

## GOAL KICKSTART

## Land of the rising markets — Japan rally driven by better growth and declining risk premia

Last week, the US unemployment rate declined and NFPs beat consensus. US Core CPI was in line with consensus. This week, markets will focus on US GDP and core PCE, Euro Area flash PMIs, German fiscal spending, and Japan Special Diet Session, real GDP and inflation.

Last week, Japan equities continued to outperform after the LDP's landslide victory - together with the rally into the election, this makes one of the strongest 2-week relative returns vs. the rest of the World (Exhibit 1). Markets started pricing higher growth in Japan in September, and growth pricing increased further at the start of 2026, catching up with EM and outpacing both Europe and US (Exhibit 2). The growth re-pricing is particularly evident for Japan cyclicals vs. defensives, which have outperformed since the end of last summer, catching up with inflation pricing (Exhibit 3). After the election, market-implied inflation actually fell despite a further rally in cyclical vs defensives.

Overall, the cross-asset moves last week are consistent with markets pricing a lower country risk premium. Japan equities re-rated vs. the World and the long-end of the JGB yield curve flattened (Exhibit 4), driven by lower uncertainty and investors' increased confidence in the Government and the BOJ's ability to resolve the "bad" fiscal tail - our rates team

see two-sided risks to the curve shape from here. TOPIX vs. USD/JPY correlation also turned negative last week, suggesting that local developments were a larger driver than global growth expectations. Our FX team still see two-way risks for JPY around both the fiscal and the broader macro, combined with the elevated risk of direct intervention.

We remain modestly pro-risk in our asset allocation for 2026 (OW equity, N bonds/commodity/cash, UW credit). Within the equity allocation, we upgrade Japan to OW (from N) to reflect the upgrade of our Japan portfolio strategy team who raised their 12m TOPIX target to 4300 (from 3900) on their view that PM Takaichi's victory should drive more net foreign inflows and an index-level multiple expansion, and our Asia strategy team's upgrade of Japan back to OW. Within Japan equities, our strategists like stocks exposed to defense, critical resources, shipbuilding, power resources, US re-industrialization plays, and corporate governance reforms in 1H. Our Asia strategy team also raised their 2026 MXAPJ EPS growth forecast to 31% (from 24%, driven by semiconductor stocks) and their 12m MXAPJ target to 890 (from 855). While implied volatility on Japan-exposed assets has increased,

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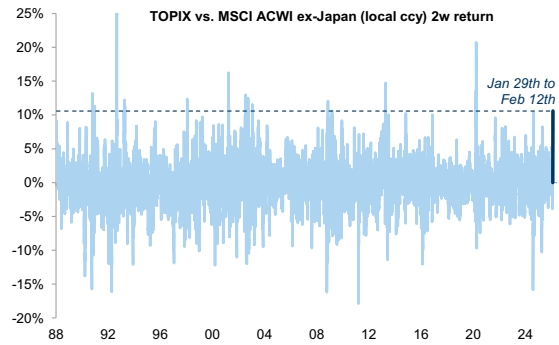
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longer-dated calls on Nikkei could be attractive to gain upside exposure as the inverted vol term structure helps to carry the position and the equity forward would outperform in a scenario of higher front-end rates (Exhibit 6).

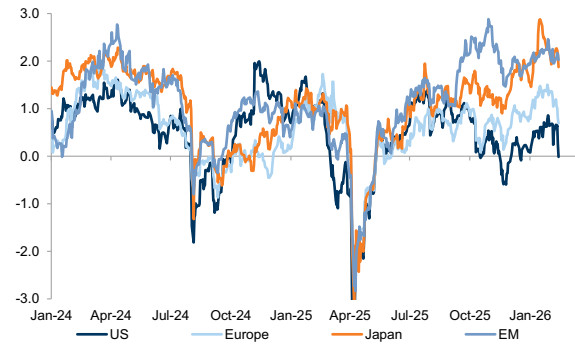
Land of the rising markets — Japan rally driven by better growth and declining risk premia

**Exhibit 1: Japan equities sharply outperformed the rest of the World**



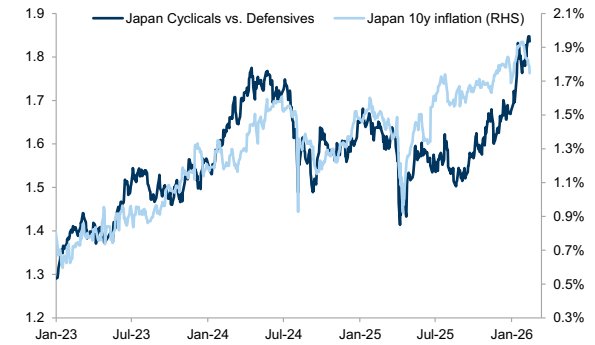
Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 2: Growth pricing picked up in Japan and EM**  
Average 1y z-score of equity vs. bonds, cyclicals vs defs., HY spreads, 10y inflation swap



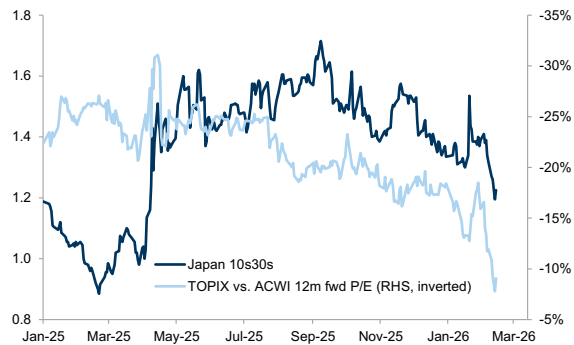
Source: Datastream, Bloomberg, Goldman Sachs Global Investment Research

**Exhibit 3: Japan Cyclical (GSJPCYCL) vs. Defensives (GSJPDFSV) rallied and closed the gap with inflation pricing**



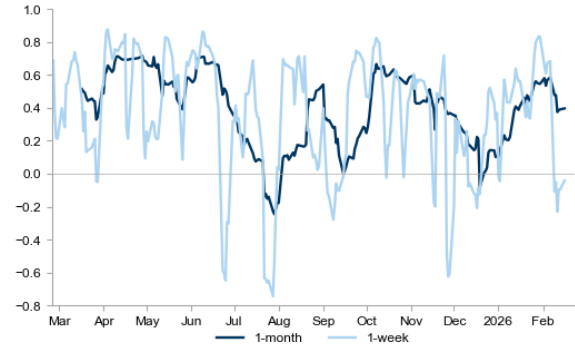
Source: Bloomberg, Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

**Exhibit 4: Japan equities re-rated as the JGBs 10s30s yield curve flattened**



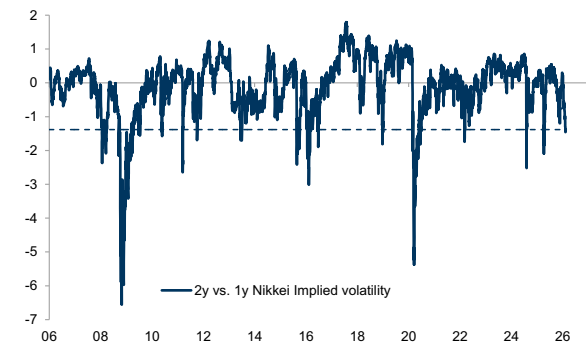
Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 5: TOPIX vs. USD/JPY correlation turned negative last week**



Source: Thomson Reuters, Goldman Sachs Global Investment Research

**Exhibit 6: The Nikkei implied vol term structure has inverted**



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

## Cross-asset: Forecasts

Exhibit 7: GOAL asset allocation recommendations and GS cross-asset forecasts

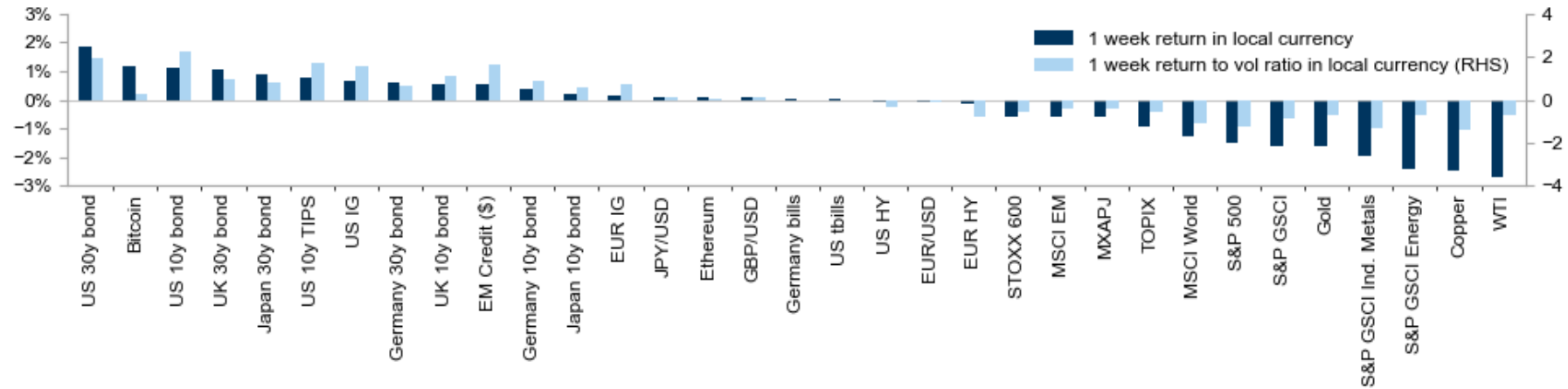
	Allocation Weighting		Current Level	Forecasts			Forecast Upside/Downside (%)		
	3m	12m		3m	6m	12 m	3m	6m	12 m
<b>Equities</b>	<b>OW</b>	<b>OW</b>			<b>Index level</b>			<b>Total Return</b>	
S&P 500 (\$)	N	N	6836	7200	7400	7600	5.6	8.9	12.4
Stoxx Europe 600 (€)	UW	UW	618	605	615	625	-1.3	1.2	4.4
MSCI Asia-Pacific ex. JP (\$)	OW	OW	794	830	860	890	5.0	9.0	13.6
Topix (¥)	OW	OW	3819	4200	4400	4300	10.5	16.3	14.8
<b>10 Year Government Bonds</b>	<b>N</b>	<b>N</b>			<b>Yield (%)</b>			<b>Total Return</b>	
US	N	N	4.05	4.20	4.20	4.22	0.0	1.1	3.3
Germany	UW	UW	2.76	3.05	3.12	3.23	-1.6	-1.3	-0.4
Japan	N	N	2.21	2.00	2.00	2.00	2.7	3.5	5.1
UK	OW	OW	4.42	4.13	4.05	4.00	3.6	5.5	8.5
<b>Corporate Bonds</b>	<b>UW</b>	<b>UW</b>			<b>Spread</b>			<b>Total Return</b>	
Bloomberg USD IG	N	N	79	83	86	90	0.0	1.1	3.5
Bloomberg USD HY	N	N	280	289	300	315	0.7	1.9	4.4
iBoxx EUR IG	N	N	88	94	96	99	-0.9	-0.4	0.9
ICE-BAML EUR HY	N	N	269	293	302	315	-0.8	-0.3	1.1
EM Hard Currency Sovereign	UW	UW	247			300	-0.3	0.4	1.9
<b>Commodities</b>	<b>N</b>	<b>N</b>			<b>Spot price</b>			<b>Spot Return</b>	
WTI (\$/bbl)	UW	UW	63	53	50	51	-15.9	-20.7	-19.1
Brent (\$/bbl)	UW	UW	68	57	54	55	-15.8	-20.2	-18.7
Copper (\$/mt)	N	N	12,775	12,500	12,000	10,800	-2.1	-6.1	-15.5
Gold (\$/troy oz)	OW	OW	4,997	4,865	5,065	5,505	-2.6	1.4	10.2
<b>FX</b>	<b>-</b>	<b>-</b>			<b>Spot rate</b>			<b>Spot Return</b>	
EUR/USD	-	-	1.18	1.18	1.20	1.25	-0.4	1.3	5.5
USD/JPY	-	-	153.1	157	155	152	2.5	1.2	-0.7
GBP/USD	-	-	1.36	1.33	1.33	1.36	-2.3	-2.3	-0.1
AUD/USD	-	-	0.71	0.72	0.73	0.74	2.0	3.4	4.8
USD/BRL	-	-	5.24	5.20	5.30	5.30	-0.7	1.2	1.2
USD/INR	-	-	90.6	92.0	93.0	94.0	1.5	2.6	3.7
USD/CNY	-	-	6.91	6.90	6.80	6.70	-0.2	-1.6	-3.1
<b>Cash</b>	<b>N</b>	<b>N</b>			<b>Spot rate</b>			<b>Total Return</b>	
US 3-month Tbill	-	-	-	-	-	-	0.92	1.81	3.42
Germany 3-month Bubills	-	-	-	-	-	-	0.49	1.00	1.99

Source: Bloomberg, Datastream, Bloomberg-Barclays, ICE-BAML, iBoxx, Goldman Sachs Global Investment Research

## Cross-asset: Weekly and YTD performance, absolute and risk-adjusted

### Exhibit 8: Local currency returns and return to vol ratios

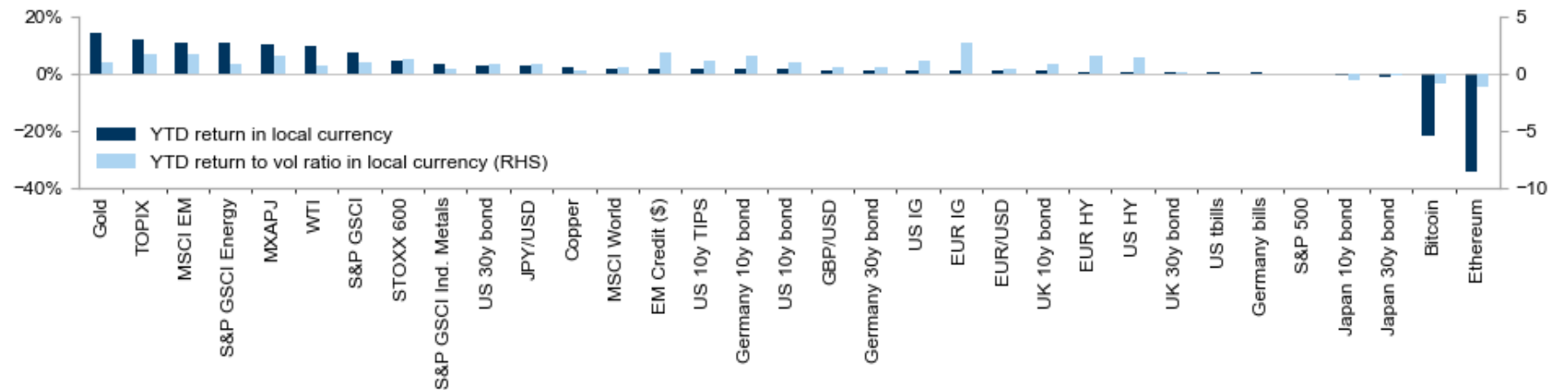
1 week returns. Volatility of weekly returns in the previous 12m



Source: Datastream, Bloomberg, Haver Analytics, Goldman Sachs Global Investment Research

