

GOAL KICKSTART

Better asymmetry into Q3 earnings after valuation reset

Last week, global PMIs were strong, led by US services reaching a post-pandemic high. The September FOMC minutes suggested that an October hike is unlikely, while Euro-area sovereign stress remained elevated. This week, focus shifts to US (forecasts for Core CPI (MoM), September: GS +0.24%, consensus +0.2%, last +0.3%) and global inflation data as well as the start of the Q3 earnings season (Exhibit 1).

The Q3 earnings season begins with US financials this week, ahead of the main Tech companies reporting later in the month. Earnings revisions have stayed positive but there has been more differentiation: over the past three months, 2026 EPS estimates have risen by 7% for MSCI AC World, led by the US and Asia, while European strength has been concentrated in fewer sectors (Exhibit 2). AI-infrastructure beneficiaries are expected to generate more than half of Q3 S&P 500 EPS growth and similarly Tech hardware remains the important driver in Asia. In Europe, consensus expects 23% year-on-year EPS growth in the second half, or 16% excluding Commodities. Technology leads global revisions, although price performance has been more mixed as investors assess whether future revenues and productivity

gains can justify the scale of AI investment.

Recent equity weakness has coincided with broad P/E de-rating across markets over the past month amid elevated rates volatility (Exhibit 3). As we recently wrote, the largest valuation de-ratings have been driven by strong earnings in Technology, particularly AI capex beneficiaries, although some segments linked to AI applications and adoption have also re-rated. Energy prices, Euro weakness and political uncertainty have added to the pressure on European equities. European Banks show this divergence most clearly, with supportive earnings and dividends offset by material P/E compression (Exhibit 4).

Option markets continue to price considerable differentiation through the earnings season. Implied correlation sits in the bottom decile across most equity markets, with the US particularly low relative to its history and other markets. (Exhibit 5). Within the S&P 500, implied correlation is also low both within and across sectors, helping to contain index volatility despite the elevated macro risks (Exhibit 6).

Against this backdrop, in our latest GOAL asset allocation

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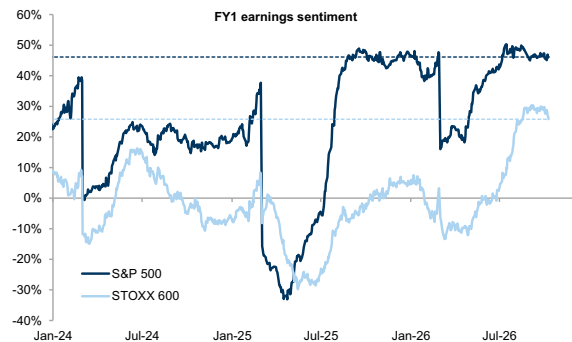
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update we shift to OW Equities over 3m and UW Credit over 3m, while moving to OW Bonds over 12m and OW Cash tactically. Earnings growth remains supportive for equities and the recent valuation de-rating has improved asymmetry into the Q3 earnings season. We increasingly see long-duration bonds offering better medium-term value as inflation normalises and central bank pricing becomes less hawkish; tactically we still prefer shorter-duration fixed income (OW cash). Within equities, we remain OW the US and Asia and UW Europe and continue to favour a barbell of global Technology stocks with selective rate-sensitive, high-dividend, low-volatility and bond-proxy equities that could benefit from eventual rate relief.

Better asymmetry into Q3 earnings after valuation reset

Exhibit 1: Earnings sentiment has been near the highest level in more than three years

3-month rolling earnings sentiment (Number of analyst upgrades - downgrades) / Total number of estimates issued in the last month



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 2: Earnings revisions remained positive but uneven across regions

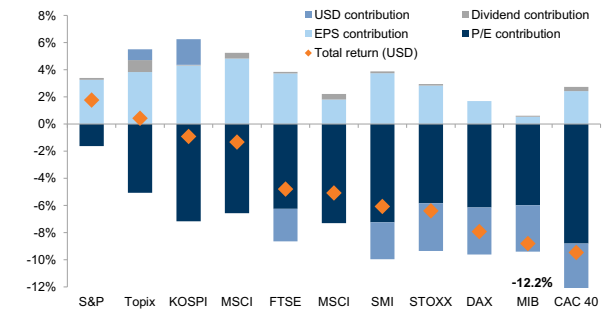
Consensus 2026 EPS revisions since end of June, by sector and region for MSCI indices

	AC World	US	Europe	Asia ex JP	Japan
Index	7%	7%	3%	12%	9%
Media	23%	28%	-4%	-5%	10%
Retail	21%	29%	-3%	-2%	8%
Energy	20%	24%	22%	7%	15%
Tech Hardware	12%	11%	0%	15%	11%
Semiconductors	11%	5%	15%	23%	19%
Diversified Financials	5%	4%	9%	9%	25%
Capital Goods	5%	2%	0%	26%	6%
Insurance	3%	5%	1%	9%	0%
Banks	3%	6%	0%	3%	7%
Consumer Svs	1%	0%	-1%	15%	10%
Telecoms	1%	-1%	3%	1%	5%
Autos & Parts	0%	-5%	-9%	1%	10%
Utilities	-1%	0%	1%	-2%	6%
HH & Pers Gds	-1%	-1%	-2%	5%	3%
Food, Bev. & Tobacco	-1%	-1%	0%	-4%	8%
Pharma & Biotech	-2%	-4%	0%	9%	8%
Materials	-3%	-2%	-2%	6%	5%
Software & Svs	-3%	-4%	-4%	-5%	6%

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 3: Equities have continued to de-rate with solid earnings growth

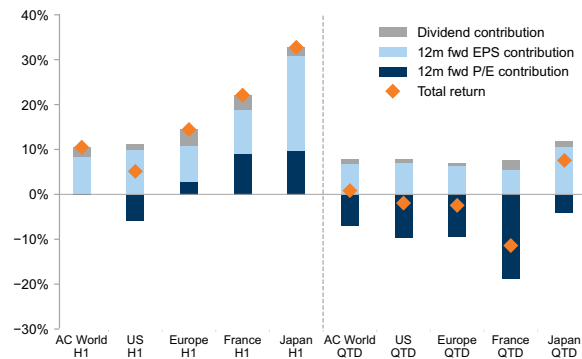
Return decomposition in the last month



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 4: P/E compression has weighed most heavily on European Banks due to French political risk

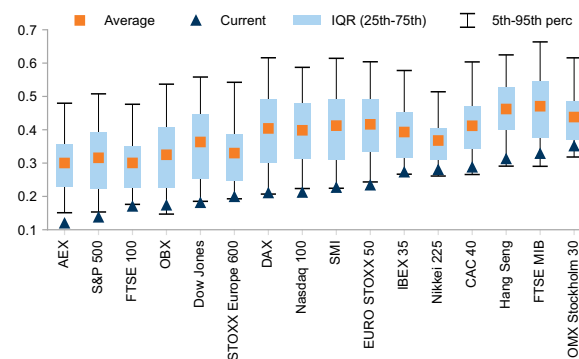
Bank return decomposition in US dollars



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 5: Implied correlation is below historical averages across major equity markets

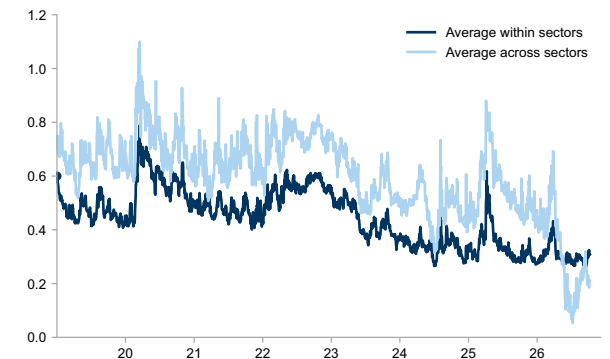
10-year range of 3-month ATM implied correlation



Source: LSEG Data & Analytics, Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

Exhibit 6: Correlation is also low both within and across US equity sectors

3-month ATM implied correlation within and across S&P 500 sectors



Source: LSEG Data & Analytics, Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

Cross-asset: Forecasts

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

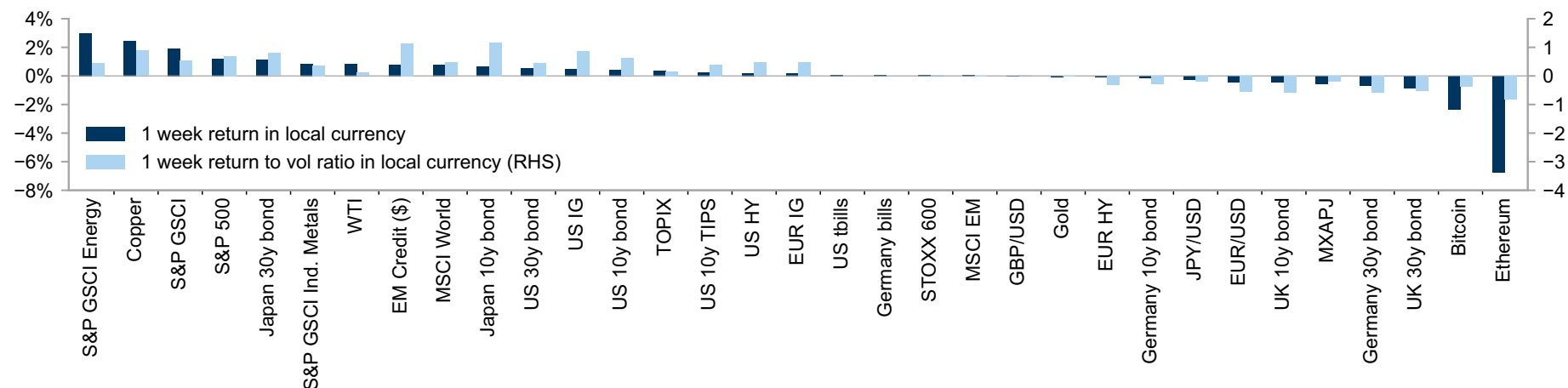
	Allocation Weighting		Current Level	Forecasts			Forecast Upside/Downside (%)		
	3m	12m		3m	6m	12 m	3m	6m	12 m
Equities	OW	OW			Index level			Total Return	
S&P 500 (\$)	OW	OW	7812	8000	8300	8700	2.7	6.8	12.5
Stoxx Europe 600 (€)	UW	UW	632	670	680	695	6.9	9.4	13.5
MSCI Asia-Pacific ex. JP (\$)	OW	OW	875	960	1040	1120	10.3	19.7	29.5
Topix (¥)	OW	OW	4105	4400	4500	4600	7.8	10.8	14.3
10 Year Government Bonds	N	OW			Yield (%)			Total Return	
US	OW	OW	5.24	4.74	4.64	4.45	5.3	7.5	11.9
Germany	OW	OW	3.49	3.25	3.25	3.25	3.0	4.0	5.9
Japan	UW	UW	3.00	3.00	2.95	2.84	1.1	2.5	5.6
UK	N	OW	5.45	5.00	4.99	4.90	5.0	6.7	10.6
Corporate Bonds	UW	UW			Spread			Total Return	
Bloomberg USD IG	OW	OW	81	82	80	78	4.8	7.2	11.9
Bloomberg USD HY	OW	OW	308	295	289	280	3.8	6.2	10.9
Bloomberg EUR IG	UW	UW	96	88	86	84	2.4	3.6	6.0
Bloomberg EUR HY	UW	UW	344	315	310	305	3.2	4.8	7.9
EM Hard Currency Sovereign	N	N	184			200	4.6	6.7	10.9
Commodities	N	N			Spot price			Spot Return	
WTI (\$/bbl)	N	N	99	80	76	70	-19.0	-23.0	-29.1
Brent (\$/bbl)	N	N	105	88	83	75	-16.1	-20.9	-28.5
Copper (\$/mt)	N	N	14,676	13,790	13,800	13,800	-6.0	-6.0	-6.0
Gold (\$/troy oz)	OW	OW	4,185	4,715	4,850	5,235	12.7	15.9	25.1
FX	-	-			Spot rate			Spot Return	
EUR/USD	-	-	1.12	1.14	1.12	1.12	1.8	0.0	0.0
USD/JPY	-	-	158.4	158	155	150	-0.3	-2.2	-5.3
GBP/USD	-	-	1.32	1.33	1.29	1.28	0.6	-2.5	-3.2
AUD/USD	-	-	0.70	0.72	0.73	0.74	3.2	4.7	6.1
USD/BRL	-	-	4.99	4.70	4.75	4.80	-5.8	-4.7	-3.7
USD/INR	-	-	96.7	96.0	97.0	97.0	-0.8	0.3	0.3
USD/CNY	-	-	6.69	6.70	6.60	6.40	0.1	-1.4	-4.4
Cash	OW	N			Spot rate			Total Return	
US 3-month Tbill	-	-	-	-	-	-	1.04	2.16	4.46
Germany 3-month Bubills	-	-	-	-	-	-	0.64	1.34	2.81

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

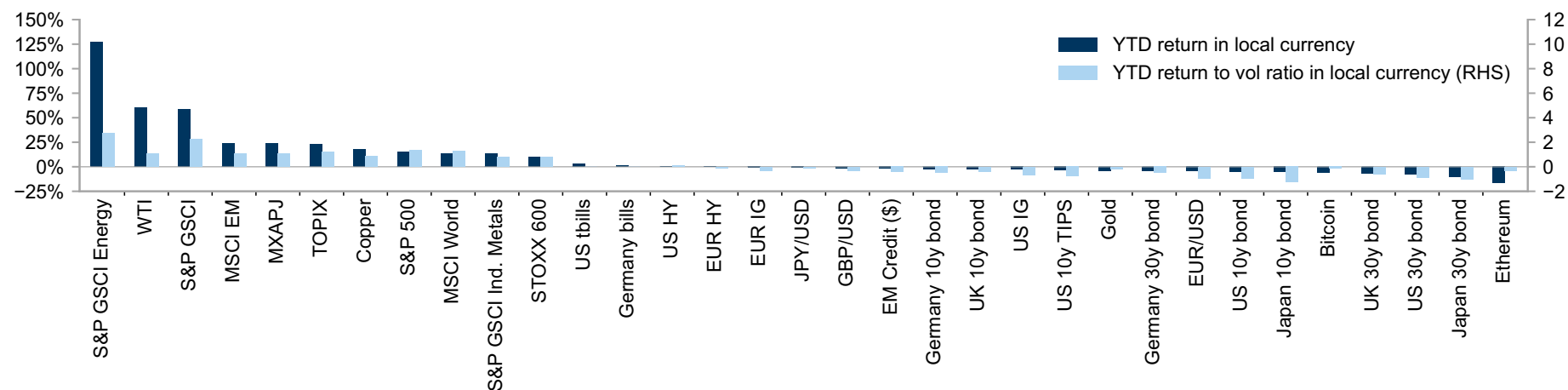
1 week returns. Volatility of weekly returns in the previous 12m



