

October 17, 2022 09:28 AM GMT

Cross-Asset Spotlight | Global

Signals, Flows & Key Data

A snapshot of our key cross-asset signals.

Global Macro Forum: The US faces high inflation but rising inventory. Will the latter solve the former? And how much of a risk is inventory for earnings at the sector and market level? We'll discuss our new inflation forecasts and views across equities and interest rates. [Register Now](#) | [Add to Outlook Calendar](#)

Cross-asset allocation: We keep positioning light – as strategic challenges (slower growth + tightening) collide with more tactical support (better seasonality, MSI positive, etc). (For more, see [Cross-Asset Playbook: Income and Sequencing](#), 14 Oct 2022.) Sequencing is important; having been first to underperform, EM equities and HC debt could be among the first to trough. Credit total return could trough before equities.

Cross-asset signals: CAST is rebuilding risk exposure from a low base via EM equities (Taiwan +13 places in a month), European equities, Energy commodities. Equity Sectors CAST on track for record year, trading sector RV based on factors has been fruitful. **Carry and proxies** see resurgence. MSI (MSXAMSIS on Bloomberg) moves back in positive at Friday close, responding to ACWI stocks rebounding from 52-week lows, positioning and put call ratios easing, after briefly turning neutral in the weak first half. **CROWDS** (our futures-led framework) is long MSCI EM over DJIA.

Cross-asset data: Moves – UK with the long-end, breakevens, curves ruled extreme moves. Hungary front-end spikes past 15%. **Volatility** – FX intervention dampens USDJPY realized vol, lifts volatility carry to the top decile at 4.4%. **FX-hedged yields** – Taiwan equity hedged yield in USD above 8.0%. **Flows** – US ETFs focused on high-yield bonds saw weekly outflows of \$1.9bn.

Exhibit 1: Cross-asset allocation

	(A) Top-Down Expected Returns			(B) Bottom-Up 12M Outlook		(C) Avg (A, B) - Cash		(D) (C)/ Vol		MS Asset Allocation vs Benchmark
	Top-Down Exp Rtn	Cycle Boost/ Drag	Cycle-Adj Returns	MS Base Case Rtn Forecast	Forecast Excess Rtn	Framework Expected Rtn/ Vol				
Equities	US	8.8%	+1.9%	10.7%	6.2%	0.3		-2%		
	Europe	12.1%	+2.9%	15.0%	9.5%	0.5		-1%		
	Japan	5.5%	+2.1%	7.6%	7.9%	0.4		+1%		
	EM	10.1%	-4.8%	5.3%	19.3%	7.8%	0.4	+1%		
Bonds	Treasuries	4.6%	-0.9%	3.7%	5.7%	0.2%	0.0	+0%		
	Bunds	3.4%	-1.0%	2.3%	9.2%	3.9%	0.4	-2%		
	EM Local*	-	-	-	9.6%	5.1%	0.8	+0%		
Credit (Excess Return)	US IG	1.5%	-0.4%	1.2%	2.7%	1.9%	0.4	-1%		
	US HY	2.5%	-1.8%	0.7%	5.8%	3.3%	0.3	-1%		
	EUR IG	2.0%	-0.1%	1.9%	1.6%	1.7%	0.7	-1%		
	EUR HY	4.0%	-1.5%	2.5%	3.2%	2.9%	0.4	-1%		
	EM \$ Sov	3.1%	+0.6%	3.7%	17.3%	10.5%	1.3	+2%		
	Agency MBS	0.8%	-0.1%	0.8%	3.8%	2.3%	1.5	+1%		
	Securitized ^A	1.6%	-0.6%	1.0%	3.1%	3.1%	2.0	+0%		
Commodities	-	-	-	7.8%	3.3%	0.1	+1%			

Source: Bloomberg, Morgan Stanley Research forecasts; Note: "Exp Rtn" averages Morgan Stanley forecasts and cycle-adjusted expected returns, relative to cash or treasuries (credit). For FX and commodities we use just MS forecasts relative to cash. Volatility is the average of 1y implied vol and 10y realised vol. Green/red arrows represent buy/sell signals respectively. For currencies, signals are based on XXXUSD. For govt bonds, green = yields lower/prices higher. Green/red shading is applied when majority of the signals indicate buy/sell.

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Recent Research:

[Cross-Asset Playbook: Income and Sequencing \(14 October 2022\)](#)

[Cross-Asset Dispatches: Should You FX Hedge Your Assets? \(10 October 2022\)](#)

[Cross-Asset Strategy: Global In the Flow – Third Quarter Recap \(3 October 2022\)](#)

[Cross-Asset Dispatches: Bear Market Almanac 2022 Edition – The Chart Book II \(30 September 2022\)](#)

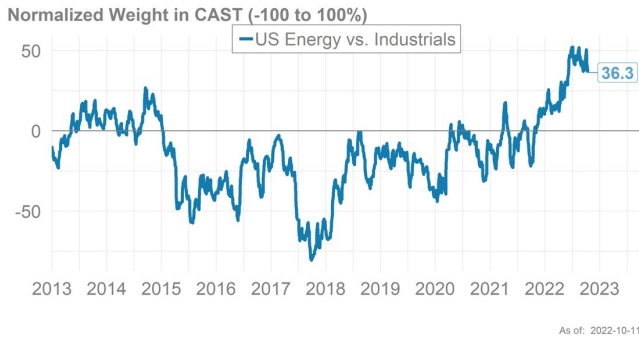
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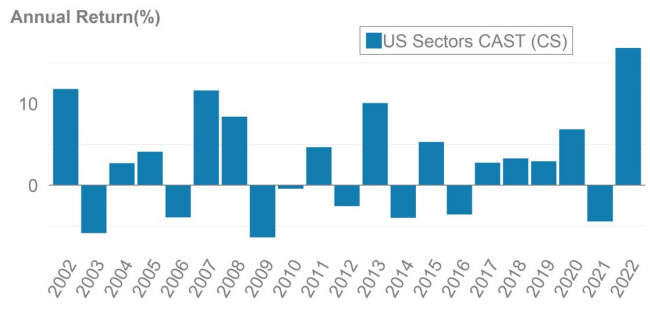
Six Charts You Can't Miss

Exhibit 2: CAST running a large energy vs. industrials position



Source: Morgan Stanley Research

Exhibit 3: US Cross-sectional (RV) CAST on track for best year on record



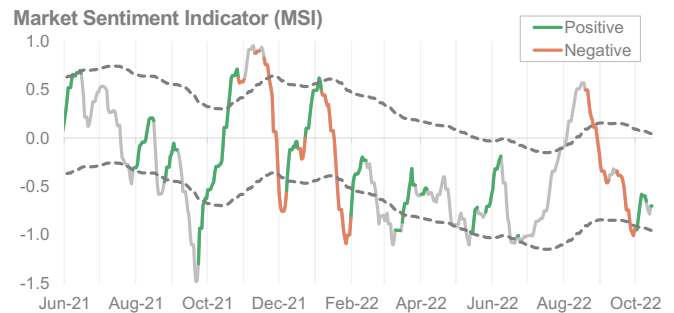
Source: Morgan Stanley Research

Exhibit 4: CROWDS likes CAD/USD and US 20yr vs. US 2yr

Asset	Current CROWDS Weight	Rank Δ1m
COMMODITIES		
Natural Gas	86%	▲ 15
Palladium	-80%	▼ -10
EQUITIES		
MSCI EM	83%	▲ 9
S&P 500	42%	▼ -5
DJIA	-58%	▼ -6
Nikkei	-75%	▲ 3
FX		
CADUSD	78%	▲ 28
NZDUSD	56%	▲ 3
AUDUSD	-56%	▼ -7
BRLUSD	-56%	▼ -35
RATES		
US 20yr	100%	▲ 6
US 2yr	-88%	▼ -2

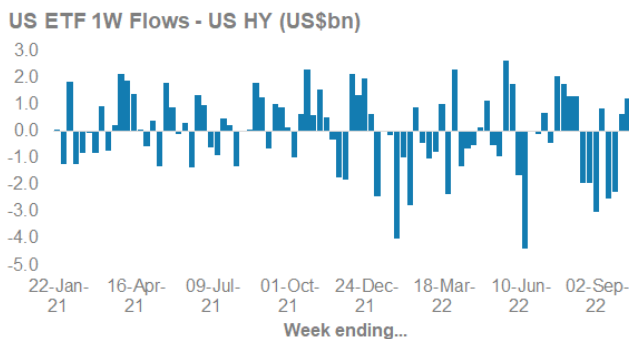
Source: Morgan Stanley Research; Note: See Exhibit 36 for full footnote.

Exhibit 5: Our Market Sentiment Indicator (MSI) is in positive territory



Source: Bloomberg, Morgan Stanley Research

Exhibit 6: US ETFs focused on high-yield bonds saw weekly outflows of \$1.9bn



Source: Bloomberg, Morgan Stanley Research

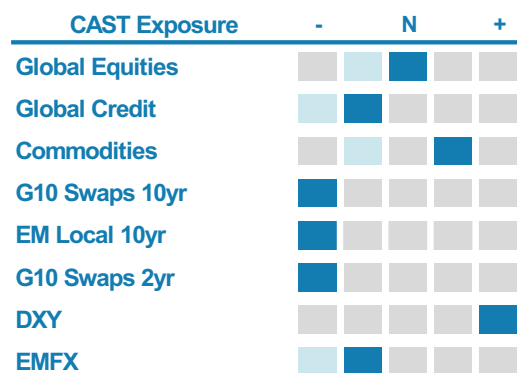
Exhibit 7: Cross-asset diversifiers: Top diversifiers based on COVA

Long/Short	Asset	Correlation score	Valuation score	Overall COVA score
Long	Cons Staples vs Mkt	● 80	● 71	77
Long	Real Estate vs Mkt	▲ 59	● 98	74
Short	ZARUSD	● 81	▲ 60	72
Short	CADUSD	● 77	▲ 62	71
Long	MSCI EM vs S&P 500	▲ 54	● 96	71
Short	IT vs Mkt	▲ 62	● 84	71
Short	AUDUSD	● 79	▲ 57	71
Short	CHFUSD	▲ 58	● 88	70
Short	UST 30y	▲ 50	● 99	70
Short	NOKUSD	● 80	▲ 53	69

Source: Morgan Stanley Research; Note: See Exhibit 40 for full footnote.

CAST: Cross-Asset Systematic Trading Strategy

Exhibit 8: CAST asset class exposure



Source: Morgan Stanley Research. Note: Dark blue shows current exposure relative to history as a quintile. Light blue is positioning from a month ago.

