US WEEKLY KICKSTART

What to own when slowing growth meets narrow breadth

Ben Snider
+1(212)357-1744 | ben.snider@gs.com
Goldman Sachs & Co. LLC

Ryan Hammond
+1(212)902-5625 | ryan.hammond@gs.com
Goldman Sachs & Co. LLC

Daniel Chavez
+1(212)357-7657 | daniel.chavez@gs.com
Goldman Sachs & Co. LLC

Kartik Jayachandran
+1(212)855-7744 | kartik.jayachandran@gs.com
Goldman Sachs & Co. LLC

Christophe Sung
+1(212)902-3841 | christophe.sung@gs.com
Goldman Sachs & Co. LLC

- **After months of intensifying pressure from interest rates, concerns about the rising cost of capital have caused the equity market to downgrade its growth expectations.** A sharp reduction in investor positioning has amplified equity market moves. During the past two weeks our Cyclicals vs. Defensives pair has declined by 6%, and rates and credit markets have reflected similar pressures.
- **Our baseline forecasts embed slowing — but still solid — growth in 2027.** Adjusting for accounting distortions, we expect S&P 500 EPS growth of 29% in 2026 and 18% in 2027. In addition to pressure from interest rates and energy prices, slowing AI investment growth will be a fading tailwind. The very early read from the Q3 earnings reporting season supports this view. 53% of S&P 500 firms have beaten consensus EPS thus far, above the long-term average of 50% but below the rate of 64% during the past four quarters. Similarly, while upgrades to analyst earnings estimates continue to outnumber downgrades, revision breadth has declined during the last several weeks.
- **Equity prices should continue to rise as long as earnings grow.** Positive but decelerating growth has historically been associated with positive but moderating S&P 500 returns. Equity returns in these environments have historically been driven by earnings growth rather than by valuation expansion. Within the market, a backdrop of positive but decelerating growth usually supports the outperformance of companies with secular growth over those with cyclical growth as well as stocks with price momentum, positive earnings revisions, and low volatility.
- **In contrast with the historical playbook, extremely narrow market breadth today cautions investors to be wary of Momentum factor exposure.** With the S&P 500 just 2% from its record high but the median S&P 500 stock 15% from its high, our preferred measure of market breadth remains near its narrowest level since the Dot-Com Bubble. Narrow breadth can resolve with either a "catch down" by recent outperformers or a "catch up" by recent laggards, but either outcome results in a reversal of Momentum. The 8% decline of our Momentum factor this week has continued this pattern.
- **We recommend consumer-facing laggards for a "catch-up" and highlight a screen of defensive stocks with quality attributes for investors concerned about a further "catch-down."** Our base case macro outlook points to real

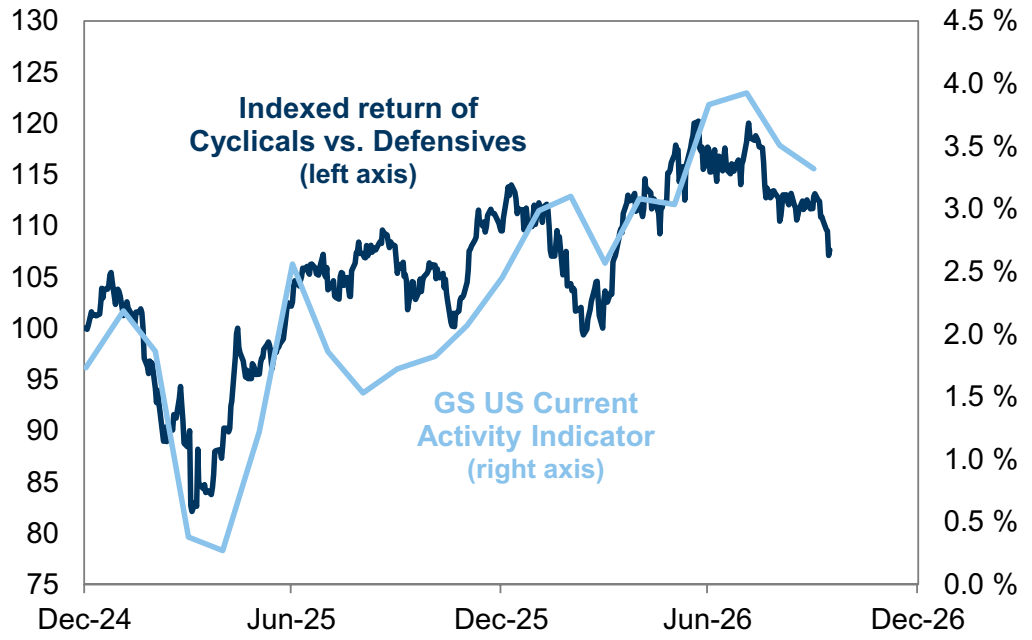
Investors should consider this report as only a single factor in making their investment decision. For Reg AC certification and other important disclosures, see the Disclosure Appendix, or go to www.gs.com/research/hedge.html.

income growth acceleration in 2027, particularly for the lowest income consumers. A basket of low-income consumer discretionary stocks (GSXULOWD) has rallied by 7% since the start of October. Consumer experience stocks also remain an attractive area of secular growth. If the growth outlook continues to deteriorate, Exhibit 19 contains 23 defensive stocks from the Health Care and Consumer Staples sectors with low realized share price volatility and high free cash flow yields relative to sector peers.

What to own when slowing growth meets narrow breadth

Intensifying concerns about the cost and availability of funding have caused investors to reduce their equity market exposures and price a deceleration in the growth outlook. Rising energy prices and interest rates have weighed on the performance of many cyclical equities since early August. During the last two weeks, however, the potential implications of a sharply rising cost of capital on the AI build-out have weighed further on the market outlook for economic and earnings growth. Exacerbating these rotations, this week GS Prime Services noted a sharp reduction in hedge fund net leverage alongside a positioning pullback in AI-related stocks.

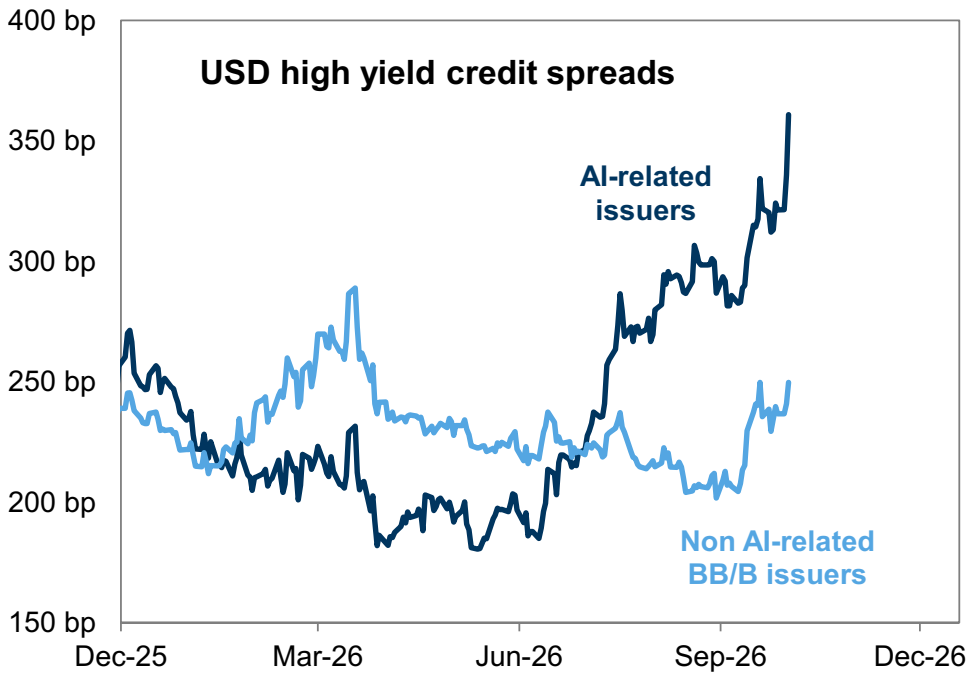
Exhibit 1: The equity market has recently downgraded its growth outlook



Source: Goldman Sachs Global Investment Research

Rates and credit markets have similarly reflected increasing pressure from funding costs and a downgrade to the outlook for growth. After climbing by more than 100 bp during the past six months, the 10-year Treasury yield has declined by more than 20 bp during the past two weeks. At the same time, USD high yield credit spreads widened by more than 20 bp, with pressure particularly concentrated in AI-related spreads alongside relative resilience in the defensive Energy and Utility sectors.

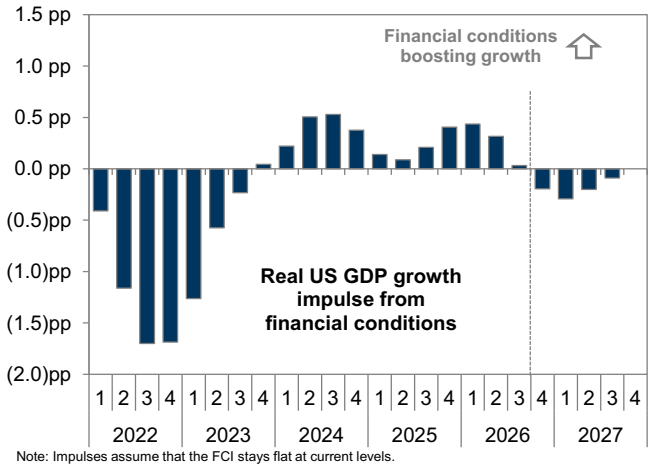
Exhibit 2: High yield credit spreads have recently widened, especially for AI-related issuers



Source: iBoxx, Goldman Sachs Global Investment Research

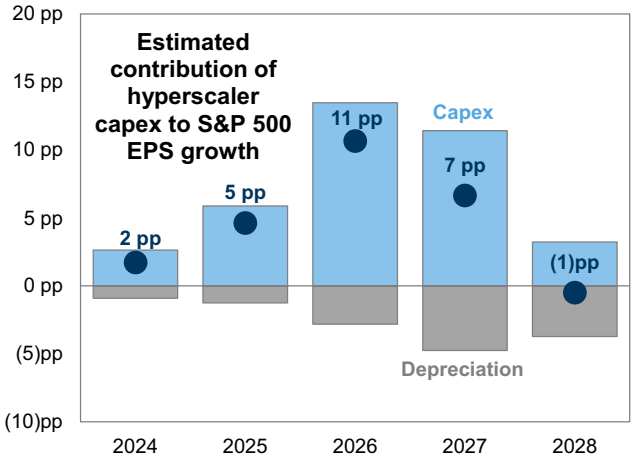
Our baseline forecasts point to decelerating - but still solid - growth into 2027. We expect S&P 500 EPS growth of 36% in 2026 will slow to 11% in 2027. Adjusting for non-recurring accounting distortions to 2026 earnings, our forecast for earnings growth in 2027 would register 18%. Our forecasts assume a modest deceleration in real US economic growth in coming quarters, in part reflecting the drag from higher oil prices and interest rates. In addition, we estimate that AI capex is currently contributing about half of S&P 500 EPS growth, and that impulse should diminish into 2027 as capex growth slows and depreciation expenses build.