### Exhibit 9: Local currency returns and return to vol ratios

YTD returns

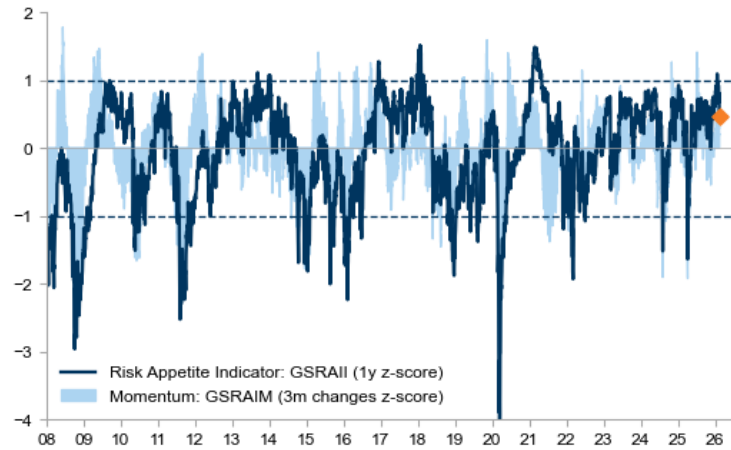


Source: Datastream, Bloomberg, Haver Analytics, Goldman Sachs Global Investment Research

## Cross-asset: Risk appetite indicator

**Exhibit 10: Risk appetite indicator level and momentum factors**

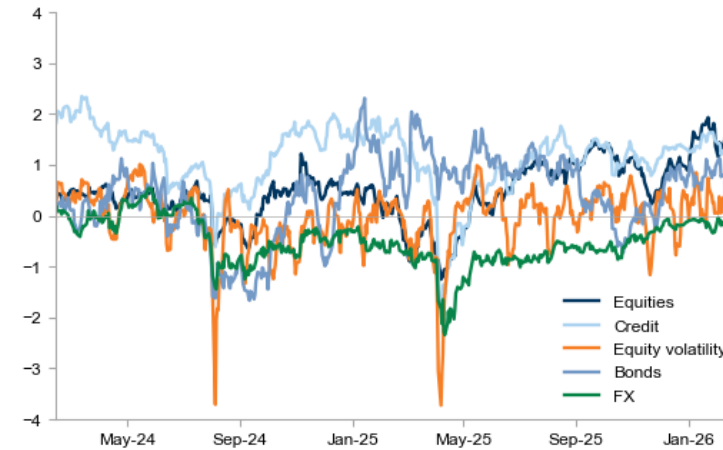
See July 2016 GOAL for construction details



Source: Goldman Sachs Global Investment Research

**Exhibit 11: Risk appetite indicators for different asset classes**

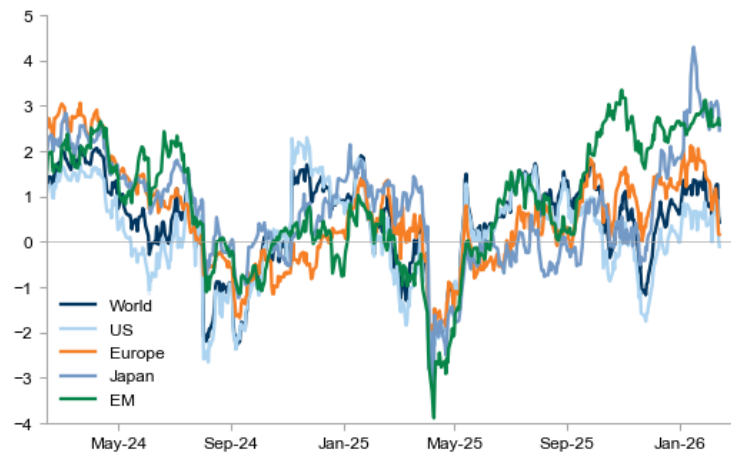
See July 2016 GOAL for construction details



Source: Goldman Sachs Global Investment Research

**Exhibit 12: Cyclical vs. defensives 1-year rolling z-score across regions**

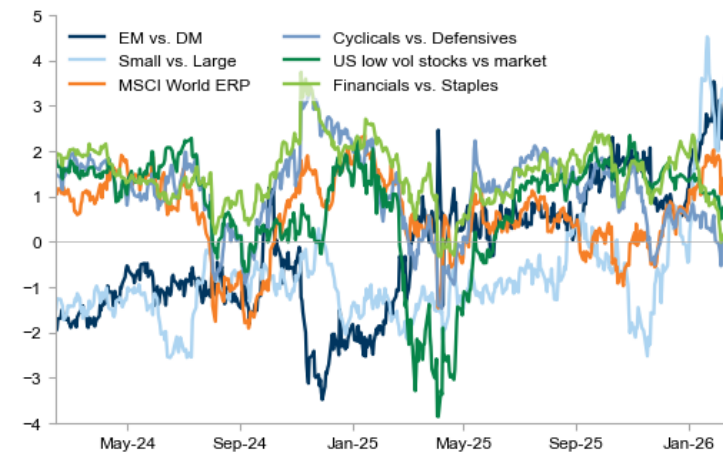
See July 2016 GOAL for construction details



Source: Goldman Sachs Global Investment Research

**Exhibit 13: Sub-components of equity risk appetite indicator**

See July 2016 GOAL for construction details

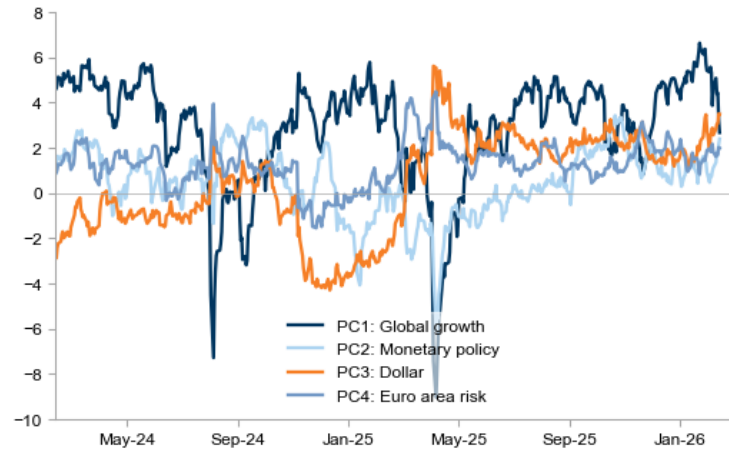


Source: Goldman Sachs Global Investment Research

## Cross-asset: Risk Appetite principal component analysis

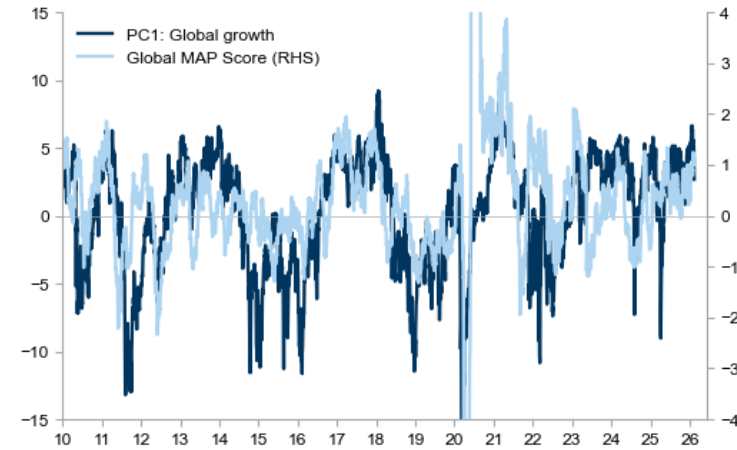
**Exhibit 14: GS RAI principal component**

See April 2019 GOAL for construction details



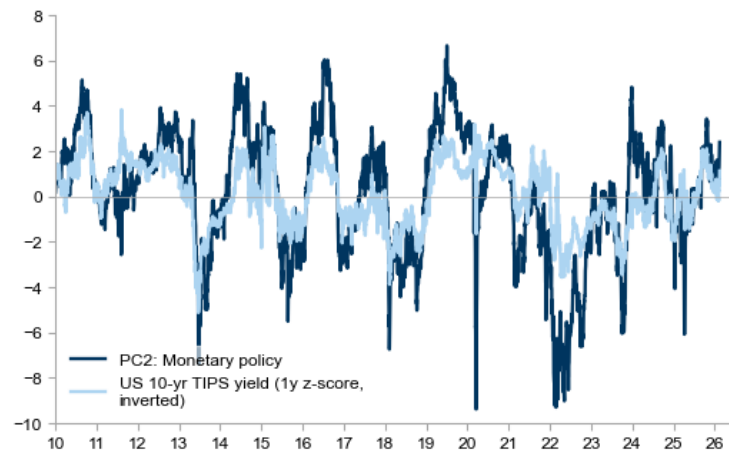
Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 15: PC1: Global growth factor vs. Global MAP Score**



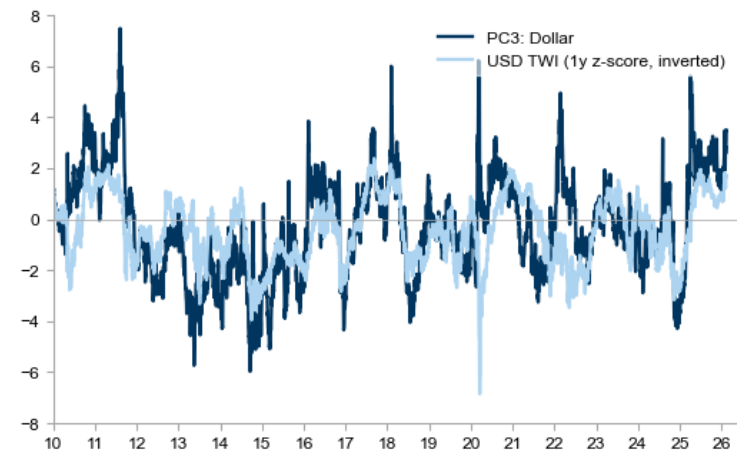
Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 16: PC2: Monetary policy factor vs. US 10-year TIPS yield**



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 17: PC3: Dollar factor vs. USD TWI**



Source: Datastream, Goldman Sachs Global Investment Research

## Cross-asset: Balanced portfolios and dynamic allocation strategies performance

**Exhibit 18: 60/40 equity/bond portfolio performance across regions last 12m**

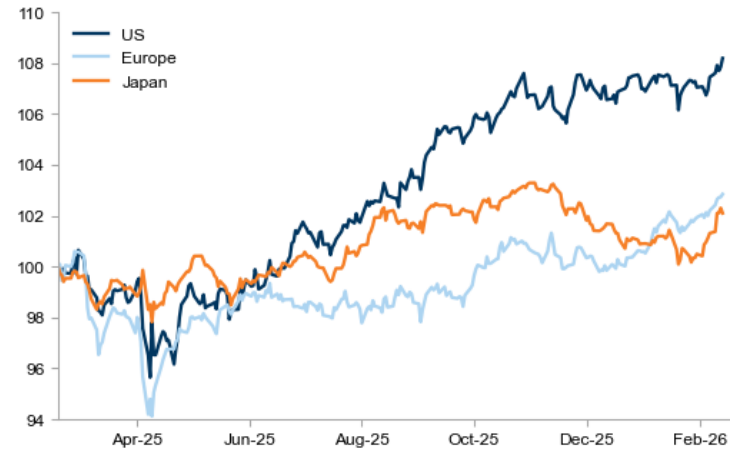
Relative total return performance indexed to 100 12m ago



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 19: Risk parity portfolio performance across regions last 12m**

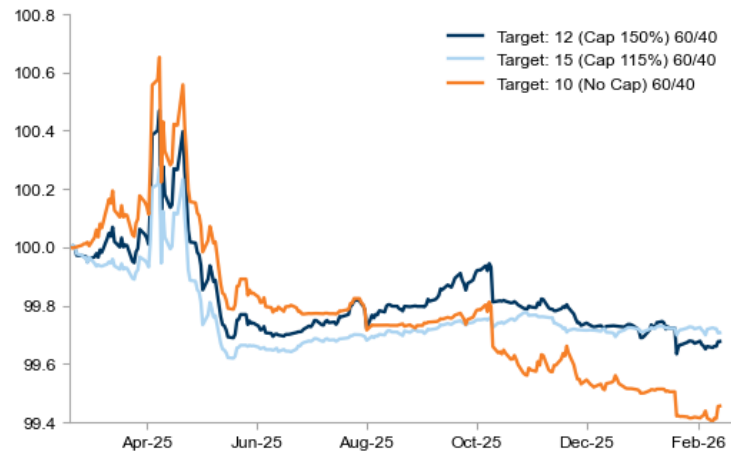
Weighted inversely by 3m realised volatility of equity and 10y bonds



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 20: 60/40 portfolio with volatility target strategies overlay vs. US 60/40 portfolio**

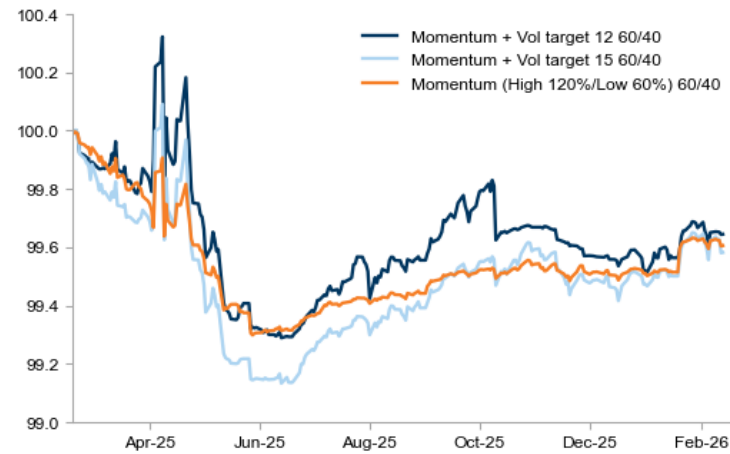
60% S&P 500, 40% US 10y bond; based on 1m realised S&P 500 volatility



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 21: 60/40 portfolio with volatility target strategies and momentum overlay vs. US 60/40**

60% S&P 500, 40% US 10y bond; Strategy methodology see: GOAL: The Balanced Bear - Part 2

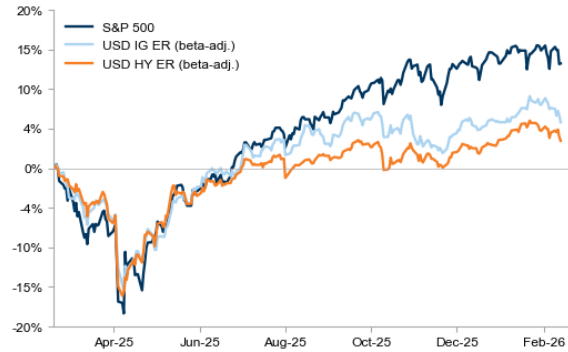


Source: Datastream, Goldman Sachs Global Investment Research

## Cross-asset: Equity vs. credit monitor

**Exhibit 22: USD cash credit vs. US equity**

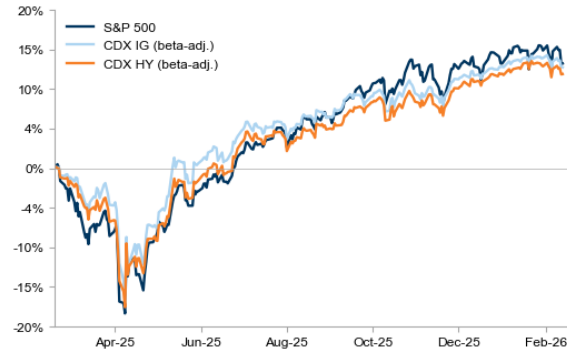
Cash credit excess returns (beta-adjusted) vs. S&P 500 total returns