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

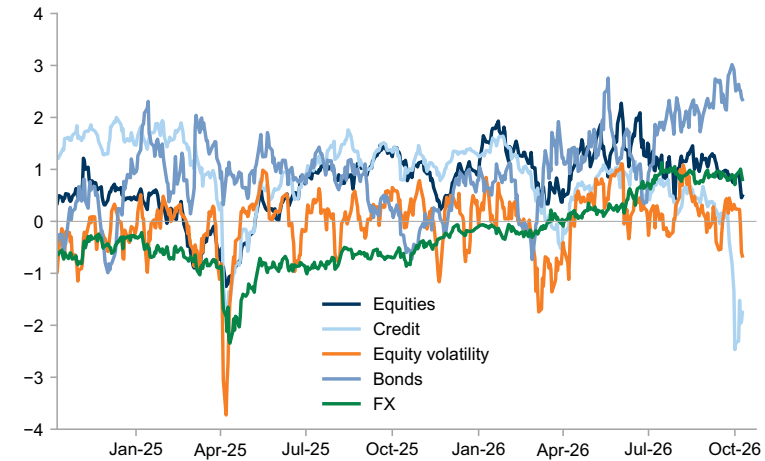
See July 2016 GOAL for construction details



Source: Goldman Sachs Global Investment Research

Exhibit 11: Risk appetite indicators for different asset classes

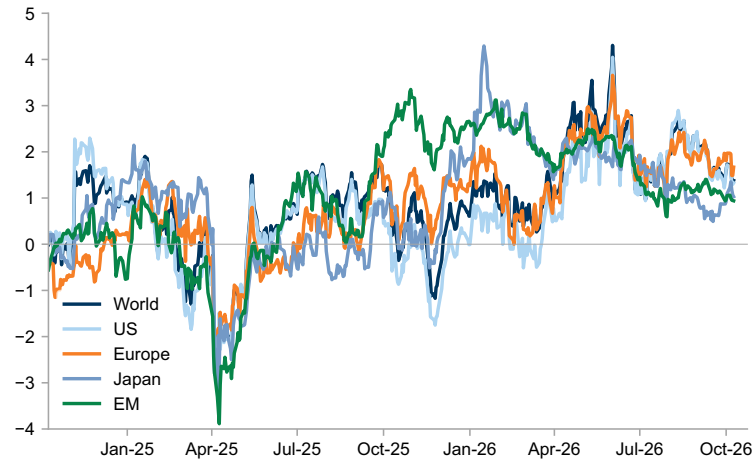
See July 2016 GOAL for construction details



Source: Goldman Sachs Global Investment Research

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

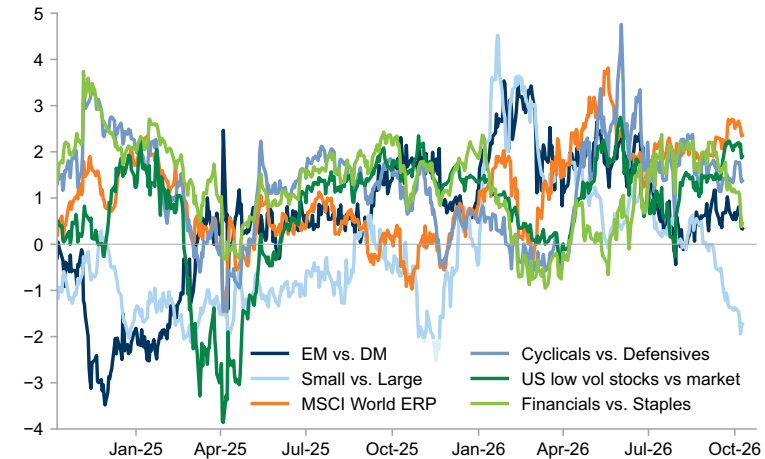
See July 2016 GOAL for construction details



Source: Goldman Sachs Global Investment Research

Exhibit 13: Sub-components of equity risk appetite indicator

See July 2016 GOAL for construction details

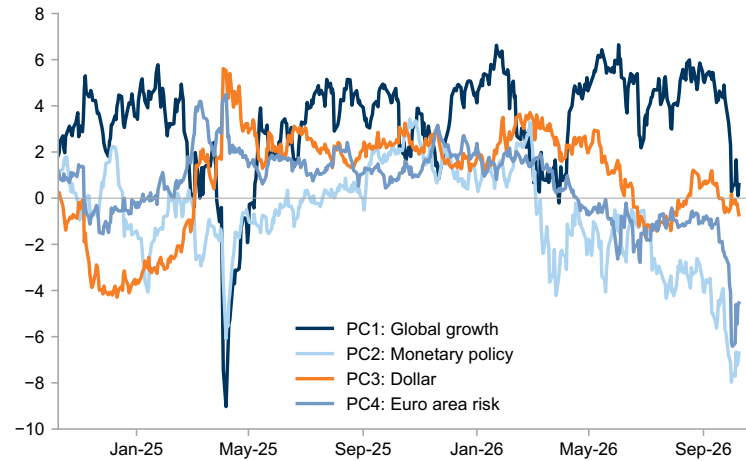


Source: Goldman Sachs Global Investment Research

Cross-asset: Risk Appetite principal component analysis

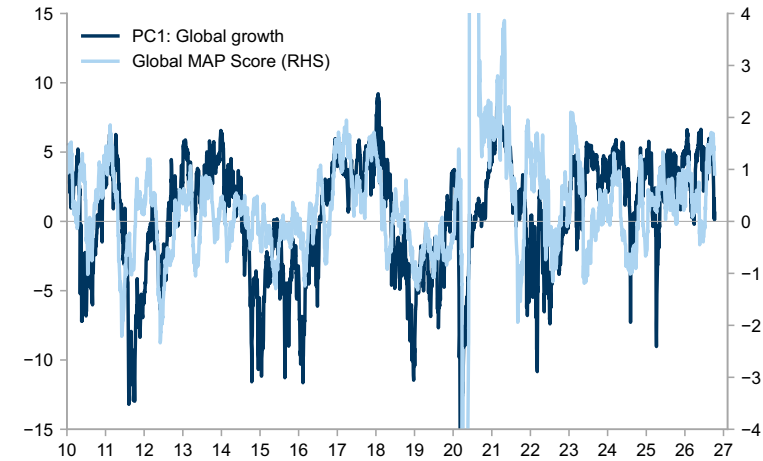
Exhibit 14: GS RAI principal component

See April 2019 GOAL for construction details



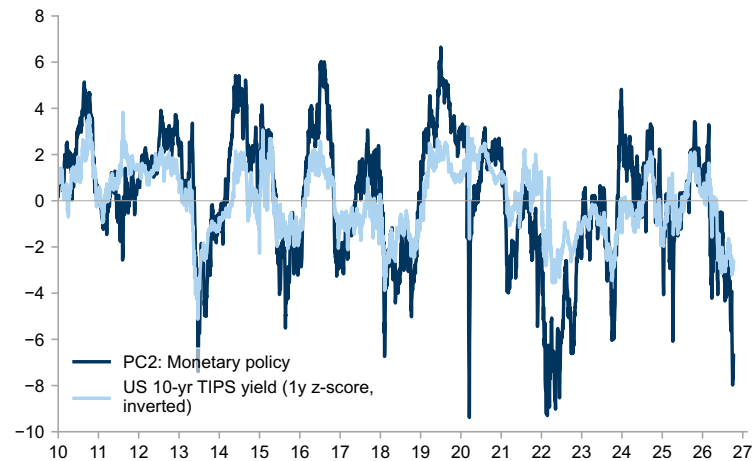
Source: Datastream, Goldman Sachs Global Investment Research

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



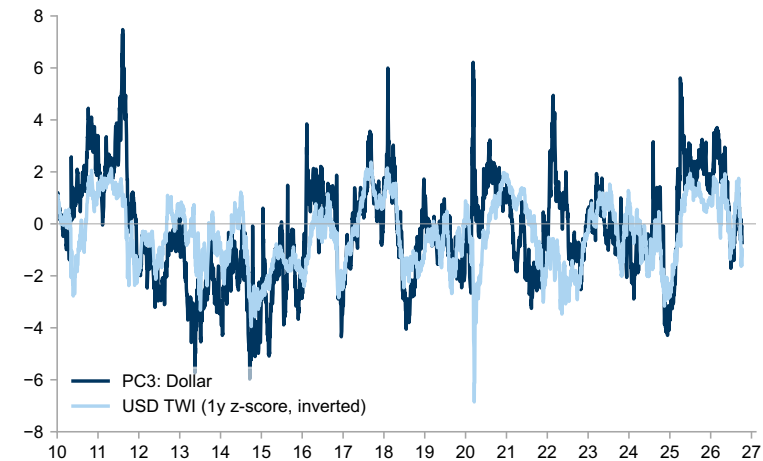
Source: Datastream, Goldman Sachs Global Investment Research

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

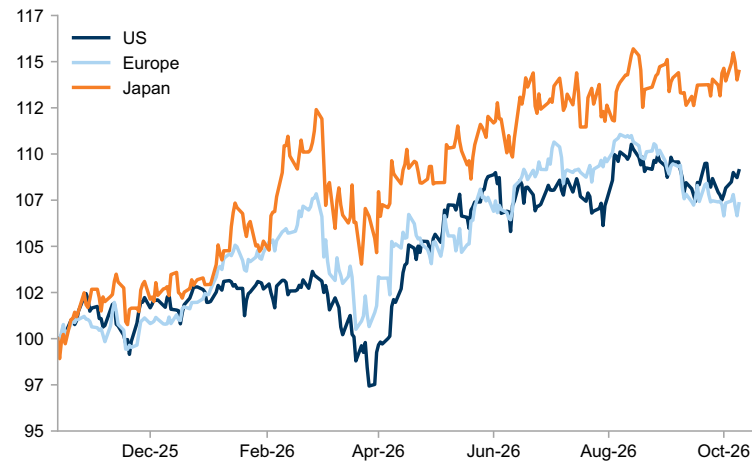


Source: Datastream, Goldman Sachs Global Investment Research

Cross-asset: Balanced portfolios and dynamic allocation strategies performance

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

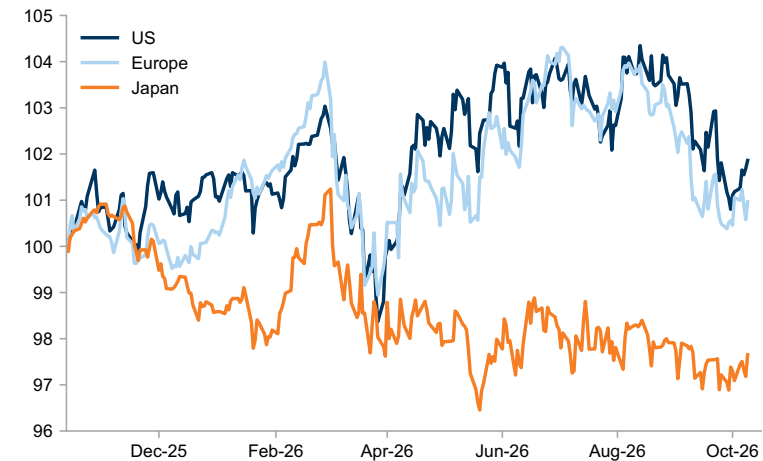
Relative total return performance indexed to 100 12m ago



Source: Datastream, Goldman Sachs Global Investment Research

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

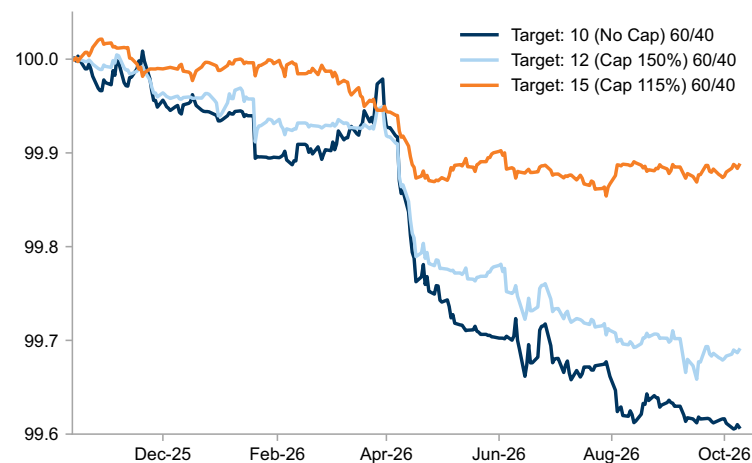
Weighted inversely by 3m realised volatility of equity and 10y bonds



Source: Datastream, Goldman Sachs Global Investment Research

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

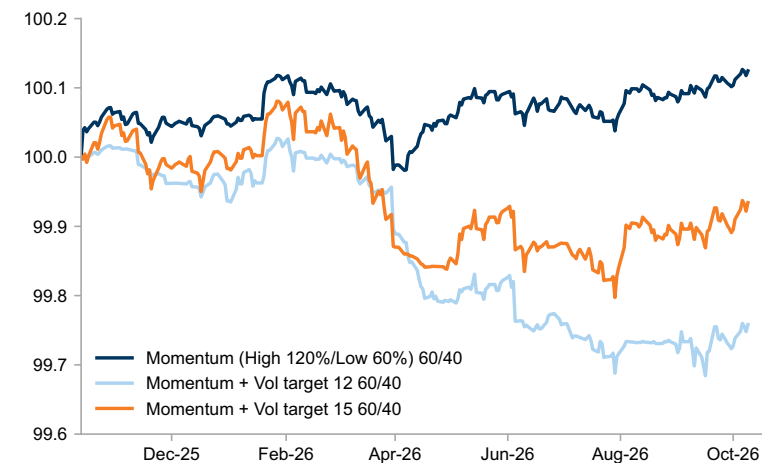
60% S&P 500, 40% US 10y bond; based on 1m realised S&P 500 volatility



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

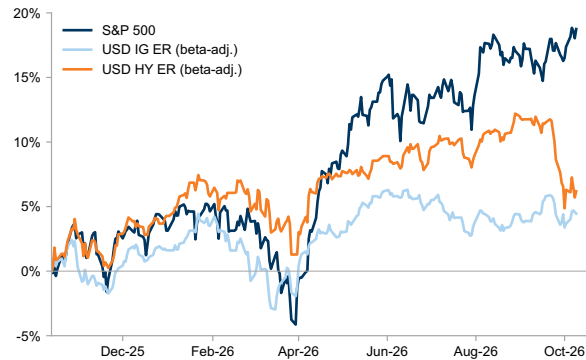


Source: Datastream, Goldman Sachs Global Investment Research

Cross-asset: Equity vs. credit monitor

Exhibit 22: USD cash credit vs. US equity

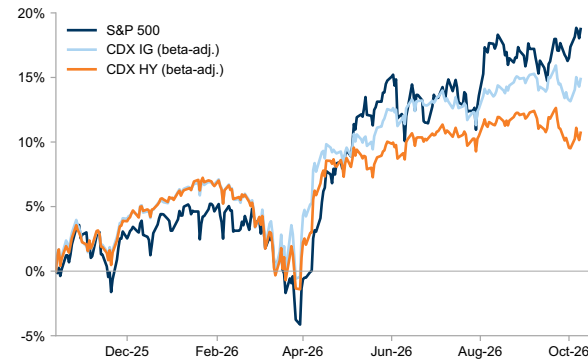
Cash credit excess returns (beta-adjusted) vs. S&P 500 total returns



