

APOLLO

Outlook for private markets

Torsten Slok, Jyoti Agarwal, and Rajvi Shah

Apollo Global Management

December 2023

Unless otherwise noted, information as of December 2023.

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.

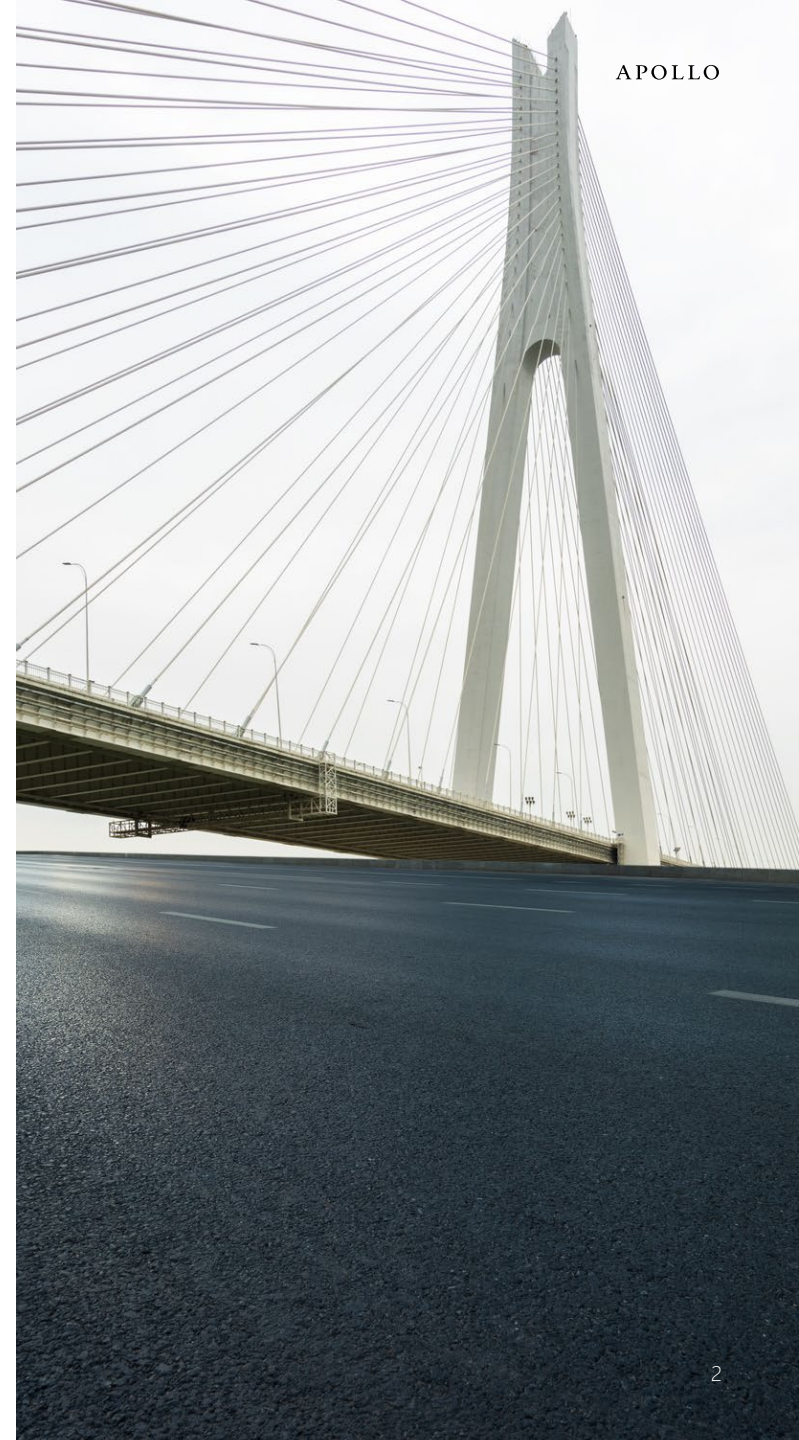


Table of contents

1. Overview
2. Private equity
3. Recent PE deal activity
4. Private credit
5. Real estate
6. Secondaries
7. Middle market
8. Venture capital
9. Recent LBO activity
10. Index weightings
11. Retirement assets
12. Preqin survey of investors
13. Weakest links

Overview

Comparing public and private markets

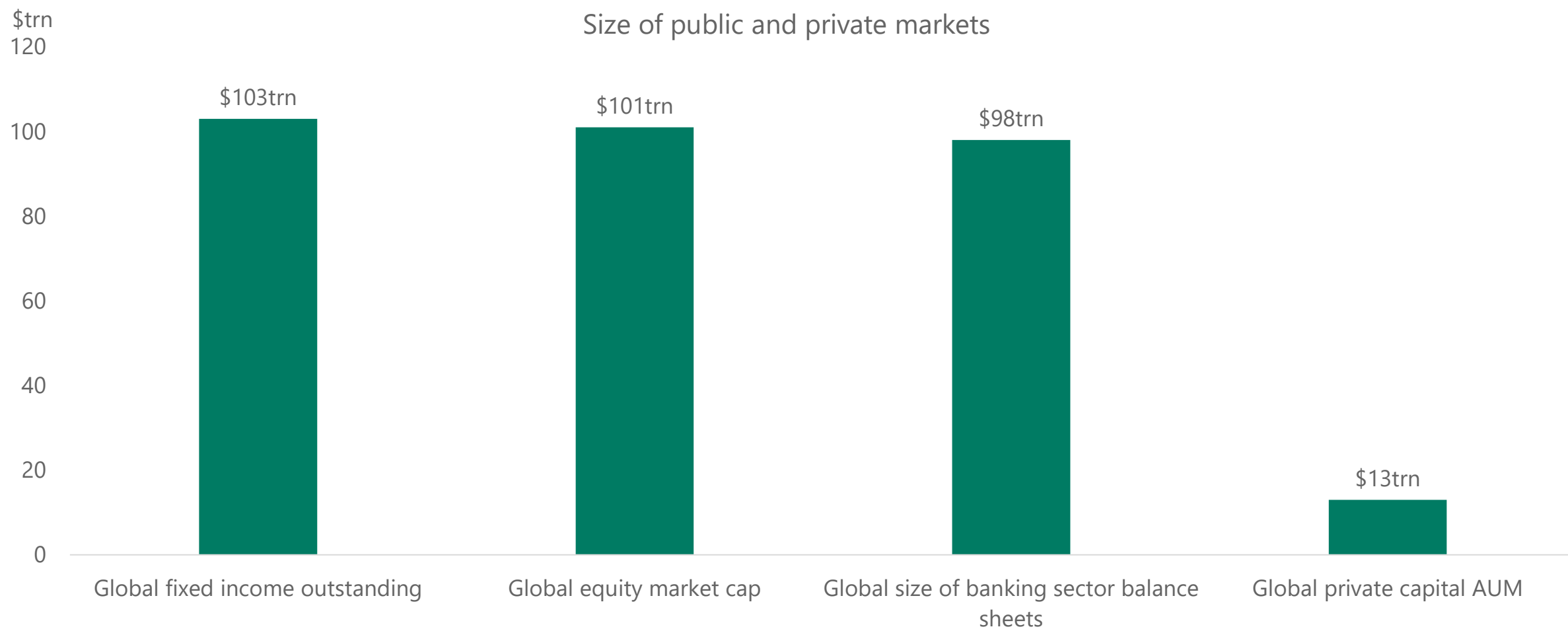
- Global private capital AUM: \$13trn (Source: Pitchbook)
- Global fixed income outstanding: \$103trn (Source: SIFMA)
- Global equity market cap: \$101trn (Source: SIFMA)
- Global size of banking sector balance sheets: \$98trn (Source: BIS)

Private capital makes up less than 5% of global financing markets

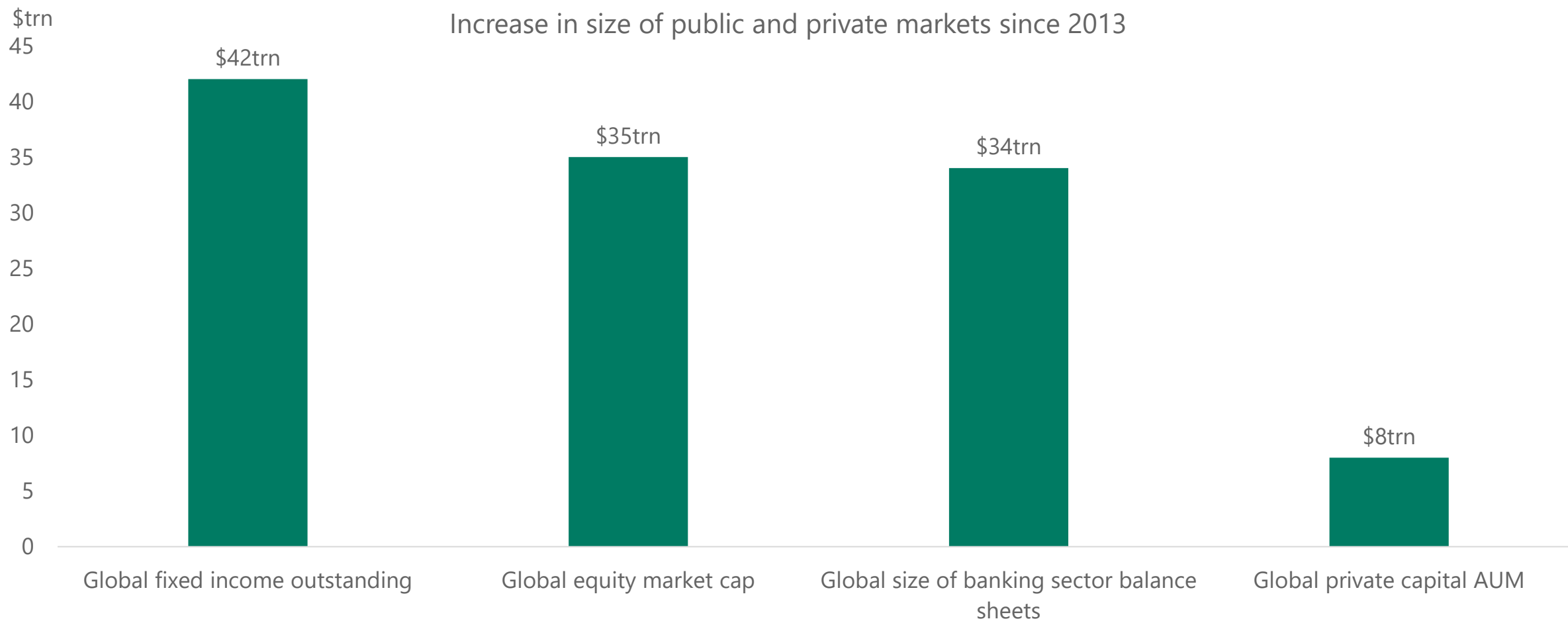
- Increase in the size of global private markets AUM over the past decade: \$8trn
- Increase in the size of global fixed income markets over the past decade: \$42trn
- Increase in the size of global equity market cap over the past decade: \$35trn
- Increase in the size of global banking sector balance sheets over the past decade: \$34trn

Private capital has over the past decade grown much slower than global financing markets

Comparing public and private markets

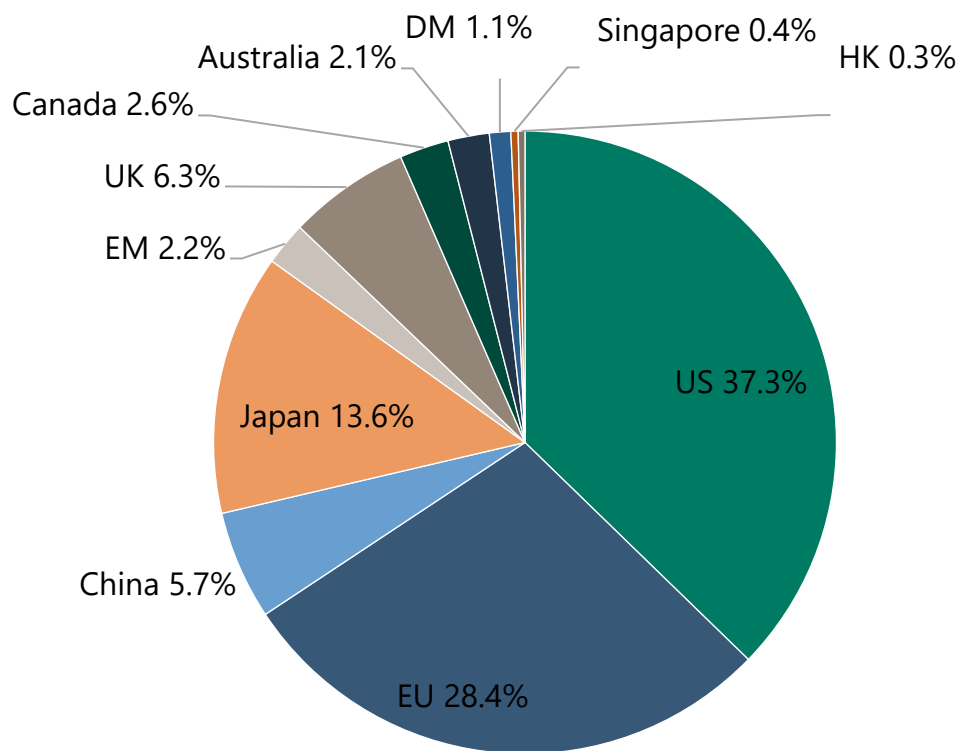


Comparing growth in public and private markets over the past decade

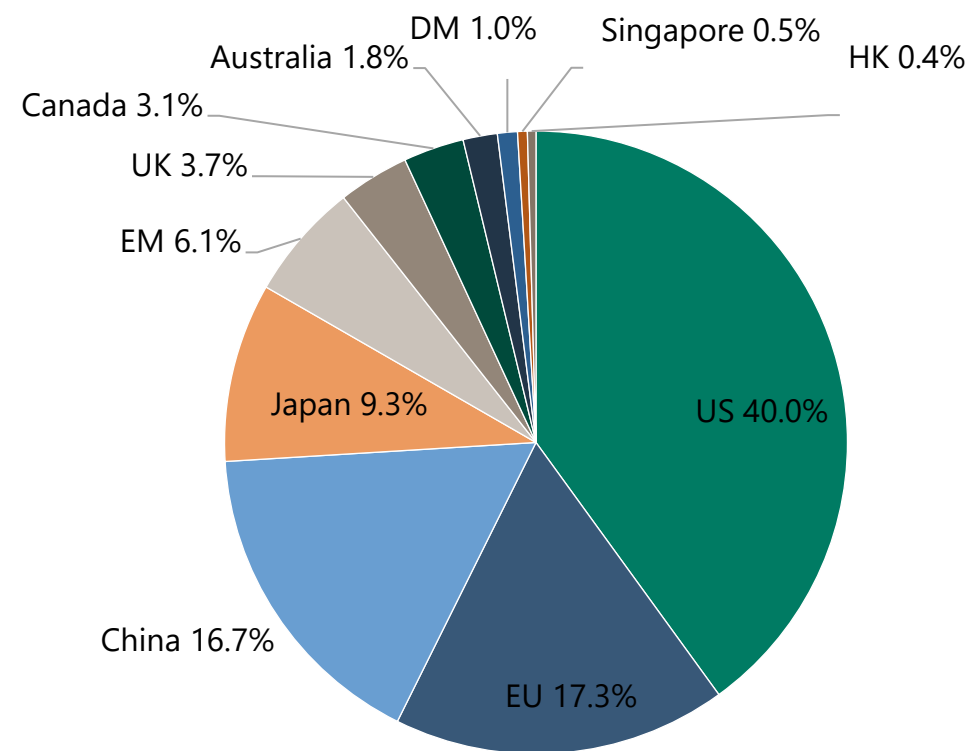


Global fixed income markets have grown \$42trn over the past decade

**Global fixed income outstanding
2013: \$87.8trn**

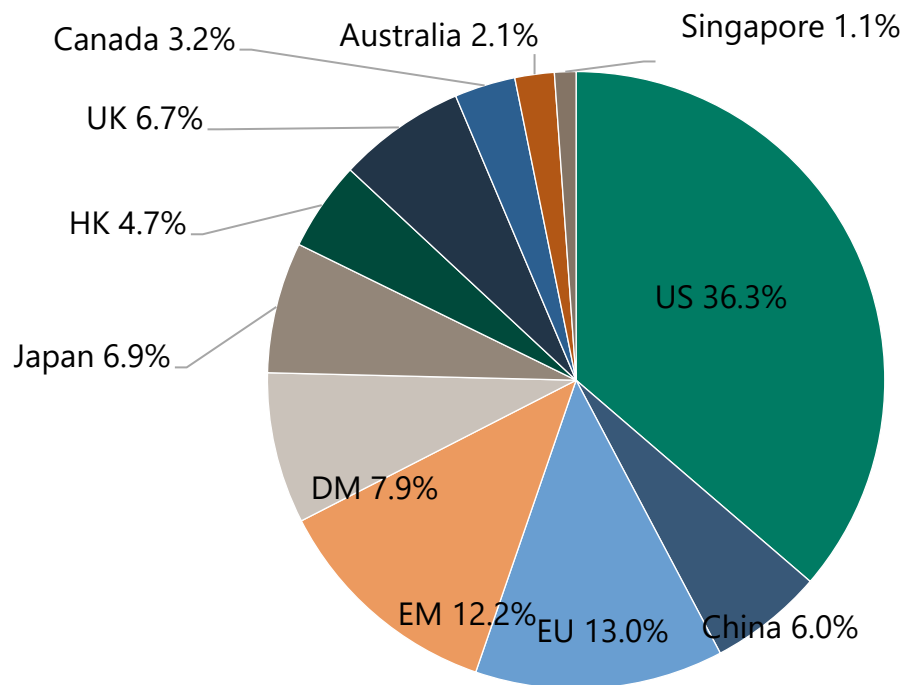


**Global fixed income outstanding
2022: \$129.8trn**

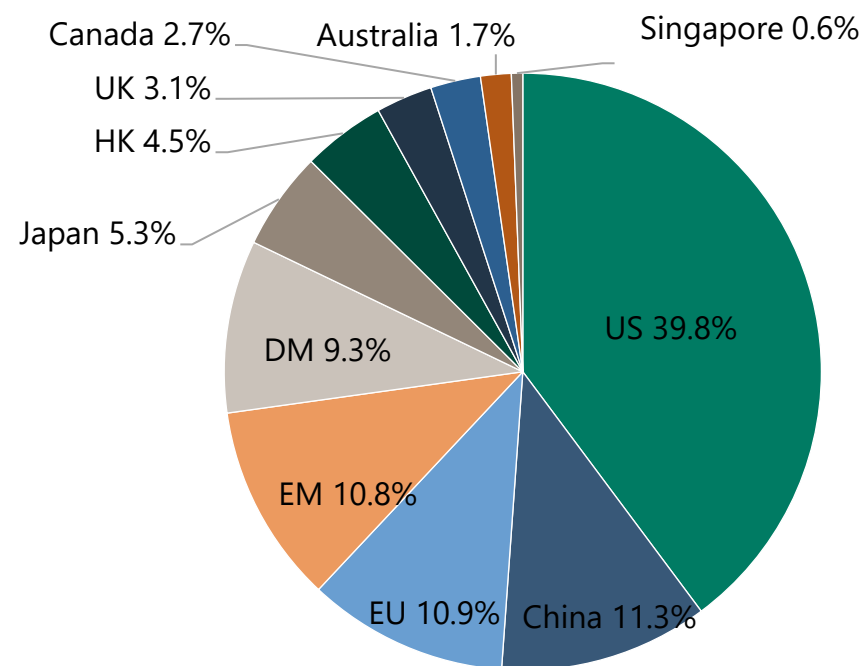


Global equity markets have grown \$35trn over the past decade

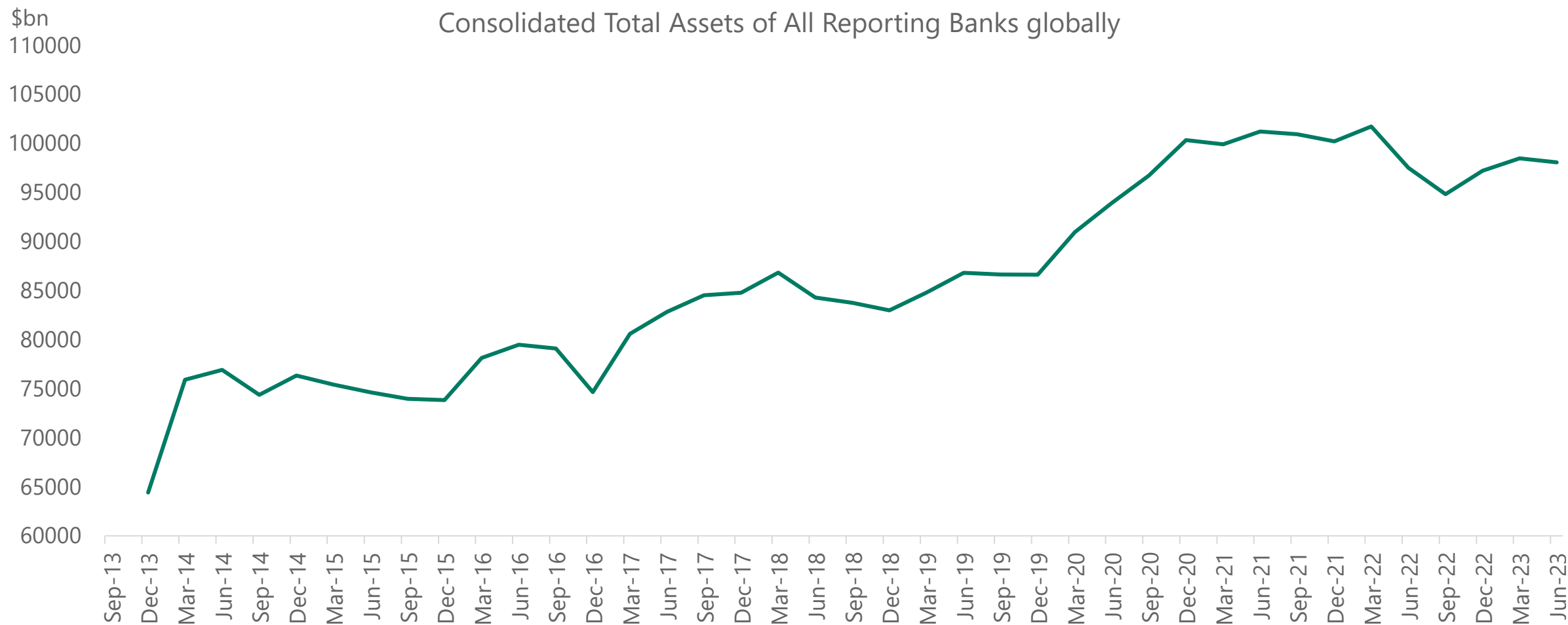
**Global equity market cap
2013: \$66.2trn**



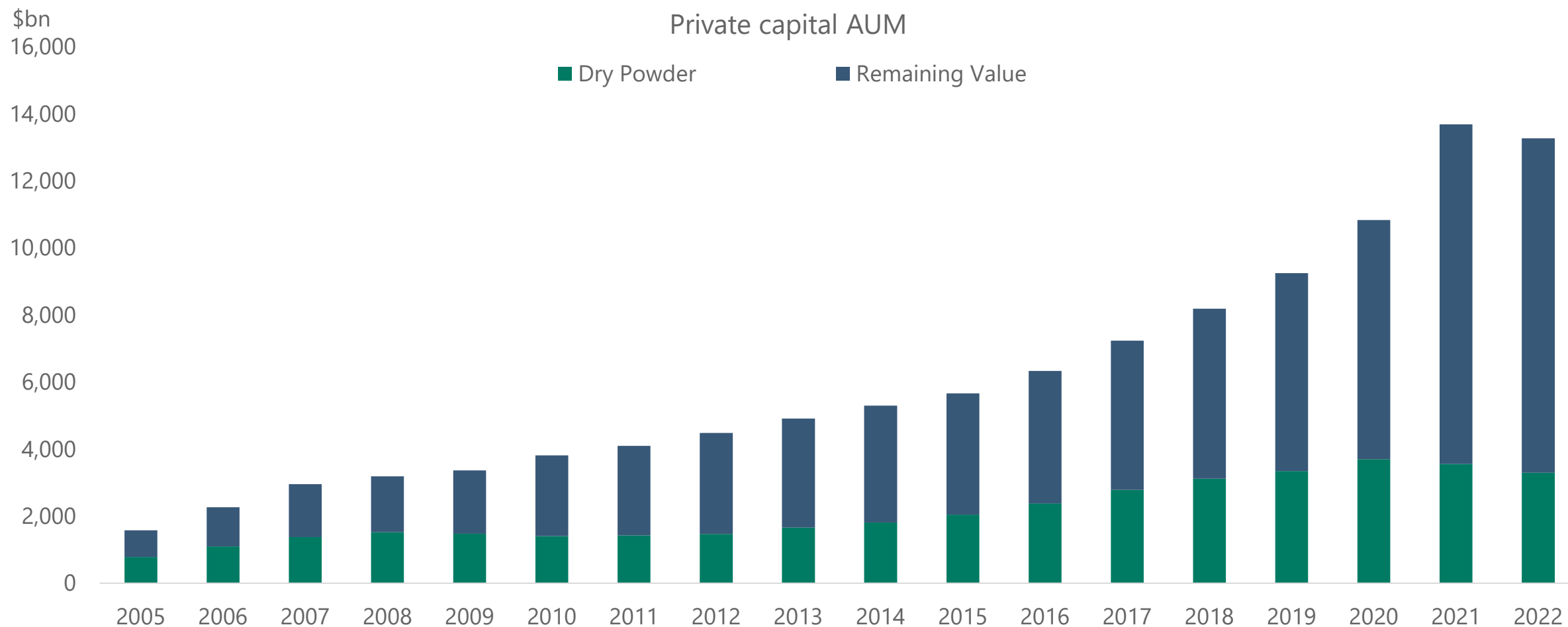
**Global equity market cap
2022: \$101.2T**



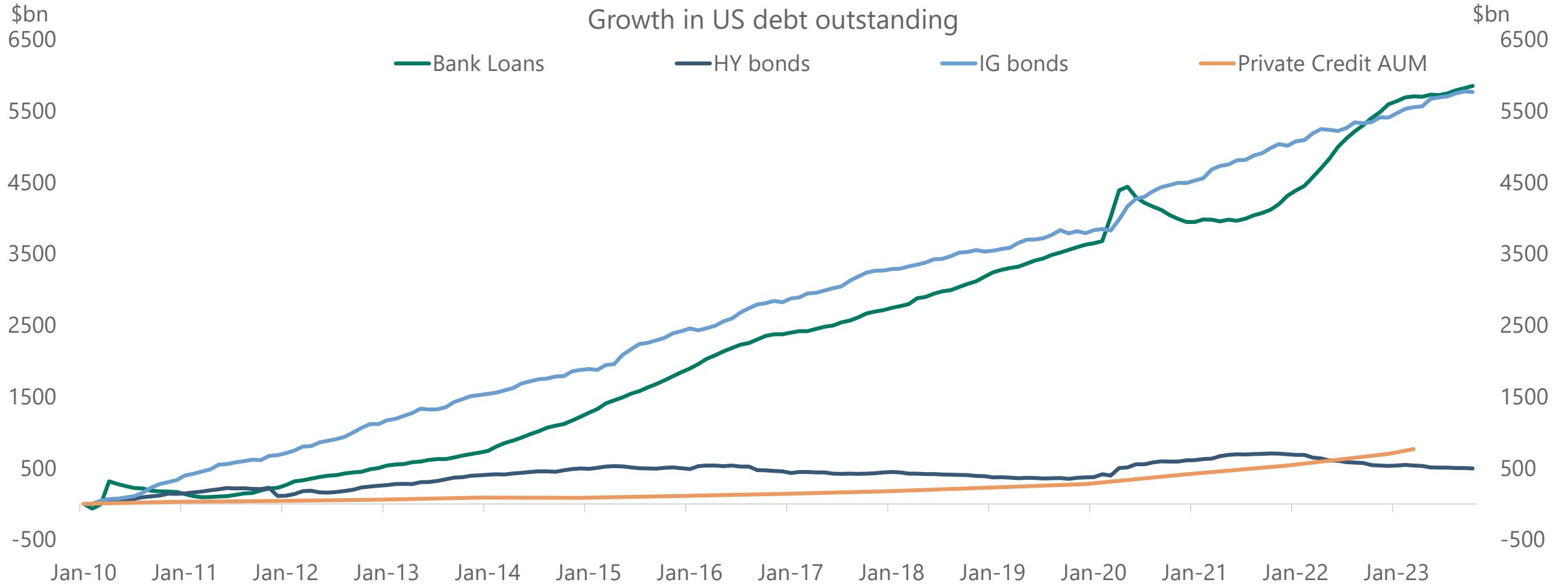
Total assets in the global banking sector have grown \$34trn over the past decade



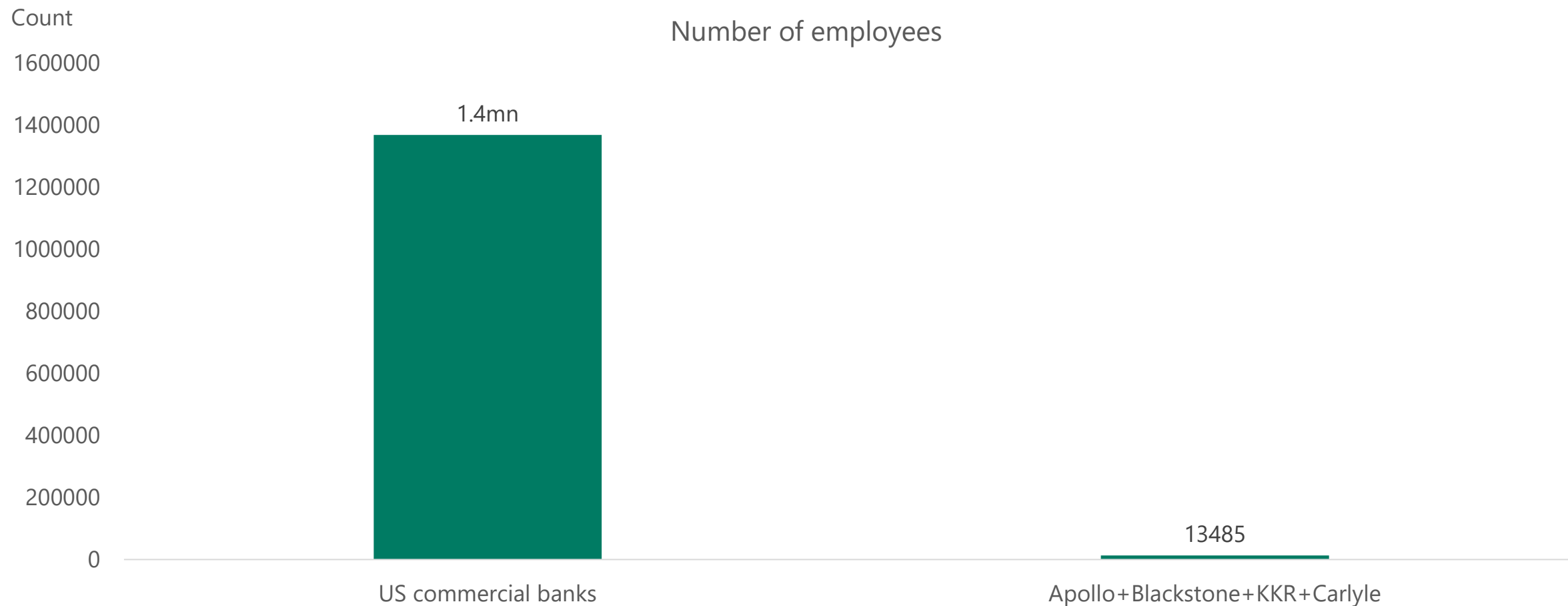
Global private capital markets have grown \$8trn over the past decade



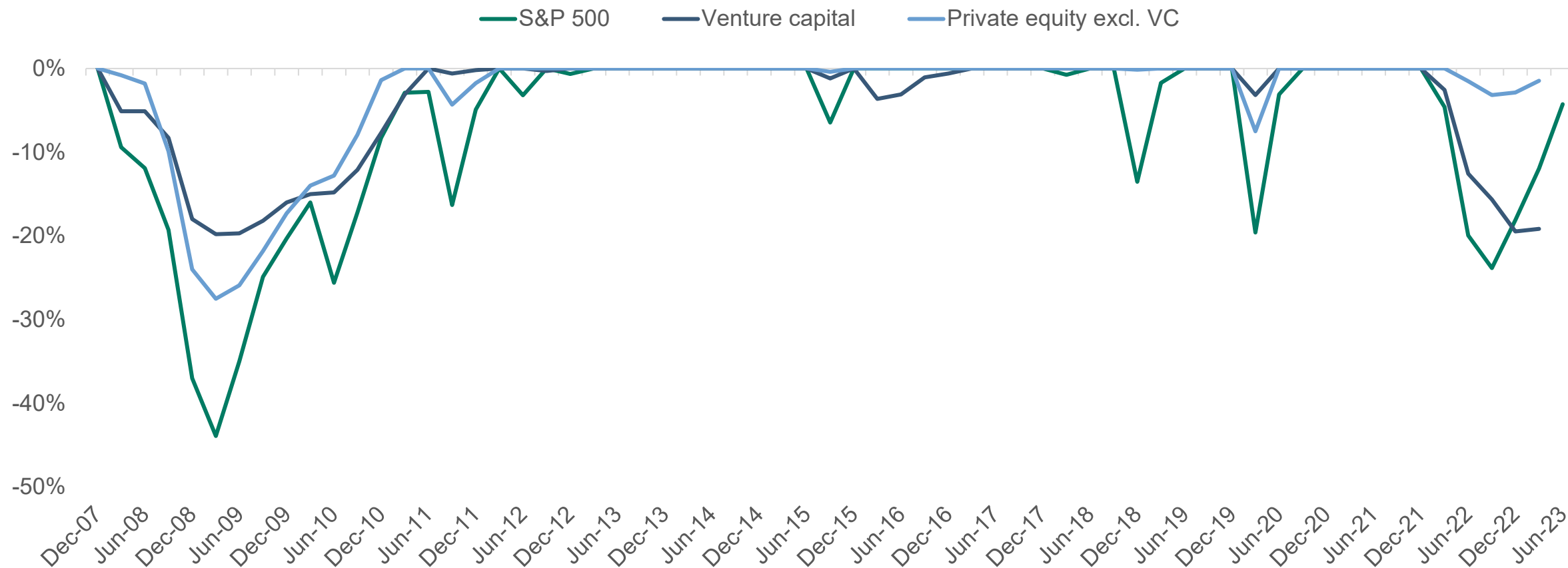
Since 2010, lending by banks has increased by \$5.5trn, IG markets have grown \$5.5trn, HY markets have grown \$500bn, and private credit AUM has increased by \$800bn.



