



Global Investment Research

The Goldman Sachs Group, Inc.

Where to Invest Now

Navigating a narrow market

May 2023

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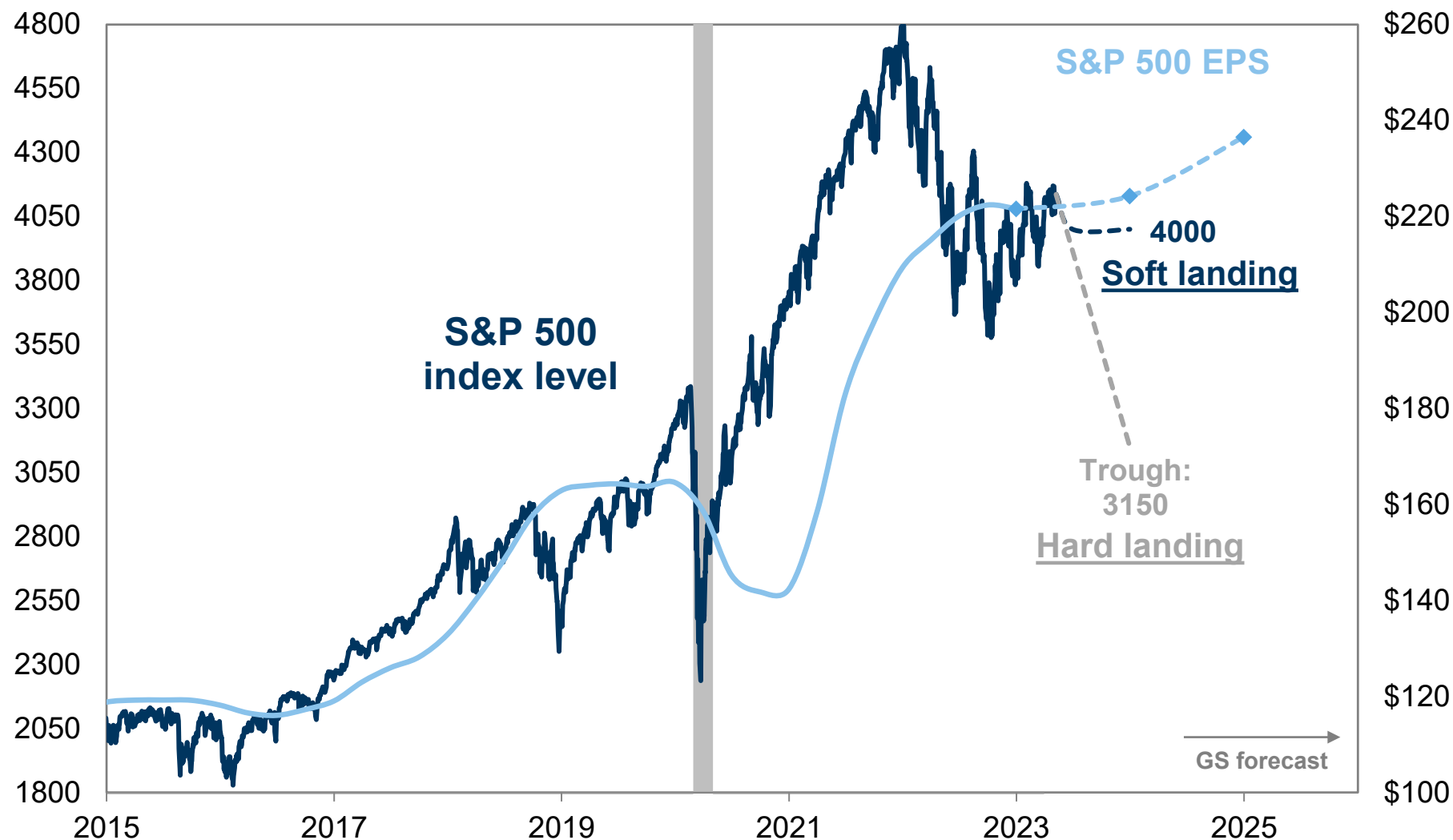
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Path of S&P 500: Soft vs. Hard landing scenarios

Baseline “no recession” forecast: Index trades around the 4000 level all year



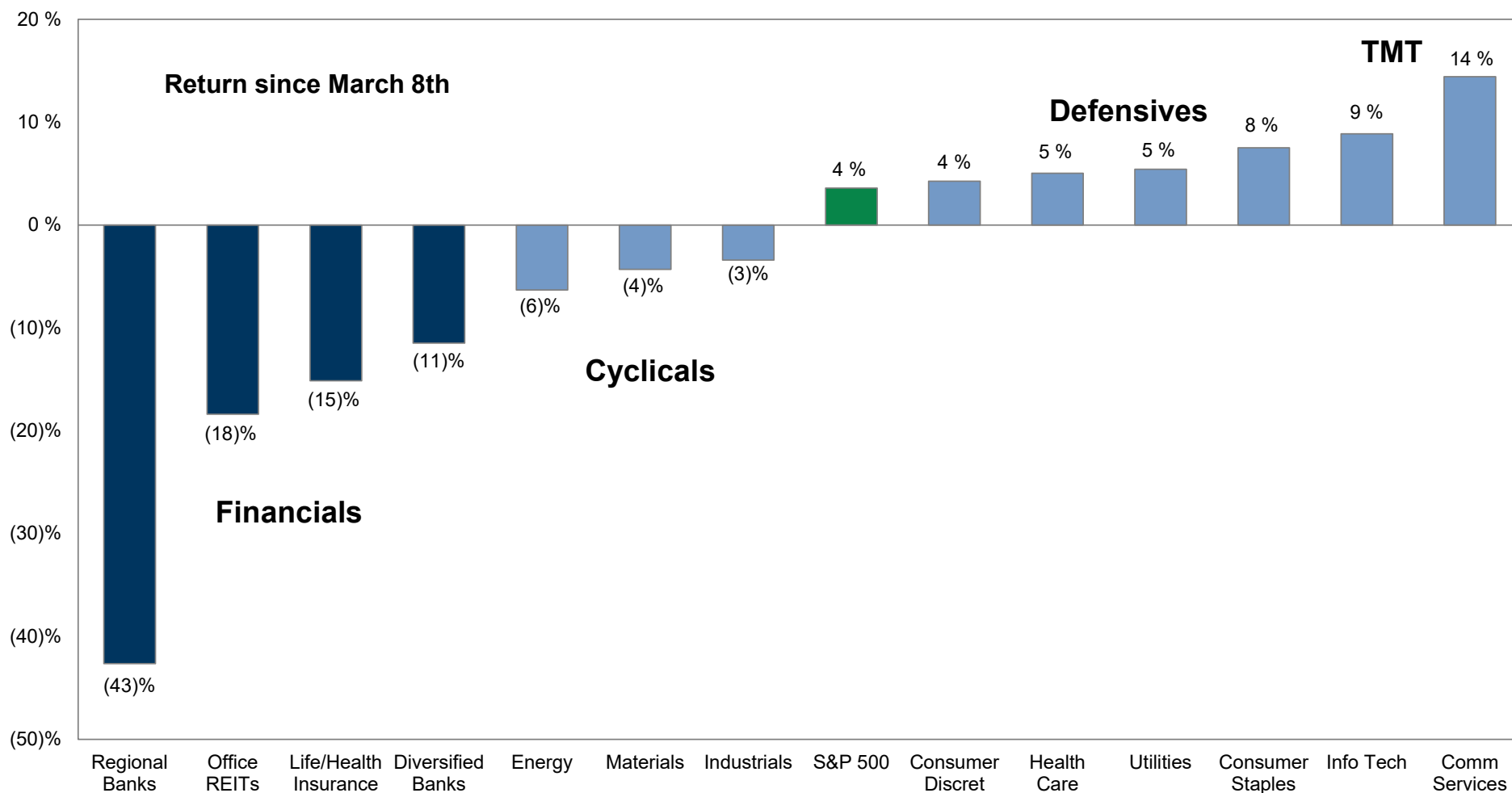
Cyclicals vs. Defensives pricing low real GDP growth

Current Activity Indicator (CAI) implies US economy growing below 1% pace



Sector and industry group returns since March 8th

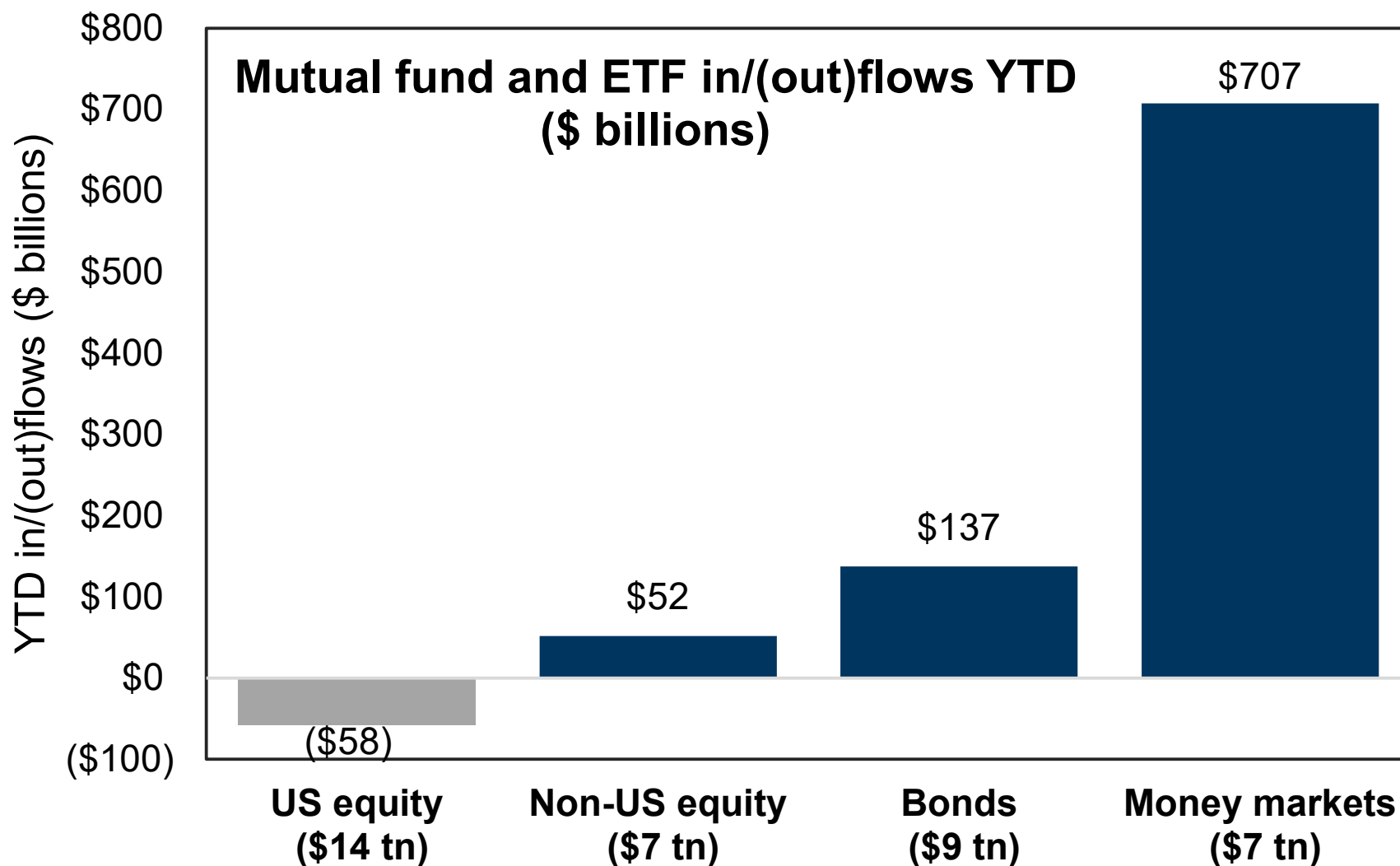
Amid banking stress defensives have outperformed while cyclicals lagged



1. Money flow – cash is reasonable alternative

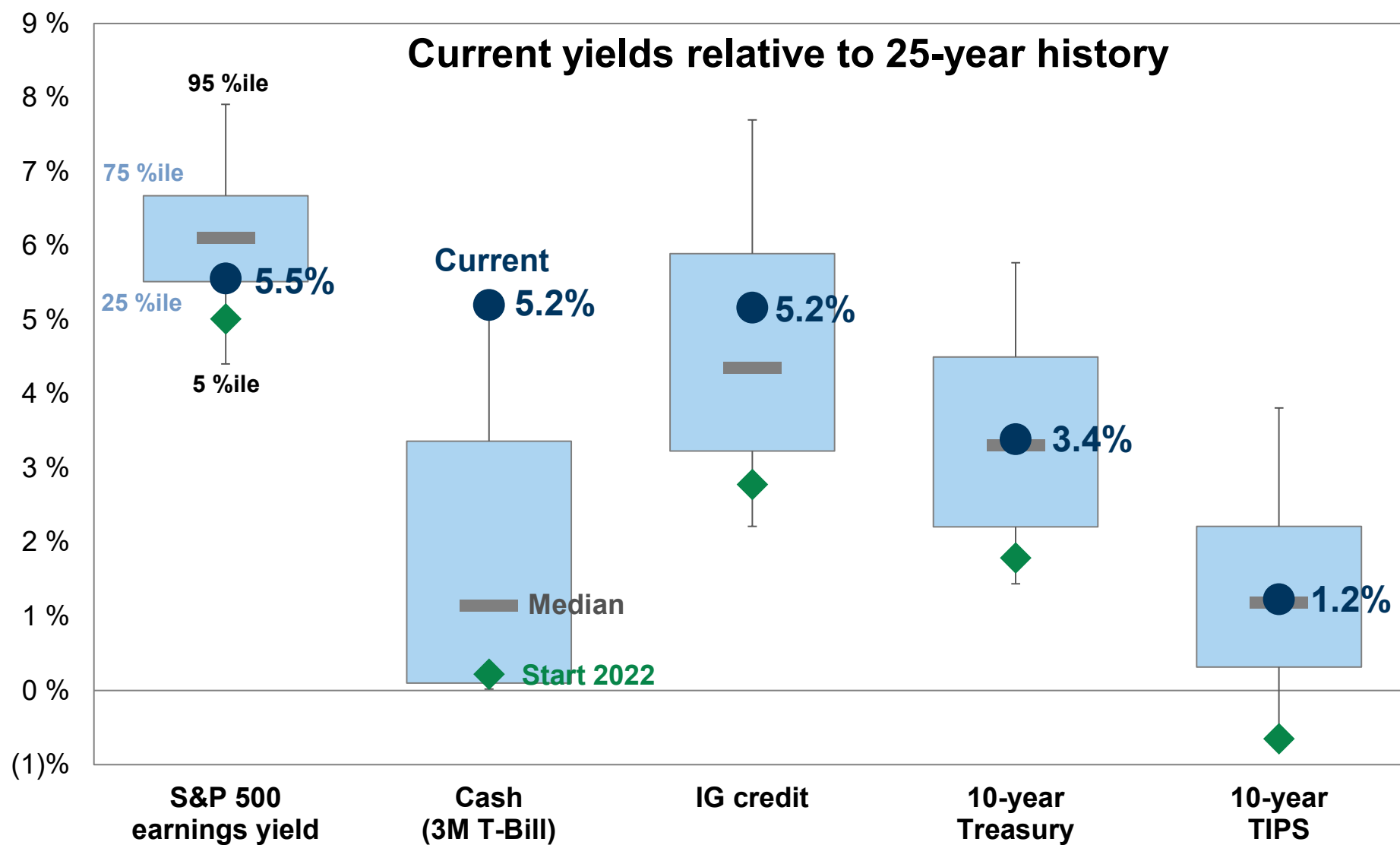
Outflows from US equities, inflows to other assets

Cash, Bonds, and non-US stocks offer compelling alternatives to US stocks



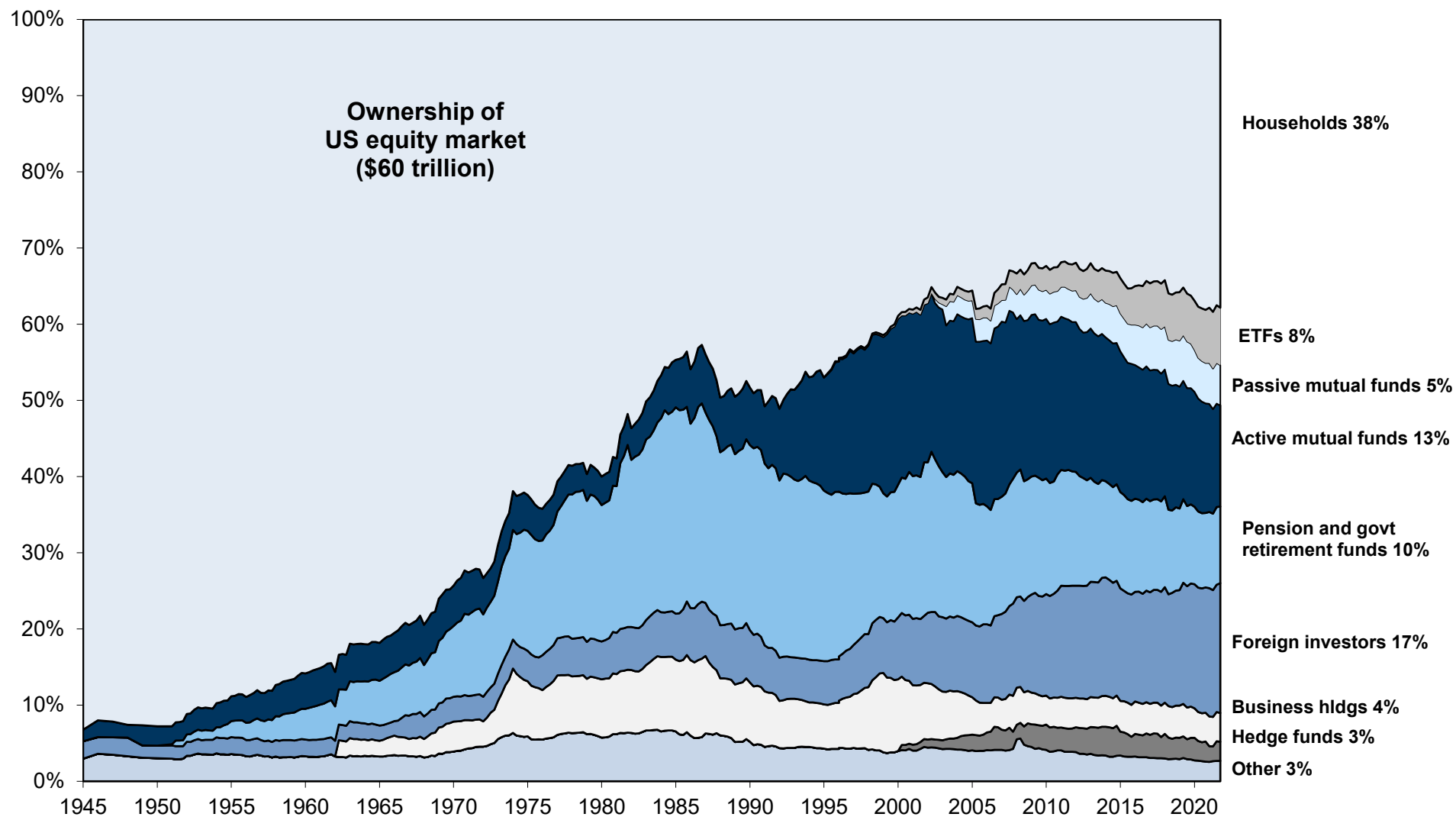
Market yields: Current level vs. distribution since 1998

S&P 500 EPS yield of 5.5% (risky) and cash 5.2% (risk-free) are nearly identical



Ownership of US equity market since 1945

Households, mutual funds, pensions, and foreign investors own 83% of market



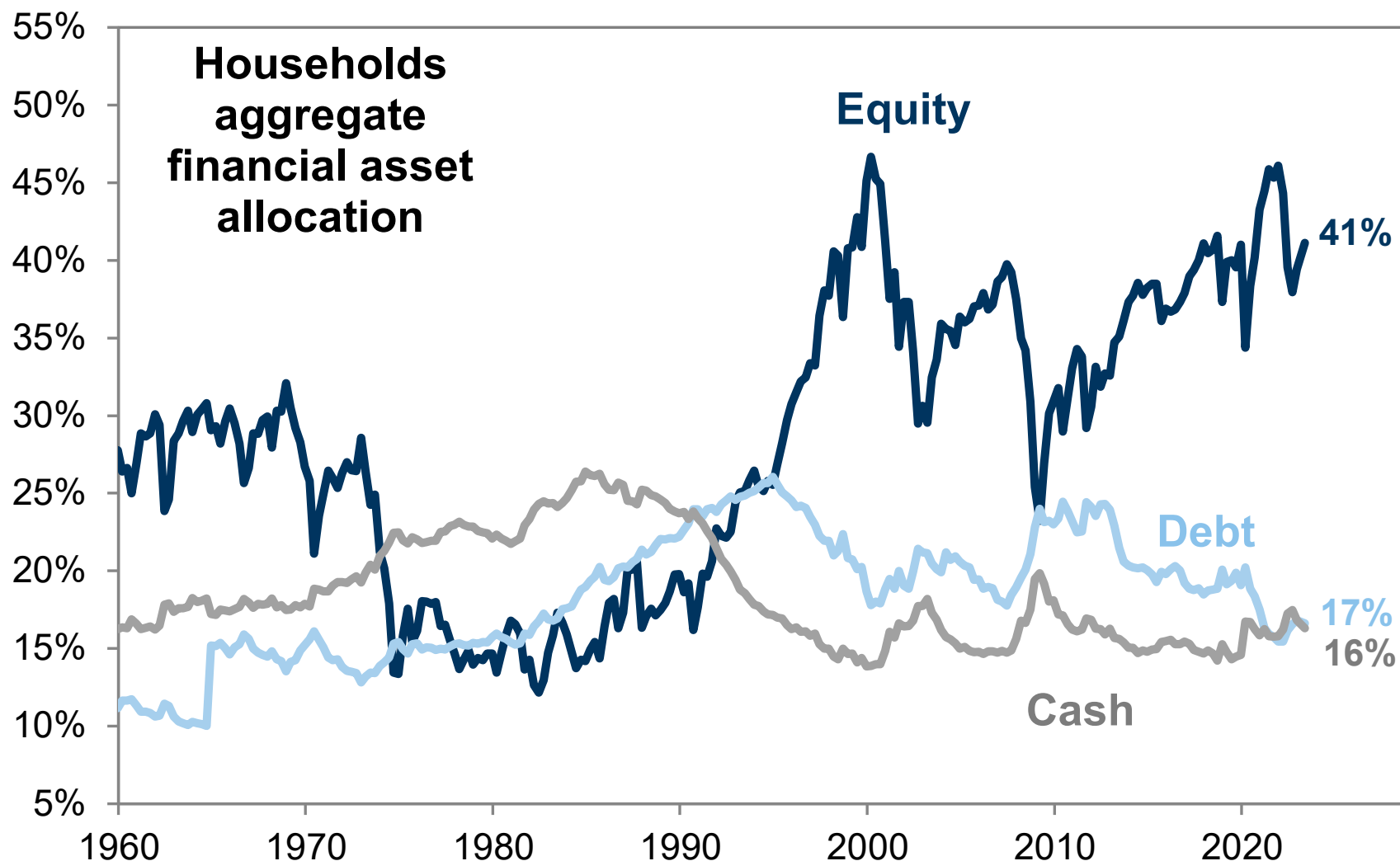
GS Portfolio Strategy net equity demand forecasts

We expect households will be sellers and foreign investors will be largest buyers

Category	Net US equity demand (\$ billions)				
	2019	2020	2021	2022	2023E
Foreign Investors	\$ (249)	\$ 669	\$ (83)	\$ 46	\$ 550
Corporations	481	(23)	330	668	350
Pension Funds	(149)	(128)	(246)	(181)	200
Mutual Funds	(219)	(481)	(317)	(389)	(150)
Households	292	599	802	480	(750)
Life Insurance	1	1	(80)	6	-
Other	(26)	(1)	(49)	29	-
<i>Included among holders above are:</i>					
Equity ETF net purchases	\$ 166	\$ 260	\$ 732	\$ 415	-
less					
Credit ETFs	156	241	203	195	300
US purchases of foreign stocks	(25)	396	155	466	(100)

Household allocations to equity remain elevated

Regime change from “TINA” to “TARA” supports household asset rotation



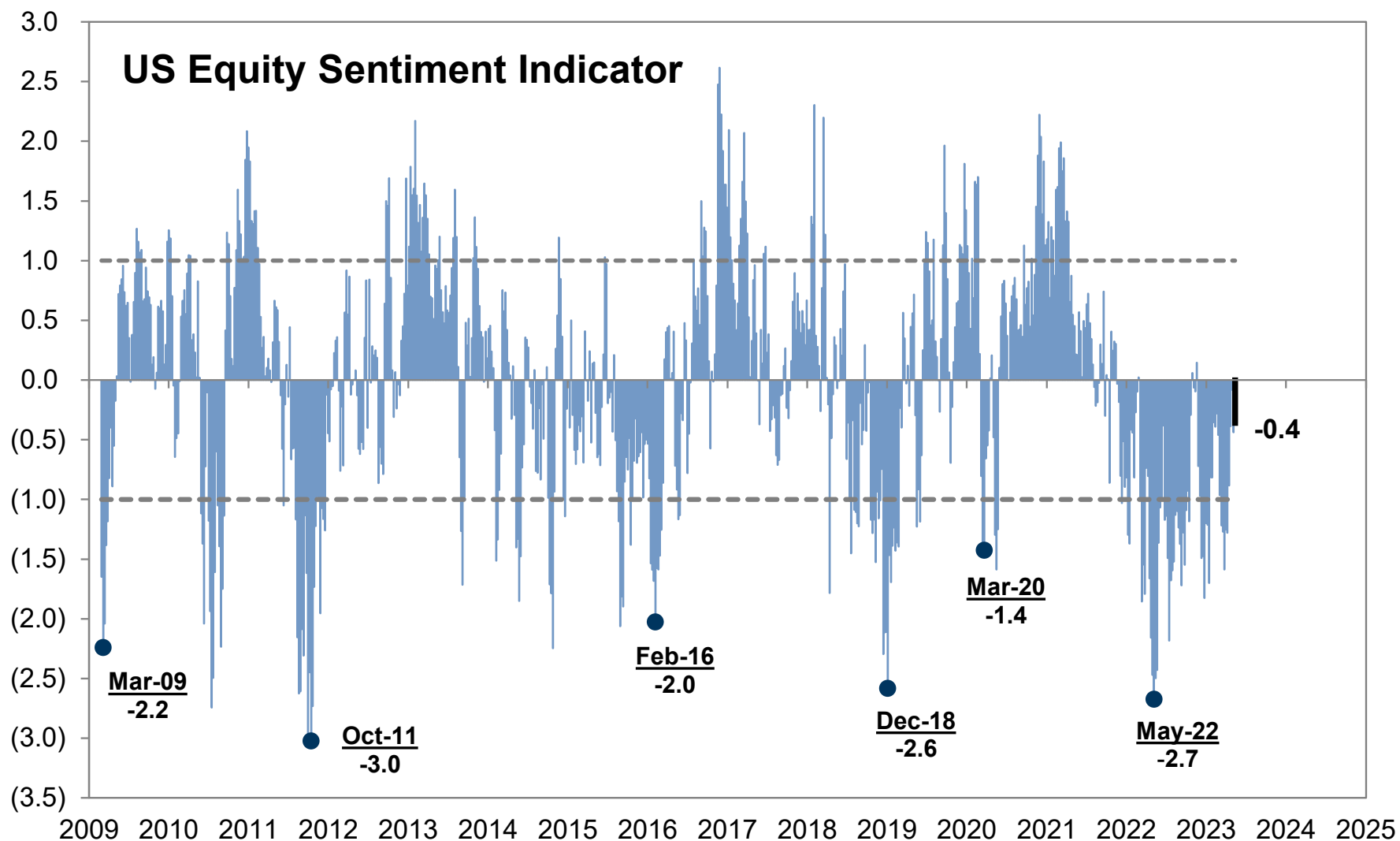
Equity allocations relative to history since 1952

Real money investor allocations to equities generally remain elevated

Holder	EQUITY		DEBT		CASH	
	% of total assets		% of total assets		% of total assets	
		%-ile		%-ile		%-ile
	Current	since '52	Current	since '52	Current	since '52
Pension funds	50 %	75 %	26 %	14 %	2 %	5 %
Households	41	95	17	45	16	36
Foreign investors	55	95	30	22	8	14
Mutual funds	52	40	22	60	24	62
Total	46 %	95 %	21 %	47 %	14 %	24 %

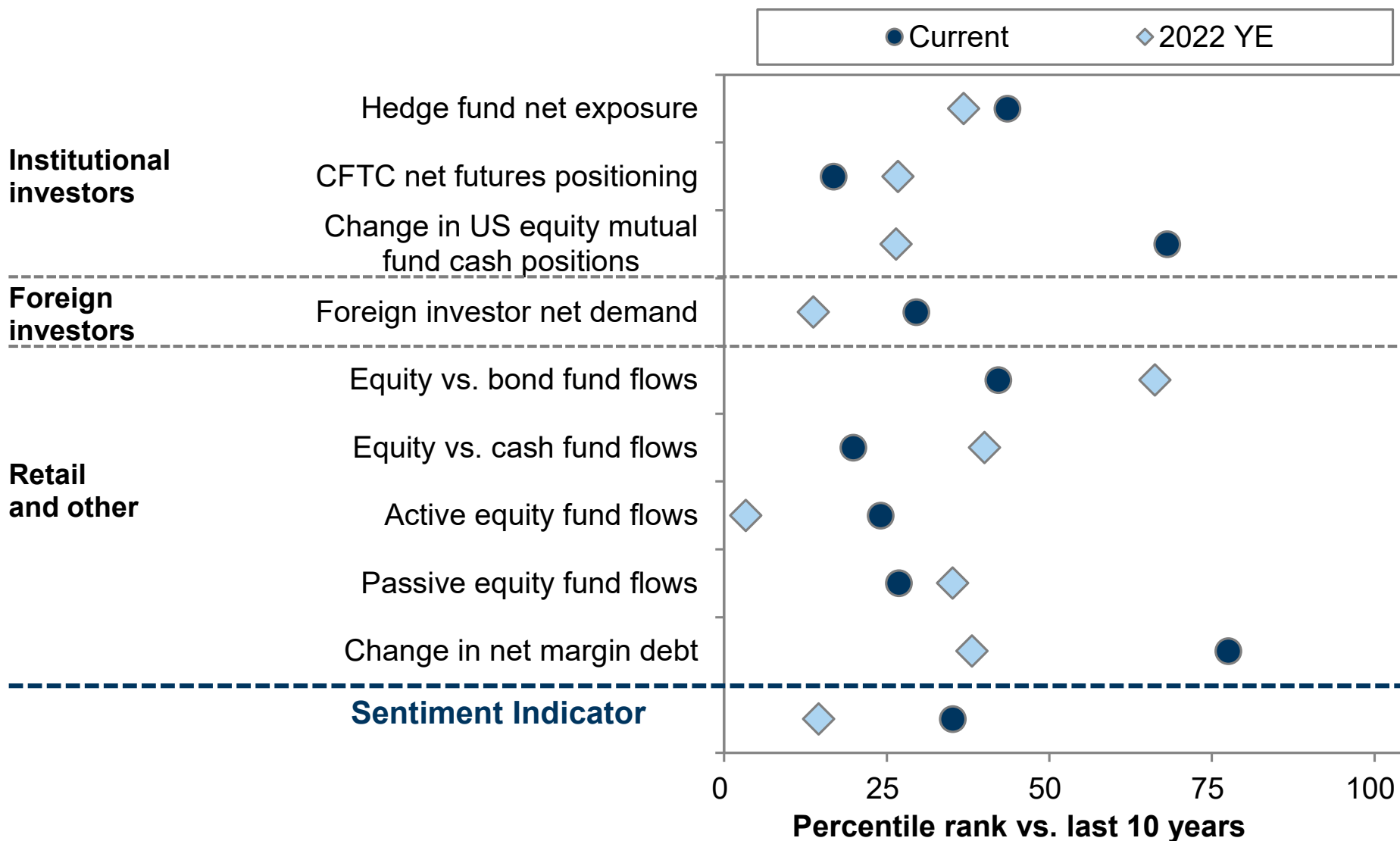
Sentiment Indicator remains below average

Investor positioning is slightly below average



Institutional positioning is light amid weaker flows

Retail investors have lightened positions and institutions have rotated into cash



