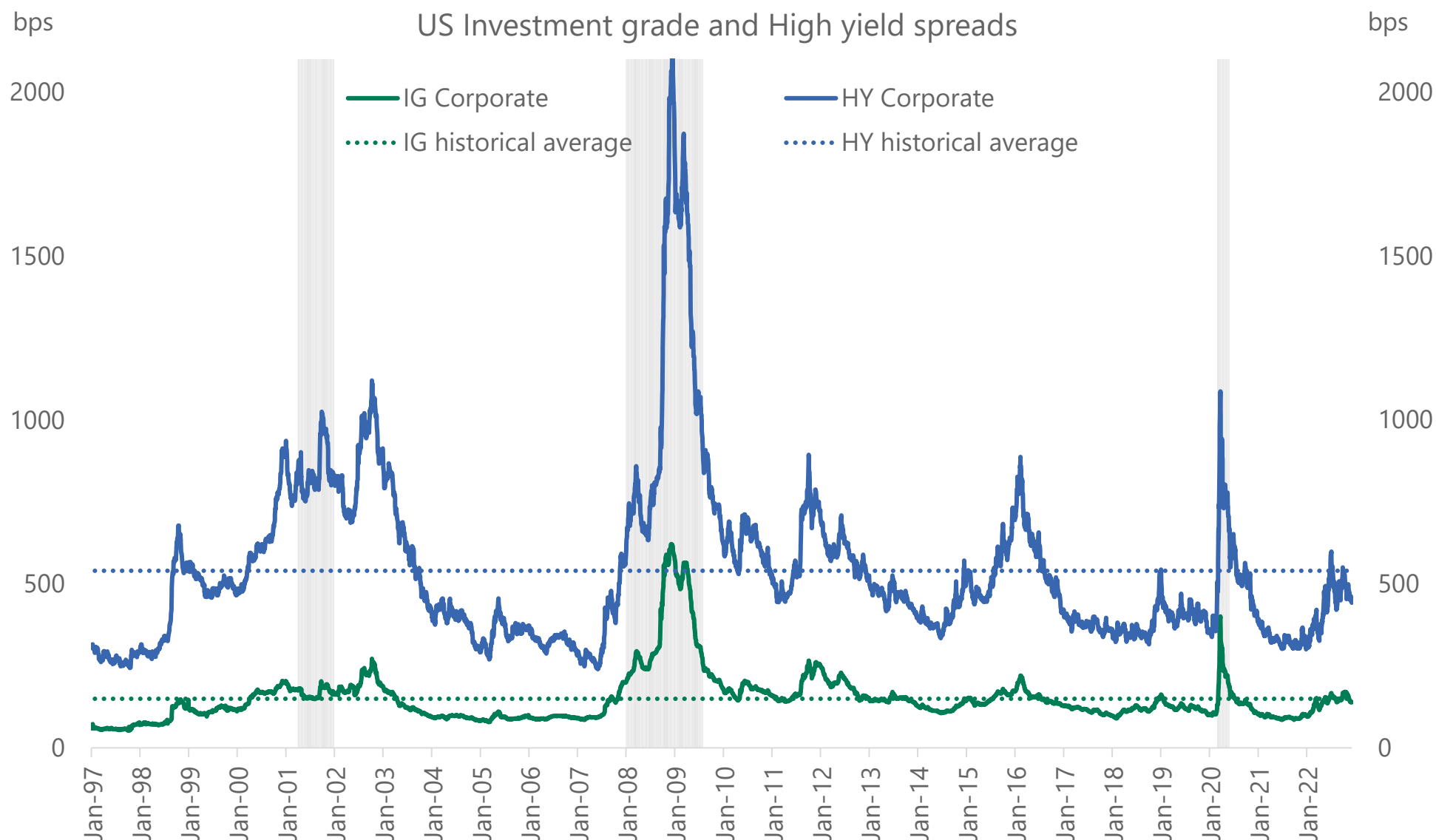
Yields for the leveraged loan index at 9%



Source: LCD Comps, Apollo Chief Economist

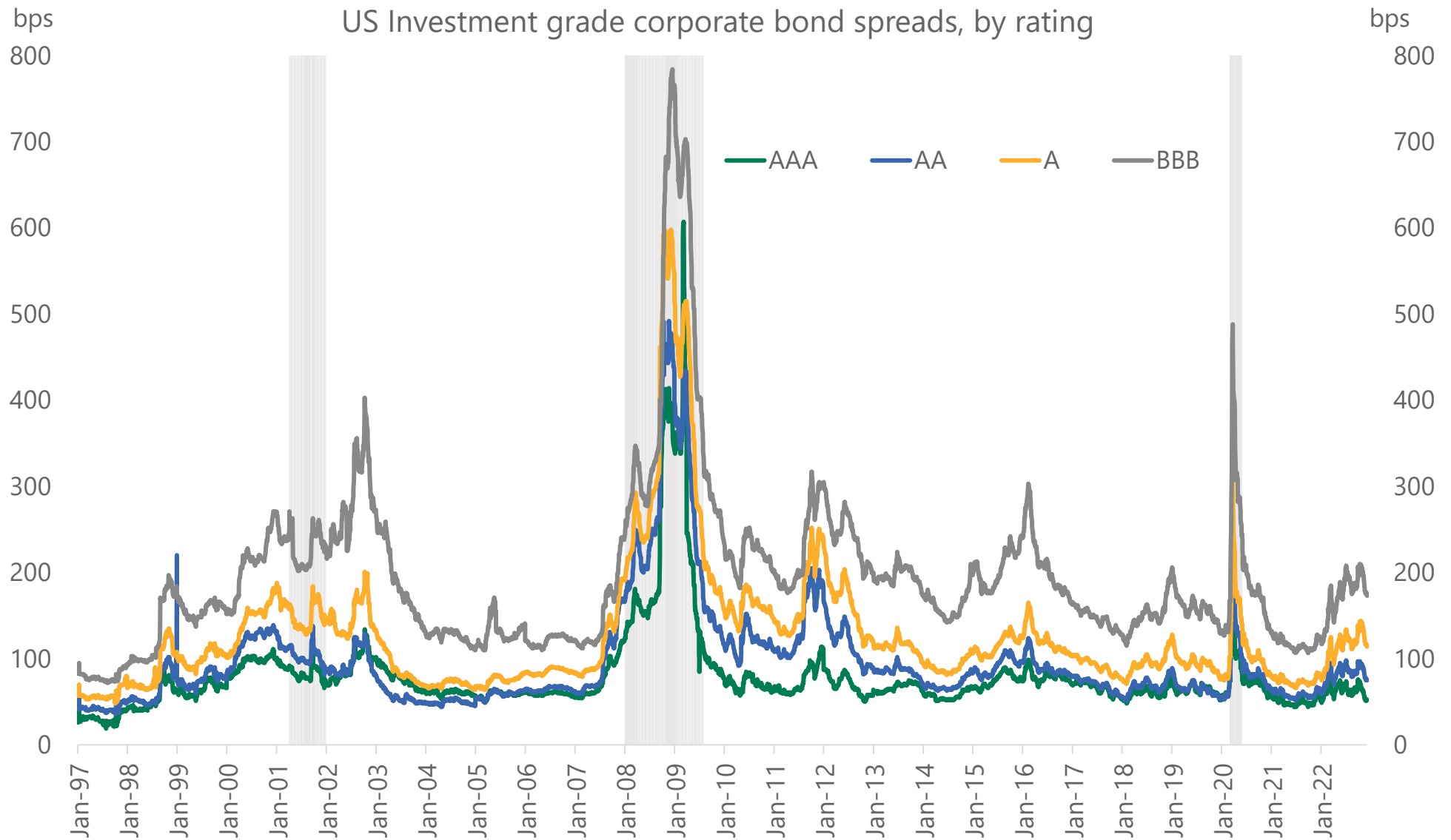
Spreads

Credit spreads near historical averages



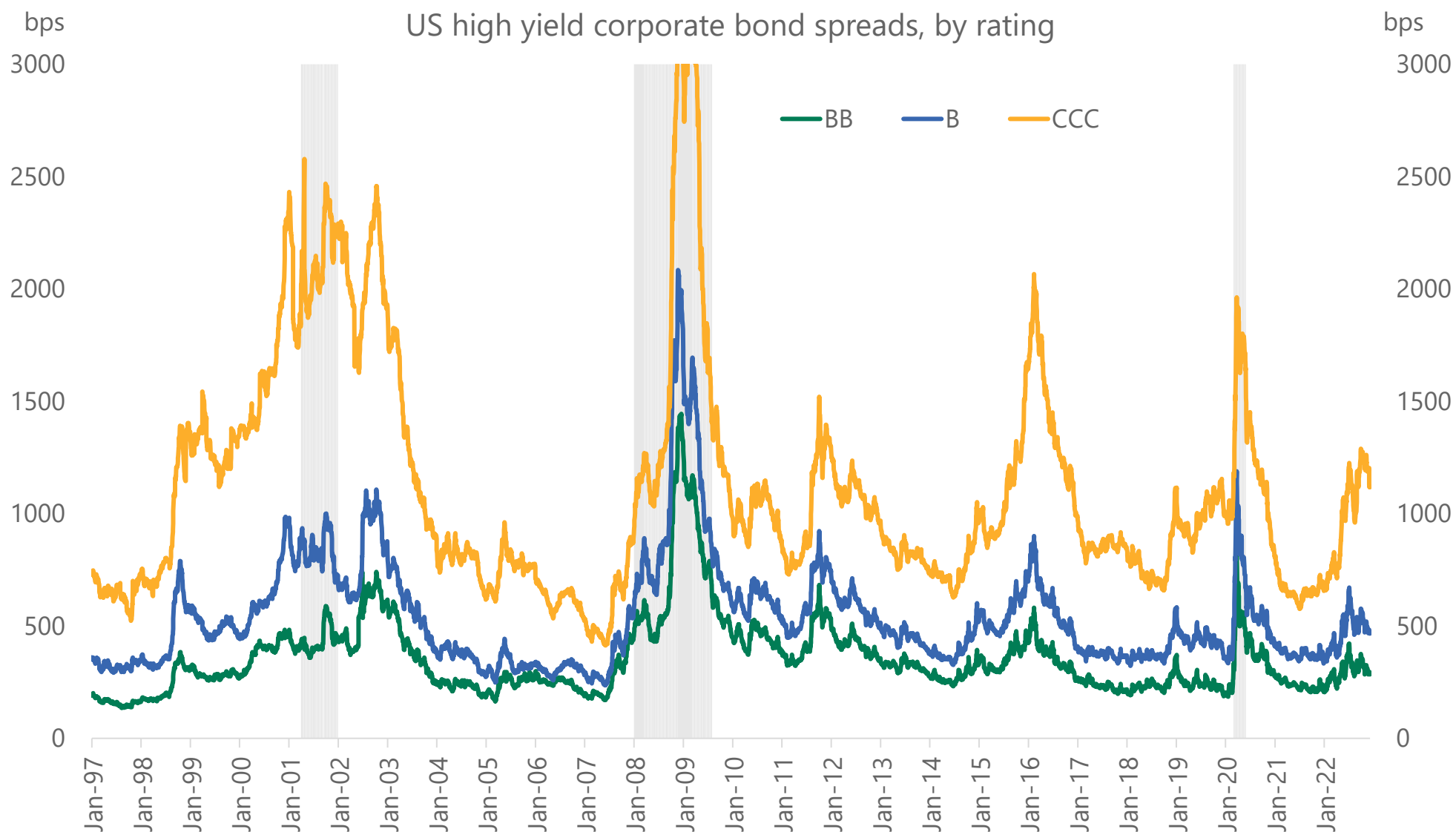
Source: ICE BofA, Bloomberg, Apollo Chief Economist

IG spreads by rating



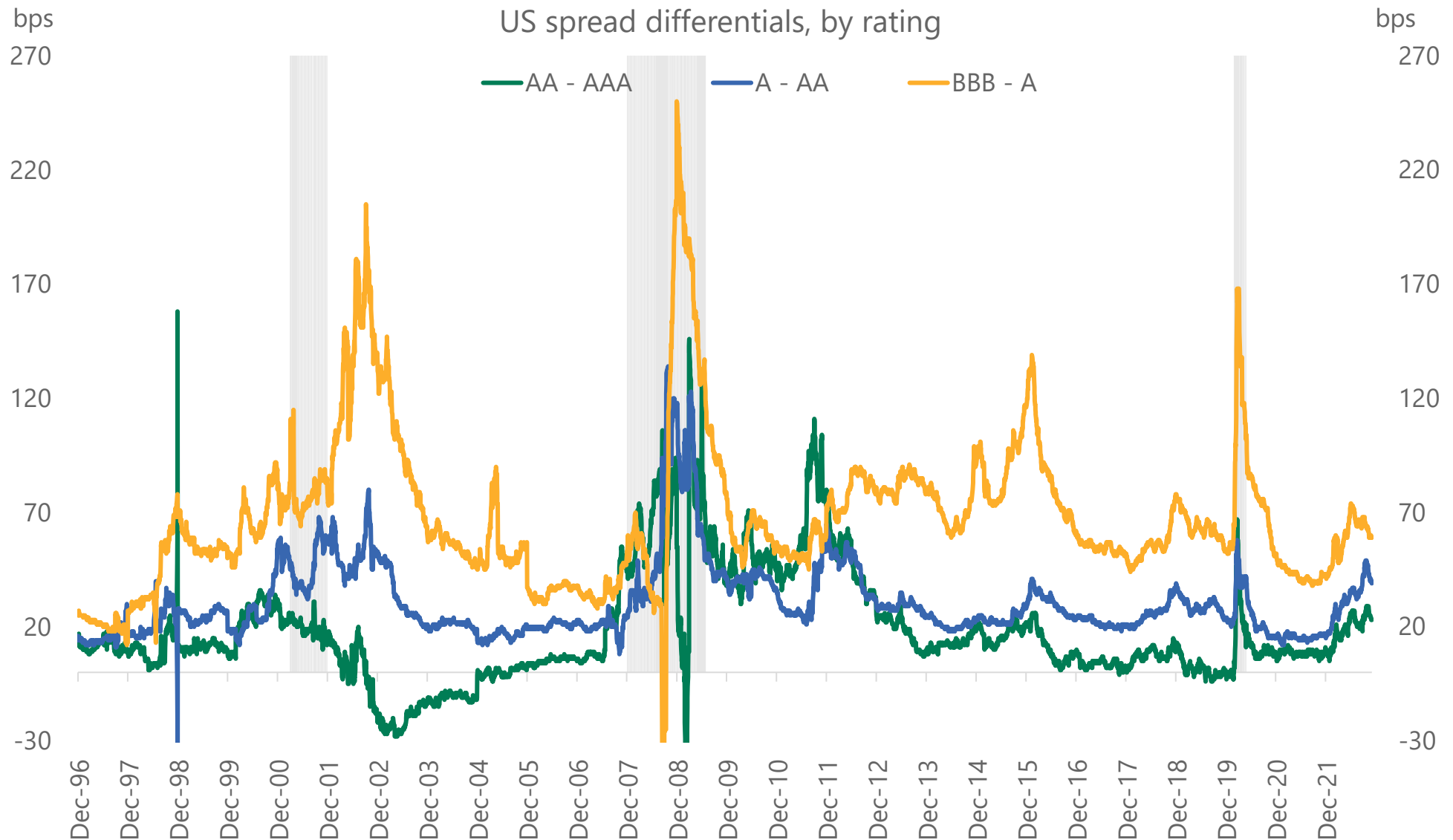
Source: ICE BofA, Bloomberg, Apollo Chief Economist

HY spreads by rating



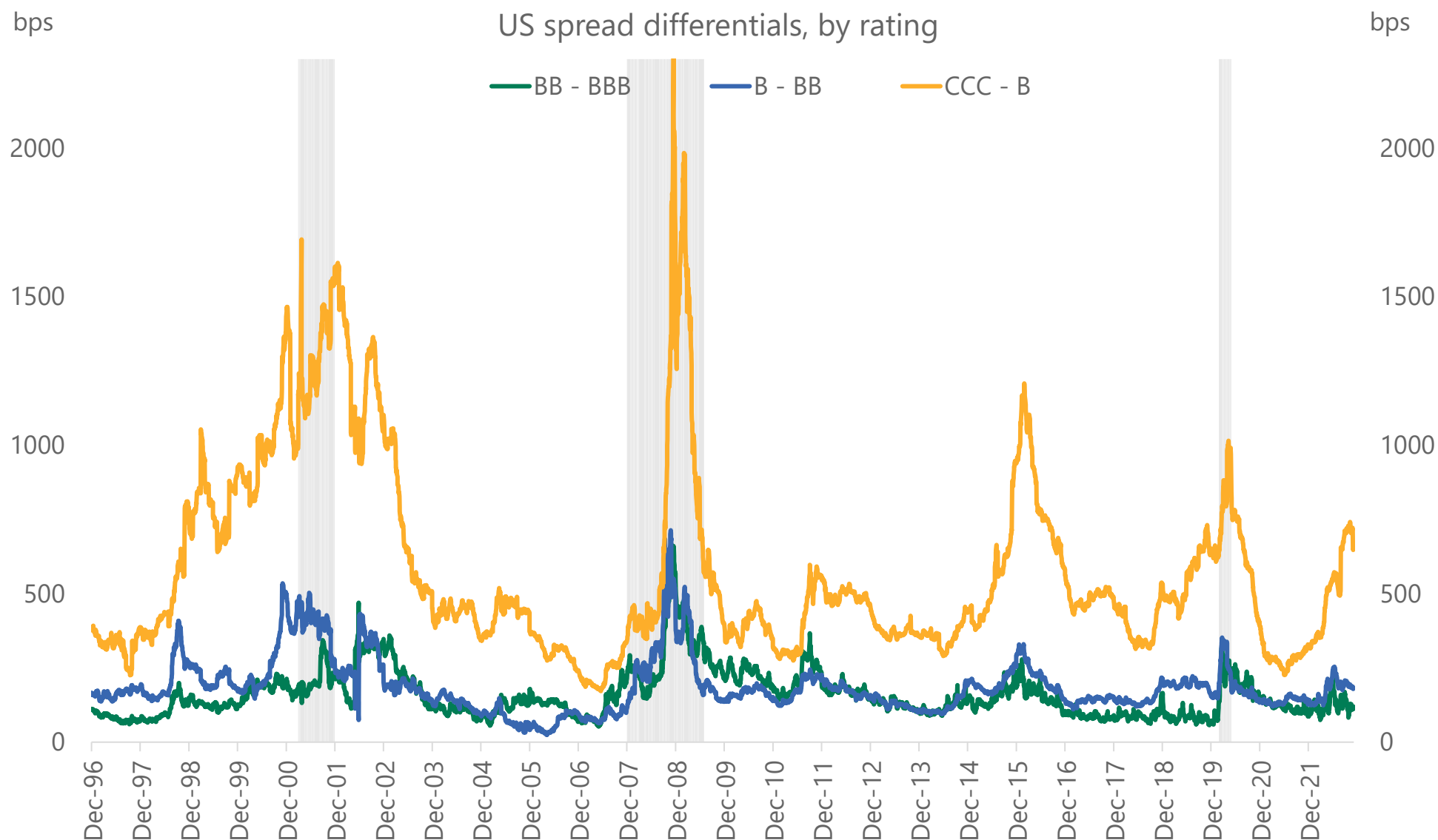
Source: ICE BofA, Bloomberg, Apollo Chief Economist

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



Source: ICE BofA, Bloomberg, Apollo Chief Economist

HY quality spreads, more differentiation between CCC and B



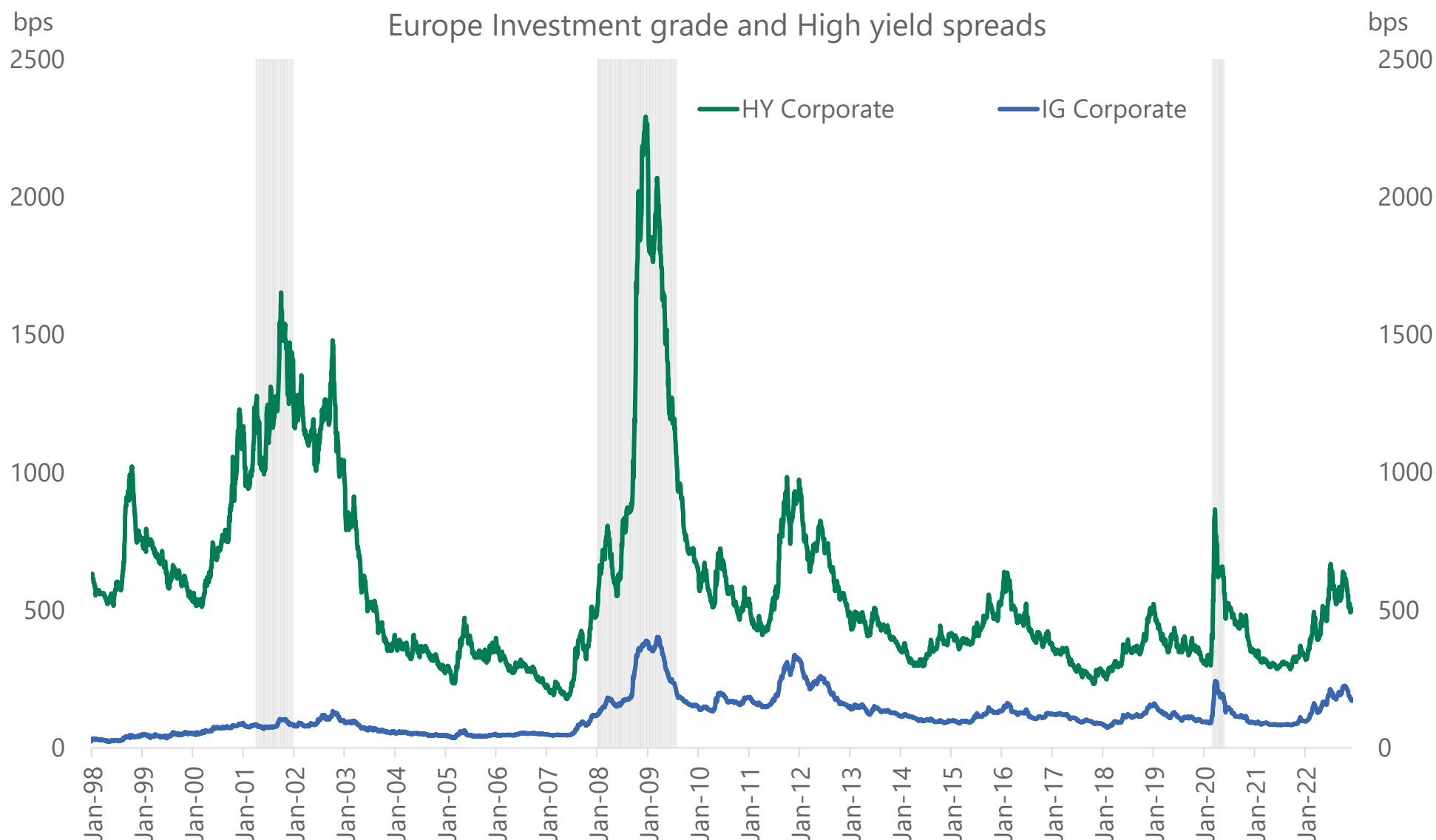
Source: ICE BofA, Bloomberg, Apollo Chief Economist

US HY spread minus IG spread



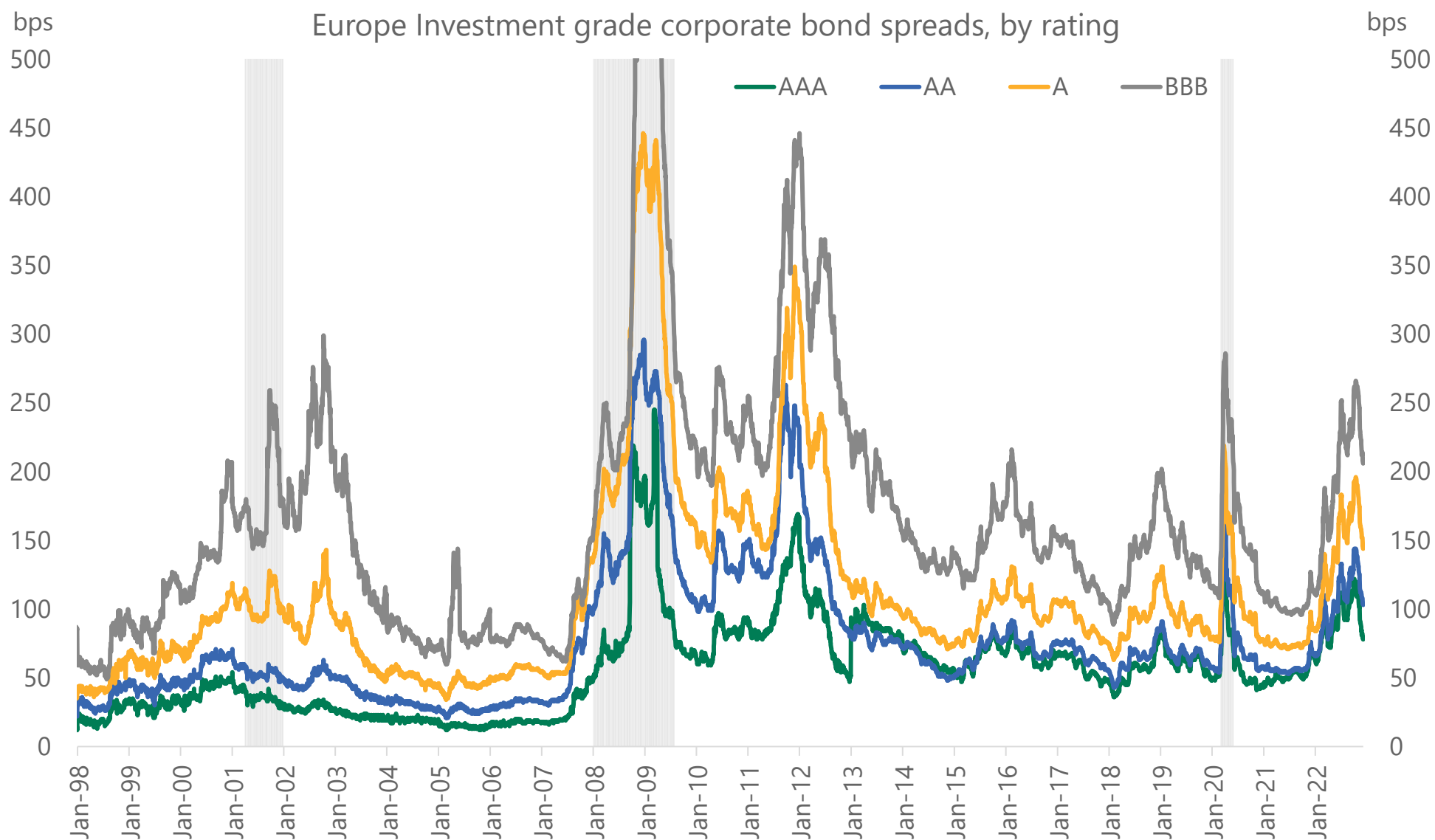
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Bloomberg Index used C0A0 Index and H0A0 Index

European IG and HY spreads



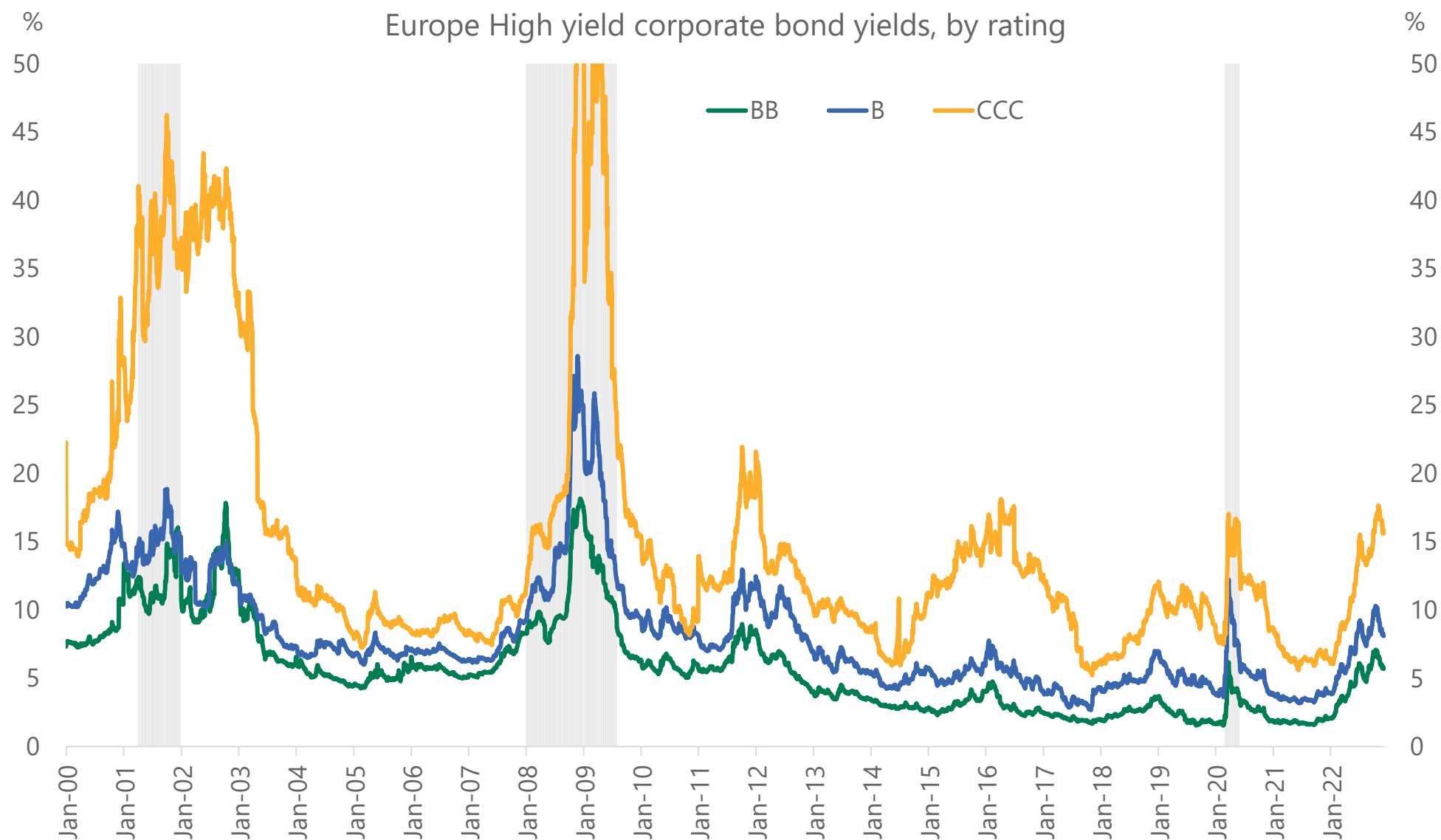
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Ticker used HE00 Index and ER00 Index.

European IG spreads by rating



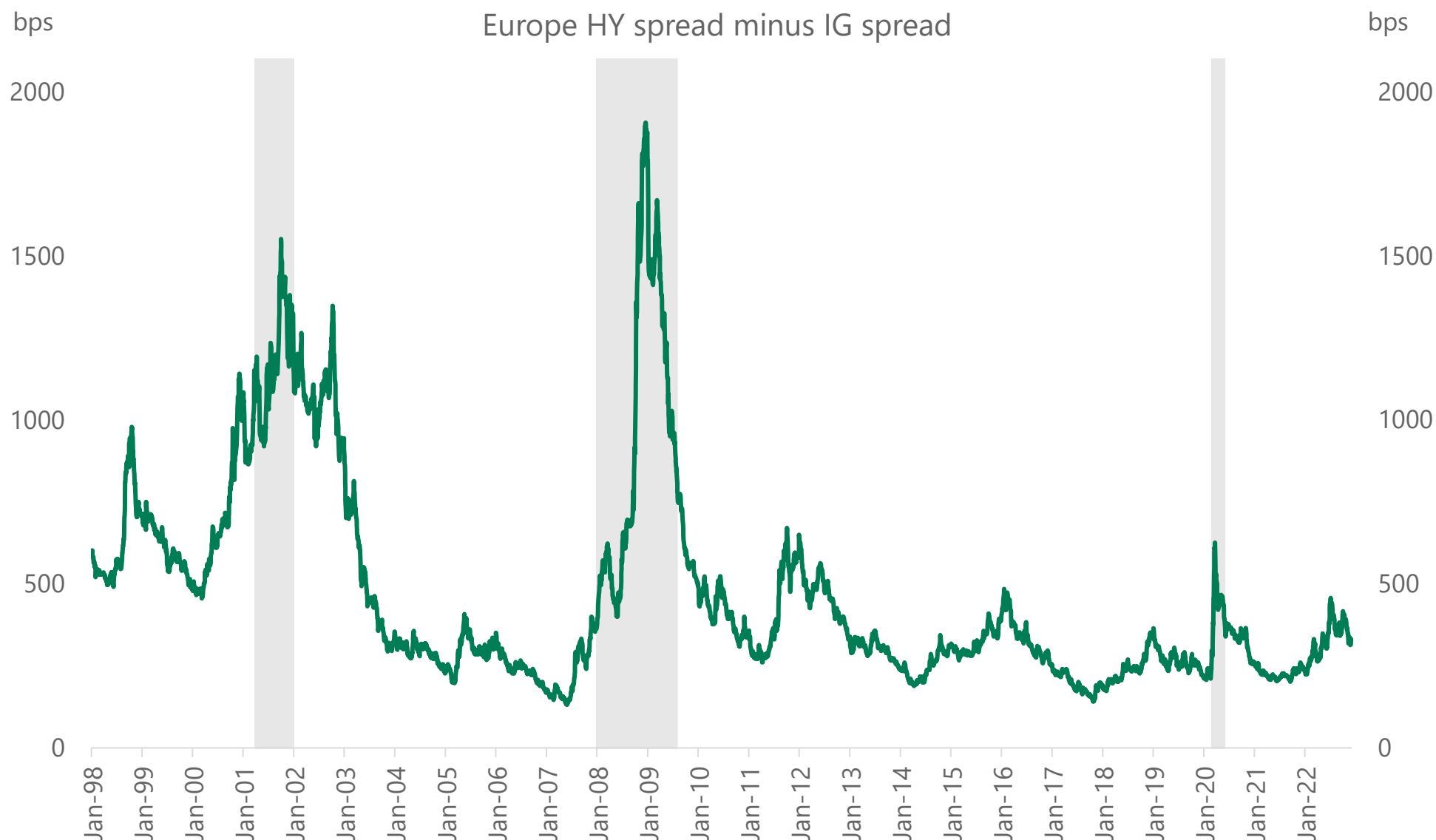
Source: ICE BofA, Bloomberg, Apollo Chief Economist.

European HY spreads by rating



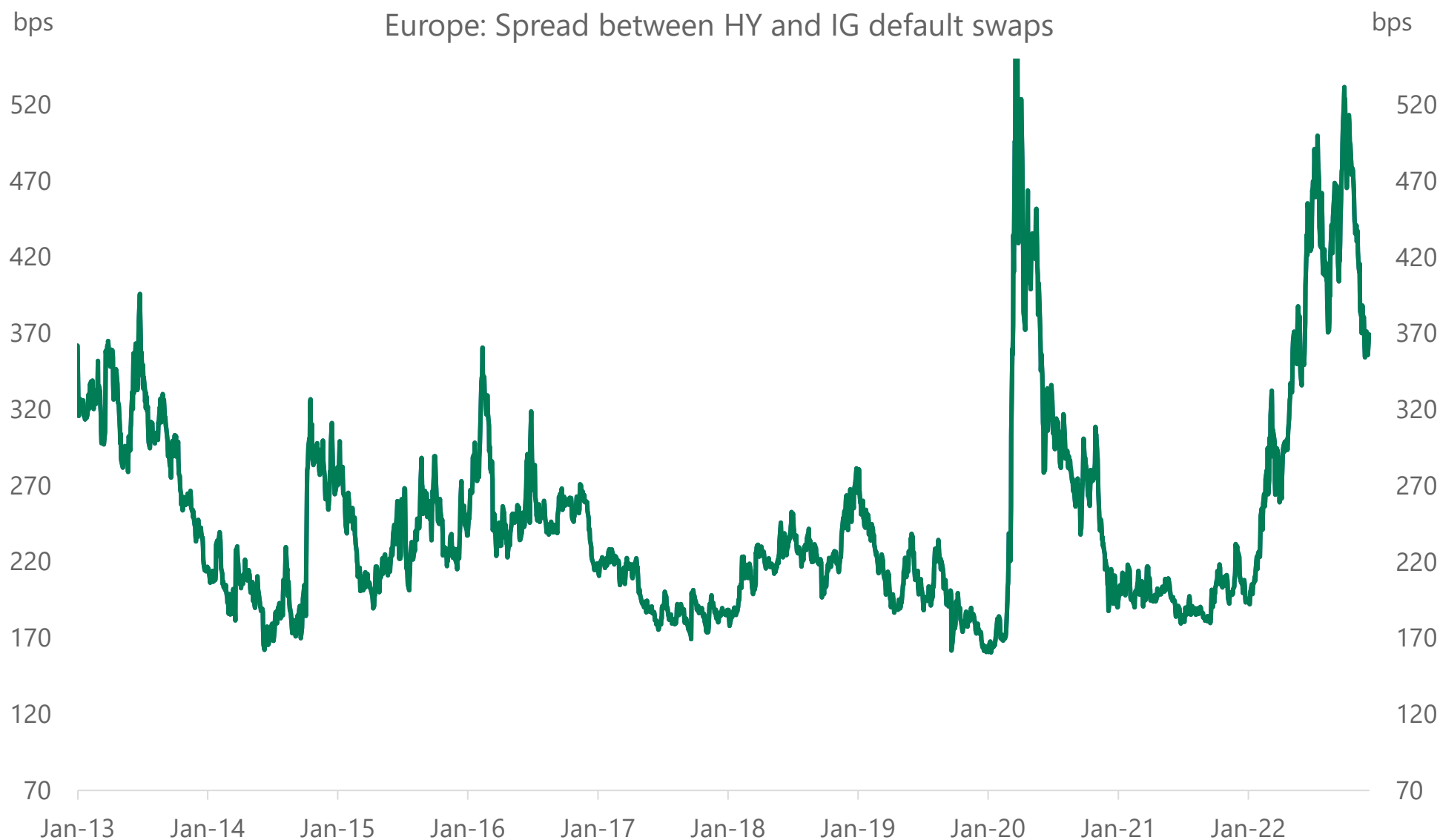
Source: ICE BofA, Bloomberg, Apollo Chief Economist.

European HY spread minus IG spread



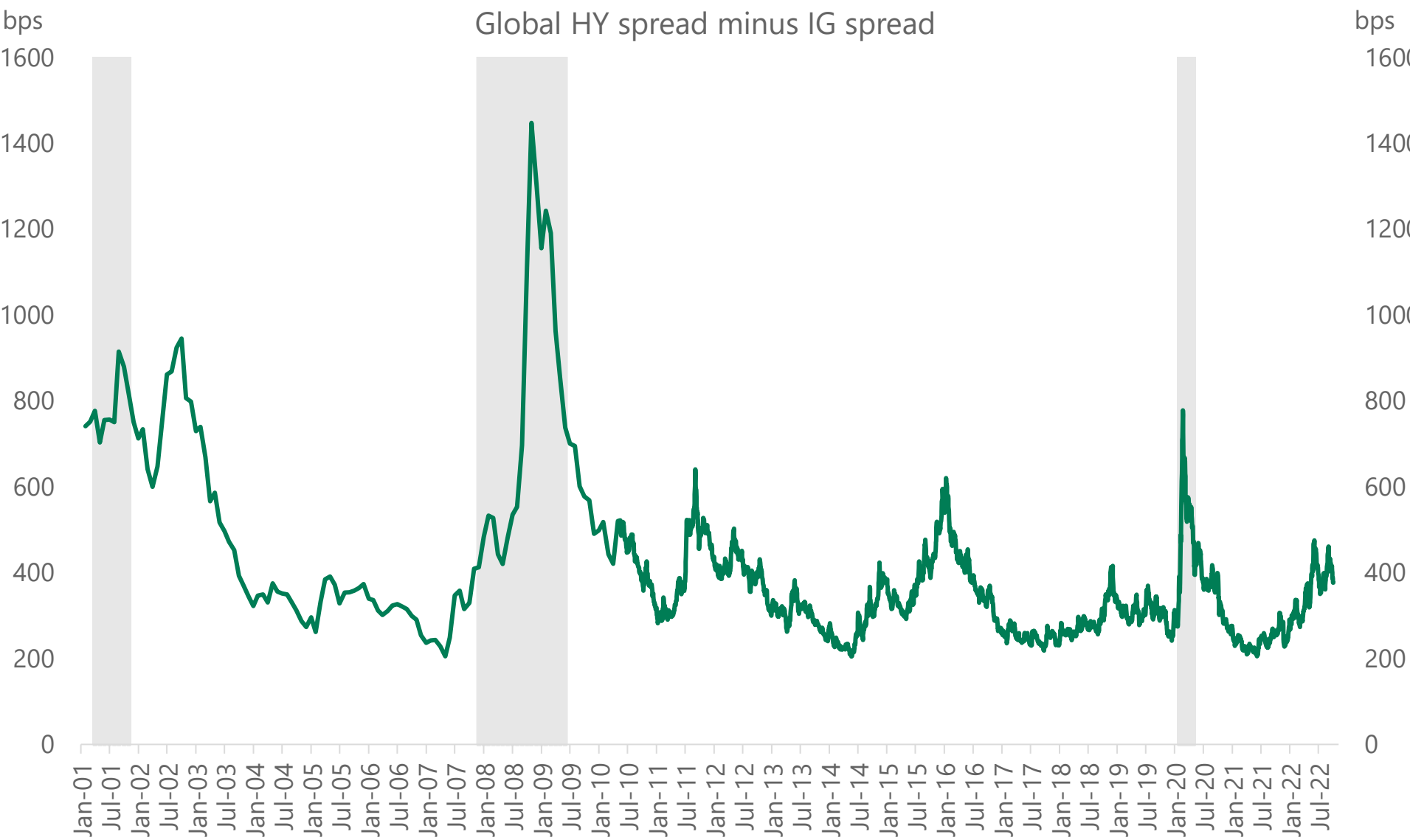
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Ticker used HE00 Index and ER00 Index.

Spread between Europe HY and IG default swaps



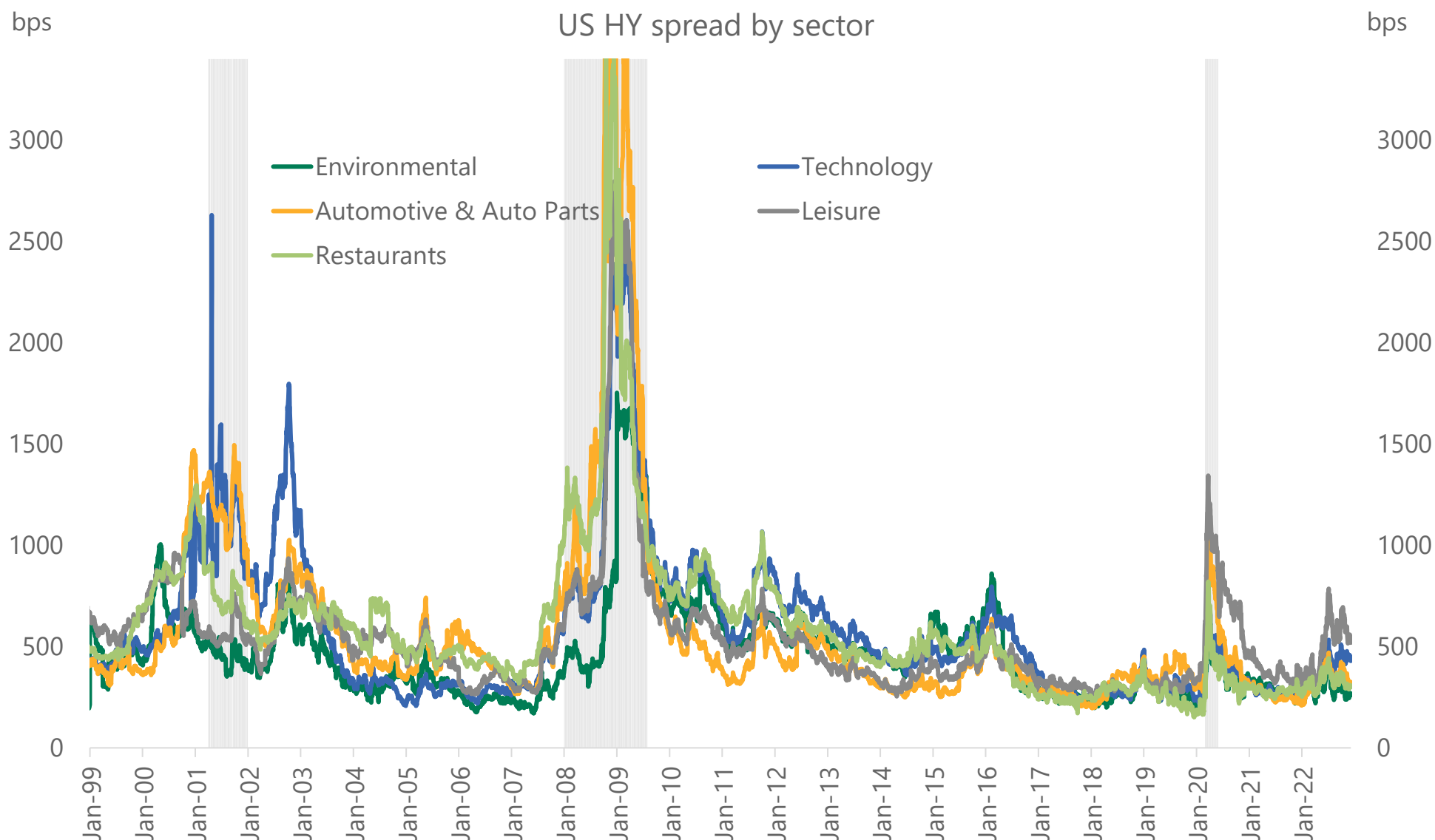
Source: Bloomberg, Apollo Chief Economist. Note: Tickers used ITRXEXE CBBT Curncy and ITRXEBE CBBT Curncy

Global HY spread minus IG spread



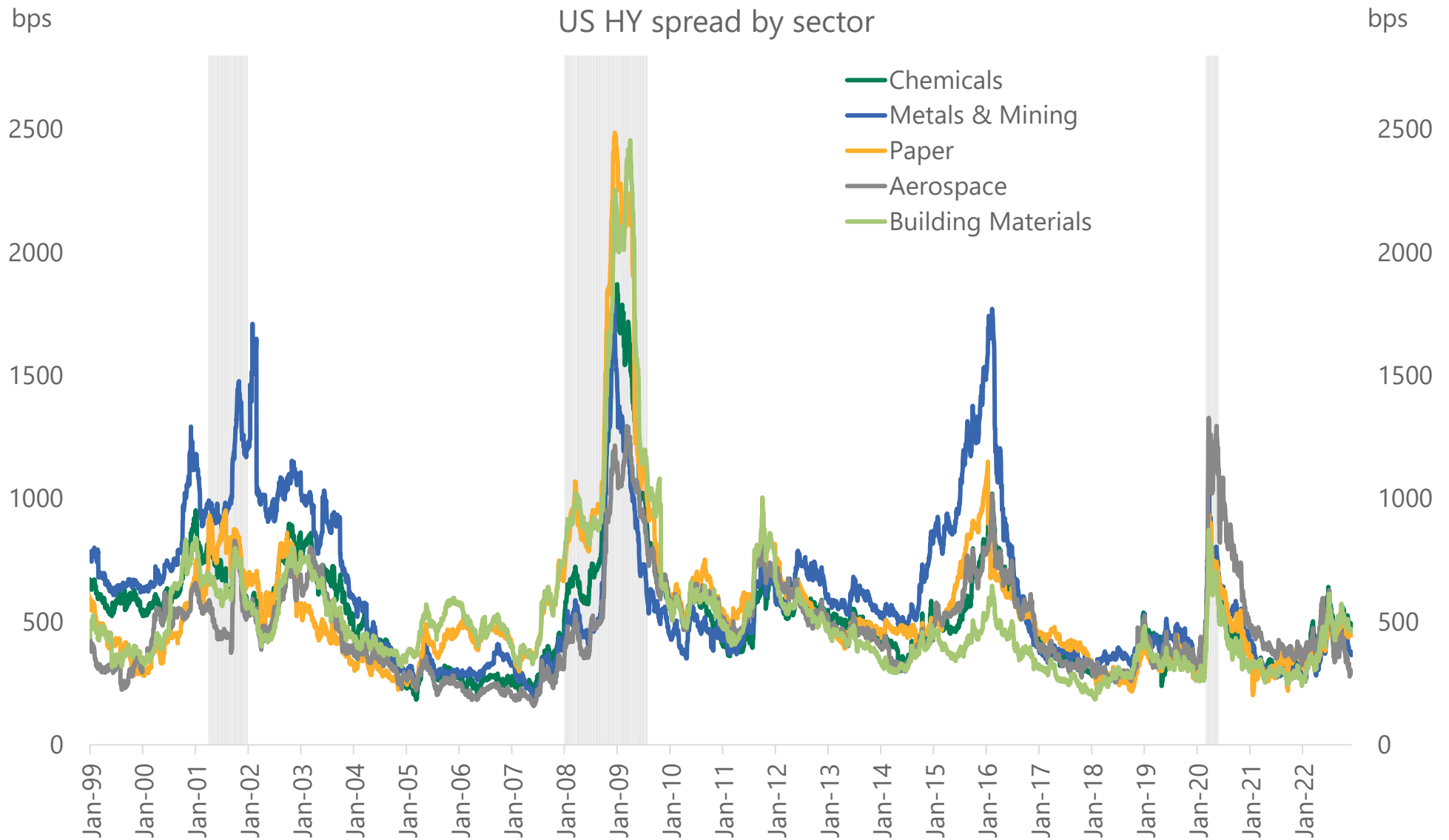
Source: Bloomberg, Apollo Chief Economist. Note: Bloomberg Index used BGLCTRUU index and LG50TRUU Index

HY spreads by sector



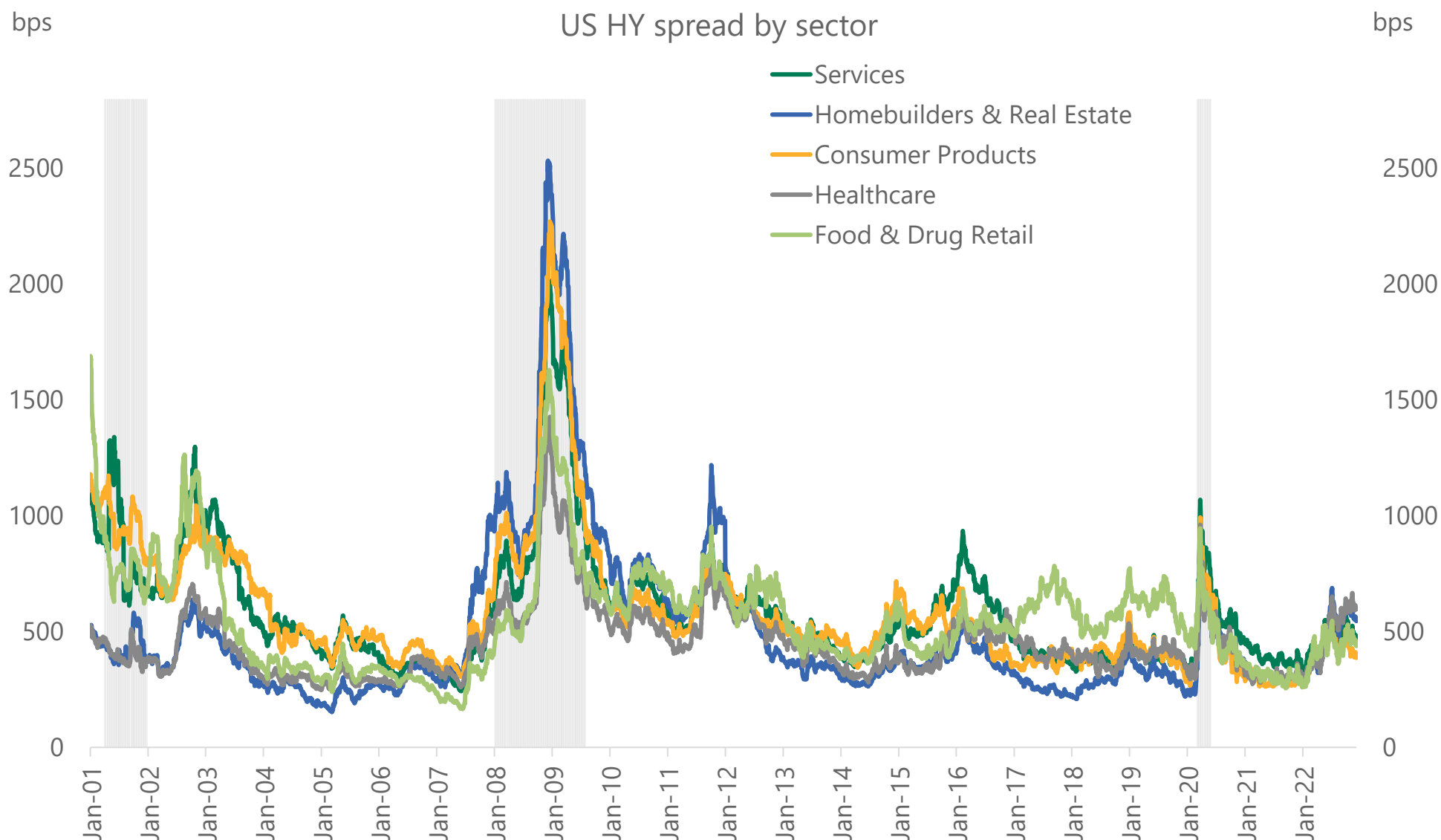
Source: ICE BofA, Bloomberg, Apollo Chief Economist

