December 31, 2023

GLOBAL MARKETS PERFORMANCE REPORT

FT Wilshire 5000 - Sector, Style, Factors

FT Wilshire Global Equity Markets and Sectors

Fixed Income and FX

Alternatives

December Performance Report Synopsis

Sections	Key Market Events in 2023 & Q4

FT Wilshire Indexes (pages 4-15)

+12.1%
Q4 2023 FT Wilshire 5000 return (TR)

+26.1%
FT Wilshire 5000 2023 return (TR)

Risk appetite comes roaring back in Q4 on 2024 US rate cut optimism. FT Wilshire 5000 delivers best quarterly return since Q4 2020 (page 3)

FT Wilshire 5000 briefly hits new all-time high in December on the back of the 6th best annual return since 2000 (page 5)

Global Equities (pages 16-31)

+12.5%
Q4 2023 return of Europe ex UK equities (USD,TR)

-9.9%
Return of Chinese equities Index in 2023 (USD, TR)

Technology and digital info drive US large cap and growth outperformance in 2023 (page 8)

Europe ex UK outperformance builds momentum in Q4. China underperforms in 2023 (page 18)

Fixed Income, FX (pages 32-36)

-71bps
Fall in US 10-year yield in Q4 2023

-4.6%
Decline in the DXY dollar index in Q4 2023

US 10-year yield falls 110 bps from the October peak, mainly driven by declining real yields (page 32)

The dollar weakens further in Q4 on dovish Fed pivot (page 35)

Alternatives (pages 37-42)

+13.8%
Rise in gold price in 2023

+139.1%
FT Wilshire Digital Assets Index return in 2023

Gold near all-time highs boosted by fall in real yields and increased central bank demand (page 38)

Wilshire

Multi-Asset Class returns: Dovish Fed pivot and optimism over 2024 rate cuts drive risk appetite in Q4, helping to deliver strong US equity returns in 2023

Chart 1: Both equities and bonds rallied in Q4 delivering strong US 60/40 returns. US REITs were boosted by expectations of 2024 US rate cuts. Oil saw significant declines, with the DXY dollar also falling back.
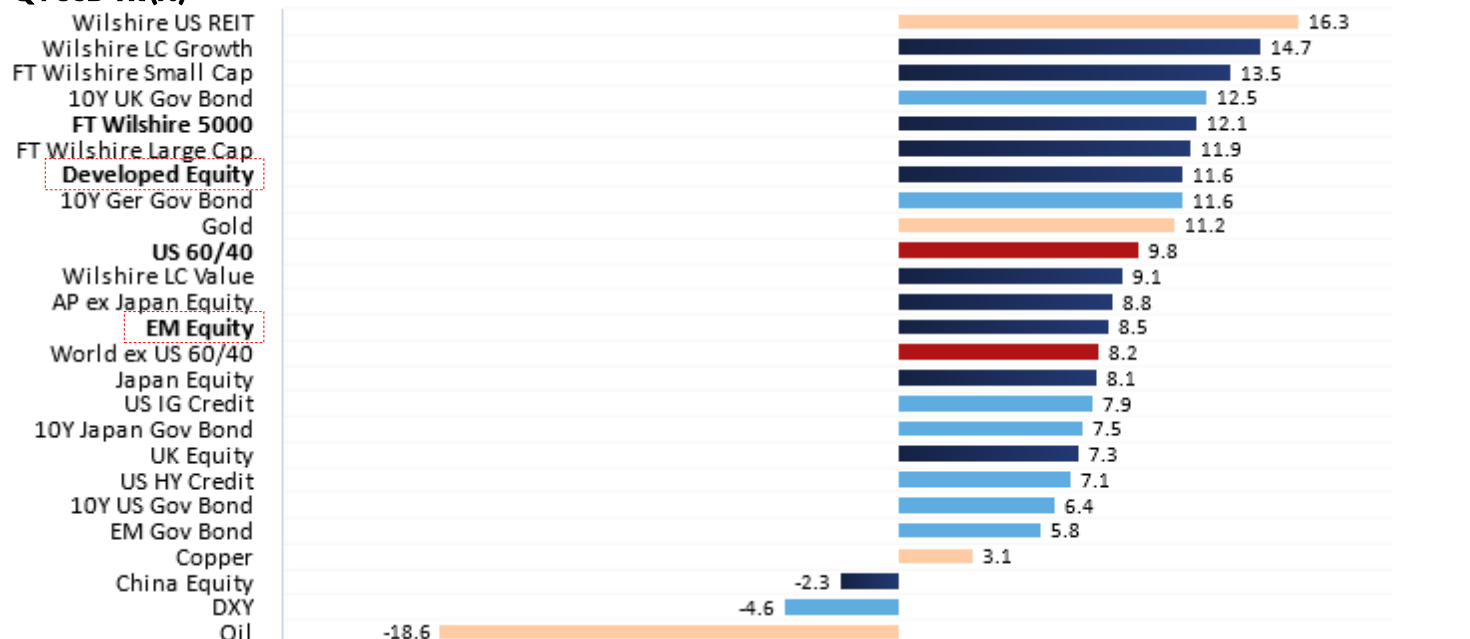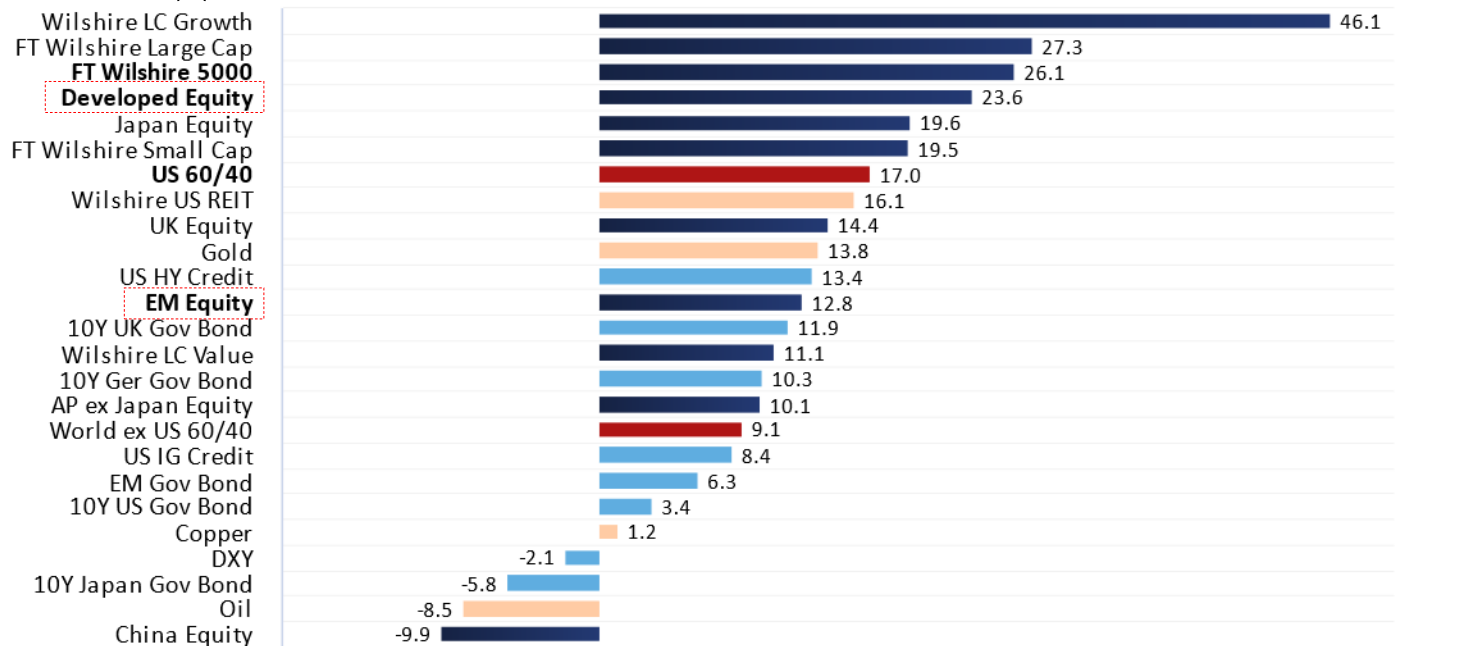
Q4 USD TR (%)

■ Equity ■ Fixed Income/FX ■ Alternatives ■ 60/40 (Equity/Bond)

Index	Value
Wilshire US REIT	16.3
Wilshire LC Growth	14.7
FT Wilshire Small Cap	13.5
10Y UK Gov Bond	12.5
FT Wilshire 5000	12.1
FT Wilshire Large Cap	11.9
Developed Equity	11.6
10Y Ger Gov Bond	11.6
Gold	11.2
US 60/40	9.8
Wilshire LC Value	9.1
AP ex Japan Equity	8.8
EM Equity	8.5
World ex US 60/40	8.2
Japan Equity	8.1
US IG Credit	7.9
10Y Japan Gov Bond	7.5
UK Equity	7.3
US HY Credit	7.1
10Y US Gov Bond	6.4
EM Gov Bond	5.8
Copper	3.1
China Equity	-2.3
DXY	-4.6
Oil	-18.6

Chart 2: US Growth style was the standout performer in 2023. Strong US performance and negative Chinese returns meant Developed markets significantly outperformed Emerging.

2023 USD TR (%)

■ Equity ■ Fixed Income/FX ■ Alternatives ■ 60/40 (Equity/Bond)

Index	Value
Wilshire LC Growth	46.1
FT Wilshire Large Cap	27.3
FT Wilshire 5000	26.1
Developed Equity	23.6
Japan Equity	19.6
FT Wilshire Small Cap	19.5
US 60/40	17.0
Wilshire US REIT	16.1
UK Equity	14.4
Gold	13.8
US HY Credit	13.4
EM Equity	12.8
10Y UK Gov Bond	11.9
Wilshire LC Value	11.1
10Y Ger Gov Bond	10.3
AP ex Japan Equity	10.1
World ex US 60/40	9.1
US IG Credit	8.4
EM Gov Bond	6.3
10Y US Gov Bond	3.4
Copper	1.2
DXY	-2.1
10Y Japan Gov Bond	-5.8
Oil	-8.5
China Equity	-9.9

FT Wilshire US Indexes Insights

| 1	2	3	4
+12.1%	**+26.1%**	**+35.0%**	**+62.8%**
Q4 2023 return of the FT Wilshire 5000	2023 return of the FT Wilshire 5000	Outperformance of Growth style versus Value in 2023	Performance of the Technology sector in 2023

The **FT Wilshire 5000** has delivered a 26.1% YTD return (22.5% real) in 2023 and seen annualized returns of 15.4% and 11.7% over 5 and 10 years, respectively. Despite the recovery in 2023, the 2-year annualized real return is still −3.5%.

Return (%)	2023	2Y		5Y		10Y		20Y	
		Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
Nominal TR	26.1	2.1	1.1	104.8	15.4	201.9	11.7	549.9	9.8
Real TR	22.5	-6.8	-3.5	68.1	10.9	130.2	8.7	291.5	7.1
Price	24.1	-1.1	-0.6	88.3	13.5	150.8	9.6	347.1	7.8

FT Wilshire 5000 20 Year Returns

Legend: FT Wilshire 5000 (Nominal TR) — FT Wilshire 5000 (Real TR) — FT Wilshire 5000 (Price)
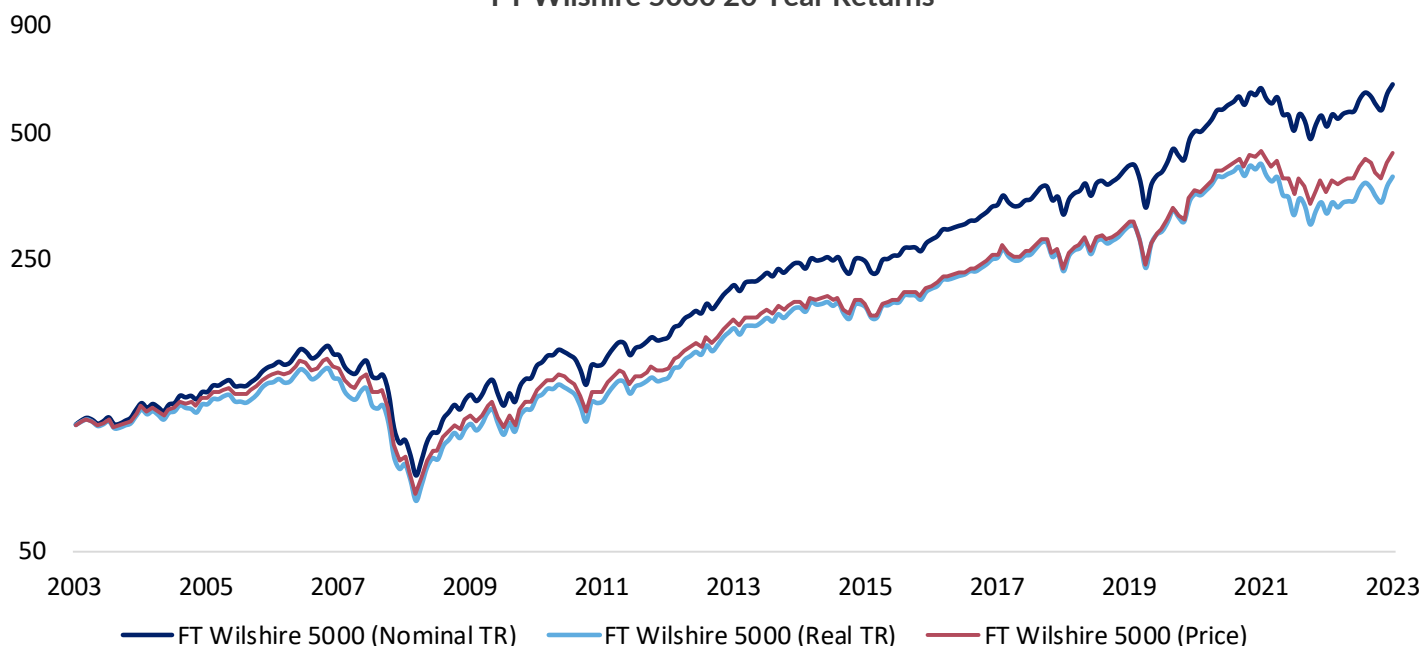
*Ann = Annualized

Source: Wilshire Indexes, FactSet. Data as of December 31, 2023

FT Wilshire 5000: Key Inflection Points in 2023

1 'Goldilocks'

Risk appetite buoyed by hopes of soft landing and expectations of peak US rates

2 Spike in Interest Rate Expectations

Strong US economic data sees spike in interest rate expectations - markets retreat

3 Silicon Valley Collapses

Bank contagion fears, markets slash US interest rate expectations

4 AI Theme

AI theme turbo charges US market as 'Magnificent 7' stocks drive returns

5 Peak Rate Optimism

Markets buoyed by optimism over peak rates, US disinflation and strong tech sector earnings

6 Fed's Shot Across the Bow

Risk appetite wains as Fed dampens market's peak rate optimism, bond yields rise further

7 Higher for Longer

Markets reassess trajectory of US 2024 rates on Powell's hawkish Jackson hole comments

8 Geopolitical Concerns

Rising bond yields and geopolitical concerns rattle US markets. US 10yr yield briefly hits 5%

9 Optimism Over 2024 US Rate Cuts

Market rebounds strongly on optimism over US interest rate cuts in 2024

Chart 1: FT Wilshire 5000 YTD (Total Return) and key inflection points

Returns (USD, TR, %)			
1M	**Q4**	**2023**	**12M**
5.3	12.1	26.1	25.8

FT Wilshire 5000 (USD)
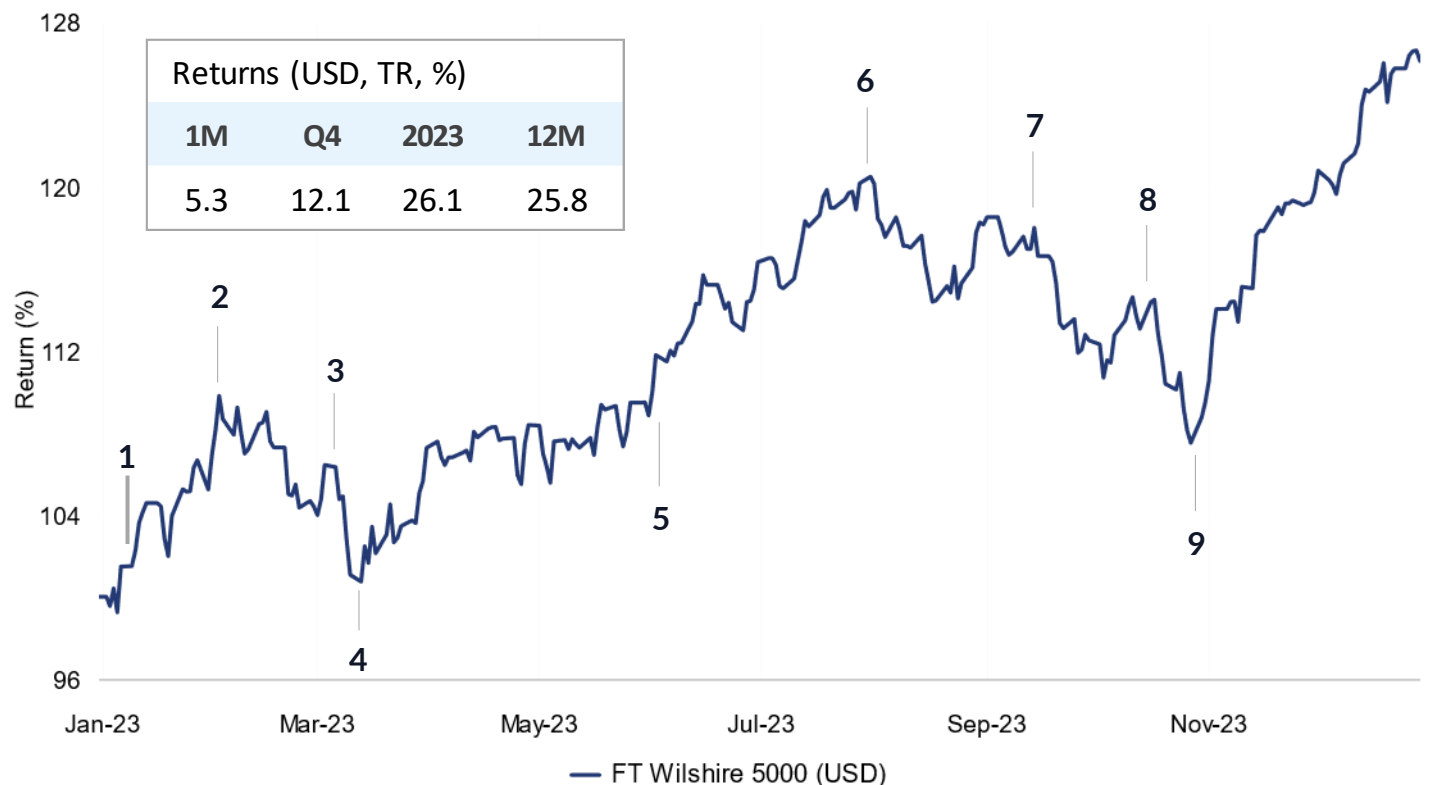
Sector returns and contributions: Tech and digital information deliver three-quarters of the 2023 FT Wilshire 5000 return

Q4 and 2023 sector returns: Technology, digital info and transportation were the top performers in 2023. Health care only posted a modest positive return, with agriculture food and beverages and energy sectors delivering a negative return in 2023.

FT Wilshire 5000: Returns Q4 vs 2023 (USD, TR, %)   ■ Q4: 12.1%   ■ 2023: 26.1%
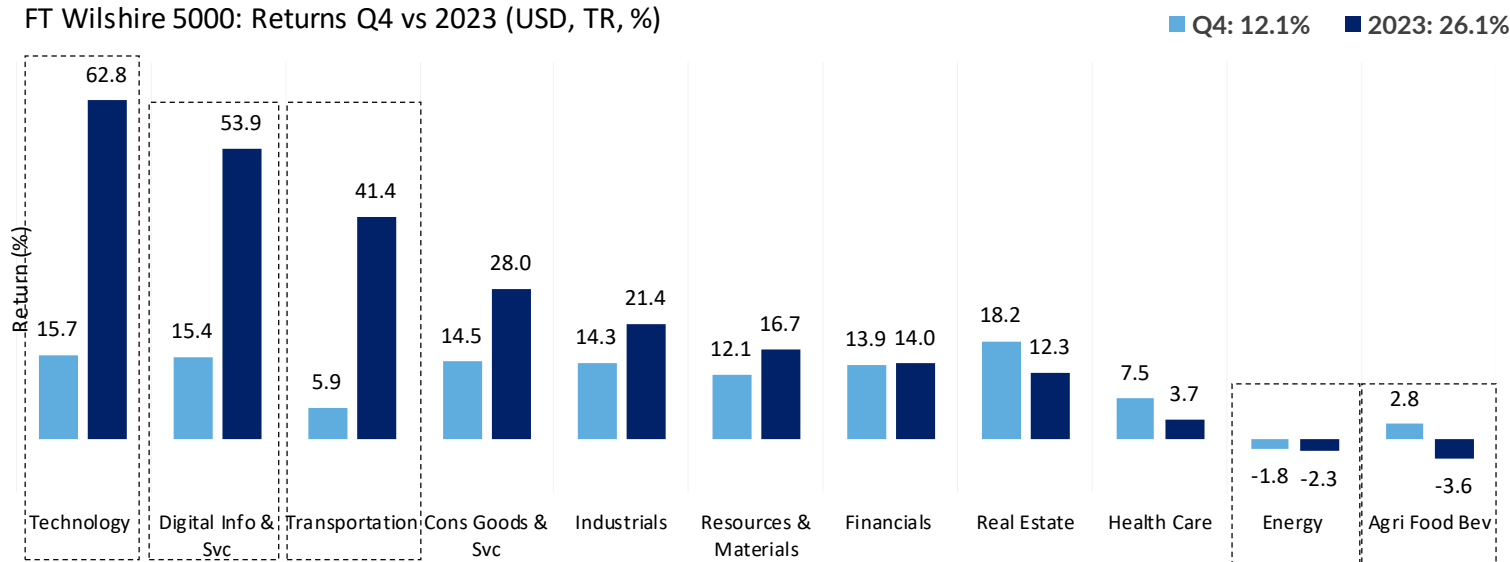
Sector weighted contributions-blending performance with sector weighting: Despite transport delivering the third strongest return it only contributed 1.6% of the 26.1% 2023 return. Tech and digital information contributed three-quarters of the FT Wilshire 5000's 2023 return.

FT Wilshire 5000: Contribution to returns QTD vs 2023 (USD, TR, %)   ■ Q4: 12.1%   ■ 2023: 26.1%
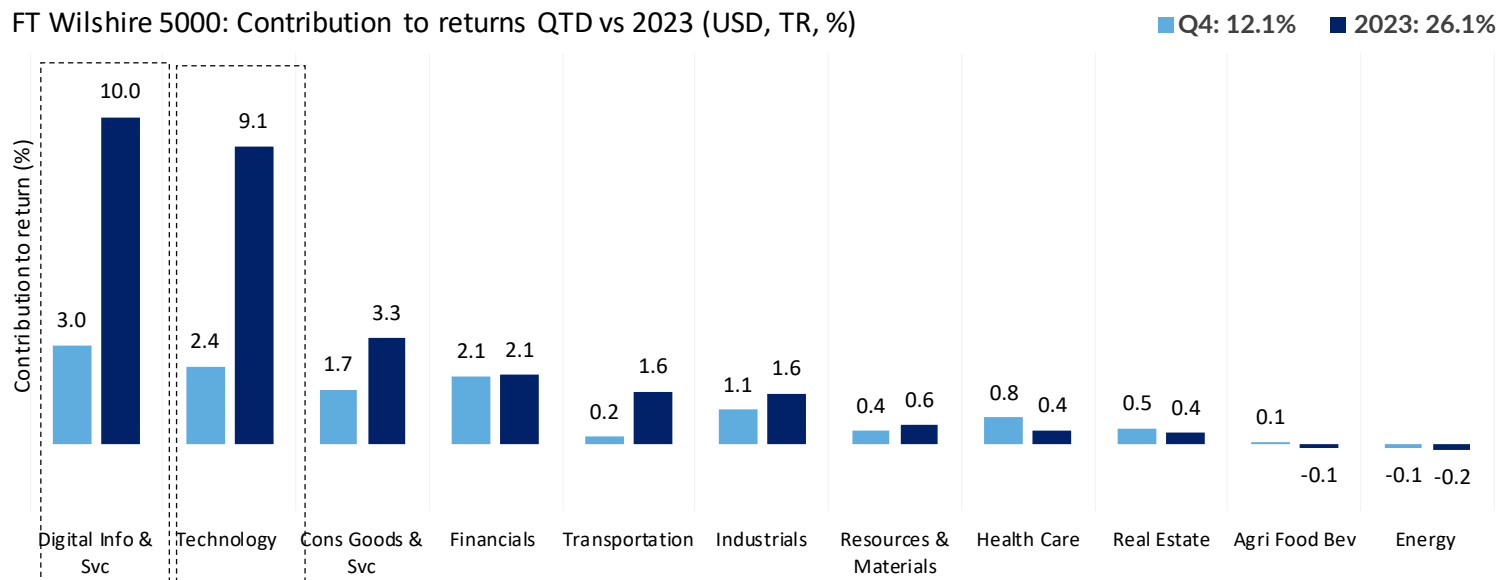
Sector returns and weights across the FT Wilshire indexes: Energy sector the notable laggard as tech and digital information dominate 2023 returns

Q4 sector returns and average weights across the FT Wilshire indexes: We highlight the differences between the two largest sector exposures in the large, small cap, growth and value indexes.