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 23: USD synthetic credit vs. US equity

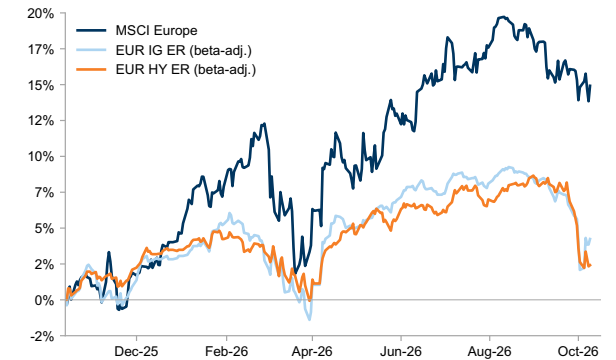
Synthetic credit excess returns (beta-adjusted) vs. S&P 500 total returns



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 24: EUR cash credit vs. European equity

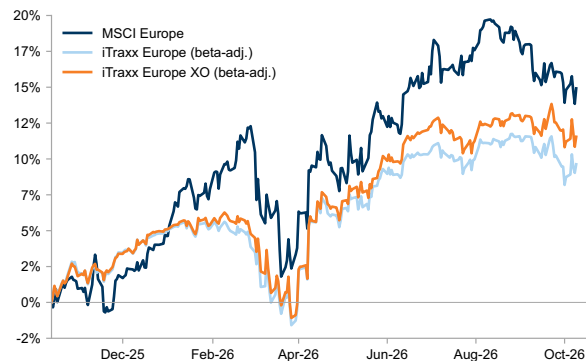
Cash credit excess returns (beta-adjusted) vs. MSCI Europe total returns



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 25: EUR synthetic credit vs. European equity

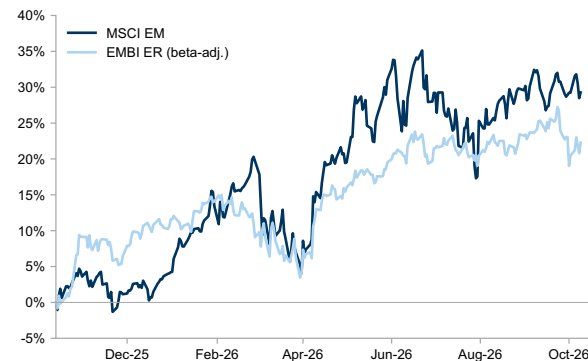
Synthetic credit excess returns (beta-adjusted) vs. MSCI Europe total returns



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 26: EM cash credit vs. EM equity

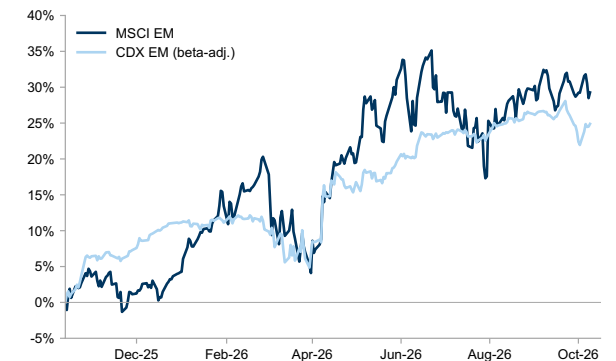
Cash credit excess returns (beta-adjusted) vs. MSCI EM total returns



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

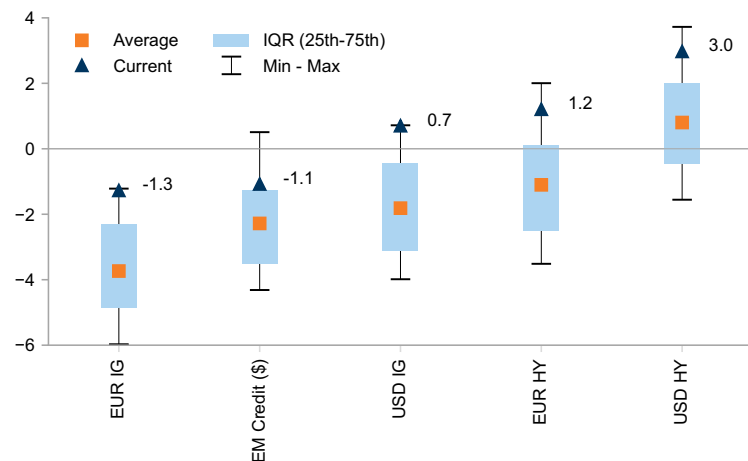
	Equity					Government bonds				Credit					FX (vs. USD)	
	S&P 500	Stoxx 600	MXAPJ	Topix	MSCI EM	US 10y	German 10y	Japan 10y	UK 10y	US IG	US HY	EUR IG	EUR HY	EM (\$)	EUR	JPY
Valuation metric	12m forward P/E ratio					Yield				Spread					Actual - GS fair value	
Current:	19.2x	13.8x	10.3x	15.4x	9.6x	5.2%	3.5%	3.0%	5.4%	81bp	308bp	96bp	344bp	184bp	-5.3%	-39.3%
Expensiveness (last 10y percentile):	53%	39%	0%	78%	0%	0%	1%	1%	0%	86%	72%	66%	57%	93%	62%	11%
3M change:	-1.0x	-0.9x	-1.2x	-0.9x	-1.0x	0.7%	0.4%	0.3%	0.4%	3bp	40bp	19bp	70bp	17bp	-1.8%	0.9%
Average:	19.2x	14.3x	13.6x	14.2x	12.3x	2.9%	1.1%	0.5%	2.4%	110bp	370bp	117bp	380bp	333bp	-7.2%	-21.8%
95th:	22.4x	17.4x	16.2x	17.3x	14.8x	4.6%	2.9%	2.4%	4.8%	150bp	523bp	192bp	564bp	457bp	-1.3%	-8.0%
5th:	16.0x	11.9x	11.5x	12.0x	10.5x	0.7%	-0.5%	-0.1%	0.3%	77bp	266bp	78bp	276bp	178bp	-13.7%	-40.3%

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

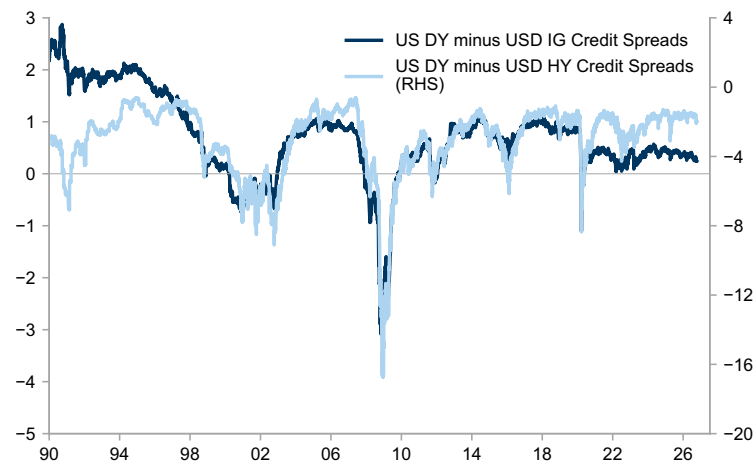
Equity risk premia based on 1-stage DDM using local 10-year yields and LT GDP consensus estimates. Using past 10 years of data.



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

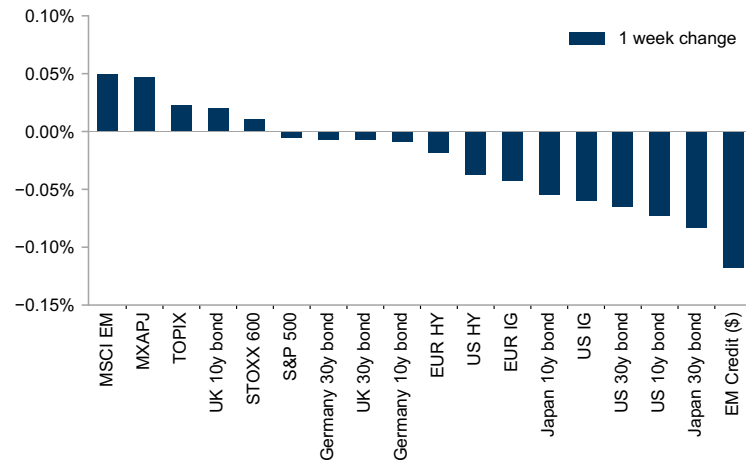
Cross-asset: Yields

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 (\$)
Valuation metric	Dividend Yield (NTM)					Yield				Yield				
Current:	1.1%	3.4%	2.6%	2.3%	2.8%	5.2%	3.5%	3.0%	5.4%	6.0%	4.2%	8.4%	7.1%	7.0%
Percentile (-10y):	0%	32%	23%	37%	34%	100%	99%	100%	100%	98%	8%	86%	61%	73%
Average:	1.7%	3.5%	2.9%	2.4%	2.9%	2.9%	1.1%	0.5%	2.4%	4.0%	6.6%	7.0%	6.8%	6.2%
95th:	2.2%	4.0%	3.4%	2.7%	3.4%	4.6%	2.9%	2.4%	4.8%	5.7%	8.8%	8.8%	8.8%	8.3%
5th:	1.2%	3.0%	2.3%	2.1%	2.4%	0.7%	-0.5%	-0.1%	0.3%	2.0%	3.6%	4.8%	4.8%	4.3%
3m real. ret. vol:	10.9%	8.8%	23.2%	17.3%	23.7%	5.7%	4.5%	4.1%	6.5%	4.5%	2.7%	2.8%	2.0%	4.4%
Percentile (-10y):	35%	8%	82%	68%	85%	45%	46%	61%	53%	40%	61%	54%	26%	54%
Yield/vol ratio	0.10	0.39	0.11	0.13	0.12	0.92	0.77	0.73	0.84	1.32	1.57	2.99	3.49	1.59

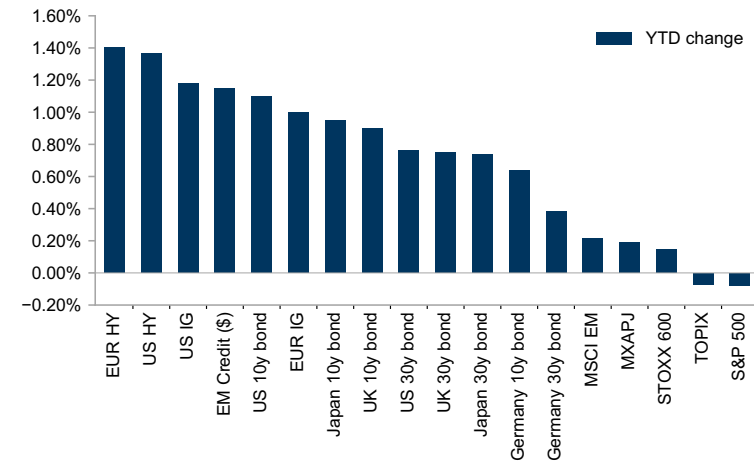
Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

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

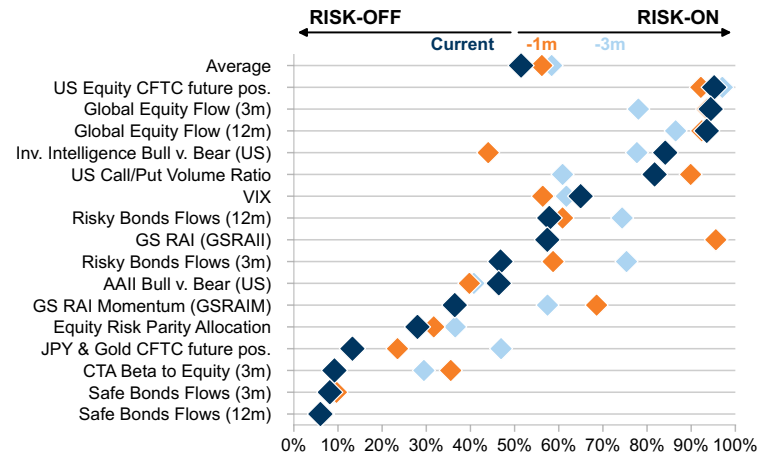


Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

Cross-asset: Sentiment and Positioning

Exhibit 34: Percentile of sentiment indicators

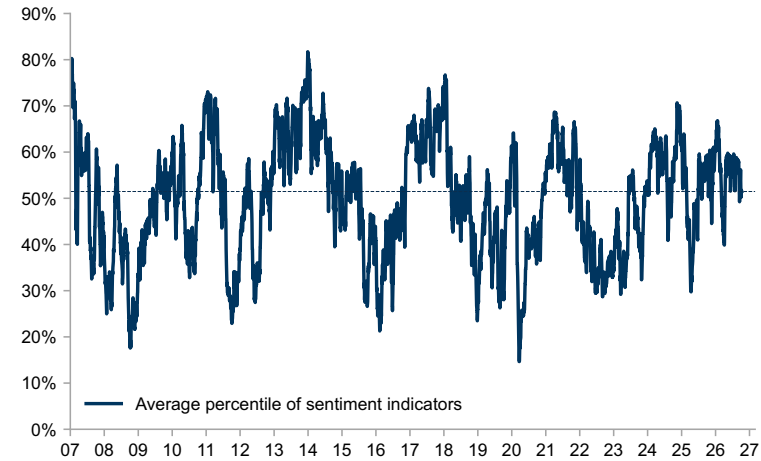
Data since 2007



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

Exhibit 35: Average percentile of sentiment indicators

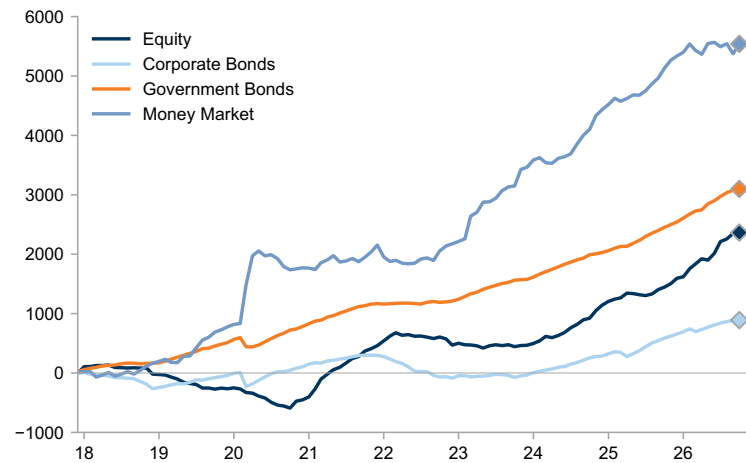
Data since 2007



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

Exhibit 36: Cumulative fund flows across assets

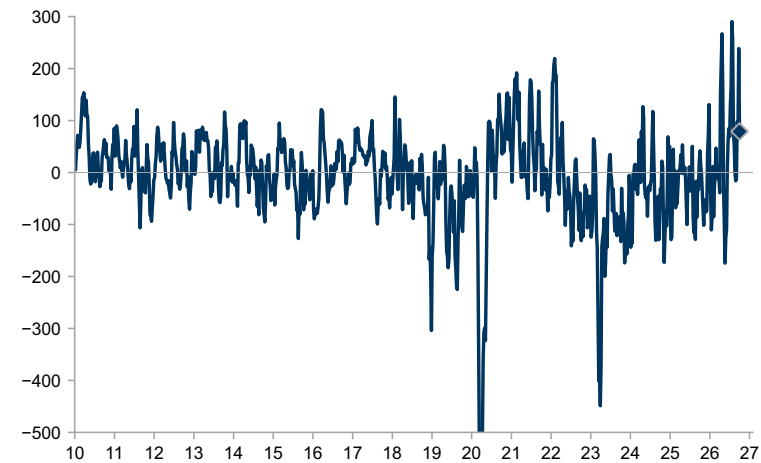
Monthly flows (\$bn). MTD sum of weekly flows when monthly not yet available