HY spreads by sector



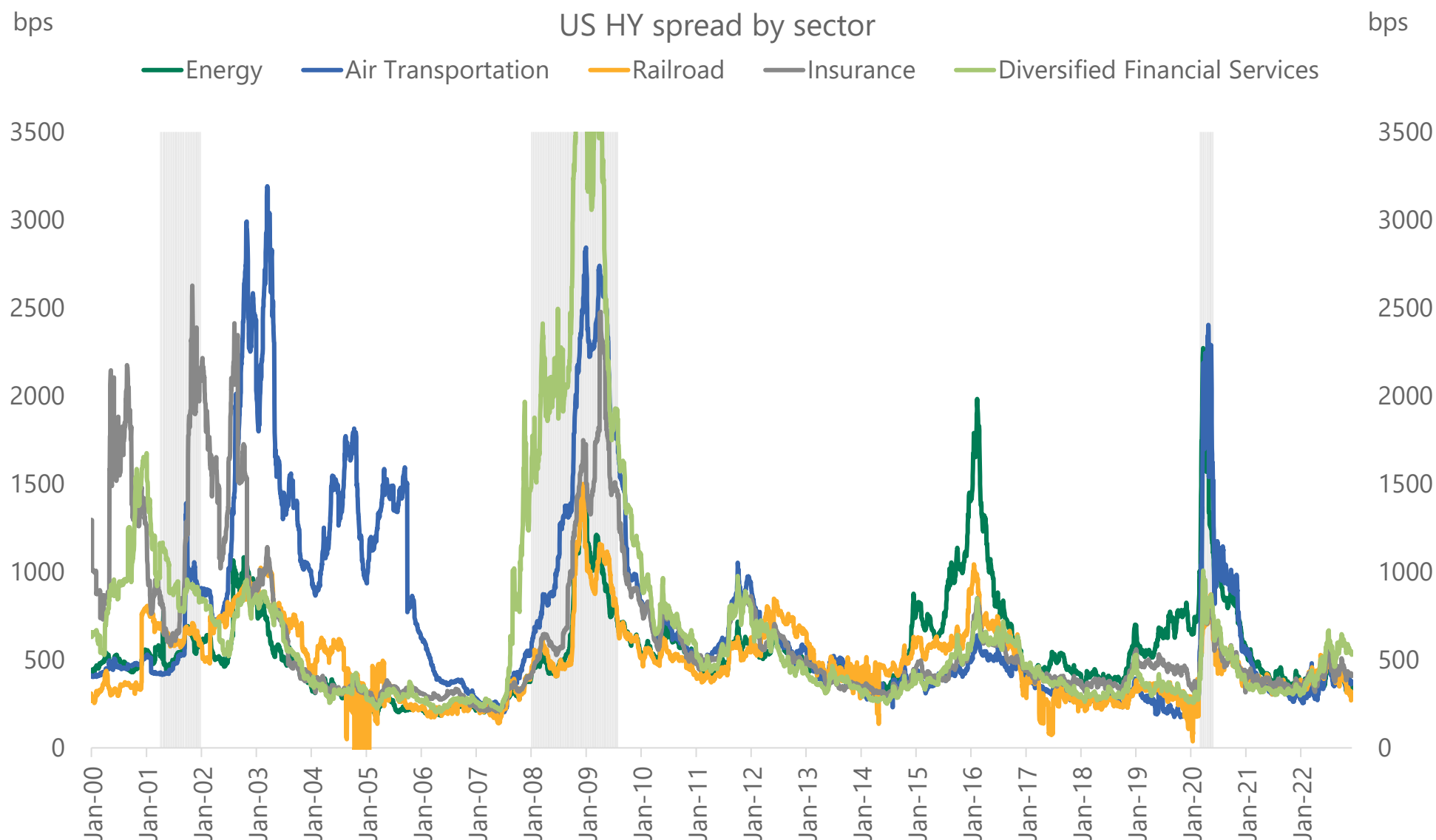
Source: ICE BofA, Bloomberg, Apollo Chief Economist

HY spreads by sector



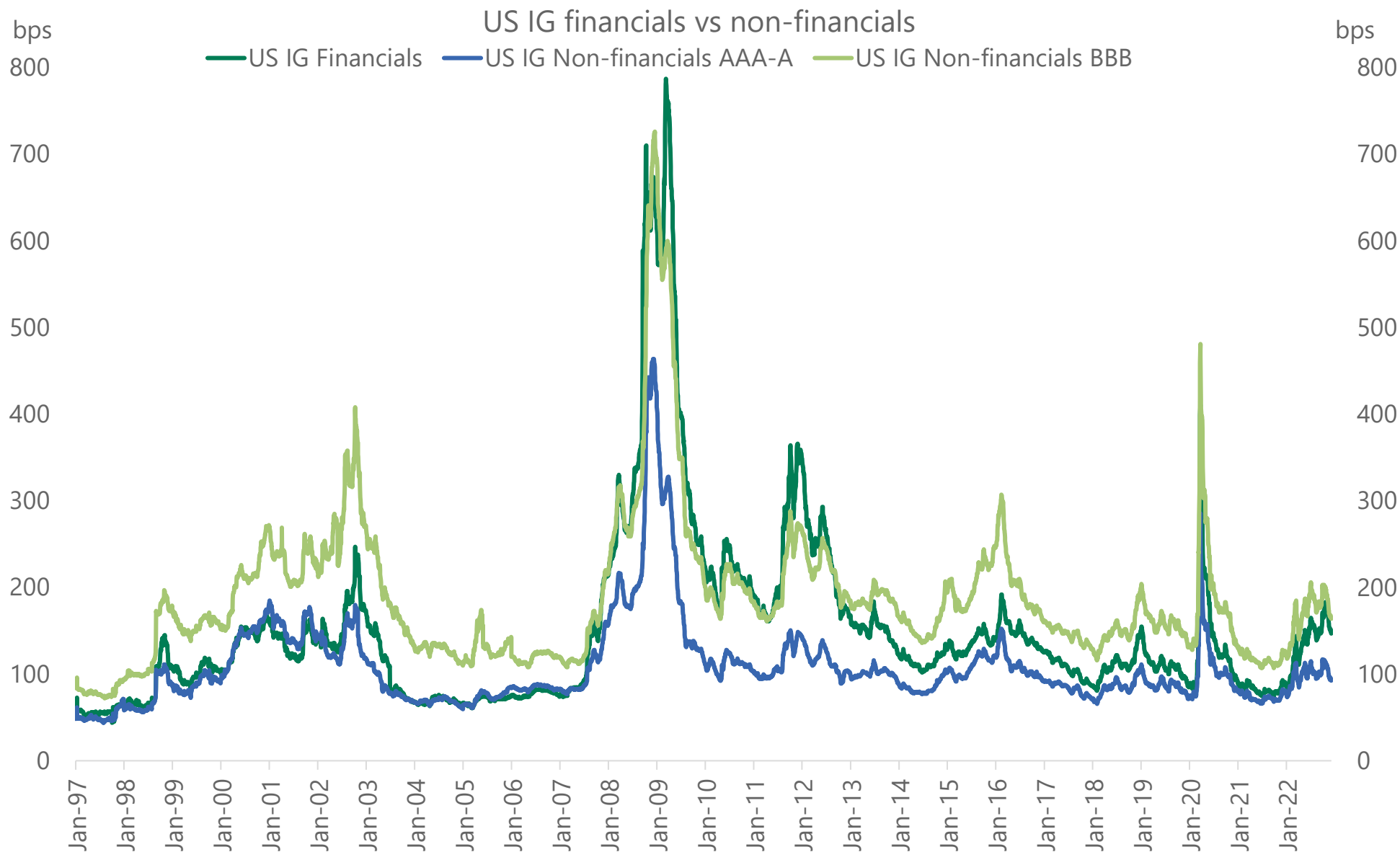
Source: ICE BofA, Bloomberg, Apollo Chief Economist

HY spreads by sector



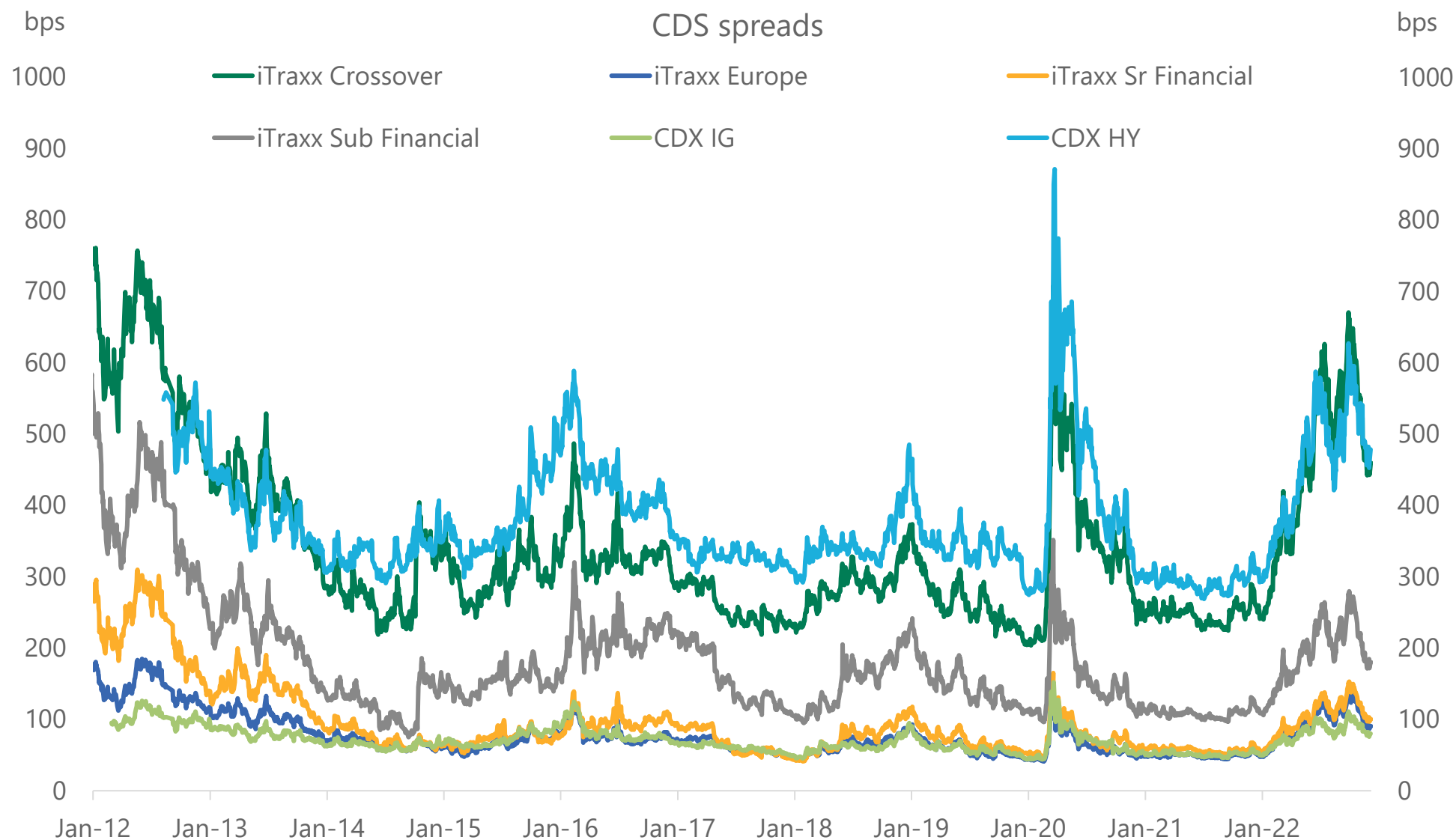
Source: ICE BofA, Bloomberg, Apollo Chief Economist

IG spreads for financials and non-financials



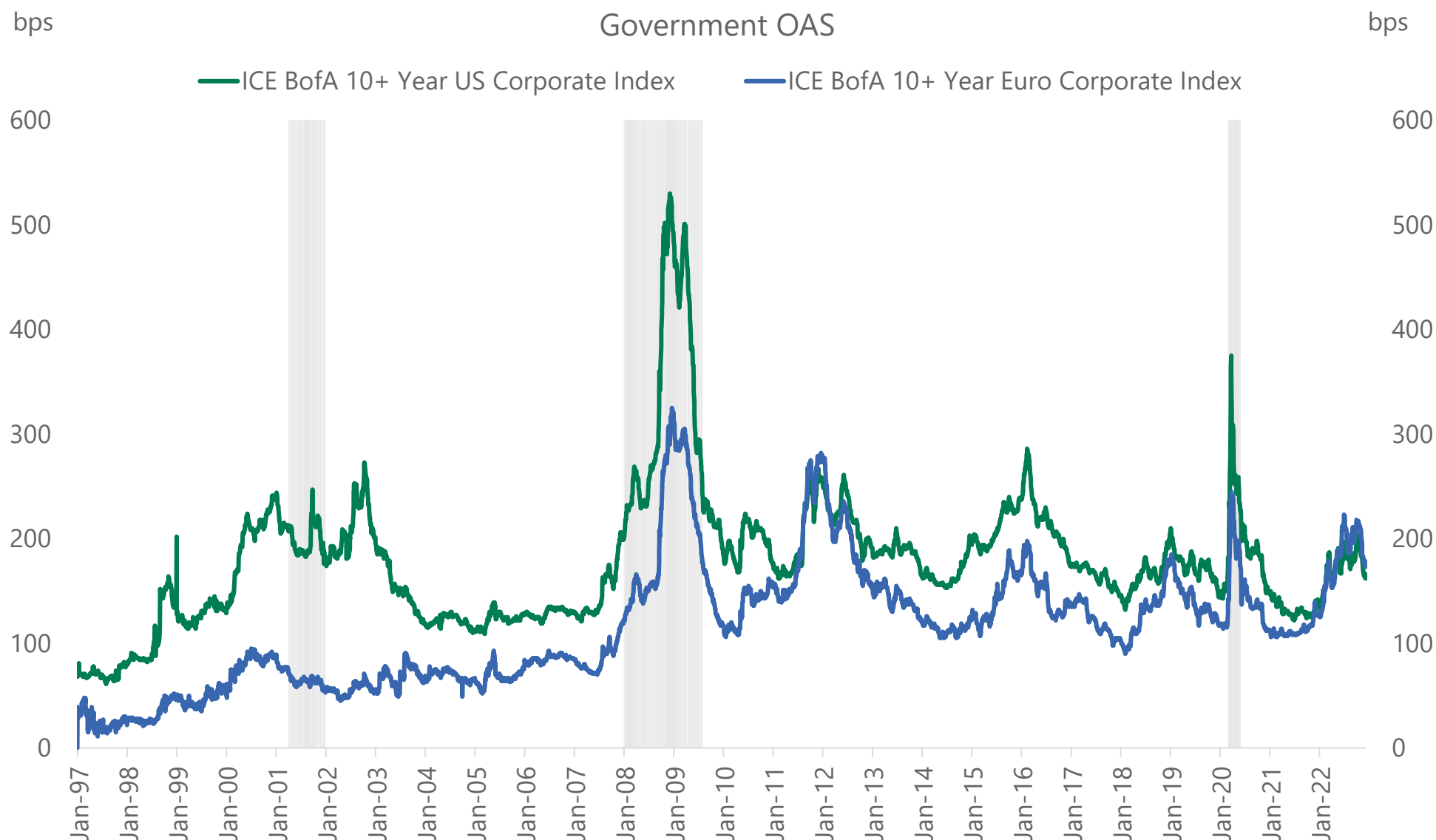
Source: ICE BofA, Bloomberg, Apollo Chief Economist

CDS spreads



Source: Markit, Bloomberg, Apollo Chief Economist

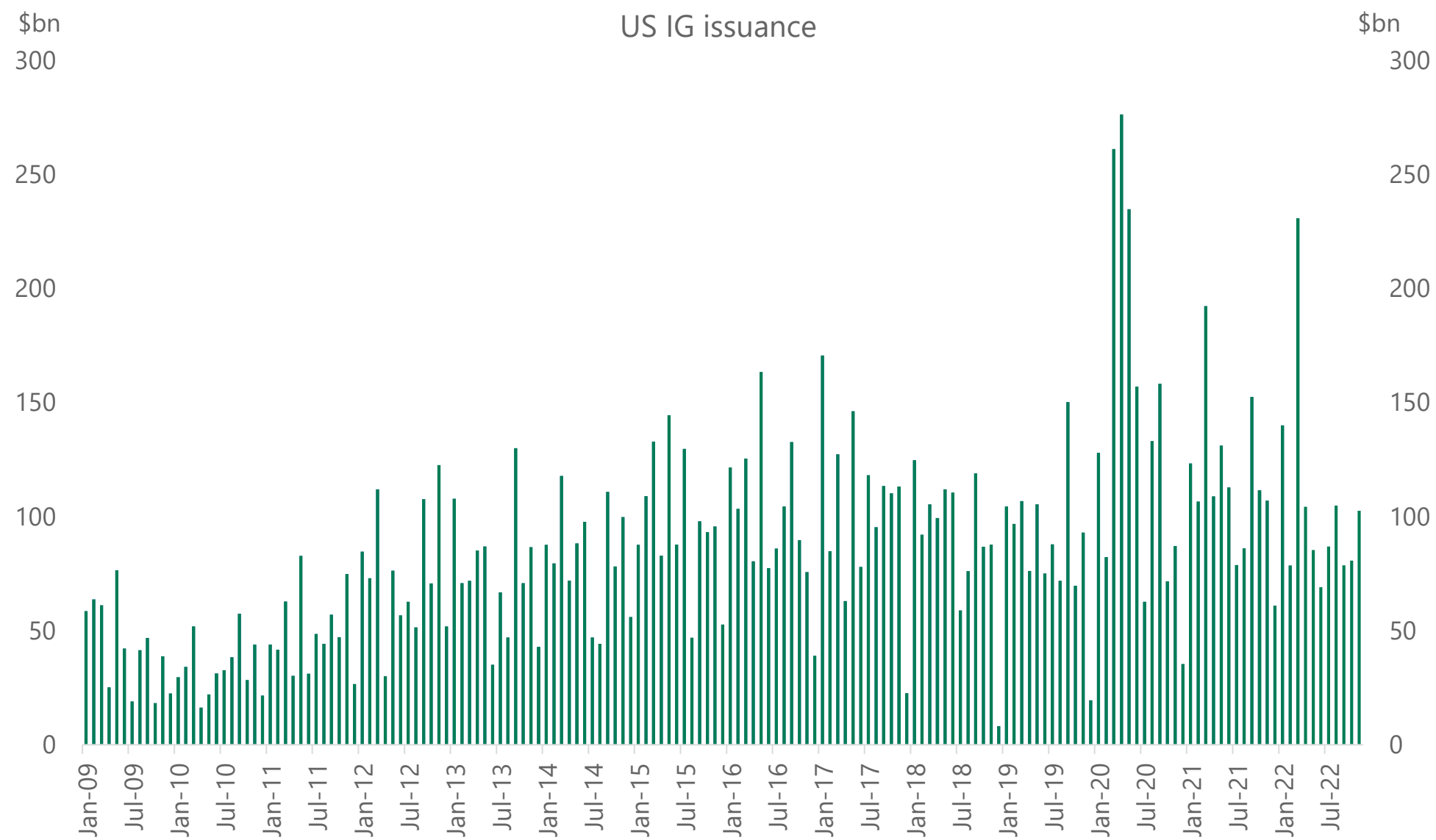
Long-duration IG spreads in US and Europe



Source: ICE BofA, Bloomberg, Apollo Chief Economist

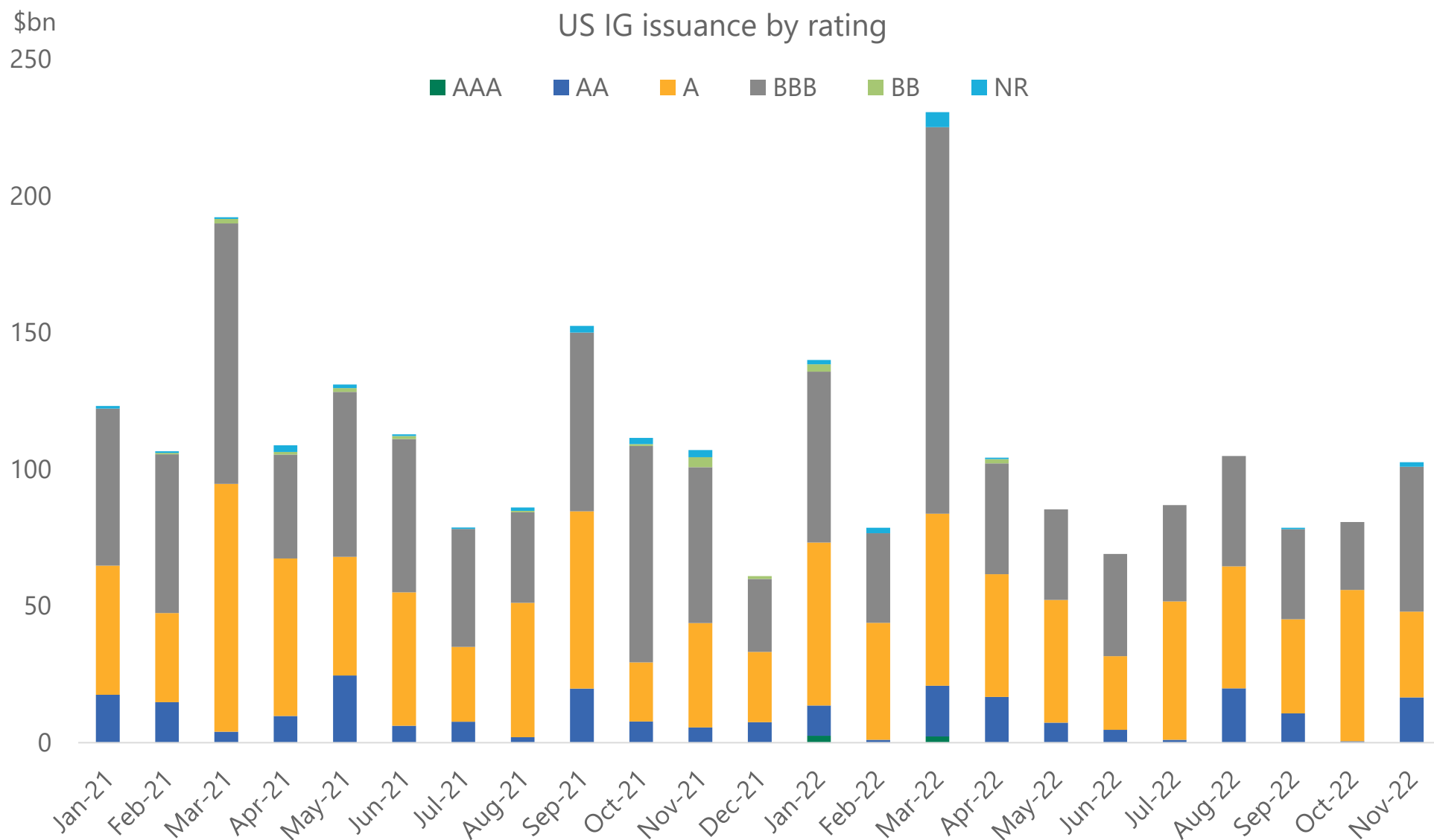
New issuance

US IG issuance



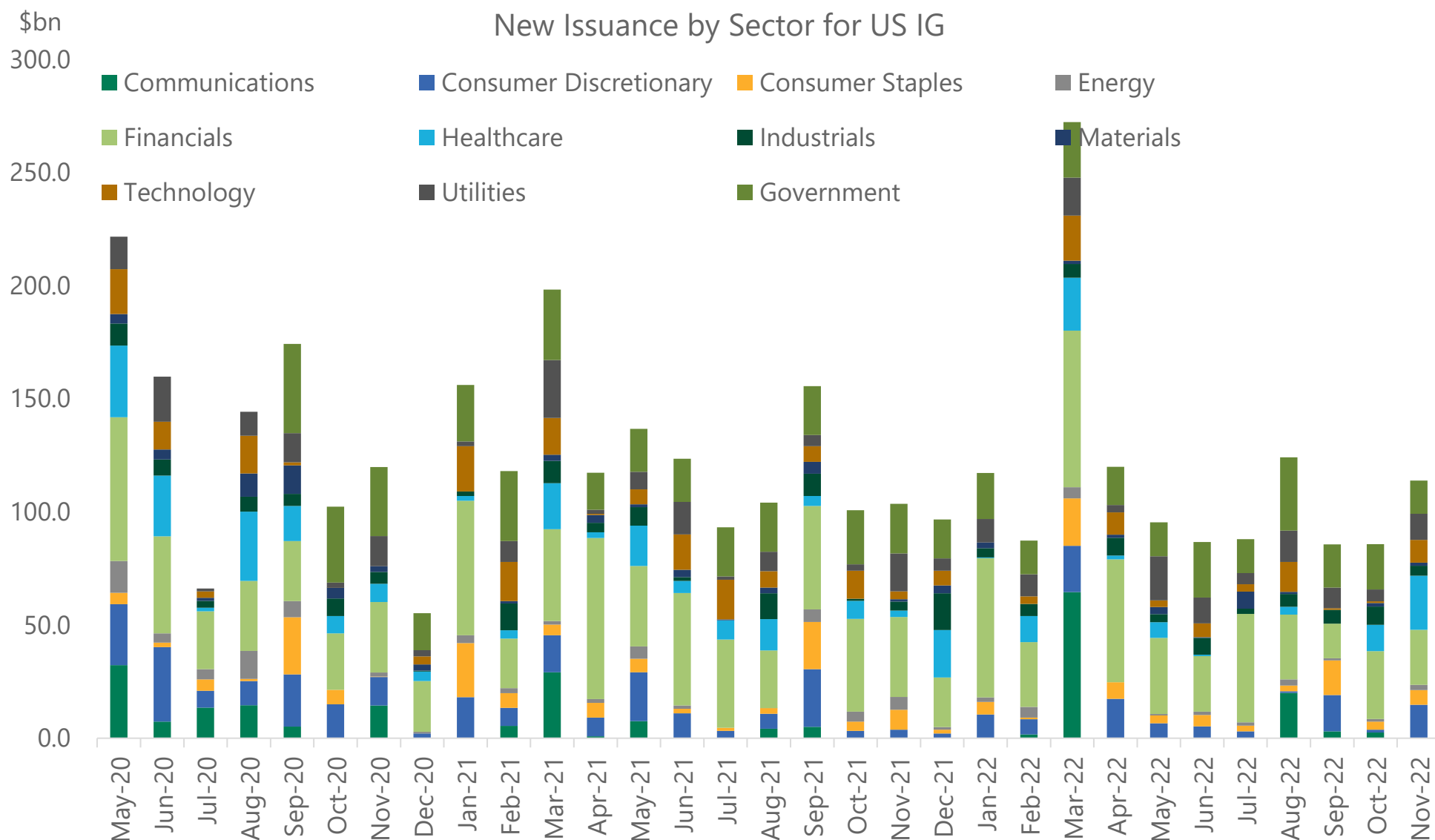
Source: S&P LCD, Apollo Chief Economist

IG issuance by rating



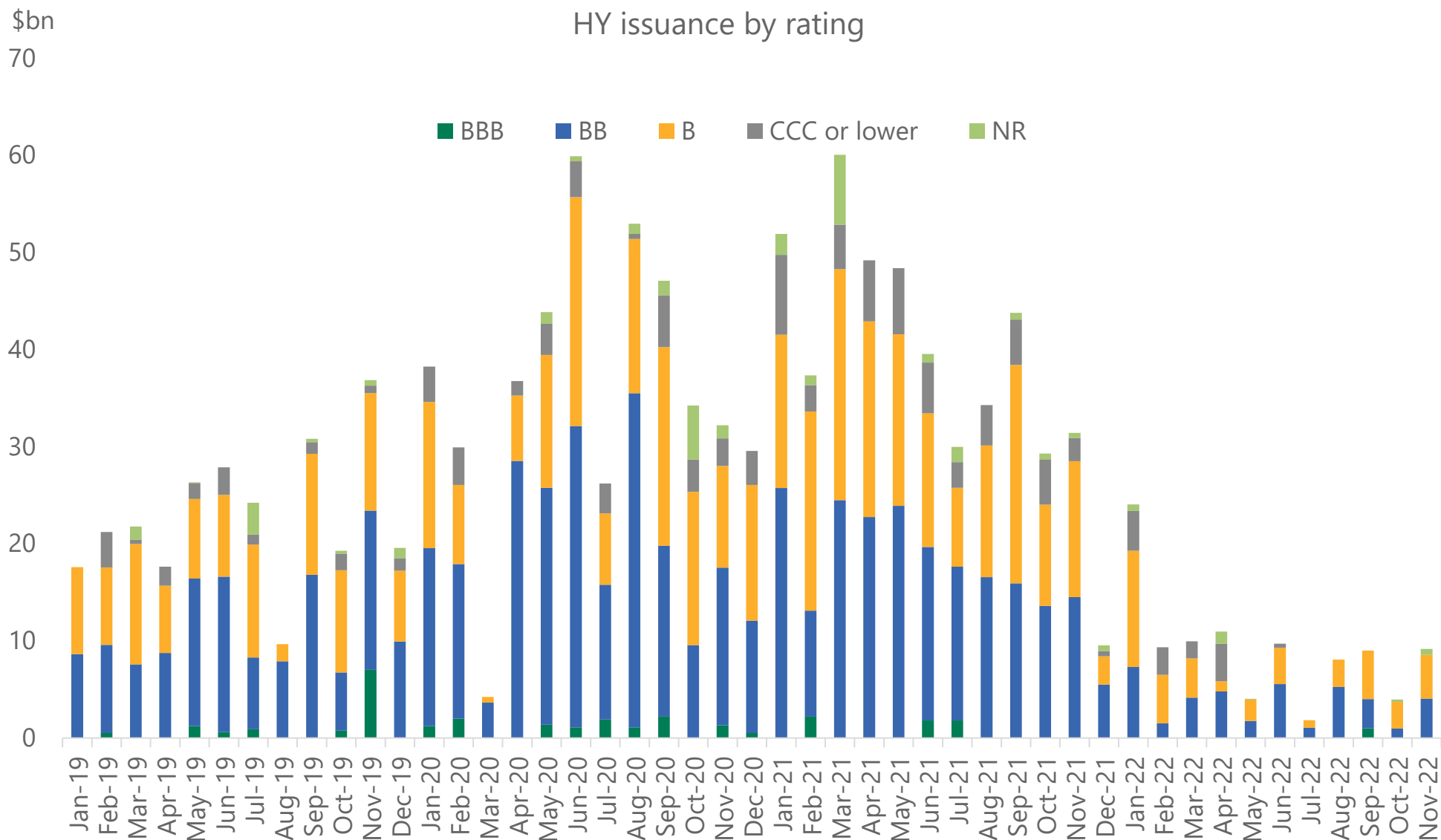
Source: S&P LCD, Apollo Chief Economist.

Sector distribution of new IG issuance



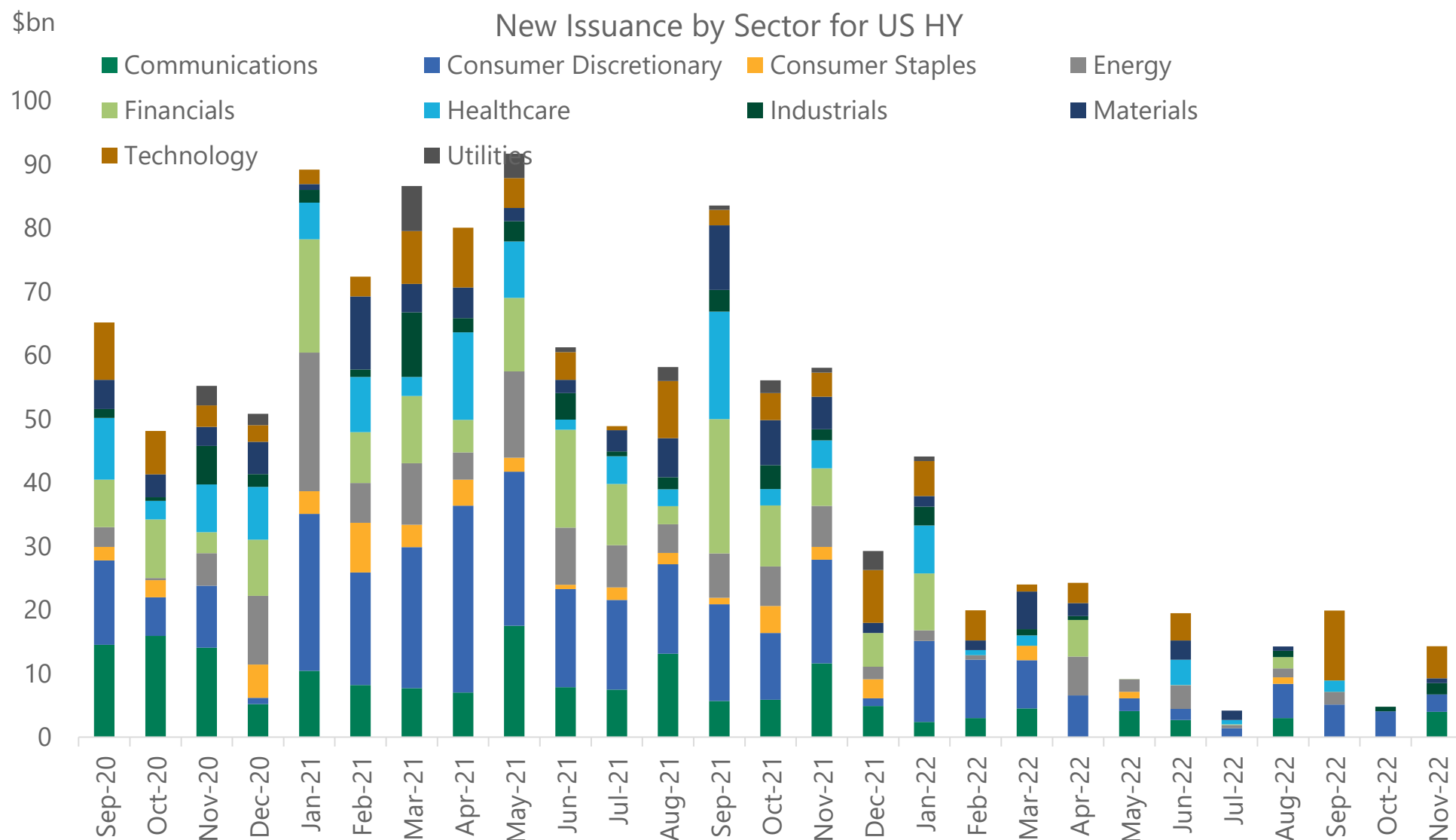
Source: Bloomberg, Apollo Chief Economist. Note: Issuance includes bonds, loans, leveraged loans, and preferred.

HY issuance by rating



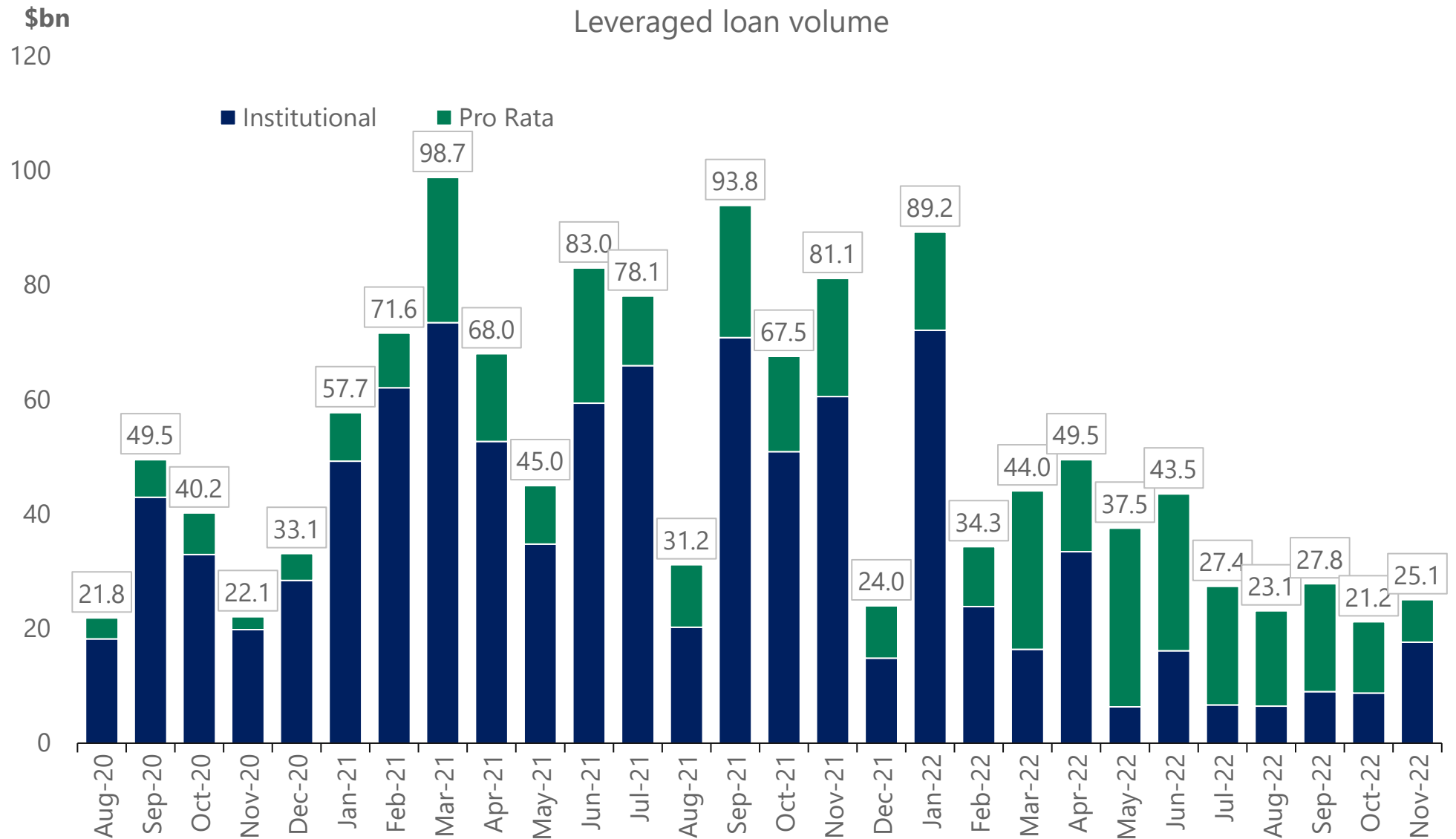
Source: S&P LCD, Apollo Chief Economist. Note: Data as of 30th April 2022

Sector distribution of new HY issuance



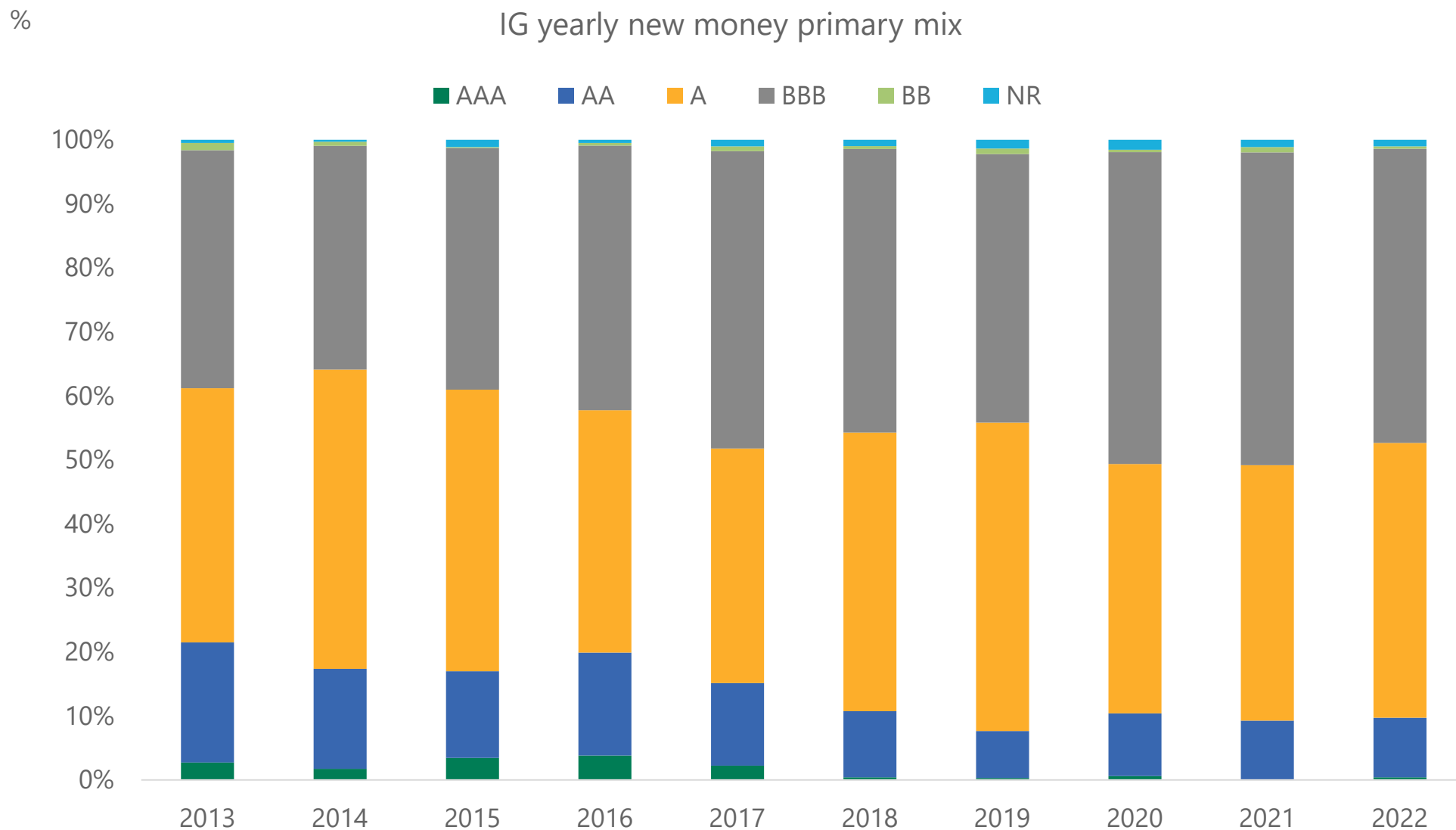
Source: Bloomberg, apollo Chief Economist. Note: Issuance includes bonds, loans, leveraged loans and preferred.

Leveraged loan volume



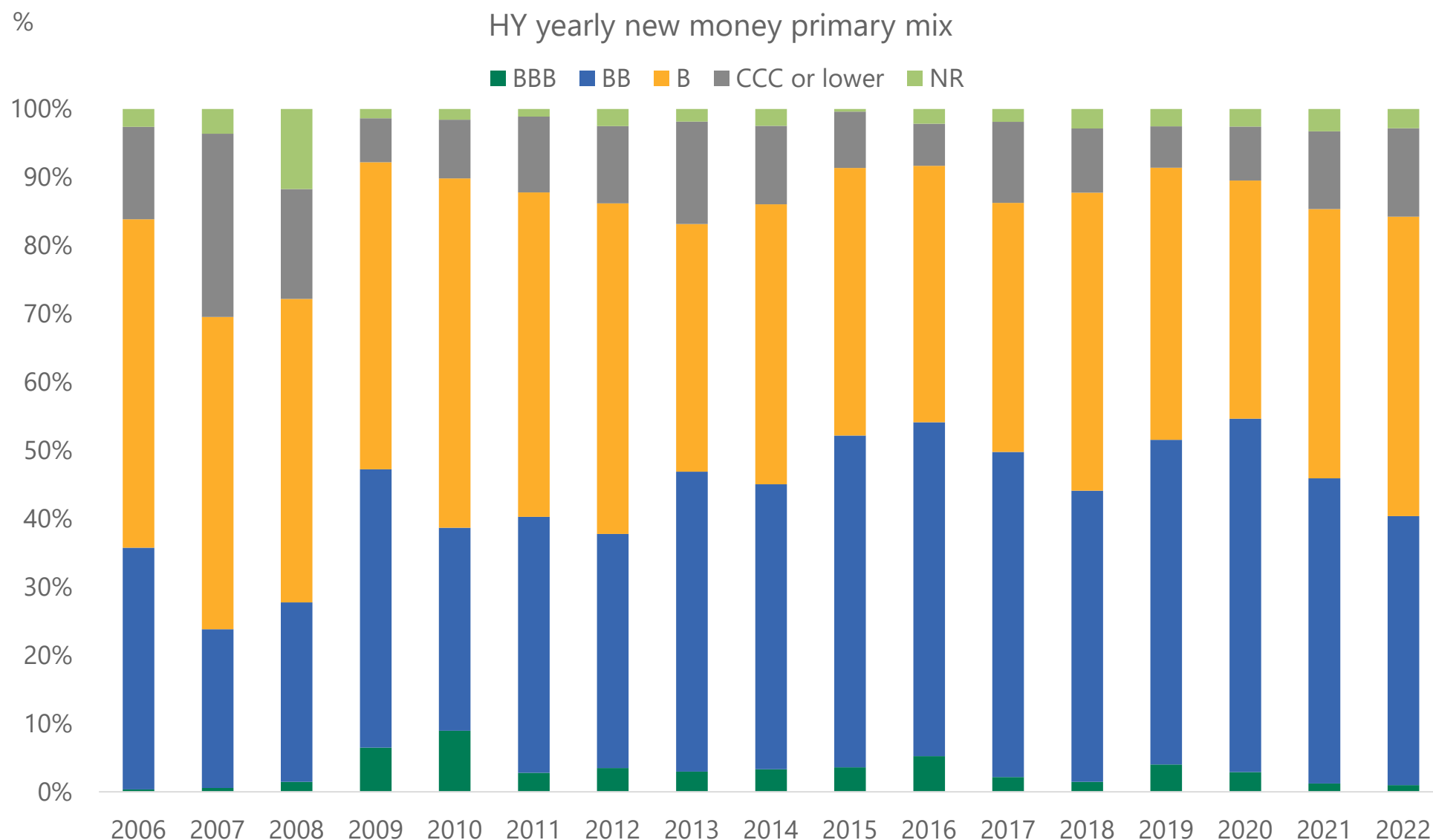
Source: S&P LCD, Apollo Chief Economist.