Q4 2023	FTW 5000		Large Cap		Small Cap		Micro Cap		Growth		Value	
	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts
Real Estate	18.2	2.8	18.9	2.2	17.0	7.1	15.7	4.7	19.3	2.4	18.3	2.1
Technology	15.7	15.3	16.1	16.6	8.4	6.1	8.7	5.2	16.5	23.5	15.2	9.5
Digital Info & Svc	15.4	19.7	15.5	21.0	14.9	11.1	13.2	7.6	16.9	33.8	9.2	7.8
Cons Goods & Svc	14.5	11.6	14.0	11.5	18.3	12.9	12.4	9.7	16.8	12.1	10.9	11.0
Industrials	14.3	7.4	14.7	6.7	13.2	13.0	11.2	12.1	15.6	3.3	14.4	10.1
Financials	13.9	15.0	13.0	14.8	19.8	16.0	20.1	21.8	13.4	7.0	12.9	23.0
Resources & Materials	12.1	3.6	10.1	2.9	17.3	8.8	12.6	6.2	13.4	1.6	8.9	4.1
Health Care	7.5	11.0	6.7	11.0	12.1	9.9	16.8	21.0	8.5	11.0	5.0	10.9
Transportation	5.9	4.0	5.8	3.9	6.1	4.4	12.5	3.1	3.2	4.3	9.3	3.6
Agri Food Bev	2.8	2.9	2.6	3.0	4.6	2.2	9.8	1.6	2.8	0.5	2.6	5.6
Energy	-1.8	6.7	-2.0	6.4	-0.4	8.6	-2.0	7.0	1.3	0.8	-2.2	12.3
Index Return (TR)	**12.1**		**11.9**		**13.5**		**13.7**		**14.7**		**9.1**	

2023 Sector returns and average weights across the FT Wilshire indexes: Here we contrast the top performing sectors within large cap vs small cap, and growth style vs value style

2023	FTW 5000		Large Cap		Small Cap		Micro Cap		Growth		Value	
	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts
Technology	62.8	14.5	65.4	15.7	25.0	6.2	8.9	5.1	77.6	21.7	42.4	9.5
Digital Info & Svc	53.9	18.6	56.2	19.8	19.5	10.7	5.7	7.2	63.0	31.5	29.9	8.0
Transportation	41.4	4.0	45.6	3.9	19.0	4.5	15.3	3.5	98.1	4.0	13.3	3.8
Cons Goods & Svc	28.0	11.7	28.4	11.5	21.9	12.9	21.7	9.9	43.7	12.4	10.1	10.8
Industrials	21.4	7.4	20.3	6.7	23.0	12.6	24.0	11.3	31.8	3.9	16.1	9.2
Resources & Materials	16.7	3.6	12.2	2.9	27.2	8.9	14.6	6.3	13.1	1.7	12.1	4.2
Financials	14.0	15.3	13.5	15.2	17.1	15.3	4.6	20.9	16.4	8.6	12.0	22.0
Real Estate	12.3	3.0	11.2	2.4	12.0	7.4	6.8	4.8	10.0	2.6	12.6	2.1
Health Care	3.7	11.7	3.5	11.7	4.0	10.4	2.4	23.1	10.8	11.7	-3.0	11.5
Energy	-2.3	7.1	-3.3	6.9	0.0	8.8	3.5	6.5	1.7	1.2	-3.5	12.8
Agri Food Bev	-3.6	3.2	-4.9	3.4	10.2	2.3	11.3	1.4	5.0	0.7	-5.9	6.1
Index Return (TR)	**26.1**		**27.3**		**19.5**		**8.8**		**46.1**		**11.1**	

Sector-weighted contributions across the FT Wilshire indexes: Tech and digital information contributions drive large cap and growth outperformance in 2023

Q4 2023 sector-weighted performance contributions-blend performance with sector weighting:
Contrasting the largest contributions for large cap vs small cap, and growth vs value

Q4 2023	FTW 5000	Large Cap	Small Cap	Micro Cap	Growth	Value
	Contr	Contr	Contr	Contr	Contr	Contr
Digital Info & Svc	3.0	3.2	1.6	1.0	5.7	0.7
Technology	2.4	2.7	0.5	0.4	3.9	1.4
Financials	2.1	1.9	3.2	4.4	0.9	3.0
Cons Goods & Svc	1.7	1.6	2.4	1.2	2.0	1.2
Industrials	1.1	1.0	1.7	1.4	0.5	1.5
Health Care	0.8	0.7	1.2	3.5	0.9	0.5
Real Estate	0.5	0.4	1.2	0.7	0.5	0.4
Resources & Materials	0.4	0.3	1.5	0.8	0.2	0.4
Transportation	0.2	0.2	0.3	0.4	0.1	0.3
Agri Food Bev	0.1	0.1	0.1	0.2	0.0	0.1
Energy	-0.1	-0.1	0.0	-0.1	0.0	-0.3
Index Return (TR)	**12.1**	**11.9**	**13.5**	**13.7**	**14.7**	**9.1**

2023 sector-weighted performance contributions: Superior positive contributions from the digital info and technology sectors drove the significant outperformance of large cap and growth in 2023.

2023	FTW 5000	Large Cap	Small Cap	Micro Cap	Growth	Value
	Contr	Contr	Contr	Contr	Contr	Contr
Digital Info & Svc	10.0	11.1	2.1	0.4	19.8	2.4
Technology	9.1	10.3	1.5	0.5	16.9	4.0
Cons Goods & Svc	3.3	3.3	2.8	2.1	5.4	1.1
Financials	2.1	2.0	2.6	1.0	1.4	2.6
Transportation	1.6	1.8	0.9	0.5	3.9	0.5
Industrials	1.6	1.4	2.9	2.7	1.2	1.5
Resources & Materials	0.6	0.3	2.4	0.9	0.2	0.5
Health Care	0.4	0.4	0.4	0.6	1.3	-0.3
Real Estate	0.4	0.3	0.9	0.3	0.3	0.3
Agri Food Bev	-0.1	-0.2	0.2	0.2	0.0	-0.4
Energy	-0.2	-0.2	0.0	0.2	0.0	-0.5
Index Return (TR)	**26.1**	**27.3**	**19.5**	**8.8**	**46.1**	**11.1**

Source: Wilshire Indexes. Data as of December 31, 2023 - sector contributions based on average weights over the time period.

FT Wilshire Size and Style Indexes: 2023 sees the strongest outperformance of Growth relative to Value in over two decades

Short-term size and style returns: In a reversal of what we witnessed in 2022, Growth significantly outperforms Value in 2023. Small cap finishes the year strongly but still underperforms Large cap.

USD, TR %	Size			Style	
	Large Cap	Small Cap	Micro Cap	LC Growth	LC Value
1M	4.6	10.2	13.5	4.6	4.6
Q4 2023	11.9	13.5	13.7	14.7	9.1
2023	**27.3**	**19.5**	8.8	**46.1**	**11.1**
2022	-19.2	-17.5	-21.4	-31.1	-6.0
2021	27.8	19.1	21.7	27.7	27.4

Long-term size and style returns: Growth sees a 5yr annualized return of 19.4% vs 12.4% for value

USD, TR %	Large Cap		Small Cap		Micro Cap		LC Growth		LC Value	
	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
2Y	2.3	1.2	-1.5	-0.7	-14.5	-7.5	-0.3	-0.1	4.2	2.1
3Y	32.4	9.8	18.7	5.9	4.9	1.6	28.9	8.8	34.5	10.4
5Y	111.2	16.1	78.1	12.2	56.2	9.3	143.1	**19.4**	79.6	**12.4**
10Y	217.1	12.2	129.5	8.7	86.4	6.4				
20Y	552.1	9.8	532.1	9.7	299.3	7.2				

Chart 1: Size and style index returns - 2023 YTD (USD, TR %)

Source: Wilshire Indexes. Data as of December 31, 2023
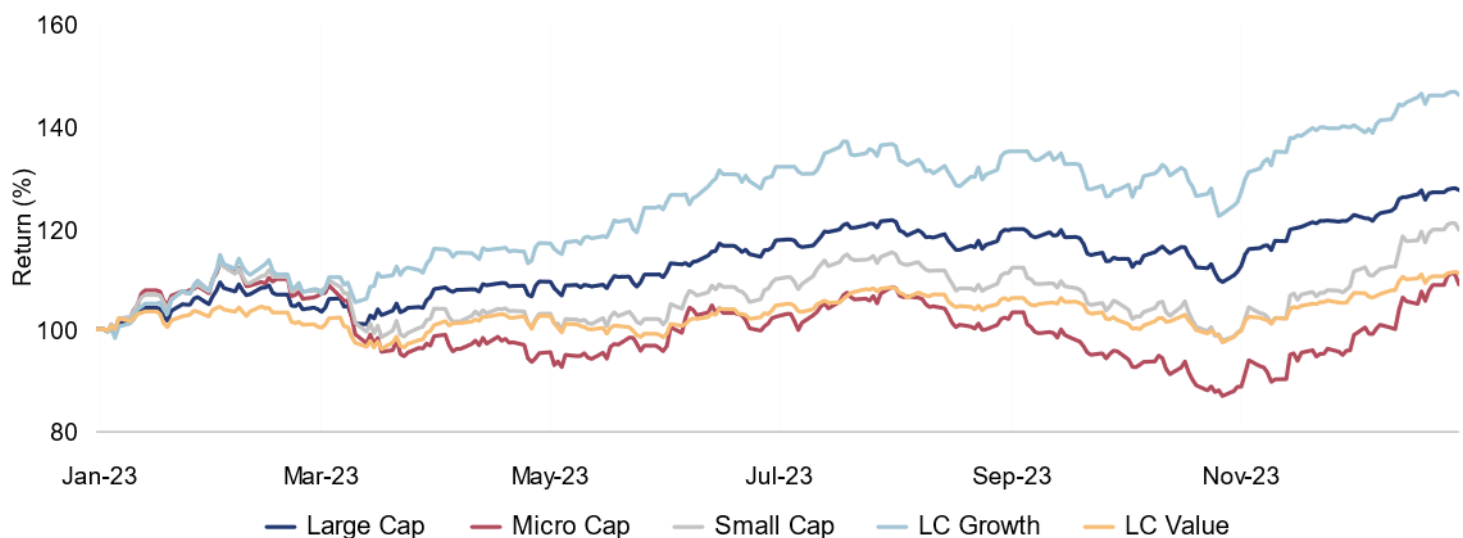
Style and Size Indexes: Growth/Value outperformance a key theme of 2023. Large/Small cap outperformance loses momentum in December.

Chart 1: Growth vs Value relative performance (USD, TR, %).

Relative Returns

Q4	2023
5.6	35.0

— Wilshire US LC Growth vs Wilshire US LC Value

Chart 2: Large vs Small Cap relative performance (USD, TR, %).

Relative Returns

Q4	2023
-1.6	7.8

— Wilshire US Large vs Small Cap
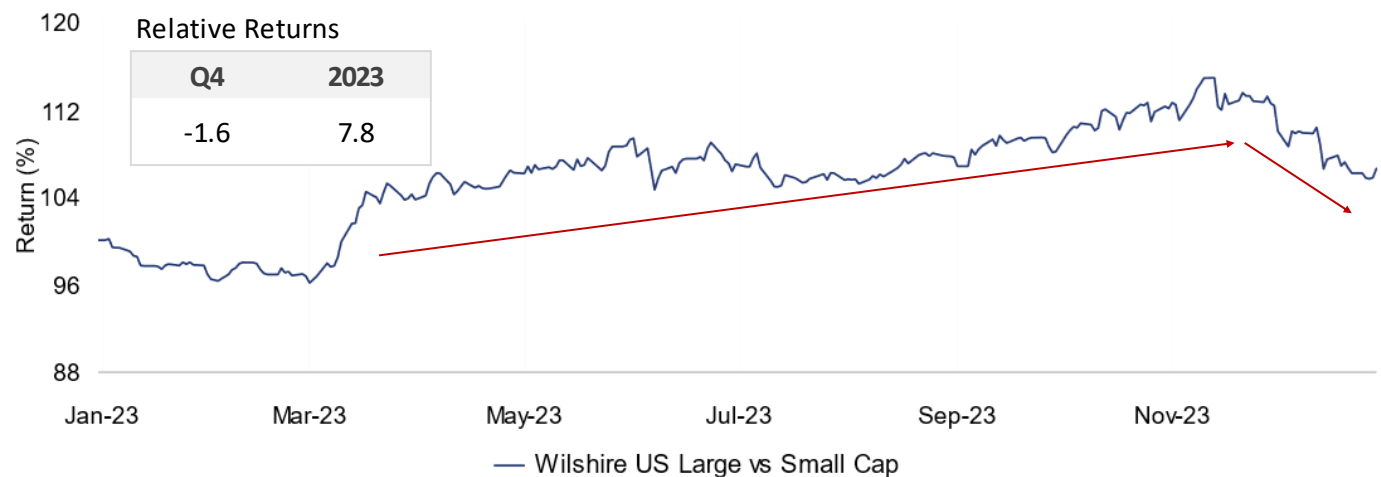
Chart 3: Large vs Micro Cap relative performance (USD, TR, %).

Relative Returns

Q4	2023
-1.8	18.6

— Wilshire US Large vs Micro Cap
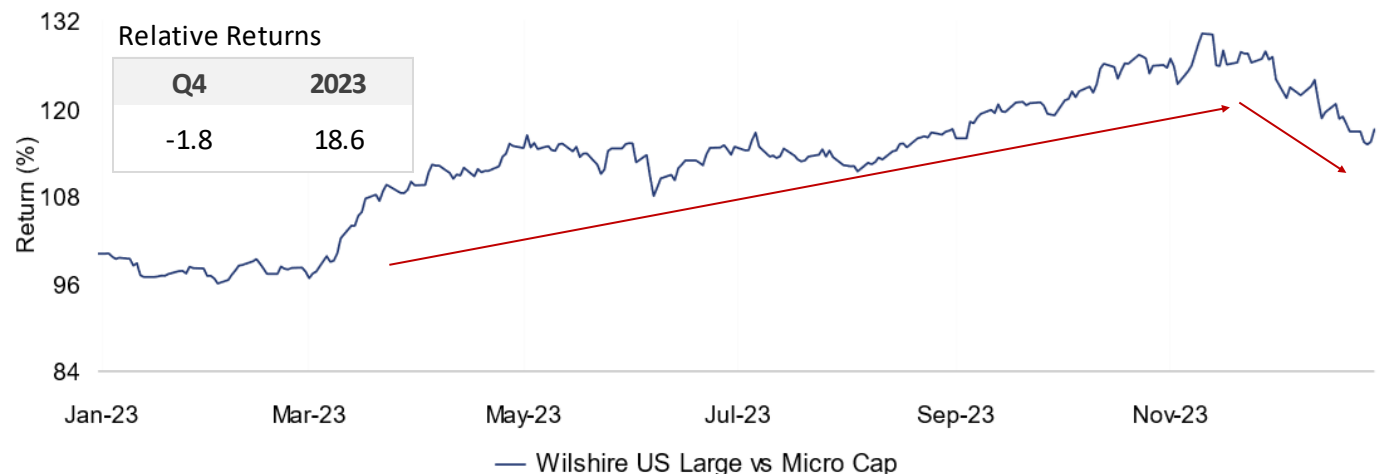
Source: Wilshire Indexes. Data as of December 31, 2023

Pure Factor Indexes: Momentum comes out on top in 2023. Value factor outperforms Quality in contrast to Growth/Value style return profile.

Our "Pure Factors" are designed to eliminate the unintended sector and factor exposures incorporated into most conventional factor methodologies. In this regard they are designed to deliver "pure" factor premia.

2023 - Pure Momentum outperforms in 2023. Value marginally outperforms Quality

Pure Factor Absolute Performance (%, TR, USD)

Momentum	Value	US Large Cap	Quality	Size	Beta
29.6	29.4	27.3	26.7	20.1	8.2
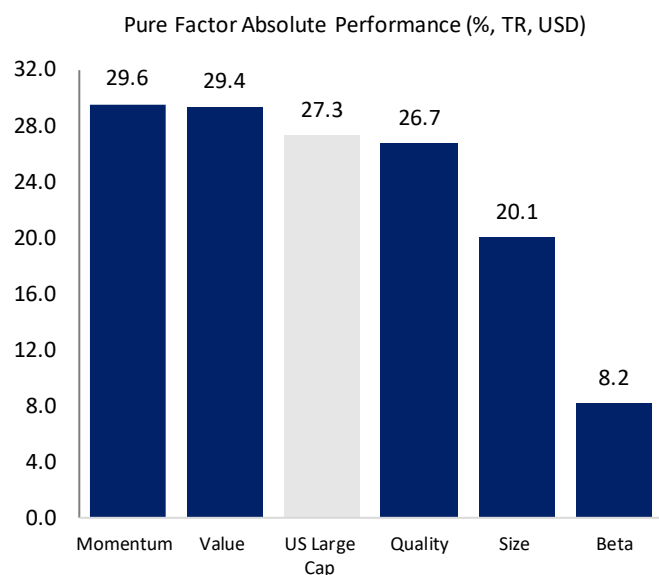
Q4 2023 –Strong final quarter of the year for Pure Size and Value. Quality and Beta underperform

Pure Factor Absolute Performance (%, TR, USD)

Value	Size	US Large Cap	Momentum	Quality	Beta
12.8	12.7	11.9	11.6	8.4	7.7
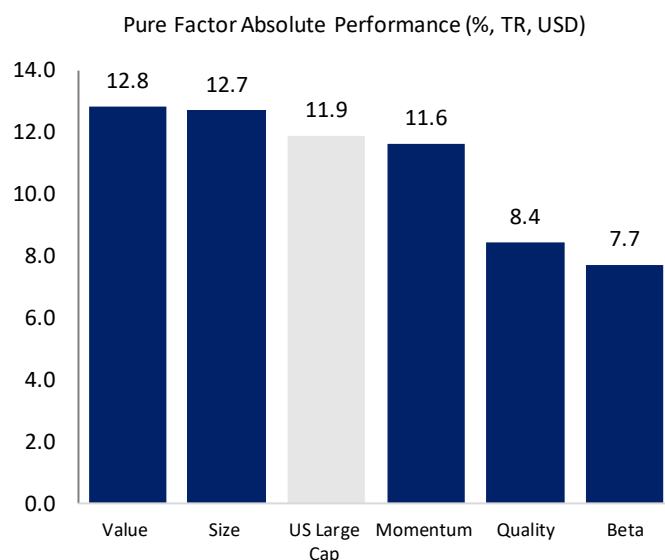
1M-Pure Value and Size delivered similar returns in December. Beta was again the laggard

Pure Factor Absolute Performance (%, TR, USD)

Value	Size	Quality	Momentum	US Large Cap	Beta
6.1	6.0	5.4	4.6	4.6	1.6
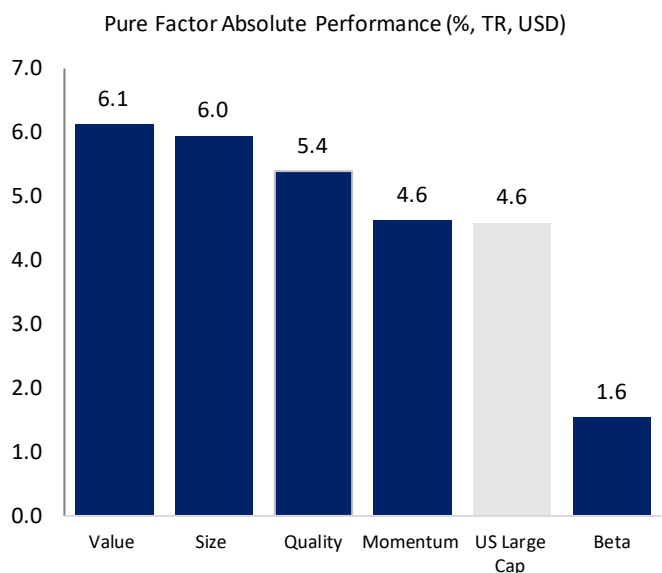
Pure Factor Indexes Relative to FT Wilshire US Large Cap Index over 12 months (Rebased, TR, USD)

Legend:
- Pure Beta vs LC
- Pure Quality vs LC
- Pure Value vs LC
- Pure Momentum vs LC
- Pure Size vs LC

Source: Wilshire Indexes. Data as of December 31, 2023

Wilshire Indexes - Performance Report (December 2023)

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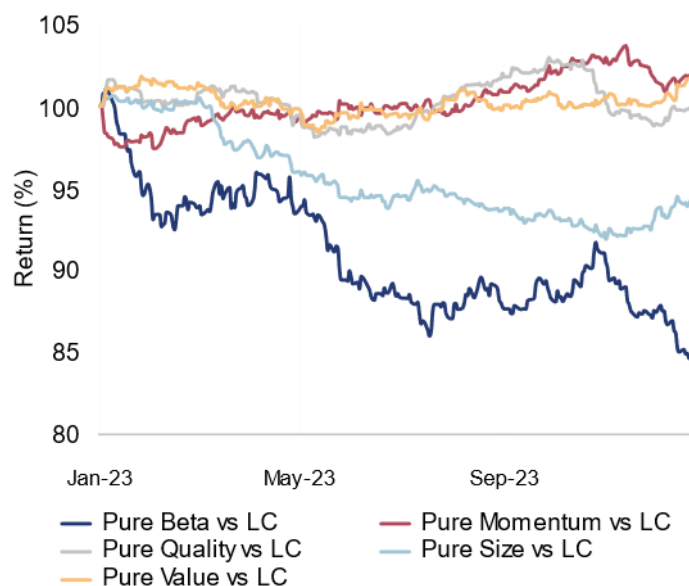
Comparing Factor vs Style returns: Pure Value significantly outperforms Value Style in 2023 but Pure Quality lags Growth Style

Pure Factor and Style Absolute
Performance - Q4, 2023, 2022 and 3YR

Returns (USD, TR %)	Q4 2023	2023	2022	3Y
Pure Factor Quality	8.4	26.7	-13.7	44.8
Style Growth	14.7	46.1	-31.1	28.9
Pure Factor Value	12.8	29.4	-16.2	40.8
Style Value	9.1	11.1	-6.0	34.5
Pure Factor Size	12.7	20.1	-17.5	24.4
Style Small Cap	13.5	19.5	-17.5	18.7

Pure Quality has lagged Growth (blue) in 2023, Pure Value has outperformed Value style (red)
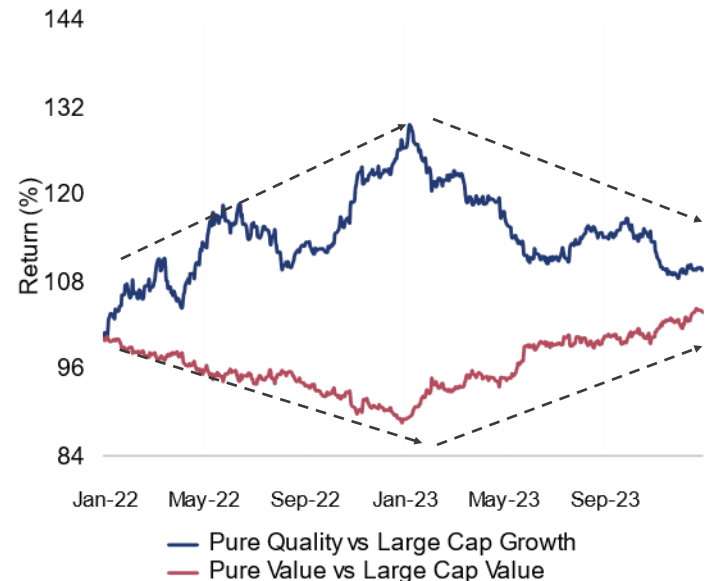
Lower volatility in Pure Quality vs Pure Value (blue) than Growth style vs Value style (red) since early 2022

Pure Factor Size has marginally outperformed US Small Cap style since the start of 2022

Source: Wilshire Indexes. Data as of December 31, 2023
Wilshire Indexes - Performance Report (December 2023)

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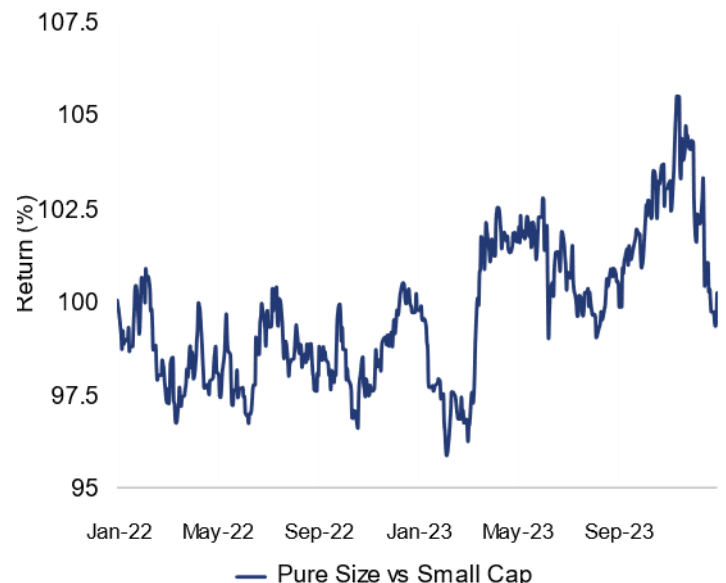
2023 Market Perspectives: FT Wilshire 5000 Equal-Weighted index underperforms market cap weighted index by 11.2% in 2023. Mag 7 dominates.

