

# US Weekly Kickstart

## The rise of passive ownership across the S&P 500 and its impact on company valuation and performance

During the past decade, passive equity mutual funds and ETFs have seen \$2.8 trillion of inflows compared with \$3.0 trillion of cumulative outflows from actively-managed funds. Alongside passive equity inflows, the share of passive ownership for the typical S&P 500 firm has also increased, rising from 18% two decades ago to 26% today. The intensity of passive ownership within the S&P 500 varies across sectors and across market cap. For stock pickers the share of passive ownership of a company is much less important for valuation multiples than fundamental attributes. Stocks with the highest share of passive ownership have not consistently outperformed stocks with the lowest share.

### Performance

The S&P 500 was down 1.8% this week. Communication Services was the best-performing sector (+2.3%) while Information Technology was the worst-performing sector (-3.3%). We expect the S&P 500 will end 2024 at 6000 (+5.2%).

### S&P 500 earnings and valuation

	Goldman Sachs Portfolio Strategy		Consensus Bottom-Up	
	2024E	2025E	2024E	2025E
EPS	\$241	\$268	\$242	\$274
Growth	8 %	11 %	9 %	13 %
P/E	NTM	2025E	NTM	2025E
	21.6x	21.3x	21.5x	20.8x

Source: I/B/E/S, FirstCall, Goldman Sachs Investment Research

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## Conversations we are having with clients: Examining passive ownership within the S&P 500

**This week marked the busiest week of the earnings season, with 45% of S&P 500 market cap reporting, including several mega-cap tech stocks.** Results from the mega-cap tech stocks were met with mixed market reactions, with positive post-earnings performance for GOOGL and AMZN and negative performance for AAPL, MSFT, and META. So far broad S&P 500 3Q earnings results have been solid, with 52% of companies beating EPS estimates vs. the historical average of 49%.

**The past decade has seen sustained inflows to passively managed equity funds and outflows from actively managed equity funds (Exhibit 1).** Cumulatively, \$2.8 trillion has flowed into passive US equity mutual funds and ETFs during the past decade vs. \$3.0 trillion of cumulative outflows from actively managed funds. This trend appears to be accelerating, as passive funds experienced \$1.6 trillion of inflows during the past 5 years vs. \$1 trillion over the previous 5-year period. Although actively managed mutual funds have experienced consistent outflows during the past decade, active ETFs have attracted \$246 billion of inflows over the past decade.

**Alongside flows to passive US equity funds, the share of passive ownership within the S&P 500 has also increased over the past two decades (Exhibit 2).** The percentage of shares outstanding owned by passive funds for the median stock in the S&P 500 has risen from 18% two decades ago to 26% today. On a dollar-weighted basis, 24% of the S&P 500 index market cap is owned by passive funds. The historical trend has not been perfectly linear, however. From 2000 until 2010, passive ownership of the S&P 500 hovered around 17%. Starting in 2012, passive ownership has steadily risen to its current level. Our calculation of passive ownership relies on FactSet's categorization at the holding entity level, and as a result likely slightly understates the magnitude of ownership attributable to passive strategies.

**At the sector level, Real Estate has typically carried the highest level of passive ownership on a market-cap weighted basis (Exhibit 5).** Although passive ownership across all S&P 500 sectors has risen over time, the pattern has varied across sectors. While Real Estate has consistently had high levels of passive ownership (median of 24%), the Energy sector has typically had the lowest (17%). Despite a relatively low share of passive ownership compared with other sectors, Energy has experienced the largest change in passive ownership during the past decade (+8 pp) while the Consumer Discretionary sector has experienced the smallest change (+3 pp).

**At the stock level, S&P 500 firms in the top quartile of passive ownership have more than 29% of shares outstanding owned by passive investors.** Currently, S&P 500 stocks have between 13% and 43% of their shares outstanding owned by passive investors, reflecting a wide range around levels of passive ownership (Ex 3).

**Within the S&P 500, larger stocks have a smaller share of passive ownership relative to the typical stock in the index (Exhibit 4).** On a market-cap weighted basis, passive ownership across the Magnificent 7 stocks, which are all within the top 10 largest stocks in the S&P 500, currently stands at 22% vs. 25% for the remaining 493 stocks in the index. Across all S&P 500 stocks, the relationship between market cap and passive ownership appears to be slightly negative. Furthermore, only 6% of the variation in passive ownership share can be explained by variation in market cap.

In recent years, a gap has emerged between passive ownership of the aggregate S&P 500 index and that of the median S&P 500 stock, suggesting passive ownership has become less tilted towards the largest stocks.

**Investors often raise questions and concerns about the impact of passive ownership on the stock market.** The economic literature on the subject, while extensive, offers few widely accepted conclusions on how passive ownership impacts markets. Nevertheless, it focuses on many of the potential impacts that could stem from the rise of passive investing. Existing research has focused on assessing the impact of passive investing on [market efficiency](#), [liquidity](#), [volatility](#), and [correlation](#).

**From a top-down perspective, the impact from passive ownership has not been apparent in S&P 500 stock correlations (Exhibit 6).** Typically, stock correlations are low in market environments where company specific fundamentals dictate performance and are high when macro factors such as economic growth affect the entire equity market in a similar manner. A common investor concern is that demand from passive investors is not tied to company-specific factors, and as a result would cause stock returns to be less micro-driven. A time series of S&P 500 stock correlation has shown a downward trend over the past decade, and this year fell to a low of 0.08, a similar level to troughs reached in 1995, 2000, 2006, 2007, 2017, and 2018.

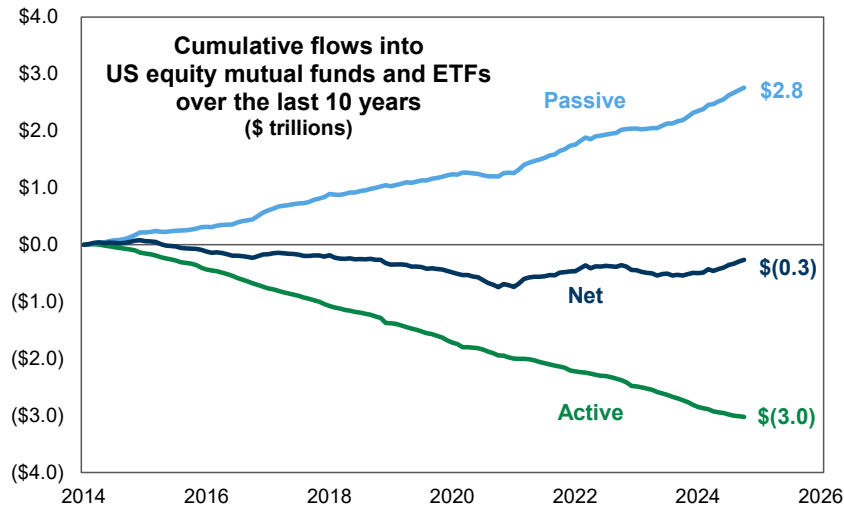
**Across the S&P 500, we also find after controlling for fundamentals, passive ownership does not help explain any additional variation in valuation multiples.** A cross-sectional regression of S&P 500 stock P/E multiples on metrics such as earnings growth expectations, duration, earnings stability, profit margins, and asset turnover shows that fundamental metrics help explain 50% of the variation in valuation multiples today. If we incorporate variation in passive ownership into this framework, it does not help explain any incremental variation across multiples. In addition, the importance of passive ownership for stock multiples, aside from not being statistically significant, is weaker than the importance of fundamentals (Exhibit 7).

**From a market structure perspective, trading in passive investment vehicles does not always reflect passive buying.** During periods of high equity market volatility our options strategists [have found](#) that ETF trading volumes account for a large share of trading compared with lower volatility environments. During the past year ETF volumes accounted for 28% of the tape. Nevertheless, not all ETF trading is passive. For example, hedge funds [utilize ETFs](#) as hedges in lieu of individual stock shorts.

**S&P 500 stocks with high passive ownership have not consistently outperformed low passive ownership stocks (Exhibit 8).** We construct an equal-weighted sector neutral factor to test whether stocks with high passive ownership outperform counterparts with low passive ownership. Data used to compute passive ownership shares is released quarterly and reflects changes in ownership across the completed quarter. The factor is rebalanced at the start of each quarter based on data that covers the coincident quarter. Performance since 2000 has been inconsistent, stocks with higher passive ownership outperformed up until 2014 before plateauing and subsequently giving back of most of the early 2000's gains over the past 5 years.

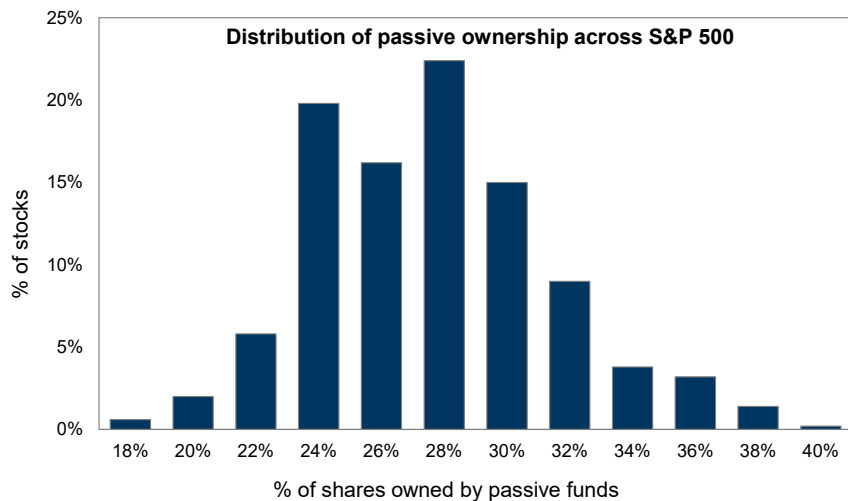
# Charts we are watching: The rise of passive ownership across the equity market

**Exhibit 1: The rotation from active to passive US equity funds has continued**  
as of October 31, 2024



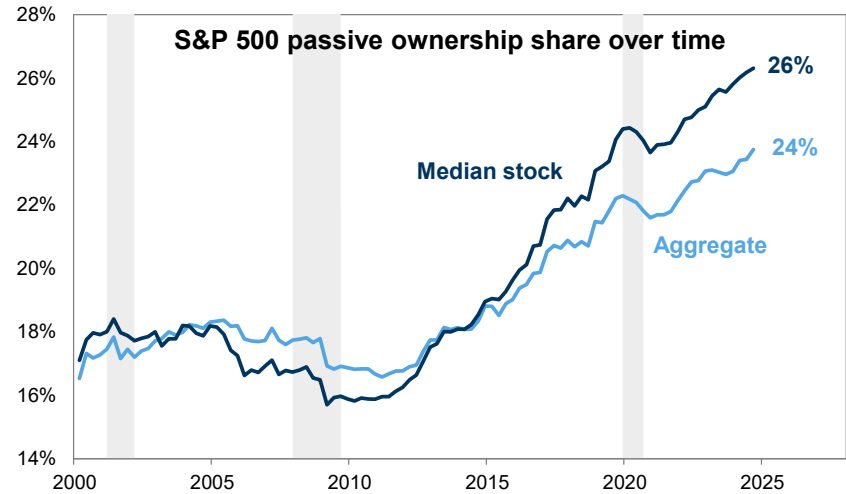
Source: EPFR, Goldman Sachs Global Investment Research

**Exhibit 3: There is wide variation in passive ownership across stocks**  
as of October 31, 2024



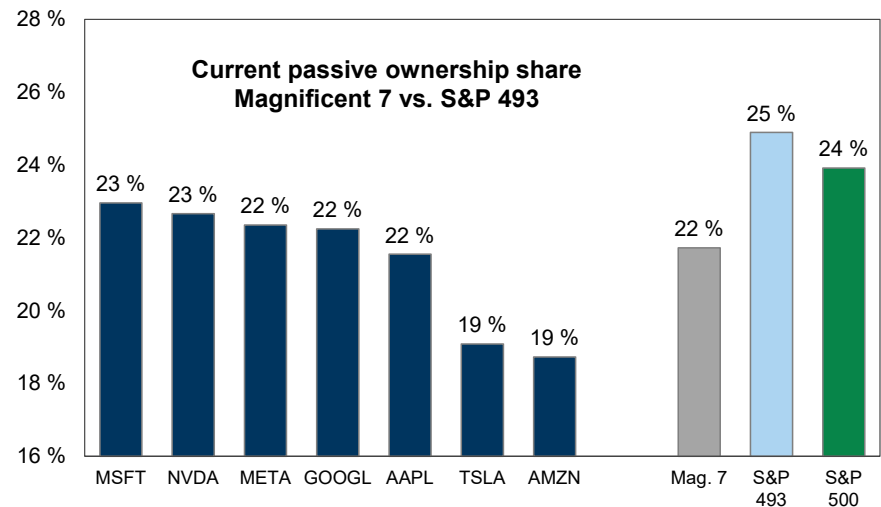
Source: FactSet, Goldman Sachs Global Investment Research

**Exhibit 2: S&P 500 passive ownership has risen steadily since 2012**  
as of October 31, 2024.



Source: FactSet, Goldman Sachs Global Investment Research

**Exhibit 4: Passive ownership is slightly negatively correlated with market cap**  
as of October 31, 2024

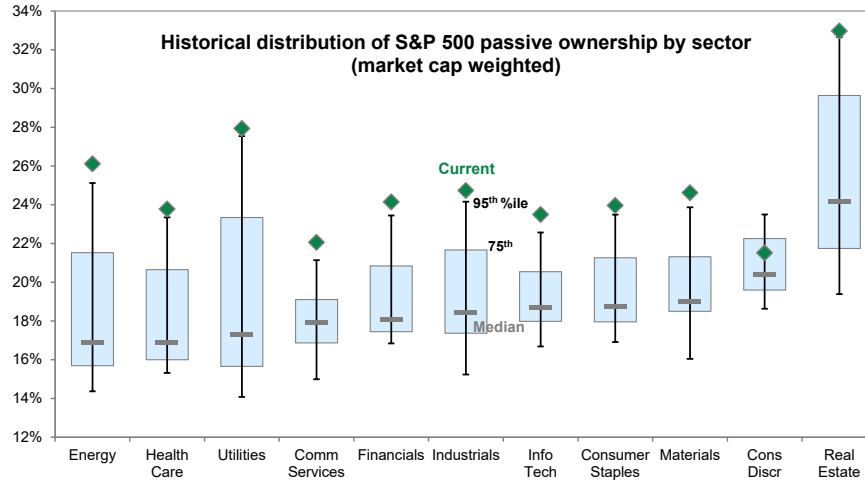


Source: FactSet, Goldman Sachs Global Investment Research

# Charts we are watching: Assessing the impact of passive ownership on today's market

**Exhibit 5: Real Estate has highest level of passive ownership among sectors**

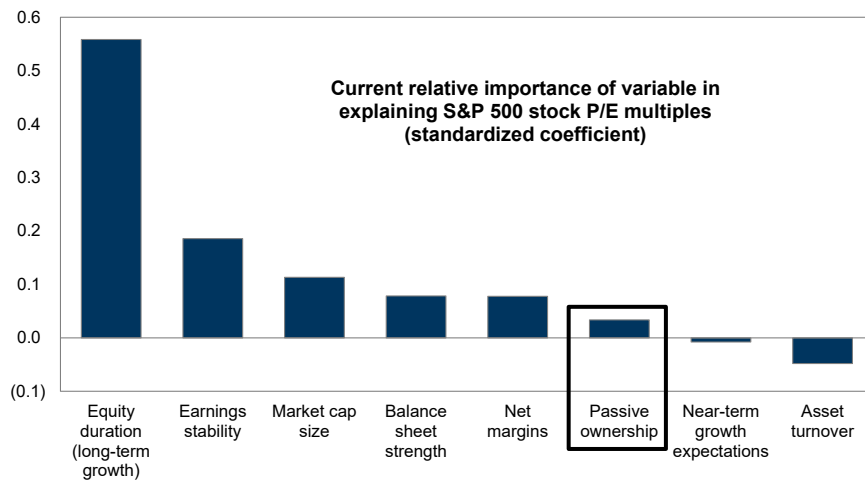
Data span 2000-2024 period



Source: FactSet, Goldman Sachs Global Investment Research

**Exhibit 7: Fundamentals matter more than passive ownership for valuation**

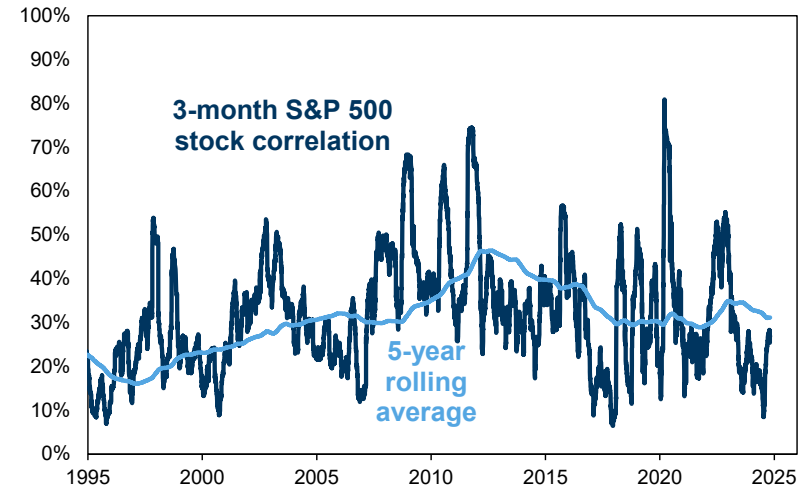
as of October 31, 2024. Cross sectional regression across S&P 500 companies.



Source: FactSet, Goldman Sachs Global Investment Research

**Exhibit 6: Stock correlations do not show signs of a consistent upward trend**

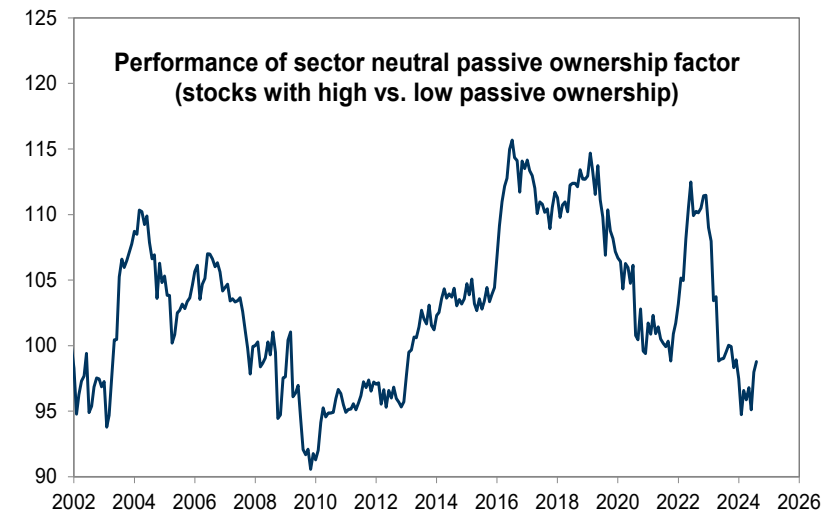
as of October 31, 2024



Source: Goldman Sachs Global Investment Research

**Exhibit 8: Stocks with high passive ownership have not consistently outperformed**

as of October 31, 2024. Factor is equal-weighted, sector neutral, and rebalanced quarterly.