2. Earnings – sales up, but margins down

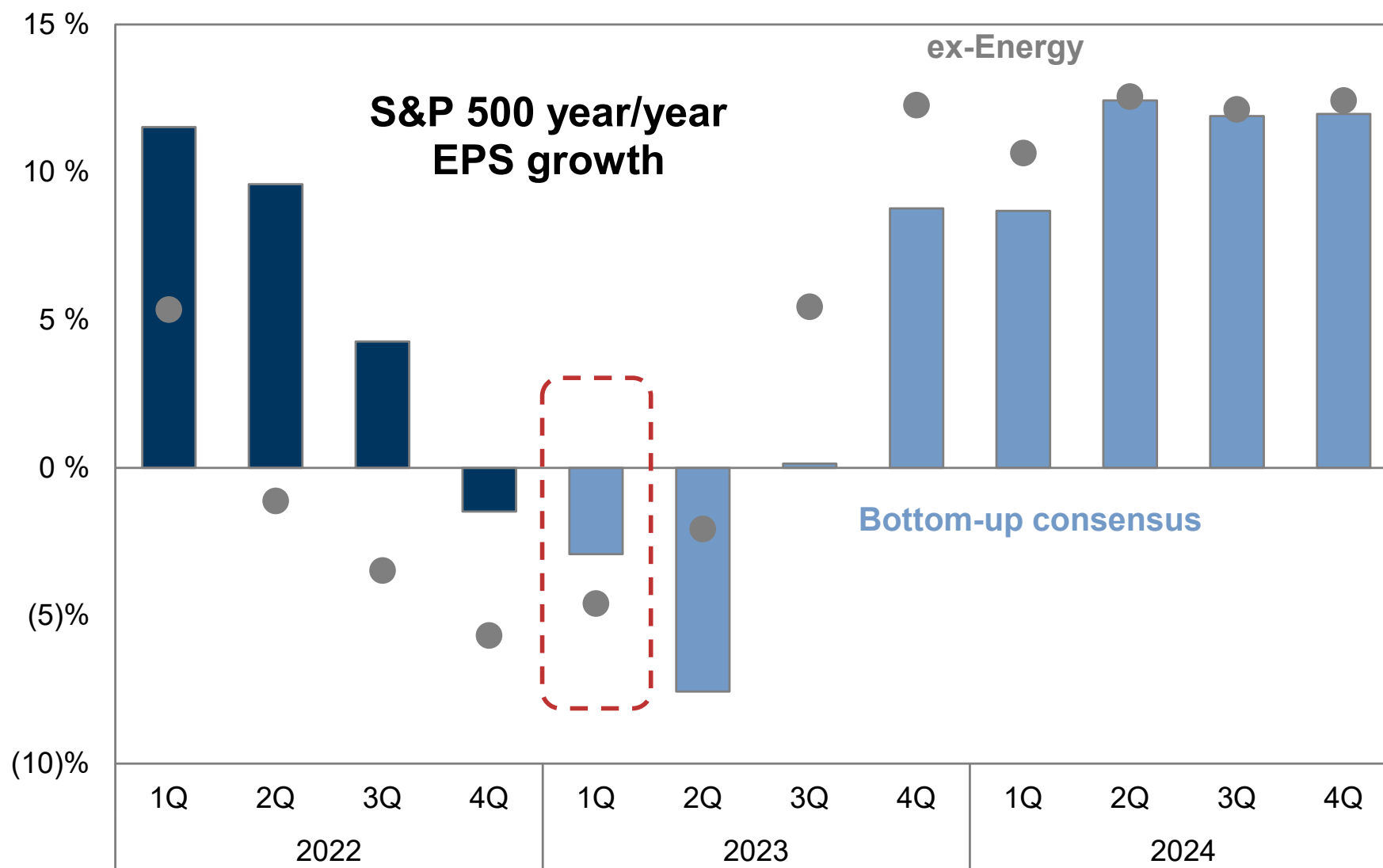
S&P 500 sales, margin, and EPS forecasts

Our 2023 EPS estimate is above consensus while our 2024 estimate is below

	2019	2021	2022	GS top-down		Cons. bottom-up	
				2023E	2024E	2023E	2024E
S&P 500 ex. Fin, RE, Utils							
<i>Sales growth</i>	4 %	17 %	13 %	4 %	4 %	2 %	3 %
Profit Margin	10.5%	11.8%	11.6%	11.3%	11.4%	11.0%	12.0%
<i>Year/Year growth</i>	(54)bp	244 bp	(21)bp	(36)bp	11 bp	(60)bp	96 bp
S&P 500 adjusted EPS	\$165	\$209	\$222	\$224	\$237	\$220	\$245
<i>Year/Year growth</i>	1 %	47 %	6 %	1 %	5 %	(1)%	11 %

Quarterly path of S&P 500 EPS growth: -3% in 1Q

Consensus expects year/year EPS growth will trough at -7% in 2Q 2023



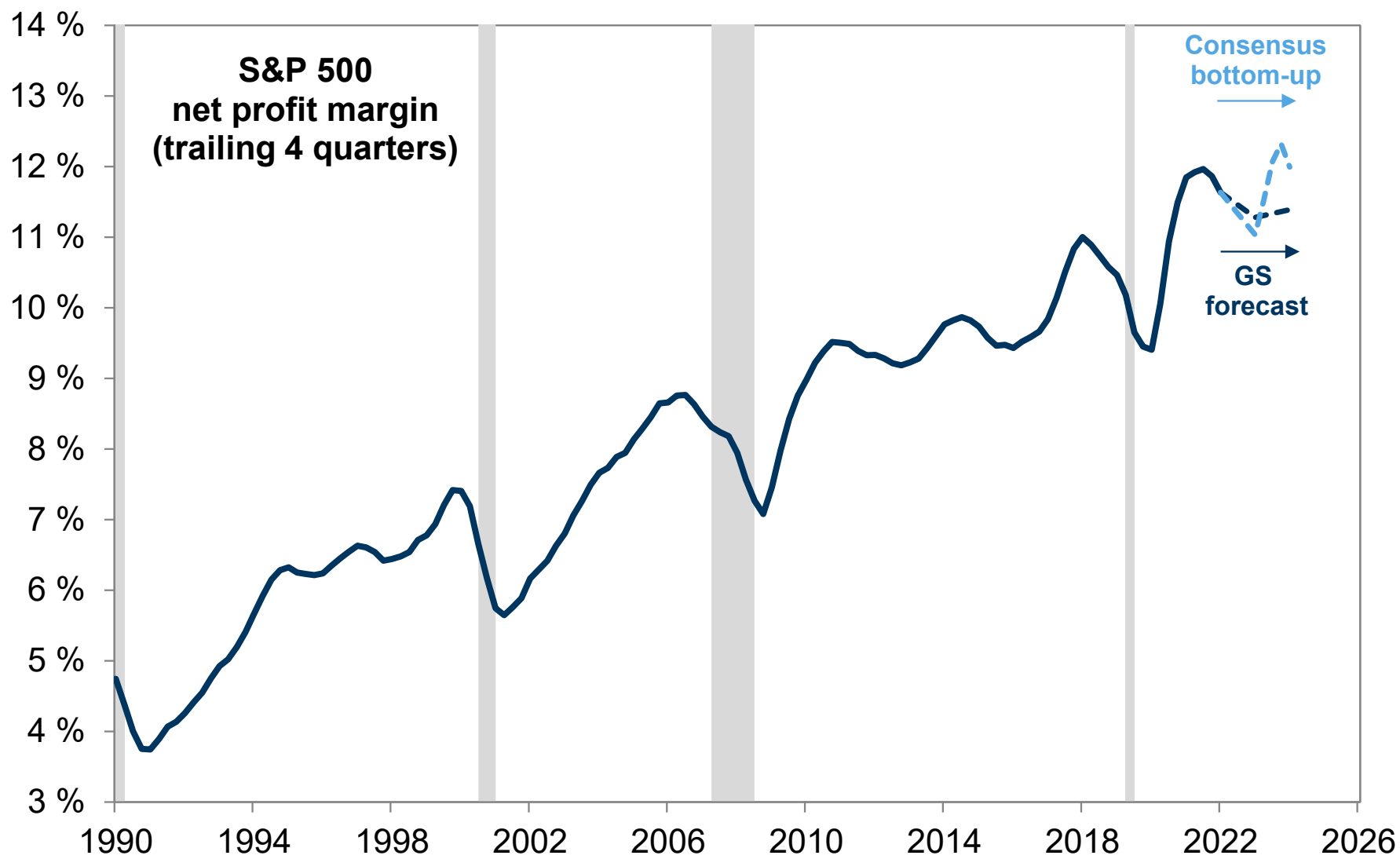
1Q 2023 consensus sales, earnings, and margins

S&P 500 EPS fell by 3% as sales rose by 4% but margins contracted by 99 bp

Sector	1Q 2023 bottom-up consensus (yr/yr)			
	EPS	Sales	Margin	
	Growth	Growth	Level	Change
Consumer Discretionary	23 %	9 %	6.7 %	77 bp
Industrials	20	7	9.2	94
Energy	17	(3)	12.7	217
Real Estate	7	NM	NM	NM
Financials	5	NM	NM	NM
Consumer Staples	1	11	6.4	(58)
Info Tech	(11)	(2)	22.4	(222)
Comm Services	(15)	(1)	13.2	(223)
Health Care	(16)	6	9.5	(248)
Utilities	(16)	NM	NM	NM
Materials	(21)	(3)	11.3	(258)
S&P 500	(3)%			
<i>ex. Financials and Utilities</i>	(4)	4 %	10.9 %	(99)bp
<i>ex. Energy</i>	(5)			
<i>ex. Energy, Fins, and Utils</i>	(7)	5	10.7	(138)

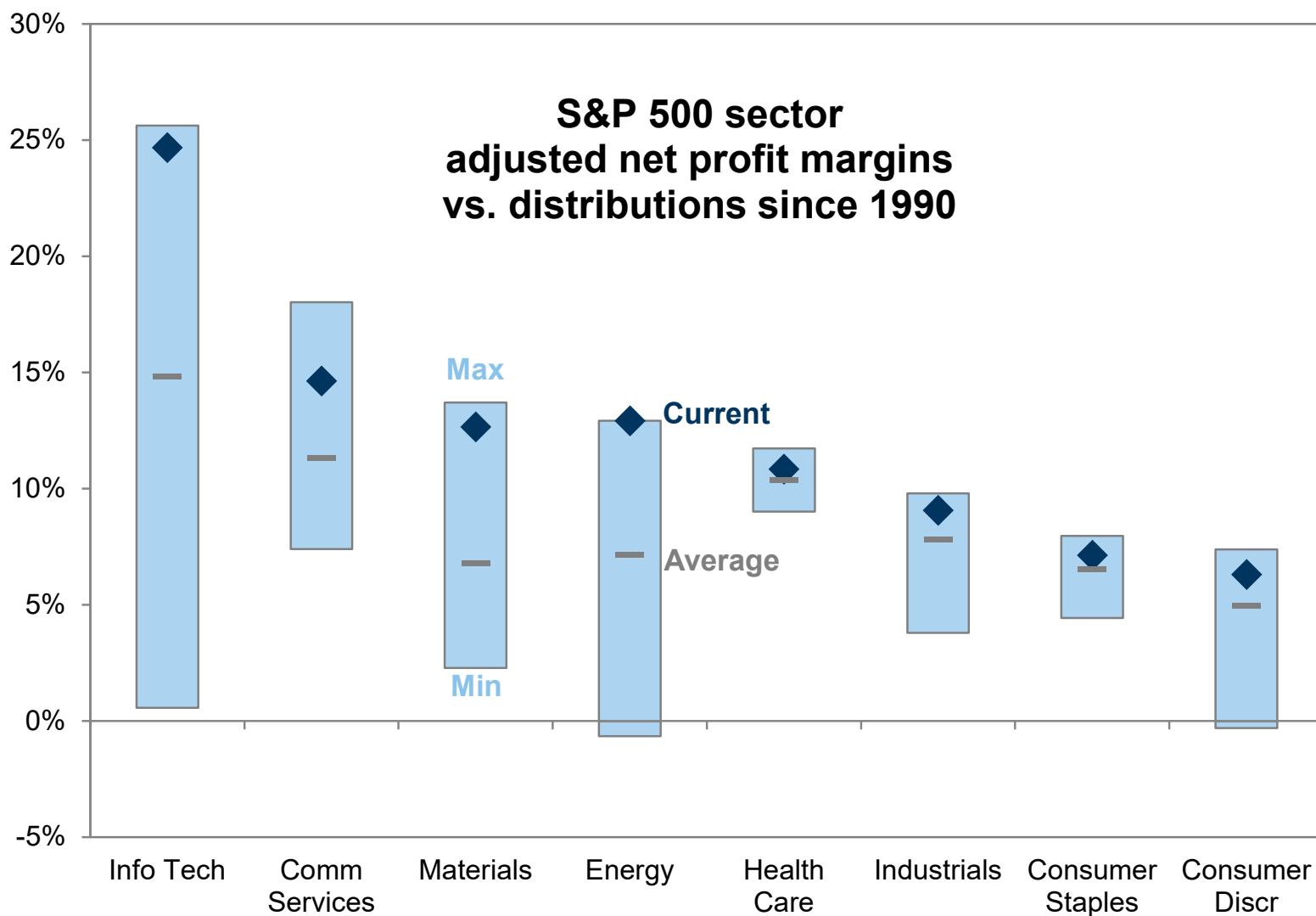
Margin forecasts: Goldman Sachs vs. consensus

We expect S&P 500 net profit margin to contract to 11.3% in 2023



Margins close to historical highs for most sectors

Tech sector has highest margins (25%); Energy has highest vs. its own history



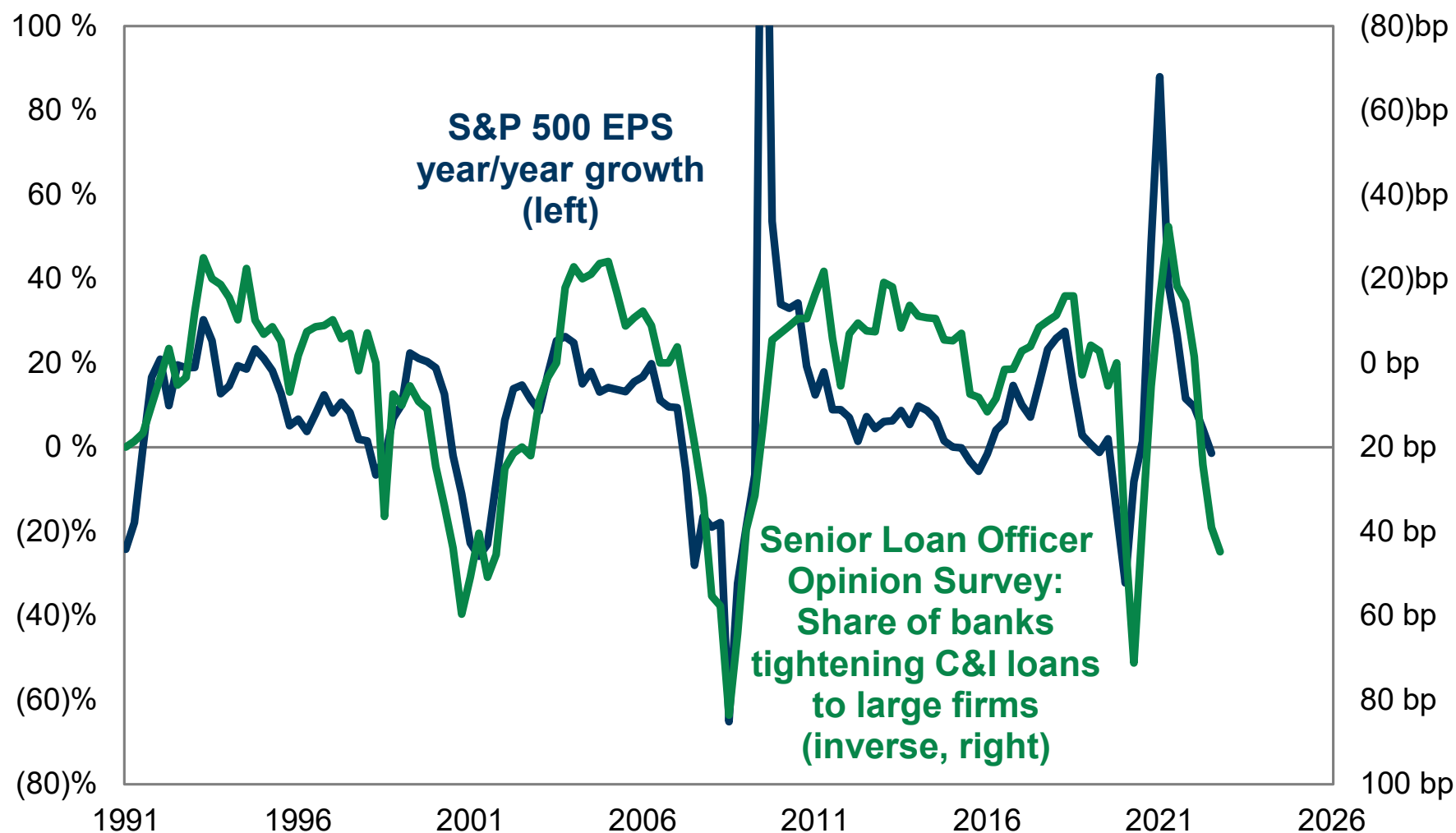
Margin forecasts: Goldman Sachs vs. consensus

Potential revisions to consensus EPS and GS baseline and recession scenarios

Sector	2022A	GS Top-Down				Cons. Bottom-Up			
		Margin		Change		Margin		Change	
		2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E
Information Technology	23.5 %	23.2 %	23.4 %	(31)bp	18 bp	22.8 %	24.5 %	(75)bp	178 bp
Communication Services	13.3	14.7	14.8	140	14	14.4	15.9	113	148
Materials	12.6	12.1	12.0	(53)	(2)	10.9	12.8	(173)	197
Energy	13.2	11.9	11.7	(130)	(23)	11.2	11.0	(205)	(16)
Industrials	9.6	10.0	10.0	39	0	10.2	12.5	59	236
Health Care	10.9	9.7	9.8	(116)	7	9.4	9.7	(148)	28
Consumer Staples	6.7	6.8	6.8	9	5	6.6	6.9	(14)	38
Consumer Discretionary	6.6	6.7	6.7	14	0	7.2	7.9	61	71
S&P 500	11.6 %	11.3 %	11.4 %	(36)bp	11 bp	11.0 %	12.0 %	(60)bp	96 bp
S&P 500 ex. Energy	11.4 %	11.2 %	11.4 %	(21)bp	15 bp	11.0 %	12.1 %	(39)bp	110 bp

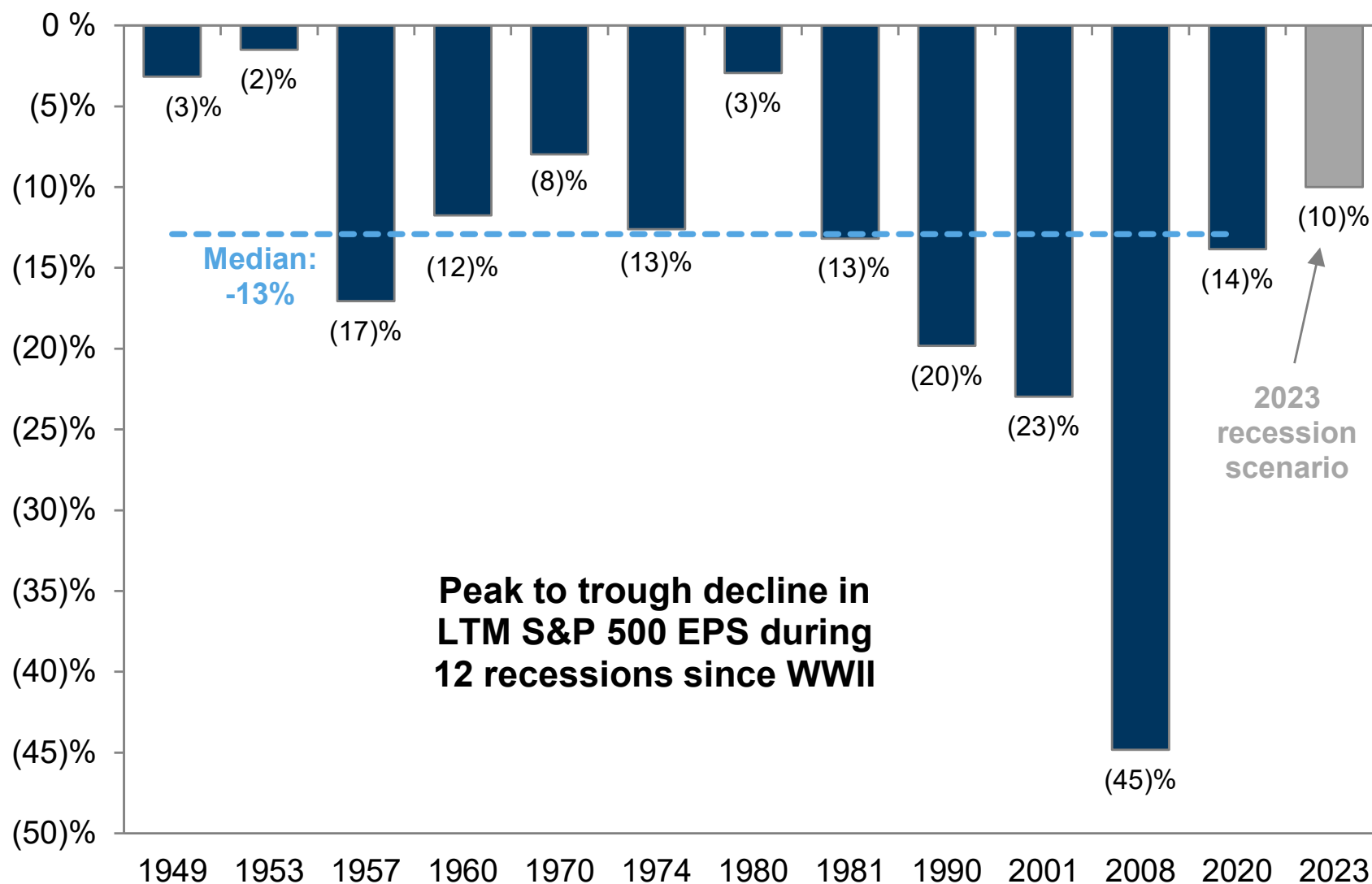
EPS growth and tightening credit standards

Recent lending tightening could pose downside risk to our estimates



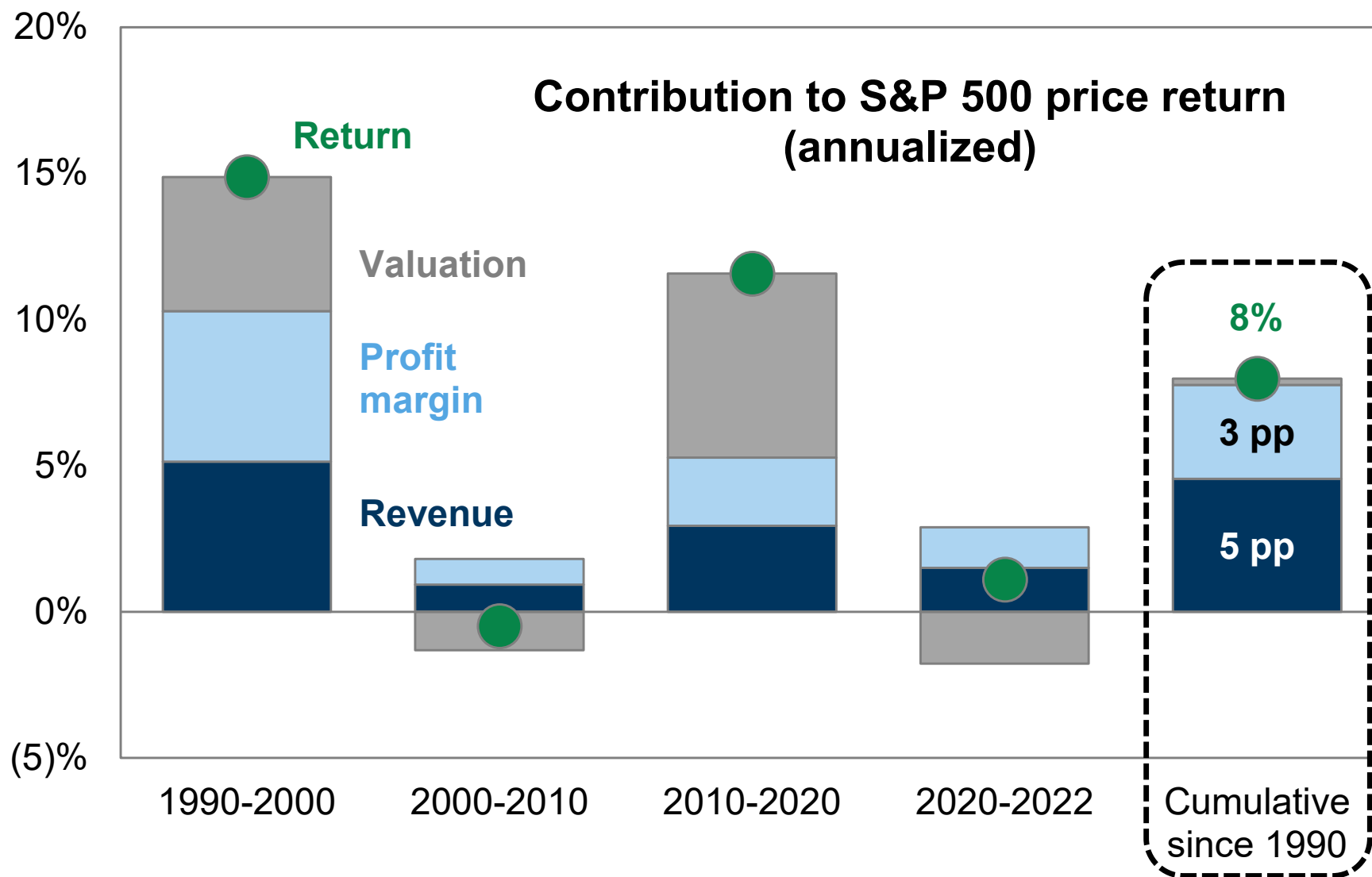
Peak to trough decline in earnings during recessions

S&P 500 EPS typically falls by -13% during historical recessions



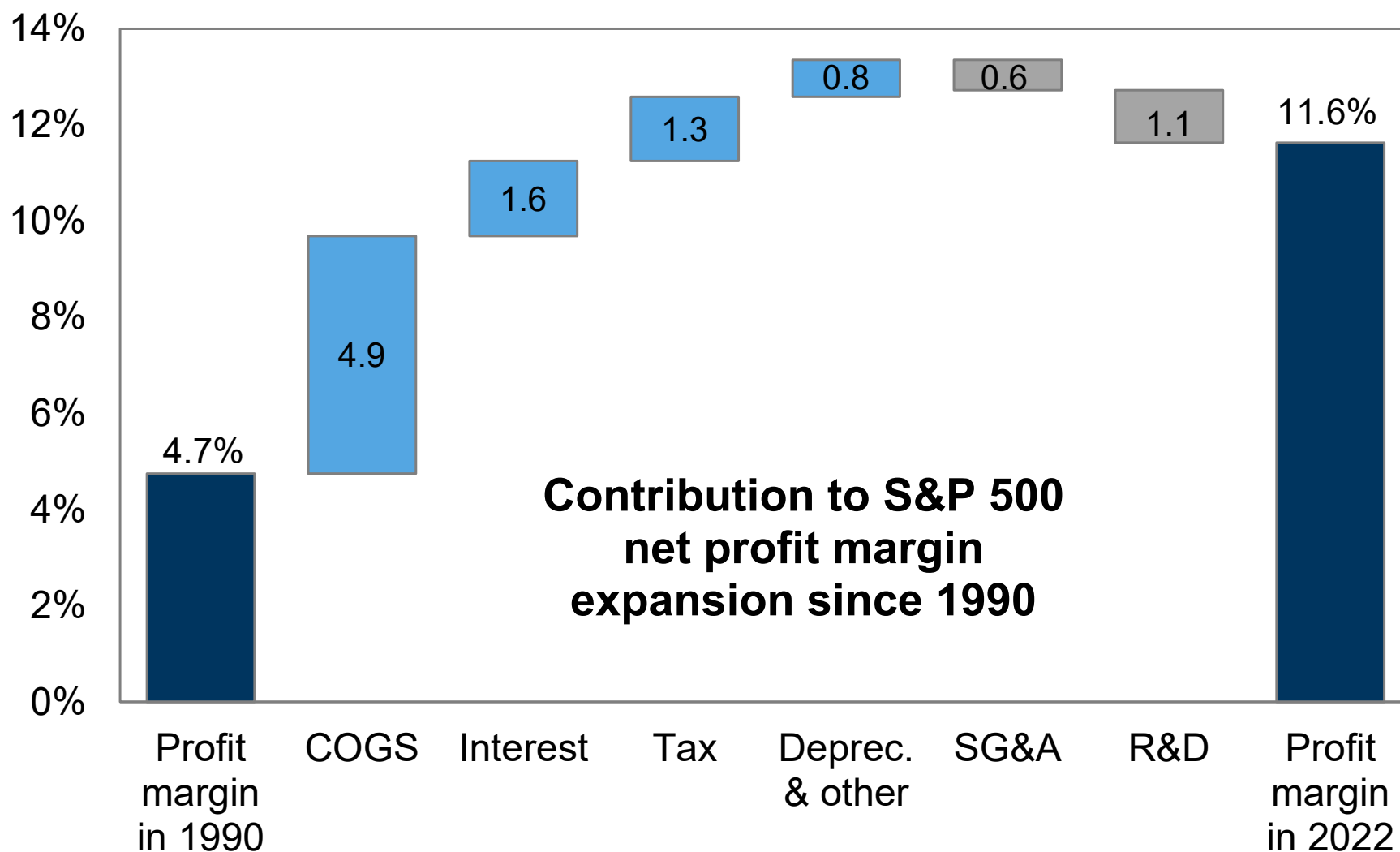
Contribution to S&P 500 price return

Margin expansion has accounted for 40% of S&P 500 price gains since 1990



Drivers of S&P 500 profit margin expansion

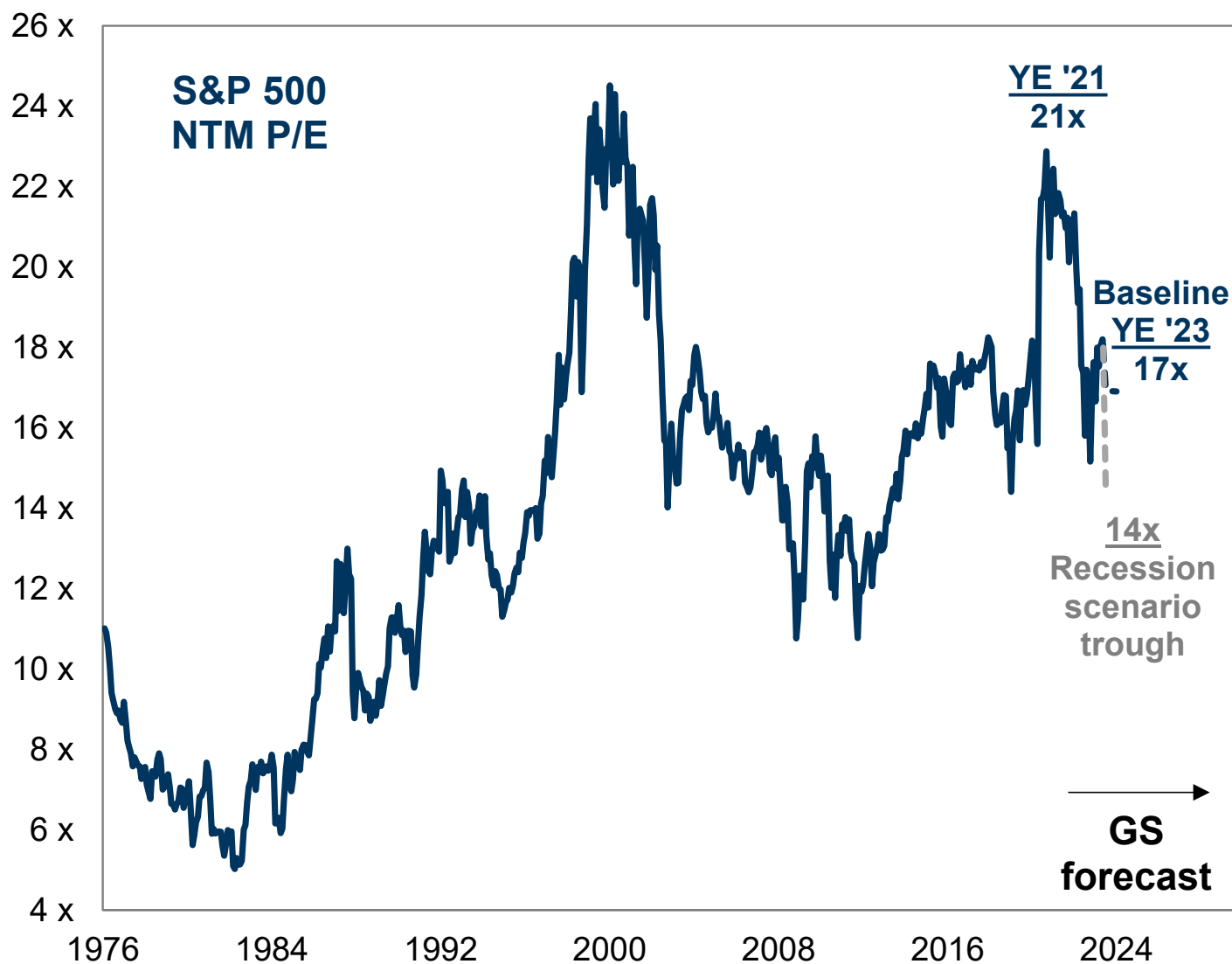
Decline in COGS accounted for 70% of S&P 500 margin expansion since 1990