Strong performance of 'Magnificent 7' stocks has driven FT Wilshire 5000 2023 returns (26.1%) but equal-weighted was index up just 14.9% in 2023.

— FT Wilshire 5000 Index (TR) 26.1%
— FT Wilshire 5000 Equal Weighted Index (TR) 14.9%
— Aggregate 'Magnificent 7' Stocks (Market Cap Weighted) 89.7%

The contribution from the 'Mag 7' stocks has declined from the peak in May but they still contributed over half of the 2023 return

■ Contribution to FT Wilshire 5000 Return from 'Magnificent 7' Stocks (as a % of Total Return)
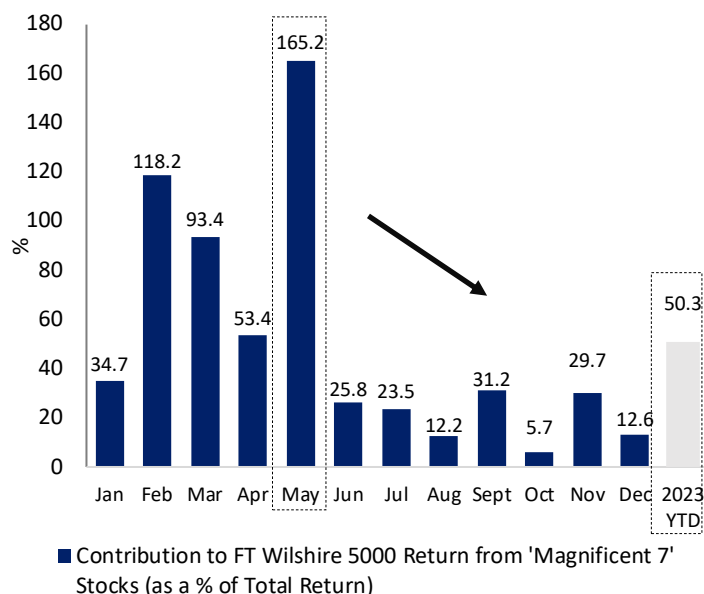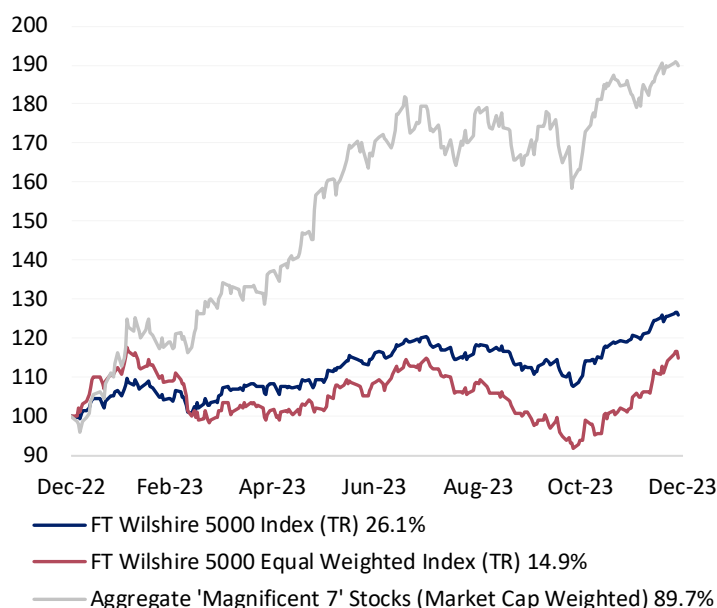
The FT Wilshire 5000 equal-weight index was held back by a lower contribution from the top decile stocks and a larger drag on returns from the bottom decile stocks

■ FT Wilshire 5000 Index   ■ FT Wilshire 5000 Equal-Weighted Index

The % of US stocks above their respective 200 DMA has risen sharply from the lows in October back towards levels seen at the start of 2023

— Percentage of US Stocks Above Respective 200 DMA-73.0%

Source: Wilshire Indexes and Refinitiv, Data as of December 31, 2023
Wilshire Indexes - Performance Report (December 2023)

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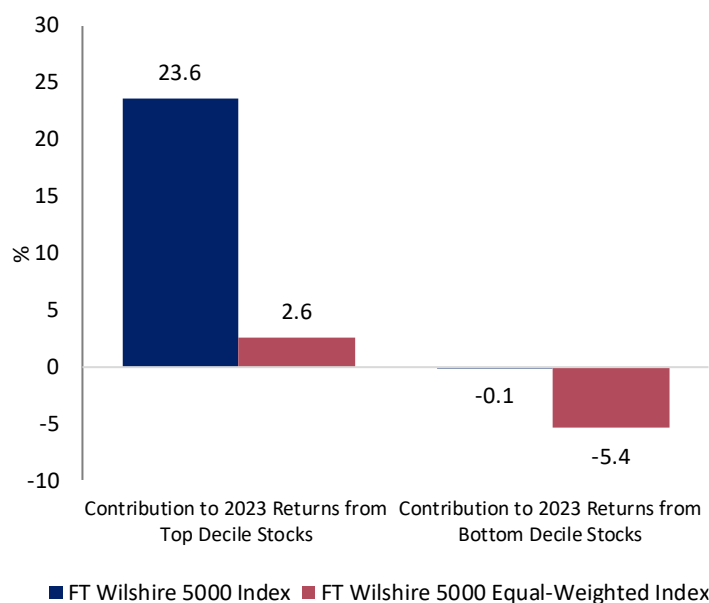
FT Wilshire 5000 Stock Level Contribution Analysis: Weighting of largest two stocks rises to the highest ever and deliver over a fifth of 2023 returns

The weighting of the 2 largest stocks (Apple and Microsoft) has hit the highest level ever in the FT Wilshire 5000 index

% Weight of Top 2 Largest Stocks in FT Wilshire 5000 Index
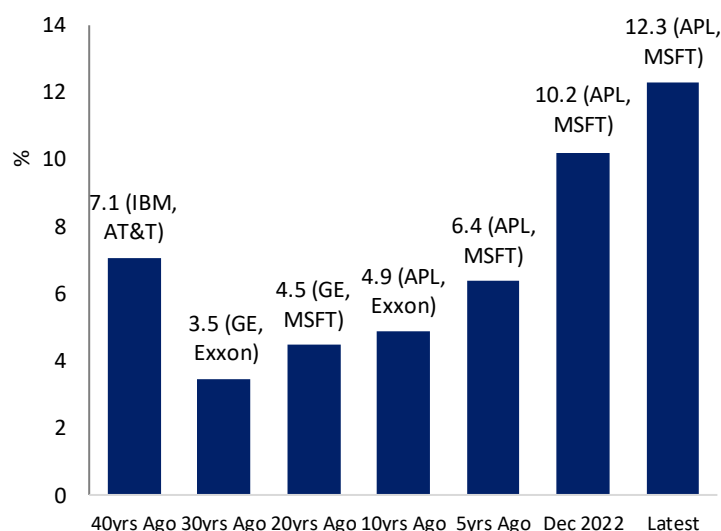
Microsoft and Apple alone contributed over a fifth of the FT Wilshire 5000 return in 2023

'Magnificent 7' Stock Contribution to 2023 FT Wilshire 5000 Return (% of Total)*
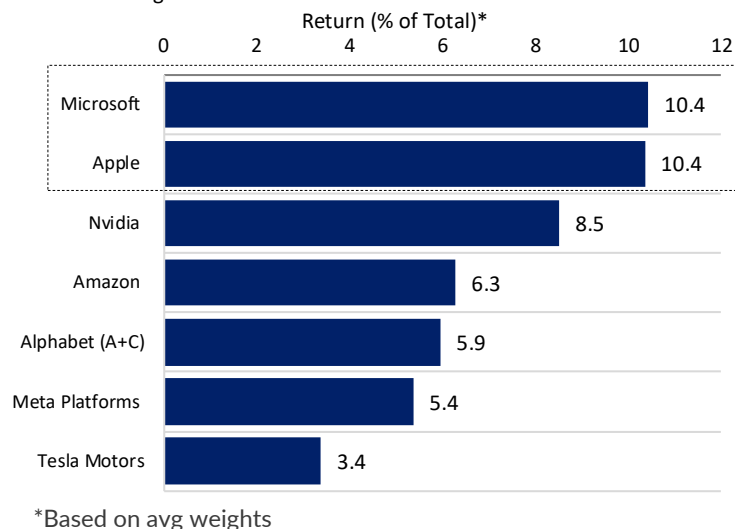
*Based on avg weights

FT Wilshire 5000 - Top/Bottom 10 contributors to return

Q4 2023 USD: 12.1% (TR)

Name	Wght	Return (%)	Contrib (%)
Microsoft Corp	5.9	19.3	1.07
Apple Inc	6.5	12.6	0.81
Amazon Com Inc	2.9	19.5	0.54
Nvidia Corp	2.5	13.9	0.34
Broadcom Inc	1.0	35.0	0.29
Meta Platforms Inc	1.7	17.9	0.29
J P Morgan Chase & C	1.1	18.2	0.18
Advanced Micro Devic	0.5	43.4	0.17
Intel Corp	0.5	41.8	0.15
Salesforce Inc	0.5	29.8	0.14
Tesla Mtrs Inc	0.5	29.8	0.14
Charter Communications	0.0	0.0	0.00
Vmware Inc	1.5	-0.7	-0.01
Aon Plc	0.1	-11.6	-0.01
Schlumberger Ltd		-14.4	-0.01
Cisco Sys Inc	0.1	-10.1	-0.02
Bristol Myers Squibb	0.2	-10.3	-0.02
Pfizer Inc	0.4	-5.3	-0.03
Chevron Corp New	0.2	-10.7	-0.03
Exxon Mobil Corp	0.3	-12.0	-0.05

2023 USD: 26.1% (TR)

Name	Wght	Return (%)	Contrib (%)
Microsoft Corp	5.9	58.2	2.72
Apple Inc	6.5	49.0	2.70
Nvidia Corp	2.5	239.0	2.22
Amazon Com Inc	2.9	80.9	1.64
Meta Platforms Inc	1.7	194.1	1.40
Tesla Mtrs Inc	1.5	101.7	0.88
Alphabet Inc	1.8	58.3	0.82
Alphabet Inc	1.5	58.8	0.73
Broadcom Inc	1.0	104.2	0.64
Eli Lilly & Co	1.1	60.9	0.50
Estee Lauder Co. Inc.	0.1	-40.1	-0.06
Schwab Charles Cp Ne	0.2	-16.0	-0.06
Dollar Gen Corp New	0.1	-44.1	-0.07
Moderna Inc	0.1	-44.6	-0.07
Exxon Mobil Corp	0.9	-6.2	-0.07
Johnson & Johnson	0.8	-7.9	-0.10
Bristol Myers Squibb	0.2	-26.2	-0.10
Nextera Energy Inc	0.3	-25.3	-0.11
Chevron Corp New	0.6	-13.6	-0.13
Pfizer Inc	0.3	-41.2	-0.31

Source: Wilshire Indexes. Data as of December 31, 2023

Wilshire Indexes - Performance Report (December 2023)

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FT Wilshire Index Risk vs Return: 1 year and 5 year perspectives

FT Wilshire Indexes: Risk vs Return Over 1 Year

FT Wilshire Indices-1 Year
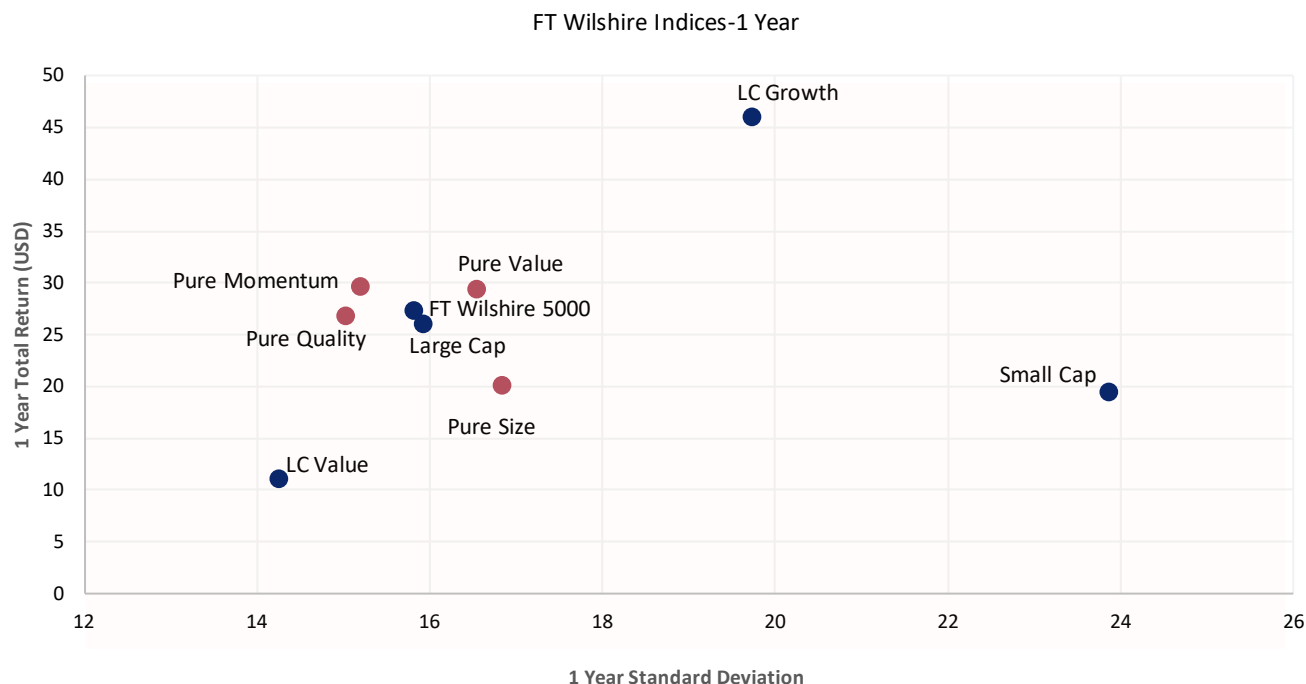
FT Wilshire Indexes: Risk vs Return Over 5 Years

Pure Factor ■   Style ■

FT Wilshire Indices-5 Year

Source: Wilshire Indexes. Data as of December 31, 2023

Wilshire Indexes - Performance Report (December 2023)   15
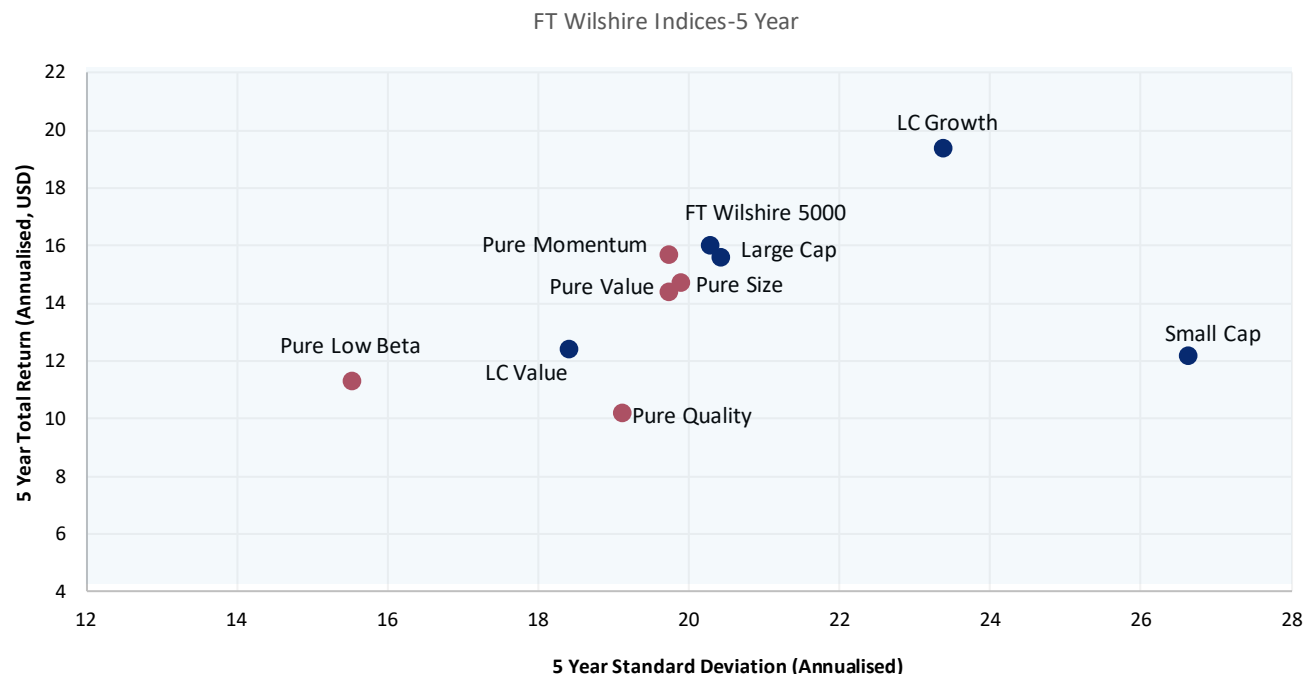
FT Wilshire Global Equity Market Series (GEMS)

1

+12.5%

Q4 2023 return of Europe ex UK equities (USD, TR)

2

-9.9%

Decline in Chinese equities in 2023 (USD, TR)

3

+22.3%

2023 return of Global equities (TR)

4

+8.4%

10-year annualized return for the Global equity index (USD, TR)

Strong finish for global equities in Q4 with the US (in USD terms) outperforming in 2023. Chinese equities significantly underperform delivering negative returns in 2023.

Regional Returns in Global Index (USD, TR, %) - Q4 2023 vs 2023

Region	Q4	2023
US	12.1	26.5
UK	7.3	14.4
EUexUK	12.5	22.1
Japan	8.1	19.6
AP ex Japan	11.1	6.0
EM ex China	12.4	22.0
China	-2.3	-9.9
EM	8.5	12.8

■ Q4 ■ 2023
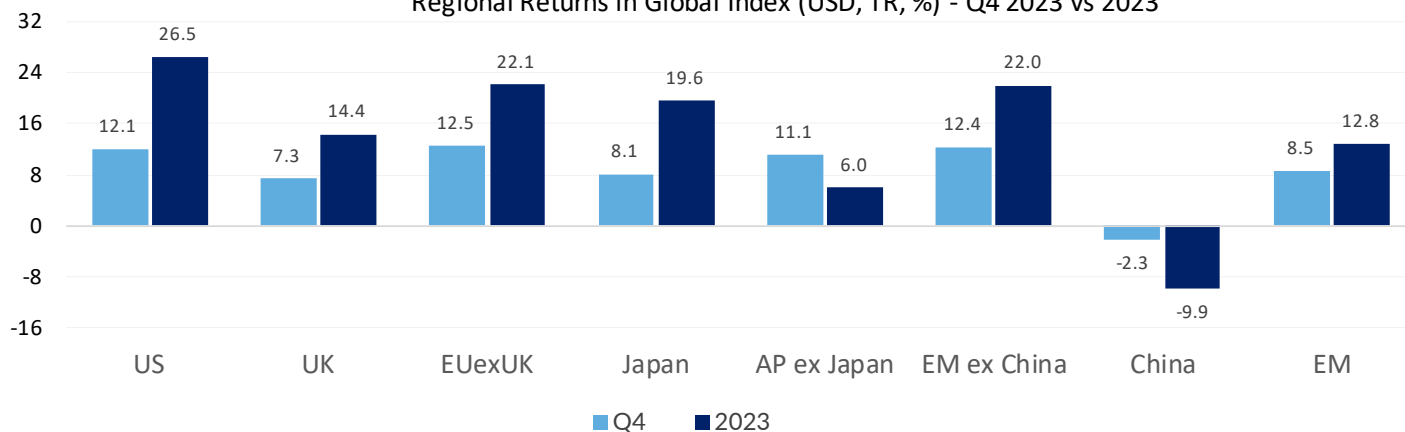
Regional Weights in Global Index

Region	Weight
US	60.9

Source: Wilshire Indexes. Data as of December 31, 2023
Wilshire Indexes - Performance Report (December 2023)

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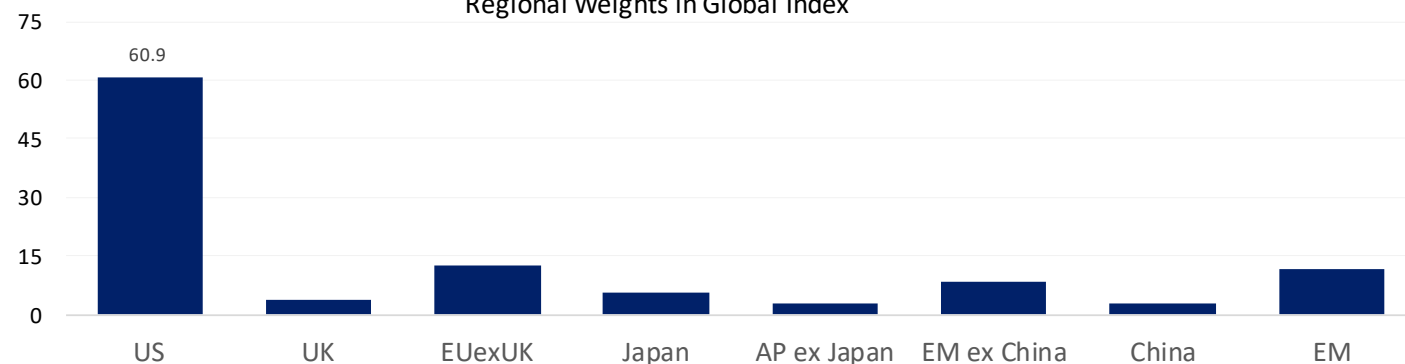
Chronology of Key Global news flow in 2023

1 China Optimism

China sees strong economic rebound following relaxation of Covid restrictions. Chinese equities continue to surge

2 US Rate Expectations Spike

Reassessment of US interest rate expectations see global bond yields rise

3 Silicon Valley Collapse

Silicon Valley Bank (SVB) collapses, bank contagion fears ripple though global markets agree to takeover of Credit Swisse

4 Bank Contagion Fears Ease

AI trade drives US outperformance, bank contagion fears ease. JPY weakens sharply on dovish BoJ