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

Exhibit 37: Risky vs. safe assets fund flows

4 weeks rolling flows, USD bn

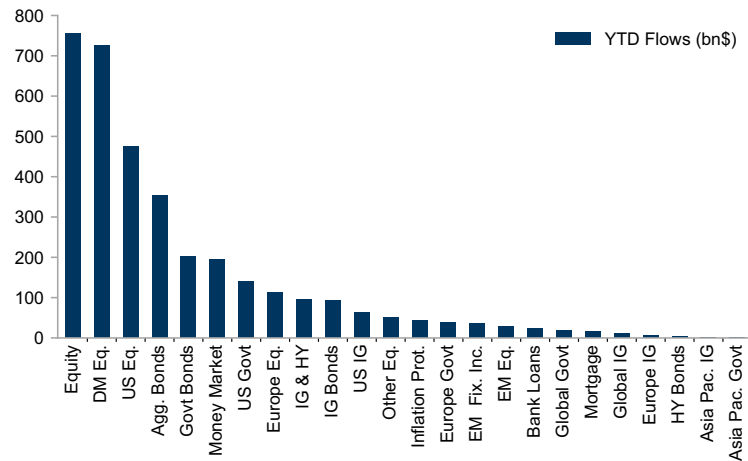


Source: Datastream, Haver Analytics, EPFR, Goldman Sachs Global Investment Research

Cross-asset: Global Funds Flows

Exhibit 38: YTD cross-asset global fund flows

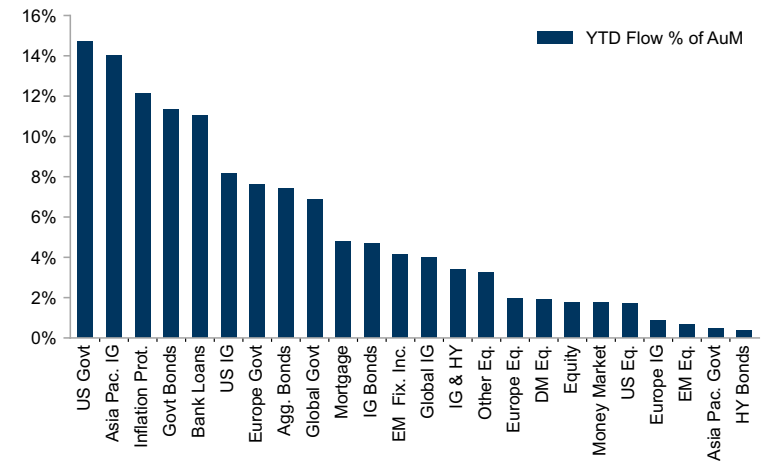
All funds reporting monthly. MTD sum of weekly flows when monthly not yet available (\$bn)



Source: EPFR, Goldman Sachs Global Investment Research

Exhibit 39: YTD cross-asset global fund flows

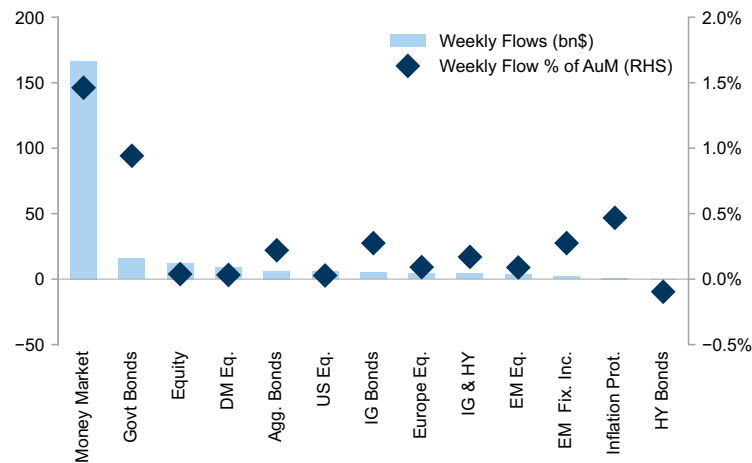
All funds reporting monthly. MTD sum of weekly flows when monthly not yet available (% of AUM)



Source: EPFR, Goldman Sachs Global Investment Research

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

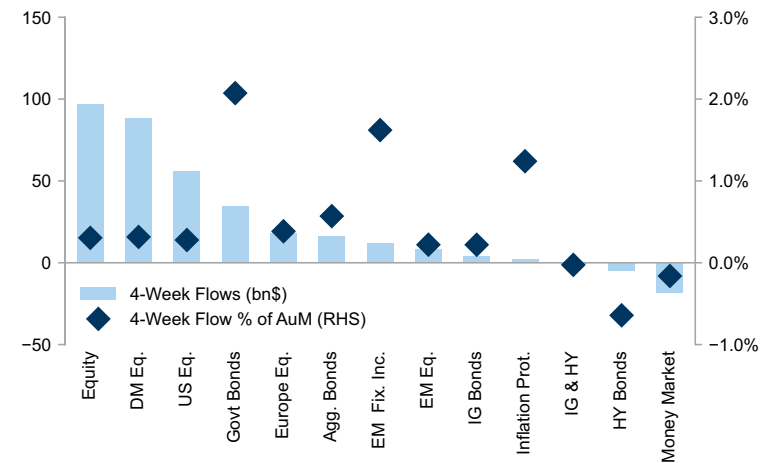
All funds reporting weekly



Source: EPFR, Goldman Sachs Global Investment Research

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

All funds reporting weekly

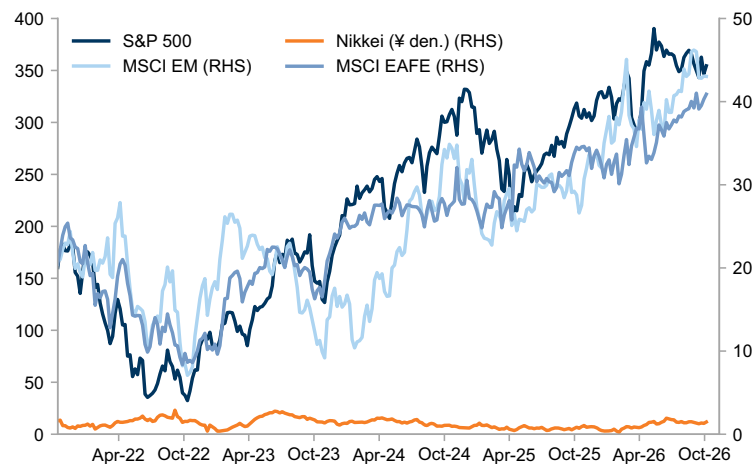


Source: EPFR, Goldman Sachs Global Investment Research

Cross-asset: CFTC positioning

Exhibit 42: Equity net long positioning

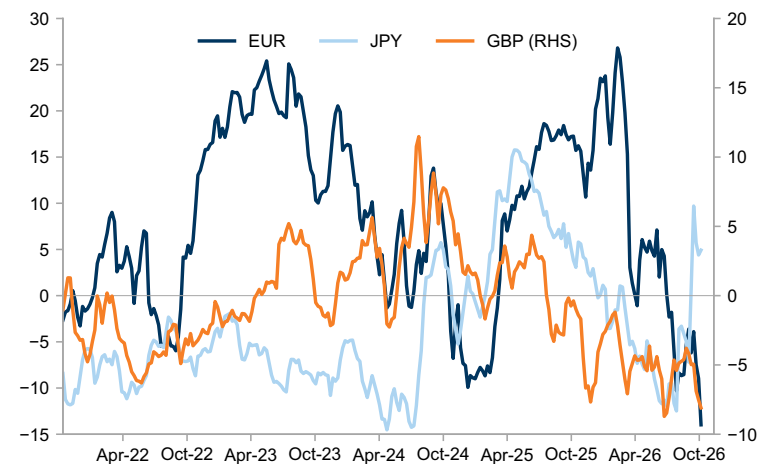
Leveraged funds and asset managers net future positions (\$ bn)



Source: Bloomberg, CFTC, Goldman Sachs Global Investment Research

Exhibit 43: Currency net long positioning

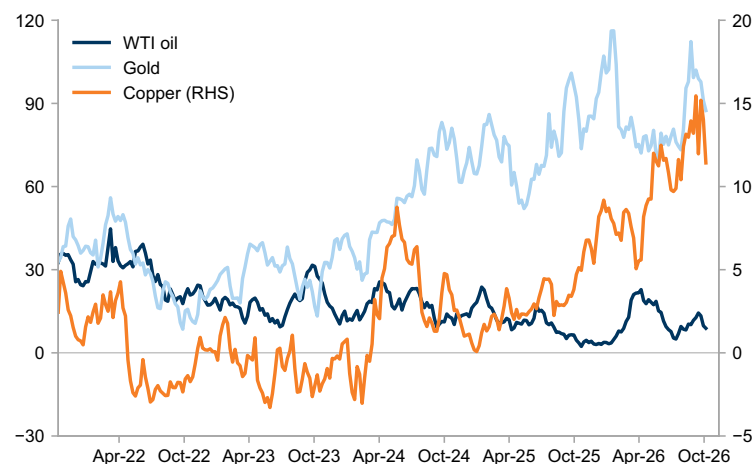
Net non-commercial positions (\$ bn)



Source: Bloomberg, CFTC, Goldman Sachs Global Investment Research

Exhibit 44: Commodity net long positioning

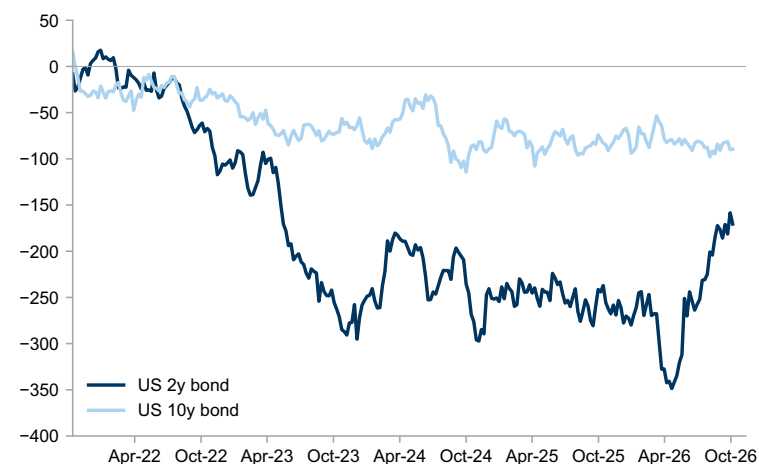
Net non-commercial positions (\$ bn)



Source: Bloomberg, CFTC, Goldman Sachs Global Investment Research

Exhibit 45: US Treasury net long positioning

Net non-commercial positions (\$ bn)

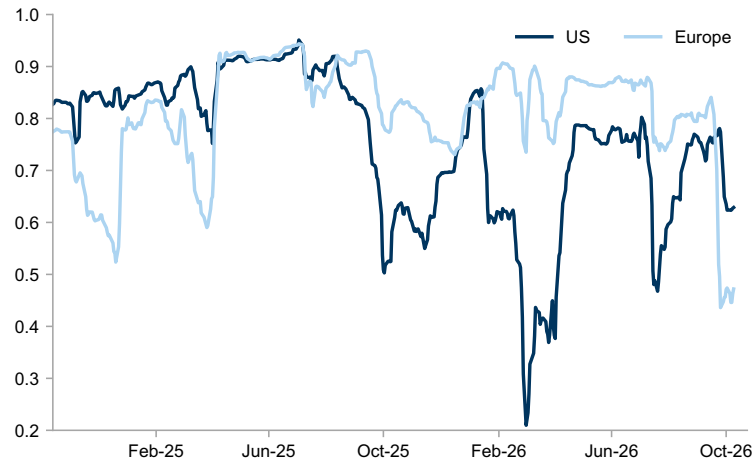


Source: Bloomberg, CFTC, Goldman Sachs Global Investment Research

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

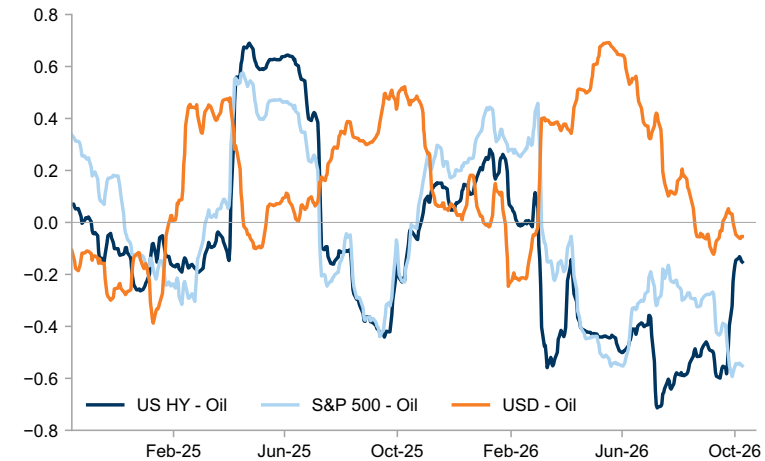
Exhibit 46: 3m rolling equity vol/CDS correlation of weekly level changes