Exhibit 3: Financial conditions no longer boosting US GDP growth



Source: Goldman Sachs Global Investment Research

Exhibit 4: The earnings boost from AI capex should fade going forward



Source: Goldman Sachs Global Investment Research

Our 2027 S&P 500 EPS forecast is similar to the current bottom-up consensus estimate, implying that the recent trend of large upward revisions to analyst estimates is likely behind us. The distribution of potential earnings outcomes is wider in 2028, by which time we think the boost to growth from AI investment spending will have completely faded. Our base case is for another year of healthy earnings growth in 2028, although our estimates are 7% below the bottom-up consensus forecast.

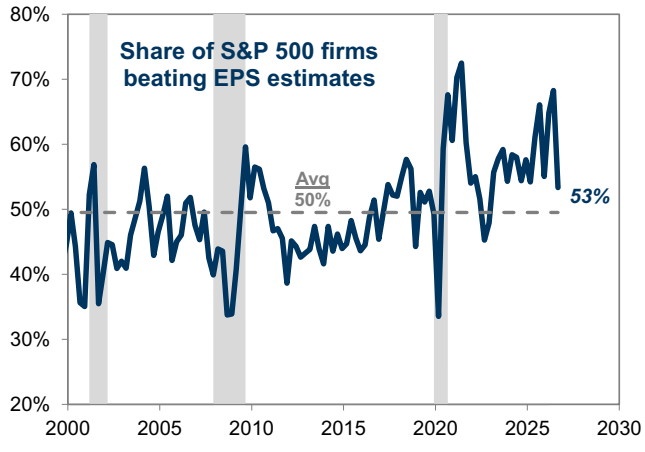
Exhibit 5: S&P 500 EPS growth should decelerate but remain solid in 2027

	Goldman Sachs forecast	Bottom-up analyst consensus	Top-down strategist consensus
S&P 500 EPS			
2026	**$375**	$366	$355
Y/Y growth	***36 %***	*33 %*	*29 %*
2027	**$415**	$423	$410
Y/Y growth	***11 %***	*16 %*	*15 %*
2028	**$460**	$492	NA
Y/Y growth	***11 %***	*16 %*	*NA*

Source: FactSet, Bloomberg, Goldman Sachs Global Investment Research

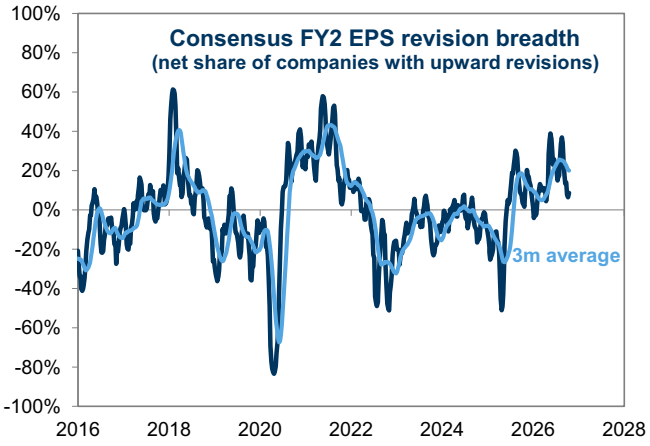
The very early read from the Q3 earnings reporting season supports the view that the rates of earnings growth and estimate upgrades have peaked. With 10% of S&P 500 companies having reported results, 53% of firms have beaten consensus EPS by more than a standard deviation of analyst estimates. This remains above the 25-year average of 50% but a substantial step down from the average rate of 64% during the past four quarters. Similarly, while upgrades to analyst earnings estimates continue to outnumber downgrades, revision breadth has declined during the last several weeks alongside the underperformance of cyclical stocks.

Exhibit 6: The very early read from Q3 earnings shows a moderation in EPS beats
EPS beat defined as result that exceeds consensus by at least a standard deviation of analyst estimates



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 7: S&P 500 earnings revision breadth remains strong but has recently moderated

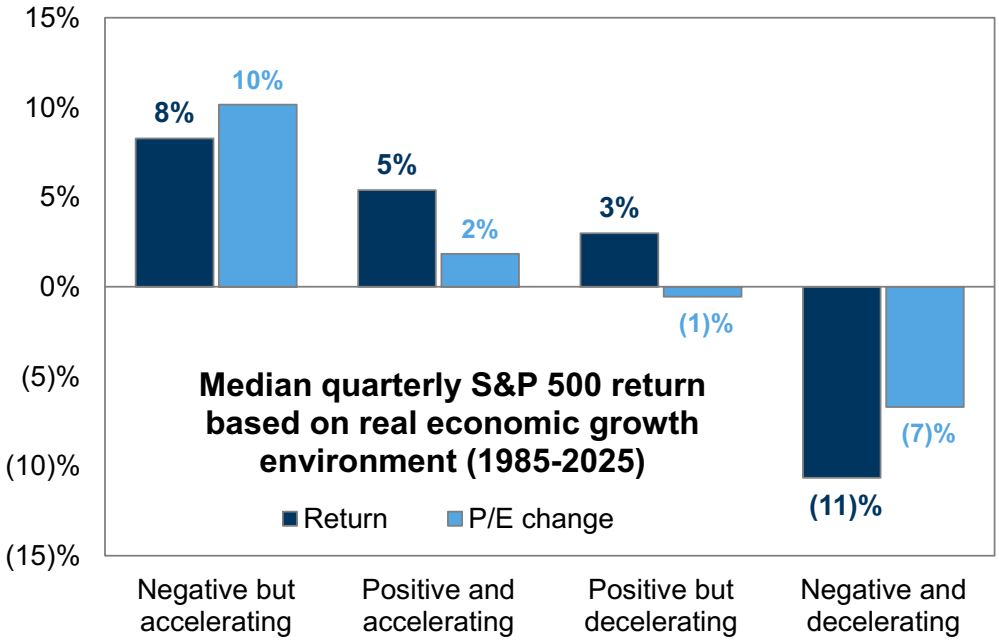


Source: FactSet, Goldman Sachs Global Investment Research

Even with growth slowing, equities should continue to rise as long as earnings continue to grow. For the S&P 500, positive but decelerating growth has historically been associated with positive but moderating returns. These patterns are similar whether looking at economic or earnings growth. In addition, returns in decelerating

growth environments have historically been driven by earnings growth rather than valuation expansion.

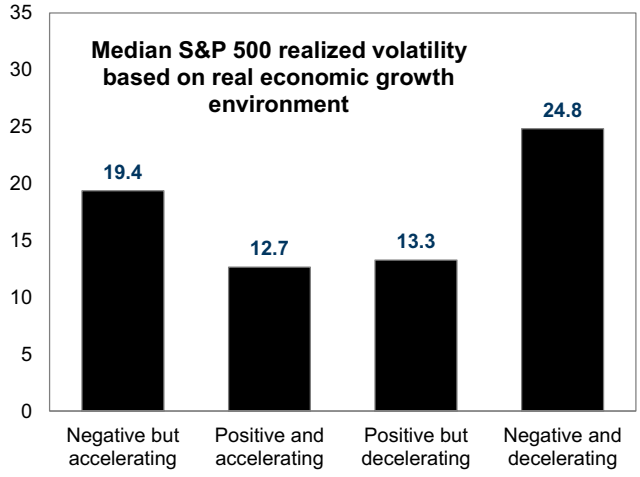
Exhibit 8: Historical S&P 500 returns in different growth environments



Source: Goldman Sachs Global Investment Research

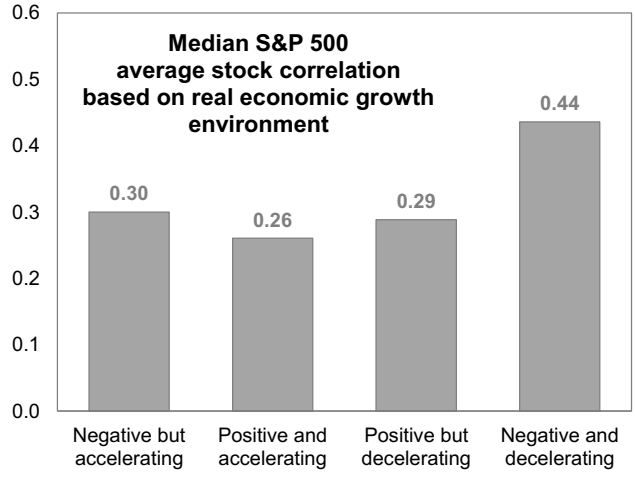
Equity market volatility is usually more dependent on the direction of economic and earnings growth than on changes in the growth rate. Despite the recent rise in intra-market volatility, correlations across S&P 500 stocks and index volatility have remained near record lows (Exhibit 33). Historically, equity market volatility and average stock correlations have risen only slightly as growth decelerated, with large increases typically occurring when growth turned negative.

Exhibit 9: Historical S&P 500 volatility in different growth environments



Source: Goldman Sachs Global Investment Research

Exhibit 10: Historical S&P 500 stock correlations in different growth environments



Source: Goldman Sachs Global Investment Research

A decelerating growth backdrop usually supports the outperformance of stocks with secular earnings growth over those with cyclical growth profiles. During recent decades, Info Tech and Health Care have typically performed best when growth was positive but decelerating. Cyclical sectors such as Materials and Consumer Discretionary have fared worst.

Exhibit 11: Sector performance in various growth environments

	Median quarterly excess return vs. the S&P 500 based on real US economic growth			
Sector	Negative but accelerating	Positive and accelerating	Positive but decelerating	Negative and decelerating
Info Tech	5.9 pp	1.3 pp	1.1 pp	(3.7)pp
Health Care	(2.6)	(0.9)	1.0	5.1
Energy	(3.9)	(0.6)	1.0	2.8
Comm Services	(8.4)	(0.9)	0.4	1.0
Utilities	(8.4)	(3.1)	(0.0)	2.0
Financials	(0.6)	0.8	(0.2)	(1.5)
Consumer Staples	(4.4)	(1.3)	(0.4)	6.8
Industrials	1.8	(0.2)	(0.5)	(1.6)
Consumer Discretionary	3.5	1.4	(0.8)	0.2
Materials	3.1	0.4	(1.5)	1.9

Source: Goldman Sachs Global Investment Research

Among equity factors, stocks with price momentum, positive earnings revisions, and low volatility have typically outperformed in decelerating growth environments. Heading into 2027, we expect investors will assign a scarcity premium to companies with accelerating EPS growth and positive EPS revisions.