Source: Goldman Sachs Global Investment Research

## Charts we are watching: Highest and lowest passive ownership within the S&P 500

### Exhibit 9: S&P 500 stocks with the highest and lowest passive ownership

as of October 31, 2024

Highest passive ownership			
Company name	Ticker	Mkt cap (\$ bn.)	Passive ownership share
Nasdaq, Inc.	NDAQ	\$42	43 %
Essex Property Trust, Inc.	ESS	18	38
Host Hotels & Resorts, Inc.	HST	12	38
Rollins, Inc.	ROL	23	37
Healthpeak Properties, Inc.	DOC	16	37
Federal Realty Investment Trust	FRT	9	37
Mid-America Apartment Communities, Inc.	MAA	18	37
AvalonBay Communities, Inc.	AVB	32	36
BXP Inc	BXP	13	36
Realty Income Corporation	O	52	36
Camden Property Trust	CPT	12	36
Kimco Realty Corporation	KIM	16	36
Las Vegas Sands Corp.	LVS	38	36
Republic Services, Inc.	RSG	62	35
Diamondback Energy, Inc.	FANG	52	35
Regency Centers Corporation	REG	13	35
Extra Space Storage Inc.	EXR	35	35
Simon Property Group, Inc.	SPG	55	35
Consolidated Edison, Inc.	ED	35	35
Iron Mountain, Inc.	IRM	36	35
Digital Realty Trust, Inc.	DLR	58	34
Equity Residential	EQR	27	34
Ventas, Inc.	VTR	27	34
International Paper Company	IP	19	34
Campbell Soup Company	CPB	14	34
<b>S&amp;P 500 median</b>			<b>26 %</b>

Lowest passive ownership			
Company name	Ticker	Mkt cap (\$ bn.)	Passive ownership share
Dell Technologies, Inc.	DELL	\$90	13 %
Kraft Heinz Company	KHC	40	17
Occidental Petroleum Corporation	OXY	45	17
Charles Schwab Corp	SCHW	126	18
American Express Company	AXP	190	18
Marriott International, Inc.	MAR	73	18
DaVita Inc.	DVA	11	19
Amazon.com, Inc.	AMZN	1,956	19
Tesla, Inc.	TSLA	802	19
Arista Networks, Inc.	ANET	121	19
Constellation Brands, Inc.	STZ	42	19
NXP Semiconductors NV	NXPI	60	19
General Dynamics Corporation	GD	80	20
Bank of America Corp	BAC	321	20
Eli Lilly and Company	LLY	788	20
Deere & Company	DE	111	20
FedEx Corporation	FDX	67	21
Palantir Technologies Inc.	PLTR	93	21
Stryker Corporation	SYK	136	21
Danaher Corporation	DHR	177	21
Mohawk Industries, Inc.	MHK	8	21
MetLife, Inc.	MET	55	21
Uber Technologies, Inc.	UBER	151	21
Boeing Company	BA	109	21
Moody's Corporation	MCO	82	21
<b>S&amp;P 500 median</b>			<b>26 %</b>

Source: FactSet, Goldman Sachs Global Investment Research.

# S&P 500 earnings results

## Exhibit 10: S&P 500 3Q 2024 earnings results

as of November 1, 2024

S&P 500 EQUAL-WEIGHTED												
	Number of Companies			EARNINGS						REVENUE		
				Std Dev Surprises			Absolute Surprises		Avg 3Q Surprise	Std Dev Surprises		Avg 3Q Surprise
	Reported	Total	% of Co's	Positive	Negative	In-Line	Positive	Negative		Positive	Negative	
Communication Services	10	19	53%	80 %	0 %	20 %	90 %	10 %	6 %	40 %	20 %	1 %
Information Technology	37	69	54	62	8	27	86	8	4	62	8	1
Consumer Staples	22	38	58	59	9	32	86	9	8	36	23	1
Health Care	38	62	61	55	5	39	79	13	6	63	11	2
Financials	61	72	85	54	8	38	79	18	7	43	21	1
Utilities	15	31	48	53	27	20	67	33	5	13	20	(1)
Consumer Discretionary	36	50	72	50	19	31	67	33	6	33	31	1
Industrials	63	78	81	49	21	30	67	27	5	21	29	(1)
Real Estate	26	31	84	46	27	27	58	42	11	12	8	2
Materials	19	28	68	37	16	47	47	37	6	37	16	1
Energy	10	22	45	20	20	60	40	50	0	0	40	(2)
<b>S&amp;P 500</b>	<b>337</b>	<b>500</b>	<b>67%</b>	<b>52 %</b>	<b>14 %</b>	<b>33 %</b>	<b>72 %</b>	<b>23 %</b>	<b>6 %</b>	<b>36 %</b>	<b>20 %</b>	<b>1 %</b>

### Comparative Data (full earnings season)

2Q 2024	59 %	10 %	31 %	76 %	19 %	8 %	34 %	19 %	1 %
1Q 2024	59	8	33	76	19	11	38	18	1
4Q 2023	55	12	33	73	23	9	38	17	0
3Q 2023	59	9	32	79	17	7	33	20	0

S&P 500 CAP-WEIGHTED												
	Weight of Companies			EARNINGS						REVENUE		
				Std Dev Surprises			Absolute Surprises		Avg 3Q Surprise	Std Dev Surprises		Avg 3Q Surprise
	Reported	Total	% of Co's	Positive	Negative	In-Line	Positive	Negative		Positive	Negative	
Communication Services	8	9	93%	99 %	0 %	1 %	100 %	0 %	12 %	54 %	5 %	1 %
Consumer Discretionary	8	10	80	81	9	10	89	11	18	56	12	1
Financials	11	13	84	69	3	28	90	8	7	55	10	2
Consumer Staples	4	6	74	62	2	36	96	2	4	28	34	0
Industrials	7	9	86	52	21	28	67	29	10	21	28	(1)
Information Technology	19	32	59	52	1	47	99	1	6	51	1	1
Health Care	9	11	82	49	2	49	76	18	4	63	17	1
Utilities	1	3	49	47	18	35	77	23	5	21	15	(2)
Real Estate	2	2	83	45	30	25	62	38	12	10	14	1
Materials	2	2	76	39	19	42	46	38	2	24	8	0
Energy	1	3	30	18	21	61	51	37	1	0	40	(3)
<b>S&amp;P 500</b>	<b>73</b>	<b>100</b>	<b>73%</b>	<b>62 %</b>	<b>6 %</b>	<b>32 %</b>	<b>87 %</b>	<b>11 %</b>	<b>8 %</b>	<b>47 %</b>	<b>12 %</b>	<b>1 %</b>

Source: FactSet, Goldman Sachs Global Investment Research.

## 3Q earnings calendar (week of November 4<sup>th</sup>)

### Exhibit 11: Expected report dates for S&P 500 stocks reporting week of November 4<sup>th</sup>

as of November 1, 2024

Sector	Company name	Ticker	YTD Return	Mkt Cap (\$ bil)	Consensus 3Q 2024				P/E (NTM)
					EPS	Std. Dev.	3 Mo Revision	Yr/Yr Growth	
Monday, November 4, 2024									
Communication Services	Fox Corp.	FOXA	44 %	\$ 15	\$ 1.11	\$ 0.06	(5)%	2 %	11.4 x
Consumer Discretionary	Marriott Intl	MAR	16	73	2.31	0.04	(1)	9	25.1
	Wynn Resorts, Limited	WYNN	6	11	1.01	0.36	(8)	2	17.6
Energy	Diamondback Energy	FANG	18	52	3.99	0.31	(18)	(27)	10.3
Financials	American Intl Group	AIG	14	49	1.09	0.11	(24)	(32)	11.6
	Fidelity National Info Svc.	FIS	52	49	1.29	0.01	3	38	16.1
	Franklin Resources	BEN	(27)	11	0.60	0.03	2	(28)	8.1
	Loews Corp.	L	14	17			NM	NM	NM
Health Care	Hologic Inc.	HOLX	13	19	1.01	0.01	(1)	14	18.5
	Revvity Inc.	RVTY	9	15	1.13	0.01	(0)	(5)	23.3
	Vertex Pharmaceuticals	VRTX	17	123	4.15	0.24	2	2	30.3
	Zoetis Inc.	ZTS	(9)	81	1.46	0.02	(1)	7	28.1
Information Technology	NXP Semiconductors	NXPI	3	60	3.43	0.02	0	(7)	15.6
	Palantir Technologies	PLTR	142	89	0.09	0.02	10	24	100.7
Materials	Celanese Corp.	CE	(17)	14	2.85	0.10	(10)	14	10.4
Real Estate	AvalonBay Communities	AVB	21	31	1.45	0.46	18	20	39.4
	Realty Income Corp.	O	8	52	0.36	0.07	(3)	10	40.1
Utilities	Constellation Energy	CEG	126	82	2.64	0.18	0	17	29.9
	Eversource Energy	ES	10	24	1.08	0.07	5	12	13.8
	Public Service Enterprise Grp	PEG	50	45	0.87	0.05	(8)	3	22.1

Source: FactSet, data compiled by Goldman Sachs Global Investment Research.



## 3Q earnings calendar (week of November 4<sup>th</sup> continued)

### Exhibit 11 (Cont'd): Expected report dates for S&P 500 stocks reporting week of November 4<sup>th</sup>

as of November 1, 2024

Sector	Company name	Ticker	YTD Return	Mkt Cap (\$ bil)	Consensus 3Q 2024				P/E (NTM)
					EPS	Std. Dev.	3 Mo Revision	Yr/Yr Growth	
Tuesday, November 5, 2024									
Consumer Discretionary	Yum! Brands Inc.	YUM	2 %	\$ 37	\$ 1.41	\$ 0.03	(4)%	(2)%	21.3 x
Consumer Staples	Archer-Daniels-Midland	ADM	(22)	26	1.25	0.08	(11)	(24)	10.4
Energy	Devon Energy Corp.	DVN	(12)	24	1.09	0.08	(19)	(34)	7.9
	Marathon Petroleum	MPC	(1)	49	0.98	0.11	(76)	(88)	15.0
	Targa Resources	TRGP	96	37	1.56	0.16	13	60	23.4
Financials	Assurant Inc.	AIZ	15	10	2.52	0.10	(23)	(41)	11.2
	Jack Henry & Associates	JKHY	12	13	1.60	0.03	(3)	15	30.3
Health Care	Henry Schein Inc.	HSIC	(7)	9	1.17	0.03	(13)	(12)	13.5
Industrials	Broadridge Financial Solutions	BR	4	25	0.98	0.06	(16)	(10)	24.0
	Builders FirstSource	BLDR	3	20	3.00	0.23	(21)	(29)	14.5
	Cummins Inc.	CMI	40	45	4.80	0.26	8	5	15.3
	Emerson Electric	EMR	13	62	1.47	0.02	(0)	14	18.2
	Expeditors Intl	EXPD	(6)	17	1.35	0.14	5	9	22.6
Information Technology	Gartner Inc.	IT	11	39	2.39	0.17	1	(7)	39.3
	Microchip Technology	MCHP	(17)	39	0.43	0.02	(28)	(73)	26.5
	Super Micro Computer	SMCI	2	17	0.75	0.06	(1)	119	7.9
Materials	DuPont	DD	9	35	1.03	0.01	(0)	12	19.4
	International Flav/Frag	IFF	24	25	1.08	0.04	11	21	21.9

Source: FactSet, data compiled by Goldman Sachs Global Investment Research.



## 3Q earnings calendar (week of November 4<sup>th</sup> continued)

### Exhibit 11 (Cont'd): Expected report dates for S&P 500 stocks reporting week of November 4<sup>th</sup>

as of November 1, 2024

ember 1, 2024

Sector	Company name	Ticker	YTD Return	Mkt Cap (\$ bil)	Consensus 3Q 2024				P/E (NTM)
					EPS	Std. Dev.	3 Mo Revision	Yr/Yr Growth	
Wednesday, November 6, 2024									
Communication Services	Match Group Inc.	MTCH	(1)%	\$ 9	\$ 0.48	\$ 0.12	(14)%	(16)%	15.3 x
	Take-Two Interactive Software	TTWO	0	28	0.41	0.03	(57)	(66)	28.8
Energy	APA Corp.	APA	(32)	9	1.01	0.20	(11)	(24)	6.6
	Marathon Oil Corp.	MRO	16	15	0.63	0.07	(18)	(18)	11.8
	Williams Companies	WMB	56	64	0.42	0.02	2	(23)	25.3
Financials	MarketAxess Holdings	MKTX	(0)	11	1.85	0.03	13	26	36.0
Health Care	Cencora Inc.	COR	12	45	3.22	0.02	1	13	15.3
	Charles River Laboratories Intl	CRL	(24)	9	2.43	0.03	(20)	(11)	17.3
	CVS Health Corp.	CVS	(25)	71	1.53	0.31	(23)	(31)	8.0
	Gilead Sciences	GILD	13	111	1.55	0.13	(11)	(32)	13.3
	McKesson Corp.	MCK	9	65	6.88	0.08	(11)	10	14.7
	STERIS plc	STE	2	22	2.12	0.02	(2)	5	22.9
Industrials	Howmet Aerospace	HWM	85	41	0.66	0.02	4	43	33.1
	Johnson Controls Intl	JCI	33	50	1.20	0.17	(1)	14	21.2
Information Technology	ANSYS Inc.	ANSS	(12)	28	1.72	0.21	(1)	22	29.9
	Fair Isaac Corp.	FICO	71	49	6.39	0.30	1	28	66.2
	PTC Inc.	PTC	6	22	1.44	0.07	6	20	31.2
	QUALCOMM Inc.	QCOM	14	181	2.56	0.02	4	27	14.5
	Trimble Inc.	TRMB	14	15	0.62	0.01	(1)	(9)	20.3
Materials	Albemarle Corp.	ALB	(34)	11	(0.43)	0.47	NM	NM	59.3
	Corteva Inc.	CTVA	28	42	(0.30)	0.05	(114)	(31)	18.9
Real Estate	Host Hotels & Resorts	HST	(9)	12	0.10	0.01	(38)	(36)	17.9
	Iron Mountain Inc.	IRM	81	36	0.48	0.04	(4)	8	59.3
Utilities	Ameren Corp.	AEE	24	23	1.91	0.05	(4)	2	17.9
	American Electric Power	AEP	25	53	1.80	0.04	(1)	2	16.7
	Atmos Energy Corp.	ATO	22	22	0.80	0.03	(2)	0	19.3
	Pinnacle West Capital	PNW	27	10	3.48	0.32	4	(0)	18.4
	Sempra	SRE	14	53	1.05	0.06	(6)	(3)	16.4

Source: FactSet, data compiled by Goldman Sachs Global Investment Research.

## 3Q earnings calendar (week of November 4<sup>th</sup> continued)

### Exhibit 11 (Cont'd): Expected report dates for S&P 500 stocks reporting week of November 4<sup>th</sup>

as of November 1, 2024

Sector	Company name	Ticker	YTD Return	Mkt Cap (\$ bil)	Consensus 3Q 2024				P/E (NTM)
					EPS	Std. Dev.	3 Mo Revision	Yr/Yr Growth	
Thursday, November 7, 2024									
Communication Services	News Corp.	NWSA	12 %	\$ 14	\$ 0.16	\$ 0.02	(3)%	1 %	31.6 x
	Warner Bros. Discovery	WBD	(29)	20	(0.08)	0.10	NM	52	NM
Consumer Discretionary	Airbnb Inc.	ABNB	(1)	59	2.14	0.11	(12)	(68)	29.9
	Expedia Group Inc.	EXPE	3	19	6.03	0.32	(4)	12	11.4
	Ralph Lauren Corp.	RL	39	8	2.40	0.04	(3)	14	16.3
	Tapestry Inc.	TPR	32	11	0.95	0.01	(1)	2	10.4
Consumer Staples	Hershey Co.	HSY	(3)	26	2.55	0.12	(9)	(2)	19.5
	Kenvue Inc.	KVUE	10	44	0.28	0.01	(8)	(11)	19.0
	Molson Coors Beverage	TAP	(9)	11	1.67	0.07	(7)	(13)	9.4
	Monster Beverage	MNST	(9)	52	0.43	0.01	(6)	4	28.2
Energy	EOG Resources Inc.	EOG	4	69	2.77	0.12	(11)	(19)	10.9
	Halliburton	HAL	(22)	24	0.75	0.01	(0)	(5)	8.4
Financials	Corpay Inc.	CPAY	17	23	4.98	0.03	(4)	11	15.3
Health Care	Becton, Dickinson	BDX	(3)	68	3.77	0.02	(3)	10	16.1
	Insulet Corp.	PODD	7	16	0.76	0.04	0	7	60.4
	Mettler-Toledo Intl	MTD	6	27	10.01	0.11	(3)	2	29.8
	Moderna Inc.	MRNA	(45)	21	(1.89)	0.42	(66)	80	NM
	Solventum Corp.	SOLV	NM	13	1.39	0.03	(1)	NM	12.7
	Viatis Inc.	VTRS	11	14	0.68	0.03	(1)	(14)	4.3
Industrials	Axon Enterprise	AXON	64	32	1.19	0.10	7	17	73.5
	Rockwell Automation	ROK	(13)	30	2.41	0.07	(30)	(34)	25.0
	TransDigm Group	TDG	36	73	9.33	0.33	(2)	16	32.7

Source: FactSet, data compiled by Goldman Sachs Global Investment Research.