IG new money primary mix



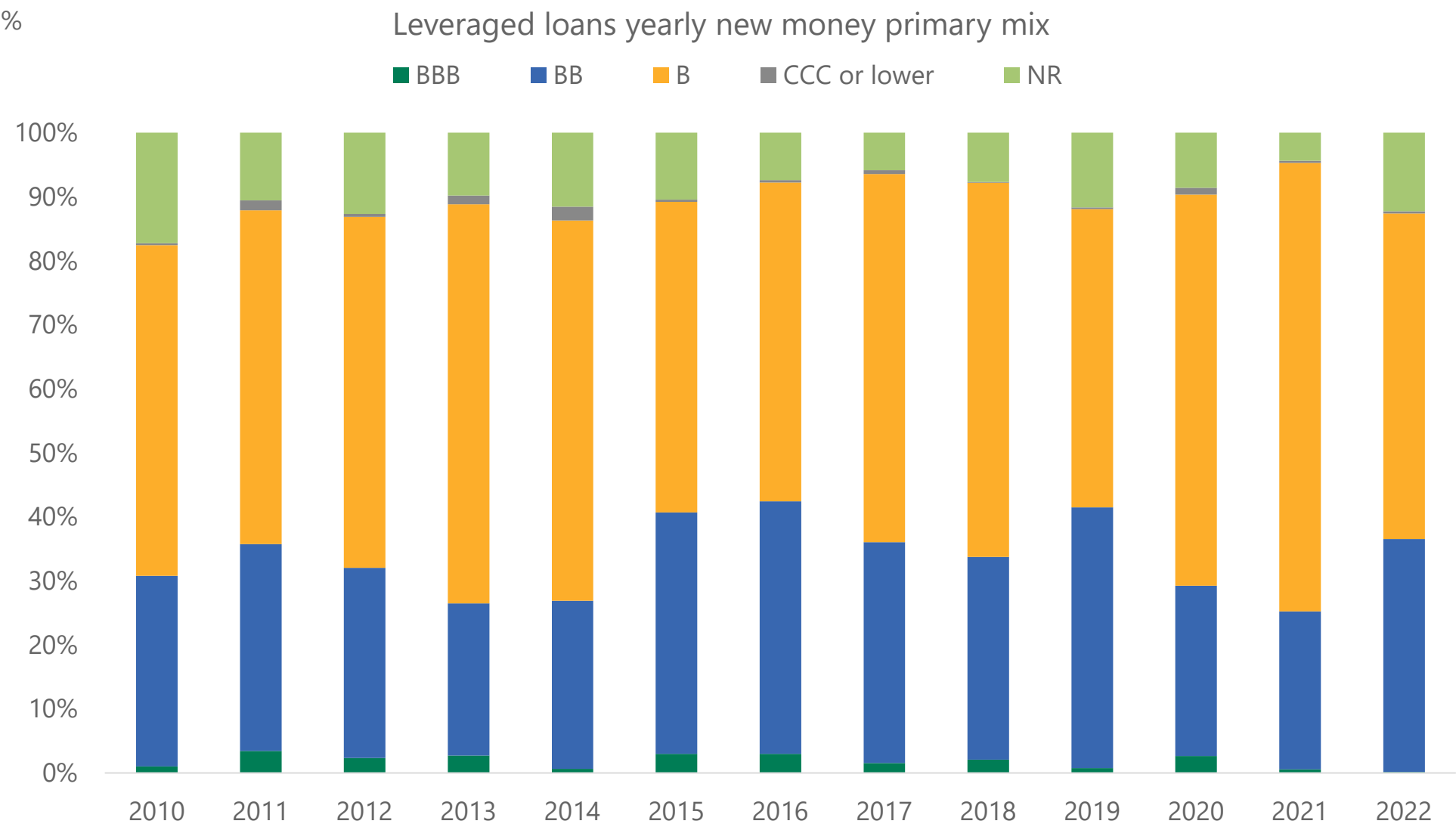
Source: S&P LCD, Apollo Chief Economist. Note: Data as of 30th November 2022

HY new money primary mix



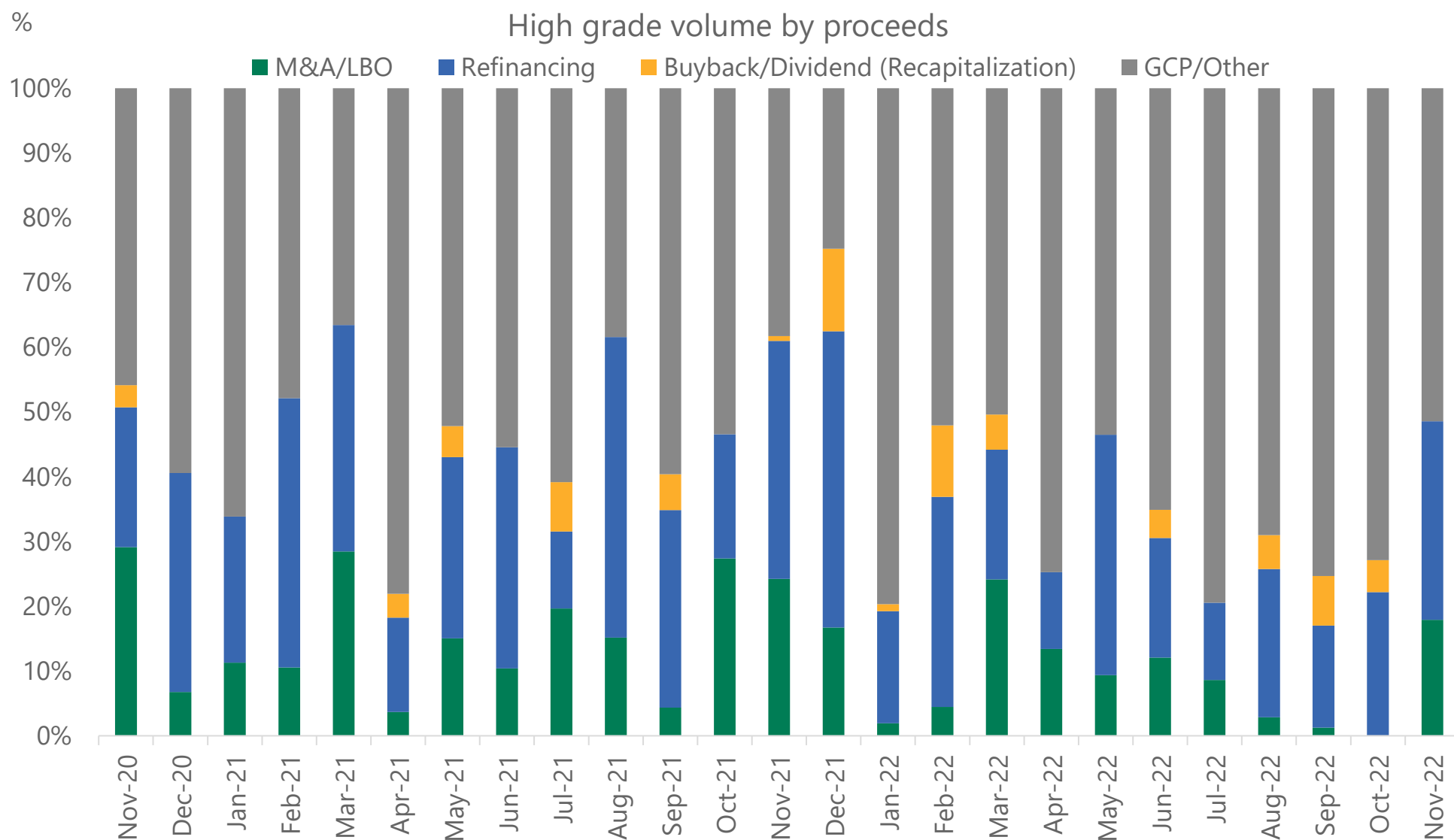
Source: S&P LCD, Apollo Chief Economist. Note: Data as of 30th November 2022

Loans new money primary mix



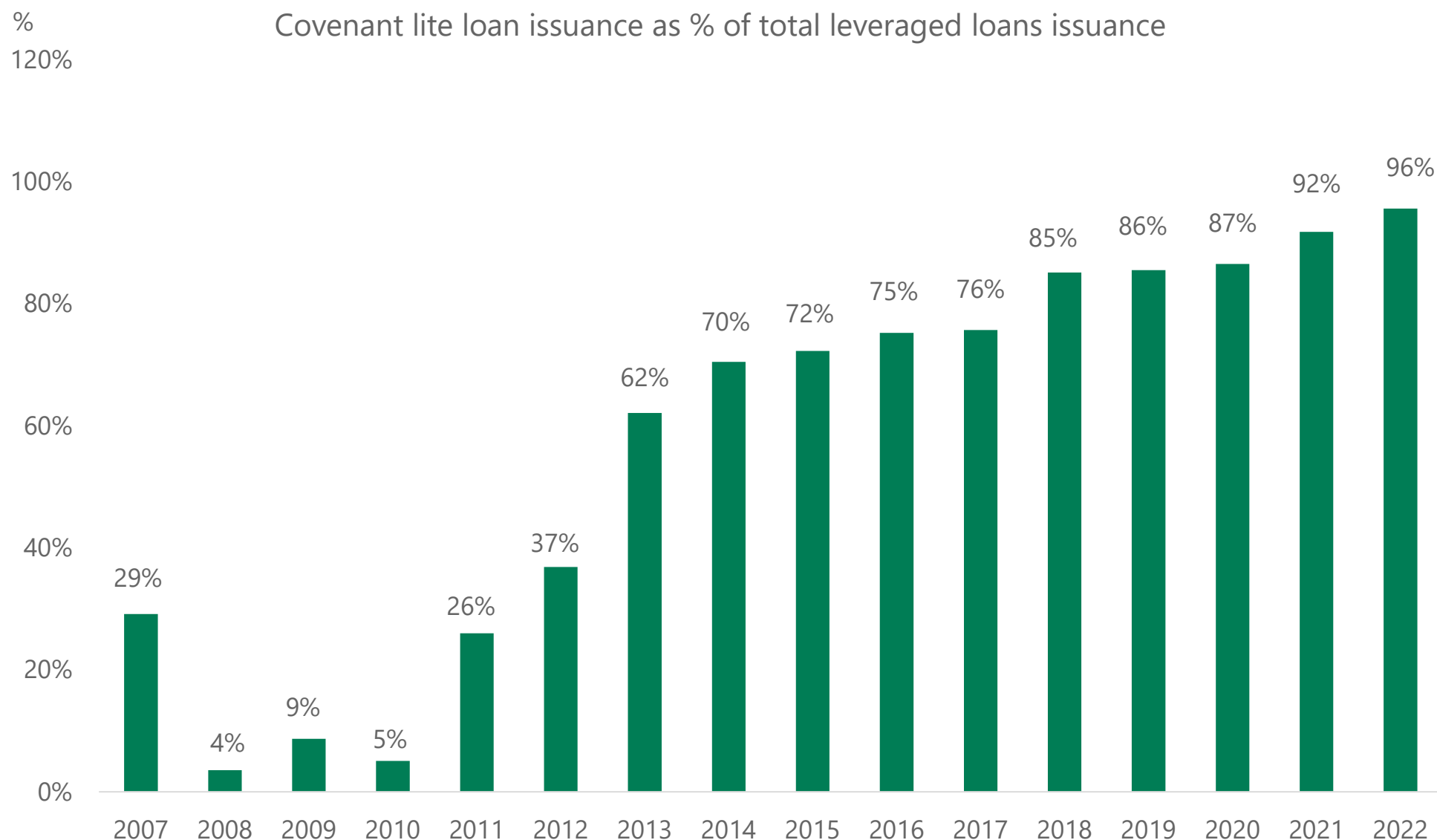
Source: S&P LCD, Apollo Chief Economist. Note: 2022 YTD till 30th November 2022

High grade volume by proceeds



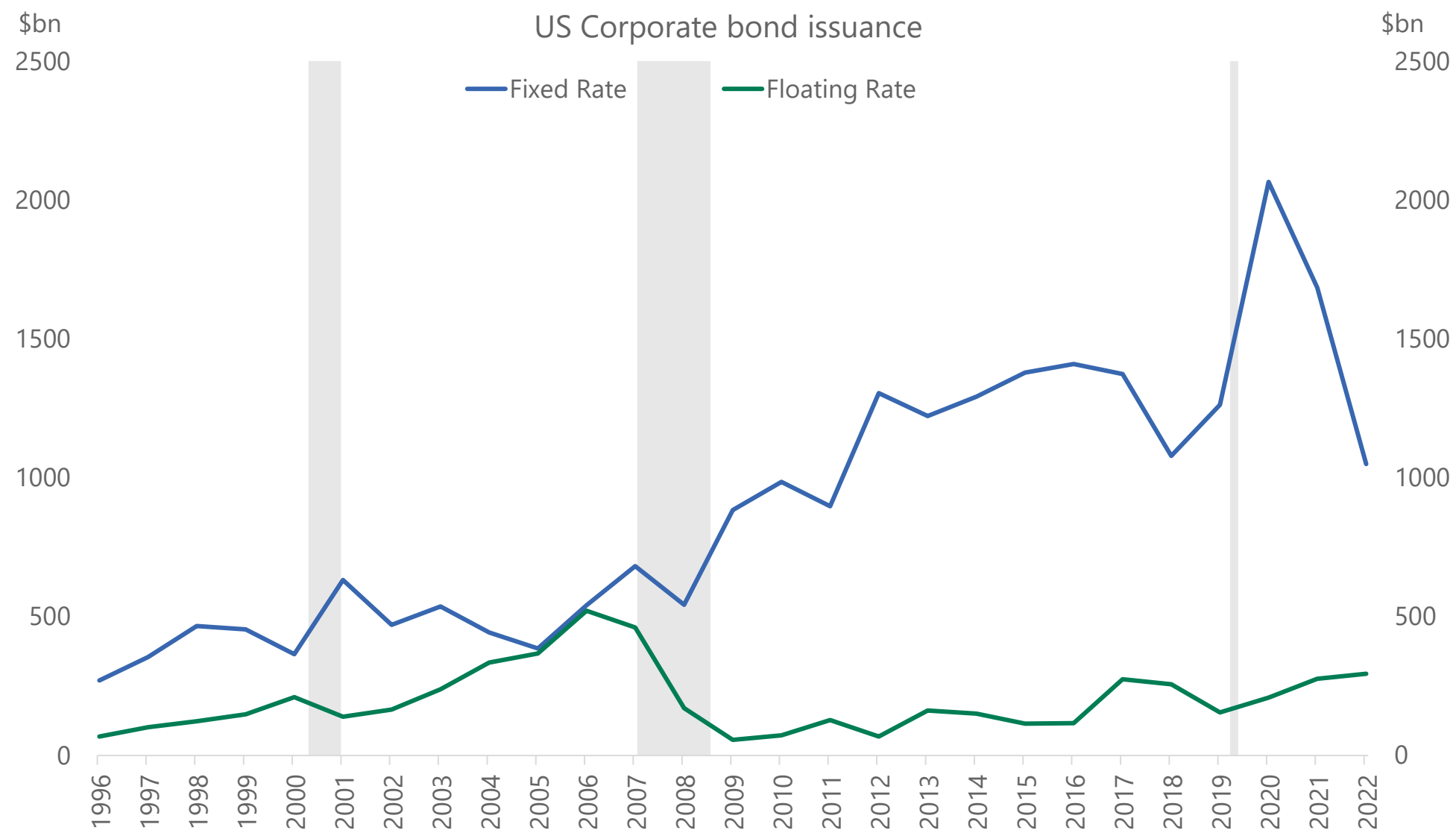
Source: S&P LCD, Apollo Chief Economist

Covenant lite loan issuance



Source: S&P 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 31st August 2022

Corporate bond issuance

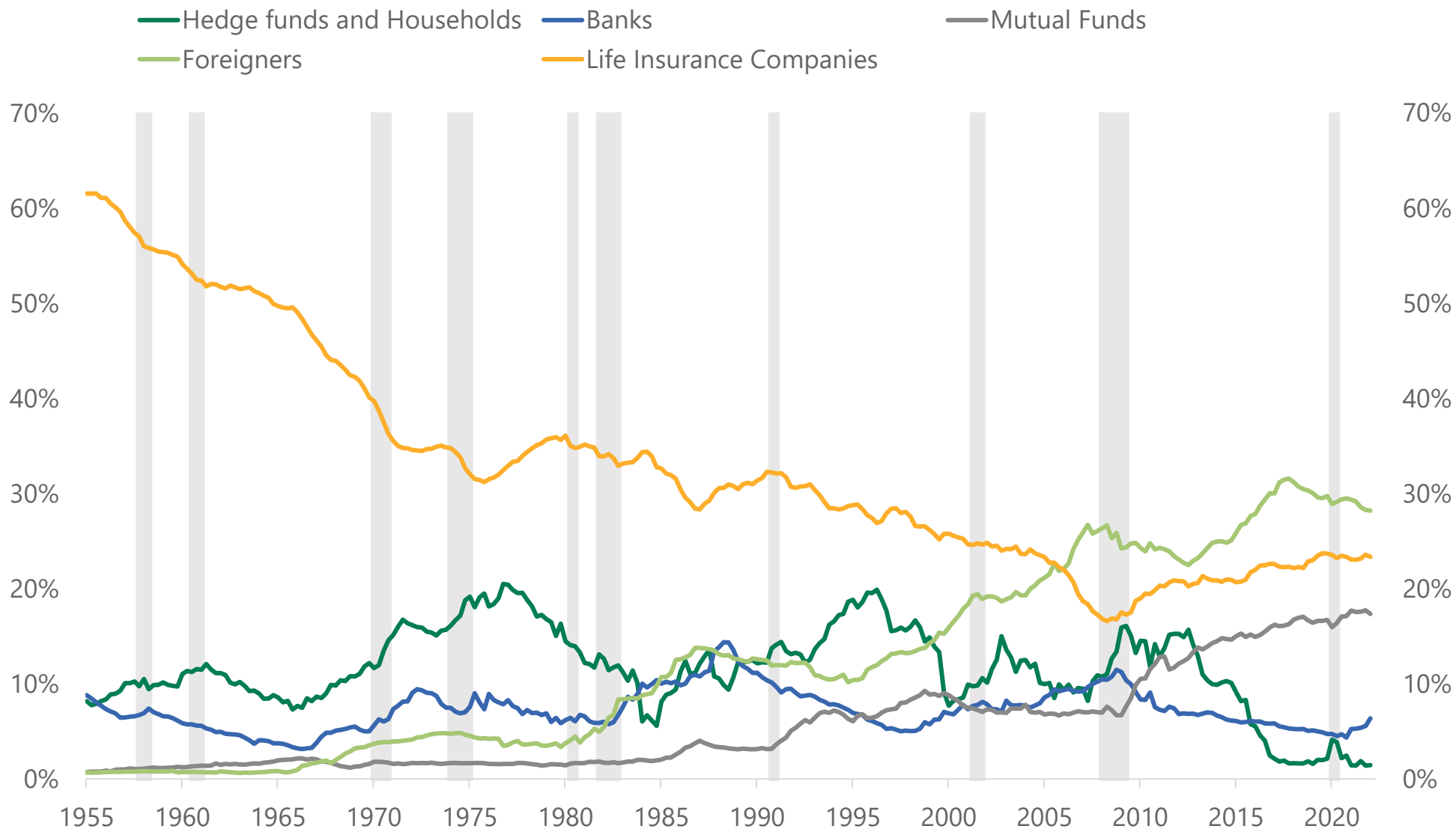


Source: SIFMA, Apollo Chief Economist. Note: 2022 YTD till 30th November 2022

Corporate bond holdings

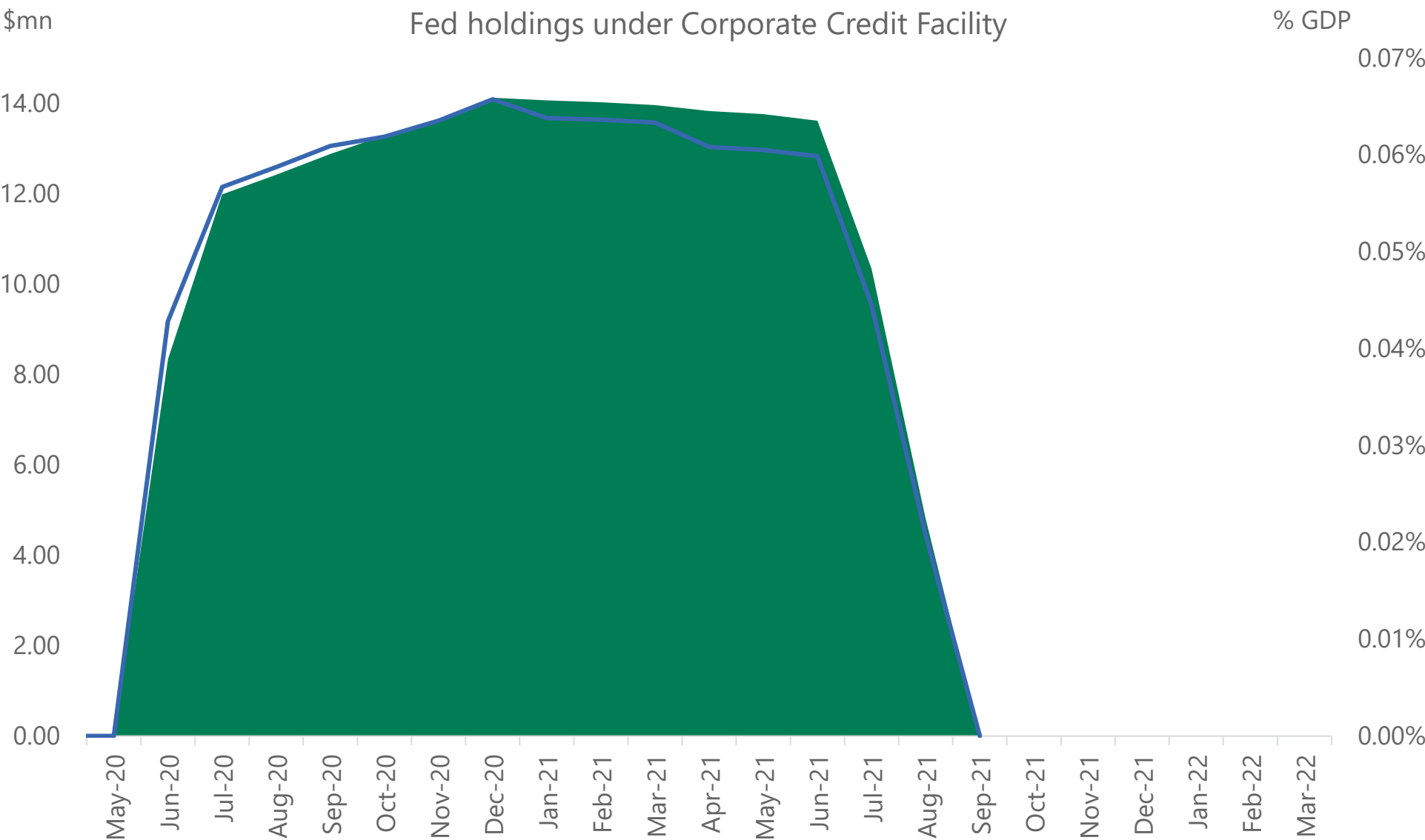
The biggest holder of US corporate bonds is foreigners

Holdings of corporate bonds (% of outstanding)



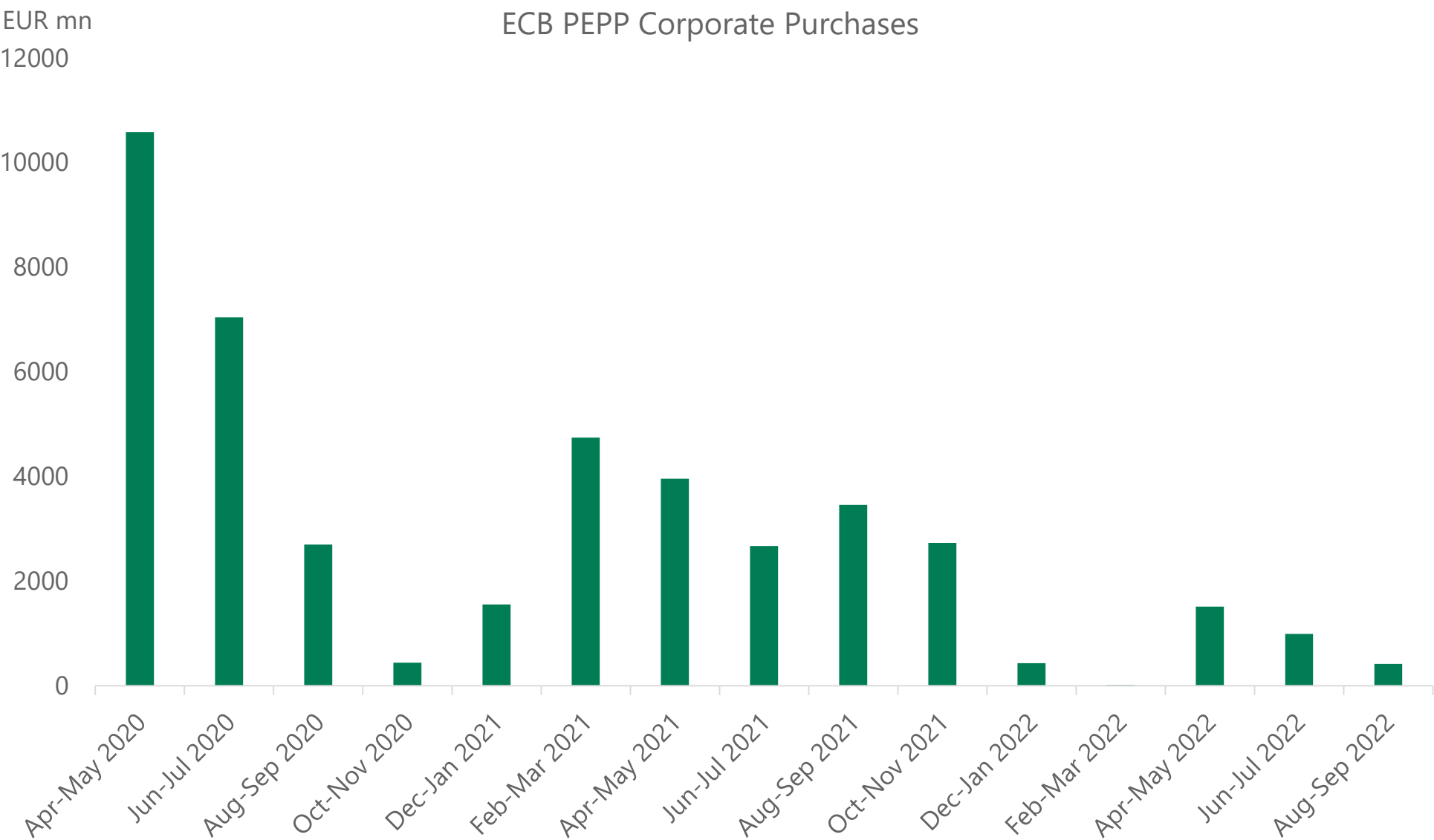
Source: FRB, Haver Analytics, Apollo Chief Economist

Fed holdings of corporate bonds



Source: Bloomberg, Apollo Chief Economist

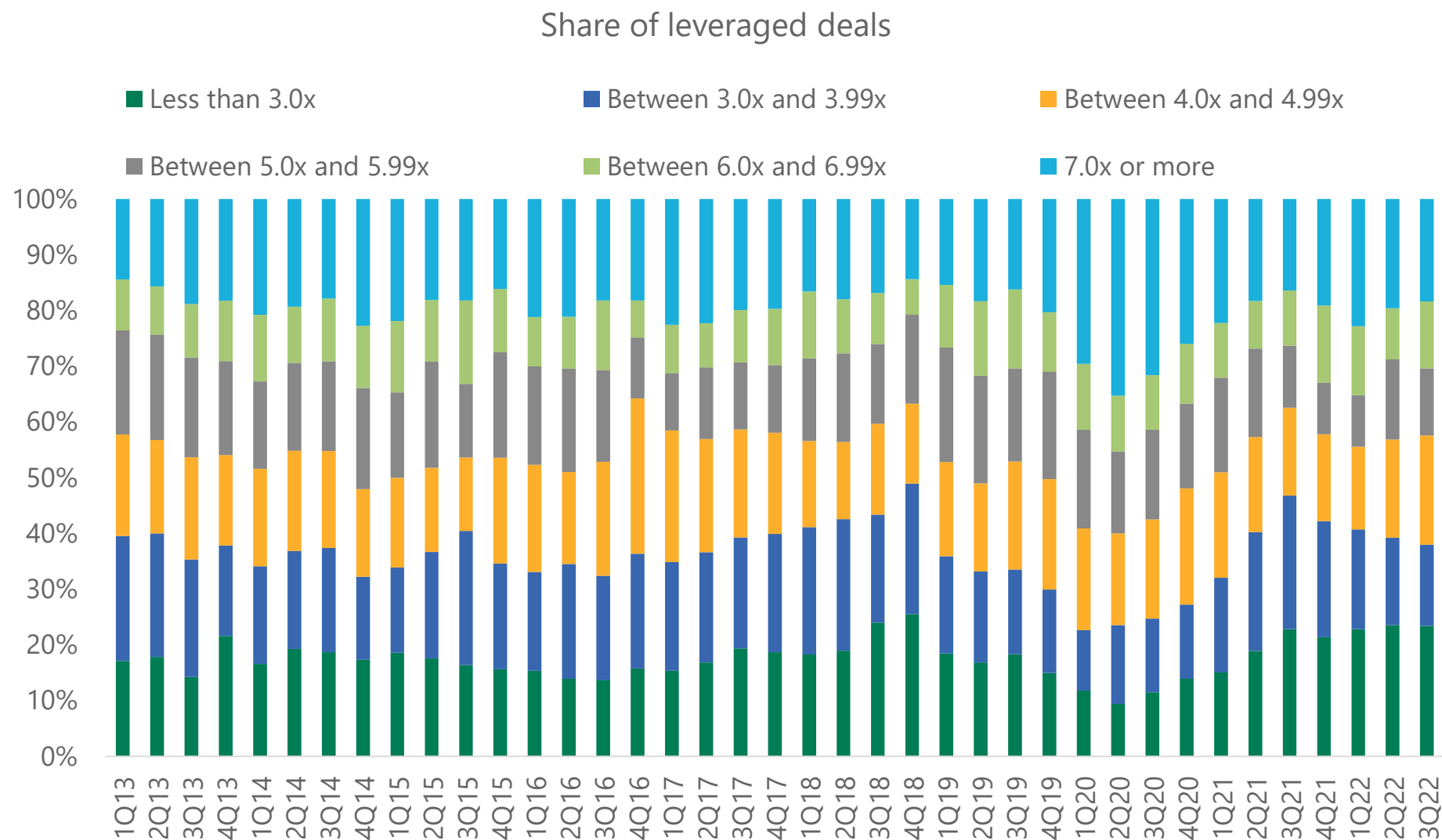
ECB purchases of corporate bonds



Source: ECB, Bloomberg, Apollo Chief Economist

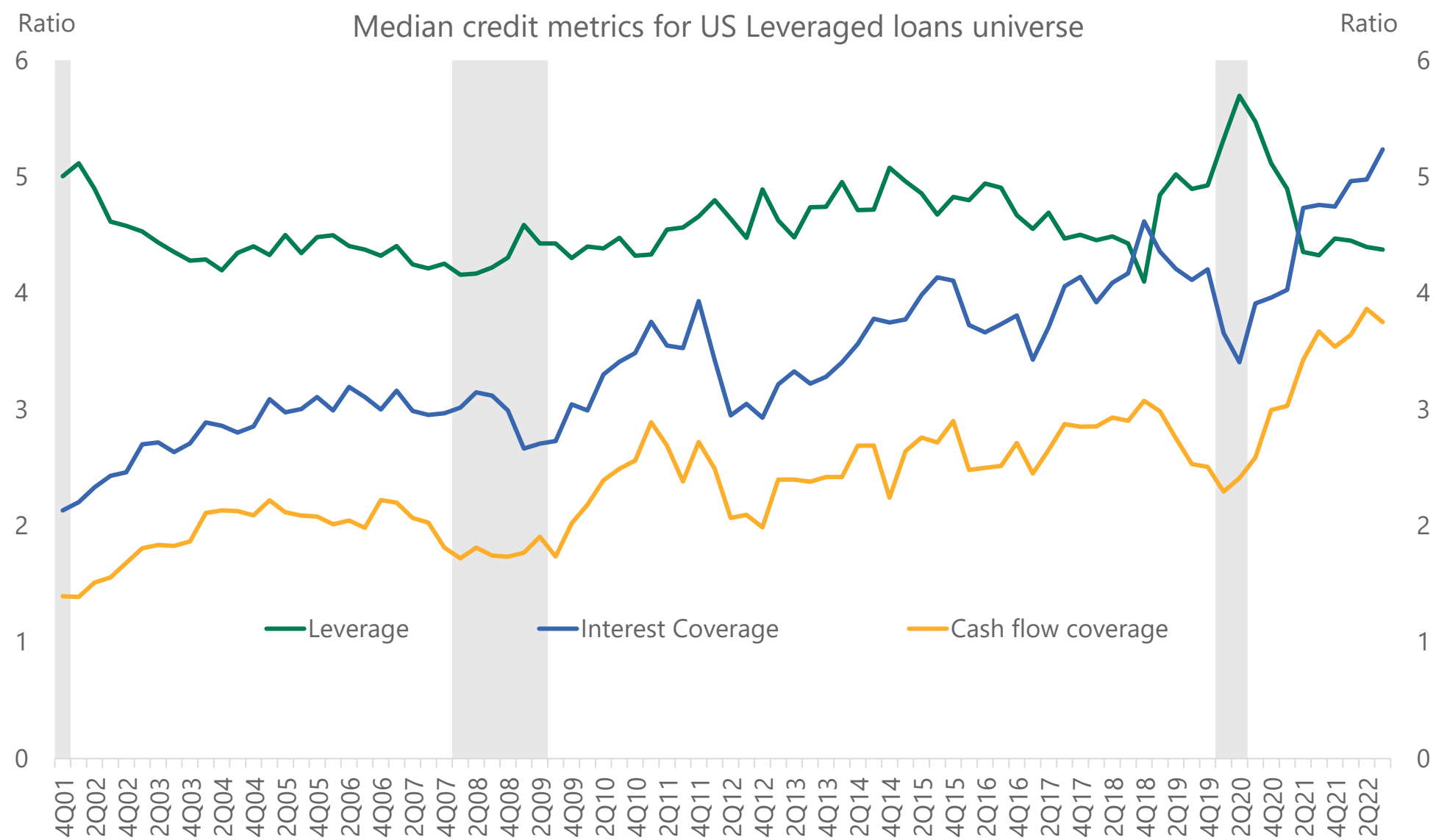
Loans

Leveraged loan deals, by multiple



Source: S&P LCD, Apollo Chief Economist

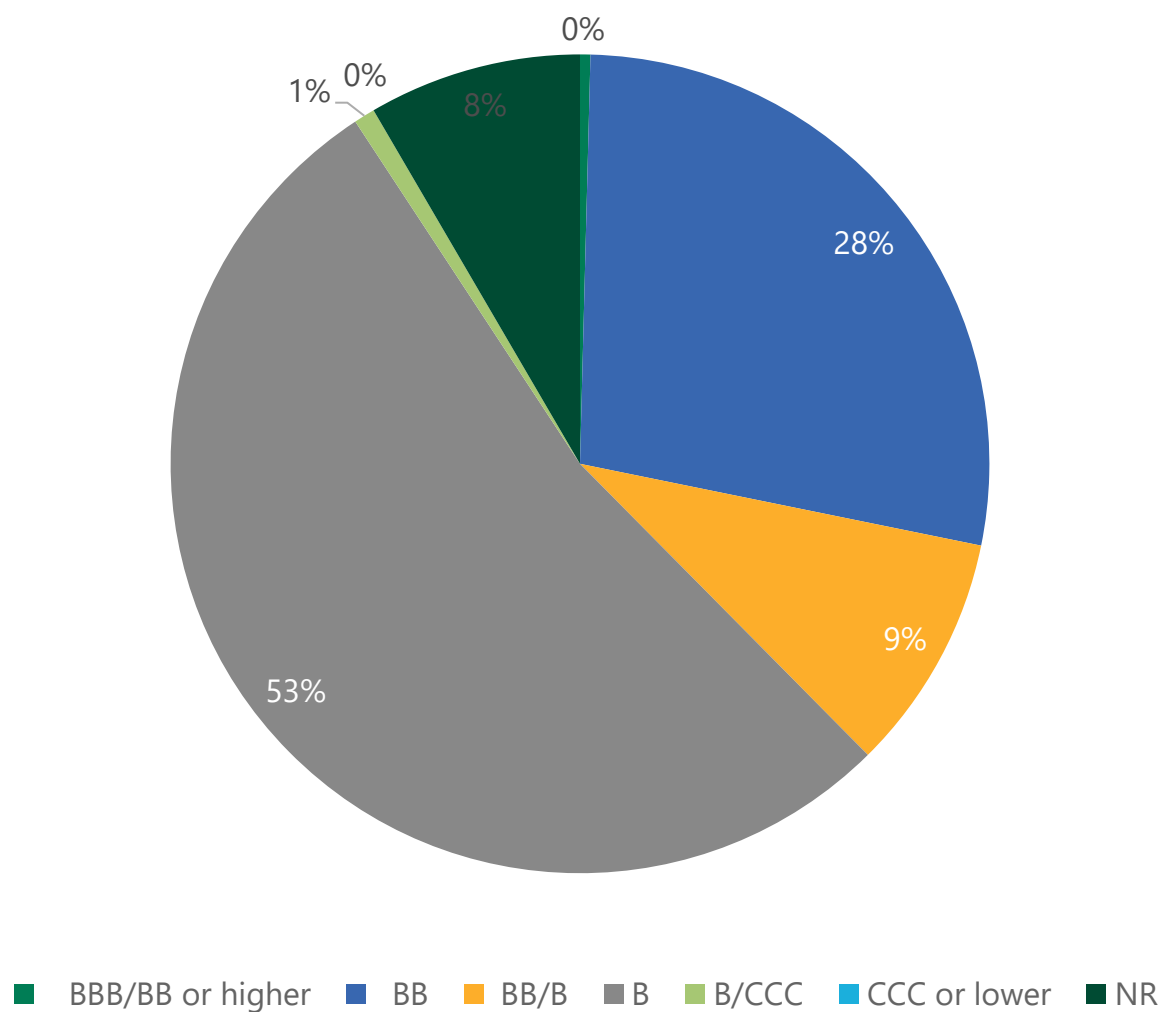
Credit metrics for leveraged loan deals



Source: S&P LCD, Apollo Chief Economist

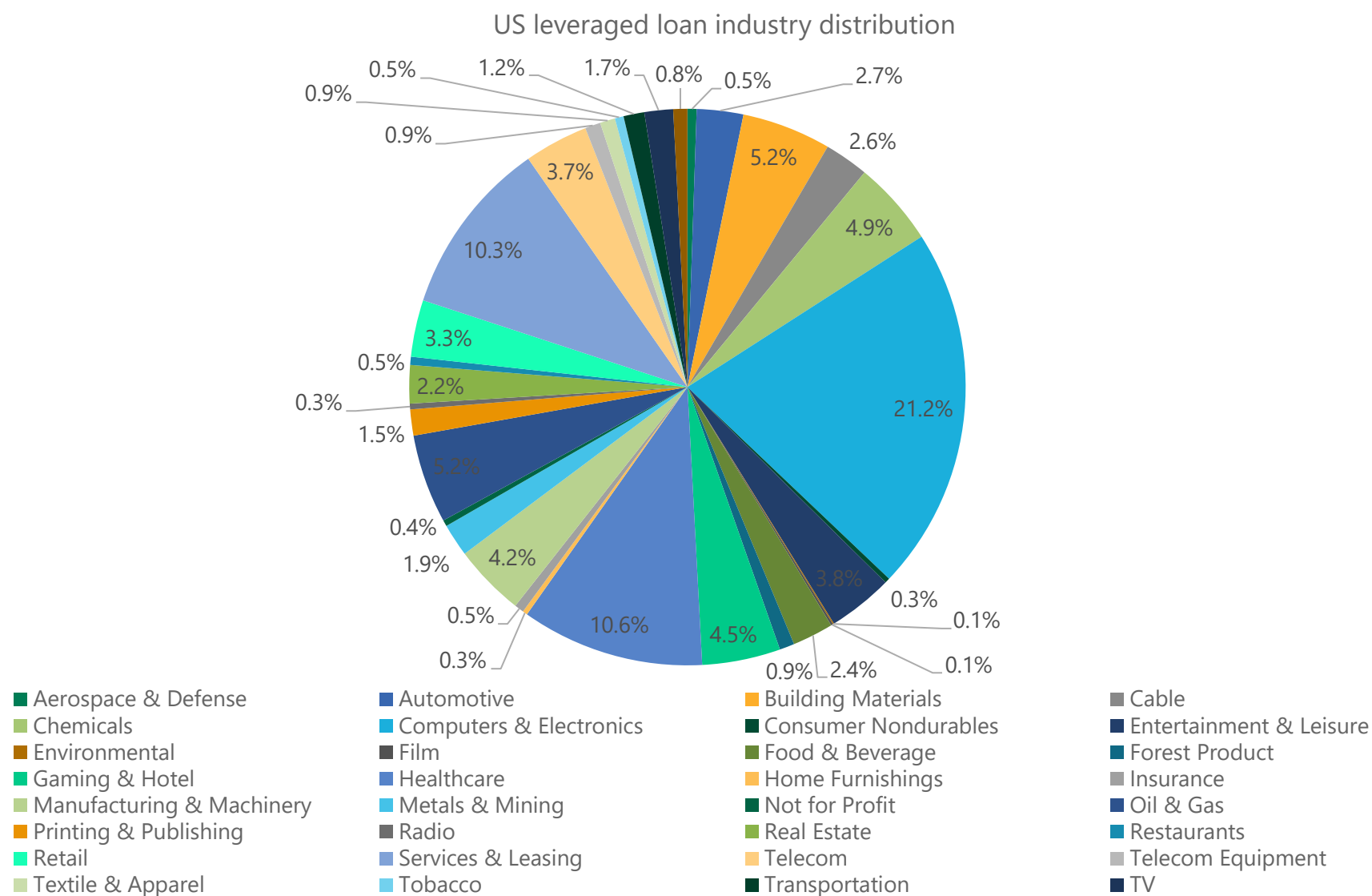
Leveraged loans rating distribution, 2022Q3

US leveraged loan rating distribution



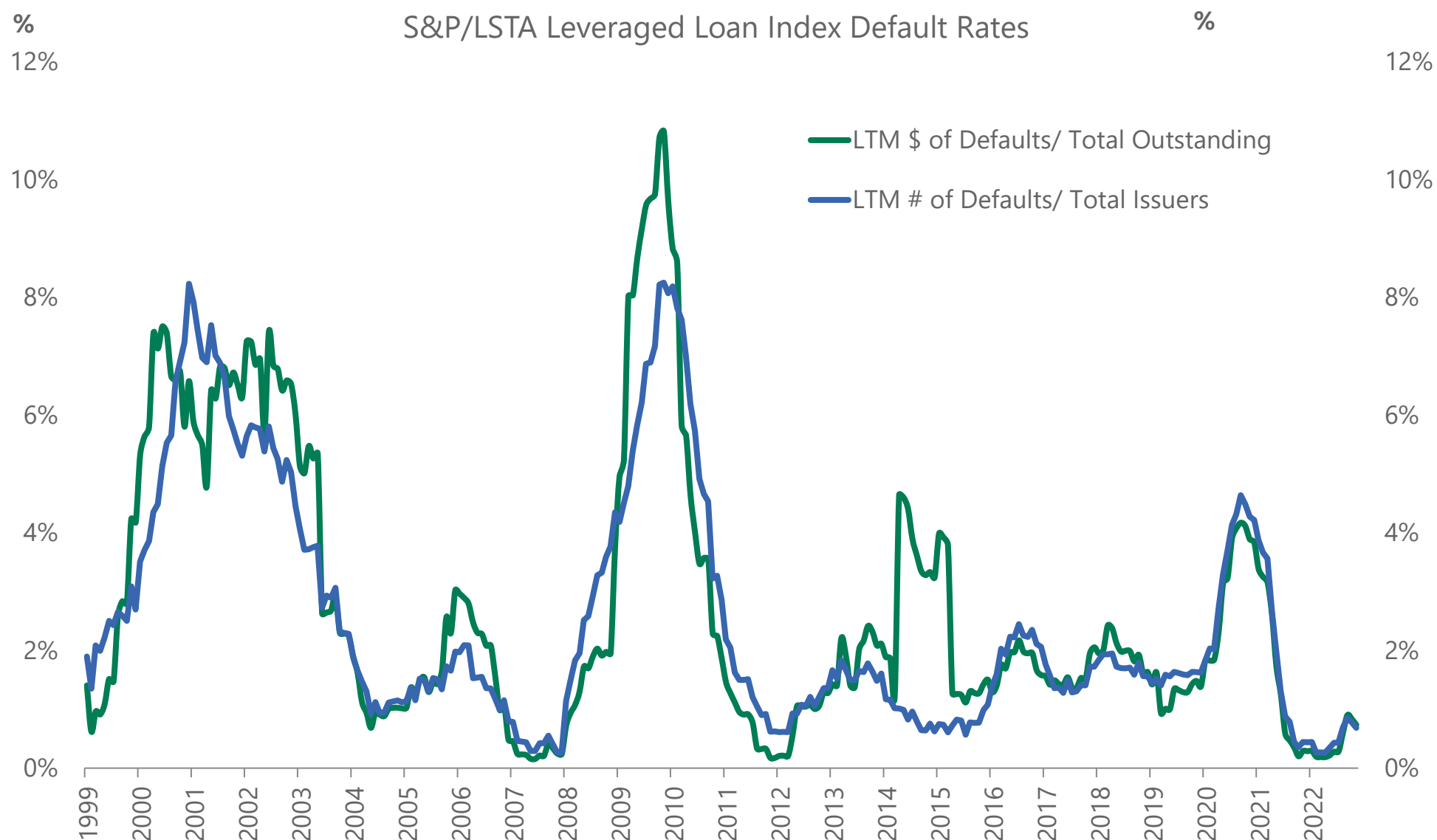
Source: S&P LCD, Apollo Chief Economist

Leveraged loans distribution, by industry, 2022Q3



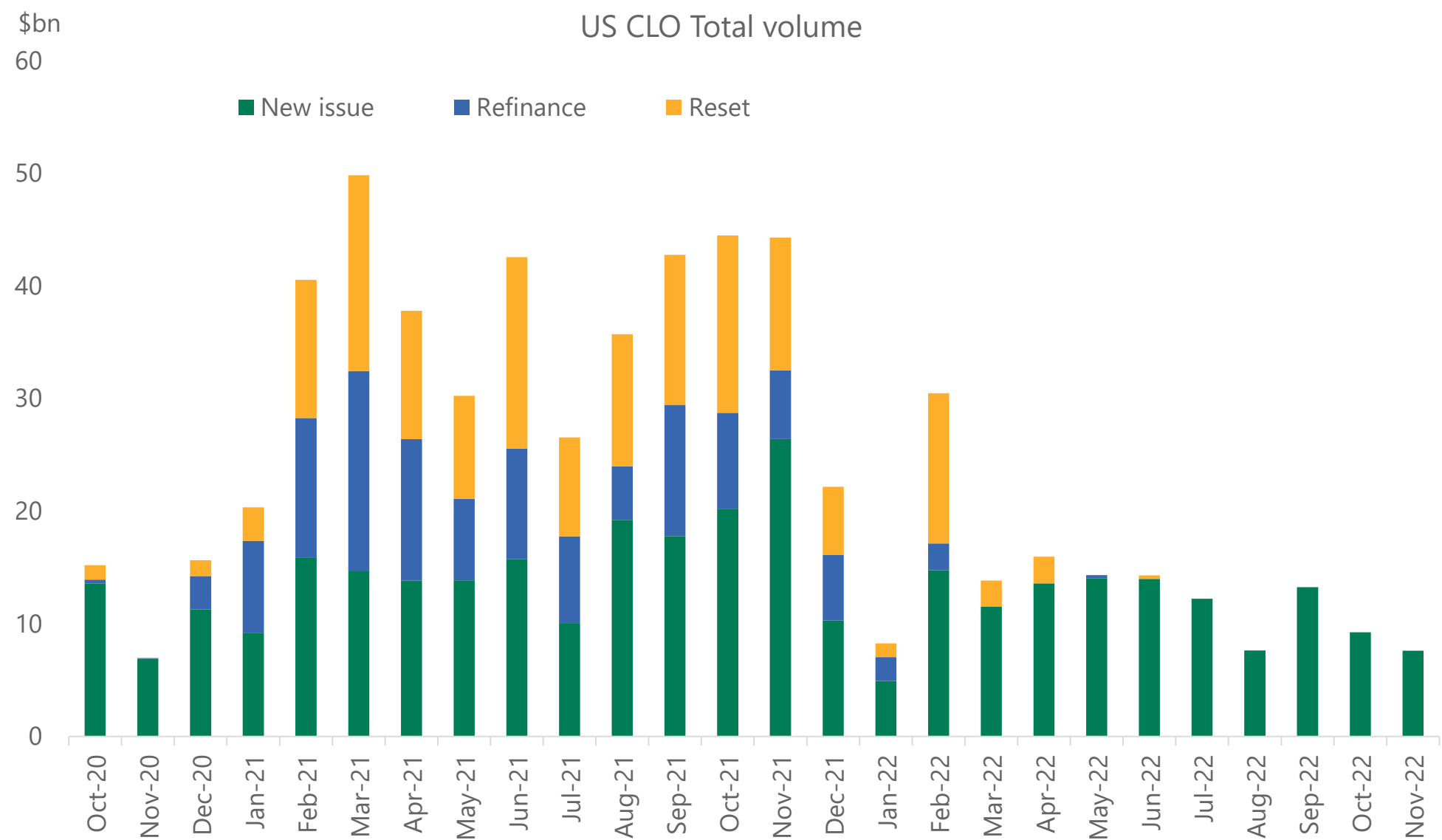
Source: S&P LCD, Apollo Chief Economist

Leveraged loan index default rates starting to rise



Source: S&P LCD, Apollo Chief Economist

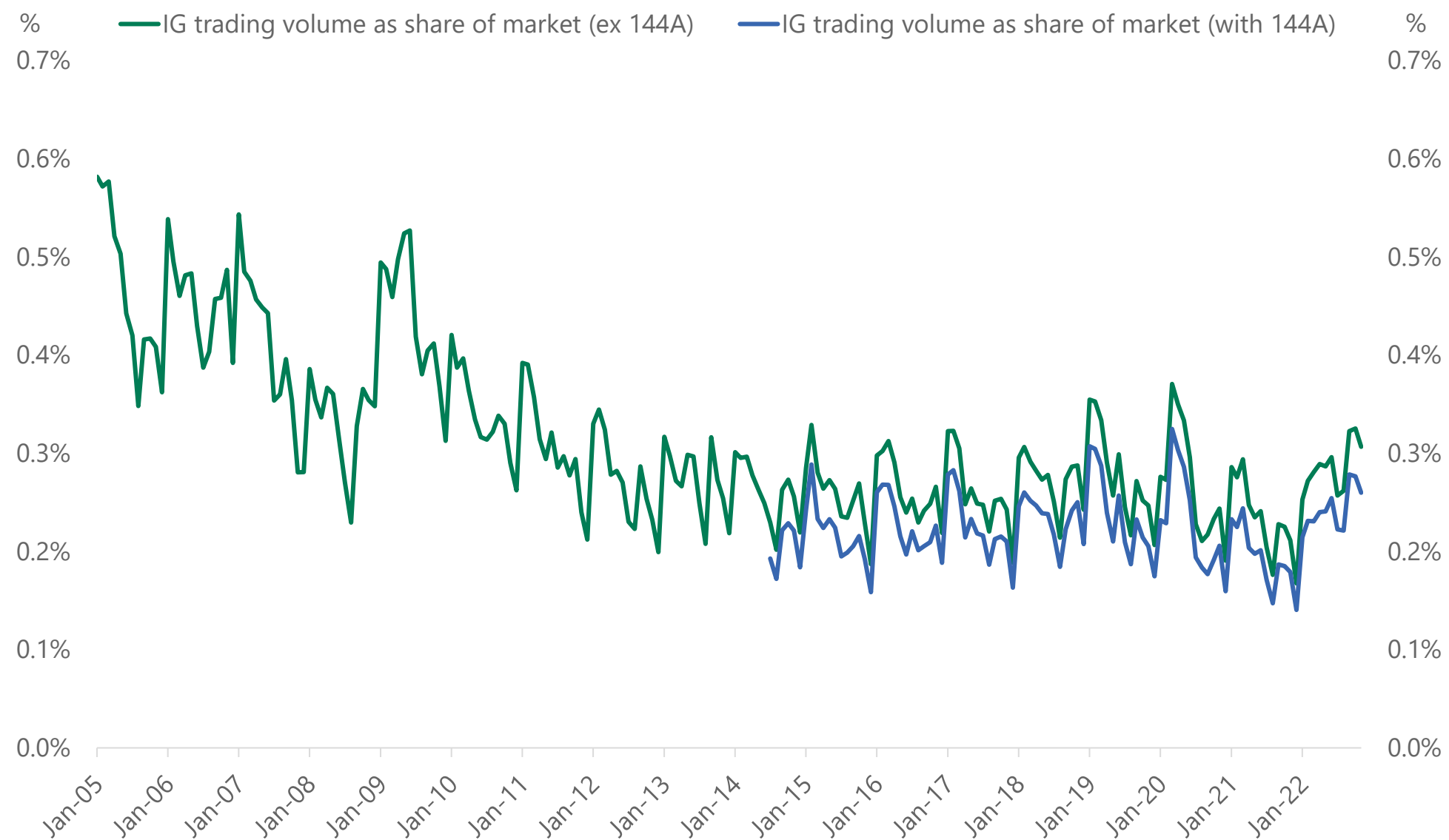
US CLO total volume



Source: S&P LCD, Apollo Chief Economist.