3. Valuation – P/E at 85th percentile vs. history

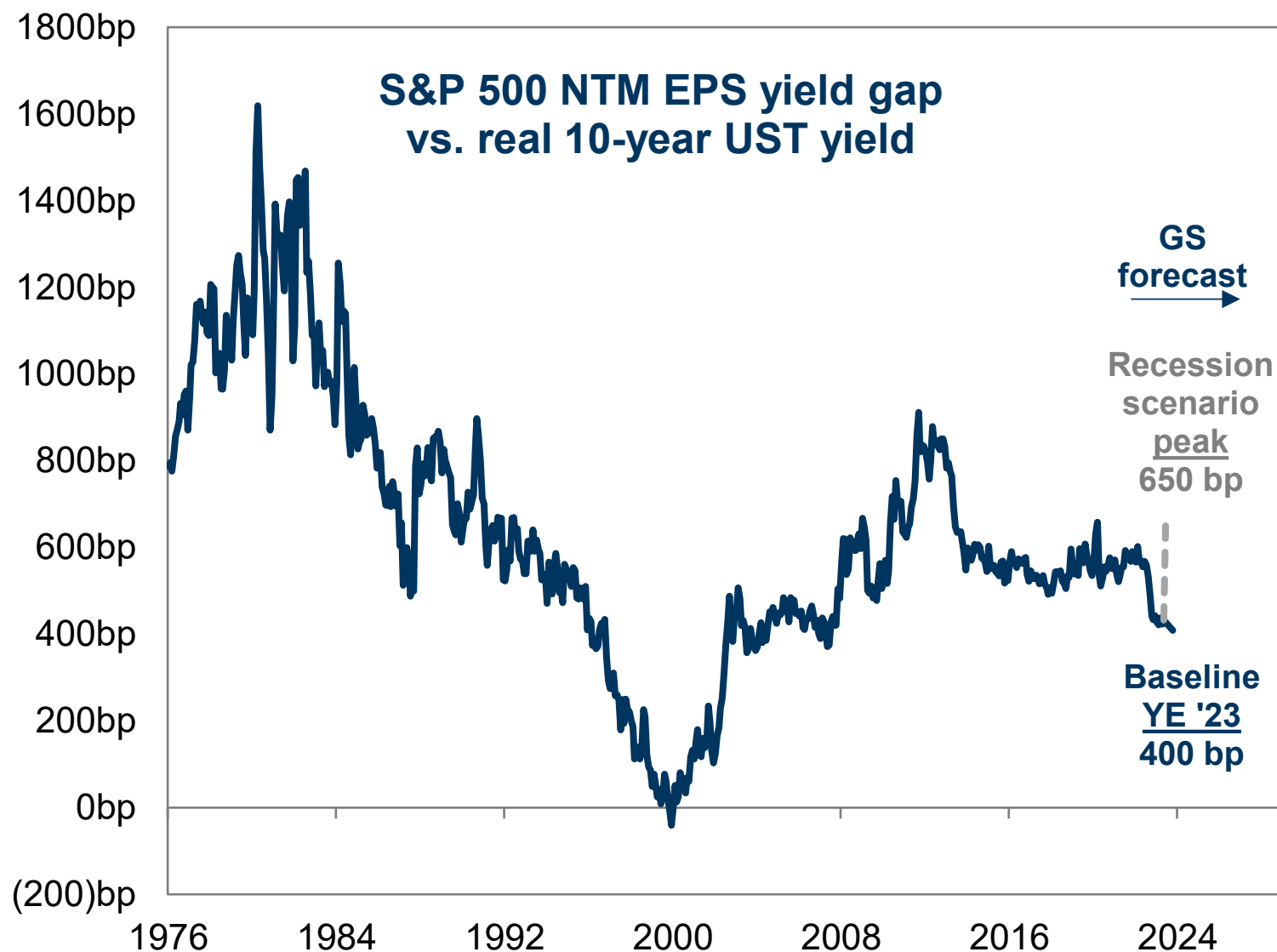
S&P 500 P/E fell from 21x to 15x, before rising to 18x

We expect the forward P/E multiple will end 2023 at 17x (79th percentile)



S&P 500 EPS yield gap vs. real 10-year UST yield

We expect yield gap will narrow modestly to 400 bp (85th percentile valuation)



Absolute and relative valuation for S&P 500

P/E ranks at 85th percentile vs. history; real yield gap at the 80th percentile

Valuation metric	Aggregate index	
	Current	Historical %ile
US market cap / GDP	219 %	96 %
EV / sales	2.5 x	95
Price / book	4.1 x	90
EV / EBITDA	12.7 x	89
Forward P/E	18.2 x	85
Cash flow yield (CFO)	6.6 %	85
Cyclically adjusted P/E (CAPE)	25.8 x	81
Free cash flow yield	3.8 %	59
Median absolute metric		87 %
Yield gap vs. real 10-year UST	426 bp	80
Yield gap vs. IG	33 bp	78
Yield gap vs. 10-year UST	211 bp	54
Median relative metric		78 %

S&P 500 earnings and valuation scenarios at YE 2024

In our baseline scenario earnings rise by 5% and PE contracts to 17x

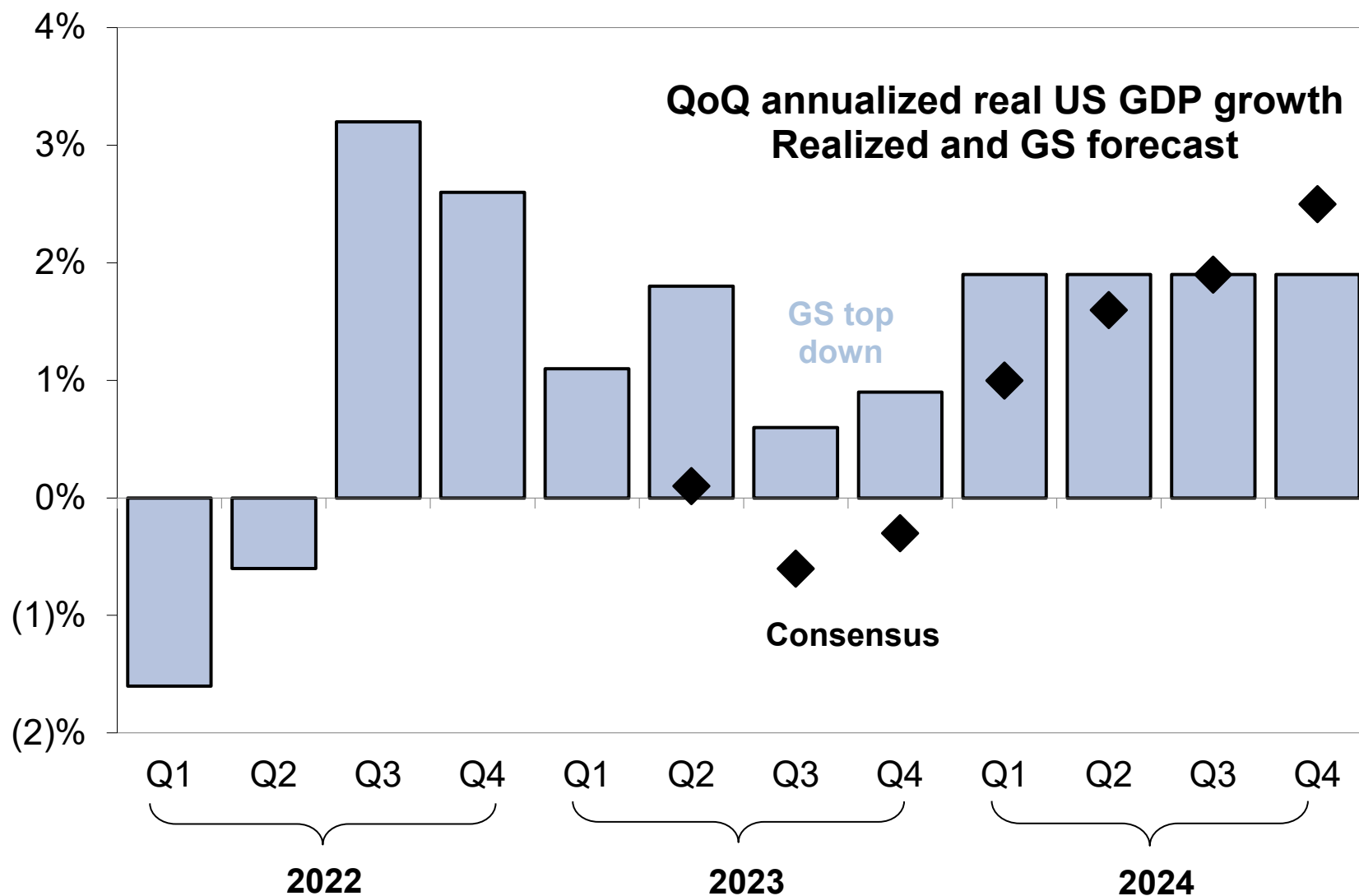
2024 EPS scenarios

			Consensus	GS baseline	
			\$245 (+11%)	\$237 (+5%)	\$220 (-2%)
<i>y/y growth</i>					
Forward P/E		20x	4900	4750	4400
	Feb. '20	19x	4650	4500	4200
	Current	18x	4400	4250	3950
		17x	4150	4000	3750
		16x	3900	3800	3500
		15x	3700	3550	3300
		14x	3450	3300	3100
	Mar. '20	13x	3200	3100	2850
		12x	2950	2850	2650

4. Economic growth – slow, but still positive

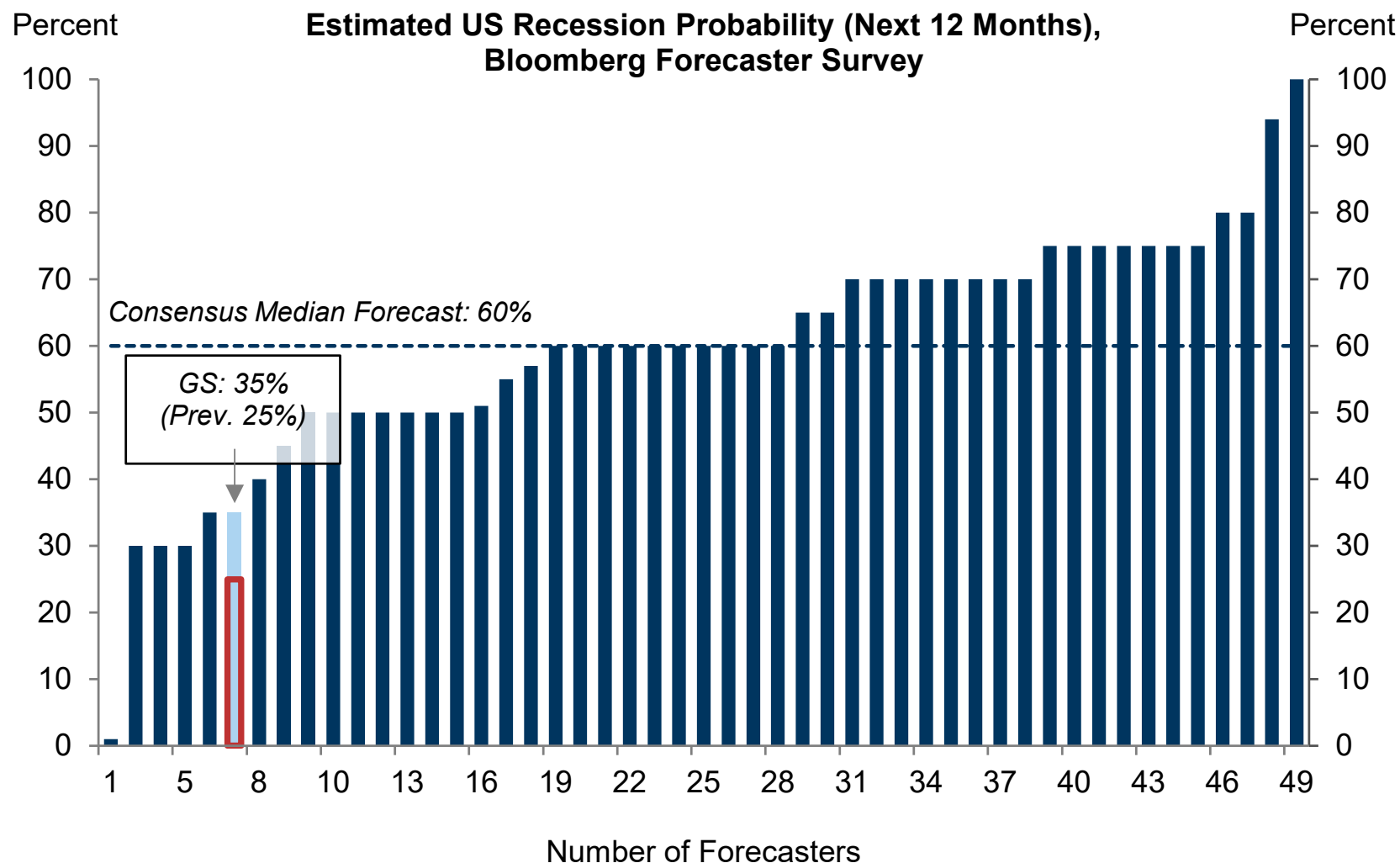
US economic outlook: Slowdown but no recession

The debate: Goldman Sachs (soft landing) vs. Consensus (hard landing)



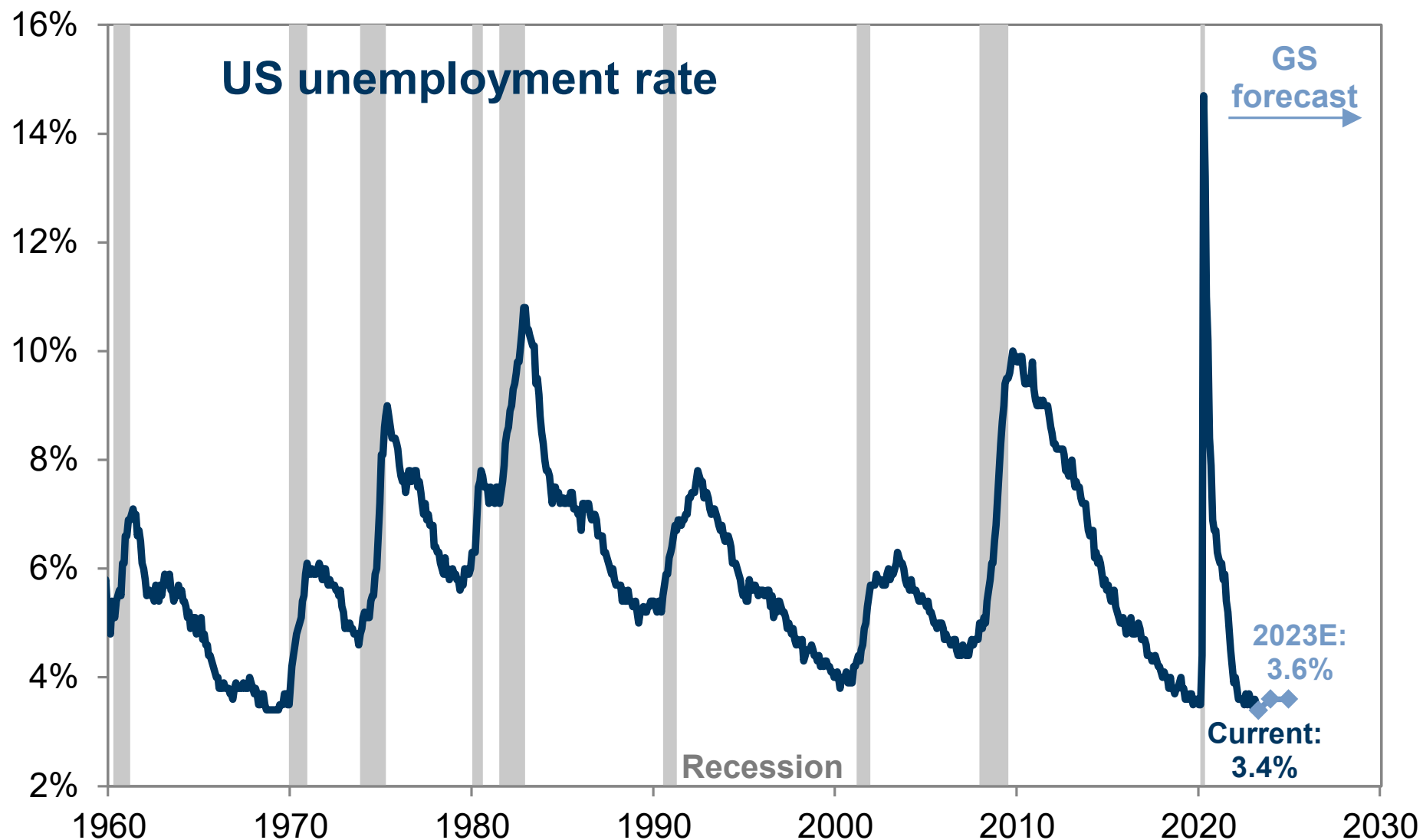
GS Economics assigns just 35% odds of recession

The median forecaster assigns a 60% likelihood of recession



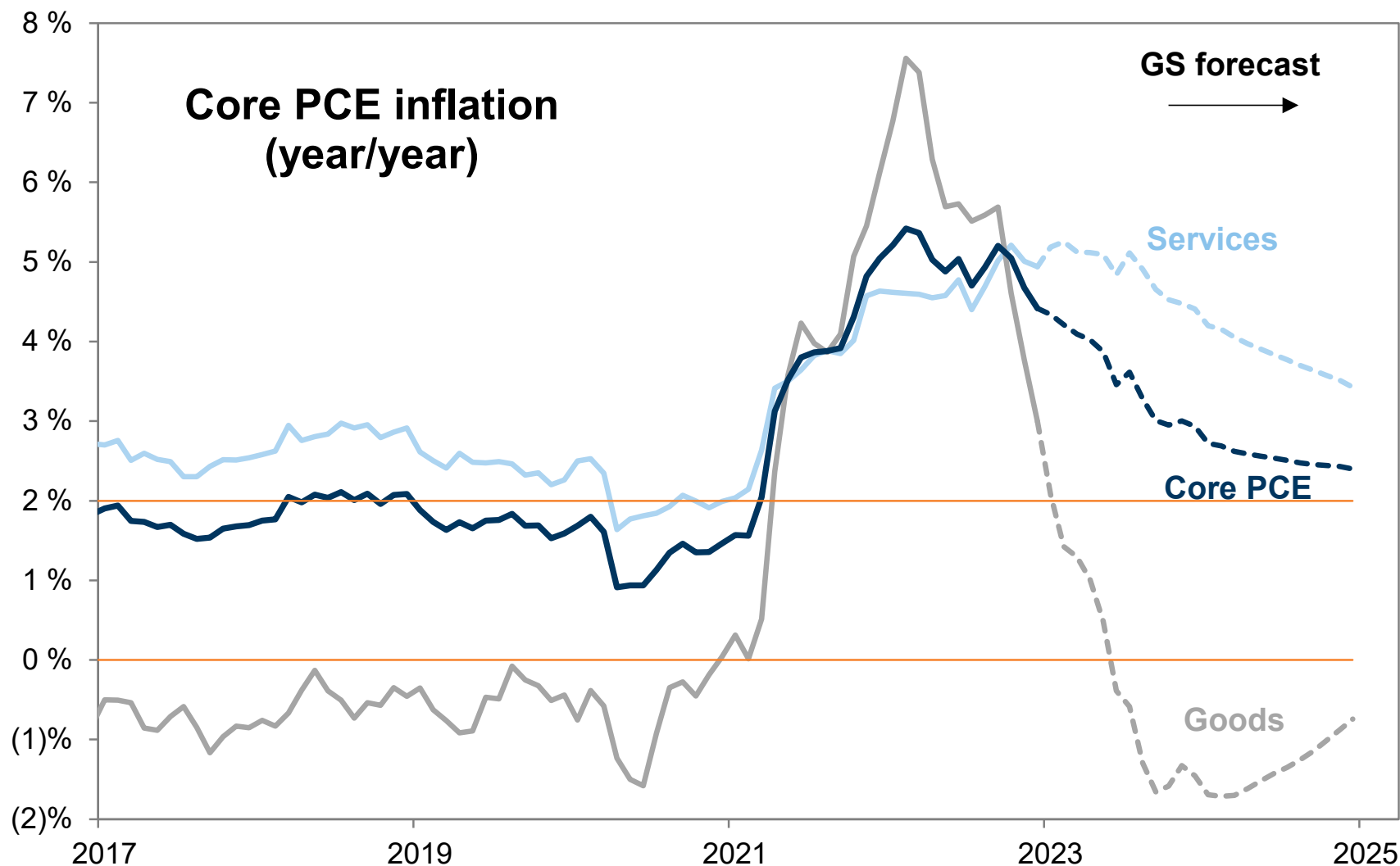
GS Economics assigns just 35% odds of recession

Unemployment rate remains historically low, and is expected to rise to 3.6%



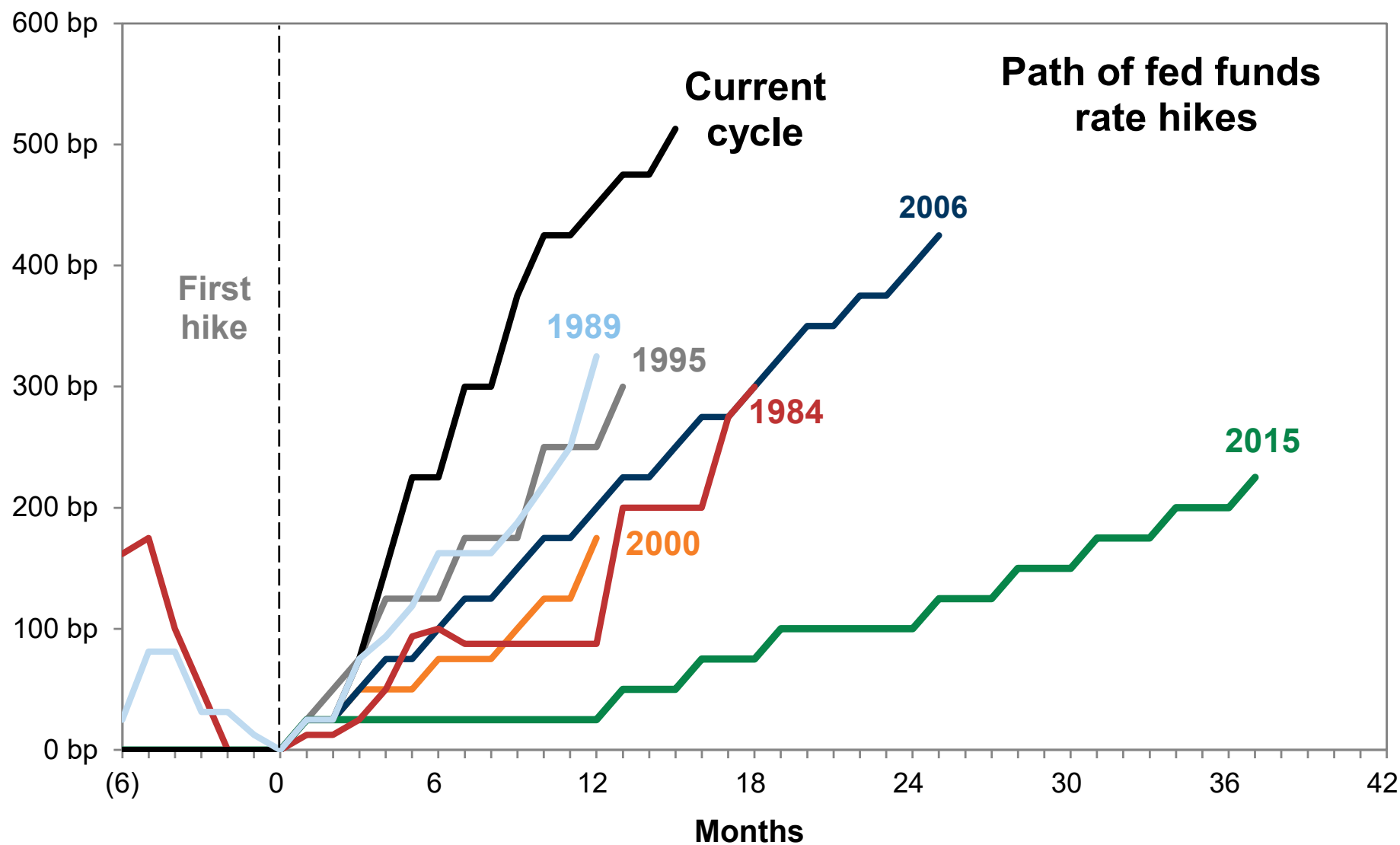
GS Economics expects core PCE will decelerate

Goods inflation decelerating sharply while Services inflation remains elevated



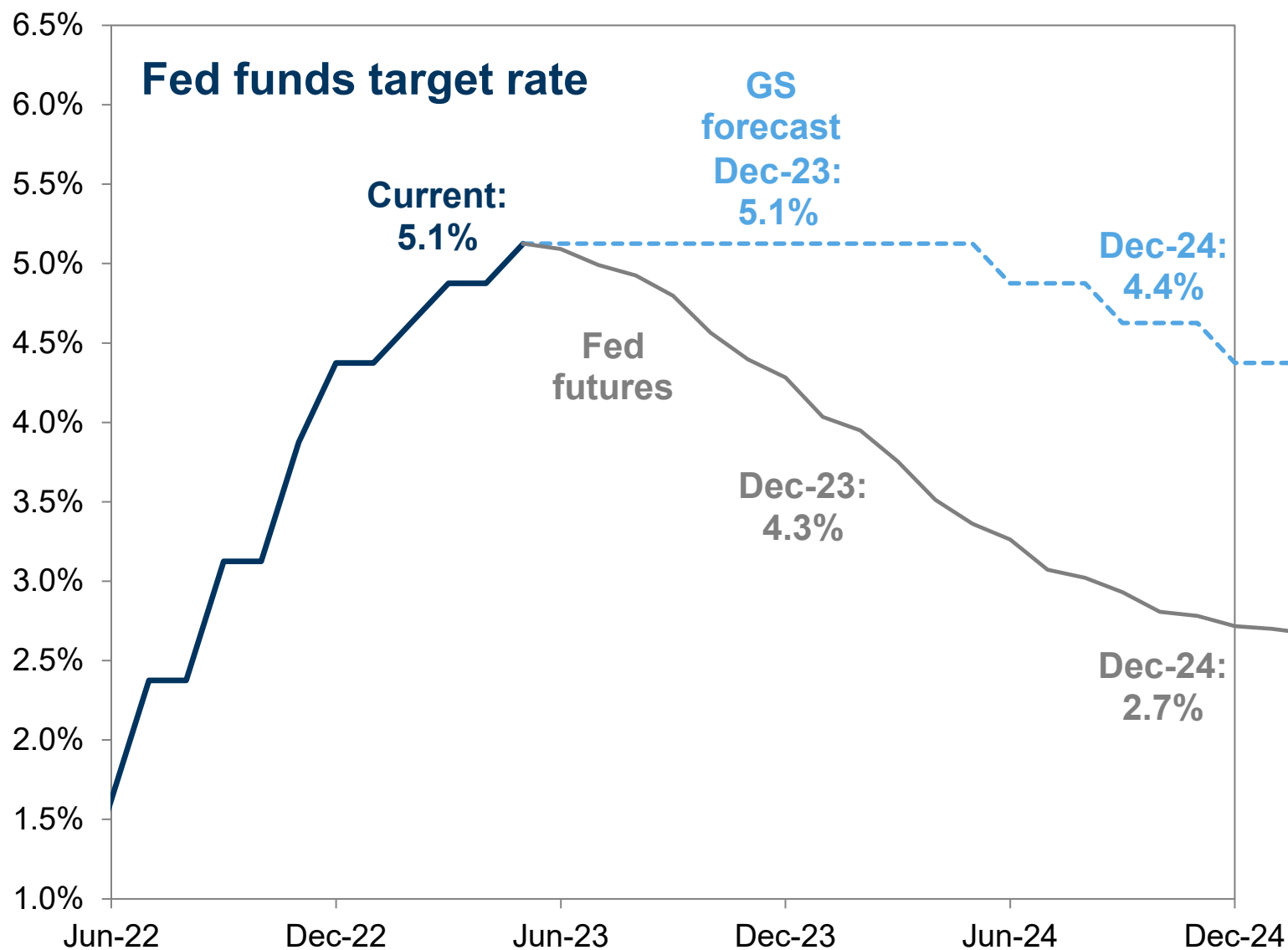
Path of fed funds during previous hiking cycles

Pace and magnitude of current tightening cycle are fastest in history



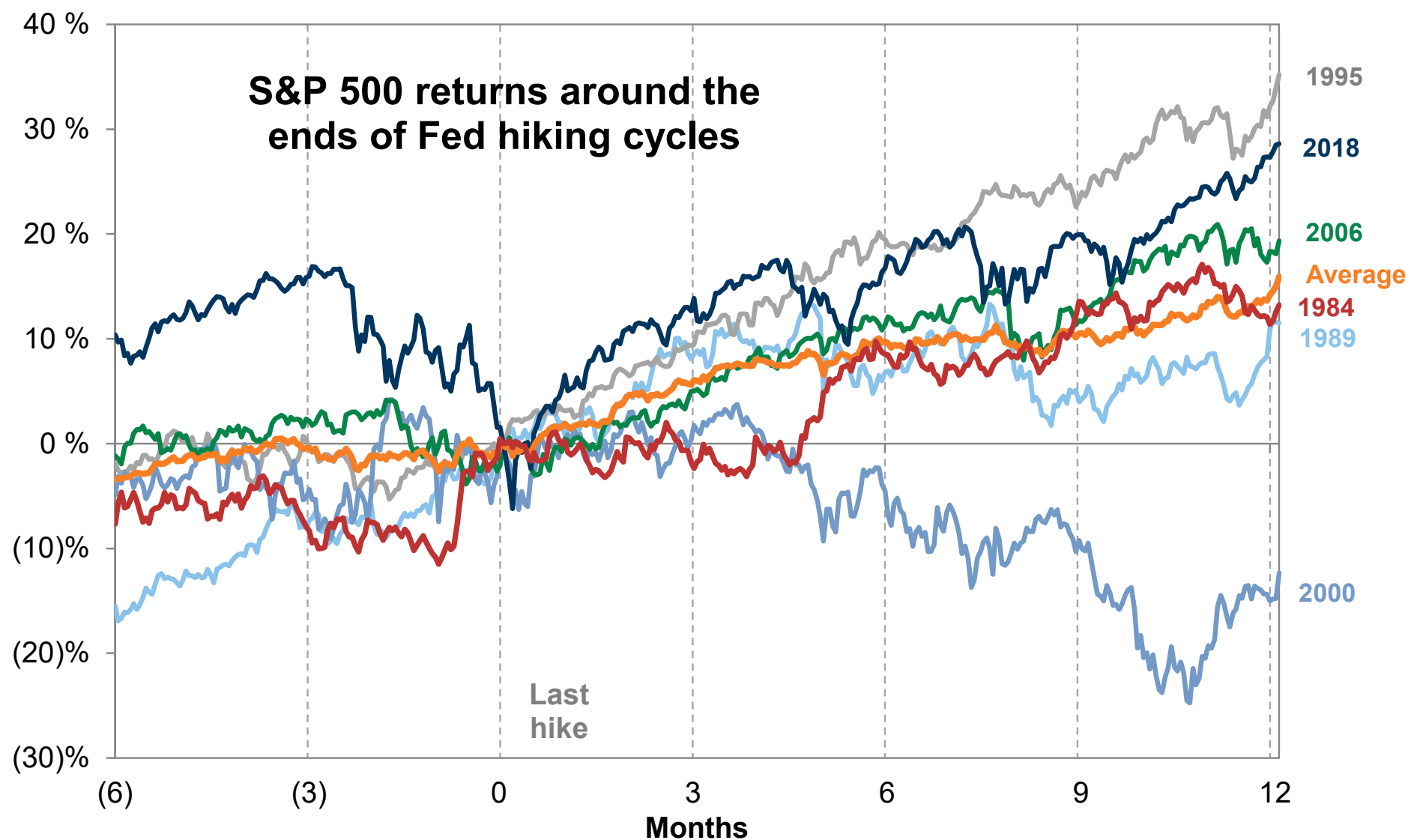
Fed futures implies rates peak in May and fall in 2H

On March 7th, ~100 bp of net *hikes* through year-end vs. ~80 bp of net *cuts* today