5 China Cuts Rates

Chinese central bank cuts rates in attempt to boost flagging economy

6 BoJ Tweaks Yield Curve Control

Japanese bond yields spike to the highest level in 9 years on BoJ policy change

7 Chinese Real Estate Concerns

Chinese equities plunge on heightened concerns over real estate sector

8 Israel-Hamas Conflict

Rising US bond yields and geopolitical concerns ripple through global equity

9 Optimism Over 2024 Rate Cuts

Strong rebound in global markets on optimism over 2024 rate cuts

FT Wilshire US vs Global ex US Index
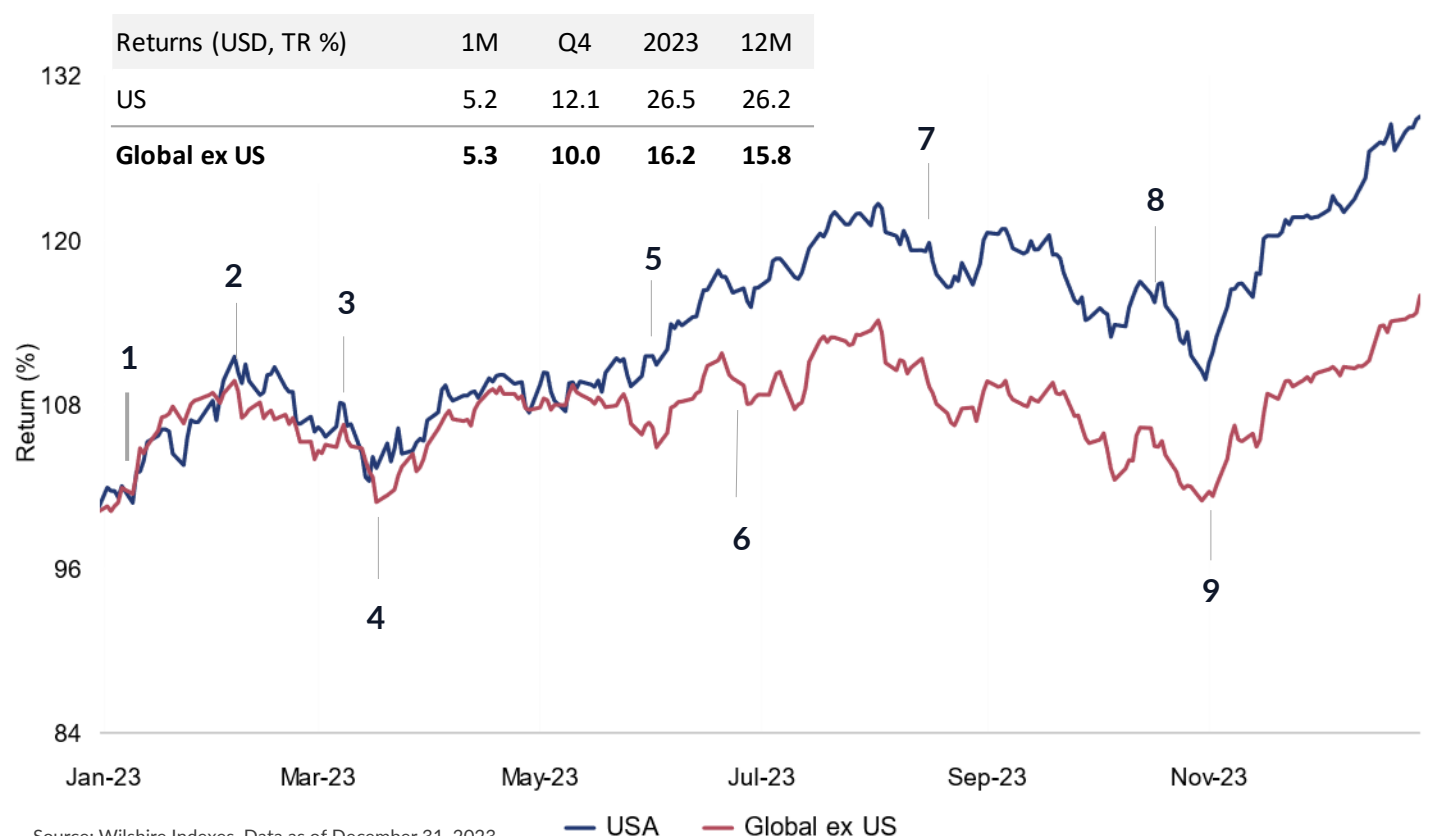
Returns (USD, TR %)	1M	Q4	2023	12M
US	5.2	12.1	26.5	26.2
Global ex US	**5.3**	**10.0**	**16.2**	**15.8**

Source: Wilshire Indexes. Data as of December 31, 2023

Regional Market Observations

December

01   Strong rebound in global markets in Q4 with Europe ex UK building momentum. China significantly underperforms in Q4 and 2023 **(see below)**

02   In USD terms US equities outperformed in 2023. When we look at returns in local currency, Japanese equities were the best performer (**page 19**)

03   US outperforms vs Global ex US in 2023 driven by superior positive contributions from technology and digital information sectors (**page 23**)

04   Sizeable negative contribution from the large (and overweight) consumer goods and services a key driver behind China's 2023 underperformance (**page 26**)

05   US and Japan saw the largest 12m forward PE re-rating since the start of 2023, with China de-rating. PE expansion the key driver of total returns in the US, UK and Japan in 2023 (**page 29**)

Regional Returns - Short Term (USD, TR, %)		2023	1M	Q4 2023	12M	2022
USA		26.5	5.2	12.1	26.2	-19.3
Global		22.3	5.2	11.2	21.9	-18.0
Europe ex UK		22.1	5.4	12.5	20.6	-20.1
Emerging ex China		22.0	6.3	12.4	21.8	-17.1
Japan		19.6	4.5	8.1	20.5	-15.4
Global ex US		16.2	5.3	10.0	15.8	-16.1
United Kingdom		14.4	5.1	7.3	13.3	-10.8
Emerging		12.8	4.2	8.5	12.7	-18.5
Asia Pacific ex Japan		10.1	5.0	8.8	10.4	-17.3
China		-9.9	-2.1	-2.3	-9.9	-21.8

Source: Wilshire Indexes. Data as of December 31, 2023

Comparing USD and Local Currency (LCY) 2023 Return Profiles

In USD terms (top chart) the US has outperformed in 2023. However, when we look at returns in LCY (lower chart) Japanese equities have been the strongest performer in 2023.

2023 Returns (USD)

— US 26.5%   — UK (USD) 14.4%   — Europe ex UK (USD) 22.1%   — Japan (USD) 19.6%

2023 Returns (LCY)

— US 26.5%   — UK (GBP) 7.9%   — Europe ex UK (EUR) 17.9%   — Japan (JPY) 27.8%
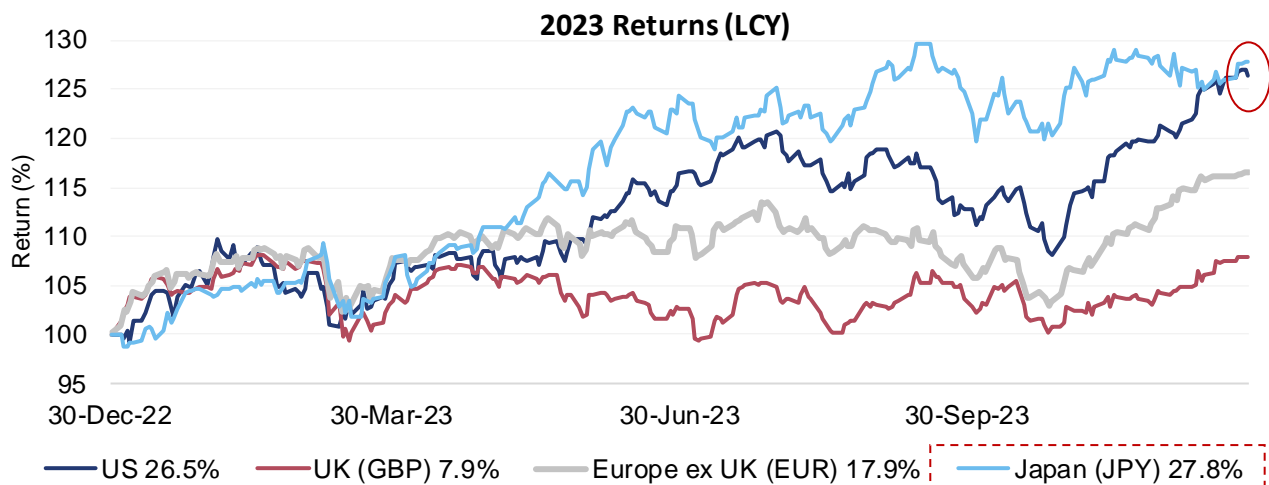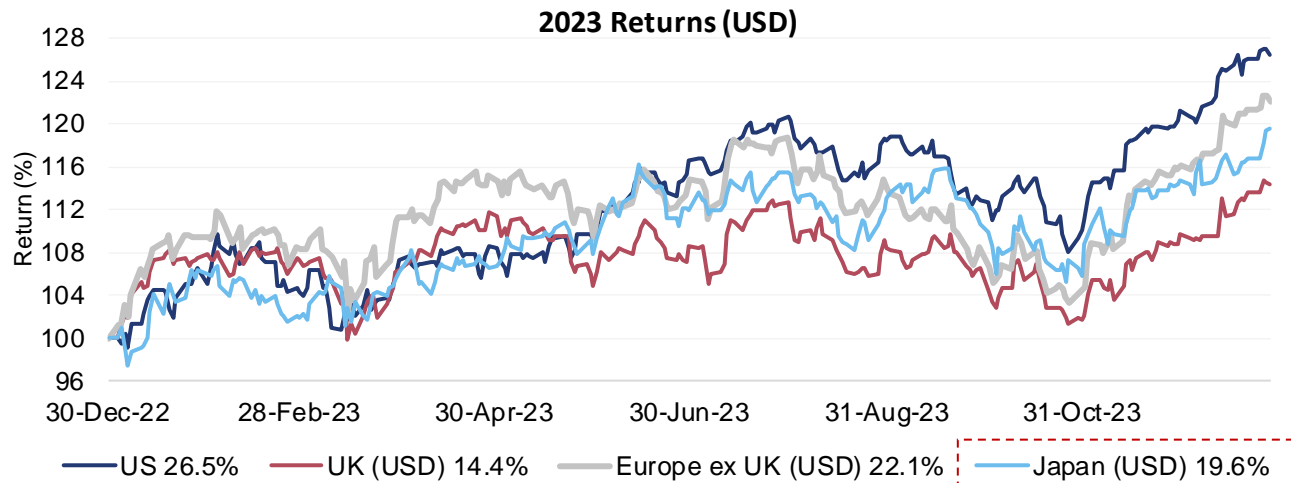
Long Term Returns (USD, TR, %)	3Y		5Y		10Y		20Y	
	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
USA	29.8	9.1	106.4	15.6	200.1	11.6	566.1	9.9
United Kingdom	17.7	5.6	37.1	6.5	25.6	2.3	173.9	5.2
Japan	2.5	0.8	41.4	7.2	74.1	5.7	174.9	5.2
Asia Pacific ex Japan	-7.8	-2.7	32.9	5.9	64.7	5.1	386.9	8.2
Europe ex UK	13.2	4.2	62.7	10.2	70.0	5.5	296.5	7.1
Emerging	-6.9	-2.4	29.2	5.2	53.1	4.3	383.3	8.2
Emerging ex China	14.9	4.7	50.9	8.6	73.4	5.7	423.5	8.6
China	-43.9	-17.5	-10.9	-2.3	18.0	1.7	340.4	7.7
Global ex US	6.4	2.1	46.6	8.0	59.6	4.8	268.8	6.7
Global	19.5	6.1	78.1	12.2	124.7	8.4	406.4	8.4

Source: Wilshire Indexes. Data as of December 31, 2023

Wilshire

FX adjusted market returns: Global equity index delivers significantly different returns for a Japanese Yen based investor vs returns in other major FX

FX swings result in a sizeable impact on unhedged regional equity returns depending on the location of investors. This has been most notable for JPY returns for a Japanese based investor (due to Yen weakness). In 2023 global equities have returned 30.6% (in JPY terms), versus a 22.3% return in USD, 18.1% in EUR and just 15.4% for a GBP-based investor.

Table 1: Regional returns in various FX - Q4 2023

Q4 Return (TR, %)	USD	GBP	EUR	JPY
Europe ex UK	12.5	7.7	7.8	6.3
USA	12.1	7.3	7.4	5.9
Developed	11.6	6.8	6.9	5.4
Global	11.2	6.5	6.6	5.1
Asia Pacific ex Japan	8.8	4.1	4.2	2.8
Emerging	8.5	3.9	4.0	2.5
Japan	8.1	3.5	3.6	2.1
United Kingdom	7.3	2.8	2.9	1.4
China	-2.3	-6.5	-6.4	-7.7

Table 2: Regional returns in various FX - 2023

2023 Return (TR, %)	USD	GBP	EUR	JPY
USA	26.5	19.3	22.2	35.1
Developed	23.6	16.6	19.4	32.0
Global	22.3	15.4	18.1	30.6
Europe ex UK	22.1	15.2	17.9	30.4
Japan	19.6	12.8	15.5	27.8
United Kingdom	14.4	7.9	10.5	22.2
Emerging	12.8	6.4	9.0	20.5
Asia Pacific ex Japan	10.1	3.9	6.4	17.7
China	-9.9	-15.0	-13.0	-3.7

Source: Wilshire Indexes. Data as of December 31, 2023

Global Equity Relative Returns: Strong US outperformance since May, Europe ex UK reverses trend in Q4 and China significantly underperforms in 2023

US vs Global ex US (USD, TR, %)

USA vs Global ex US (USD)

Emerging Markets vs Developed (USD, TR, %)

Emerging vs Developed (USD)

Europe ex UK vs Global ex Dev Europe (USD, TR, %)

Europe ex UK vs Global ex Eurozone (USD)

China vs Global ex China (USD, TR, %)

China vs Global ex China (USD)

Source: Wilshire Indexes. Data as of December 31, 2023

Wilshire Indexes - Performance Report (December 2023)

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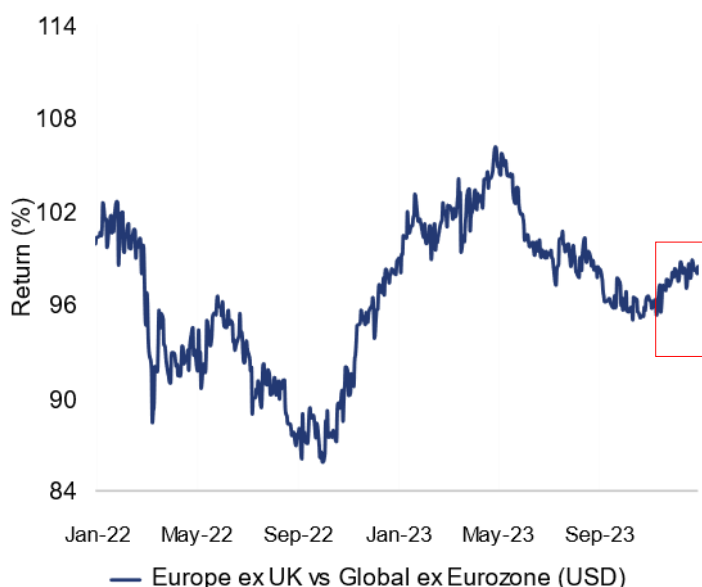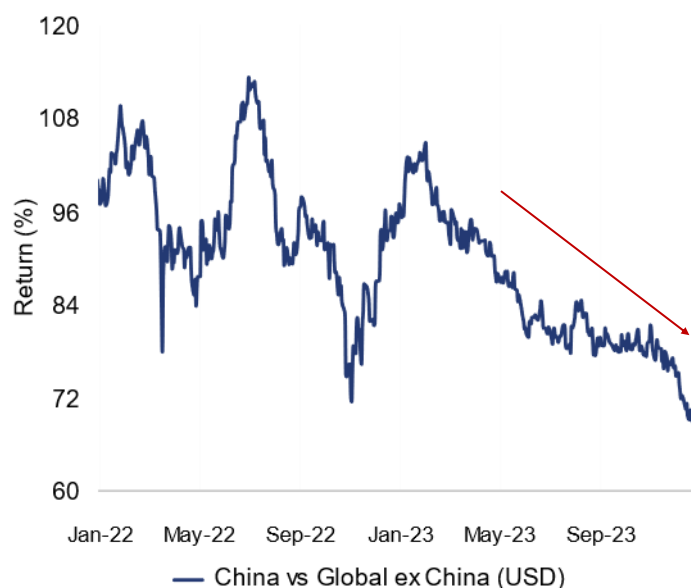
Developed and Emerging market country level performance: US and Europe help Developed markets outperform Emerging. Italy is 2023's best performing market.

Q4 2023 - Double-digit returns for across many countries in Q4. European markets finished the year strongly. Within Emerging markets China continued to lag, Brazil, Taiwan and Korea outperformed.

Q4 USD TR (%)

■ Developed ■ Emerging Markets

Country	Q4 USD TR (%)
Sweden	23.3
Netherlands	18.2
Brazil	18.0
Taiwan	16.5
Korea	15.1
Australia	14.6
Italy	13.0
Spain	12.9
India	12.5
Denmark	12.4
South Africa	12.4
USA	12.1
Germany	11.9
Developed	11.6
Canada	10.8
Switzerland	10.4
France	9.5
Emerging	8.5
Saudi Arabia	8.5
Japan	8.1
United Kingdom	7.3
Malaysia	5.0
Hong Kong	4.4
China	-2.3
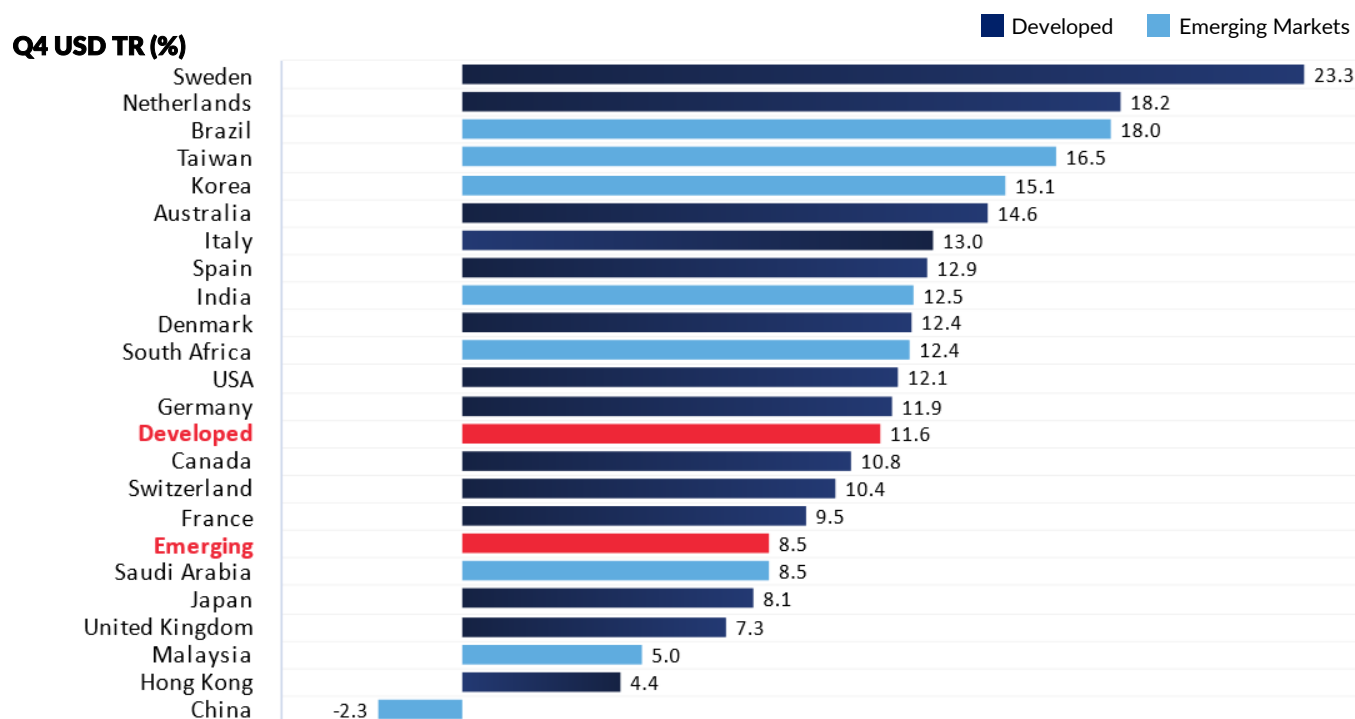
2023 - Strong returns for the US and many European markets helped Developed markets significantly outperform Emerging in 2023, with negative China returns the main drag on the latter.

2023 USD TR (%)

Country	2023 USD TR (%)
Italy	37.7
Brazil	33.8
Taiwan	33.2
Spain	30.9
Denmark	29.5
Netherlands	27.2
USA	26.5
India	25.6
Korea	25.2
Developed	23.6
Sweden	23.1
Germany	21.9
France	21.8
Japan	19.6
Switzerland	16.5
Saudi Arabia	14.7
Canada	14.7
United Kingdom	14.4
Australia	12.9
Emerging	12.8
Malaysia	1.3
South Africa	1.2
China	-9.9
Hong Kong	-13.3

Source: Wilshire Indexes. Data as of December 31, 2023

Wilshire

Q4 2023-US vs Global ex US sector returns and sector-weighted contribution analysis: Double-digit returns across many US sectors in Q4

Q4 US vs Global ex US Sector Returns. Double-digit returns across 7 of the 11 US (light blue) sectors in Q4. US energy and food and beverages sectors underperformed the Global ex US index (dark blue)

Sector Returns Q4 2023 (USD, TR, %)

US: 12.1   Global ex US: 10.4
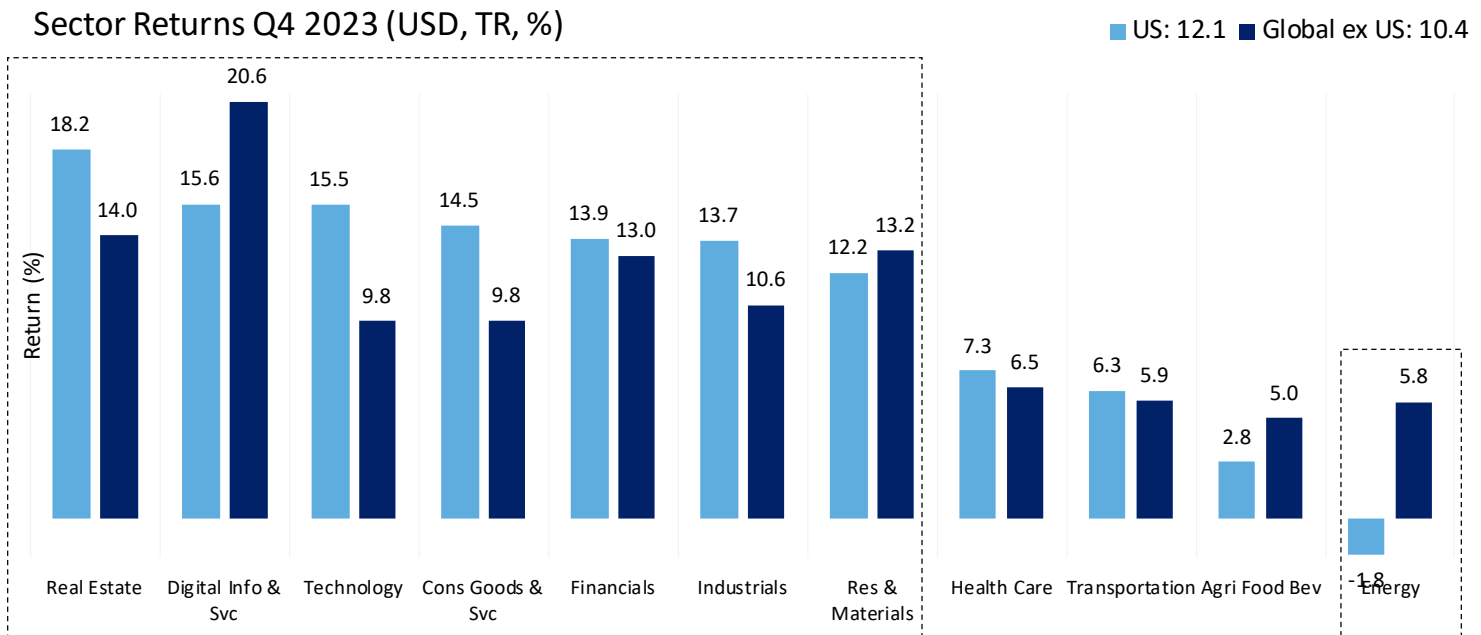
Q4 US vs Global ex US Sector weighted regional contribution analysis. Larger positive US digital info, tech and consumer goods contributions drove US outperformance vs global peers

Contributions to Returns Q4 2023 (USD, TR, %)

US: 12.1   Global ex US: 10.4

Source: Wilshire Indexes and Refinitiv. Data as of December 31, 2023
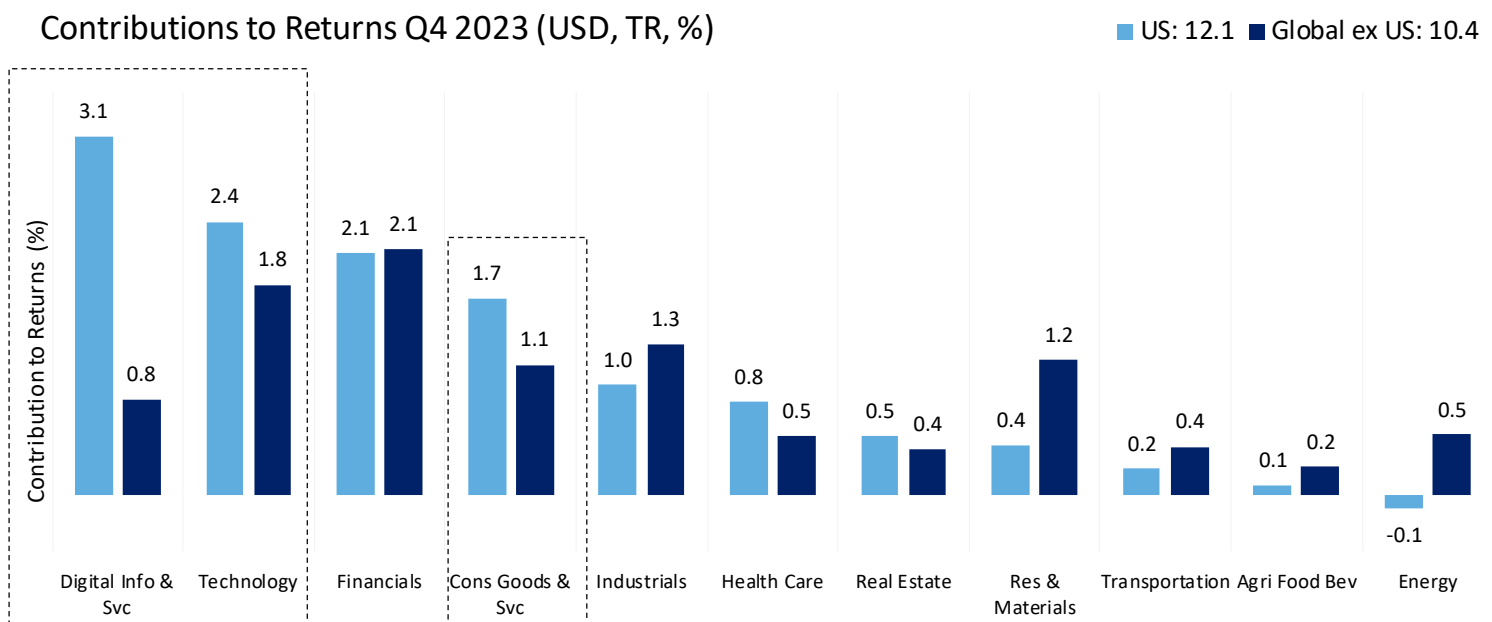
2023-US vs Global ex US sector returns and sector-weighted contributions: Technology and digital info the key drivers of US outperformance in 2023

US vs Global ex US 2023 Sector Returns: Significant outperformance in US (light blue) tech, digital info, transport and consumer goods. Global ex US (dark blue) energy significantly outperformed the US.