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



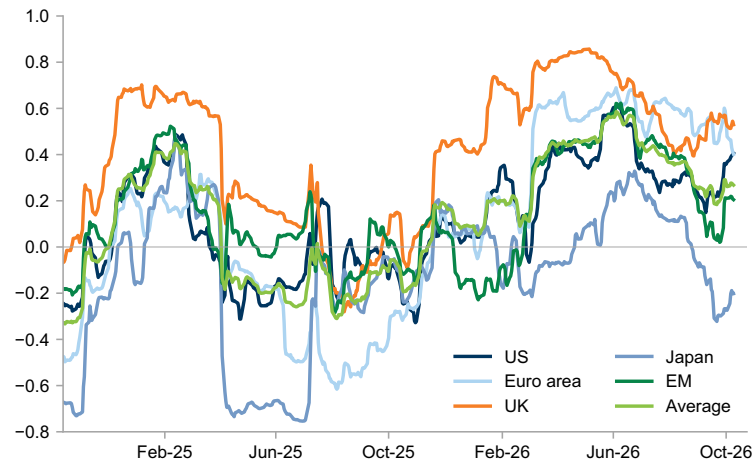
Source: Datastream, Goldman Sachs, Goldman Sachs Global Investment Research

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



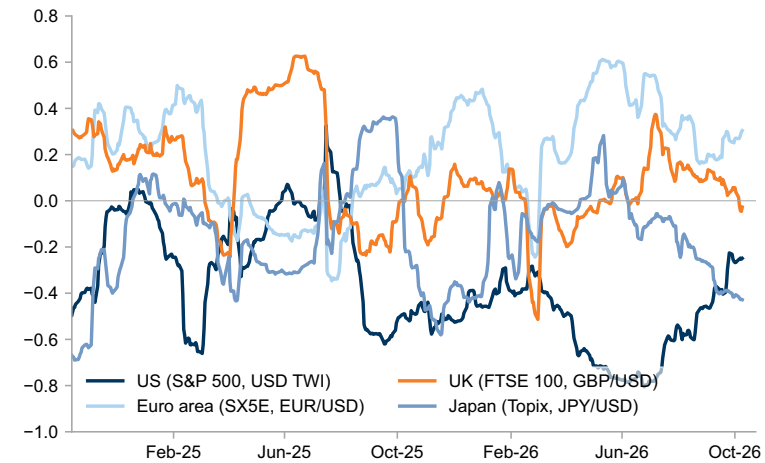
Source: Datastream, Goldman Sachs, Goldman Sachs Global Investment Research

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	MSCI EM	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		0.64	0.55	0.42	0.56	0.29	0.35	0.16	0.48	0.32	-0.14	0.50	0.44	0.60	0.71	0.68	0.58	-0.35	0.59	0.44	-0.74
STOXX 600	0.08		0.44	0.49	0.47	0.45	0.48	0.07	0.68	0.29	-0.04	0.33	0.49	0.67	0.64	0.63	0.58	-0.47	0.64	0.41	-0.65
MXAPJ	0.35	0.05		0.63	0.99	0.25	0.30	0.20	0.38	0.47	-0.24	0.56	0.29	0.47	0.38	0.56	0.50	-0.47	0.50	0.33	-0.50
TOPIX	0.10	0.14	0.52		0.64	0.24	0.34	-0.04	0.43	0.10	0.12	0.20	0.25	0.41	0.29	0.45	0.41	-0.47	0.40	0.29	-0.40
MSCI EM	0.28	0.05	0.99	0.60		0.28	0.32	0.20	0.41	0.49	-0.25	0.57	0.32	0.49	0.40	0.57	0.53	-0.50	0.52	0.37	-0.52
US 10 yr	0.96	0.99	0.89	0.97	0.92		0.73	0.55	0.75	0.33	-0.14	0.26	0.92	0.75	0.66	0.55	0.75	-0.46	0.34	0.37	-0.27
Germany 10 yr	0.96	0.99	0.96	1.00	0.96	0.29		0.43	0.81	0.13	-0.12	0.12	0.68	0.89	0.45	0.39	0.49	-0.54	0.16	0.31	-0.32
Japan 10 yr	0.95	0.89	0.94	0.79	0.95	0.68	0.19		0.39	0.16	-0.11	0.19	0.49	0.37	0.30	0.21	0.44	-0.18	0.02	0.09	-0.06
UK 10 yr	0.99	1.00	0.97	0.99	0.97	0.36	0.30	0.21		0.22	-0.10	0.18	0.73	0.82	0.60	0.57	0.64	-0.56	0.45	0.39	-0.46
EUR/USD	0.58	0.71	0.71	0.57	0.74	0.80	0.76	0.76	0.78		-0.62	0.77	0.40	0.31	0.46	0.39	0.43	-0.33	0.21	0.41	-0.41
USD/JPY	0.19	0.17	0.26	0.27	0.25	0.94	0.90	0.72	0.89	0.09		-0.44	-0.17	-0.18	-0.18	-0.01	-0.17	0.12	0.08	-0.20	0.11
AUD/USD	0.53	0.41	0.31	0.29	0.40	0.89	0.82	0.87	0.83	0.95	0.25		0.32	0.35	0.54	0.47	0.52	-0.12	0.33	0.52	-0.49
iBoxx US IG	0.87	0.95	0.71	0.87	0.78	0.64	0.54	0.75	0.67	0.84	0.86	0.78		0.77	0.81	0.65	0.78	-0.42	0.38	0.38	-0.36
iBoxx EUR IG	0.95	0.99	0.87	0.98	0.89	0.82	0.71	0.59	0.84	0.85	0.54	0.82	0.71		0.69	0.67	0.73	-0.62	0.41	0.42	-0.47
BAML US HY	0.73	0.58	0.07	0.23	0.07	0.97	0.93	0.89	0.97	0.85	0.31	0.71	0.94	0.90		0.82	0.83	-0.32	0.48	0.45	-0.57
BAML EUR HY	0.89	0.48	0.52	0.36	0.63	0.98	0.91	0.89	0.98	0.90	0.35	0.73	0.90	0.81	0.66		0.81	-0.47	0.63	0.43	-0.46
EM Credit (\$)	0.78	0.78	0.43	0.78	0.46	0.93	0.88	0.92	0.91	0.72	0.39	0.78	0.82	0.87	0.92	0.95		-0.51	0.51	0.44	-0.43
WTI Crude Oil	0.02	0.01	0.02	0.01	0.02	0.09	0.03	0.29	0.01	0.02	0.59	0.03	0.03	0.01	0.02	0.01	0.02		-0.28	-0.19	0.43
Copper	0.84	0.95	0.55	0.80	0.56	1.00	0.96	0.81	0.99	0.22	0.64	0.18	0.96	0.94	0.84	0.96	0.94	0.02		0.45	-0.45
Gold	0.94	0.97	0.58	0.93	0.64	0.74	0.76	0.43	0.87	0.44	0.78	0.66	0.79	0.90	0.95	0.96	0.84	0.02	0.79		-0.25
VIX	0.79	0.71	0.53	0.80	0.56	0.02	0.00	0.07	0.00	0.08	0.89	0.29	0.07	0.00	0.35	0.35	0.30	1.00	0.16	0.06	
	Current correlation's percentile since 2001																				

Source: Datastream, iBoxx, Goldman Sachs Global Investment Research

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

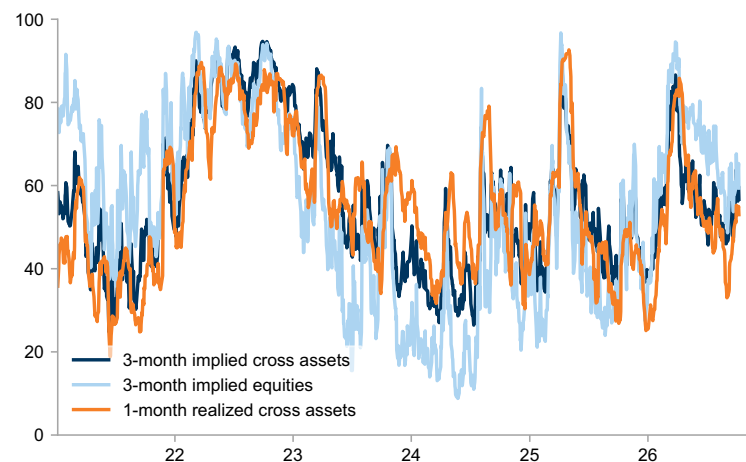
Exhibit 51: Cross-asset volatility, current and historical percentiles, implied 3m and realised 1m

	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
Implied (3-month ATM, %)																			
Current:	13.1	15.8	24.6	12.2	21.9	14.9	6.7	6.0	6.6	5.6	40.6	39.2	47.5	44.0	20.0	20.2	6.3	7.8	6.2
Percentile:	33%	55%	89%	45%	75%	60%	71%	68%	86%	82%	21%	53%	56%	79%	88%	41%	35%	38%	4%
1M change:	-1.0	0.3	-2.2	-0.1	-1.4	0.6	0.9	1.3	1.4	1.3	-0.9	4.6	5.5	-0.7	-3.8	-0.7	1.0	-1.8	0.2
Average:	16.0	16.9	19.3	14.0	19.5	15.3	5.0	5.3	3.3	4.0	48.3	42.7	50.3	36.5	14.9	22.1	7.0	8.7	8.5
95th:	25.5	25.4	28.5	22.2	28.4	22.8	9.7	7.9	8.5	7.7	69.8	65.9	69.8	56.6	23.1	29.9	10.2	12.5	12.1
5th:	10.0	12.2	13.7	10.0	14.5	10.4	1.3	3.5	0.9	2.2	37.7	30.5	38.6	23.8	9.7	16.0	5.1	5.6	6.2
Realised (%)																			
1-month:	10.2	14.0	22.0	11.5	15.7	11.7	5.9	5.1	6.6	5.0	24.1	24.0	39.6	39.4	18.5	18.5	4.8	6.3	5.4
Percentile:	32%	50%	74%	57%	67%	54%	73%	61%	92%	77%	17%	36%	66%	68%	82%	44%	16%	34%	7%
Average:	15.3	16.0	19.5	13.1	15.3	13.0	4.7	5.0	2.7	3.7	38.6	32.7	38.8	39.5	14.9	20.2	7.1	8.5	8.3

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

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

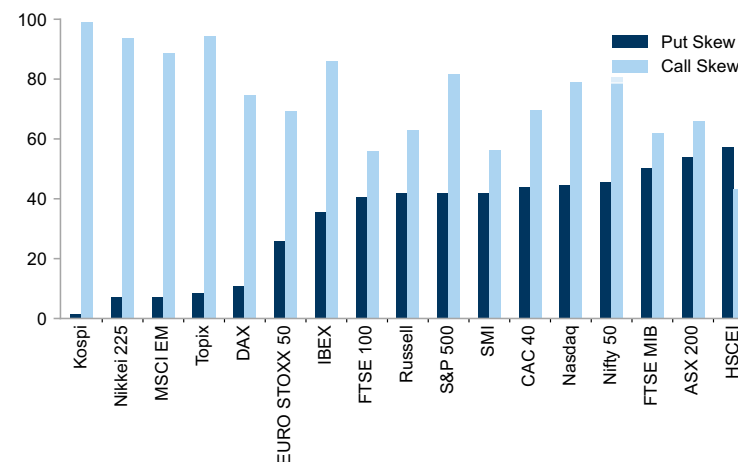
Using 16 assets across equity, government bonds, credit, commodities and FX



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

Exhibit 53: Putwing and Callwing normalised skew 5y percentile

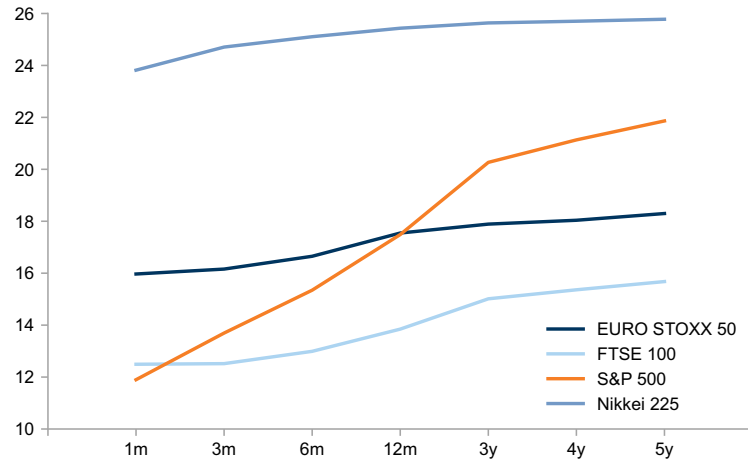
Normalised skew = (impl. vol 25 delta put/call minus implied vol 50 delta call)/50 delta call



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

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

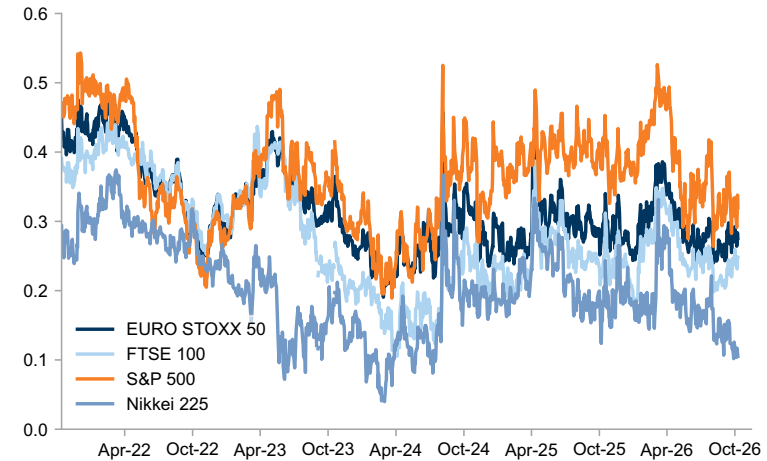
Exhibit 54: ATM implied volatility term structure for equity indices



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

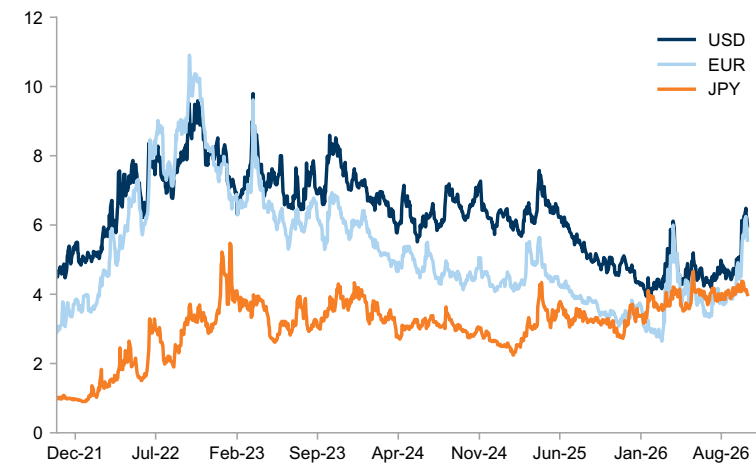
CDX HY, 3m ATM S&P 500 implied vol



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)