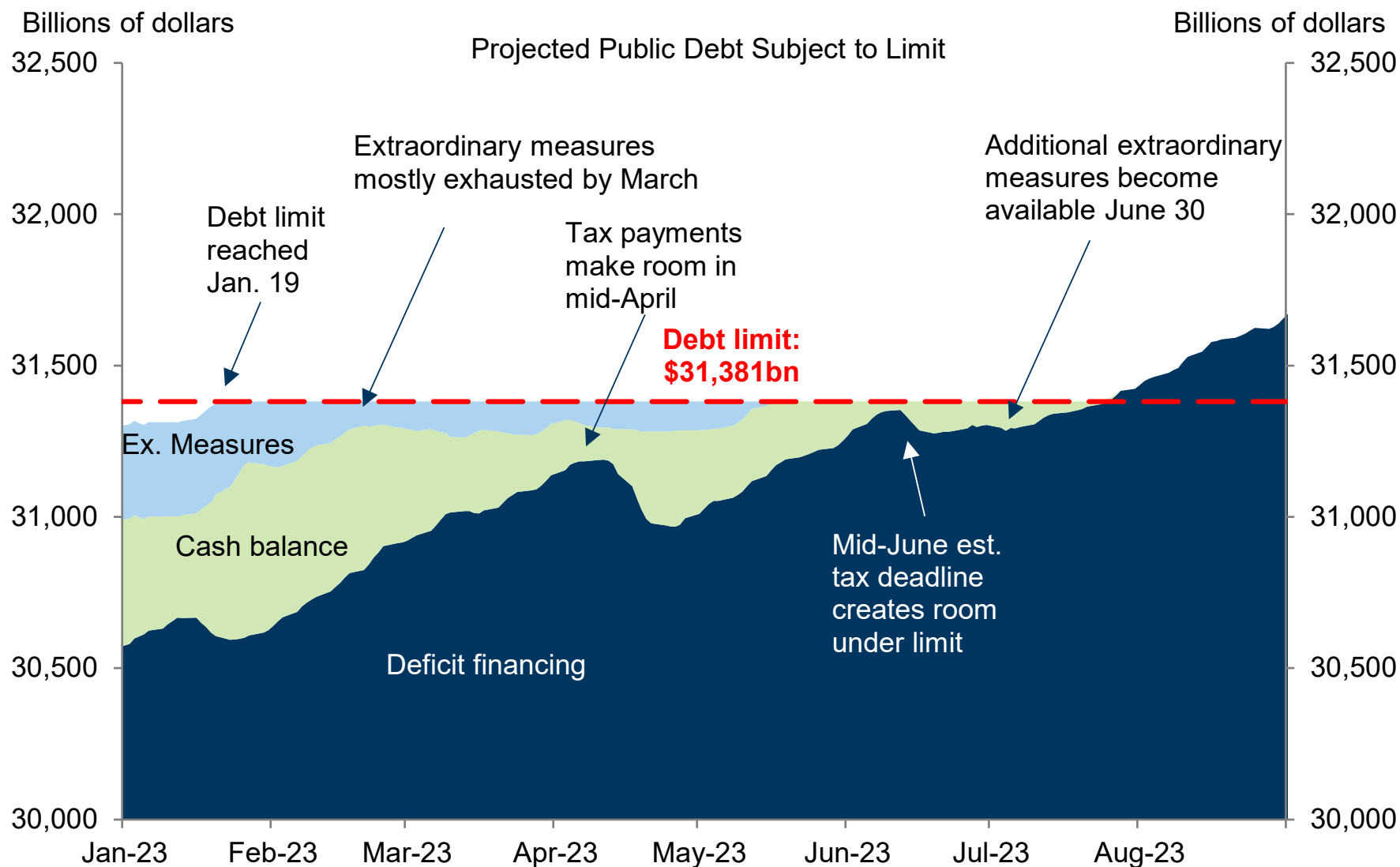
S&P 500 performance at end of Fed hiking cycles

Index typically rallied by 16% during the 12 months following the last Fed hike



US debt ceiling may be reached by early June

Our economists believe a federal government shutdown is possible this summer



S&P 500 fell 17% during the 2011 debt ceiling crisis

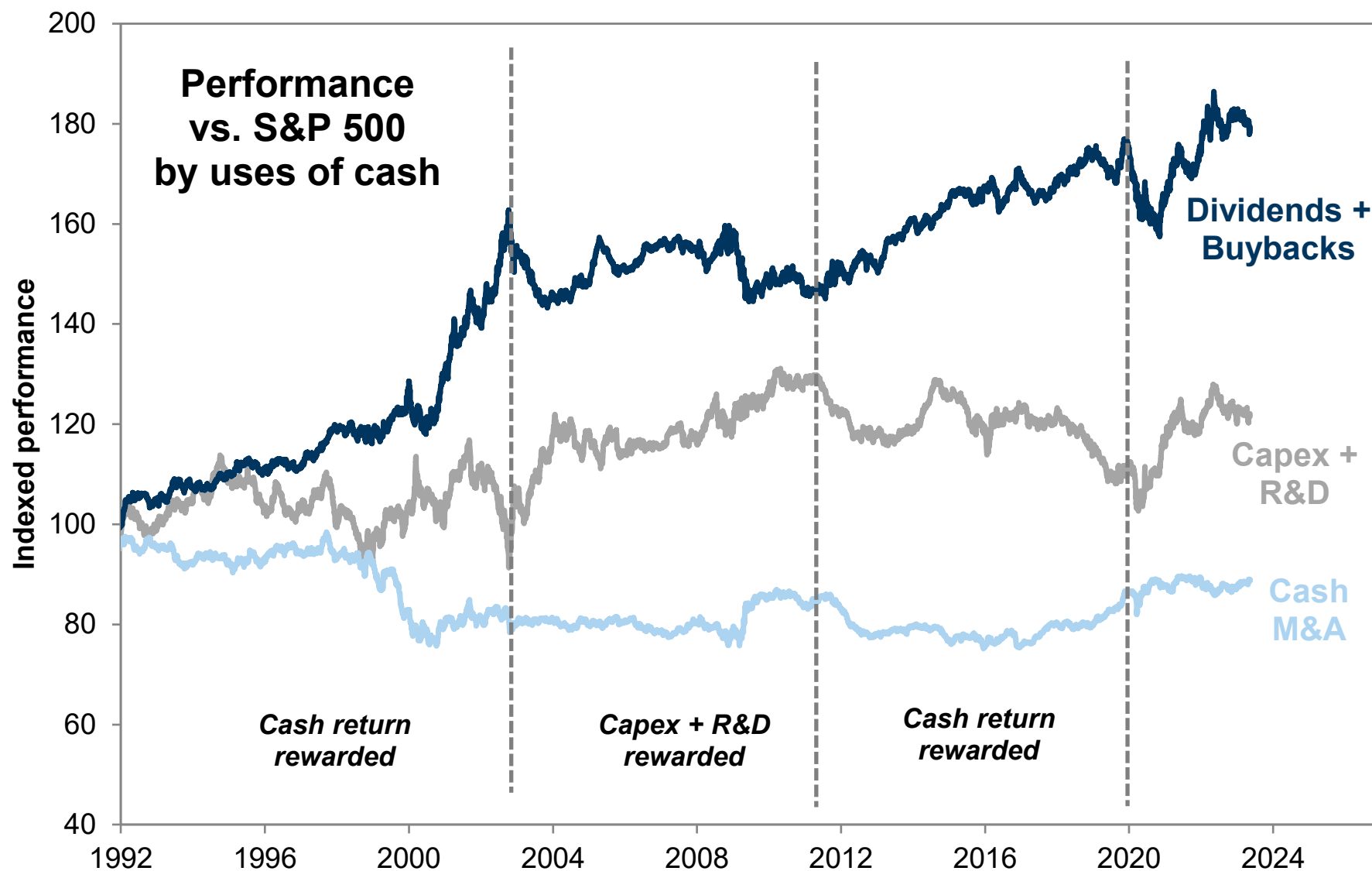
Stocks with greatest sales exposure to US federal spending plunged by 25%

Debt ceiling episode	Equity peak to trough drawdown		VIX		Rise in 1m T-Bill yield (bp)
	Gov't exposure basket		Rise (pts)	Peak level	
	S&P 500	(GSRHGOVT)			
1995-96	(3)%	NA	6	21	NA
2011	(17)	(25)	32	48	16
2013	(4)	(2)	7	20	34
2015	(2)	(4)	6	20	10
2021	(4)	(8)	14	31	6
Median	(4)%	(6)%	7	27	13 bp
Average	(6)	(10)	13	29	17

5. Corporate use of cash – buyback pullback

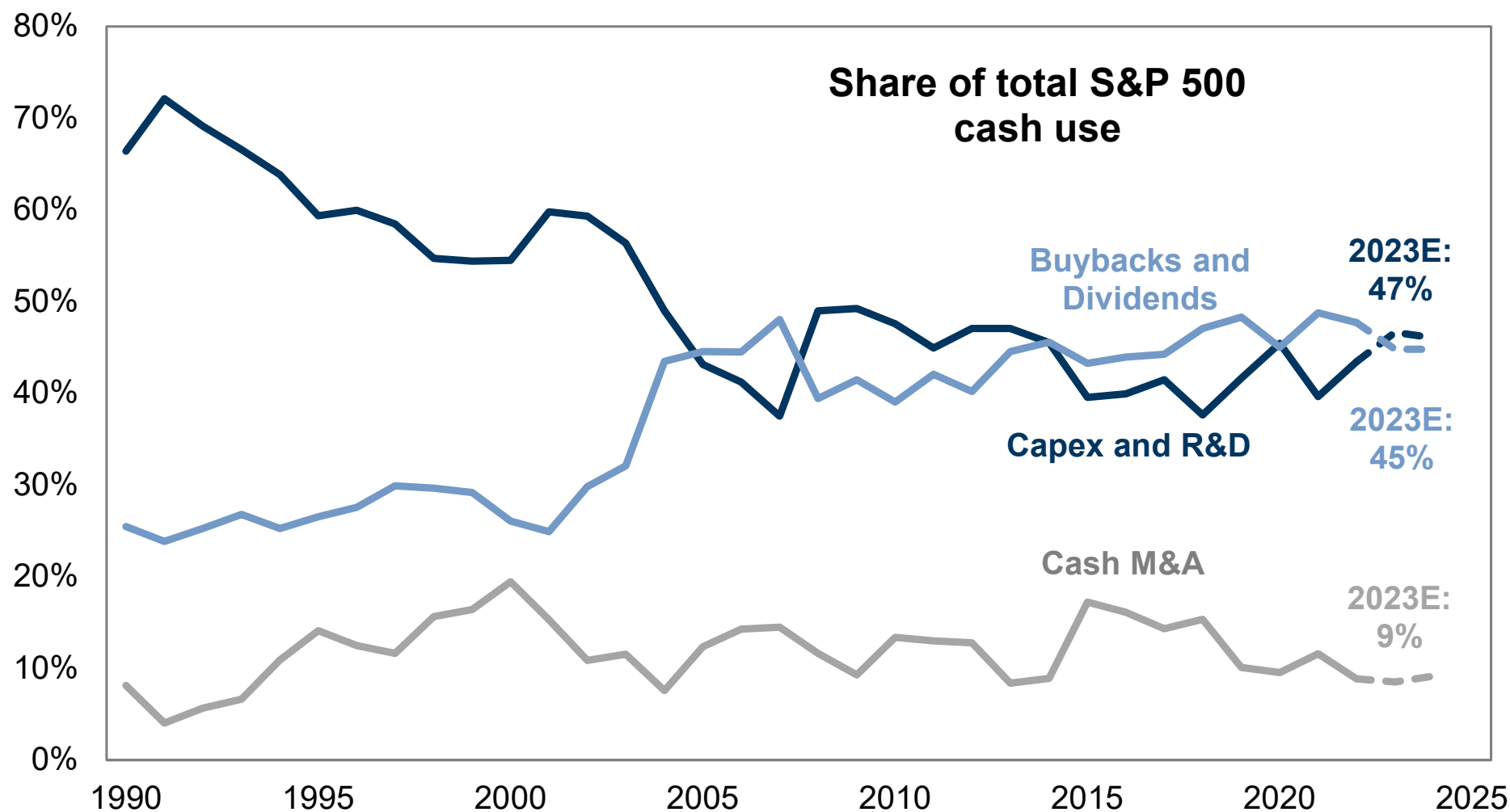
How investors reward various uses of cash

Stocks spending the most on buybacks and dividends have outperformed



Buybacks & dividends will comprise 45% of cash use

Capex and R&D will account for 47% of total cash spending in 2023



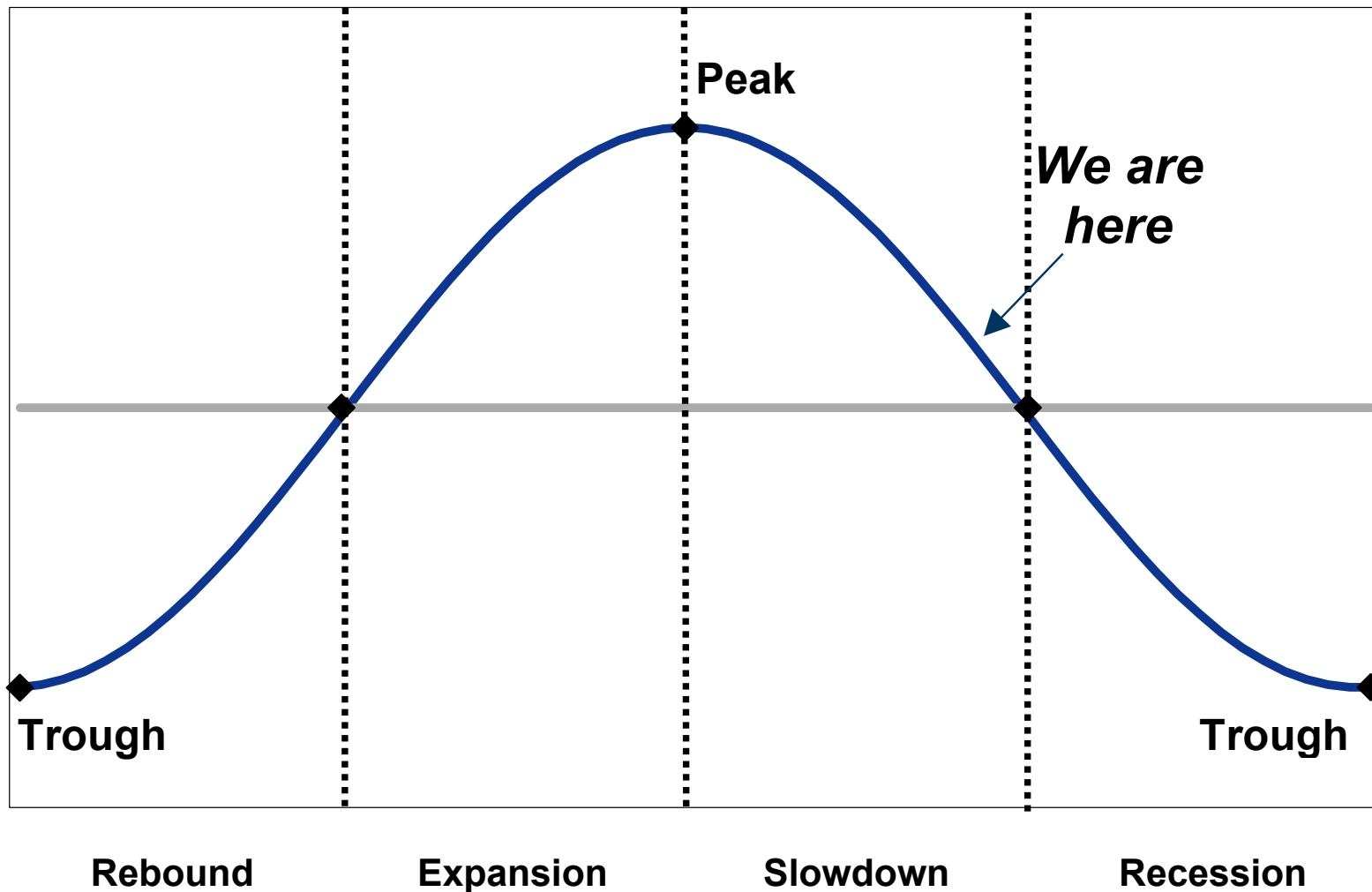
How S&P 500 firms will spend \$3 trillion in cash

We expect buybacks & dividends will account for 45% of cash use in 2023

Cash Use (\$ billion)	2020	2021	2022	2023E	2024E
Capital Expenditures	\$667	\$739	\$892	\$936	\$992
Share Buybacks	538	919	950	808	889
Dividends	520	548	598	628	654
R&D	401	453	518	559	593
Cash Acquisitions	224	349	288	273	314
Total Cash Use	\$2,351	\$3,007	\$3,246	\$3,205	\$3,441
% year/year growth					
Capital Expenditures	(9)	11	21	5 %	6 %
Share Buybacks	(28)%	71 %	3 %	(15)	10
Dividends	1	5	9	5	4
R&D	12	13	14	8	6
Cash Acquisitions	(15)	56	(17)	(5)	15
Total Cash Use	(10)%	28 %	8 %	(1)%	7 %

The economic cycle

Decomposing the economic cycle into four stages



Economic cycle and how cash spending is rewarded

Investors reward balance sheet strength, returning cash late in the economic cycle

Median relative performance of stocks during the economic cycle

	Rebound	Expansion	Slowdown	Recession
Balance Sheet Strength	✗	✗	✓	✓
Returning Cash to Shareholders	=	✓	✓	=
Investing for Growth	✓	✓	✗	✗

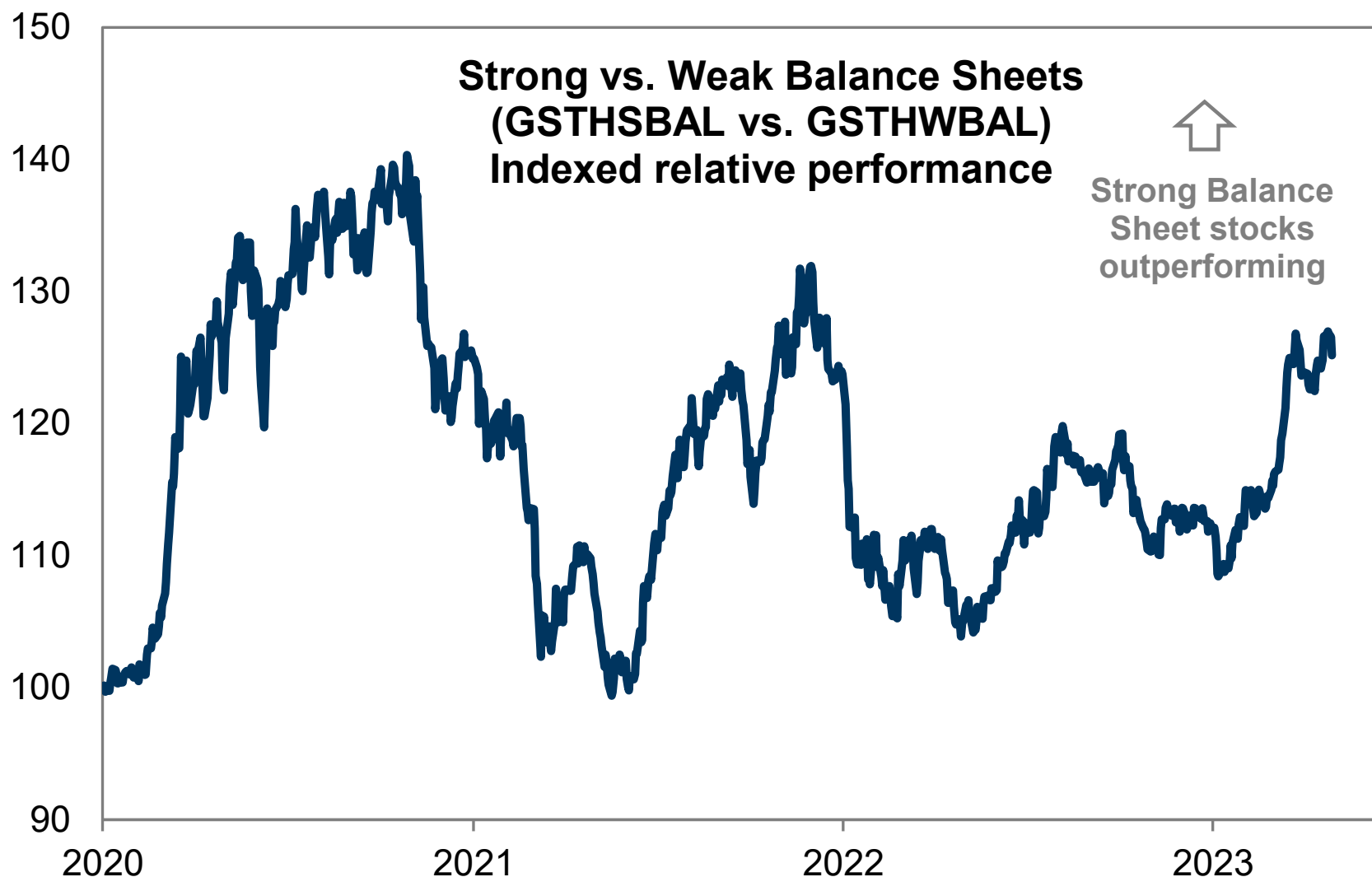
✓ indicates outperformance

✗ indicates underperformance

Note: For details, see [C-Suite Conversations: How investors reward corporate cash spending through the economic cycle](#), Ryan Hammond, Nov. 14, 2022.

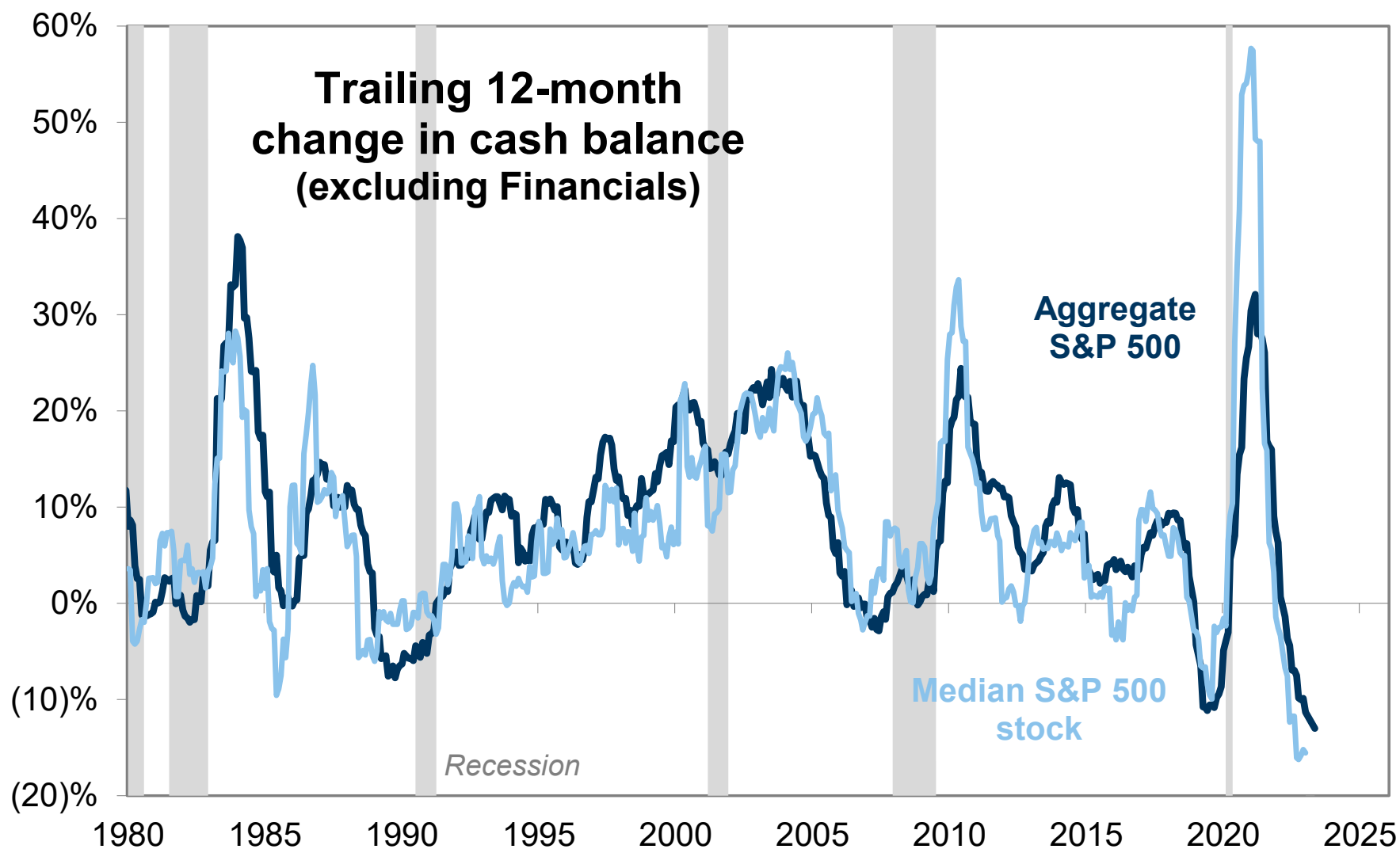
Strong balance sheets stocks outperforming Weak

Bank crisis has focused equity investor attention on balance sheet strength



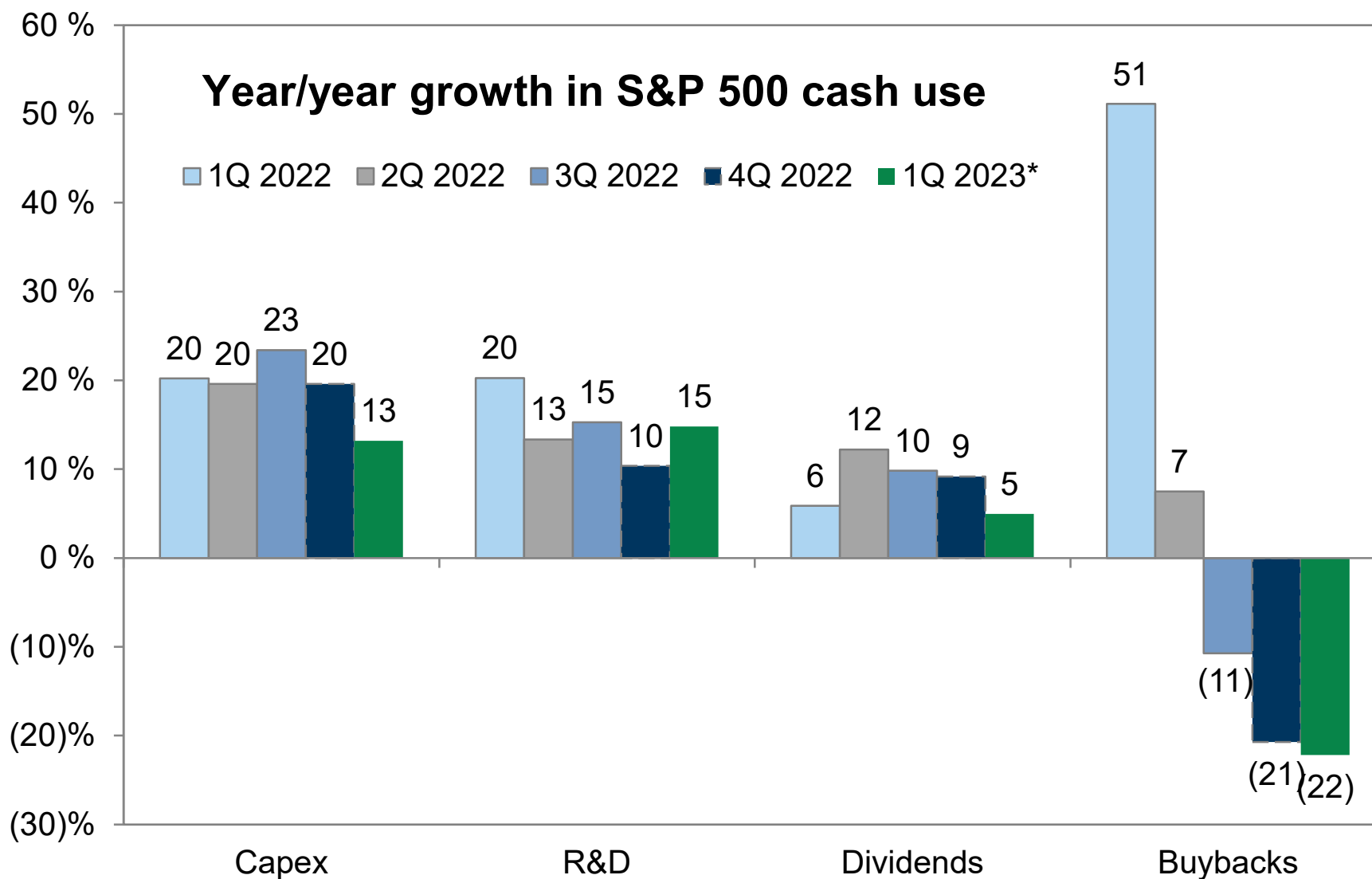
S&P 500 trailing 12-month change in cash balance