CAST is our systematic tool for evaluating cross-asset attractiveness based on factor exposure. For more on its construction and methodology, see [CAST cookbook](#).

CAST performance: CAST YTD returns above 16% versus the market down -20%. Strong returns from sectors CAST, DXY Longs, front-end payers offset weakness in equities, credit and commodities. This is an outstanding year for US and Japan sectors cross-sectional CAST. Carry dominates factor performances.

What does CAST like? CAST is still very defensive but rebuilding risk exposure from a low base via EM equities (Taiwan +13 places in a month), European equities, Energy commodities. DXY, paying front-end rates and EEMEA FX are the other core longs.

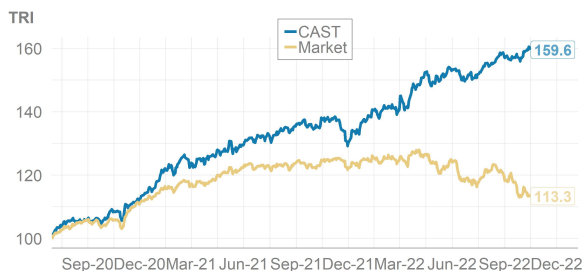
Exhibit 9: CAST positioning: What are top longs and shorts across different asset classes

Asset Class	CAST Current Weights		Rank Changes (Δ1m)		CAST Returns		
	Most Long	Most Short	Asset	Δ1m	Last Wk	Last 4Wks	YTD
CAST	CNY 2yr CNY 10yr CHF 30yr	JPY 2yr EU Real Estate NOK 30yr	US HY B EM Financials	+112 -119	0.1%	2.2%	16.6%
Global Equities	Netherlands Australia Taiwan	Singapore Nasdaq Russell 2000	Taiwan Nikkei	+13 -13	-0.8%	-1.5%	-6.1%
Global Credit	Euro HY BB Euro Corp BBB	US MBS US Corp AA	US HY BB EM \$ Sov.	+3 -5	-0.7%	-2.0%	-4.4%
Commodities	WTI Cocoa Natural Gas	Lumber Soybeans Gold	RBOB (Gasoline) Kansas Wheat	+21 -22	-0.5%	-1.6%	45.7%
G10 FX	NOKUSD AUDUSD	CHFUSD JPYUSD	GBPUSD EURUSD	+1 -2	-0.1%	3.3%	6.9%
EM FX	HUFUSD PLNUSD	CNYUSD SGDUSD	MYRUSD BRLUSD	+5 -4	-0.3%	-3.0%	-9.0%
G10 Swaps 30yr	CHF 30yr JPY 30yr	NOK 30yr CAD 30yr	GBP 30yr SEK 30yr	+1 -1	0.3%	-1.4%	-11.2%
G10 Swaps 10yr	CHF 10yr NZD 10yr	CAD 10yr NOK 10yr	EUR 10yr NOK 10yr	+2 -2	0.3%	1.0%	-0.8%
G10 Swaps 5yr	CHF 5yr AUD 5yr	JPY 5yr USD 5yr	NOK 5yr EUR 5yr	+4 -2	-0.2%	0.9%	0.5%
G10 Swaps 2yr	NZD 2yr CHF 2yr	JPY 2yr EUR 2yr	NOK 2yr USD 2yr	+3 -2	-0.4%	0.5%	6.8%
EM Local 10yr	CNY 10yr ZAR 10yr	HUF 10yr CZK 10yr	ZAR 10yr MYR 10yr	+5 -5	0.6%	0.8%	7.8%
EM Local 2yr	CNY 2yr BRL 2yr	TRY 2yr PHP 2yr	CLP 2yr INR 2yr	+8 -8	0.2%	-0.1%	6.1%
US Sectors	US Staples US Energy	US Real Estate US Comm. Serv.	US Discr. US Tech	+3 -2	0.2%	3.4%	10.1%
EU Sectors	EU Materials EU Energy	EU Real Estate EU Tech	EU Financials EU Comm. Serv.	+3 -2	0.1%	3.1%	6.2%
JP Sectors	JP Financials JP Utilities	JP Tech JP Industrials	JP Healthcare JP Comm. Serv.	+3 -3	0.4%	-0.1%	12.9%
EM Sectors	EM Materials EM Energy	EM Healthcare EM Comm. Serv.	EM Staples EM Comm. Serv.	+3 -2	0.6%	3.3%	1.8%

Source: Morgan Stanley Research; Note: All return indices are re-scaled to be 8% vol target as of end-2012.

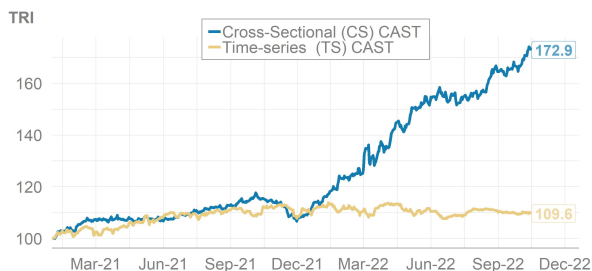
CAST Performance

Exhibit 10: CAST last 2yrs TRI



Source: Morgan Stanley Research

Exhibit 11: CAST cross-sectional and time-series performance



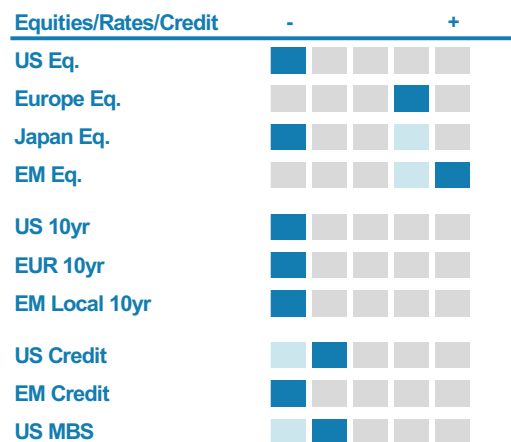
Source: Morgan Stanley Research; Note: All return indices are re-scaled to be 8% vol target as of end-2012.

Exhibit 12: CAST vs. market: Last four weeks and YTD performance

	Last 4Wks		YTD Return (2022)		Last 5yr*	
	CAST	Market	CAST	Market	CAST	Market
CAST	2.2%	-5.8%	16.6%	-23.1%	13.6%	-0.8%
Global Equities	-1.5%	-2.2%	-6.1%	-8.8%	1.1%	1.6%
Commodities	-1.6%	-0.8%	45.7%	9.1%	17.2%	6.7%
Global Credit	-2.0%	-2.6%	-4.4%	-9.4%	6.3%	-0.1%
G10 Swaps 30yr	-1.4%	-5.7%	-11.2%	-30.5%	3.5%	-4.5%
G10 Swaps 10yr	1.0%	-5.9%	-0.8%	-27.3%	1.1%	-5.0%
G10 Swaps 5yr	0.9%	-4.9%	0.5%	-26.0%	2.2%	-5.4%
G10 Swaps 2yr	0.5%	-2.7%	6.8%	-27.9%	4.6%	-6.0%
G10 FX	3.3%	-4.6%	6.9%	-15.4%	2.2%	-3.1%
EM FX	-3.0%	-2.7%	-9.0%	-7.9%	0.9%	-1.4%
EM Local 10yr	0.8%	-2.9%	7.8%	-16.6%	8.5%	-4.0%
EM Local 2yr	-0.1%	-0.6%	6.1%	-7.7%	5.5%	-2.1%
US Sectors	3.4%	-3.5%	10.1%	-8.4%	6.7%	4.2%
EU Sectors	3.1%	-2.3%	6.2%	-8.1%	2.1%	1.4%
JP Sectors	-0.1%	-0.6%	12.9%	1.1%	4.0%	1.9%
EM Sectors	3.3%	-3.1%	1.8%	-9.7%	3.2%	-0.5%

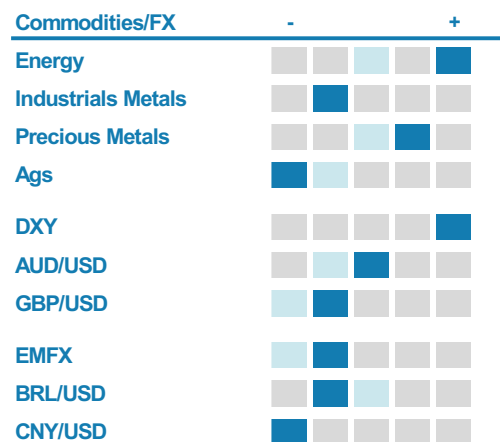
Source: Morgan Stanley Research; Note: Returns don't include transaction costs. All return indices are re-scaled to be 8% vol target as of end-2012. *Annualised return.

Exhibit 13: CAST exposure summary



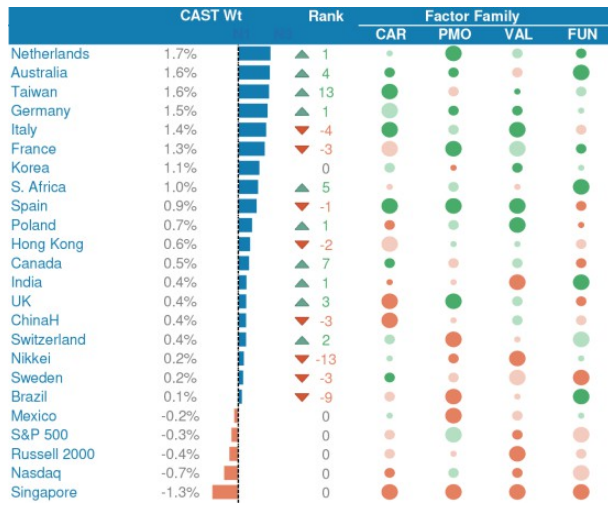
Source: Morgan Stanley Research; Note: Dark blue shows current exposure relative to history as a quintile. Light blue is positioning from a month ago.

Exhibit 14: CAST exposure summary



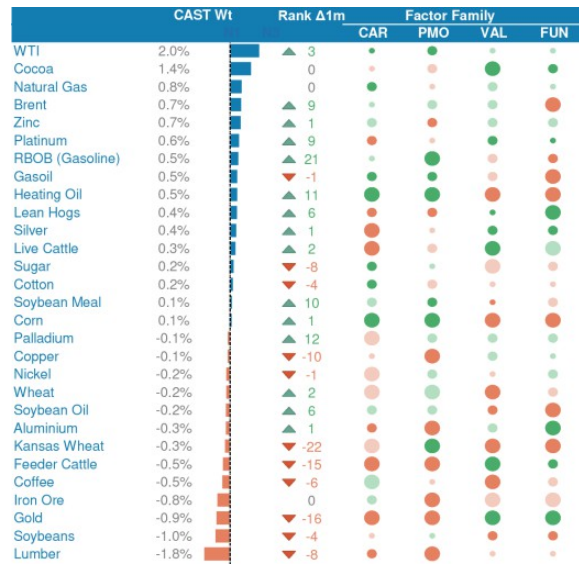
Source: Morgan Stanley Research; Note: Dark blue shows current exposure relative to history as a quintile. Light blue is positioning from a month ago.