Exhibit 12: Factor performance in various growth environments

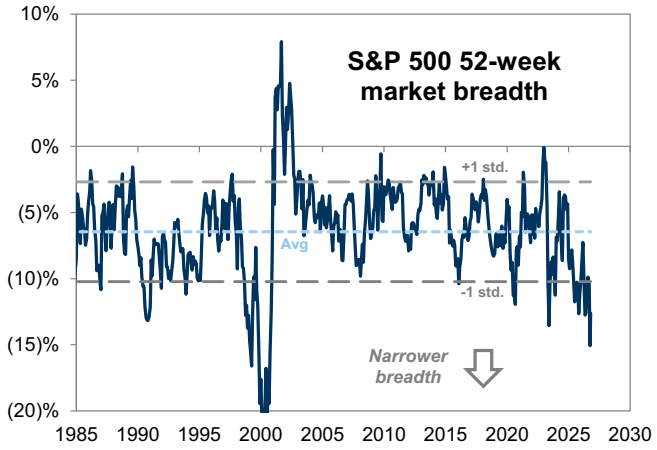
	Median quarterly long/short factor return based on real US economic growth			
Long/short factor	Negative but accelerating	Positive and accelerating	Positive but decelerating	Negative and decelerating
Momentum	(10.0)pp	(0.5)pp	1.8 pp	0.4 pp
EPS revisions	(5.6)	1.0	1.3	(1.3)
Low volatility	(8.0)	(0.2)	0.8	7.7
Dividend yield	(4.4)	0.7	0.4	4.6
Returns on capital	(3.8)	0.1	0.3	4.4
Growth	2.4	0.0	0.2	(4.9)
Value	4.3	2.2	0.1	2.7
Balance sheet strength	1.0	(1.1)	(0.1)	(0.0)
Profit margins	(0.9)	(0.0)	(0.9)	4.9

Source: Goldman Sachs Global Investment Research

In contrast with the historical growth cycle playbook, extremely narrow market breadth suggests that investors should be wary of Momentum factor risk today. With the S&P 500 just 2% from its record high but the median S&P 500 stock 15% from its respective high, our preferred measure of market breadth remains close to its

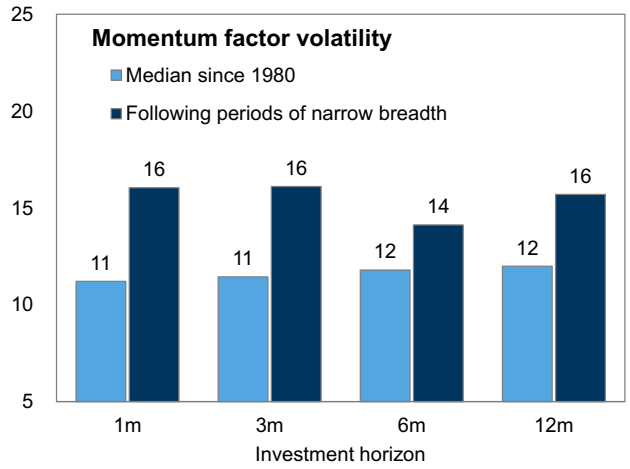
narrowest level since the Dot-Com Bubble. While narrow breadth can resolve with either a "catch down" by recent outperformers or a "catch up" by recent laggards, either outcome results in a reversal of the Momentum factor.

Exhibit 13: Equity market breadth is extremely narrow
market breadth measured as the difference between the S&P 500 distance from its 52-week high and the median constituent's distance from its respective high



Source: Goldman Sachs Global Investment Research

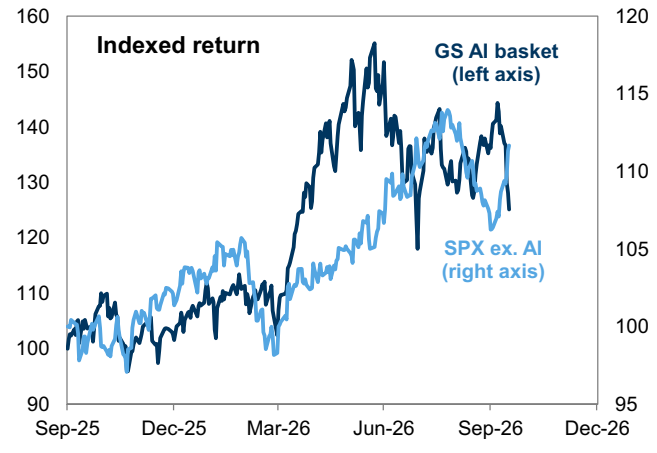
Exhibit 14: Momentum volatility is usually above average following periods of narrow breadth



Source: Goldman Sachs Global Investment Research

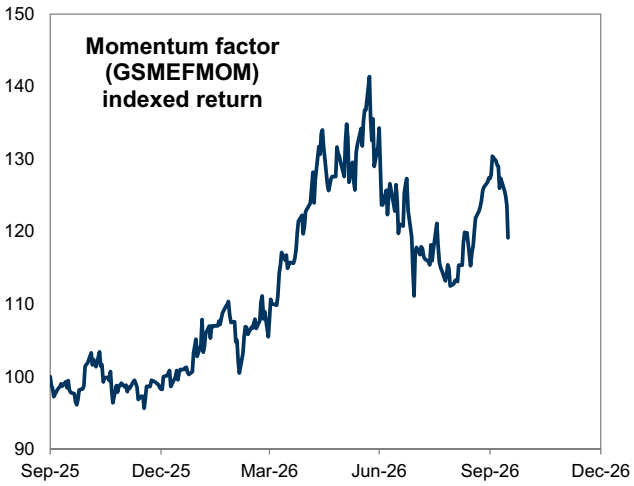
The typical resolution of narrow market breadth via Momentum factor reversal has been repeated during the last two weeks through both a "catch up" and a "catch down." For much of the past few months, rising interest rates have weighed on the most rate-sensitive pockets of the market, including some parts of the AI complex. For example, the Russell 2000 small cap index and the GS Neoclouds basket (GSXUNEOC) have declined by 10% and 44% since June. During the past two weeks, as that dynamic transitioned to a broader "catch down" across the AI complex, the S&P 500 ex. AI (SPXXAI) has rallied by 4%.

Exhibit 15: The S&P 500 ex. AI has rallied as AI stocks have sold off



Source: Goldman Sachs Global Investment Research, Goldman Sachs FICC and Equities

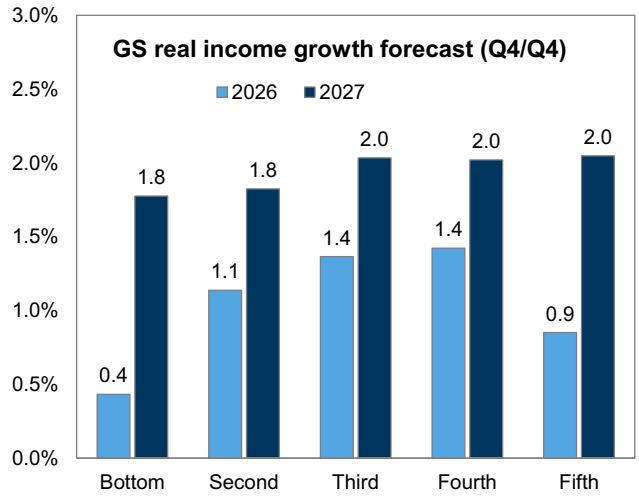
Exhibit 16: Momentum factor has unwound much of its recent gains



Source: Goldman Sachs Global Investment Research

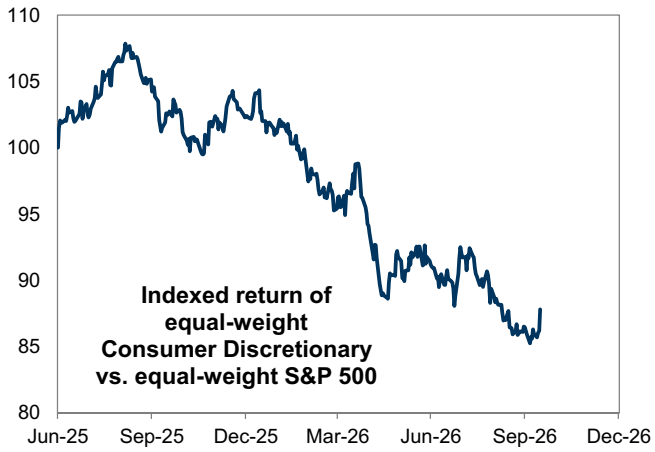
Our base-case macro outlook argues for a further "catch up" among some consumer-facing stocks that have recently lagged. GS macro forecasts point to falling energy prices and interest rates in 2027. These factors should contribute to accelerating real income growth across the consumer distribution at the same time as data from GS Prime Services show hedge fund exposure in Consumer Discretionary stocks registering multi-year lows. In particular, our economists expect that income growth for the bottom income quintile will accelerate notably in 2027 as inflation slows and January cost-of-living adjustments boost transfer payments. A basket of low-income consumer discretionary stocks (GSXULOWD) has rallied by 7% since the start of October. Although less exposed to low-income consumers, we remain of the view that consumer experience stocks offer exposure to strong secular growth at undemanding valuations.

Exhibit 17: Real income growth should accelerate in 2027, especially among low-income consumers



Source: Goldman Sachs Global Investment Research

Exhibit 18: Consumer Discretionary stocks have struggled this year but rebounded during the past week



Source: Goldman Sachs Global Investment Research

Investors concerned about further downside to the growth outlook and a continued "catch down" should focus on stocks in defensive industries with "quality" attributes. Exhibit 19 contains 23 stocks from the Health Care and Consumer Staples sectors that should outperform if the market continues to reduce its expectations for the growth outlook. The screen includes Russell 1000 companies in defensive sectors with low realized share price volatility, high free cash flow yields, and high free cash flow conversion relative to sector peers. We exclude companies with consensus estimates for 2027 EPS growth of less than 5%.