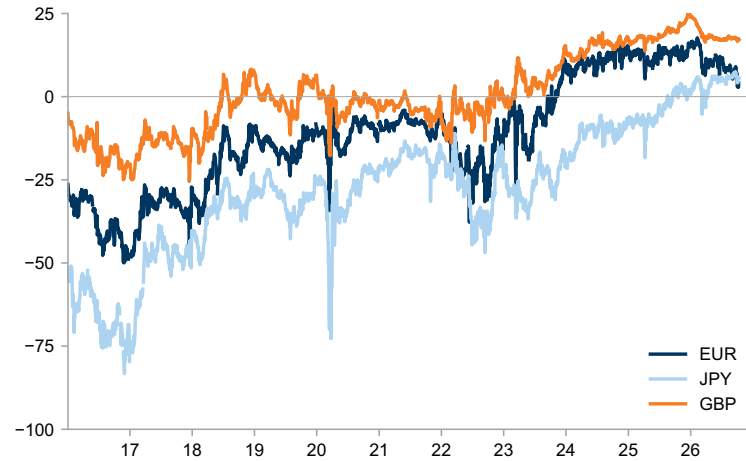


Source: Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

Cross-asset: Liquidity indicators

Exhibit 58: 1-year cross-currency basis

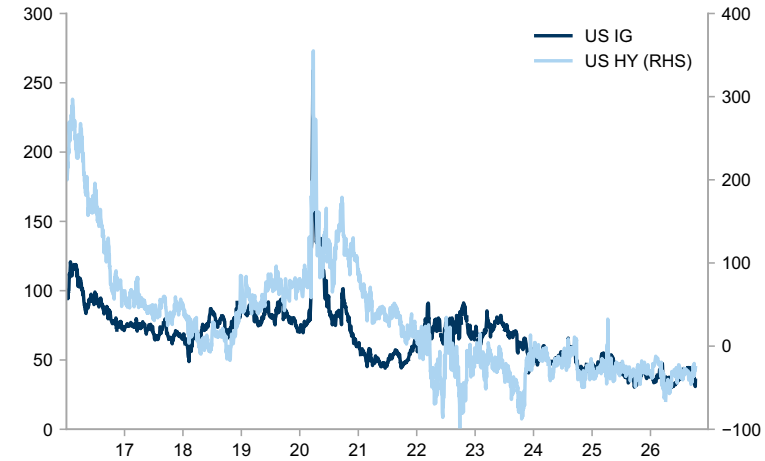
Basis points



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

Exhibit 59: Cash credit versus CDS spread

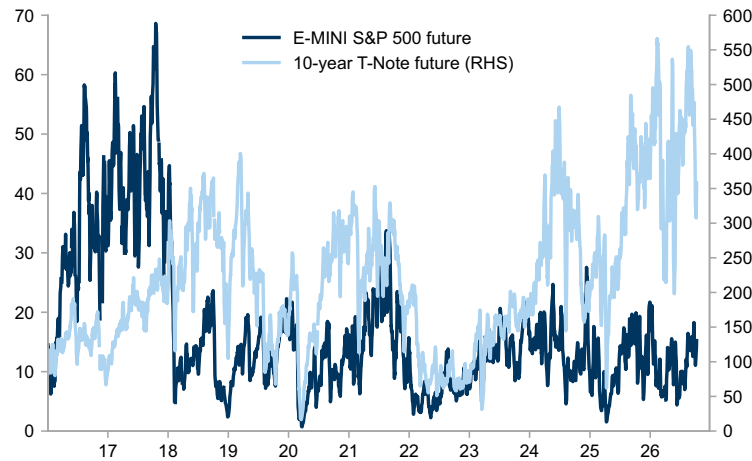
Basis points



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

Exhibit 60: Top-of-book depth

5-day average, \$ mln

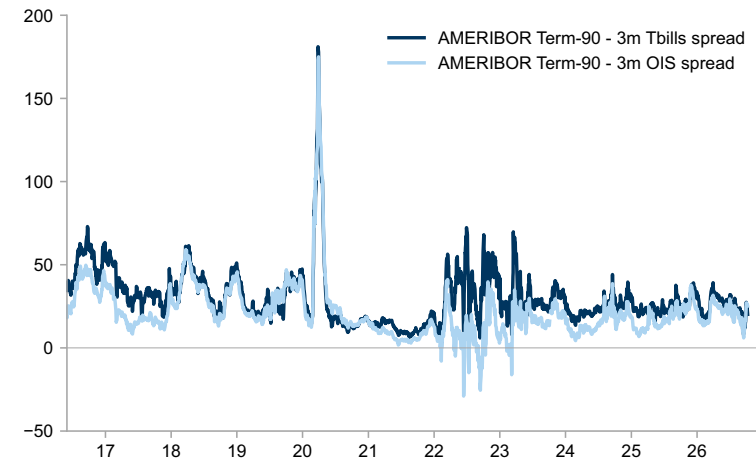


E-MINI S&P 500 = 5d avg. # of contracts * S&P 500 price * \$50. 10-year T-note = 5d avg. # of contracts * \$100,000

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

Exhibit 61: US financial institutions wholesale funding cost

Basis points

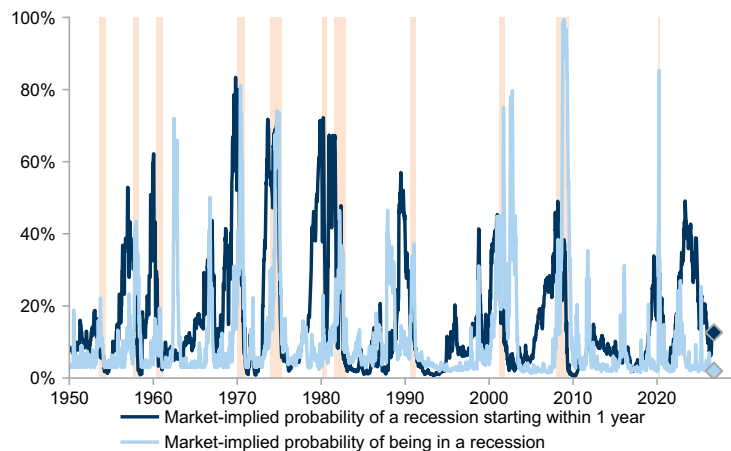


Source: Bloomberg, Goldman Sachs Global Investment Research

Cross-asset: Market pricing of US recession risk

Exhibit 62: Market-implied US recession probability

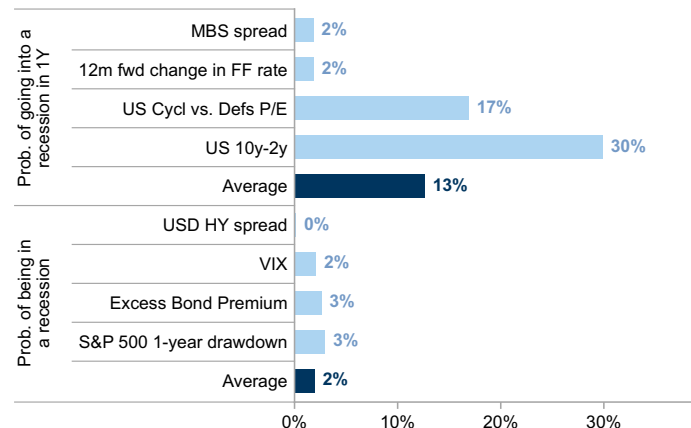
Average of univariate logit models on the right. Orange shade: NBER recession



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

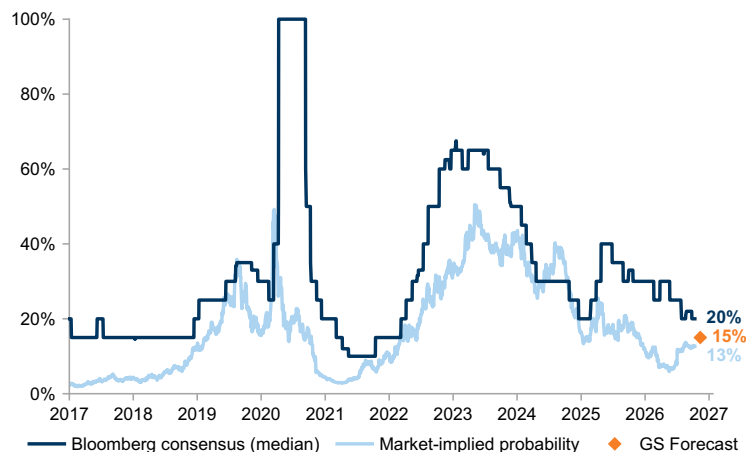
Exhibit 63: Market-implied US recession probability by indicator

Univariate logit models. Maximum history since 1950



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

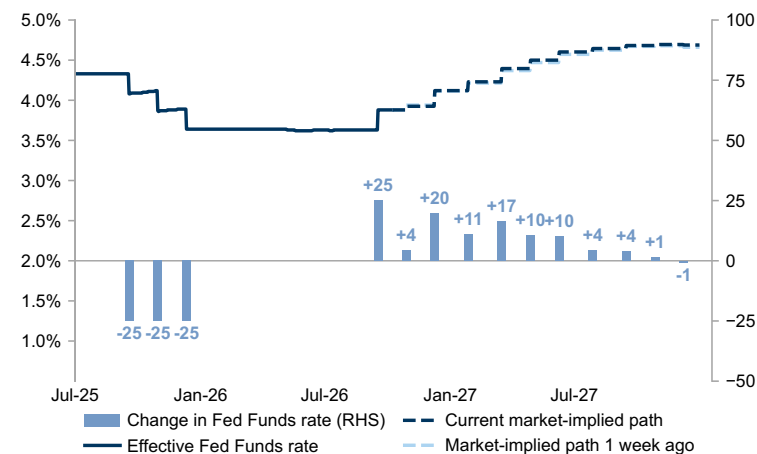
Exhibit 64: Probability of a US recession in the next 1 year



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

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

Based on 30-day Fed Funds futures

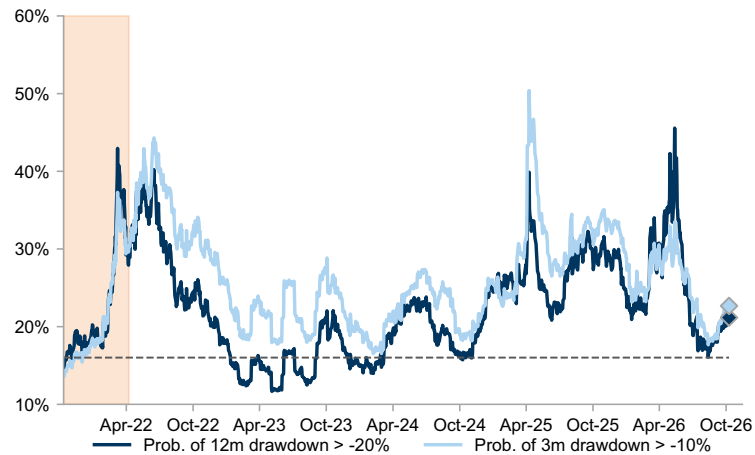


Source: Haver Analytics, Goldman Sachs Global Investment Research

Equity: Drawdown probability

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

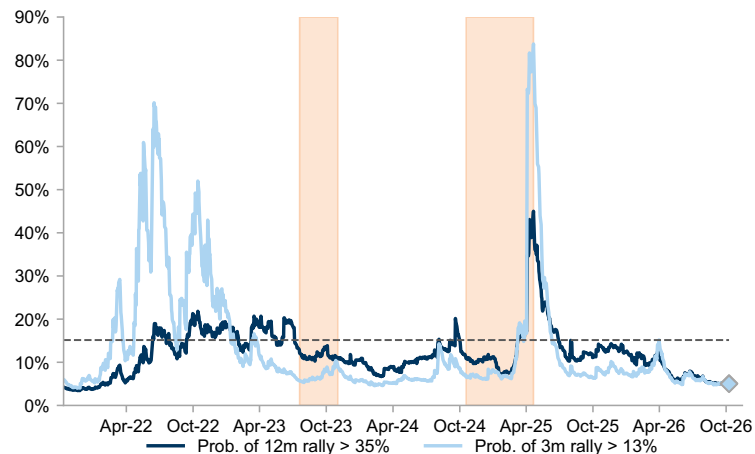
Orange shading = S&P 500 subsequent drawdown >20%. Dashed line = unconditional probability



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

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

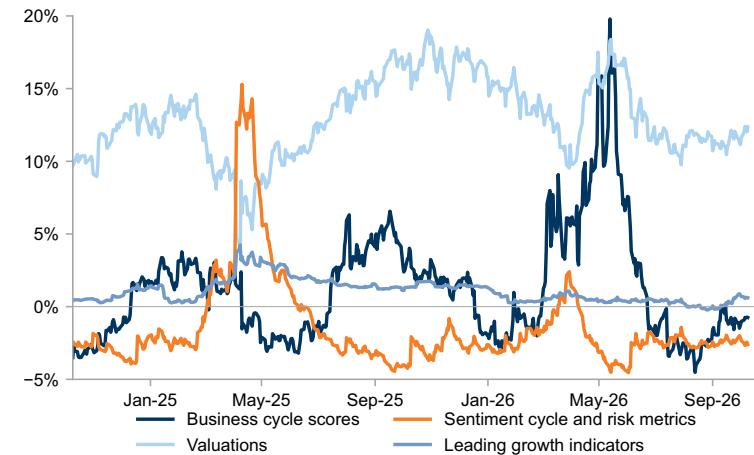
Orange shading = S&P 500 subsequent rally >35%. Dashed line = unconditional probability



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

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

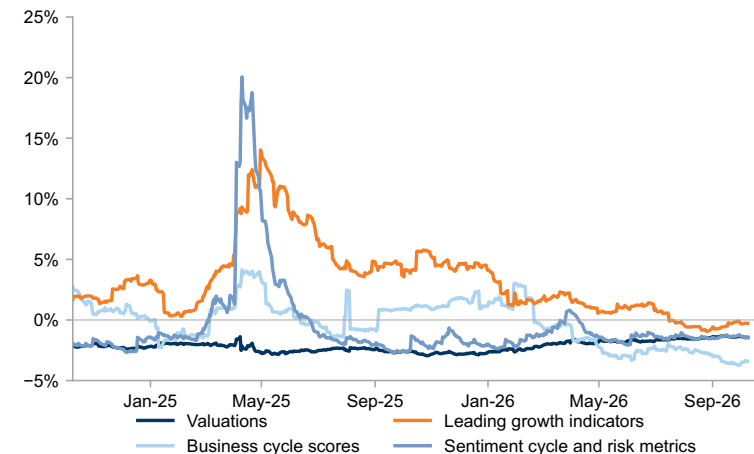
Based on Shapley values. Inputs aggregated by type