Exhibit 15: Global equities CAST



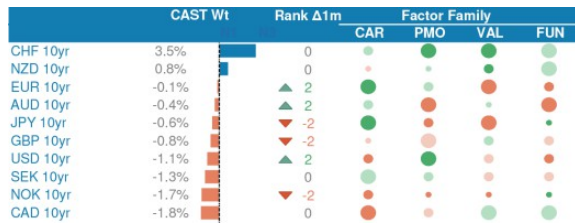
Source: Morgan Stanley Research

Exhibit 16: Commodities CAST



Source: Morgan Stanley Research

Exhibit 17: G10 swaps 10yr CAST



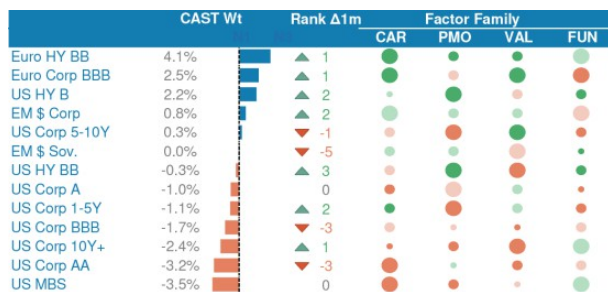
Source: Morgan Stanley Research

Exhibit 18: G10 FX CAST



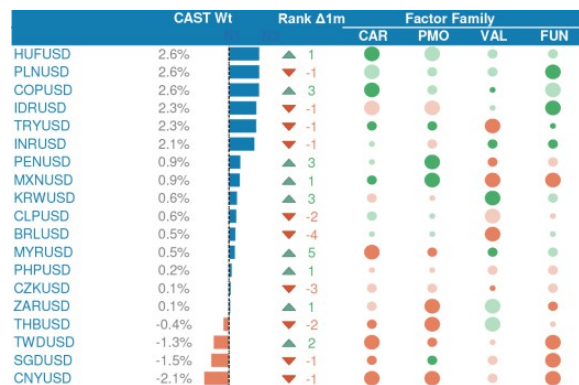
Source: Morgan Stanley Research

Exhibit 19: Global credit CAST



Source: Morgan Stanley Research

Exhibit 20: EM FX CAST



Source: Morgan Stanley Research

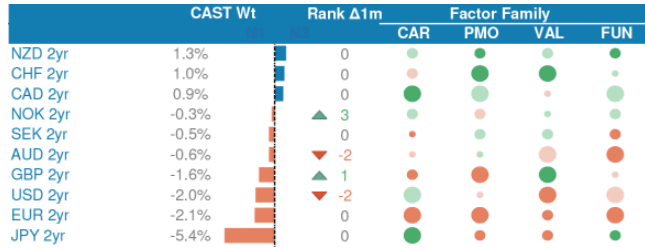
Colour: Weight vs. Peers Today.

- Dark green is top quartile vs. peers
- Dark red is bottom quartile vs. peers

Size: Weight vs own history.

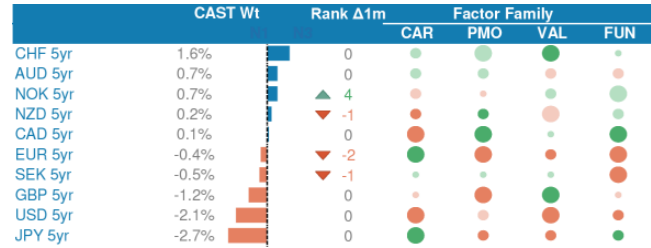
- Large dot - weight in top quintile vs. history
- Small dot - weight is not extreme vs. history