Exhibit 19: Screen of Russell 1000 defensive stocks with "quality" attributes
reflects Russell 1000 stocks in defensive industries that rank above average on share price volatility, free cash flow yield, and free cash flow conversion

Name	Ticker	Industry group	Mkt cap (billions)	YTD return	2-week return	12-month realized volatility	Trailing 4Q FCF yield
Tyson Foods, Inc.	TSN	Food Beverage & Tobacco	$19	(5)%	4 %	26	11 %
Royalty Pharma Plc	RPRX	Pharmaceuticals Biotechnology & Life Sciences	27	56	4	23	9
CVS Health Corporation	CVS	Health Care Equipment & Services	118	19	7	31	9
J.M. Smucker Company	SJM	Food Beverage & Tobacco	13	33	7	28	9
Kroger Co.	KR	Consumer Staples Distribution & Retail	37	2	6	29	8
Cardinal Health, Inc.	CAH	Health Care Equipment & Services	59	25	11	30	8
HCA Healthcare Inc	HCA	Health Care Equipment & Services	101	1	10	31	7
Hormel Foods Corporation	HRL	Food Beverage & Tobacco	11	(10)	1	29	7
Performance Food Group Co	PFGC	Consumer Staples Distribution & Retail	15	8	4	29	6
Sysco Corporation	SYY	Consumer Staples Distribution & Retail	40	15	6	27	6
Kenvue, Inc.	KVUE	Household & Personal Products	36	13	9	29	6
Hershey Company	HSY	Food Beverage & Tobacco	34	(5)	5	27	6
US Foods Holding Corp.	USFD	Consumer Staples Distribution & Retail	22	35	5	30	5
Merck & Co., Inc.	MRK	Pharmaceuticals Biotechnology & Life Sciences	358	41	1	29	5
ResMed Inc.	RMD	Health Care Equipment & Services	34	1	11	29	5
Quest Diagnostics Incorporated	DGX	Health Care Equipment & Services	26	40	3	24	5
Chemed Corporation	CHE	Health Care Equipment & Services	7	21	2	29	5
Abbott Laboratories	ABT	Health Care Equipment & Services	181	(14)	8	27	5
Mondelez International, Inc.	MDLZ	Food Beverage & Tobacco	80	20	8	24	4
McKesson Corporation	MCK	Health Care Equipment & Services	116	22	11	31	4
Church & Dwight Co., Inc.	CHD	Household & Personal Products	24	24	9	23	4
AbbVie, Inc.	ABBV	Pharmaceuticals Biotechnology & Life Sciences	501	28	8	26	4
Colgate-Palmolive Company	CL	Household & Personal Products	74	19	10	23	4
List median			**$36**	**19 %**	**7 %**	**29**	**6 %**
Russell 1000 median			**17**	**6**	**2**	**36**	**4**

Source: FactSet, Goldman Sachs Global Investment Research

Earnings season summary

Exhibit 20: S&P 500 Q3 2026 earnings results
as of October 16,2026

S&P 500 EQUAL-WEIGHTED

	Number of Companies			EARNINGS: Std Dev Surprises			EARNINGS: Absolute Surprises		EARNINGS: Avg 3Q	REVENUE: Std Dev Surprises		REVENUE: Avg 3Q
	Reported	Total	% of Co's	Positive	Negative	In-Line	Positive	Negative	Surprise	Positive	Negative	Surprise
Information Technology	5	75	7%	**80 %**	0 %	20 %	100 %	0 %	6 %	**100 %**	0 %	4 %
Consumer Discretionary	6	47	13	**67**	17	17	67	33	2	**0**	50	(1)
Consumer Staples	5	34	15	**60**	0	40	100	0	5	**80**	0	2
Industrials	5	83	6	**60**	20	20	60	40	(3)	**60**	0	1
Health Care	2	60	3	**50**	0	50	100	0	7	**50**	0	1
Financials	21	76	28	**43**	10	48	81	19	4	**29**	19	1
Real Estate	1	30	3	**0**	0	0	100	0	6	**0**	0	4
Communication Services	0	19	0	**NM**	NM	NM	NM	NM	NM	**NM**	NM	NM
Energy	0	21	0	**NM**	NM	NM	NM	NM	NM	**NM**	NM	NM
Materials	0	24	0	**NM**	NM	NM	NM	NM	NM	**NM**	NM	NM
Utilities	0	31	0	**NM**	NM	NM	NM	NM	NM	**NM**	NM	NM
S&P 500	**45**	**500**	**9%**	**53 %**	**9 %**	**36 %**	**82 %**	**18 %**	**3 %**	**42 %**	**16 %**	**1 %**
Comparative Data (full earnings season)												
2Q 2026				69 %	7 %	25 %	84 %	14 %	11 %	54 %	11 %	2 %
1Q 2026				65	7	28	84	13	13	55	9	2
4Q 2025				55	12	33	73	23	11	51	13	2
3Q 2025				66	8	26	82	15	10	52	9	2

S&P 500 CAP-WEIGHTED

	Weight of Companies			EARNINGS: Std Dev Surprises			EARNINGS: Absolute Surprises		EARNINGS: Avg 3Q	REVENUE: Std Dev Surprises		REVENUE: Avg 3Q
	Reported	Total	% of Co's	Positive	Negative	In-Line	Positive	Negative	Surprise	Positive	Negative	Surprise
Information Technology	2	38	6%	**94 %**	0 %	6 %	100 %	0 %	7 %	**100 %**	0 %	6 %
Consumer Discretionary	0	9	3	**78**	8	14	78	22	4	**0**	62	(1)
Industrials	0	8	4	**72**	20	8	72	28	(1)	**55**	0	1
Health Care	1	10	15	**37**	0	63	100	0	6	**37**	0	1
Financials	5	12	42	**32**	37	30	55	45	0	**21**	22	1
Consumer Staples	1	5	21	**31**	0	69	100	0	2	**34**	0	1
Real Estate	0	2	11	**0**	0	0	100	0	6	**0**	0	4
Communication Services	0	10	0	**NM**	NM	NM	NM	NM	NM	**NM**	NM	NM
Energy	0	4	0	**NM**	NM	NM	NM	NM	NM	**NM**	NM	NM
Materials	0	2	0	**NM**	NM	NM	NM	NM	NM	**NM**	NM	NM
Utilities	0	2	0	**NM**	NM	NM	NM	NM	NM	**NM**	NM	NM
S&P 500	**10**	**100**	**10%**	**48 %**	**18 %**	**31 %**	**77 %**	**23 %**	**3 %**	**42 %**	**12 %**	**2 %**

Source: FactSet, Goldman Sachs Global Investment Research

S&P 500 earnings and return forecasts

Pricing as of October 15, 2026, unless otherwise noted.

Exhibit 21: Goldman Sachs top-down S&P 500 forecasts



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 22: Goldman Sachs and consensus forecasts for S&P 500 earnings and returns

	Goldman Sachs forecast	Bottom-up analyst consensus	Top-down strategist consensus
S&P 500 EPS			
2025	**$275**	$275	$275
Y/Y growth	***12 %***	*12 %*	*12 %*
2026	**$375**	$366	$355
Y/Y growth	***36 %***	*33 %*	*29 %*
2027	**$415**	$423	$410
Y/Y growth	***11 %***	*16 %*	*15 %*
S&P 500 P/E			
Current on NTM EPS	**19x**	19x	19x
S&P 500 price target			
YE 2026	**8000**	NA	8000
Return to target	***3 %***		*3 %*
12-month	**8700**	9150	NA
Return to target	***12 %***	*18 %*	

Source: Bloomberg, FactSet, Goldman Sachs Global Investment Research

Biggest stock movers this week

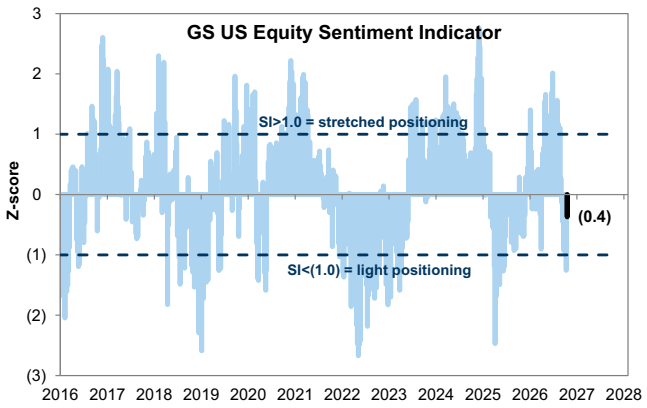
Exhibit 23: S&P 500 stocks with the largest moves this week
as of October 16, 2026

Company	Ticker	Industry group	Total return: This week	Total return: 3m	Total return: 6m	Total return: 12m	Market cap (bn)	Consensus 2026 EPS growth	Fwd 12m P/E
Top 10 returns this week									
Fair Isaac Corp.	FICO	Software & Services	**16 %**	(36)%	(25)%	(53)%	$17	33 %	16x
Cognizant Tech Solutions	CTSH	Software & Services	**12**	53	10	1	30	2	11
Equifax Inc.	EFX	Commercial & Professional Svcs	**11**	(6)	(13)	(29)	19	7	18
Brown & Brown Inc.	BRO	Insurance	**10**	2	1	(27)	23	2	15
Accenture Plc	ACN	Software & Services	**10**	65	18	(3)	138	4	16
Erie Indemnity	ERIE	Insurance	**10**	14	(1)	(23)	11	17	NM
Arthur J. Gallagher	AJG	Insurance	**10**	1	13	(15)	64	23	18
Tyler Technologies	TYL	Software & Services	**10**	20	8	(28)	15	10	25
Darden Restaurants	DRI	Consumer Services	**9**	10	9	17	24	8	19
Brown-Forman Corp.	BF.B	Food Beverage & Tobacco	**9**	15	(2)	9	13	(18)	17
Bottom 10 returns this week									
Coherent Corp.	COHR	Tech Hardware & Equipment	**(26)%**	(16)%	(19)%	127 %	$49	109 %	25x
Lumentum Holdings	LITE	Tech Hardware & Equipment	**(25)**	16	6	455	79	338	38
Hewlett Packard Enterprise	HPE	Tech Hardware & Equipment	**(25)**	24	139	138	78	102	12
Skydance Corp.	SKYD	Media & Entertainment	**(25)**	(21)	(37)	(58)	8	(95)	12
Flex Ltd.	FLEX	Tech Hardware & Equipment	**(25)**	(23)	26	55	36	35	17
Super Micro Computer	SMCI	Tech Hardware & Equipment	**(24)**	30	29	(35)	23	185	7
Dell Technologies	DELL	Tech Hardware & Equipment	**(23)**	15	168	212	301	140	16
Bloom Energy Corp.	BE	Capital Goods	**(21)**	(1)	11	103	70	363	60
Everpure Inc.	P	Tech Hardware & Equipment	**(20)**	89	106	44	44	41	38
Teradyne Inc.	TER	Semiconductors & Semi Equip	**(19)**	0	(6)	144	54	128	33
Median S&P 500 stock			**3 %**	(1)%	3 %	9 %	$44	11 %	17x
S&P 500 Index			**(2)**	3	11	17	69,302	33	19

Source: FactSet, Goldman Sachs Global Investment Research

Sentiment and flows

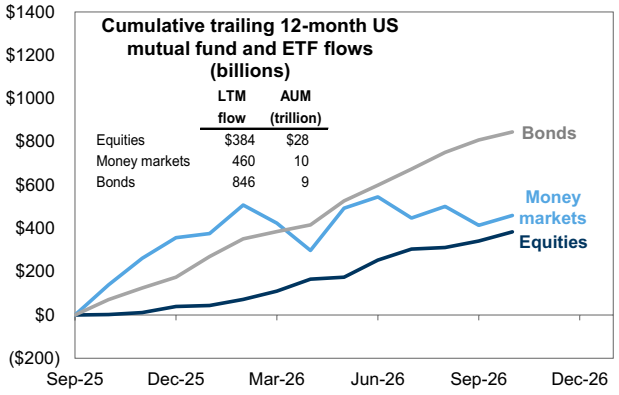
Exhibit 24: GS US Equity Sentiment Indicator of investor positioning
as of October 16, 2026



The Sentiment Indicator combines 9 measures of positioning across institutional, retail, and foreign investors and has historically been a statistically significant signal for near-term S&P 500 returns.