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 23: USD synthetic credit vs. US equity**

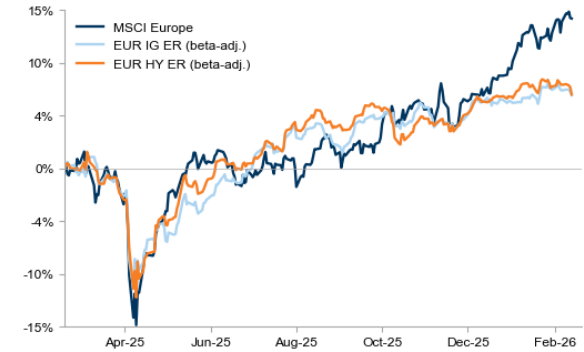
Synthetic credit excess returns (beta-adjusted) vs. S&P 500 total returns



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 24: EUR cash credit vs. European equity**

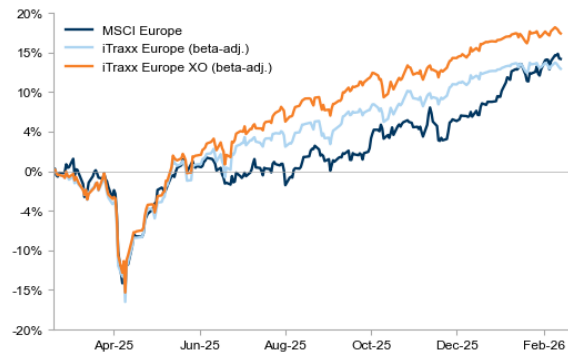
Cash credit excess returns (beta-adjusted) vs. MSCI Europe total returns



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 25: EUR synthetic credit vs. European equity**

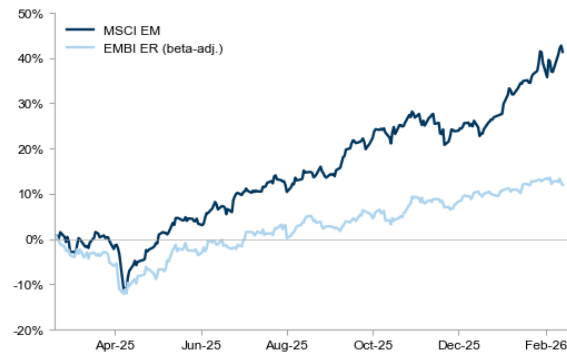
Synthetic credit excess returns (beta-adjusted) vs. MSCI Europe total returns



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 26: EM cash credit vs. EM equity**

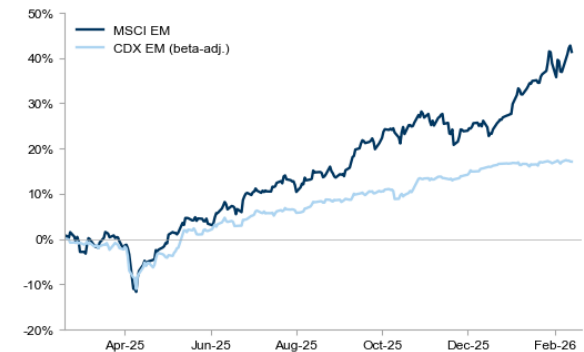
Cash credit excess returns (beta-adjusted) vs. MSCI EM total returns



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 27: EM synthetic credit vs. EM equity**

Synthetic credit excess returns (beta-adjusted) vs. MSCI EM total returns



Source: Datastream, Goldman Sachs Global Investment Research

## Cross-asset: Valuation and risk premia

### Exhibit 28: Cross-asset valuation table

A higher percentile means more expensive relative to 10y history

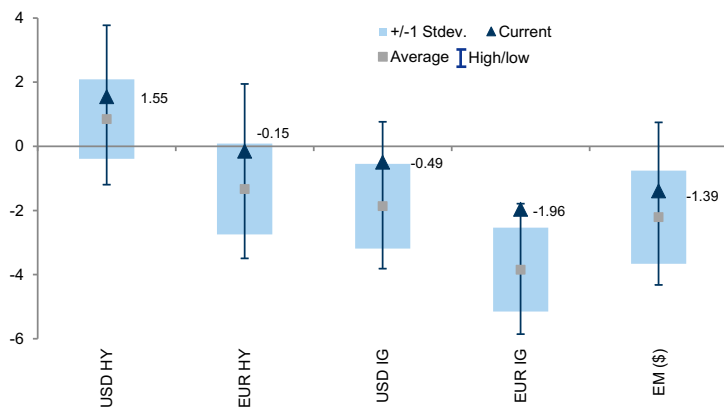
Valuation metric	Equity					Government bonds				Credit			FX (vs. USD)			
	S&P 500	Stoxx 600	MXAPJ	Topix	MSCI EM	US 10y	German 10y	Japan 10y	UK 10y	US IG	US HY	EUR IG	EUR HY	EM (\$)	EUR	JPY
<b>12m forward P/E ratio</b>	21.5x	15.3x	14.5x	17.0x	13.3x	4.0%	2.7%	2.2%	4.5%	79bp	295bp	87bp	269bp	247bp	-2.2%	-38.8%
<b>Expensiveness (last 10y percentile):</b>	<b>79%</b>	<b>81%</b>	<b>81%</b>	<b>93%</b>	<b>84%</b>	<b>22%</b>	<b>4%</b>	<b>1%</b>	<b>12%</b>	<b>93%</b>	<b>91%</b>	<b>98%</b>	<b>95%</b>	<b>99%</b>	<b>91%</b>	<b>8%</b>
<b>3M change:</b>	-0.7x	0.7x	-0.5x	1.2x	-0.3x	-0.1%	-0.1%	0.3%	-0.1%	1bp	4bp	-1bp	-4bp	-8bp	0.5%	1.2%
<b>Average:</b>	19.0x	14.3x	13.6x	14.0x	12.3x	2.7%	0.9%	0.3%	2.1%	114bp	405bp	132bp	384bp	99bp	-7.4%	-19.8%
<b>95th:</b>	22.4x	17.4x	16.2x	17.3x	14.8x	4.5%	2.7%	1.6%	4.6%	158bp	629bp	202bp	570bp	510bp	-1.3%	-7.1%
<b>5th:</b>	16.0x	11.9x	11.8x	12.0x	10.8x	0.7%	-0.5%	-0.1%	0.3%	78bp	283bp	90bp	270bp	282bp	-13.6%	-39.7%

Note: GSDEER is our fair value macro model for exchange rates.

Source: Datastream, I/B/E/S, iBoxx, Goldman Sachs Global Investment Research

### Exhibit 29: Credit spread minus equity risk premium estimates across markets

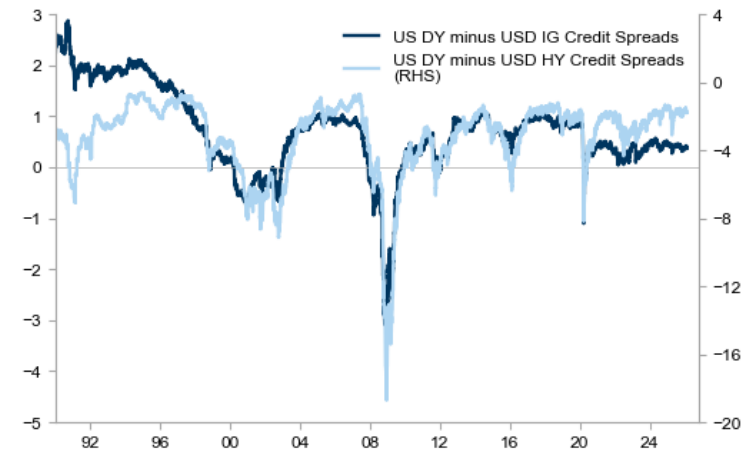
Equity risk premia based on 1-stage DDM using local 10-year yields and LT GDP consensus estimates. Using past 10 years of data.



Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

### Exhibit 30: Equity vs. credit relative valuation

US Dividend Yield minus Credit spreads



Source: Datastream, Goldman Sachs Global Investment Research

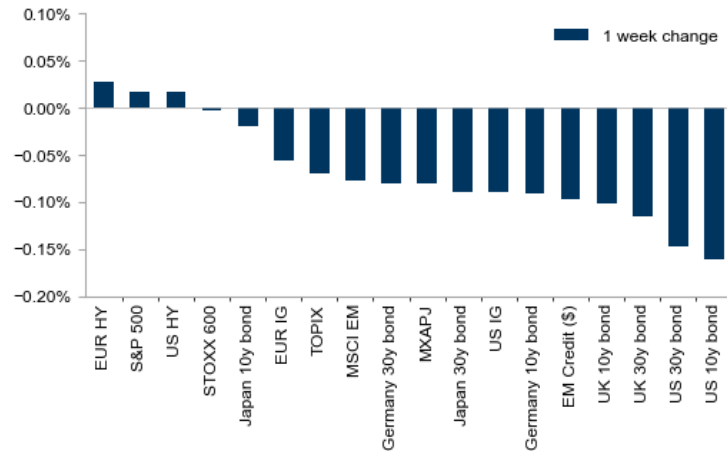
## Cross-asset: Yields

**Exhibit 31: Current yields across assets and their percentile to the past 10 years**

	Equity					Government bonds				Credit				
	S&P 500	Stoxx 600	MXAPJ (\$)	Topix	MSCI EM (\$)	US 10y	German 10y	Japan 10y	UK 10y	US IG	EUR IG	US HY	EUR HY	EM Debt (\$)
<b>Valuation metric</b>	<b>Dividend Yield (NTM)</b>					<b>Yield</b>				<b>Yield</b>				
<b>Current:</b>	1.2%	3.2%	2.3%	2.2%	2.4%	4.0%	2.7%	2.2%	4.5%	4.7%	3.3%	7.1%	5.5%	6.2%
<b>Percentile (-10y):</b>	<b>3%</b>	<b>15%</b>	<b>2%</b>	<b>17%</b>	<b>4%</b>	<b>78%</b>	<b>96%</b>	<b>99%</b>	<b>88%</b>	<b>66%</b>	<b>72%</b>	<b>57%</b>	<b>61%</b>	<b>52%</b>
<b>Average:</b>	1.8%	3.6%	2.9%	2.4%	2.9%	2.7%	0.9%	0.3%	2.1%	3.9%	2.0%	7.0%	4.9%	6.3%
<b>95th:</b>	2.3%	4.0%	3.4%	2.7%	3.4%	4.5%	2.7%	1.6%	4.6%	5.6%	4.3%	8.9%	7.5%	8.1%
<b>5th:</b>	1.3%	3.0%	2.4%	2.1%	2.4%	0.7%	-0.5%	-0.1%	0.3%	2.0%	0.5%	4.7%	3.0%	4.8%
<b>3m real. ret. vol:</b>	11.3%	8.9%	16.3%	17.5%	15.9%	4.0%	2.9%	4.0%	4.3%	3.0%	1.3%	1.5%	1.2%	2.4%
<b>Percentile (-10y):</b>	<b>34%</b>	<b>9%</b>	<b>60%</b>	<b>64%</b>	<b>54%</b>	<b>1%</b>	<b>5%</b>	<b>60%</b>	<b>10%</b>	<b>5%</b>	<b>2%</b>	<b>9%</b>	<b>8%</b>	<b>3%</b>
<b>Yield/vol ratio</b>	0.11	0.36	0.14	0.12	0.15	1.01	0.93	0.55	1.05	1.56	2.53	4.87	4.49	2.56

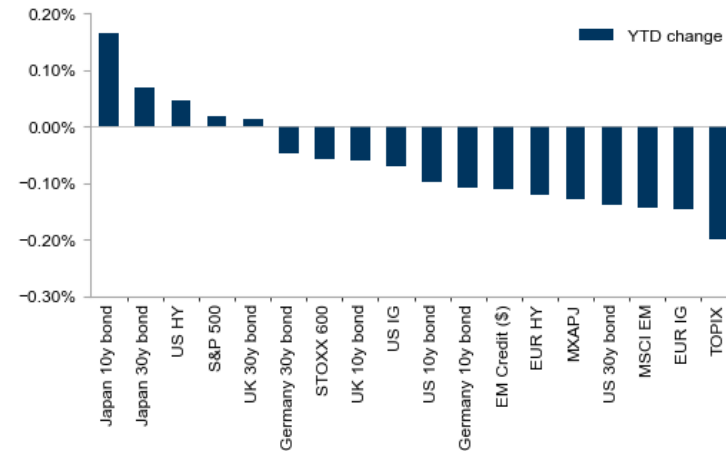
Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

**Exhibit 32: Past week change in yields across assets**



Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

**Exhibit 33: YTD change in yields across assets**

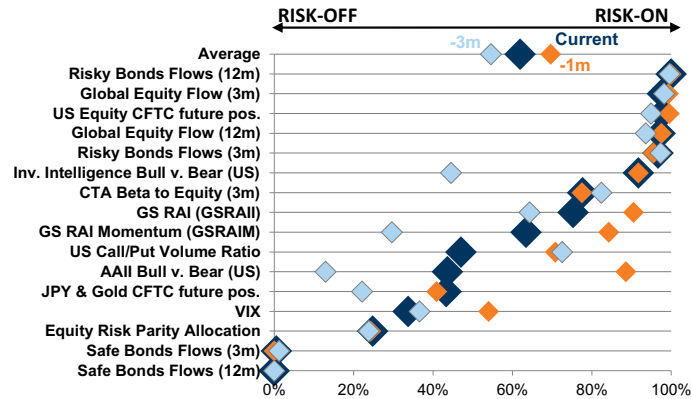


Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

## Cross-asset: Sentiment and Positioning

**Exhibit 34: Percentile of sentiment indicators**

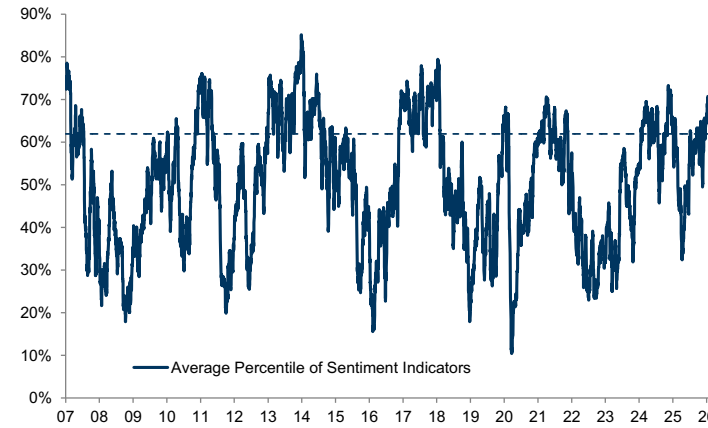
Data since 2007



Source: Datastream, Haver Analytics, EPFR, Goldman Sachs Global Investment Research