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

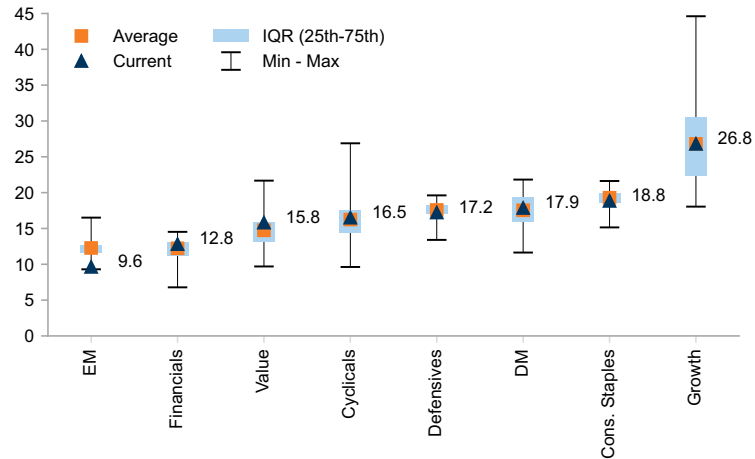


Source: Haver Analytics, Datastream, Goldman Sachs Global Investment Research

Equity: Valuation and styles

Exhibit 70: Valuation ranges of MSCI World styles indices

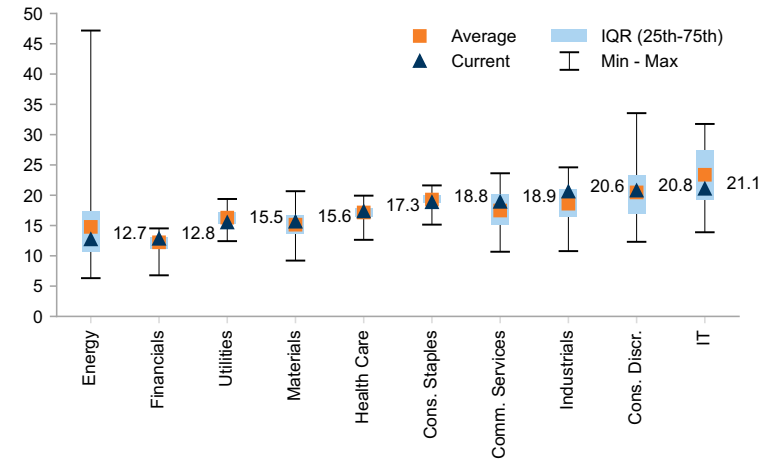
12-month forward P/E's relative to the last 10 years



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

Exhibit 71: MSCI World sector valuations

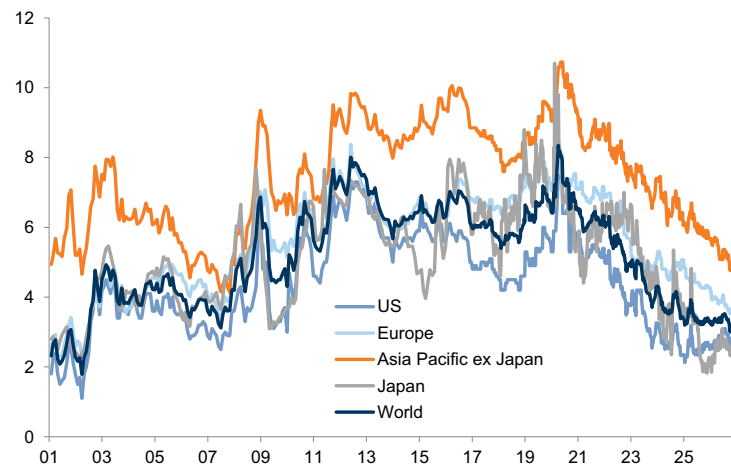
12-month forward P/E's relative to the last 10 years



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

Exhibit 72: Global market implied ERPs (%)

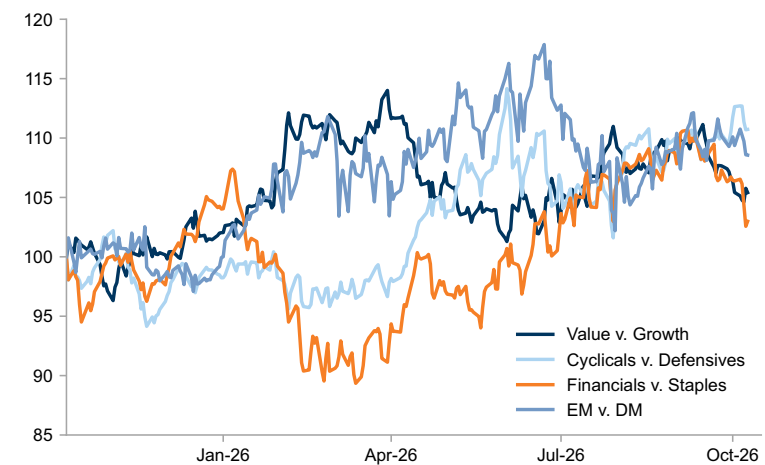
Implied ERPs are calculated by each regional strategy team. While specific assumptions differ between regions, all are calculated using similar frameworks



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 73: MSCI World style index performance

Performance indexed to 100 12m ago

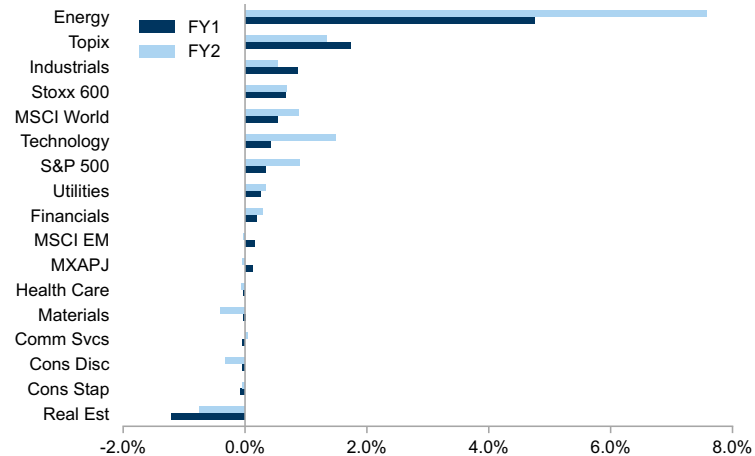


Source: Datastream, Goldman Sachs Global Investment Research

Equity: Earnings

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

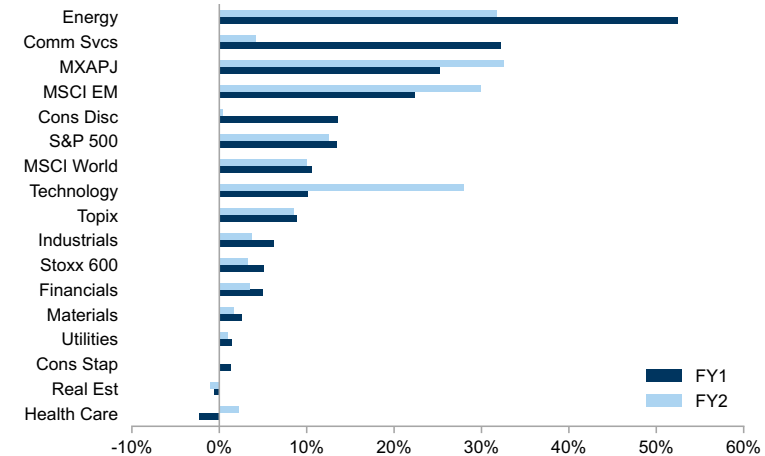
MSCI World sectors, other global equity index aggregates



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

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

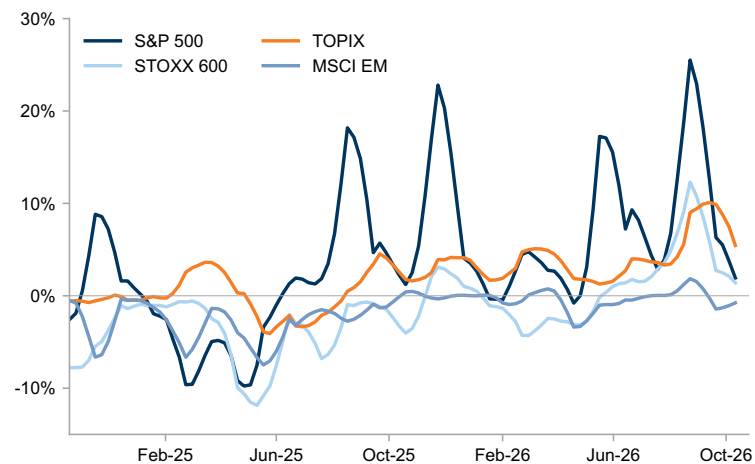
MSCI World sectors, other global equity index aggregates



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

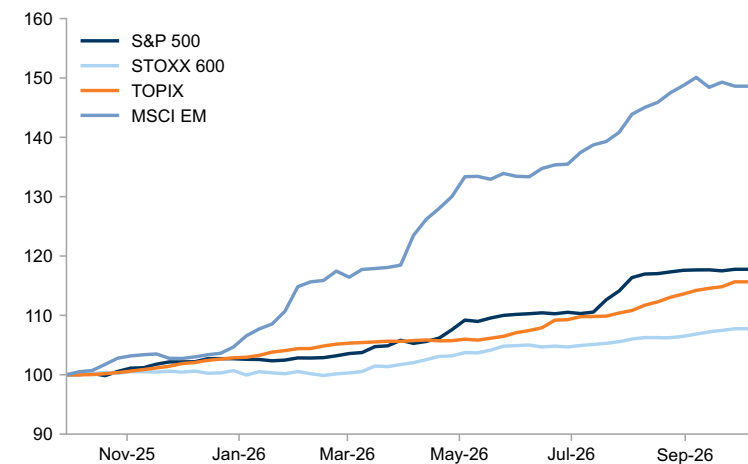
1-month moving average of net monthly upgrades



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

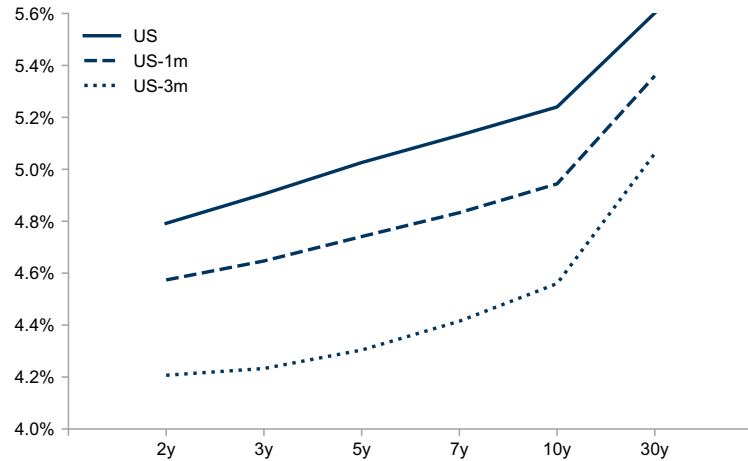


Source: Datastream, I/B/E/S, Goldman Sachs Global Investment Research

Government bonds: Yield curves

Exhibit 78: US yield curve dynamics

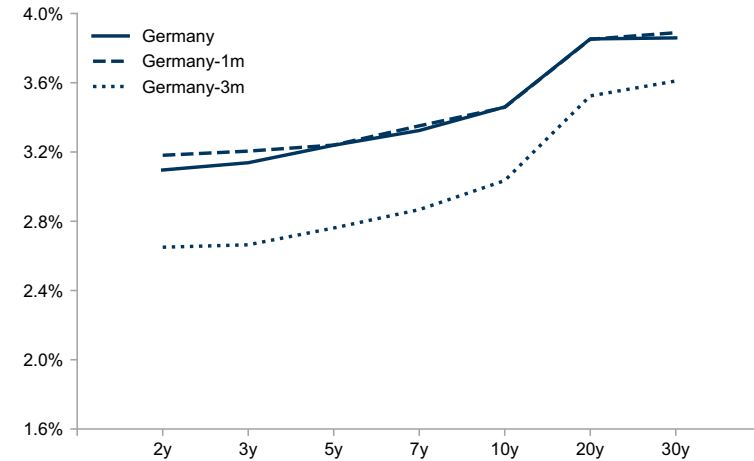
Current relative to 1 month and 3 months ago



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 79: German yield curve dynamics

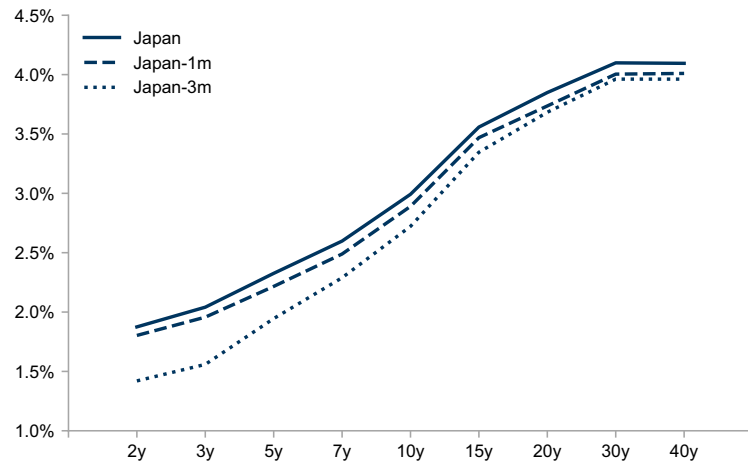
Current relative to 1 month and 3 months ago