Total employment in US commercial banks: 1.4mn



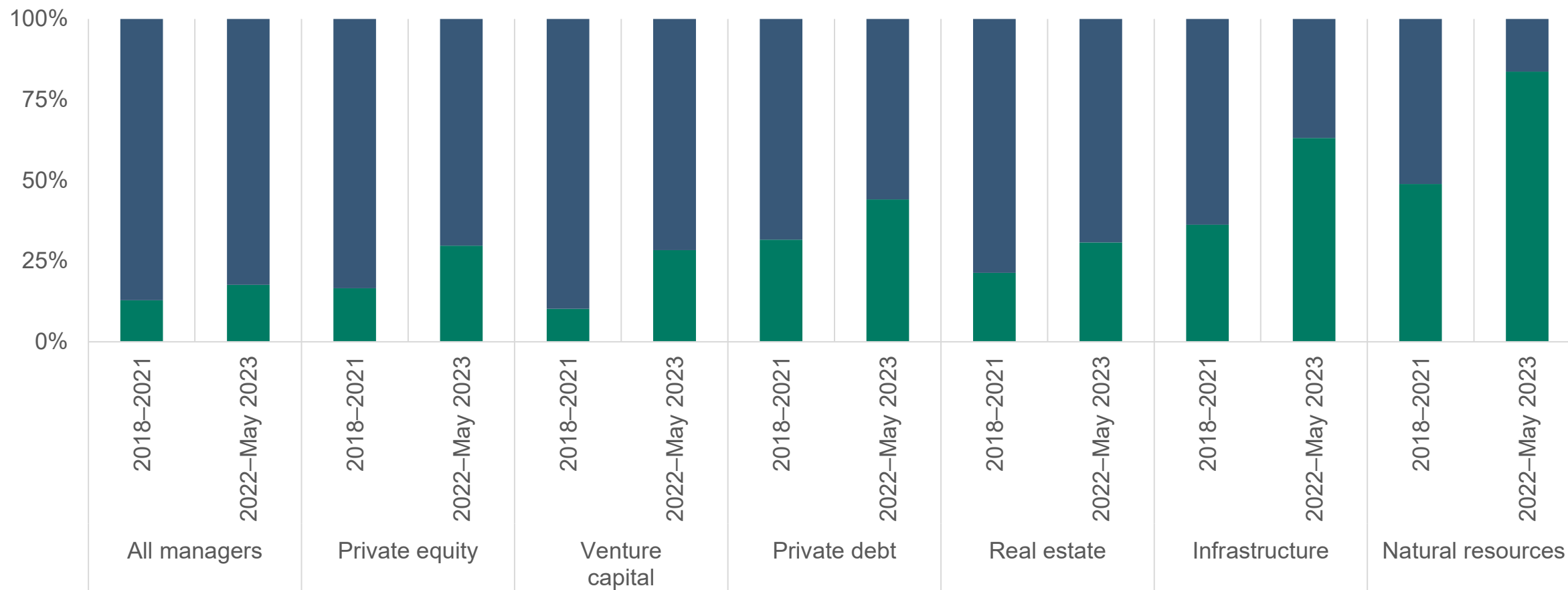
Public and private market drawdown periods, since GFC



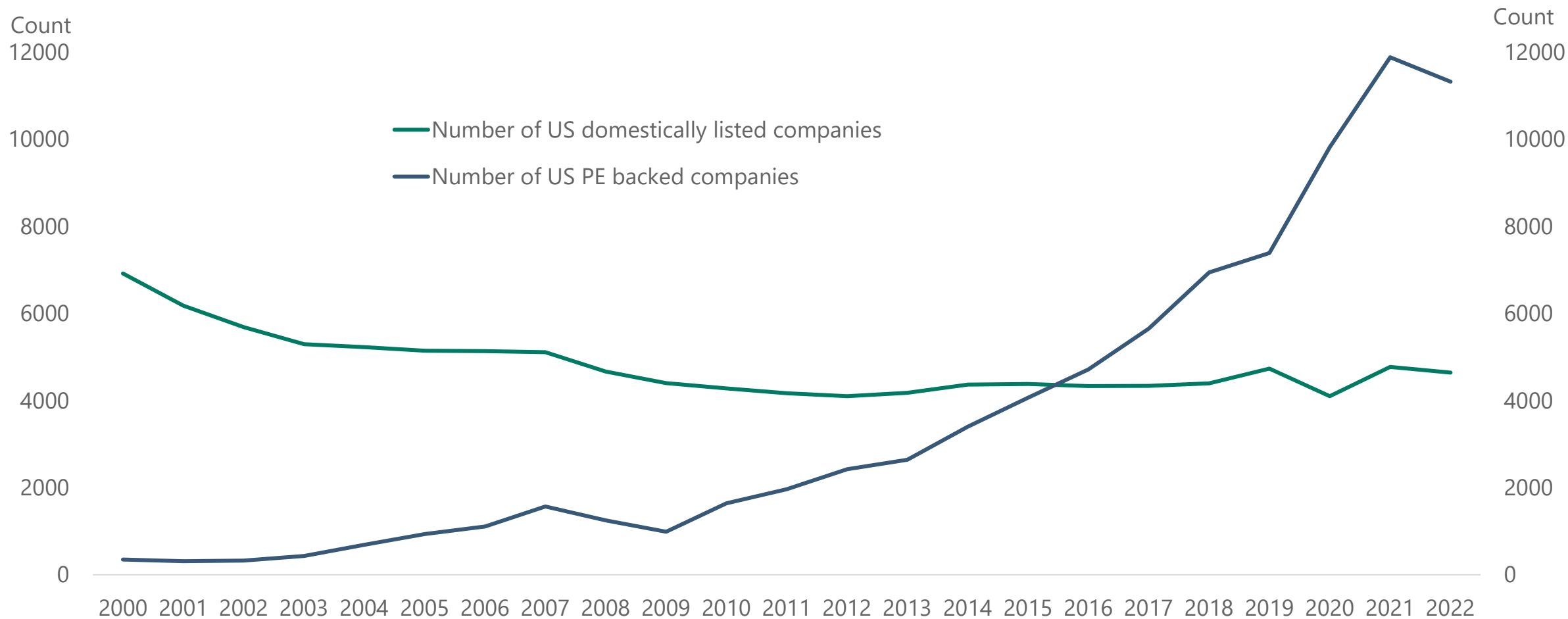
Percentage of private capital funds raised by the 10 largest managers

% of funds raised

■ 10 largest managers ■ Other managers

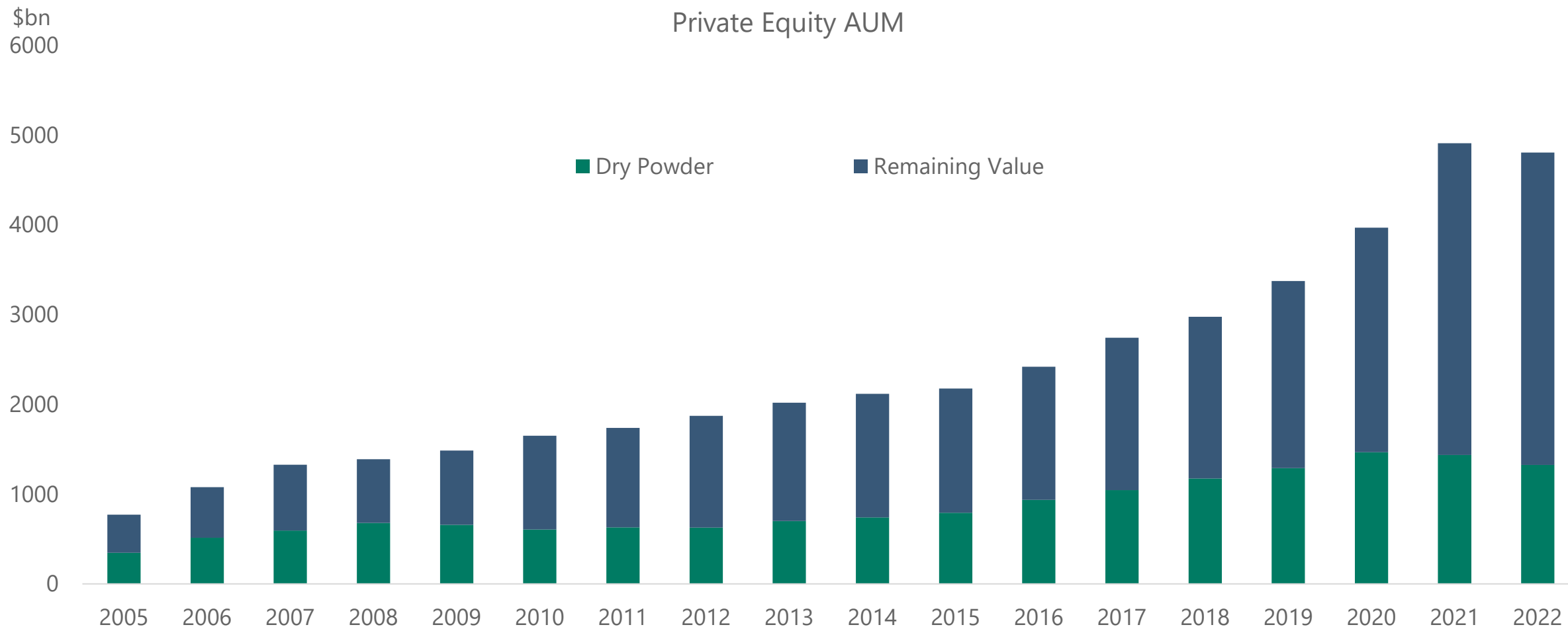


The number of PE-backed companies and the number of publicly-listed companies



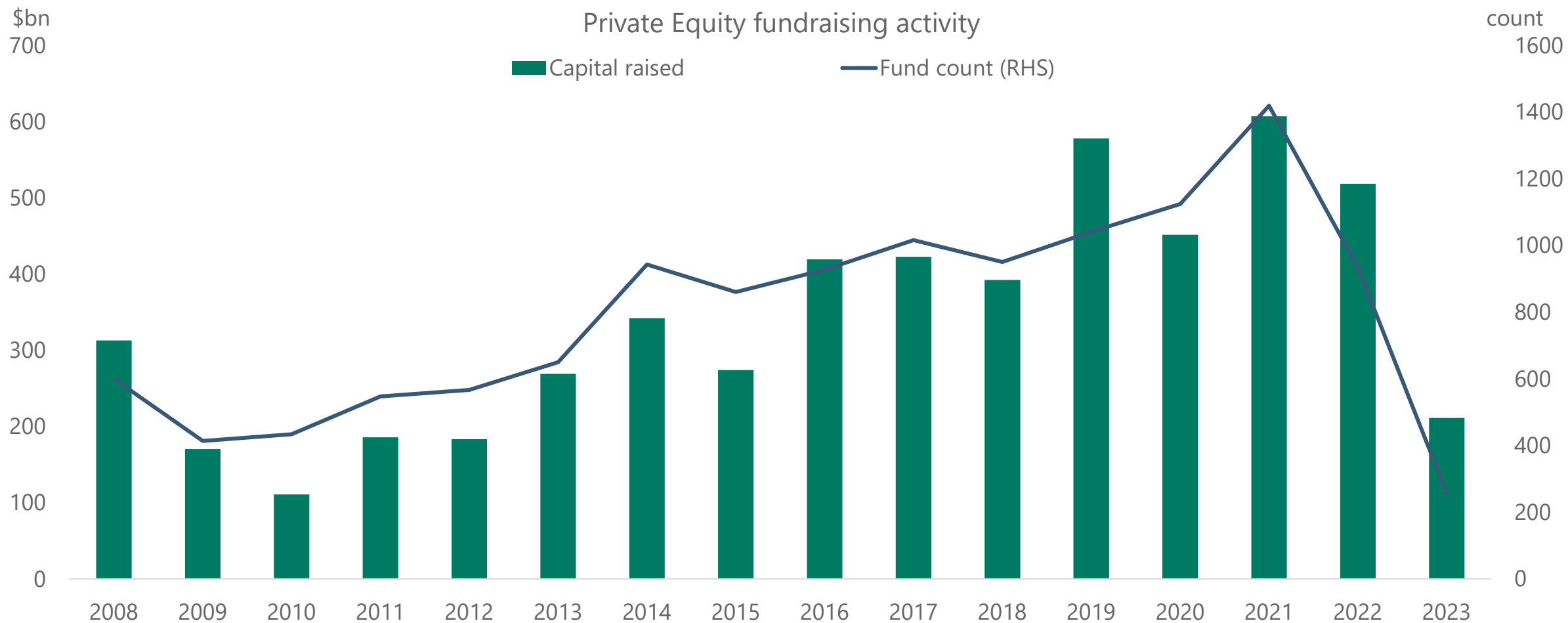
Private equity

Global private equity AUM is around \$5trn



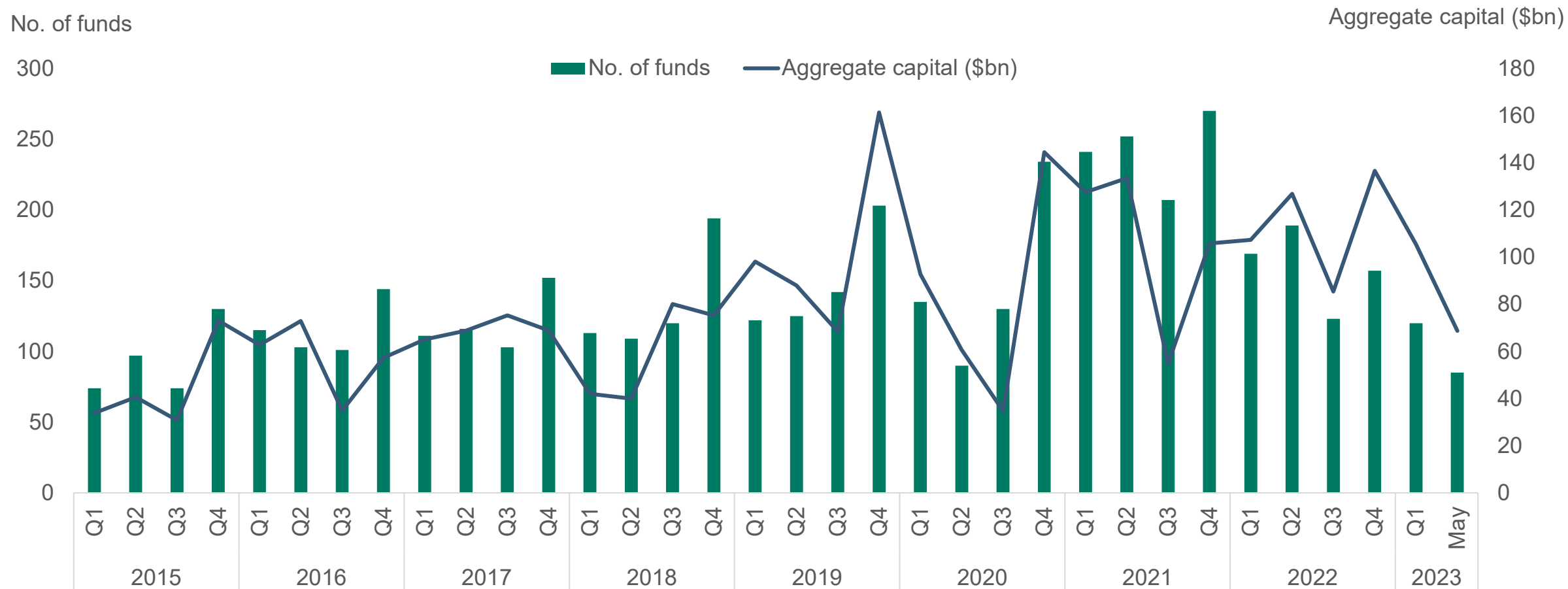
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 31st December 2022

Fundraising activity

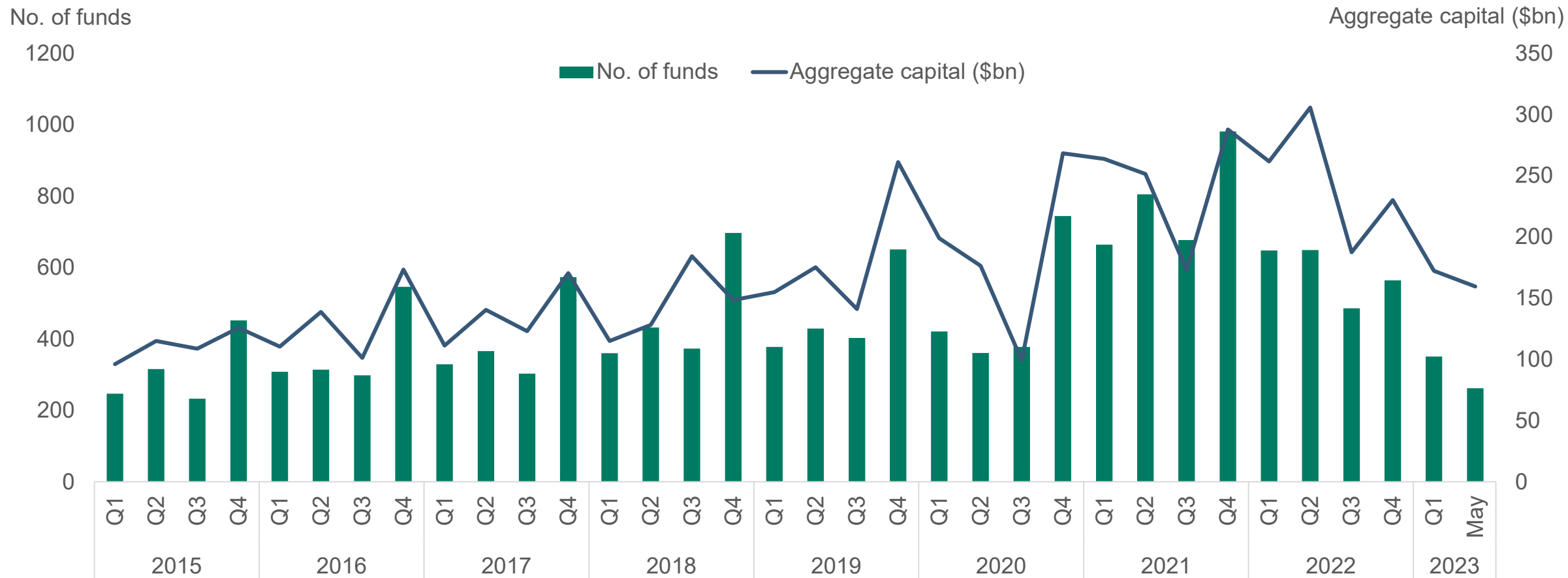


Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

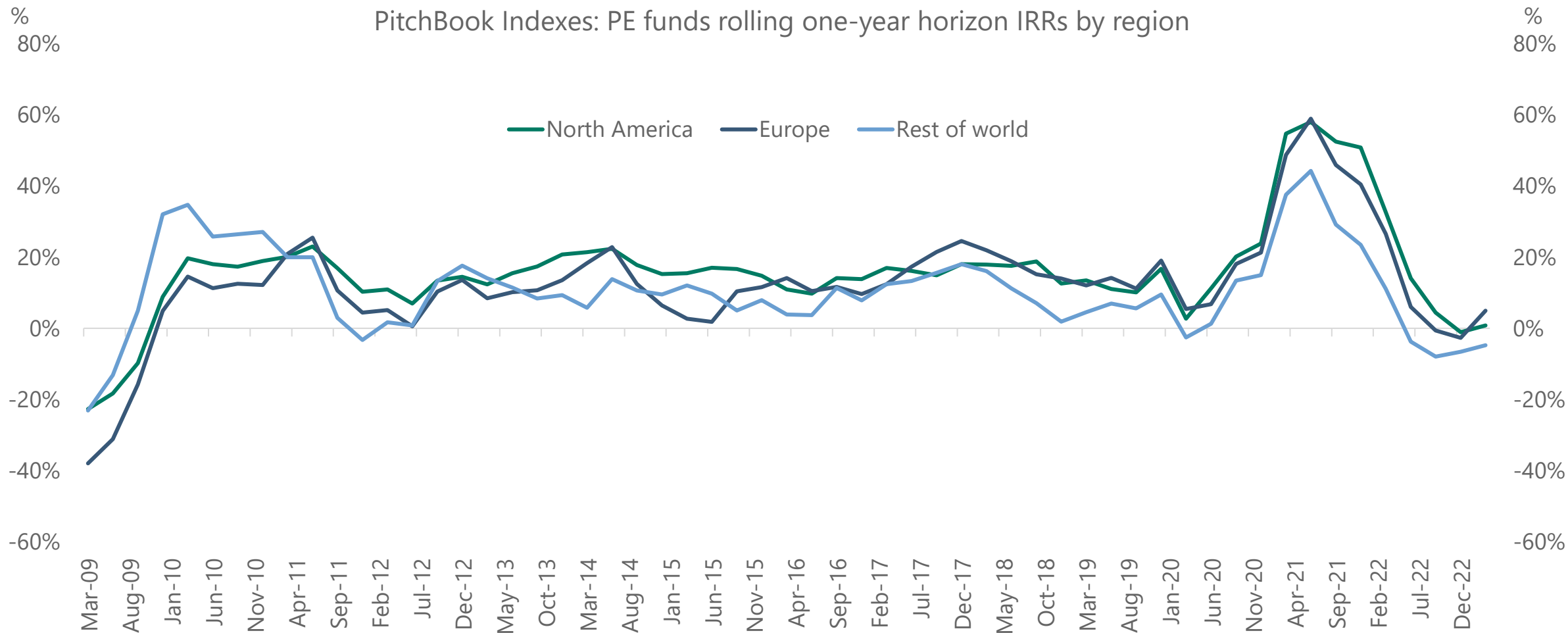
North America private equity more concentrated



Fundraising trending lower

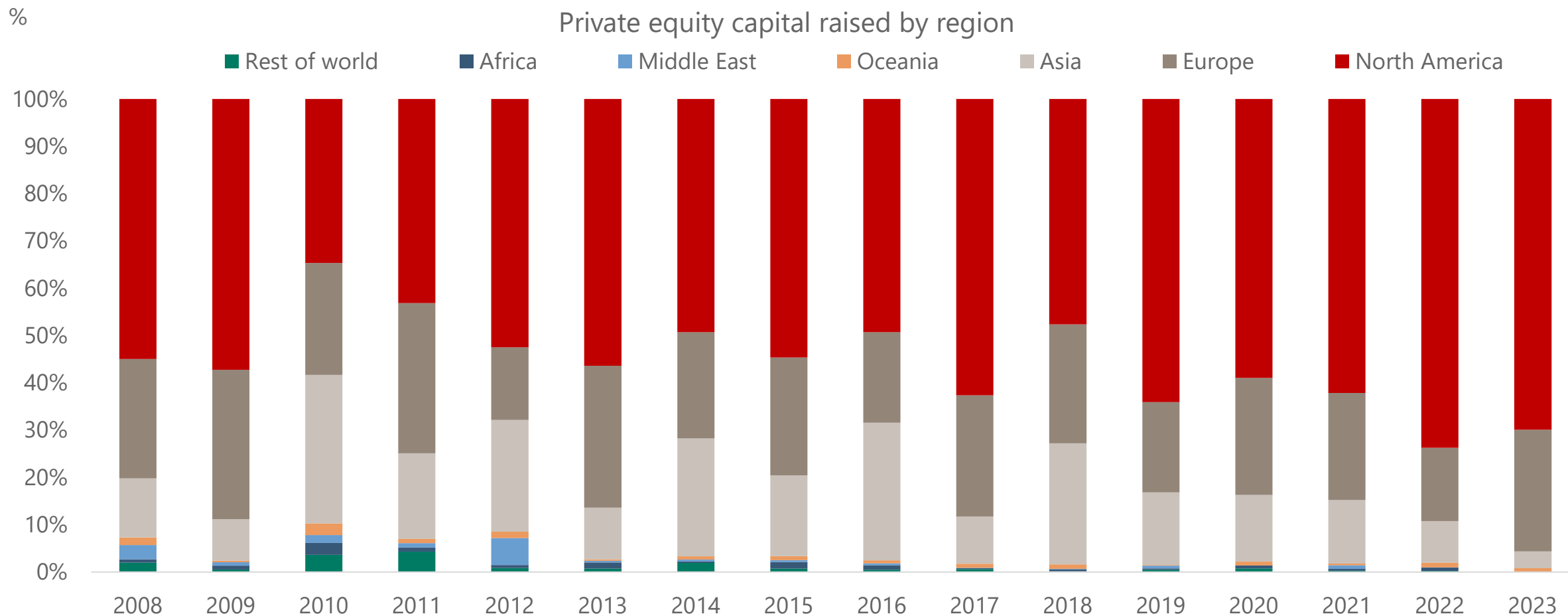


Private Equity returns, by region



Source: Pitchbook, Apollo Chief Economist. Note: Data as of 31st March 2023

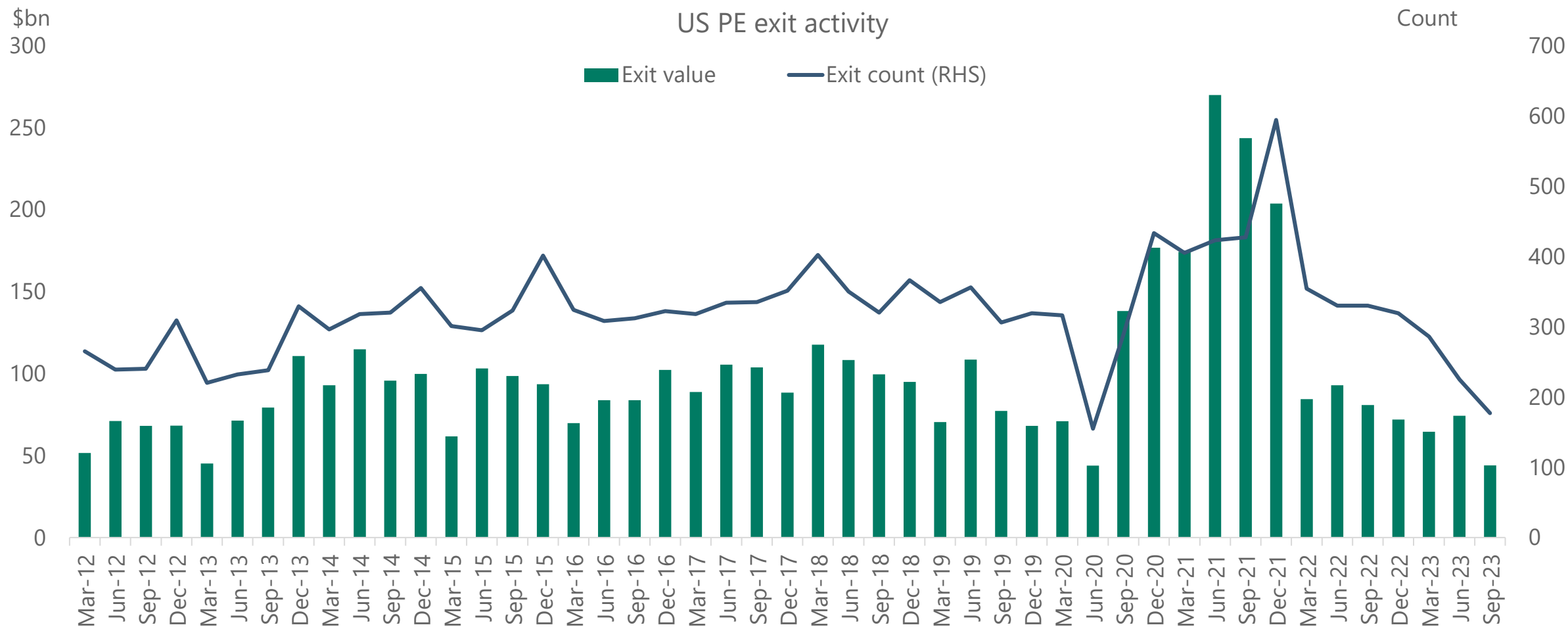
70% of global private equity capital is raised in North America



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

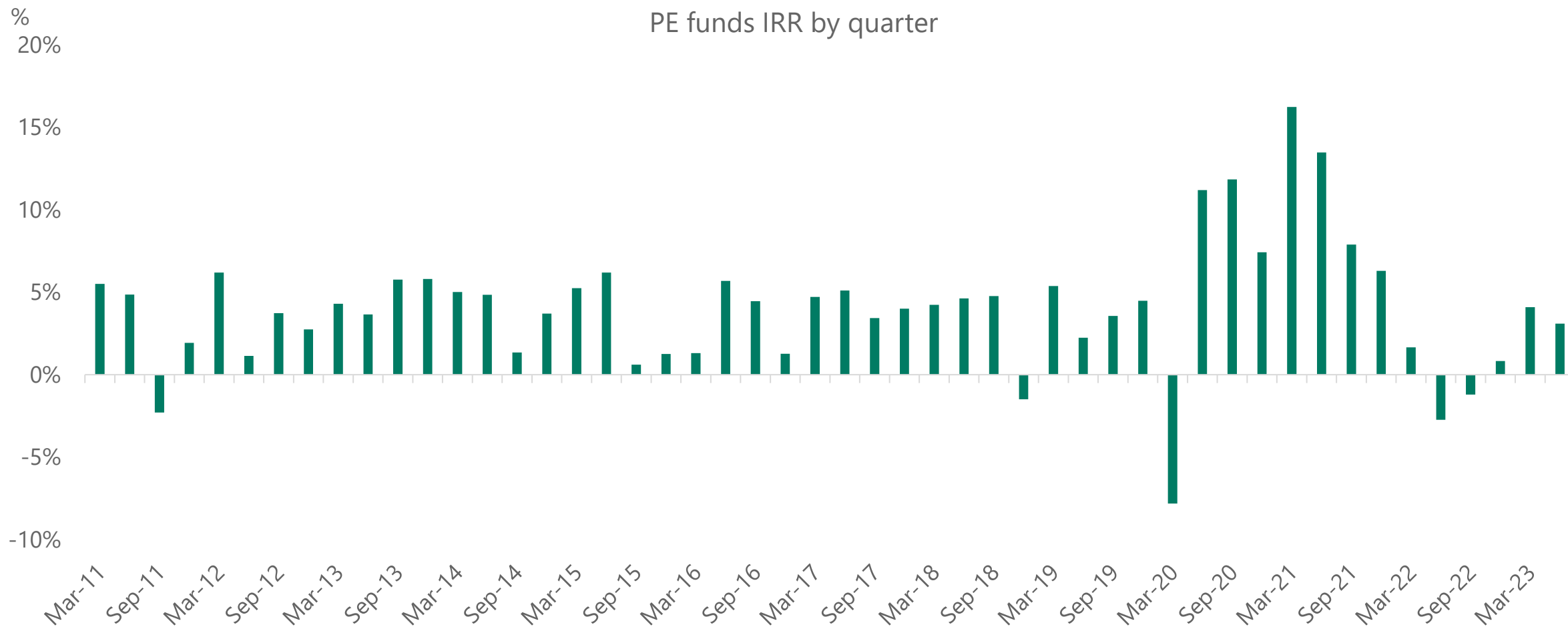
Recent PE deal activity

PE exit activity falling



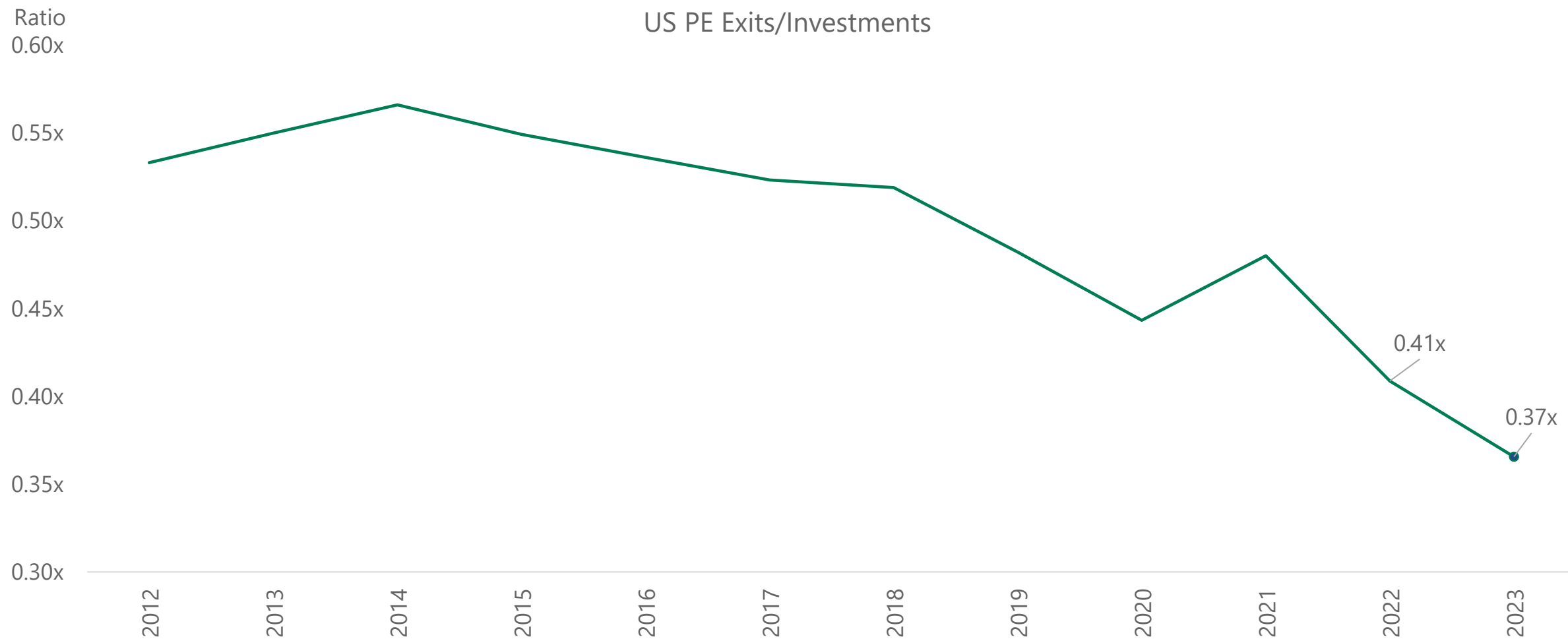
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th September 2023

