

April 30, 2023

## GLOBAL MARKETS PERFORMANCE REPORT

FT Wilshire 5000 - Sector, Style, Factors

Global Equities and Sectors

Fixed Income and FX

Alternatives



# IN THIS REPORT

## FT Wilshire Indexes Insights

- The FT Wilshire 5000 finished up 1% in April and has delivered a YTD return of 8.4%
- April saw a modest rotation from growth into value. Large cap continues to outperform small cap
- Financials and digital information sectors the largest contributors to returns in April

**+1.0%**

FT Wilshire 5000  
return in April

**+14.4%**

Growth Style  
outperformance  
versus Value YTD

See [PAGE 4](#)

## Global Equities

- UK equities the standout performer in April. Emerging markets underperform
- At a country level European equities continue to lead the way YTD
- The US underperformed the World ex US in April, driven by smaller positive contributions from energy and financials

**+5.1%**

Return of UK  
equities in April

**+9.3%**

Return of the World  
index YTD

See [PAGE 16](#)

## Fixed Income, Foreign Exchange

- The -64bps decline in the US 10 year yield from the March high driven by decline in the real yield and breakeven inflation
- The US 10-2yr yield curve has flatlined since March but remains deeply inverted (-66.5bps)
- The dollar saw further weakness against GBP and EUR but rose against JPY in April

**-64bps**

Decline in US 10-  
year from 2 March  
high

**+1.9%**

Rise GBP vs USD in  
April

See [PAGE 28](#)

## Alternatives

- Economically-sensitive commodities (copper and iron ore) saw declines in April on global growth concerns. Gold appreciated.
- US Office REITS decline further in April. Sector is now down -17.5% YTD
- FT Wilshire Digital Assets Index continues to recover, rising another 3.2% in April.