## 3Q earnings calendar (week of November 4<sup>th</sup> continued)

### Exhibit 11 (Cont'd): Expected report dates for S&P 500 stocks reporting week of November 4<sup>th</sup>

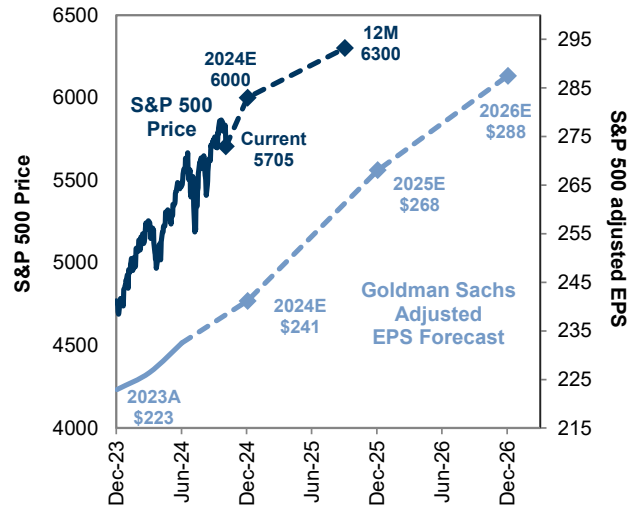
as of November 1, 2024

Sector	Company name	Ticker	YTD Return	Mkt Cap (\$ bil)	Consensus 3Q 2024				P/E (NTM)
					EPS	Std. Dev.	3 Mo Revision	Yr/Yr Growth	
Thursday, November 7, 2024 (cont'd)									
Information Technology	Akamai Technologies	AKAM	(15)	15	1.59	0.01	3	(2)	14.9
	Arista Networks	ANET	64	121	2.08	0.08	1	14	41.5
	EPAM Systems Inc.	EPAM	(37)	11	2.70	0.02	0	(1)	17.3
	Fortinet Inc.	FTNT	34	60	0.52	0.01	20	26	35.6
	Motorola Solutions	MSI	45	75	3.36	0.03	1	5	31.6
Materials	Air Products & Chemicals	APD	16	69	3.48	0.06	(1)	11	23.1
Utilities	Consolidated Edison	ED	15	35	1.62	0.09	(1)	0	18.2
	Duke Energy Corp.	DUK	22	89	1.70	0.08	(14)	(12)	18.3
	Evergy Inc.	EVRG	20	14	1.93	0.04	(3)	3	15.1
	PG&E Corp.	PCG	12	43	0.33	0.03	10	37	13.9
	Vistra Corp.	VST	227	43	1.20	0.24	(40)	(4)	20.3
Friday, November 8, 2024									
Communication Services	Paramount Global	PARA	(25)%	\$ 7	\$ 0.24	\$ 0.06	(26)%	(21)%	7.4 x
Health Care	Baxter Intl	BAX	(5)	18	0.78	0.00	4	14	11.9
Utilities	NRG Energy Inc.	NRG	78	19	2.05	0.48	1	45	13.7

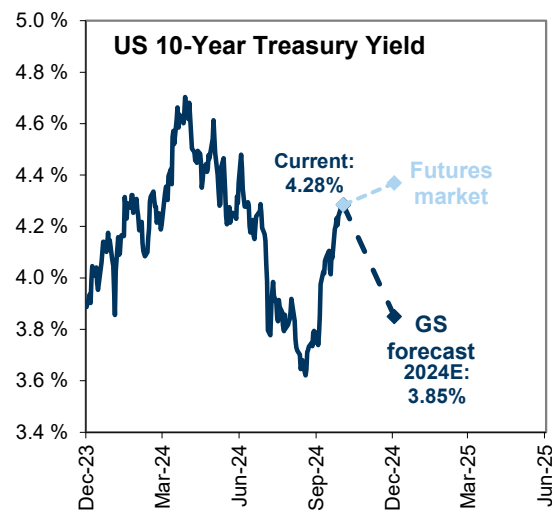
Source: FactSet, data compiled by Goldman Sachs Global Investment Research.

# Markets and Money Flow

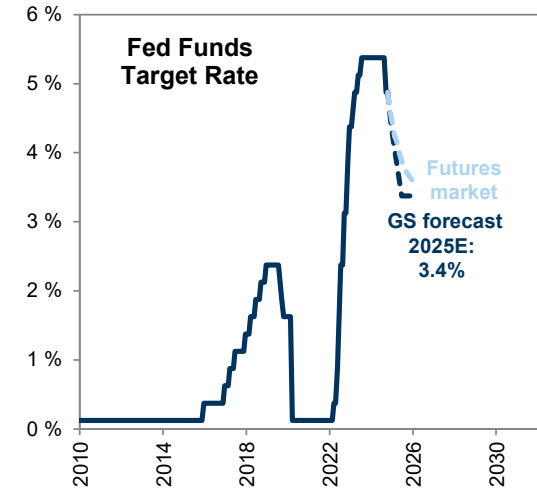
## S&P 500 level and EPS



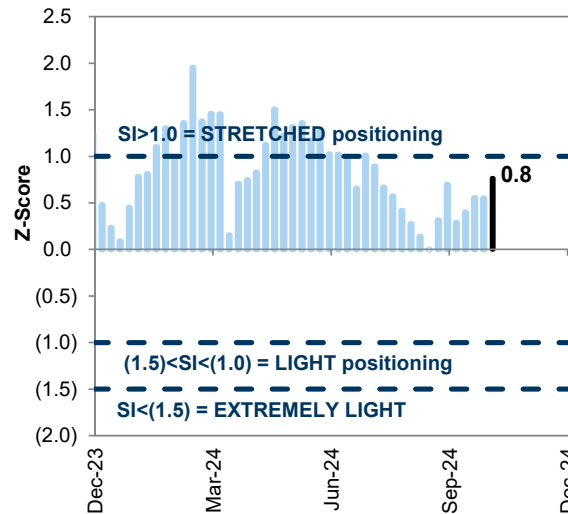
## 10-yr. Treasury Yields



## Fed Funds Target Rate



## Sentiment Indicator



Note: Sentiment Indicator measures stock positioning across retail, institutional, and foreign investors versus the past 12 months. Readings below -1.0 or above +1.0 indicate extreme positions that are significant in predicting future returns.

## 10-yr Real Treasury Yields



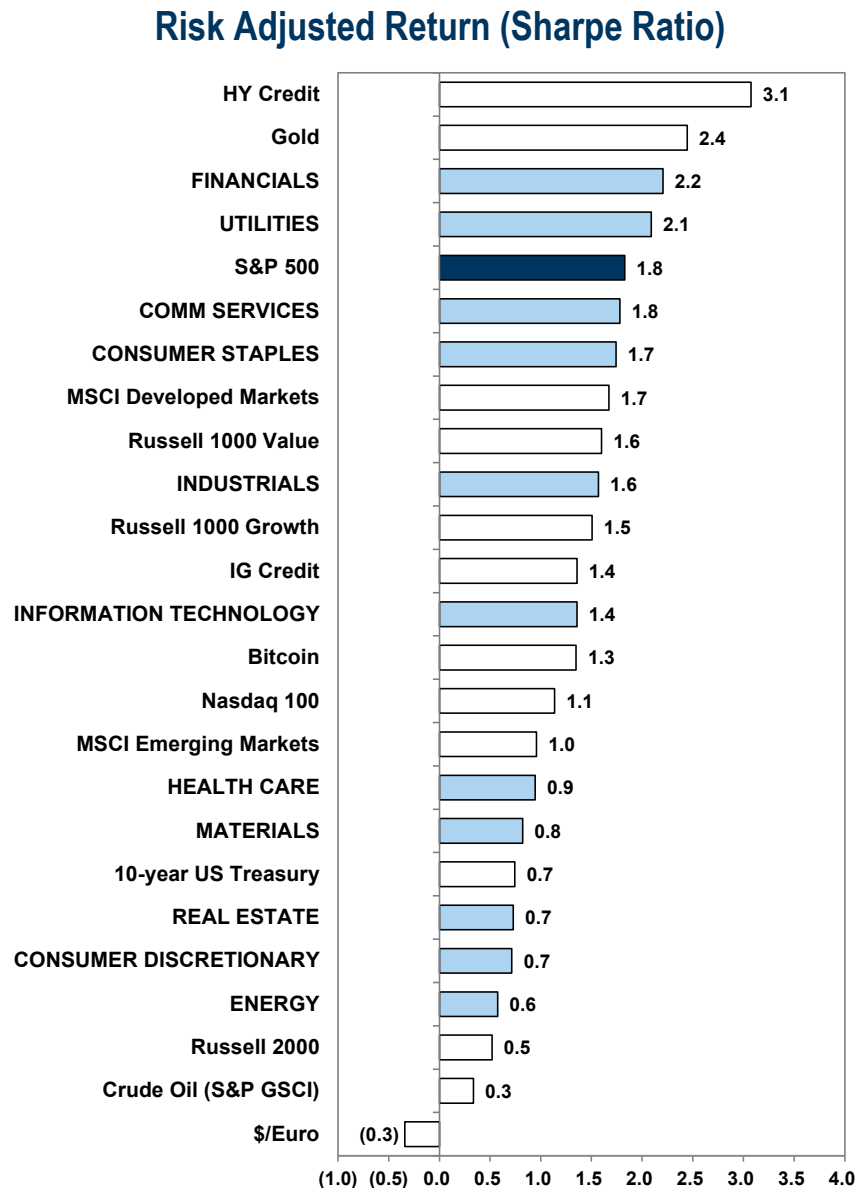
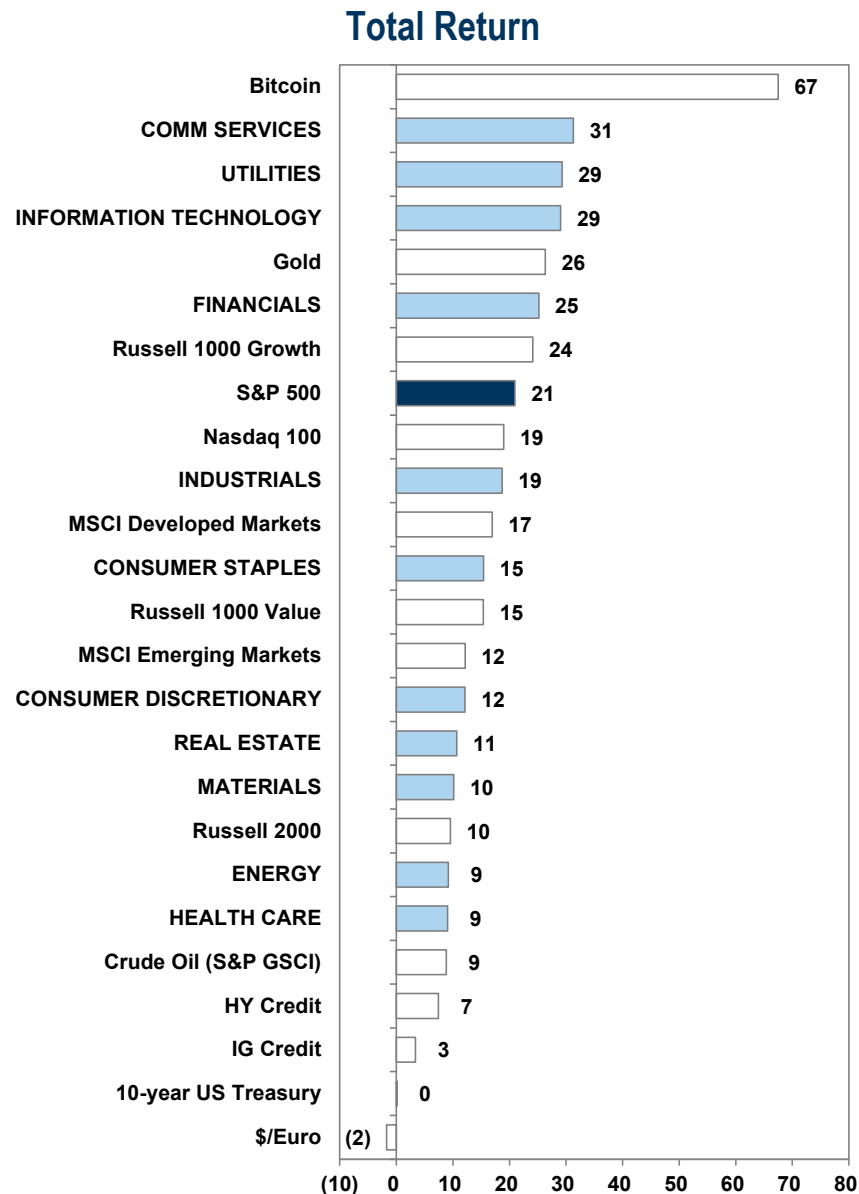
## Volatility



Source: Haver, EPFR, FactSet, CFTC, and Goldman Sachs Global Investment Research.

Pricing in this report as of October 31, 2024, unless otherwise indicated.

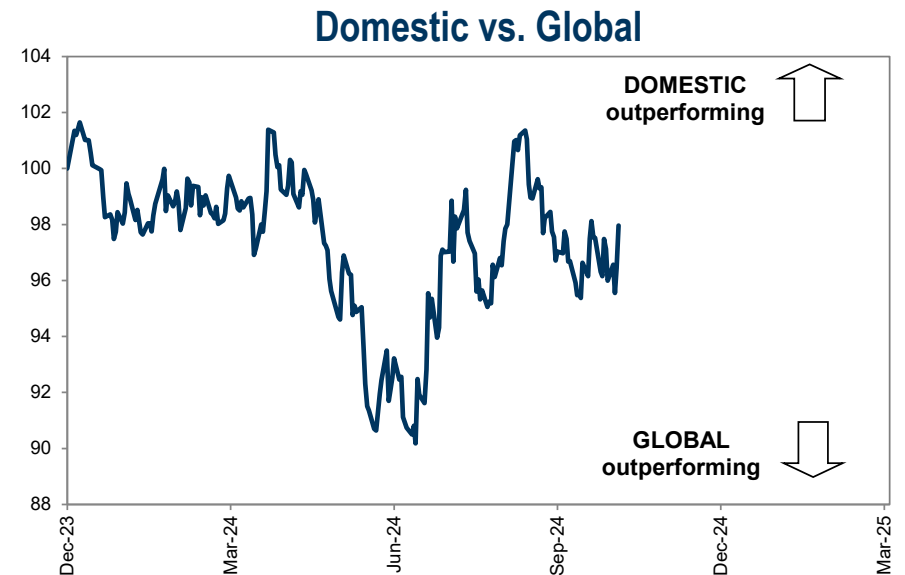
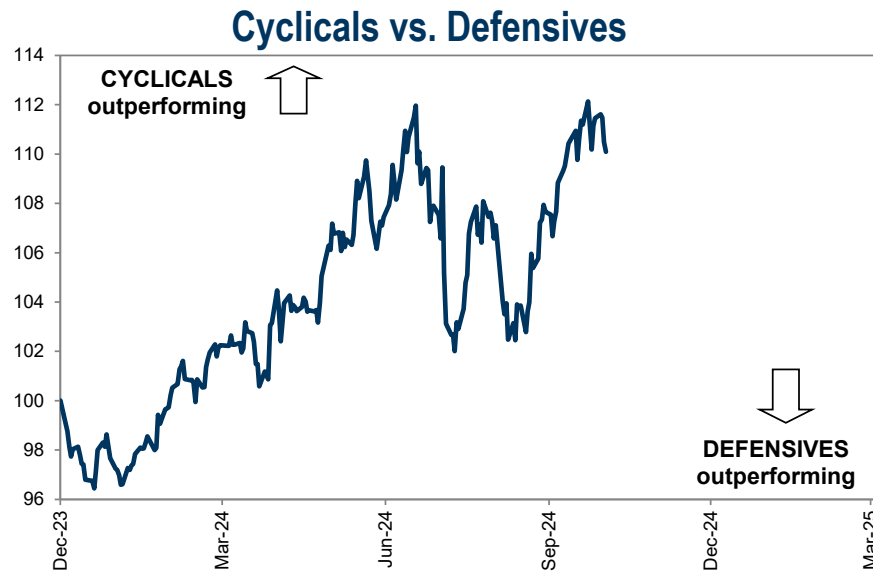
# Market Performance: YTD absolute and risk-adjusted returns



Note: Crude Oil (S&P GSCI) return represents S&P GSCI Crude Oil Index total return. Spot change equals (5)% YTD.

Source: Haver, FactSet, and Goldman Sachs Global Investment Research.

# Sector Baskets Performance

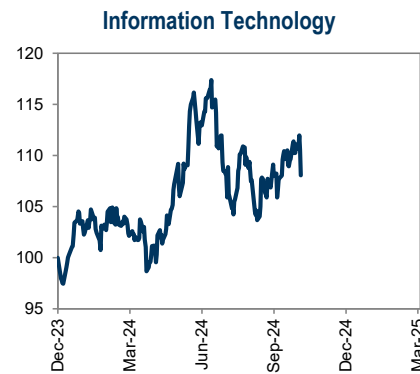
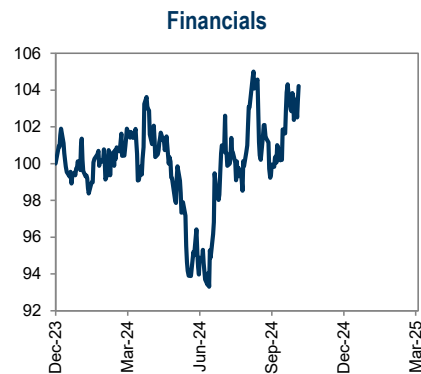
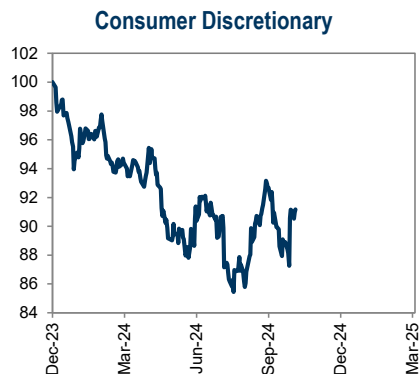