Exhibit 21: G10 swaps 2yr CAST



Source: Morgan Stanley Research

Exhibit 26: G10 swaps 5yr CAST



Source: Morgan Stanley Research

Exhibit 22: G10 swaps 10yr CAST weights



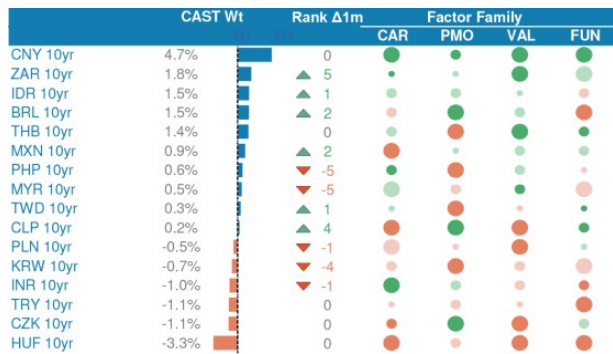
Source: Morgan Stanley Research

Exhibit 27: G10 swaps 30yr CAST weights



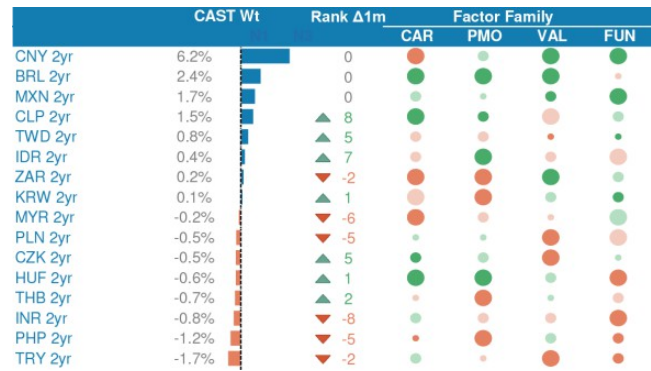
Source: Morgan Stanley Research

Exhibit 23: EM local 10yr CAST weights



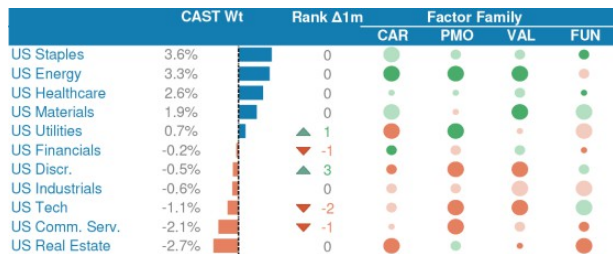
Source: Morgan Stanley Research

Exhibit 28: EM local 2yr CAST weights



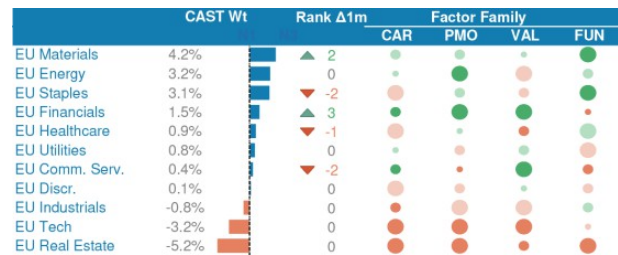
Source: Morgan Stanley Research

Exhibit 24: US sectors CAST weights



Source: Morgan Stanley Research

Exhibit 29: EU sectors CAST weights



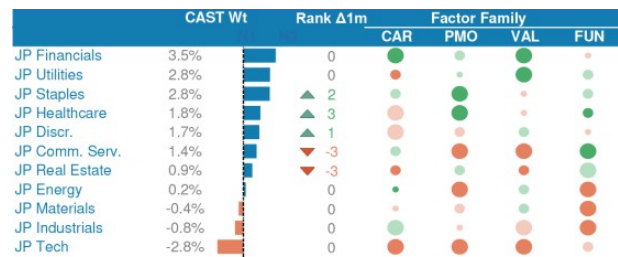
Source: Morgan Stanley Research

Exhibit 25: EM sectors CAST weights



Source: Morgan Stanley Research

Exhibit 30: JP sectors CAST weights

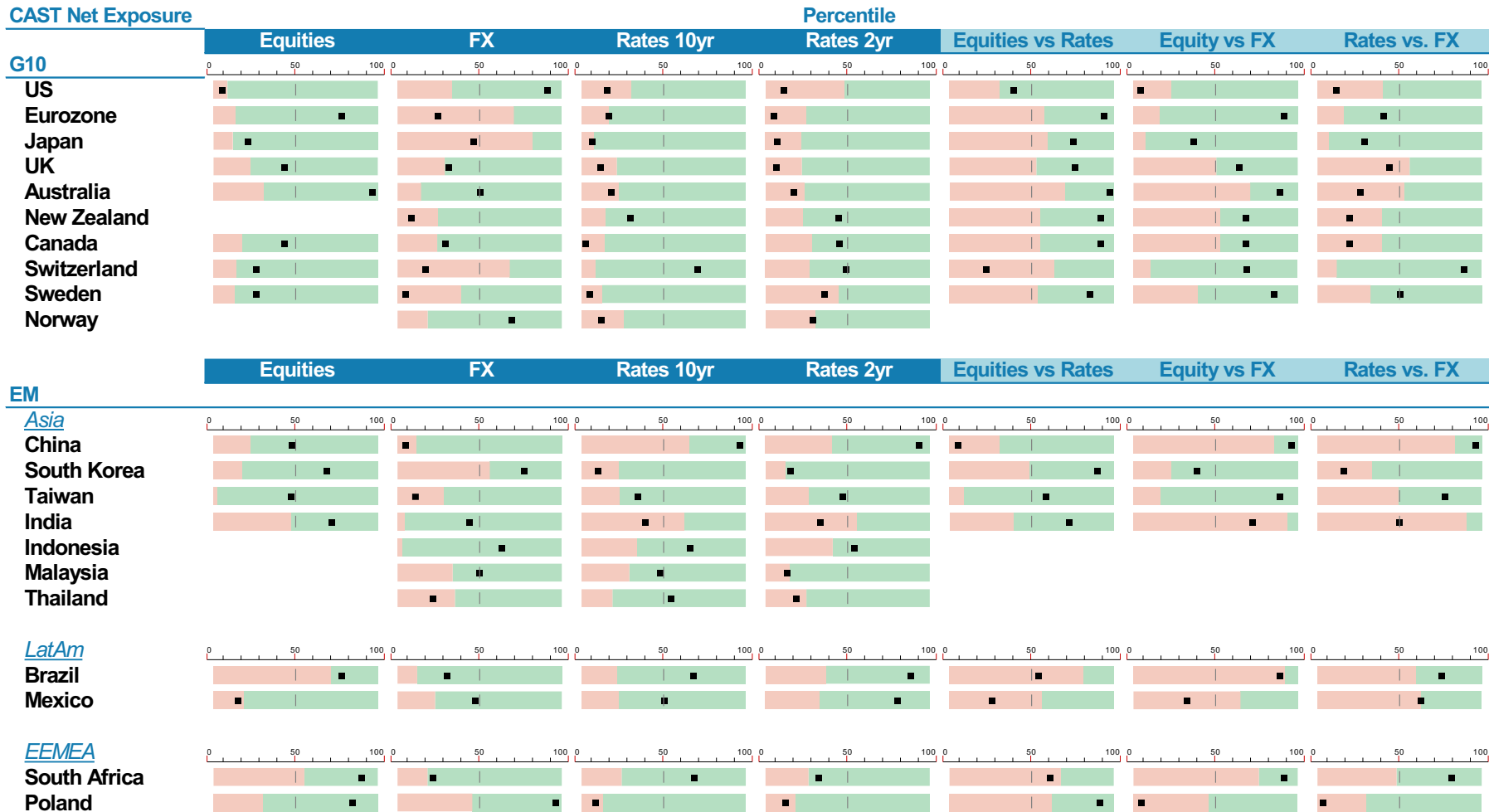


Source: Morgan Stanley Research

CAST Regional Monitor

Exhibit 31: CAST regional monitor: Weights across asset classes within each region

CAST Net Exposure



Source: Morgan Stanley Research

Factor Themes

Exhibit 34: Which factors worked in the last four weeks?

Rank >>	1	2	3	4	5
GlobalEquities	Carry	Vol. Adj. Carry	Retail Sales YoY.	FX Mom.3m-	Current A/c
DMEquities	Carry	Vol. Adj. Carry	Real GDP Z5y	Mfg. PMI 1y Chg-	Yld. Curve Chg1y
GlobalCredit	Mom.1m	Seasonality	Mom.3m	Spread Z3y	Vol 1m
Commodities	Carry2s12s	Carry	Vol. Adj. Carry	Mom.12mx1	Mom.12m
G10.FX	CPI Z5y	Nominal 2y Diff.	Carry	Core Price Z5y	Headline Infl.
EM.FX	Carry	Headline Infl.	Nominal 2y Diff.	Mom.1m	Rts2y Mom.12mx1-
G10.Swaps.30yr	Mom.1m-	Sharpe 1y-	Mom.6m-	Mom.3m-	Curve 2s5s
G10.Swaps.10yr	Curve 2s5s	Yld. Curve Chg1y	Yield Curve	Vol. Adj. Carry	Nominal10y Z5y
G10.Swaps.2yr	MA 10x100D	Mom.3m	Unemp. Rate 1y Chg	MA 20x100D	Mom.12m
EMLocal.10yr	Yield Curve	RY 10yr (Core)	Mom.1m	RY 10yr (Head.)	Current A/c Z5y
EMLocal.2yr	Mom.1m	Mom.3m	Rts 10y Mom.3m	Real GDP YoY.	FX Mom.3m
US.Sectors	FCF Yld.	Price/Sales-	FCF Yld. Z5y	Book YoY.	Price:Book 1y Chg
EU.Sectors	MA 20x100D	Price:Earn. 1y Chg	MA 10x100D	MA 20x200D	Price/Sales-
Japan.Sectors	Sharpe 1y-	Fwd. EPS Z5y-	Forward Earnings YoY.	Mom. 1m-	FCF Yld.
EM.Sectors	Mom.1m	Sharpe 1y	Mom.12m	Mom.12mx1	FCF Yld.

- Carry
- Momentum
- Value
- Fundamentals

Note:
Data as of Sun 16 October 2022

Source: Morgan Stanley Research; Note: Green shading indicates carry family, yellow shading indicates value family, red shading indicates momentum family and blue shading indicates fundamentals family. The letters are in blue when the return is positive.

Exhibit 35: Which factors performed YTD?

Rank >>	1	2	3	4	5
GlobalEquities	FCF Yld. Z5y	Vol. Adj. Carry	Eq. Vol Premium	Carry	Dividend Yld.
DMEquities	Fwd. P/E Z5y-	Vol. Adj. Carry	Carry	Price:Book Z5y-	ERP Z5y
GlobalCredit	Spread Z3y	Spread Z5y	Mom.12mx1	Mom.6mx1	Sharpe5y-
Commodities	CFTC Non Comm. Z 1y-	Sharpe5y-	Mom.12mx1	Infl. Adj. Price 3y Chg-	Price 3y Chg-
G10.FX	Eq. Vol Premium	Unemp. Rate 1y Chg-	Nom. GDP Z5y	CPI Z5y	Mom.6mx1
EM.FX	IP Z5y-	IP YoY.	Eq. Vol Premium	Nominal 10y Diff.	Vol. Adj. Carry
G10.Swaps.30yr	MA 20x200D	RY 30yr (Head.) Z5y	MA 20x100D	RY 2yr (Head.)	MA 50x200D
G10.Swaps.10yr	RY 2yr (Head.)	Real GDP YoY.	M2 Z5y-	Headline Infl.-	MA 10x100D
G10.Swaps.2yr	RY 2yr (Head.)	Real GDP YoY.	RY 10yr (Core)	Headline Infl.-	M2 Growth-
EMLocal.10yr	Fwd. P/E Z5y	Mom.6mx1	Mom.12mx1	SpotPPP Z5y	Mom.12m
EMLocal.2yr	SpotPPP Z5y	Nominal10y Z5y-	Rts 10y Mom.12mx1	Nominal GDP YoY.	Nominal10y 1y Chg-
US.Sectors	Price/Sales-	Price/Cash Earn.-	Sharpe5y-	CAPE-	Price/Sales Z5y-
EU.Sectors	FCF Yld.	Price/Sales-	Price/Cash Earn.-	Price Earnings-	FCF Yld. Z5y
Japan.Sectors	Price/Sales Z5y-	Sharpe5y-	Earnings YoY.	Price:Book Z5y-	Dividend Yld. Z5y
EM.Sectors	Leverage	CAPE Z5y-	CAPE-	Price/Sales-	Fwd. P/E Z5y-

- Carry
- Momentum
- Value
- Fundamentals

Note:
Data as of Sun 16 October 2022

Source: Morgan Stanley Research; Note: Green shading indicates carry family, yellow shading indicates value family, red shading indicates momentum family and blue shading indicates fundamentals family. The letters are in blue when the return is positive.

CROWDS: Cross-Asset Crowding Strategy

CROWDS distills signals from CFTC positioning data. We create a systematic strategy using a combination of cross-sectional factors to identify which assets benefit from favourable positioning. For more on its construction, see [here](#).

Exhibit 36: Our current CROWDS scorecard

Asset	Current CROWDS Weight	CROWDS Weight %ile	Rank Δ1m	Asset Managers*	Dealers/Swap Counterparties	Leveraged Fund	Others (Corporates/Central Banks etc.)	Producers (Commodities Only)
COMMODITIES								
Natural Gas	86%		15					
Lumber	77%		-4					
Gold	57%		-4					
Lean Hogs	39%		22					
Silver	33%		-8					
Cotton	33%		10					
Soybeans	28%		17					
Copper	19%		-5					
Cocoa	16%		1					
Feeder Cattle	13%		22					
Wheat	7%		3					
Kansas Wheat	1%		-15					
Sugar	-1%		-9					
WTI	-7%		-5					
Live Cattle	-13%		14					
Coffee	-19%		4					
Soybean Oil	-25%		-4					
Corn	-28%		-4					
Platinum	-30%		-21					
Brent	-42%		-13					
Soybean Meal	-42%		2					
RBOB (Gasoline)	-45%		0					
Heating Oil	-77%		-1					
Palladium	-80%		-10					
EQUITIES								
MSCI EM	83%		9					
S&P 500	42%		-5					
MSCI EAFE	42%		7					
Nasdaq	-8%		-7					
Russell 2000	-25%		-2					
DJIA	-58%		-6					
Nikkei	-75%		3					
FX								
CADUSD	78%		28					
NZDUSD	56%		3					
MXNUSD	56%		14					
CHFUSD	11%		21					
ZARUSD	11%		6					
EURUSD	-11%		-24					
RUBUSD	-11%		18					
JPYUSD	-33%		-7					
GBPUSD	-44%		-24					
AUDUSD	-56%		-7					
BRLUSD	-56%		-35					
RATES								
US 20yr	100%		6					
US 5yr	25%		-6					
US 30yr	13%		2					
US 10yr	-50%		1					
US 2yr	-88%		-2					

Source: CFTC, Morgan Stanley Research; Note: Overall CROWDS weight is a simple average of the weights in each of the relevant market participant groups. These are based on normalised weights and range from -100% to 100%. Green dot represents a long signal, red dot represents a short signal and yellow dash represents neutral. Pie charts show current CROWDS weight as a percentile of its entire history (including in-sample period). *We use non-commercial as a proxy for asset managers for commodities.

Market Sentiment Indicator (MSI)

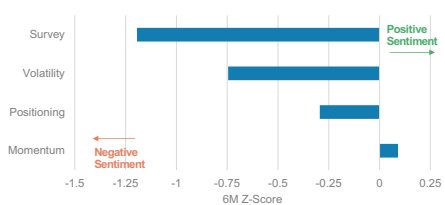
Our MSI aggregates survey, positioning, volatility and momentum data to quantify market stress and sentiment. We construct risk-on/risk-off signals based on both the *level* and *the change* of our MSI. For more on the methodology, see [Cross-Asset Dispatches: Introducing Our Market Sentiment Indicator \(MSI\)](#), April 29, 2022.

The series can be found under the usual Bloomberg tickers.

- **MSXAMSIL Index** – Morgan Stanley Market Sentiment Indicator *Level*
- **MSXAMSIS Index** – Morgan Stanley Market Sentiment Indicator *Signal*

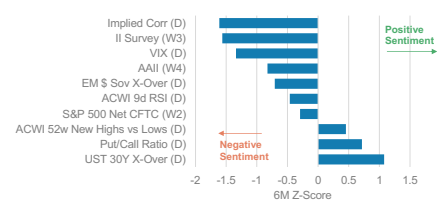
A volatile week saw two quick signal changes for MSI. First, MSI turned from positive to neutral in the weak first half of last week, responding to the VIX spike and ACWI stocks retesting 52-week lows. MSI then reverted to the positive signal end of the week as ACWI stocks sharp rebound off 52-week lows, CFTC positioning moderated and put call ratios eased.