Liquidity in US credit markets

IG trading liquidity



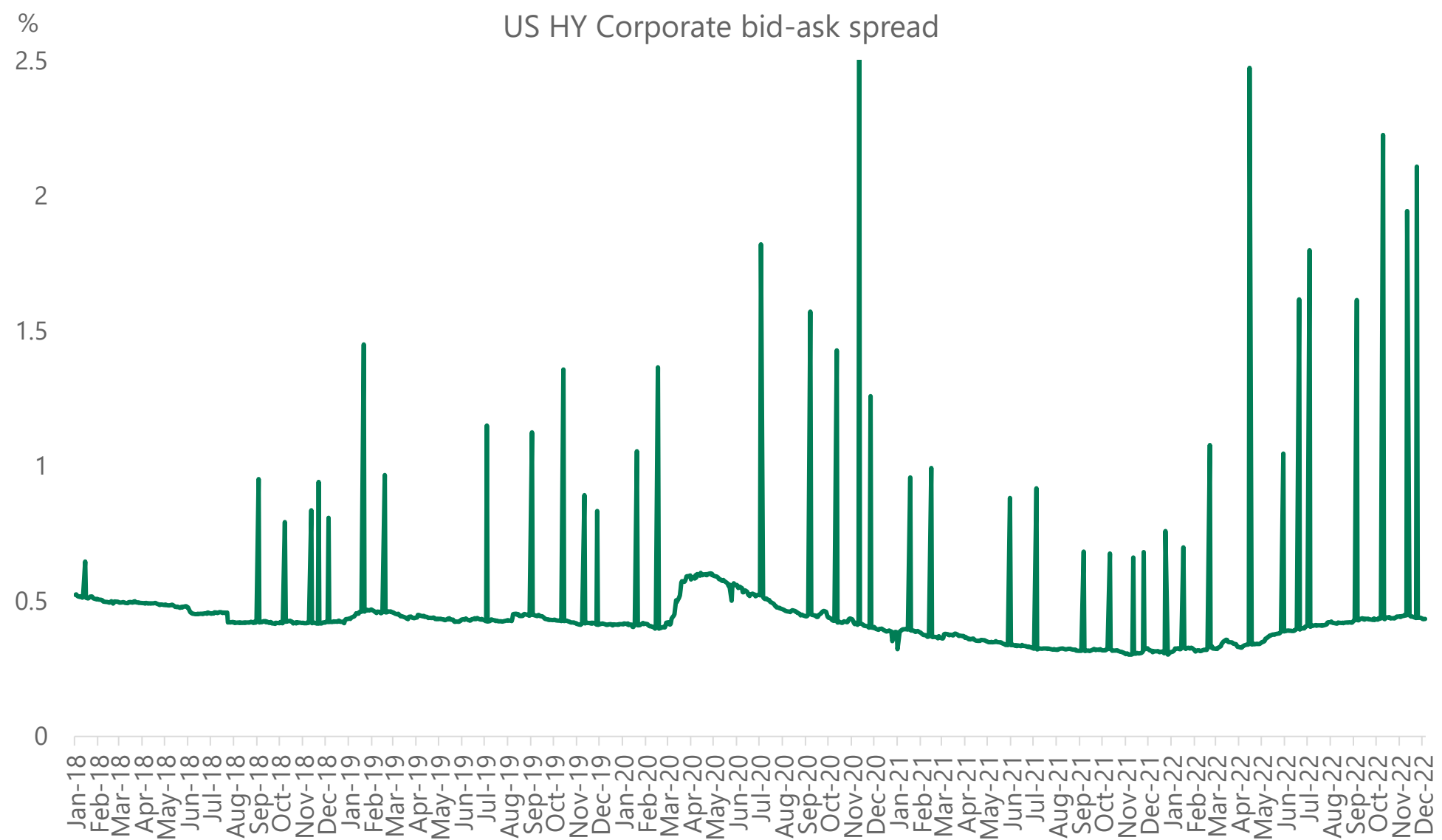
Source: ICE BofA, FINRA TRACE, Haver Analytics, Apollo Chief Economist

Bid-ask spread for US IG



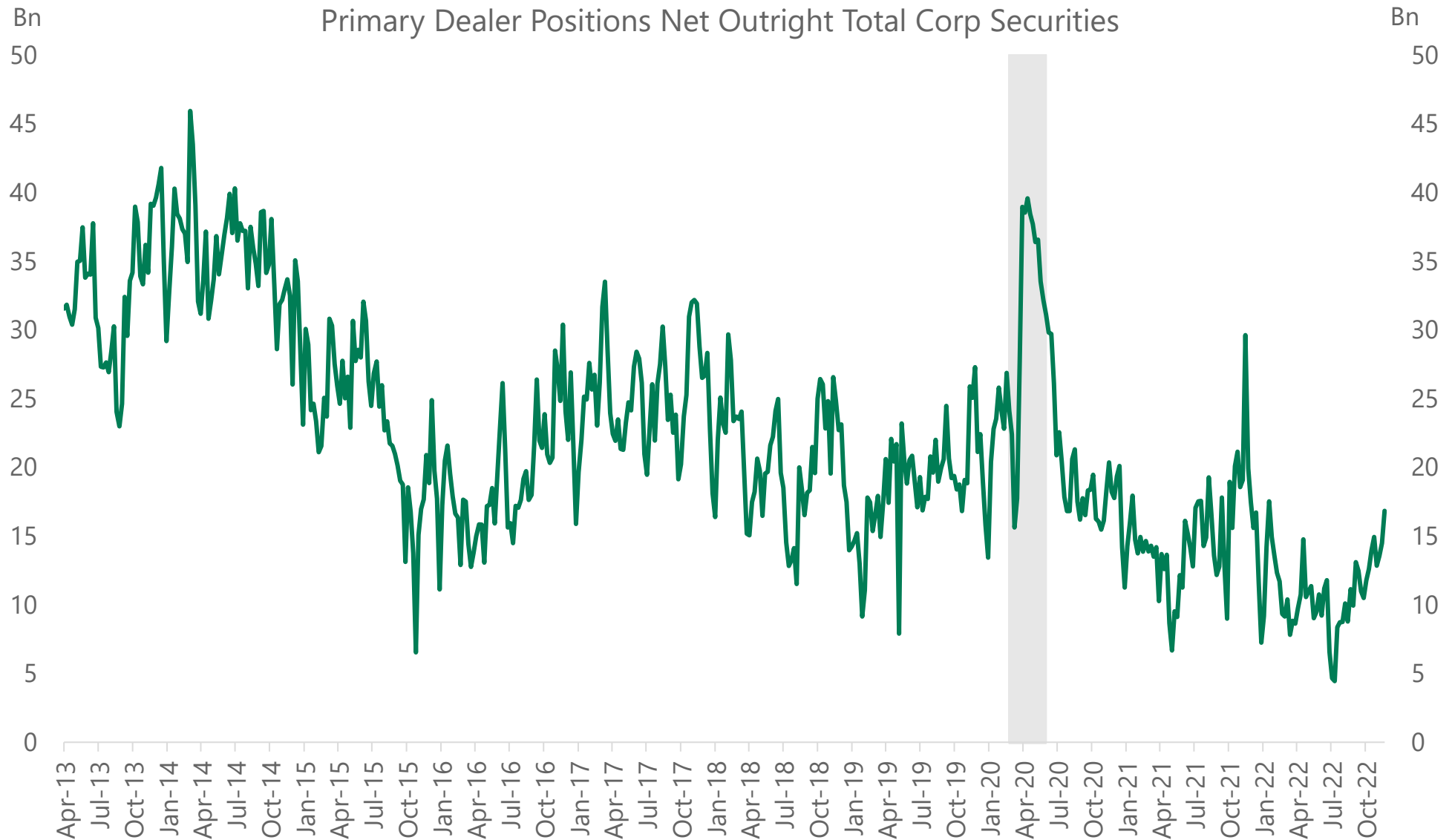
Source: Bloomberg, Apollo Chief Economist. Note: The bid-ask spread is the weighted average of Bloomberg Barclays US IG Index

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

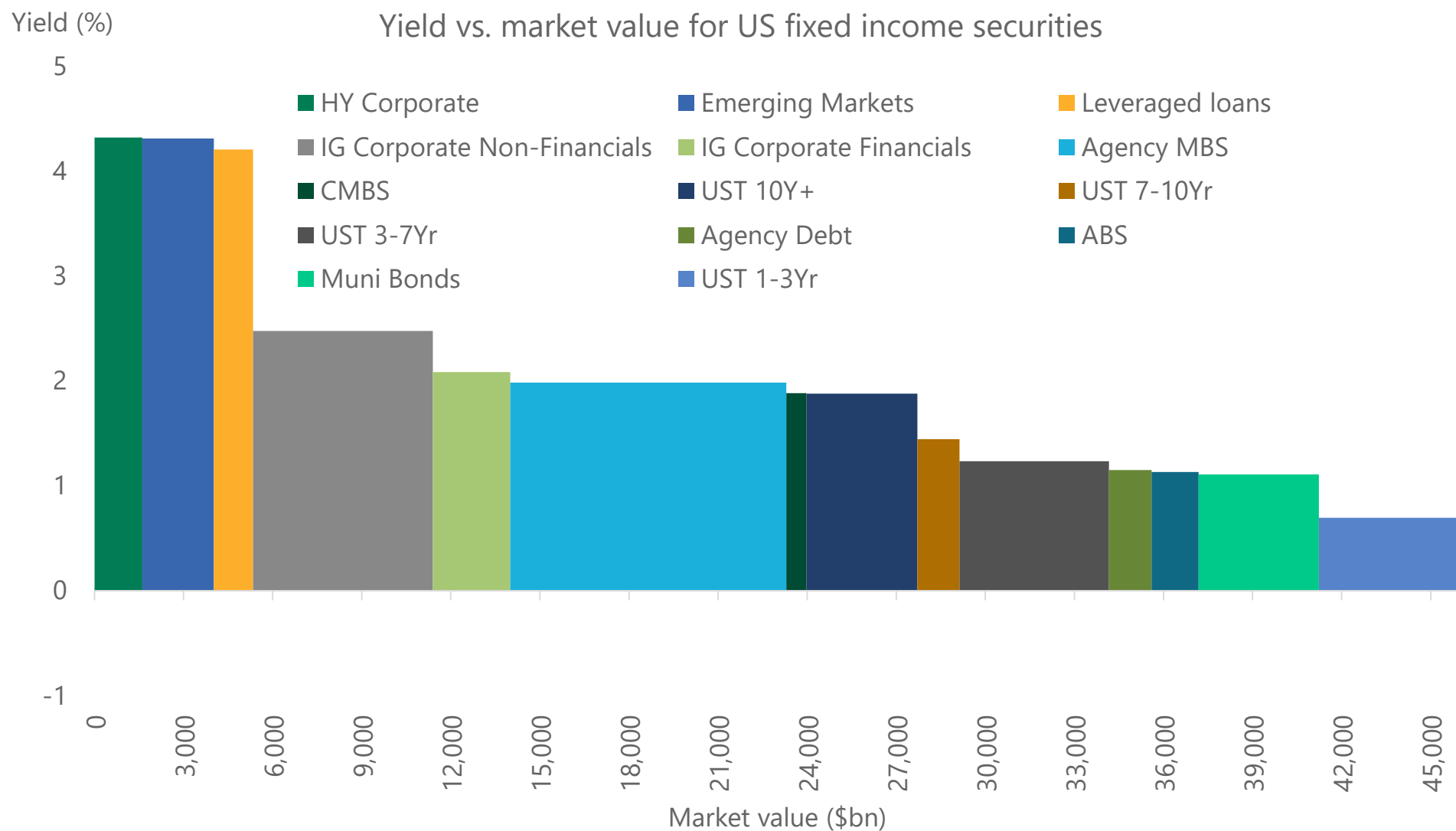
Very low dealer inventory of corporate bonds (IG+HY)



Source: Bloomberg, Apollo Chief Economist

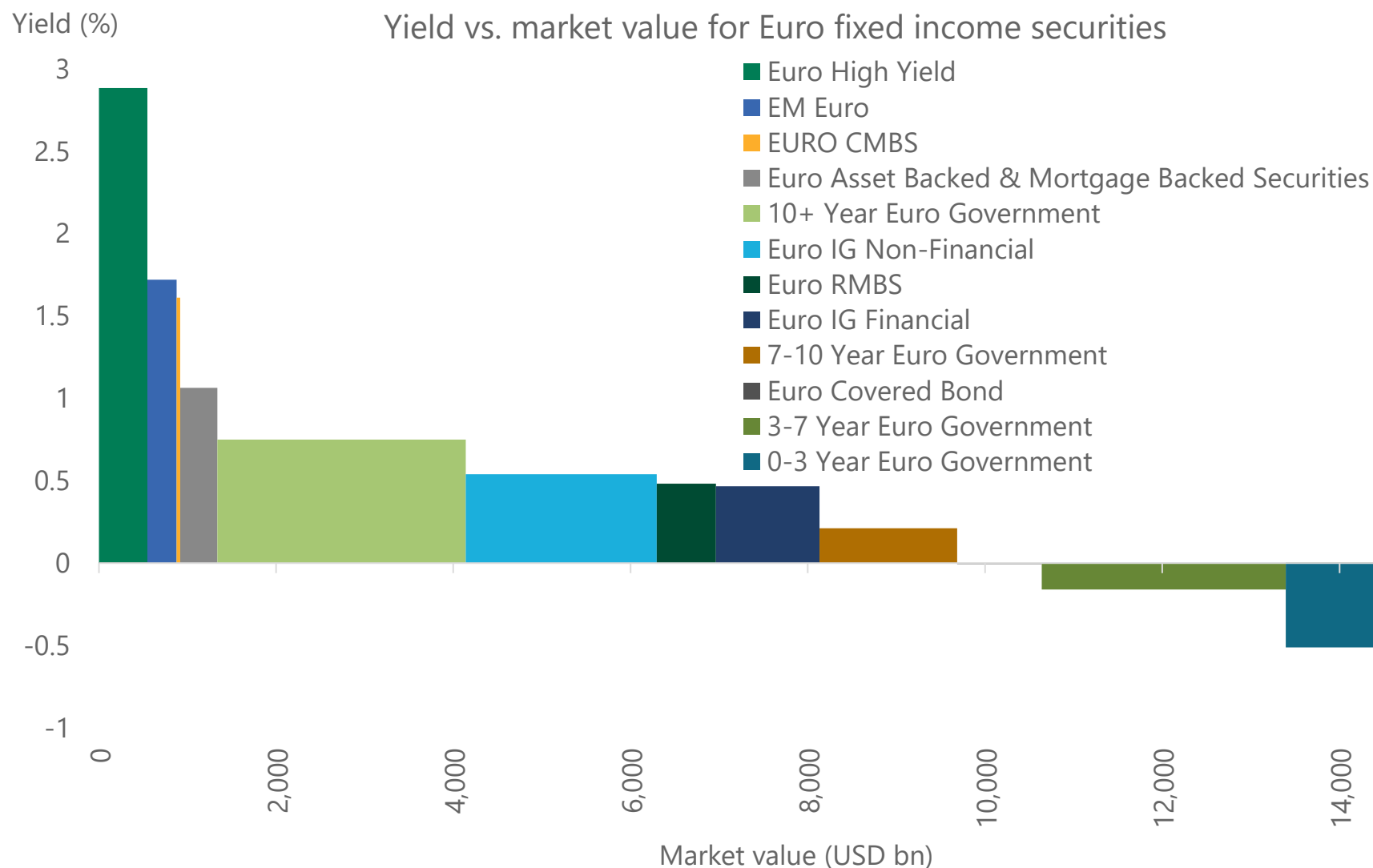
Credit markets in a broader perspective

US fixed income markets by yield and size



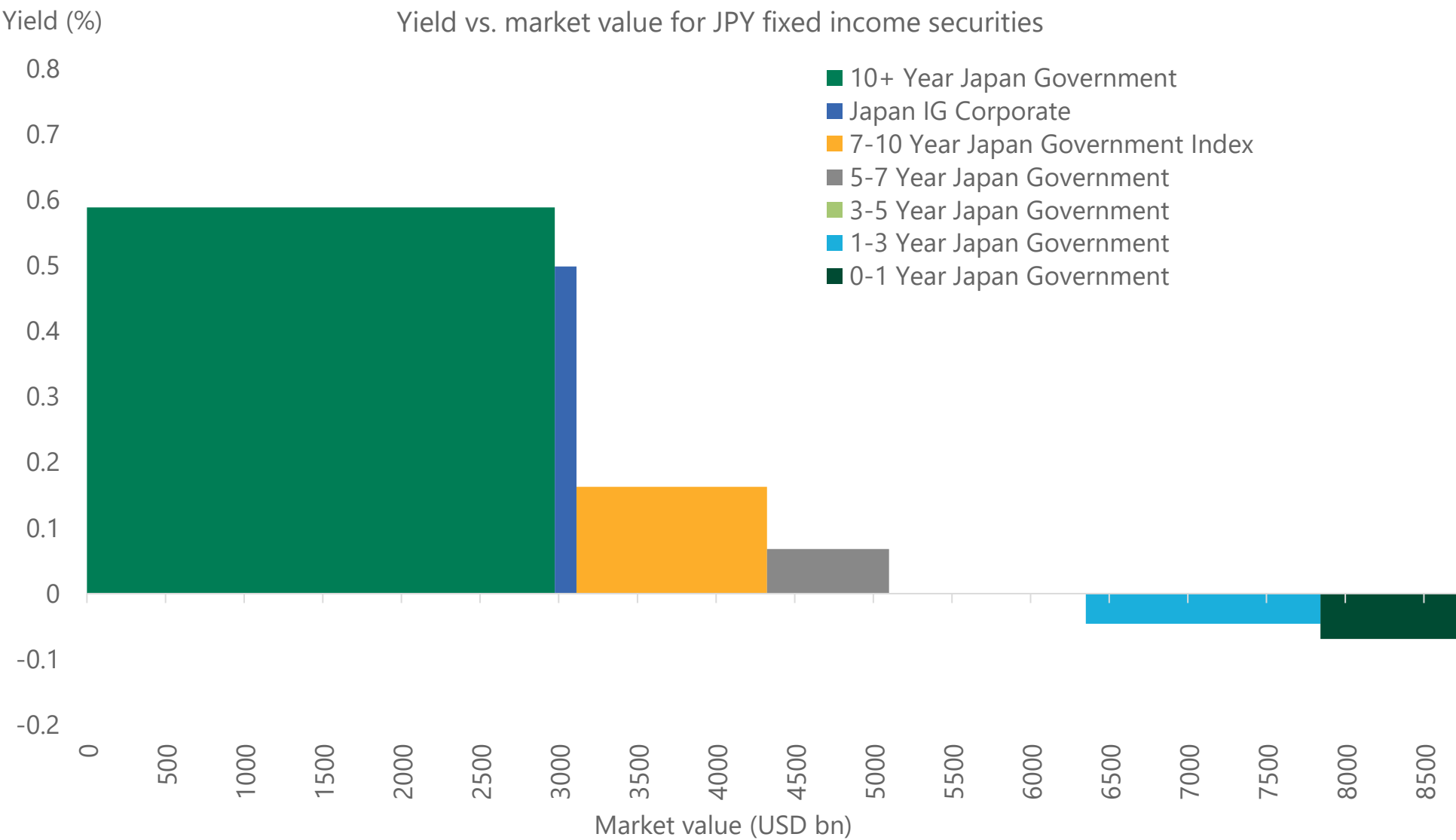
Source: Bloomberg Barclays, SIFMA, ICE BofA, S&P LCD, Bloomberg, Apollo Chief Economist. Note: data as of 4Q21

European fixed income markets by yield and size



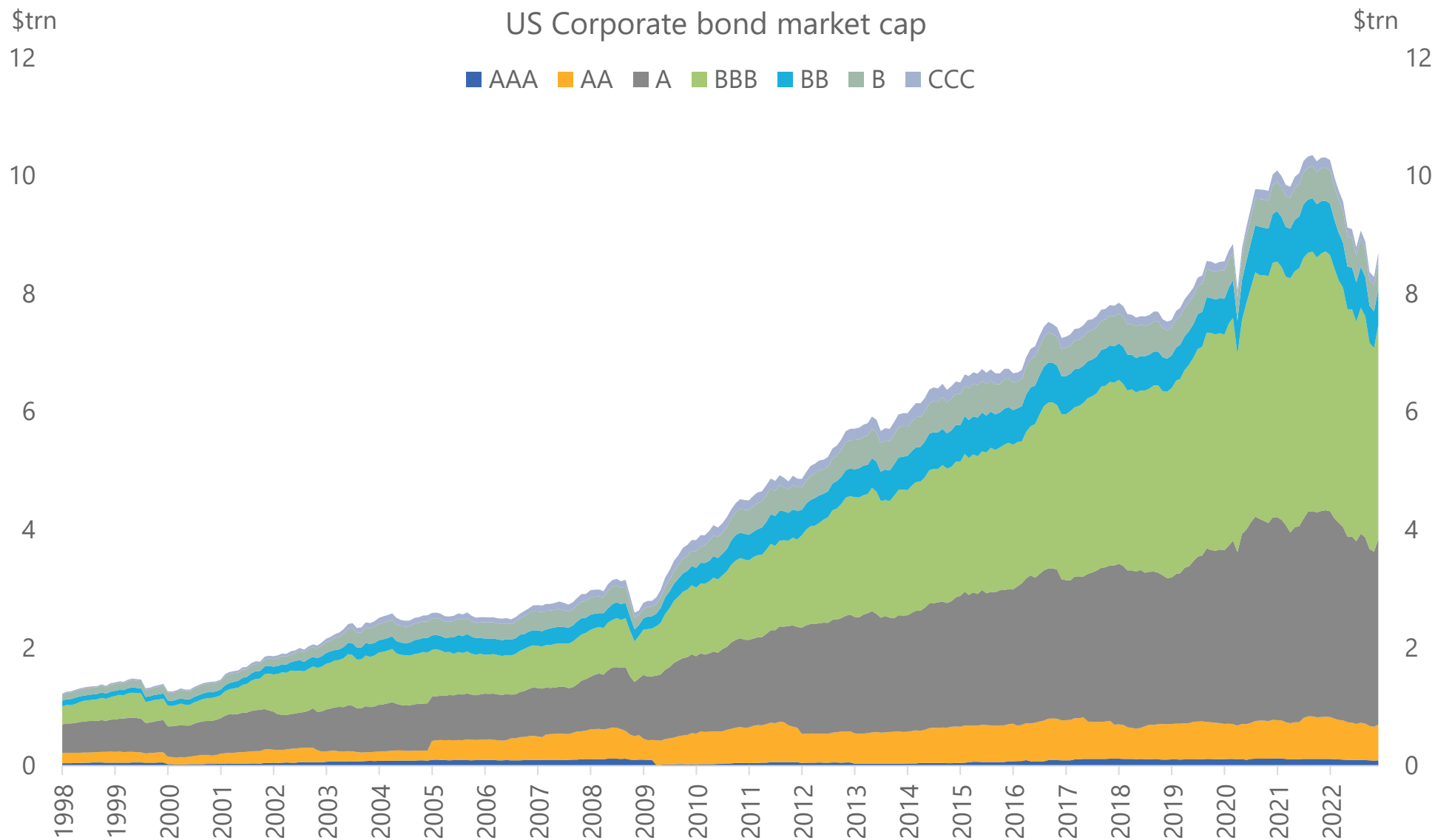
Source: Bloomberg Barclays, AFME, ICE BofA, S&P LCD, Bloomberg, Apollo Chief Economist. Note: data as of 4Q21

Japan fixed income markets by yield and size



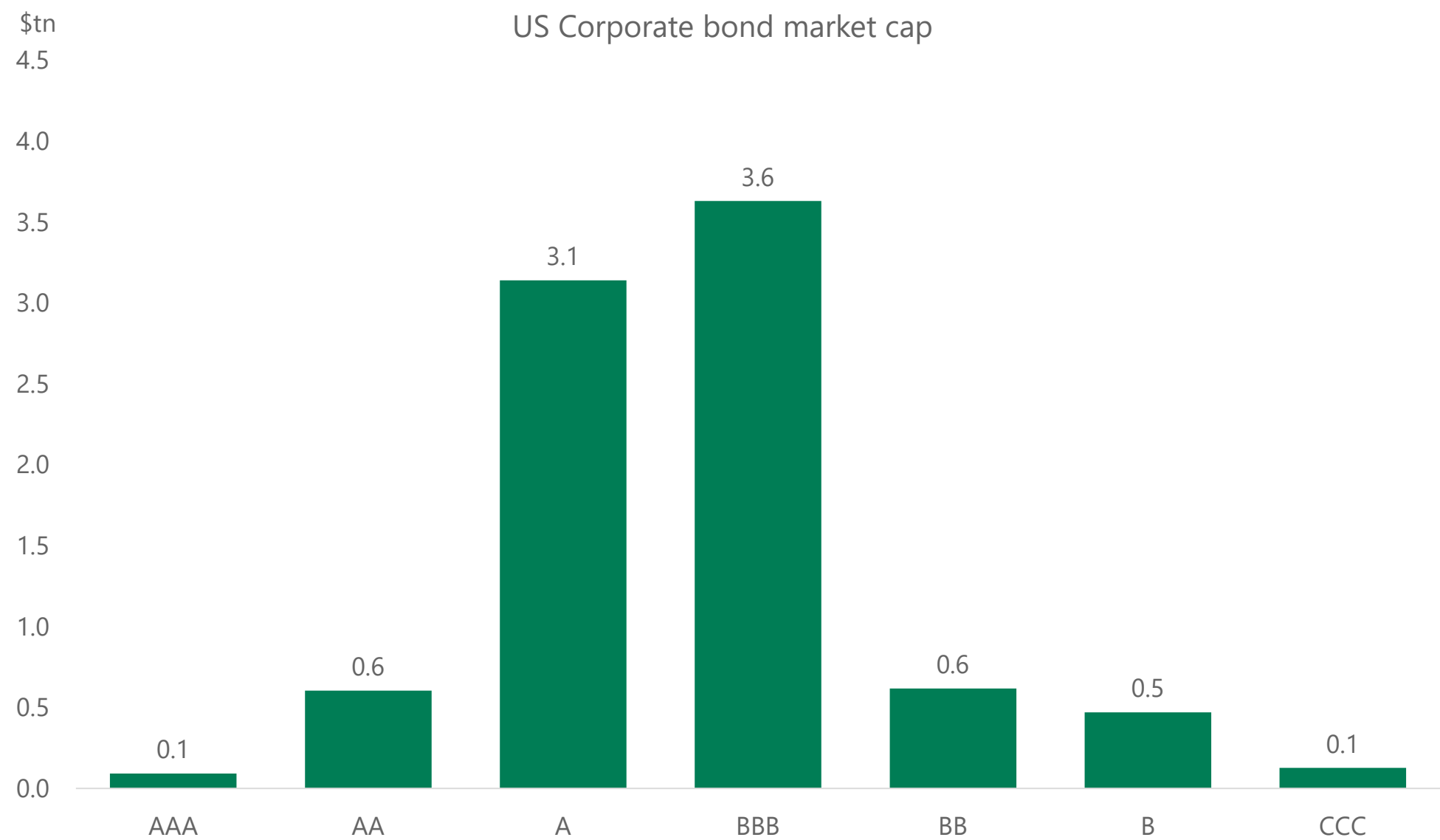
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Data as of 1Q22

Market cap of US credit markets



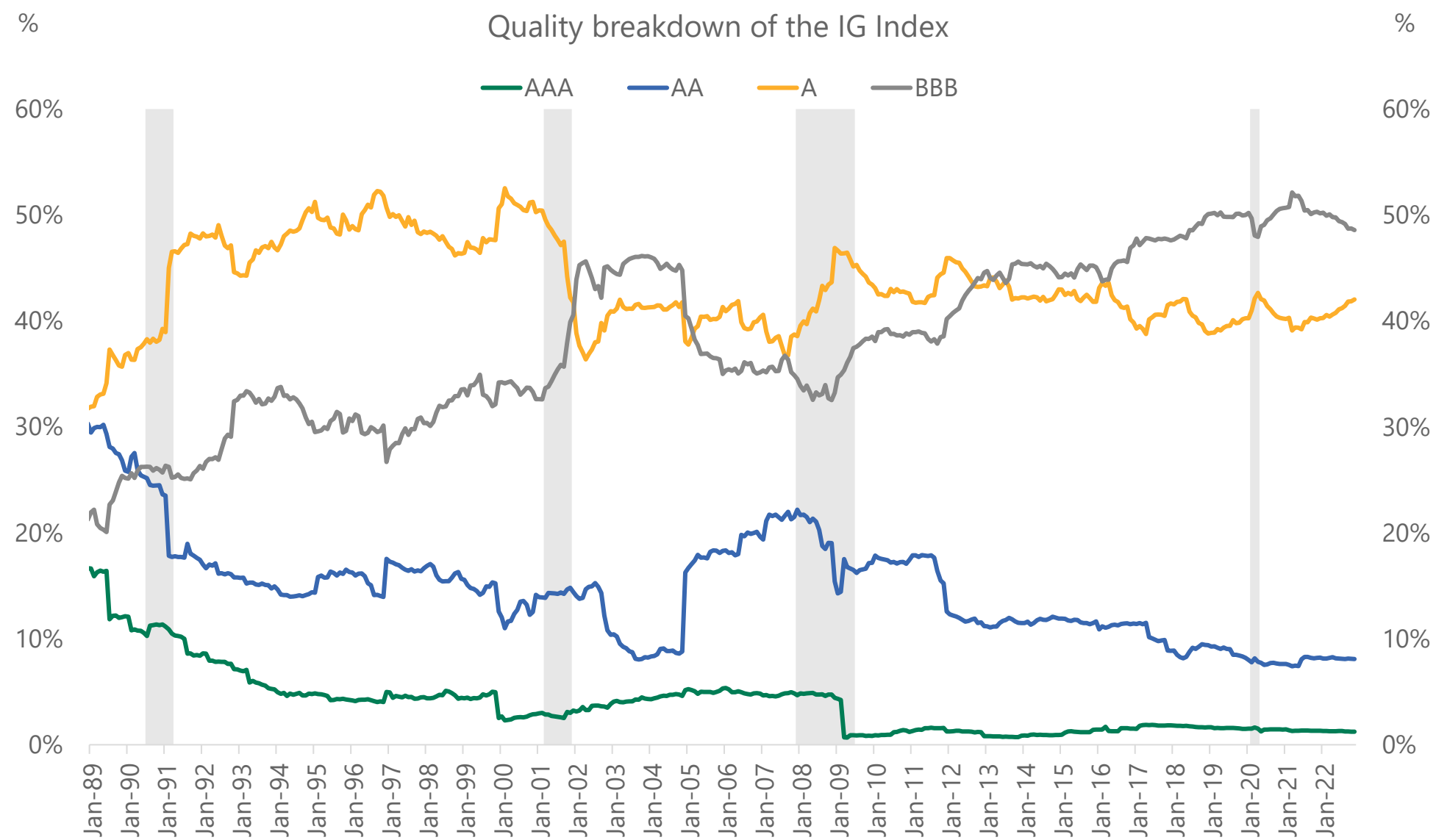
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Data as of 30th November 2022

Corporate bond market cap, by rating



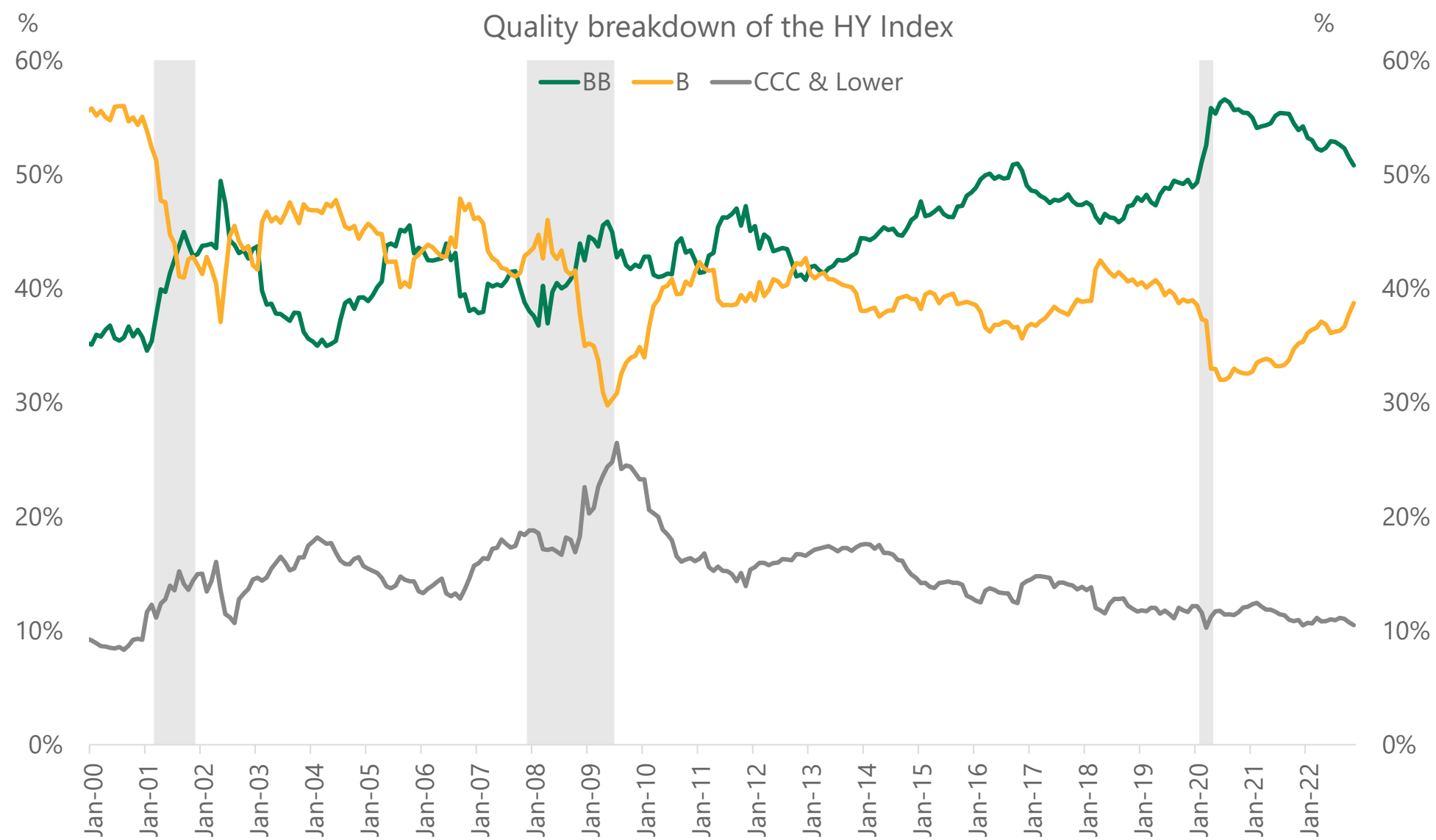
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Data as of 30th November 2022

Quality composition of the IG Index



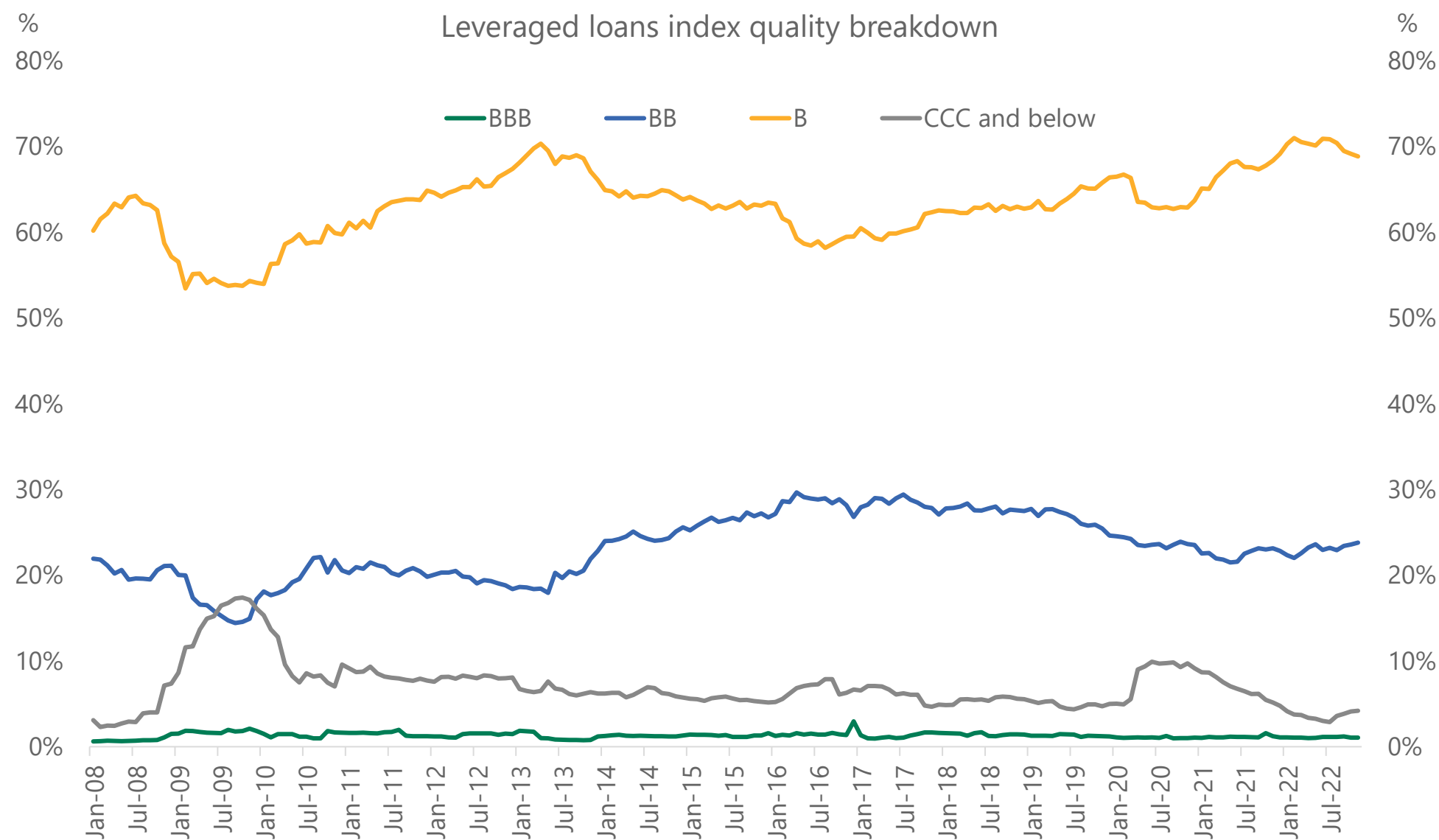
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Breakdown by market value. Data as of 30th November 2022

Quality composition of the HY Index



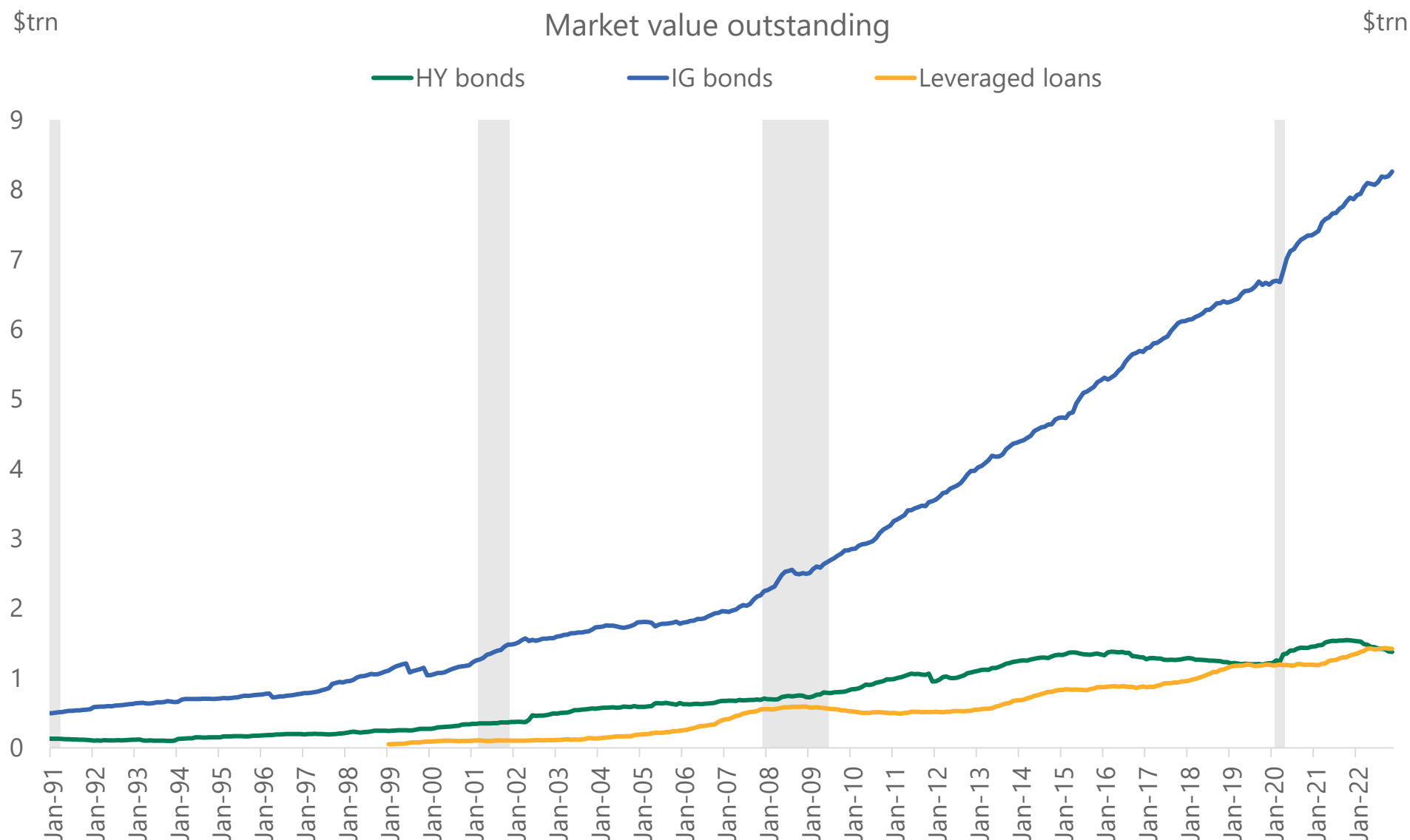
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Breakdown by market value. Data as of 30th November 2022

Quality composition of the leveraged loans index



Source: LCD, Apollo Chief Economist

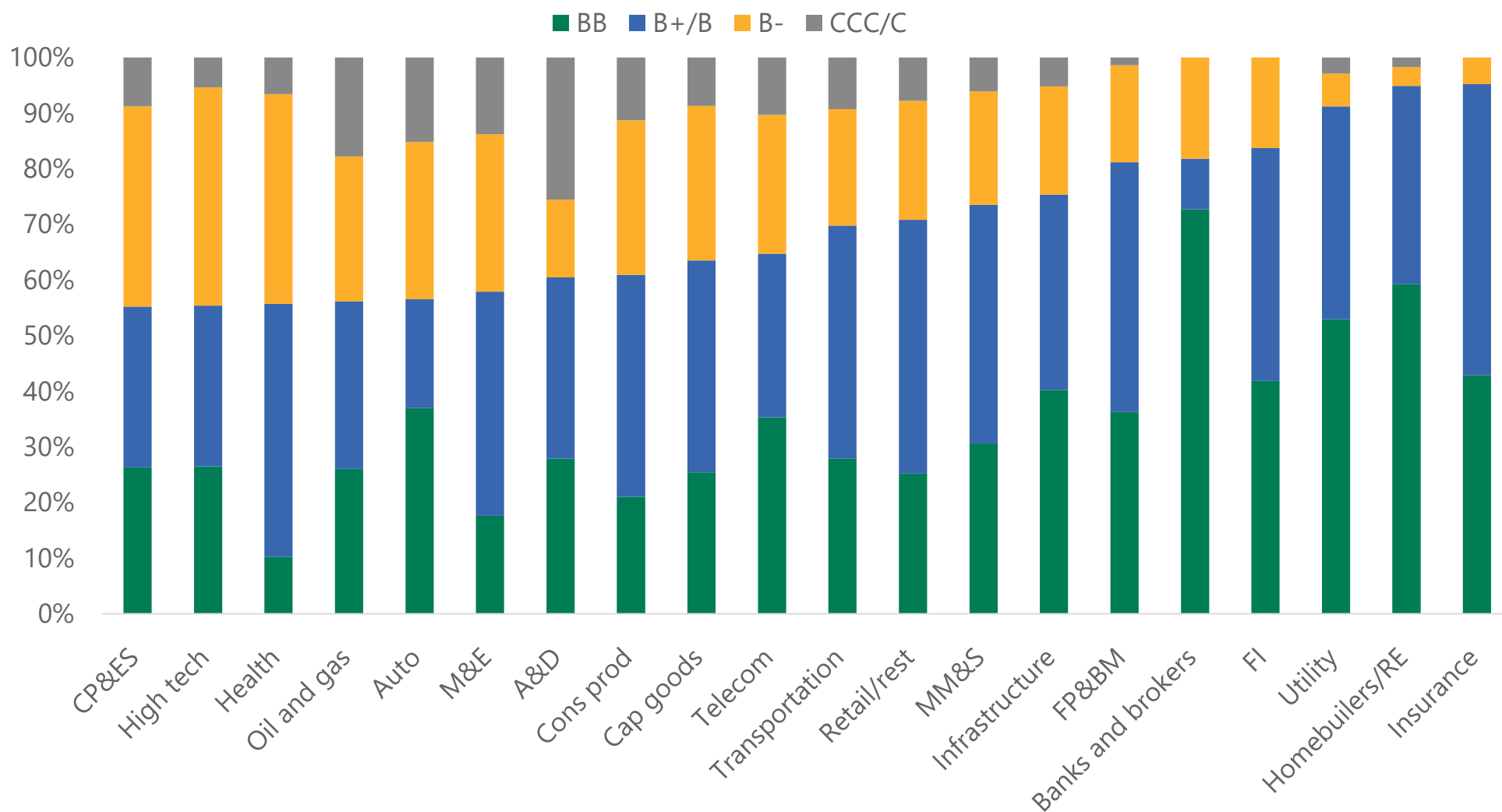
IG market is seven times bigger than HY and seven times bigger than the loan market



Source: ICE BofA, Bloomberg, S&P 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.

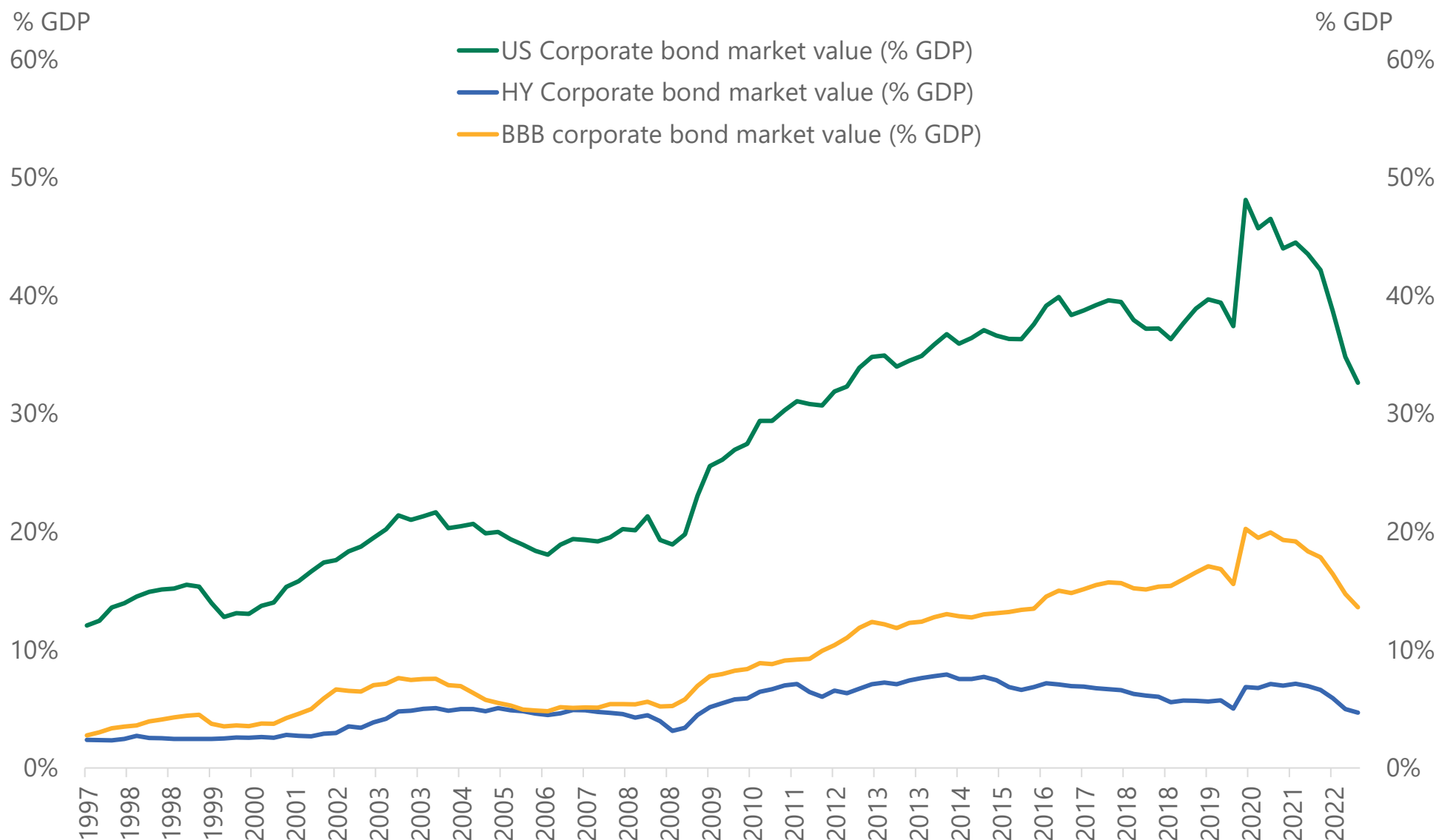
HY sector rating distributions

Sector rating distributions as of Dec 31, 2021



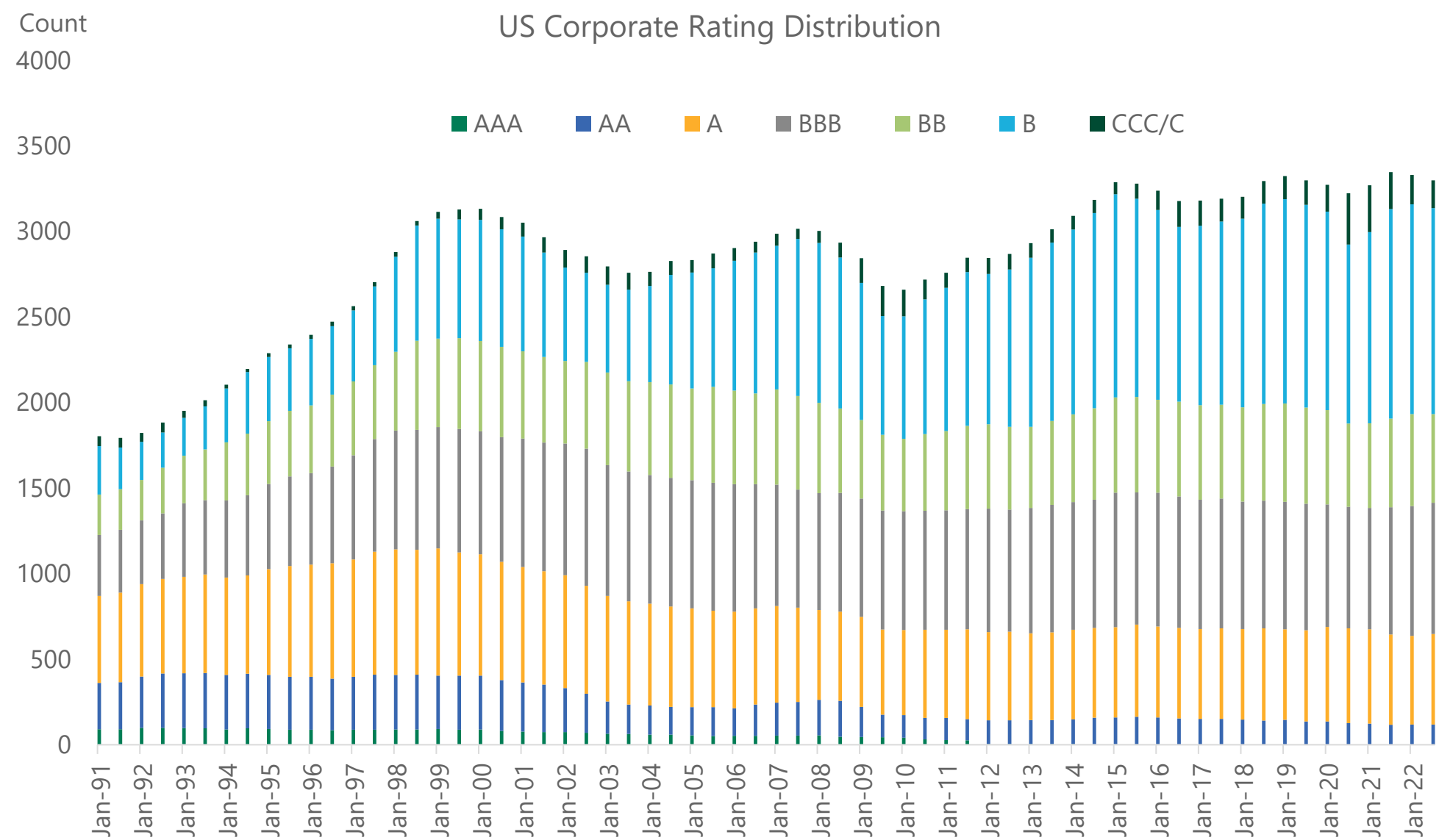
Source: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®, Apollo Chief Economist. Note: Numbers in parentheses represent overall sector's proportion of the speculative-grade population. CP&ES--Chemicals, packaging, and environmental services. FP&BM--Forest products and building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