## Performance and fundamentals of our sector baskets

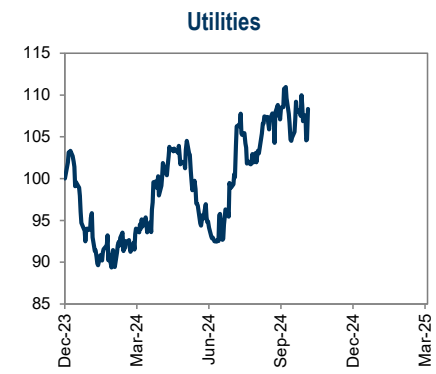
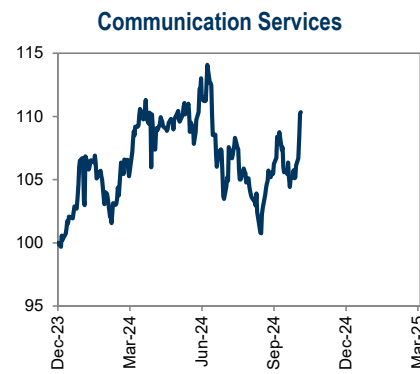
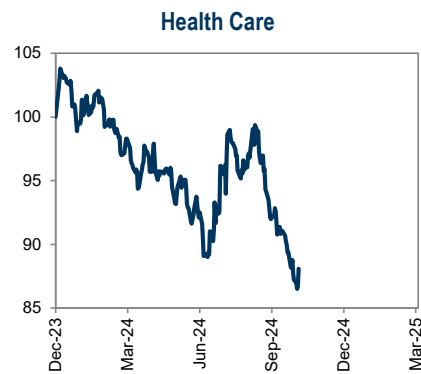
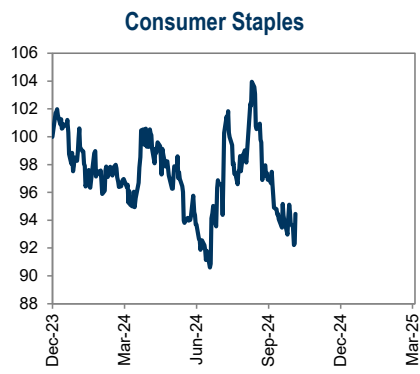
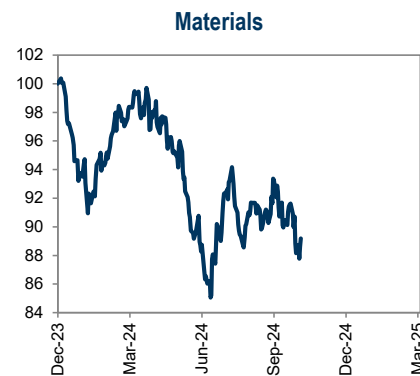
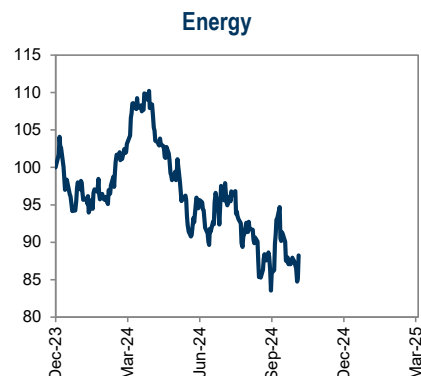
Basket	Bloomberg Ticker <GSSBXXXX>	# of Stocks	% of S&P 500 Cap	Beta	Non-US Sales	Earnings Growth		Sales Growth		NTM P/E	LTM P/B	Div Yield	Total Return				
						2024E	2025E	2024E	2025E				1 Wk	1 Mo	3 Mo	LTM	YTD
Cyclicals	CYCL	292	58 %	1.2	35%	8 %	15 %	3 %	6 %	21.4x	5.0x	1.1 %	(2.1)%	(0)%	4 %	46 %	26 %
Defensives	DEFS	208	42	1.0	23	9	14	6	6	21.5	5.4	1.5	(1.5)	(2)	3	29	16
Global	GLBL	275	66 %	1.2	45%	8 %	18 %	3 %	6 %	22.8x	7.1x	1.2 %	(2.1)%	(1)%	3 %	39 %	22 %
Domestic	DOMS	225	34	1.0	15	10	9	6	6	19.3	3.3	1.6	(1.4)	(0)	5	37	20
Global Cyclicals	GCYC	176	36 %	1.3	45%	4 %	19 %	2 %	6 %	23.3x	7.1x	1.1 %	(2.7)%	(1)%	4 %	48 %	28 %
Domestic Cyclicals	DCYC	116	22	1.0	21	13	10	5	7	18.9	3.3	1.3	(1.1)	1	4	41	21
Domestic Defensives	DDEF	109	12	0.8	10	4	8	6	5	20.2	3.4	2.2	(2.0)	(2)	6	31	18
Global Defensives	GDEF	99	30	1.0	45	12	17	5	7	22.1	7.0	1.3	(1.4)	(2)	3	29	16
Services-providing	SERV	264	48 %	1.1	20%	11 %	11 %	7 %	7 %	20.3x	4.1x	1.4 %	(1.2)%	(0)%	5 %	36 %	19 %
Goods-producing	GOOD	236	52	1.1	42	6	19	3	5	22.7	6.6	1.2	(2.6)	(2)	2	41	23
<b>S&amp;P 500</b>		<b>500</b>	<b>100 %</b>	<b>1.1</b>	<b>29%</b>	<b>9 %</b>	<b>13 %</b>	<b>5 %</b>	<b>6 %</b>	<b>21.5x</b>	<b>5.1x</b>	<b>1.3 %</b>	<b>(1.8)%</b>	<b>(1)%</b>	<b>4 %</b>	<b>38 %</b>	<b>21 %</b>

Source: FactSet and Goldman Sachs Global Investment Research.

# Sectors – Relative Performance vs. S&P 500



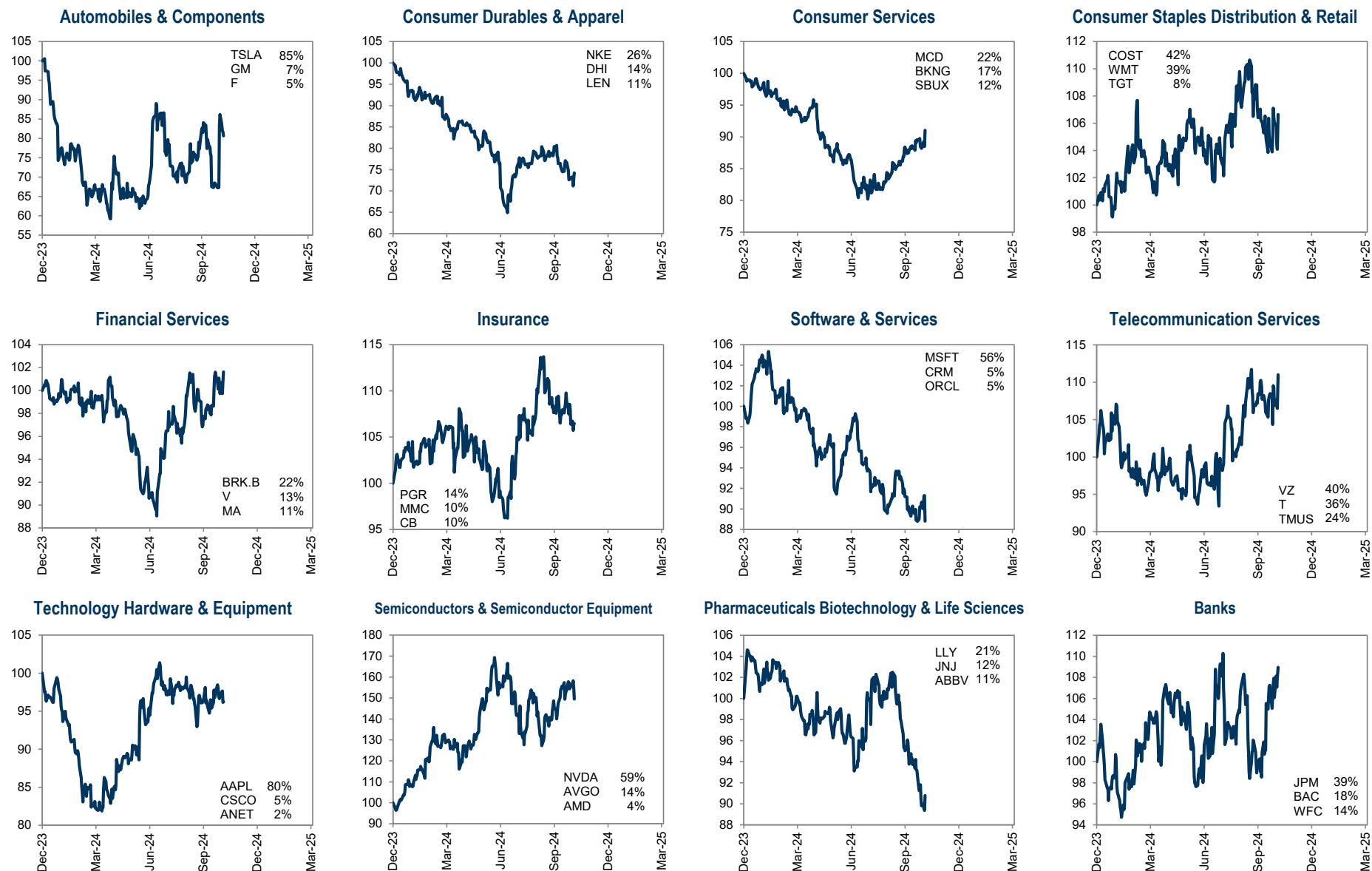
Recommended Sector Positioning			
Sectors	Goldman Sachs Weighting	S&P 500 Wgt	YTD return
Utilities	Overweight	3%	29 %
Info Tech		32	29
Consumer Staples		6	15
Energy		3	9
Health Care		11	9
Comm Services		9	31
Financials		13	25
Industrials		9	19
Consumer Discr		10	12
Real Estate		2	11
Materials		2	10
<b>S&amp;P 500</b>		<b>100%</b>	<b>21 %</b>



Source: FactSet and Goldman Sachs Global Investment Research.

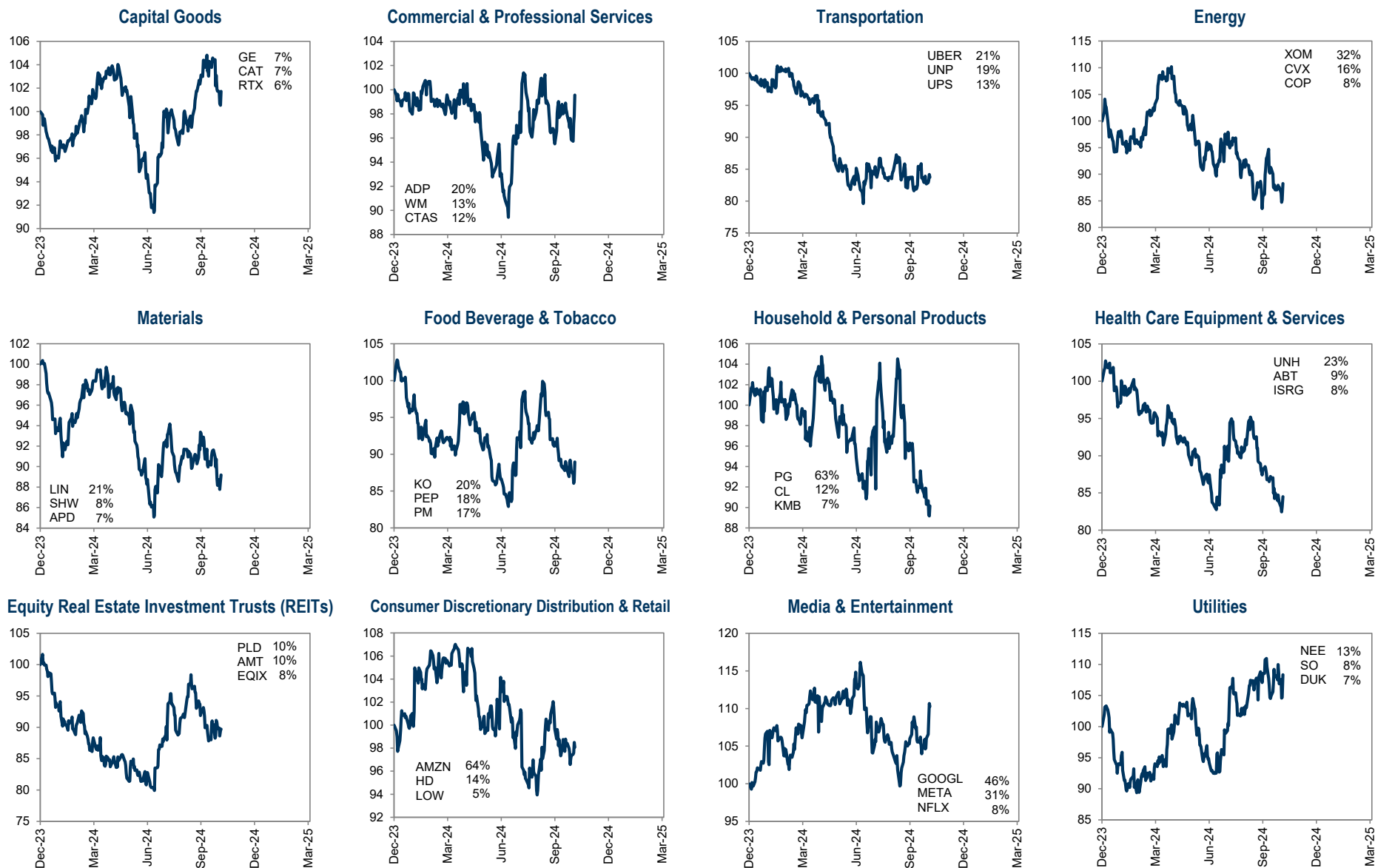


# Industry Groups – Relative Performance vs. S&P 500 and 3 largest stocks



Source: FactSet, data compiled by Goldman Sachs Global Investment Research.

# Industry Groups – Relative Performance vs. S&P 500 and 3 largest stocks (continued)



Source: FactSet, data compiled by Goldman Sachs Global Investment Research.

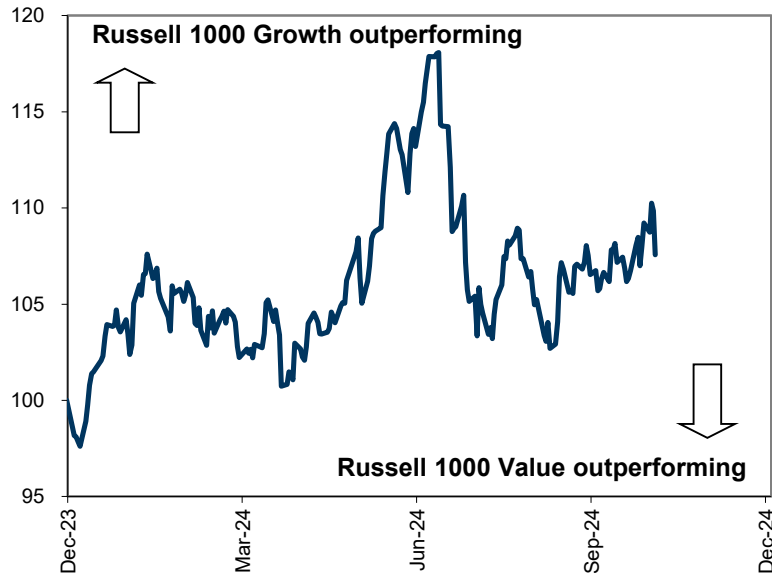
# S&P 500 Sector and Industry Group Performance

		Weight	1 Week	1 Month	3 Months	Last 12 Months	YTD		
S&P 500		100 %	(1.8)%	(0.9)%	4 %	38 %	21 %		
S E C T O R	Communication Services	9 %	2.3 %	1.9 %	8 %	48 %	31 %	Top quartile	
	Energy	3	(1.3)	0.8	(4)	8	9	Bottom quartile	
	Financials	13	(1.3)	2.7	7	46	25		
	Consumer Discretionary	10	(1.4)	(1.5)	4	32	12		
	Industrials	9	(1.4)	(1.2)	5	38	19		
	Materials	2	(1.7)	(3.5)	1	25	10		
	Health Care	11	(1.7)	(4.6)	(1)	20	9		
	Consumer Staples	6	(2.0)	(2.8)	4	23	15		
	Utilities	3	(2.0)	(1.0)	11	39	29		
	Real Estate	2	(2.8)	(3.6)	6	35	11		
	Information Technology	32	(3.3)	(1.0)	3	51	29		
								Region	Cycle
I N D U S T R Y  G R O U P	Media & Entertainment	8 %	2.6 %	2.0 %	7 %	49 %	31 %	Global	Defensives
	Commercial & Professional Services	1	0.7	1.6	7	34	21	Domestic	Cyclicals
	Consumer Services	2	0.0	2.3	14	32	12	Global	Cyclicals
	Telecommunication Services	1	(0.3)	1.2	14	44	32	Domestic	Defensives
	Banks	3	(0.9)	6.2	5	66	30	Domestic	Cyclicals
	Consumer Durables & Apparel	1	(0.9)	(6.3)	3	17	(5)	Global	Cyclicals
	Consumer Discretionary Distribution & Retail	6	(1.0)	(1.5)	1	37	19	Domestic	Cyclicals
	Financial Services	8	(1.0)	2.5	8	43	23	Domestic	Cyclicals
	Transportation	2	(1.3)	(1.1)	4	22	5	Domestic	Cyclicals
	Energy	3	(1.3)	0.8	(4)	8	9	Global	Cyclicals
	Consumer Staples Distribution & Retail	2	(1.5)	(0.7)	7	43	28	Domestic	Defensives
	Food Beverage & Tobacco	3	(1.6)	(2.9)	2	17	10	Global	Defensives
	Pharmaceuticals Biotechnology & Life Sciences	6	(1.6)	(4.7)	(2)	23	12	Global	Defensives
	Materials	2	(1.7)	(3.5)	1	25	10	Global	Cyclicals
	Health Care Equipment & Services	5	(1.7)	(4.5)	(0)	16	5	Domestic	Defensives
	Capital Goods	6	(1.9)	(1.9)	5	45	23	Global	Cyclicals
	Utilities	3	(2.0)	(1.0)	11	39	29	Domestic	Defensives
	Technology Hardware & Equipment	9	(2.2)	(2.5)	2	32	17	Global	Cyclicals
	Equity Real Estate Investment Trusts (REITs)	2	(2.8)	(3.6)	6	35	11	Domestic	Defensives
	Insurance	2	(2.9)	(1.7)	5	32	27	Domestic	Cyclicals
	Software & Services	11	(3.1)	(3.1)	1	25	10	Global	Defensives
	Household & Personal Products	1	(3.4)	(5.6)	2	13	11	Global	Defensives
	Semiconductors & Semiconductor Equipment	11	(4.3)	2.5	5	119	70	Global	Cyclicals
	Automobiles & Components	2	(4.5)	(3.8)	7	25	2	Global	Cyclicals

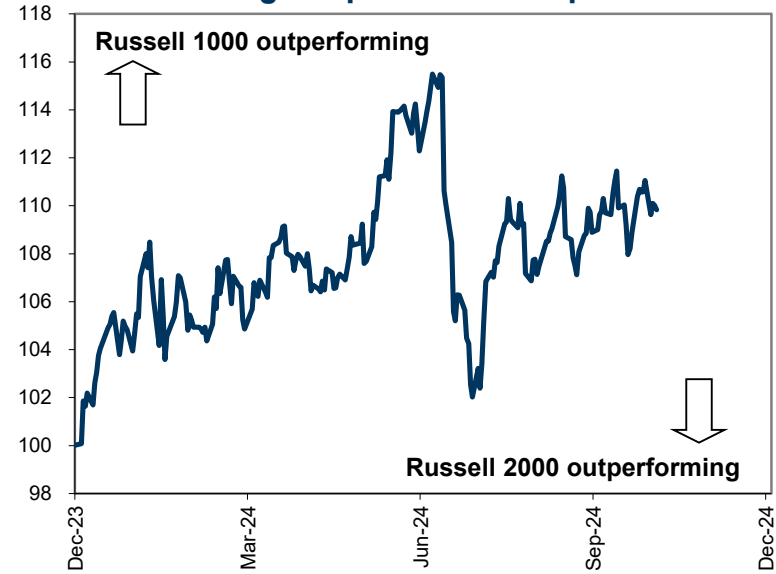
Source: FactSet and Goldman Sachs Global Investment Research.