S&P 500 cash balances have dropped by 13% in the last 12 months



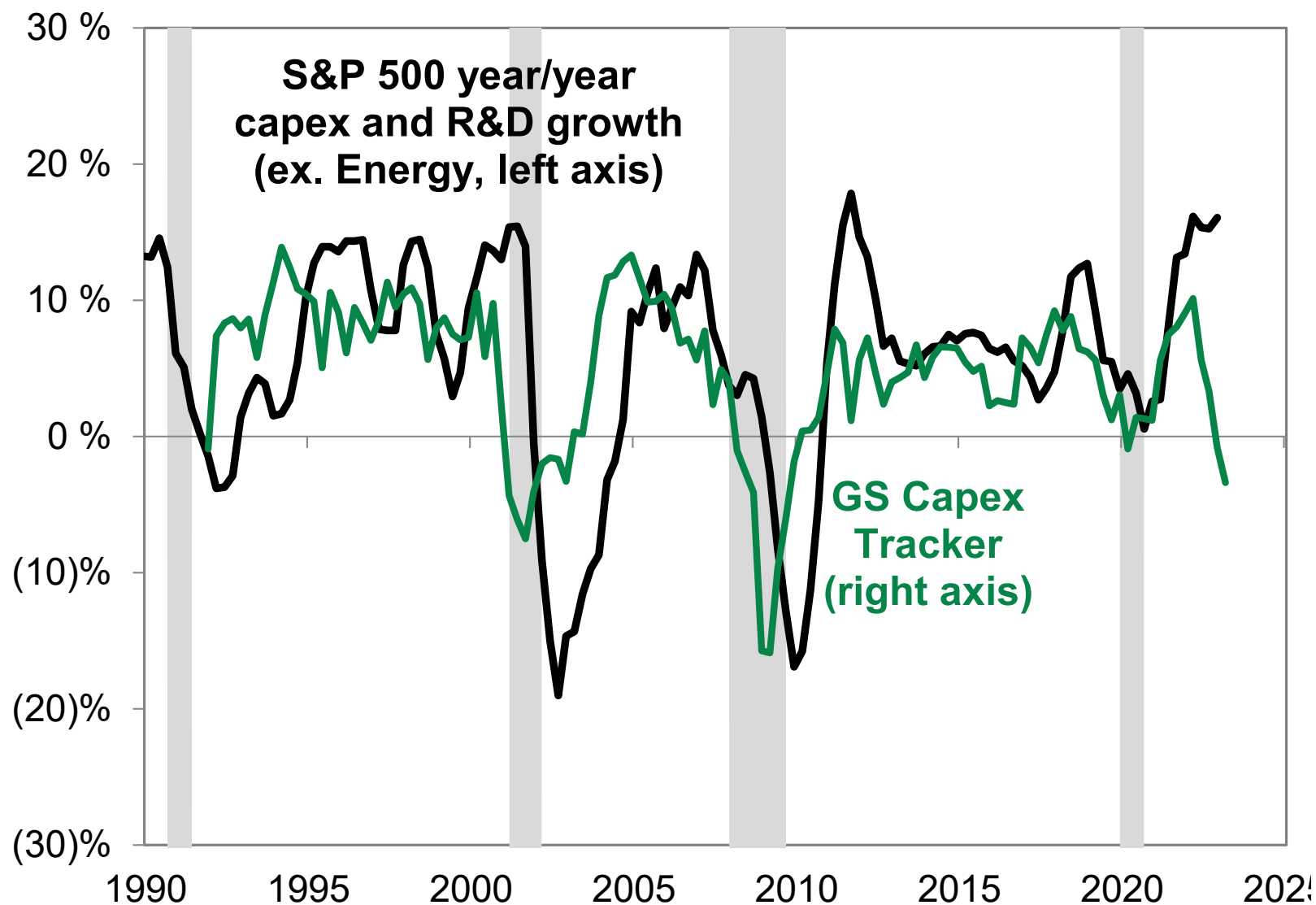
Companies have pulled back on buybacks

In contrast, capex, R&D, and dividends have been resilient



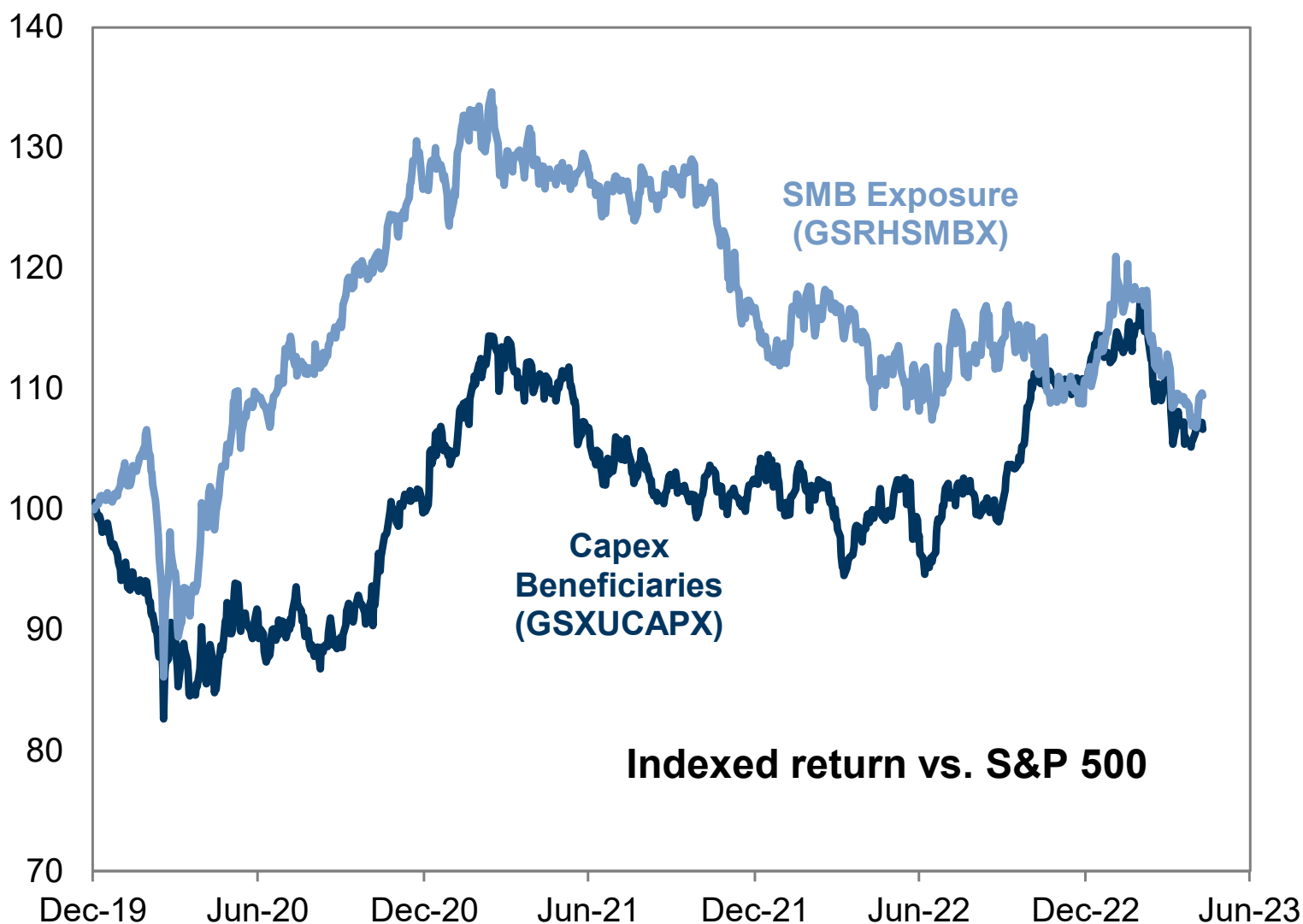
S&P 500 capex and R&D growth

GS Capex Tracker points to slowdown in investment spending



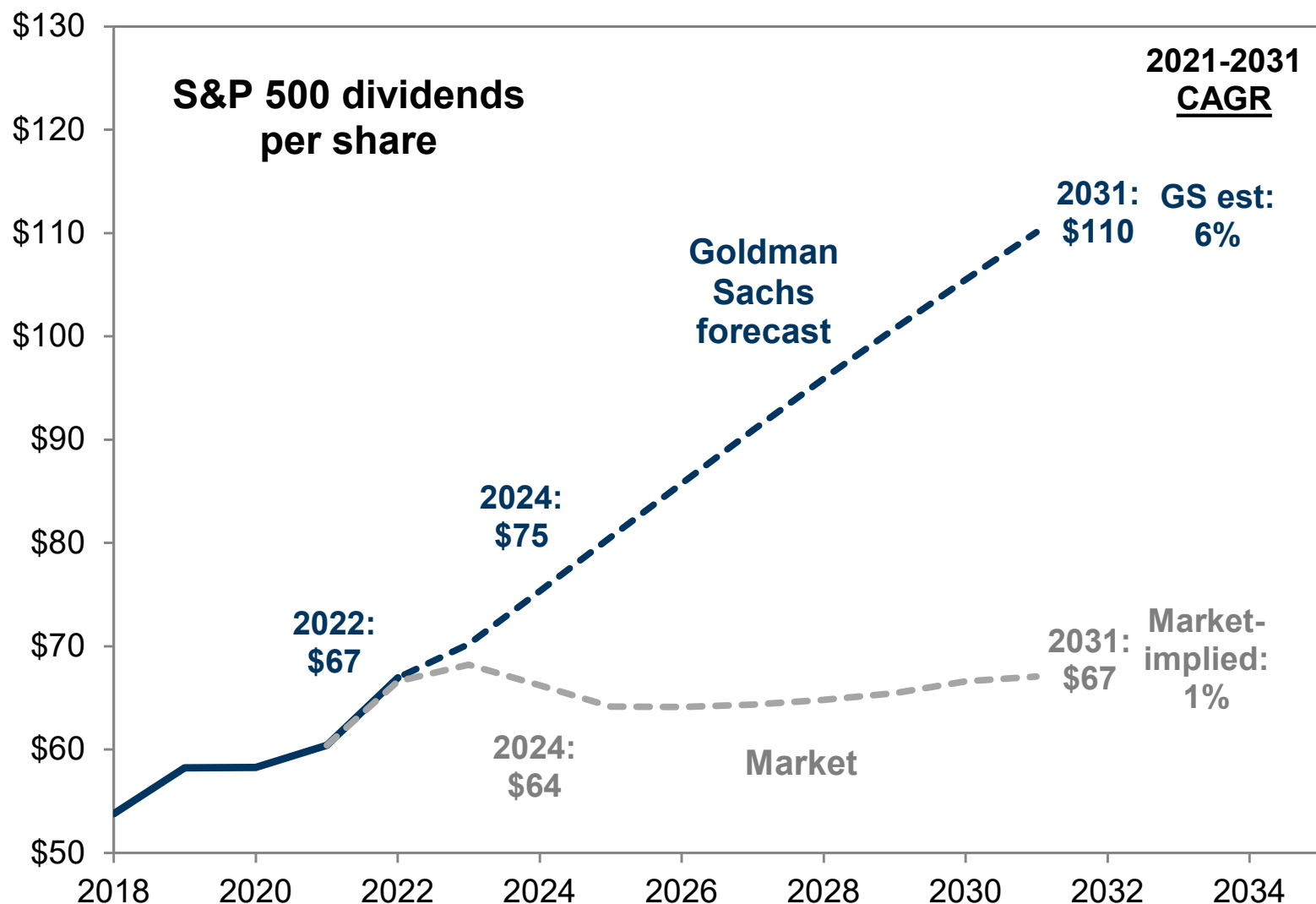
Capex and small business exposed stocks

Capex-exposed and SMB-exposed stocks have lagged since banking stress began



GS dividend forecast vs. market pricing

We forecast 6% CAGR dividend growth over 10 years vs. market-implied of 1%



6. Sectors – pay for boredom; stay defensive

Goldman Sachs recommended sector allocations

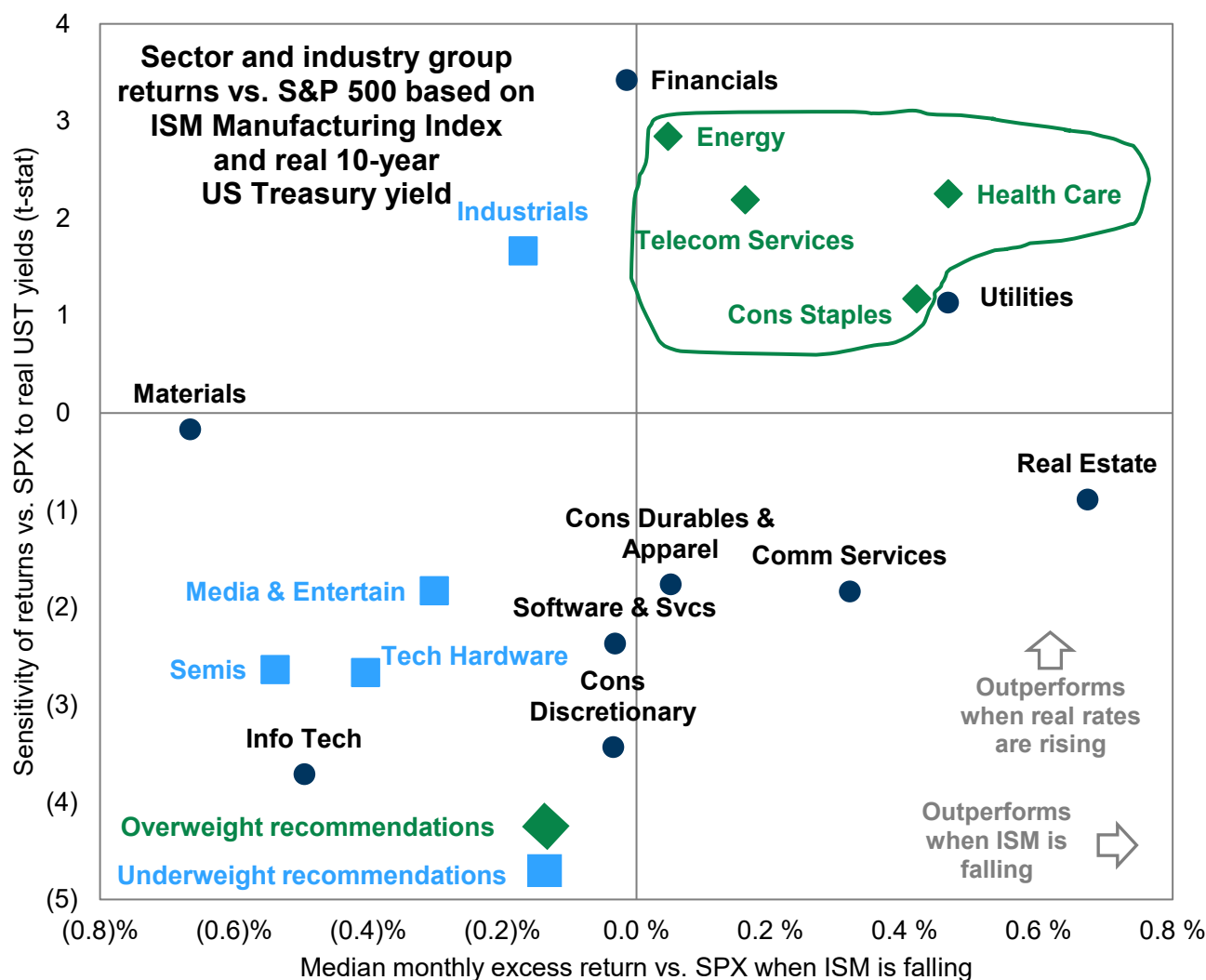
Overweight Health Care, Staples, Energy, and Telecom

Sector	Goldman Sachs recommended sector weightings	Current S&P 500 weight	Total return YTD	Consensus 2023 growth		FY2 P/E
				Sales	EPS	
Health Care	Overweight	14 %	(2)%	5 %	(9)%	16 x
Consumer Staples		7	4	9	7	19
Energy		4	(9)	(13)	(27)	10
Telecommunication Services*		1	(3)	(3)	(2)	8
Software & Services ⁺	Neutral	11	19	8	12	24
Financials		13	(6)	NM	9	12
Cons. Discretionary ex. Autos & Durables		7	16	6	38	28
Utilities		3	(2)	NM	9	17
Materials		3	1	(0)	(14)	16
Real Estate		3	1	NM	2	32
Consumer Durables & Apparel**		1	10	(2)	(19)	14
Technology Hardware ⁺	Underweight	9	26	(0)	2	22
Industrials		8	1	4	10	16
Media & Entertainment*		7	33	6	18	17
Semiconductors ⁺		6	30	(8)	(25)	21
Automobiles & Components**		2	30	9	(10)	19
S&P 500		100 %	8 %	2 %	(1)%	17 x

* Industry groups within the Communication Services sector, ** Industry groups within the Consumer Discretionary sector, + Industry groups within the Information Technology sector

We prefer sectors insulated from growth and rate risk

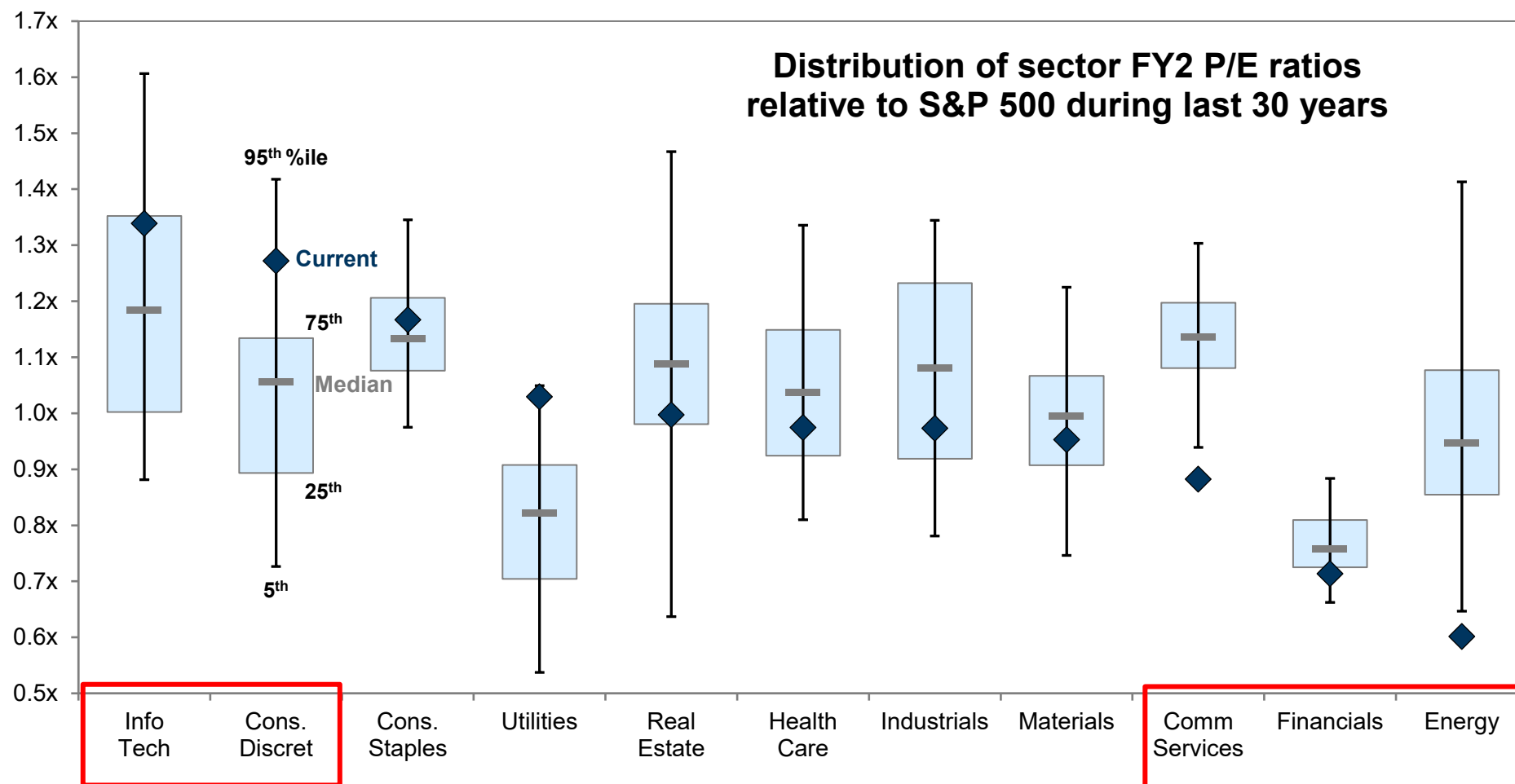
Sector allocation framework considers the growth and interest rate outlooks



Performance during ISM cycles since 1974. Real Estate returns only since 2002. Rates betas calculated on a quarterly basis since 2015, controlling for breakeven inflation.

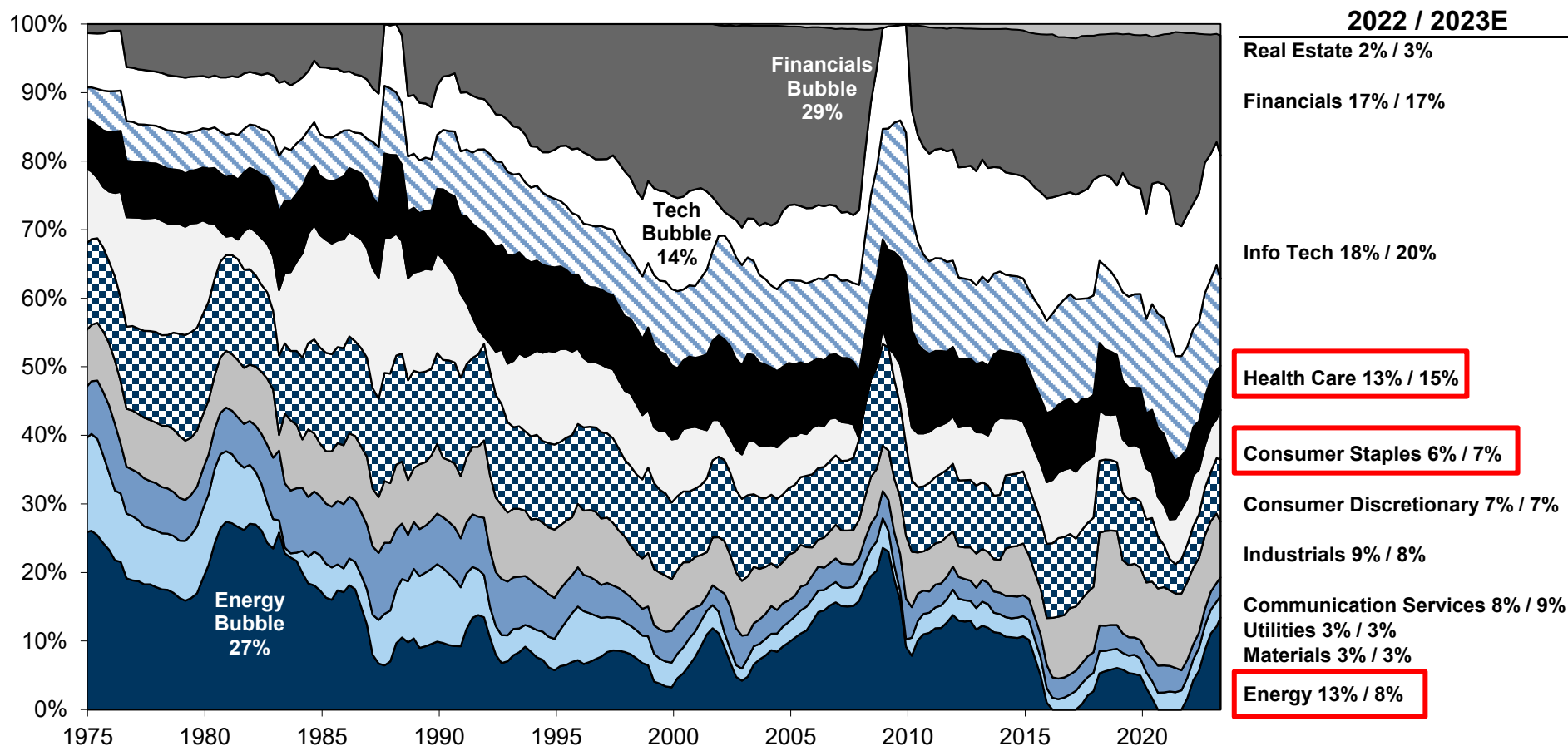
Distribution of sector historical relative P/E multiples

Wide variation in current index-relative valuations vs. history



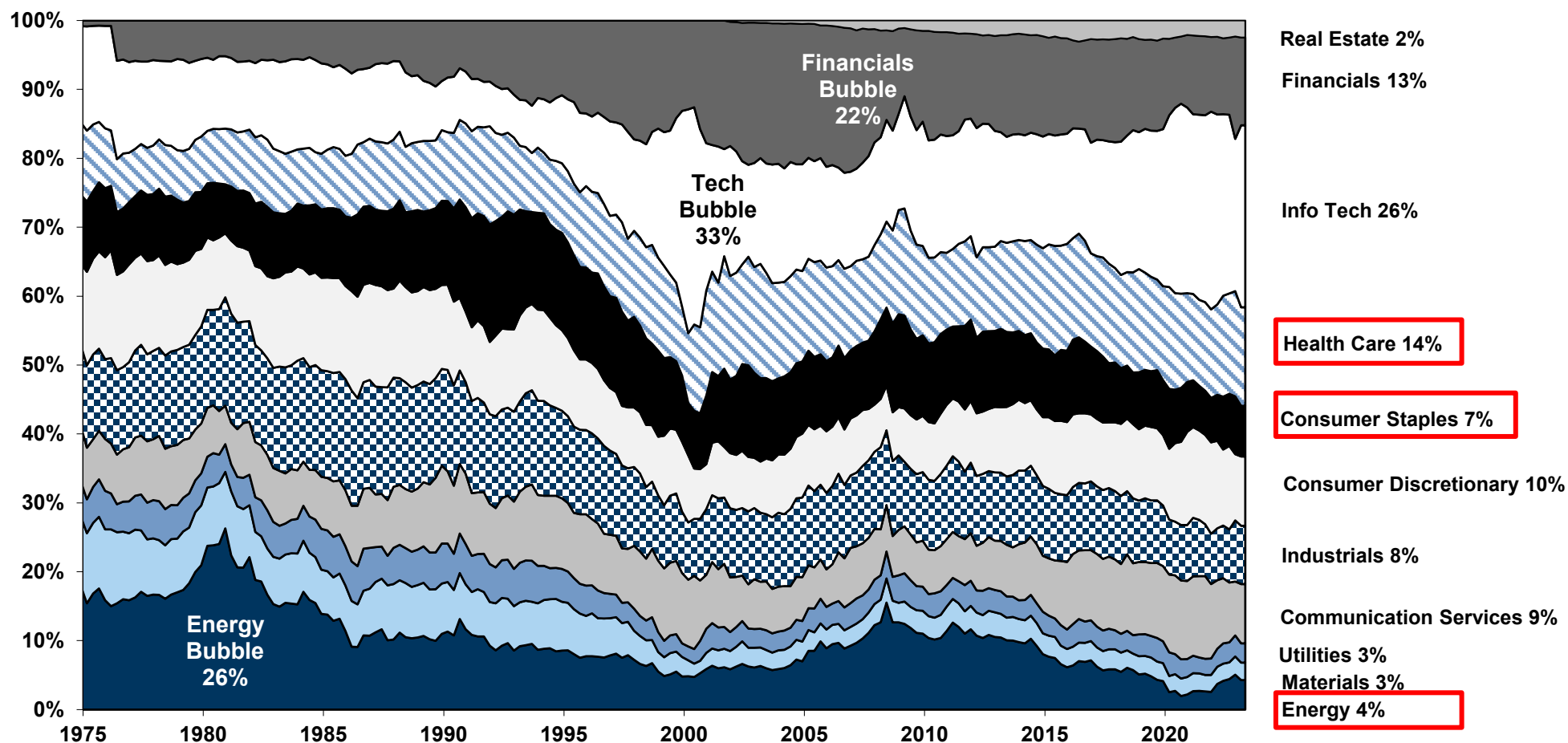
Sector share of S&P 500 *net income* since 1975

Energy will comprise 8% of SPX net income in 2023; Health Care will be 15%



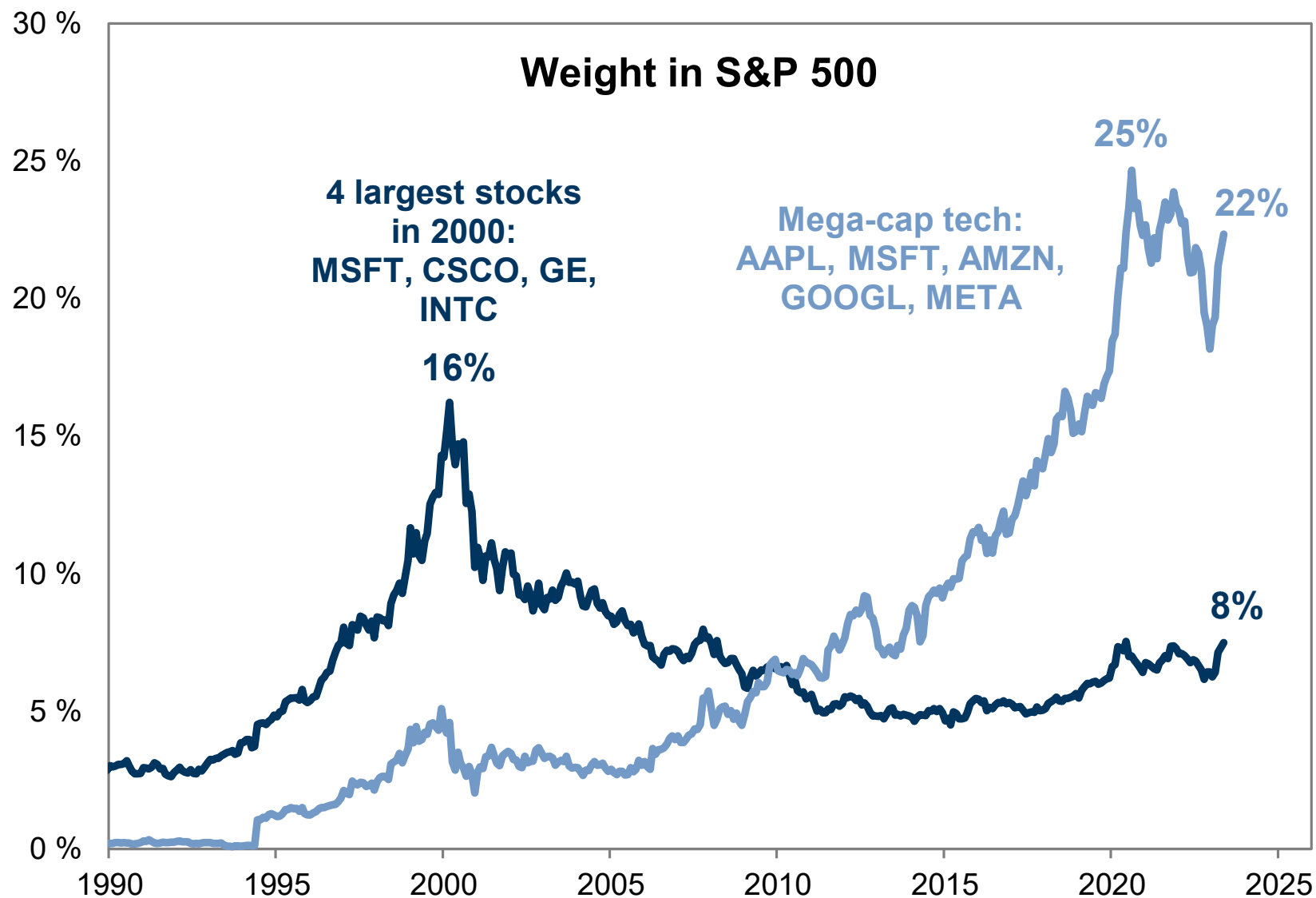
Sector share of S&P 500 *equity cap* since 1975

Energy comprised 26% of market cap in 1980; today Tech accounts for 26%



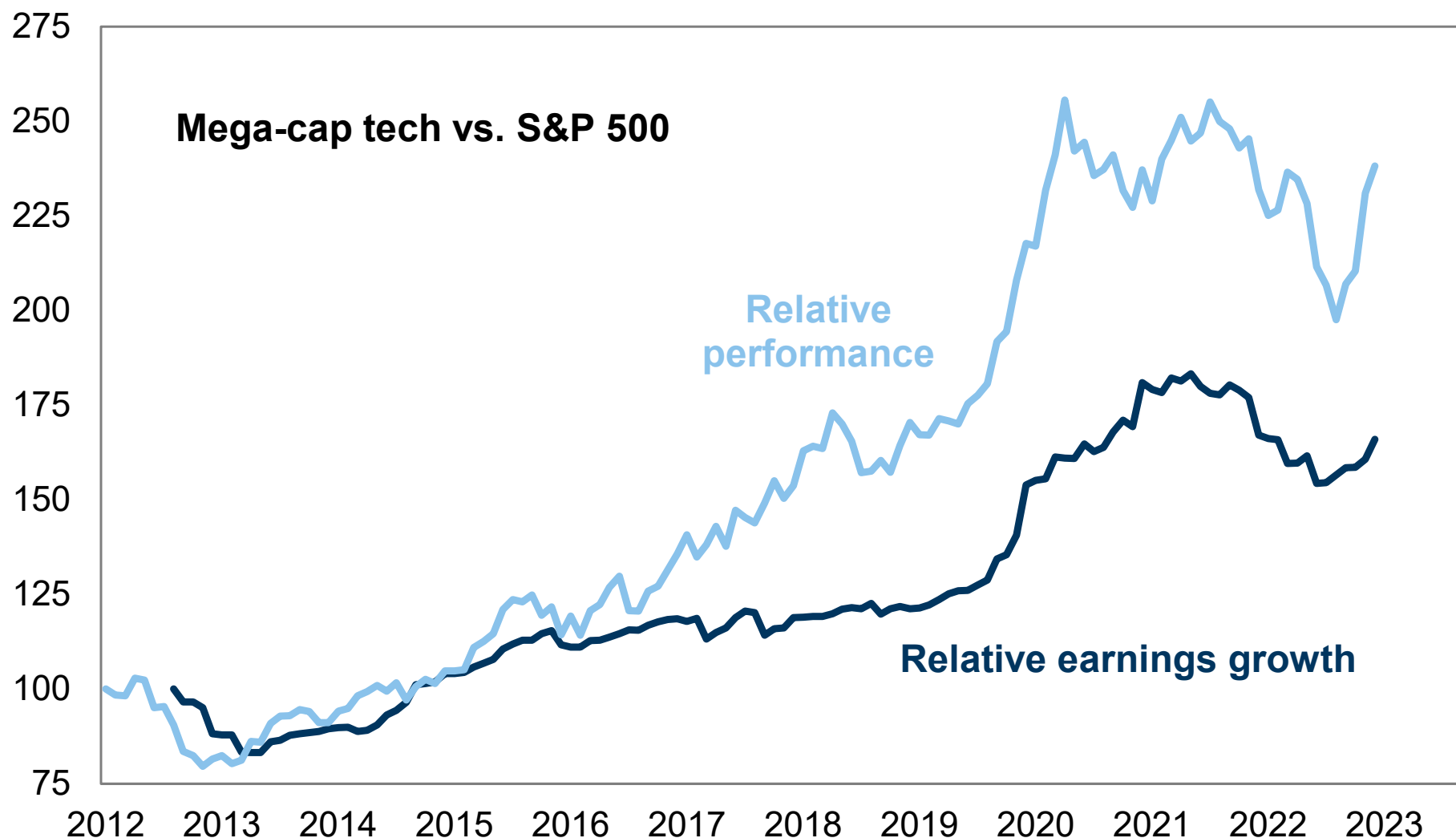
Mega-cap tech market share of S&P 500 is now 22%

Top 4 stocks in 2000 show market leadership is difficult to maintain



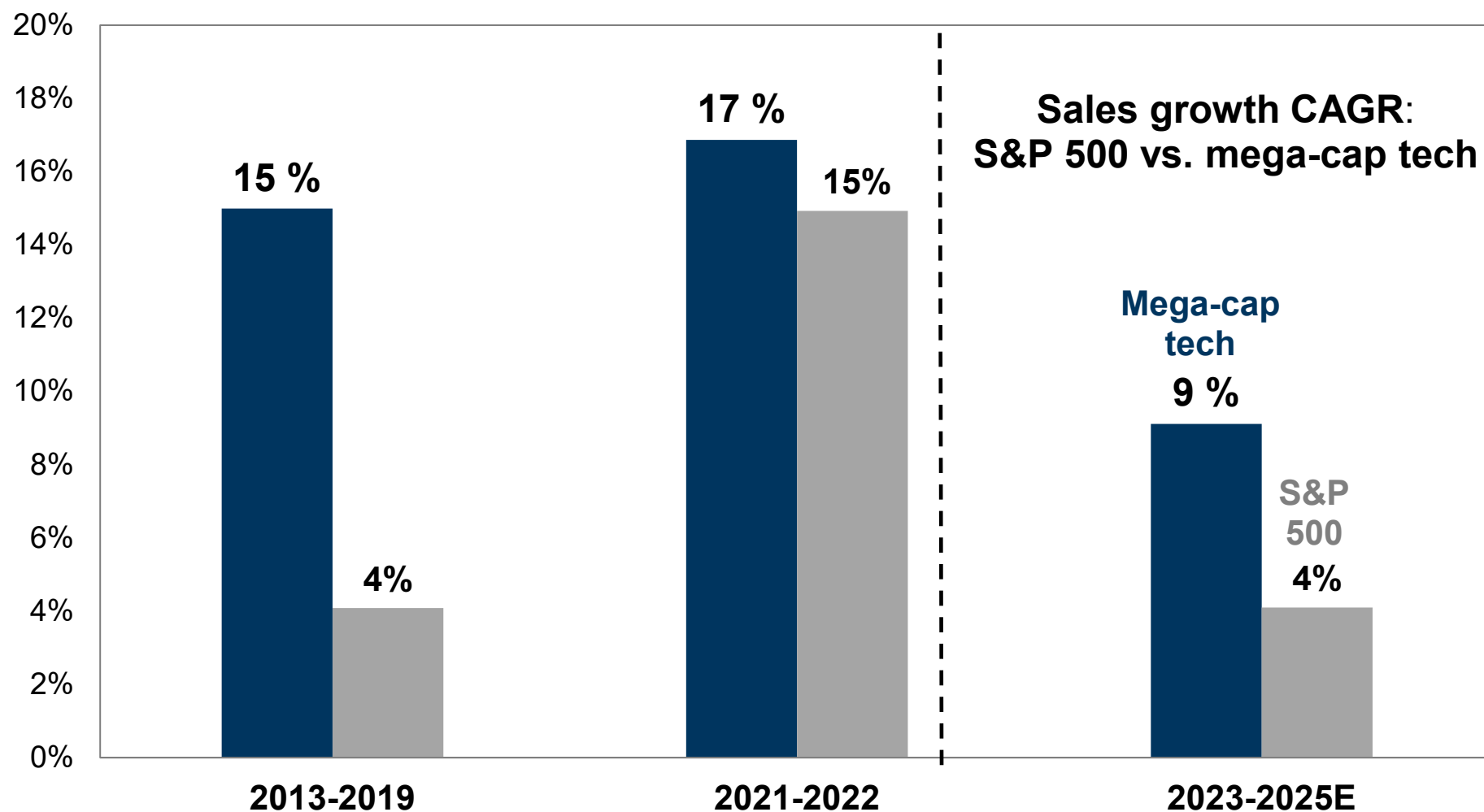
Mega-cap tech outperformance and earnings growth