**+9.6%**

Rise in Gold price  
YTD

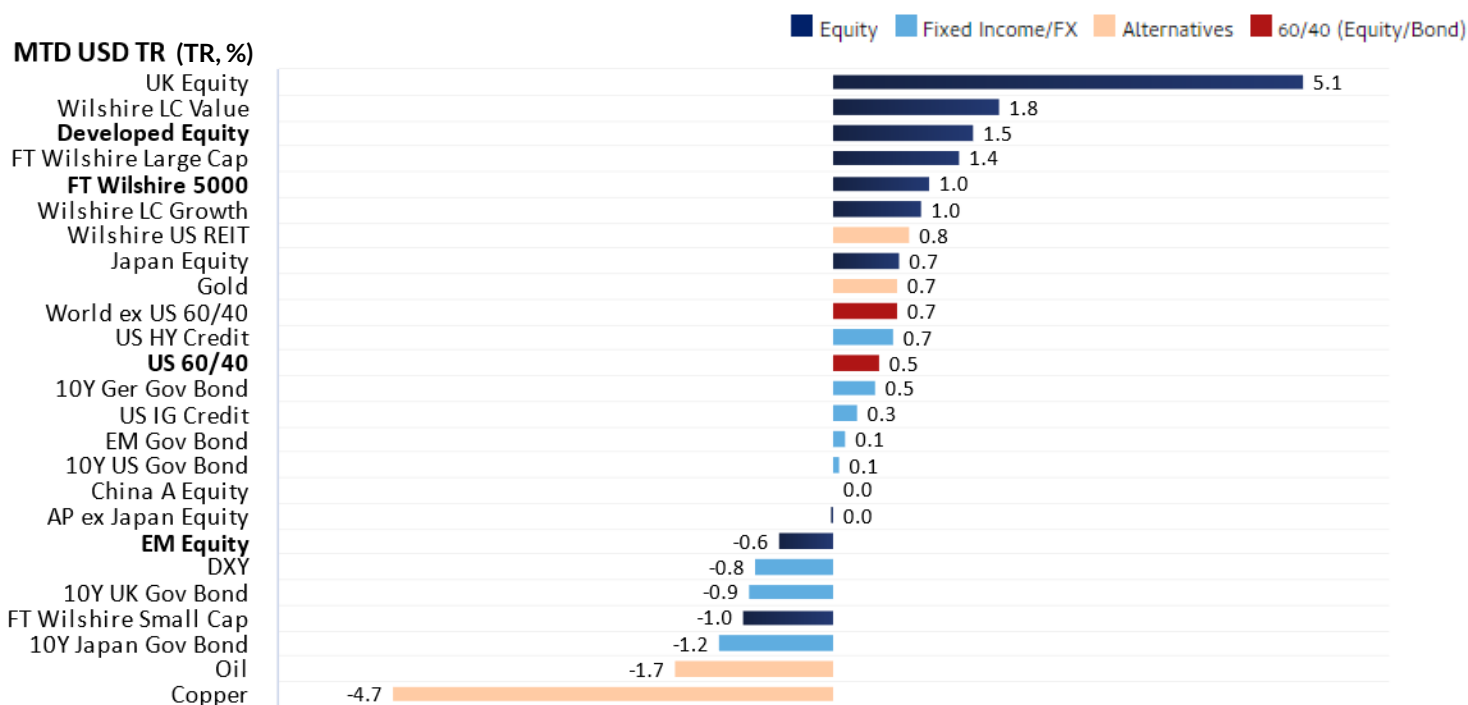
**+67.5%**

FT Wilshire digital  
assets index return  
YTD

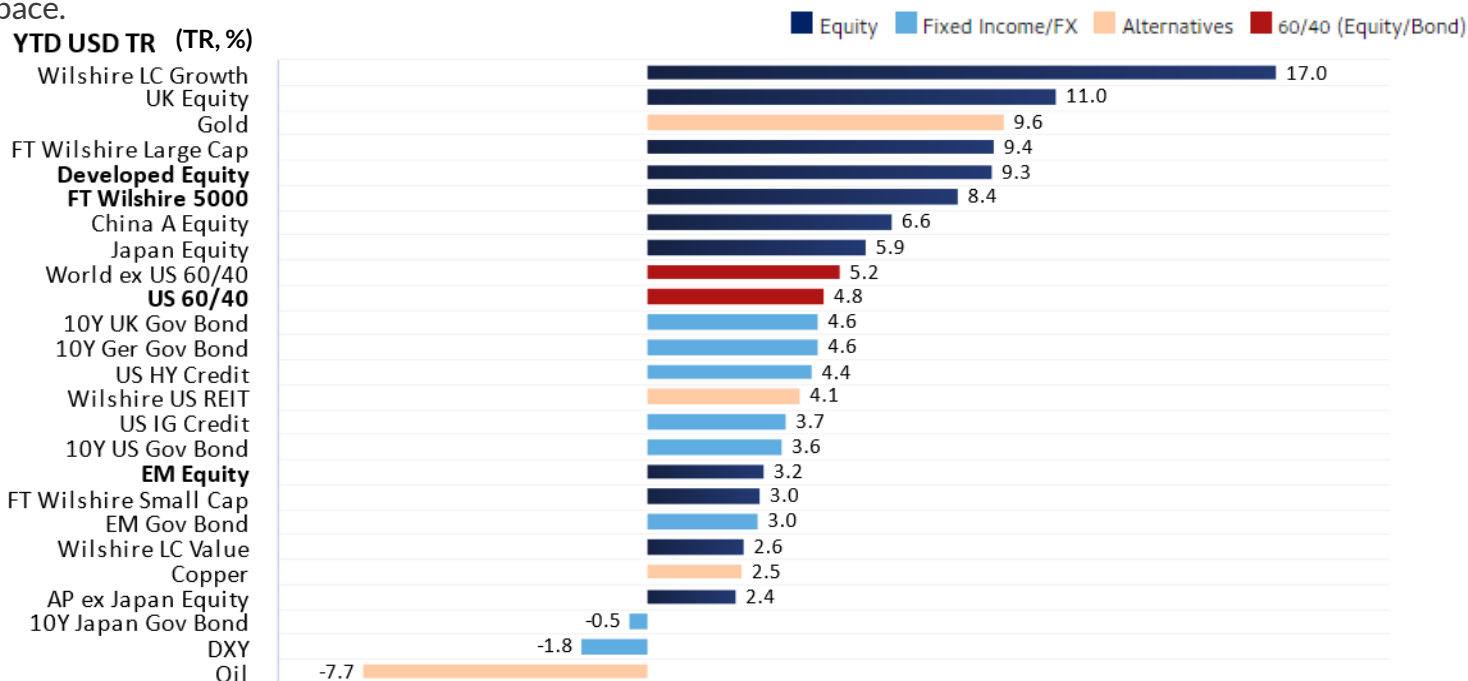
See [PAGE 33](#)

## Multi-Asset Class returns: UK equities the standout performer in April. US sees modest rotation from growth into value last month.

**Chart 1:** Most regional equity markets delivered small positive gains in April with the UK outperforming. Oil and copper lost momentum. Within the US, large cap value outperformed growth, reversing the trend seen since the start of the year. The DXY dollar index resumed its decline.