Sector Returns 2023 (USD, TR, %)

■ US: 26.5 ■ Global ex US: 16.2

Sector	US	Global ex US
Technology	63.6	38.8
Digital Info & Svc	54.6	15.0
Transportation	47.9	21.4
Cons Goods & Svc	28.2	9.8
Industrials	21.6	27.0
Res & Materials	17.0	14.1
Financials	14.4	17.1
Real Estate	12.3	5.9
Health Care	3.9	7.4
Energy	-2.8	13.4
Agri Food Bev	-3.7	1.7
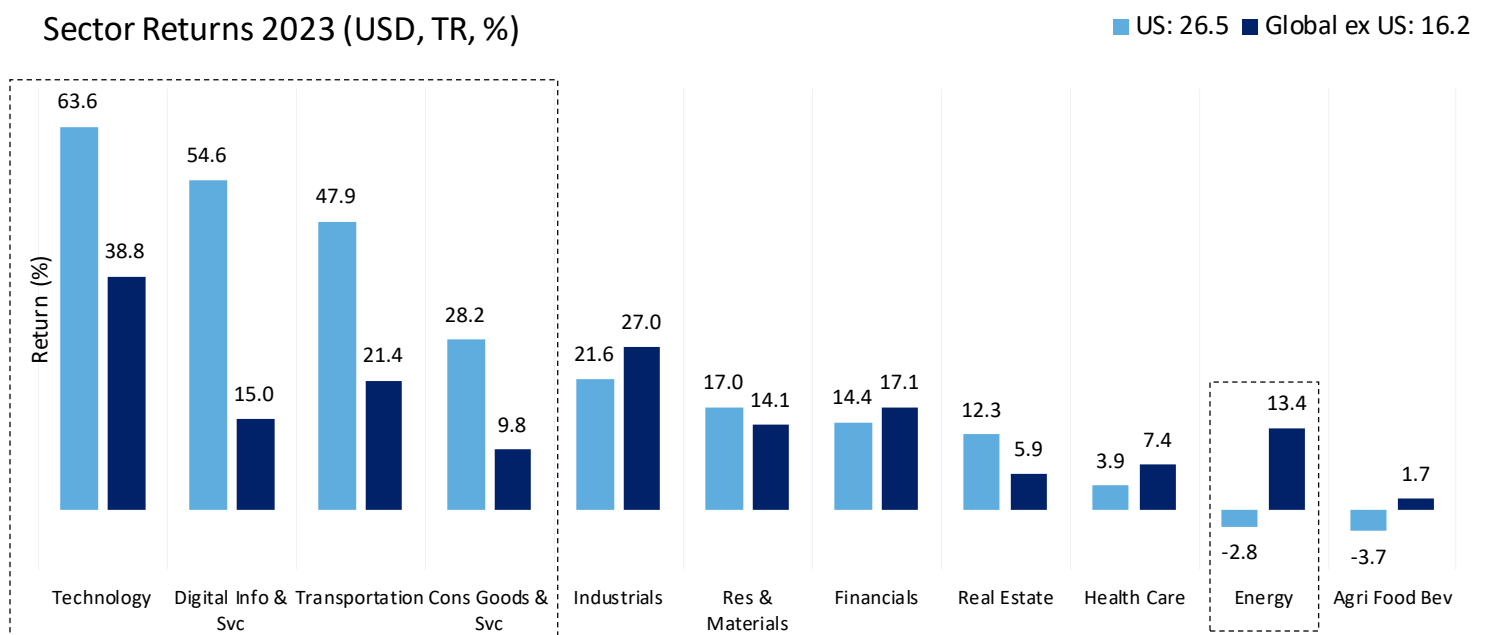
2023 US vs Global ex US Sector Weighted regional contribution analysis: The far superior positive contribution from technology and digital information drove US outperformance in 2023.
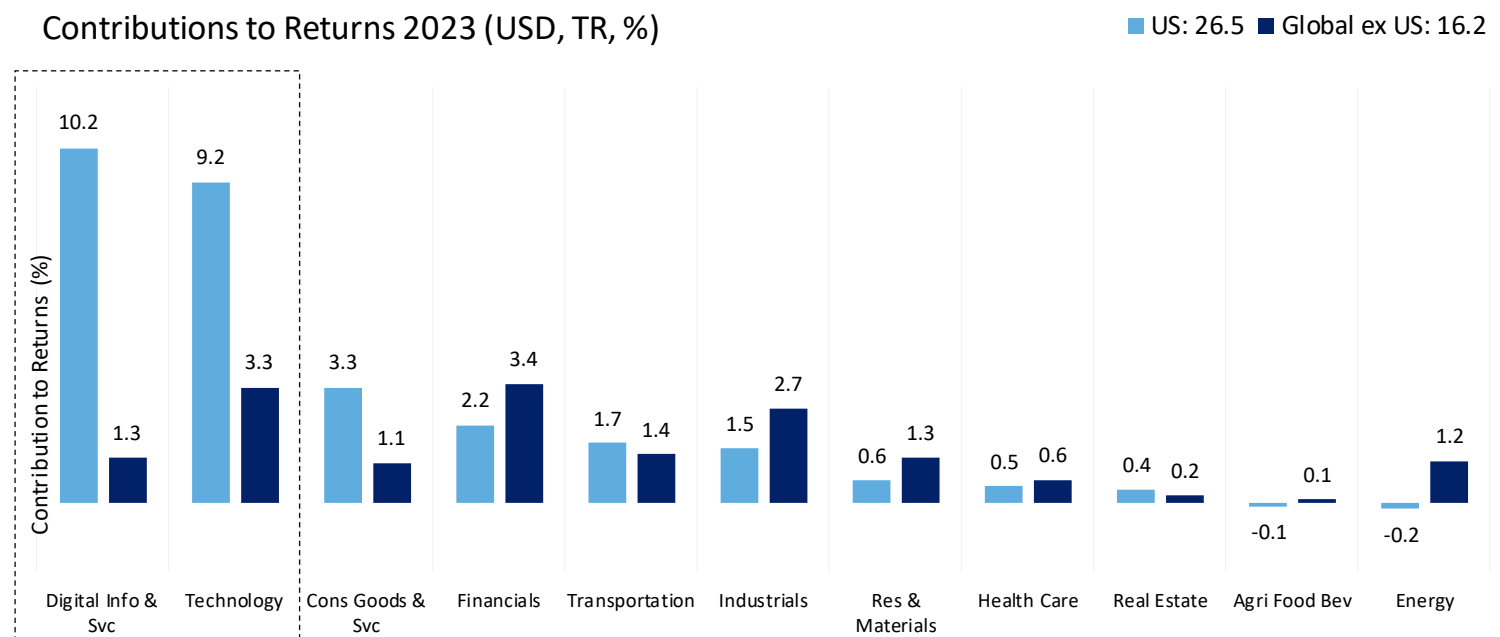
Contributions to Returns 2023 (USD, TR, %)

■ US: 26.5 ■ Global ex US: 16.2

Sector	US	Global ex US
Digital Info & Svc	10.2	1.3
Technology	9.2	3.3
Cons Goods & Svc	3.3	1.1
Financials	2.2	3.4
Transportation	1.7	1.4
Industrials	1.5	2.7
Res & Materials	0.6	1.3
Health Care	0.5	0.6
Real Estate	0.4	0.2
Agri Food Bev	-0.1	0.1
Energy	-0.2	1.2

Source: Wilshire Indexes and Refinitiv. Data as of December 31, 2023.

Regional level sector weights and returns: Q4 and 2023-Significant outperformance amongst largest US overweight sectors in 2023

Q4 regional sector average weights and returns – The US is significantly overweight in technology and digital info vs Global ex US but underweight financials and resources and materials.

Q4 2023	US		Global ex US		UK		EU ex UK		Japan		EM		China	
	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght
Real Estate	18.2	2.8	12.5	2.9	25.2	2.4	27.2	1.2	6.7	4.3	4.0	2.2	-9.3	3.1
Digital Info & Svc	15.6	**20.0**	8.8	8.5	9.4	4.5	14.3	6.1	9.9	13.0	3.1	11.1	-5.1	20.1
Technology	15.5	**15.3**	20.0	8.9	18.2	0.5	23.5	6.4	18.4	11.8	19.1	16.9	11.4	3.7
Cons Goods & Svc	14.5	11.8	8.4	11.6	6.3	15.7	11.5	11.8	7.2	9.1	4.8	12.2	1.8	28.5
Financials	13.9	15.1	10.4	**20.2**	9.7	19.5	13.7	18.1	4.0	11.9	8.7	21.3	-4.4	15.8
Industrials	13.7	7.0	12.9	10.1	14.9	12.3	17.8	13.2	8.5	18.3	7.0	4.9	-3.6	2.4
Res & Materials	12.2	3.6	12.4	**8.8**	11.1	7.4	16.1	8.1	13.8	6.4	7.3	8.4	-6.2	3.3
Health Care	7.3	11.0	5.5	8.7	1.1	12.2	5.2	14.6	2.3	6.8	8.4	4.2	-2.8	5.9
Transportation	6.3	3.6	6.5	6.5	4.2	1.1	7.8	5.9	2.5	12.7	6.5	6.0	-3.6	7.5
Agri Food Bev	2.8	3.0	4.2	4.8	1.3	7.6	5.8	6.4	8.0	3.5	2.8	4.4	-7.0	4.3
Energy	-1.8	6.8	6.1	9.0	2.9	16.7	9.7	8.1	3.3	2.3	8.3	8.4	-1.8	5.4
Index Return (TR)	**12.1**		**10.0**		**7.3**		**12.5**		**8.1**		**8.5**		**-2.3**	

2023 regional sector average weights and returns: US has outperformed in tech, digital info, transport and consumer goods but lagged Global ex US energy and industrials.

2023	US		Global ex US		UK		EU ex UK		Japan		EM		China	
	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght
Technology	**63.6**	14.5	38.8	8.6	11.3	0.6	36.3	6.4	37.8	11.6	41.1	16.2	3.8	3.4
Digital Info & Svc	**54.6**	18.7	15.0	8.5	14.9	4.6	31.1	5.9	14.9	13.4	4.1	11.5	-6.9	20.7
Transportation	47.9	3.5	21.4	6.4	19.2	1.0	25.6	6.0	26.8	12.1	19.5	5.9	2.3	7.5
Cons Goods & Svc	28.2	11.8	9.8	11.5	14.2	15.8	20.0	12.1	7.6	9.5	-4.9	11.7	-13.7	25.4
Industrials	21.6	7.1	27.0	10.0	39.3	11.6	29.0	13.2	24.5	18.5	19.6	4.7	-10.6	2.6
Res & Materials	17.0	3.6	14.1	9.1	-0.4	7.7	24.1	8.3	28.1	6.4	5.8	8.9	-18.7	3.7
Financials	14.4	15.4	17.1	20.0	22.0	19.4	27.3	17.4	21.9	11.1	13.9	21.4	-4.9	16.4
Real Estate	12.3	3.0	5.9	3.0	18.3	2.5	20.1	1.2	5.6	4.4	0.5	2.3	-26.9	3.6
Health Care	3.9	11.8	7.4	8.8	3.6	12.5	13.6	14.5	-4.7	7.4	1.1	4.3	-23.9	6.3
Energy	-2.8	7.2	13.4	8.9	18.6	16.1	14.0	8.1	25.8	2.1	18.2	8.2	3.5	5.6
Agri Food Bev	-3.7	3.3	1.7	5.1	-9.2	8.1	5.6	6.8	16.9	3.4	0.3	4.7	-21.3	4.7
Index Return (TR)	**26.5**		**16.2**		**14.4**		**22.1**		**19.6**		**12.8**		**-9.9**	

Q4 & 2023 Regional sector sector-weighted performance contribution comparisons: Technology and digital info deliver 75% of US 2023 return

Regional sector-weighted contributions to Q4 returns: Here we highlight the two largest contributors to returns for the US and Global ex US

Q4 2023	US	Global ex US	UK	EU ex UK	Japan	EM	China
	Contr	Contr	Contr	Contr	Contr	Contr	Contr
Digital Info & Svc	3.1	0.7	0.4	0.9	1.3	0.3	-1.0
Technology	2.4	1.8	0.1	1.5	2.2	3.2	0.4
Financials	2.1	2.1	1.9	2.5	0.5	1.9	-0.7
Cons Goods & Svc	1.7	1.0	1.0	1.4	0.7	0.6	0.5
Industrials	1.0	1.3	1.8	2.4	1.6	0.3	-0.1
Health Care	0.8	0.5	0.1	0.8	0.2	0.4	-0.2
Real Estate	0.5	0.4	0.6	0.3	0.3	0.1	-0.3
Res & Materials	0.4	1.1	0.8	1.3	0.9	0.6	-0.2
Transportation	0.2	0.4	0.0	0.5	0.3	0.4	-0.3
Agri Food Bev	0.1	0.2	0.1	0.4	0.3	0.1	-0.3
Energy	-0.1	0.5	0.5	0.8	0.1	0.7	-0.1
Index Return (TR)	**12.1**	**10.0**	**7.3**	**12.5**	**8.1**	**8.5**	**-2.3**

Regional sector-weighted contributions to 2023 returns: Digital info and tech largest contributors in the US compared with financials and tech for Global ex US. China cons goods a significant drag.

2023	US	Global ex US	UK	EU ex UK	Japan	EM	China
	Contr	Contr	Contr	Contr	Contr	Contr	Contr
Digital Info & Svc	10.2	1.3	0.7	1.8	2.0	0.5	-1.4
Technology	9.2	3.3	0.1	2.3	4.4	6.7	0.1
Cons Goods & Svc	3.3	1.1	2.3	2.4	0.7	-0.6	-3.5
Financials	2.2	3.4	4.3	4.8	2.4	3.0	-0.8
Transportation	1.7	1.4	0.2	1.5	3.3	1.2	0.2
Industrials	1.5	2.7	4.6	3.8	4.5	0.9	-0.3
Res & Materials	0.6	1.3	0.0	2.0	1.8	0.5	-0.7
Health Care	0.5	0.6	0.5	2.0	-0.3	0.0	-1.5
Real Estate	0.4	0.2	0.5	0.2	0.2	0.0	-1.0
Agri Food Bev	-0.1	0.1	-0.8	0.4	0.6	0.0	-1.0
Energy	-0.2	1.2	3.0	1.1	0.5	1.5	0.2
Index Return (TR)	**26.5**	**16.2**	**14.4**	**22.1**	**19.6**	**12.8**	**-9.9**

Source: Wilshire Indexes. Data as of December 31, 2023 - sector contributions based on average weights over the time period.

Perspectives: Regional 2023 total return decomposition, shifts in 12m forward PEs, regional large/small cap returns and developed/emerging dynamics

PE re-rating drives 2023 returns (USD) in the US, UK, Europe ex UK and Japan. PE de-rating the biggest contributor to China's negative return

2023 Regional Total Return Decomp (USD)*

Legend: ■ Dividend ■ EPS ■ PE ● Total Return

*Based on Factset data

The US (+16%) and Japan (+12%) saw the most significant 12m forward PE expansion in 2023. China experienced a de-rating (-8%).

Regional 12m Forward PEs*

US 19.9   UK 11.2
Eur ex UK 13.8   Japan 13.9
Asia Pac ex Japan 13.6   China 9.7
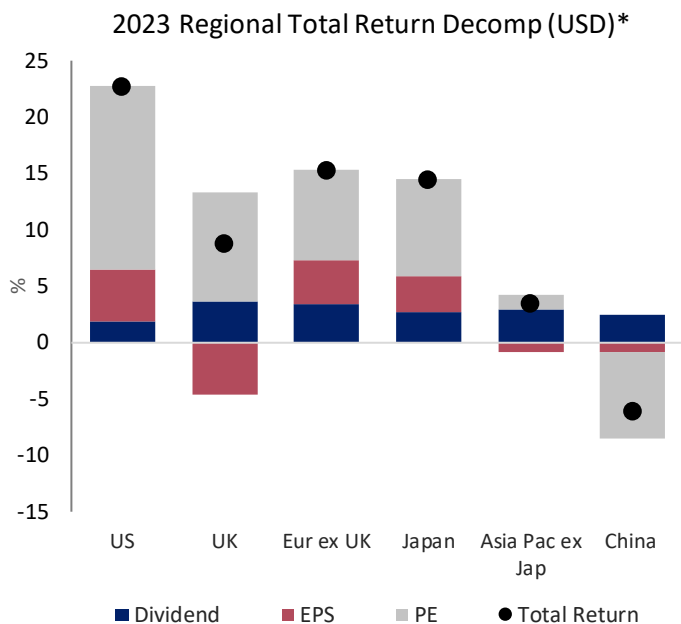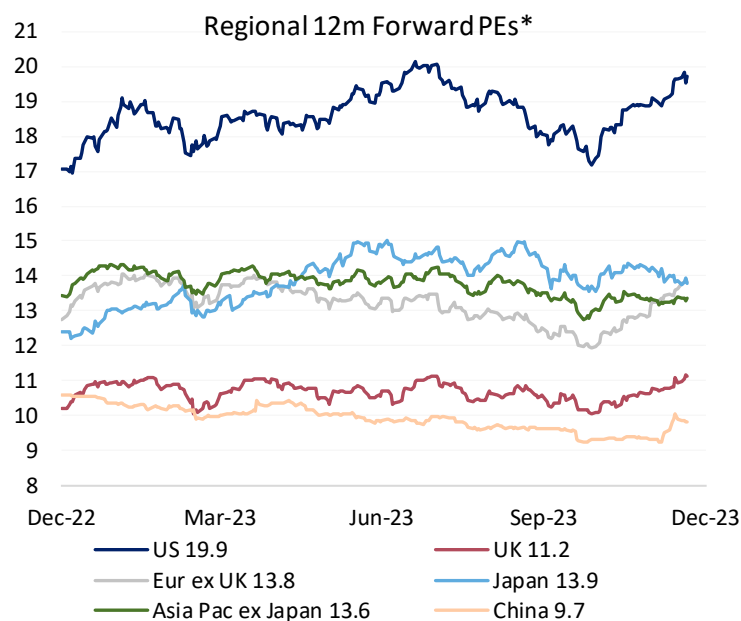
*Based on Factset data

Asia Pac ex Japan and Emerging large cap relative to small cap returns have displayed significantly different profile to US, Europe and Japan in 2023 up until November.

Regional FT Wilshire Large Cap/Small Cap (Rebased, TR, USD)

US 7.2%   UK -0.0%
Europe ex UK 5.6%   Japan 6.8%
Asia Pac ex Japan -8.4%   Emerging -9.6%

When we exclude the impact from the US and China markets Developed markets significantly underperformed Emerging from the middle of May

FT Wilshire Developed/Emerging vs Developed ex US/Emerging ex China (Rebased, TR, USD)

Developed/Emerging 11.1%
Developed ex US/Emerging ex China -1.6%
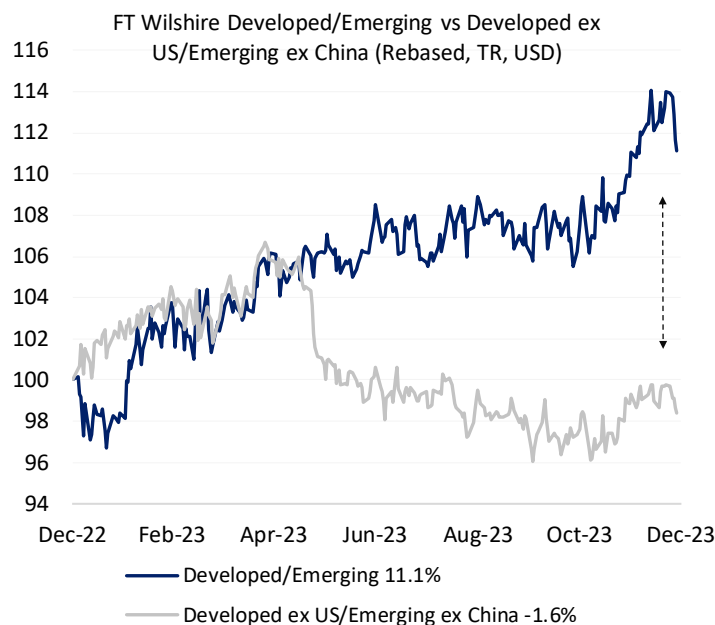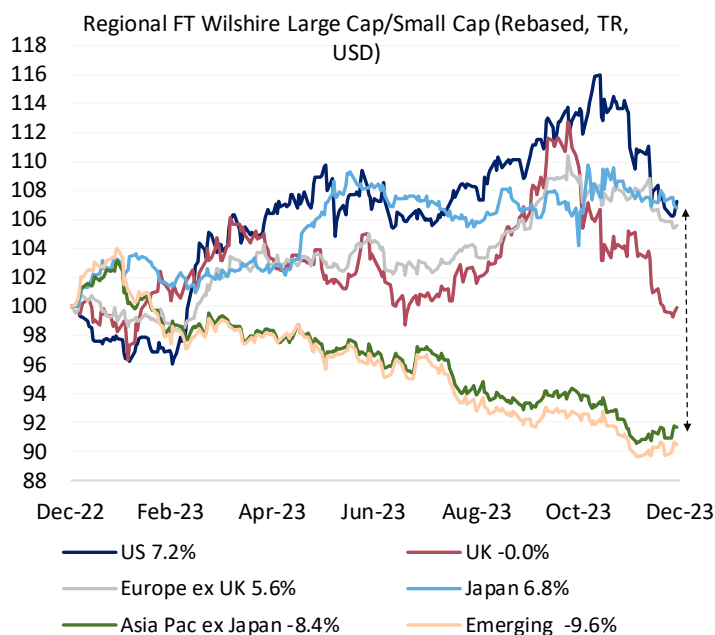
Source: Wilshire Indexes and FactSet. Data as of December 31, 2023

MARKET NAVIGATION ▶ PERFORMANCE

Dispersion analysis: The contribution to returns from top the 10 largest stocks and the dispersion of monthly sector returns across the main regions

Biggest contribution 2023 returns from the top 10 largest stocks in the US, lowest in China

Contribution to 2023 Market Return from Top 10 Stocks by Market Cap (Based on Avg Weights)
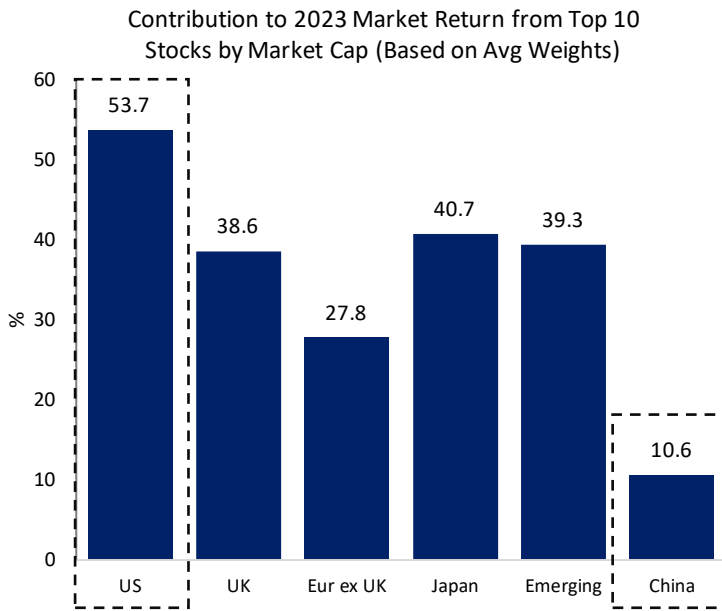
Despite a larger contribution to return in the US the weighting of top 10 stocks higher in the UK and