Mega-cap tech has outperformed the S&P 500 by 28pp in 2023



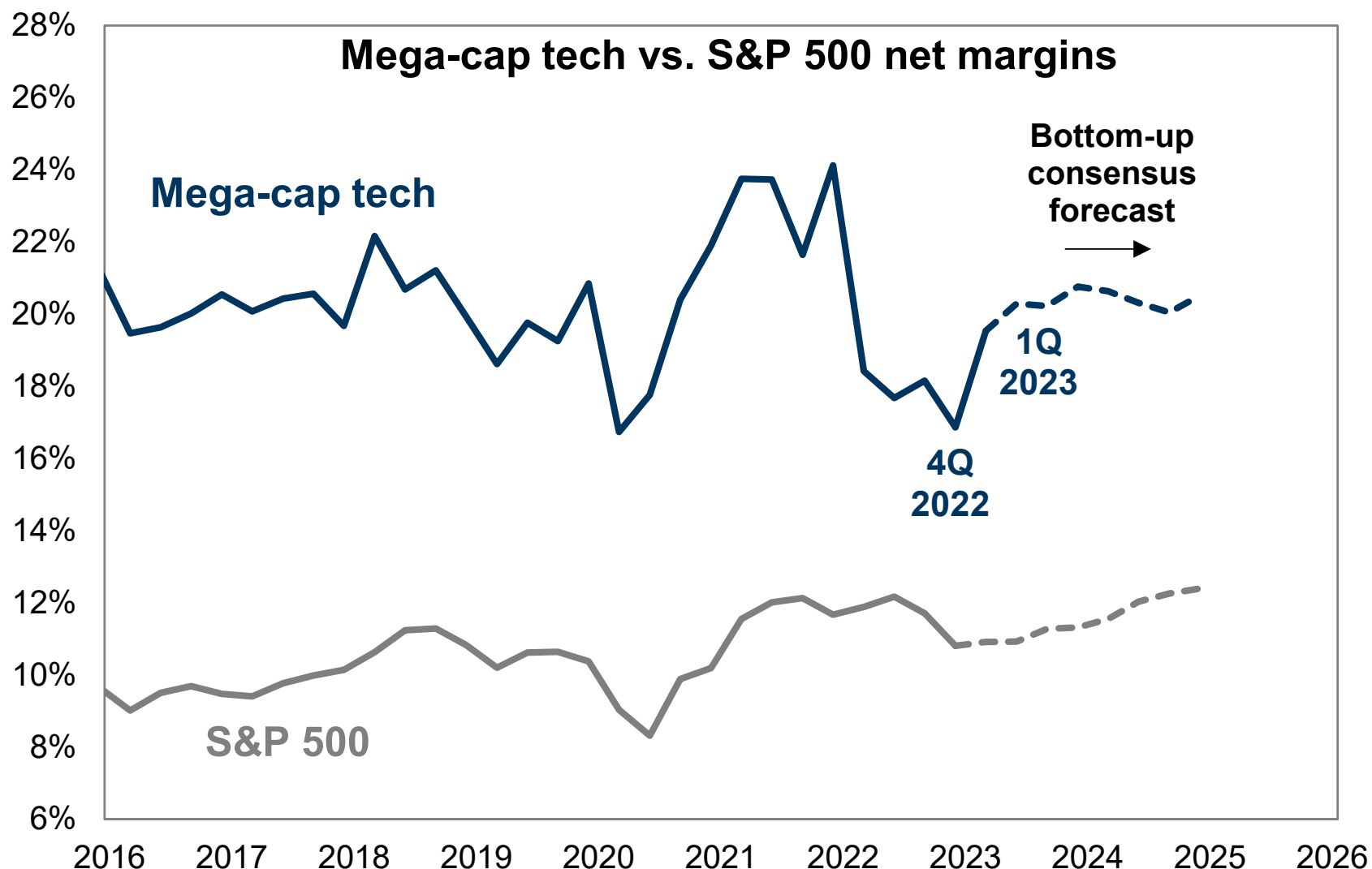
Annualized sales growth premium for tech over time

2013-2019 annualized sales of 15% vs. 4%; forecast 2023-25 gap is 9% vs. 4%



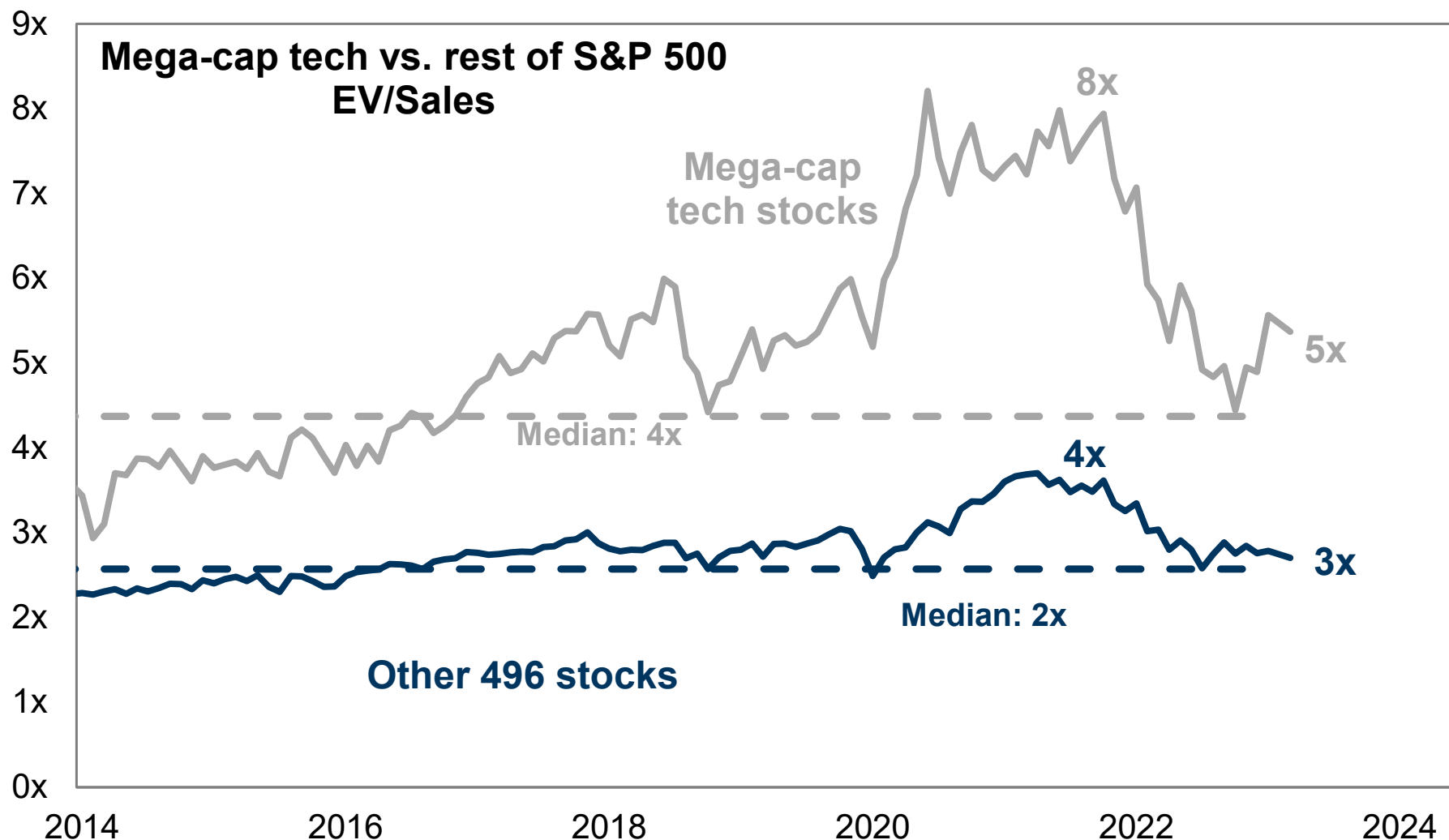
S&P 500 vs. mega-cap tech profitability over time

Gap between mega-cap tech & S&P 500 margins expected to widen to 810 bp



Mega-cap tech valuation has contracted

EV/sales multiple for mega-cap tech is still above historical average



S&P 500 fundamentals vs. mega-cap tech

Mega-cap tech will grow sales faster than index and maintain higher margins

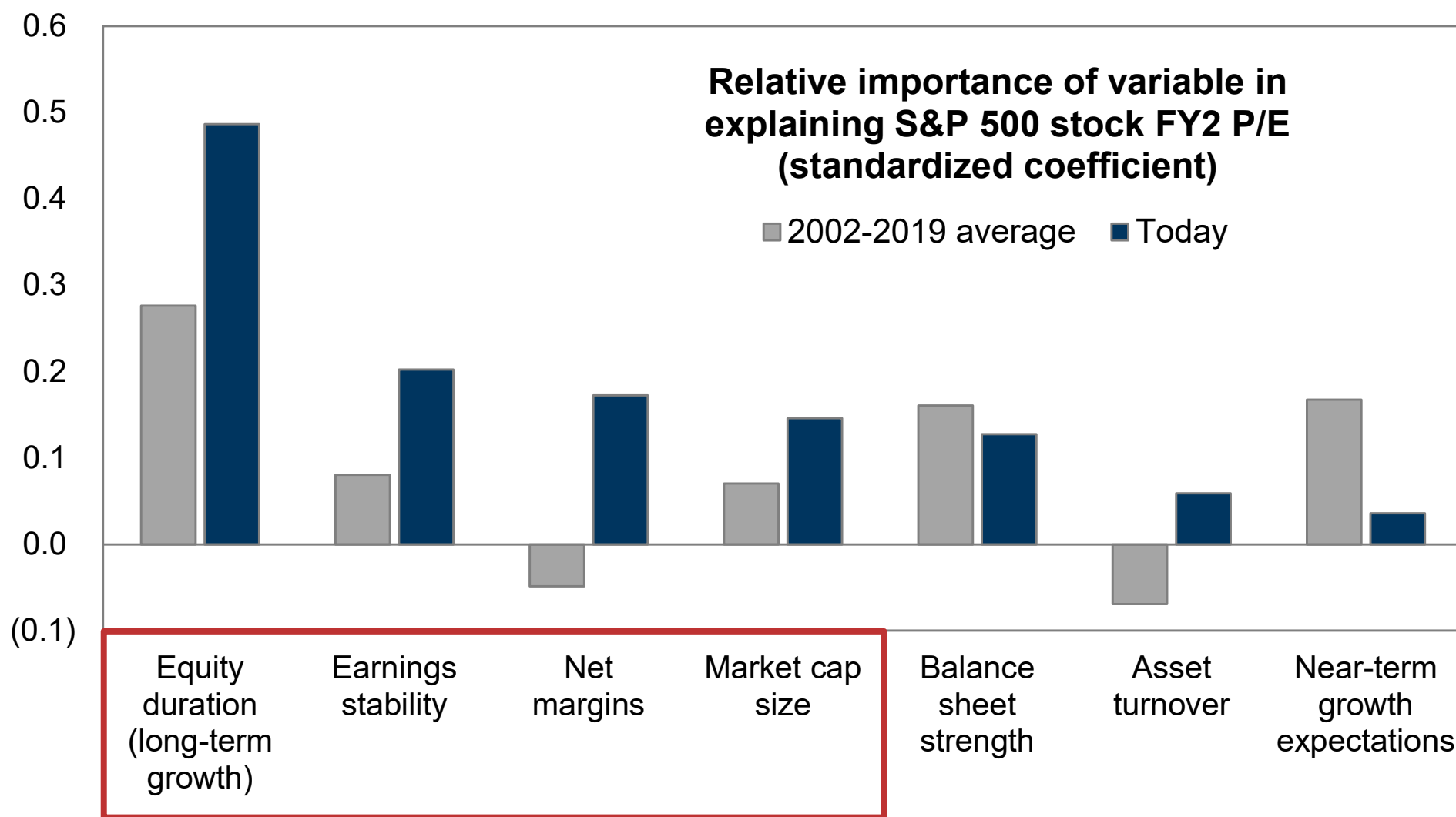
Mega-cap tech vs. S&P 500

Company Name	Ticker	Weight	YTD price return	Sales growth		Margins		EV/sales	NTM P/E	1Q '23 surprise (%)	
				2023E	2024E	2023E	2024E			Sales	Earnings
Apple Inc.	AAPL	7 %	34 %	2 %	7 %	25 %	26 %	7.0x	26x	2 %	6 %
Microsoft Corp.	MSFT	6	30	9	12	34	35	10.8	28	4	10
Alphabet Inc.	GOOGL	4	32	6	11	21	22	4.1	18	1	9
Amazon.com Inc.	AMZN	3	34	9	12	3	4	2.2	54	2	35
Meta Platforms Inc.	META	1	96	8	11	21	23	4.3	19	4	11
Mega-cap tech		22 %	35 %	6 %	10 %	18 %	19 %	5.1x	25x		
Remaining 495 stocks		78	1	1	2	10	11	2.7	17		
S&P 500		100	8	2	3	11	12	2.5	18		

7. Stocks – stable growth, strong balance sheets

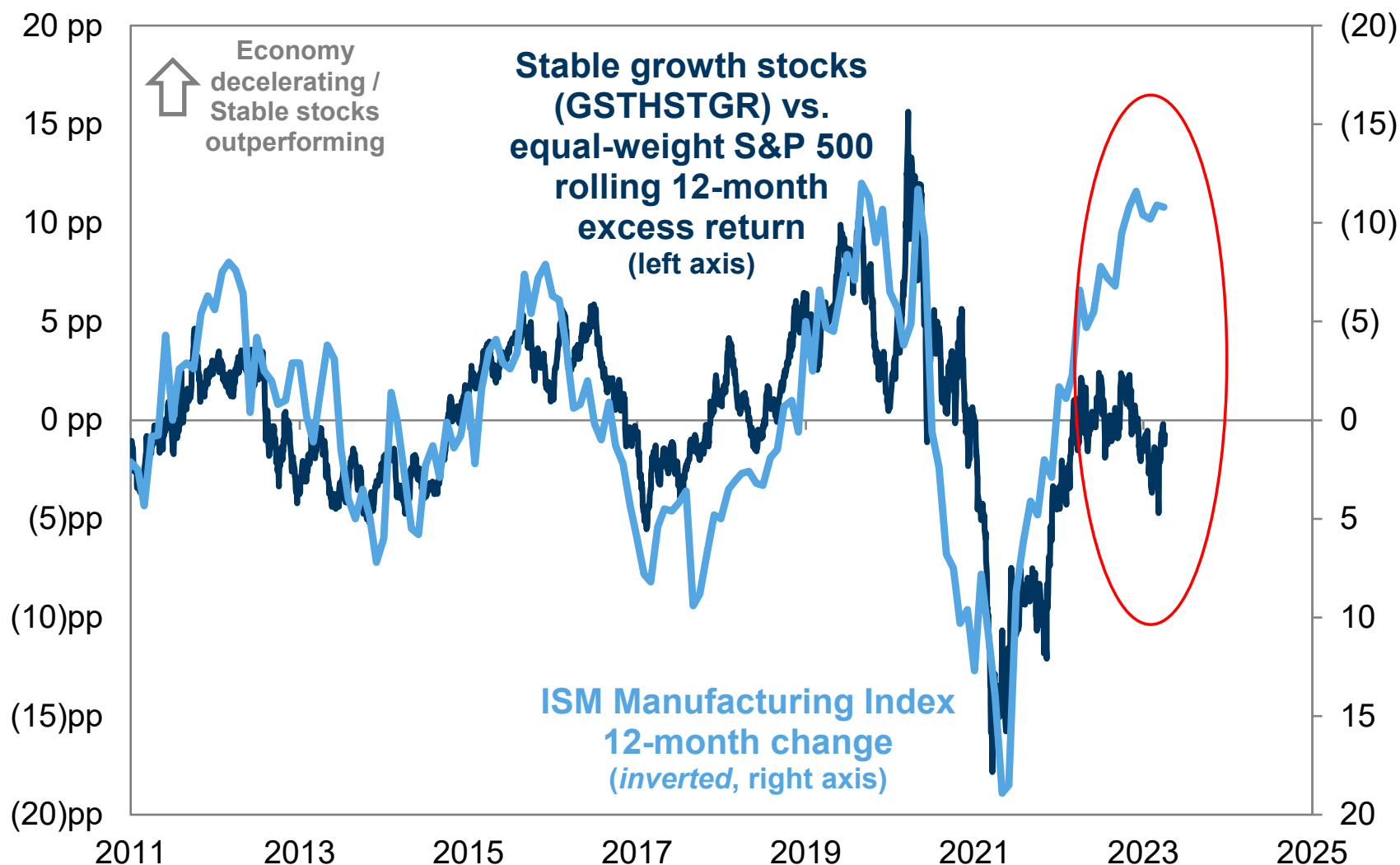
What investors pay for today vs. history

Investors pay higher multiples for higher long-term growth, stability, net margins



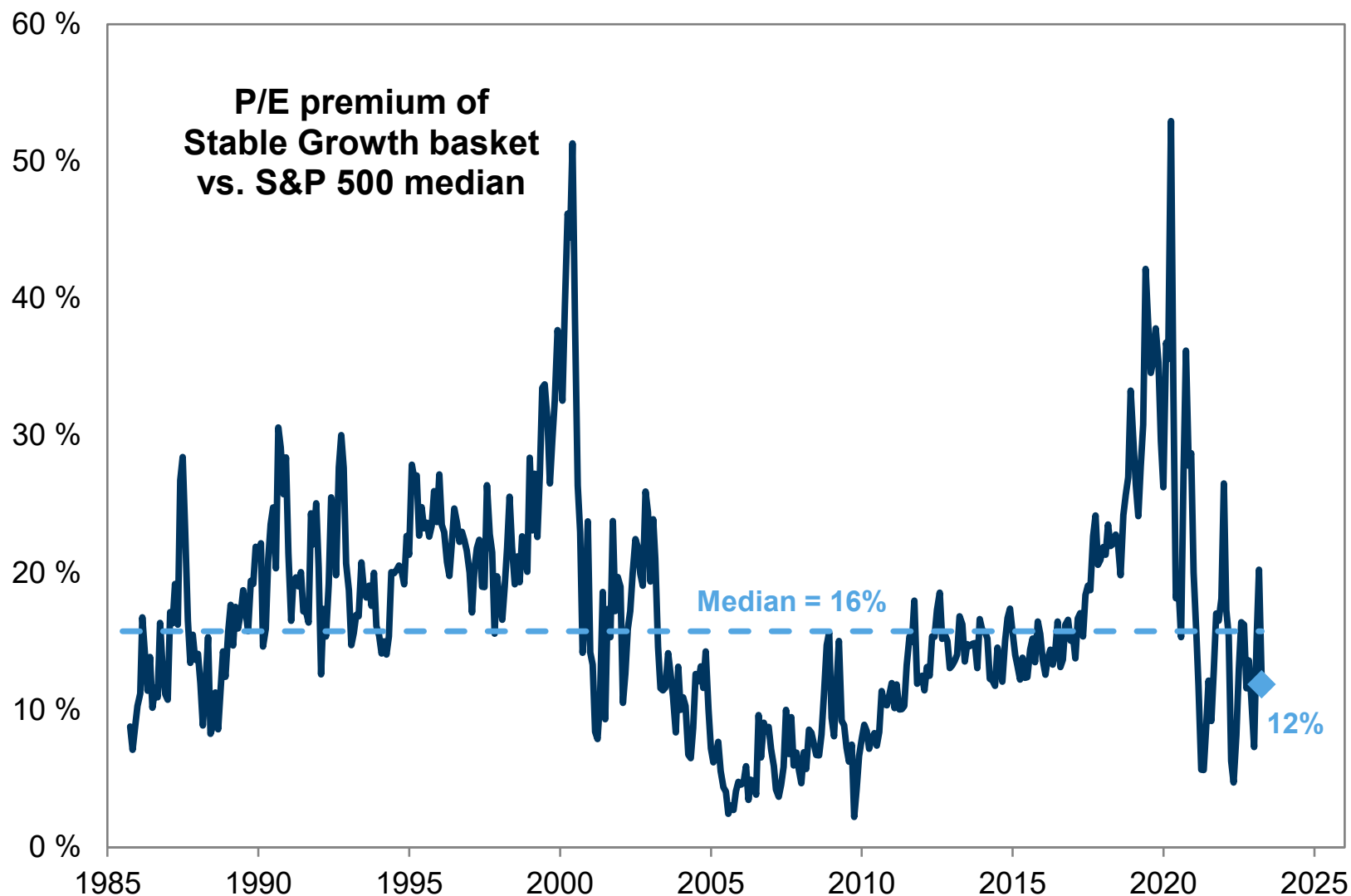
Performance of Stable Growth basket (GSTHSTGR)

GSTHSTGR typically outperforms the S&P 500 when economic growth slows



Valuation of our Stable Growth basket (GSTHSTGR)

Median constituent trades below its historical premium



Constituents of Stable Growth basket (GSTHSTGR)

Sector-neutral basket of Russell 1000 stocks with *most stable* EBITDA growth

Company Name	Ticker	YTD return	2023 growth Sales	EPS	NTM P/E	10-year EBITDA growth variability
COMMUNICATION SERVICES						
Sirius XM Holdings, Inc.	SIRI	(37)%	(0)%	(4)%	12 x	6
Comcast	CMCSA	17	(1)	1	11	8
Omnicom Group Inc	OMC	15	3	7	12	13
Cable One, Inc.	CABO	(6)	(2)	29	13	18
CONSUMER DISCRETIONARY						
Domino's Pizza, Inc.	DPZ	(12)%	2 %	7 %	22 x	7
AutoZone, Inc.	AZO	9	8	10	19	8
Home Depot, Inc.	HD	(7)	(3)	(9)	19	10
O'Reilly Automotive, Inc.	ORLY	11	8	11	24	12
Genuine Parts Company	GPC	(4)	6	8	18	12
Dollar General	DG	(12)	6	5	19	18
CONSUMER STAPLES						
Colgate-Palmolive Company	CL	3 %	7 %	6 %	25 x	5
PepsiCo, Inc.	PEP	7	5	8	25	6
Procter & Gamble Company	PG	4	2	1	25	8
ENERGY						
Williams Companies, Inc.	WMB	(11)%	4 %	2 %	16 x	17
ONEOK, Inc.	OKE	(10)	(5)	44	11	19
FINANCIALS						
Marsh & McLennan Companies, Inc.	MMC	8 %	8 %	11 %	22 x	7
Bank of New York Mellon Corp	BK	(9)	7	66	8	7
Nasdaq, Inc.	NDAQ	(10)	3	2	20	8
S&P Global, Inc.	SPGI	8	4	12	27	9
FactSet Research Systems Inc.	FDS	(2)	13	11	25	9
Northern Trust	NTRS	(18)	1	(10)	11	10
MATERIALS						
AptarGroup, Inc.	ATR	9 %	5 %	12 %	27 x	7
Air Products and Chemicals, Inc.	APD	(10)	4	9	23	8
HEALTH CARE						
ResMed Inc.	RMD	8 %	18 %	12 %	31 x	8
Mettler-Toledo International Inc.	MTD	(5)	5	11	30	9
Amgen Inc.	AMGN	(13)	4	2	12	10
Johnson & Johnson	JNJ	(9)	4	5	15	11
Encompass Health	EHC	2	9	12	18	12
McKesson	MCK	7	6	2	15	12
Zoetis, Inc.	ZTS	23	7	11	32	12
INDUSTRIALS						
Waste Management, Inc.	WM	7 %	5 %	8 %	26 x	6
Fastenal Company	FAST	16	6	6	26	6
Rollins, Inc.	ROL	15	12	18	45	8
3M Company	MMM	(15)	(7)	(15)	11	8
Hubbell Incorporated	HUBB	18	8	29	20	9
INFORMATION TECHNOLOGY						
Amdocs Limited	DOX	4 %	7 %	11 %	15 x	5
Oracle	ORCL	23	7	11	18	6
CDW	CDW	(3)	(7)	(3)	18	6
VeriSign, Inc.	VRSN	9	5	14	30	6
Roper Technologies, Inc.	ROP	5	12	14	27	7
Jack Henry & Associates, Inc.	JKHY	(15)	6	(2)	28	8
Paychex, Inc.	PAYX	(6)	6	8	23	9
Automatic Data Processing, Inc.	ADP	(10)	9	17	24	10
Cisco Systems, Inc.	CSCO	2	10	12	12	10
Akamai Technologies, Inc.	AKAM	3	4	6	15	11
Western Union Company	WU	(8)	(8)	(8)	8	11
Cognizant Technology Solutions	CTSH	10	0	(3)	14	12
Visa Inc.	V	12	11	15	25	12
REAL ESTATE						
American Tower	AMT	(7)%	3 %	7 %	44 x	8
UTILITIES						
American Water Works Company, Inc.	AWK	(5)%	9 %	6 %	29 x	5
Stable Growers basket median		2 %	5 %	8 %	20 x	9
Russell 1000 median		1	5	4	17	29

Volatile growth stocks

Sector-neutral basket of Russell 1000 stocks with *most variable* EBITDA growth

Company Name	Ticker	YTD return	2023 growth Sales	EPS	NTM P/E	10-year EBITDA growth variability
COMMUNICATION SERVICES						
Electronic Arts Inc.	EA	2 %	5 %	9 %	19 x	430
Live Nation Entertainment, Inc.	LYV	18	8	28	71	187
Verizon Communications Inc.	VZ	(5)	1	(9)	8	176
AT&T Inc.	T	(7)	1	(6)	8	171
CONSUMER DISCRETIONARY						
Ross Stores, Inc.	ROST	(10)%	5 %	14 %	21 x	97713
Marriott International, Inc.	MAR	19	10	15	21	1661
Deckers Outdoor	DECK	18	12	18	21	827
Five Below, Inc.	FIVE	11	17	20	35	682
Tapestry, Inc.	TPR	15	(1)	7	10	545
Marriott Vacations Worldwide	VAC	(5)	6	7	12	501
CONSUMER STAPLES						
Conagra Brands, Inc.	CAG	(4)%	2 %	5 %	13 x	1440
Molson Coors Beverage Company Class B	TAP	22	2	(1)	13	134
Kellogg Company	K	(2)	5	(8)	16	119
ENERGY						
Valero Energy	VLO	(11)%	(17)%	(23)%	6 x	7000
Phillips 66	PSX	(8)	(16)	(19)	7	1124
FINANCIALS						
Hartford Financial Services Group, Inc.	HIG	(7)%	6 %	12 %	8 x	722
Fidelity National Financial, Inc. - FNF Group	FNF	(7)	(1)	(18)	7	555
Jefferies Financial Group Inc.	JEF	(6)	(13)	(15)	10	410
Carlyle Group Inc	CG	(7)	(9)	(15)	8	399
Berkshire Hathaway Inc. Class B	BRK.B	6	18	11	19	352
CNA Financial	CNA	(2)	8	21	8	226
MATERIALS						
Axalta Coating Systems Ltd.	AXTA	20 %	5 %	2 %	19 x	318
Huntsman	HUN	(7)	(11)	(39)	12	262
HEALTH CARE						
Horizon Therapeutics Public Limited Company	HZNP	(12)%	10 %	10 %	19 x	226
Amedisys, Inc.	AMED	(6)	2	(14)	17	110
Regeneron Pharmaceuticals, Inc.	REGN	4	4	(7)	19	92
Bristol-Myers Squibb Company	BMJ	(6)	2	5	9	88
Humana Inc.	HUM	2	12	11	17	79
Gilead Sciences, Inc.	GILD	(7)	(2)	(6)	12	77
Globus Medical Inc	GMED	(23)	8	12	24	67
INDUSTRIALS						
Mercury Systems, Inc.	MRCY	(7)%	4 %	(11)%	22 x	1406
United Parcel Service, Inc. Class B	UPS	0	(3)	(12)	16	282
Axon Enterprise Inc	AXON	19	20	29	73	184
Robert Half International Inc.	RHI	(8)	(6)	(20)	15	110
Advanced Drainage Systems, Inc.	WMS	8	(5)	(7)	14	89
INFORMATION TECHNOLOGY						
Advanced Micro Devices, Inc.	AMD	60 %	1 %	(12)%	28 x	557
Paylocity Holding Corp.	PCTY	(12)	36	46	37	469
Lattice Semiconductor	LSCC	26	13	17	43	336
Monolithic Power Systems, Inc.	MPWR	18	9	6	35	257
Intuit Inc.	INTU	11	11	16	29	231
Autodesk, Inc.	ADSK	6	8	9	27	204
Salesforce, Inc.	CRM	58	10	36	26	161
Universal Display	OLED	41	(5)	(16)	38	146
Dolby Laboratories, Inc.	DLB	19	3	25	35	99
Paycom Software, Inc.	PAYC	(12)	24	22	37	96
Aspen Technology, Inc.	AZPN	(18)	59	31	31	84
Fortinet, Inc.	FTNT	40	22	19	45	81
Globant SA	GLOB	(11)	17	13	26	74
REAL ESTATE						
Rayonier Inc.	RYN	(10)%	(5)%	(23)%	62 x	93
UTILITIES						
NRG Energy, Inc.	NRG	7 %	(26)%	(1)%	6 x	428
Volatile stocks basket median		(2)%	5 %	7 %	19 x	228
Russell 1000 median		1	5	4	18	29

Goldman Sachs “soft-landing” portfolio

72 Russell 3000 cyclical laggards with low valuations and strong balance sheets

Ticker	Name	Industry group	Market cap (bn)	Total return		Total return vs. industry since 2021	NTM P/E		Altman z-score	NTM Sales growth	NTM EPS growth
				2022	YTD		Current	10y med			
TSLA	Tesla	Automobiles & Components	\$532	(65)%	36 %	(2)pp	43x	115x	8	25 %	2 %
AMZN	Amazon.com	Consumer Discretionary Distribution & Retail	1,131	(50)	31	(8)	57	92	3	10	391
EBAY	eBay Inc.	Consumer Discretionary Distribution & Retail	24	(36)	9	(5)	10	13	4	3	5
POOL	Pool Corporation	Consumer Discretionary Distribution & Retail	13	(46)	12	(14)	22	25	6	(2)	(9)
RH	RH	Consumer Discretionary Distribution & Retail	6	(50)	(3)	(26)	20	21	3	(9)	(28)
GRMN	Garmin Ltd.	Consumer Durables & Apparel	20	(30)	13	2	19	19	9	5	6
VFC	V.F. Corporation	Consumer Durables & Apparel	8	(60)	(22)	(46)	10	20	3	3	7
BLD	TopBuild Corp.	Consumer Durables & Apparel	7	(43)	35	(0)	13	17	3	(1)	(3)
MHK	Mohawk Industries	Consumer Durables & Apparel	6	(44)	(8)	(25)	9	15	3	(2)	(13)
CPRI	Capri Holdings Limited	Consumer Durables & Apparel	5	(12)	(32)	(16)	6	11	3	3	4
ABNB	Airbnb	Consumer Services	66	(49)	23	(36)	28	50	4	14	22
CHH	Choice Hotels International	Consumer Services	6	(27)	8	(20)	20	22	4	2	11
PYPL	PayPal Holdings	Financial Services	69	(62)	(13)	(55)	12	30	NM	8	18
CME	CME Group Inc.	Financial Services	67	(23)	11	(2)	21	24	NM	5	6
ICE	Intercontinental Exchange	Financial Services	61	(24)	6	(7)	19	20	NM	5	6
SQ	Block	Financial Services	34	(61)	(12)	(53)	28	91	NM	16	56
COF	Capital One Financial Corp	Financial Services	33	(35)	(6)	(26)	7	9	NM	6	(18)
FIS	Fidelity National Information Services	Financial Services	33	(36)	(18)	(35)	9	18	NM	1	(4)
GPN	Global Payments Inc.	Financial Services	27	(26)	4	(11)	9	19	NM	7	12
TW	Tradeweb Markets	Financial Services	15	(35)	12	(14)	32	42	NM	11	13
BEN	Franklin Resources	Financial Services	12	(17)	(6)	(10)	10	12	NM	(1)	(13)
SYF	Synchrony Financial	Financial Services	12	(27)	(16)	(27)	5	9	NM	11	(11)
CG	Carlyle Group Inc	Financial Services	10	(44)	(9)	(36)	8	10	NM	(6)	(13)
NLY	Annaly Capital Management	Financial Services	9	(21)	(8)	(15)	6	9	NM	(38)	(21)
IVZ	Invesco Ltd.	Financial Services	7	(19)	(14)	(17)	9	11	NM	(0)	6
STWD	Starwood Property Trust	Financial Services	5	(17)	(9)	(12)	8	10	NM	23	(7)
CACC	Credit Acceptance Corporation	Financial Services	6	(31)	(9)	(25)	12	13	NM	5	(3)
CB	Chubb Limited	Insurance	83	16	(9)	(1)	11	12	NM	4	16
WTW	Willis Towers Watson Public Limited Company	Insurance	24	5	(6)	(9)	15	16	NM	5	11
HIG	Hartford Financial Services Group	Insurance	22	12	(8)	(3)	8	10	NM	4	12
BRO	Brown & Brown	Insurance	19	(18)	16	(12)	25	22	NM	11	10
AIZ	Assurant	Insurance	7	(18)	4	(22)	11	12	NM	4	9
MMM	3M Company	Capital Goods	55	(30)	(15)	(40)	11	18	4	(3)	(6)
CARR	Carrier Global Corp.	Capital Goods	35	(23)	3	(20)	16	18	3	7	10
OTIS	Otis Worldwide Corporation	Capital Goods	35	(9)	8	(1)	23	24	3	4	10
FTV	Fortive Corp.	Capital Goods	23	(15)	1	(14)	19	21	3	4	8
DOV	Dover Corporation	Capital Goods	19	(24)	3	(22)	15	15	4	4	7