US corporate bond markets as a share of GDP



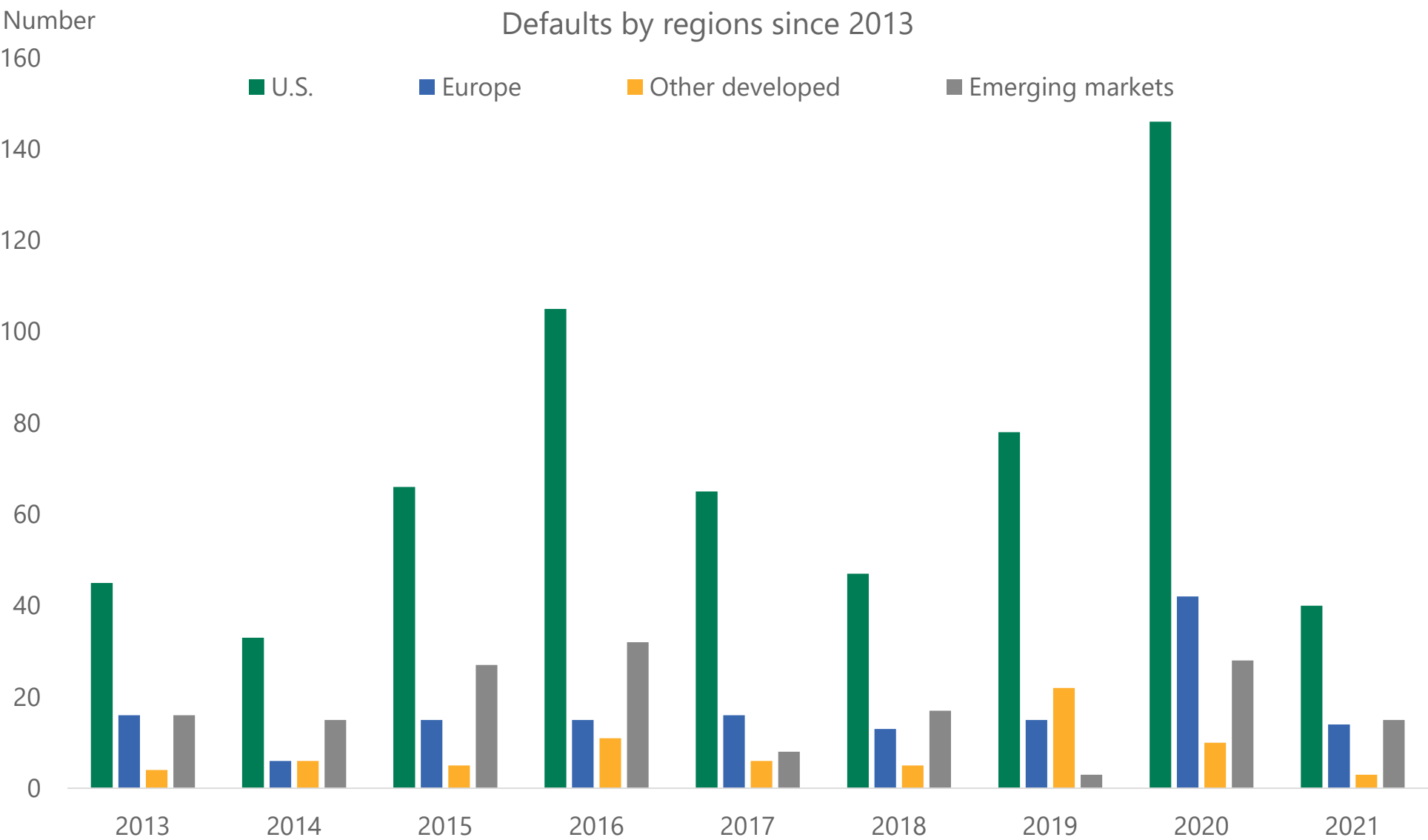
Source: ICE BofA, BEA, Haver Analytics, Bloomberg, Apollo Chief Economist

Distribution of corporate credit ratings



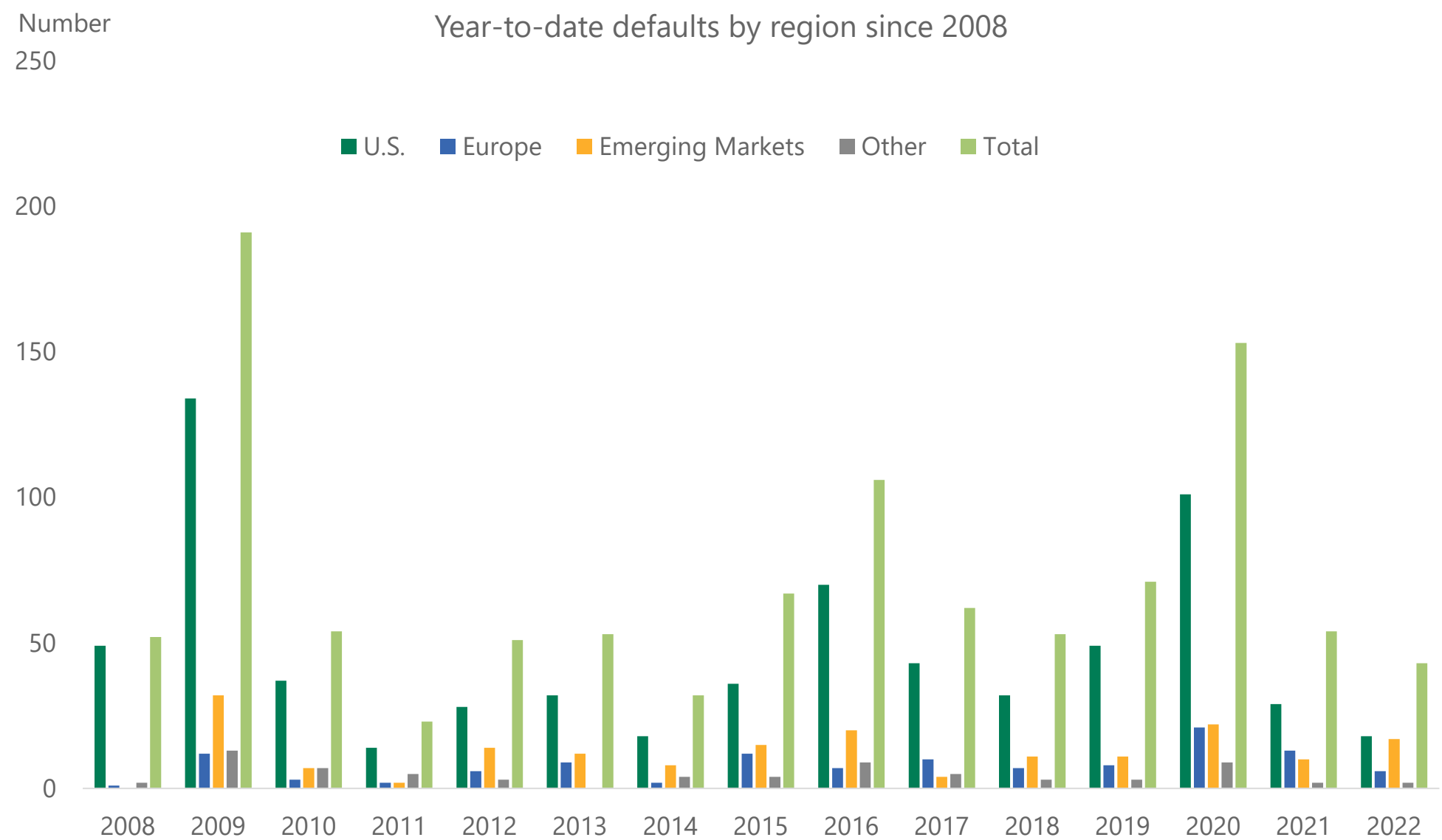
Source: S&P, Apollo Chief Economist

Global default rates remain low



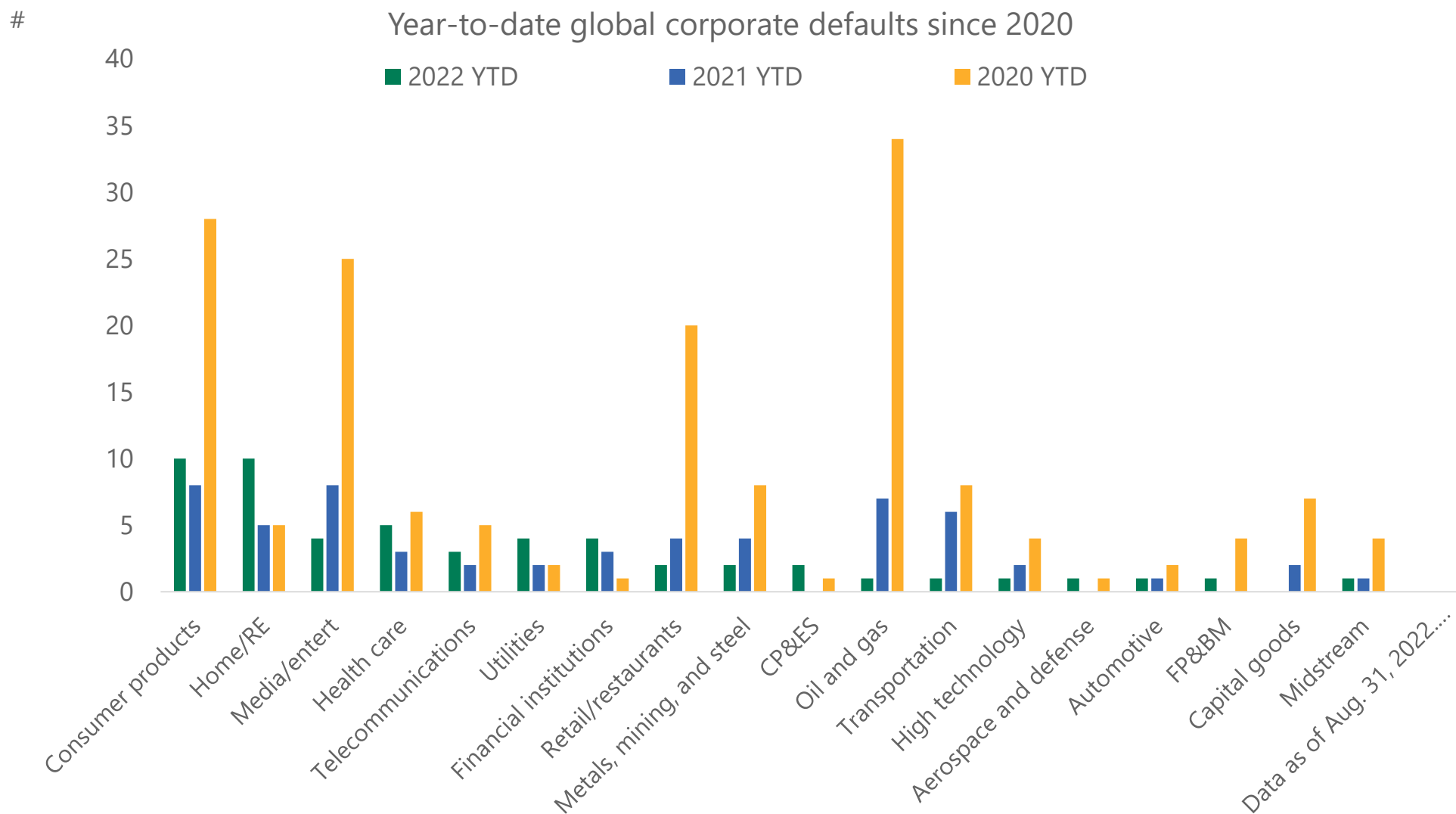
Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®, Apollo Chief Economist.

Global default rates remain very low



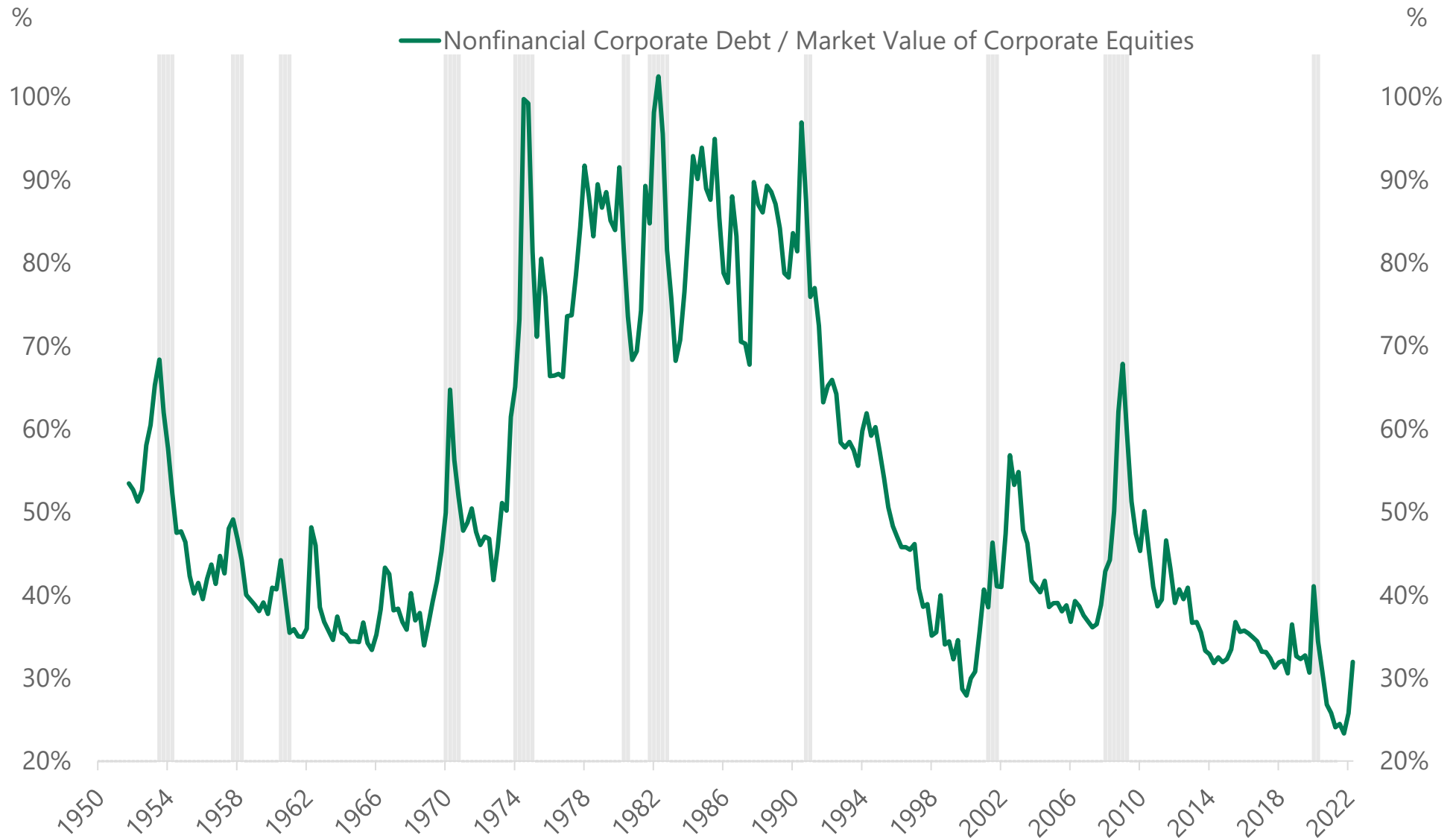
Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®, Apollo Chief Economist. Note: Data as of 31st July 2022

Default rates differ across sectors



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®, Apollo Chief Economist. Note: Data as 31st August 2022

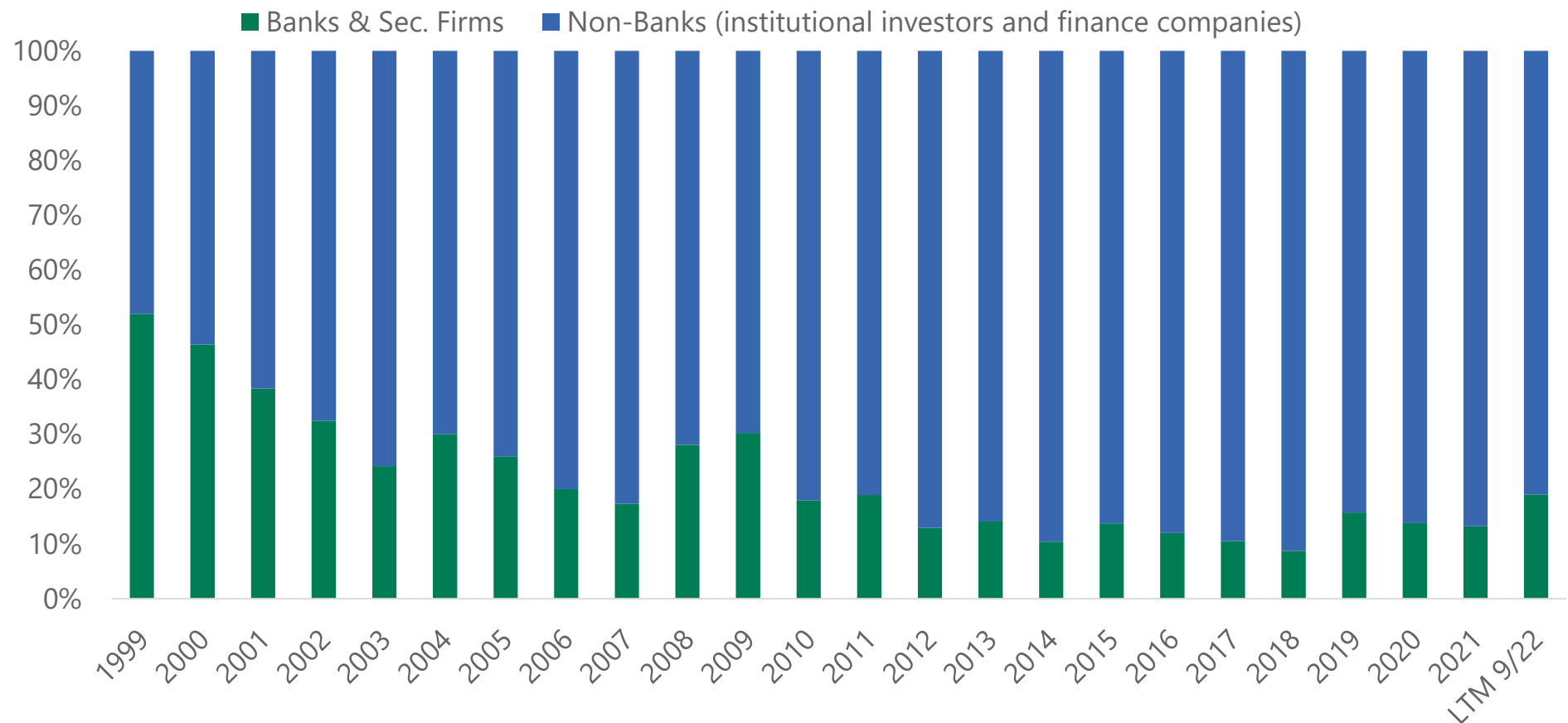
Debt-to-equity ratio is very low for corporate America



Source: FRB, Haver Analytics, Apollo Chief Economist.

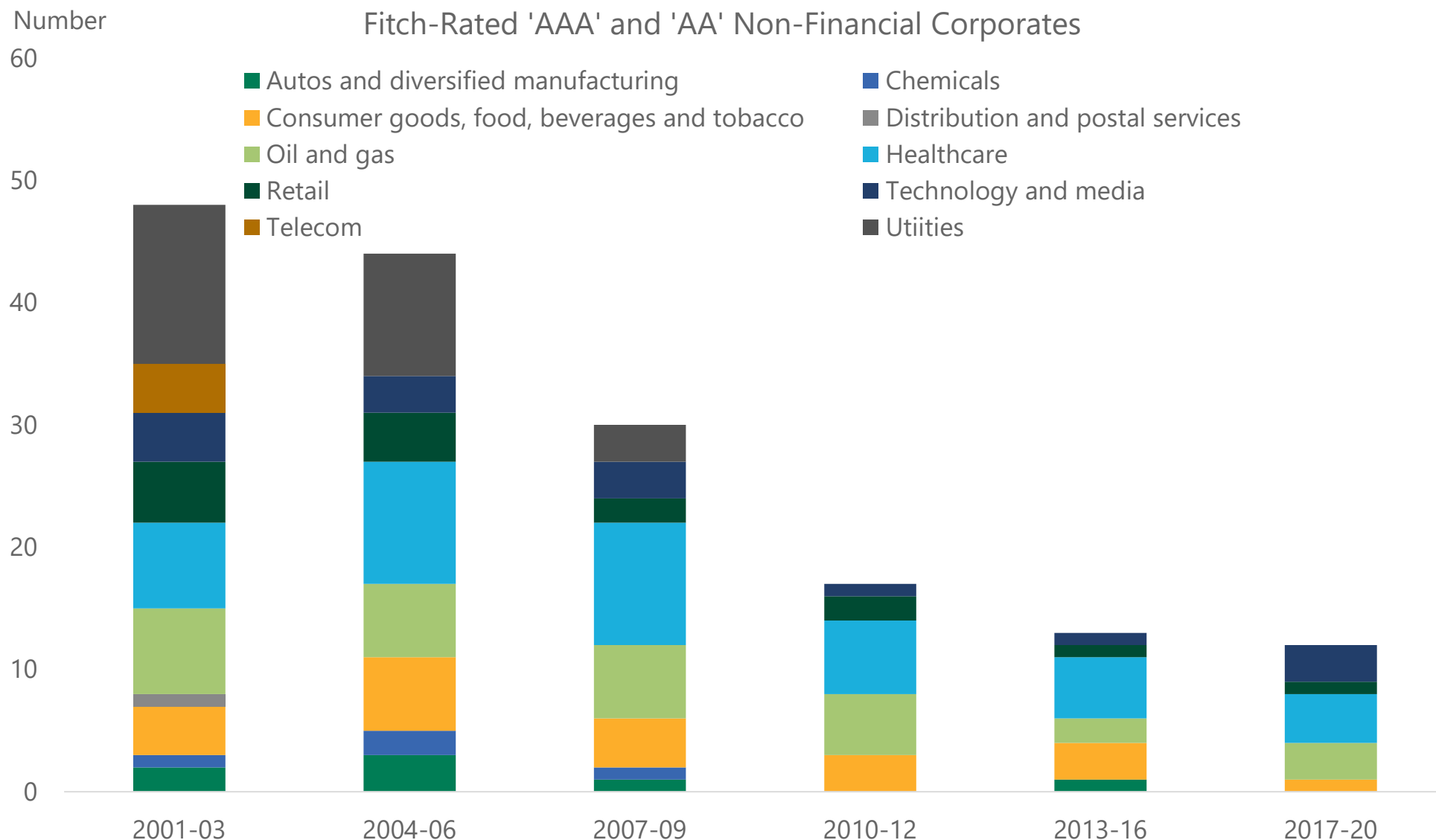
More leveraged loans are bought by banks

Primary Investor Market: Leveraged Loans



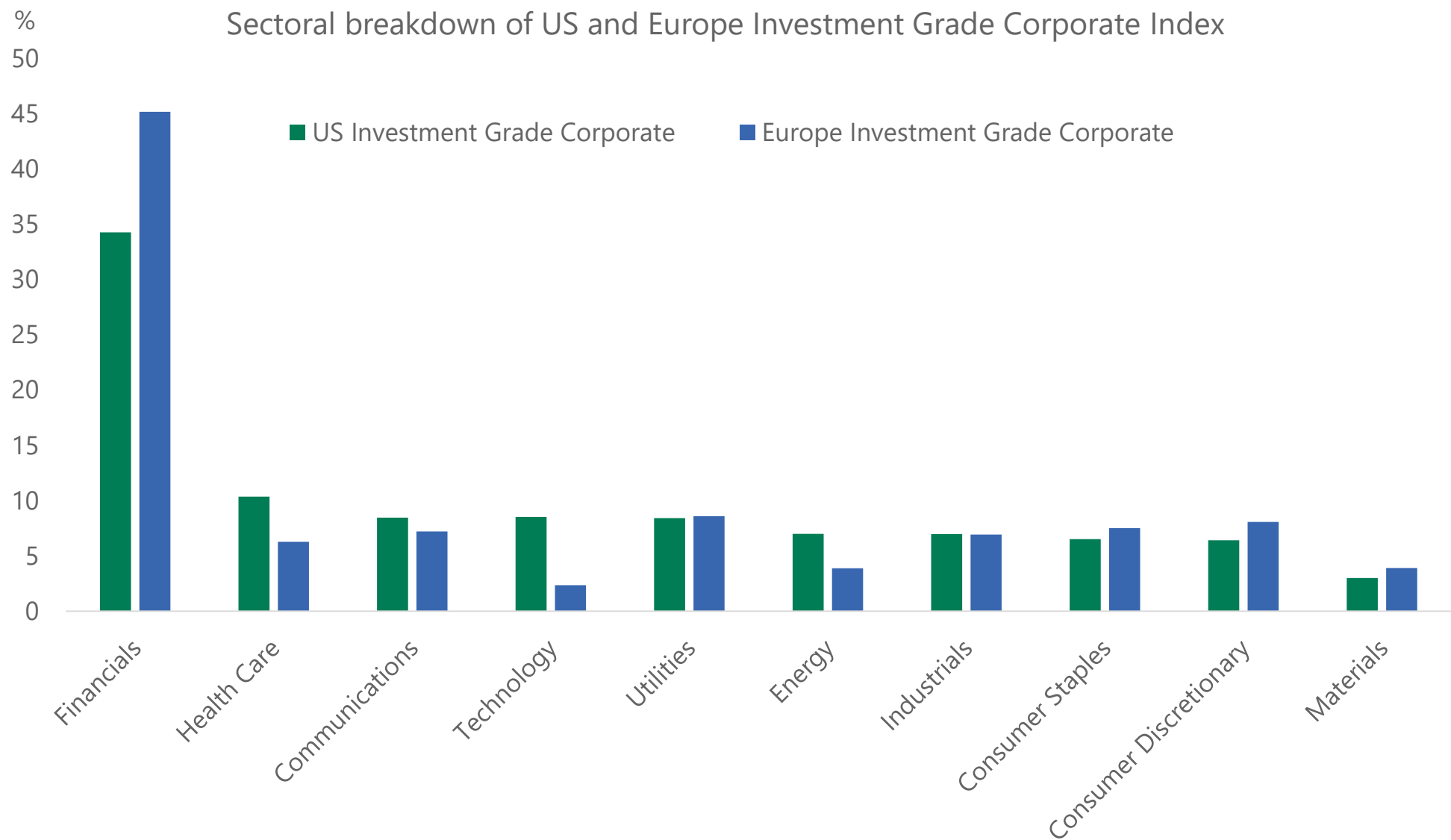
Source: S&P LCD, Apollo Chief Economist

Fewer and fewer corporate bonds are rated AAA and AA



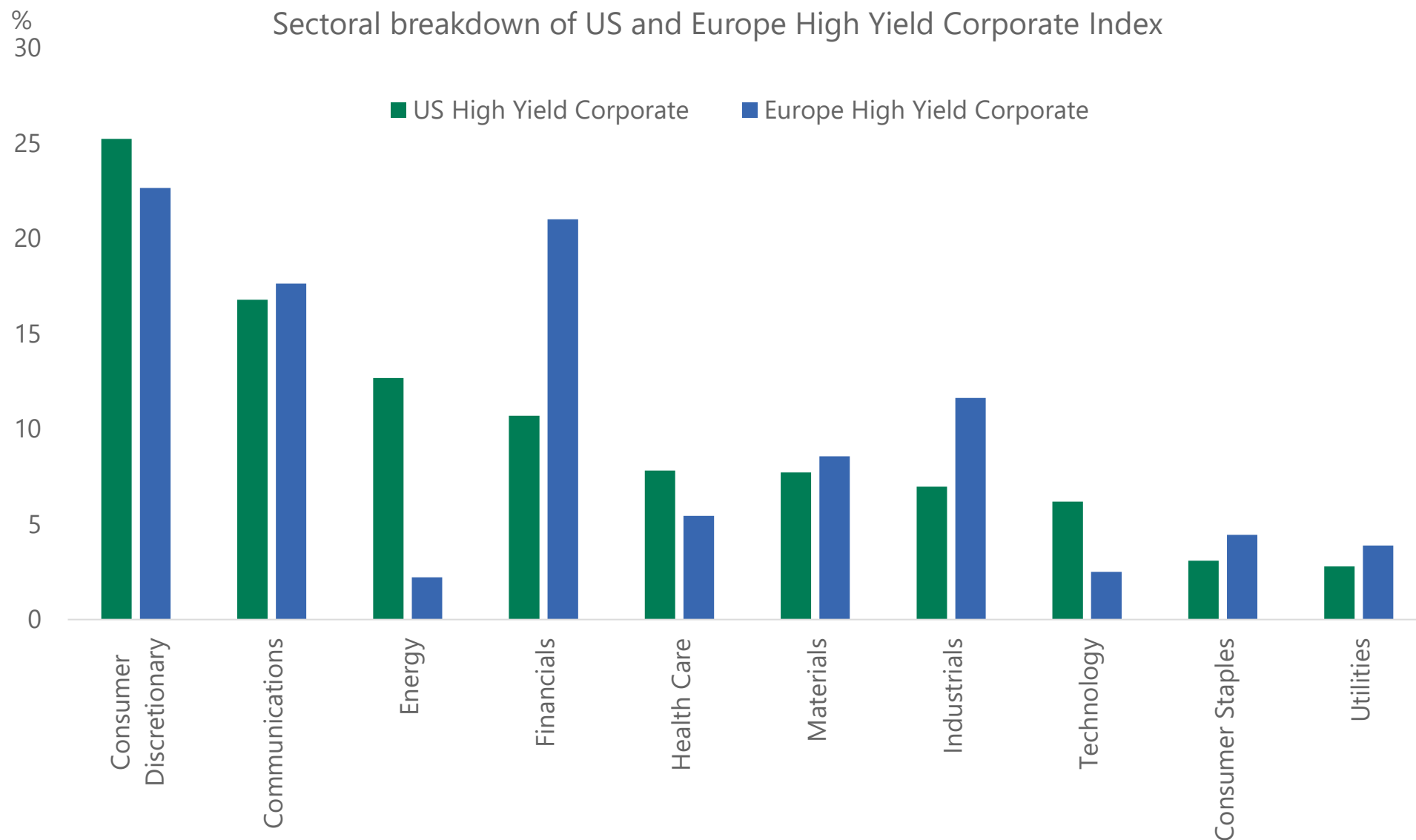
Source: Fitch Ratings, Apollo Chief Economist. Note: Including state-linked issuers with Standalone Credit Profiles in the 'AA' category. Data cover issuers that have been rated for at least six years or at end-2020.

EU IG index: Bigger weight to financials, lower weight to energy, healthcare and tech



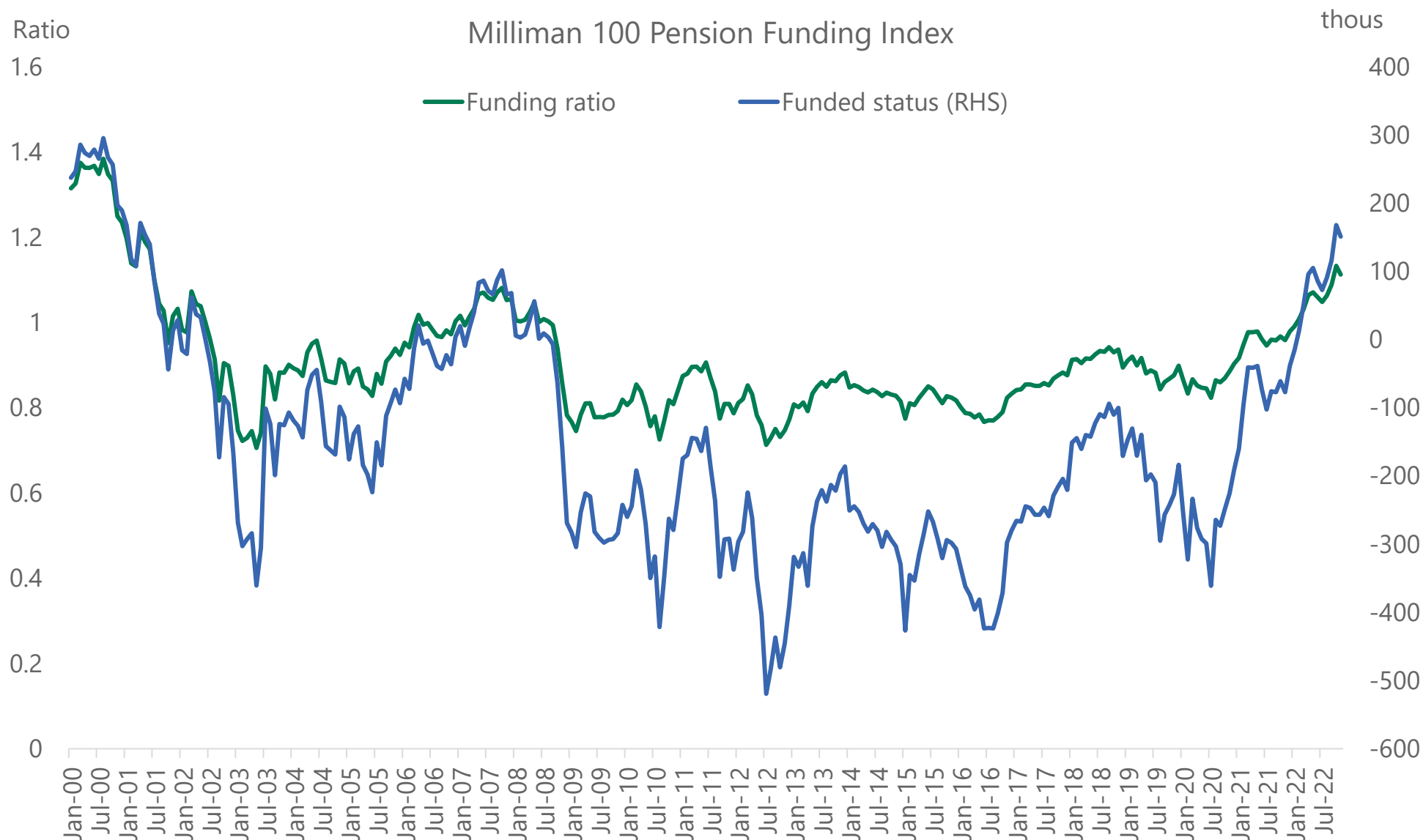
Source: Bloomberg Barclays, Bloomberg, Apollo Chief Economist. Data as of 30th September 2022

EU HY index: Bigger weight to financials and industrials. Lower weight to energy, healthcare, and tech



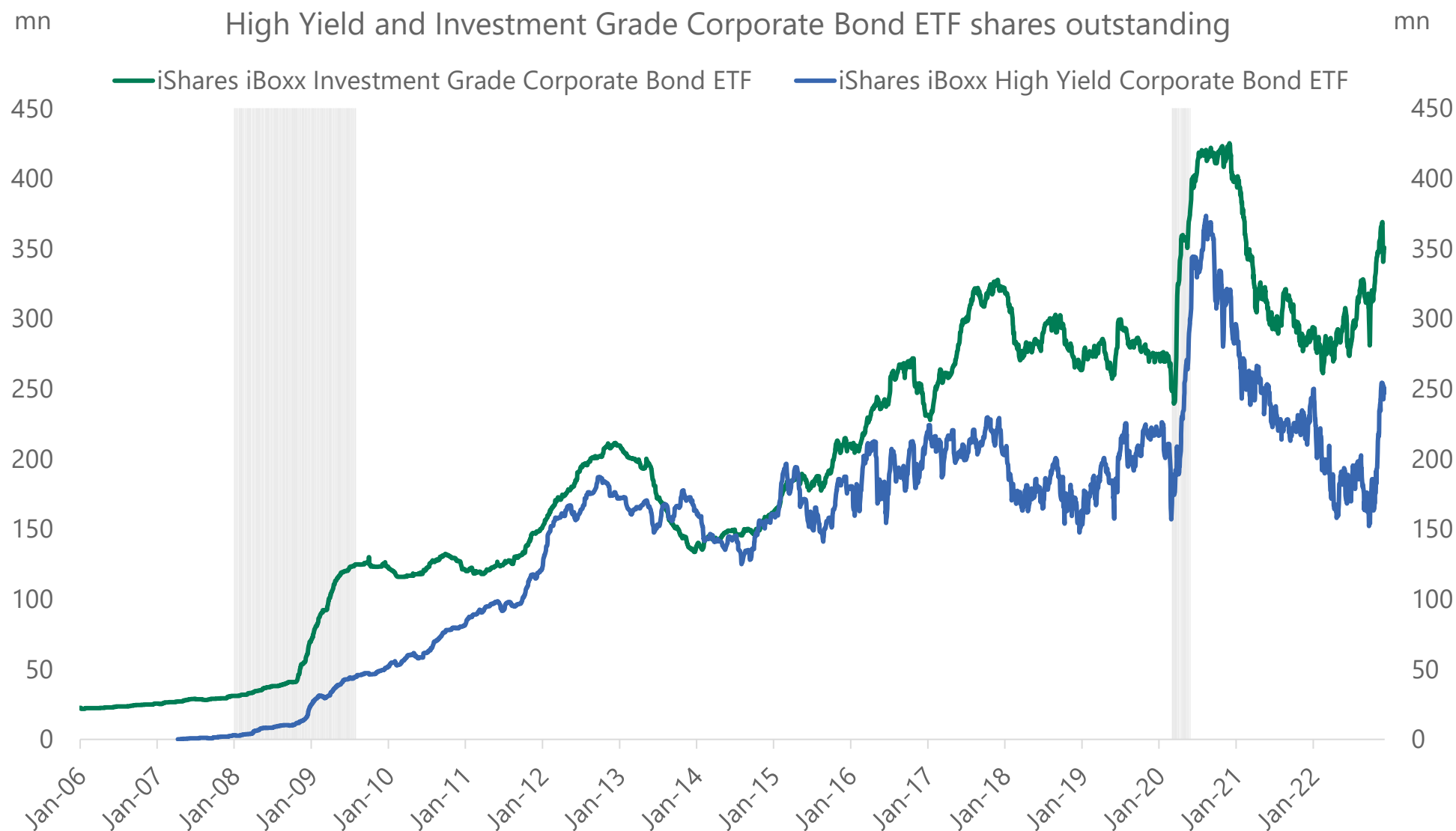
Source: Bloomberg Barclays, Bloomberg, Apollo Chief Economist Data as of 30th September 2022

Pension funding status has improved



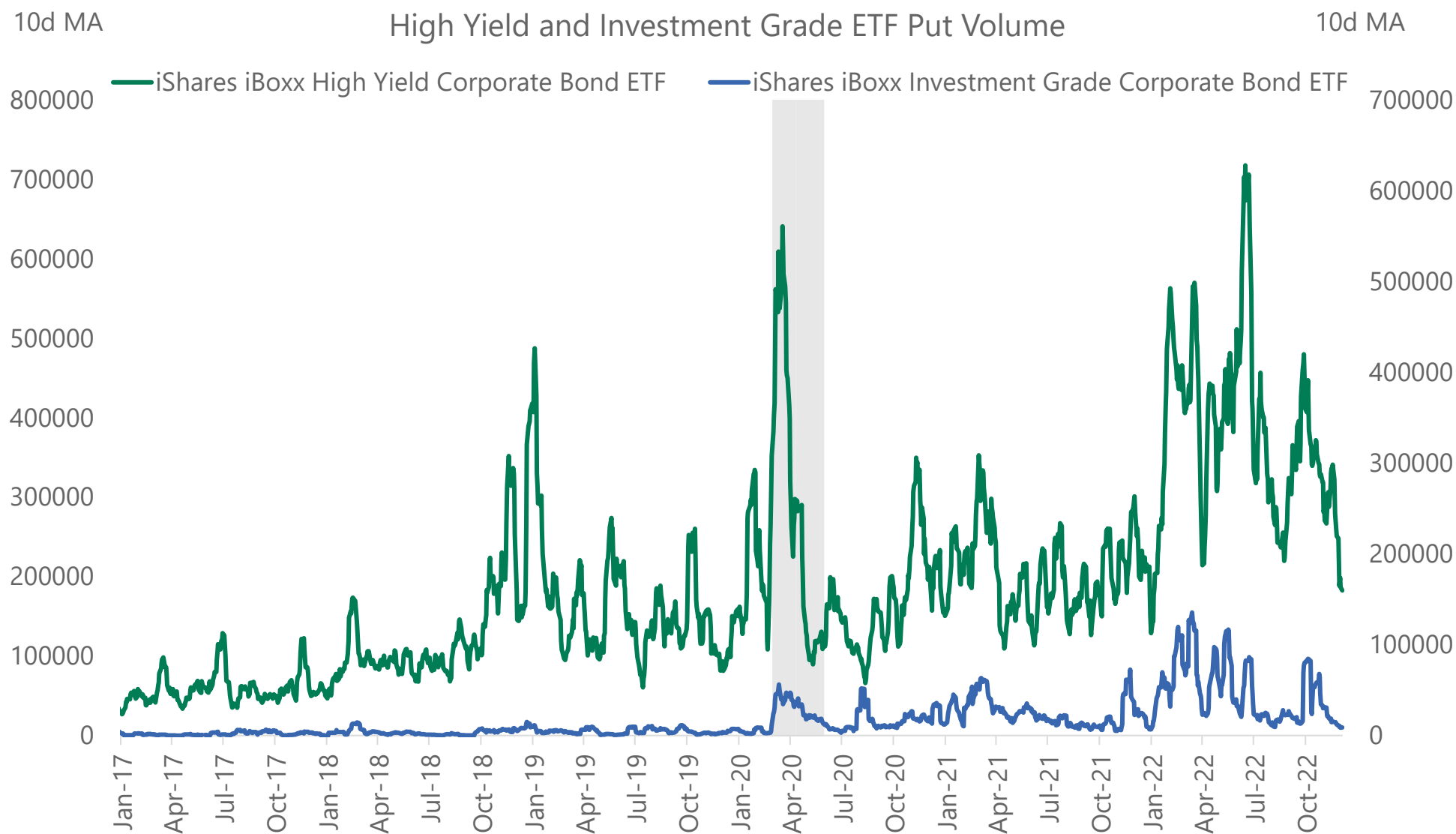
Source: Milliman, Bloomberg, Apollo Chief Economist

Retail investors taking money out of HY



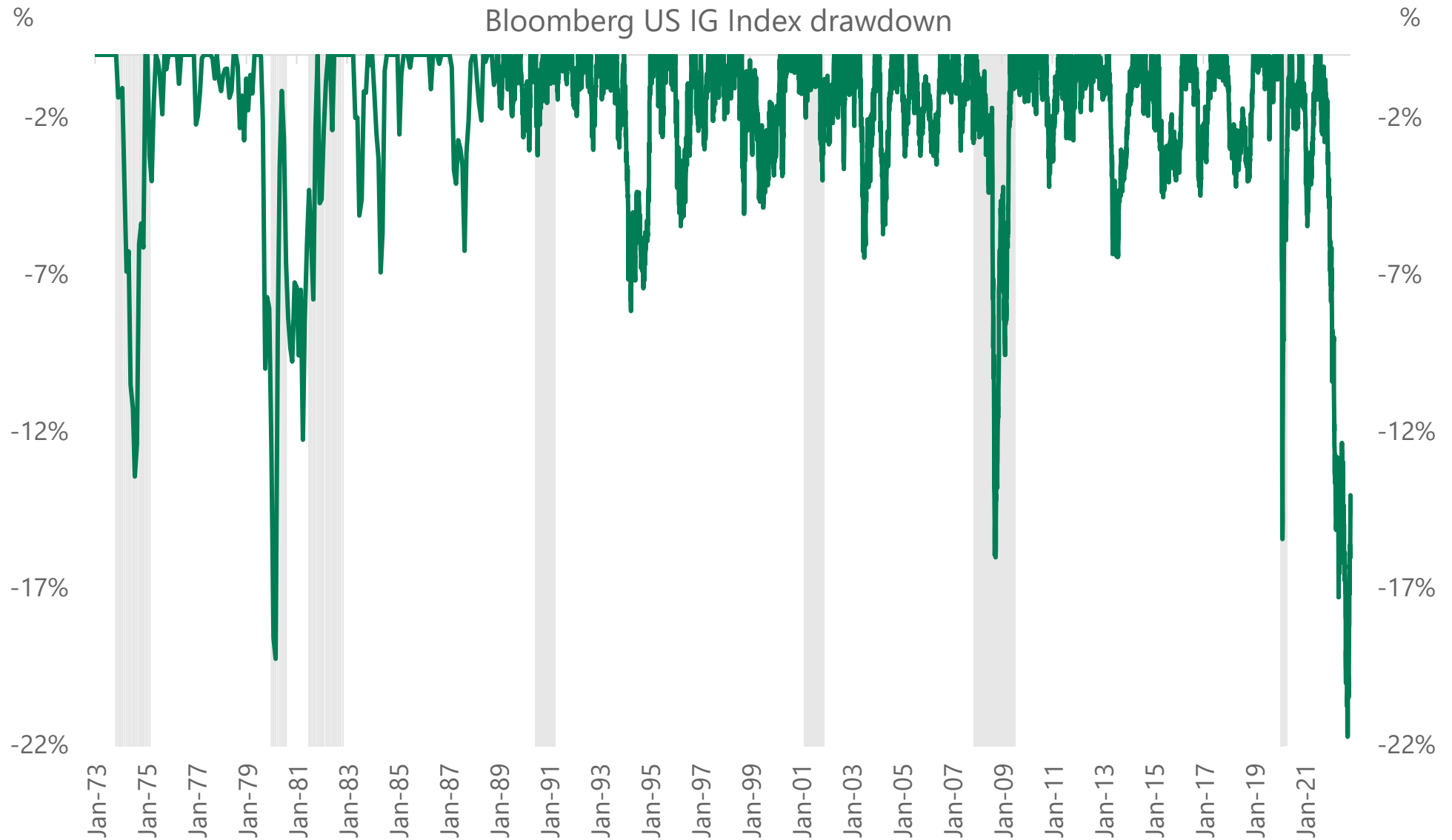
Source: Bloomberg, Apollo Chief Economist. Note: Tickers used HYG US Equity and LQD US Equity

Put volumes for IG ETF and HY ETF



Source: Bloomberg, Apollo Chief Economist

Passive IG investors down 14% from peak



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

Bonds outstanding trading at negative interest rates



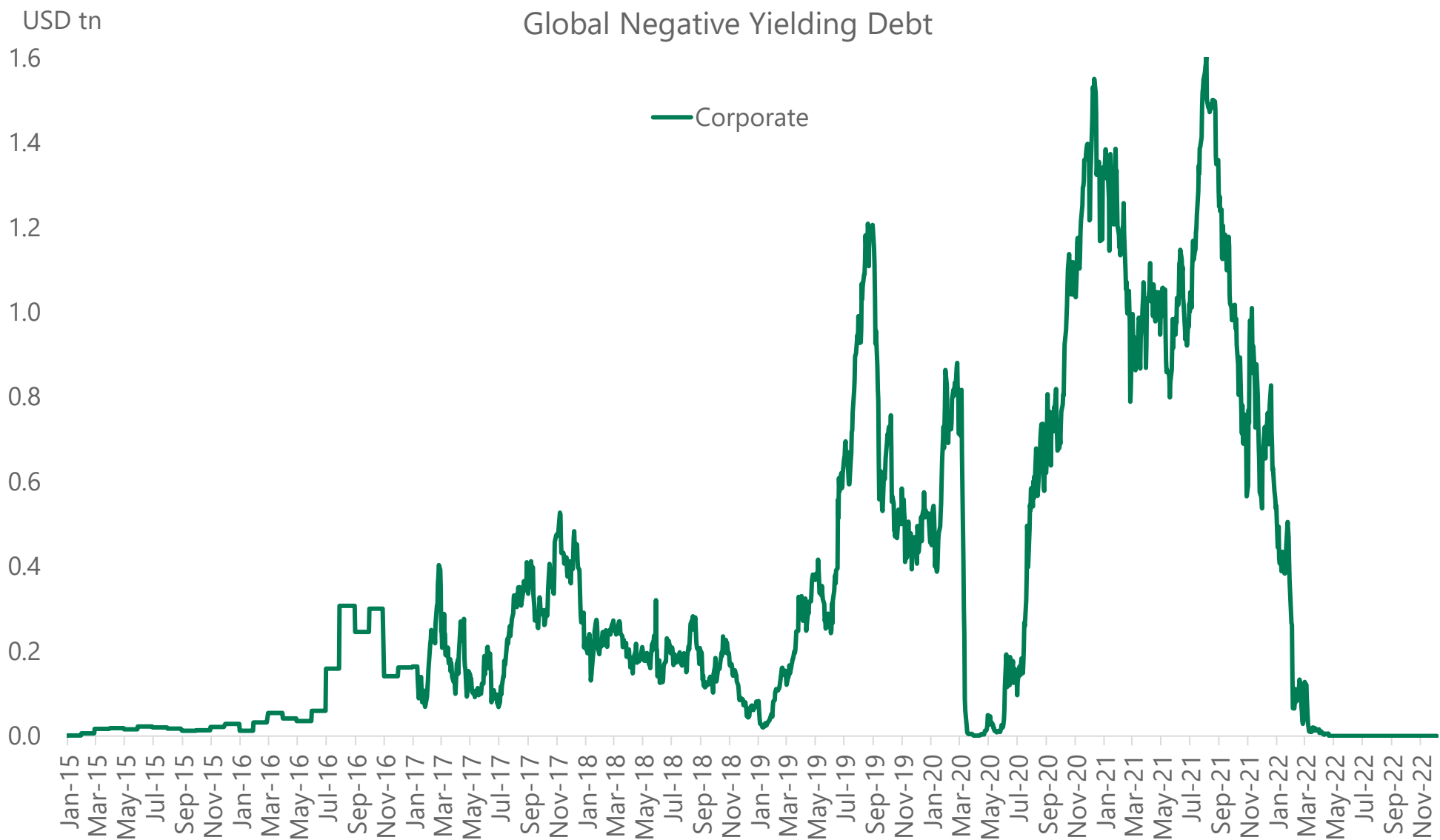
Source: Bloomberg, Apollo Chief Economist

The total value of negative yielding debt in the world: \$2trn



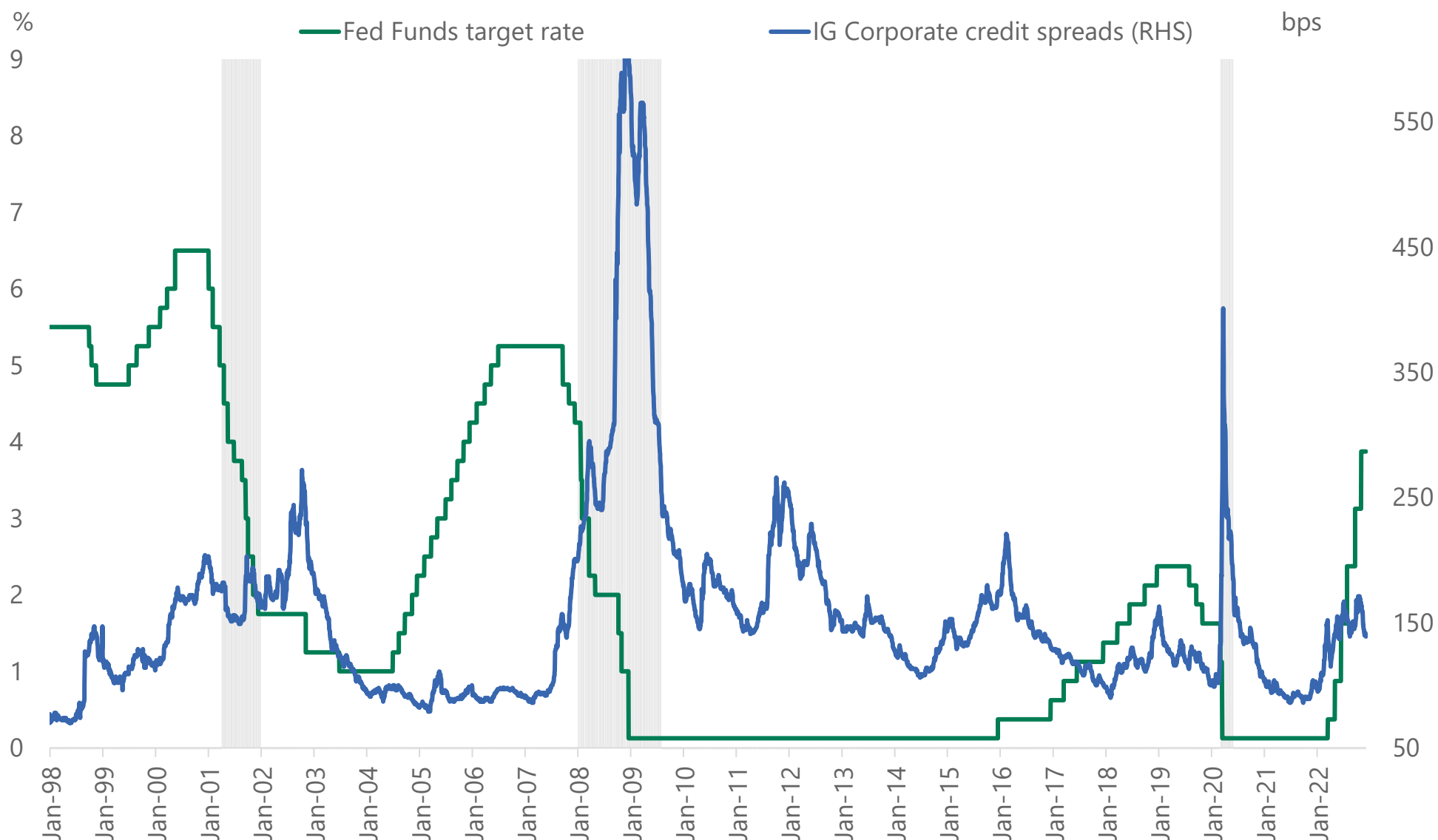
Source: Bloomberg, Apollo Chief Economist