Exhibit 37: Current indicator reading by group



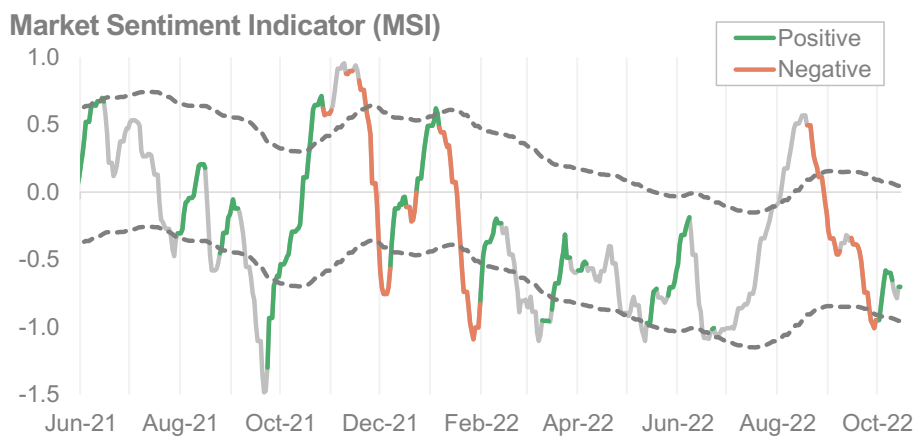
Source: Bloomberg, Datastream, Morgan Stanley Research

Exhibit 38: Current indicator reading by metric



Source: Bloomberg, Datastream, Morgan Stanley Research; Note: W2 = weekly updates (every Tuesday), W4 = weekly updates (every Thursday), D = daily updates.

Exhibit 39: Our Market Sentiment Indicator (MSI) is in positive territory



Source: Bloomberg, Datastream, Morgan Stanley Research

COVA: Cross-Asset Correlation-Valuation Framework

Our correlation-valuation (COVA) scorecard aims to identify good portfolio diversifiers at reasonable prices, rewarding assets that have: 1) a more negative correlation to equities; 2) a more stable correlation; 3) a higher downside beta; 4) more attractive valuations; and 5) more attractive carry. The higher the score, the better the portfolio diversifier is. For more details on the framework, see [here](#).

Exhibit 40: Cross-asset diversifiers: Top diversifiers based on COVA

Long/Short	Asset	Corr.	Stability	Downside Beta	Valuation	Cost of Carry	Overall COVA score	Hedge Ratio (\$mn per \$1mn of equity risk)
Long	Cons Staples vs Mkt	● 88	● 88	● 69	● 73	● 70	77	1.9
Long	Real Estate vs Mkt	▲ 60	▲ 58	▲ 58	● 98	● 98	74	7.1
Short	ZARUSD	● 79	● 100	● 72	◆ 21	● 99	72	2.9
Short	CADUSD	● 86	● 84	▲ 65	▲ 40	● 84	71	3.7
Long	MSCI EM vs S&P 500	▲ 60	▲ 50	▲ 50	● 93	● 100	71	2.6
Short	IT vs Mkt	● 73	▲ 56	▲ 54	● 71	● 97	71	3.3
Short	AUDUSD	● 86	● 86	● 70	◆ 16	● 99	71	2.7
Short	CHFUSD	▲ 66	▲ 64	▲ 49	● 76	● 99	70	5.7
Short	UST 30y	▲ 54	▲ 56	▲ 44	● 99	● 99	70	1.7
Short	NOKUSD	● 87	● 86	● 70	◆ 20	● 87	69	1.8
Short	Brent	● 74	● 82	● 70	◆ 20	◆ 9	69	1.1
Long	Topix vs S&P 500	▲ 64	▲ 52	▲ 55	● 77	● 88	68	3.8

Source: Morgan Stanley Research; Note: Overall score is a weighted average of correlation score (60%) and valuation score (40%). We show 'long' for assets with correlation <0% based on average of 10yr and 6m correlation to MSCI ACWI, and 'short' otherwise. Scores are based on the direction of the trade. Hedge ratio is computed using the inverse of historical beta to global equities over the last year. For assets with low correlation to MSCI ACWI (<20%), we use the inverse of relative vol to global equities as its hedge ratio. *Hedge ratios of long vol strategies are expressed in terms of how much an investor would need to do to get a 8% vol equivalent of risk.

Cross-Asset Correlations

Exhibit 41: Cross-asset correlations and where they stand on their 10-year range

	1Y Correlation				10Y Range
	Current	1m Chg	10Y Median	Z-score	
EQUITY & RATES					
S&P 500 vs UST 10Y	22%	↑	48%	-26%	2.5
SX5E vs Bunds 10Y	10%	↑	40%	-23%	1.9
FTSE 100 vs Gilts 10Y	14%	↑	43%	-16%	1.4
Topix vs JGB 10Y	-13%	↑	20%	-17%	0.1
S&P 500 vs US 10Y B/E	27%	↑	0%	46%	-1.4
EQUITY & FX					
S&P 500 vs DXY	-57%	↓	-25%	-11%	-1.6
Eurostoxx 50 vs EUR	46%	↑	17%	-3%	1.8
FTSE 100 vs GBP	58%	↑	1%	5%	2.0
Topix vs JPY	-24%	↑	20%	-53%	1.3
MSCI EM vs USD	-62%	↓	-4%	-62%	0.0
EQUITY & CREDIT					
S&P 500 vs US IG	67%	↑	5%	53%	1.3
S&P 500 vs US HY	71%	↑	1%	70%	0.1
Eurostoxx 50 vs EU IG	72%	↑	0%	57%	1.4
EQUITY & COMMODITY					
S&P 500 vs Brent	15%	↑	4%	41%	-1.1
S&P 500 vs Gold	10%	↑	24%	-7%	0.9
S&P 500 vs Silver	32%	↑	27%	11%	1.0
S&P 500 vs Copper	42%	↑	8%	22%	0.6
RATES & COMMODITY*					
UST 10Y vs Brent	2%	↓	-8%	30%	-1.2
UST 10Y vs Gold	-36%	↓	-12%	-36%	0.3

Source: Bloomberg, Morgan Stanley Research; Note: *Rates correlations in yield terms here but in price terms for the rest. Black dot represents current correlation. Dark blue shaded box shows interquartile range over the last five years, while light blue box shows 5th to 95th percentile over the last five years. Black line represents five-year median. Current correlation column shows 1Y correlation on weekly returns/yield changes.

Exhibit 42: 1Y correlation: S&P 500 versus UST 10Y



Source: Bloomberg, Morgan Stanley Research

Exhibit 43: 1Y correlation: TOPIX versus JPY



Source: Bloomberg, Morgan Stanley Research

Cross-Asset ETF Flows

We track daily fund flows across ~5,000 ETFs globally, covering US\$7 trillion of assets. For more on the full set of data we cover, see [here](#).

Key highlights from last week

- US ETFs focused on equities saw ~US\$15.4 billion of net inflows this past week. Domestic US equity funds saw ~US\$14.6 billion of net inflows, while international equity funds saw ~US\$0.8 billion of net inflows.
- US fixed income ETFs saw ~US\$2.7 billion of net inflows this past week.

Exhibit 44: US ETF fund flows summary

US ETF Fund Flows													
Name	Assets (US\$ bn)	Short Interest		Trailing 1W		Trailing 3M		Trailing 12M		5Y Zscore			3M Flow
		Latest	1M Chg	Flow (US\$ mln)	1W %	Flow (US\$ bn)	3M %	Flow (US\$ bn)	12M %	1W	3M	12M	
EQUITIES	4,389	4.1%	↑	15,366	0.3%	66.4	1.4%	405.6	7.7%	0.6	-0.6	-0.6	
US	3,478	4.5%	↑	14,607	0.4%	67.9	1.9%	328.7	8.1%	0.7	-0.2	-0.4	
International	911	2.5%	↑	758	0.1%	-1.4	-0.1%	76.9	6.2%	-0.3	-0.9	-0.7	
Global	790	1.7%	↓	892	0.1%	8.3	1.0%	82.5	7.8%	-0.4	-0.8	-0.8	
Europe	38	3.9%	↓	-80	-0.2%	-4.0	-8.7%	-10.2	-15.0%	0.0	-1.0	-0.8	
Japan	18	2.5%	↑	-57	-0.3%	-0.8	-4.1%	-1.8	-6.8%	-0.1	-0.4	-0.1	
APxJ	52	6.0%	↓	-39	-0.1%	-4.7	-7.1%	4.8	6.1%	-0.3	-0.9	-0.5	
EM	226	4.4%	↑	-43	-0.0%	-5.4	-2.1%	22.3	7.1%	-0.3	-1.0	-0.4	
FIXED INCOME	1,197	2.7%	↑	2,699	0.2%	44.0	3.6%	165.4	13.4%	-0.3	-0.6	-1.3	
US FI	1,050	2.8%	↑	2,387	0.2%	39.8	3.7%	154.9	14.5%	-0.3	-0.4	-1.3	
US Agg	264	0.5%	↓	-212	-0.1%	6.9	2.5%	17.6	6.0%	-0.6	-0.5	-1.3	
US Govt	255	1.9%	↓	6,155	2.5%	38.1	16.6%	121.3	74.6%	1.4	0.9	1.6	
US MBS	43	1.7%	↑	93	0.2%	-0.3	-0.7%	-2.4	-4.4%	-0.2	-1.1	-1.0	
US IG	212	4.0%	↑	-2,233	-1.0%	2.4	1.1%	11.8	4.9%	-1.3	-0.6	-1.2	
US HY	65	20.0%	↑	-1,899	-2.3%	-4.5	-6.3%	-12.3	-13.5%	1.3	-0.9	-1.4	
Munis	91	0.9%	↓	1,234	1.4%	3.2	3.5%	20.4	25.4%	1.5	-0.9	-0.3	
EM Credit	18	7.6%	↑	-123	-0.6%	-0.1	-0.3%	-1.2	-4.3%	-0.5	-0.5	-1.2	
EM Local	5	2.0%	↓	-2	-0.0%	-0.1	-1.3%	1.0	18.2%	-0.1	-0.5	0.0	
COMMODITIES	126	2.6%	↓	-170	-0.1%	-8.9	-6.5%	-0.2	-0.2%	-0.3	-1.2	-0.6	
Energy	4	4.8%	↓	-78	-1.8%	-0.4	-9.5%	-1.7	-34.3%	-0.3	-0.2	-0.4	
Gold	96	3.0%	↑	42	0.0%	-6.7	-6.3%	-2.6	-2.3%	-0.1	-1.2	-0.7	
ESG	81	1.2%	↑	-29	-0.0%	0.7	0.8%	8.7	8.6%	-0.6	-1.2	-1.3	
ESG Equity	76	1.3%	↑	-19	-0.0%	0.6	0.7%	7.1	7.4%	-0.6	-1.1	-1.3	
ESG FI	6	0.6%	↓	-10	-0.2%	0.1	1.6%	1.6	31.6%	-0.8	-1.5	-1.5	

Note:
Data as of Fri 14 October 2022
Totals show assets and flows for unlevered funds only. Categories not exhaustive.
Short interest <10th percentile are highlighted in green, >90th percentile are in red.
T3M Flow shows rolling 3M net flows over the last 12 months.