PE funds IRR

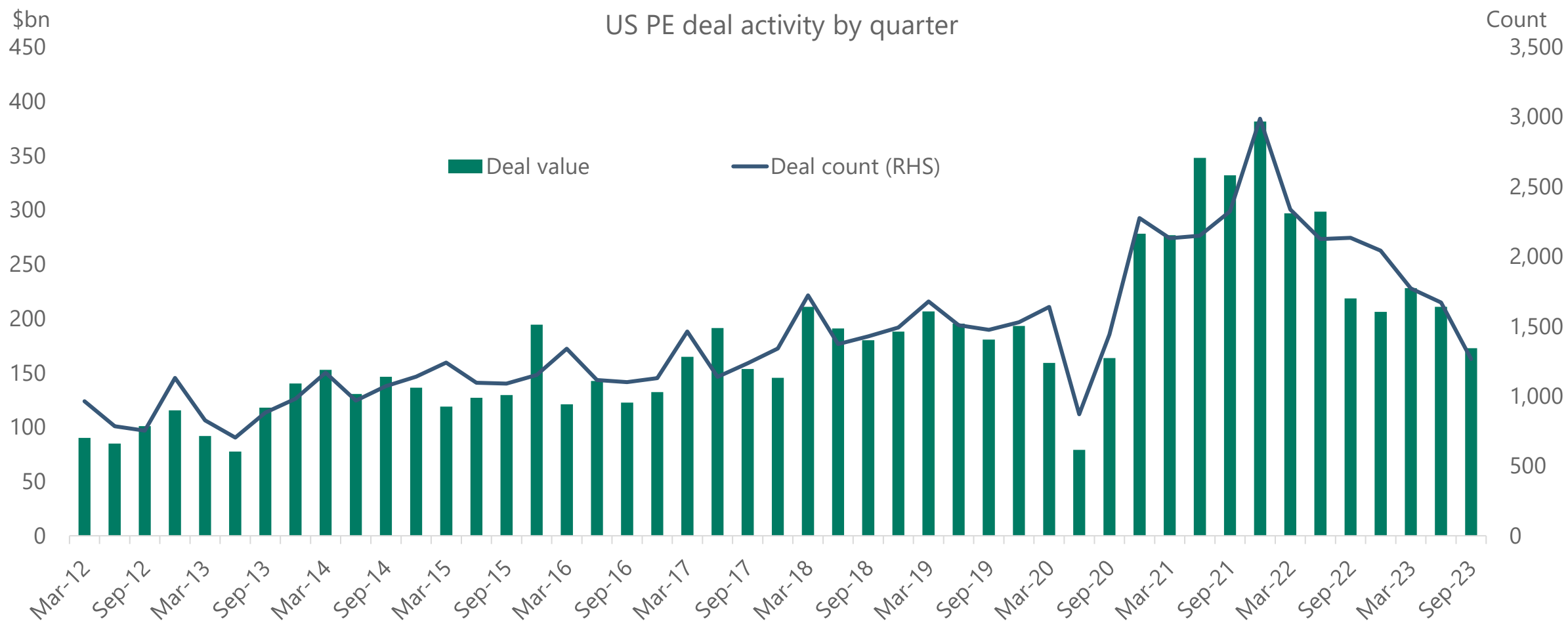


Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

The exits-to-investments-ratio is declining

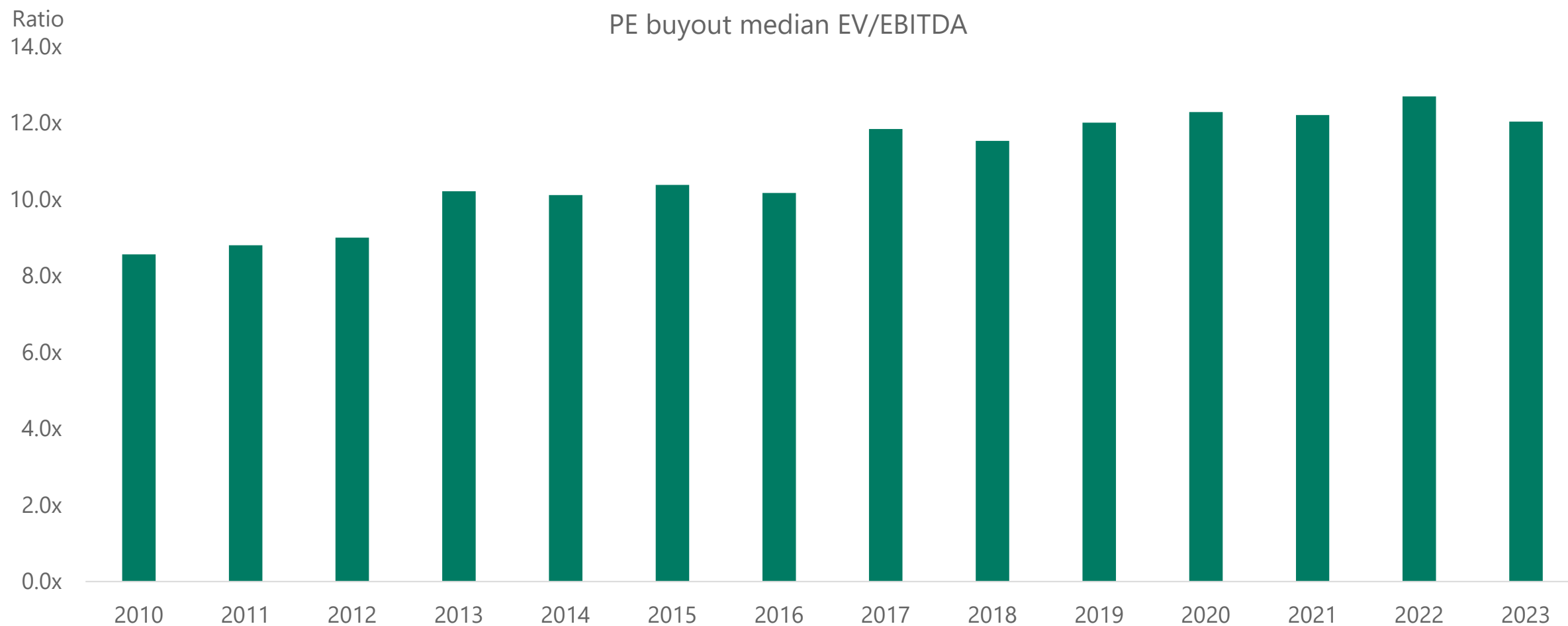


US PE deal activity

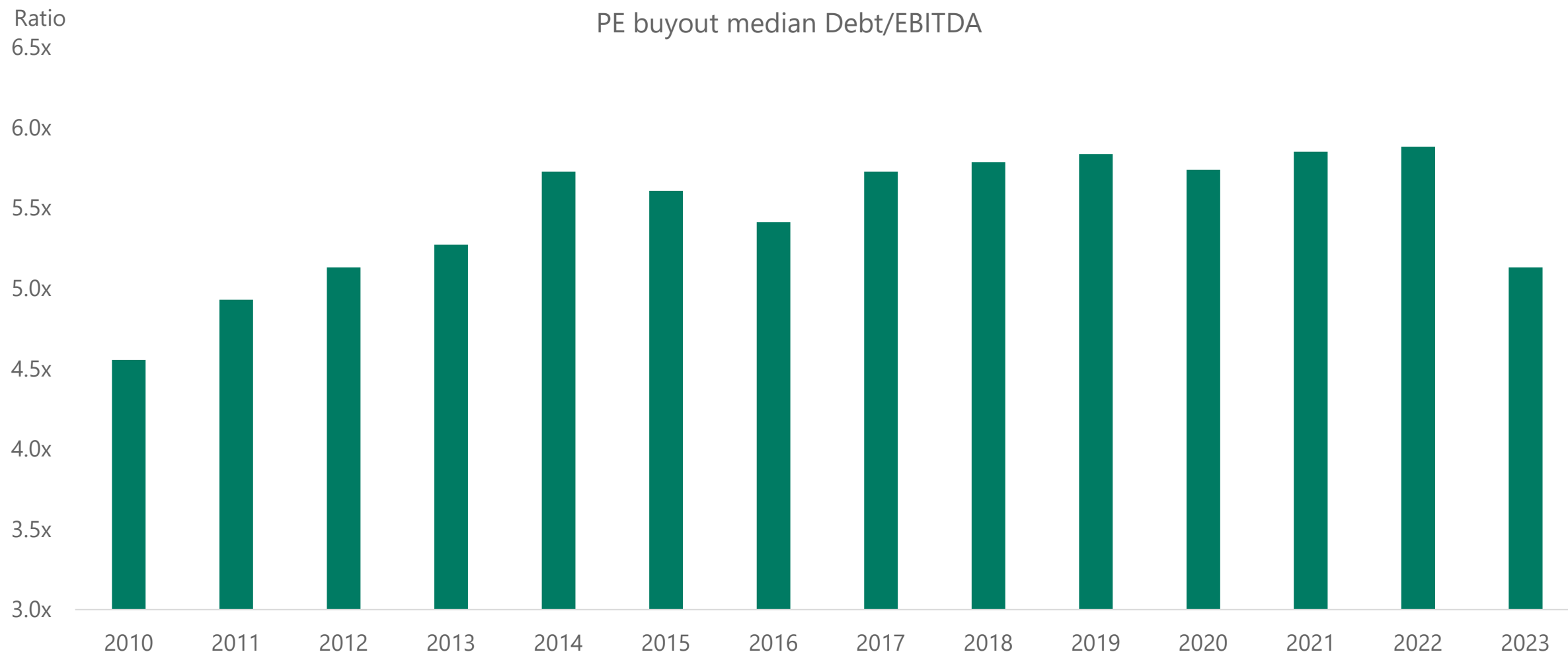


Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th September 2023

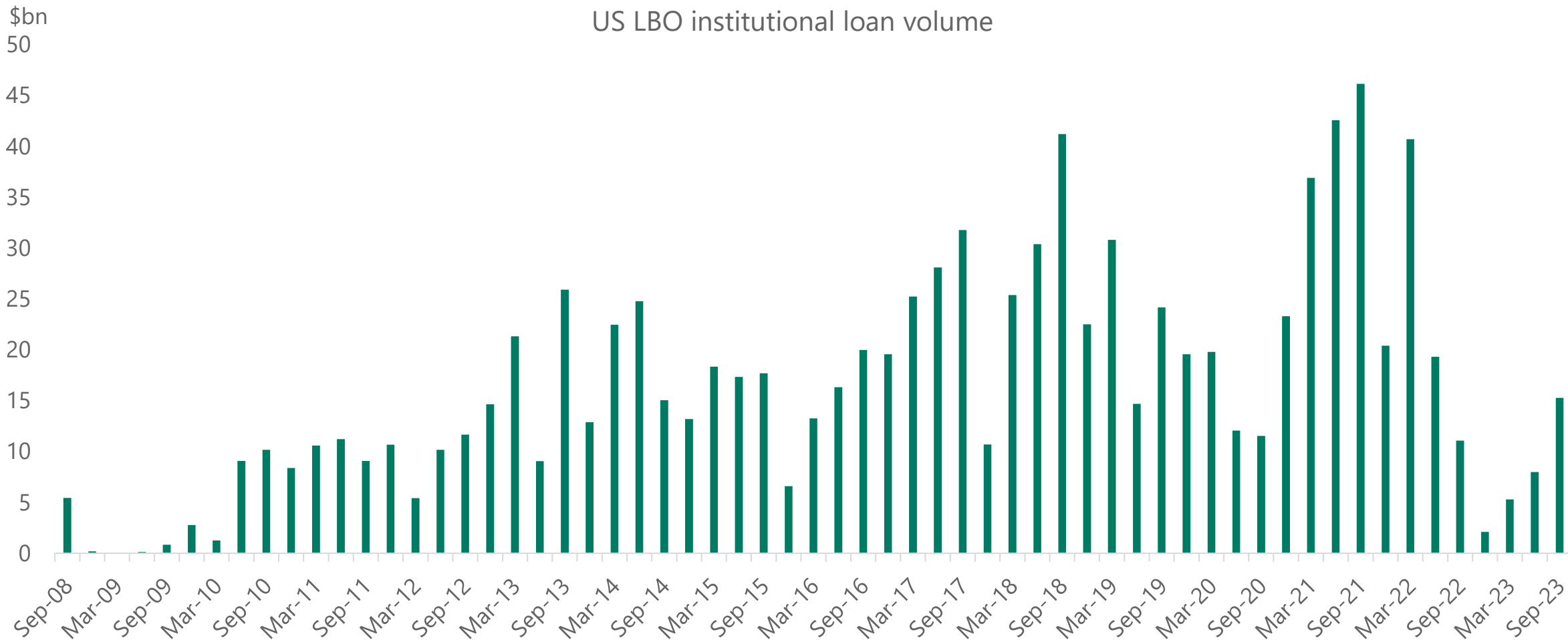
Median EV/EBITDA ratio



Median Debt/EBITDA has fallen in 2023



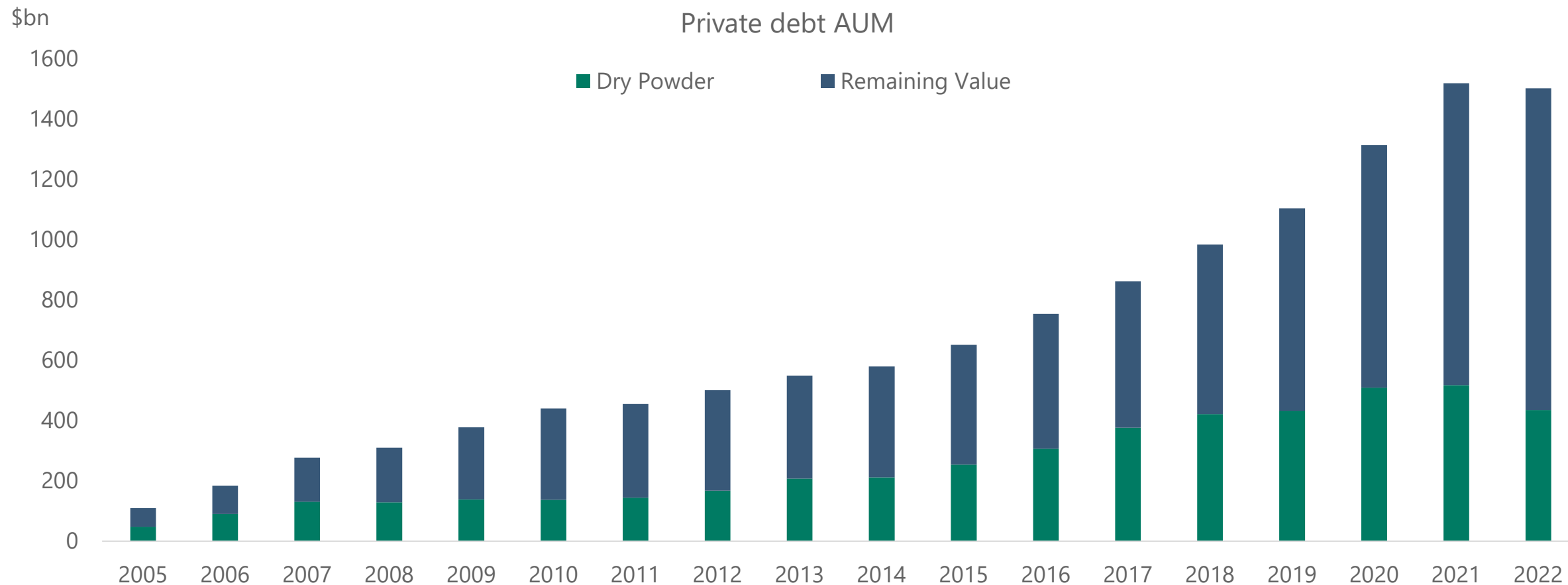
LBO loan volume



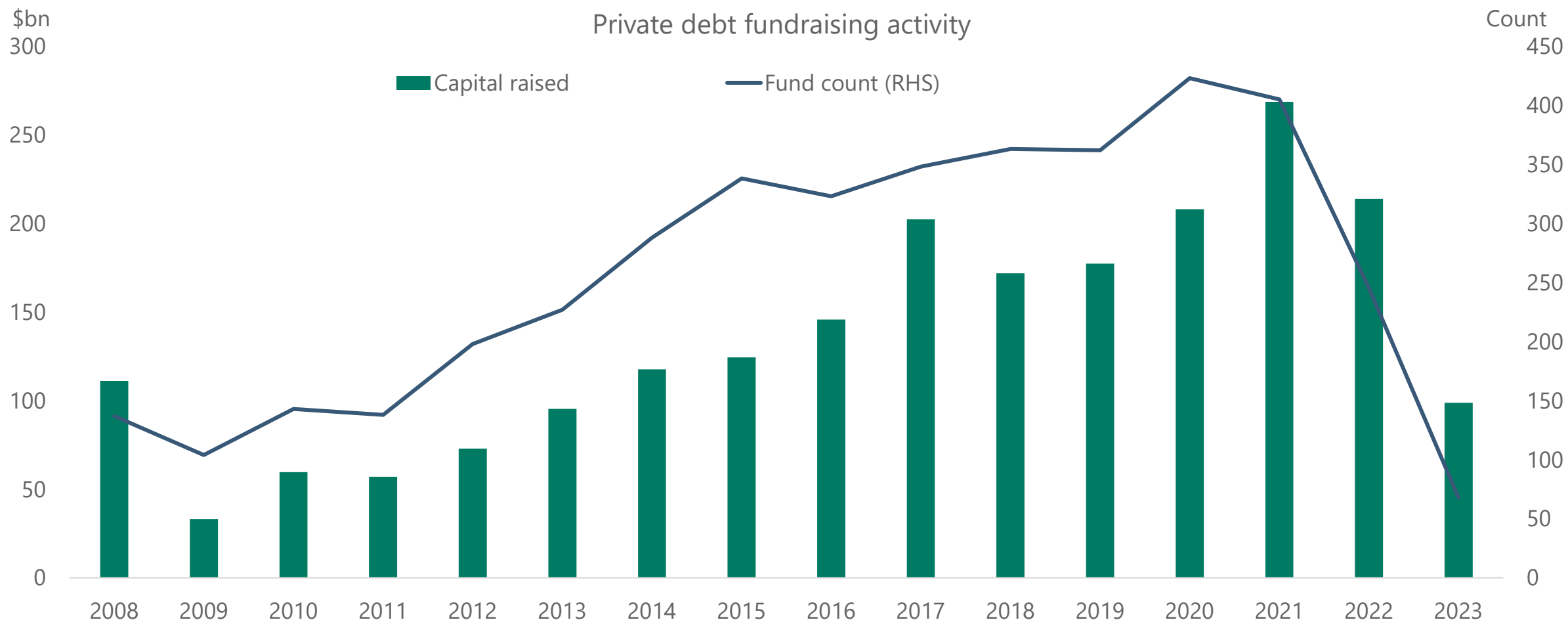
Source: Pitchbook, LCD Apollo Chief Economist. Note: Data as of 30th September 2023

Private credit

About \$1.5trn in private credit globally, of which \$400bn is dry powder

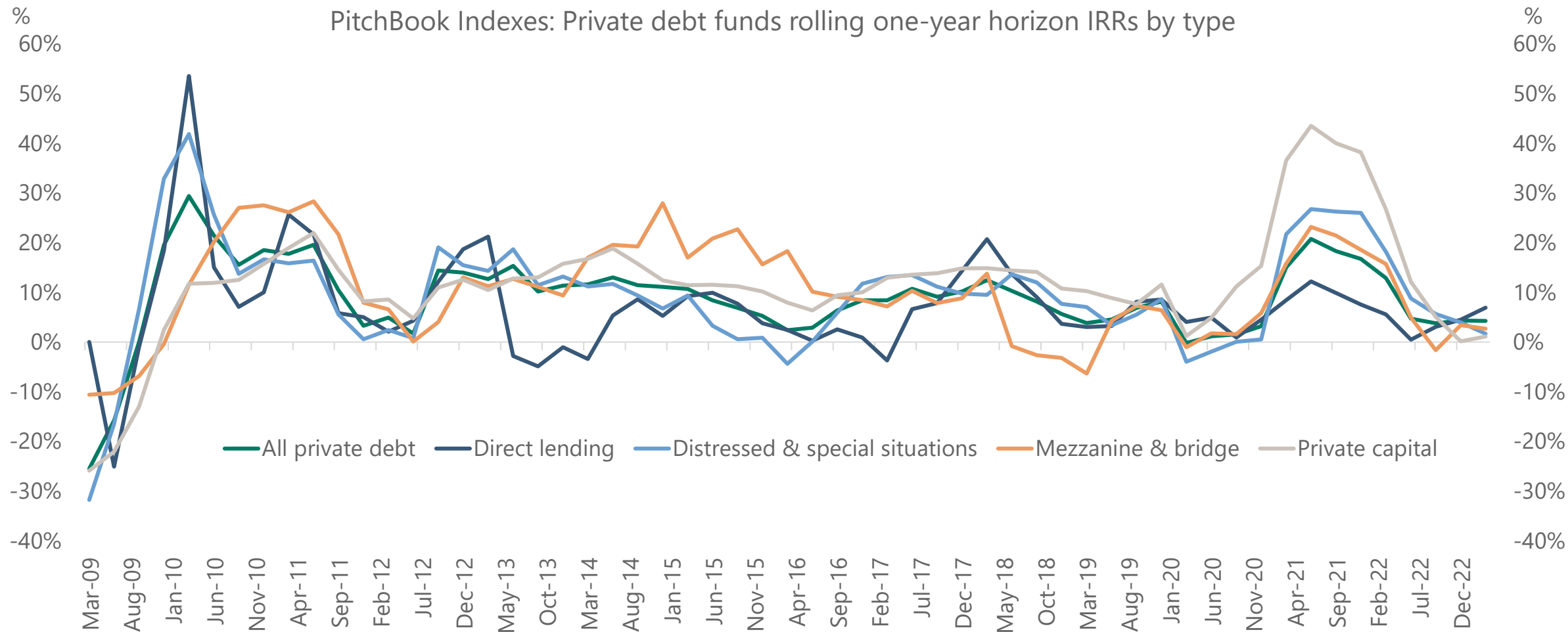


Private debt fundraising



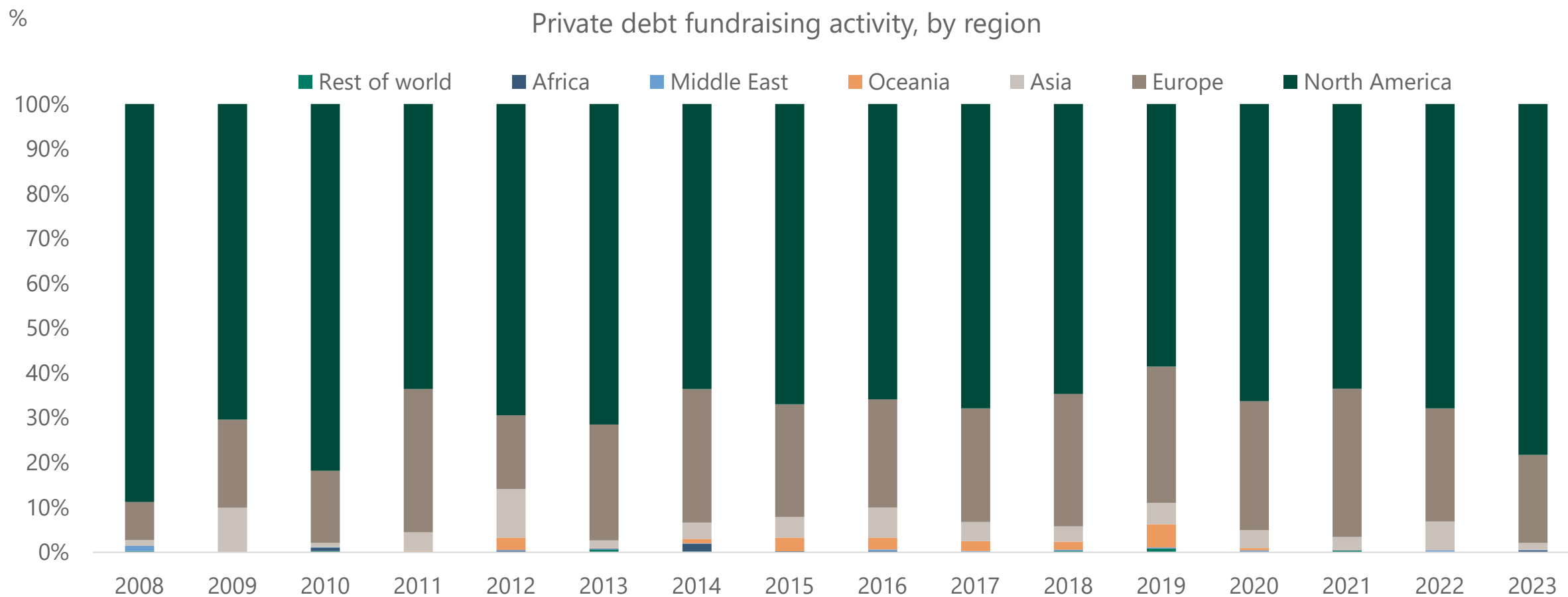
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

Private debt returns by strategy



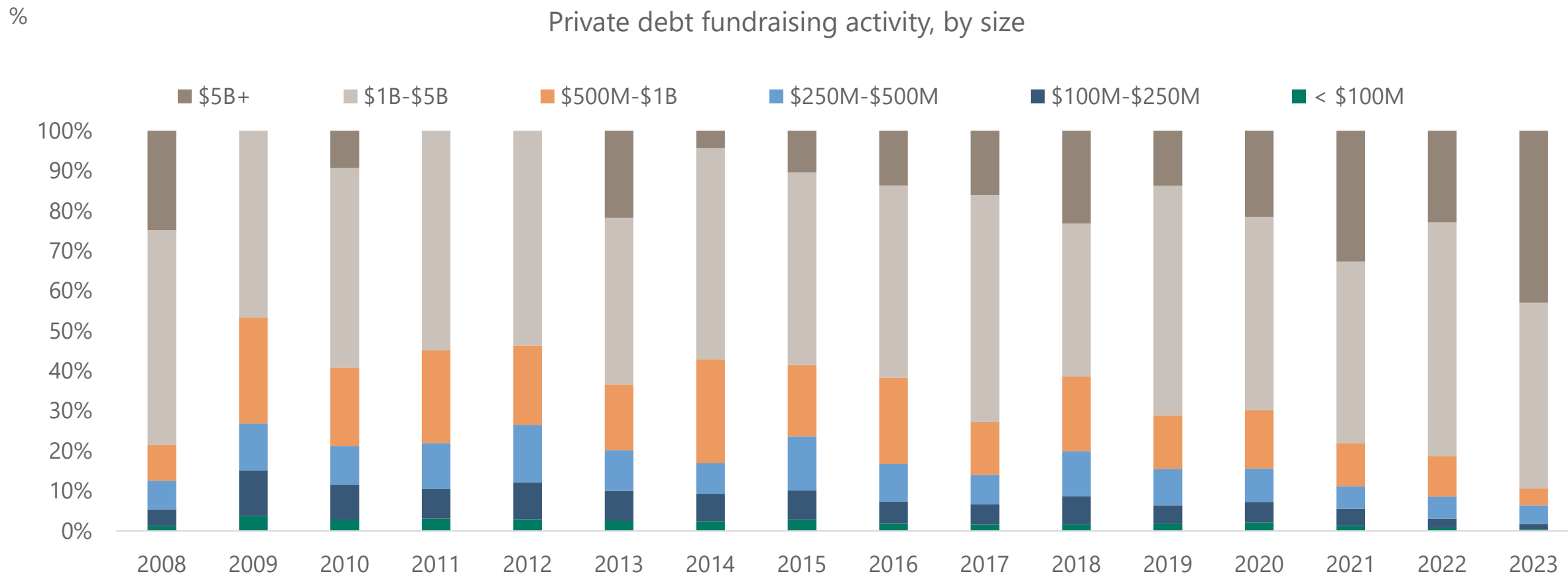
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 31st March 2023

Private debt fundraising activity, by region



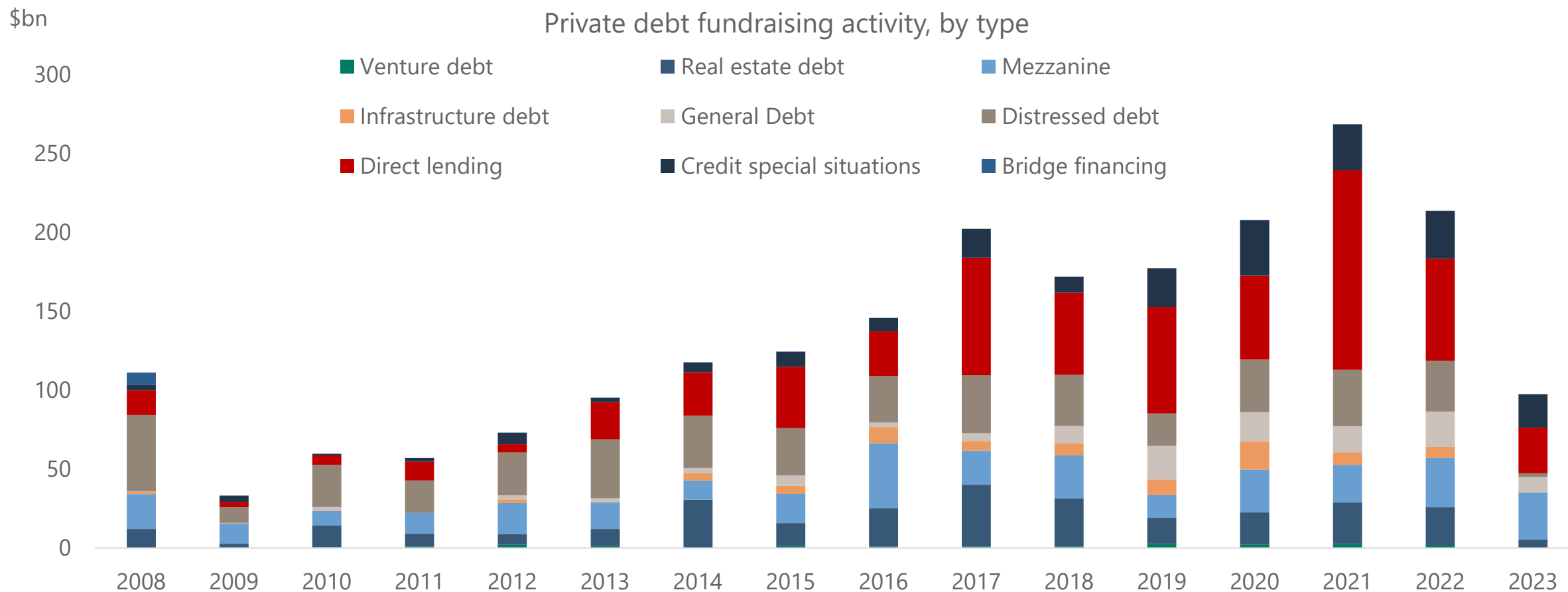
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