Source: Goldman Sachs Global Investment Research

Exhibit 25: Recent mutual fund and ETF flows



Source: EPFR, Goldman Sachs Global Investment Research

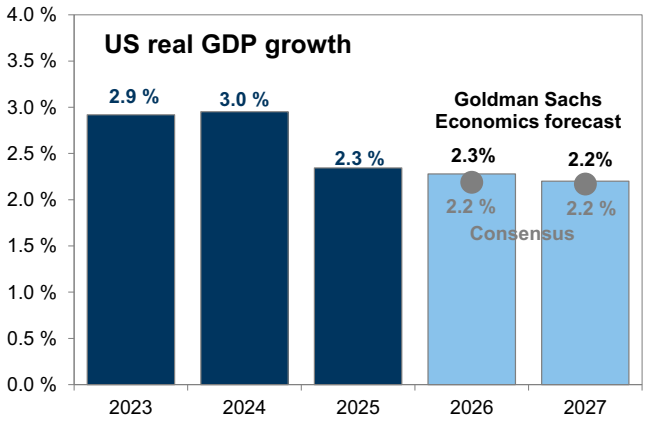
Economic growth

Exhibit 26: US equity market internal pricing of economic growth



Source: Bloomberg, Goldman Sachs Global Investment Research

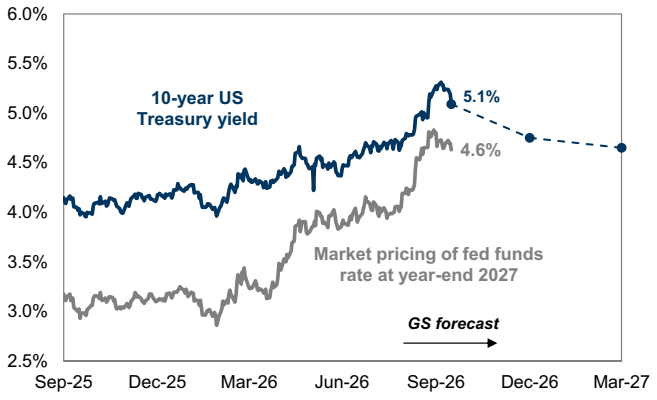
Exhibit 27: Goldman Sachs and consensus forecasts for US real GDP growth



Source: Bloomberg, Goldman Sachs Global Investment Research

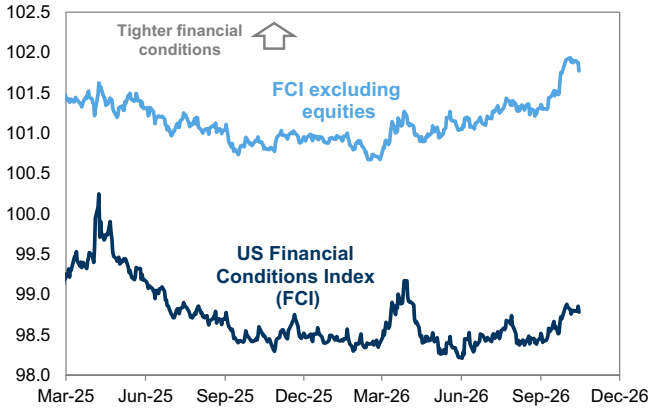
Interest rates and financial conditions

Exhibit 28: Market pricing of near-term and long-term interest rate outlook



Source: Goldman Sachs Global Investment Research

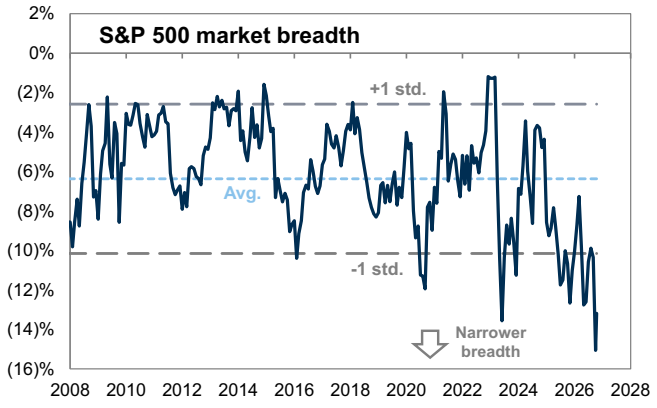
Exhibit 29: Goldman Sachs Financial Conditions Index



Source: Goldman Sachs Global Investment Research

Market breadth and concentration

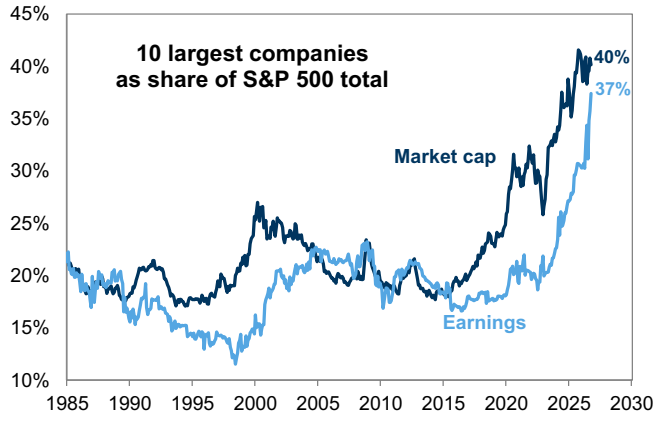
Exhibit 30: S&P 500 52-week market breadth



Market breadth is calculated as the difference between the distance of the aggregate S&P 500 Index from its 52-week high and the distance of the median S&P 500 constituent from its 52-week high. When the aggregate index is much closer to its 52-week high than is the median stock, market breadth is narrow.

Source: Goldman Sachs Global Investment Research

Exhibit 31: Concentration of S&P 500 market cap and earnings in the 10 largest index constituents

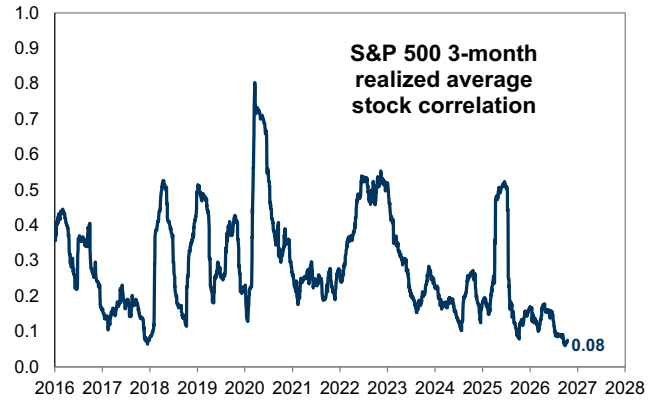


Earnings reflect consensus forward 12-month estimates.

Source: Compustat, IBES, FactSet, Goldman Sachs Global Investment Research

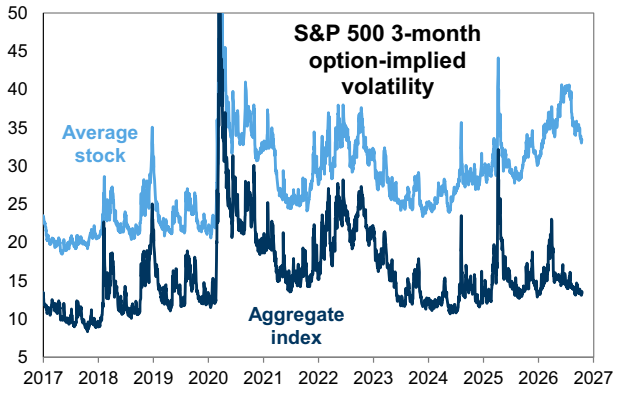
Correlation and volatility

Exhibit 32: S&P 500 realized average stock correlation



Source: Goldman Sachs Global Investment Research

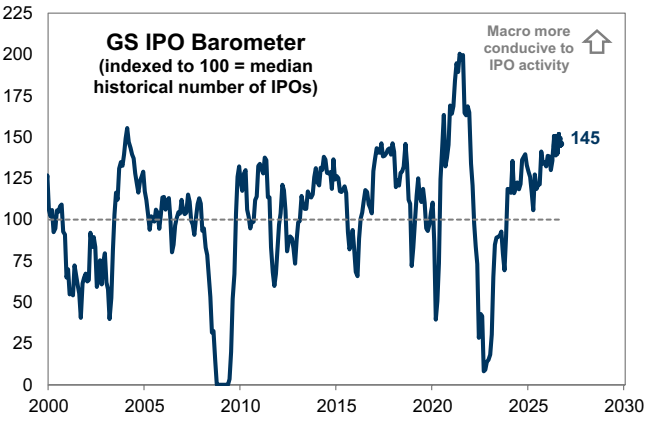
Exhibit 33: S&P 500 implied volatility



Source: Goldman Sachs Global Investment Research

IPO Barometer and mutual fund performance

Exhibit 34: Goldman Sachs IPO Barometer



The Goldman Sachs IPO Barometer combines five indicators that gauge the conduciveness of the macro environment to IPO activity.