All corporate bonds now have positive yields



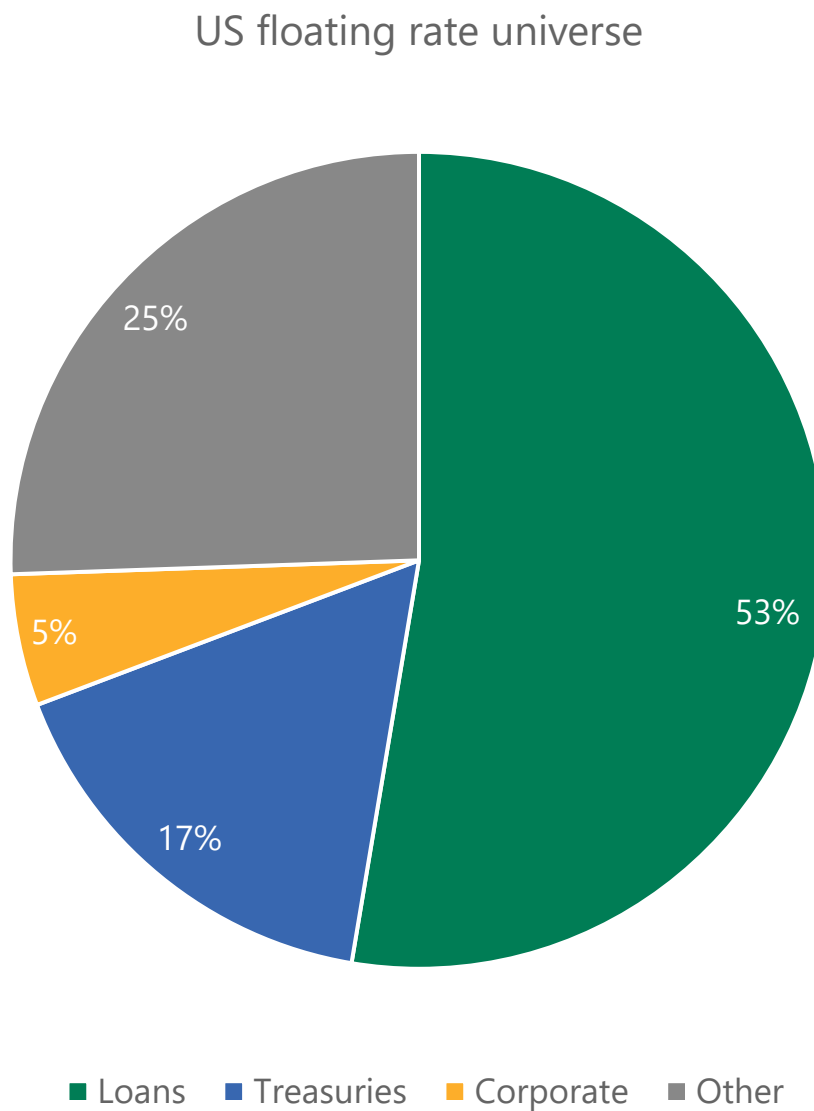
Source: Bloomberg, Apollo Chief Economist

Fed hiking and credit spreads widening



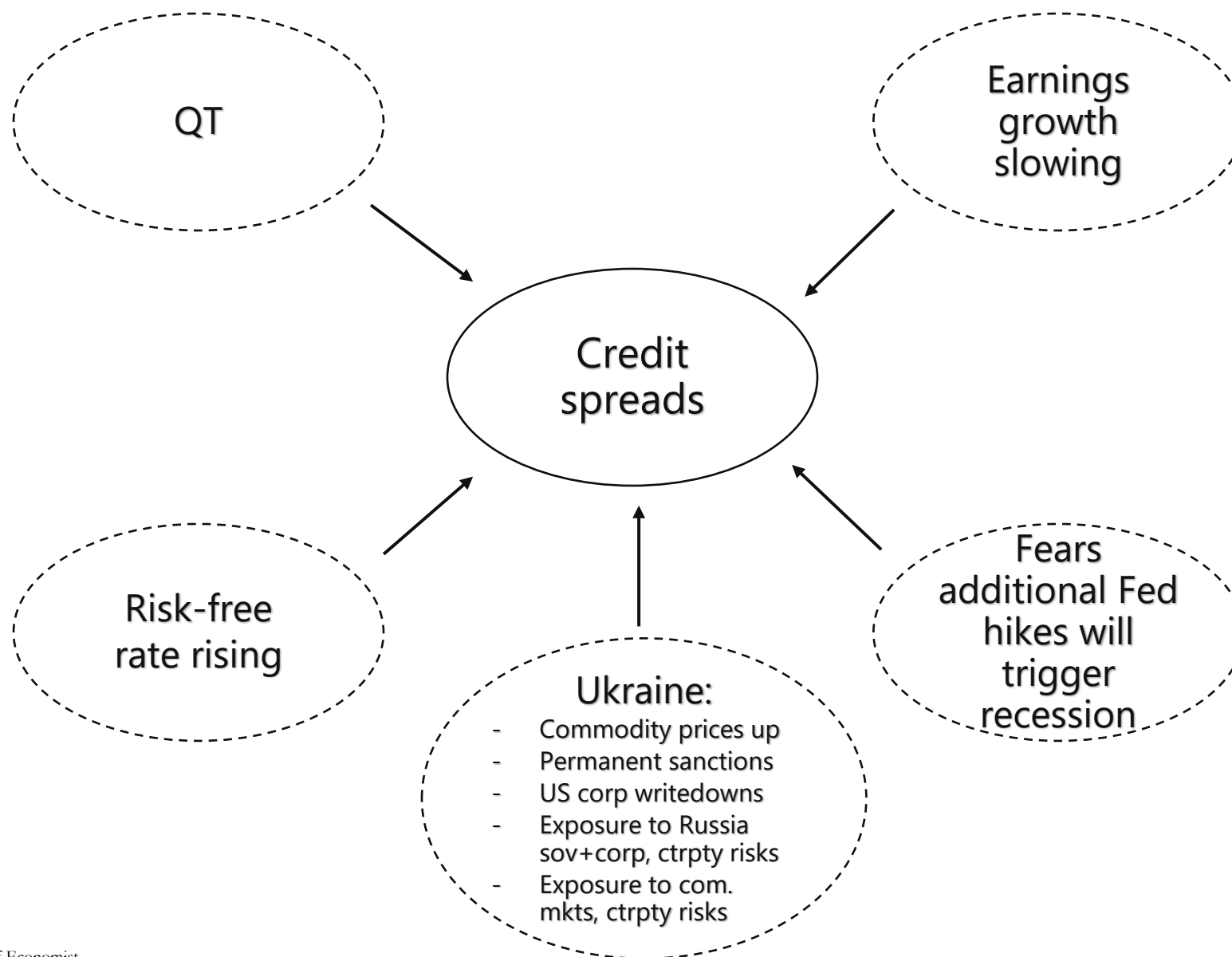
Source: Bloomberg, Apollo Chief Economist

US: Floating rate bonds outstanding, October 2022



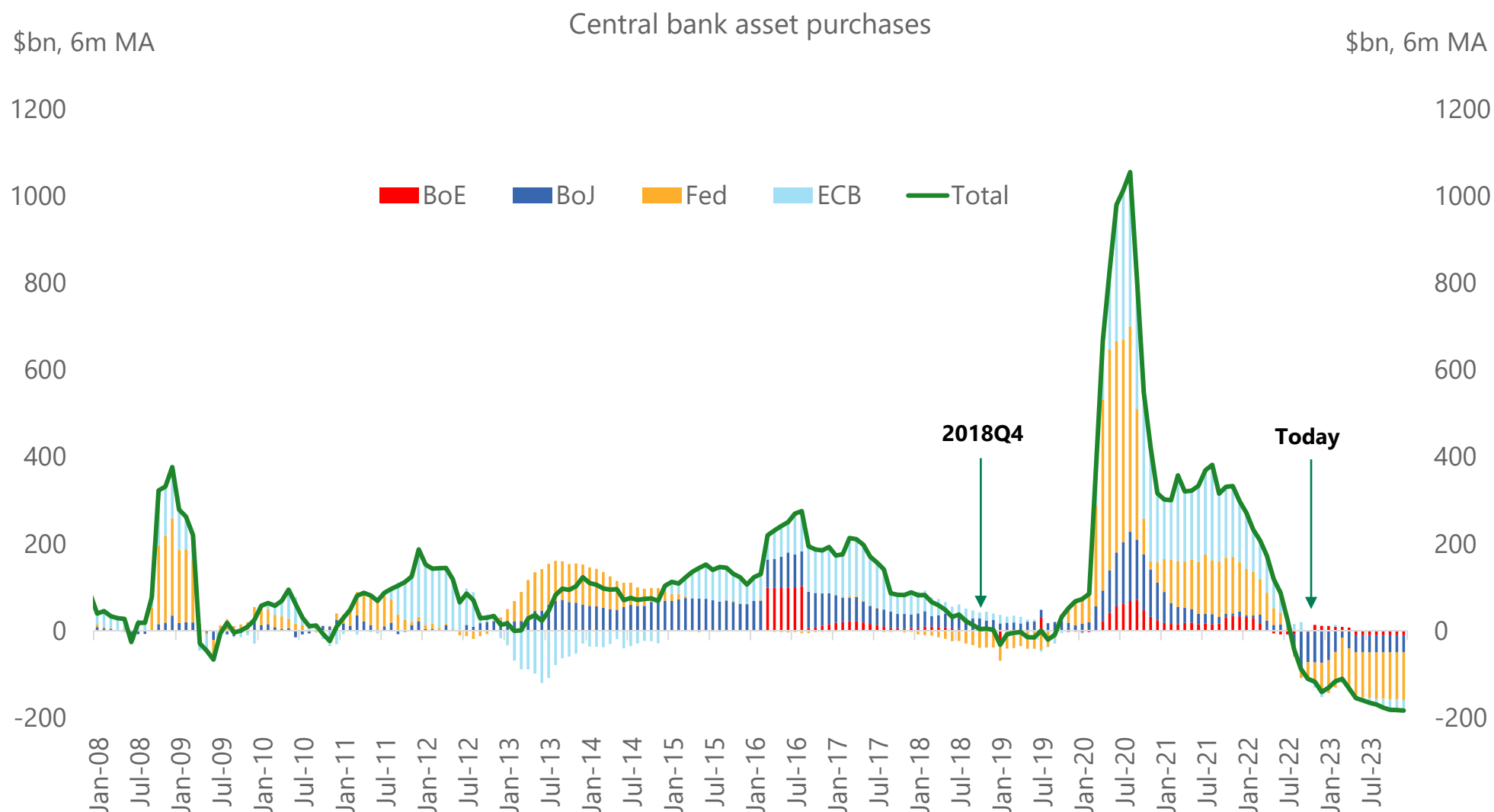
Source: Bloomberg, Apollo Chief Economist. Note: Other includes Munis, Agency and Securitized. The chart filters floating rate securities for all asset class from the fixed income SRCH <GO> screen on Bloomberg.

Turbulence in credit markets continues



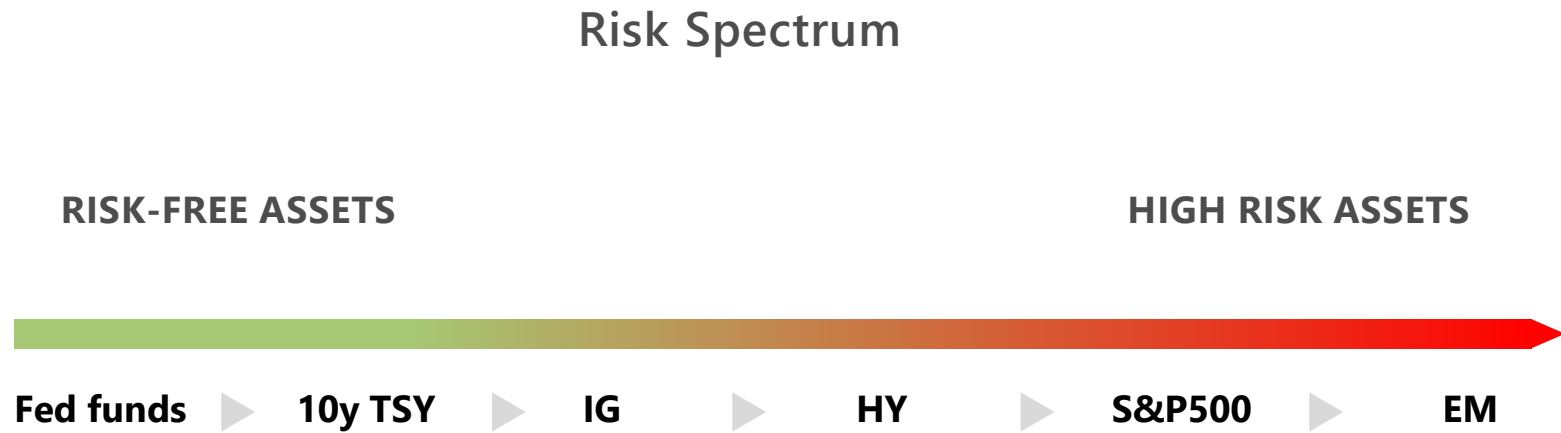
Source: Apollo Chief Economist

When QT begins, credit spreads widen, and equities go lower

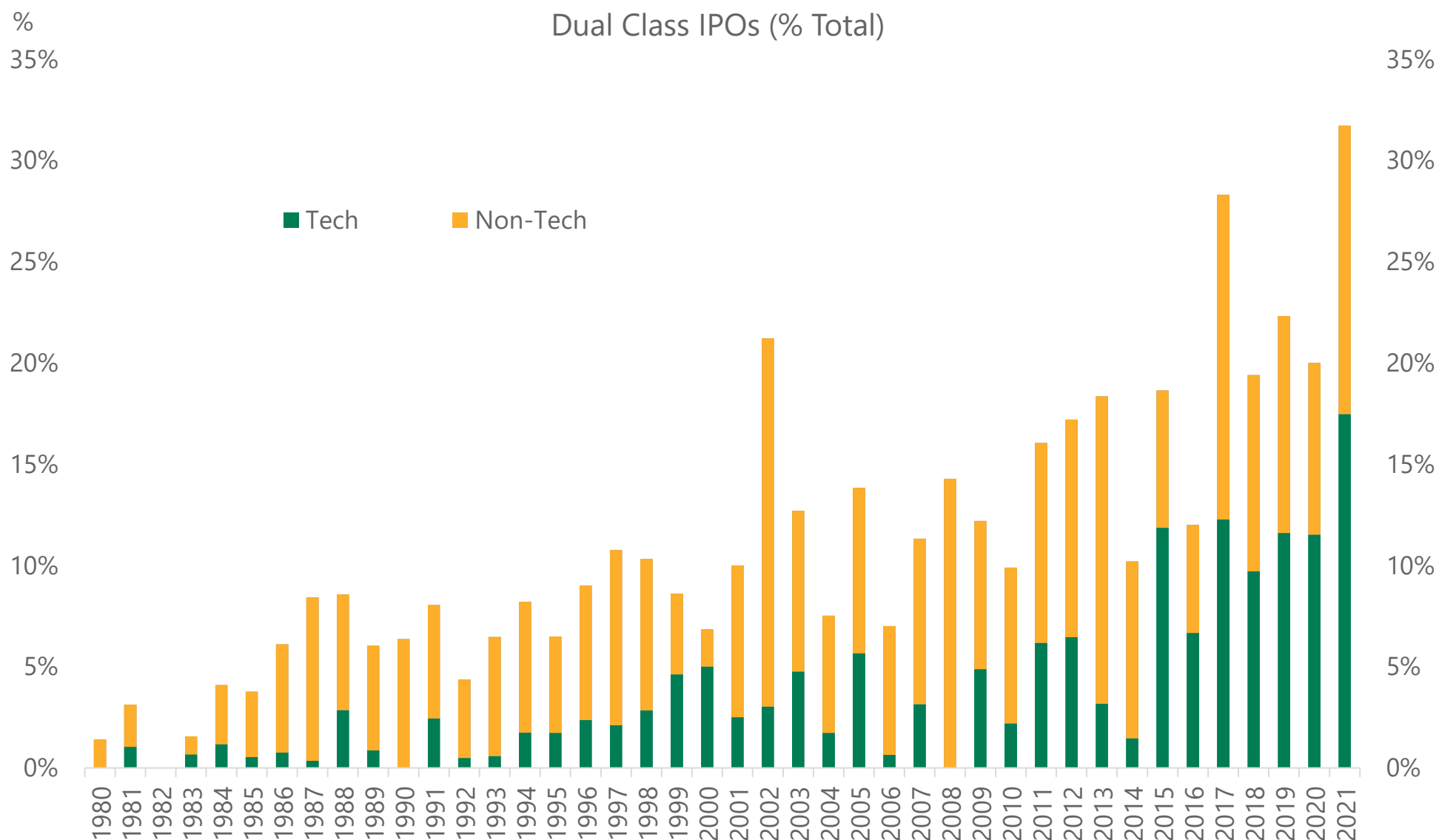


Source: Bloomberg, Apollo Chief Economist. Pace of purchases for 2021: BOE: £3.4bn per week till mid December 2021, FED: USD120bn per month with wind down from December with purchases ending in March 2022, ECB: Euro 90bn per month (20 bn APP + 60 bn PEPP), PEPP till March 2022, Euro 40bn in April, Euro 30bn in May and Euro 20bn in June, and only redemptions reinvested from August. BOJ: USD 70bn 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

Inflation is reversing the hunt for yield

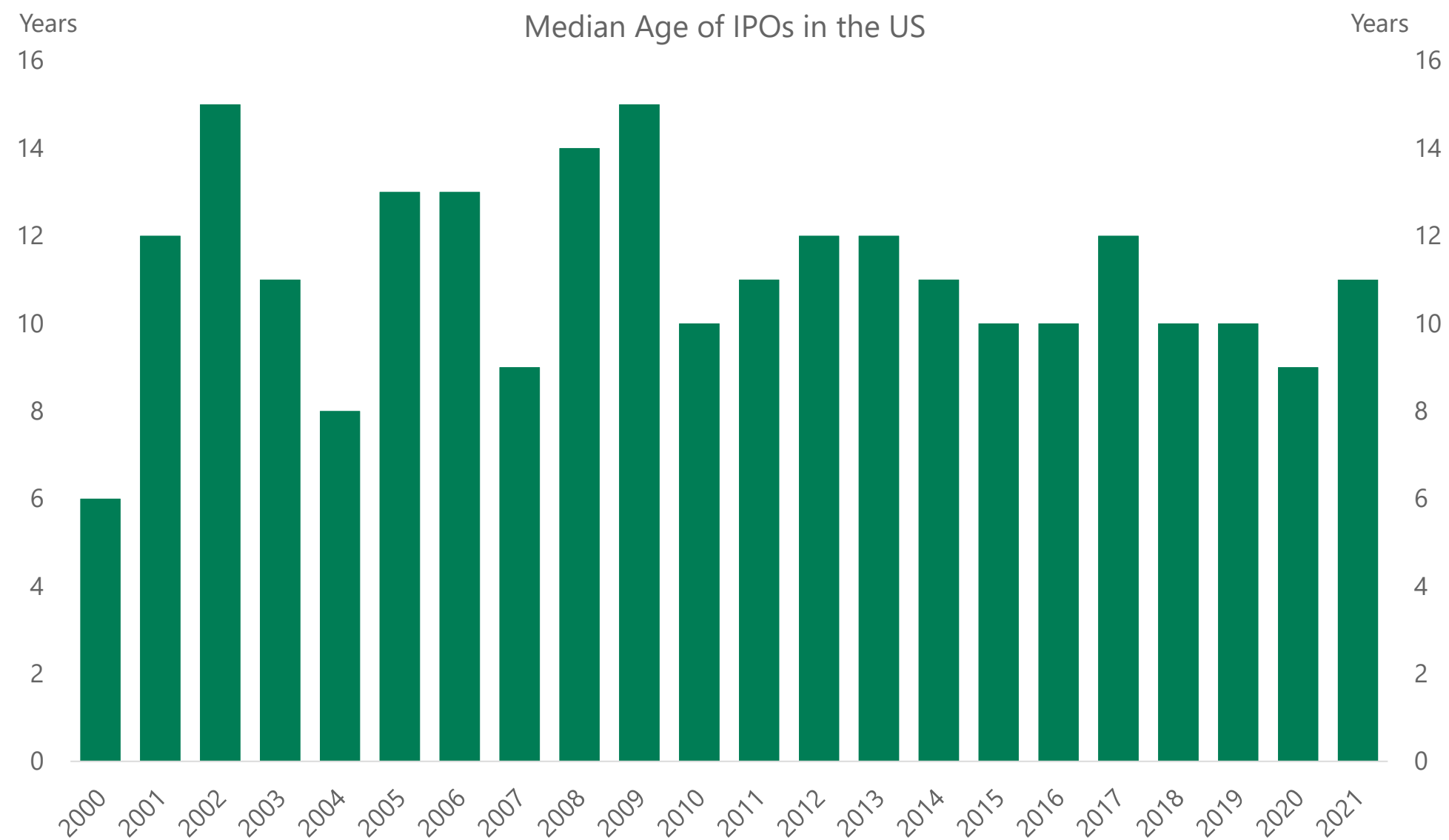


More dual class IPOs, driven by tech



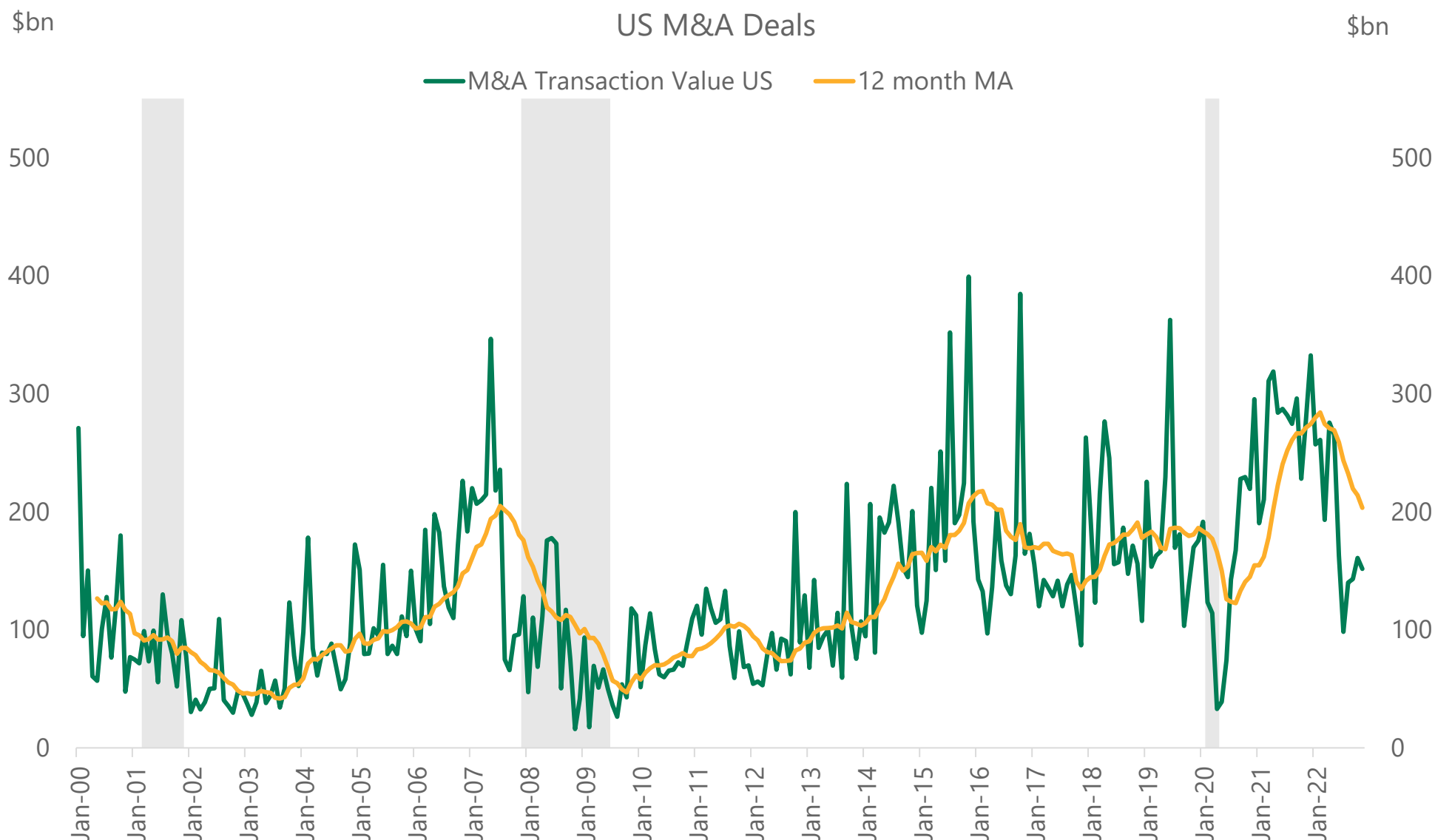
Source: Jay Ritter, Apollo Chief Economist

Median age of IPOs



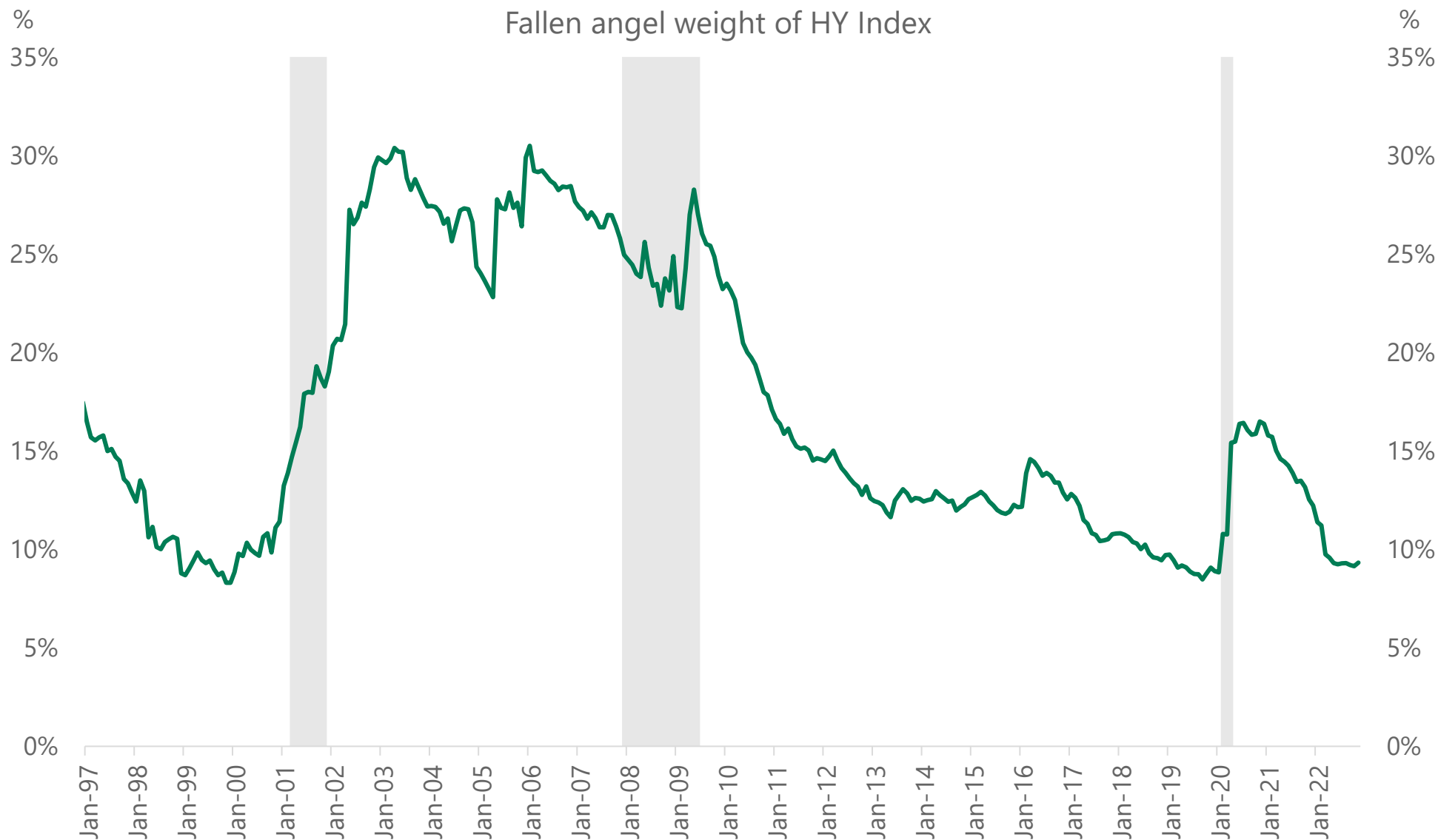
Source: Jay Ritter, Apollo Chief Economist

The number of M&A deals is low at the moment



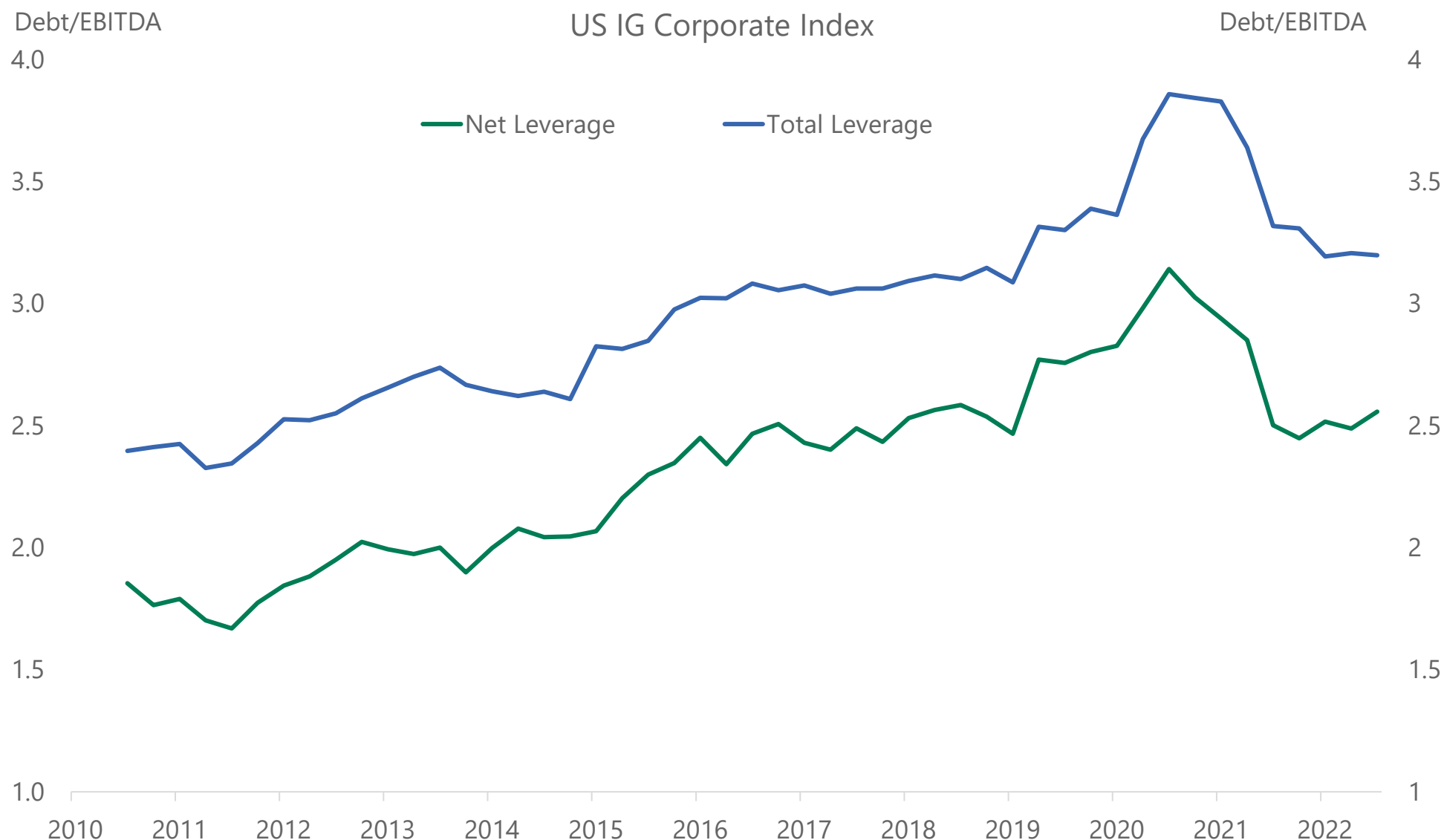
Source: Bloomberg, Apollo Chief Economist. Note: Ticker used is MAATUS Index

Declining share of fallen angels in the HY index



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

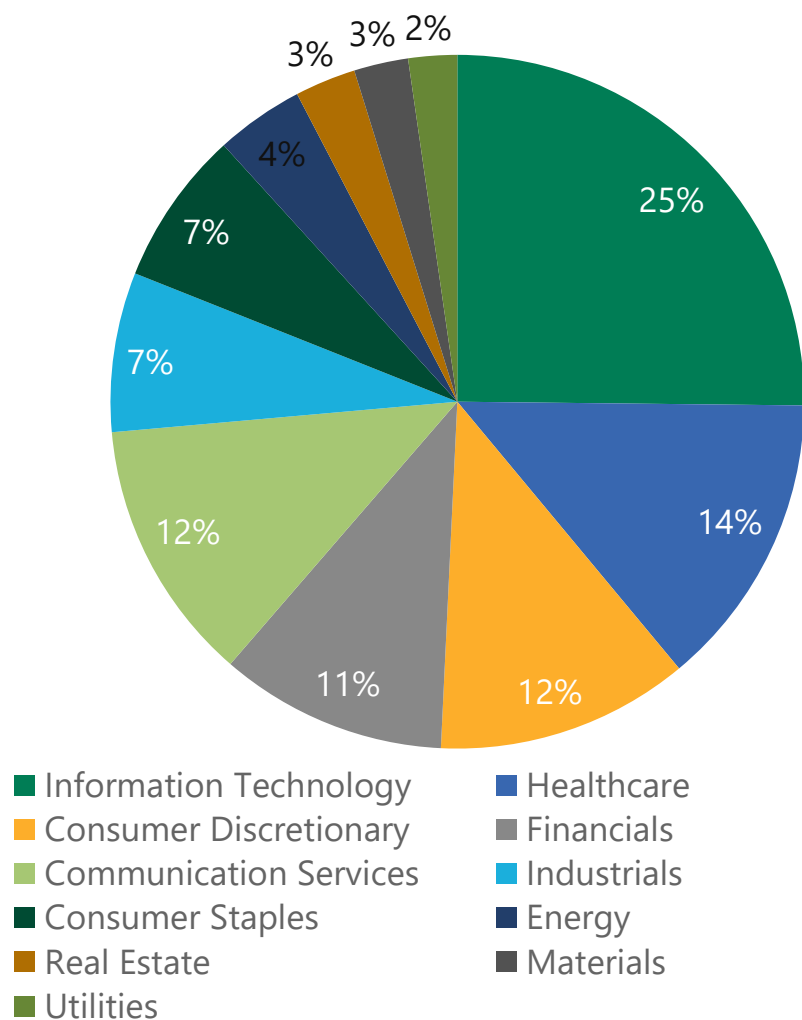
IG leverage down after the pandemic



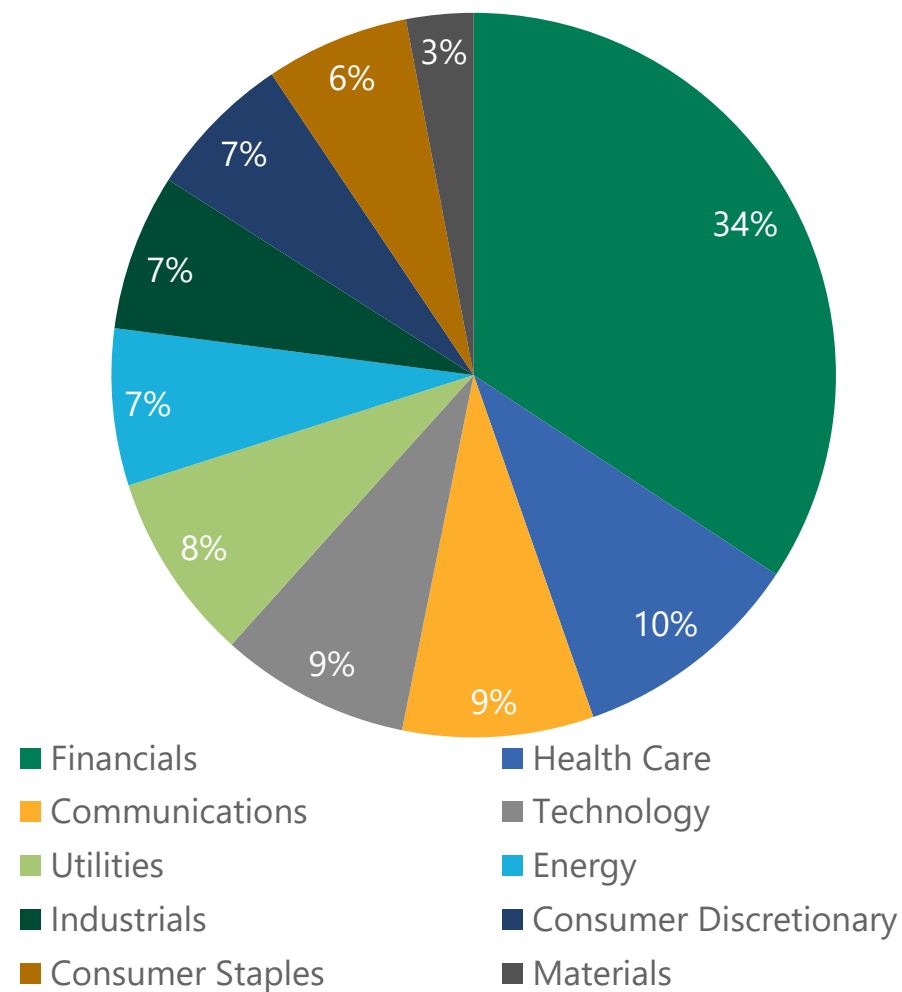
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Note: Index used C0A0 Index

Big differences between weights in S&P500 and IG index

S&P 500 Index weight by market cap



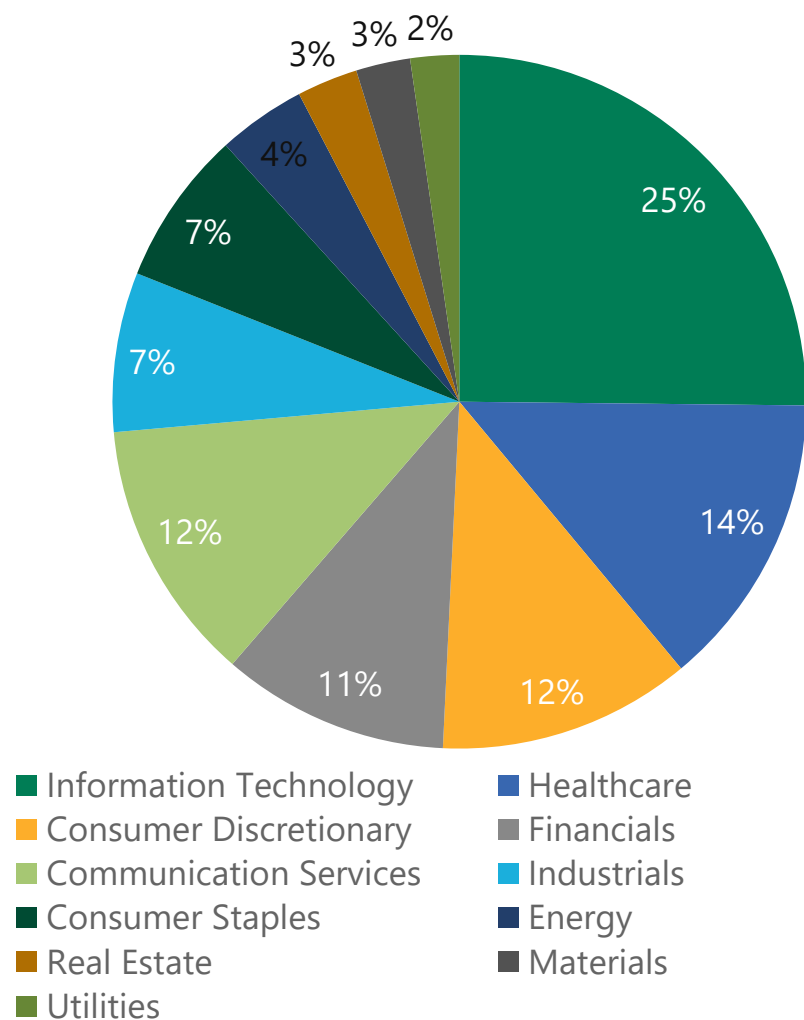
Barclays Corporate IG Index weights by market cap



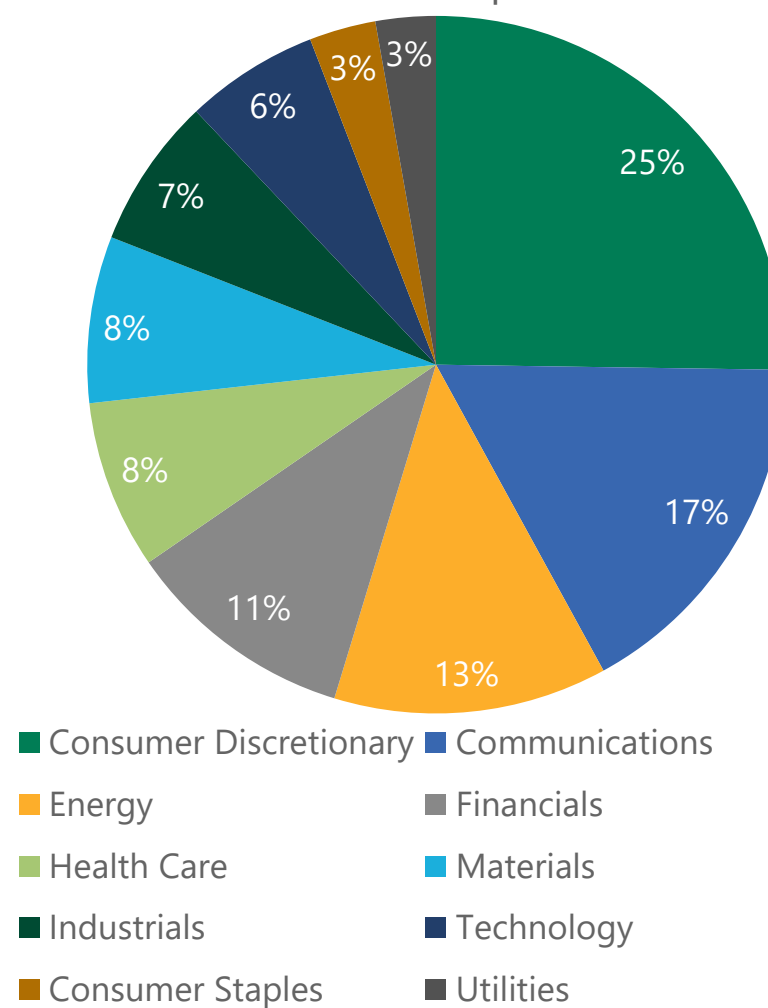
Note: Data as of 30th September 2022. Source: Bloomberg, Apollo Chief Economist

Big differences between weights in S&P500 and HY index

S&P 500 Index weight by market cap



Bloomberg Barclays HY index weights by market cap



Note: Data as of 30th September 2022. Source: Bloomberg, Apollo Chief Economist

Top 50 Investment Grade corporate bond issuers

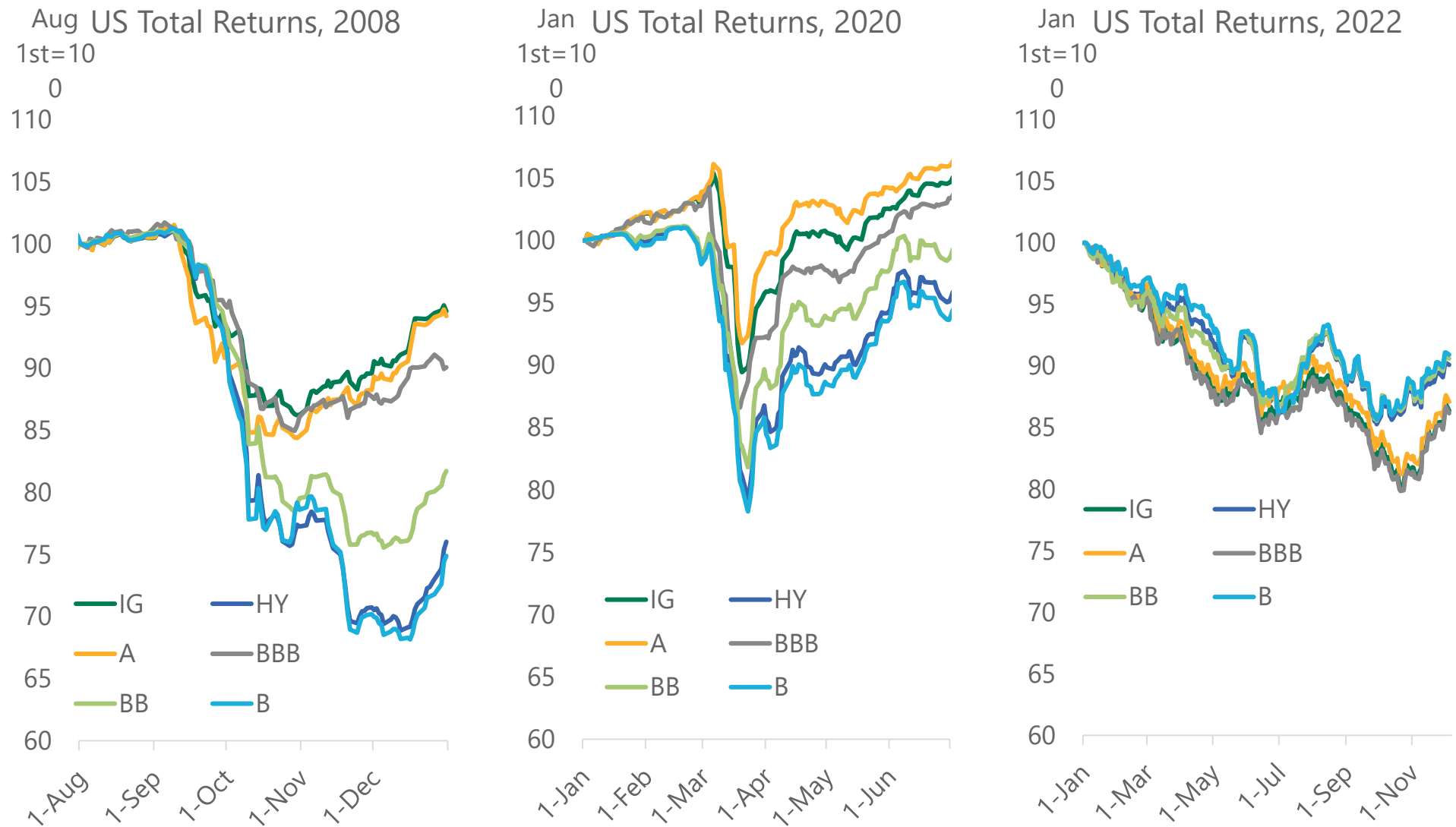
1	Bank of America Corporation
2	JPMorgan Chase & Co.
3	Goldman Sachs Group Inc.
4	Morgan Stanley
5	Citigroup Inc.
6	Wells Fargo & Company
7	Apple Inc.
8	AT&T Inc
9	Verizon Communications Inc.
10	HSBC Holdings PLC
11	Comcast Corporation
12	Oracle Corporation
13	Amazon.com Inc.
14	AbbVie Inc.
15	The Boeing Company
16	Microsoft Corporation
17	T-Mobile USA Inc.
18	UnitedHealth Group Inc.
19	CVS Health Corp
20	Mitsubishi UFJ Financial Group Inc.
21	Charter Communications Operating LLC/Charter Communications Operating Capital Corp.
22	Walt Disney Company
23	Sumitomo Mitsui Financial Group Inc
24	The Home Depot Inc.
25	Intel Corporation
26	BNP Paribas SA
27	Amgen Inc.
28	Anheuser-Busch InBev Worldwide Inc.
29	Barclays PLC
30	Bristol-Myers Squibb Company
31	International Business Machines Corporation
32	HCA Inc.
33	Shell International Finance B.V.
34	Broadcom Inc
35	Energy Transfer LP
36	Pacific Gas and Electric Company
37	Aercap Ireland Capital DAC
38	General Motors Financial Company Inc
39	Exxon Mobil Corporation
40	Raytheon Technologies Corporation
41	Pepsico Inc
42	Magallanes Inc.
43	The Toronto-Dominion Bank
44	Societe Generale S.A.
45	Cigna Corporation
46	Royal Bank of Canada
47	Toyota Motor Credit Corp.
48	Pfizer Inc.
49	Lowes Companies Inc.
50	Capital One Financial Corporation

Top 50 High Yield corporate bond issuers

Ford Motor Credit Company LLC
CCO Holdings LLC/ CCO Holdings Capital Corp.
Occidental Petroleum Corporation
Tenet Healthcare Corporation
Centene Corporation
CSC Holdings LLC
TransDigm Inc.
Ford Motor Company
T-Mobile US Inc
Carnival Corporation
DISH DBS Corporation
Bausch Health Companies Inc
Community Health Systems Incorporated
Lumen Technologies Inc
Sirius Xm Radio Inc
OneMain Financial Corporation
Royal Caribbean Group
Altice France S.A
AAdvantage Loyalty IP Ltd/ American Airlines Inc
Bombardier Inc.
Caesars Entertainment Inc New
Mozart Debt Merger Subordinated Inc.
Equitrans Midstream Corporation
Western Midstream Operating LP
1011778 B.C. Unlimited Liability Company / New Red Finance Inc.
Iron Mountain Incorporated
Albertsons Cos Inc / Safeway Inc / New Albertsons LP / Albertsons LLC
Sprint Capital Corporation
Icahn Enterprises L.P. / Icahn Enterprises Finance Corporation
FirstEnergy Corp.
Post Holdings Inc.
Calpine Corporation
Hilton Domestic Operating Co Inc.
Univision Communications Inc.
Navient Corporation
Vistra Operations Co LLC
Deutsche Bank AG New York Branch
The Goodyear Tire & Rubber Company
Ball Corporation
Level 3 Financing Inc.
Intesa Sanpaolo S.p.A.
YUM Brands Inc
Service Properties Trust
Bath & Body Works Inc
GFL Environmental Inc.
Prime Securities Services Borrower LLC and Prime Finance Inc.
Uber Technologies Inc
United Rentals (North America) Inc.
Uniti Group LP/Uniti Fiber Holdings Inc/Uniti Group Finance 2019 Inc/CSL
Capital LLC
NRG Energy Inc.