**Exhibit 35: Average percentile of sentiment indicators**

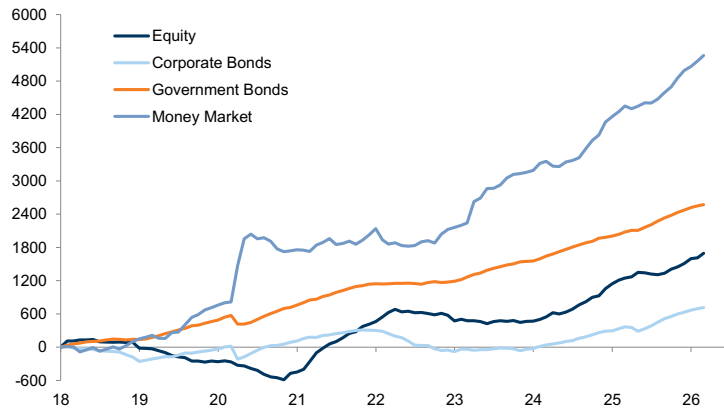
Data since 2007



Source: Datastream, Haver Analytics, EPFR, Goldman Sachs Global Investment Research

**Exhibit 36: Cumulative fund flows across assets**

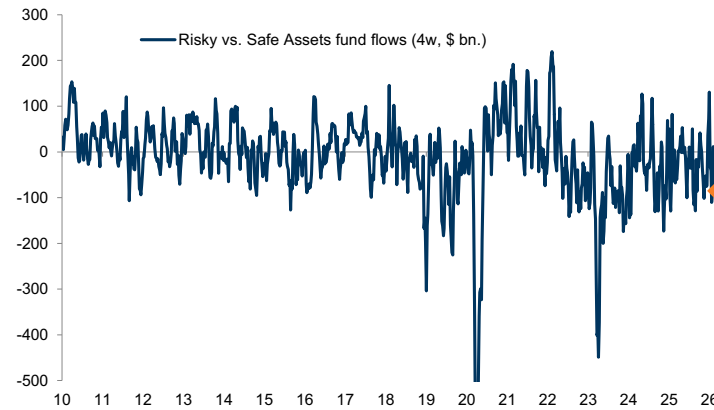
Monthly flows (\$bn). MTD sum of weekly flows when monthly not yet available



Source: Datastream, Haver Analytics, EPFR, Goldman Sachs Global Investment Research

**Exhibit 37: Risky vs. safe assets fund flows**

4 weeks rolling flows, USD bn

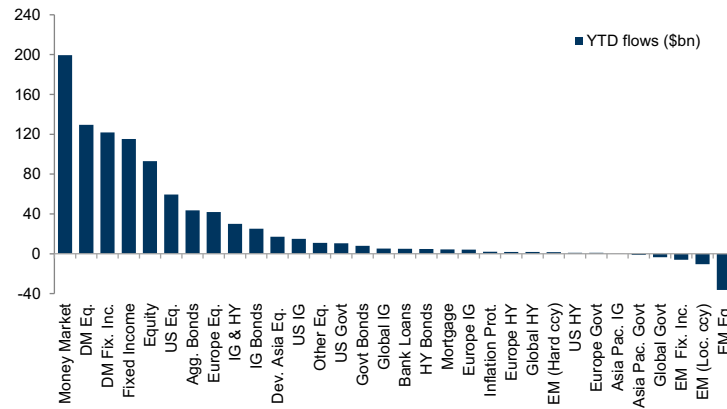


Source: Datastream, Haver Analytics, EPFR, Goldman Sachs Global Investment Research

## Cross-asset: Global Funds Flows

**Exhibit 38: YTD cross-asset global fund flows**

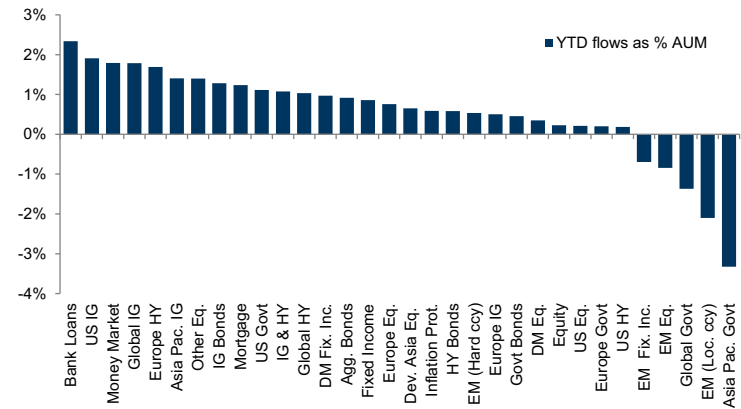
All funds reporting monthly. MTD sum of weekly flows when monthly not yet available (\$Bn)



Source: EPFR, Goldman Sachs Global Investment Research

**Exhibit 39: YTD cross-asset global fund flows**

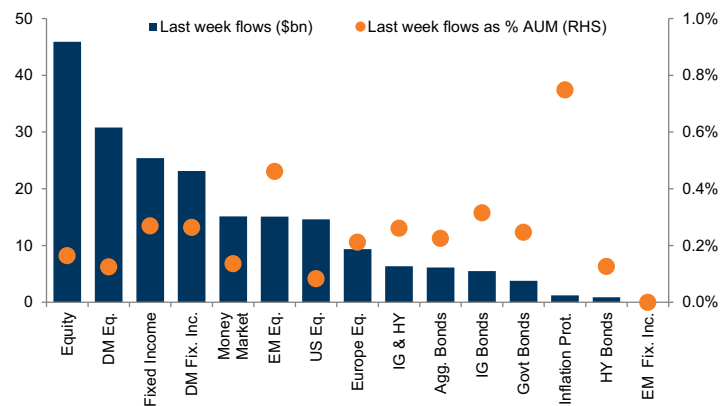
All funds reporting monthly. MTD sum of weekly flows when monthly not yet available (% of AUM)



Source: EPFR, Goldman Sachs Global Investment Research

**Exhibit 40: 1-week cross-asset global fund flows**

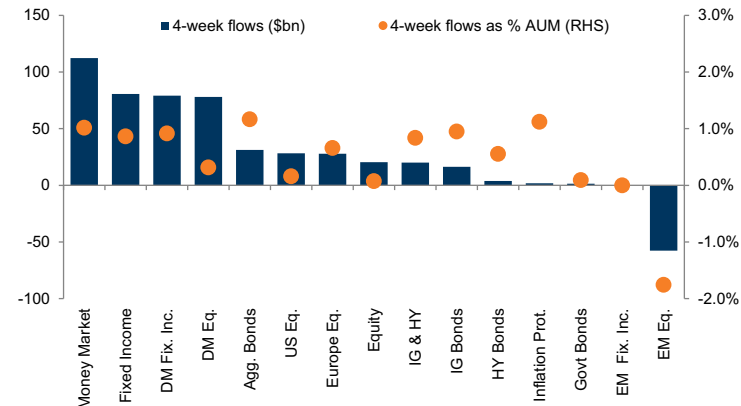
All funds reporting weekly



Source: EPFR, Goldman Sachs Global Investment Research

**Exhibit 41: 4-week cross-asset global fund flows**

All funds reporting weekly

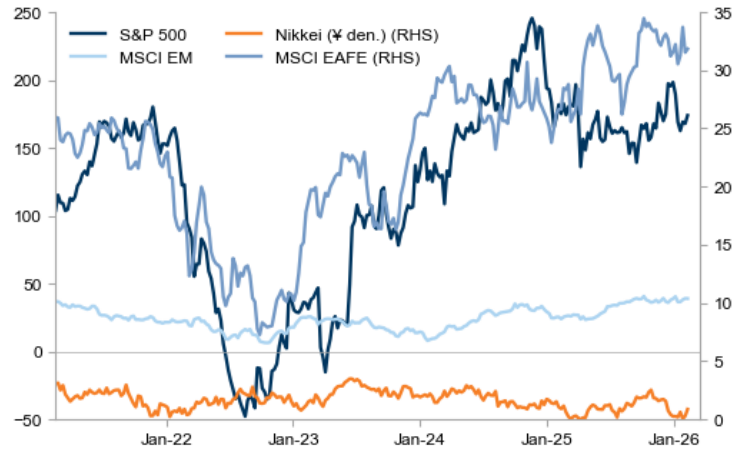


Source: EPFR, Goldman Sachs Global Investment Research

## Cross-asset: CFTC positioning

**Exhibit 42: Equity net long positioning**

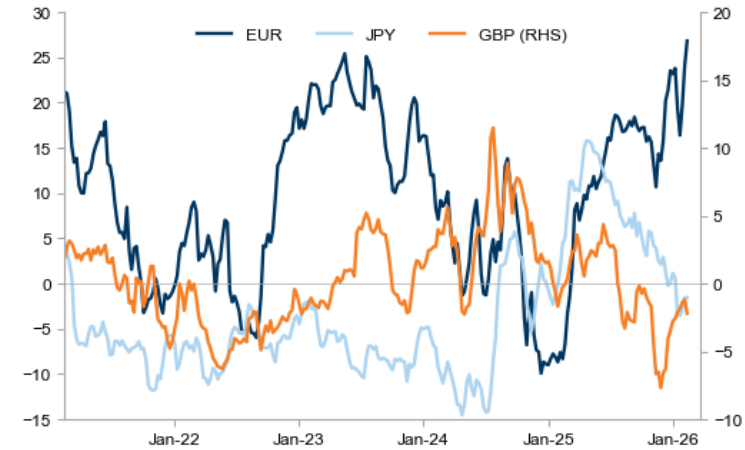
Leveraged funds and asset managers net future positions (\$ bn)



Source: Bloomberg, CFTC, Goldman Sachs Global Investment Research

**Exhibit 43: Currency net long positioning**

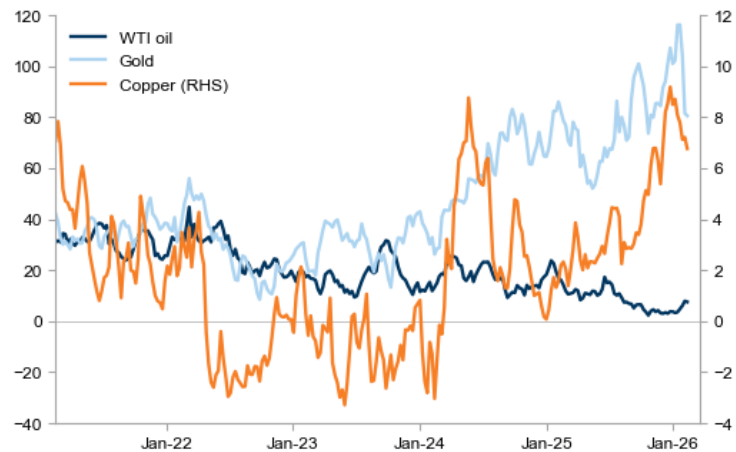
Net non-commercial positions (\$ bn)



Source: Bloomberg, CFTC, Goldman Sachs Global Investment Research

**Exhibit 44: Commodity net long positioning**

Net non-commercial positions (\$ bn)



Source: Bloomberg, CFTC, Goldman Sachs Global Investment Research

**Exhibit 45: US Treasury net long positioning**

Net non-commercial positions (\$ bn)

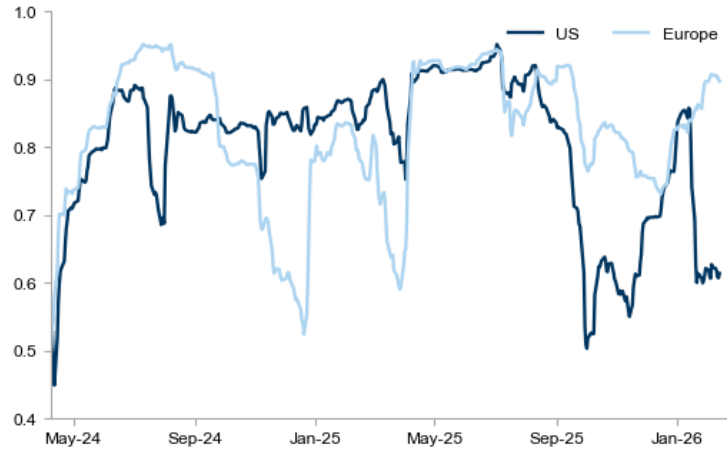


Source: Bloomberg, CFTC, Goldman Sachs Global Investment Research

Cross-asset: Correlations: Equity vol/CDS, commodity prices/credit & FX, equity/bond, equity/FX

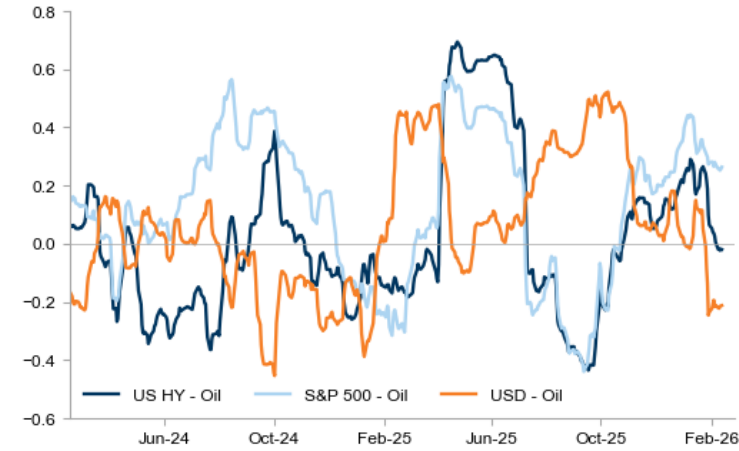
**Exhibit 46: 3m rolling equity vol/CDS correlation of weekly level changes**

CDX HY for the US, iTraxx Xover for Europe; ATM implied vol for S&P 500 and Euro Stoxx 50



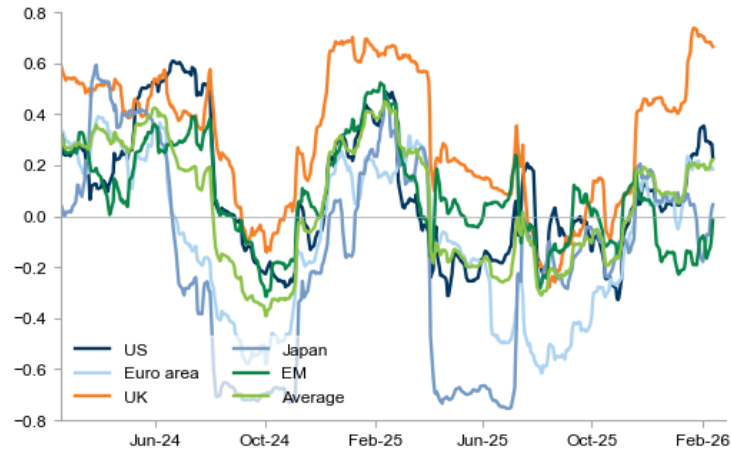
Source: Datastream, Goldman Sachs, Goldman Sachs Global Investment Research

**Exhibit 47: 3m rolling commodity price correlations of weekly % changes with different assets**



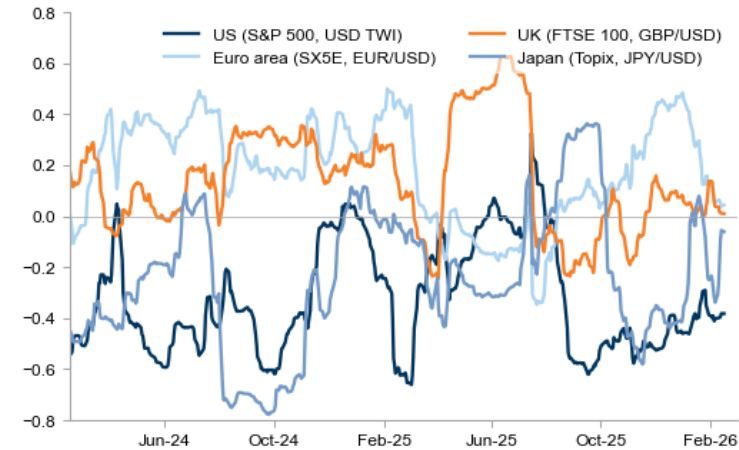
Source: Datastream, Goldman Sachs, Goldman Sachs Global Investment Research

**Exhibit 48: 3m rolling equity/bond correlation of weekly returns**



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 49: 3m rolling equity/FX correlation of weekly returns**



Source: Datastream, Goldman Sachs Global Investment Research

## Cross-asset: Correlation matrix

### Exhibit 50: Cross-asset correlation matrix

Upper half of matrix: current 1-year correlation (black shading = more/less than 0.50/-0.50); lower half of matrix: percentile since 2001 (dark grey shading indicates above 75th percentile, orange shading indicates below 25th percentile); correlations are calculated on weekly, local currency returns.