Source: Bloomberg, Morgan Stanley Research

Exhibit 45: US sectors ETF fund flows summary

US ETF Fund Flows- Sectors													
Name	Assets (US\$ bn)	Short Interest		Trailing 1W		Trailing 3M		Trailing 12M		5Y Zscore			3M Flow
		Latest	1M Chg	Flow (US\$ mln)	1W %	Flow (US\$ bn)	3M %	Flow (US\$bn)	12M %	1W	3M	12M	
		EQUITIES	4,389	4.1%	↑	15,366	0.3%	66.4	1.4%	405.6	7.7%	0.6	
Domestic	3,478	4.5%	↑	14,607	0.4%	67.9	1.9%	328.7	8.1%	0.7	-0.2	-0.4	
Large-Cap	2,281	5.2%	↑	12,324	0.5%	48.5	2.0%	232.8	8.9%	0.9	0.1	0.1	
Mid- & Small-Cap	508	4.8%	↓	1,479	0.3%	9.2	1.8%	25.7	4.1%	0.3	0.1	-0.8	
Communications	12	0.6%	↓	-30	-0.3%	-0.7	-4.6%	-2.3	-10.3%	-0.3	-0.5	-0.7	
C. Disc.	23	12.2%	↑	-306	-1.3%	-0.4	-1.4%	-6.6	-16.2%	-0.8	-0.2	1.1	
C. Staples	25	14.1%	↑	103	0.4%	0.7	2.6%	6.5	32.9%	0.1	0.1	1.5	
Energy	79	9.9%	↑	302	0.4%	-0.7	-1.0%	-1.3	-2.0%	0.2	-0.5	-0.7	
Financials	52	11.6%	↑	26	0.1%	0.2	0.4%	-12.4	-15.1%	0.0	0.0	-0.8	
Health Care	87	3.2%	↓	-31	-0.0%	-1.3	-1.4%	12.1	13.8%	-0.2	-0.6	1.0	
Industrials	25	0.2%	↓	-34	-0.1%	-0.6	-2.1%	-5.2	-14.2%	0.0	-0.3	-0.8	
Materials	12	10.6%	↑	326	2.7%	-1.3	-0.9%	-0.9	-5.7%	0.7	-0.9	-0.6	
Real Estate	54	4.3%	↑	36	0.1%	-1.5	-2.2%	-2.3	-2.9%	0.0	-0.8	-0.9	
Technology	127	3.0%	↓	1,214	0.9%	0.4	0.3%	5.1	2.8%	1.2	-0.4	-0.7	
Utilities	24	8.5%	↓	-4	-0.0%	0.6	2.5%	6.0	30.7%	-0.1	0.0	1.5	

Note:
Data as of Fri 14 October 2022
Totals show assets and flows for unlevered funds only. Categories not exhaustive.
Short interest <10th percentile are highlighted in green, >90th percentile are in red.
'T3M Flow' shows rolling 3M net flows over the last 12 months.

Source: Bloomberg, Morgan Stanley Research

Exhibit 46: US fixed-income ETF flows summary

US ETF Fund Flows - Fixed Income													
Name	Assets (US\$ bn)	Short Interest		Trailing 1W		Trailing 3M		Trailing 12M		5Y Zscore			3M Flow
		Latest	1M Chg	Flow (US\$ mln)	1W %	Flow (US\$ bn)	3M %	Flow (US\$bn)	12M %	1W	3M	12M	
		Domestic	1,050	2.8%	↑	2,387	0.2%	39.8	3.7%	154.9	14.5%	-0.3	
Agg	264	0.5%	↓	-212	-0.1%	6.9	2.5%	17.6	6.0%	-0.6	-0.5	-1.3	
Government	255	1.9%	↓	6,155	2.5%	38.1	16.6%	121.3	74.8%	1.4	0.9	1.6	
Ultra Short	74	0.9%	↑	1,756	2.4%	19.2	34.9%	43.3	139.8%	0.6	1.1	1.1	
Short-Term	61	2.3%	↓	585	1.0%	6.0	10.6%	15.0	30.5%	0.2	0.3	0.0	
Intermediate	82	1.0%	↓	2,873	3.6%	7.5	9.4%	36.4	63.7%	1.7	0.3	1.6	
Long-Term	38	5.2%	↑	941	2.5%	5.5	14.0%	26.7	106.1%	0.6	0.4	2.2	
Inflation Protected	81	1.8%	↑	-596	-0.7%	-5.5	-5.9%	2.7	2.9%	-1.1	-1.5	-0.9	
MBS	43	1.7%	↑	93	0.2%	-0.3	-0.7%	-2.4	-4.4%	-0.2	-1.1	-2.0	
Municipals	91	0.9%	↓	1,234	1.4%	3.2	3.5%	20.4	25.4%	1.5	-0.9	-0.3	
Corporate	277	7.5%	↑	-4,132	-1.5%	-2.1	-0.7%	-0.5	-0.2%	-1.7	-0.8	-1.4	
IG	212	4.0%	↑	-2,233	-1.0%	2.4	1.1%	11.8	4.9%	-1.8	-0.6	-1.2	
HY	65	20.0%	↑	-1,899	-2.8%	-4.5	-6.3%	-12.3	-13.5%	-1.3	-0.9	-1.4	
International	147	1.8%	↑	313	0.2%	4.2	2.8%	10.5	6.4%	-0.4	-0.8	-2.3	
Glb Agg	115	0.8%	↑	542	0.5%	3.9	3.3%	10.0	8.2%	-0.2	-1.1	-2.4	
Glb Corp	5	0.5%	↑	-118	-2.1%	0.3	6.5%	0.1	2.2%	-1.3	-0.2	-1.5	
EM	18	7.6%	↑	-123	-0.6%	-0.1	-0.3%	-1.2	-4.3%	-0.5	-0.5	-1.2	
EM Local	5	2.0%	↓	-2	-0.0%	-0.1	-1.3%	1.0	18.2%	-0.1	-0.5	0.0	

Note:
Data as of Fri 14 October 2022
Totals show assets and flows for unlevered funds only. Categories not exhaustive.
Short interest <10th percentile are highlighted in green, >90th percentile are in red.
'T3M Flow' shows rolling 3M net flows over the last 12 months.

Source: Bloomberg, Morgan Stanley Research

Exhibit 47: US flows: Snapshot of US ETF flows this week



Data for week of Fri 07 October 2022 to Fri 14 October 2022

Source: Bloomberg, Morgan Stanley Research; Note: Equity flows include flows from US ETFs to both domestic and international equities.

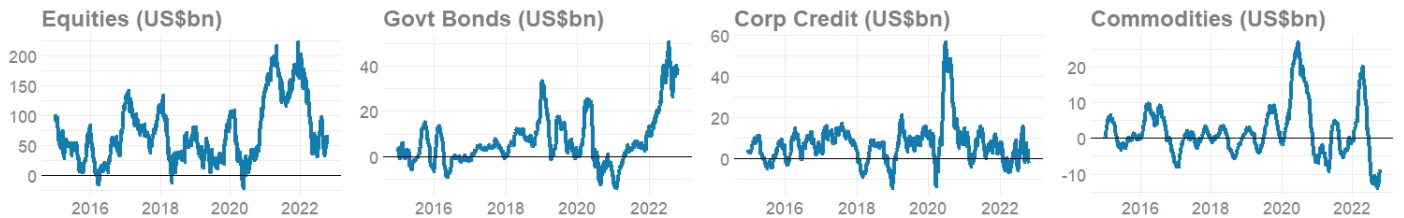
Exhibit 48: US ETF cumulative flows year-to-date



Data as of Fri 14 October 2022

Source: Bloomberg, Morgan Stanley Research; Note: Equity flows include flows from US ETFs to both domestic and international equities.

Exhibit 49: US ETF trailing 3M flows



Data as of Fri 14 October 2022

Source: Bloomberg, Morgan Stanley Research; Note: Equity flows include flows from US ETFs to both domestic and international equities.

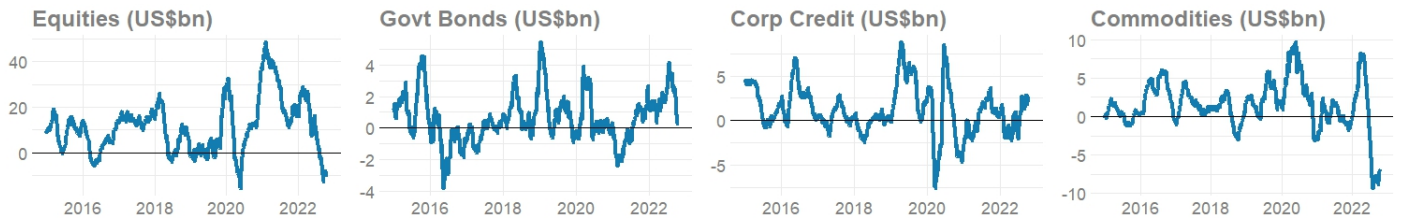
Exhibit 50: European ETF cumulative flows year-to-date



Data as of Fri 14 October 2022

Source: Bloomberg, Morgan Stanley Research; Note: Equity flows include flows from European ETFs to both domestic and international equities.

Exhibit 51: European ETF trailing 3M flows



Data as of Fri 14 October 2022

Source: Bloomberg, Morgan Stanley Research; Note: Equity flows include flows from European ETFs to both domestic and international equities.

Composite Sigma Indicator

The 'Composite Sigma Indicator' (CSI) seeks to quantify extreme market moves over time (see [Cross-Asset Dispatches: A Duck of a Market](#), November 5, 2021).