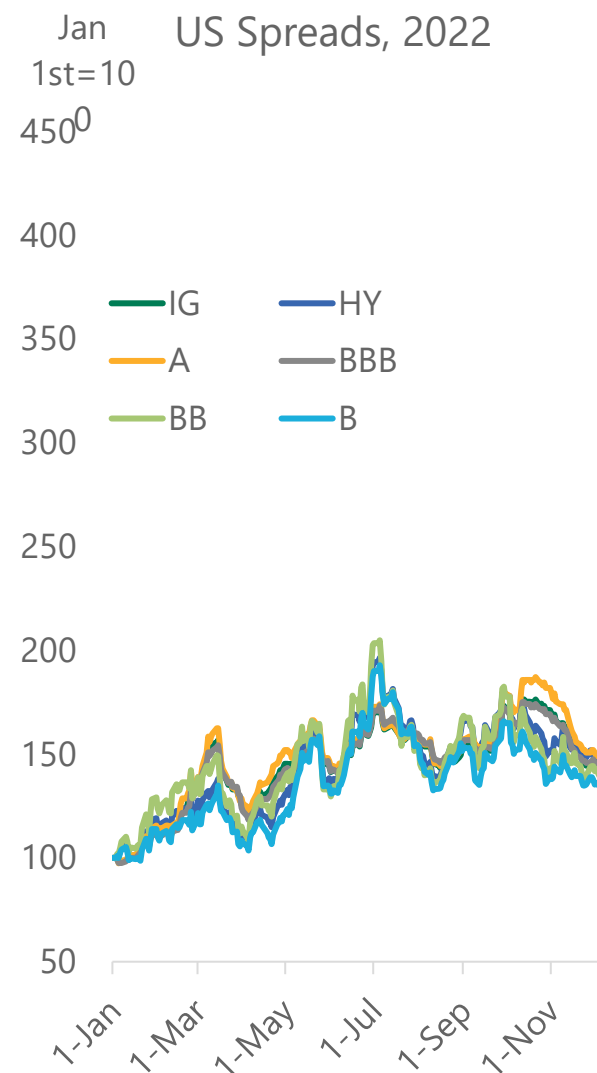
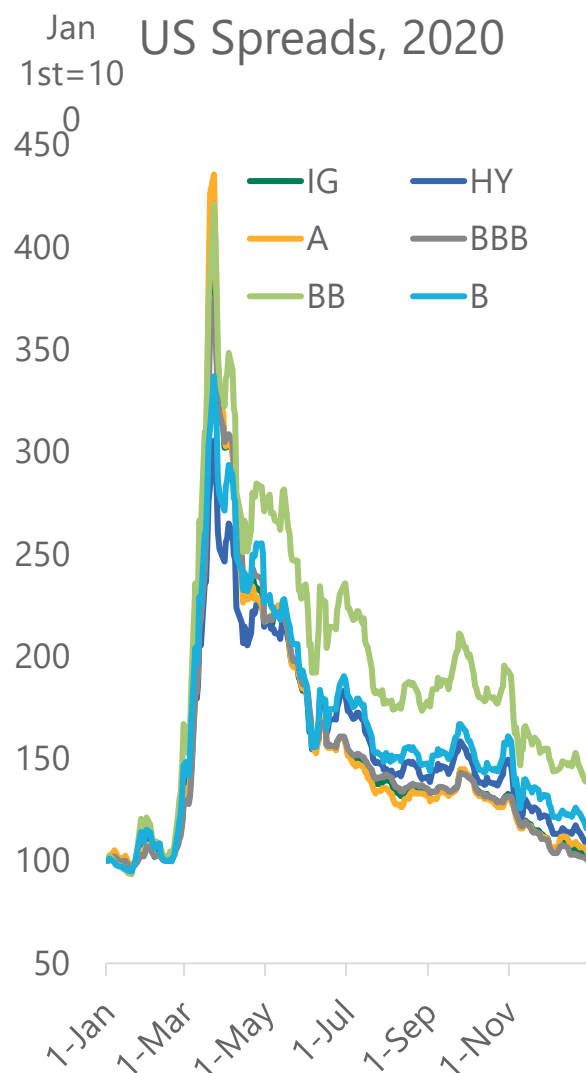
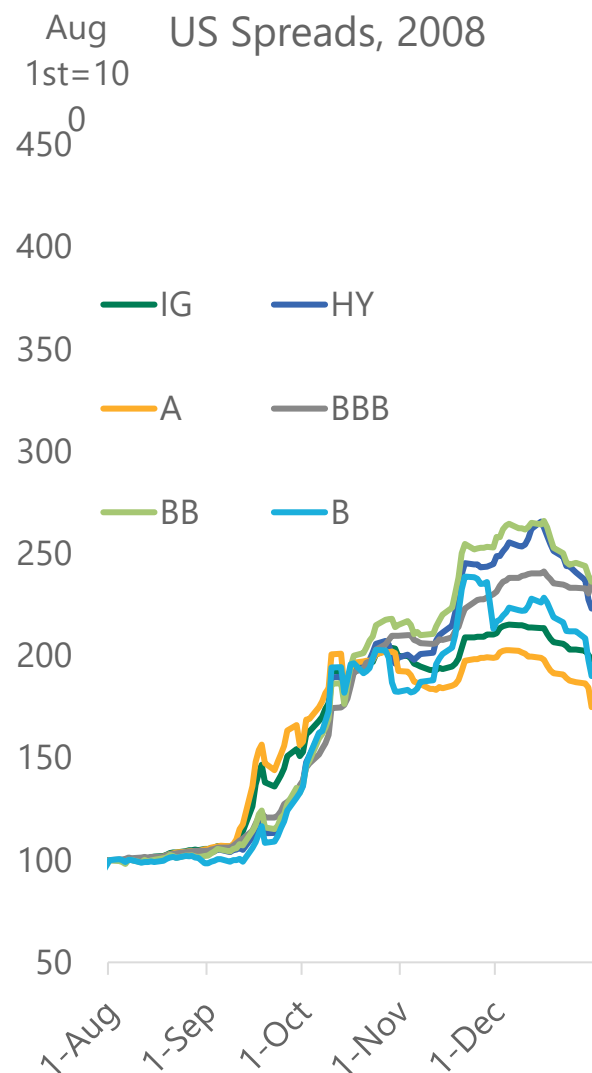
Source: Bloomberg, Apollo Chief Economist. Note: Top 50 issuers for COA0 and HOA0 Index

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



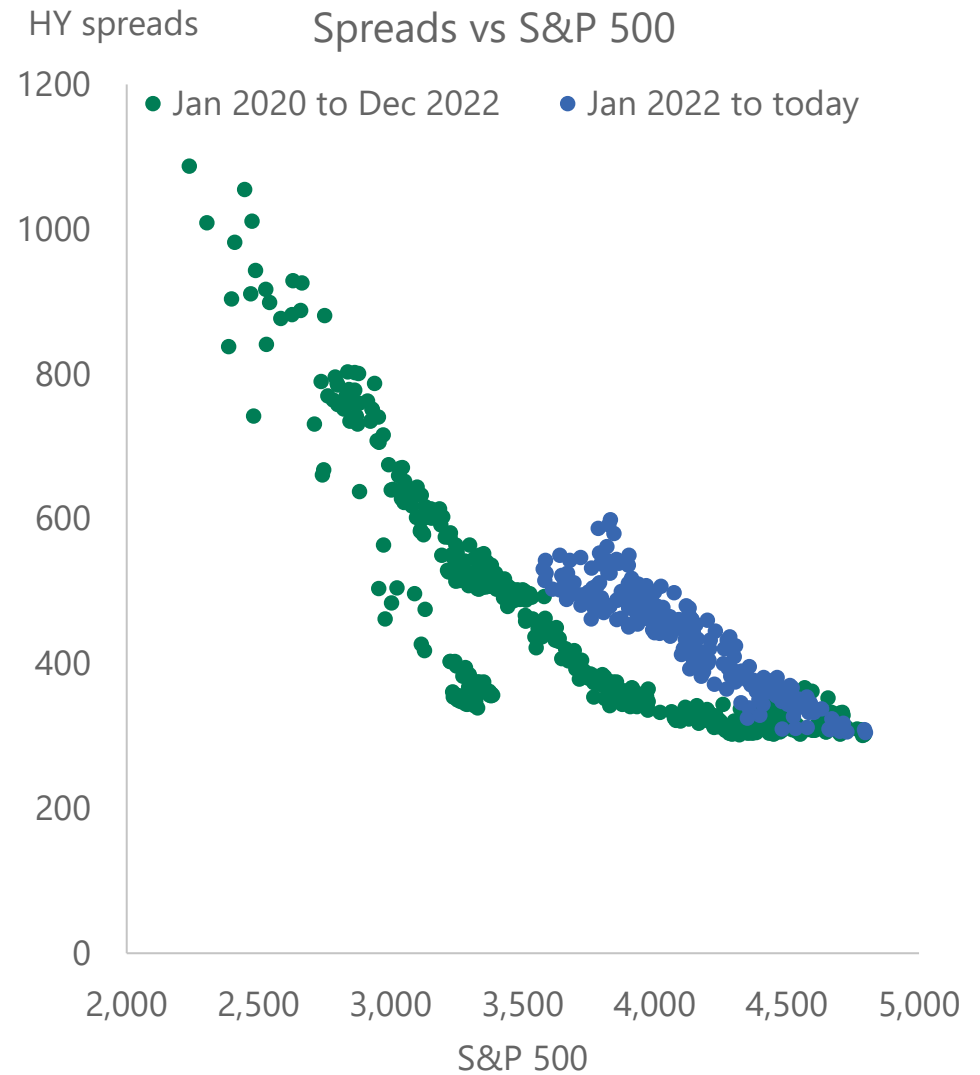
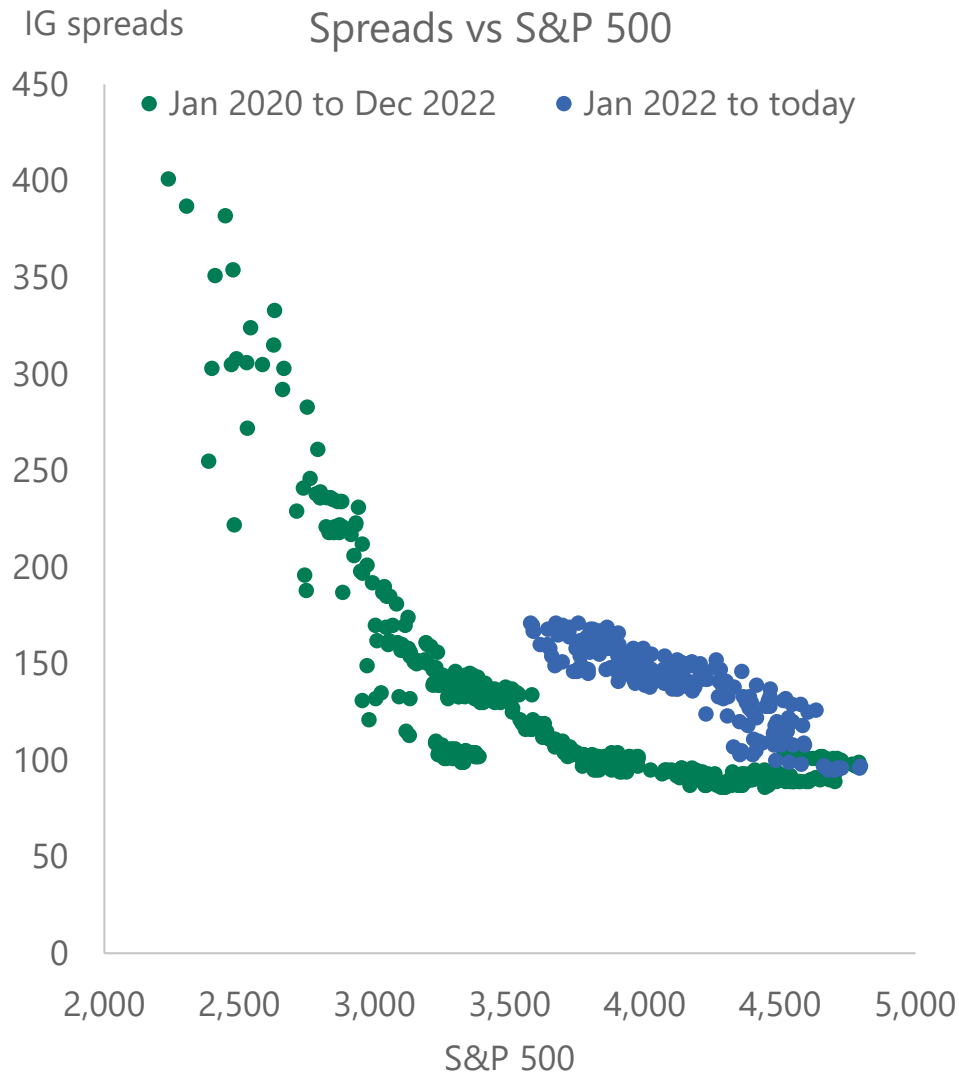
Source: Bloomberg, Apollo Chief Economist

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



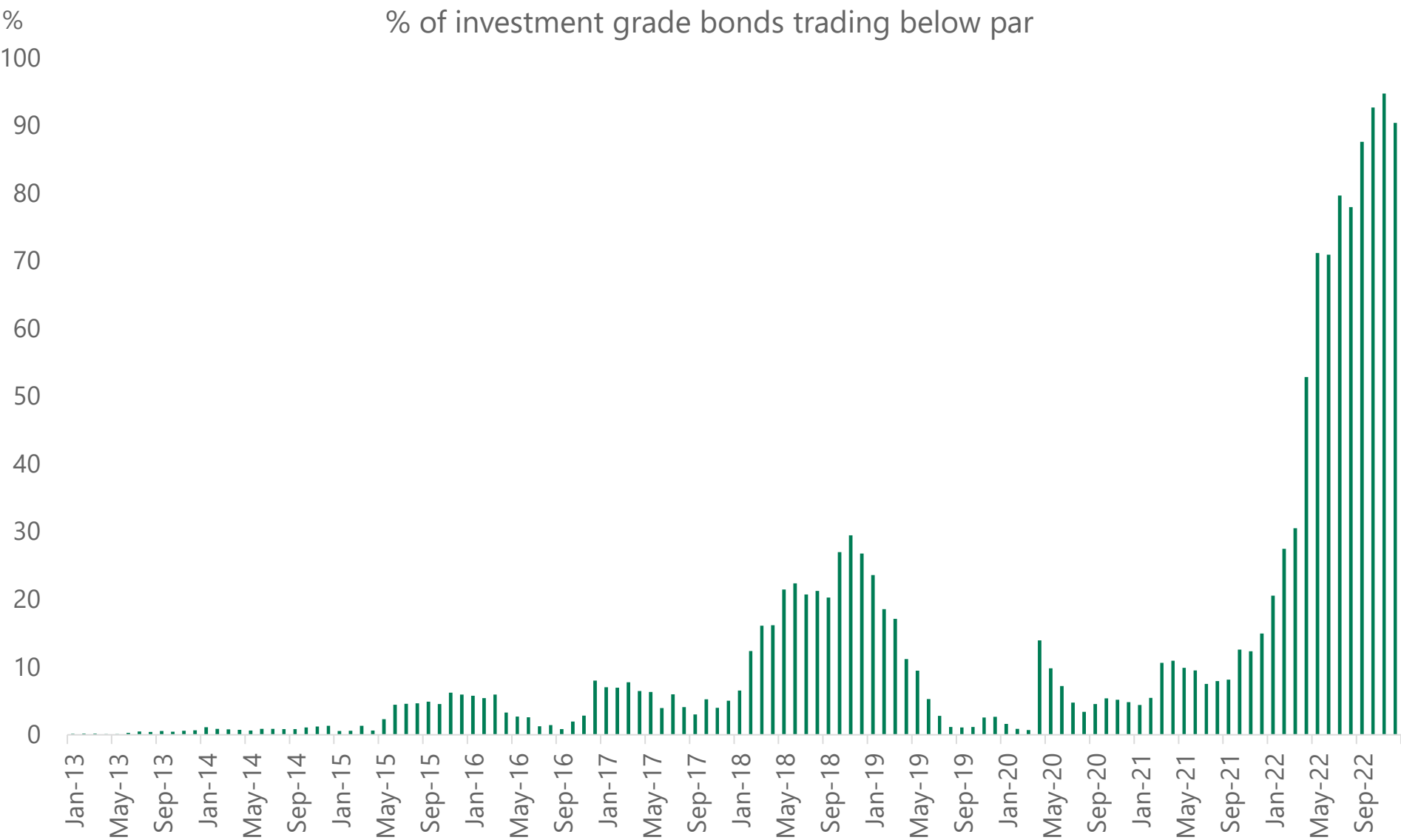
Source: Bloomberg, Apollo Chief Economist

Valuation of credit versus equities



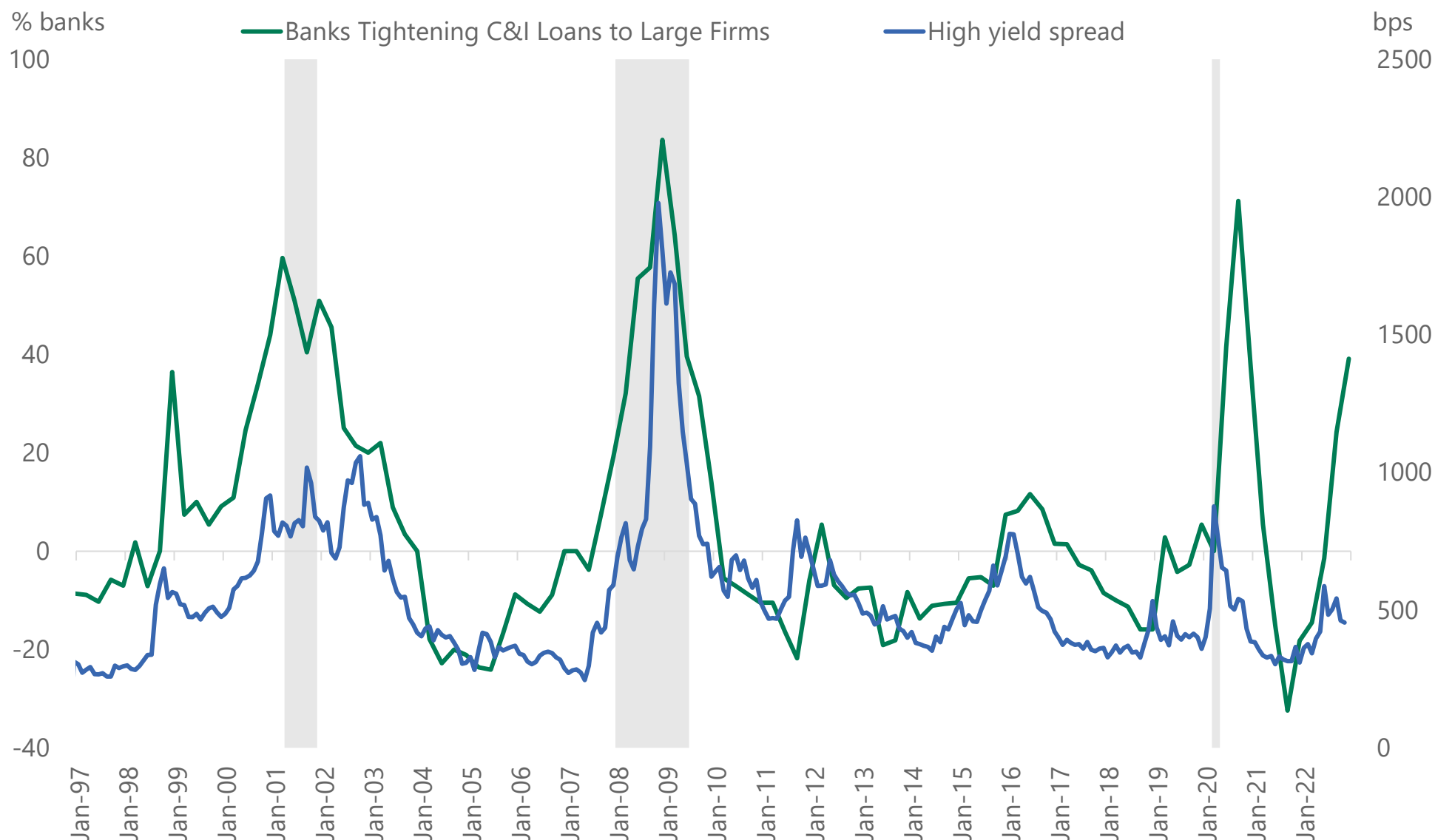
Source: Bloomberg, Apollo Chief Economist

91% of the US IG market trading below par



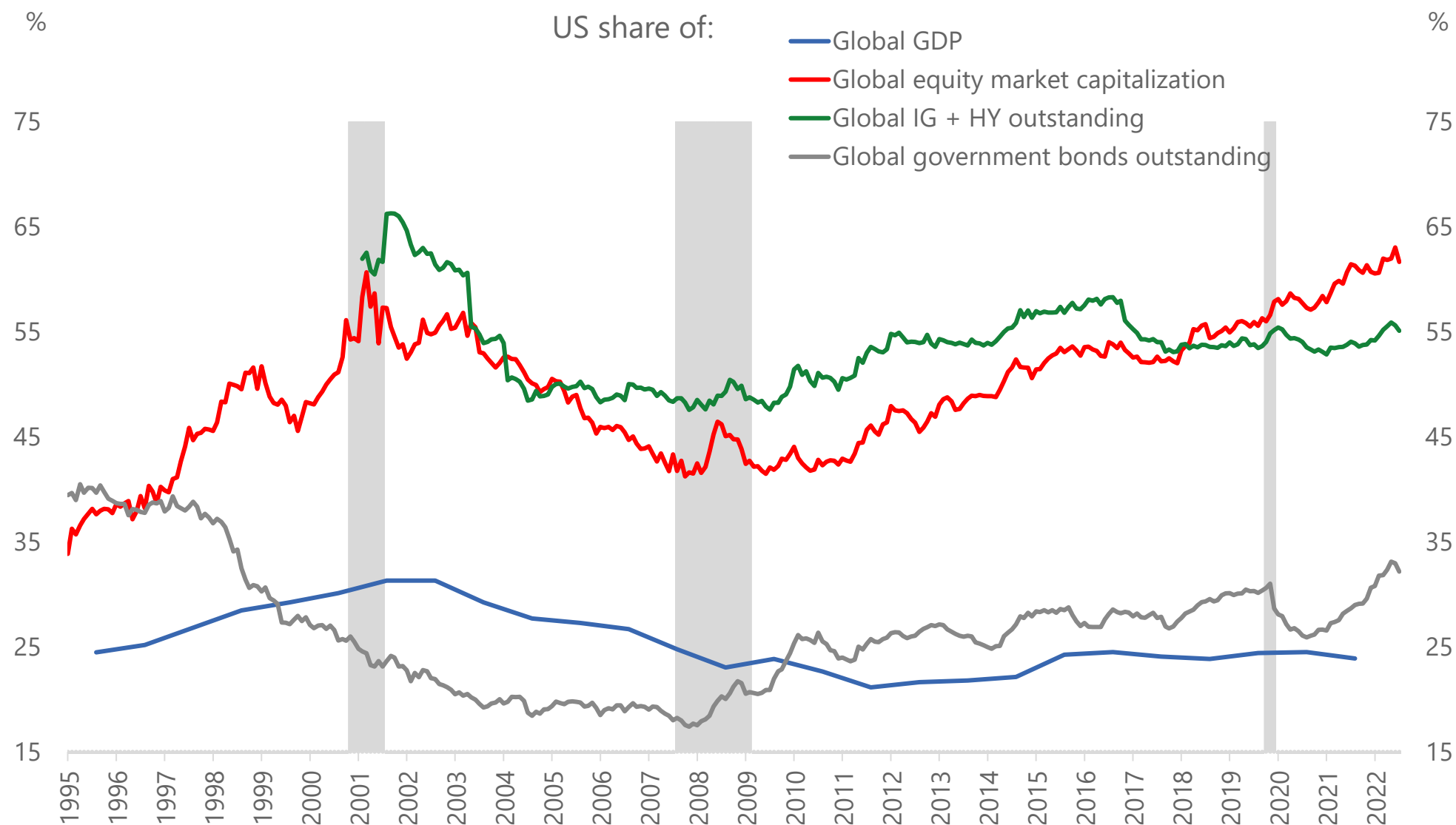
Source: Bloomberg, Apollo Chief Economist. Note: Data used for members in the LBUSTRUU Index as of 6th December 2022

Banks starting to tighten credit conditions, HY spread should be trading wider



Source: FRB, Haver Analytics, Bloomberg, Apollo Chief Economist

US share of the world economy and global financial markets



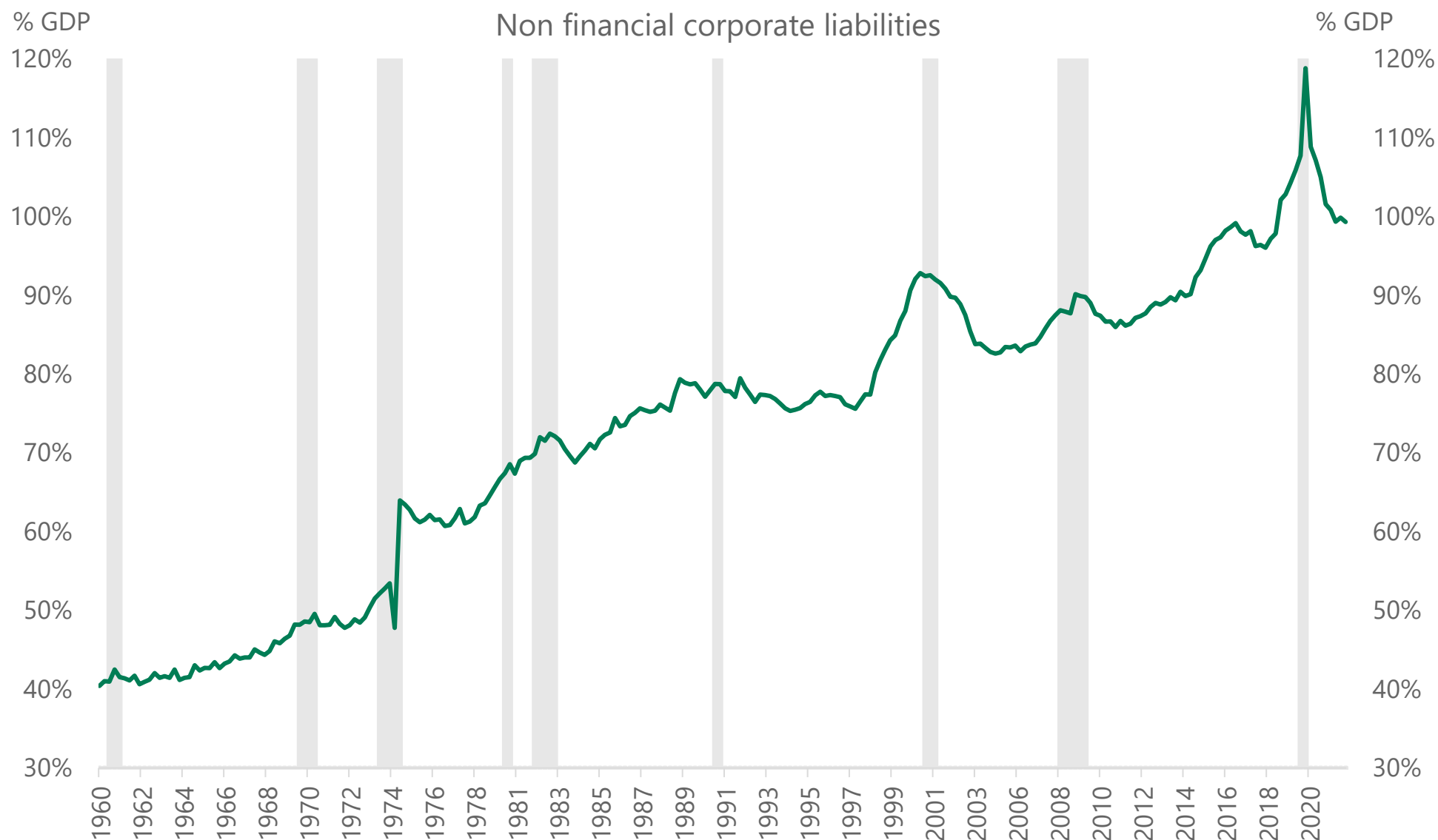
Source: Bloomberg, Haver, Apollo Chief Economist (Note: Bloomberg tickers: MXUS Index, MXWD Index , LUATTRUU Index, BTSYTRUU Index, LF98TRUU Index, LG30TRUU index, LUACTRUU Index, I09805US index)

Credit markets have never been more vulnerable to rising rates.

Three reasons:

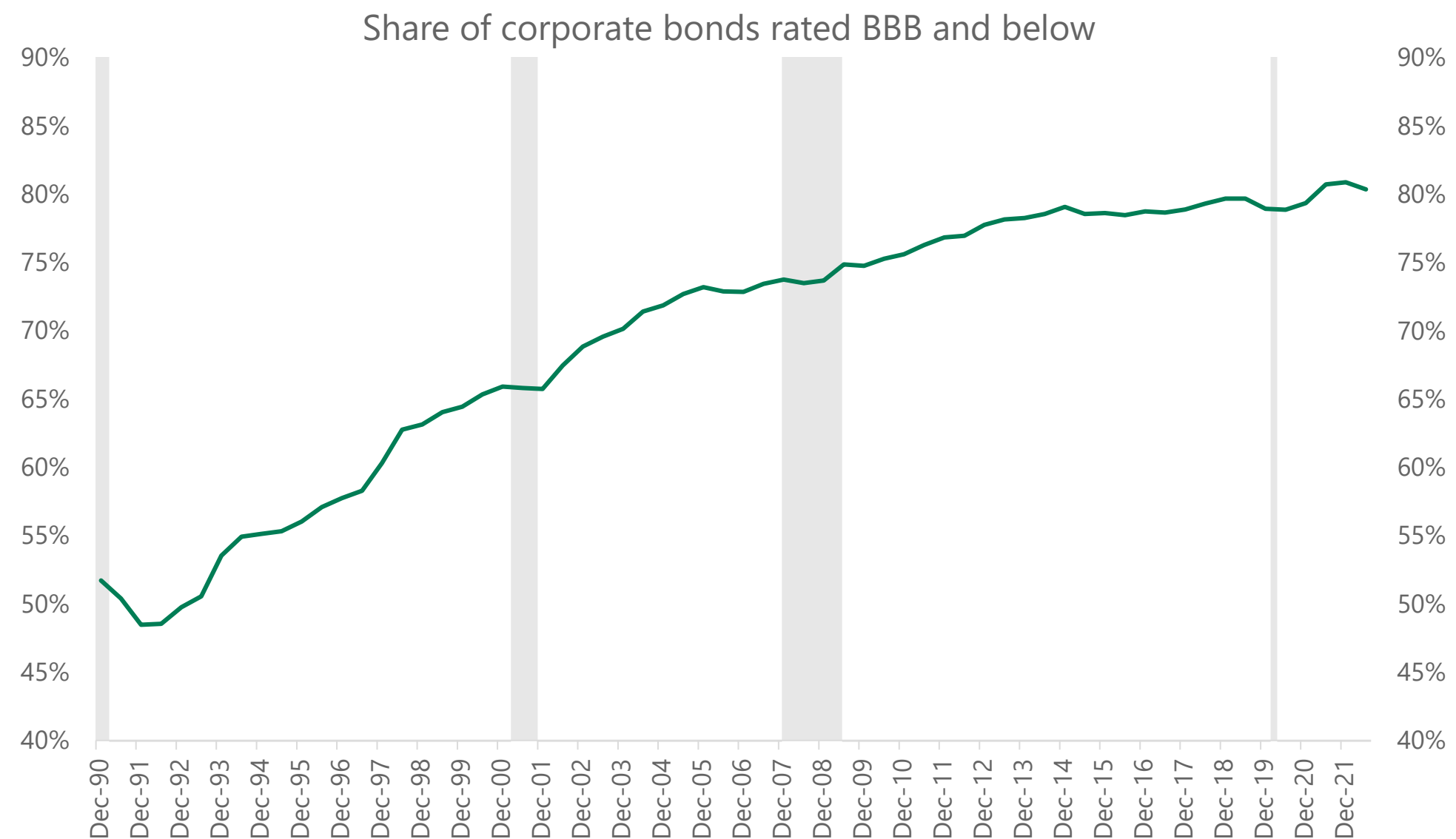
- 1) Very high leverage in the corporate sector
- 2) Lower-rated firms make up big share of all debt outstanding
- 3) Very high duration for the IG index and the HY index

Corporate debt is high as a share of GDP



Source: FRB, Haver Analytics, Apollo Chief Economist

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



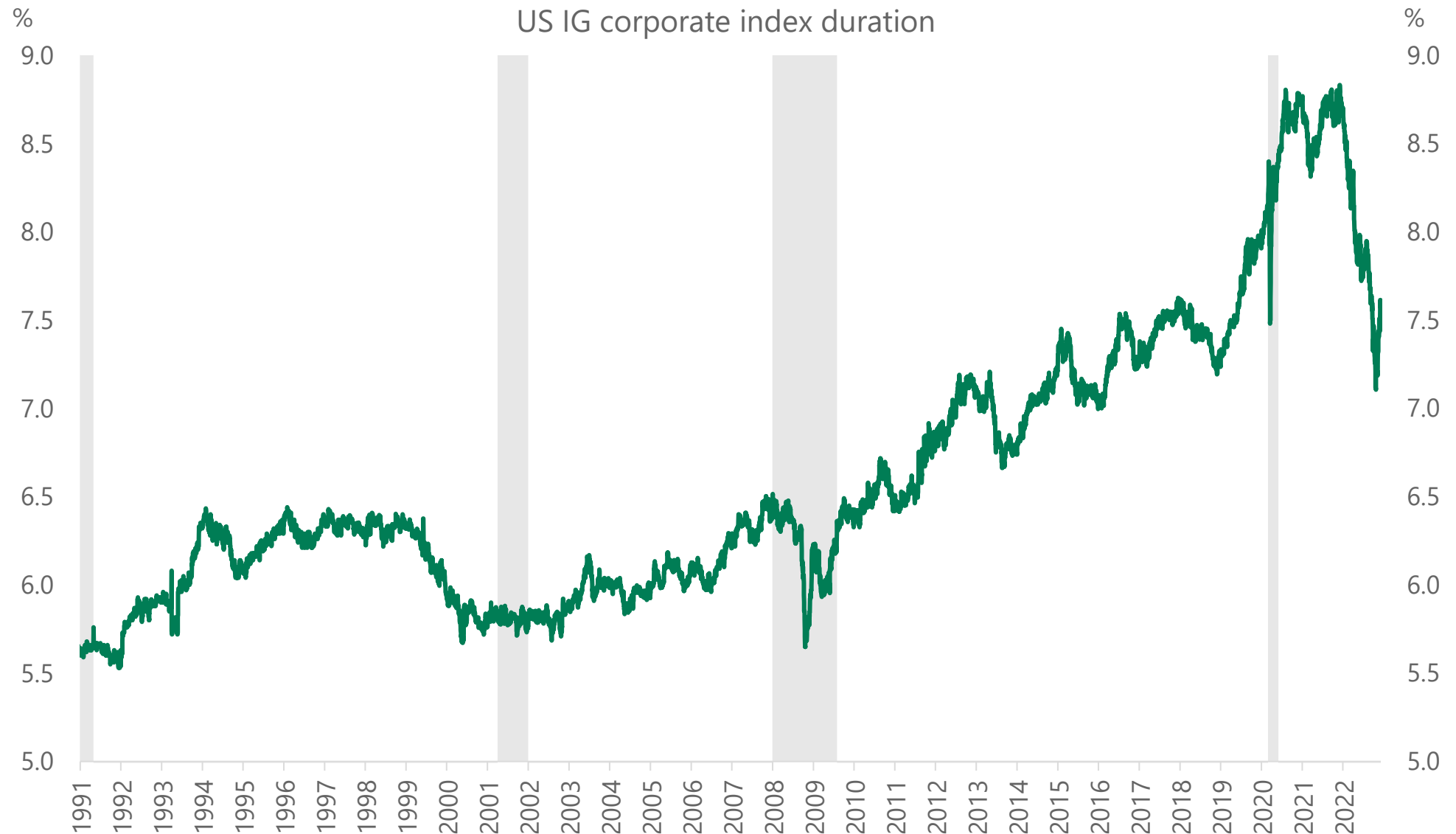
Source: S&P, Apollo Chief Economist

Share of corporate bond market value outstanding rated BBB and below



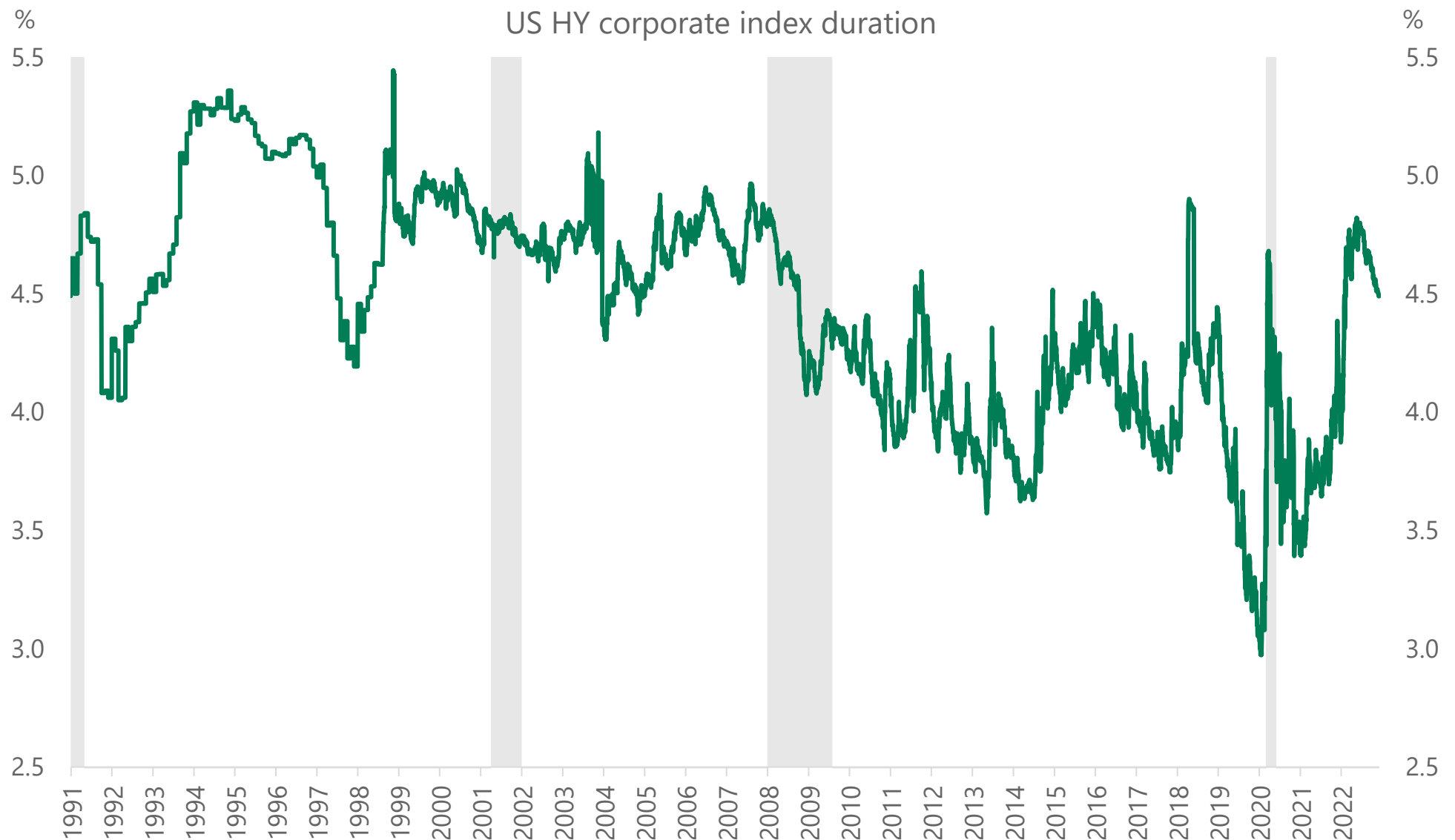
Source: ICE BofA, Bloomberg, Apollo Chief Economist. Data as of 31st October 2022

IG credit index duration declining



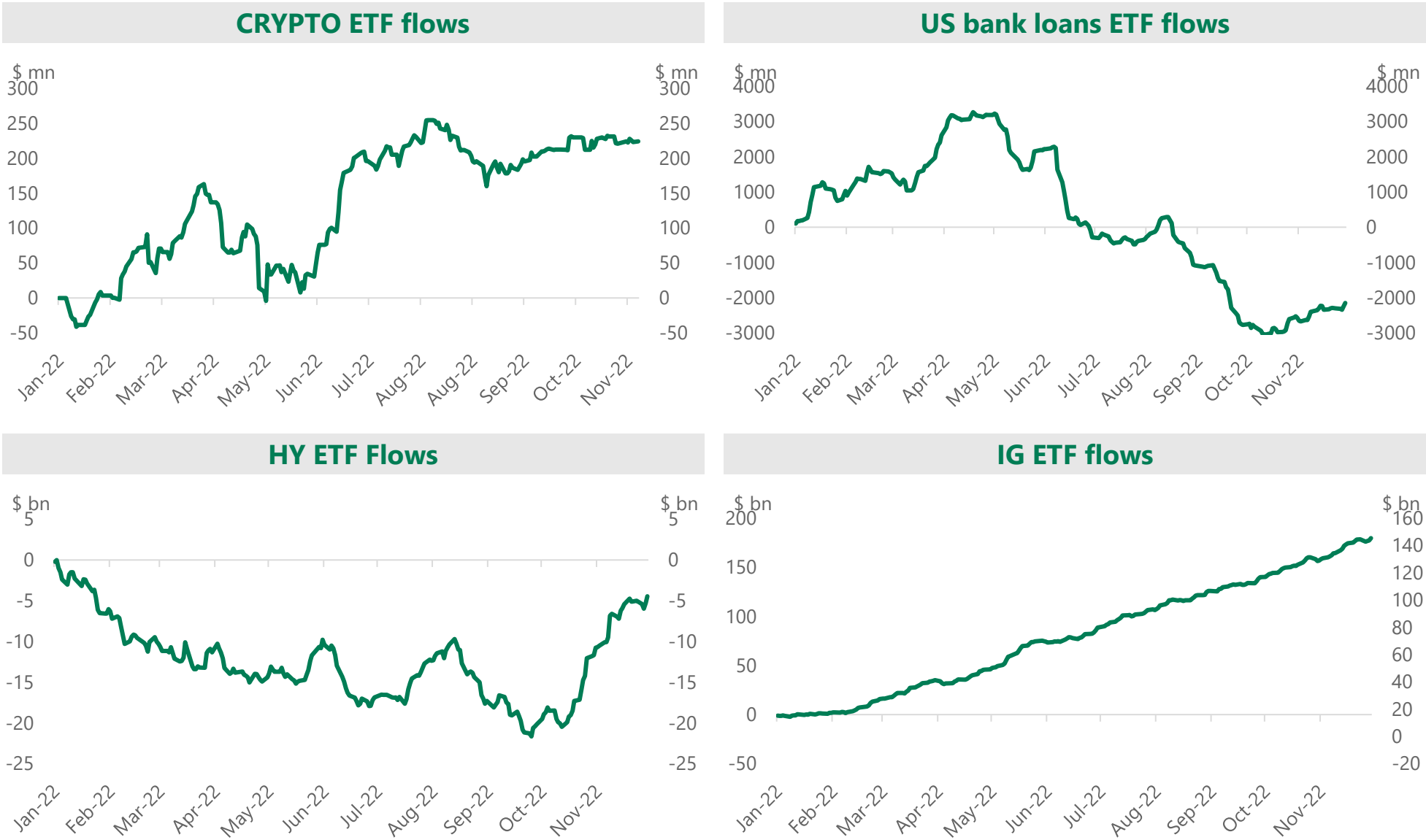
Source: Bloomberg, Apollo Chief Economist. Note: The measure used is modified duration, which measures the expected change in a bond's price to a 1% change in interest rates.

HY credit index duration increasing



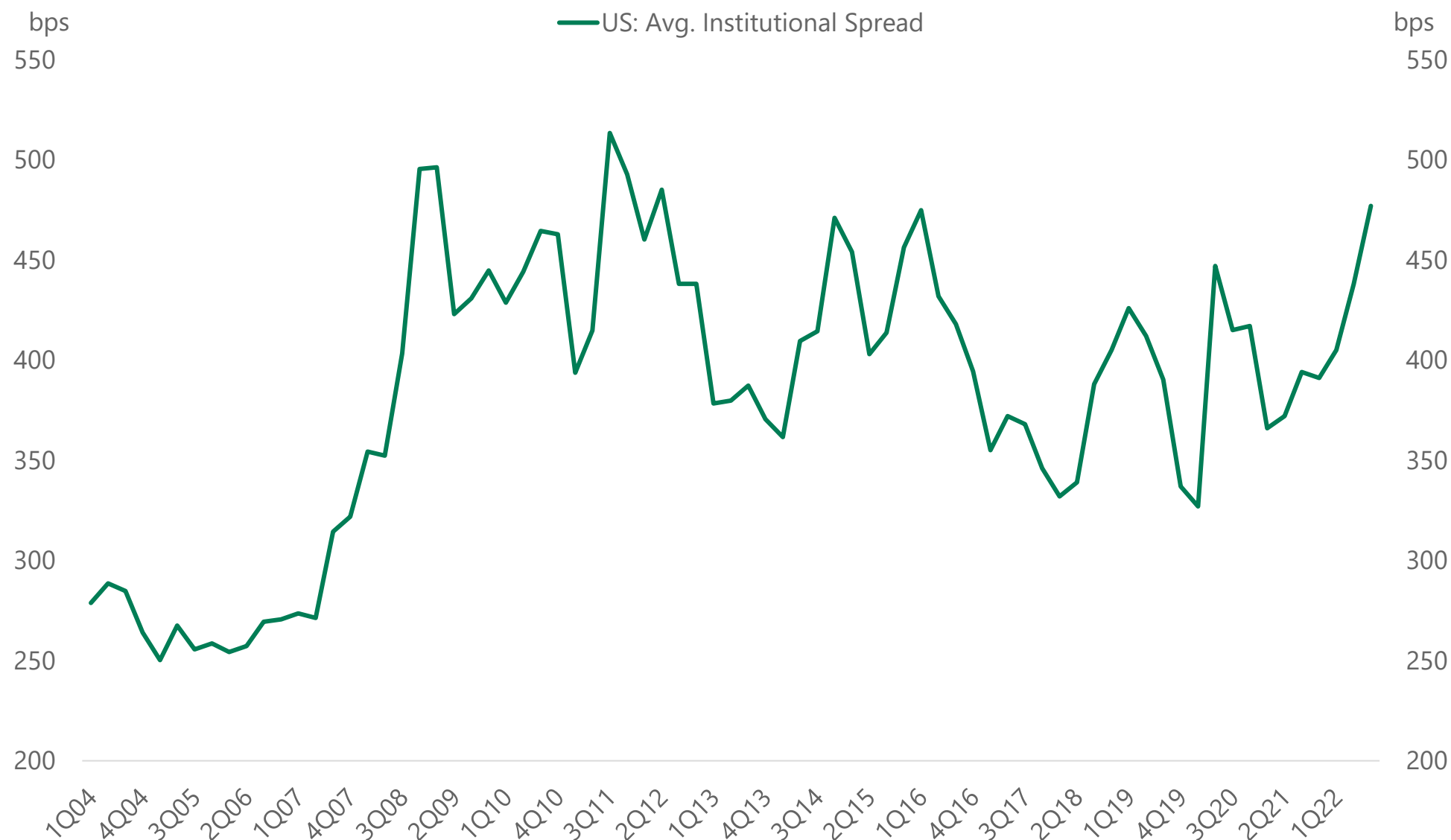
Source: Bloomberg, Apollo Chief Economist. Note: The measure used is modified duration, which measures the expected change in a bond's price to a 1% change in interest rates.