	S&P 500	STOXX 600	MXAPJ	TOPIX	MSCIEM	US 10 yr	Germany 10 yr	Japan 10 yr	UK 10 yr	EUR/USD	USD/JPY	AUD/USD	iBoxx US IG	iBoxx EUR IG	BAML US HY	BAML EUR HY	EM Credit (\$)	WTI Crude Oil	Copper	Gold	VIX
	Current 1y correlation of weekly returns																				
S&P 500		0.66	0.37	0.52	0.38	-0.43	-0.08	-0.43	-0.30	0.01	0.17	0.51	-0.13	0.22	0.69	0.50	0.08	0.09	0.61	-0.08	-0.83
STOXX 600	0.11		0.60	0.67	0.59	-0.12	-0.18	-0.40	-0.06	-0.14	0.20	0.39	0.18	0.25	0.79	0.70	0.46	0.11	0.58	-0.12	-0.78
MXAPJ	0.05	0.33		0.45	0.99	-0.06	-0.27	-0.13	0.07	0.07	-0.16	0.37	0.19	0.03	0.48	0.42	0.43	0.01	0.36	-0.06	-0.36
TOPIX	0.35	0.69	0.14		0.46	-0.13	-0.17	-0.46	-0.11	-0.10	0.27	0.35	0.11	0.16	0.58	0.52	0.37	0.09	0.40	-0.06	-0.66
MSCI EM	0.05	0.21	0.88	0.18		-0.09	-0.30	-0.16	0.05	0.10	-0.17	0.38	0.18	0.00	0.47	0.41	0.42	0.00	0.39	-0.02	-0.37
US 10 yr	0.25	0.70	0.65	0.81	0.61		0.42	0.59	0.78	-0.38	0.06	-0.61	0.90	0.32	0.08	0.13	0.62	-0.16	-0.46	-0.28	0.35
Germany 10 yr	0.66	0.54	0.32	0.64	0.31	0.00		0.51	0.47	-0.45	0.04	-0.36	0.34	0.80	-0.06	0.02	0.08	0.06	-0.30	0.01	0.20
Japan 10 yr	0.10	0.17	0.45	0.21	0.40	0.82	0.51		0.65	-0.18	-0.01	-0.53	0.40	0.18	-0.29	-0.19	0.21	-0.22	-0.63	-0.14	0.52
UK 10 yr	0.39	0.78	0.83	0.76	0.81	0.52	0.00	0.89		-0.31	0.03	-0.46	0.73	0.39	0.10	0.22	0.58	-0.04	-0.31	-0.15	0.29
EUR/USD	0.22	0.26	0.11	0.24	0.12	0.06	0.09	0.10	0.10		-0.65	0.59	-0.37	-0.43	-0.16	-0.31	-0.32	-0.16	0.23	0.47	0.00
USD/JPY	0.48	0.46	0.29	0.36	0.28	0.99	0.97	0.83	0.96	0.06		-0.38	0.10	0.06	0.17	0.19	0.13	0.14	-0.07	-0.38	-0.26
AUD/USD	0.57	0.53	0.00	0.54	0.05	0.03	0.16	0.01	0.05	0.51	0.33		-0.44	-0.07	0.30	0.15	-0.14	0.15	0.64	0.48	-0.55
iBoxx US IG	0.38	0.76	0.64	0.73	0.62	0.56	0.02	0.51	0.68	0.00	1.00	0.00		0.45	0.43	0.45	0.81	-0.02	-0.23	-0.25	0.04
iBoxx EUR IG	0.73	0.65	0.19	0.61	0.19	0.20	0.52	0.19	0.21	0.01	0.93	0.14	0.03		0.42	0.50	0.40	0.27	0.03	0.02	-0.19
BAML US HY	0.69	0.99	0.17	0.79	0.15	0.60	0.46	0.08	0.59	0.01	0.71	0.20	0.58	0.51		0.84	0.63	0.19	0.48	-0.17	-0.77
BAML EUR HY	0.50	0.86	0.11	0.48	0.11	0.70	0.59	0.27	0.84	0.04	0.61	0.17	0.76	0.50	0.61		0.68	0.34	0.29	-0.16	-0.59
EM Credit (\$)	0.02	0.50	0.28	0.70	0.15	0.79	0.32	0.55	0.86	0.00	0.84	0.00	0.82	0.34	0.37	0.72		0.10	-0.02	-0.28	-0.24
WTI Crude Oil	0.33	0.31	0.06	0.29	0.04	0.50	0.85	0.21	0.75	0.08	0.65	0.28	0.56	0.93	0.38	0.80	0.37		0.18	0.16	-0.20
Copper	0.88	0.90	0.19	0.80	0.25	0.10	0.25	0.01	0.24	0.24	0.36	0.84	0.12	0.57	0.84	0.59	0.08	0.24		0.28	-0.65
Gold	0.27	0.26	0.08	0.46	0.07	0.01	0.29	0.06	0.04	0.60	0.51	0.59	0.03	0.35	0.03	0.14	0.01	0.43	0.41		0.06
VIX	0.39	0.23	0.89	0.11	0.95	0.62	0.44	0.99	0.60	0.69	0.60	0.19	0.46	0.26	0.02	0.09	0.79	0.55	0.00	0.58	
	Current correlation's percentile since 2001																				

Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

## Cross-asset: Implied and realised vol, call and put skew

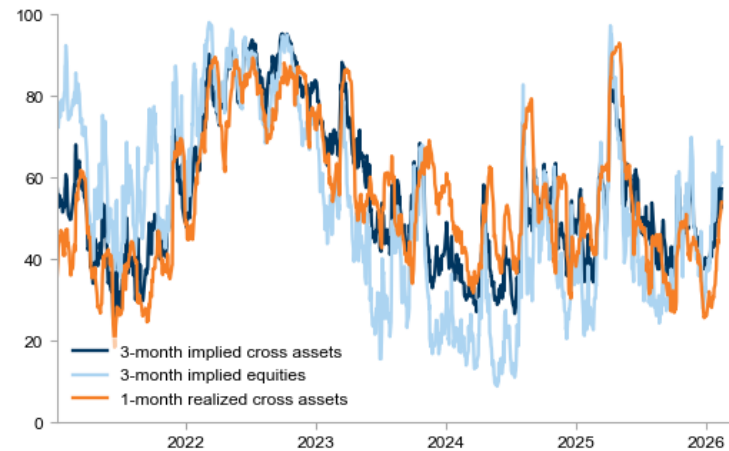
**Exhibit 51: Cross-asset volatility, current and historical percentiles, implied 3m and realised 1m**

	Equities						Rates				Credit			Commodities			Currencies		
	S&P 500	EURO STOXX 50	Nikkei 225	FTSE 100	MSCI EM	MSCI EAFE	USD 2-year	USD 10-year	EUR 2-year	EUR 10-year	CDX IG	CDX HY	iTraxx Europe	WTI	Gold	Copper	EUR/USD	JPY/USD	GBP/USD
<b>Implied (3-month ATM, %)</b>																			
<b>Current:</b>	16.4	16.3	27.3	12.9	19.9	15.7	4.7	4.4	2.2	2.9	42.9	37.2	42.9	38.7	25.1	29.8	6.5	9.9	7.5
<b>Percentile:</b>	<b>67%</b>	<b>56%</b>	<b>97%</b>	<b>51%</b>	<b>66%</b>	<b>67%</b>	<b>56%</b>	<b>37%</b>	<b>56%</b>	<b>37%</b>	<b>33%</b>	<b>39%</b>	<b>27%</b>	<b>73%</b>	<b>99%</b>	<b>95%</b>	<b>35%</b>	<b>65%</b>	<b>31%</b>
<b>1M change:</b>	2.4	1.2	2.5	1.1	3.5	2.3	0.8	0.4	0.1	-0.1	3.9	3.9	2.7	-3.2	4.0	1.1	1.0	0.8	1.1
<b>Average:</b>	15.9	17.2	19.0	14.2	19.1	15.2	4.8	5.3	3.1	3.9	48.7	43.0	51.1	35.7	14.5	21.9	7.2	8.9	8.9
<b>95th:</b>	25.5	25.7	25.6	22.4	25.9	22.6	9.7	7.9	8.5	7.7	69.8	65.9	69.9	52.8	20.4	29.9	10.4	12.7	13.0
<b>5th:</b>	10.0	12.2	13.7	10.0	14.5	10.4	1.3	3.5	0.9	2.2	37.8	30.5	38.6	23.8	9.7	16.0	5.1	5.6	6.3
<b>Realised (%)</b>																			
<b>1-month:</b>	14.5	12.8	25.0	9.3	20.2	12.5	3.7	3.5	1.6	1.9	27.9	24.4	22.4	38.6	48.7	35.4	7.6	10.7	7.3
<b>Percentile:</b>	<b>62%</b>	<b>39%</b>	<b>85%</b>	<b>31%</b>	<b>89%</b>	<b>63%</b>	<b>48%</b>	<b>23%</b>	<b>57%</b>	<b>14%</b>	<b>28%</b>	<b>35%</b>	<b>11%</b>	<b>67%</b>	<b>100%</b>	<b>97%</b>	<b>63%</b>	<b>75%</b>	<b>37%</b>
<b>Average:</b>	15.2	16.3	19.2	13.3	14.7	13.1	4.5	5.0	2.4	3.6	39.6	33.2	40.2	38.3	14.2	20.1	7.3	8.8	8.8

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

**Exhibit 52: 10y percentile for cross-asset average volatility**

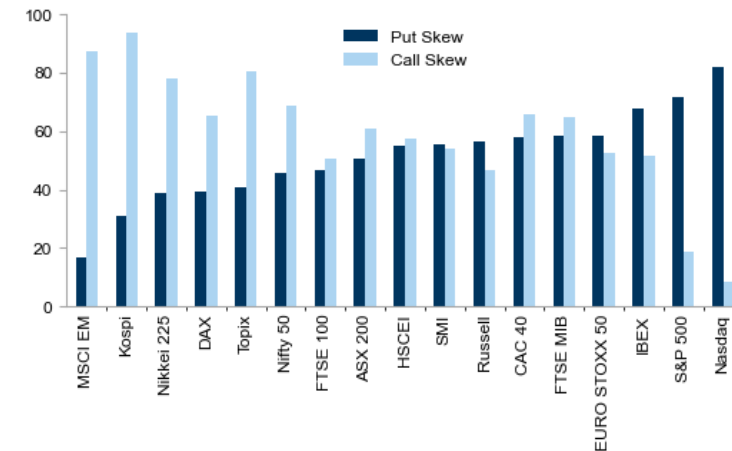
Using 16 assets across equity, government bonds, credit, commodities and FX



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

**Exhibit 53: Putwing and Calling normalised skew 5y percentile**

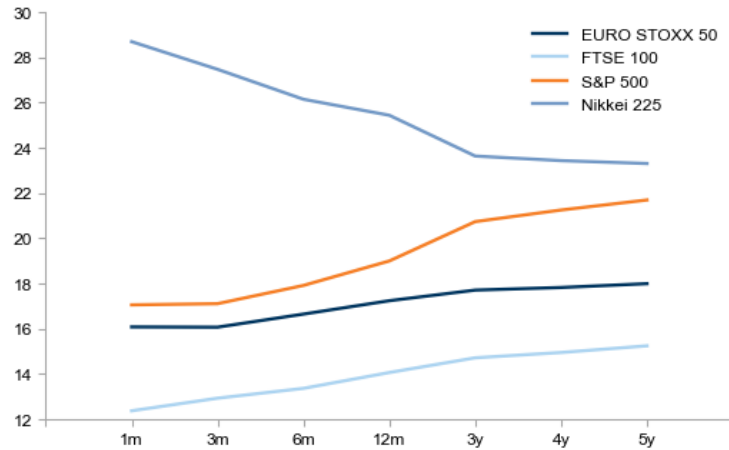
Normalised skew = (impl. vol 25 delta put/call minus implied vol 50 delta call)/50 delta call



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

Cross-asset: Volatility, skew, CDS with equity vol, rate vol

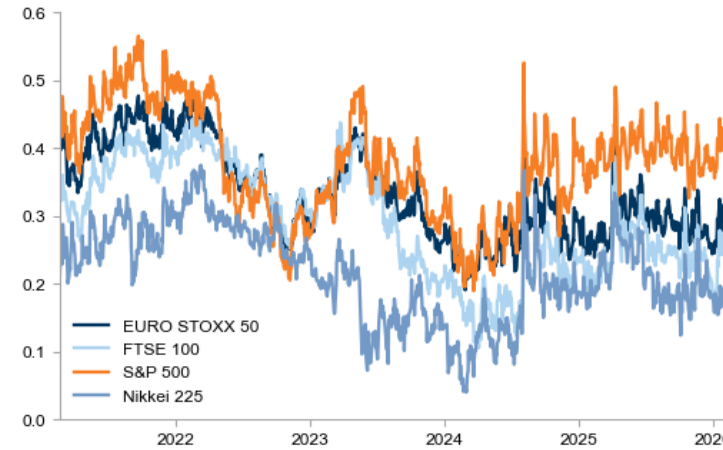
**Exhibit 54: ATM implied volatility term structure for equity indices**