## Style and Size

### Growth vs. Value



### Large-cap vs. Small-cap



### Sectors: Russell 1000 Growth vs. Value

Russell Sector	1-Week (% Return)			YTD (% Return)		
	Growth	Value	Δ (bps)	Growth	Value	Δ (bps)
Utilities	2	(2)	390	41	28	1,215
Energy	1	(1)	221	16	8	762
Materials	(1)	(3)	153	20	6	1,460
Industrials	(0)	(1)	130	15	20	(451)
Technology	(2)	(2)	25	32	8	2,494
Cons Discretionary	(1)	(1)	10	17	11	527
Financials	(2)	(2)	(31)	30	26	370
Consumer Staples	(3)	(1)	(151)	4	11	(700)
Health Care	(3)	(1)	(228)	11	7	478
<b>Index</b>	<b>(2)</b>	<b>(1)</b>	<b>(35)</b>	<b>24</b>	<b>15</b>	<b>874</b>

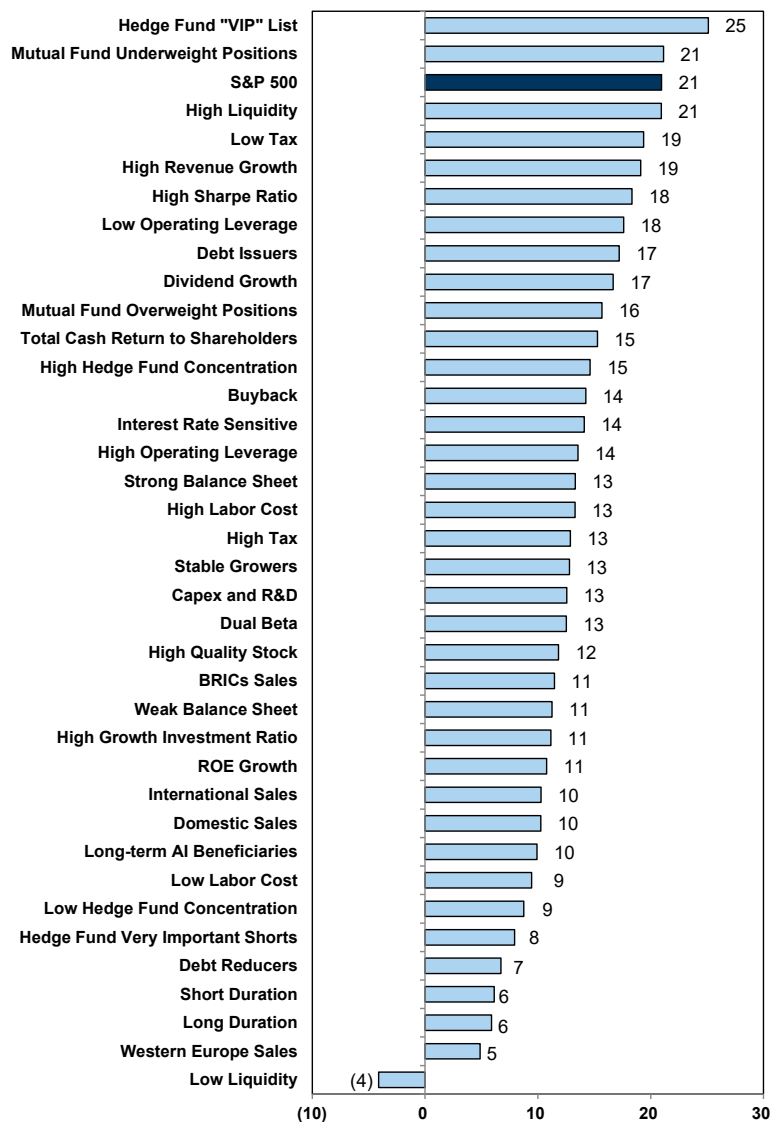
### Sectors: Russell 1000 vs. Russell 2000

Russell Sector	1-Week (% Return)			YTD (% Return)		
	R1000	R2000	Δ (bps)	R1000	R2000	Δ (bps)
Industrials	(1)	(1)	47	18	13	482
Utilities	(2)	(2)	(9)	29	9	1,988
Energy	(1)	(1)	(60)	9	(7)	1,534
Materials	(3)	(2)	(60)	7	10	(235)
Technology	(2)	(2)	(61)	30	10	1,990
Health Care	(2)	(1)	(82)	10	8	145
Cons Discretionary	(1)	(0)	(88)	15	4	1,112
Financials	(2)	(1)	(106)	27	14	1,305
Consumer Staples	(2)	1	(234)	9	16	(718)
<b>Index</b>	<b>(2)</b>	<b>(1)</b>	<b>(67)</b>	<b>20</b>	<b>10</b>	<b>1,077</b>

Source: FactSet and Goldman Sachs Global Investment Research.

# US Portfolio Strategy Baskets are available on GS [Marquee](#) platform

## YTD Performance



			Total Return			P/E	EV/Sales	'24 EPS
Ticker			1 wk	1 mo	YTD	NTM	NTM	growth
Macroeconomic	Dual Beta	GSTHBETA	(1.7)%	(2)%	13 %	16x	2.5x	3.8 %
	Interest Rate Sensitive	GSTHUSTY	(1.6)	(1)	14	14	2.2	1.7
	High Tax	GSTHTTAX	(1.7)	(1)	13	16	2.2	7.0
	Low Tax	GSTHLTAX	(0.6)	(1)	19	18	3.6	8.4
	High Labor Cost	GSTHHLAB	(1.5)	(1)	13	19	3.2	6.6
	Low Labor Cost	GSTHLLAB	(2.7)	(4)	9	15	2.1	6.8
Geographic Sales	Domestic Sales	GSTHAINT	(1.8)%	(4)%	10 %	15x	2.2x	1.1 %
	International Sales	GSTHINTL	(1.9)	(4)	10	21	4.3	10.9
	BRICs Sales	GSTHBRIC	(1.8)	(4)	11	18	4.0	7.8
	Western Europe Sales	GSTHWEUR	(1.0)	(2)	5	17	3.0	2.1
Fundamental	High Revenue Growth	GSTHREVG	1.2 %	4 %	19 %	22x	4.2x	11.5 %
	High Operating Leverage	GSTHOPHI	(0.6)	(2)	14	18	2.9	12.5
	Low Operating Leverage	GSTHOPLO	(1.9)	(3)	18	21	5.8	6.5
	Stable Growers	GSTHSTGR	(1.0)	(1)	13	24	4.3	6.8
	ROE Growth	GSTHGROE	(3.3)	(4)	11	21	3.5	15.4
	Long-term AI Beneficiaries	GSTHLTAI	0.4	0	10	21	2.6	10.3
	High Quality Stock	GSTHQUAL	(1.7)	(2)	12	25	4.4	8.0
	Long Duration	GSTHLDUR	(0.8)	2	6	45	5.6	25.3
	Short Duration	GSTHSDUR	(0.3)	0	6	10	1.7	(4.8)
	Strong Balance Sheet	GSTHSBAL	(1.5)	(2)	13	29	6.4	10.7
Weak Balance Sheet	GSTHWBAL	(1.0)	1	11	13	2.6	2.0	
Uses of Cash	Capex and R&D	GSTHCAPX	(0.5)%	0 %	13 %	13x	2.6x	0.9 %
	Total Cash Return to Shareholders	GSTHCASH	(1.6)	(1)	15	13	2.4	2.1
	Buyback	GSTHREPO	(2.2)	(2)	14	14	2.4	4.1
	Dividend Growth	GSTHDIVG	(1.1)	(1)	17	13	2.7	0.7
	High Growth Investment Ratio	GSTHHGIR	(0.1)	(1)	11	19	4.3	11.5
	Debt Issuers	GSTHDISS	(1.1)	(3)	17	18	3.6	6.7
	Debt Reducers	GSTHDRED	(1.0)	(0)	7	15	2.5	3.8
Risk & Liquidity	High Sharpe Ratio	GSTHSHRP	(1.1)%	(2)%	18 %	17x	2.8x	3.1 %
	High Liquidity	GSTHHLIQ	(1.7)	(1)	21	23	4.3	9.0
	Low Liquidity	GSTHLLIQ	(1.4)	(3)	(4)	19	2.3	1.5
Hedge Funds & Mutual Funds	Hedge Fund "VIP" List	GSTHHVIP	(1.7)%	(0)%	25 %	23x	4.9x	21.2 %
	Hedge Fund Very Important Shorts	GSTHVISP	(1.8)	(1)	8	21	4.3	5.2
	High Hedge Fund Concentration	GSTHHFHI	(2.5)	(0)	15	15	2.2	8.2
	Low Hedge Fund Concentration	GSTHHFSL	(1.5)	(1)	9	19	4.2	7.6
	Mutual Fund Overweight Positions	GSTHMFOW	(0.9)	1	16	16	2.3	7.4
	Mutual Fund Underweight Positions	GSTHMFUW	(2.0)	(2)	21	23	4.3	10.0
S&P 500 Median						19	3.2	6.3

For details and constituents of our baskets see [Anatomy of our US Portfolio Strategy Thematic and Sector Baskets](#), March 8, 2023

Source: FactSet and Goldman Sachs Global Investment Research.

# US Portfolio Strategy Baskets – Relative performance vs. S&P 500

## Macroeconomics

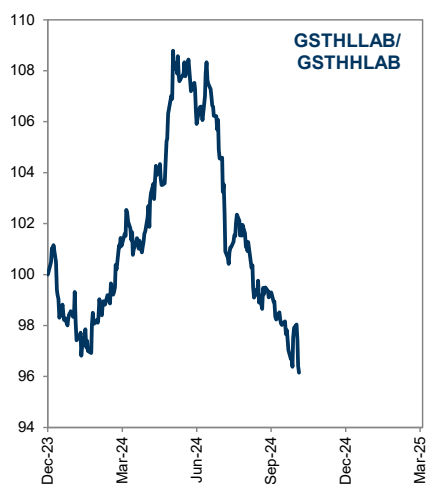
### Dual Beta



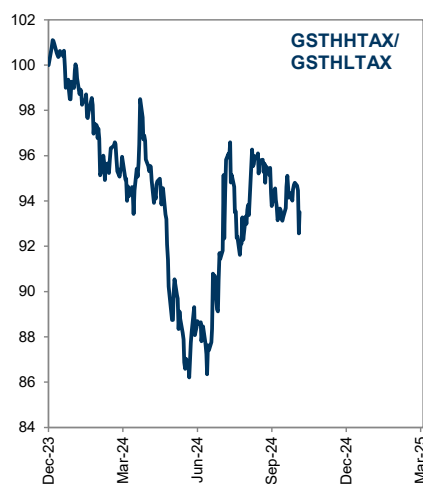
### Interest Rate Sensitive



### Low vs. High Labor Cost



### High vs. Low Tax Rate



## Geographic Sales

### US Sales



### International Sales



### BRICs Sales



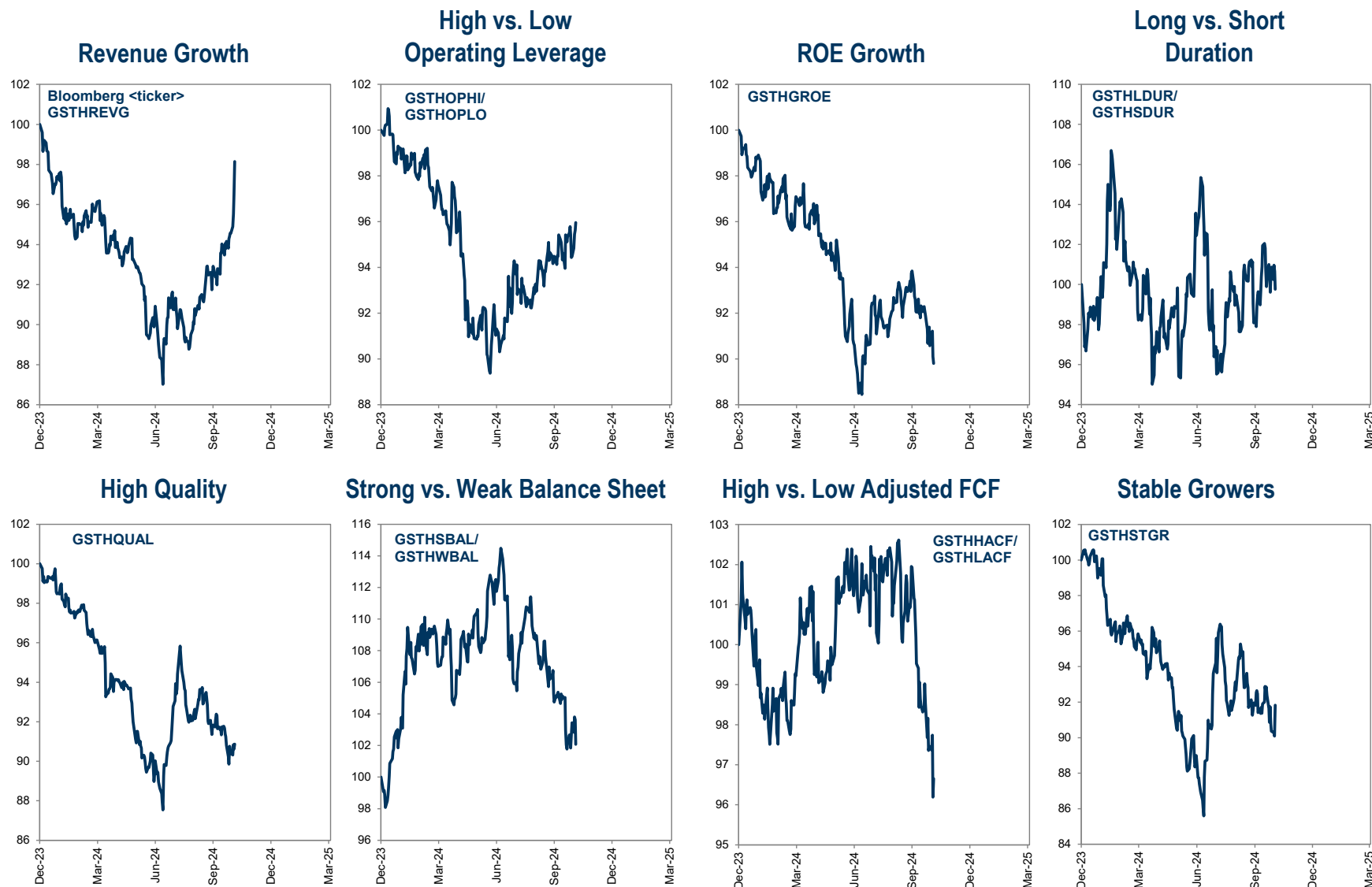
### Western Europe Sales



Source: FactSet and Goldman Sachs Global Investment Research.

# US Portfolio Strategy Baskets – Relative performance vs. S&P 500 (continued)

## Fundamentals



Source: FactSet and Goldman Sachs Global Investment Research.



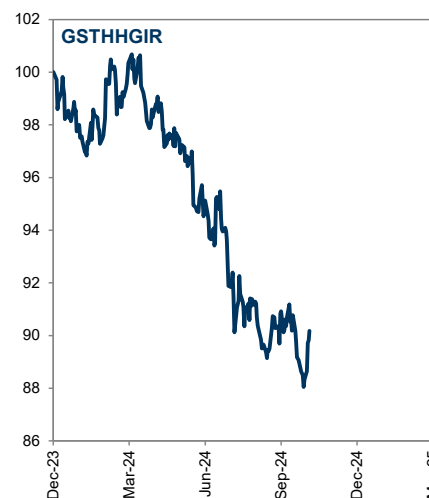
# US Portfolio Strategy Baskets – Relative performance vs. S&P 500 (continued)

## Uses of Cash

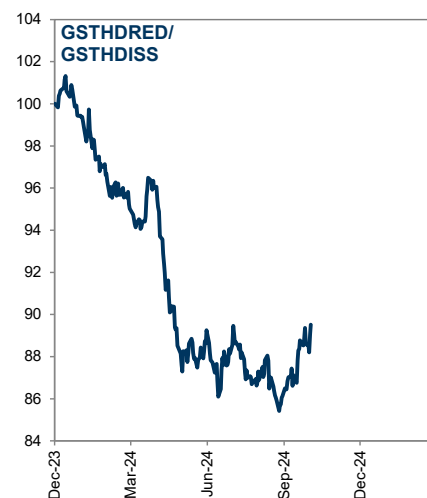
### Capex and R&D



### High Growth Investment Ratio



### Debt Reducers vs. Issuers



## Risk & Liquidity

### High Sharpe Ratio



### Total Cash Return



### Buybacks



### Dividend Growth



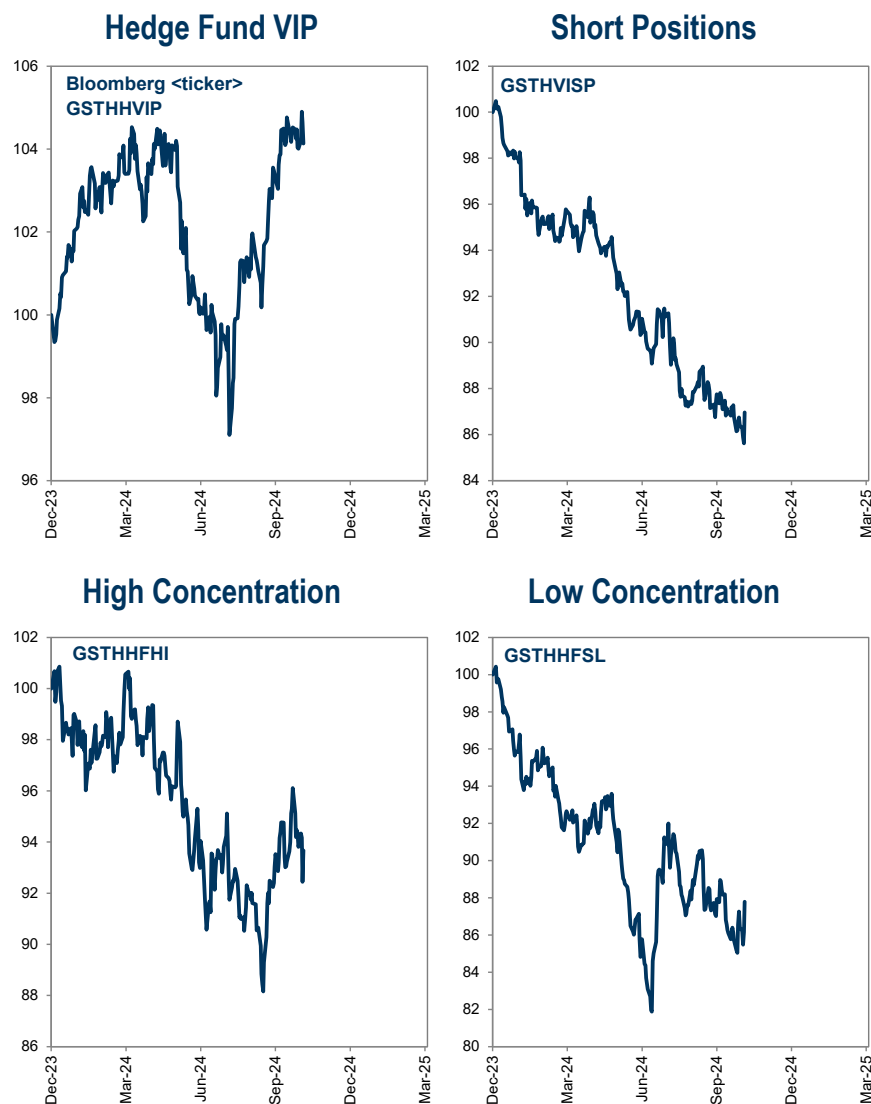
### Low vs. High Liquidity



Source: FactSet and Goldman Sachs Global Investment Research.

# US Portfolio Strategy Baskets – Relative performance vs. S&P 500 (continued)

## Hedge Fund Ownership



## Mutual Fund Ownership



Source: FactSet and Goldman Sachs Global Investment Research.