Source: Goldman Sachs Global Investment Research

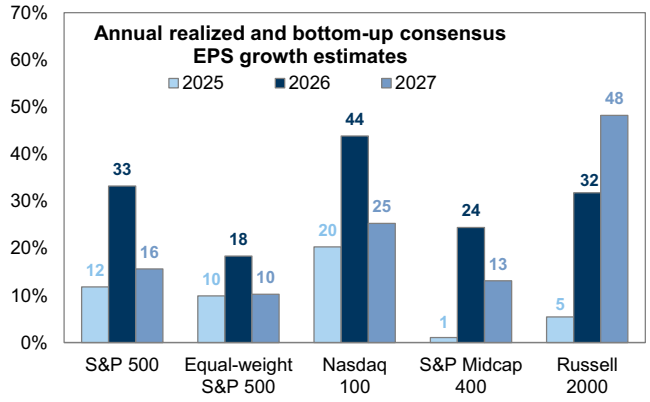
Exhibit 35: US equity mutual fund returns relative to benchmarks

Mutual fund style	Average YTD return	% outperforming benchmarks YTD
Large-cap core	12%	32%
Large-cap growth	9	69
Large-cap value	15	6
Large-cap total	**12%**	**35%**
Small-cap core	13%	50%

Source: FactSet, Goldman Sachs Global Investment Research

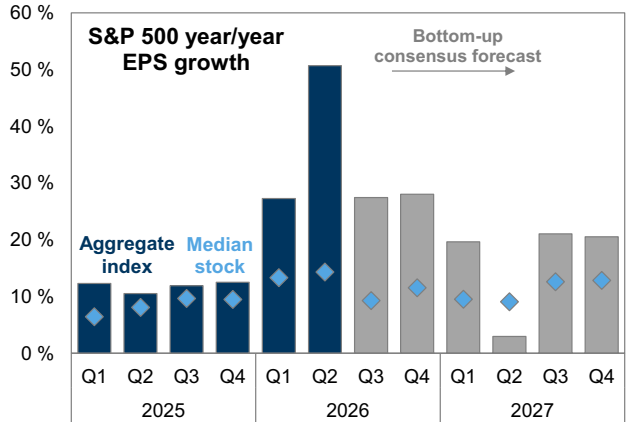
Earnings growth

Exhibit 36: Realized and consensus EPS growth for select US equity indices



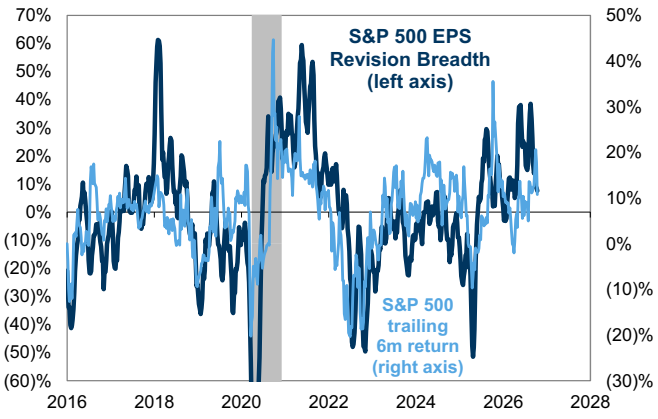
Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 37: Realized and consensus year/year S&P 500 EPS growth



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 38: S&P 500 FY2 earnings revision breadth

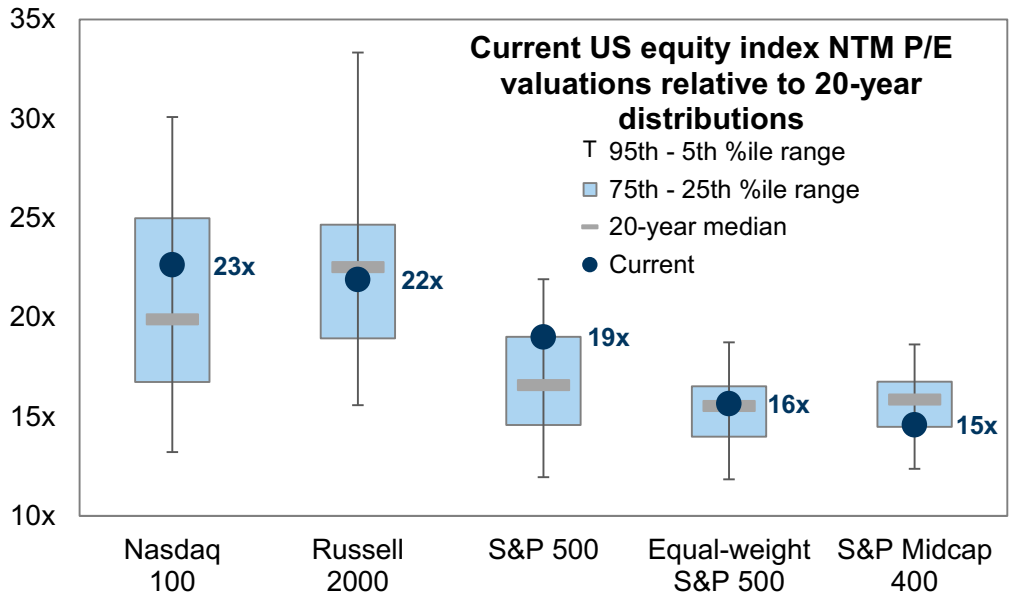


Revision breadth calculated as [(# of companies with positive EPS revisions)-(# of companies with negative revisions)]/(total # of companies). Revisions reflect FY2 EPS estimate changes during a rolling 1-month window.

Source: FactSet, Goldman Sachs Global Investment Research

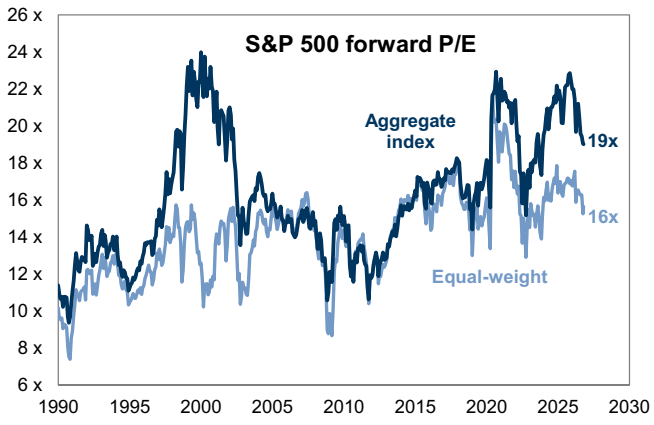
Valuations

Exhibit 39: US equity index P/E valuations vs. history



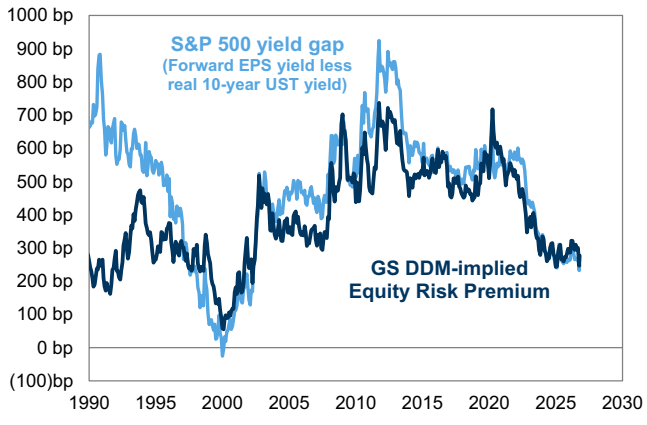
Source: Compustat, FactSet, IBES, Goldman Sachs Global Investment Research

Exhibit 40: S&P 500 consensus forward 12-month P/E



Source: Compustat, FactSet, IBES, Goldman Sachs Global Investment Research

Exhibit 41: S&P 500 valuation relative to US Treasury yields

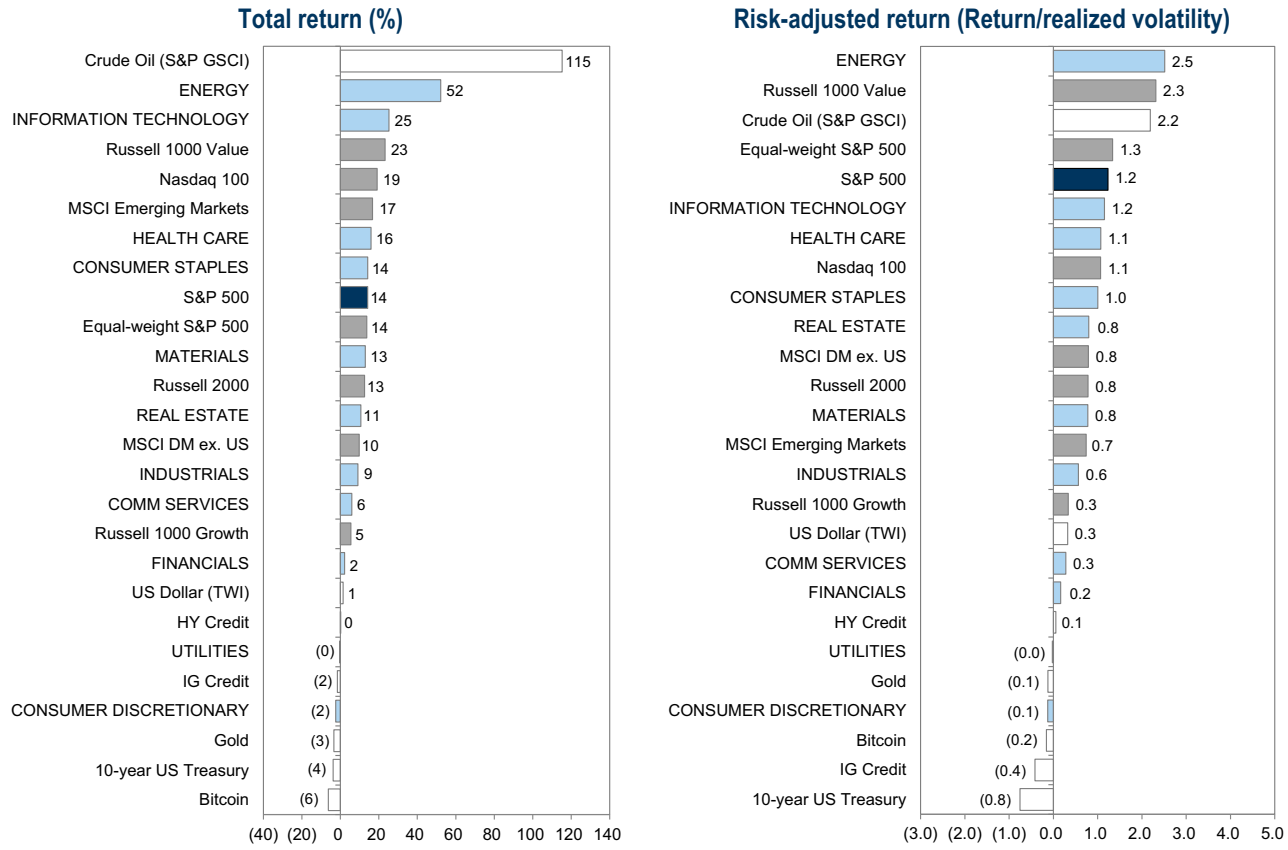


Equity risk premium calculated by solving for the discount rate that equates the fair value of our multi-stage S&P 500 dividend discount model to the current market price and subtracting the 10-year US Treasury yield.

Source: Goldman Sachs Global Investment Research

YTD absolute and risk-adjusted returns

Exhibit 42: YTD asset returns and return/volatility ratios



Crude oil represents S&P GSCI Crude Oil Index.