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

**Exhibit 55: Normalised implied volatility skew across regions**

3m 25 delta put vol minus 25 delta call vol scaled by ATM implied vol



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

**Exhibit 56: CDS and equity vol levels in the US**

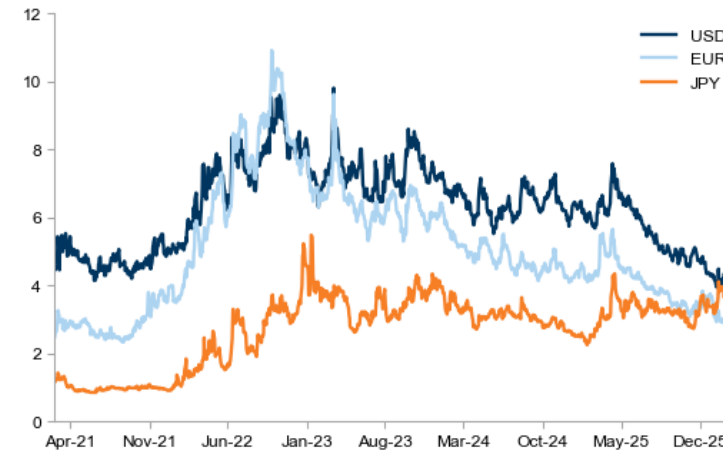
CDX HY, 3m ATM S&P 500 implied vol



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

**Exhibit 57: 3m ATM implied rate volatility across regions**

3-month implied volatility of 10-year rates (bp/day)

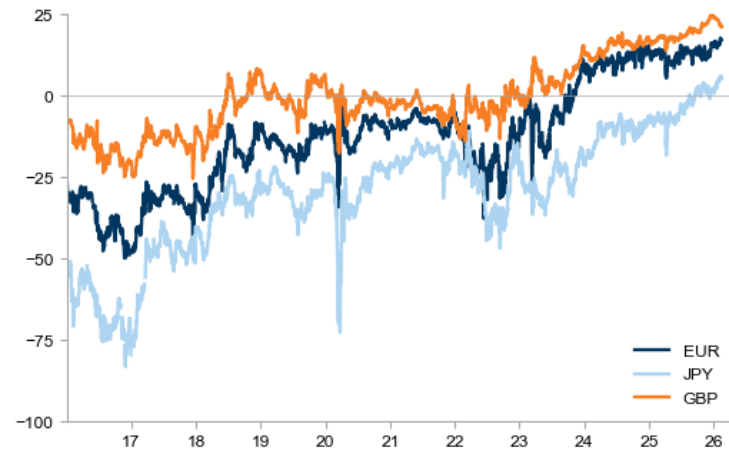


Source: Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

## Cross-asset: Liquidity indicators

**Exhibit 58: 1-year cross-currency basis**

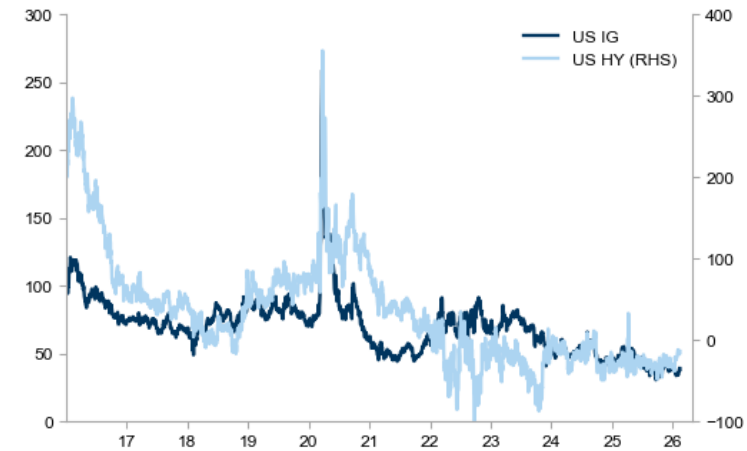
Basis points



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

**Exhibit 59: Cash credit versus CDS spread**

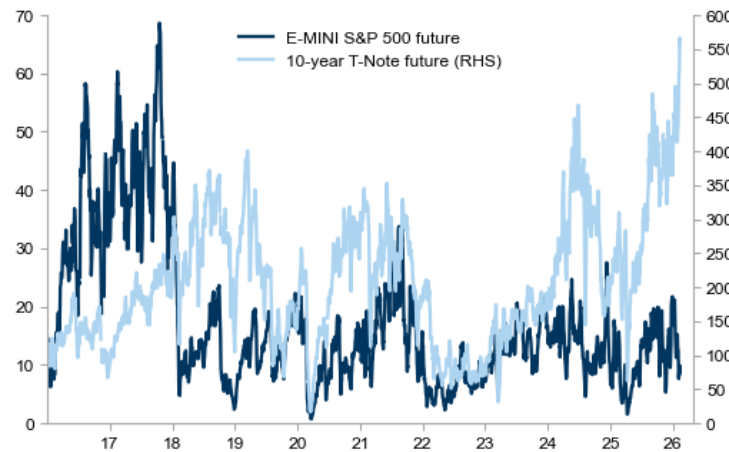
Basis points



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

**Exhibit 60: Top-of-book depth**

5-day average, \$ mln

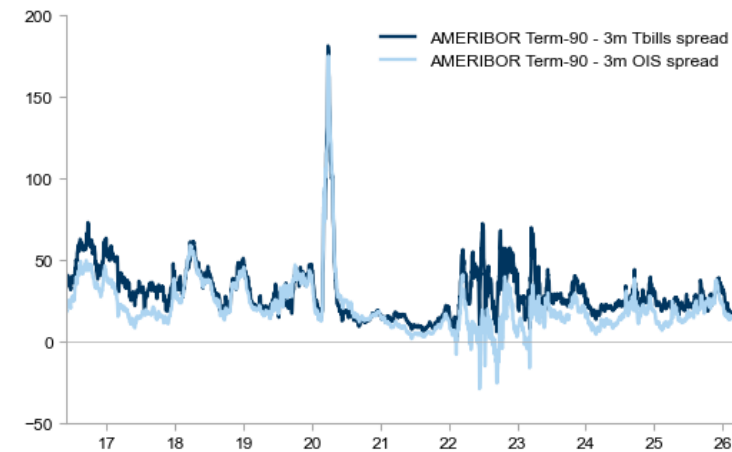


E-MINI S&P 500 = 5d avg. # of contracts \* S&P 500 price \* \$50. 10-year T-note = 5d avg. # of contracts \* \$100,000

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

**Exhibit 61: US financial institutions wholesale funding cost**

Basis points

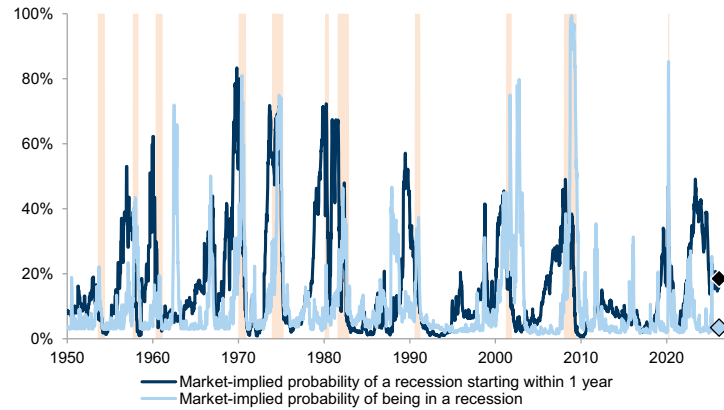


Source: Bloomberg, Goldman Sachs Global Investment Research

## Cross-asset: Market pricing of US recession risk

**Exhibit 62: Market-implied US recession probability**

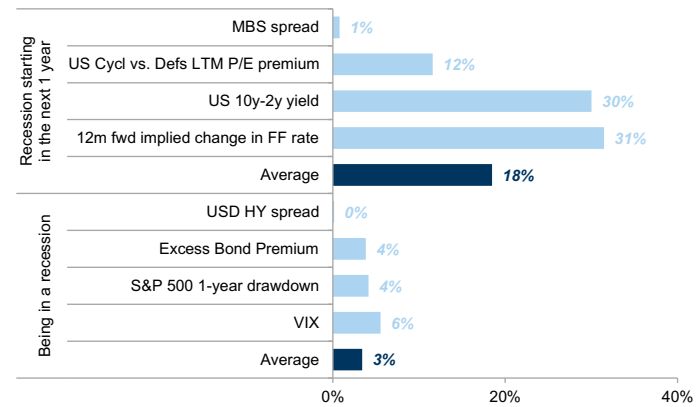
Average of univariate logit models on the right. Orange shade: NBER recession



Source: Haver Analytics, Datastream, Worldscope, Goldman Sachs Global Investment Research

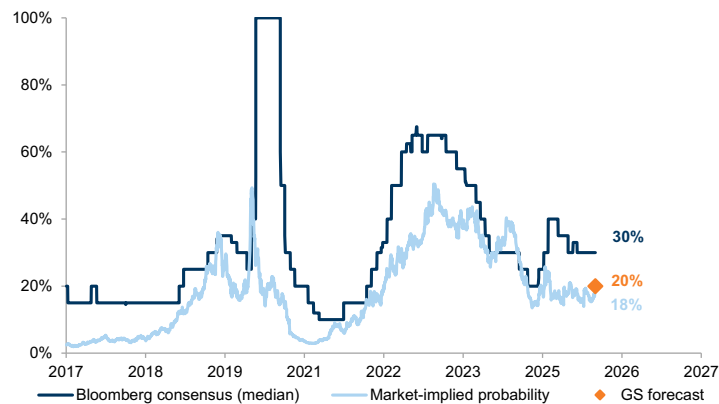
**Exhibit 63: Market-implied US recession probability by indicator**

Univariate logit models. Maximum history since 1950



Source: Haver Analytics, Datastream, Worldscope, Goldman Sachs Global Investment Research

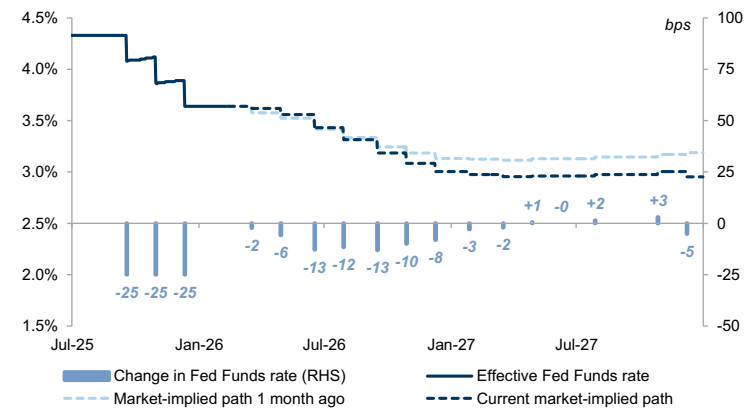
**Exhibit 64: Probability of a US recession in the next 1 year**



Source: Haver Analytics, Datastream, Worldscope, Bloomberg, Goldman Sachs Global Investment Research

**Exhibit 65: Market-implied path of the Fed Funds rate**

Based on 30-day Fed Funds futures

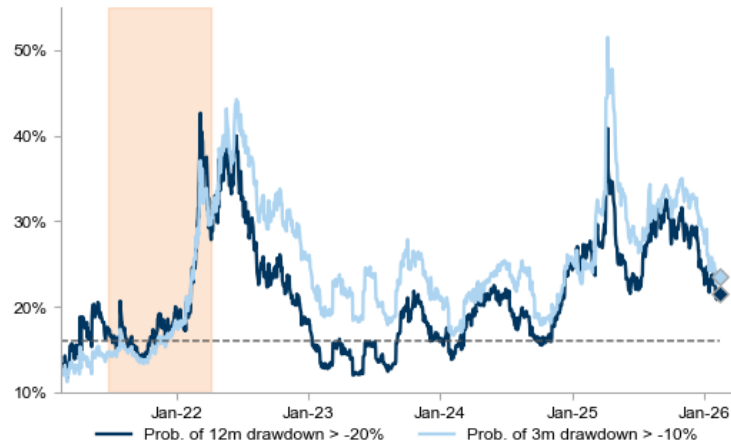


Source: Haver Analytics, Goldman Sachs Global Investment Research

## Equity: Drawdown probability

**Exhibit 66: Implied probability of S&P 500 drawdown based on multi-variate logit model**

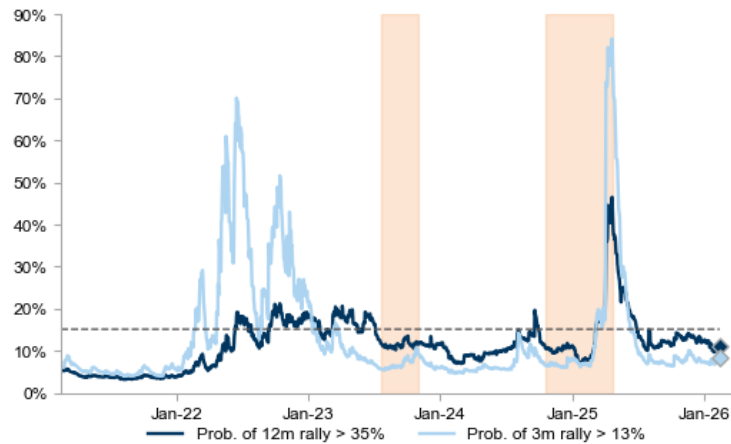
Orange shading = S&P 500 subsequent drawdown >20%. Dashed line = unconditional probability



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

**Exhibit 68: Implied probability of S&P 500 rally based on multi-variate logit model**

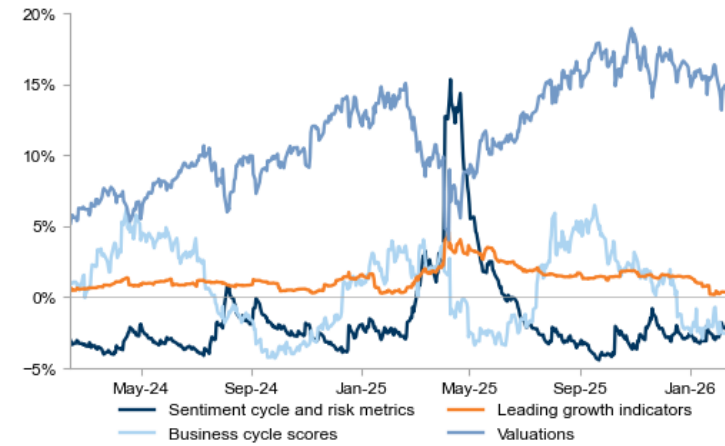
Orange shading = S&P 500 subsequent rally >35%. Dashed line = unconditional probability