# S&P 500 Earnings, Sales and Revisions

## GS Top-Down EPS & Consensus Bottom-Up EPS

	2023A	Adjusted EPS				Adjusted EPS			
		GS Top-Down		Consensus Bottom-Up		Contribution		EPS growth	
		Contribution	EPS growth	Contribution	EPS growth	2024E	2025E	2024E	2025E
		2024E	2025E	2024E	2025E	2024E	2025E	2024E	2025E
Information Technology	\$45	\$56	\$66	23 %	18 %	\$55	\$66	22 %	20 %
Financials	40	42	45	6	6	45	47	12	6
Health Care	29	31	36	4	17	30	36	3	20
Communication Services	21	24	27	14	15	25	28	20	14
Consumer Discretionary	19	21	22	10	9	21	23	12	10
Industrials	19	20	22	5	9	19	22	(0)	17
Consumer Staples	14	15	16	4	5	15	16	4	6
Utilities	6	7	7	10	7	7	8	18	6
Real Estate	6	6	7	4	6	6	7	3	5
Materials	6	6	6	(5)	4	5	6	(8)	19
<b>S&amp;P 500 ex-Energy</b>	<b>206</b>	<b>227</b>	<b>254</b>	<b>10</b>	<b>12</b>	<b>229</b>	<b>260</b>	<b>11</b>	<b>14</b>
Energy	17	14	15	(15)	1	13	14	(23)	8
<b>S&amp;P 500 EPS</b>	<b>\$223</b>	<b>\$241</b>	<b>\$268</b>	<b>8 %</b>	<b>11 %</b>	<b>\$242</b>	<b>\$274</b>	<b>9 %</b>	<b>13 %</b>

## Earnings & Sales Revisions (Consensus)

	EPS REVISIONS				SALES REVISIONS			
	1 month		3 month		1 month		3 month	
	24E	25E	24E	25E	24E	25E	24E	25E
Communication Services	2.7 %	1.7 %	(0.1)%	2.1 %	0.2 %	0.4 %	0.2 %	0.5 %
Financials	2.1	0.5	2.9	0.5	NM	NM	NM	NM
Real Estate	1.8	1.7	2.7	1.0	NM	NM	NM	NM
Information Technology	0.5	(0.5)	0.8	0.5	(0.1)	(0.2)	0.2	0.6
<b>S&amp;P 500 ex. Energy</b>	<b>0.1</b>	<b>(0.4)</b>	<b>(0.0)</b>	<b>(0.2)</b>	<b>(0.2)</b>	<b>(0.2)</b>	<b>(0.2)</b>	<b>(0.3)</b>
Utilities	(0.1)	(0.1)	(0.3)	(0.2)	NM	NM	NM	NM
<b>S&amp;P 500</b>	<b>(0.1)</b>	<b>(0.6)</b>	<b>(0.6)</b>	<b>(1.1)</b>	<b>(0.3)</b>	<b>(0.4)</b>	<b>(0.5)</b>	<b>(0.7)</b>
Consumer Staples	(0.2)	(0.4)	(0.5)	(1.4)	(0.0)	(0.1)	(0.3)	(0.6)
Consumer Discretionary	(0.3)	(1.1)	0.0	(2.0)	(0.5)	(0.7)	(0.7)	(1.1)
Health Care	(1.4)	(1.3)	(1.1)	(0.9)	0.3	0.3	0.5	0.4
Materials	(1.8)	(1.8)	(4.2)	(3.4)	(0.1)	(0.6)	(0.9)	(1.7)
Energy	(3.5)	(5.5)	(9.8)	(14.4)	(1.4)	(2.6)	(2.9)	(4.8)
Industrials	(5.3)	(1.9)	(5.8)	(2.4)	(1.2)	(1.3)	(1.6)	(1.8)

## Earnings Growth (consensus bottom-up)

	2024 Earnings Per Share Growth				Annual	
	1QA	2QA	3QE	4QE	2024E	2025E
Information Technology	27 %	21 %	22 %	18 %	22 %	20 %
Communication Services	38	3	21	19	20	14
Utilities	34	21	9	11	18	6
Consumer Discretionary	24	13	8	6	12	10
Financials	11	18	6	12	12	6
<b>S&amp;P 500 ex. Energy</b>	<b>10</b>	<b>12</b>	<b>10</b>	<b>12</b>	<b>11</b>	<b>14</b>
<b>S&amp;P 500</b>	<b>7</b>	<b>11</b>	<b>7</b>	<b>9</b>	<b>9</b>	<b>13</b>
Consumer Staples	9	5	3	(0)	4	6
Real Estate	2	0	2	9	3	5
Health Care	(26)	16	11	15	3	20
Industrials	6	1	(5)	(3)	(0)	17
Materials	(21)	(8)	(8)	9	(8)	19
Energy	(29)	(2)	(30)	(24)	(23)	8

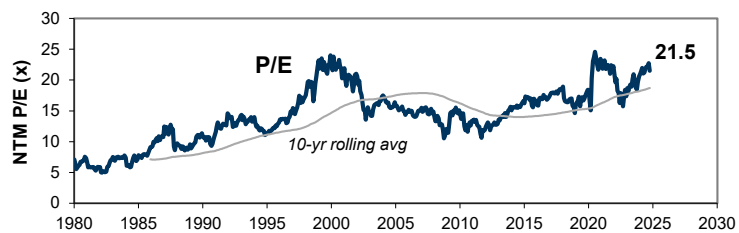
## Sales Growth (consensus bottom-up)

	2024E Sales Per Share Growth				Annual	
	1QA	2QA	3QE	4QE	2024E	2025E
Information Technology	9 %	13 %	23 %	21 %	17 %	16 %
Health Care	5	7	8	7	7	5
<b>S&amp;P 500 ex. Energy</b>	<b>5</b>	<b>5</b>	<b>7</b>	<b>5</b>	<b>6</b>	<b>6</b>
Communication Services	6	4	6	5	5	6
<b>S&amp;P 500</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>6</b>
Consumer Discretionary	4	3	4	1	3	5
Consumer Staples	3	3	1	1	2	3
Industrials	6	4	0	(3)	2	4
Materials	(7)	(1)	1	3	(1)	3
Energy	(6)	6	(8)	(5)	(3)	(1)

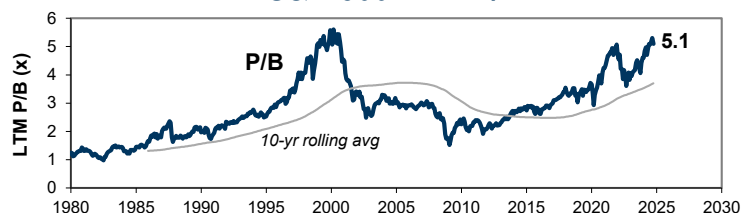
Source: FirstCall, I/B/E/S, FactSet, and Goldman Sachs Global Investment Research.

# Valuation: Absolute and Relative

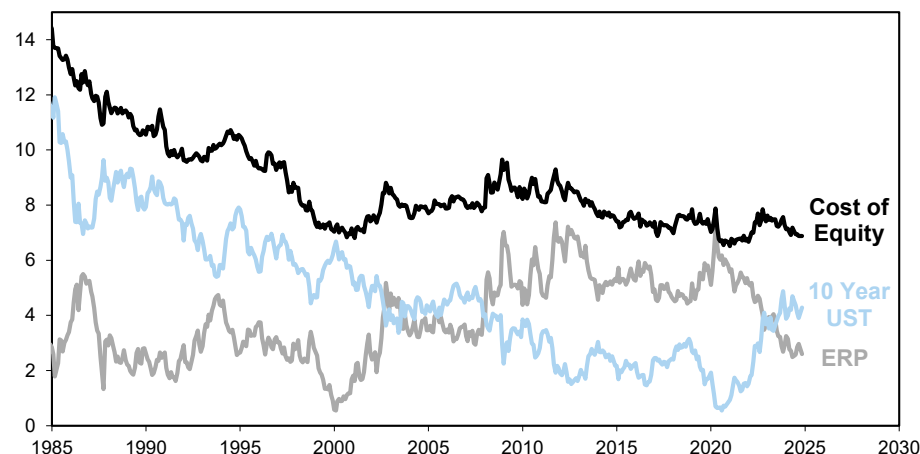
## S&P 500 NTM P/E



## S&P 500 LTM P/B



## S&P 500 Cost of Equity = ERP + 10-yr UST



We estimate the equity risk premium (ERP) using our DDM framework to model expected future cash flows.

We solve for the cost of equity that implies the market is at 'fair value' and then deduct the 10-year US treasury.

## Current aggregate valuation metrics - absolute

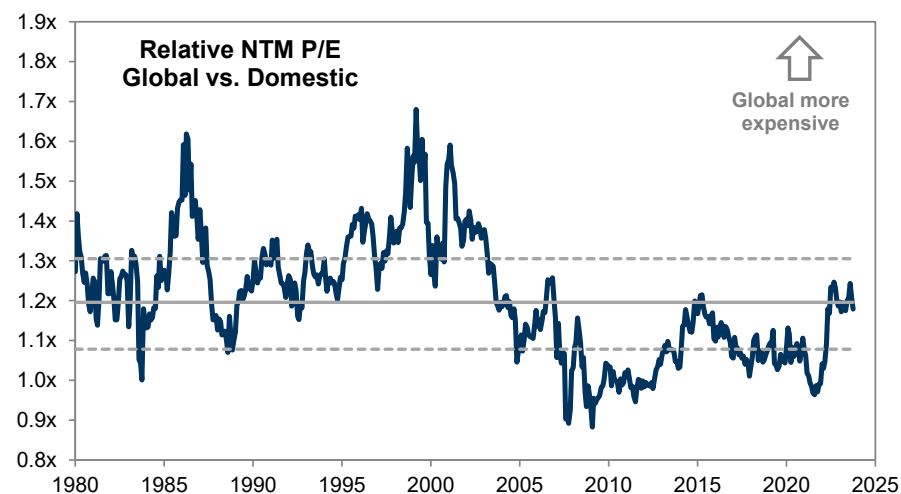
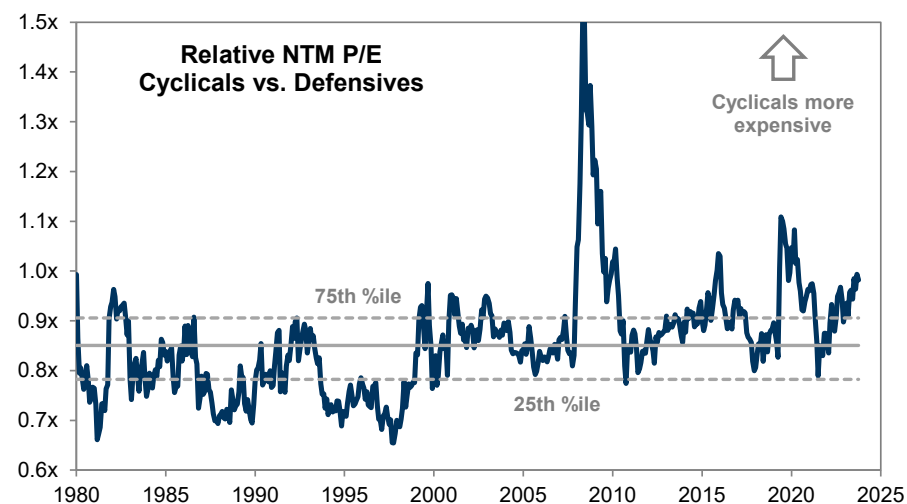
	EV/ Sales	EV/ EBITDA	Price/ Book	FCF Yield	PEG Ratio	NTM P/E
<b>S&amp;P 500</b>	<b>3.2x</b>	<b>16.1x</b>	<b>5.1x</b>	<b>3.0 %</b>	<b>1.2x</b>	<b>21.5x</b>
Energy	1.5	6.9	2.3	6.9	3.0	13.6
Financials	NM	NM	2.3	NM	1.1	16.2
Health Care	1.9	16.2	5.1	3.3	0.9	18.2
Real Estate	NM	NM	3.2	NM	2.6	18.3
Utilities	NM	12.2	2.4	(3.6)	2.5	18.5
Comm Services	4.2	11.5	4.5	4.4	1.1	18.7
Materials	2.8	12.8	3.1	2.6	1.8	20.0
Cons Staples	1.7	14.6	6.5	3.7	2.8	21.0
Industrials	2.9	15.6	6.5	3.1	1.7	22.3
Cons Discr	2.8	16.2	9.3	2.9	1.5	25.4
Info Tech	8.8	25.8	13.1	2.5	1.2	28.1

## Current relative valuation vs. historical average (Z-score)

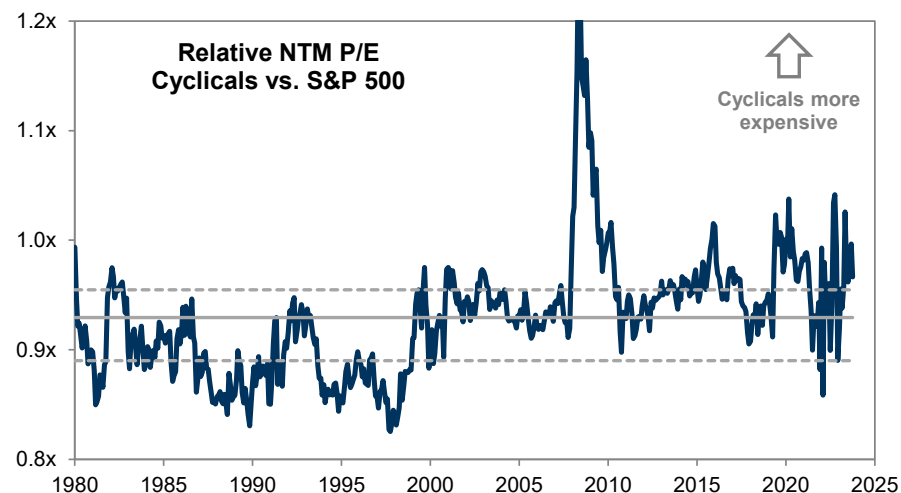
	10-year						30-year	
	EV/ Sales	EV/ EBITDA	Price/ Book	FCF Yield	PEG Ratio	P/E	Median Z-Score	Median Z-Score
<b>S&amp;P 500</b>	<b>1.8</b>	<b>1.1</b>	<b>1.9</b>	<b>2.5</b>	<b>(0.6)</b>	<b>1.2</b>	<b>1.5</b>	<b>1.7</b>
Comm Services	(1.5)	(2.2)	(0.9)	(1.6)	0.1	(1.8)	(1.6)	(1.3)
Real Estate	NM	NM	(1.8)	NM	2.1	(1.3)	(1.3)	(0.7)
Health Care	(1.9)	0.0	(1.9)	1.6	(1.6)	(0.6)	(1.1)	(1.3)
Cons Staples	(1.4)	(1.1)	(1.4)	(0.5)	1.0	(1.1)	(1.1)	(1.4)
Cons Discr	(1.0)	(1.4)	(0.9)	(1.2)	0.8	(0.7)	(1.0)	0.2
Energy	(1.0)	(0.9)	(0.7)	(0.8)	0.2	(0.7)	(0.8)	(1.3)
Industrials	(0.9)	(0.3)	(1.1)	(0.5)	0.1	1.0	(0.4)	0.4
Financials	NM	NM	(0.4)	NM	(0.1)	(1.0)	(0.4)	(0.6)
Materials	(1.0)	(0.6)	(1.0)	0.8	1.0	(0.1)	(0.4)	(0.4)
Utilities	NM	(1.4)	(1.3)	0.1	(0.2)	0.3	(0.2)	0.2
Info Tech	1.7	1.9	1.0	1.1	(0.5)	1.3	1.2	1.1

Source: FactSet, I/B/E/S, FirstCall, and Goldman Sachs Global Investment Research.

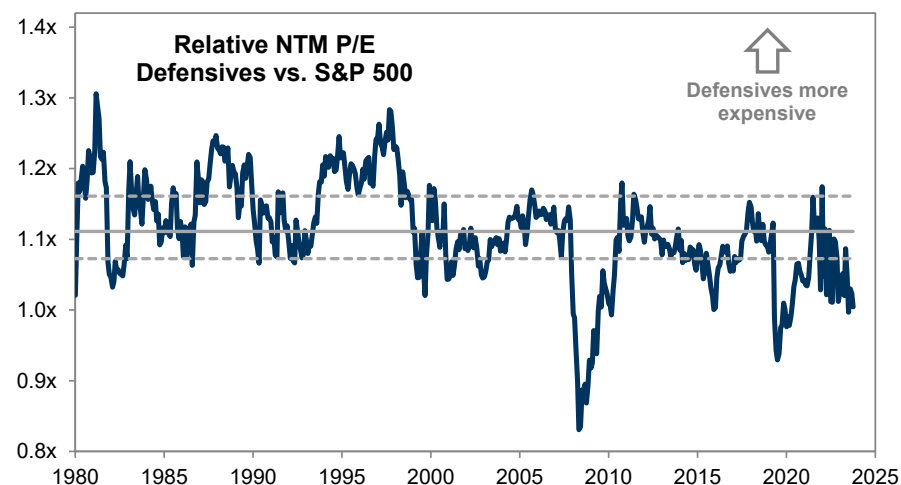
## Valuation: Sector baskets



### Cyclicals vs. S&P 500

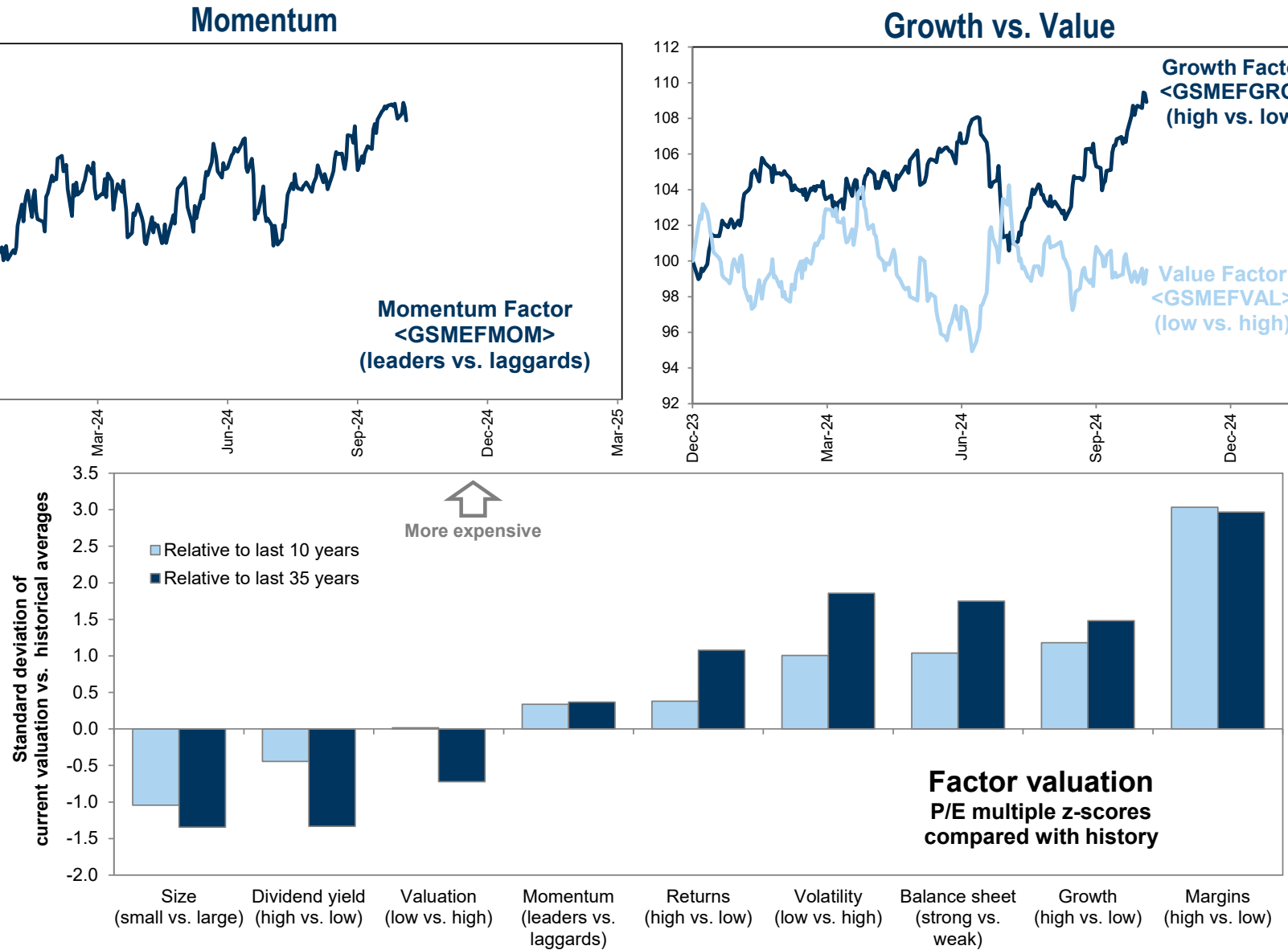


### Defensives vs. S&P 500



Source: Compustat, FactSet, I/B/E/S, and Goldman Sachs Global Investment Research.