Private debt fundraising activity, by size



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

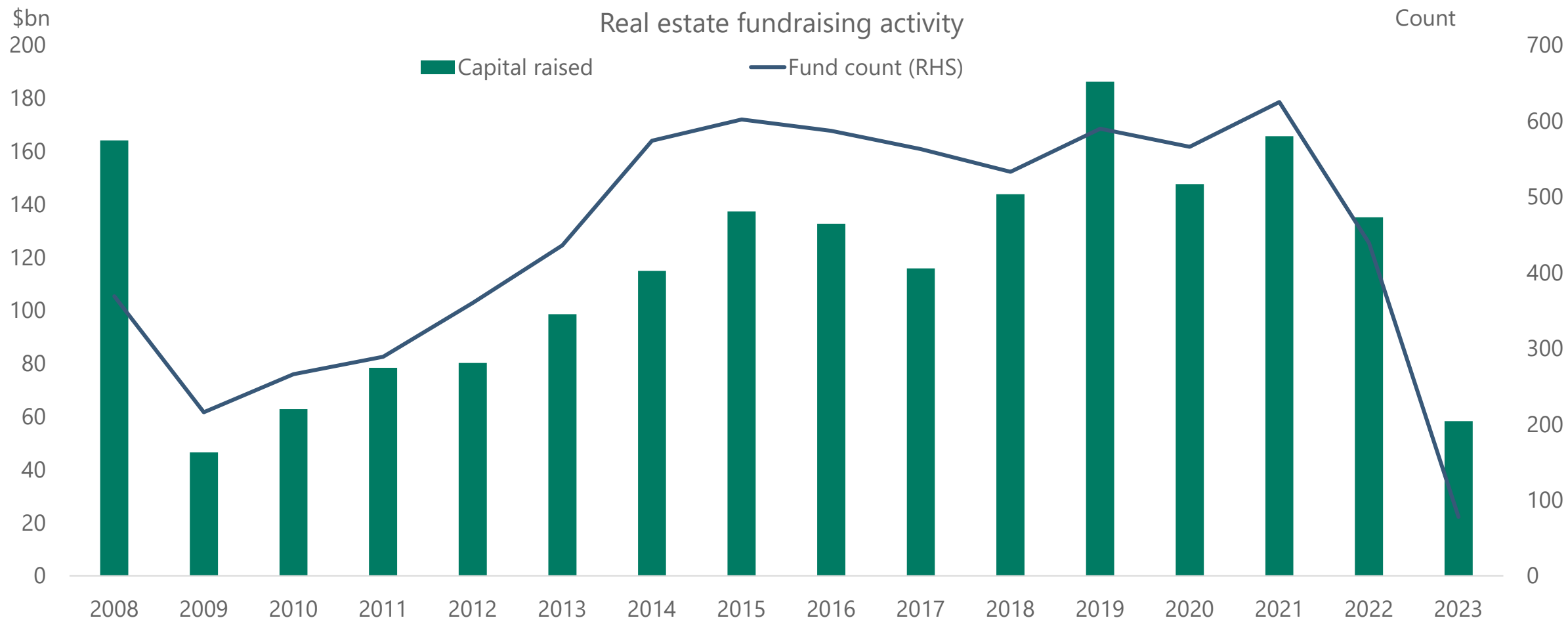
Private debt fundraising activity, by type



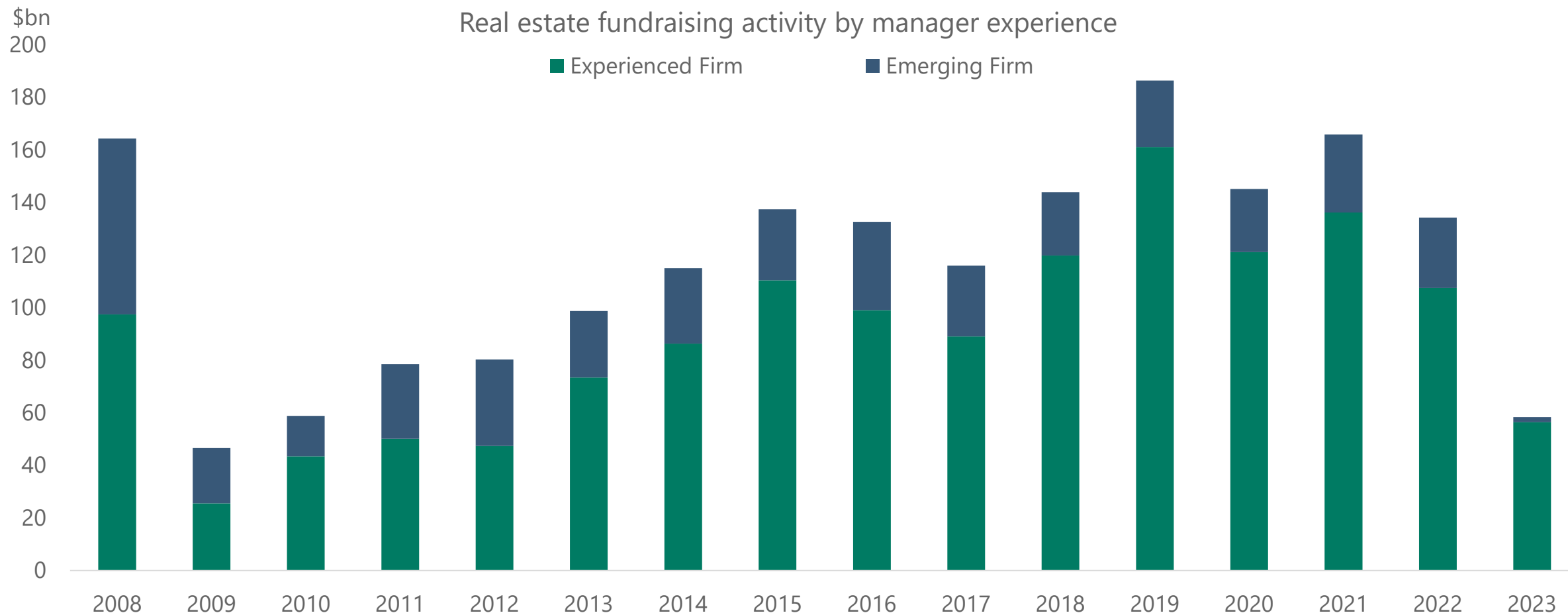
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

Real estate

Real estate fundraising activity

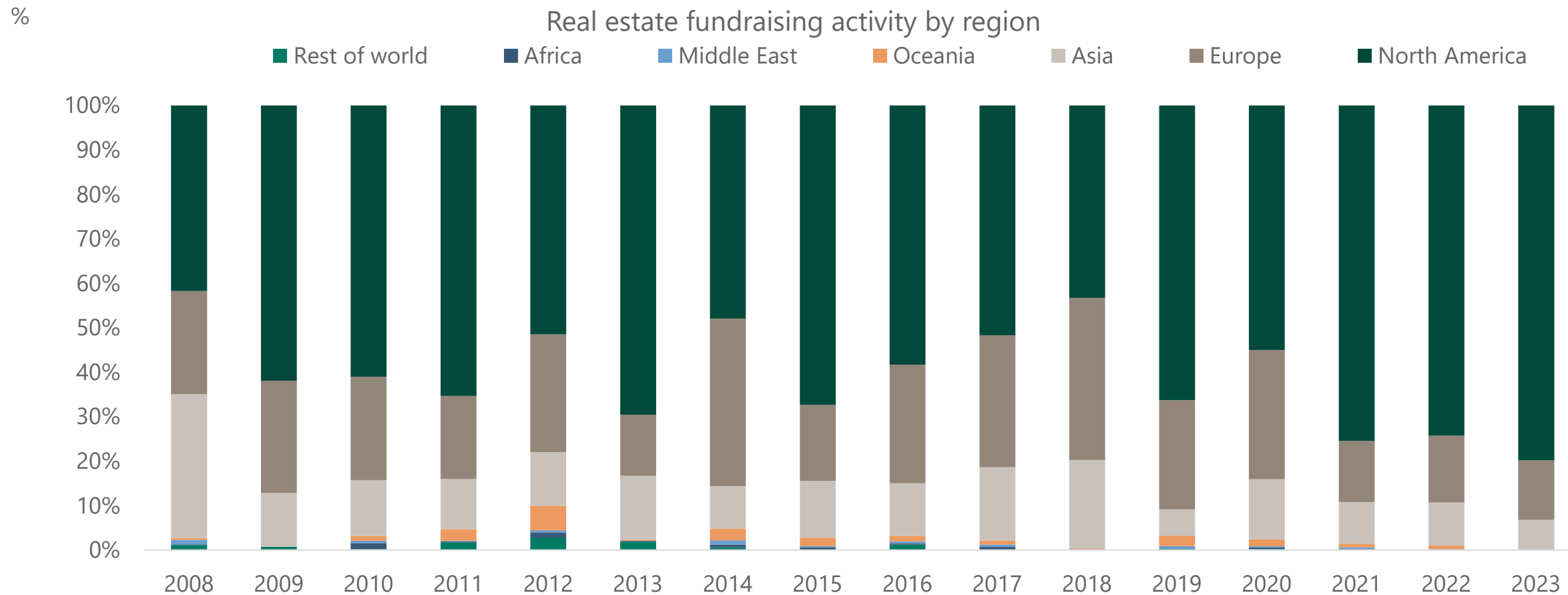


Real estate fundraising led by experienced firms



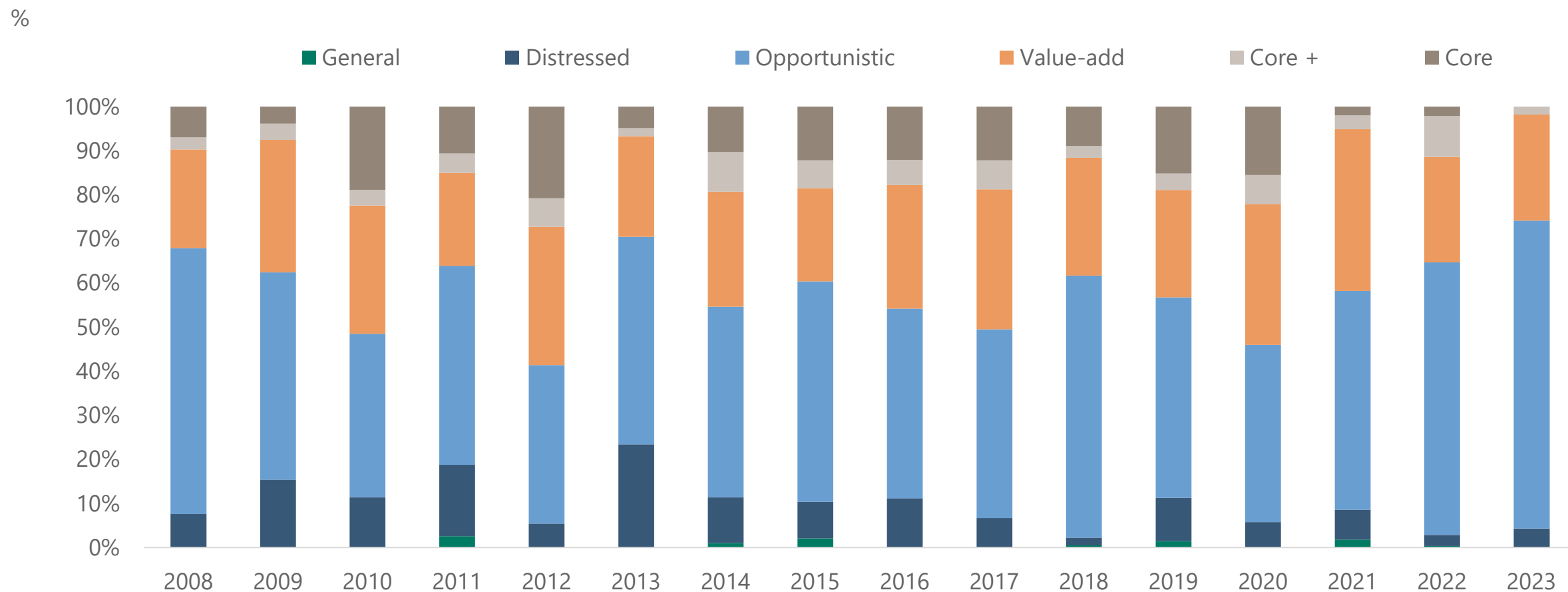
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

80% of real estate fundraising is in North America



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

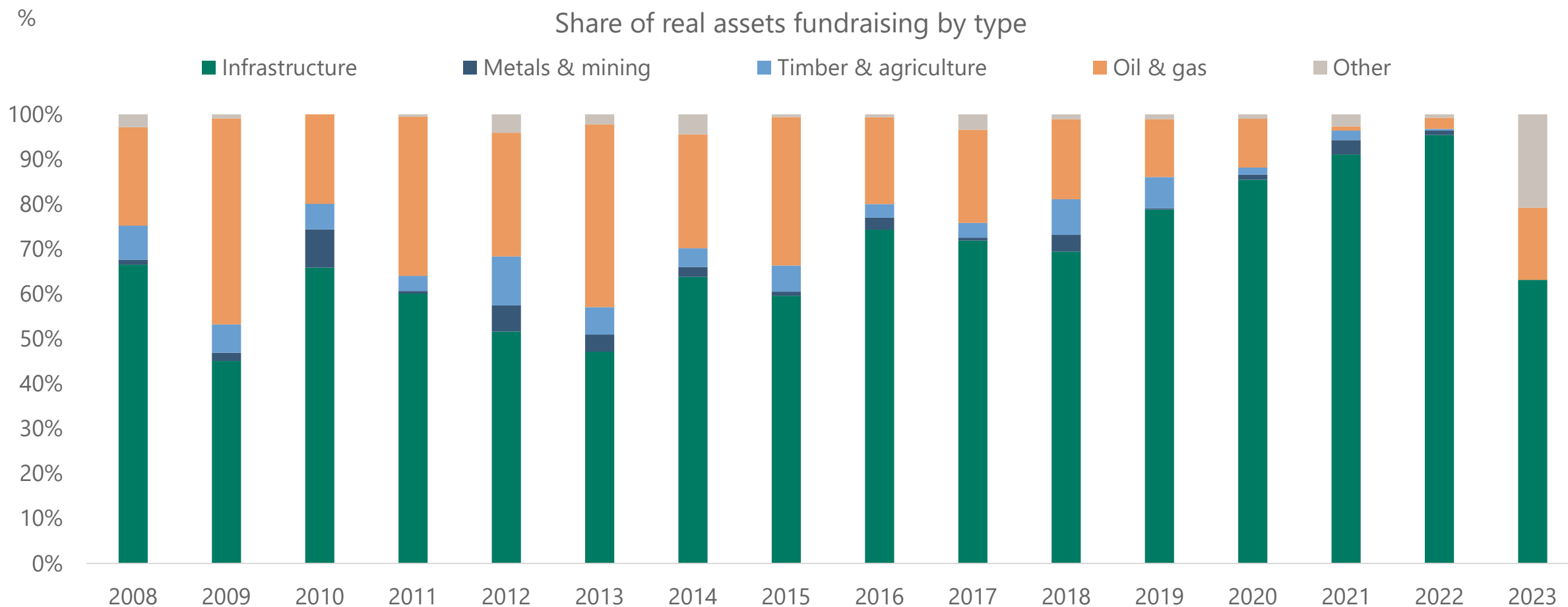
Real estate fundraising activity by type



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

Real assets

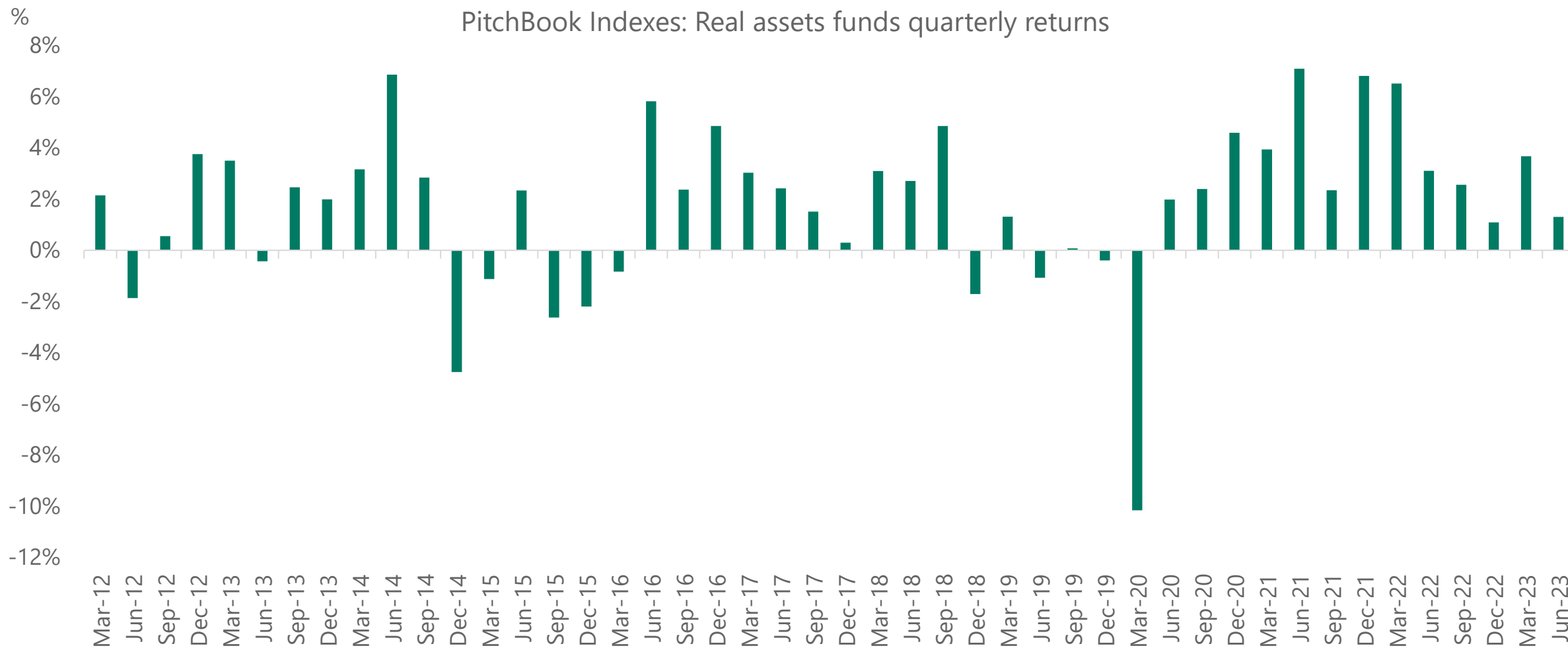
Real assets is mainly infrastructure



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

Real assets performance

PitchBook Indexes: Real assets funds quarterly returns



Source: Pitchbook, Apollo Chief Economist. Note: Q22023 preliminary figure

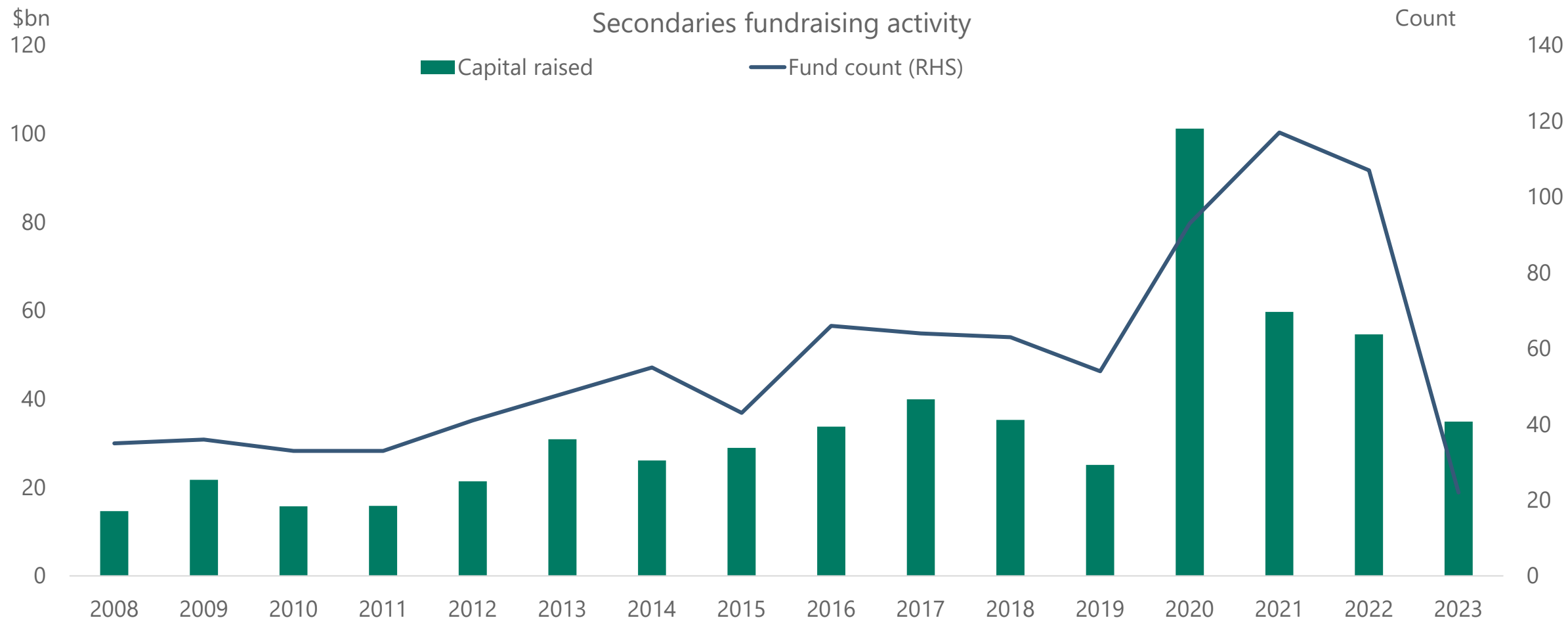
Secondaries

Secondaries performance



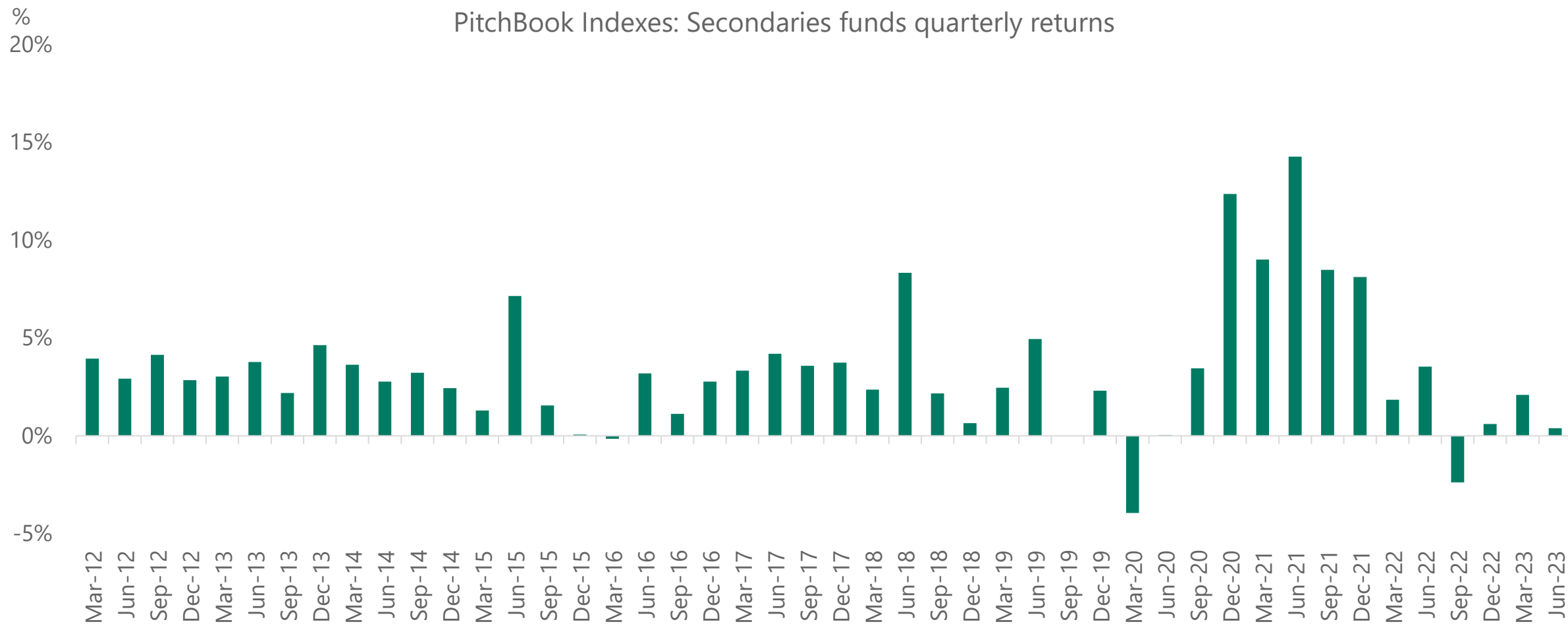
Source: Pitchbook, Apollo Chief Economist.

Secondaries fundraising activity



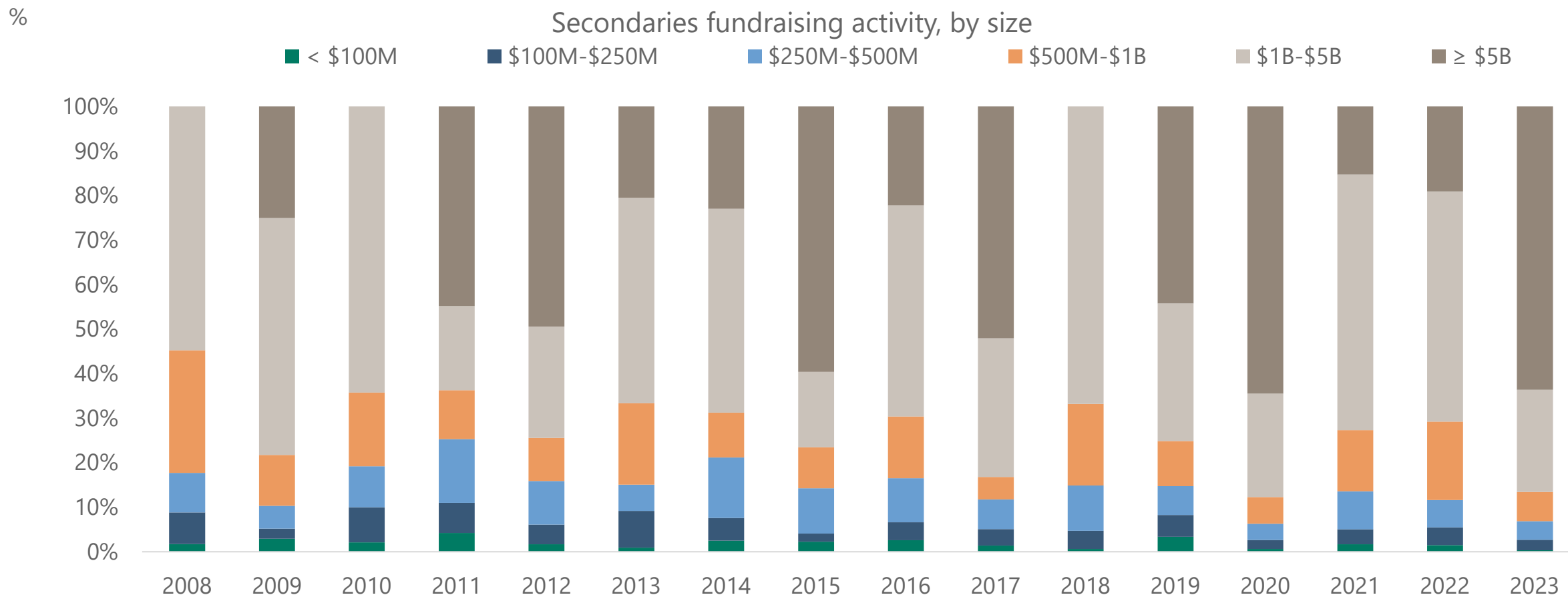
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

Secondaries quarterly returns



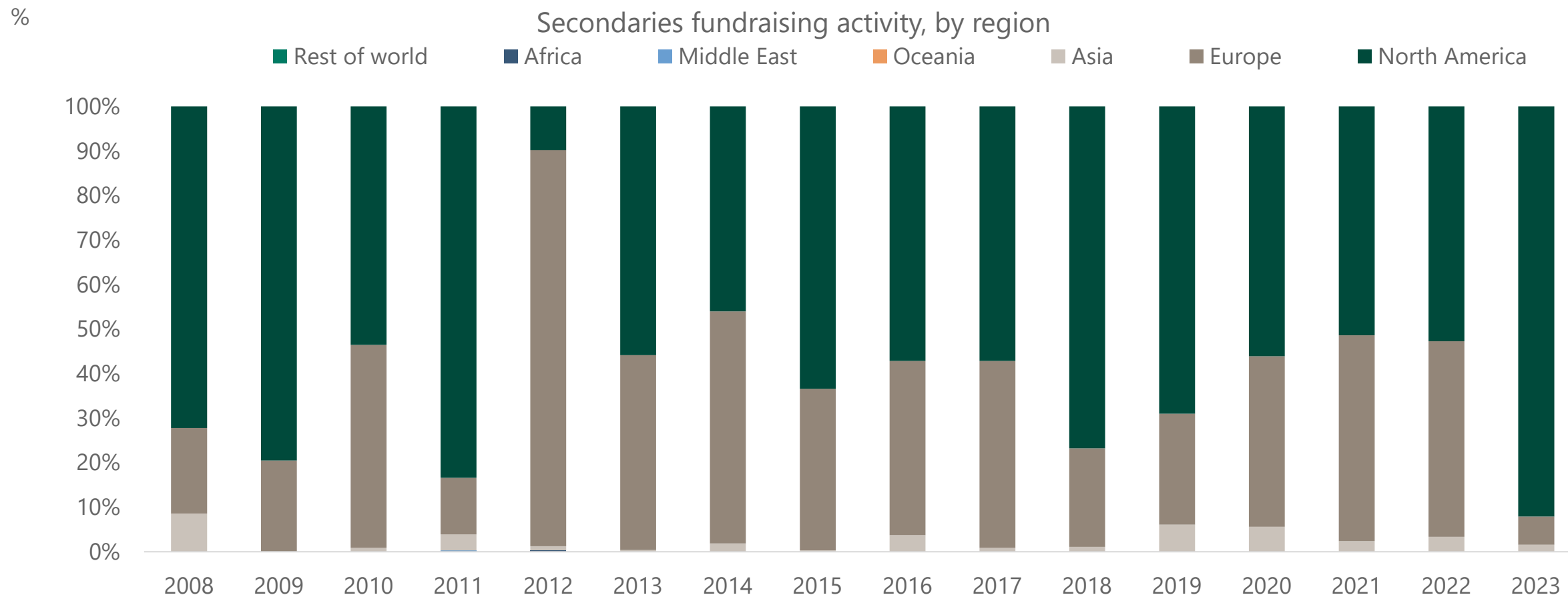
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

Secondaries fundraising activity, by size



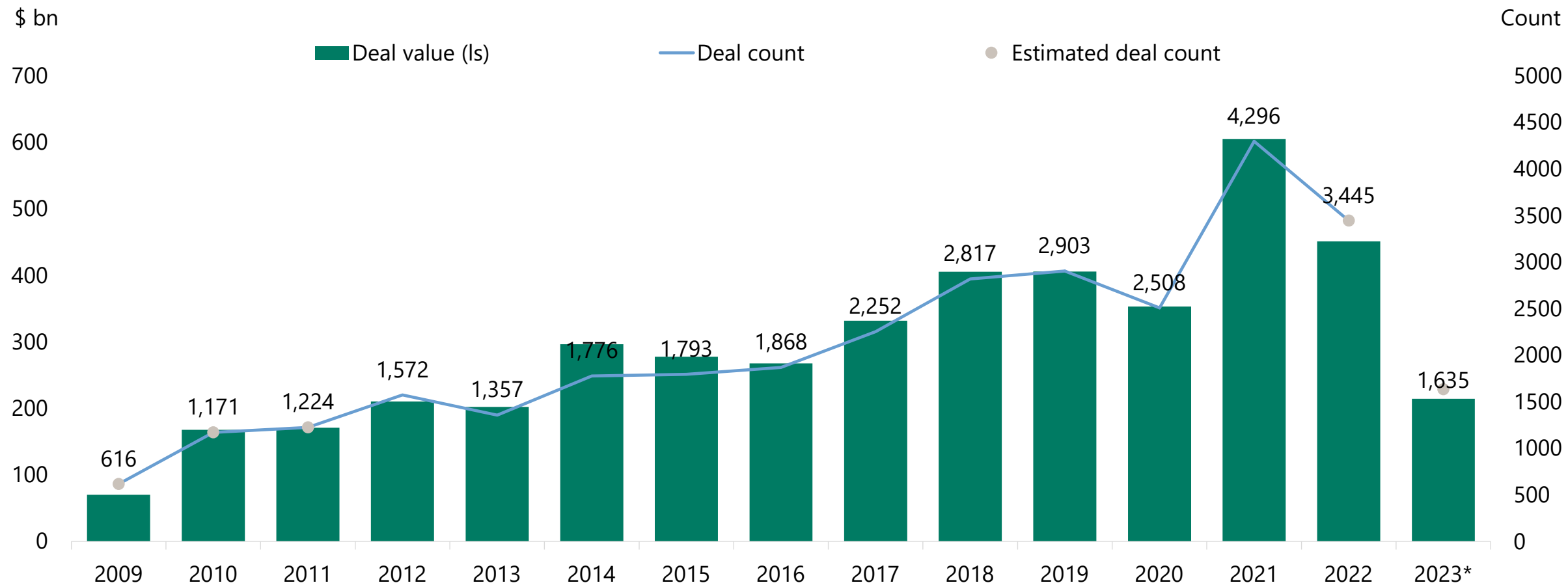
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30th June 2023