We start with ~250 'assets' across global equities, credit, commodities, FX and interest rates (nominals, breakevens and curves). The goal is to cover a wide set of assets across EM and DM that a multi-asset investor may trade (or that a trading operation may manage). We focus on daily moves, trying to capture real 'breakage' that could pose challenges for risk management.

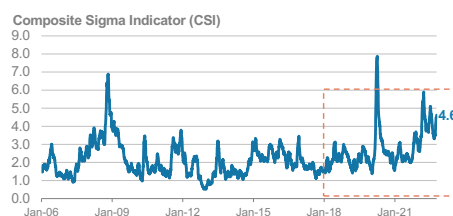
For each asset, we calculate its daily move as a standard deviation relative to the prior five years. We construct a weighted average of these standard deviations across the 20 largest daily movers, a weighting that helps to capture more extreme and idiosyncratic moves.

Exhibit 52: Largest cross-asset moves over the last week (adjusted for vol)

Asset	Weekly Move (bp)	Weekly Move %ile	Weekly Move as Stdev	Vol1m as Stdev
Rates Hungary 5yr	147	100.0	7.6	3.6
Curve HUF 2s10s	-168	100.0	10.0	8.7
Rates HUF 2yr	193	99.9	7.9	5.0
Curve NOK10s30s	-16	99.6	7.1	2.1
Curve GBP10s30s	23	99.5	6.0	8.9
Curve GBP 2s10s	30	99.3	4.7	7.6
Rates Colombia 10y	128	99.1	4.4	2.0
Rates UK 30yr	39	98.6	3.1	11.0
B'even UK B'even 10yr	-26	98.6	3.2	8.2
Curve CLP 2s10s	54	98.3	3.9	2.0
Rates Poland 2yr	69	98.1	3.6	2.5
Curve CHF 2s10s	17	97.9	3.0	4.5
Rates CLP 2yr	-65	97.8	3.2	2.8
Rates TRY 2yr	-475	97.0	2.5	4.9
Curve TRY 2s10s	234	94.2	1.8	2.8

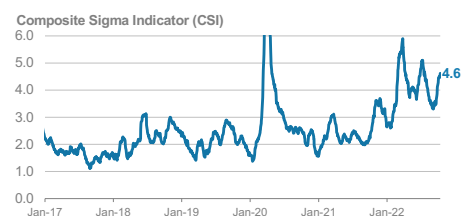
Source: Morgan Stanley Research Note: Weekly move as stdev and vol1m as stdev are measured relative to the moves of the last five years.

Exhibit 53: Composite Sigma Indicator since 2005



Source: Bloomberg, Morgan Stanley Research

Exhibit 54: Composite Sigma Indicator in the last five years



Source: Bloomberg, Morgan Stanley Research

Cross-Asset Long-Term Capital Market Assumptions

Our framework for equities' expected returns includes: (1) income from dividends; (2) earnings growth; and (3) repricing, and is consistent across all regions. For fixed income, long-run return estimates are based on: (1) the initial level of yields, plus (2) returns from average roll-down, less (3) average credit loss – where credit risk exists. For more on methodology, see [here](#).

Exhibit 55: Cross-asset long-run expected returns

Market	10Y Nominal Expected Returns						Risk Premium		
	Latest		Components			vs History	Latest		vs History
	Exp Rtn (ER)	ER	(A) Income	(B) Earnings	(C) Repricing	ER Z-Score	Risk Prem. (RP)	RP	RP Z-Score
EQUITIES									
S&P 500	8.8		2.3	4.9	1.4		4.3		
MSCI Europe	12.1		4.0	4.6	3.1		8.9		
MSCI UK	11.8		4.9	2.9	3.6		7.0		
MSCI JP	5.5		2.3	-0.4	3.5		4.8		
MSCI EM	10.1		3.1	7.1	-0.3		5.6		
GOVERNMENT BONDS									
UST 10Y	4.6		4.0	0.6	0.0		2.2		
DBR 10Y	3.4		2.3	1.0	0.0		1.1		
JGB 10Y	0.7		0.2	0.5	0.0		-0.1		
FIXED INCOME & CREDIT (USD)									
USD Agg	5.1		5.0	0.2	0.1		0.4		
USD IG	6.2		6.0	0.5	0.3		1.5		
USD HY	7.5		9.7	0.1	2.1		2.5		
USD BBB	6.3		6.3	0.4	0.3		1.6		
USD BB	6.7		7.8	0.0	1.0		1.7		
USD B	7.4		10.0	0.1	2.4		2.4		
FIXED INCOME & CREDIT (EUR)									
EUR Agg	3.4		3.3	0.2	0.1		0.3		
EUR IG	4.6		4.4	0.4	0.2		2.0		
EUR HY	6.5		8.4	0.0	1.8		4.0		
EUR BBB	5.0		4.9	0.4	0.3		2.3		
EUR BB	6.4		7.5	0.0	1.0		3.9		
EUR B	7.1		9.9	0.0	2.6		4.6		
EM \$ CREDIT									
Global	7.9		8.5	0.3	0.9		3.1		
Asia	7.7		8.1	0.2	0.5		2.7		

Note:
Data as of Fri 14 October 2022

Source: Morgan Stanley Research forecasts

Cross-Asset Monitor: Levels, Changes, Valuations

Key highlights from last week

- EM equities recorded the biggest losses last week (MSCI EM fell 3.8%). Europe equities delivered gains (Euro Stoxx up 0.2%). Among global equity sectors, Consumer Discretionary was the worst performing (down 4.1%).
- US MBS moved 2.5 standard-deviations wider. Europe CDS indices tightened, with XOver seeing a -10bp move.
- Yields on US 2y and the 10y Breakeven rose by more than 2 standard-deviations. US 2s10s curve flattened 5bp.
- CNY fell 2.1 standard-deviations. GBP and NOK outperformed, up 0.8% and 0.3%, respectively.
- Silver was the worst-performing commodity, falling 2.8 standard-deviations. Copper outperformed, up 1.1%.

As of October 14, 2022

Exhibit 56: Cross-asset monitor: Levels, changes, valuations

Morgan Stanley Cross-Asset Monitor							
	Where are levels on a 1-year range?		Where are moves extreme?			Where are valuations?	
	Latest	1Y Range	1W Δ	1M Δ	1Y Δ	Forward P/E Latest	10Y %-tile
Equities							
MSCI ACWI	552	■	-1.9%	-9.3%	-24.0%	13.4	12%
S&P 500	3,583	■	-1.6%	-9.2%	-19.3%	15.5	22%
Russell 2000	1,682	■	-1.2%	-8.5%	-26.0%	18.7	7%
NASDAQ	10,692	■	-3.1%	-11.9%	-29.0%	20.0	49%
Eurostoxx 50	3,382	■	0.2%	-5.2%	-18.5%	10.2	3%
DAX	12,438	■	1.3%	-4.5%	-19.6%	10.0	2%
FTSEMIB	20,931	■	0.1%	-6.6%	-20.3%	7.9	2%
FTSE 100	6,859	■	-1.9%	-5.8%	-4.8%	8.9	2%
TOPIX	1,898	■	-0.5%	-2.5%	-4.5%	11.7	4%
MSCI EM	863	■	-3.8%	-10.3%	-31.8%	9.9	3%
MSCI ACWI							
Cons. Disc.	270	■	-4.1%	-13.9%	-32.5%	16.8	58%
Cons. Staple	241	■	0.3%	-6.4%	-12.7%	18.3	27%
Comm. Serv.	68	■	-2.5%	-10.7%	-40.2%	14.1	21%
Energy	223	■	-2.3%	-4.0%	11.8%	7.1	2%
Financials	117	■	-0.7%	-7.9%	-22.3%	9.3	2%
Healthcare	308	■	0.3%	-3.4%	-11.0%	16.2	31%
Industrials	245	■	-1.1%	-8.4%	-23.8%	13.9	12%
Materials	270	■	-2.4%	-8.1%	-24.4%	9.8	3%
Real Estate	155	■	-2.8%	-16.2%	-30.3%	18.0	4%
Tech.	366	■	-3.6%	-11.8%	-30.2%	17.3	52%
Utilities	132	■	-2.6%	-16.8%	-13.4%	15.3	59%
Large/Small	88%	■	0.0%	0.2%	5.6%	1.1	92%
Value/ Growth	62%	■	2.5%	4.2%	19.9%	0.5	27%

Source: Bloomberg, Datastream, Haver Analytics, Morgan Stanley Research; Note: Valuation shading green = cheap, red expensive (e.g., high fwd P/E = expensive, high credit spread = cheap). We use a 30-day period for 1M Δ. Boxed numbers are +2-standard deviation moves.

Exhibit 57: Cross-asset monitor: Levels, changes, valuations

Credit	Sprd (bp)	1Y Range	1W Δ	1M Δ	1Y Δ	Spread (bp)	
						Latest	10Y %-tile
US IG	164		11	24	79	164	94%
US HY	522		24	59	227	522	83%
US IG BBB	197		11	25	92	197	90%
US HY BB	334		16	27	125	334	76%
CDX IG	104		3	19	52	104	98%
CDX HY	595		13	97	295	595	98%
EUR IG	230		9	31	143	230	99%
EUR HY	622		19	76	306	622	98%
EUR IG BBB	268		10	37	168	268	99%
EUR HY BB	486		17	58	246	486	98%
Main	131		-1	24	80	131	99%
XOver	626		-10	101	370	626	99%
EM \$ Sov	569		23	74	206	569	98%
CDX EM	335		19	29	153	335	89%
US MBS	84		13	33	58	84	93%
CMBS AAA*	97		0	0	29	97	73%
Italy 10Y	244		-6	16	142	244	82%

Rates	Yields (%)	1Y Range	1W Δ	1M Δ	1Y Δ	Real Yields (%)	
						Latest	10Y %-tile
UST 2Y	4.50		19	71	414	-2.13	16%
UST 10Y	4.02		14	62	251	-2.61	12%
UST 30Y	4.00		15	54	198	-2.64	10%
US B/E 10Y	2.41		14	-6	-13	2.41	86%
UST 2Y/10Y	-0.48		-5	-9	-163	-0.48	0%
DBR 10Y	2.34		15	63	254	-1.95	12%
UKT 10Y	4.32		9	120	328	-1.93	11%
JGB 10Y	0.25		0	-1	17	-1.37	12%