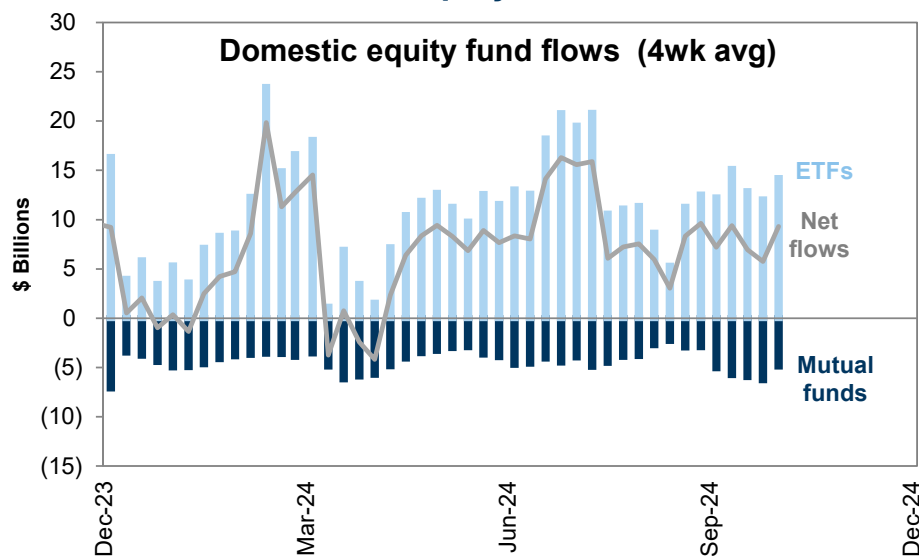
# Factors: Performance and Valuation



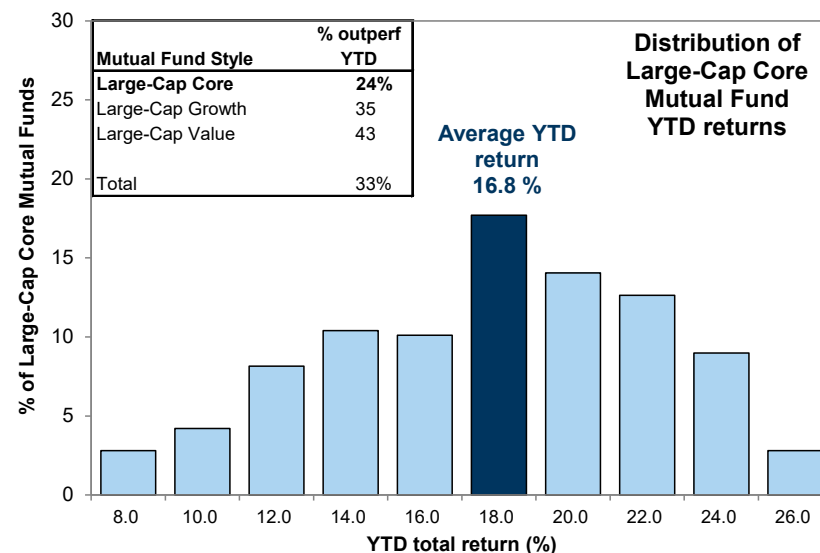
Source: Compustat, FactSet, I/B/E/S, and Goldman Sachs Global Investment Research.

# Fund Flows, Fund Performance, and Short Interest

## Domestic equity fund flows



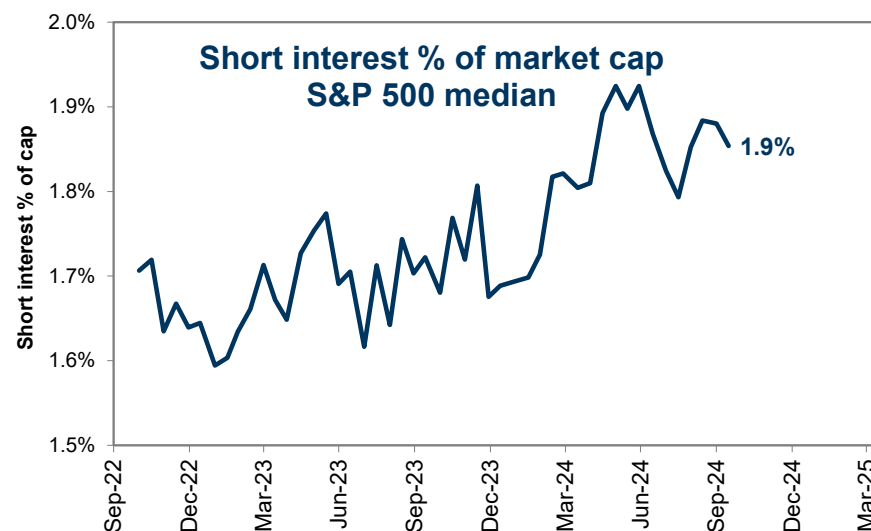
## Mutual Fund Performance



## Weekly fund flows

(\$ billions)	EPFR Mutual Fund Flows			EPFR ETF Fund Flows		
	Total Assets	4-Wk Avg Flows	Total Flows YTD	Total Assets	4-Wk Avg Flows	Total Flows YTD
<b>All Equity</b>	<b>10,675</b>	<b>(8.7)</b>	<b>(338.5)</b>	<b>11,171</b>	<b>24.7</b>	<b>858.7</b>
U.S. Equity	4,785	(4.9)	(190.7)	7,276	14.2	490.5
Equity Income	780	(0.7)	(35.1)	668	1.6	53.9
Int'l Equity	5,199	(3.8)	(135.9)	3,063	9.1	311.6
Global	690	(0.0)	(11.9)	832	1.3	56.7
ESG/SRI	1,403	(0.3)	(50.6)	477	1.4	12.5
<b>All Bonds</b>	<b>5,470</b>	<b>7.9</b>	<b>235.8</b>	<b>2,469</b>	<b>10.2</b>	<b>330.9</b>
All Taxable Bond	4,473	6.1	205.4	1,602	6.3	219.5
Gov't Treasury	539	1.0	15.3	731	3.2	99.1
Municipal Bond	458	0.7	15.2	137	0.7	12.4
ESG/SRI	536	0.5	20.2	129	0.9	25.3
<b>Money Market</b>	<b>9,163</b>	<b>9.7</b>	<b>763.9</b>	<b>100</b>	<b>0.9</b>	<b>13.2</b>

## Short Interest

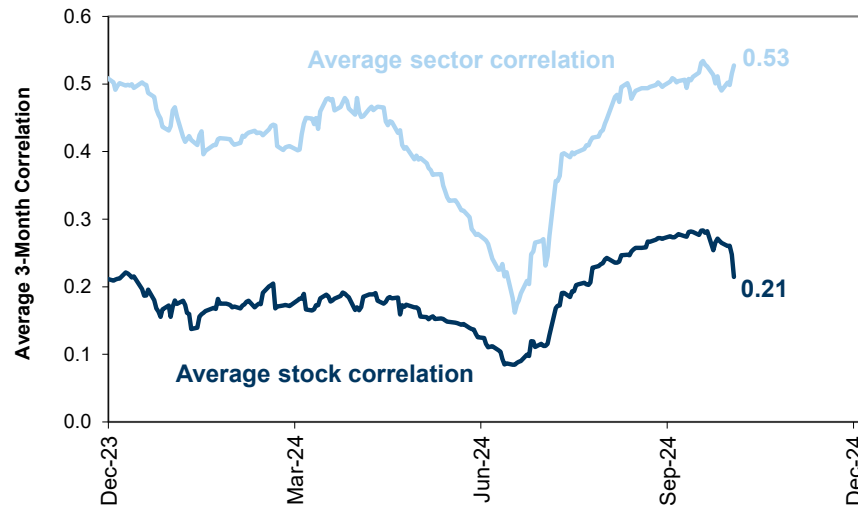


Source: FactSet, EPFR, and Goldman Sachs Global Investment Research.

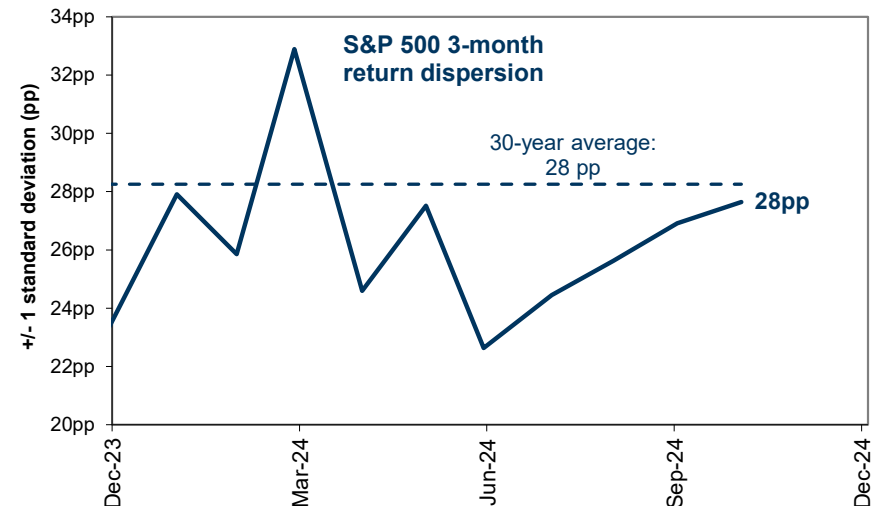


# Correlation, Breadth and Dispersion

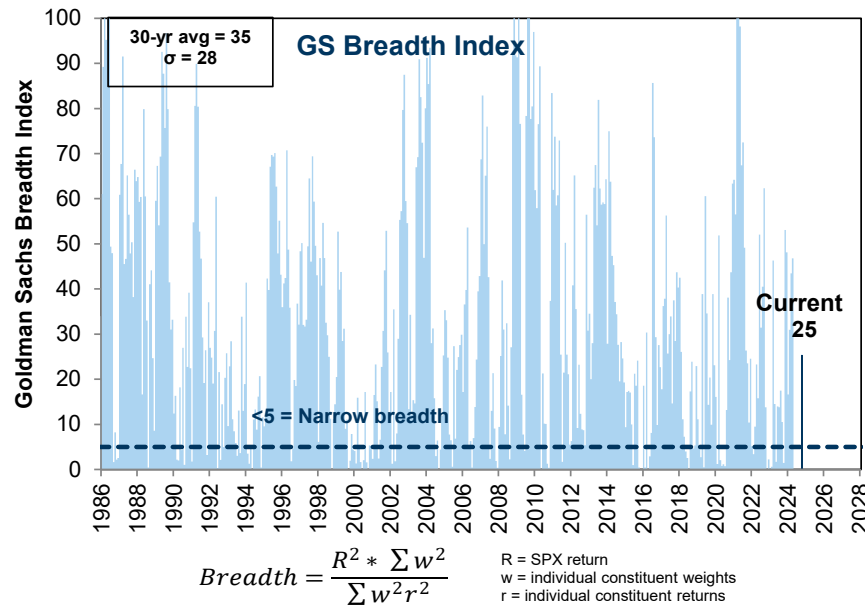
## Sector and Stock Correlation



## S&P 500 3-month Return Dispersion



## Goldman Sachs Breadth Index (GSBI)



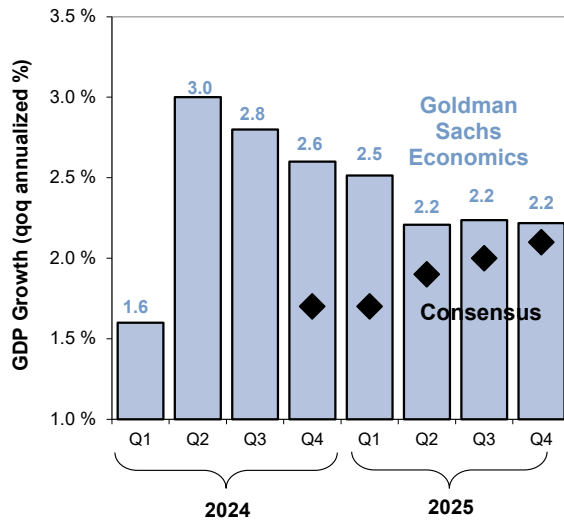
## Return Dispersion

	+/- 1 Standard Deviation					
	1-Month Returns			3-Month Returns		
	Current Oct 31	30-Year Average	Historical %ile	Current Oct 31	30-Year Average	Historical %ile
<b>S&amp;P 500</b>	<b>16 pp</b>	<b>16 pp</b>	<b>63 %</b>	<b>28 pp</b>	<b>28 pp</b>	<b>64 %</b>
Consumer Staples	15 pp	13 pp	82 %	31 pp	22 pp	90 %
Industrials	18	13	86	30	23	88
Utilities	11	10	71	25	18	87
Energy	13	14	48	29	25	76
Real Estate	10	9	75	18	15	70
Health Care	16	15	67	27	26	69
Information Technology	18	19	54	34	33	66
Consumer Discretionary	18	17	74	27	29	49
Communication Services	9	16	9	22	27	37
Financials	12	13	66	15	22	23
Materials	14	14	59	18	25	17

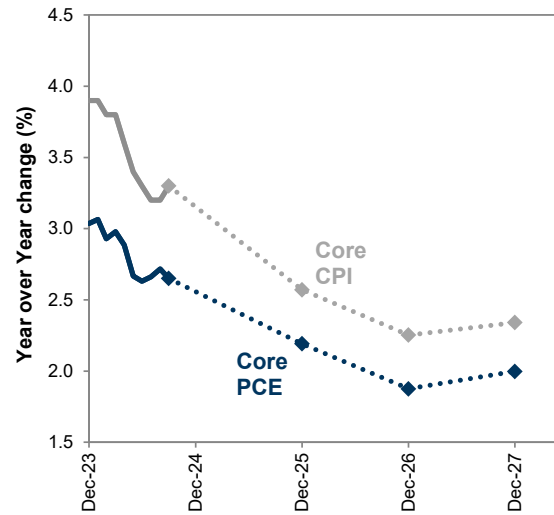
Source: FactSet and Goldman Sachs Global Investment Research.

# Economics

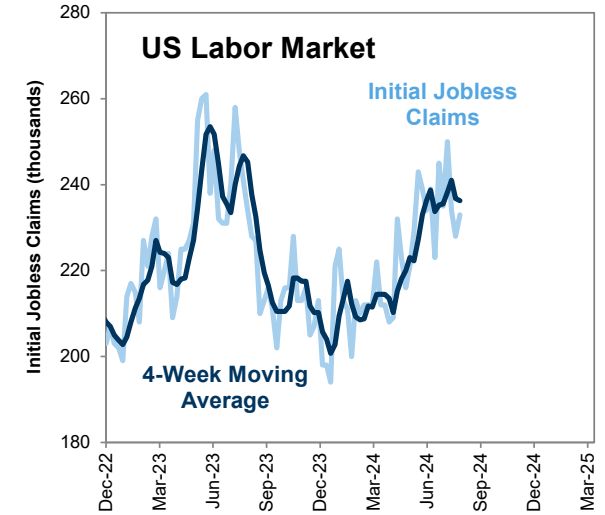
## GDP



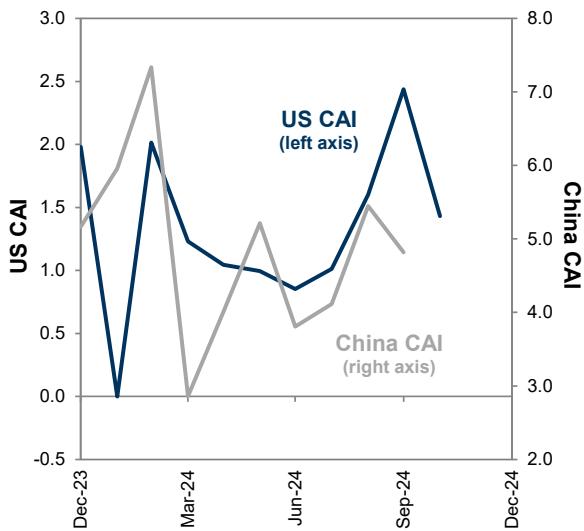
## Core PCE and CPI



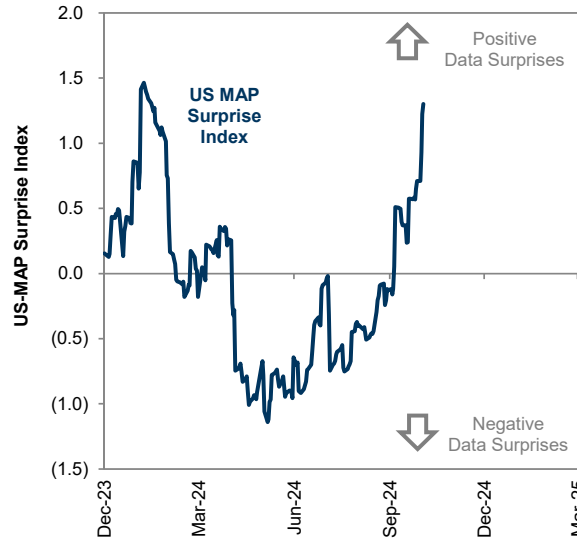
## Employment



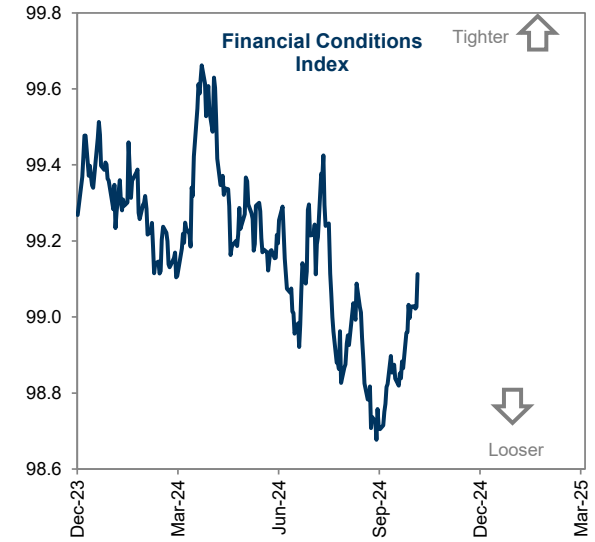
## Current Activity (CAI)



## Economic Surprise (MAP)



## Financial Conditions (FCI)



Our Current Activity Indicator (CAI) measures the growth signal in major high-frequency activity indicators for the US economy, expressed in GDP-equivalent units.