Flow monitor



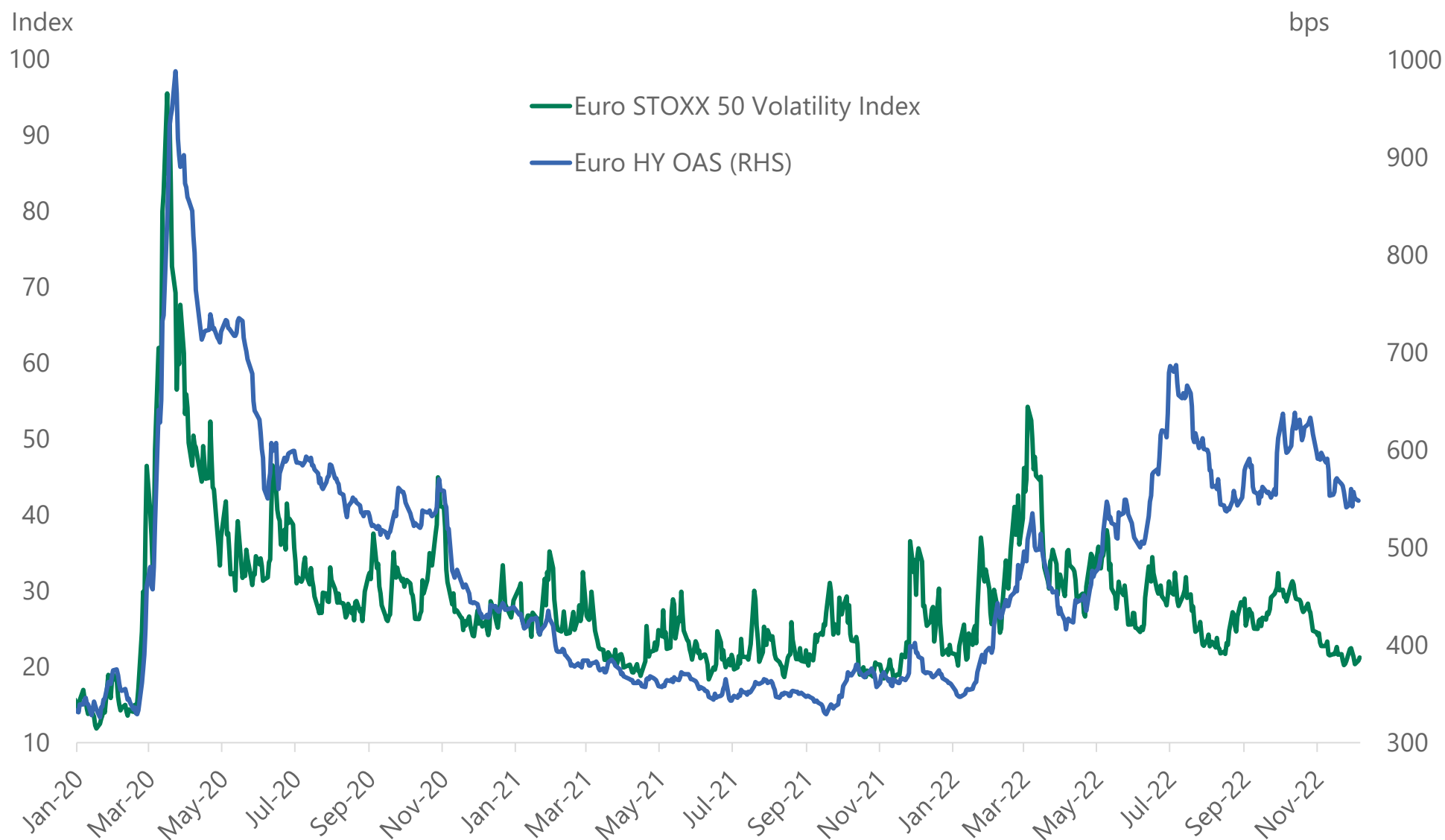
Source: Bloomberg, Apollo Chief Economist (Note: bito US equity: Crypto ETF flows, BFFUEBK Index: US Bank loans ETF flows, BFFUEHY Index: HY ETF flows; BFFUEIG Index: US IG ETF flows)

Loans: Institutional spread relative to bespoke loans



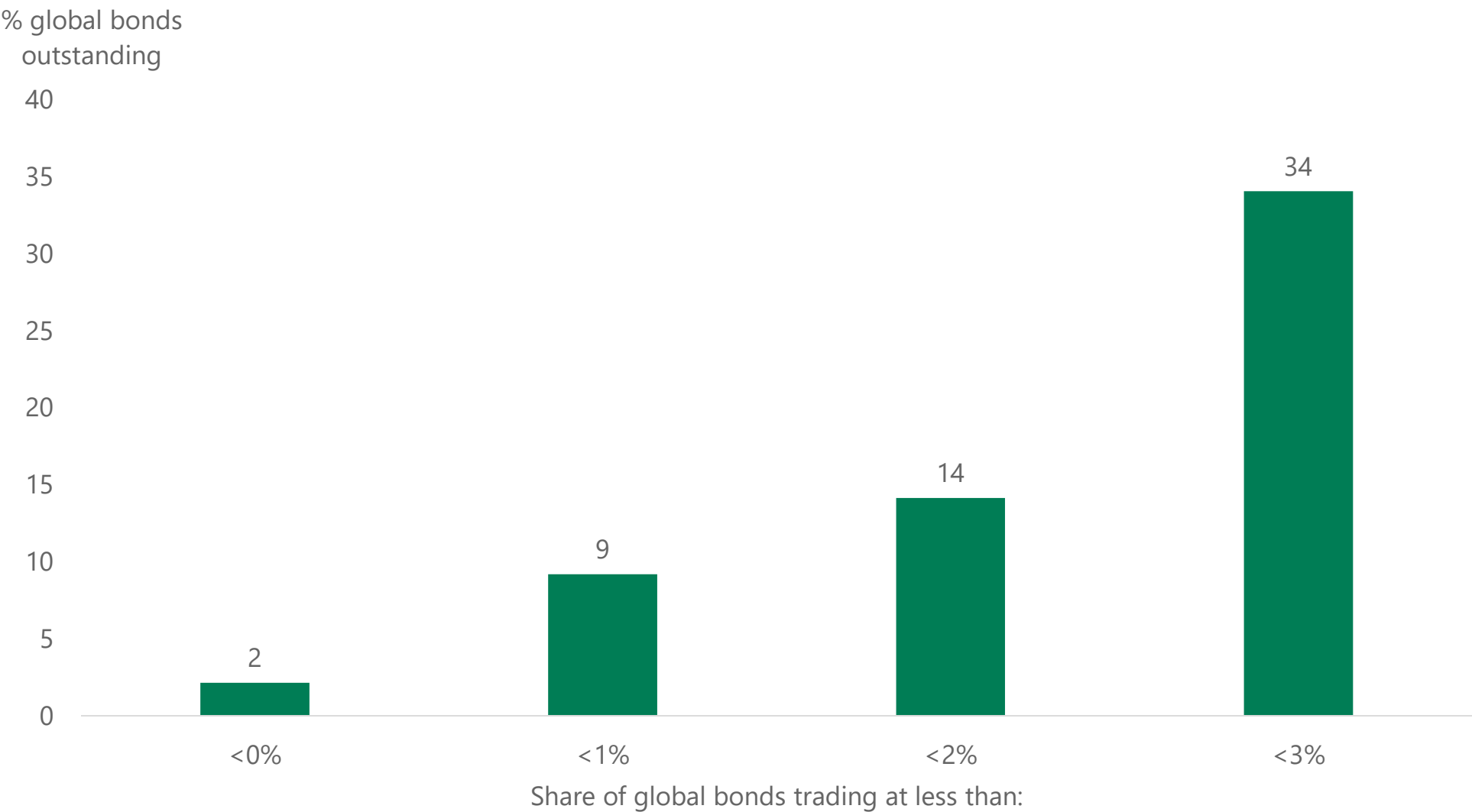
Source: S&P, Apollo Chief Economist

Disconnect between EU equity vol and EU HY spreads



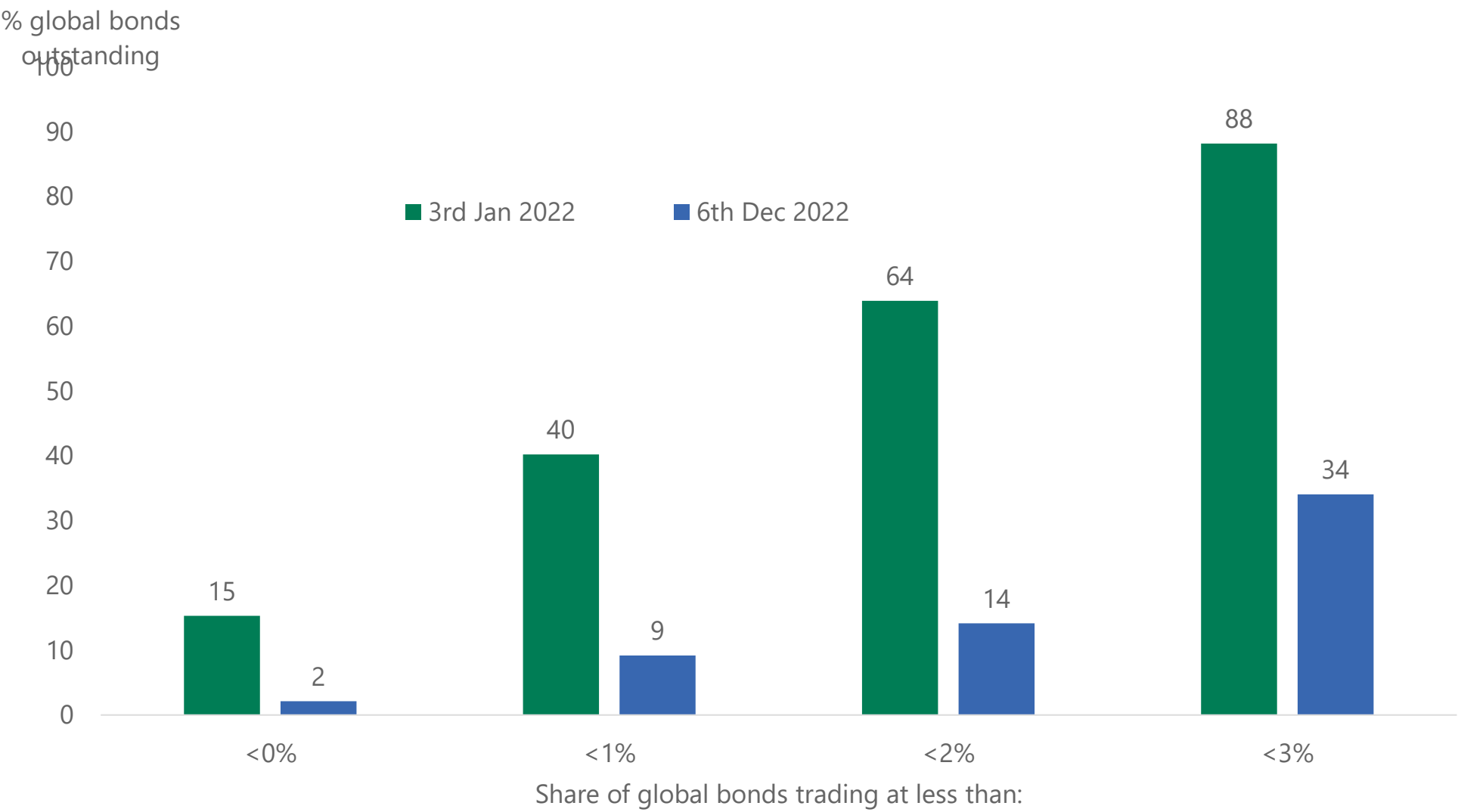
Source: Bloomberg, Apollo Chief Economist. Note: Tickers used are V2X Index and LP01OAS Index

14% of bonds in the world trading at less than 2%



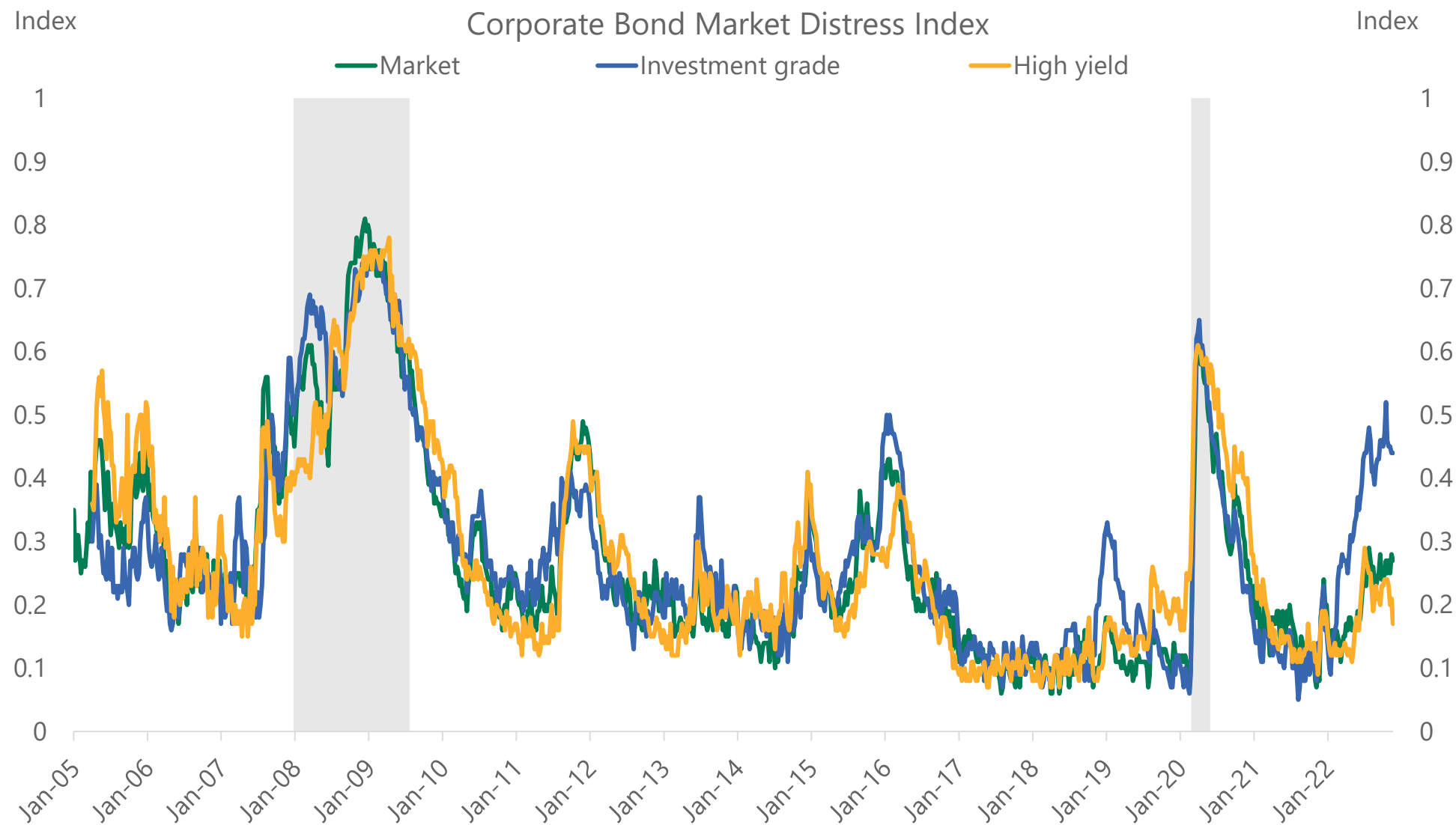
Source: Bloomberg, Apollo Chief Economist

14% of bonds in the world trading at less than 2%, down from 64% on Jan 1



Source: Bloomberg, Apollo Chief Economist

NY Fed measure of corporate bond market functioning shows more 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.

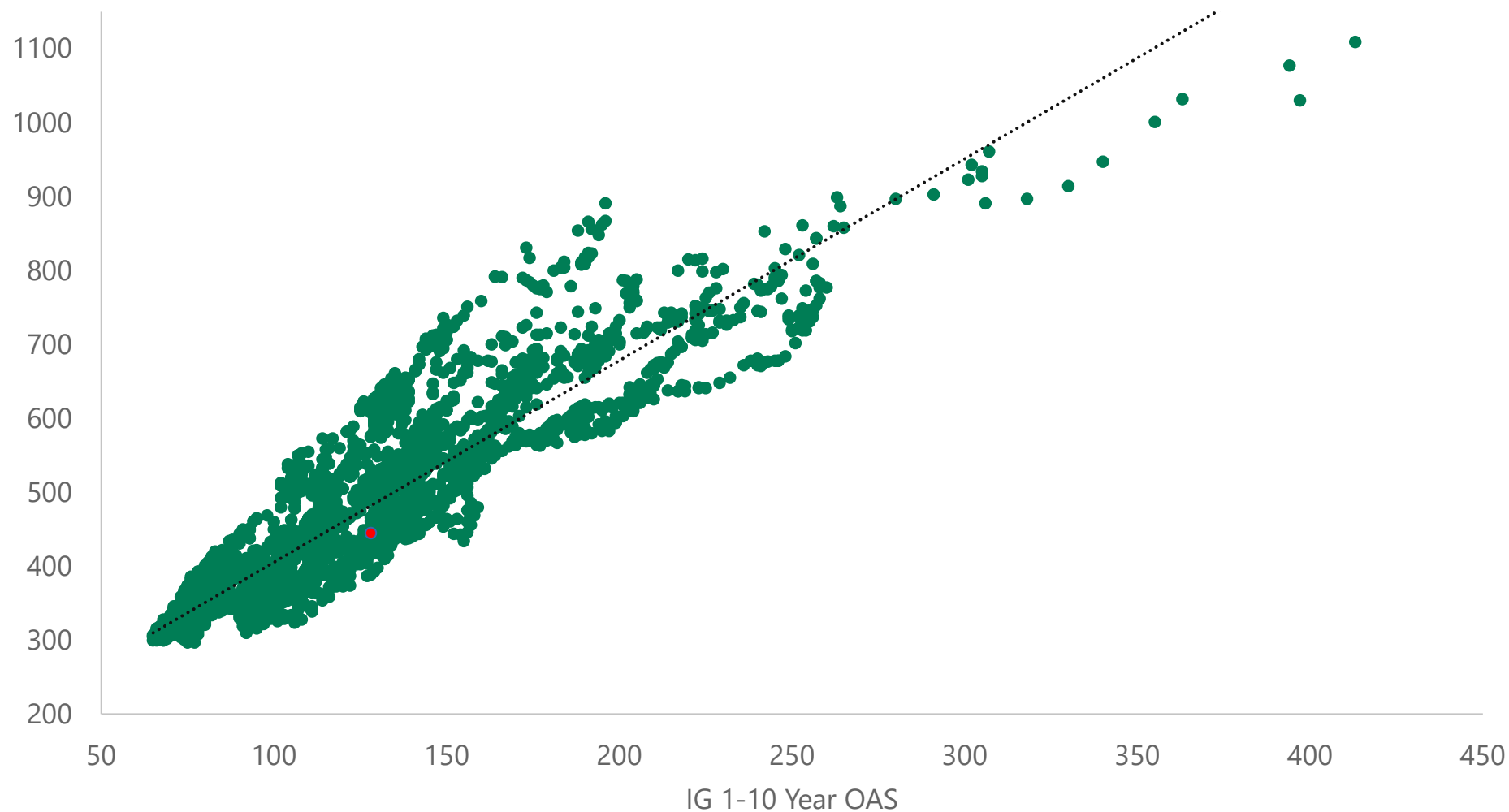
Percentage of HY bonds trading with yield higher than 10%



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

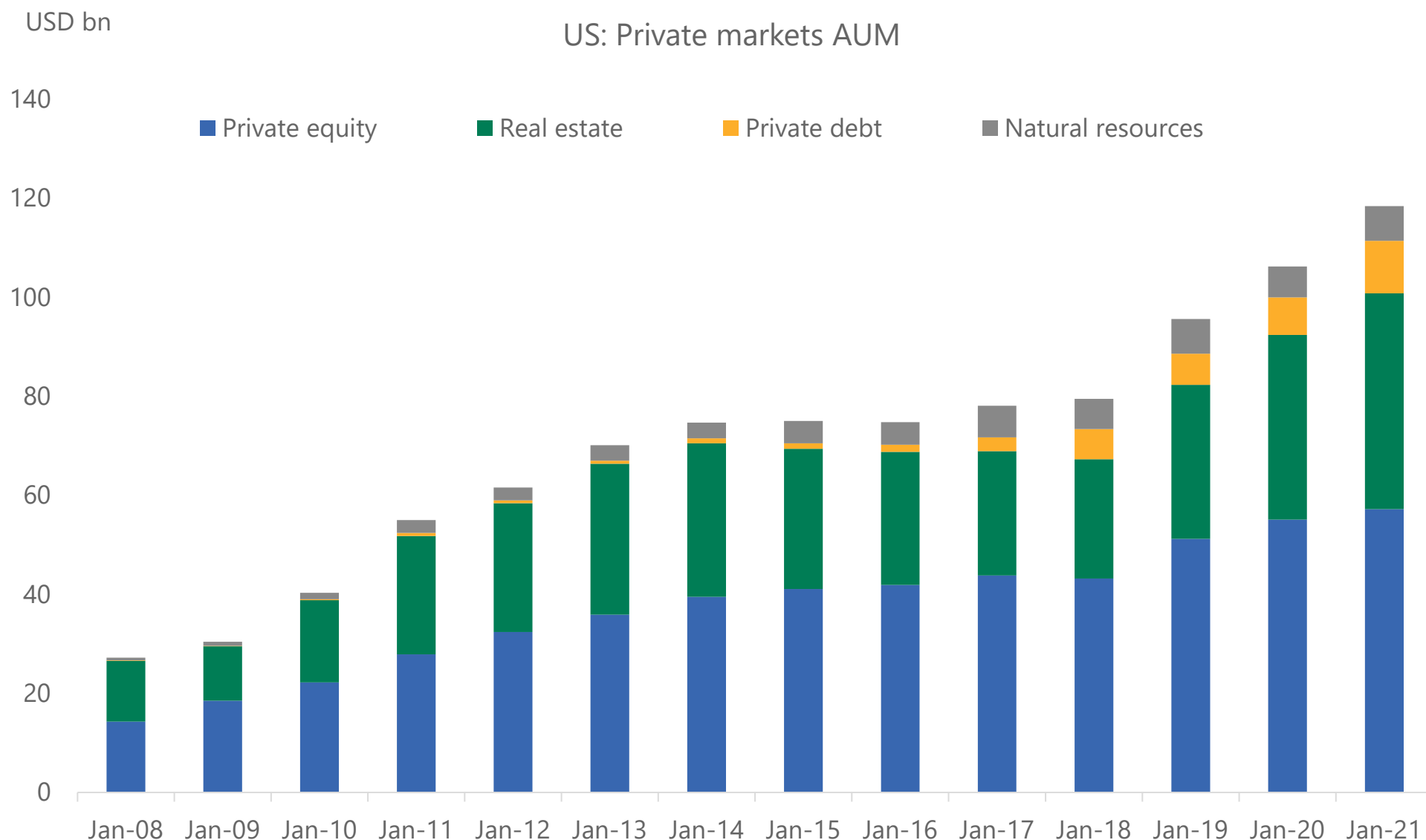
Correlation between same-duration HY and IG

HY 1-10 Year OAS



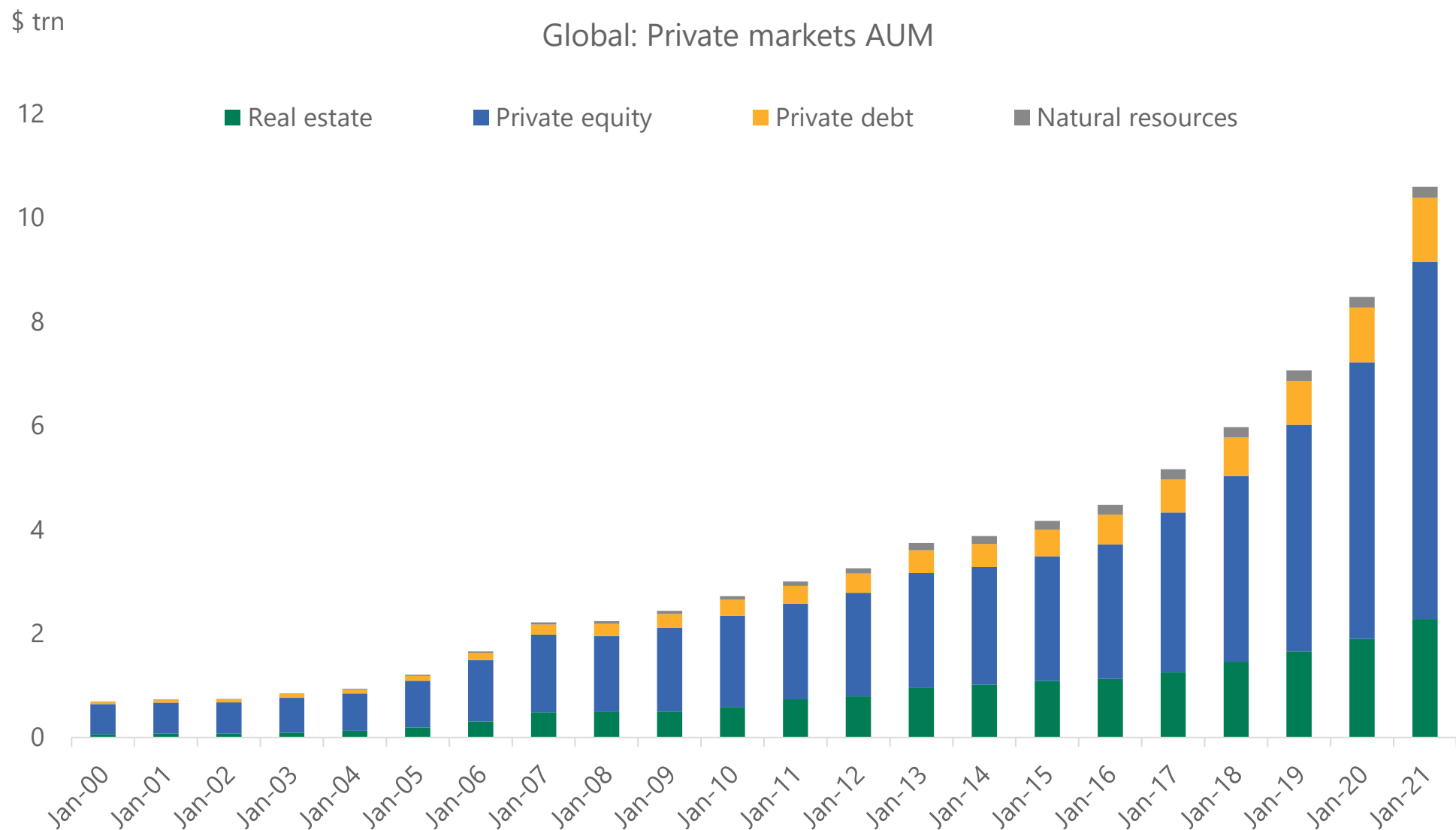
Source: Bloomberg, ICE BofA, Apollo Chief Economist. Note: Red dot indicates data as of 4th December 2022

US: Total assets under management in private markets



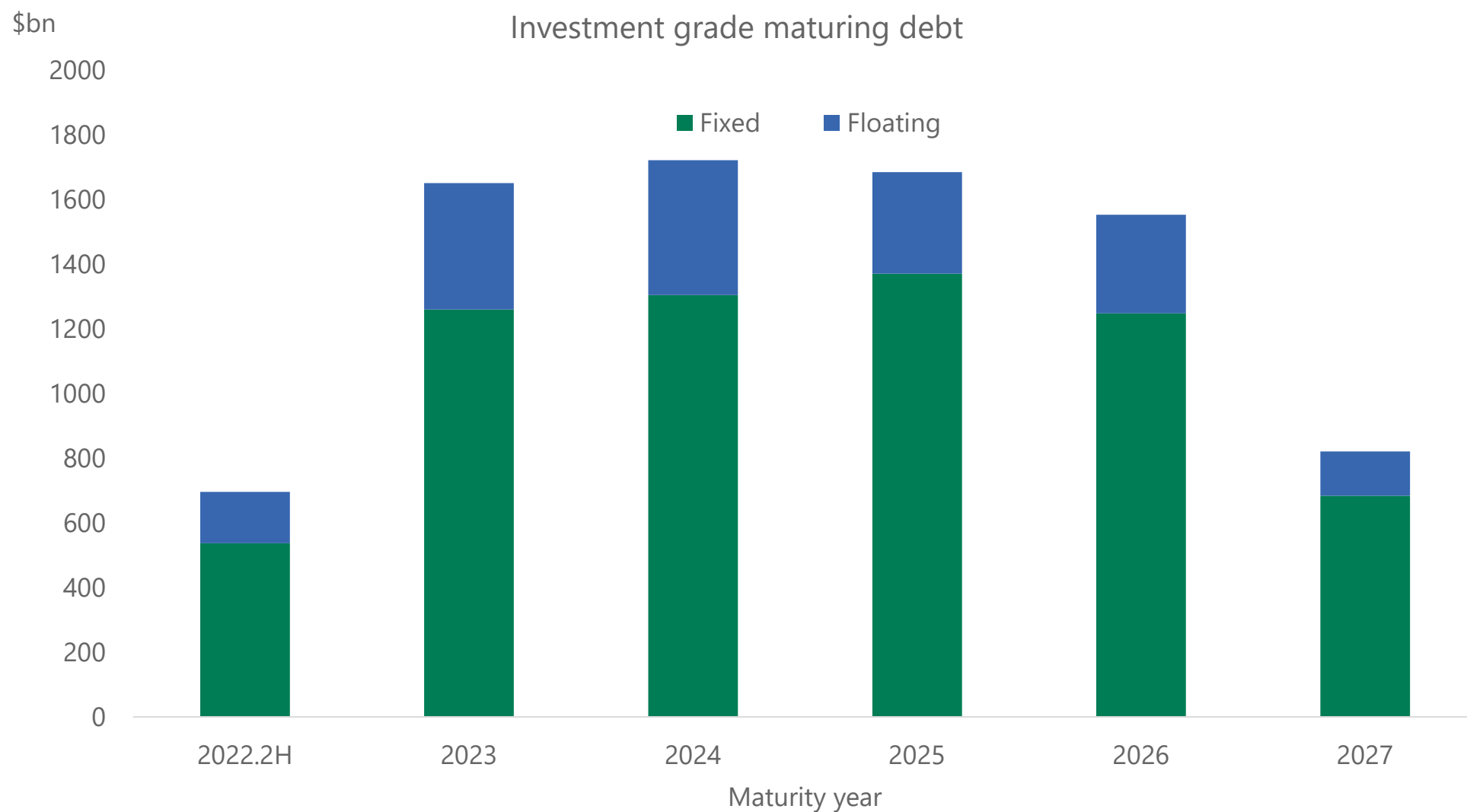
Source: Preqin, Apollo Chief Economist (Note: Real estate includes private real estate and infrastructure funds)

Total assets under management in private markets funds globally



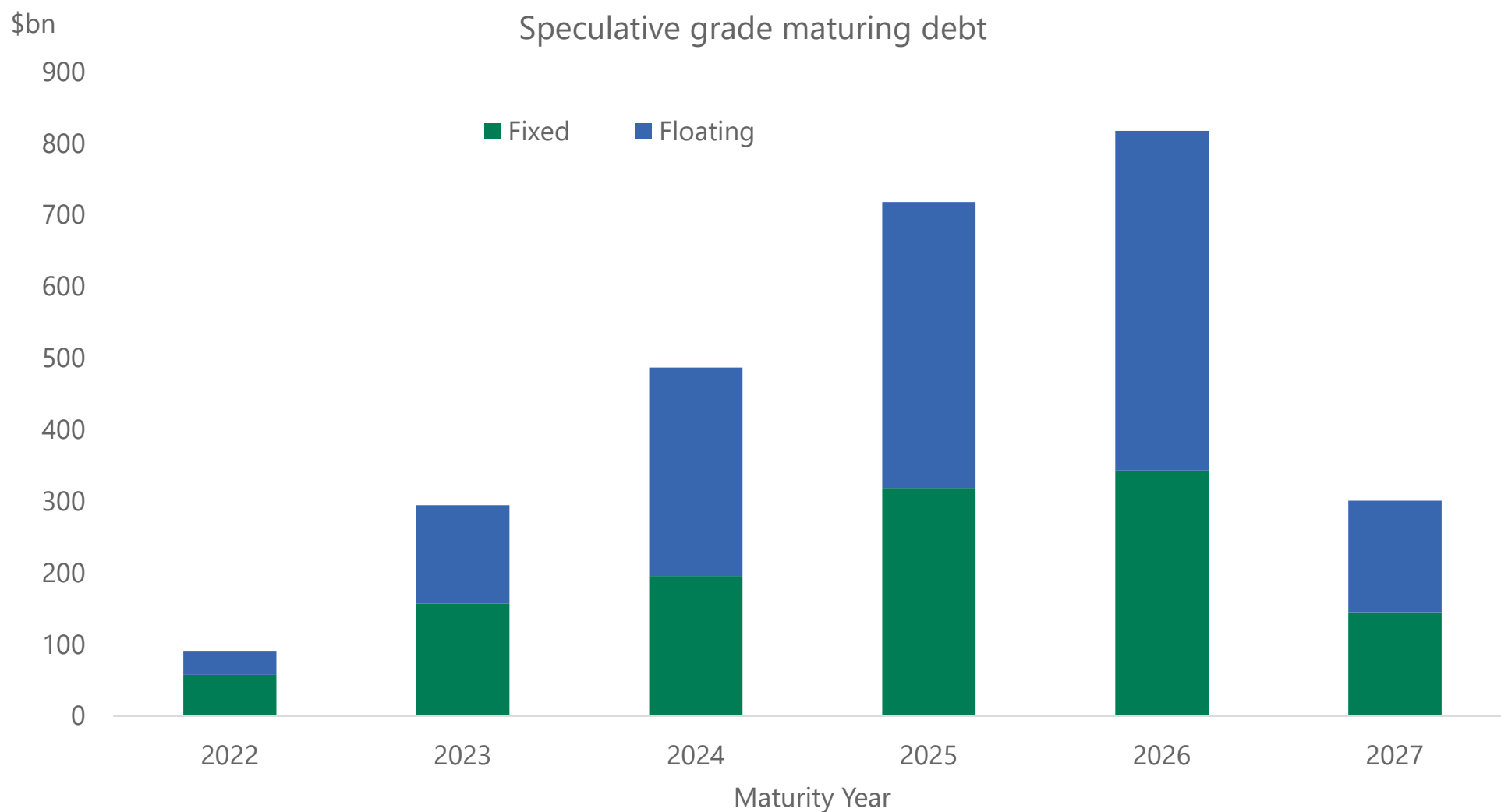
Source: Preqin, Apollo Chief Economist (Note: Real estate includes private real estate and infrastructure funds)

Investment grade maturity wall



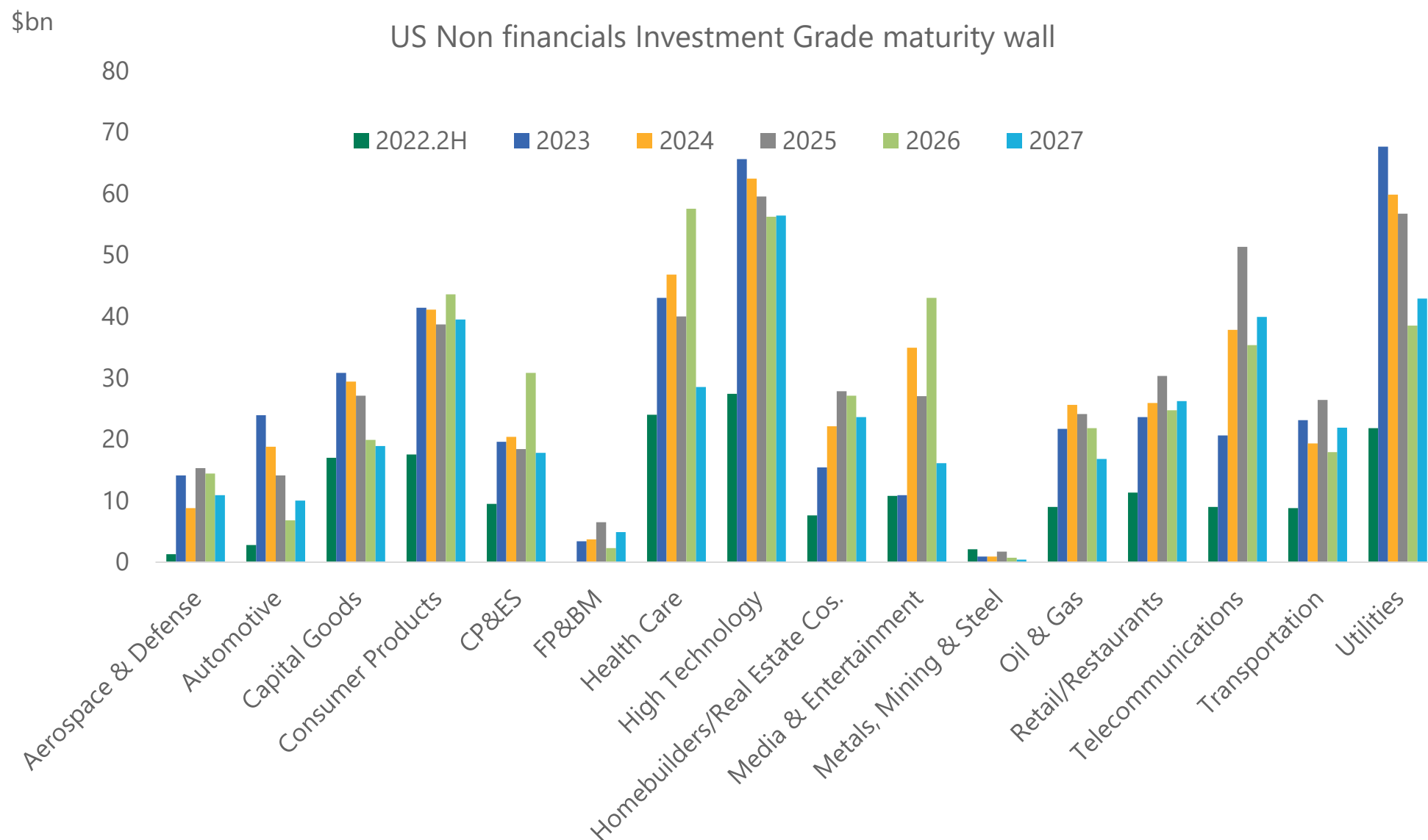
Source: S&P Global ratings Research, Apollo Chief Economist. Note: Data as of July 1, 2022. Includes issuers' investment-grade bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings.

High yield maturity wall



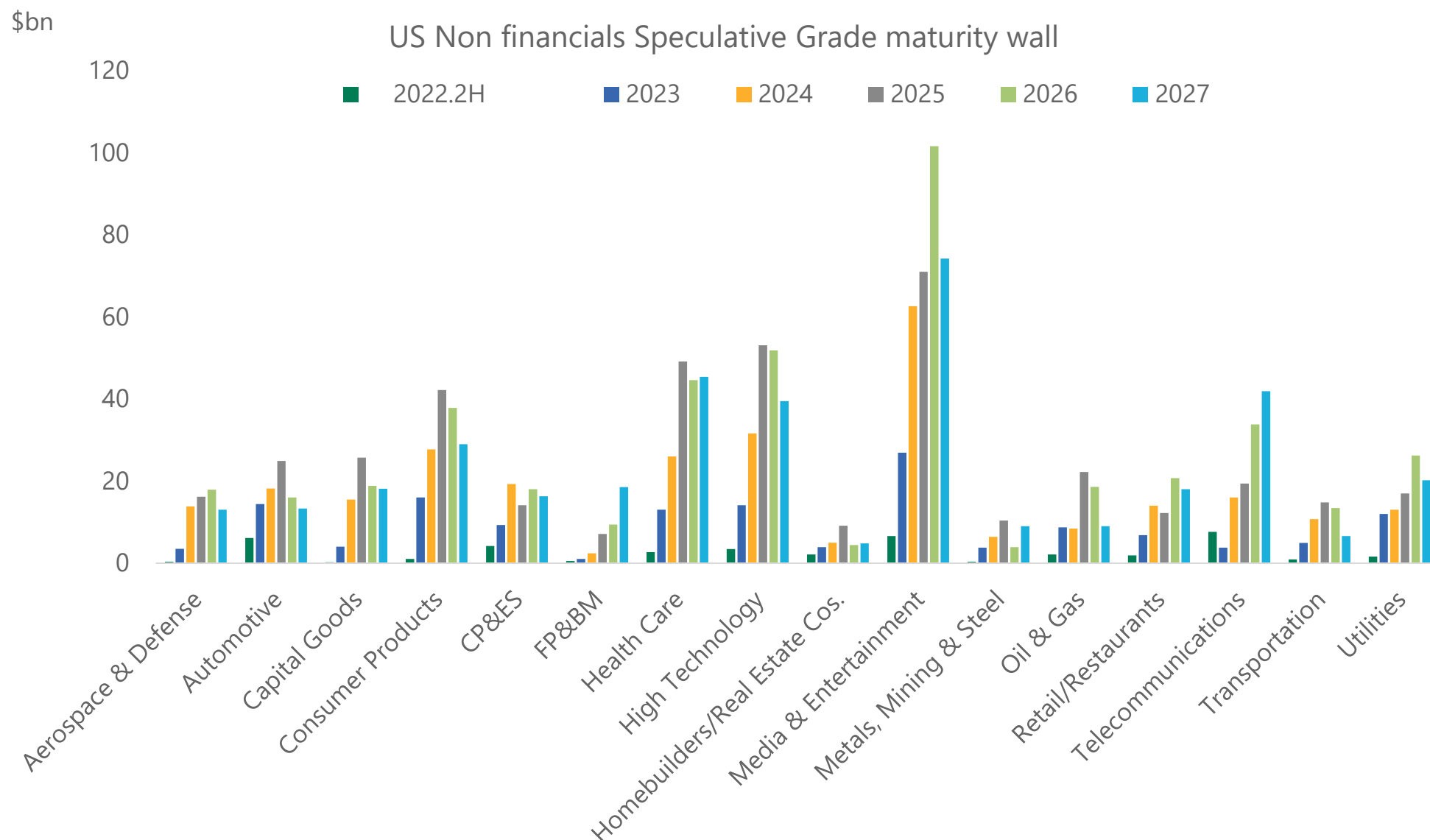
Source: S&P Global ratings Research, Apollo Chief Economist. Note: Data as of July 1, 2022. Includes issuers' speculative-grade bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings.

US Non financials maturity wall



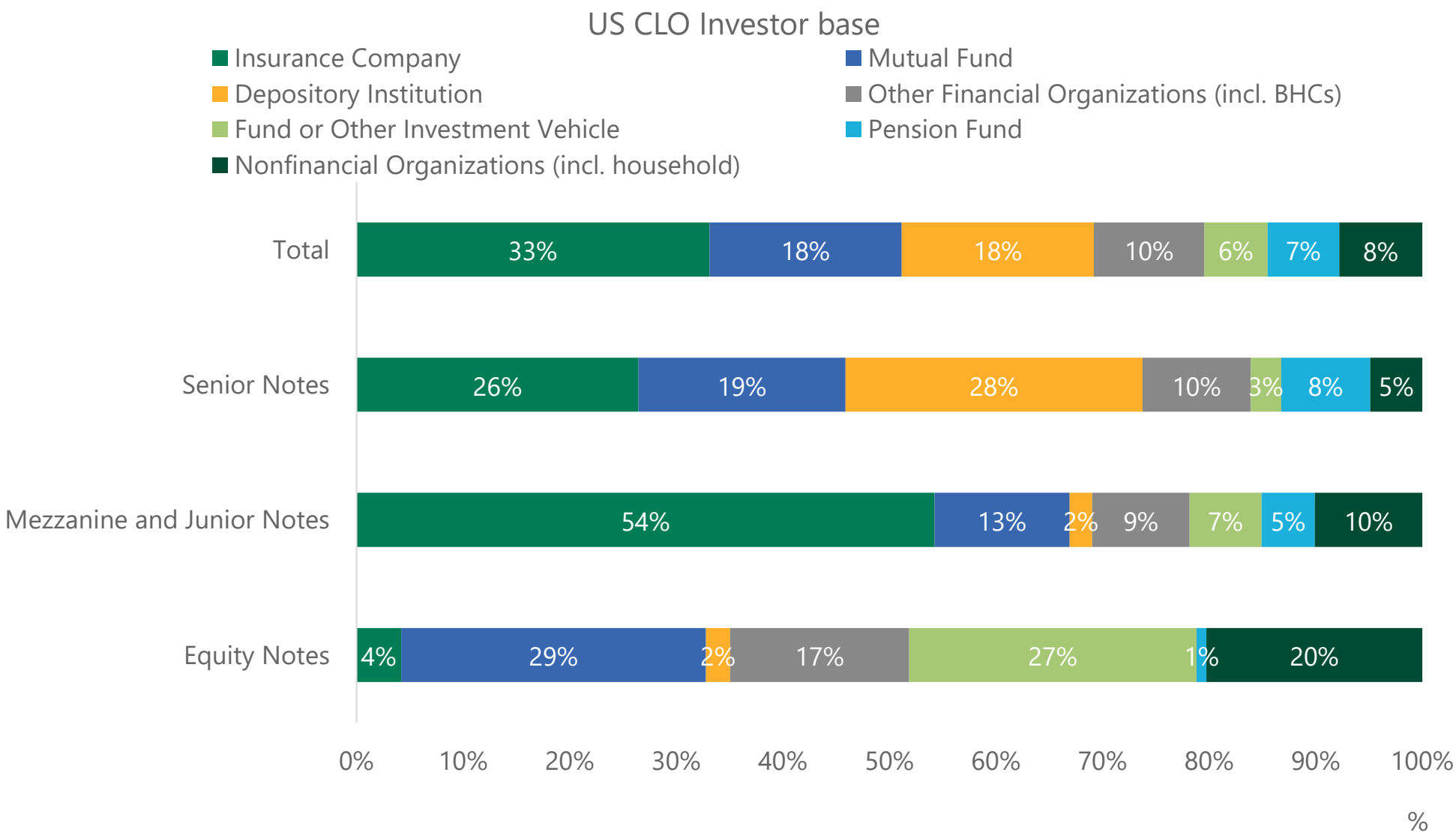
Source: S&P, Apollo Chief Economist. Note: CP&ES--Chemicals, packaging, and environmental services. FP&BM--Forest products and building materials. Media and entertainment includes the leisure sector. Includes bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings. Data as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

US Non financials maturity wall



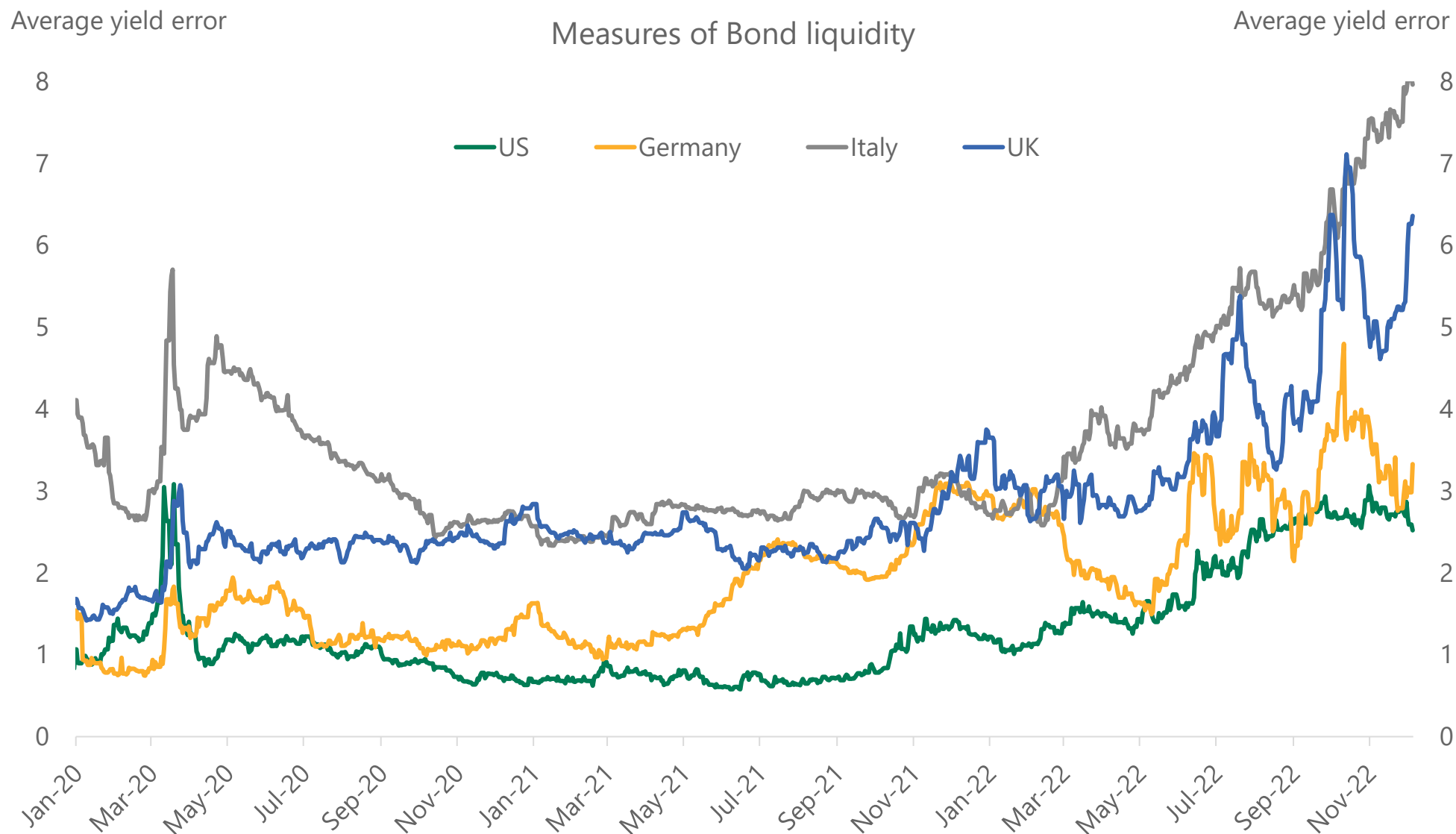
Source: S&P, Apollo Chief Economist. Note: CP&ES--Chemicals, packaging, and environmental services. FP&BM--Forest products and building materials. Media and entertainment includes the leisure sector. Includes bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings. Data as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

US CLO Investor base by tranche



Source: TIC, Moody's data, Fed, Apollo Chief Economist

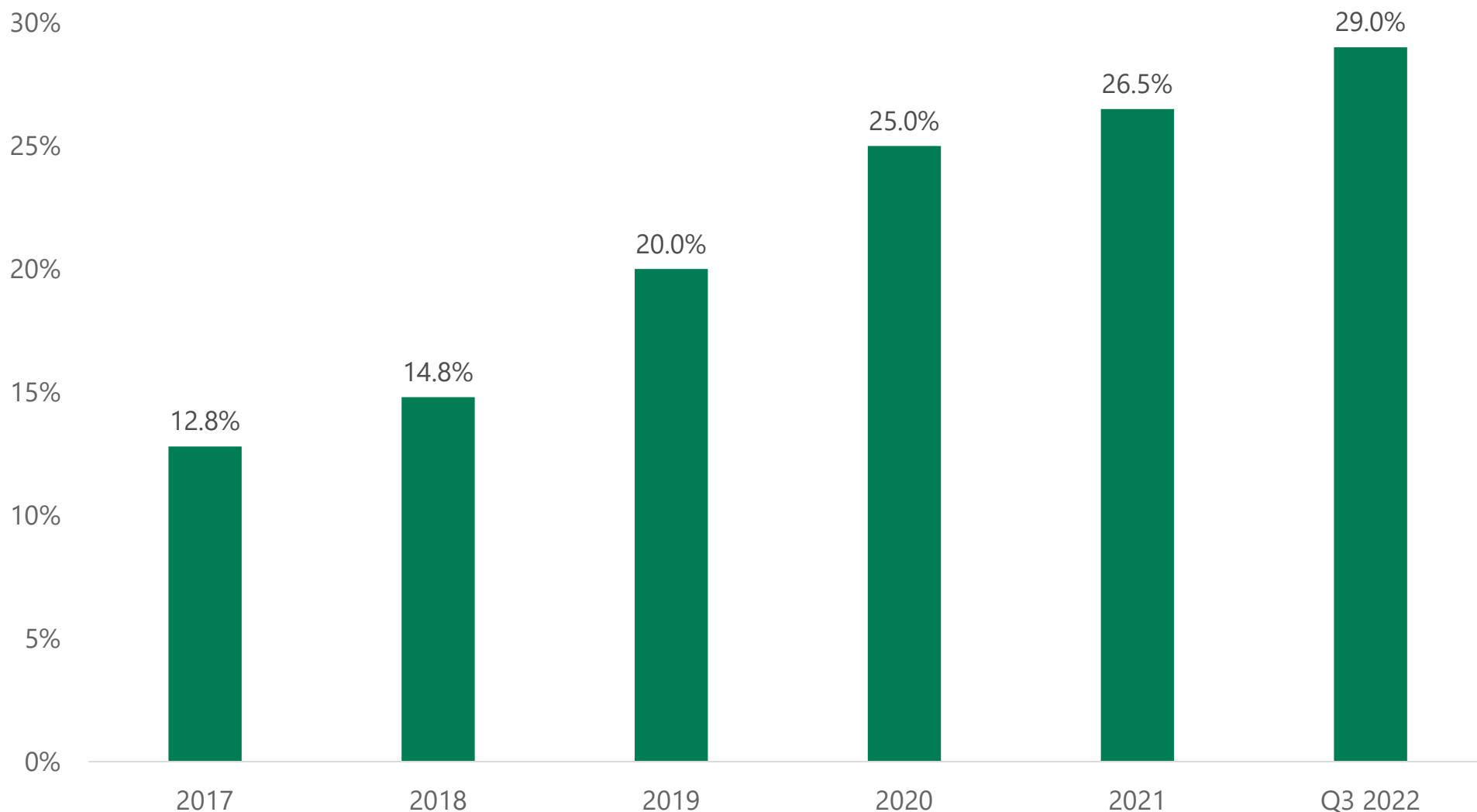
Liquidity in bond market



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.)

29% of the loans in the S&P LSTA Leveraged Loan Index are rated B-

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



Source: S&P, Apollo Chief Economist

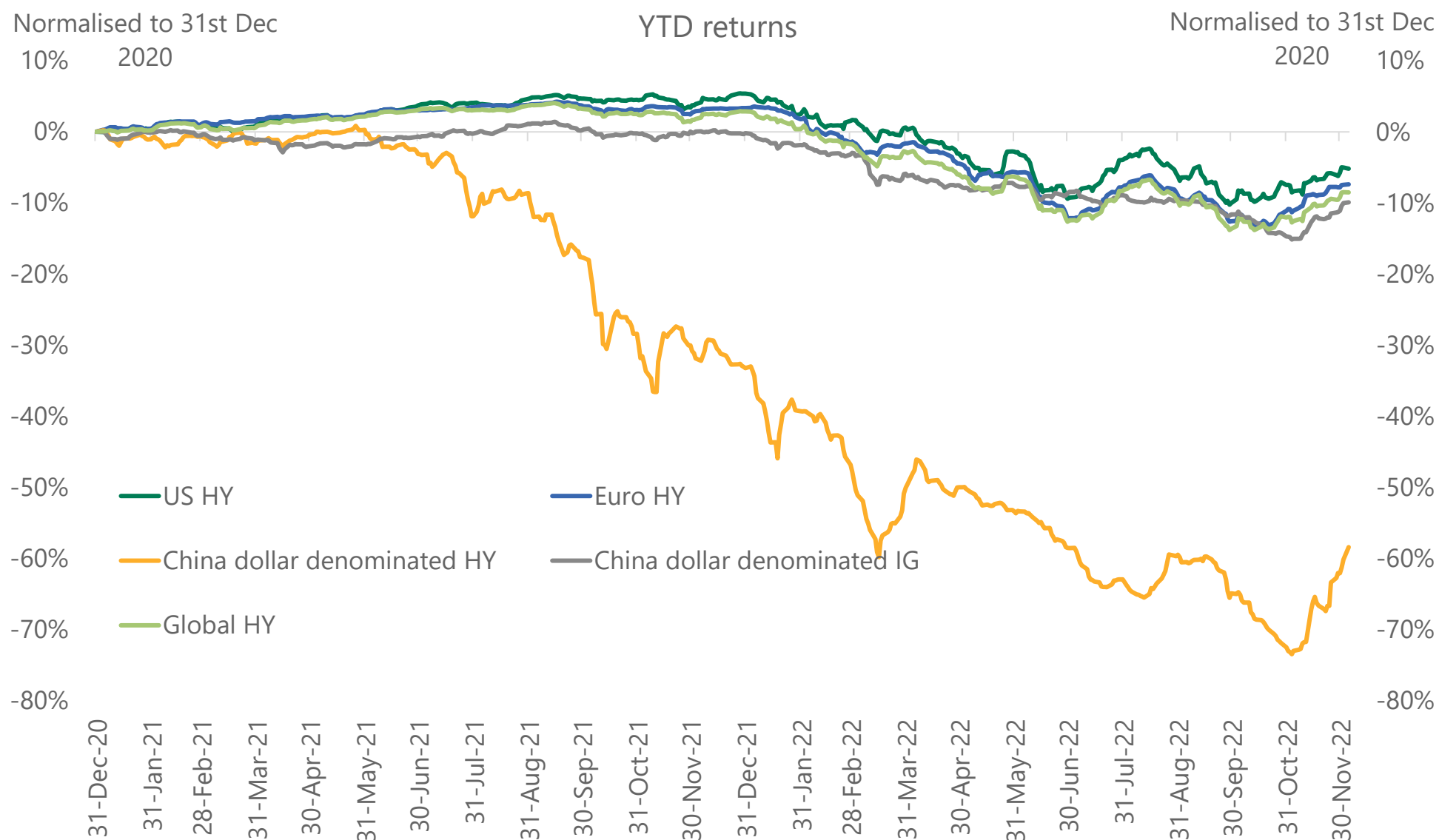
China HY

The yield on China HY around 25%



Source: Bloomberg Barclays, Bloomberg H29381US Index, Apollo Chief Economist

Little contagion from China HY to US and EU credit markets



Source: ICE BofA, Bloomberg, Apollo Chief Economist,

Biography



Torsten Slok, Ph.D.

Chief Economist

Apollo Global Management

tslok@apollo.com

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, including #1 in 2019. 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.