FX	Spot	1Y Range	1W Δ	1M Δ	1Y Δ	REER	
						Latest	10Y %-tile
AUD/USD	0.6199		-2.8%	-8.1%	-16.4%	86	16%
EUR/USD	0.9722		-0.2%	-2.6%	-16.2%	90	14%
CHF/USD	0.9946		-1.1%	-4.3%	-8.2%	108	76%
GBP/USD	1.1172		0.8%	-3.2%	-18.3%	103	58%
JPY/USD	0.0067		-2.3%	-3.8%	-23.5%	58	1%
NOK/USD	0.0936		0.3%	-5.6%	-20.9%	82	20%
NZD/USD	0.5562		-0.9%	-7.3%	-20.9%	101	17%
CNY/USD	0.1390		-1.1%	-3.2%	-10.5%	126	70%
IDR/USD**	0.0065		-1.1%	-3.3%	-8.5%	93	76%
INR/USD	0.0121		0.0%	-3.5%	-8.6%	102	81%
KRW/USD**	0.0700		-1.1%	-2.7%	-16.9%	97	1%
MYR/USD	0.2125		-1.2%	-3.8%	-11.7%	82	1%
ZAR/USD	0.0545		-1.4%	-4.8%	-19.5%	74	22%
BRL/USD	0.1878		-2.3%	-3.0%	3.5%	67	25%
MXN/USD	0.0498		-0.2%	-0.7%	2.3%	90	73%
DXY	113.31		0.5%	3.3%	20.6%	-	-
EUR TW	99.53		0.4%	0.5%	-2.3%	-	-

Commodities	Latest	1Y Range	1W Δ	1M Δ	1Y Δ	Inflation-Adj Price	
						Latest	10Y %-tile
BCOMSP	549		-3.1%	-6.5%	3.4%	1.85	86%
WTI Crude	86		-7.6%	-2.7%	18.1%	0.29	60%
Brent	92		-6.4%	0.6%	52.8%	0.31	76%
Gold	1,642		-3.5%	-3.3%	-9.3%	5.54	34%
Silver	18		-10.8%	-7.6%	-23.7%	0.06	6%
Copper	342		1.1%	-2.8%	-26.1%	1.16	42%
Iron Ore	754		-1.1%	-9.1%	28.6%	2.54	87%

Volatility	Latest	1Y Range	1W Δ	1M Δ	1Y Δ	Level	
						Latest	10Y %-tile
VIX	32.0		0.7	5.9	15.2	32.0	96%
V2X	29.8		-0.2	3.5	12.8	29.8	91%
FX Vol	13.1		0.4	2.0	6.5	13.1	100%

Source: Bloomberg, Datastream, Haver Analytics, Morgan Stanley Research; Note: *CMBS price series is weekly. **Spot x-rate shown x100. Valuation shading green = cheap, red expensive (e.g. high fwd P/E = expensive, high credit spread = cheap). Real yields are calculated using breakevens. We use a 30-day period for 1M Δ. Boxed numbers are +2-standard deviation moves.

Cross-Asset Volatility Monitor

Exhibit 58: Cross-asset volatility monitor

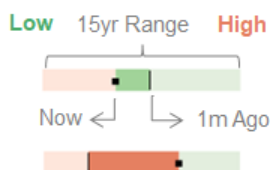
Index	Implied Daily Move	Implied Vol 3m (IV3m)		Vol Carry IV3m - RV1m		Vol Skew 3m*		Term Structure (3m-1y)	
		Now	Δ1m on 15yr Range	Now	Δ1m on 15yr Range	Now	Δ1m on 15yr Range	Now	Δ1m on 15yr Range
Equities									
S&P 500	1.73%	27.5%		0.4%		6.4%		-0.7%	
Russell 2000	1.95%	31.0%		1.2%		6.5%		-1.8%	
Nasdaq	2.12%	33.7%		4.0%		7.7%		-2.1%	
Eurostoxx 50	1.66%	26.3%		4.4%		7.1%		-1.9%	
FTSE 100	1.32%	21.0%		5.7%		6.3%		-0.2%	
Nikkei	1.36%	21.6%		-4.0%		5.9%		-0.5%	
MSCI EM	1.69%	26.9%		4.2%		7.3%		-0.2%	
Hang Seng	1.93%	30.6%		-0.2%		7.3%		-2.8%	
Kospi	1.40%	22.2%		1.6%		6.4%		-1.5%	
Rates									
US10y	9.2	146		5		-7		-15	
EU10y	10.3	164		27					
Credit									
CDX HY	0.76%	12.0%		0.0%					
CDX IG	3.8	61		5					
Commodities									
BrentCrude	3.20%	50.8%		11.6%		0.5%		-1.1%	
Gold	1.14%	18.2%		1.1%		0.0%		0.7%	
G10 FX									
JPY	0.80%	12.8%		4.4%		-0.3%		-0.7%	
EUR	0.74%	11.8%		-0.5%		1.8%		-0.7%	
GBP	1.02%	16.2%		-4.7%		3.7%		-1.4%	
AUD	1.00%	15.8%		2.2%		2.5%		-0.9%	
CAD	0.67%	10.6%		0.2%		2.5%		-0.4%	
FX EM									
BRL	1.30%	20.6%		-3.3%		2.0%		-1.0%	
MXN	0.76%	12.1%		3.2%		3.2%		0.9%	
CNH	0.51%	8.2%		0.9%		1.4%		-0.6%	
KRW	0.77%	12.2%		-0.0%		1.9%		0.2%	
ZAR	1.02%	16.2%		4.1%		2.3%		-0.1%	

Source: Morgan Stanley Research. Notes: Components of the scorecard: A) 3m implied vol. B) Vol carry: Defined as the difference between 3-month implied vol and 1-month realised vol. C) Vol skew (3m): 1) Defined as OTM put - OTM call 2) Defined as 25-delta skew for equities, commodities and FX 3) Defined as +50/-50bp skew for US rates and +25/-25bp skew for EU rates 4) Defined as 80/130 skew for credit. D) Term structure: Defined as the difference between 1-year and 3-month implied vol

Exhibit 59: Cross-asset volatility monitor explained

How to read it?

We show a 1-month change for each volatility metric on its 15-year range, where the dot represents current level and the black line represents the level one month ago.



Green shaded area shows a **fall** in the volatility metric.

Red shaded area shows a **rise** in the volatility metric.

Source: Morgan Stanley Research

FX-Hedged Yields

Where can investors find the highest yields?

Exhibit 60: FX-hedged yields

	Local Yield	USD Investor				EUR Investor				JPY Investor			
		FHY	Δ 1m	LT Avg	Last Z-score	FHY	Δ 1m	LT Avg	Last Z-score	FHY	Δ 1m	LT Avg	Last Z-score
DM EQUITIES													
S&P 500	1.8%	1.8%	17	1.9%		-0.8%	-3	1.2%		-3.4%	-36	-0.2%	
Eurostoxx	3.7%	6.5%	46	4.3%		3.7%	24	3.6%		1.0%	-11	2.5%	
Japan	2.5%	8.1%	67	3.8%		5.3%	44	3.1%		2.5%	8	1.7%	
UK	4.1%	4.1%	-22	3.5%		1.4%	-41	2.8%		-1.2%	-74	1.7%	
EM EQUITIES													
India	1.3%	-1.4%	20	-2.5%		-4.0%	0	-3.1%		-6.5%	-32	-4.4%	
Mexico	4.0%	-2.7%	-8	-3.1%		-5.3%	-27	-3.8%		-7.7%	-58	-5.1%	
Brazil	8.5%	1.4%	-102	-5.0%		-1.2%	-120	-5.7%		-3.8%	-150	-6.9%	
SouthAfrica	5.0%	2.1%	113	-2.6%		-0.6%	91	-3.4%		-3.2%	55	-4.3%	
Korea	2.4%	4.3%	47	1.5%		1.6%	26	0.7%		-1.0%	-9	-0.5%	
GOVT. BONDS													
UST 10yr	4.0%	4.0%	62	3.2%		1.3%	40	2.5%		-1.3%	5	1.1%	
JGB 10yr	0.2%	5.7%	56	2.9%		2.9%	35	2.2%		0.2%	-1	0.8%	
Bund 10yr	2.3%	5.1%	86	3.0%		2.3%	63	2.3%		-0.3%	27	0.9%	
BTP 10yr	4.8%	7.6%	103	4.3%		4.8%	79	3.6%		2.1%	42	2.2%	
EM Local													
Brazil 10y	12.1%	4.8%	93	3.8%		2.1%	70	2.6%		-0.6%	35	2.2%	
Mexico 10y	9.8%	2.7%	54	2.2%		0.1%	32	0.9%		-2.5%	-2	0.8%	
S. Africa 10y	9.5%	6.5%	85	2.8%		3.7%	63	2.0%		1.0%	26	0.7%	
Korea 10y	4.2%	6.1%	103	3.5%		3.4%	80	2.8%		0.7%	44	1.6%	
CREDIT (Loss-Adj.)													
US IG	5.8%	5.8%	89	4.3%		3.1%	66	3.6%		0.4%	30	2.1%	
EUR IG	4.3%	7.1%	120	3.4%		4.3%	96	2.6%		1.6%	59	1.6%	
US HY	7.4%	7.4%	120	5.7%		4.6%	96	5.0%		1.8%	58	3.5%	
EUR HY	7.1%	10.0%	176	6.0%		7.1%	150	5.3%		4.3%	111	4.1%	

Source: Bloomberg, Morgan Stanley Research; Note: Average and Z-scores based on history going back to 2000. We use a 12m FX forward as a hedge. See [Cross-Asset Dispatches: A Field Guide to FX-Hedged Yields \(29 Apr 2018\)](#) for more on the optimal portfolio given higher short-term rates.

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(as of September 30, 2022)

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STOCK RATING CATEGORY	COVERAGE UNIVERSE		INVESTMENT BANKING CLIENTS (IBC)			OTHER MATERIAL INVESTMENT SERVICES CLIENTS (MISC)	
	COUNT	% OF TOTAL	COUNT	% OF TOTAL IBC	% OF RATING CATEGORY	COUNT	% OF TOTAL OTHER MSC
Overweight/Buy	1342	38%	295	41%	22%	590	39%
Equal-weight/Hold	1582	45%	335	47%	21%	702	46%
Not-Rated/Hold	0	0%	0	0%	0%	0	0%
Underweight/Sell	610	17%	84	12%	14%	219	14%
TOTAL	3,534		714			1511	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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Overweight (O or Over) - The stock's total return is expected to exceed the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis over the next 12-18 months.

Equal-weight (E or Equal) - The stock's total return is expected to be in line with the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis over the next 12-18 months.

Not-Rated (NR) - Currently the analyst does not have adequate conviction about the stock's total return relative to the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U or Under) - The stock's total return is expected to be below the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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