Source: FactSet and Goldman Sachs Global Investment Research.

# Goldman Sachs Global Macro Forecasts

## Goldman Sachs Global Macro Forecasts

	units	Current	3m	6m	12m	Change to Target
<b>Equities</b>						
MXAPJ	level	590	650	675	690	17 %
<b>S&amp;P 500</b>	<b>level</b>	<b>5705</b>	<b>6000</b>	<b>6100</b>	<b>6300</b>	<b>10</b>
TOPIX	level	2696	2700	2800	2900	8
STOXX Europe 600	level	505	510	530	540	7
<b>Ten Year Rates</b>						
Japan	%	0.9	1.1	1.4	1.7	76 bp
US	%	4.3	3.9	3.9	4.1	(23)
Euro Area (Germany)	%	2.4	1.9	1.9	2.0	(47)
<b>Corporate Bonds</b>						
Investment grade	bp	81	90	NA	NA	NA
High yield	bp	282	291	NA	NA	NA
<b>Currencies</b>						
Sterling / US dollar	£/\$	1.29	1.34	1.36	1.40	9 %
Euro / US dollar	EUR/\$	1.09	1.10	1.12	1.15	6
US dollar / Yen	\$/¥	152	148	145	140	(8)
<b>Commodities</b>						
NYMEX Nat. Gas	\$/mmBtu	3	3.10	3.10	3.75	39 %
LME Copper	\$/mt	9427	9600	9740	10650	13
COMEX Gold	\$/troy oz	2749	2790	2860	2980	8
Brent Crude Oil	\$/bbl	73	77	77	75	3
WTI Crude Oil	\$/bbl	69	72	72	70	1
ICE TTF Nat. Gas	\$/mmBtu	13	13	13	11	(17)

	EPS Forecast			EPS Growth		NTM P/E		Div Yield
	2023	2024	2025	2024	2025	Current	YE 2024	
MXAPJ	\$ 33	\$ 39	\$ 45	20 %	14 %	13.5 x	15.4 x	2.7 %
<b>S&amp;P 500</b>	<b>\$ 223</b>	<b>\$ 241</b>	<b>\$ 268</b>	<b>8 %</b>	<b>11 %</b>	<b>21.6</b>	<b>22.4</b>	<b>1.4</b>
TOPIX	¥ 170	¥ 187	¥ 198	10	6	13.7	14.6	2.5
STOXX Europe 600	€ 35	€ 36	€ 37	2	3	13.8	14.7	3.5

Source: FactSet and Goldman Sachs Global Investment Research.

## Goldman Sachs US Economics Forecasts

	Share of GDP	% Annual Change			
		2022	2023	2024E	2025E
<b>OUTPUT AND SPENDING</b>					
<b>Real GDP</b>	<b>100%</b>	<b>2.5%</b>	<b>2.9%</b>	<b>2.8%</b>	<b>2.5%</b>
Consumer Spending	69	3.0	2.5	2.6	2.5
Total Fixed Investment	19	2.7	2.4	4.2	3.6
Business Fixed Investment	15	7.0	6.0	4.2	4.5
Structures	3	3.6	10.8	3.3	(0.5)
Equipment	6	4.4	3.5	4.6	8.0
IP Products	6	11.2	5.8	4.4	3.9
Residential Investment	3	(8.6)	(8.3)	3.9	2.0
Federal Government Spending	7	(3.2)	2.9	1.2	0.3
State and Local Government	10	0.2	4.4	3.6	1.1
Net Exports (Bil.)	(5)	(1,042)	(933)	(1,026)	(1,070)
<b>HOUSING MARKET</b>					
Housing Starts (000s)		1,552	1,421	1,352	1,413
New Home Sales (000s)		637	666	701	748
Existing Home Sales (000s)		5,087	4,101	3,978	4,090
Case-Shiller Home Prices (%)		7.5	5.3	3.2	4.4
<b>INFLATION</b>					
Core CPI		5.7	3.9	3.1	2.3
Core PCE		5.0	3.0	2.7	2.0
<b>LABOR MARKET</b>					
<b>Unemployment Rate</b>		<b>3.5</b>	<b>3.7</b>	<b>4.1</b>	<b>3.9</b>
U6 Underemployment Rate		6.5	7.1	7.7	7.3
Payrolls (000s)		377	251	188	150
<b>GOVERNMENT FINANCE</b>					
Federal Budget (FY, Bil.)		(1376)	(1694)	(1833)	(1900)
Federal debt-to-GDP ratio (FY, %)		95	96	97	99
<b>FINANCIAL INDICATORS</b>					
Fed Funds Rate		4.4	5.4	4.4	3.4
<b>10-year Treasury Rate</b>		<b>3.9</b>	<b>3.9</b>	<b>4.3</b>	<b>4.1</b>

### Real GDP

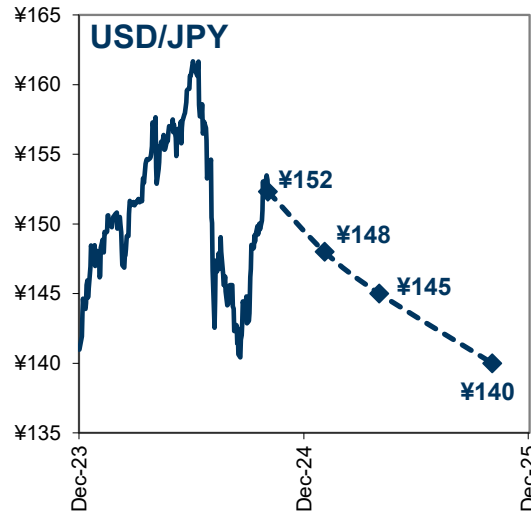
	2023A	2024E	2025E	2026E
<b>China</b>	<b>5.5 %</b>	<b>4.8 %</b>	<b>4.7 %</b>	<b>4.0 %</b>
Russia	3.2	3.5	1.4	2.1
Spain	2.7	3.0	2.0	1.4
Brazil	2.9	2.9	2.1	2.3
<b>USA</b>	<b>2.9</b>	<b>2.8</b>	<b>2.5</b>	<b>2.0</b>
World	2.8	2.7	2.8	2.6
Australia	2.0	1.2	2.0	2.4
France	1.1	1.1	0.9	1.1
UK	0.3	0.9	1.6	1.5
<b>Euro Area</b>	<b>0.5</b>	<b>0.8</b>	<b>1.1</b>	<b>1.1</b>
Italy	0.8	0.5	0.8	0.9
Germany	(0.1)	(0.1)	0.9	1.3
<b>Japan</b>	<b>1.7</b>	<b>(0.1)</b>	<b>1.3</b>	<b>1.2</b>

# Goldman Sachs Global Macro Forecasts

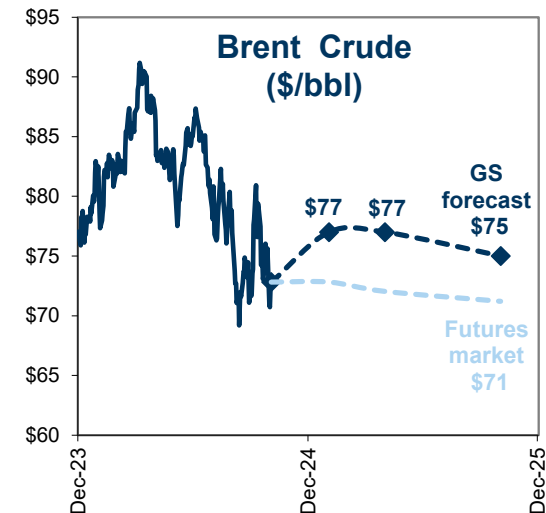
## EURO



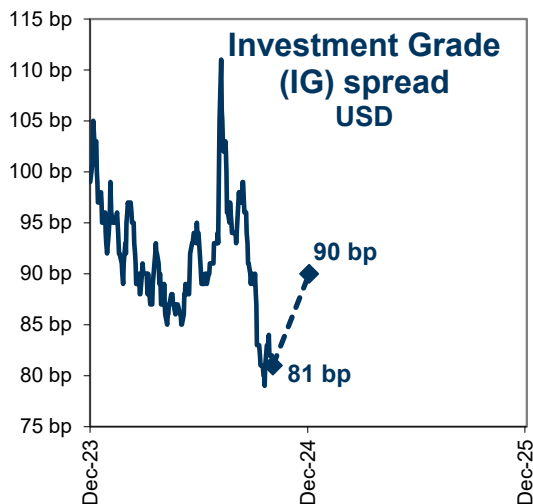
## YEN



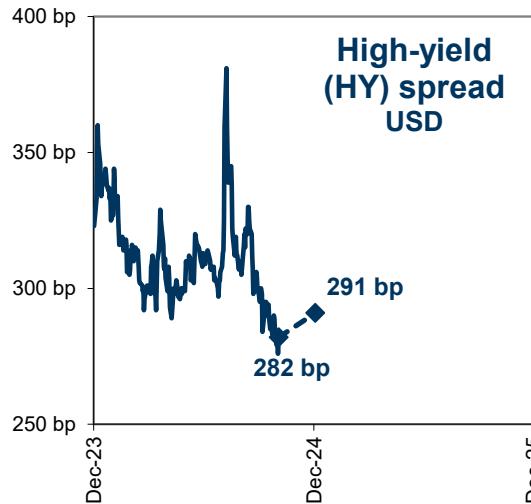
## OIL



## Investment Grade (IG) spread



## High-Yield (HY) spread



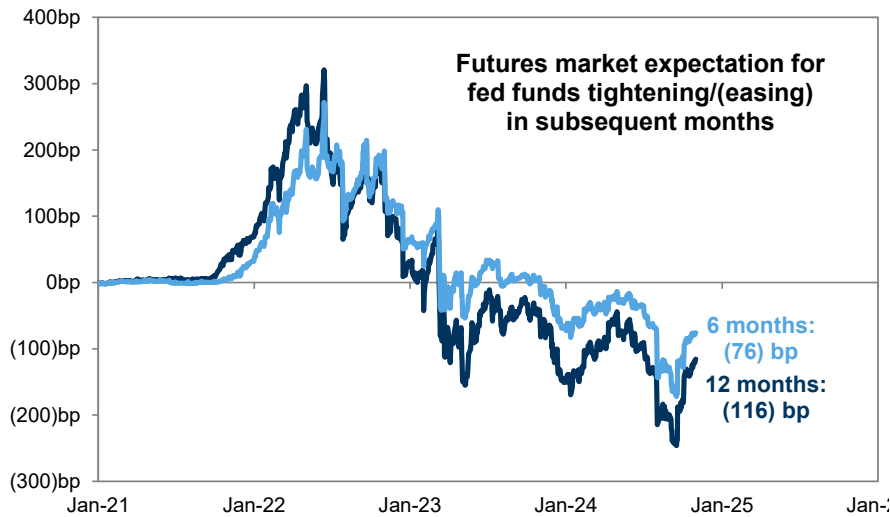
## Global Equity Market performance

Market	Price Return (%) US Dollar				Local Currency
	1-Wk	1-Mo	3-Mo	YTD	
<b>U.S. (S&amp;P 500)</b>	<b>(2)%</b>	<b>(1)%</b>	<b>3 %</b>	<b>20 %</b>	<b>20 %</b>
China (MSCI China)	(1)	(6)	17	19	18
India (MSCI India)	(1)	(8)	(5)	15	16
Germany (Dax)	(1)	(4)	3	12	14
MSCI EM	(1)	(4)	3	9	13
Canada (MSCI Canada)	(2)	(2)	4	9	15
UK (FTSE 100)	(3)	(6)	(3)	6	5
Japan (TOPIX)	2	(4)	(5)	5	14
Europe (DJ Stoxx 600)	(2)	(6)	(2)	4	6
Australia (ASX 200)	(2)	(7)	1	3	7
France (CAC 40)	(2)	(6)	(2)	(4)	(3)
Korea (KOSPI)	(1)	(7)	(8)	(10)	(4)
<b>Average</b>	<b>(1)%</b>	<b>(5)%</b>	<b>1 %</b>	<b>7 %</b>	<b>10 %</b>

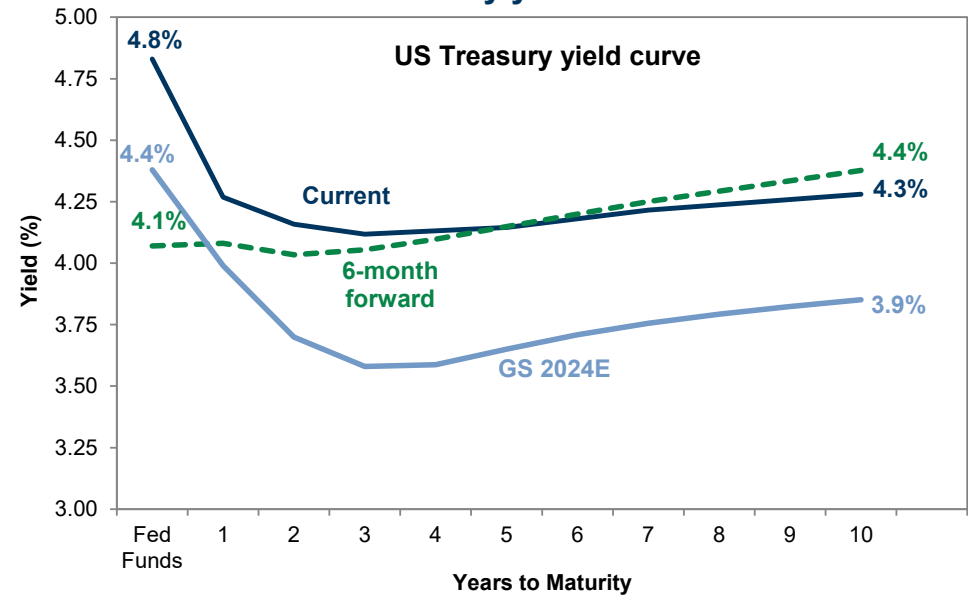
Source: FactSet and Goldman Sachs Global Investment Research.

# Politics and policies

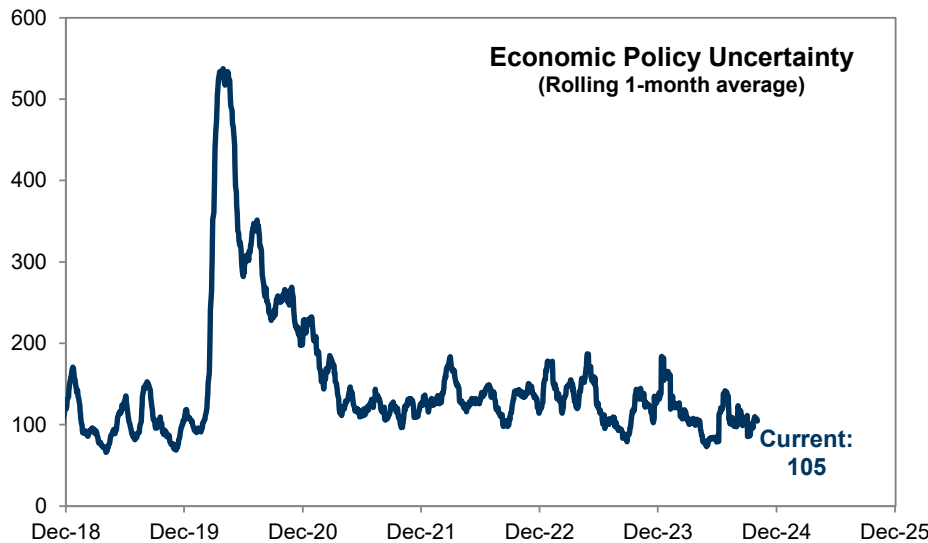
## Market-implied change in fed funds rate



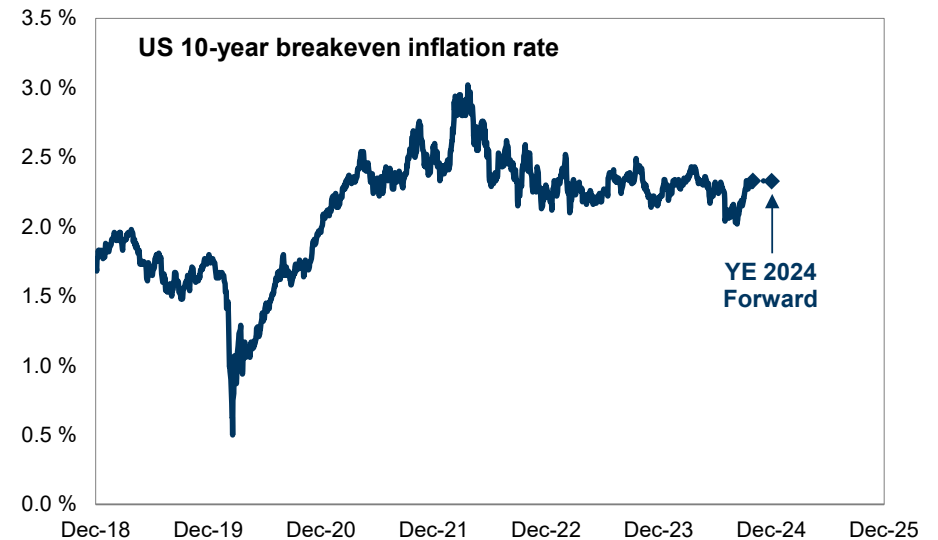
## US Treasury yield curve



## Economic Policy Uncertainty



## Breakeven inflation



Source: FactSet, PolicyUncertainty.com, Federal Reserve Bank, Haver Analytics, and Goldman Sachs Global Investment Research.

# Disclosure Appendix

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