Combined Weight of Top 10 Largest Stocks in Index (as at 31 Dec 2023)
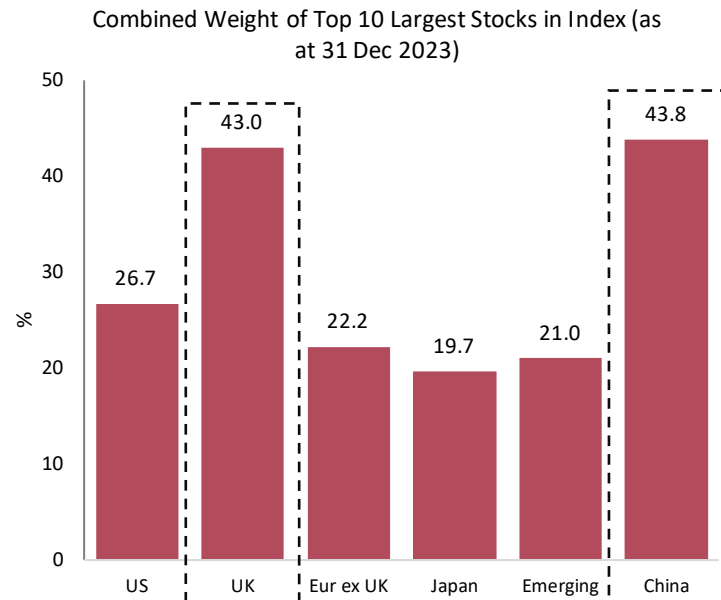
The dispersion of monthly sector returns has narrowed (reduced) since the highs in Q1 of 2023

Dispersion of Monthly Sector Returns (Highest-Lowest Performer)
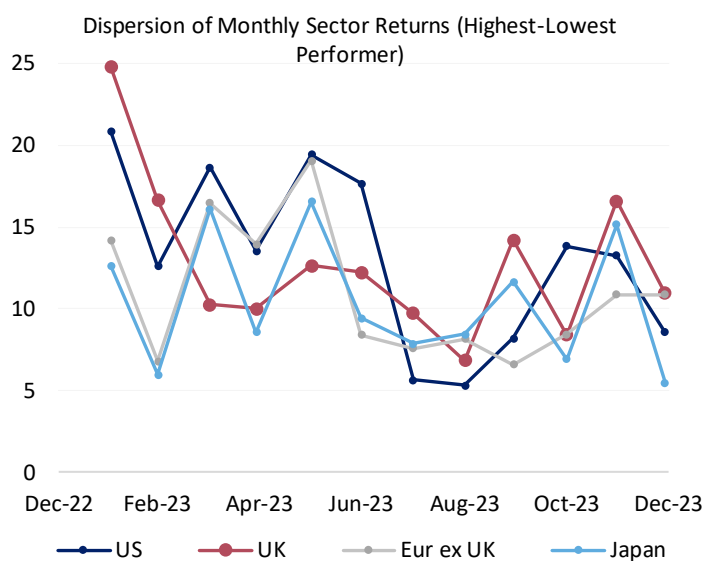
The dispersion of monthly sector returns in China peaked in July

Dispersion of Monthly Sector Returns (Highest-Lowest Performer)

Source: Wilshire Indexes, FactSet and Refinitiv. Data as of December 31, 2023

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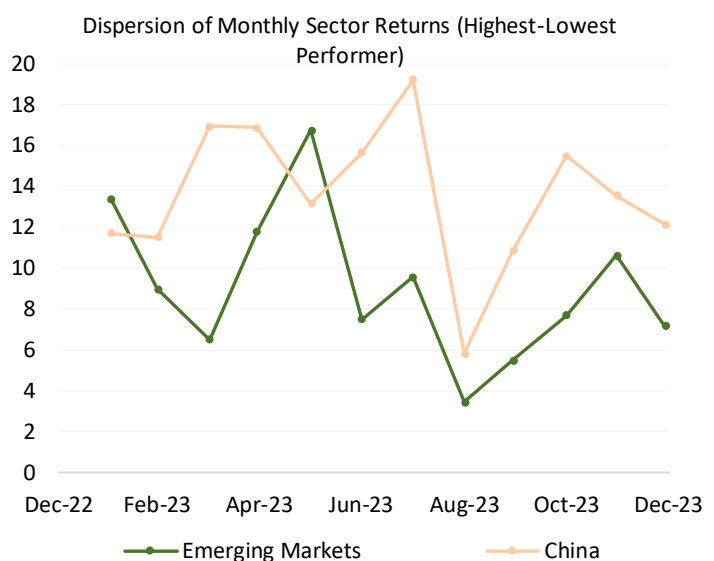
Sentiment and Technical analysis: Rotation from pessimism to exuberance in Q4. Relative Strength Indexes proved a useful timing tool in 2023

The percentage of stocks above their respective 200DMA has spiked higher from the lows witnessed in late October. US near the highs of December

- US % of Stocks Above 200DMA-73.0%
- Europe ex UK % of Stocks Above 200DMA-58.5%
- Emerging Markets % of Stocks Above 200DMA-48.9%
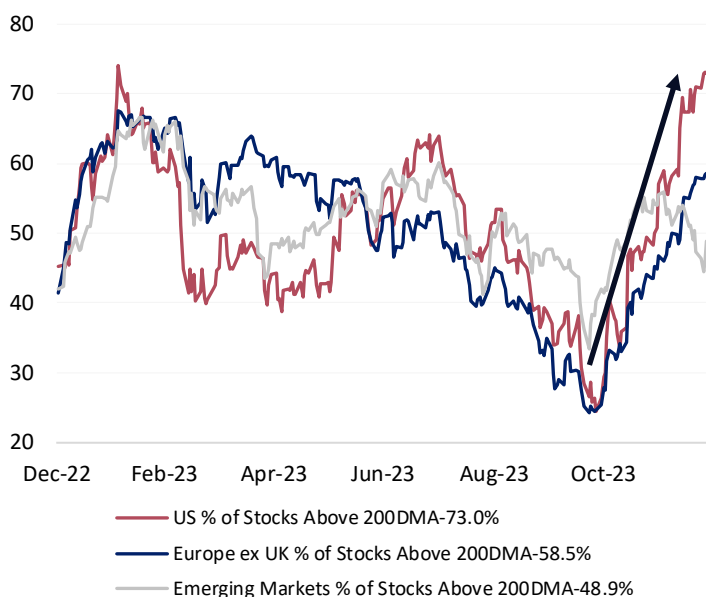
Volatility levels in the US, Europe ex UK and Emerging markets are well below the highs at the start of 2023 and approaching pre-Covid levels

- FT Wilshire US Rolling 6m Annualised Volatility (St Dev)
- FT Wilshire Eur ex UK Rolling 6m Annualised Volatility (St Dev)
- FT Wilshire Emerging Rolling 6m Annualised Volatility (St Dev)
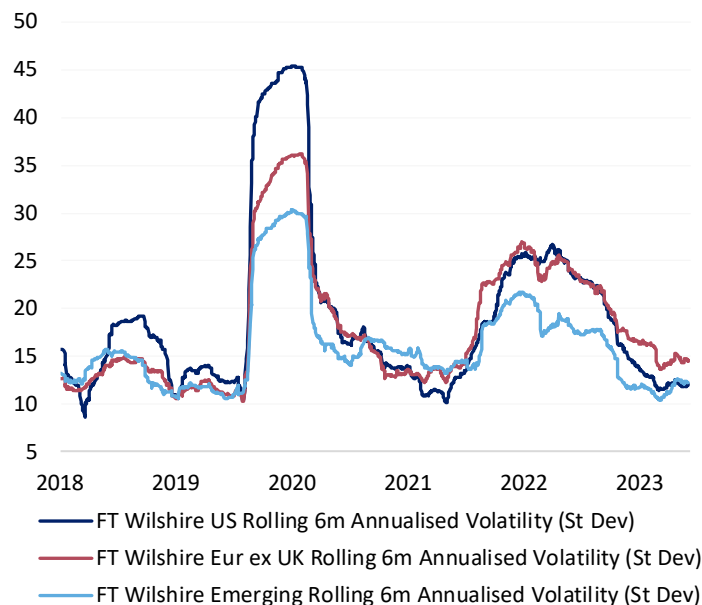
The RSI for the US (red line) and Global ex US (blue) hit an overbought reading only once in 2023 at different points of the year. Both hit an oversold reading on 27th October.

- FT Wilshire US Index RSI (25D)
- FT Wilshire Global ex US Index RSI (25D)
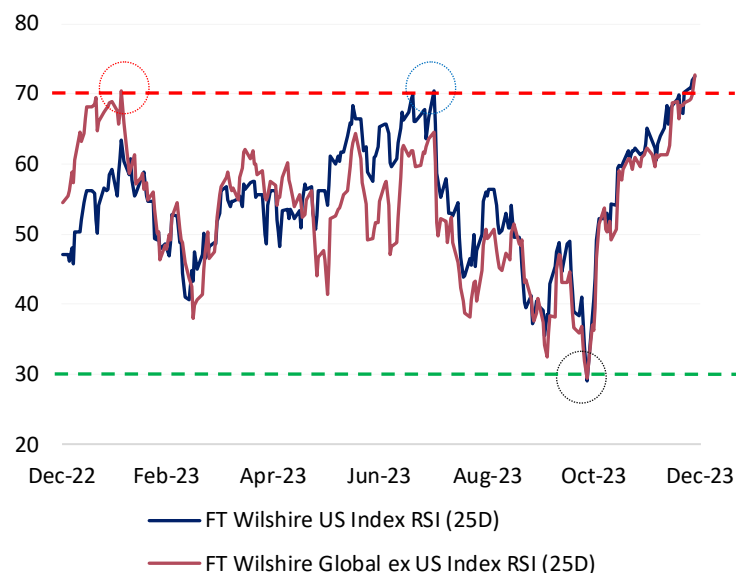
Both the US and Global ex US experienced a significant drawdown from overbought RSIs but have seen strong returns from the oversold reading in October.

- FT Wilshire USA Index
- FT Wilshire Global ex US Index

Source: Wilshire Indexes. Data as of December 31, 2023

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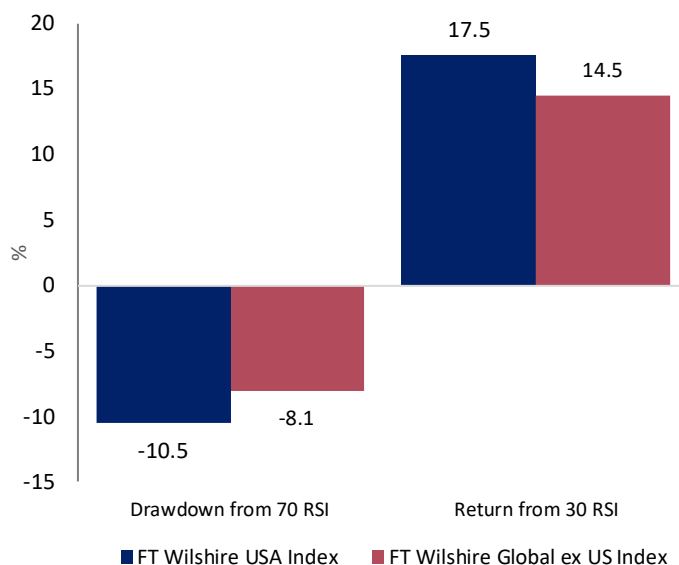
Market Capitalization of major markets and Regional sector weighting comparisons

Country (top 12) Market Cap (USD) and Weight in FT Global Index

	Latest	% Global Index	10Y Ago	% Global Index
USA	45,386	60.9	20,080	48.7
Japan	4,236	5.7	3,001	7.3
UK	2,685	3.6	3,205	7.8
Canada	2,222	3.0	1,584	3.8
Switzerland	1,966	2.6	1,376	3.3
China	1,893	2.5	925	2.2
France	1,893	2.5	1,368	3.3
India	1,629	2.2	430	1.0
Australia	1,444	1.9	1,148	2.8
Taiwan	1,432	1.9	545	1.3
Germany	1,372	1.8	1,359	3.3
Korea	1,042	1.4	673	1.6
Global	**74,563**		**41,269**	

Regional Market Cap (USD) and Weight in FT Wilshire Global index

	Latest	% Global Index	10Y Ago	% Global Index
Developed	66,211	88.8	36,717	89.0
USA	45,386	60.9	20,080	48.7
Europe ex UK	9,517	12.8	7,272	17.6
Asia Pacific ex Japan	8,661	11.6	4,951	12.0
Emerging	8,353	11.2	4,552	11.0
Japan	4,236	5.7	3,001	7.3
UK	2,685	3.6	3,205	7.8
China	1,893	2.5	925	2.2
Global	**74,563**		**41,269**	

Country weights within FT Wilshire Developed and Emerging indexes

Developed	Latest	% Developed	10Y Ago	% Developed
USA	45,386	68.3	20,080	54.5
Japan	4,236	6.4	3,001	8.1
UK	2,685	4.0	3,205	8.7
Canada	2,222	3.3	1,584	4.3
Switzerland	1,966	3.0	1,376	3.7
Developed	**66,464**		**36,839**	

Emerging	Latest	% Emerging	10Y Ago	% Emerging
China	1,893	22.7	925	21.4
India	1,629	19.5	430	10.0
Taiwan	1,432	17.1	545	12.6
Korea	1,042	12.5	673	15.6
Brazil	477	5.7	506	11.7
Emerging	**8,353**		**4,316**	

Sector Weights-US vs Global ex US

	US		Global ex US	
	Latest	%	Latest	%
Sector				
Digital Info	9,005	19.8	2,424	8.3
Technology	7,034	15.5	2,724	9.4
Financials	6,962	15.3	5,905	20.3
Consumer Good	5,424	12.0	3,220	11.1
Healthcare	4,934	10.9	2,456	8.4
Industrials	3,209	7.1	3,017	10.4
Energy	2,880	6.3	2,587	8.9
Res & Materials	1,668	3.7	2,654	9.1
Transportation	1,644	3.6	1,879	6.5
Real Estate	1,339	3.0	856	2.9
Agriculture	1,288	2.8	1,348	4.6
	45,386		**27,723**	

Risk vs Return: Regional equities 1 year and 10 years

Risk vs Return-1 Year

Risk vs Return-10 Year

Source: Wilshire Indexes. Data as of December 31, 2023

Wilshire Indexes - Performance Report (December 2023)

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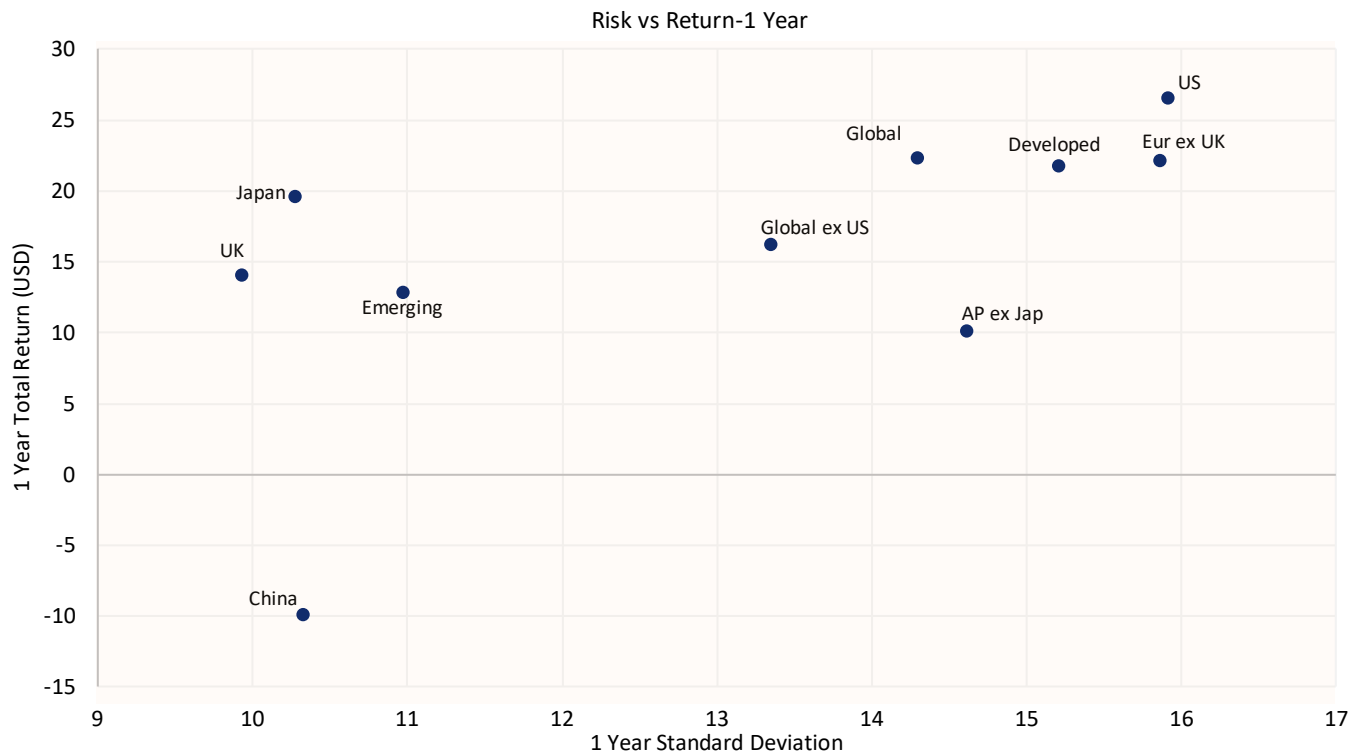
Fixed Income and FX

1 · **-71bps** · Decline in US 10-year yield in Q4 2023

2 · **-52bps** · Q4 2023 decline in US 10-year real yield

3 · **-4.6%** · Decline in DXY dollar index in Q4 2023

4 · **-6.5%** · Decline in JPY vs USD in 2023

The DXY dollar and US 10-year yield have largely moved in tandem in 2023

Legend: — DXY Dollar Index — US 10yr Govt Yield (RHS, %)
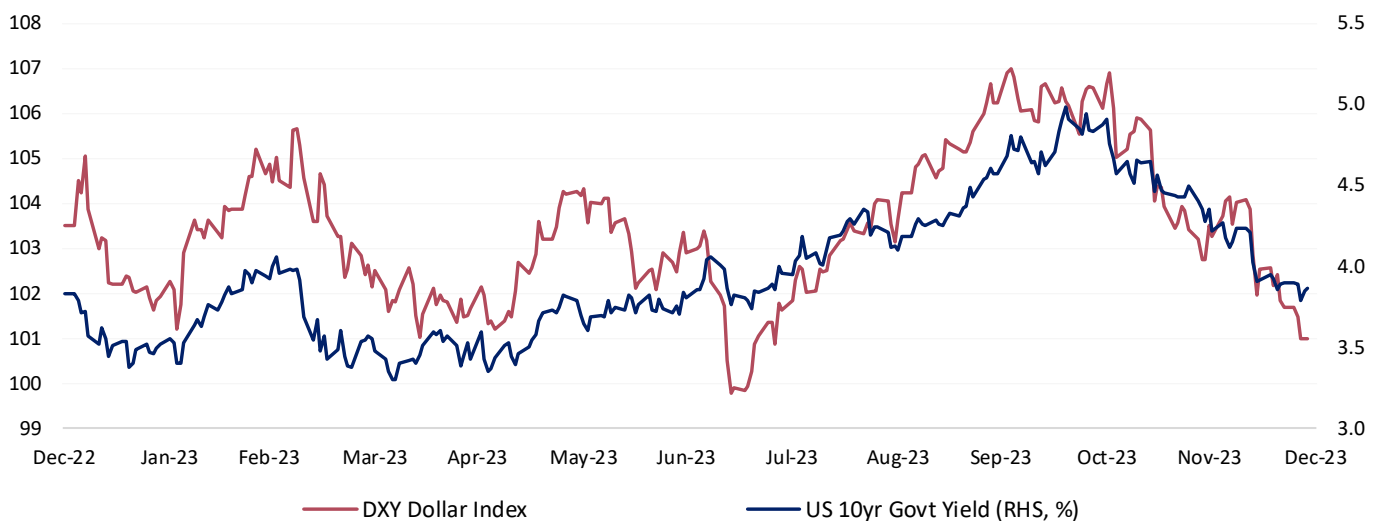
Q4 witnessed declines in the dollar vs other major FX and US nominal and real yields

Q4 2023 Moves in Key Fixed Income and FX Markets (Bps)

Category	Value
JPY vs USD	540
EUR vs USD	440
GBP vs USD	430
CNY vs USD	140
Jap 10yr Yield	-13
US 10yr Breakeven	-19
US IG Spread	-19
US HY-IG Spread	-26
US HY Spread	-44
US 10yr Real Yield	-52
US 10yr Yield	-71
US 2yr Yield	-79
Ger 10yr Yield	-81
UK 10yr Yield	-84
DXY (Dollar)	-460

Legend: ■ FX ■ Fixed Income
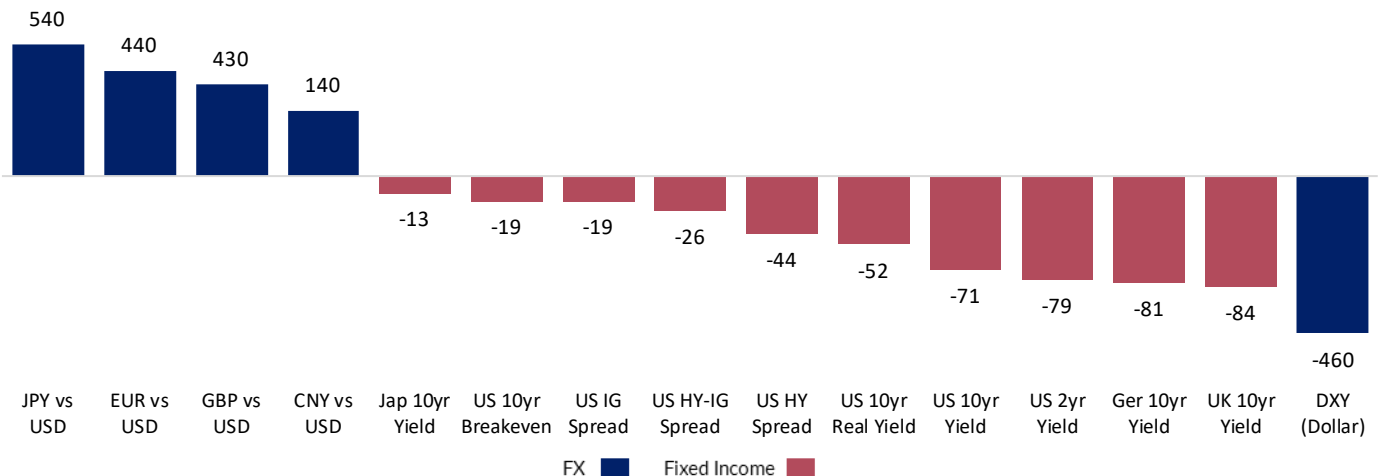
Regional fixed income performance and yield summary: Government bonds, Inflation linked and Corporates

Chart 1: 1-3 year government bond returns

USD (TR, %)	Yields			Returns	
	Latest	Q3	31-Dec-22	Q4	2023
Aus (1-3yr)	3.7	4.1	3.4	**8.0**	3.9
Italy (1-3yr)	3.0	4.0	3.3	**7.9**	8.6
UK (1-3yr)	3.9	4.7	3.6	**7.4**	10.0
EURO* (1-3yr)	2.5	3.2	2.5	**7.0**	6.8
Can (1-3yr)	3.9	4.9	4.1	**5.1**	6.5
Japan (1-3yr)	0.0	0.0	0.0	**5.0**	-7.2
China (1-3yr)	2.2	2.2	2.3	**2.9**	-0.1
US (1-3yr)	4.4	5.1	4.5	**2.5**	4.2

Chart 2: 7-10 year government bond returns

USD (TR, %)	Yields			Returns	
	Latest	Q3	31-Dec-22	Q4	2023
Italy (7-10yr)	3.5	4.6	4.4	**16.1**	18.0
UK (7-10yr)	3.5	4.3	3.6	**13.5**	12.9
EURO* (7-10yr)	2.0	2.8	2.5	**13.1**	11.8
Aus (7-10yr)	3.9	4.4	4.0	**11.4**	5.8
Can (7-10yr)	3.1	4.1	3.3	**11.0**	7.4
US (7-10yr)	3.9	4.6	3.8	**7.1**	4.1
Japan (7-10yr)	0.5	0.6	0.5	**6.7**	-6.5
China (7-10yr)	2.6	2.7	2.9	**3.9**	2.1