Source: FactSet, Haver Analytics, Goldman Sachs Global Investment Research

Sector returns, earnings, and valuations

Exhibit 43: Sector and industry group returns

Top quartile
Bottom quartile

		Index weight	1 Week	1 Month	3 Months	Last 12 Mo	YTD	GS allocation
	S&P 500	100 %	(0.3)%	2 %	3 %	17 %	14 %	
SECTOR	Health Care	10 %	5.3 %	6 %	12 %	26 %	16 %	OW
	Consumer Staples	5	3.8	5	6	13	14	
	Real Estate	2	2.6	(2)	(5)	8	11	
	Materials	2	2.4	1	2	15	13	OW
	Energy	4	2.3	2	20	59	52	
	Financials	12	1.9	(2)	(2)	6	2	
	Utilities	2	1.4	2	(7)	(8)	(0)	
	Consumer Discretionary	9	0.9	2	(3)	0	(2)	
	Communication Services	10	0.5	1	(2)	14	6	
	Industrials	8	(0.3)	(0)	(7)	11	9	
	Information Technology	38	(3.6)	3	6	27	25	
INDUSTRY GROUP	Health Care Equipment & Services	3 %	6.8 %	6 %	8 %	4 %	2 %	
	Commercial & Professional Svcs	1	5.7	2	6	(7)	(2)	
	Household & Personal Products	1	5.0	7	6	10	12	
	Consumer Staples Retail	2	4.8	8	6	9	11	
	Pharma Biotech & Life Sciences	6	4.6	6	15	42	24	
	Consumer Durables & Apparel	0	4.2	2	(5)	(16)	(13)	
	Consumer Services	1	3.3	2	(3)	(3)	(5)	
	Financial Services	7	2.7	(0)	(0)	3	1	
	Insurance	2	2.7	(0)	2	7	6	
	Real Estate Investment Trusts (REITs)	2	2.6	(2)	(5)	8	11	
	Food Beverage & Tobacco	2	2.5	1	5	17	18	
	Materials	2	2.4	1	2	15	13	
	Energy	4	2.3	2	20	59	52	
	Software & Services	10	2.0	7	28	1	6	
	Transportation	1	1.7	(1)	(6)	15	11	
	Utilities	2	1.4	2	(7)	(8)	(0)	
	Consumer Discretionary Retail	5	1.3	3	(1)	9	6	
	Media & Entertainment	9	0.9	3	(2)	16	7	
	Banks	3	(0.4)	(8)	(8)	11	2	
	Capital Goods	6	(1.4)	(0)	(8)	14	11	
	Automobiles & Components	2	(2.8)	1	(8)	(14)	(18)	
	Technology Hardware & Equipment	11	(2.9)	1	2	45	35	
	Telecommunication Services	1	(3.3)	(12)	1	(6)	(3)	
	Semiconductors & Semi Equipment	17	(7.1)	3	(3)	40	35	

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 44: Earnings contributions and growth by S&P 500 sector

	GS top-down					Consensus bottom-up			
	Contribution			EPS growth		Contribution		EPS growth	
Sector	2025	**2026**	2027	**2026**	2027	2026	2027	2026	2027
Info Tech	$70	**$118**	$157	**68 %**	33 %	$114	$160	61 %	41 %
Financials	52	**60**	64	**15**	7	59	63	13	7
Comm Services	29	**48**	39	**64**	(18)	45	40	55	(12)
Health Care	33	**33**	39	**0**	17	33	40	(2)	23
Cons Discretionary	23	**31**	27	**36**	(10)	30	29	33	(4)
Industrials	21	**25**	29	**17**	16	24	28	14	16
Energy	12	**21**	19	**82**	(9)	23	22	95	(6)
Consumer Staples	15	**15**	16	**4**	4	15	17	4	8
Utilities	8	**9**	9	**11**	7	9	9	13	7
Materials	5	**7**	8	**36**	12	7	8	31	10
Real Estate	6	**7**	7	**7**	6	7	8	16	9
S&P 500	$275	**$375**	$415	**36 %**	11 %	$366	$423	33 %	16 %

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 45: S&P 500 sector P/E valuations relative to history

	Consensus forward 12-month P/E valuation				
		Absolute P/E %ile rank vs. history		P/E vs. S&P 500 %ile rank vs. history	
	Current P/E	10-year	30-year	10-year	30-year
Consumer Discretionary	**23x**	30%	76%	17%	67%
Industrials	**22**	66	89	92	97
Consumer Staples	**22**	86	86	93	83
Information Technology	**20**	41	53	47	39
Health Care	**19**	91	79	97	52
S&P 500	**19**	**48**	**70**		
Communication Services	**19**	30	33	37	12
Real Estate	**17**	22	45	39	34
Materials	**17**	45	69	42	28
Utilities	**16**	46	82	61	68
Financials	**15**	31	62	28	25
Energy	**13**	37	44	46	23

Source: Compustat, FactSet, IBES, Goldman Sachs Global Investment Research

Thematic baskets

Exhibit 46: Recent performance of select Goldman Sachs Research baskets
basket returns expressed relative to the equal-weight S&P 500 except for long/short basket pairs as noted

Top quartile
Bottom quartile

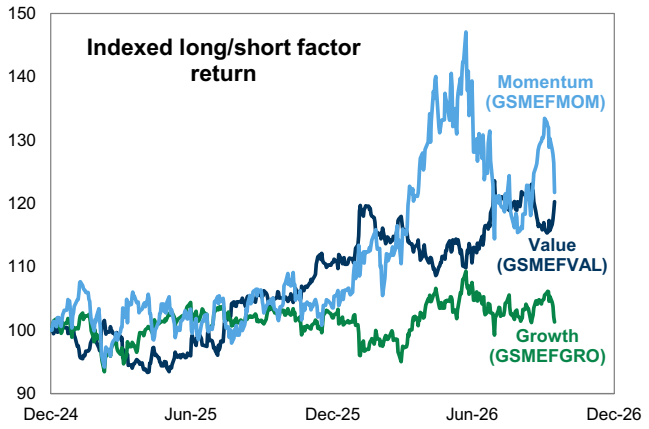
	Basket / Index	Ticker (GSTH____)	Total returns 1 Wk	3 Mo	12 Mo	YTD
	S&P 500	SPX	(0.3)%	3 %	17 %	14 %
	Equal-weight S&P 500	SPW	1.4	1	16	14
Macro-economic	High vs. Low Tax Rate	HTAX / LTAX	1.7 %	(0)%	5 %	4 %
	Low vs. High Labor Cost	LLAB / HLAB	(4.4)	(10)	(0)	(1)
	Interest Rate Sensitive	USTY	(5.7)	(4)	17	15
	Dual Beta	BETA	(8.0)	(8)	38	28
Geographic sales	Western Europe Sales	WEUR	0.6 %	4 %	3 %	3 %
	US Sales	AINT	(0.2)	2	(5)	(2)
	International Sales	INTL	(2.6)	(2)	26	22
	EM Sales	BRIC	(3.6)	(2)	46	39
Fundamental	High vs. Low Operating Leverage	OPHI / OPLO	1.2 %	12 %	12 %	15 %
	Stable Growers	STGR	0.6	3	(12)	(8)
	High Quality	QUAL	(1.7)	0	(11)	(9)
	ROE Growth	GROE	(2.2)	(1)	30	28
	Strong vs. Weak Balance Sheet	SBAL / WBAL	(2.2)	(9)	(17)	(14)
	Long vs. Short Duration	LDUR / SDUR	(7.8)	(15)	(31)	(23)
Uses of cash	Dividend Growth	DIVG	(0.2)%	5 %	9 %	6 %
	Debt Reducers vs. Issuers	DRED / DISS	(0.4)	(11)	1	(3)
	Buybacks	REPO	(2.0)	2	1	1
	Total Cash Return	CASH	(2.0)	3	6	4
	High Growth Investment	HGIR	(2.7)	(1)	20	17
	Capex and R&D	CAPX	(4.0)	4	31	29
Ownership, risk & liquidity	Mutual Fund Over- vs. Underweights	MFOW / MFUW	4.7 %	(1)%	(17)%	(17)%
	High Sharpe Ratio	SHRP	3.9	14	3	3
	Low vs. High Liquidity	LLIQ / HLIQ	2.0	(13)	(19)	(15)
	Hedge Fund VIP	HVIP	(4.9)	(9)	(6)	(5)
Equity research	Oil Input Cost	GSRHOILX	1.0 %	(8)%	(6)%	(5)%
	SMB Exposure	GSRHSMBX	(0.5)	0	(8)	(6)
	Gov't Exposure	GSRHGOVT	(1.0)	(7)	(7)	(9)
	M&A Candidates	GSRHACQN	(1.2)	0	12	4

Basket returns and constituents can be accessed via GS Marquee or Bloomberg using the indicated tickers.

Source: Goldman Sachs Global Investment Research

Factors

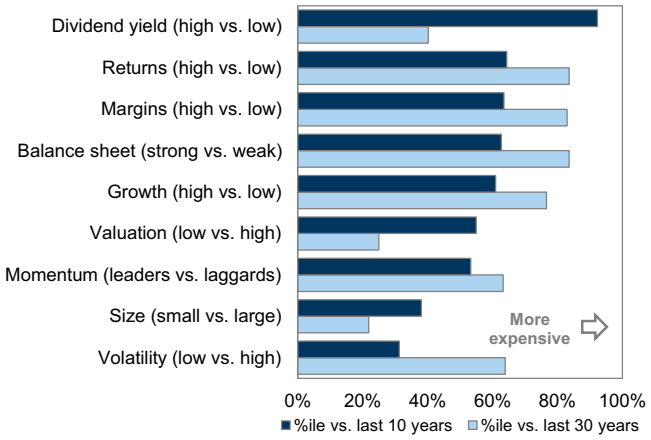
Exhibit 47: Indexed return of select equity factors



Factor performance and constituents can be viewed on GS Marquee or Bloomberg using the tickers indicated on the chart.