Goldman Sachs “soft-landing” portfolio (continued)

72 Russell 3000 cyclical laggards with low valuations and strong balance sheets

Ticker	Name	Industry group	Market cap (bn)	Total return		Total return vs. industry since 2021	NTM P/E		Altman z-score	NTM Sales growth	NTM EPS growth
				2022	YTD		Current	10y med			
IEX	IDEX Corporation	Capital Goods	16	(2)	(8)	(10)	24	25	6	5	5
TXT	Textron Inc.	Capital Goods	13	(8)	(11)	(17)	12	16	3	7	22
WSO	Watsco	Capital Goods	13	(18)	37	14	23	24	8	3	1
CSL	Carlisle Companies Incorporated	Capital Goods	11	(4)	(11)	(14)	11	17	4	(3)	(3)
MAS	Masco Corporation	Capital Goods	12	(32)	12	(23)	15	17	4	(5)	(3)
AOS	A. O. Smith Corporation	Capital Goods	10	(32)	19	(19)	19	21	7	2	9
ALLE	Allegion Public Limited Company	Capital Goods	10	(19)	4	(16)	16	20	4	9	13
LII	Lennox International Inc.	Capital Goods	10	(25)	21	(8)	18	20	6	2	9
MIDD	Middleby Corporation	Capital Goods	8	(32)	5	(28)	14	20	3	4	10
FBIN	Fortune Brands Innovations	Capital Goods	8	(36)	15	(27)	17	18	3	(2)	(4)
SITE	SiteOne Landscape Supply	Capital Goods	7	(52)	27	(38)	35	34	5	4	(19)
AYI	Acuity Brands	Capital Goods	5	(22)	(5)	(25)	12	18	5	(1)	0
WMS	Advanced Drainage Systems	Capital Goods	7	(40)	5	(36)	15	24	5	(4)	(5)
OSK	Oshkosh Corp	Capital Goods	5	(21)	(16)	(33)	11	14	3	4	47
PAYX	Paychex	Comm. & Prof. Services	39	(13)	(6)	(13)	23	25	5	6	8
BR	Broadridge Financial Solutions	Comm. & Prof. Services	18	(25)	16	(8)	21	21	3	6	9
J	Jacobs Solutions Inc.	Comm. & Prof. Services	15	(13)	(4)	(11)	14	16	3	6	11
G	Genpact Limited	Comm. & Prof. Services	7	(12)	(20)	(25)	12	17	4	8	9
RHI	Robert Half International Inc.	Comm. & Prof. Services	7	(32)	(9)	(33)	14	18	8	(3)	(13)
UNP	Union Pacific Corporation	Transportation	121	(16)	(3)	(2)	17	18	3	1	3
EXPD	Expeditors International of Washington	Transportation	17	(22)	9	2	21	21	9	(25)	(26)
AMD	Advanced Micro Devices	Semis & Equipment	153	(55)	47	(17)	29	35	5	4	1
QCOM	QUALCOMM Incorporated	Semis & Equipment	115	(39)	(5)	(25)	11	14	5	(3)	(9)
SWKS	Skyworks Solutions	Semis & Equipment	15	(40)	7	(19)	11	13	5	(2)	(6)
CSCO	Cisco Systems	Tech Hardware & Equipment	191	(22)	(0)	(16)	12	13	3	5	8
TRMB	Trimble Inc.	Tech Hardware & Equipment	12	(42)	(8)	(40)	17	20	4	5	4
SNX	TD SYNNEX Corporation	Tech Hardware & Equipment	8	(16)	(7)	(15)	7	11	3	1	2
FFIV	F5	Tech Hardware & Equipment	8	(41)	(4)	(37)	11	16	3	3	12
ARW	Arrow Electronics	Tech Hardware & Equipment	7	(22)	14	(5)	7	9	3	(6)	(21)
LFUS	Littelfuse	Tech Hardware & Equipment	6	(29)	16	(12)	18	20	4	1	(11)
VMC	Vulcan Materials Company	Materials	26	(15)	12	7	28	29	3	6	24
MLM	Martin Marietta Materials	Materials	25	(23)	19	4	24	24	3	14	26
RPM	RPM International Inc.	Materials	10	(2)	(16)	(6)	18	18	3	2	8
SEE	Sealed Air Corporation	Materials	6	(25)	(15)	(25)	11	16	3	5	(3)
EXP	Eagle Materials Inc.	Materials	6	(20)	19	7	13	16	4	0	2
List median			\$13	(25)%	0 %	(16)pp	15x	18x	4	4 %	5 %
Russell 3000 median			13	(21)	0	(16)	15	18	3	4	5

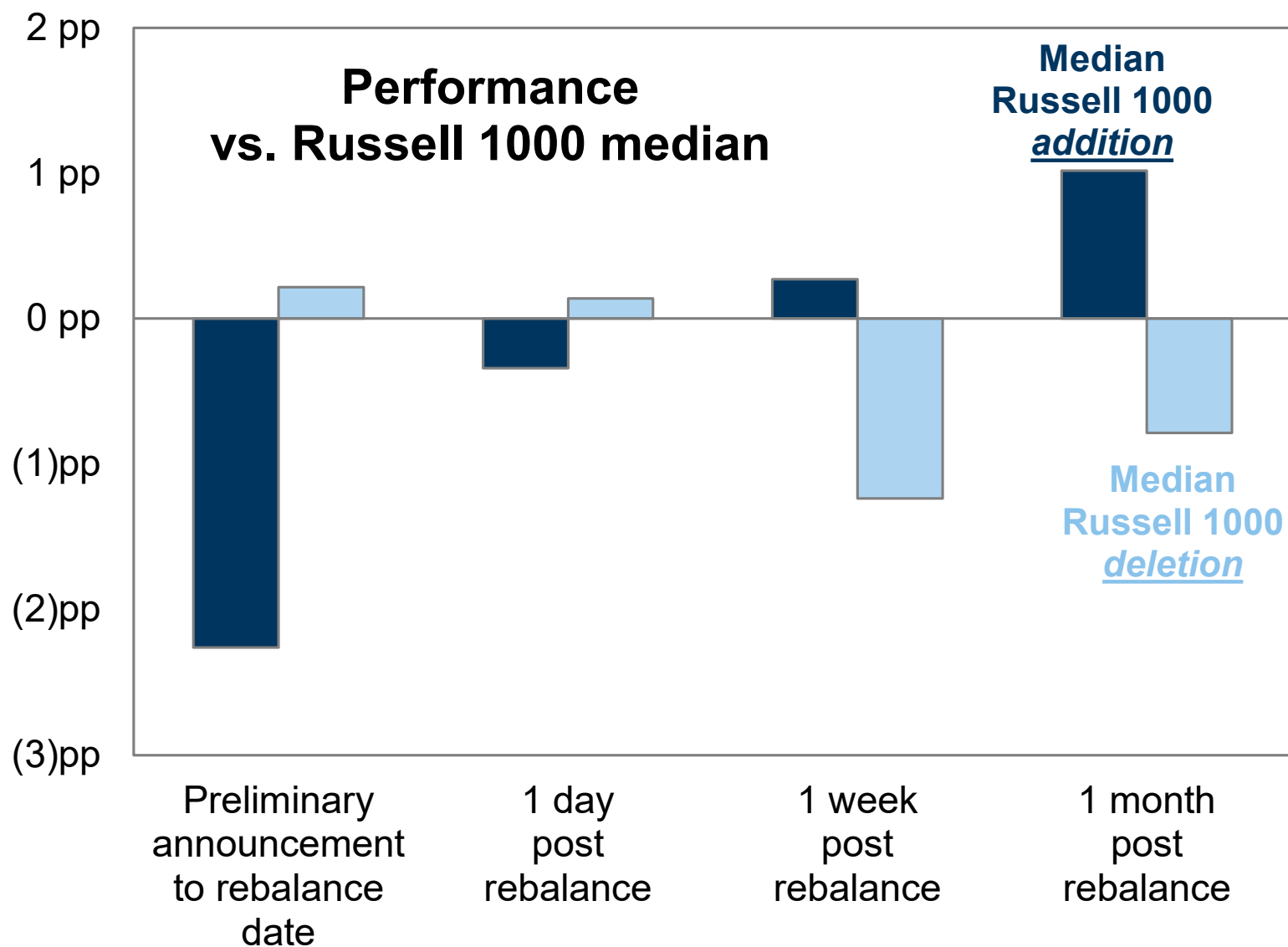
Goldman Sachs “hard-landing” portfolio

32 Russell 1000 stocks with low valuations, strong balance sheets, dividend yield

Ticker	Name	Industry group	Market cap (bn)	Total return		NTM P/E		Altman z-score	LTM dividend yield	NTM Sales growth	NTM EPS growth
				2022	YTD	Current	5y med				
ATVI	Activision Blizzard	Media & Entertainment	\$61	16 %	1 %	19x	22x	6	0 %	8 %	13 %
EA	Electronic Arts Inc.	Media & Entertainment	34	(7)	3	18	20	NM	1	4	8
COST	Costco Wholesale Corporation	Consumer Staples Distribution & Retail	224	(19)	11	33	34	8	1	6	8
SYN	Sysco Corporation	Consumer Staples Distribution & Retail	38	(0)	(1)	17	20	6	3	5	13
KO	Coca-Cola Company	Food Beverage & Tobacco	277	11	2	24	24	4	3	5	6
PM	Philip Morris International Inc.	Food Beverage & Tobacco	148	12	(5)	15	15	3	5	10	6
MO	Altria Group	Food Beverage & Tobacco	82	4	2	9	10	4	8	1	4
ADM	Archer-Daniels-Midland Company	Food Beverage & Tobacco	41	40	(18)	11	13	4	2	(1)	(9)
STZ	Constellation Brands	Food Beverage & Tobacco	42	(6)	(1)	19	21	3	1	6	10
BF.B	Brown-Forman Corporation Class B	Food Beverage & Tobacco	31	(9)	(2)	31	35	8	1	6	16
HRL	Hormel Foods Corporation	Food Beverage & Tobacco	22	(5)	(11)	22	24	5	3	2	2
LW	Lamb Weston Holdings	Food Beverage & Tobacco	17	43	29	23	24	4	1	28	13
BG	Bunge Limited	Food Beverage & Tobacco	14	9	(9)	8	11	5	3	(3)	(12)
CL	Colgate-Palmolive Company	Household & Personal Products	68	(5)	5	25	24	7	2	6	7
CHD	Church & Dwight Co.	Household & Personal Products	24	(20)	21	30	27	4	1	6	6
ABT	Abbott Laboratories	Health Care Equipment & Services	192	(21)	2	25	24	5	2	(5)	(10)
MDT	Medtronic Plc	Health Care Equipment & Services	118	(23)	15	17	18	3	3	4	(1)
RMD	ResMed Inc.	Health Care Equipment & Services	34	(19)	13	32	33	13	1	11	13
LH	Laboratory Corporation of America Holdings	Health Care Equipment & Services	20	(24)	(6)	13	14	3	1	3	(7)
STE	STERIS Plc	Health Care Equipment & Services	21	(23)	14	24	25	NM	1	6	7
TFX	Teleflex Incorporated	Health Care Equipment & Services	12	(24)	0	18	26	4	1	5	5
JNJ	Johnson & Johnson	Pharma Biotech & Life Sciences	418	6	(8)	15	16	4	3	3	4
PFE	Pfizer Inc.	Pharma Biotech & Life Sciences	211	(10)	(26)	11	12	4	4	(23)	(37)
TMO	Thermo Fisher Scientific Inc.	Pharma Biotech & Life Sciences	202	(17)	(5)	21	23	4	0	3	6
DHR	Danaher Corporation	Pharma Biotech & Life Sciences	168	(19)	(14)	23	27	5	0	(1)	(6)
ZTS	Zoetis	Pharma Biotech & Life Sciences	85	(40)	26	33	32	7	1	7	11
A	Agilent Technologies	Pharma Biotech & Life Sciences	38	(6)	(15)	21	25	6	1	5	10
MSFT	Microsoft Corporation	Software & Services	2,297	(28)	29	29	27	8	1	11	13
ACN	Accenture Plc	Software & Services	184	(35)	5	23	25	7	2	6	8
INTU	Intuit Inc.	Software & Services	120	(39)	10	28	35	8	1	11	13
ROP	Roper Technologies	Software & Services	49	(12)	7	28	27	4	1	10	12
CTSH	Cognizant Technology Solutions Corporation	Software & Services	31	(35)	8	14	16	6	2	2	2
List median			\$55	(11)%	2 %	22x	24x	5	1 %	5 %	6 %
Russell 1000 median			55	(17)	2	22	24	3	1	5	6

Performance around Russell index reconstitution

Median Russell 1000 addition outperforms while median deletion underperforms



Potential Russell 1000 additions

23 expected additions at the June 23 annual rebalance

Ticker	Name	Sector	Current status	Market cap (bn)	YTD return	2023E growth		NTM P/E	NTM EV/sales
						EPS	Sales		
SWAV	Shockwave Medical	Health Care	R2K	\$11	41 %	(35)%	37 %	73 x	15 x
APLS	Apellis Pharmaceuticals	Health Care	R2K	9	61	NM	155	NM	28
RXDX	Prometheus Biosciences	Health Care	R2K	9	76	NM	(73)	NM	NM
EME	EMCOR Group	Industrials	R2K	8	16	21	11	17	1
IRDM	Iridium Communications Inc.	Communication Services	R2K	8	24	326	12	186	12
SAIA	Saia	Industrials	R2K	8	42	(8)	(2)	23	3
INSP	Inspire Medical Systems	Health Care	R2K	8	6	NM	40	NM	11
CROX	Crocs	Consumer Discretionary	R2K	8	14	6	13	10	2
KNSL	Kinsale Capital Group	Financials	R2K	8	25	31	31	30	5
KRTX	Karuna Therapeutics	Health Care	R2K	7	1	NM	(64)	NM	178
TXRH	Texas Roadhouse	Consumer Discretionary	R2K	7	22	19	13	23	2
CELH	Celsius Holdings	Consumer Staples	R2K	7	(8)	NM	55	82	7
RBC	RBC Bearings Incorporated	Industrials	R2K	7	8	11	6	28	5
RCM	R1 RCM Inc	Health Care	R2K	7	42	NM	28	46	3
ADC	Agree Realty	Real Estate	R2K	6	(3)	(5)	18	38	14
RLI	RLI	Financials	R2K	6	6	7	5	28	4
HLI	Houlihan Lokey	Financials	R2K	6	5	12	11	18	3
MEDP	Medpace Holdings	Health Care	R2K	6	(6)	13	22	24	4
STAG	STAG Industrial	Real Estate	R2K	6	6	(24)	7	43	12
AQUA	Evoqua Water Technologies Corp	Industrials	R2K	6	25	(14)	8	48	4
WING	Wingstop	Consumer Discretionary	R2K	6	46	4	15	97	15
MUSA	Murphy USA	Consumer Discretionary	R2K	6	(1)	(31)	(9)	14	0
ITCI	Intra-Cellular Therapies	Health Care	R2K	6	17	NM	80	NM	11
List median				\$7	16 %	6 %	13 %	29 x	5 x
Russell 1000 median				12	3	4	5	17	3

Potential Russell 1000 Growth/Value sector weights

Tech will remain the largest sector in Growth, but Comm Services will increase

Potential sector weights of Russell 1000 Growth and Value indexes

Russell 1000 Growth				Russell 1000 Value			
Sector	Current	Forecast	Change	Sector	Current	Forecast	Change
Communication Services	7%	12%	420 bp	Industrials	11%	13%	220 bp
Financials	7	7	45	Consumer Staples	8	9	145
Health Care	12	12	36	Consumer Discretionary	6	7	103
Consumer Discretionary	14	14	3	Information Technology	7	8	32
Utilities	0	0	1	Materials	4	5	30
Real Estate	1	1	(20)	Energy	8	8	15
Materials	1	1	(37)	Financials	20	20	(5)
Consumer Staples	6	6	(43)	Real Estate	4	4	(15)
Information Technology	42	41	(73)	Utilities	6	5	(37)
Energy	1	0	(93)	Health Care	16	15	(150)
Industrials	8	6	(240)	Communication Services	9	5	(339)
Total	100%	100%	0 bp	Total	100%	100%	0 bp

Largest potential Growth/Value weighting increases

META expected to increase weight in GROWTH, WMT expected in VALUE

Russell 1000 Growth

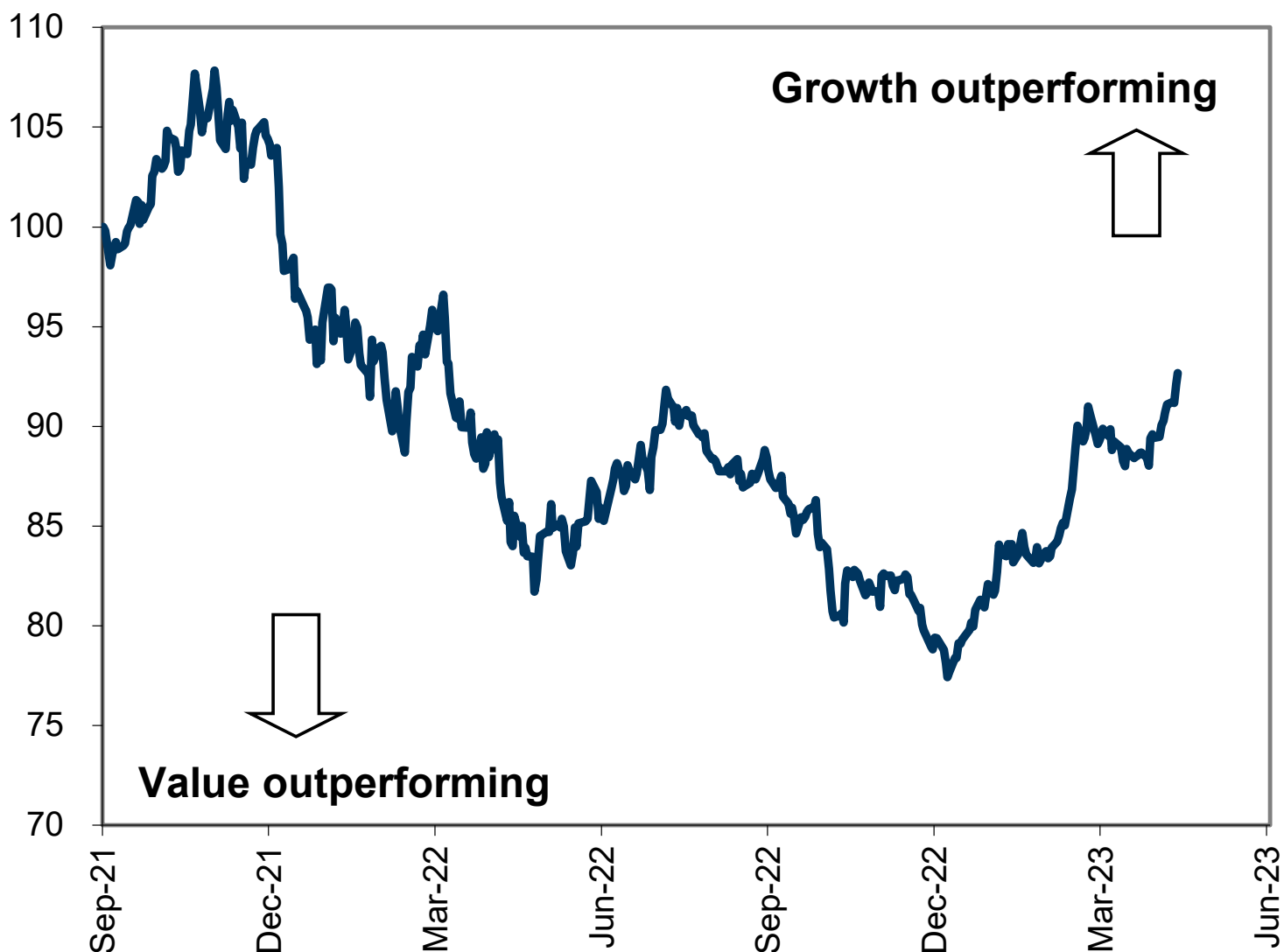
Ticker	Name	Sector	Market cap (\$ bn)	YTD return	Current weight in Russell 1000		Potential weight in Russell 1000		Potential change Russell 1000	
					Value	Growth	Value	Growth	Value	Growth
META	Meta Platforms Inc.	Communication Services	617	100 %	2.3%	0.6%	0.0%	3.0%	(226)bp	241 bp
GOOGL	Alphabet Inc.	Communication Services	1,366	22	0.8	5.4	0.0	6.6	(85)	125
TMO	Thermo Fisher Scientific Inc.	Health Care	217	1	1.0	0.1	0.2	0.9	(83)	72
CRM	Salesforce	Information Technology	195	50	0.8	0.2	0.2	0.8	(64)	57
AMZN	Amazon.com	Consumer Discretionary	1,082	26	0.0	4.8	0.0	5.2	0	47
V	Visa Inc.	Financials	477	12	0.0	1.9	0.0	2.3	0	39
NFLX	Netflix	Communication Services	147	12	0.4	0.3	0.0	0.7	(43)	38
TSLA	Tesla	Consumer Discretionary	521	33	0.0	2.2	0.0	2.5	0	36
TMUS	T-Mobile US	Communication Services	173	3	0.5	0.0	0.5	0.3	4	34
LLY	Eli Lilly and Company	Health Care	356	9	0.3	1.4	0.0	1.7	(33)	34

Russell 1000 Value

Ticker	Name	Sector	Market cap (\$ bn)	YTD return	Current weight in Russell 1000		Potential weight in Russell 1000		Potential change Russell 1000	
					Value	Growth	Value	Growth	Value	Growth
WMT	Walmart Inc.	Consumer Staples	407	7 %	1.2%	0.0%	2.0%	0.0%	82 bp	0 bp
CAT	Caterpillar Inc.	Industrials	113	(8)	0.1	0.5	0.5	0.0	47	(50)
LOW	Lowe's Companies	Consumer Discretionary	125	5	0.1	0.6	0.6	0.1	46	(50)
LMT	Lockheed Martin	Industrials	118	(4)	0.0	0.5	0.4	0.2	36	(33)
DE	Deere & Company	Industrials	112	(12)	0.0	0.5	0.4	0.2	35	(33)
IBM	International Business Machines	Information Technology	115	(9)	0.2	0.4	0.6	0.0	35	(39)
ORCL	Oracle	Information Technology	256	17	0.2	0.5	0.6	0.7	32	17
BRK.B	Berkshire Hathaway Inc.	Financials	719	6	3.2	0.0	3.5	0.0	31	0
AON	Aon Plc	Financials	66	9	0.0	0.3	0.3	0.0	30	(32)
CHTR	Charter Communications	Communication Services	56	9	0.0	0.2	0.2	0.0	25	(17)

Performance of Russell 1000 Growth vs. Value

Russell 1000 Growth has outperformed Value by 18 pp YTD (+18% vs. 0%)



8. Global equity markets – portfolio passport

Sector decomposition of global equity indices

All-Country World dominated by Tech (22%), Financials (14%), Healthcare (13%)

GICS sector	AC World	US	Europe	APxJ	Japan
Info Tech	22 %	26 %	7 %	19 %	13 %
Financials	14	13	16	22	11
Health Care	13	14	16	5	9
Cons Disc	11	10	11	14	18
Industrials	10	8	15	6	24
Cons Staples	8	7	13	5	7
Comm Services	7	8	3	9	8
Energy	5	4	6	4	1
Materials	5	3	7	9	6
Utilities	3	3	4	3	1
Real Estate	2	3	1	4	2
Total	100 %	100 %	100 %	100 %	100 %
Market cap (tn)	\$60.2	\$36.3	\$10.3	\$7.4	\$2.9
Percent of World	100 %	60 %	17 %	12 %	5 %

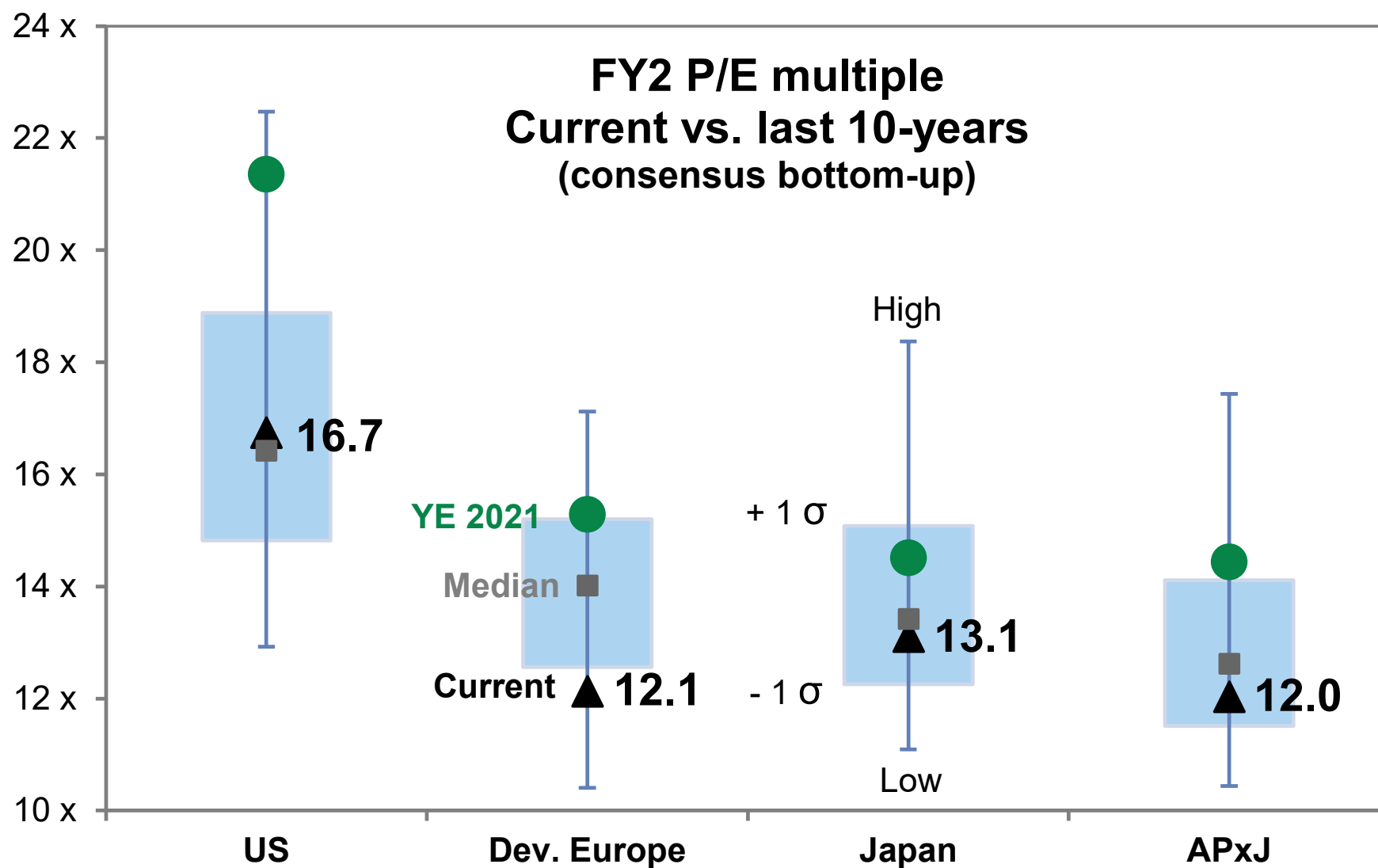
Global equity market returns, valuation, and growth

Local currency return: Asia (+20%), Japan (+8%), Europe (+6%), US (-1%)

INDEX			EARNINGS		VALUATION			RETURN	
	Index level		Adjusted		Forward P/E (GS)		Div Yield	Forecast total return	
	Current	YE 2023 target			Current Price/ NTM EPS	YE 2023 price target/ 2024E EPS			
		EPS Growth							
		2023	2024						
MXAPJ	514	600	1 %	17 %	12.9 x	13.3 x	3.0 %	20 %	20 %
TOPIX	2083	2200	3	6	13.0	13.1	2.5	8	15
STOXX Europe 600	464	475	(5)	5	13.8	13.6	3.5	6	7
S&P 500	4131	4000	1	5	18.2	16.9	1.7	(1)	(1)

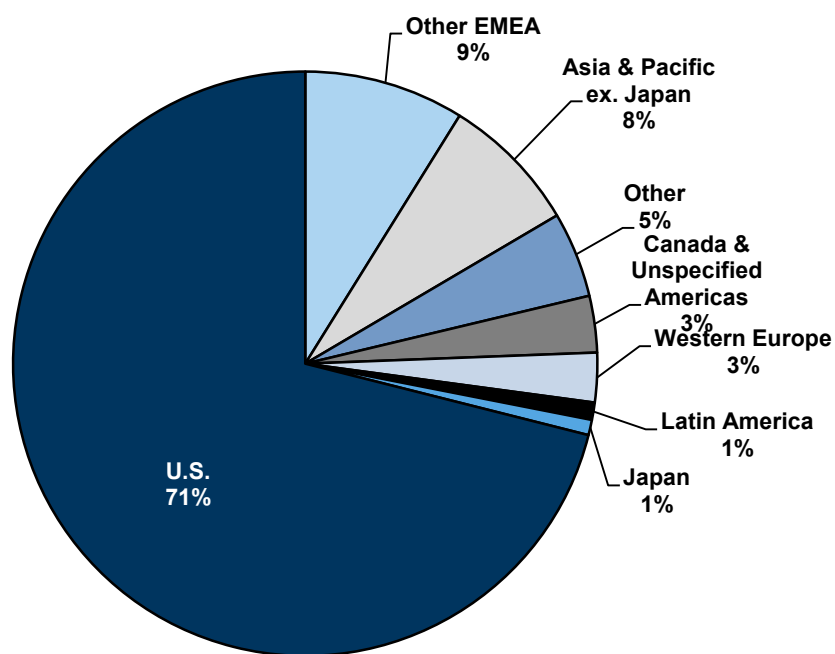
Global equity market valuation vs. history

Nearly every market currently trades at or below median historical valuations



S&P 500 index and sector foreign sales

29% of aggregate S&P 500 sales are foreign led by Tech at 60%



Sector	Revenues (\$bn)		Sales Exposure	
	Total	Foreign	Foreign	Explicit EM
Information Technology	\$1,557	\$928	60 %	18 %
Materials	521	244	47	12
Energy	1,546	544	35	2
Industrials	1,545	504	33	6
Communication Services	1,194	330	28	0
Consumer Staples	2,116	546	26	3
Consumer Discretionary	1,886	483	26	3
Financials	1,878	420	22	1
Real Estate	142	32	22	3
Health Care	2,840	486	17	2
Utilities	422	10	2	2
S&P 500	\$15,649	\$4,528	29 %	4 %