Chart 3: Inflation Linked bond returns

USD (TR, %)	Yields			Returns	
	Latest	Q3	31-Dec-22	Q4	2023
Italy IL (All)	1.6	2.1	1.9	**13.9**	15.5
Can IL (All)	1.5	2.2	1.3	**13.3**	3.9
Aus IL (All)	0.9	1.3	0.8	**12.6**	10.4
UK IL (5-10yr)	0.2	0.7	0.2	**11.8**	14.4
EURO* IL (5-10yr)	0.8	1.3	0.8	**11.7**	10.9
Japan* IL (5-10yr)	-0.9	-0.7	-0.6	**6.4**	-2.9
US IL (5-10yr)	1.7	2.3	1.7	**5.7**	4.4

Chart 4: Investment grade & high yield returns

USD (TR, %)	Yields			Returns	
	Latest	Q3	31-Dec-22	Q4	2023
UK IG (All)	5.2	6.2	5.7	**14.2**	17.3
UK HY (All)	9.0	10.5	10.3	**11.8**	22.9
EURO IG (All)	3.6	4.5	4.2	**11.0**	12.7
EURO HY (All)	6.5	7.6	7.7	**10.7**	16.5
US IG (All)	5.2	6.1	5.5	**8.4**	8.9
US HY (All)	7.8	8.9	9.0	**7.1**	13.5
Japan BBB (All)	1.4	1.4	1.6	**5.8**	-4.9
Japan IG (All)	0.9	0.9	0.9	**5.7**	-5.8

Fixed Income key observations: US 10-year yield declines further in Q4 on Dovish Fed pivot and expectation of US rate cuts in 2024

10-year yields across the major regions have eased back towards levels seen at the beginning of 2023
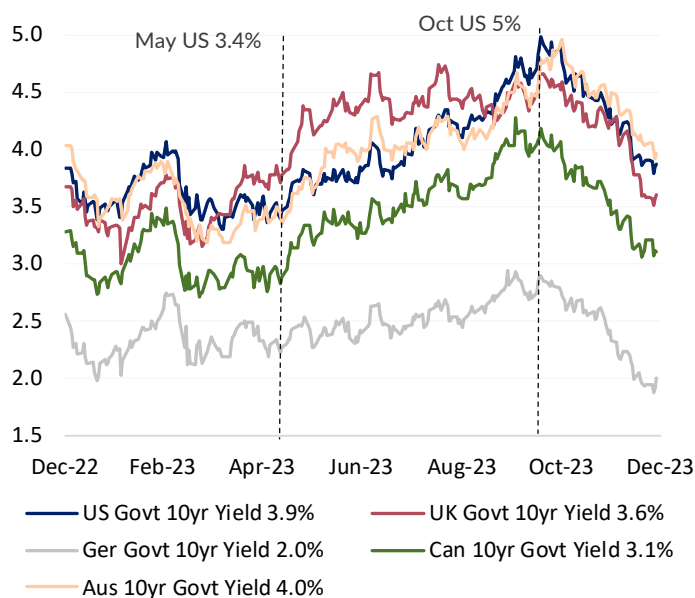
The rise in the US 10yr yield from May to Oct was driven by a rise in real yields. The decline since October mostly been driven by the –77bps drop in real yields
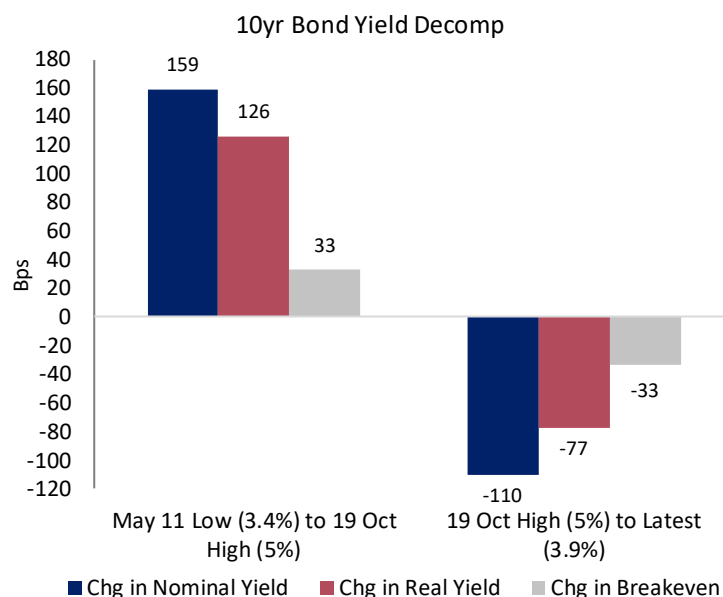
Having steepened from June to October, 10-2 year yield curves reversed course (inverting) in the final months of 2023, remaining deeply negative.
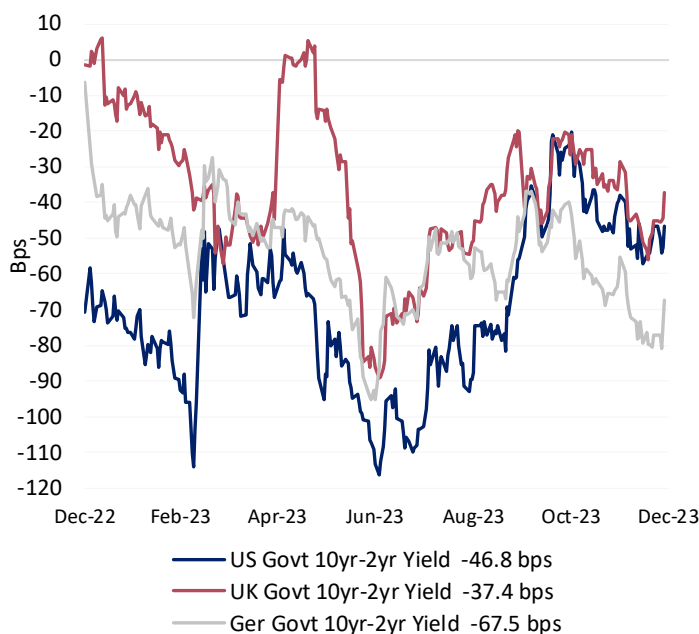
US high yield corporate spreads saw the largest decline (narrowing) against the US 10-year yield in 2023. Only Japanese bonds experienced a (modest) increase (widening) in spreads.

2023 Shift in Spreads Over US 10-Year Bond (Bps)			
	31 Dec 2023 (Bps)	31 Dec 2022 (Bps)	*Shift in 2023 (Bps)*
Japan 10-Year - US 10-Year	-324.5	-342.0	17.5
UK 10-Year - US 10-Year	-26.6	-16.3	-10.3
US Investment Grade Corp - US 10-Year	130.0	168.0	-38.0
German 10-Year - US 10-Year	-186.7	-126.9	-59.8
US High Yield Corp - US 10-Year	391.0	514.0	-123.0

Source: FactSet, Refinitiv. Data as of December 31, 2023

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FX return perspectives: Dollar (DXY) sees a further sharp decline in December on decline in Fed's 2024 US interest rate projections

Chart 1: The DXY dollar has declined around 5.6% from its recent high on the 3rd October

DXY Returns (%)		
1M	Q4	2023
-2.1	-4.6	-2.7

DXY Dollar Index (Rebased)
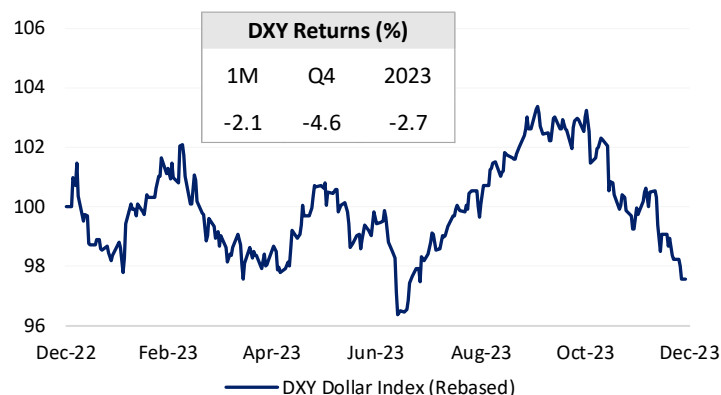
Chart 2: Although below its peak, the DXY dollar has still seen a 41.4% rise from the March 2008 lows

DXY Returns (%)		
3YR	5YR	From Mar 08
12.7	5.4	41.4

DXY Dollar Index
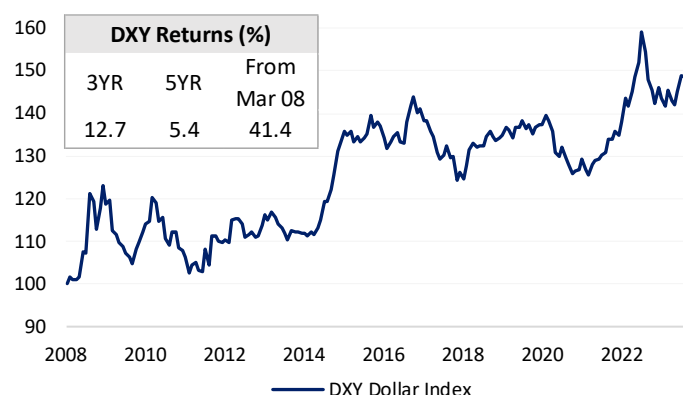
Chart 3: Regional trade-weighted FX returns-YTD (rebased)

USD (DXY) -2.7%   GBP 5.2%   EUR 4.3%
JPY -6.5%   CNY -2.3%
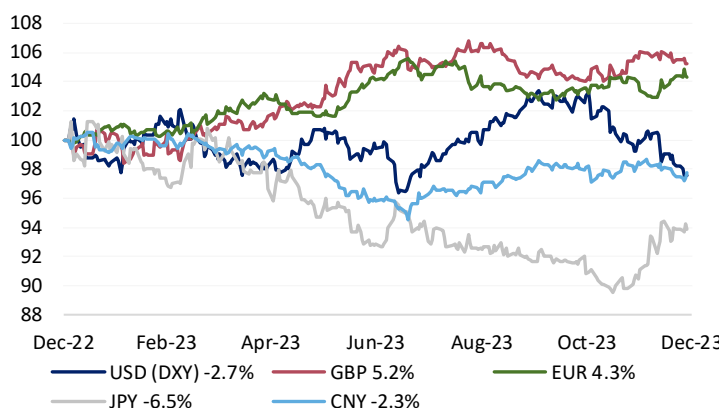
Chart 4: Regional trade-weighted FX returns over 5 years (rebased)

USD (DXY) 5.0%   GBP 7.9%   EUR 7.4%
JPY -19.4%   CNY 6.8%
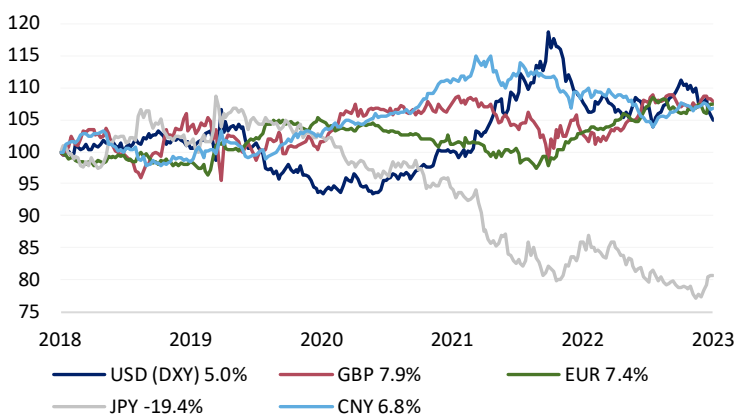
Chart 5: USD returns vs JPY, Euro, GBP and Renminbi spot rate-YTD (rebased)

USD/GBP -5.2%   USD/EUR -3.1%
USD/JPY 6.5%   USD/CNY 1.7%
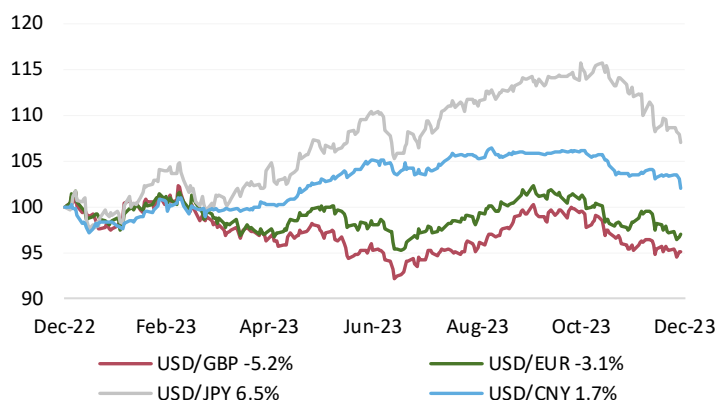
Chart 6: USD returns vs JPY, Euro, GBP and Renminbi spot rate returns over 5 years (rebased)

USD/GBP 0.3%   USD/EUR 3.9%
USD/JPY 28.6%   USD/CNY 3.2%

Source: Refinitiv. Data as of December 31, 2023

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Wilshire
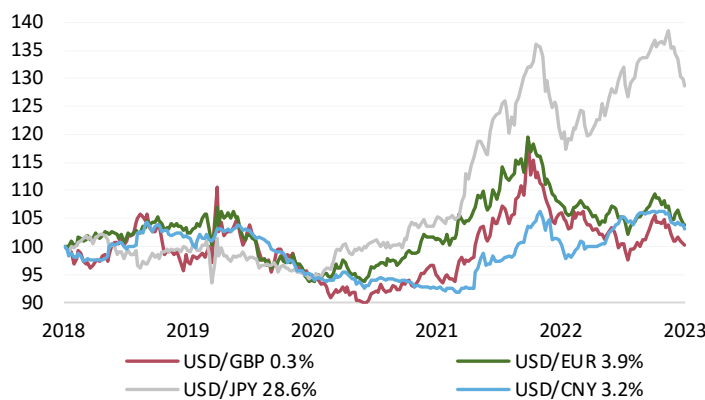
FX spot rate returns from a regional perspective

The dollar lost ground against all major currencies in Q4, most notably the Swiss franc and Yen. The DXY dollar index has declined –5.6% from its 2023 high on the 3rd October driven by expectations of US interest cuts in 2023. Despite the recent recovery, the Japanese Yen has still depreciated 6.5% against the dollar in 2023.

Moves vs USD (TR, %)	Q4	2023	2022
CHF	8.7	9.9	-1.3
AUD	5.8	0.0	-6.2
JPY	5.4	-6.5	-13.2
EUR	4.4	3.1	-5.9
GBP	4.3	5.2	-10.6
CAD	2.5	2.3	-6.8
CNY	1.4	-1.7	-8.5

Moves vs GBP (TR, %)	Q4	2023	2022
CHF	4.1	3.7	10.9
AUD	1.2	-5.1	5.0
JPY	0.9	-11.5	-3.0
EUR	-0.1	-2.3	5.7
CAD	-1.8	-2.8	4.3
CNY	-3.1	-7.1	2.5
USD	-4.3	-5.2	10.6

Moves vs EUR (TR, %)	Q4	2023	2022
CHF	4.2	6.2	4.9
JPY	1.6	-9.9	-7.8
AUD	1.3	-2.8	-0.6
GBP	0.1	2.4	-5.4
CNY	-1.6	-6.2	-1.9
CAD	-1.8	-0.8	-1.0
USD	-4.4	-3.1	5.9

Moves vs JPY (TR, %)	Q4	2023	2022
CHF	2.9	17.0	14.3
AUD	0.9	8.2	7.4
GBP	-0.9	11.5	3.0
EUR	-1.6	9.9	7.8
CNY	-2.9	4.5	5.0
CAD	-3.2	10.1	6.2
USD	-5.4	6.5	13.2

Moves vs CNY (TR, %)	Q4	2023	2022
CHF	5.9	13.5	7.1
GBP	3.1	7.7	-2.5
JPY	2.9	-4.5	-5.0
AUD	2.3	3.6	1.4
EUR	1.6	6.7	2.0
CAD	0.4	-5.0	-1.2
USD	-1.4	1.7	8.5

Moves vs CHF (TR, %)	Q4	2023	2022
CAD	-2.3	-6.9	-5.5
JPY	-2.9	-17.0	-14.3
GBP	-4.1	-3.7	-10.9
EUR	-4.2	-6.2	-4.9
CNY	-5.9	-13.5	-7.1
USD	-8.7	-9.9	1.3

Moves vs AUD (TR, %)	Q4	2023	2022
JPY	-0.9	-8.2	-7.4
GBP	-1.2	5.1	-5.0
EUR	-1.3	2.8	0.6
CNY	-2.3	-3.6	-1.4
CAD	-3.2	2.3	-0.6
USD	-5.8	0.0	6.2

Trade Weighted (TR, %)	Q4	2023	2022
JPY	2.9	-6.0	-7.6
GBP	1.3	6.2	-4.9
EUR	0.9	1.7	-0.4
AUD	0.8	-0.1	0.0
CNY	0.4	-1.7	-2.4
DXY	-4.6	-2.1	7.9

Source: Refinitiv. Data as of December 31, 2023

Wilshire

(1) **+13.8%**
Rise in gold price in 2023

(2) **-18.6%**
Decline in oil price (Brent Crude) in Q4 2023

(3) **+16.3%**
Return of the Wilshire US REITs in Q4 2023

(4) **+139.1%**
Rise in the FT Wilshire Digital assets index in 2023

Commodity prices in 2023 (rebased): While oil has declined from its September peak, gold remains close to all-time highs. Agricultural commodities have declined –12.9% in 2023.

Gold (USD) 13.8%
Brent Crude Oil (USD) -8.5%
Copper (USD) 1.2%
Agricultural Commodities (Composite, USD) -12.9%

Source: Wilshire Indexes and Refinitiv. Data as of November 30, 2023

Wilshire Indexes - Performance Report (December 2023)

37
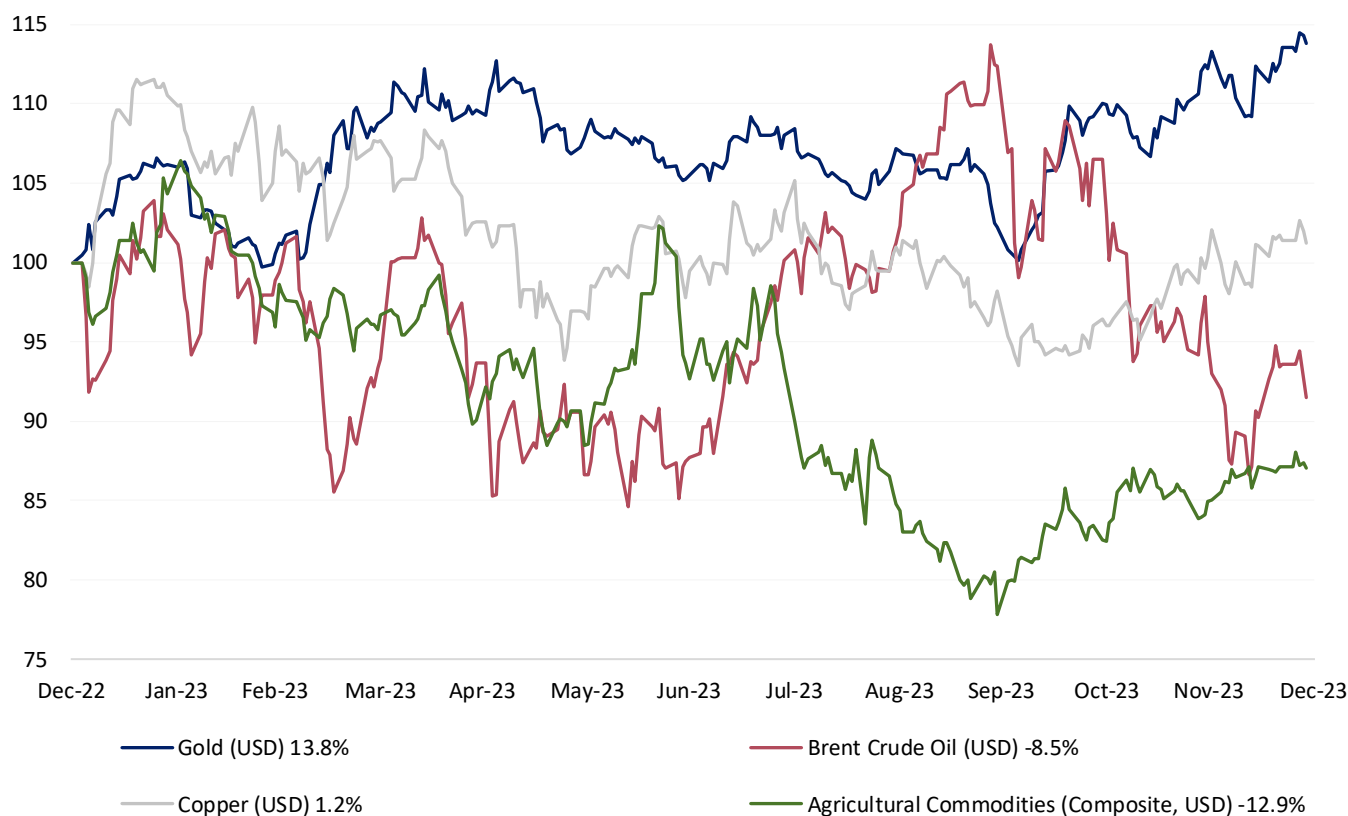
Commodities: Declining US real yields and central bank purchases drive gold close to all-time highs. Oil declines −8.5% in 2023

Heightened geopolitical tensions between Israel and Hamas, the recent decline in real yields and strong demand from central banks have all supported the surge in the gold price in Q4. Gold remains near its all-time high. After hitting $130 in late September, Brent Crude oil has fallen −18.6% in the final quarter of 2023.