Secondaries fundraising activity, by region



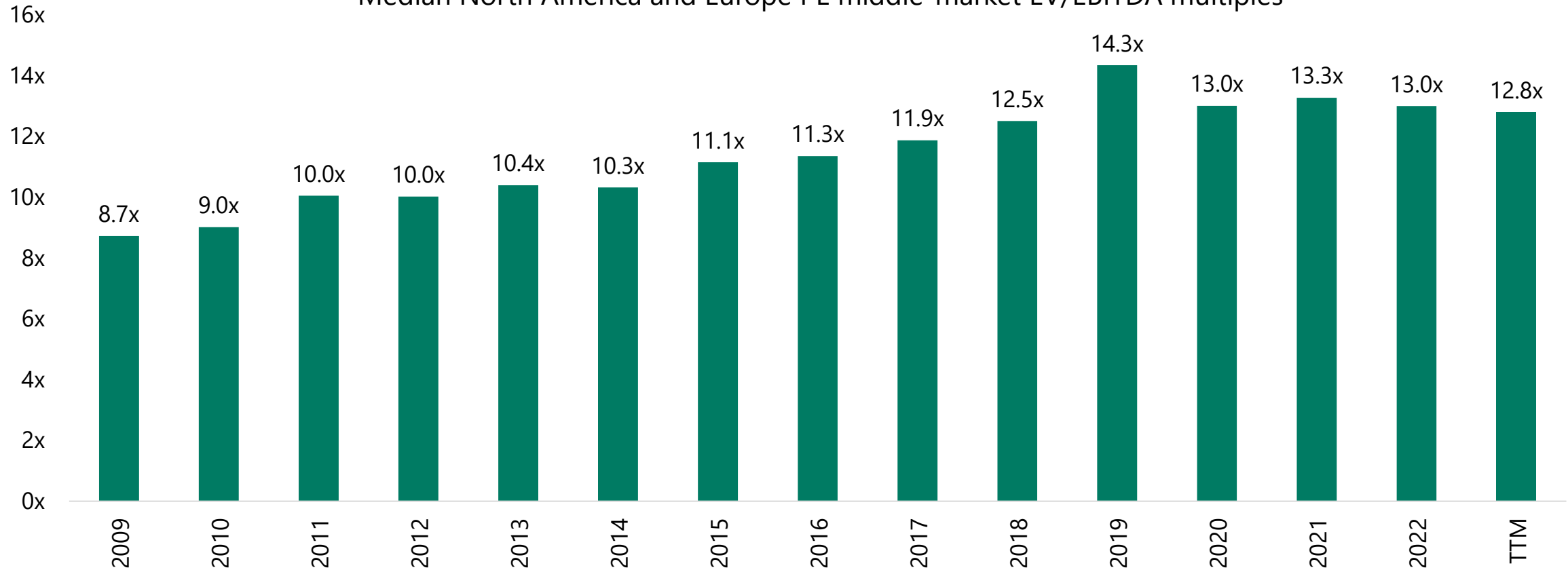
Middle Market

US PE middle market deal activity



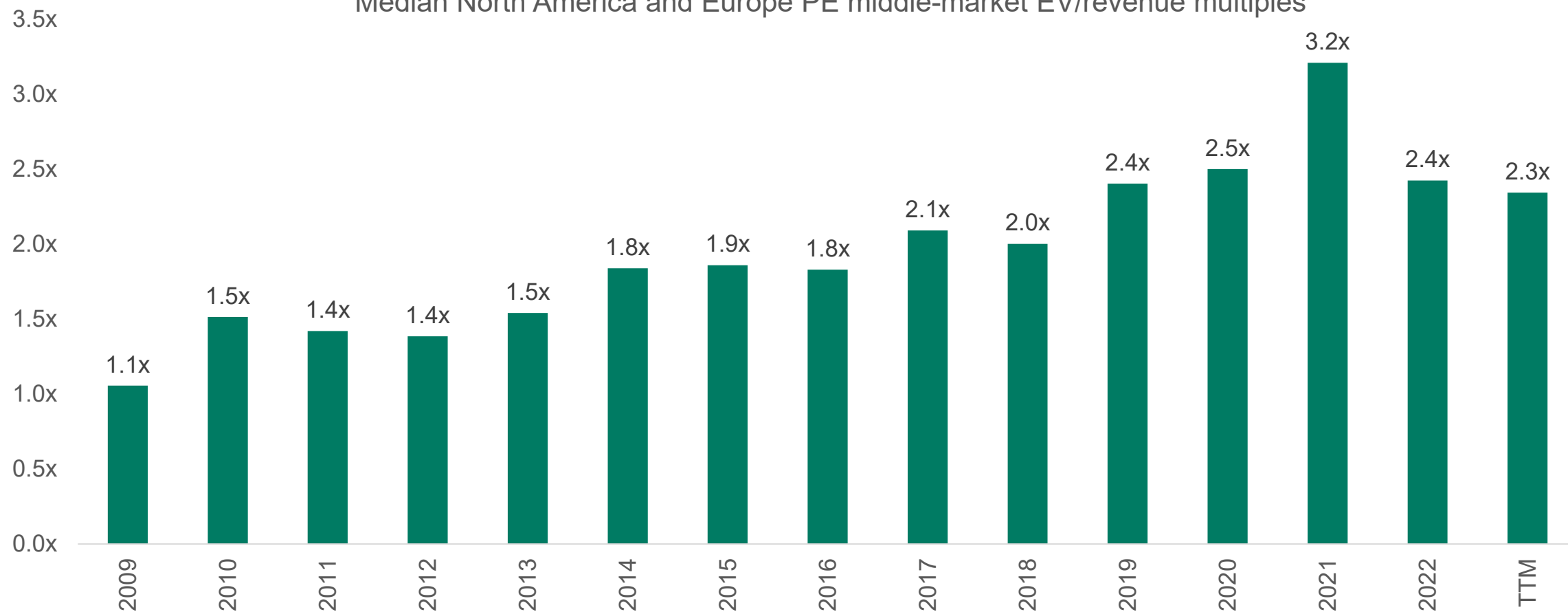
Median North America and Europe PE middle-market EV/EBITDA multiples

Median North America and Europe PE middle-market EV/EBITDA multiples

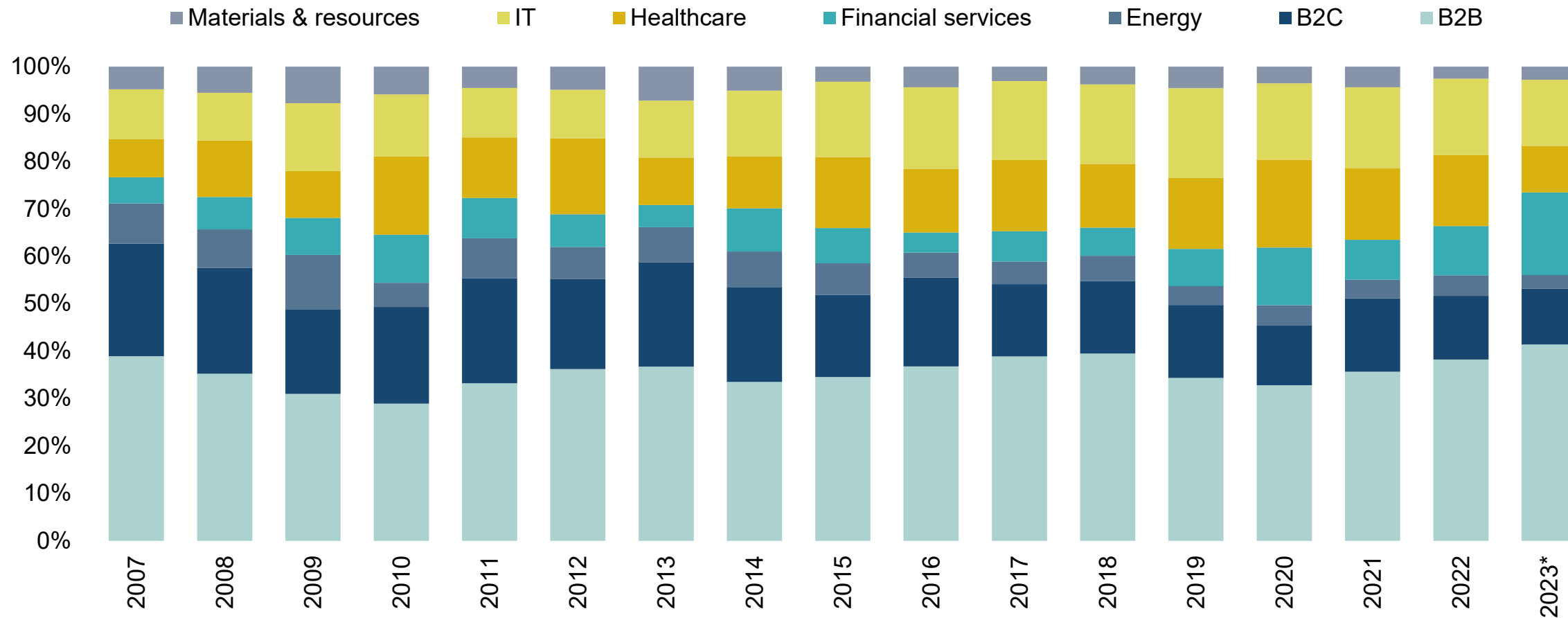


Median North America and Europe PE middle-market EV/revenue multiples

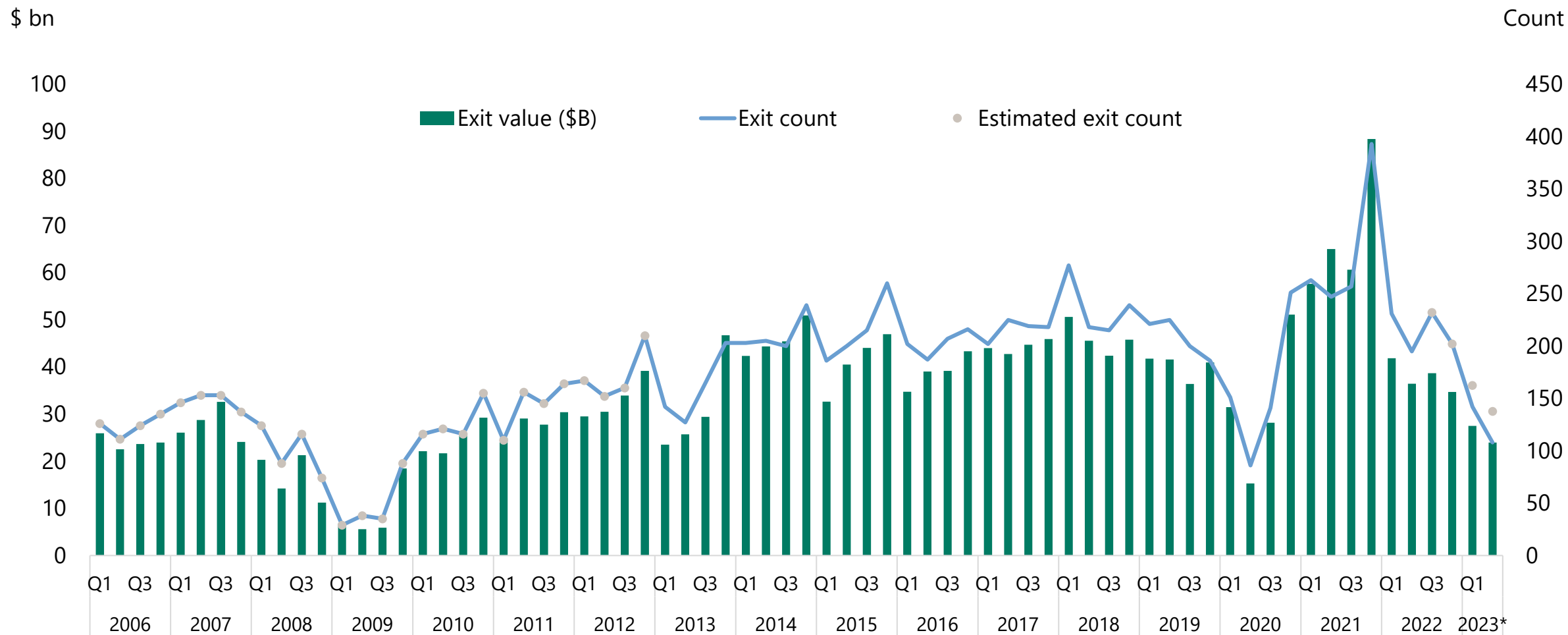
Median North America and Europe PE middle-market EV/revenue multiples



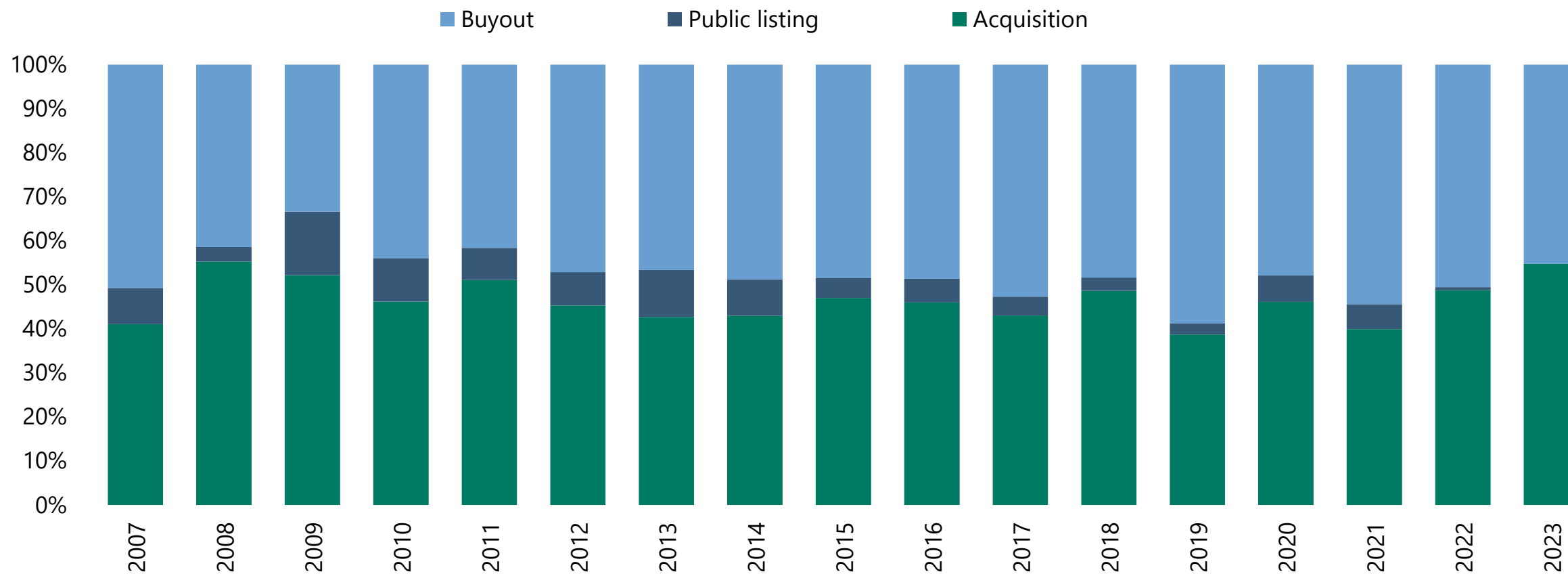
Share of US PE middle-market deal value by sector



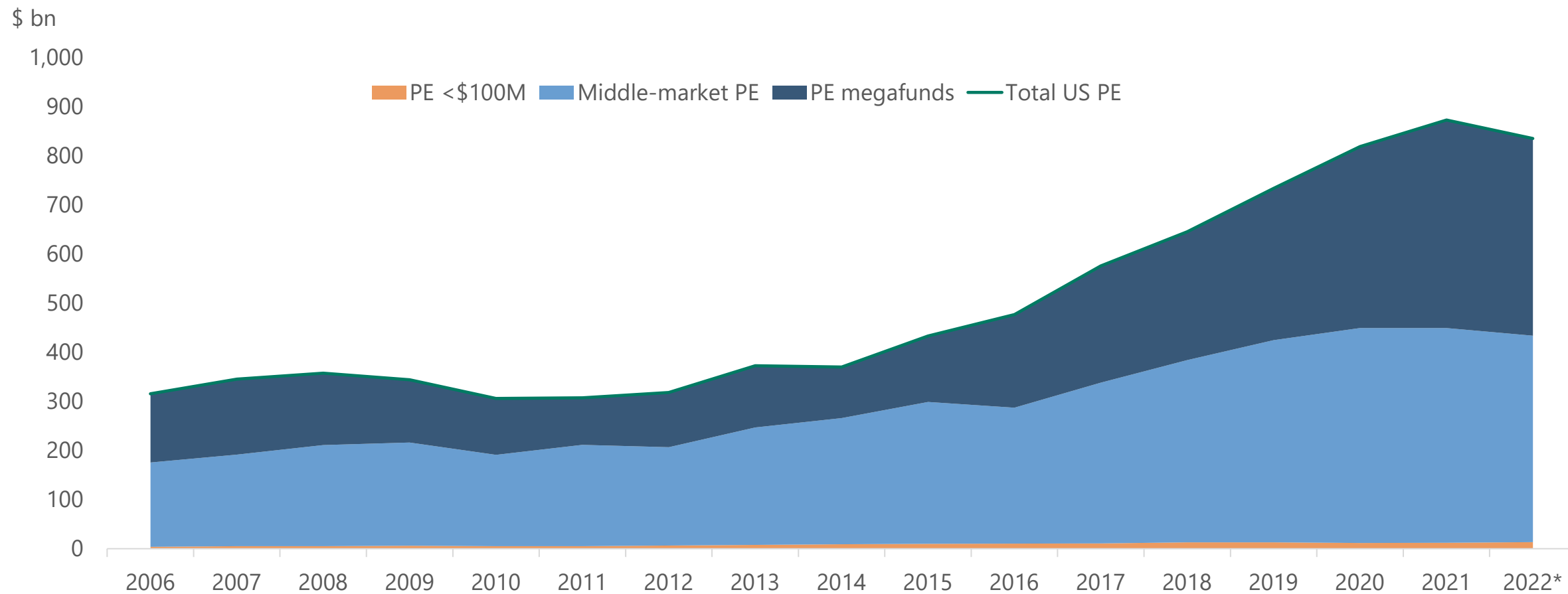
US PE middle-market exit activity by quarter



US PE middle-market exit value by type

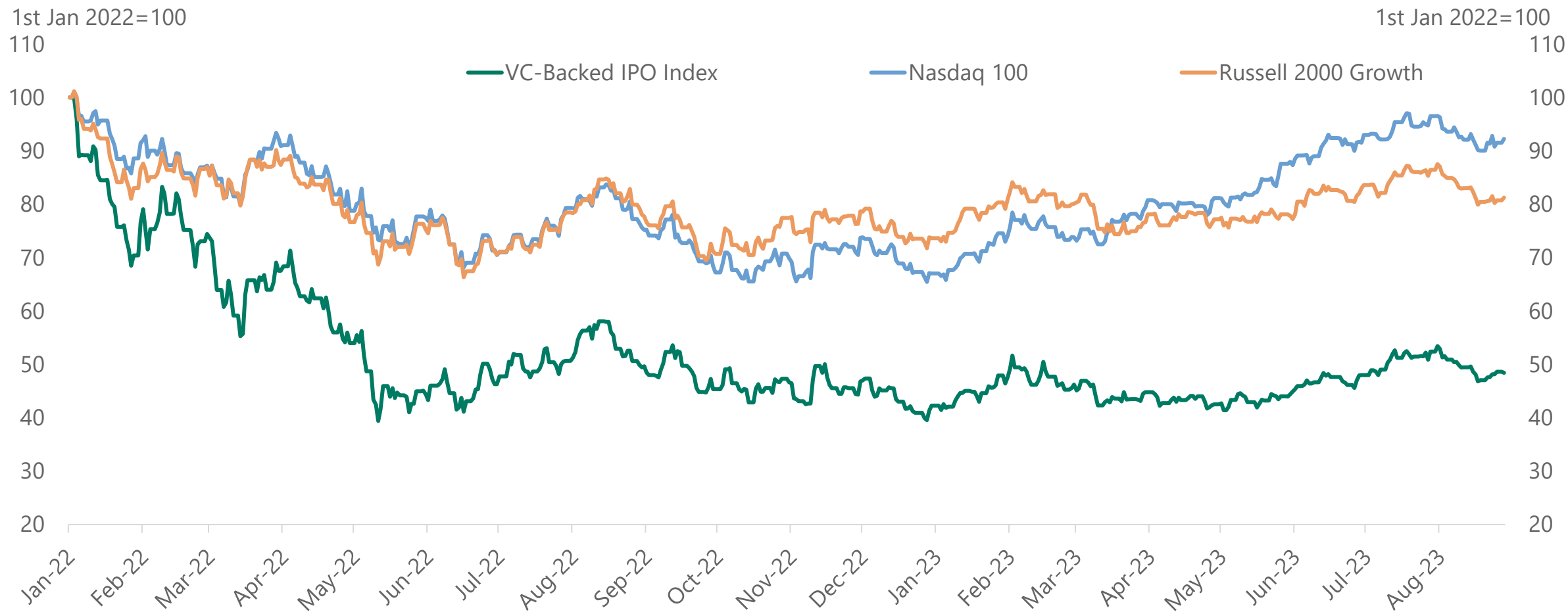


The composition of PE dry powder

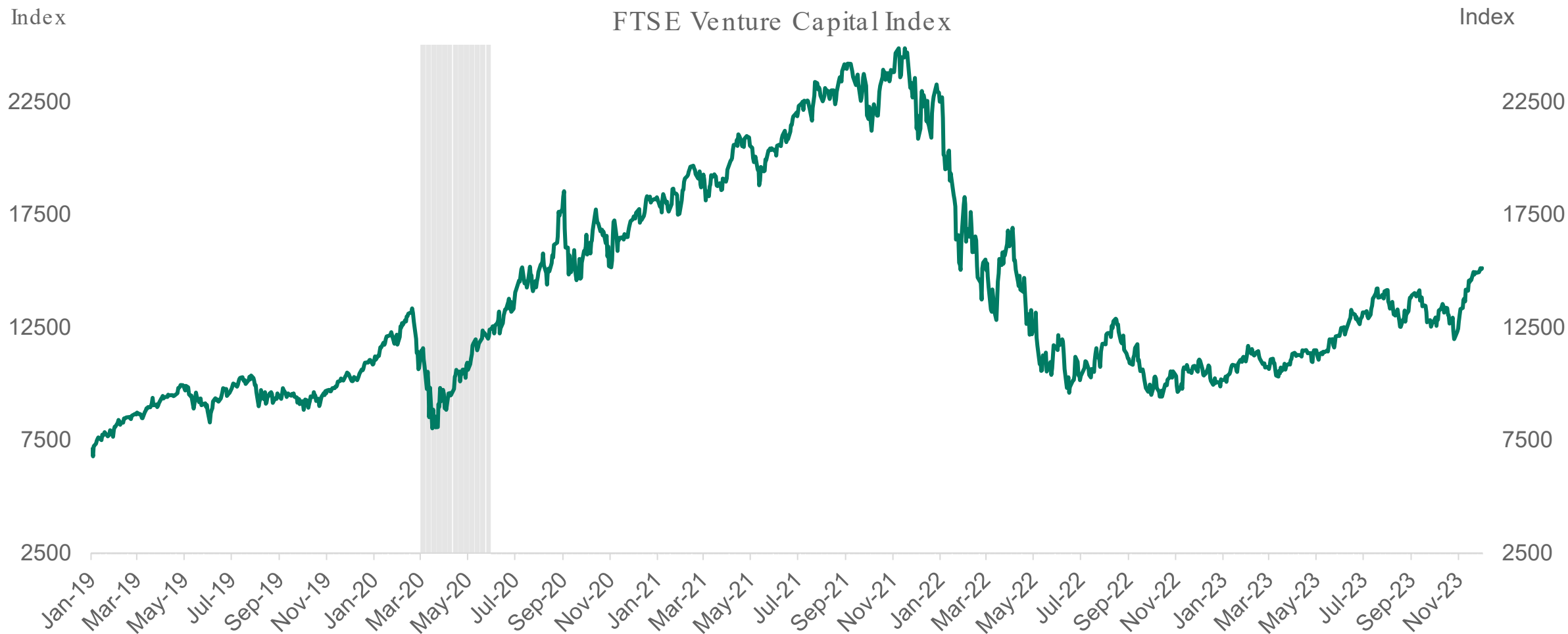


Venture Capital

VC-backed IPOs are down 50%

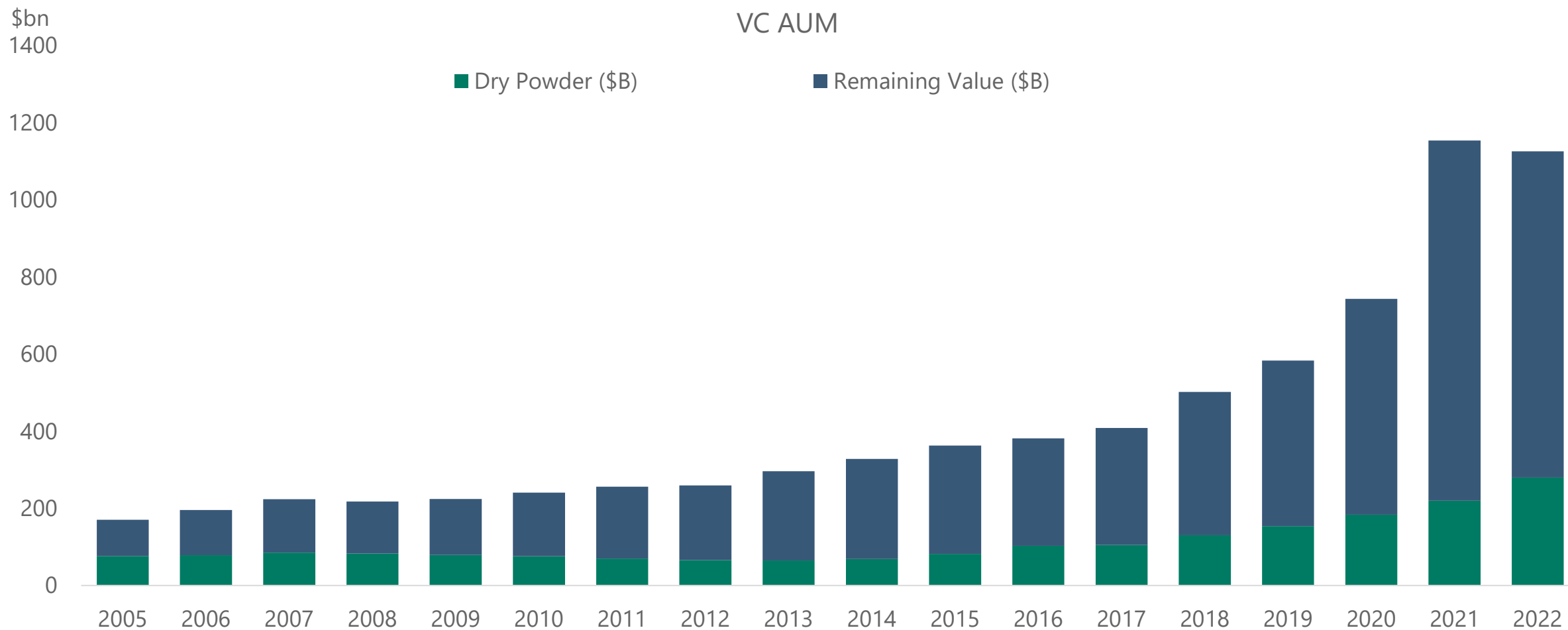


US venture capital valuations down 40% from the peak



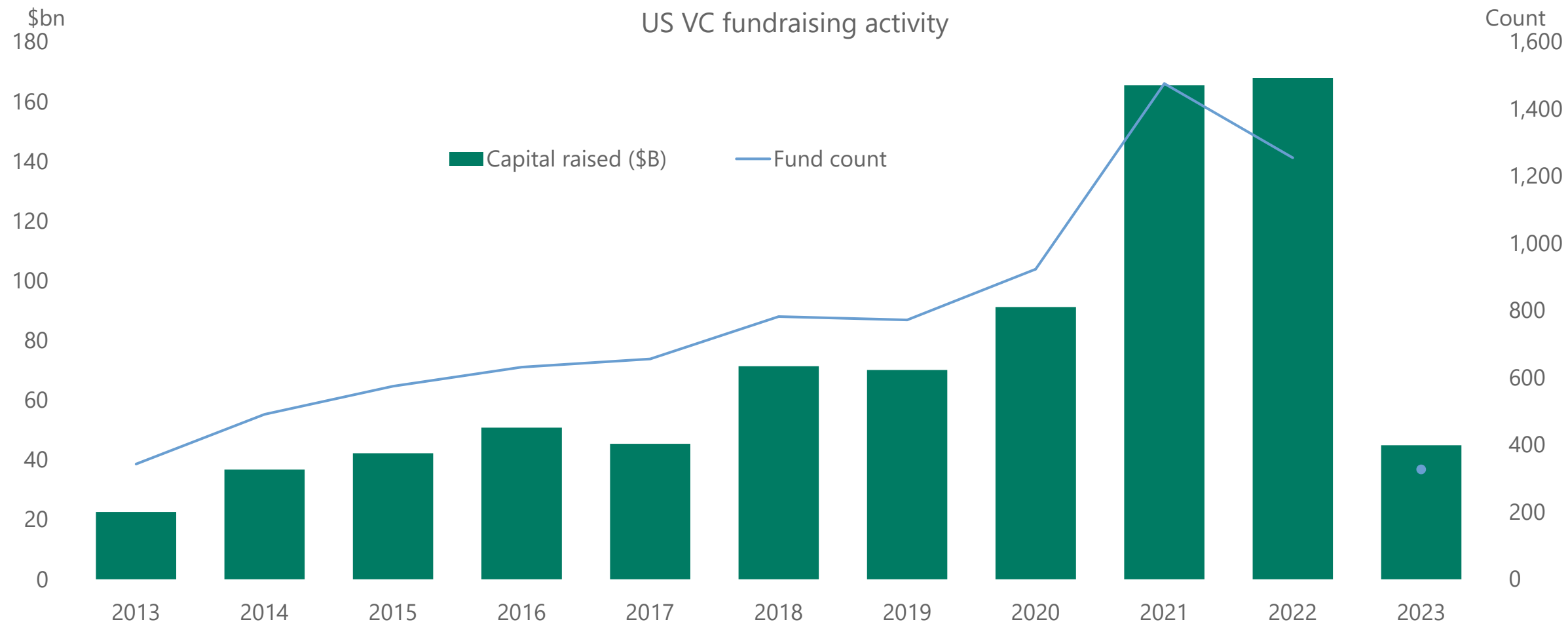
Source: Bloomberg, Apollo Chief Economist. Note: The Thomson Reuters Venture Capital Index is designed to measure the value of the US-based venture capital private company universe in which venture capital funds invest.