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

**Exhibit 67: Contribution to the probability of a drawdown >20% in 12m**

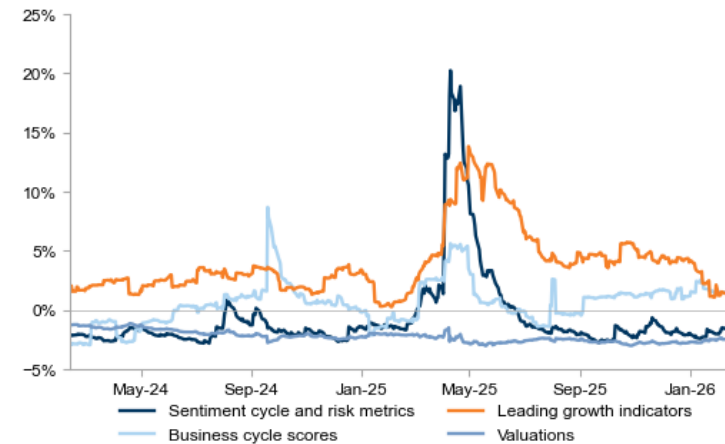
Based on Shapley values. Inputs aggregated by type



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

**Exhibit 69: Contribution to the probability of a rally >35% in 12m**

Based on Shapley values. Inputs aggregated by type

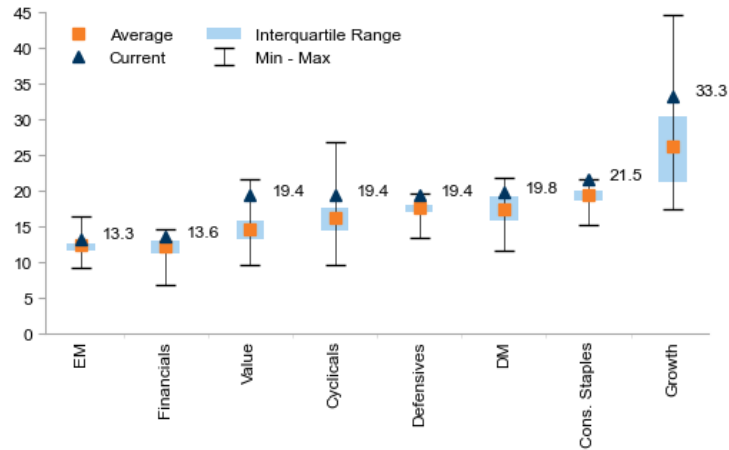


Source: Haver Analytics, Datastream, Goldman Sachs Global Investment Research

## Equity: Valuation and styles

**Exhibit 70: Valuation ranges of MSCI World styles indices**

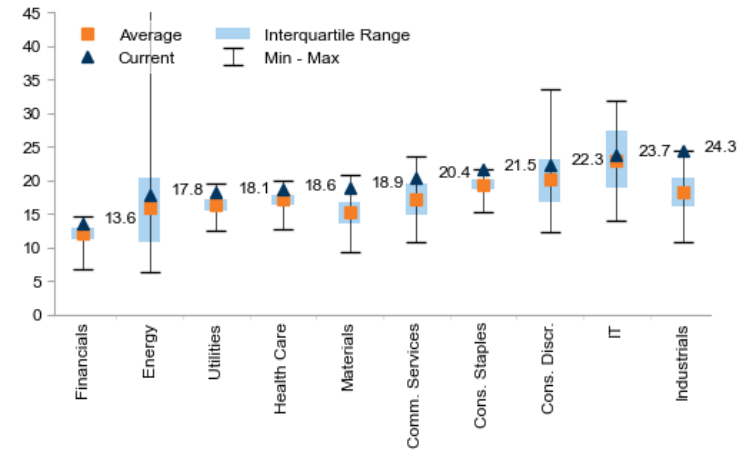
12-month forward P/Es relative to the last 10 years



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

**Exhibit 71: MSCI World sector valuations**

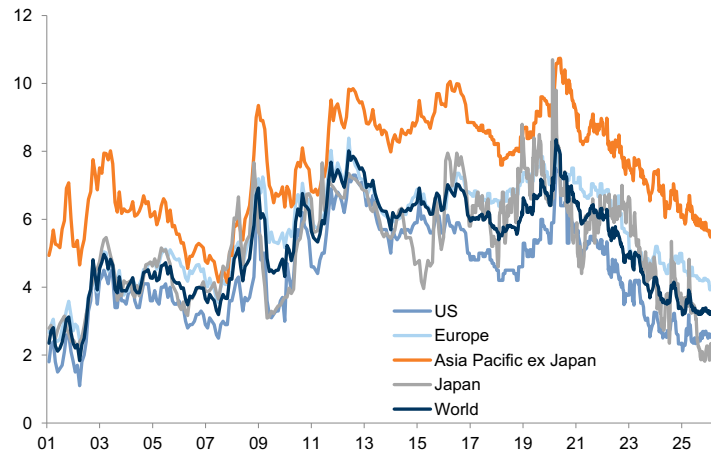
12-month forward P/Es relative to the last 10 years



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

**Exhibit 72: Global market implied ERPs (%)**

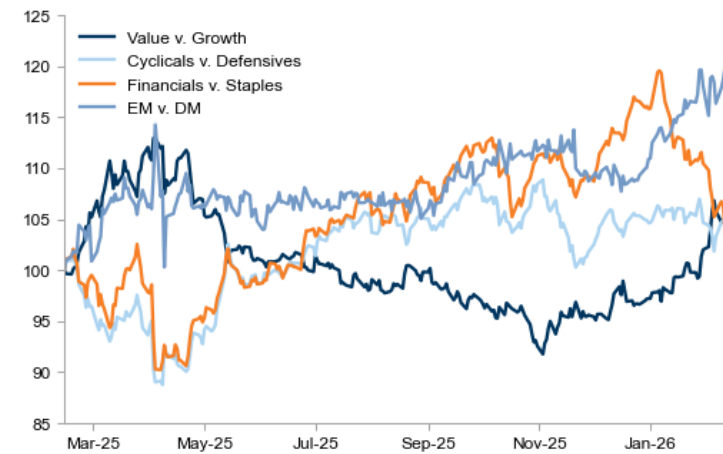
Implied ERPs are calculated by each regional strategy team. While specific assumptions differ between regions, all are calculated using similar frameworks



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 73: MSCI World style index performance**

Performance indexed to 100 12m ago

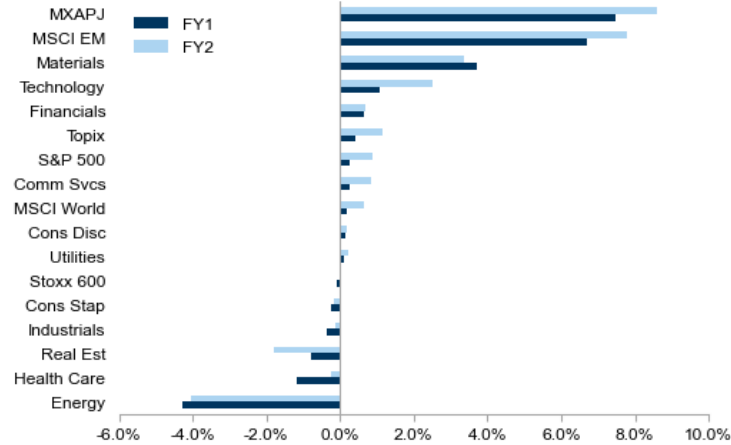


Source: Datastream, Goldman Sachs Global Investment Research

## Equity: Earnings

**Exhibit 74: 1-month revision to I/B/E/S consensus earnings**

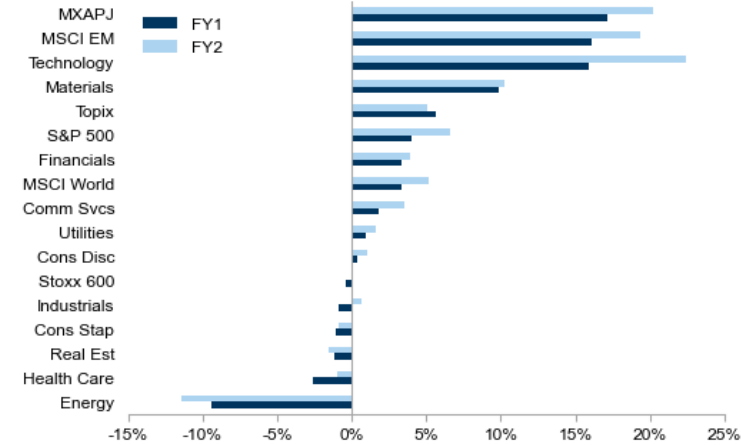
MSCI World sectors, other global equity index aggregates



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

**Exhibit 75: 6-month revision to I/B/E/S consensus earnings**

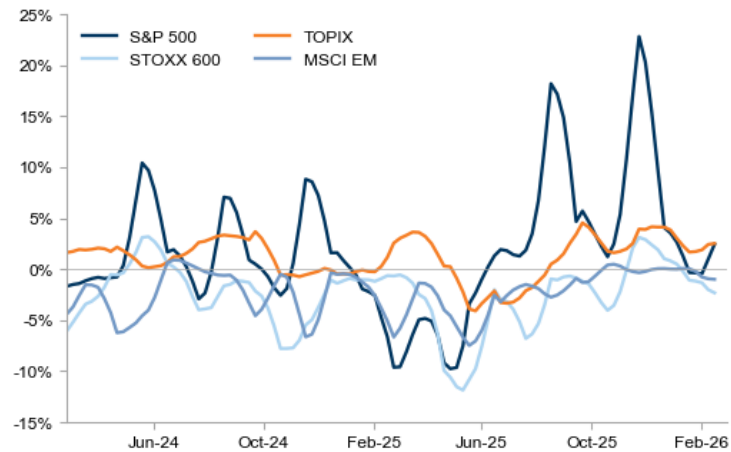
MSCI World sectors, other global equity index aggregates



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

**Exhibit 76: Earnings sentiment: Analyst upgrades minus downgrades (scaled by total analysts) across markets**

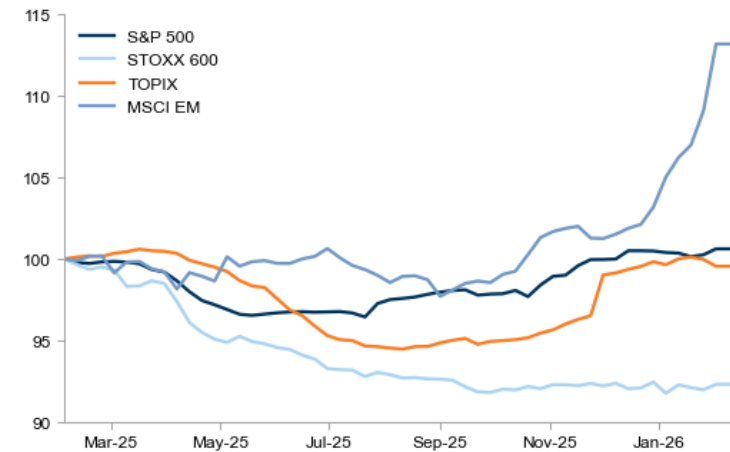
1-month moving average of net monthly upgrades



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

**Exhibit 77: FY1 consensus earnings expectations over the past 12 months**

Earnings indexed to 100 12 months ago

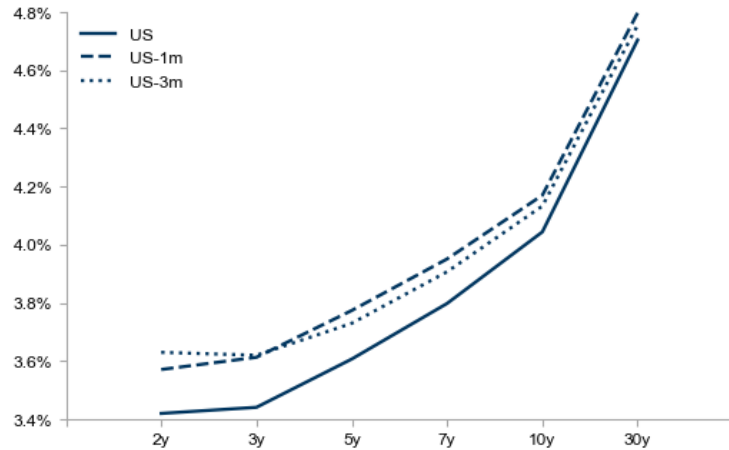


Source: Datastream, I/B/E/S, Goldman Sachs Global Investment Research

## Government bonds: Yield curves

**Exhibit 78: US yield curve dynamics**

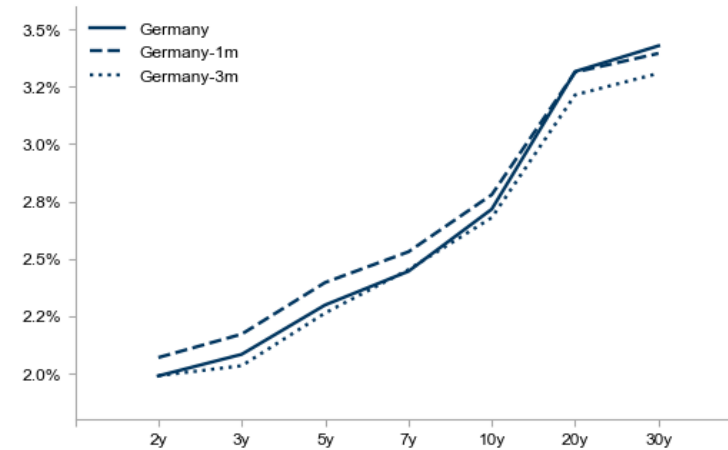
Current relative to 1 month and 3 months ago



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 79: German yield curve dynamics**

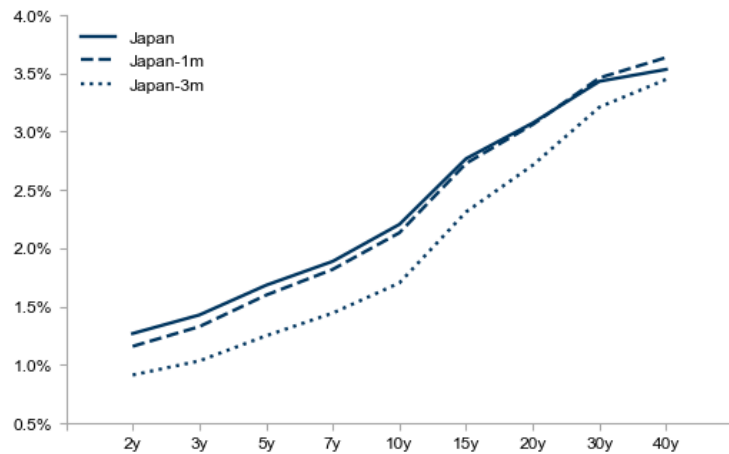
Current relative to 1 month and 3 months ago



Source: Datastream, Goldman Sachs Global Investment Research

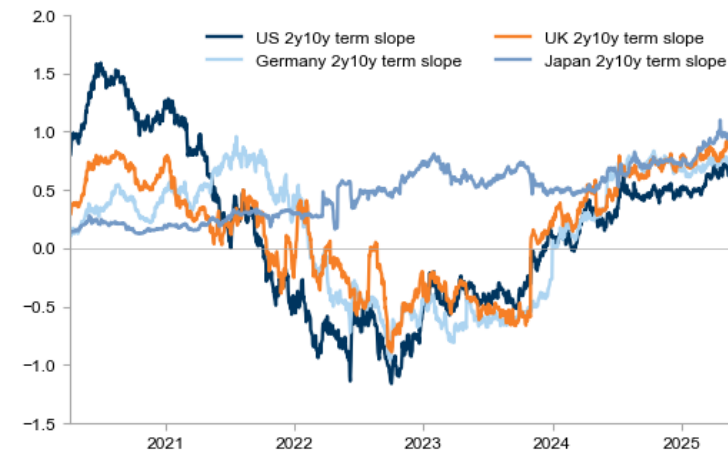
**Exhibit 80: Japan yield curve dynamics**