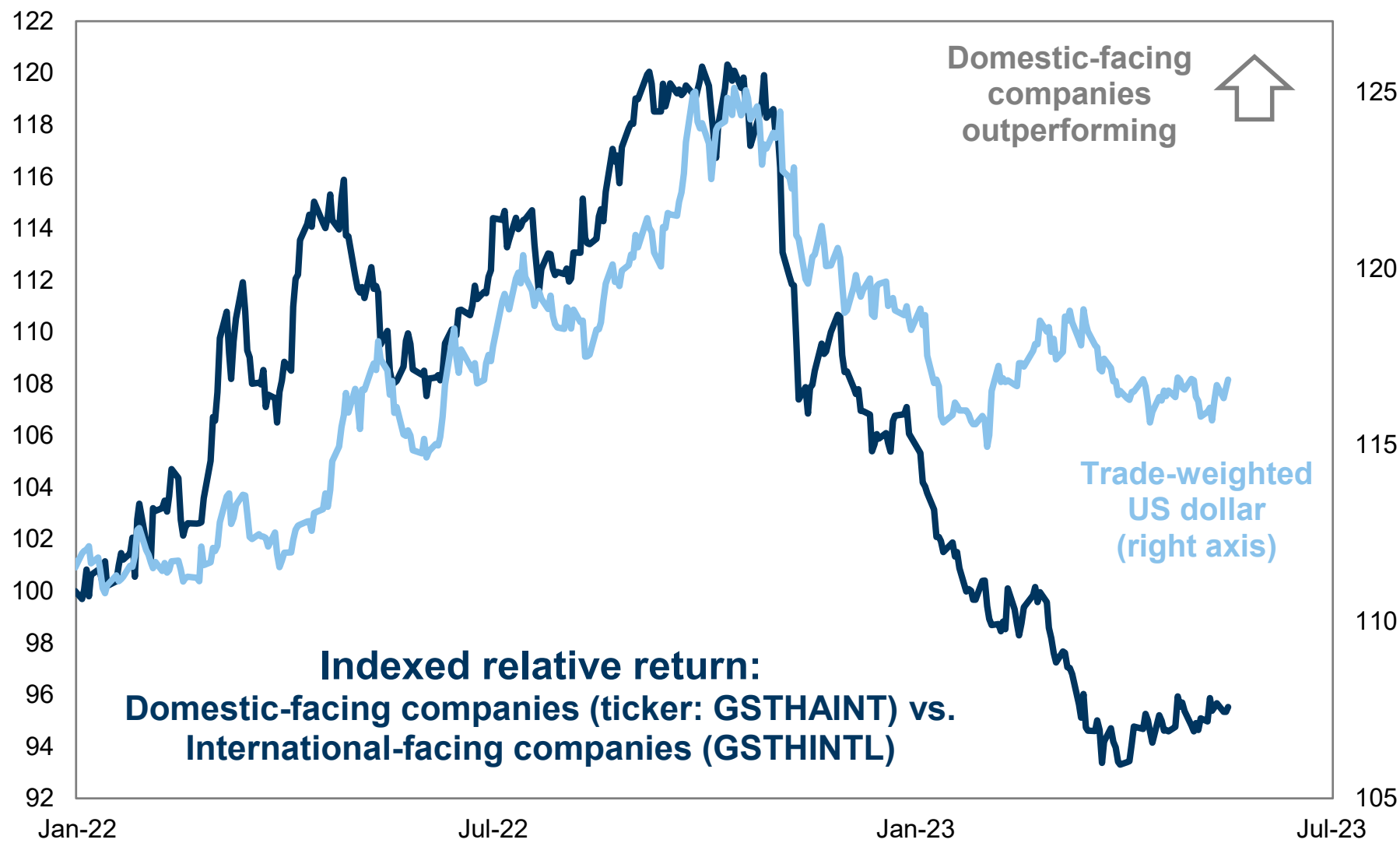
Geographic sales baskets

International basket is 73% non-US sales; Domestic basket is 100% US sales

	Bloomberg Ticker	Total Return YTD	Non-US Sales Exposure	2023E Growth		2023E profit margin	P/E NTM
				Sales	Earnings		
International Sales	GSTHINTL	6 %	73 %	3 %	5 %	16 %	19.1x
Western Europe Sales	GSTHWEUR	2	55	4	5	13	16.2
EM Sales	GSTHBRIC	4	33	3	(0)	15	15.7
Domestic Sales	GSTHAINT	(4)	0	3	(0)	11	16.3
S&P 500	SPX	8 %	29 %	2 %	(1)%	11 %	18.1x
S&P 500 Median		(0)	28	5	5	13	17.4

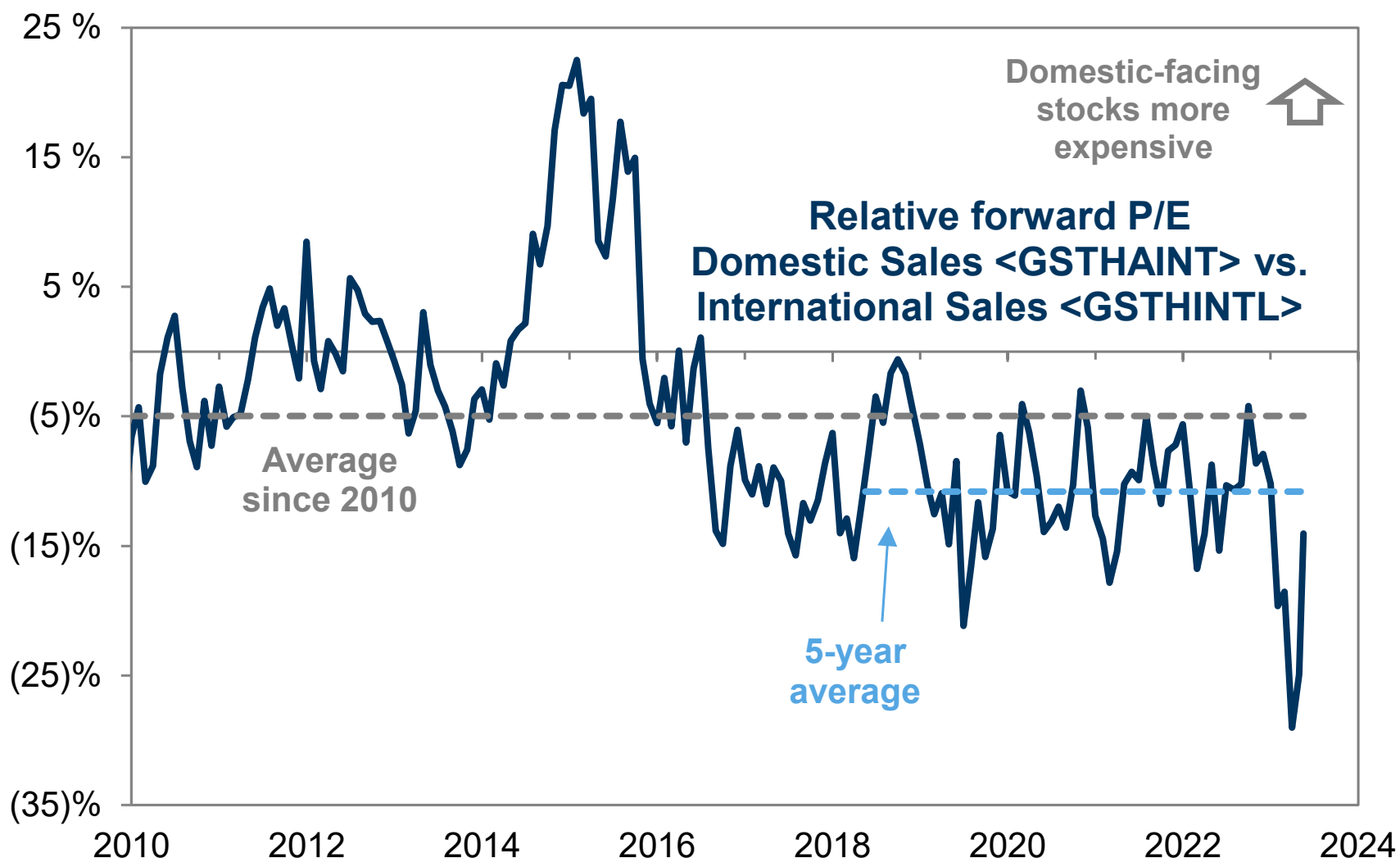
International sales basket outperforming Domestic

GSTHINTL has returned 8% YTD vs. -3% for GSTHAINT



International sales basket expensive vs. Domestic

Relative P/E multiple of GSTHINTL vs. GSTHAINT



Constituents of Domestic sales basket (GSTHAINT)

Sector-neutral basket of stocks with greatest share of domestic sales (100%)

Company	Ticker	YTD return	Mkt. cap (\$, bn)	Sales (\$, bn)	Non-U.S. sales
COMMUNICATION SERVICES					
Verizon Communications	VZ	(5)%	\$152	\$137	0 %
T-Mobile US Inc.	TMUS	1	175	80	0
Charter Communications	CHTR	(0)	52	54	0
Fox Corp.	FOXA	4	13	14	0
Basket median					0 %
Sector median					34
CONSUMER DISCRETIONARY					
Lennar Corp.	LEN	28 %	\$29	\$34	0 %
D.R. Horton Inc.	DHI	27	39	33	0
CarMax Inc.	KMX	18	11	32	0
Ross Stores Inc.	ROST	(10)	36	19	0
AutoZone Inc.	AZO	9	50	16	0
Basket median					0 %
Sector median					28
CONSUMER STAPLES					
Kroger Co.	KR	12 %	\$35	\$148	0 %
Target Corp.	TGT	9	74	109	0
Dollar General	DG	(12)	48	38	0
Dollar Tree Inc.	DLTR	12	35	26	0
Basket median					0 %
Sector median					18
ENERGY					
Marathon Petroleum	MPC	(4)%	\$50	\$177	0 %
Pioneer Natural Resources	PXD	(8)	48	24	0
Basket median					0 %
Sector median					4
FINANCIALS					
Allstate Corp.	ALL	(12)%	\$31	\$51	0 %
Progressive Corp.	PGR	5	80	50	0
Capital One Financial	COF	3	36	38	0
PNC Financial Svc. Grp	PNC	(23)	48	24	0
Truist Financial	TFC	(31)	38	23	0
Charles Schwab	SCHW	(37)	94	22	0
Lincoln National	LNC	(29)	4	19	0
Basket median					0 %
Sector median					14
HEALTH CARE					
CVS Health Corp.	CVS	(24)%	\$89	\$322	0 %
Elevance Health	ELV	(10)	110	157	0
Centene Corp.	CNC	(18)	37	145	0
Humana Inc.	HUM	2	65	93	0
Molina Healthcare	MOH	(11)	17	32	0
Quest Diagnostics	DGX	(15)	15	10	0
Regeneron Pharmaceuticals	REGN	4	81	7	1
Basket median					0 %
Sector median					37
INDUSTRIALS					
Union Pacific Corp.	UNP	(3)%	\$122	\$25	0 %
Southwest Airlines	LUV	(10)	18	24	0
CSX Corp.	CSX	3	67	15	0
J.B. Hunt Transport Svc.	JBHT	(1)	18	15	0
Basket median					0 %
Sector median					29
INFORMATION TECHNOLOGY					
Tyler Technologies	TYL	23 %	\$16	\$2	0 %
Intuit Inc.	INTU	11	121	13	8
CDW Corp.	CDW	(3)	23	24	12
Roper Technologies	ROP	5	48	6	15
First Solar Inc.	FSLR	40	22	3	16
Arista Networks	ANET	12	42	4	21
Enphase Energy Inc.	ENPH	(38)	22	2	24
Cognizant Tech Solutions	CTSH	10	32	19	26
Fair Isaac Corp.	FICO	25	19	1	28
Skyworks Solutions	SWKS	9	16	5	33
Gen Digital Inc.	GEN	(25)	10	3	33
Gartner Inc.	IT	(4)	26	5	34
Motorola Solutions	MSI	14	49	9	34
Basket median					24 %
Sector median					55
MATERIALS					
Nucor Corp.	NUE	6 %	\$35	\$42	0 %
Basket median					0 %
Sector median					55
REAL ESTATE					
Crown Castle Inc.	CCI	(15)%	\$50	\$7	0 %
Basket median					0 %
Sector median					0
UTILITIES					
NRG Energy Inc.	NRG	7 %	\$8	\$32	0 %
Southern Co.	SO	1	77	29	0
Basket median					0 %
Sector median					0
GSTHAINT median		1 %			0 %
S&P 500 median		1			28

Constituents of non-US sales basket (GSTHINTL)

Sector-neutral basket of stocks with greatest share of international sales (73%)

Company	Ticker	YTD return	Mkt. cap (\$, bn)	Sales (\$, bn)	Non-U.S. sales
COMMUNICATION SERVICES					
News Corp.	NWSA	4 %	\$9	\$10	61 %
Meta Platforms Inc.	META	101	540	117	60
Netflix Inc.	NFLX	15	151	32	59
Electronic Arts	EA	2	34	7	57
Basket median					59 %
Sector median					34
CONSUMER DISCRETIONARY					
Las Vegas Sands	LVS	24 %	\$46	\$4	100 %
Booking Holdings	BKNG	34	105	17	87
BorgWarner Inc.	BWA	11	10	16	81
Aptiv PLC	APTIV	1	25	17	64
NIKE Inc.	NKE	0	146	47	60
Basket median					81 %
Sector median					28
CONSUMER STAPLES					
Philip Morris Intl	PM	(6)%	\$145	\$32	100 %
Estee Lauder Companies	EL	(20)	46	18	77
Bunge Limited	BG	(10)	13	67	75
Mondelez Intl	MDLZ	17	105	31	74
Basket median					76 %
Sector median					18
ENERGY					
Schlumberger	SLB	(16)%	\$63	\$28	84 %
Baker Hughes	BKR	(6)	28	21	77
Basket median					80 %
Sector median					4

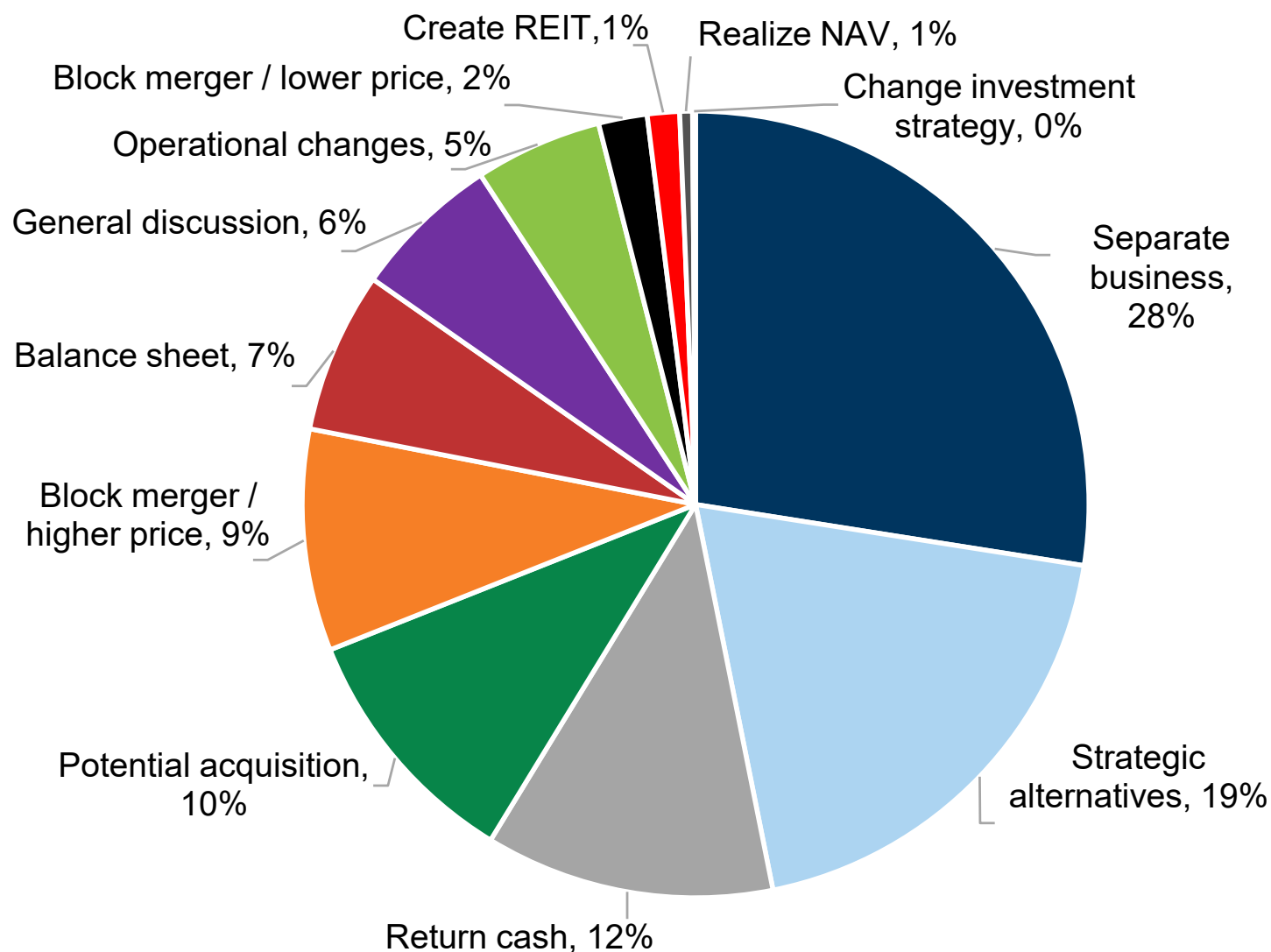
Company	Ticker	YTD return	Mkt. cap (\$, bn)	Sales (\$, bn)	Non-U.S. sales
FINANCIALS					
Mastercard Inc.	MA	12 %	\$367	\$22	67 %
Aflac Inc.	AFL	(7)	41	19	65
MSCI Inc.	MSCI	(0)	37	2	58
Visa Inc.	V	12	378	29	56
Aon Plc	AON	8	66	12	55
Citigroup Inc.	C	6	91	75	52
Marsh & McLennan Cos.	MMC	8	88	21	51
Basket median					56 %
Sector median					14
HEALTH CARE					
Organon & Co.	OGN	(25)%	\$5	\$6	77 %
Viatris Inc.	VTRS	(15)	11	16	76
Moderna Inc.	MRNA	(30)	48	19	73
Waters Corp.	WAT	(23)	16	3	70
Mettler-Toledo Intl	MTD	(5)	30	4	65
Agilent Technologies	A	(14)	38	7	65
DENTSPLY SIRONA	XRAY	27	9	4	64
Basket median					70 %
Sector median					37
INDUSTRIALS					
Otis Worldwide	OTIS	7 %	\$35	\$14	72 %
Expeditors Intl	EXPD	9	18	17	71
Nordson Corp.	NDSN	(8)	12	3	67
Caterpillar Inc.	CAT	(11)	110	59	59
Basket median					69 %
Sector median					29

Company	Ticker	YTD return	Mkt. cap (\$, bn)	Sales (\$, bn)	Non-U.S. sales
INFORMATION TECHNOLOGY					
QUALCOMM Inc.	QCOM	(4)%	\$117	\$44	97 %
Monolithic Power Systems	MPWR	18	20	2	94
Lam Research Corp.	LRCX	37	77	17	93
NXP Semiconductors	NXPI	9	44	13	90
KLA Corp.	KLAC	11	58	9	90
Applied Materials	AMAT	29	106	26	88
Teradyne Inc.	TER	9	15	3	85
ON Semiconductor	ON	37	37	8	82
Broadcom Inc.	AVGO	18	275	33	82
Microchip Technology	MCHP	10	42	7	78
Intel Corp.	INTC	11	119	63	74
TE Connectivity	TEL	7	39	16	74
Western Digital	WDC	17	12	19	71
Basket median					85 %
Sector median					55
MATERIALS					
Newmont Corp.	NEM	(4)%	\$36	\$12	100 %
Basket median					100 %
Sector median					55
REAL ESTATE					
Equinix Inc.	EQIX	12 %	\$67	\$7	60 %
Basket median					60 %
Sector median					0
UTILITIES					
AES Corp.	AES	(26)%	\$14	\$13	68 %
Sempra Energy	SRE	(4)	46	14	10
Basket median					39 %
Sector median					0
GSTHINTL median		7 %			73 %
S&P 500 median		1			28

9. Activism

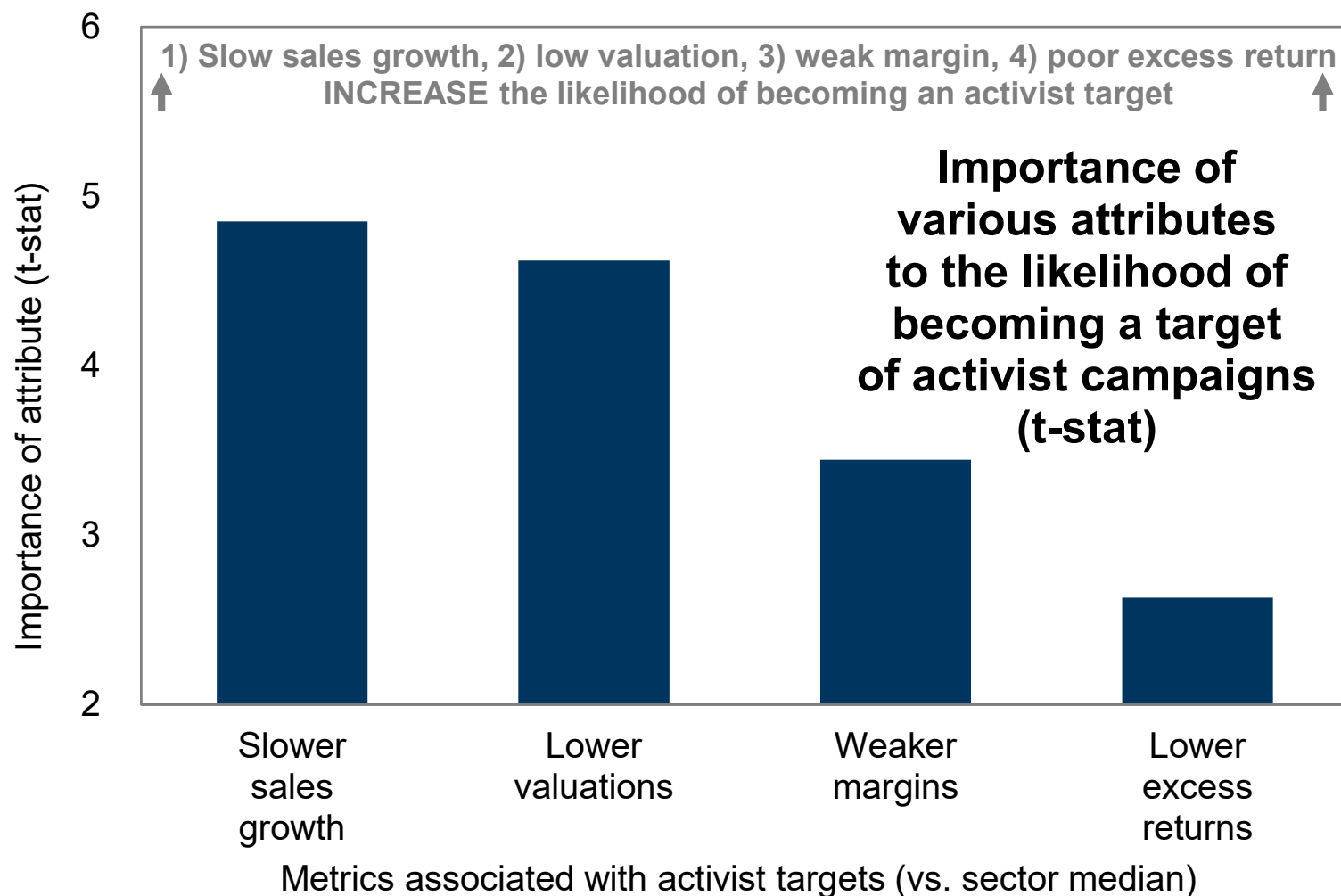
Value demands sought by activist investors

Business separation is top demand across 2,142 activist campaigns since 2006



Sources of vulnerability to activism campaigns

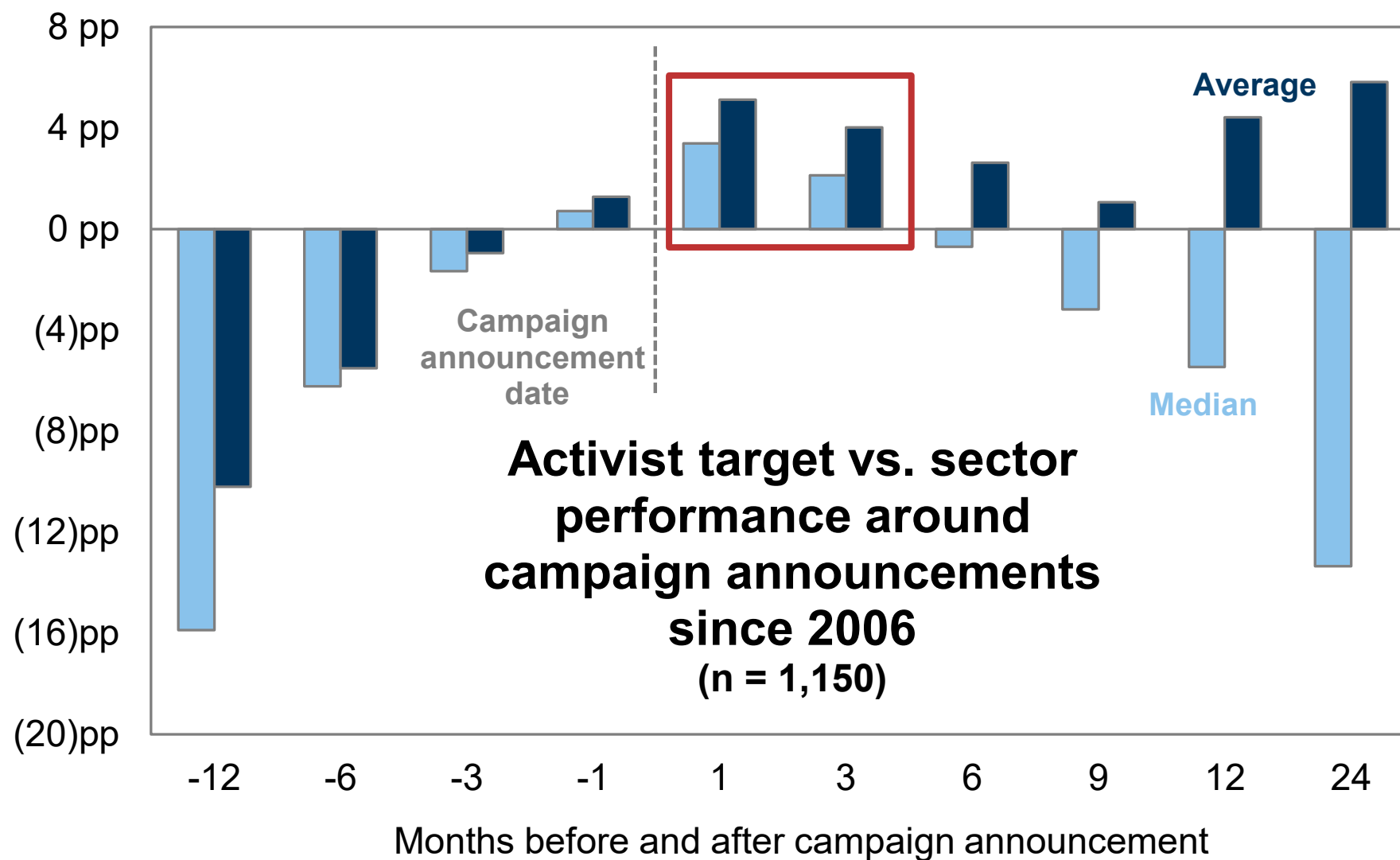
(1) Slow sales growth, (2) low valuation, (3) weak margin, (4) poor excess returns



See [Shareholder activism: What investors seek, which companies are targeted, and how stocks perform \(April 20, 2023\)](#) for a list of 116 stocks in the Russell 3000 index that may be susceptible to an activist campaign

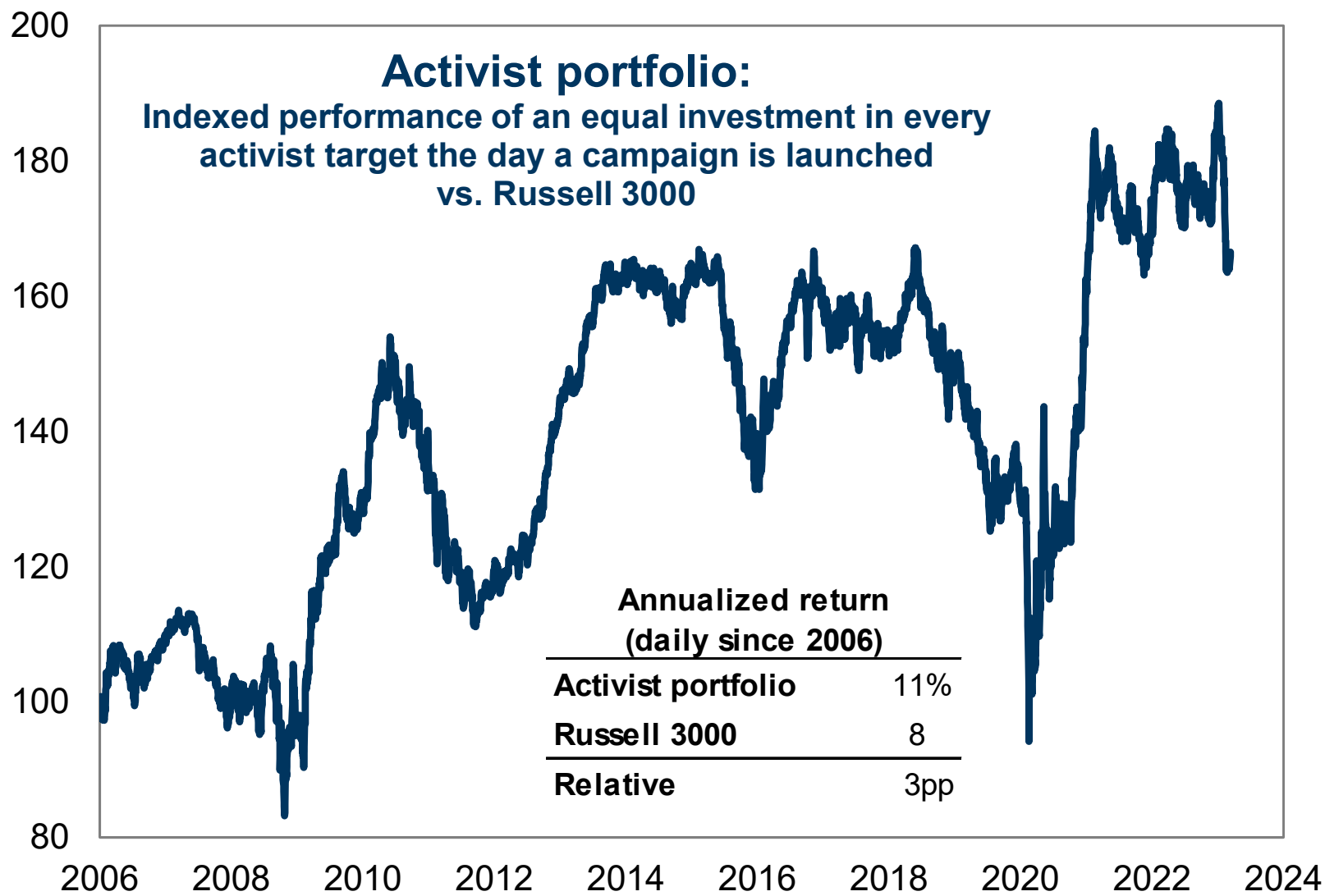
Activist target performance vs. sector

Average target outperformed over 1- and 2-years; median target underperformed



Activism portfolio performance

Portfolio has outperformed the Russell 3000 by 3 pp annually since 2006



Investors with most activist campaigns since 2006

Average target return vs. sector after an activist campaign is announced

Name	# of campaigns	Average target return vs. sector after a campaign is announced			Most frequent demand
		3 months	6 months	12 months	
Elliott Management Corporation	53	10 pp	5 pp	0 pp	Separate business
Icahn Carl Celian	52	6	3	12	Separate business
Starboard Value LP	52	6	1	3	Separate business
JANA Partners LLC	35	9	9	(3)	Separate business
Land & Buildings Investment Management LLC	32	1	3	3	Separate business
GAMCO Asset Management, Inc.	28	7	8	8	Separate business
Clinton Group, Inc.	24	3	(4)	31	Separate business
Sandell Asset Management Corp.	24	3	(4)	(2)	Separate business
Ancora Advisors LLC	23	5	1	11	Separate business
Engaged Capital LLC	20	7	(6)	5	Separate business
Relational Investors LLC	18	1	(1)	4	Separate business
Corvex Management LP	16	13	10	13	Separate business
ValueAct Capital Management, L.P.	15	18	5	11	Strategic alternatives
Trian Fund Management, L.P.	15	6	7	7	Separate business
Engine Capital Management LP	15	23	17	44	Separate business
Legion Partners Asset Management, LLC	15	6	4	0	Separate business
Marcato Capital Management LP	14	3	1	(11)	Cash return
Cowen Investment Management LLC	13	15	5	15	Separate business
Discovery Group I, LLC	13	(2)	(18)	(15)	Strategic alternatives
Third Point LLC	13	10	5	(0)	Separate business

Disclosure Appendix

May 18, 2023

Reg AC

We, David J. Kostin, Ben Snider, Ryan Hammond, Cormac Conners, Lily Calcagnini, Jenny Ma and Daniel Chavez, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

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