Source: Datastream, Goldman Sachs Global Investment Research

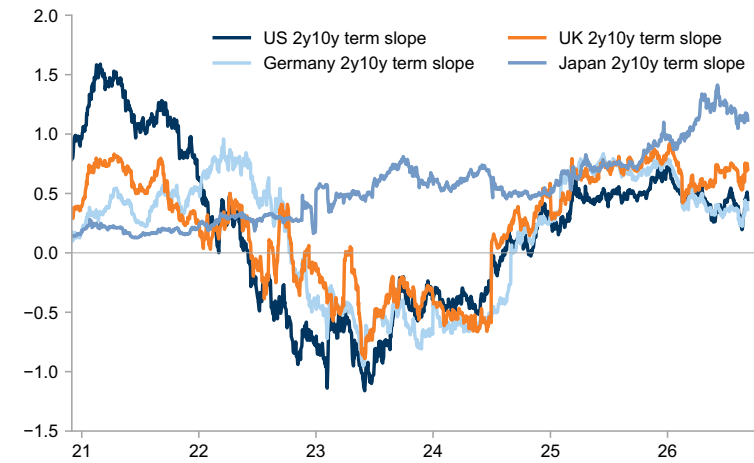
Exhibit 80: Japan yield curve dynamics

Current relative to 1 month and 3 months ago



Source: Datastream, Goldman Sachs Global Investment Research

Exhibit 81: Yield curve term slope across regions

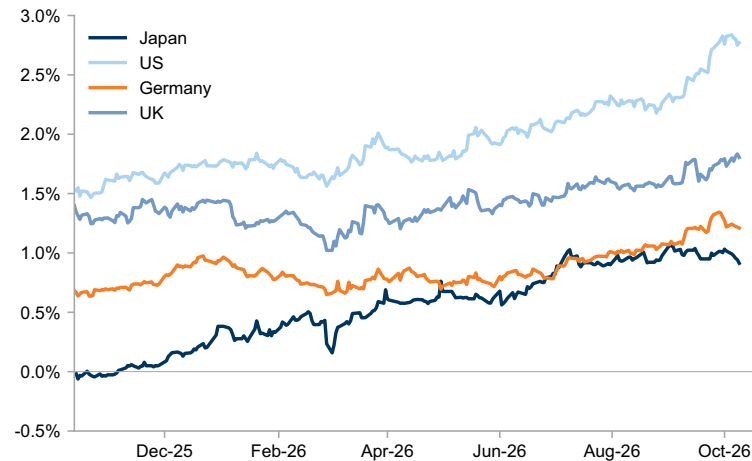


Source: Datastream, Goldman Sachs Global Investment Research

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

Exhibit 82: 10y real yields across regions

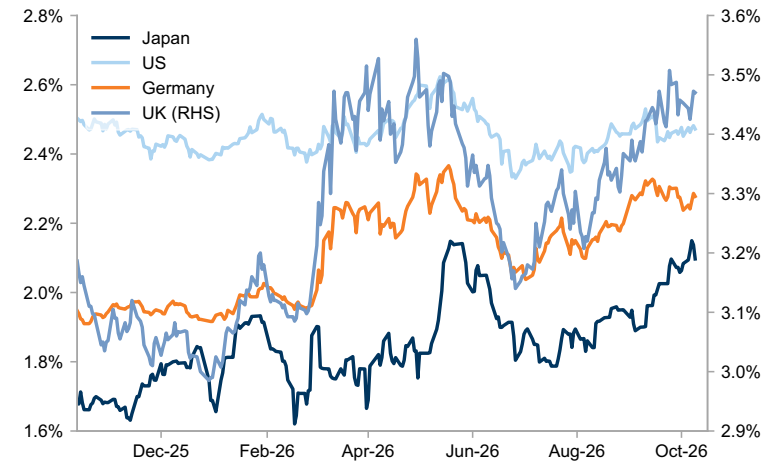
Nominal bond yield minus CPI inflation swap (RPI for the UK)



Source: Goldman Sachs, Goldman Sachs Global Investment Research

Exhibit 83: 10y inflation swaps across regions

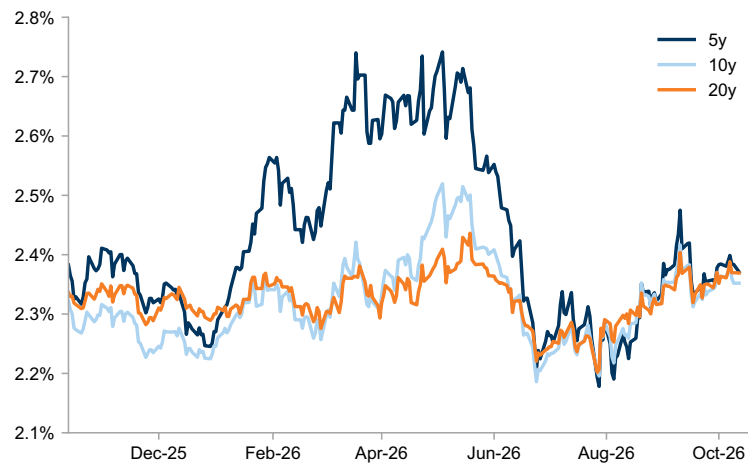
CPI inflation swap (RPI for the UK)



Source: Goldman Sachs, Goldman Sachs Global Investment Research

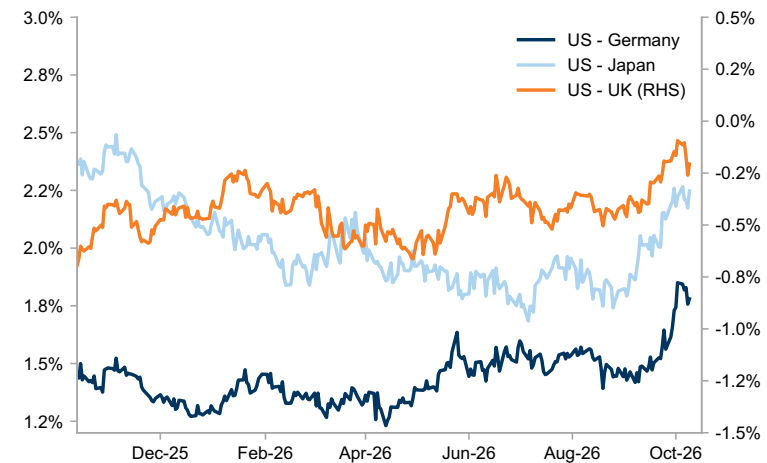
Exhibit 84: US breakeven inflation

Nominal yield minus TIPS yield



Source: Bloomberg, Goldman Sachs Global Investment Research

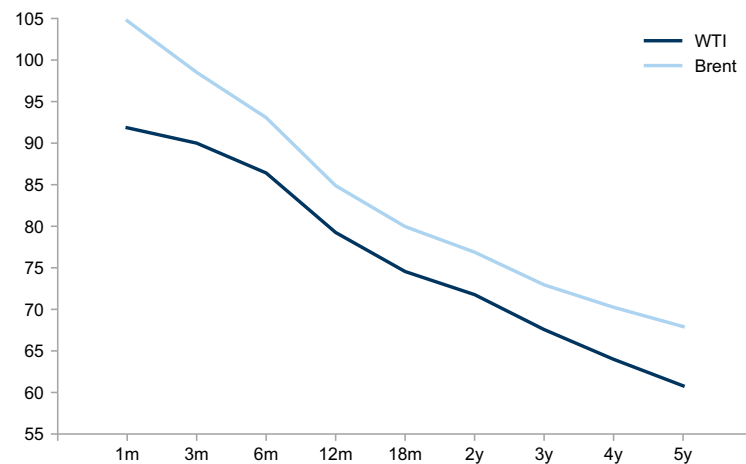
Exhibit 85: 10y nominal bond yield differentials



Source: Datastream, Goldman Sachs Global Investment Research

Commodities: Curve shapes and roll yields

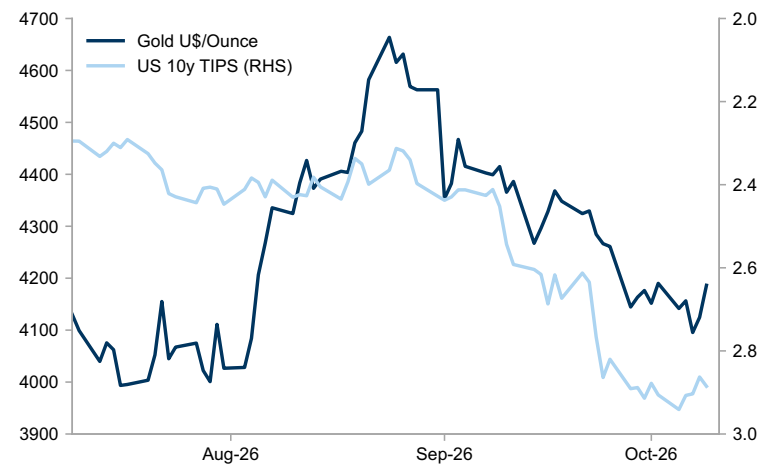
Exhibit 86: WTI and Brent oil forward curves



Source: Goldman Sachs, Goldman Sachs Global Investment Research

Exhibit 87: Gold price and US real yields

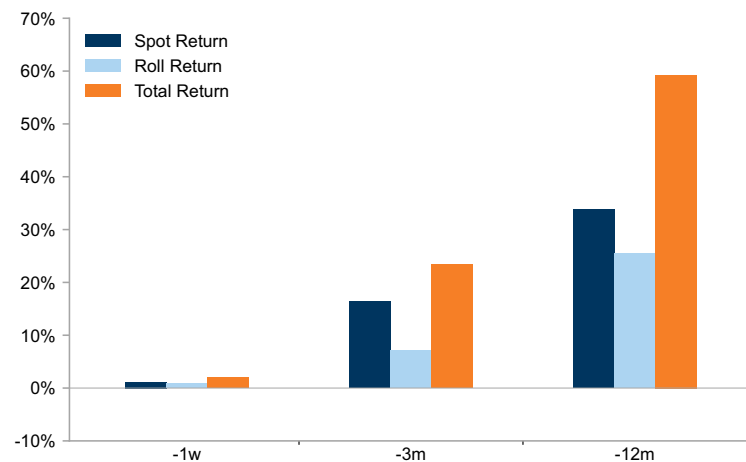
US 10-year TIPS yield, Gold US\$/ounce



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

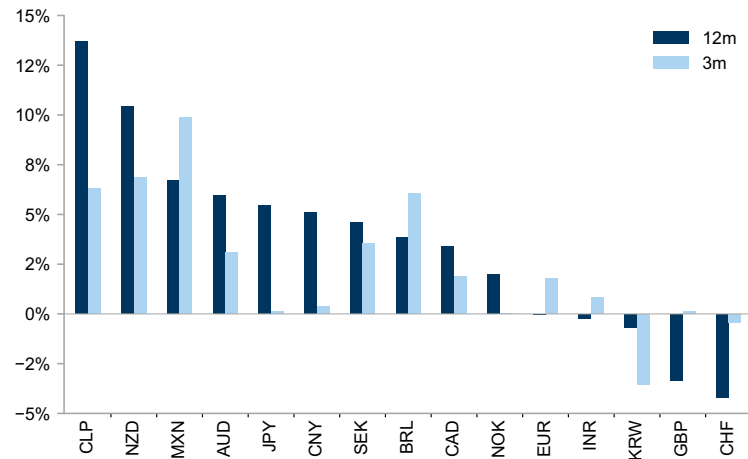
Weight signifies contribution to the S&P GSCI index

	Current Weight (%)	Returns (%)		
		-1w	-1m	-1y
S&P GSCI	100	1.9	1.2	59.3
Energy	57.5	3.0	5.1	118.7
Industrial Metals	11.9	0.9	-4.5	25.0
Precious Metals	8.3	1.4	-5.8	7.3
Agriculture	13.8	-1.0	-5.1	12.1
Livestock	8.4	1.5	1.9	-2.4

Source: Goldman Sachs, Goldman Sachs Global Investment Research

FX: Forecasts and forwards, recent performance and positioning

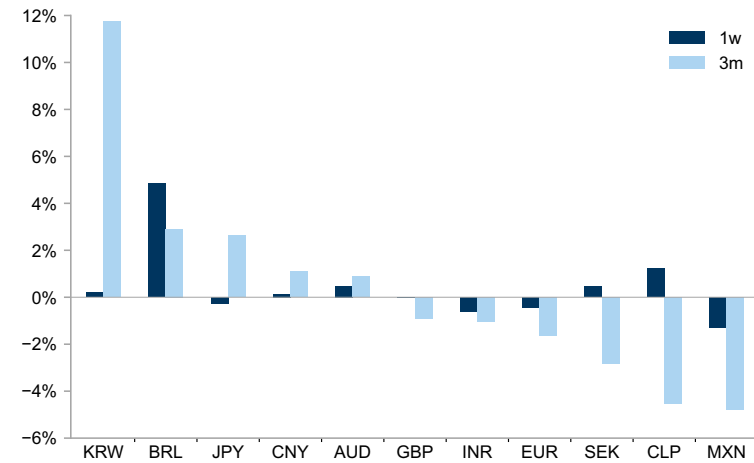
Exhibit 90: Our 3- and 12-month forecasts for dollar crosses



Source: Datastream, Goldman Sachs Global Investment Research

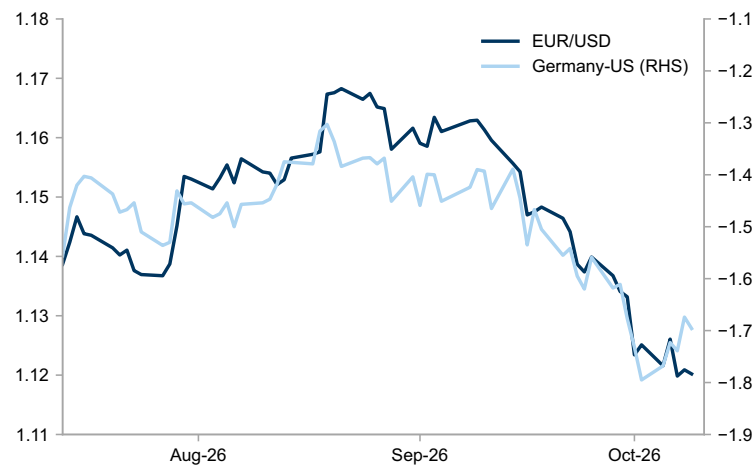
Exhibit 91: Recent performance of dollar crosses

Percentage change over past 1 week, 3 months



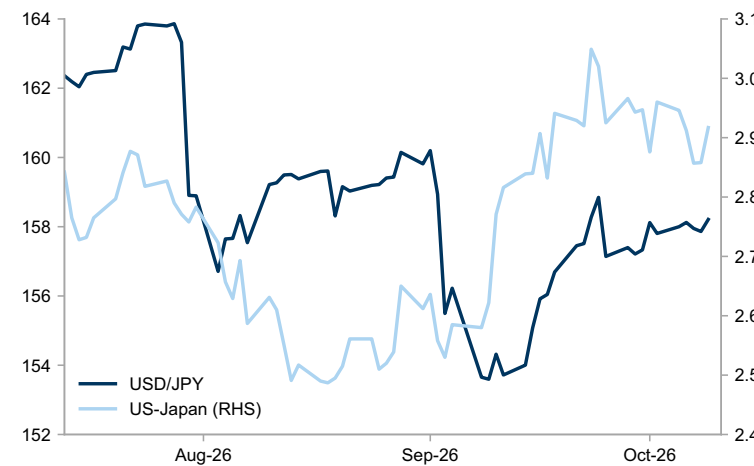
Source: Datastream, Goldman Sachs Global Investment Research

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