VC assets under management



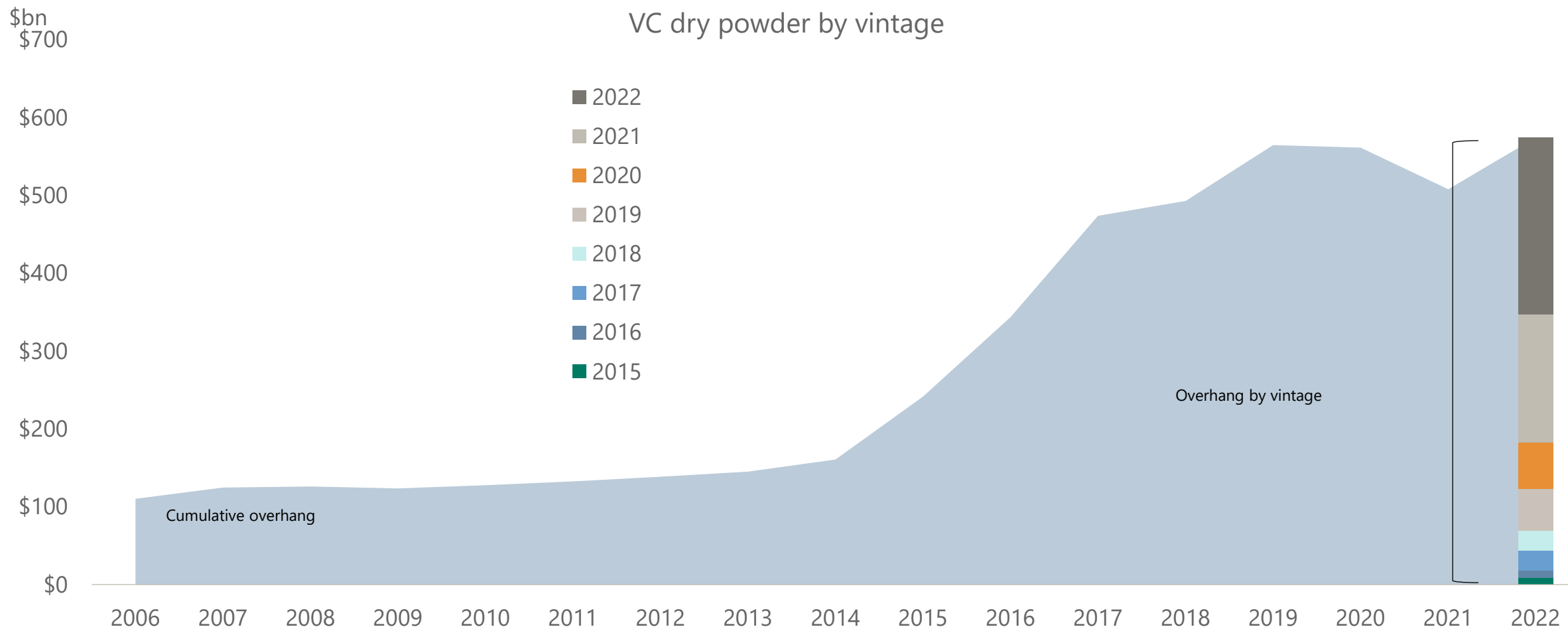
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 31/12/2022

VC fundraising activity very weak



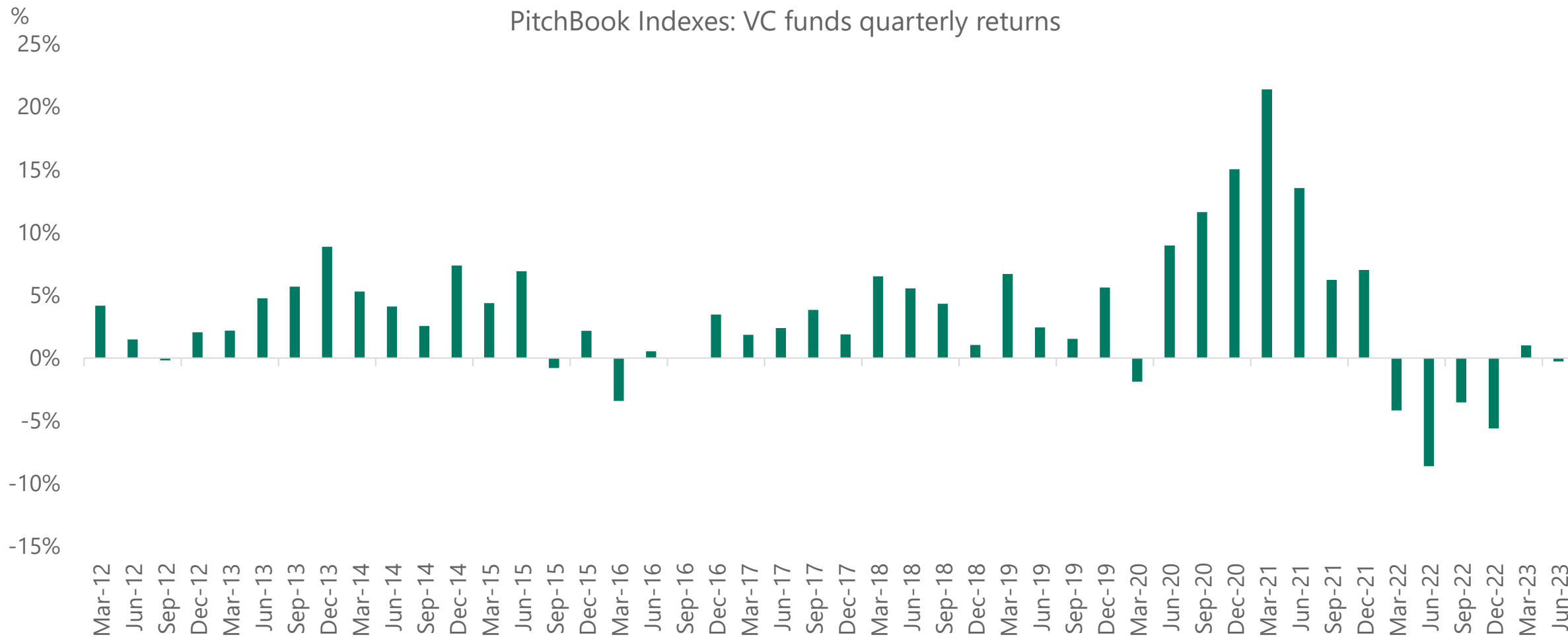
Source: Pitchbook, Apollo Chief Economist. Note: Data as of 30/6/2023

VC dry powder by vintage



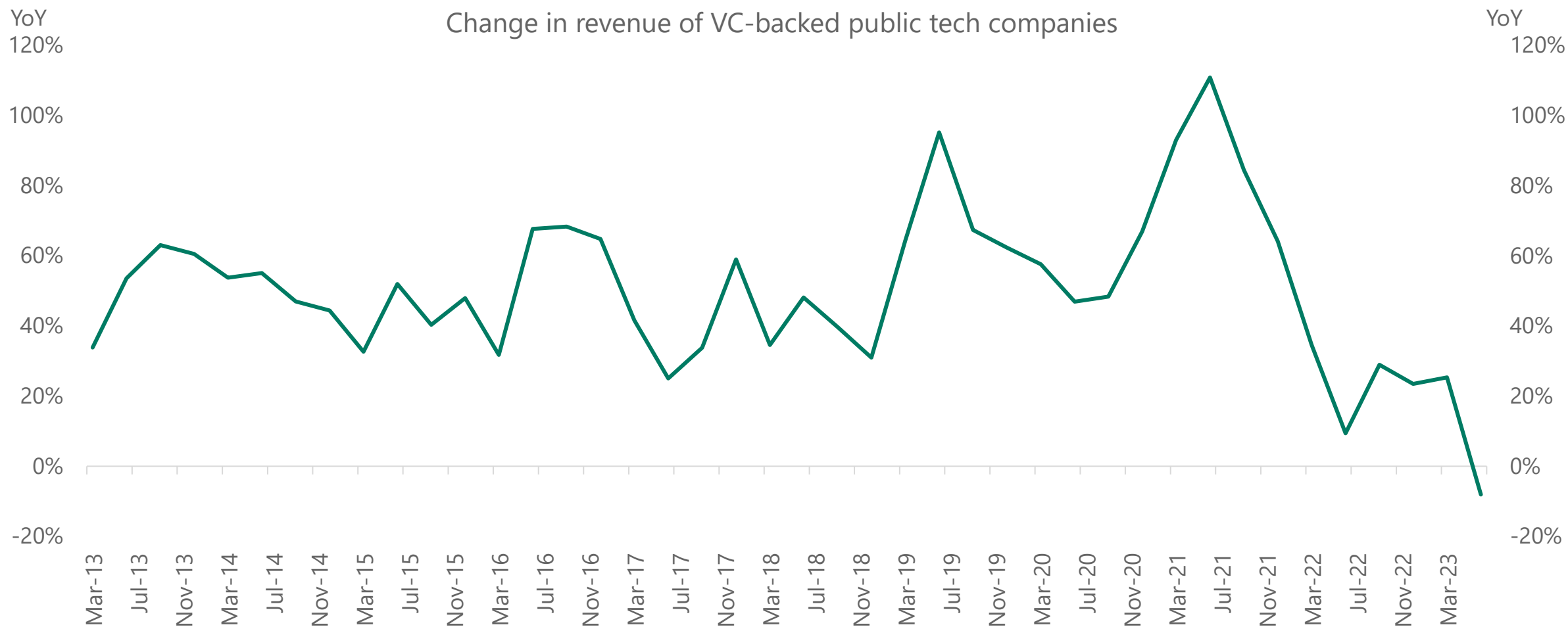
VC returns negative

PitchBook Indexes: VC funds quarterly returns

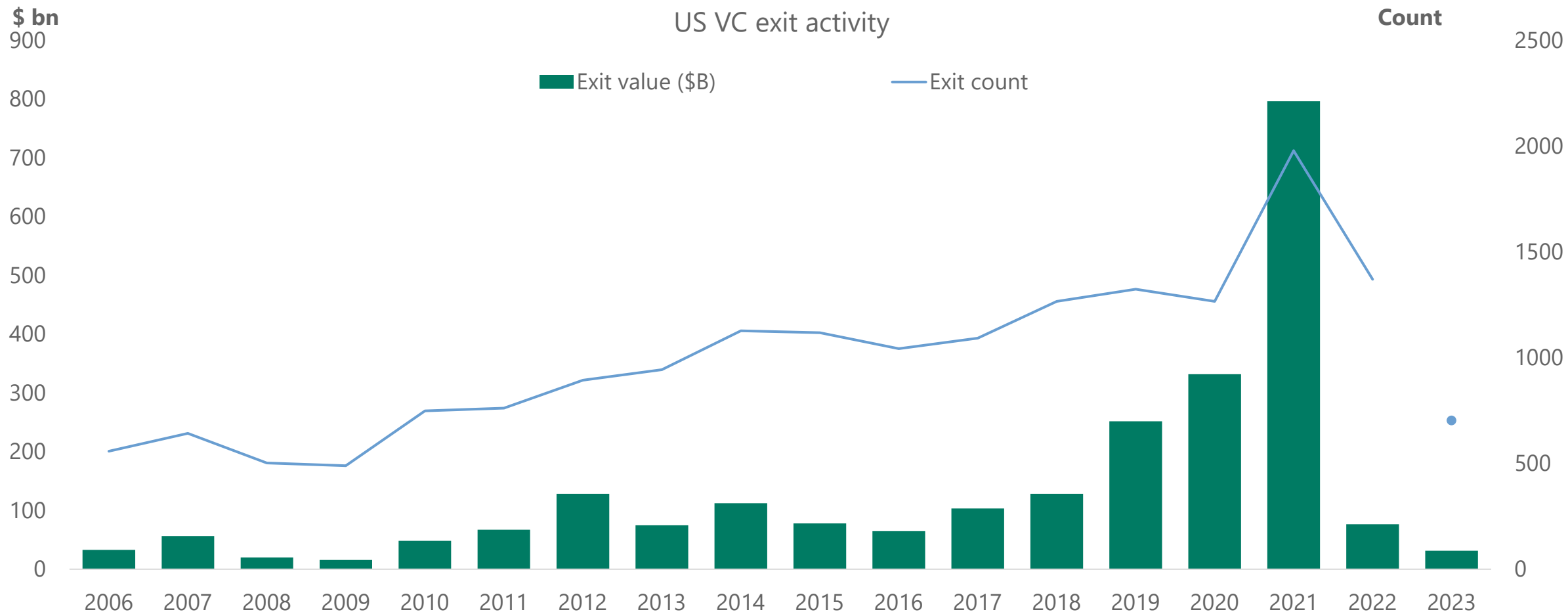


Source: Pitchbook, Apollo Chief Economist. Note: Q22023 preliminary figure

Revenue growth in VC-backed public tech companies has turned negative

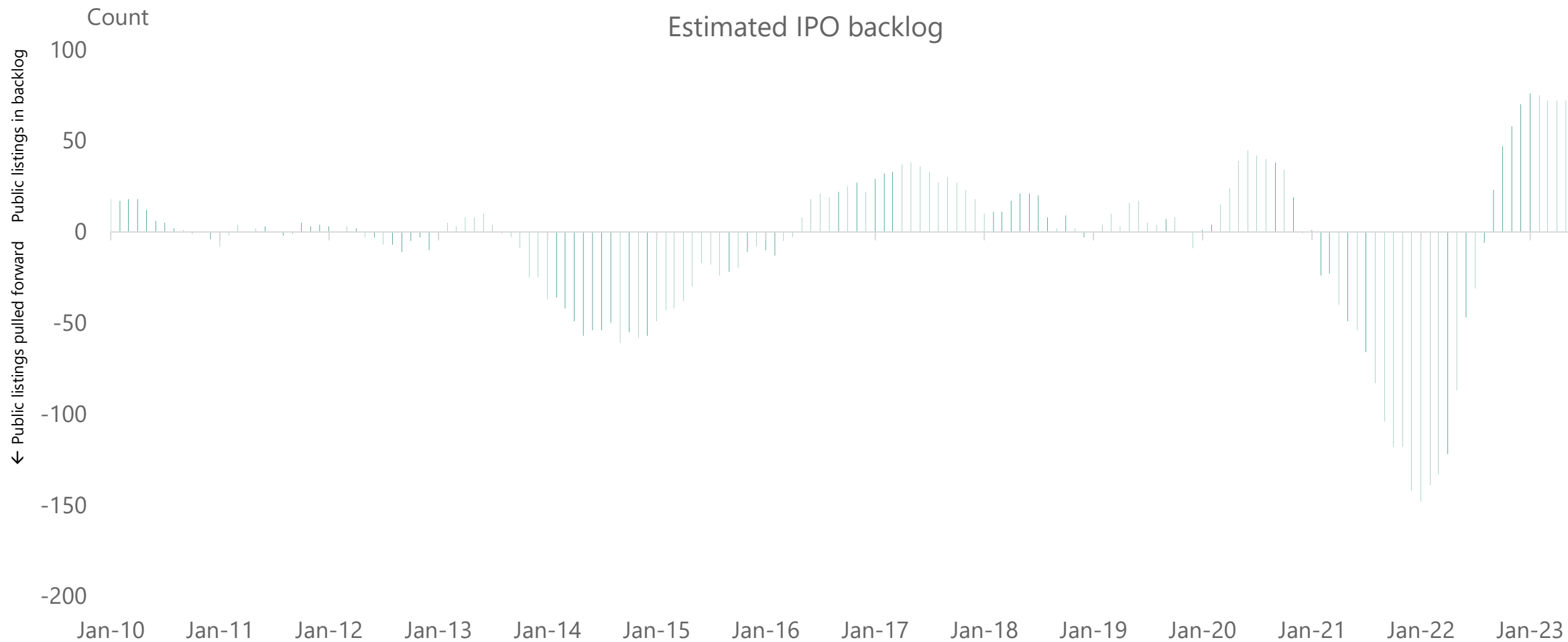


VC exit activity



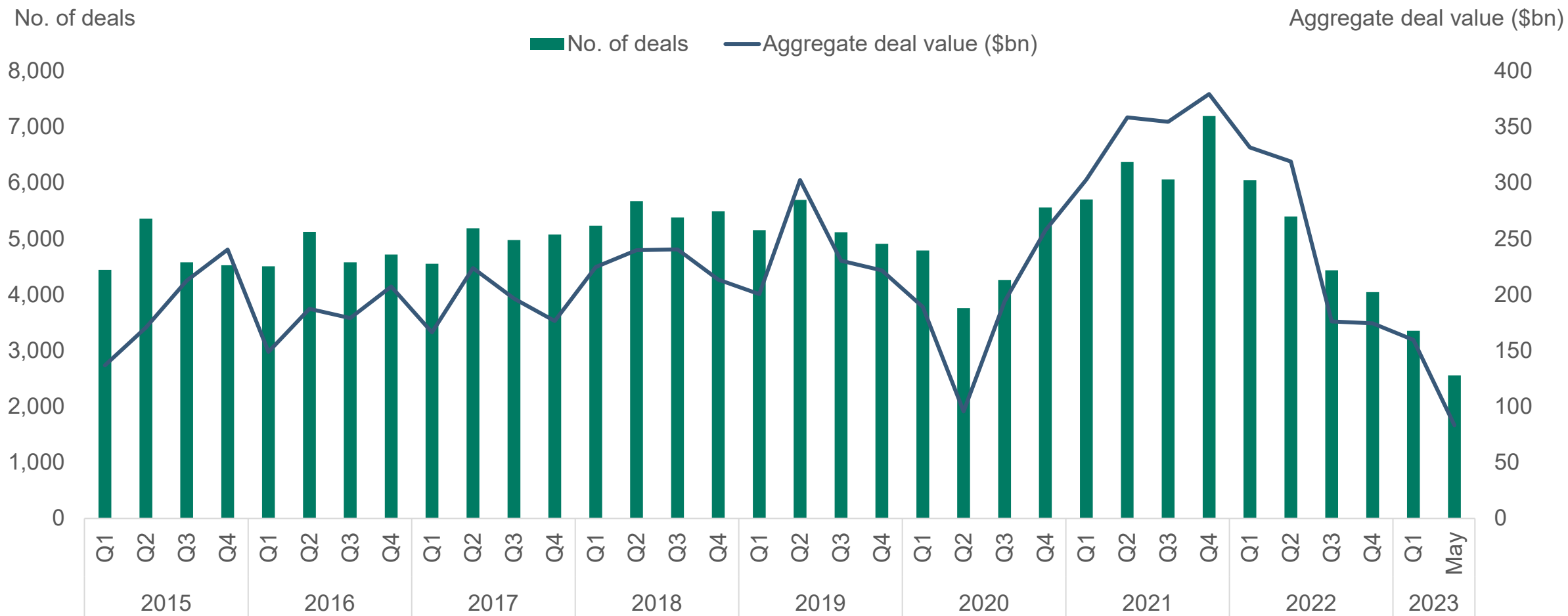
Source: Pitchbook, Apollo Chief Economist. Data as of September 2023

Backlog of VC-backed IPOs piling up

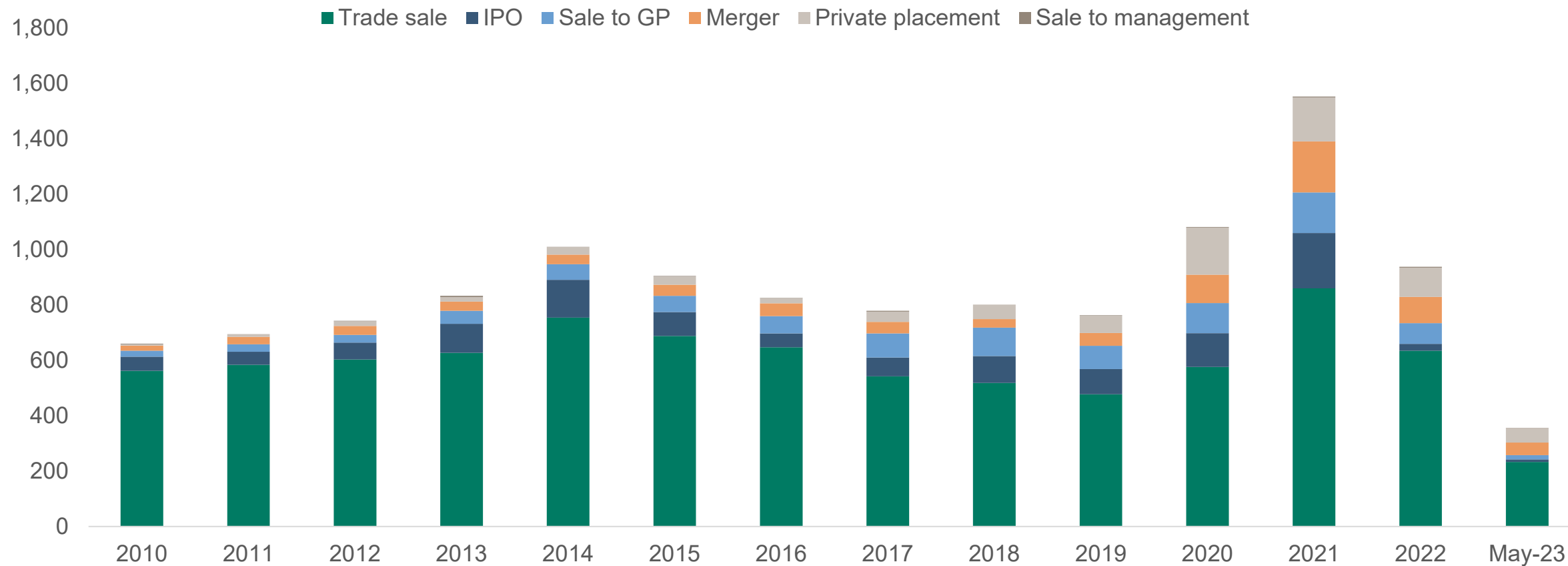


Recent LBO activity

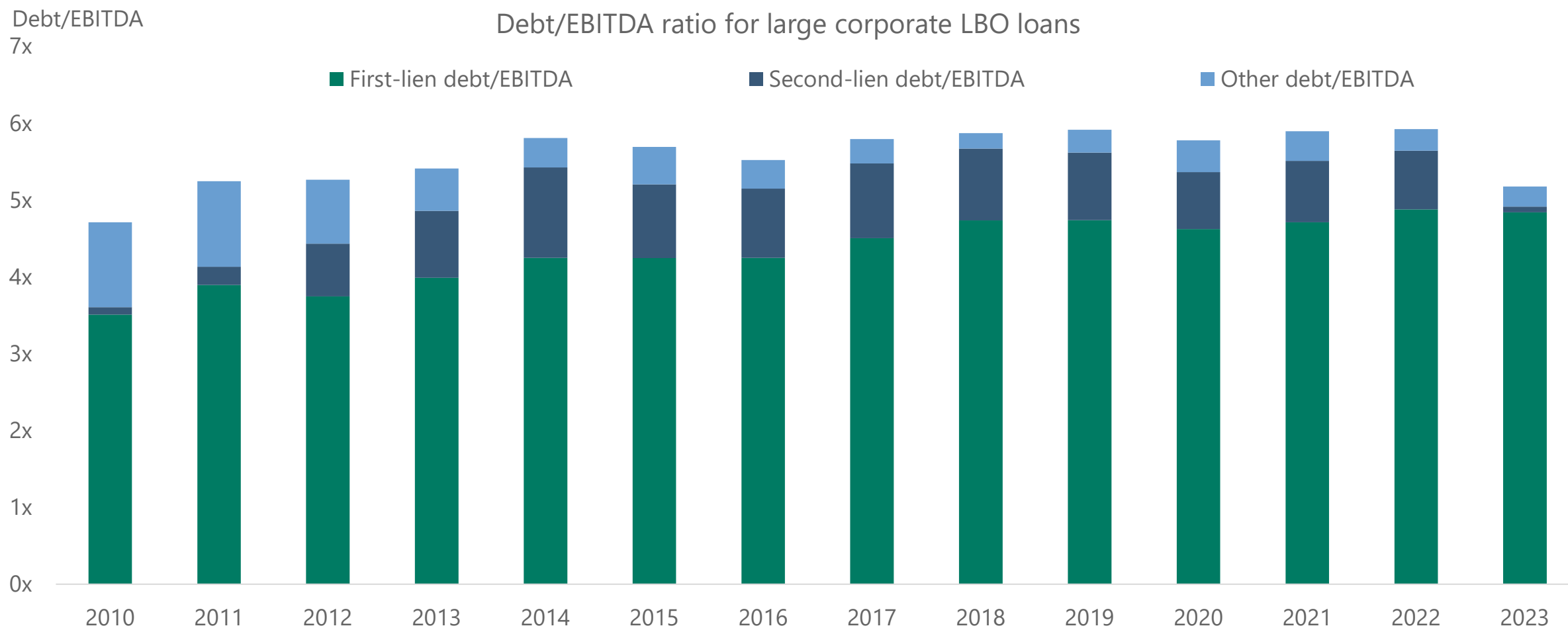
Deal making slowing



IPO activity

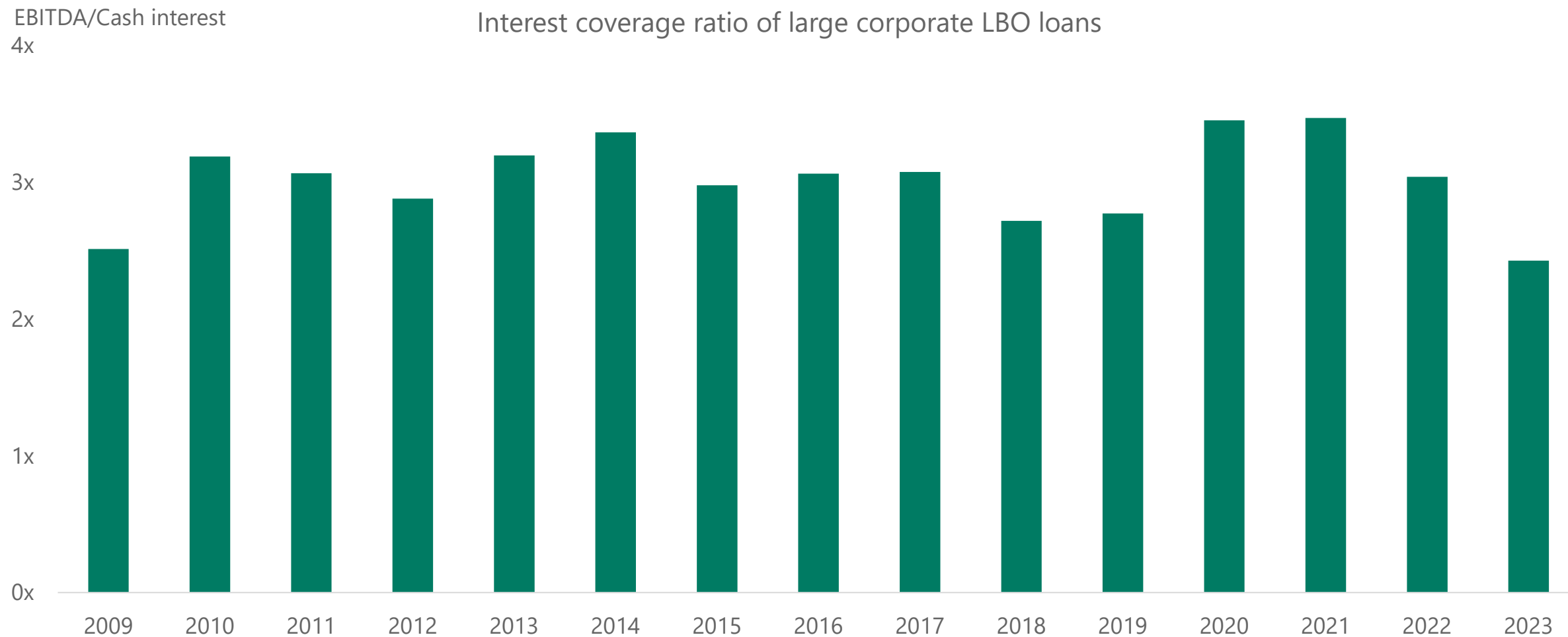


Leverage for large corporate LBOs has fallen

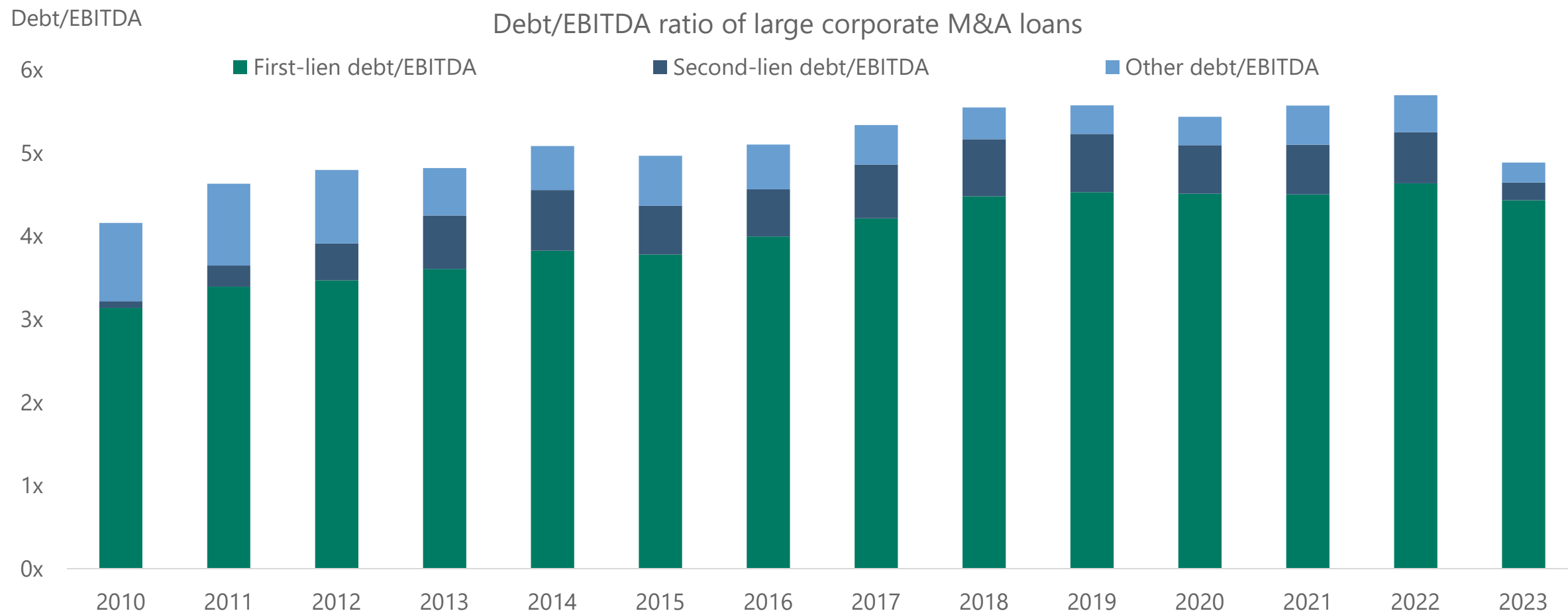


Source: Pitchbook LCD, Apollo Chief Economist. Data as of 30th September 2023, Large corporates are defined as EBITDA more than \$50 Million

Interest coverage ratio for large corporate LBOs is declining

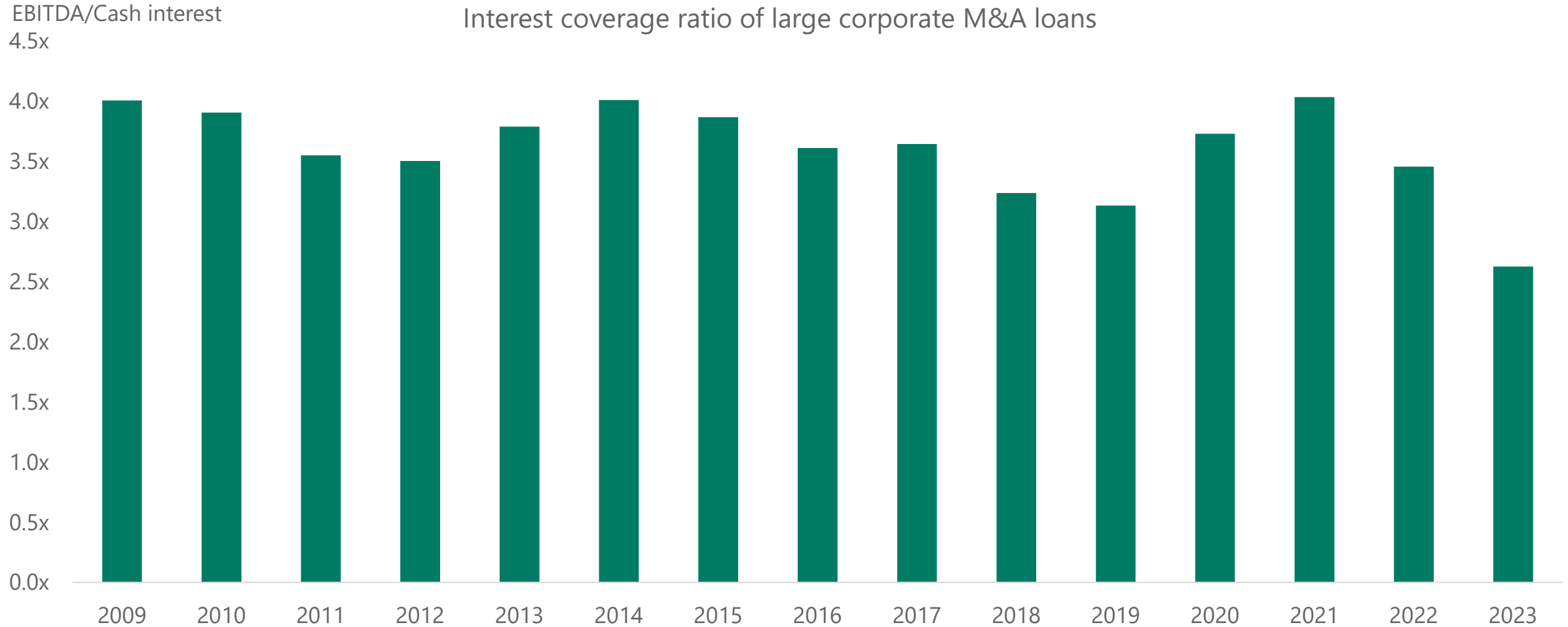


Leverage for large corporate M&A loans has also fallen



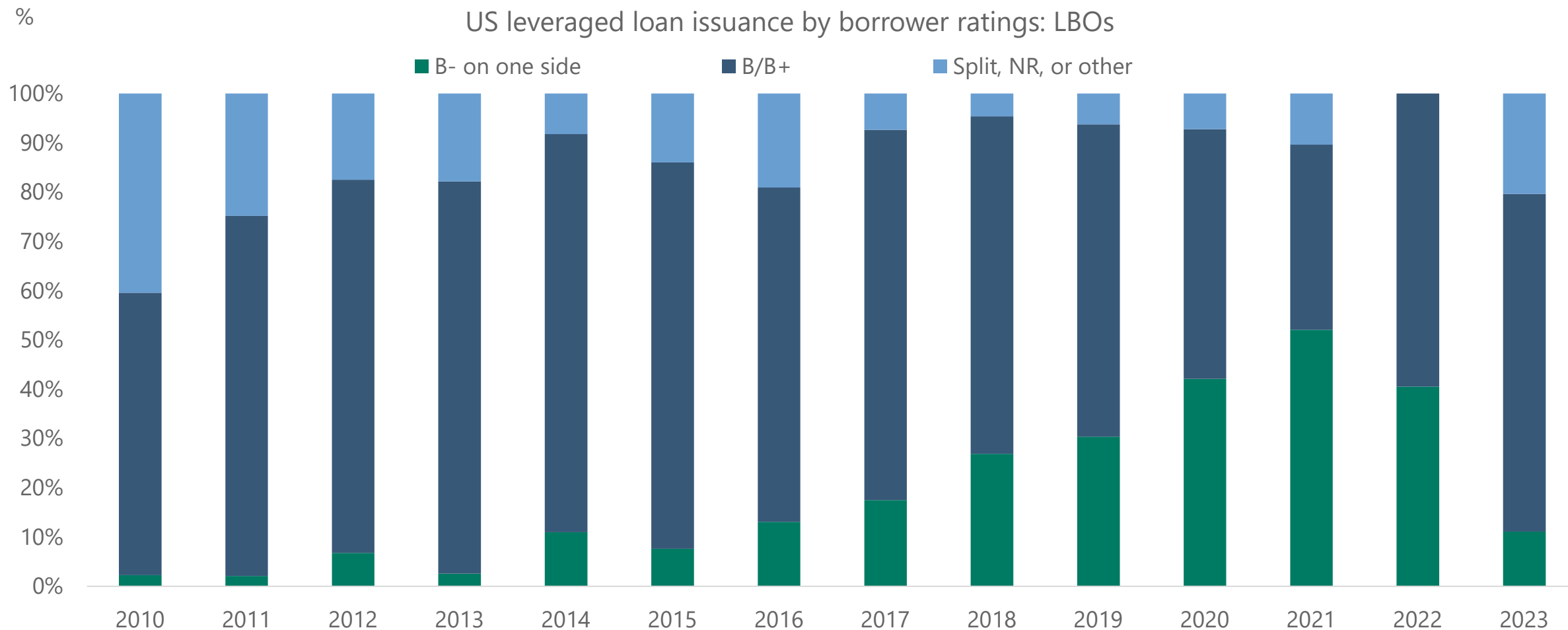
Source: Pitchbook LCD, Apollo Chief Economist. Data as of 30th September 2023, Large corporates are defined as EBITDA more than \$50 Million