Current relative to 1 month and 3 months ago



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 81: Yield curve term slope across regions**

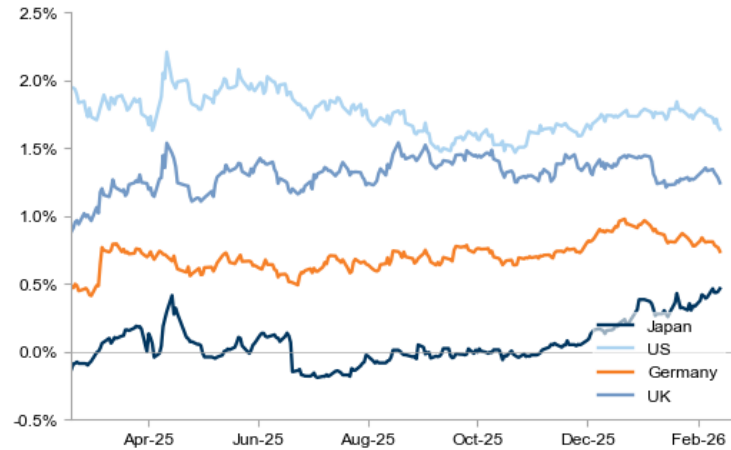


Source: Datastream, Goldman Sachs Global Investment Research

## Government bonds: Real yields, inflation, breakevens, 10y IR differentials

**Exhibit 82: 10y real yields across regions**

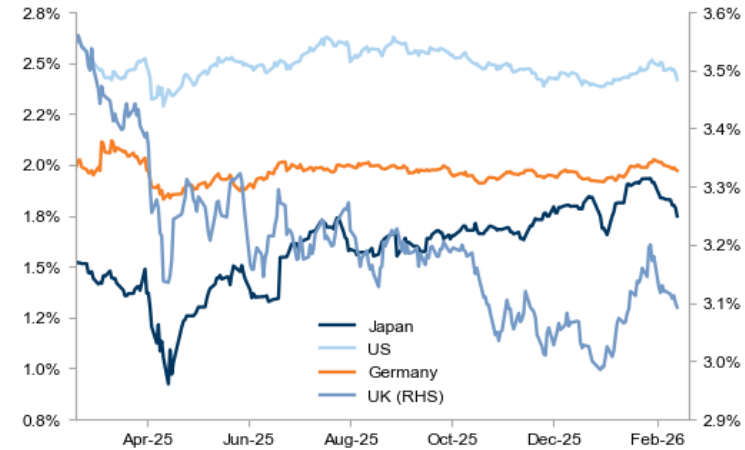
Nominal bond yield minus CPI inflation swap (RPI for the UK)



Source: Goldman Sachs, Goldman Sachs Global Investment Research

**Exhibit 83: 10y inflation swaps across regions**

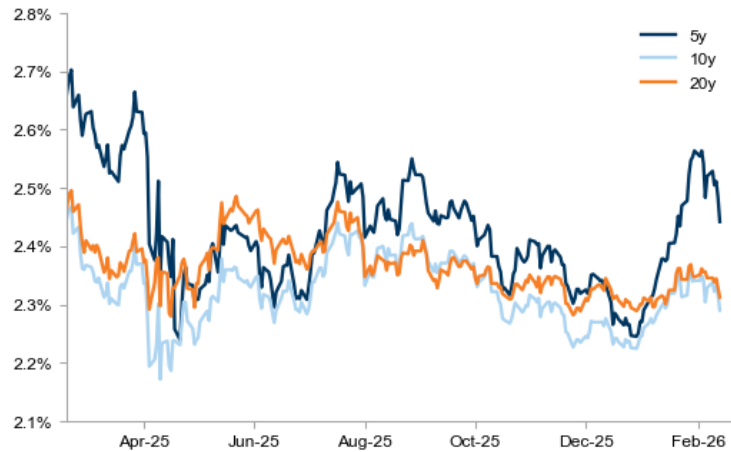
CPI inflation swap (RPI for the UK)



Source: Goldman Sachs, Goldman Sachs Global Investment Research

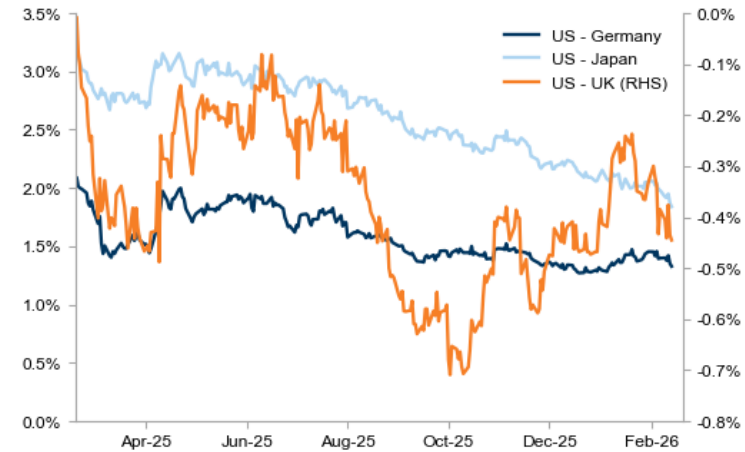
**Exhibit 84: US breakeven inflation**

Nominal yield minus TIPS yield



Source: Bloomberg, Goldman Sachs Global Investment Research

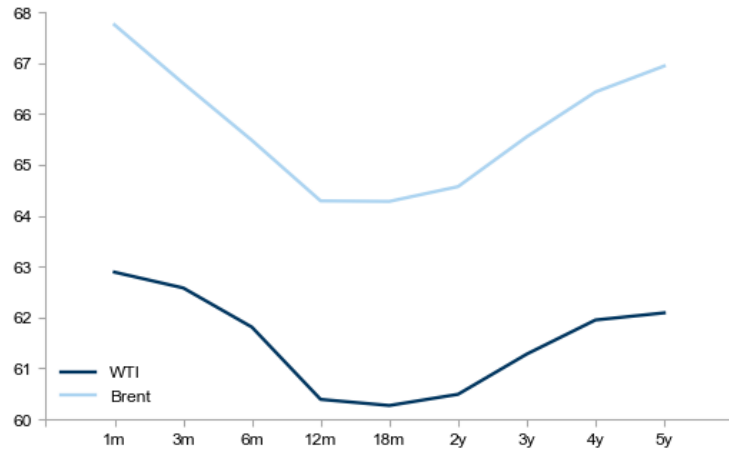
**Exhibit 85: 10y nominal bond yield differentials**



Source: Datastream, Goldman Sachs Global Investment Research

## Commodities: Curve shapes and roll yields

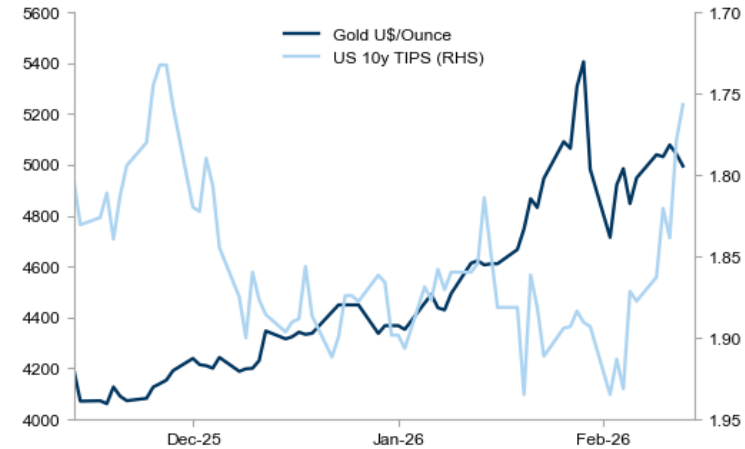
**Exhibit 86: WTI and Brent oil forward curves**



Source: Goldman Sachs, Goldman Sachs Global Investment Research

**Exhibit 87: Gold price and US real yields**

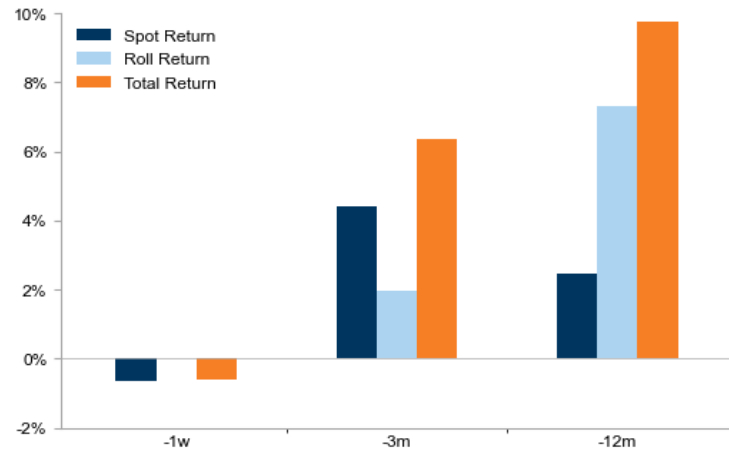
US 10-year TIPS yield, Gold US\$/ounce



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 88: S&P GSCI spot, roll and total returns**

Returns over the past 1 week, 3 months and 1 year



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 89: Recent performance of S&P GSCI sectors**

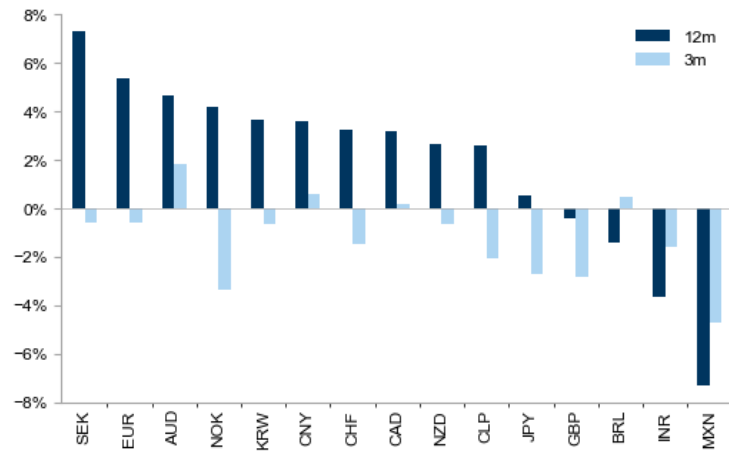
Weight signifies contribution to the S&P GSCI index

	Current Weight (%)	Returns (%)		
		-1w	-1m	-1y
<b>S&amp;P GSCI</b>	<b>100</b>	<b>-0.6</b>	<b>2.1</b>	<b>9.7</b>
Energy	46.3	-1.4	3.9	1.8
Industrial Metals	14.2	-0.6	-3.1	28.0
Precious Metals	12.6	1.4	5.3	75.0
Agriculture	14.9	0.7	0.0	-15.9
Livestock	12.0	-1.2	1.1	26.5

Source: Goldman Sachs, Goldman Sachs Global Investment Research

## FX: Forecasts and forwards, recent performance and positioning

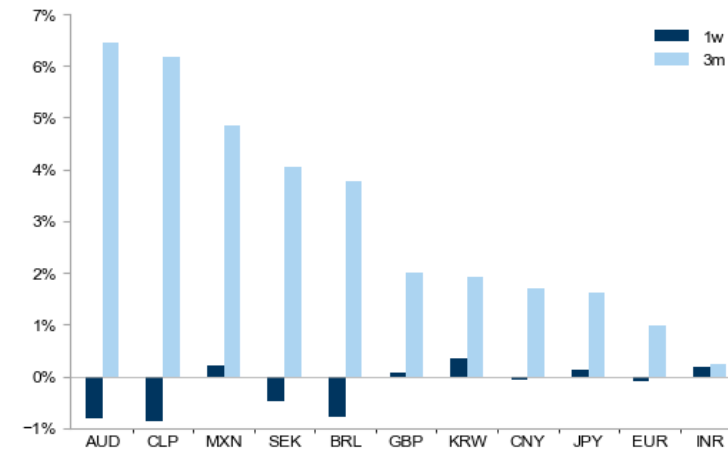
**Exhibit 90: Our 3- and 12-month forecasts for dollar crosses**



Source: Datastream, Goldman Sachs Global Investment Research

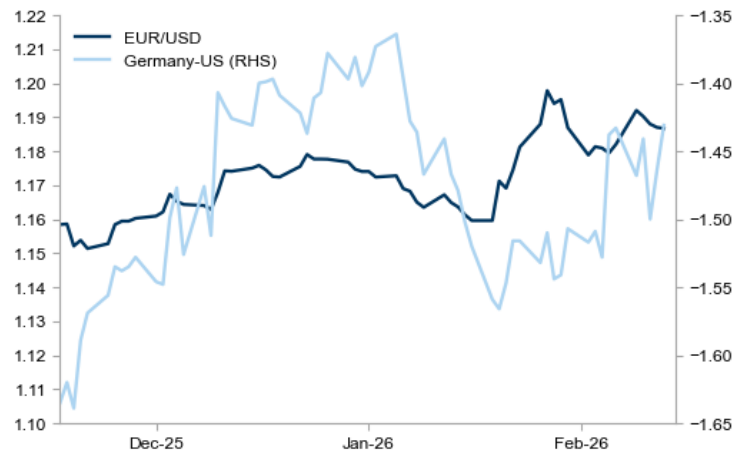
**Exhibit 91: Recent performance of dollar crosses**

Percentage change over past 1 week, 3 months



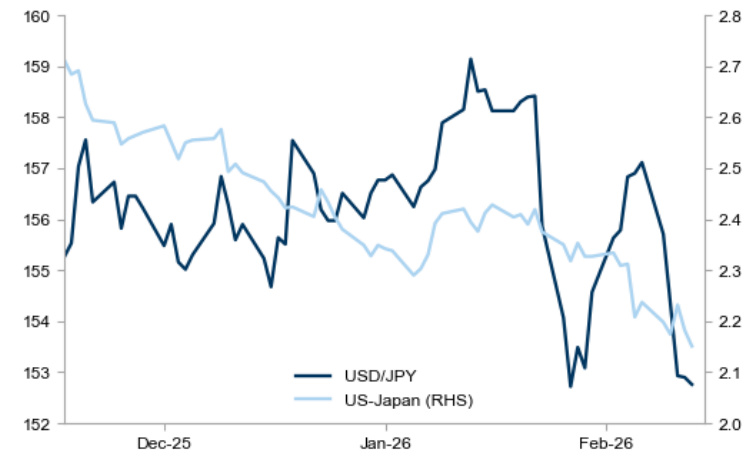
Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 92: EUR/USD against German - US 2y interest rate differentials past 3m**



Source: Datastream, Goldman Sachs Global Investment Research

**Exhibit 93: USD/JPY against US - Japan 2y interest rate differentials past 3m**



Source: Datastream, Goldman Sachs Global Investment Research

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