Q4 USD TR (%)

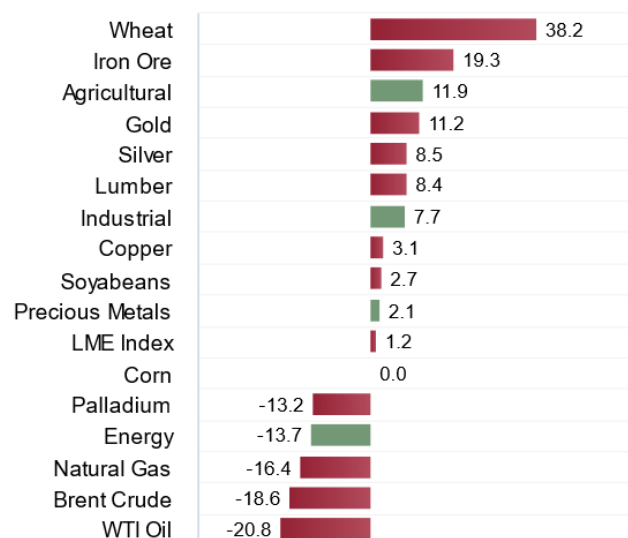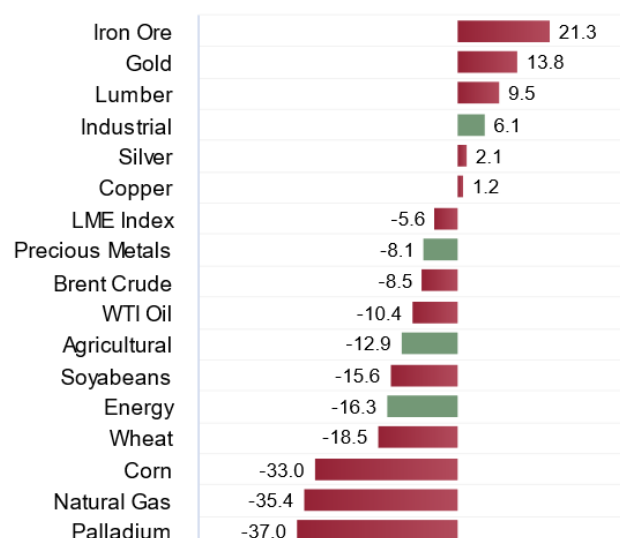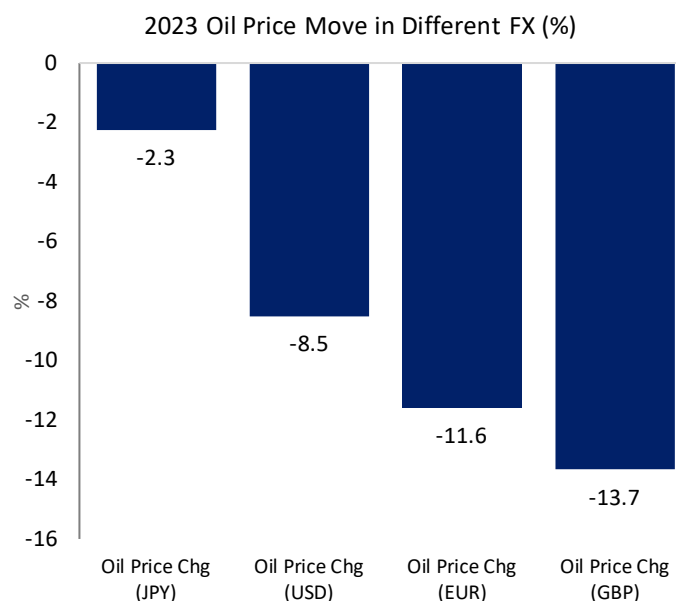| Commodity	Value
Wheat	38.2
Iron Ore	19.3
Agricultural	11.9
Gold	11.2
Silver	8.5
Lumber	8.4
Industrial	7.7
Copper	3.1
Soyabeans	2.7
Precious Metals	2.1
LME Index	1.2
Corn	0.0
Palladium	-13.2
Energy	-13.7
Natural Gas	-16.4
Brent Crude	-18.6
WTI Oil	-20.8

2023 USD TR (%)

Commodity	Value
Iron Ore	21.3
Gold	13.8
Lumber	9.5
Industrial	6.1
Silver	2.1
Copper	1.2
LME Index	-5.6
Precious Metals	-8.1
Brent Crude	-8.5
WTI Oil	-10.4
Agricultural	-12.9
Soyabeans	-15.6
Energy	-16.3
Wheat	-18.5
Corn	-33.0
Natural Gas	-35.4
Palladium	-37.0

The rise in the gold price (red line) from October has been supported (amongst other factors) by the decline in US real yields (blue line)

Legend: Gold Price — 6m Chg in US 7-10yr Real Yield (RHS, Inverted)

YTD Oil price move adjusted for different FX impact −over an 11% difference between 2023 oil price move in JPY and GBP

2023 Oil Price Move in Different FX (%)

	Value
Oil Price Chg (JPY)	-2.3
Oil Price Chg (USD)	-8.5
Oil Price Chg (EUR)	-11.6
Oil Price Chg (GBP)	-13.7

Wilshire

Property (Wilshire REIT indexes): Decline in bond yields drives strong finish to 2023 for US REITs

Both US and non-US REITs delivered strong returns in Q4 supported by declining bond yields. US REITs outperformed non-US REITs in 2023. Within the US the office sector rebounded in Q4 but still lagged in 2023. The industrials sector was the standout performer in 2023.
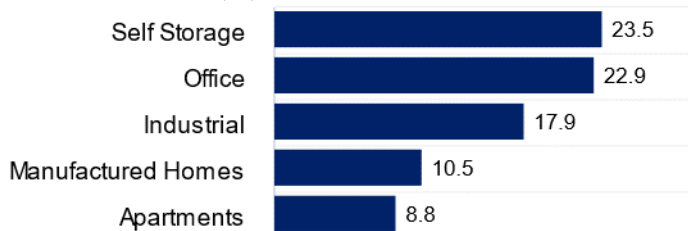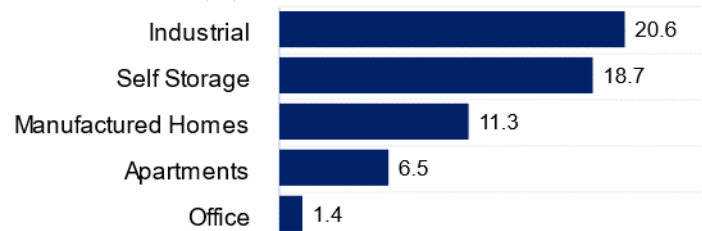
Q4 USD TR (%)

Wilshire ex US	17.6
Wilshire Global	16.6
Wilshire US	16.3

2023 USD TR (%)

Wilshire US	16.1
Wilshire Global	15.2
Wilshire ex US	11.9

Q4 USD TR (%)

Self Storage	23.5
Office	22.9
Industrial	17.9
Manufactured Homes	10.5
Apartments	8.8

2023 USD TR (%)

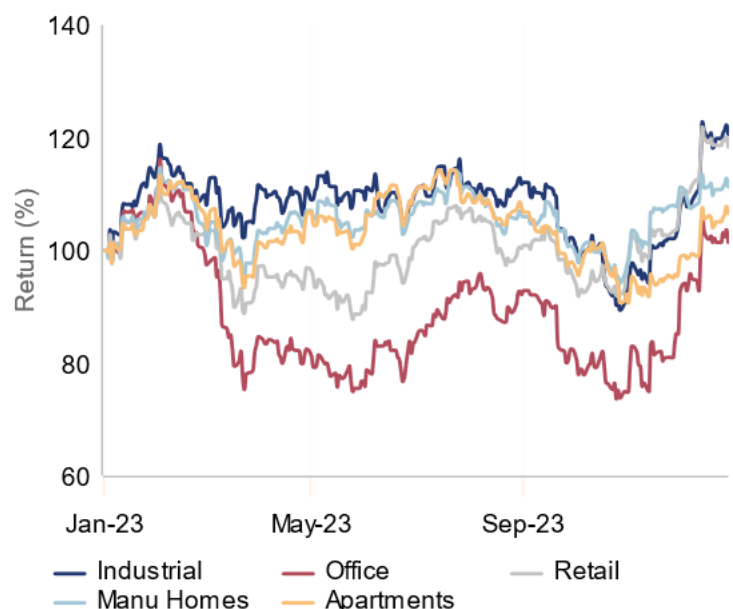|	
Industrial	20.6
Self Storage	18.7
Manufactured Homes	11.3
Apartments	6.5
Office	1.4

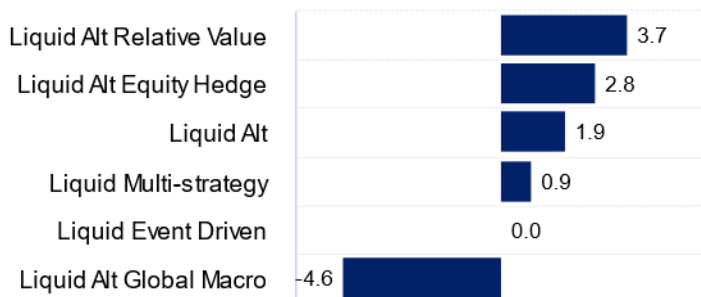Wilshire US REIT vs Global ex US REIT - 12M (Rebased, TR)

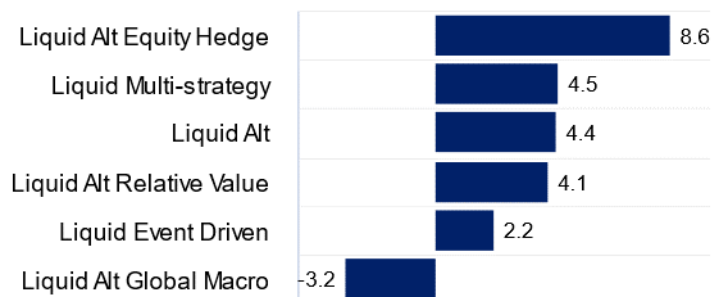Wilshire US REIT sector performance - 12M (Rebased, TR)

Wilshire Liquid Alternative Indexes (Absolute Return): Small gains in November as Equity Hedge continues to outperform

Most Wilshire Liquid Alternative indexes posted small gains in Q4 relative to more substantial returns for US equity markets. Equity Hedge outperformed in 2023. Global Macro has lagged, delivering negative returns in Q4 and 2023.
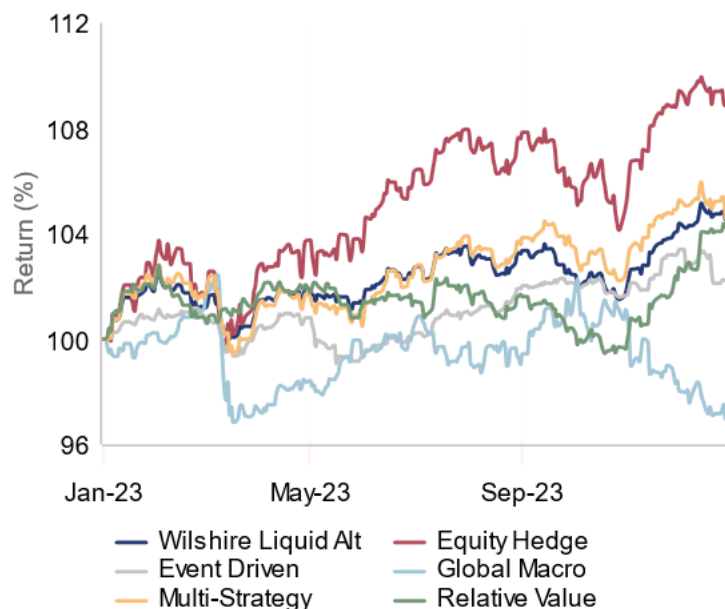
Q4 USD TR (%)

Liquid Alt Relative Value	3.7
Liquid Alt Equity Hedge	2.8
Liquid Alt	1.9
Liquid Multi-strategy	0.9
Liquid Event Driven	0.0
Liquid Alt Global Macro	-4.6

2023 USD TR (%)

|	
Liquid Alt Equity Hedge	8.6
Liquid Multi-strategy	4.5
Liquid Alt	4.4
Liquid Alt Relative Value	4.1
Liquid Event Driven	2.2
Liquid Alt Global Macro	-3.2

Wilshire Liquid Alternative Index performance - total returns (rebased)

Wilshire Liquid Alternative Index relative performance vs FT Wilshire 5000 Index - total returns (rebased)

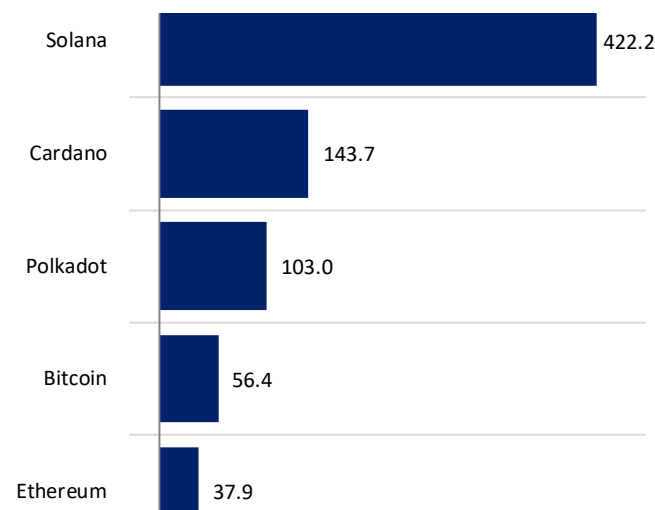Source: Wilshire Indexes, FactSet. Data as of December 31, 2023
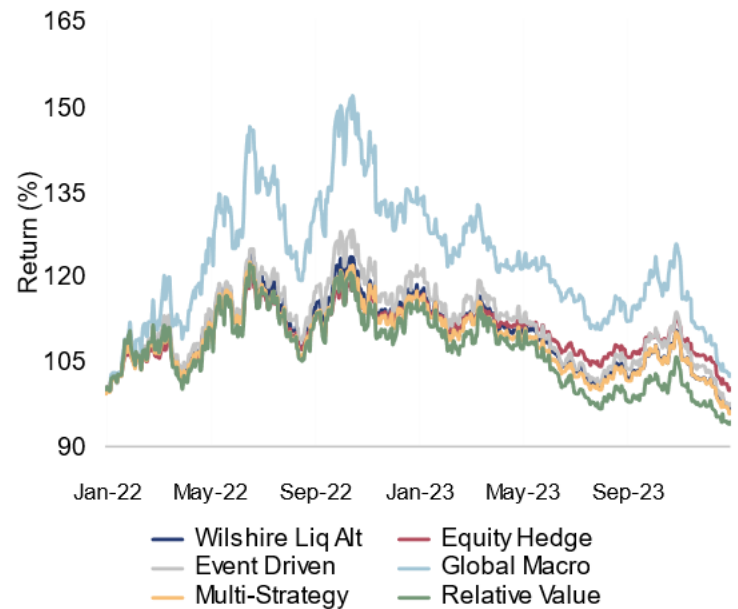
Wilshire

Digital Assets Index: Upward momentum in Q4 leads to sizeable 2023 gains
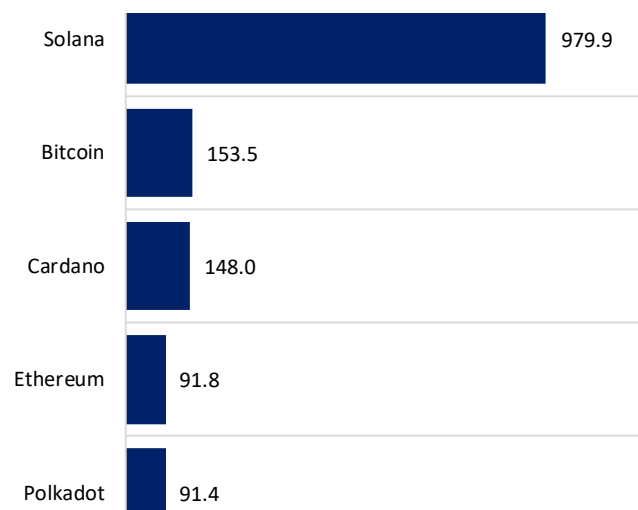
The FT Wilshire Digital Assets Index saw a strong finish to 2023, rising 57.6% in Q4 and delivering a YTD return of 139.1%. Despite the recovery the 2 year return is still −19.1%.

Returns (USD, TR, %)			
1M	**Q4**	**2023**	**2Y**
14.5	57.6	139.1	-19.1

— FT Wilshire Digital Assets Index
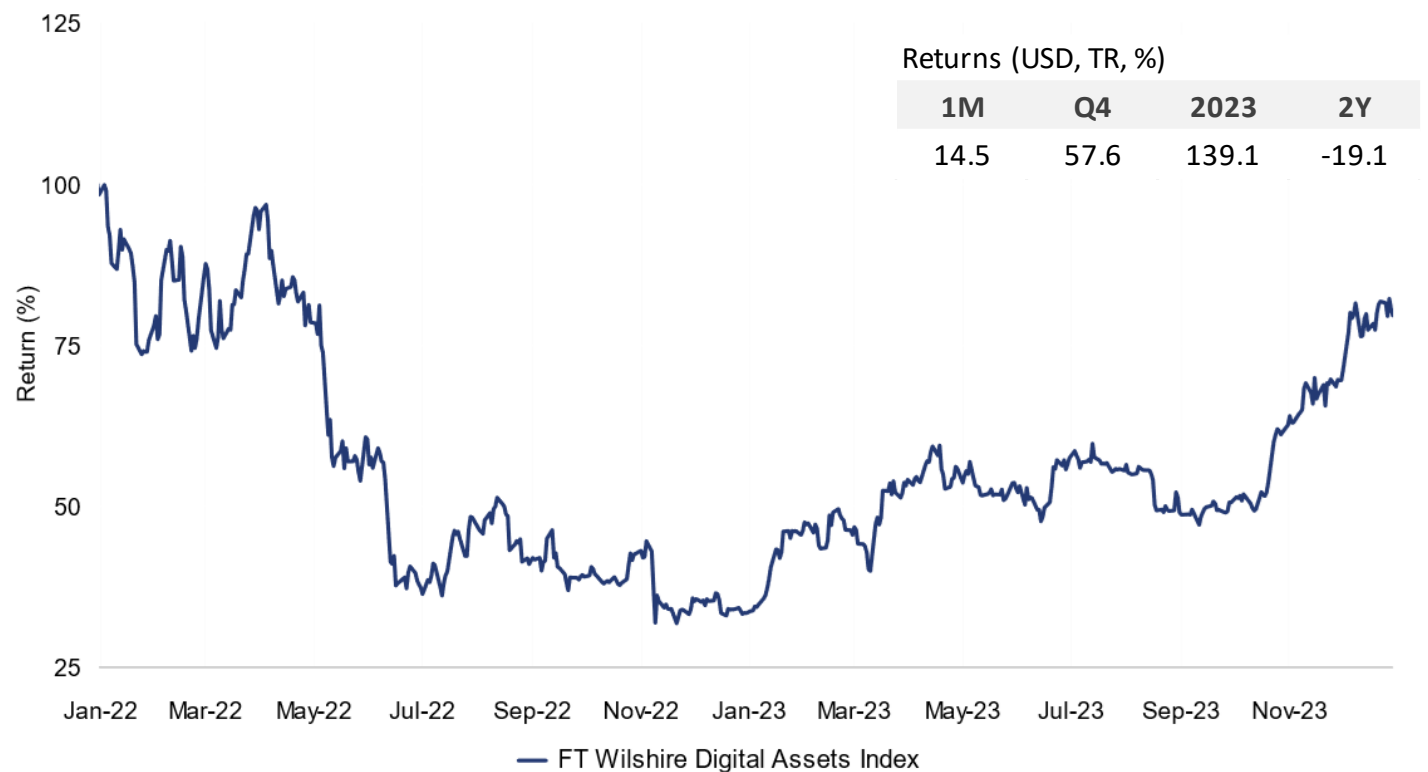
FT Wilshire Digital Assets Index selected constituent performance - Q4 2023 (%, USD)

Solana	422.2
Cardano	143.7
Polkadot	103.0
Bitcoin	56.4
Ethereum	37.9

FT Wilshire Digital Assets Index selected constituent performance - 2023 (%, USD)

Solana	979.9
Bitcoin	153.5
Cardano	148.0
Ethereum	91.8
Polkadot	91.4

Source: Wilshire Indexes, FactSet, CryptoCompare. Data as of December 31, 2023

Multi Asset Class: Risk vs Return

Risk vs Return over 1 Year

Risk vs Return-1 Year
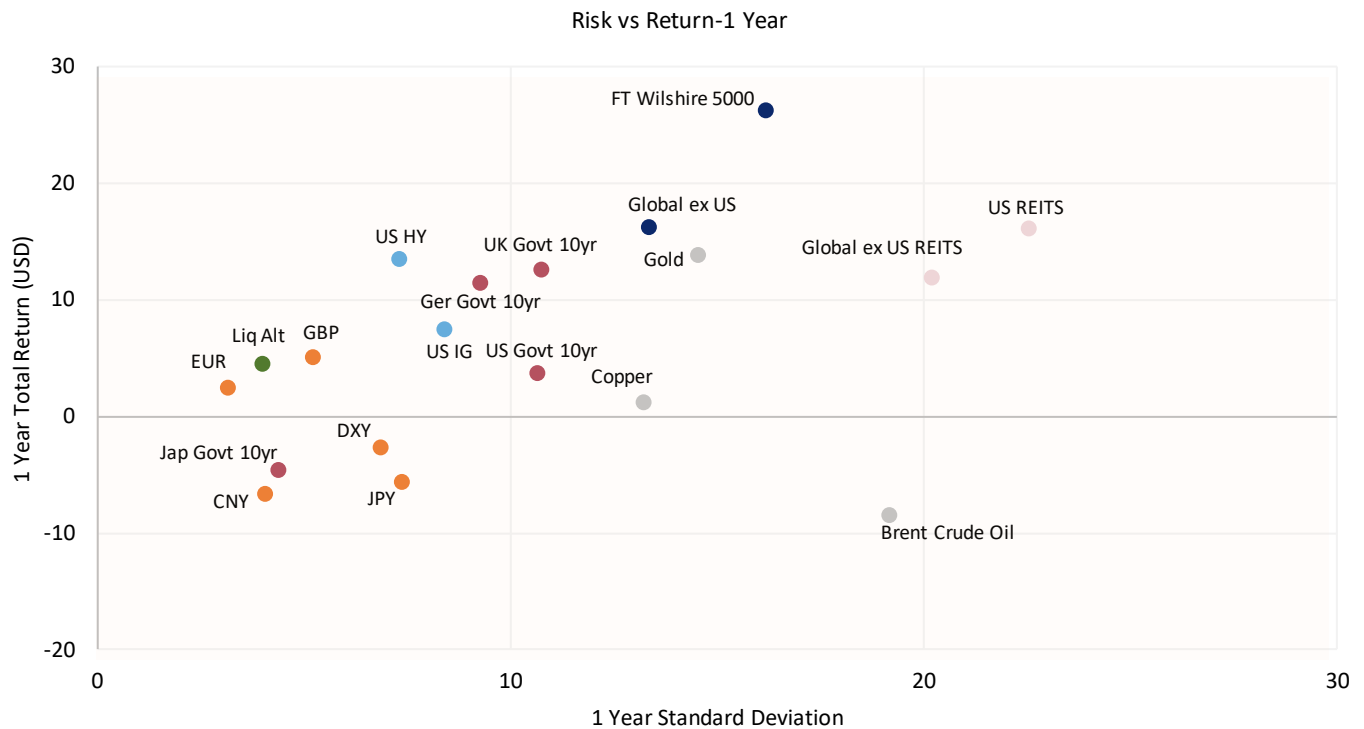
Risk vs Return over 10 Years

Legend: Equities (navy), Govt Bonds (dark red), Corp Bonds (red), Liq Alternative (green), REITS (pink), Currency (orange), Commodities (grey)

Risk vs Return-10 Year
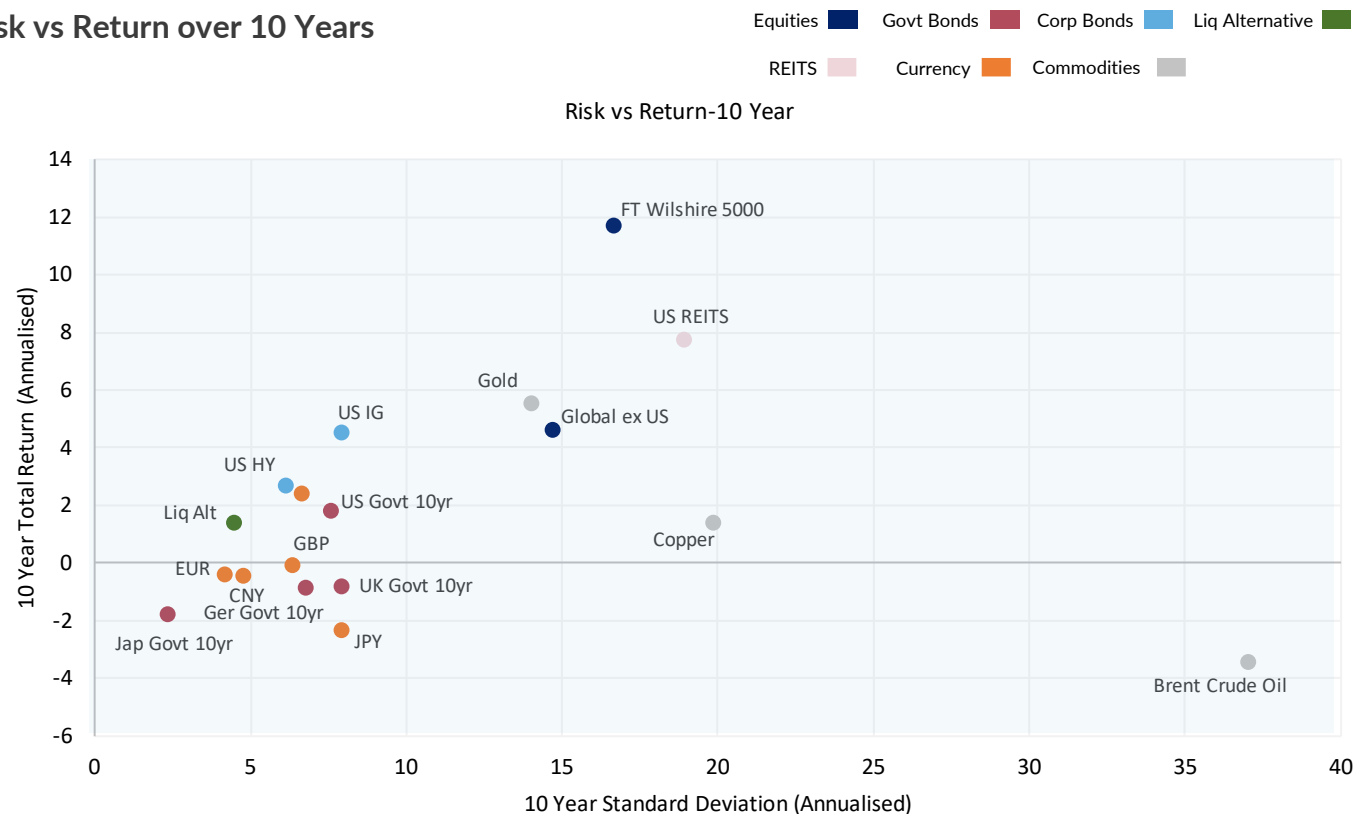
Source: Wilshire Indexes, Refinitiv and FactSet. Data as of December 31, 2023

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