Interest coverage ratio for large corporate M&A loans also declining



Source: Pitchbook LCD, Apollo Chief Economist. Data as of 30th September 2023, Large corporates are defined as EBITDA more than \$50 Million

LBO loan issuance by borrower rating

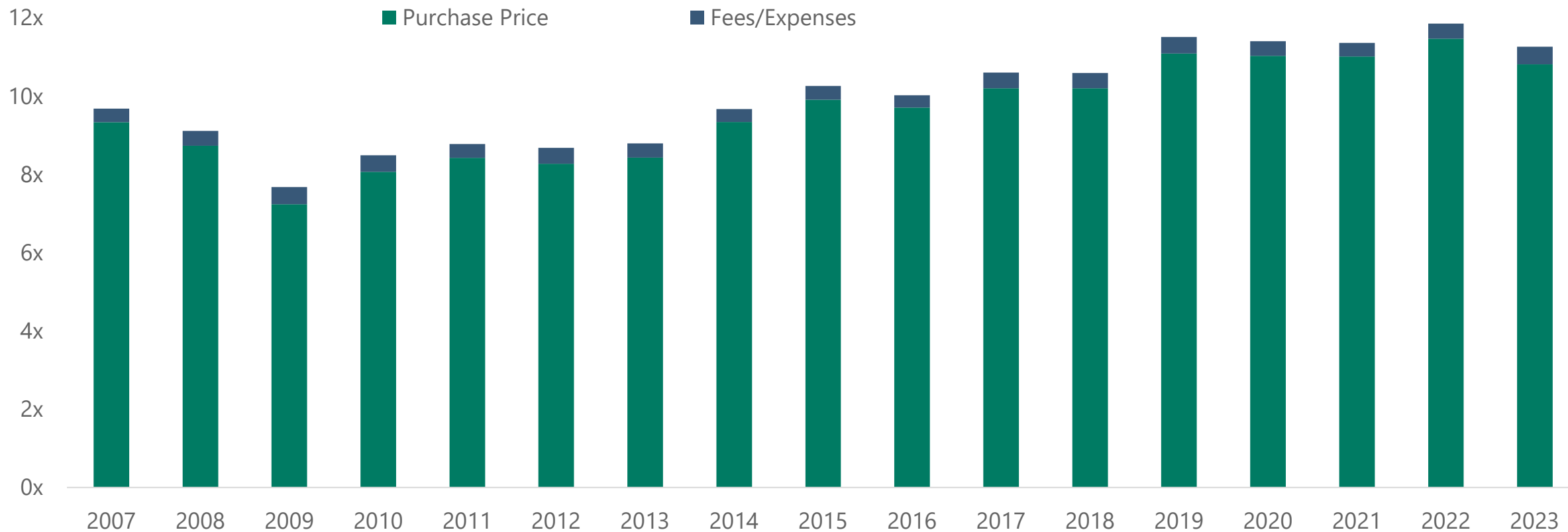


Source: Pitchbook LCD, Apollo Chief Economist. Data as of 30th September 2023

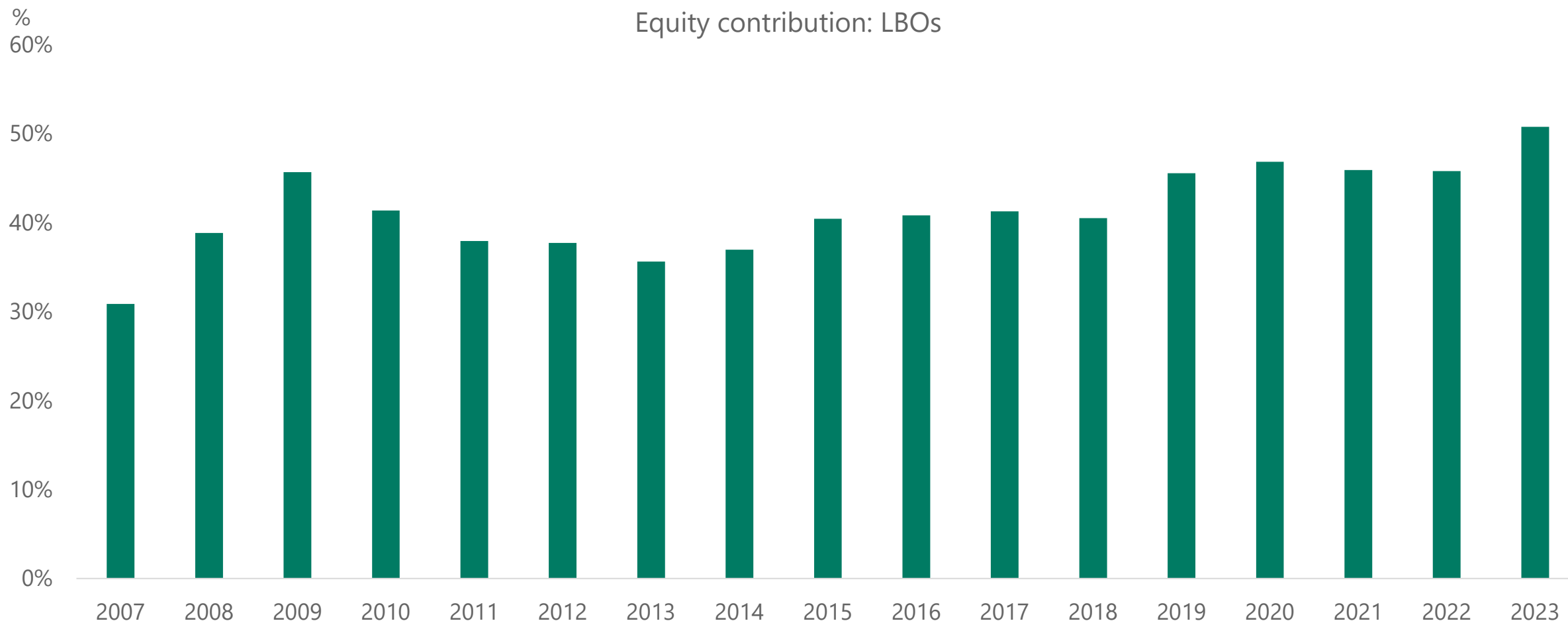
Purchase price multiples

Purchase price multiple
14x

Purchase price multiples: LBOs



High debt costs leading to high equity contributions

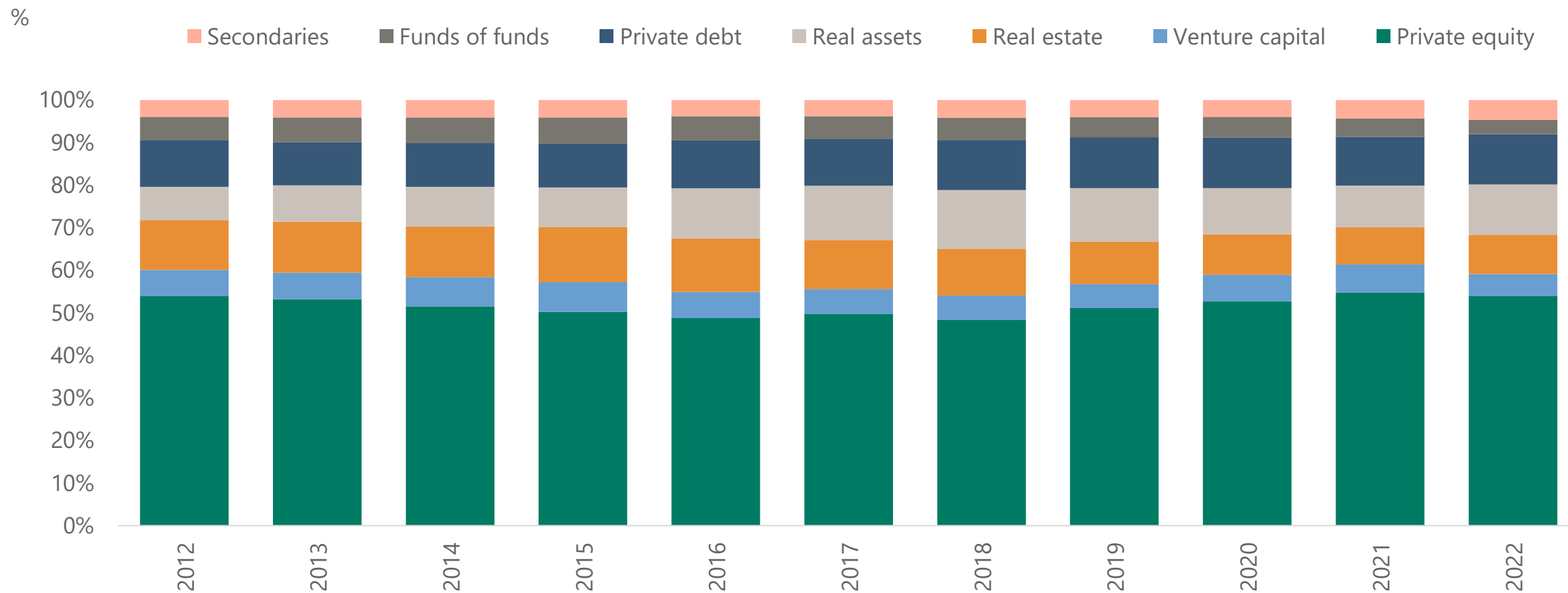


Average yield to maturity is above 11%



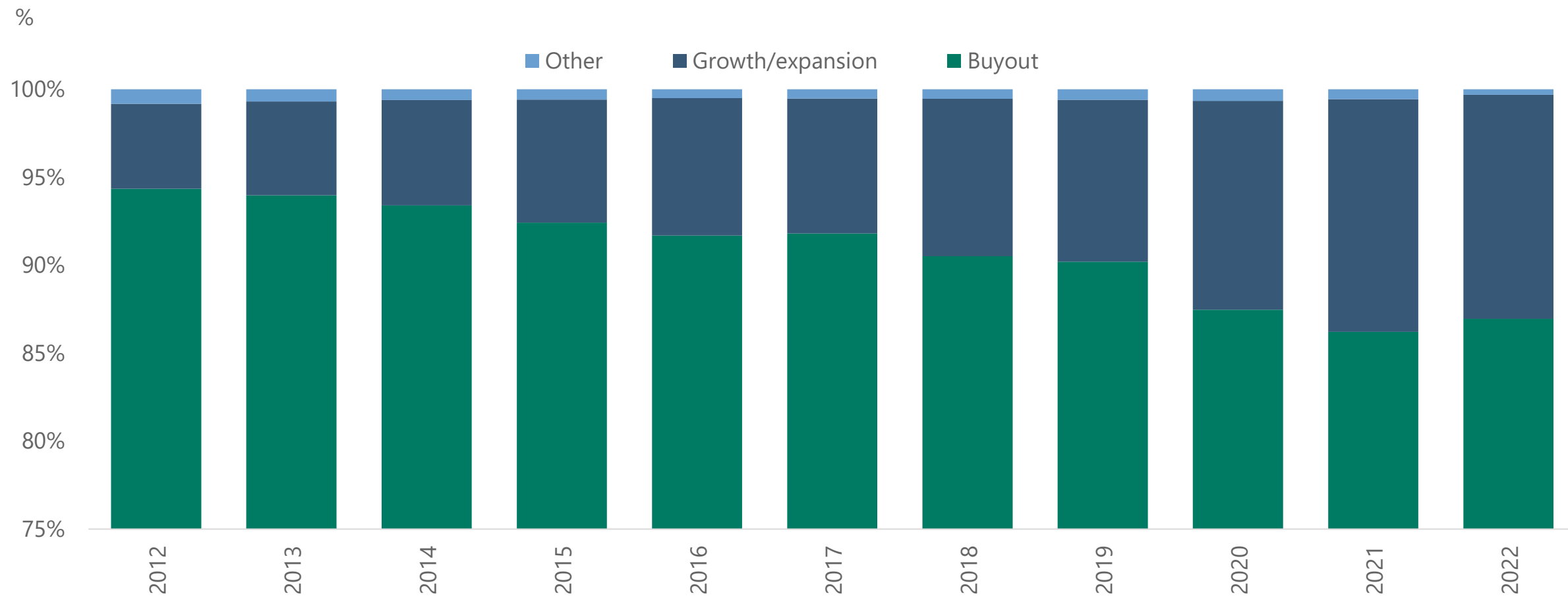
Index weightings

Private capital index weightings

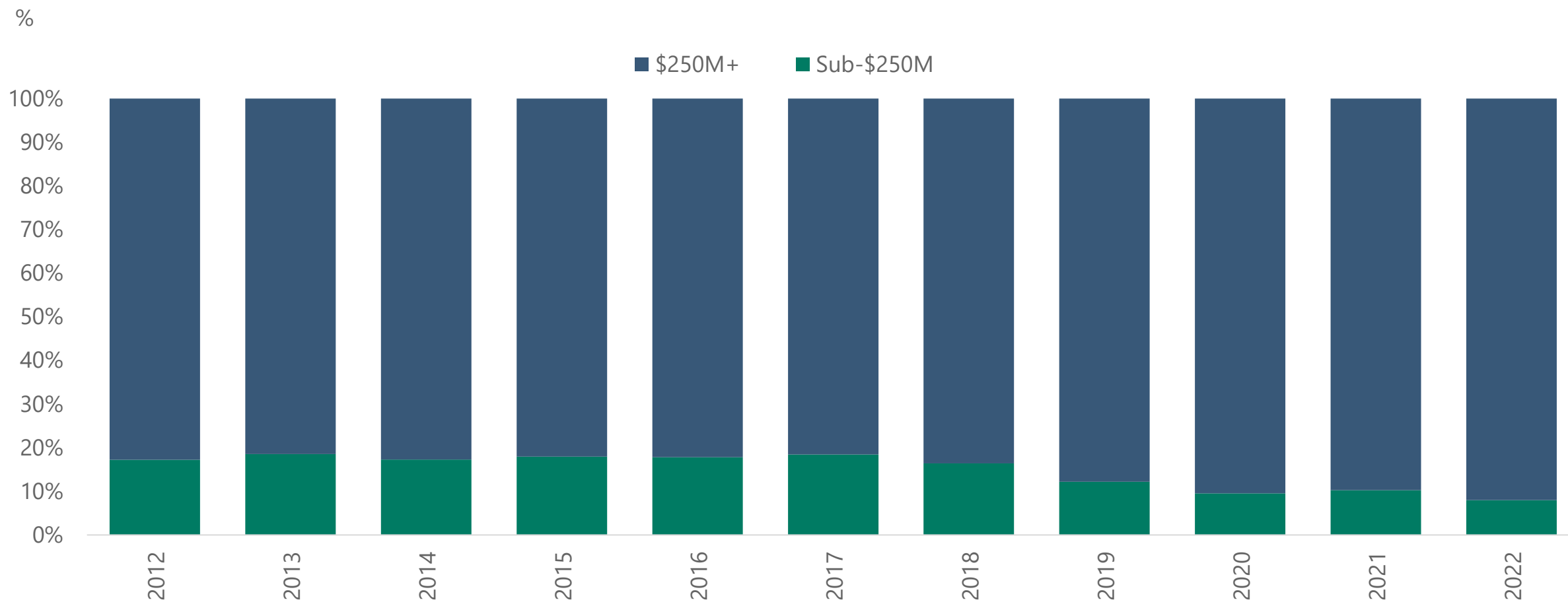


Source: Pitchbook, Apollo Chief Economist. Note: Data as of 31st December 2022

Private equity index weightings

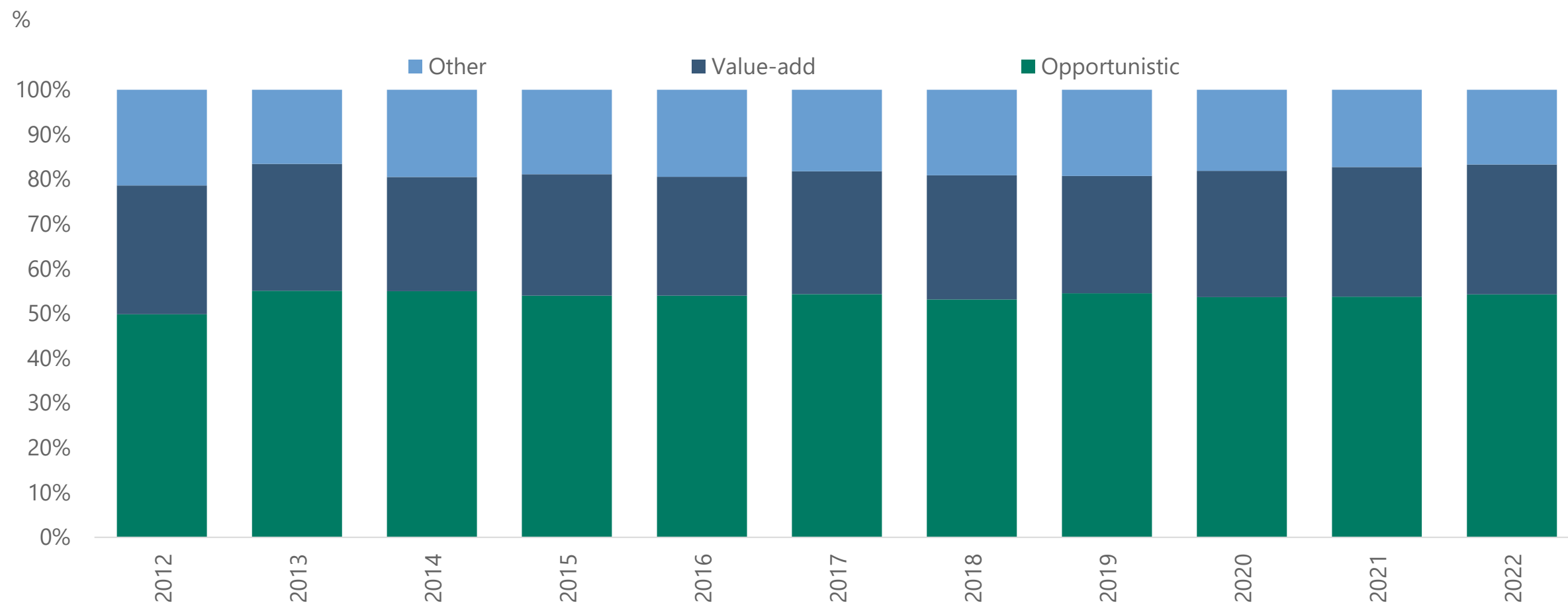


Venture capital index weightings

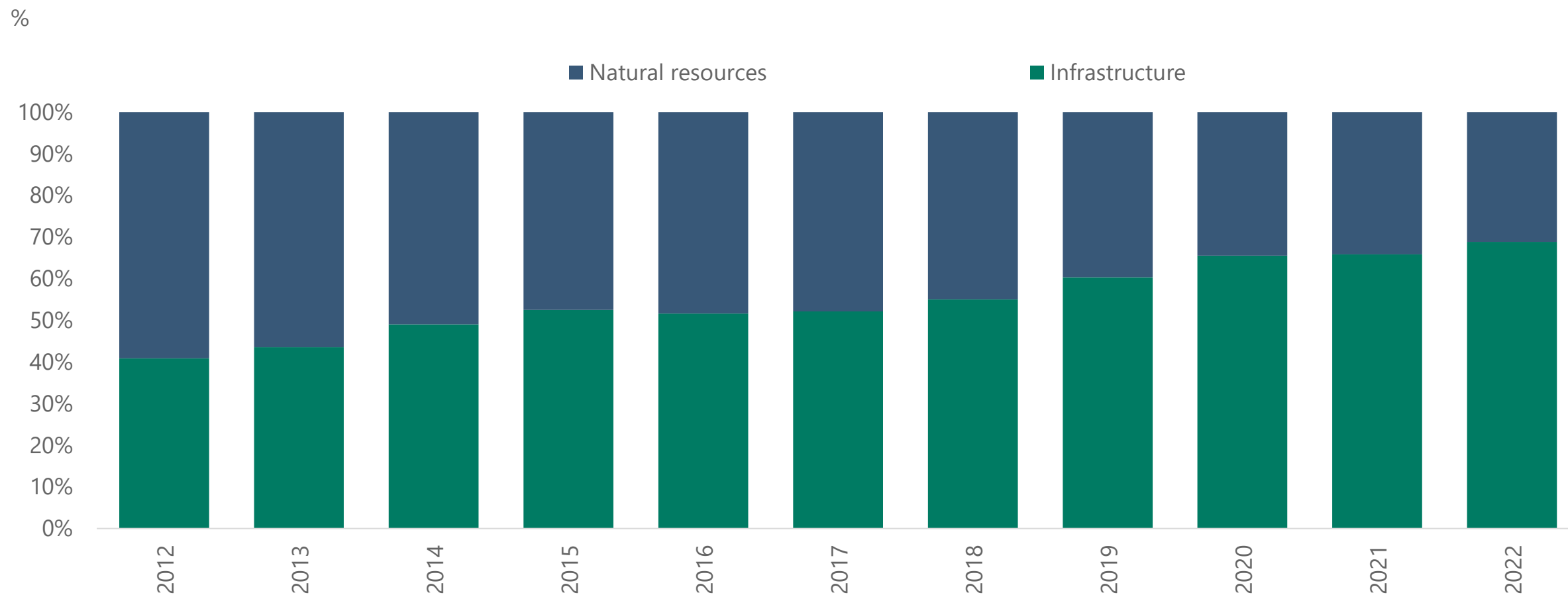


Source: Pitchbook, Apollo Chief Economist. Note: Data as of 31st December 2022

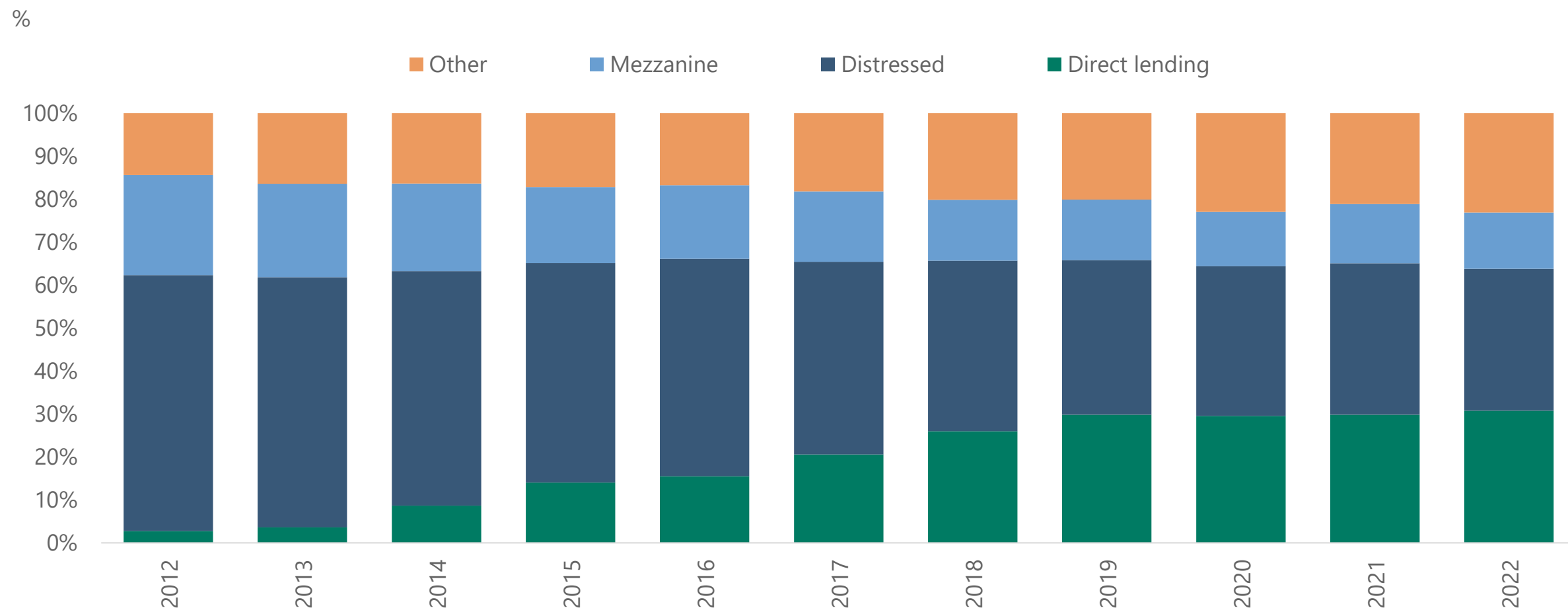
Real estate index weightings



Real assets index weightings

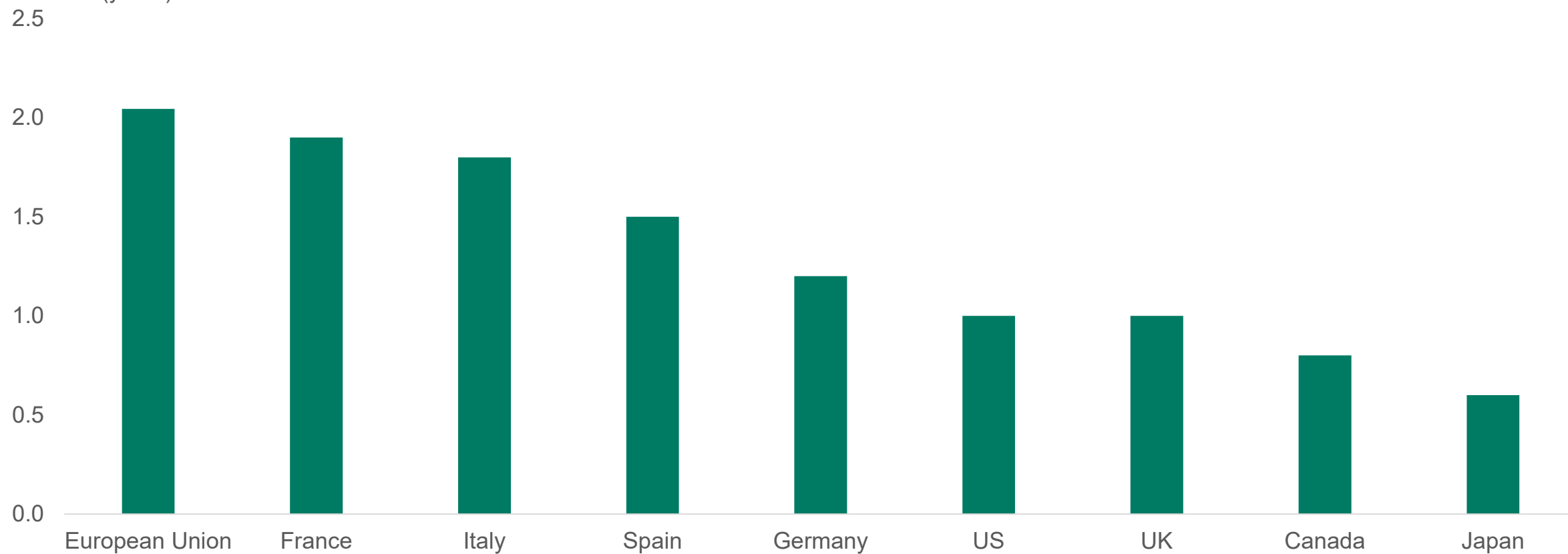


Private debt index weightings



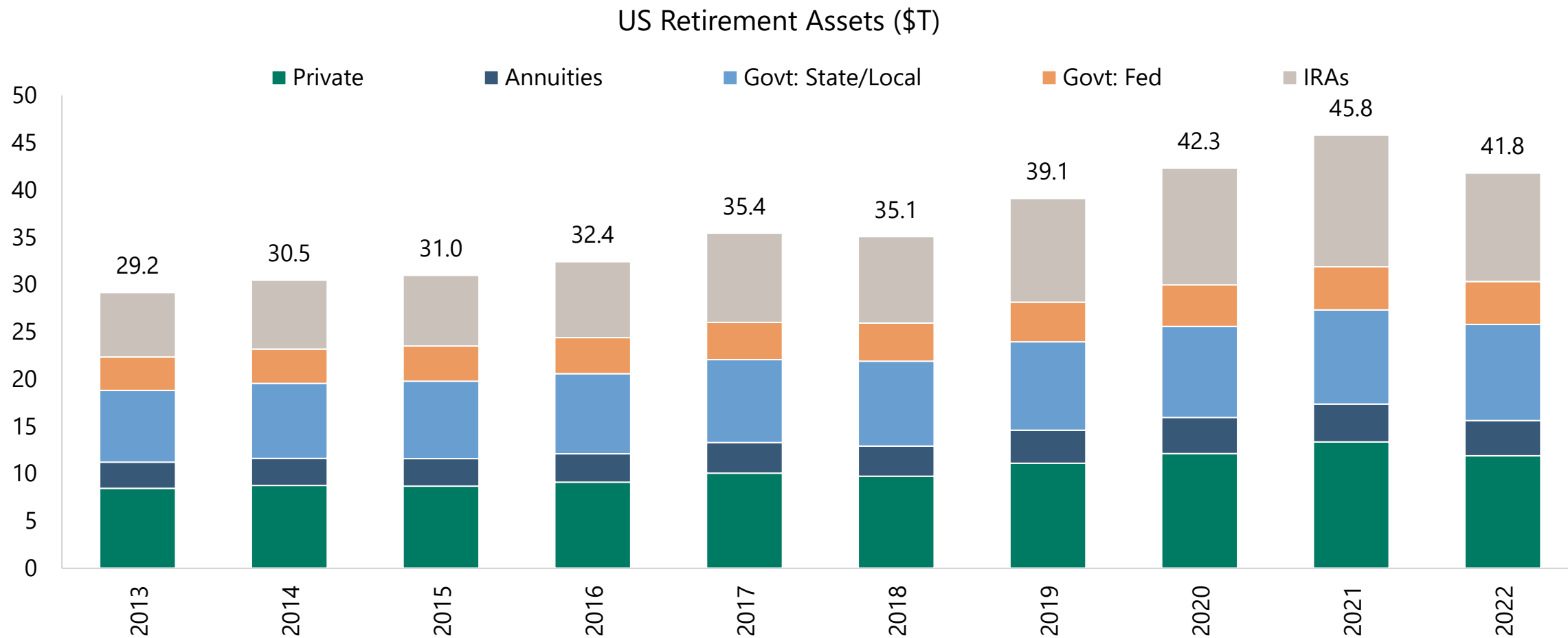
Time to resolve insolvency in 2019

Time to resolve insolvency
(years)