Source: Goldman Sachs Global Investment Research

Exhibit 48: Equity factor valuations relative to history



Source: Goldman Sachs Global Investment Research

Goldman Sachs global macro research cross-asset forecasts

Exhibit 49: Goldman Sachs macro research asset forecasts

Goldman Sachs Global Macro Forecasts

	units	Current	3m	6m	12m	Change to 12m target
Equities						
MXAPJ	level	824	960	1040	1120	**36 %**
TOPIX	level	3999	4400	4500	4600	**15**
S&P 500	**level**	**7744**	**8000**	**8300**	**8700**	**12**
STOXX Europe 600	level	640	670	680	695	**9**
10-year rates						
Japan	%	2.9	3.0	3.0	2.9	**(7)bp**
Euro Area (Germany)	%	3.4	3.3	3.3	3.3	**(13)**
US	%	5.1	4.8	4.7	4.5	**(64)**
Corporate bonds						
Investment grade	bp	84	82	80	NA	**NA**
High yield	bp	321	295	290	NA	**NA**
Currencies						
Euro / US dollar	EUR/$	1.12	1.14	1.12	1.12	**(0)%**
Sterling / US dollar	£/$	1.33	1.33	1.29	1.28	**(3)**
US dollar / Yen	$/¥	158	158	155	150	**(5)**
Commodities						
COMEX gold	$/troy oz	4170	4650	4810	5140	**23 %**
LME copper	$/mt	14539	13620	13735	13800	**(5)**
NYMEX nat. gas	$/mmBtu	3	3.00	2.85	2.75	**(15)**
Brent crude oil	$/bbl	106	88	83	75	**(29)**

Source: FactSet, Goldman Sachs Global Investment Research

Disclosure Appendix

Reg AC

We, Ben Snider, Ryan Hammond, Daniel Chavez, Kartik Jayachandran and Christophe Sung, 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.

Unless otherwise stated, the individuals listed on the cover page of this report are analysts in Goldman Sachs' Global Investment Research division.

Contributing Authors: Ben Snider Goldman Sachs & Co. LLC, Ryan Hammond Goldman Sachs & Co. LLC, Daniel Chavez Goldman Sachs & Co. LLC, Kartik Jayachandran Goldman Sachs & Co. LLC, Christophe Sung Goldman Sachs & Co. LLC.

Unless otherwise stated, the individuals listed in the Contributing Authors disclosure of this report are analysts in Goldman Sachs' Global Investment Research division.

Disclosures

Basket disclosure

The ability to trade the basket(s) in this report will depend upon market conditions, including liquidity and borrow constraints at the time of trade.

Regulatory disclosures

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; registered market maker. Goldman Sachs trades or may trade as a principal in debt securities (or in related derivatives) of issuers discussed in this report.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy generally prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director or advisor of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman Sachs & Co. LLC and therefore may not be subject to FINRA Rule 2241 or FINRA Rule 2242 restrictions on communications with a subject company, public appearances and trading in securities covered by the analysts.

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. **Australia:** Goldman Sachs Australia Pty Ltd and its affiliates are not authorised deposit-taking institutions (as that term is defined in the Banking Act 1959 (Cth)) in Australia and do not provide banking services, nor carry on a banking business, in Australia. This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act, unless otherwise agreed by Goldman Sachs. In producing research reports, members of Global Investment Research of Goldman Sachs Australia may attend site visits and other meetings hosted by the companies and other entities which are the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting. To the extent that the contents of this document contains any financial product advice, it is general advice only and has been prepared by Goldman Sachs without taking into account a client's objectives, financial situation or needs. A client should, before acting on any such advice, consider the appropriateness of the advice having regard to the client's own objectives, financial situation and needs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests and a copy of Goldman Sachs' Australian Sell-Side Research Independence Policy Statement are available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. **Brazil:** Disclosure information in relation to CVM Resolution n. 20 is available at https://www.gs.com/worldwide/brazil/area/gir/index.html. Where applicable, the Brazil-registered analyst primarily responsible for the content of this research report, as defined in Article 20 of CVM Resolution n. 20, is the first author named at the beginning of this report, unless indicated otherwise at the end of the text. **Canada:** This information is being provided to you for information purposes only and is not, and under no circumstances should be construed as, an advertisement, offering or solicitation by Goldman Sachs & Co. LLC for purchasers of securities in Canada to trade in any Canadian security. Goldman Sachs & Co. LLC is not registered as a dealer in any jurisdiction in Canada under applicable Canadian securities laws and generally is not permitted to trade in Canadian securities and may be prohibited from selling certain securities and products in certain jurisdictions in Canada. If you wish to trade in any Canadian securities or other products in Canada please contact Goldman Sachs Canada Inc., an affiliate of The Goldman Sachs Group Inc., or another registered Canadian dealer. **Hong Kong:** Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. **India:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited, Research Analyst - SEBI Registration Number INH000001493, 10th Floor, Ascent-Worli, Sudam Kalu Ahire Marg, Worli, Mumbai-400 025, India, Corporate Identity Number U74140MH2006FTC160634, Phone +91 22 6616 9000, Fax +91 22 6616 9001. Goldman Sachs may beneficially own 1% or more of the securities (as such term is defined in clause 2 (h) the Indian Securities Contracts (Regulation) Act, 1956) of the subject company or companies referred to in this research report. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Goldman Sachs (India) Securities Private Limited compliance officer and investor grievance contact details, a copy of the annual compliance audit report and other relevant information and disclosures can be found at this link: https://www.goldmansachs.com/worldwide/india/research-analyst. **Japan:** See below. **Korea:** This research, and any access to it, is intended only for "professional investors" within the meaning of the Financial Services and Capital Markets Act, unless otherwise agreed by Goldman Sachs. Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. **New Zealand:** Goldman Sachs New Zealand Limited and its affiliates are neither "registered banks" nor "deposit takers" (as defined in the Reserve Bank of New Zealand Act 1989) in New Zealand. This research, and any access to it, is intended for "wholesale clients" (as defined in the Financial Advisers Act 2008) unless otherwise agreed by Goldman Sachs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests is available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. **Russia:** Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. Research reports do not constitute a personalized investment recommendation as defined in Russian laws and regulations, are not addressed to a specific client, and are prepared without analyzing the financial circumstances, investment profiles or risk profiles of clients. Goldman Sachs assumes no responsibility for any investment decisions that may be taken by a client or any other person based on this research report. **Singapore:** Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), which is regulated by the Monetary Authority of Singapore, accepts legal responsibility for this research, and should be contacted with respect to any matters arising from, or in connection with, this research. **Taiwan:** This material is for reference only and must not be reprinted without permission. Investors

should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. **United Kingdom:** Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Conduct Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union and United Kingdom: Disclosure information in relation to Article 6 (2) of the European Commission Delegated Regulation (EU) (2016/958) supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council (including as that Delegated Regulation is implemented into United Kingdom domestic law and regulation following the United Kingdom's departure from the European Union and the European Economic Area) with regard to regulatory technical standards for the technical arrangements for objective presentation of investment recommendations or other information recommending or suggesting an investment strategy and for disclosure of particular interests or indications of conflicts of interest is available at https://www.gs.com/disclosures/europeanpolicy.html which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau under registration number Kinsho 69, and a member of Japan Securities Dealers Association, Financial Futures Association of Japan Type II Financial Instruments Firms Association, and Investment Management Association of Japan. Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Global product; distributing entities

Goldman Sachs Global Investment Research produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; Public Communication Channel Goldman Sachs Brazil: 0800 727 5764 and / or contatogoldmanbrasil@gs.com. Available Weekdays (except holidays), from 9am to 6pm. Canal de Comunicação com o Público Goldman Sachs Brasil: 0800 727 5764 e/ou contatogoldmanbrasil@gs.com. Horário de funcionamento: segunda-feira à sexta-feira (exceto feriados), das 9h às 18h; in Canada by Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman Sachs & Co. LLC. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom.

Goldman Sachs International ("GSI"), authorised by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA, has approved this research in connection with its distribution in the United Kingdom.

European Economic Area: Goldman Sachs Bank Europe SE ("GSBE") is a credit institution incorporated in Germany and, within the Single Supervisory Mechanism, subject to direct prudential supervision by the European Central Bank and in other respects supervised by German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and Deutsche Bundesbank and disseminates research within the European Economic Area.

General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by Global Investment Research. Goldman Sachs & Co. LLC, the United States broker dealer, is a member of SIPC (https://www.sipc.org).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, principal trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees will from time to time have long or short positions in, act as principal in, make a market or act as liquidity provider in, and buy or sell, any securities, derivatives, or other financial instruments referred to in this research (including any financial instruments issued by the companies referred to herein), unless otherwise prohibited by regulation or Goldman Sachs policy.

The views attributed to third party presenters at Goldman Sachs arranged conferences, including individuals from other parts of Goldman Sachs, do not necessarily reflect those of Global Investment Research and are not an official view of Goldman Sachs.

Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report.

This research is focused on investment themes across markets, industries and sectors. It does not attempt to distinguish between the prospects or performance of, or provide analysis of, individual companies within any industry or sector we describe.

Any trading recommendation in this research relating to an equity or credit security or securities within an industry or sector is reflective of the investment theme being discussed and is not a recommendation of any such security in isolation.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options and futures disclosure documents which are available from Goldman Sachs sales representatives or at https://www.theocc.com/about/publications/character-risks.jsp and https://www.goldmansachs.com/disclosures/cftc_fcm_disclosures. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be

supplied upon request.

Differing Levels of Service provided by Global Investment Research: The level and types of services provided to you by Goldman Sachs Global Investment Research may vary as compared to that provided to internal and other external clients of GS, depending on various factors including your individual preferences as to the frequency and manner of receiving communication, your risk profile and investment focus and perspective (e.g., marketwide, sector specific, long term, short term), the size and scope of your overall client relationship with GS, and legal and regulatory constraints. As an example, certain clients may request to receive notifications when research on specific securities is published, and certain clients may request that specific data underlying analysts' fundamental analysis available on our internal client websites be delivered to them electronically through data feeds or otherwise. No change to an analyst's fundamental research views (e.g., ratings, price targets, or material changes to earnings estimates for equity securities), will be communicated to any client prior to inclusion of such information in a research report broadly disseminated through electronic publication to our internal client websites or through other means, as necessary, to all clients who are entitled to receive such reports.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research, models or other data related to one or more securities, markets or asset classes (including related services) that may be available to you, please contact your GS representative or go to https://research.gs.com.

Disclosure information is also available at https://www.gs.com/research/hedge.html or from Research Compliance, 200 West Street, New York, NY 10282.

© 2026 Goldman Sachs.

You are permitted to store, display, analyze, modify, reformat, and print the information made available to you via this service only for your own use. You may not resell or reverse engineer this information to calculate or develop any index for disclosure and/or marketing or create any other derivative works or commercial product(s), data or offering(s) without the express written consent of Goldman Sachs. You are not permitted to publish, transmit, or otherwise reproduce this information, in whole or in part, in any format to any third party without the express written consent of Goldman Sachs. You may not use, extract, download or retrieve this information, in whole or in part, to train, finetune, adjust, influence the weights or behavior of, or otherwise develop or improve a machine learning or artificial intelligence model or system, or provide or reproduce this information, in whole or in part, as a prompt or input to any such system without the express written consent of Goldman Sachs. Furthermore, you may not bulk download this information, or employ any robot, spider, crawler, scraper, automated agent, or other electronic means to scrape, harvest, extract, or retrieve this information, without the express written consent of Goldman Sachs. A breach of the above terms may result in termination of your right to access this service.