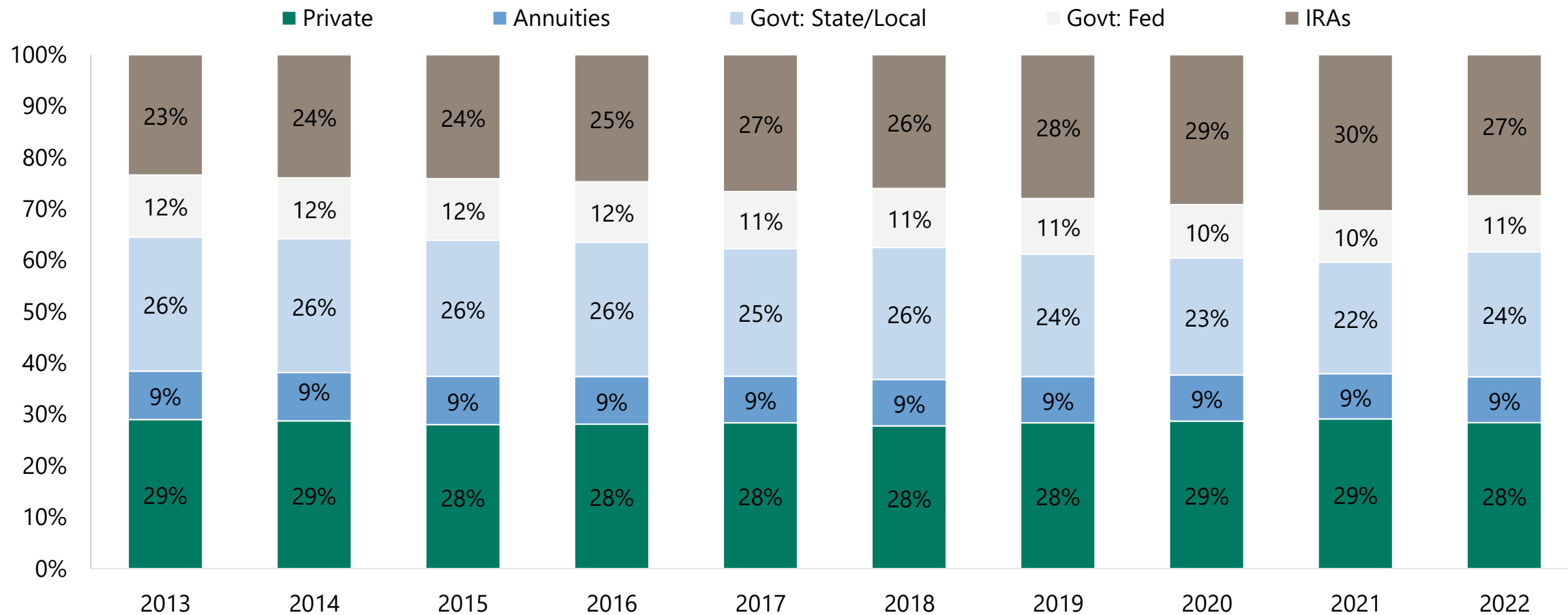


Retirement assets

The composition of US retirement assets



US retirement assets: % of total

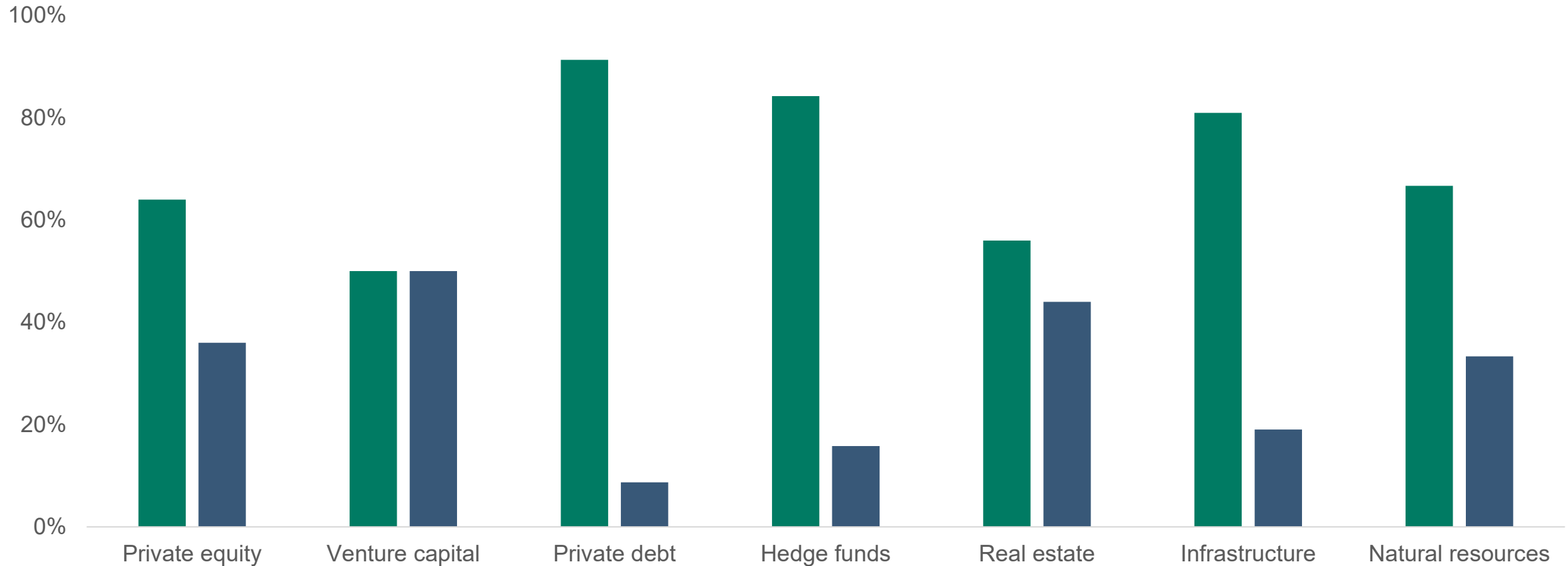


Preqin survey of North-American investors

North America-based investors were asked: 'What are your return expectations in the coming year compared with the year before?'

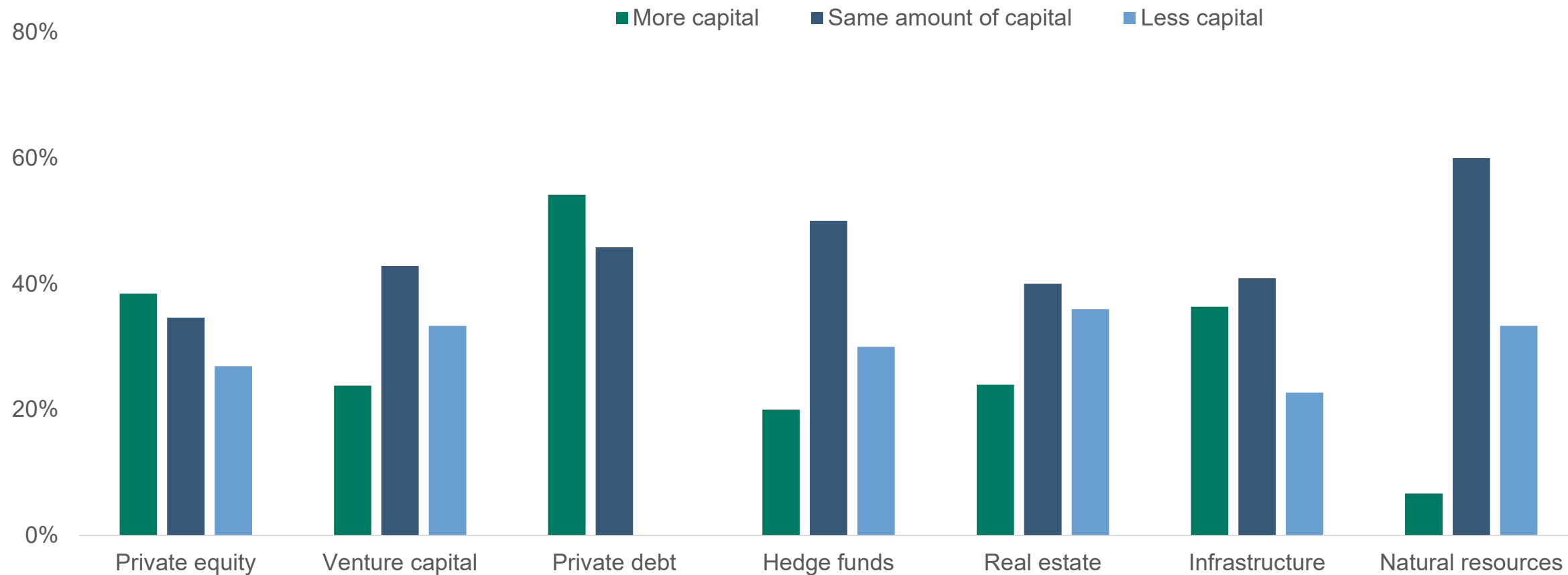
% of respondents

■ Will perform the same or better ■ Will perform worse



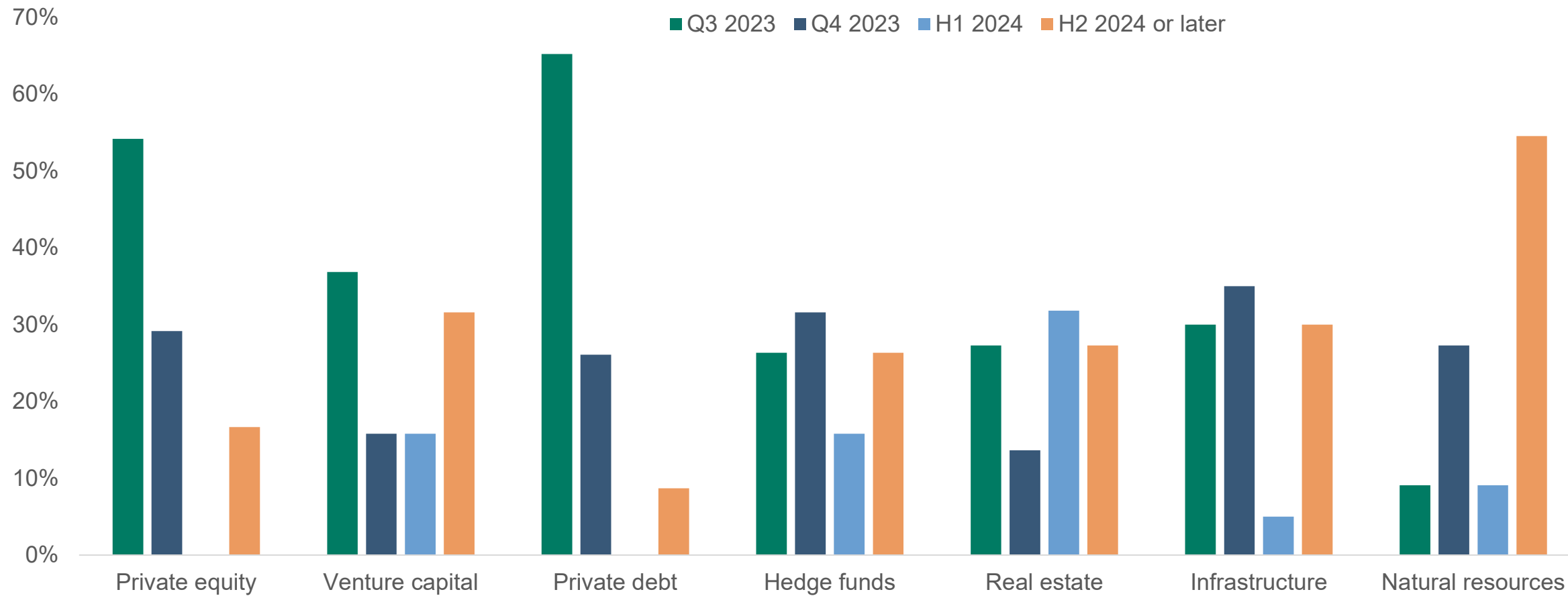
Investors were asked: 'What are your 12-month capital commitment plans?'

% of respondents

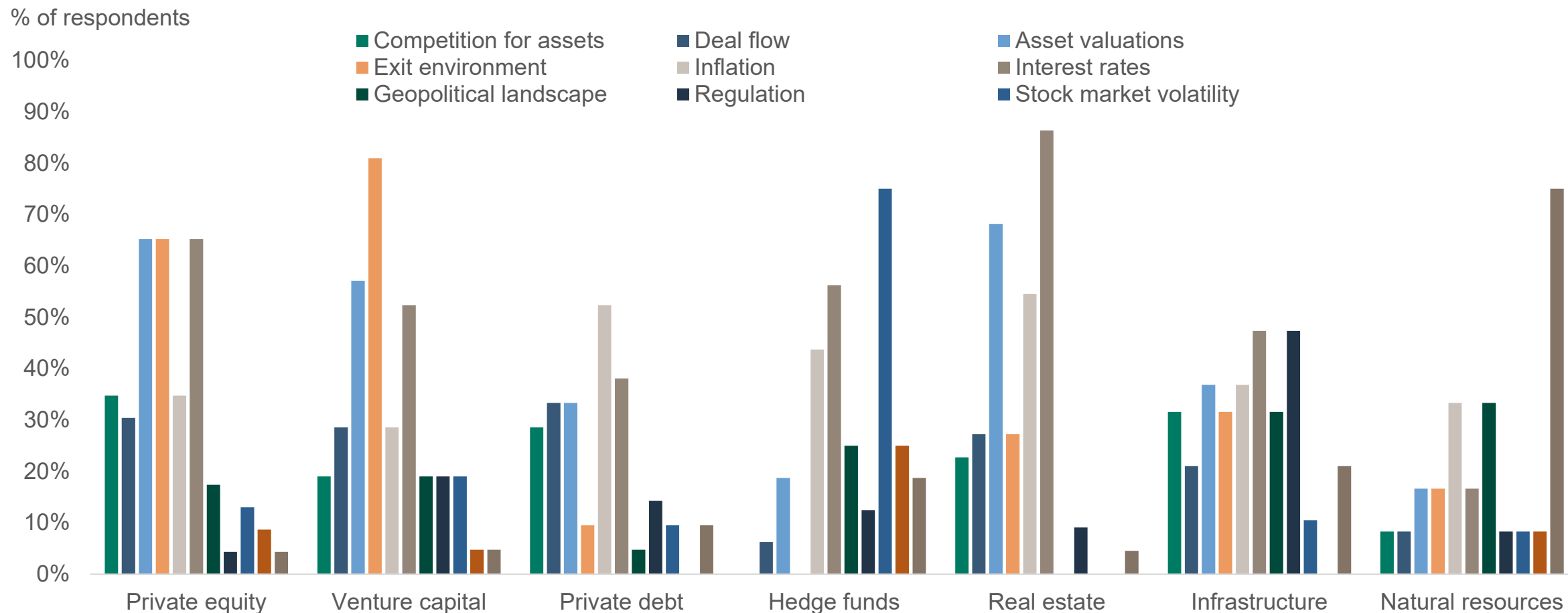


Investors were asked: 'When do you expect to make your next commitment?'

% of respondents

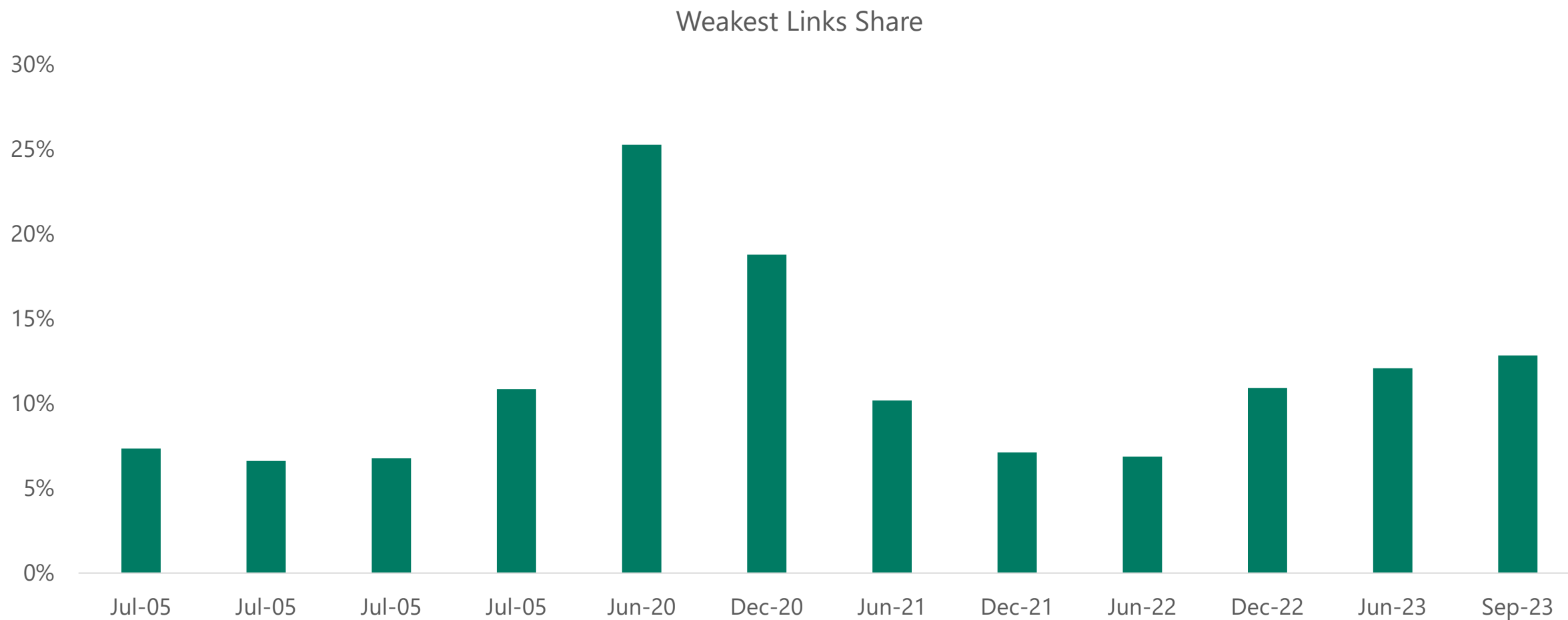


Investors were asked: 'What are the main challenges to returns in the next 12 months?'



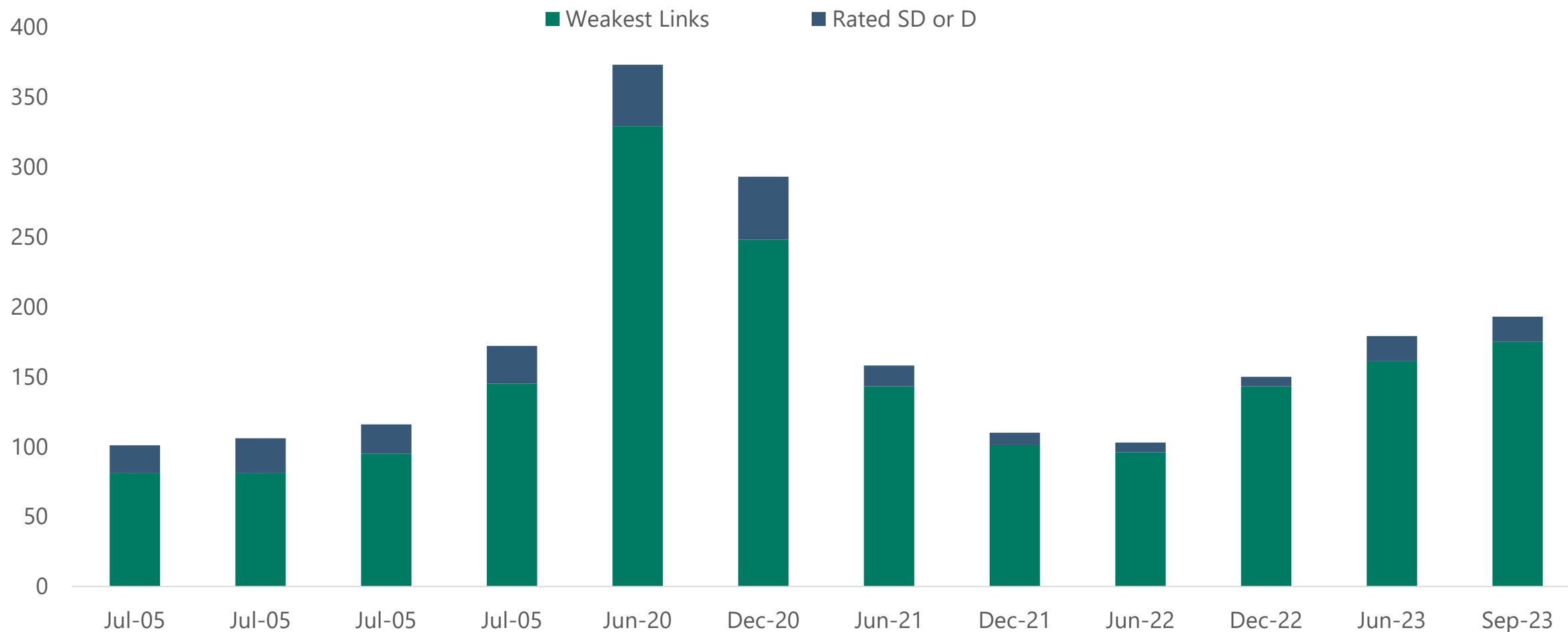
Weakest links

US leveraged loan Weakest Links (issuer count)



Source: Pitchbook, Apollo Chief Economist (Data through Sept. 30, 2023)

US leveraged loan Weakest Links plus defaults/restructurings

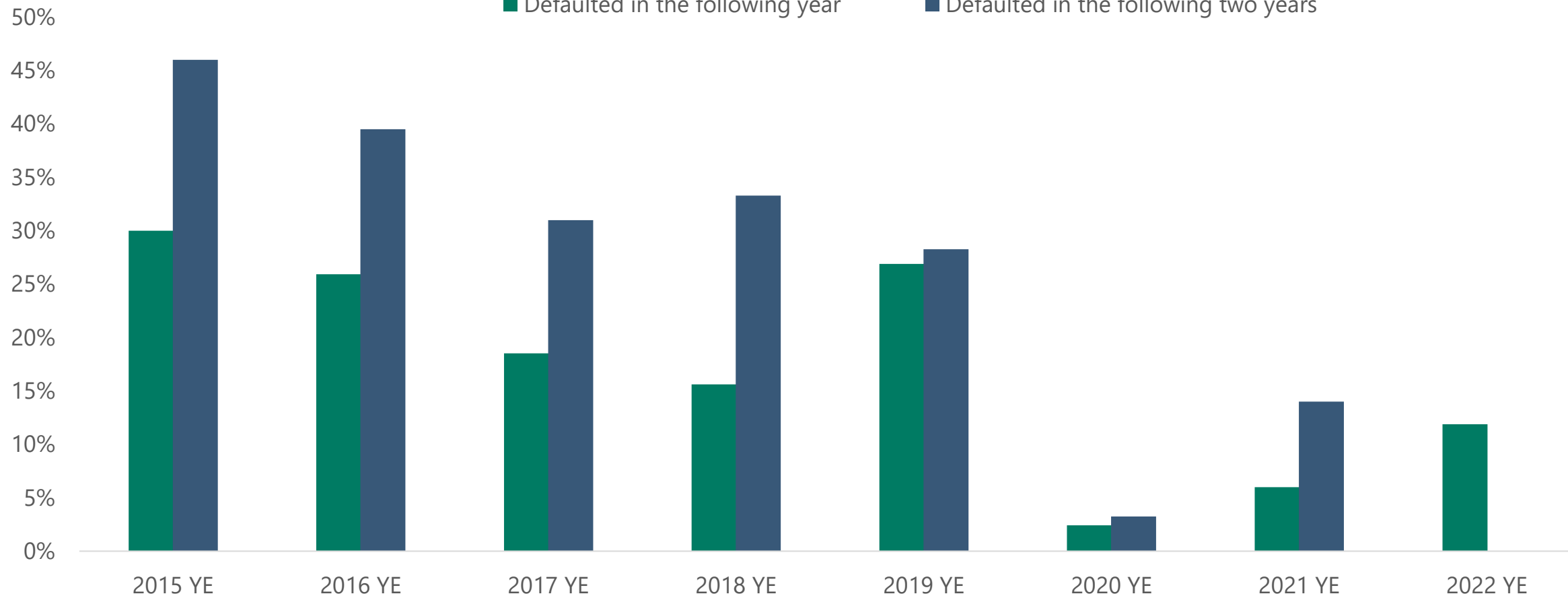


Source: Pitchbook, Apollo Chief Economist (Data through Sept. 30, 2023)

US loan Weakest Links default rates (issuer count)

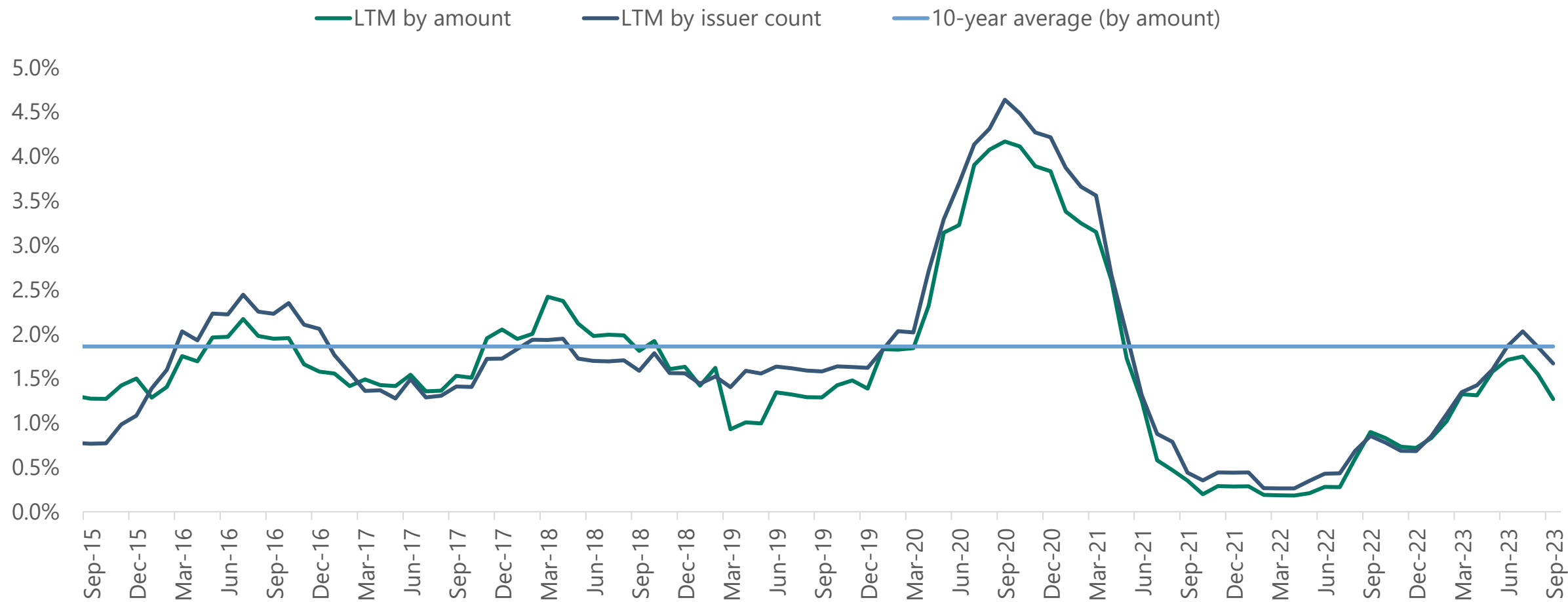
Share of each cohort that defaulted in subsequent years

■ Defaulted in the following year ■ Defaulted in the following two years



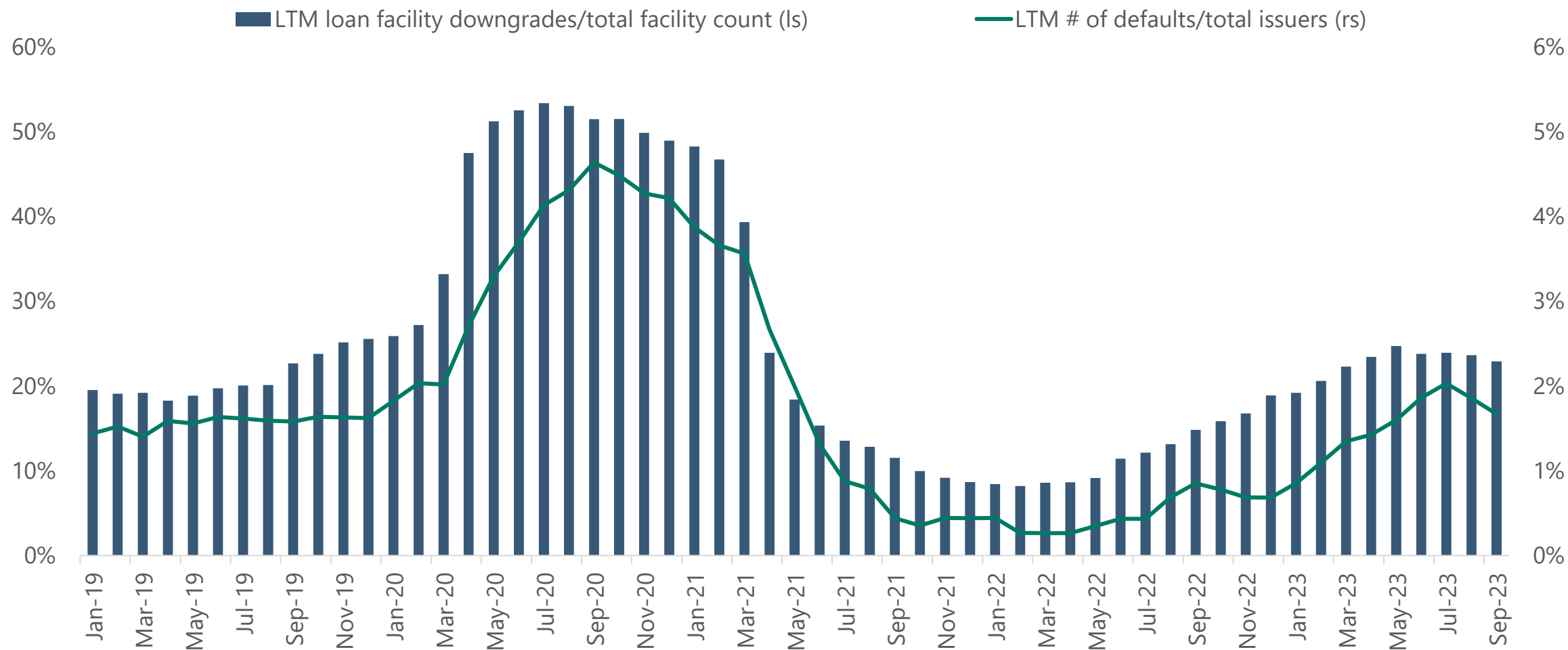
Source: Pitchbook, Apollo Chief Economist (Data through Sept. 30, 2023) (x-axis represents weakest links cohorts at each year-end)

US leveraged loan default rate



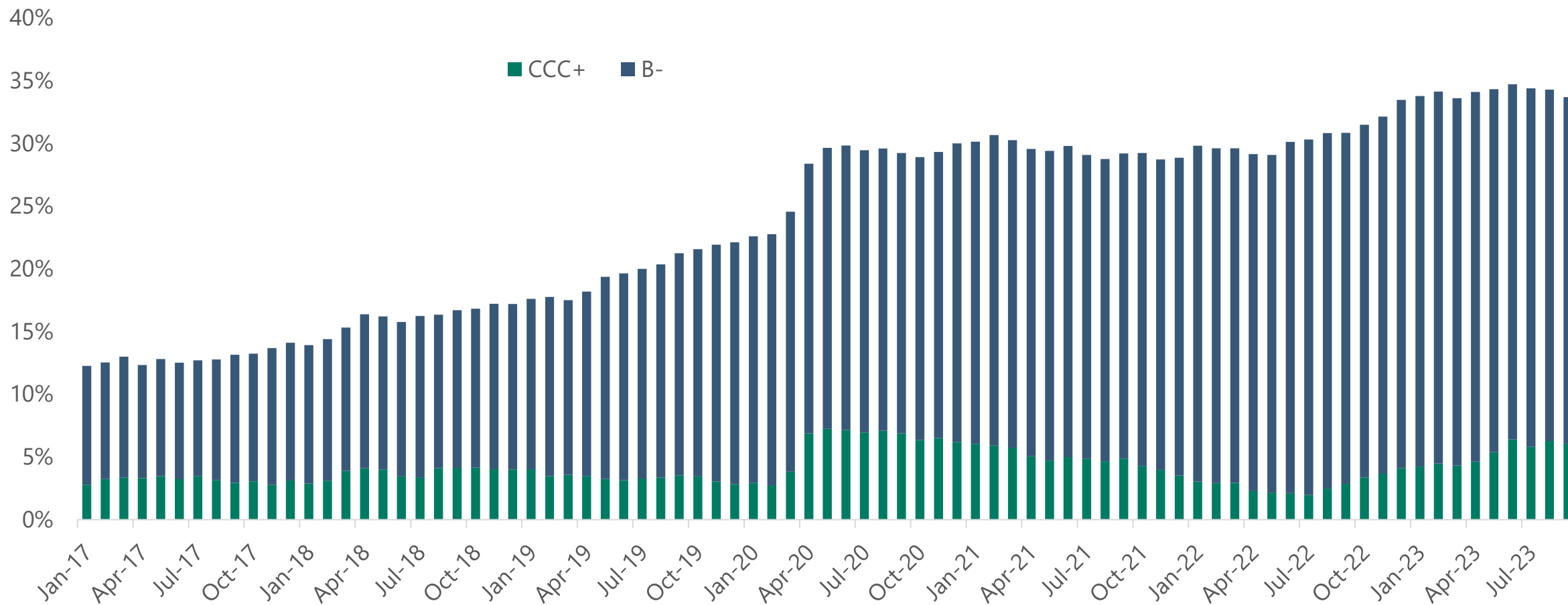
Source: Pitchbook, Apollo Chief Economist (Data through Sept. 30, 2023)

LTM downgrades share and leveraged loan default rate



Source: Pitchbook, Apollo Chief Economist (Data through Sept. 30, 2023)

Share of loans in the LL Index by S&P CCR by par amount





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. 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.