**Chart 2:** US LC growth remains the standout performer YTD, comfortably ahead of LC value. Developed markets have outperformed emerging helped by strong US and European equities returns. Gold continues to outperform amongst commodities. UK and German bonds have outperformed in the fixed income space.



# FT Wilshire 5000 Index Insights

1

**+1.0%**

The return of the FT Wilshire 5000 in April

2

**+8.4%**

Appreciation of the FT Wilshire 5000 YTD

3

**+14.4%**

Outperformance of Growth style versus Value YTD

4

**+25.4%**

Performance of the Technology sector YTD

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- 05 FT Wilshire 5000 key observations
- 06 Perspectives: The Market Correction
- 07 Sector performance
- 08 Sector-weighted contribution
- 09 Style indexes performance
- 10 Style indexes relative returns

- 11 Pure Factor Indexes
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- 14 Dispersion
- 15 Risk/return analysis

Strong earnings from the large US technology companies saw the FT Wilshire 5000 end the month on a positive note and deliver a small gain in April. The index is up 7.6% from the recent March low.



Source: Wilshire, FactSet and Refinitiv. Data as of April 28, 2023

Wilshire Advisors LLC - Performance Report (April 2023)

# FT Wilshire 5000 Key Observations: Month end rally in technology stocks sees FT Wilshire 5000 extend recovery from the March low

## Market snapshot

- ◆ The FT Wilshire 5000 rose 1% in April and has delivered a return of 8.4% year to date in 2023 ([page 4](#))
- ◆ Despite a late rally in technology stocks, FT Wilshire Large Cap Value outperformed Growth in April as markets largely shrugged off concerns over US regional banks. Growth has still significantly outperformed YTD. Large Cap continues to outperform Small Cap ([page 9](#))
- ◆ Agriculture food and beverages and healthcare were the strongest performing sectors in April. Technology and transportation underperformed ([page 8](#))
- ◆ Positive contributions from financials, digital info and health care offset the drag on FT Wilshire 5000 performance from technology and transportation in April ([page 10](#))
- ◆ Within the Pure factor space Pure Value and Momentum outperformed in April, with Size the underperformer ([page 12](#))

## Key US Economic data in April

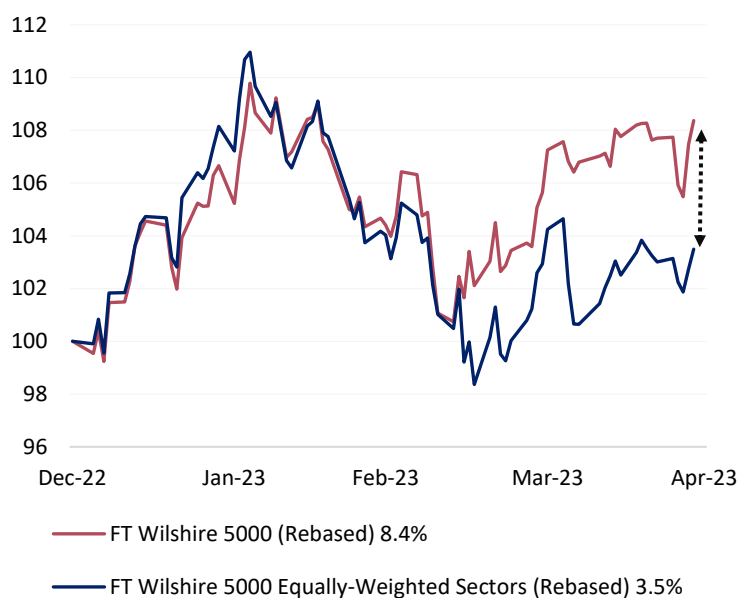
- ◆ First quarter earnings season has been a focus for markets with large tech stocks beating analyst expectations
- ◆ Concern over US regional banks lingers as data shows substantial deposit outflows from First Republic banks. US Regional banks see further share price declines in April.
- ◆ First quarter US GDP comes in below expectations at 1.1% (annualized), down from 2.6% in Q4 2023. Data shows consumption growth remains relatively strong
- ◆ Markets have toned-down expectations of multiple rate cuts by Y/E 2023. Current Y/E 2023 forecast is 4.6%, up from 4% at the end of March.
- ◆ US CPI inflation eases back further to 5% in March but Core PCE remains elevated at 4.6%
- ◆ US economic data continues to moderate with further declines in ISM manufacturing and services indexes. Non-farm payrolls decline to 236,000

**Chart 1: FT Wilshire 5000 Real vs nominal total return** - despite the 2022 drawdown, US equities have still delivered a 9.0% real annualized return over the last 10 years

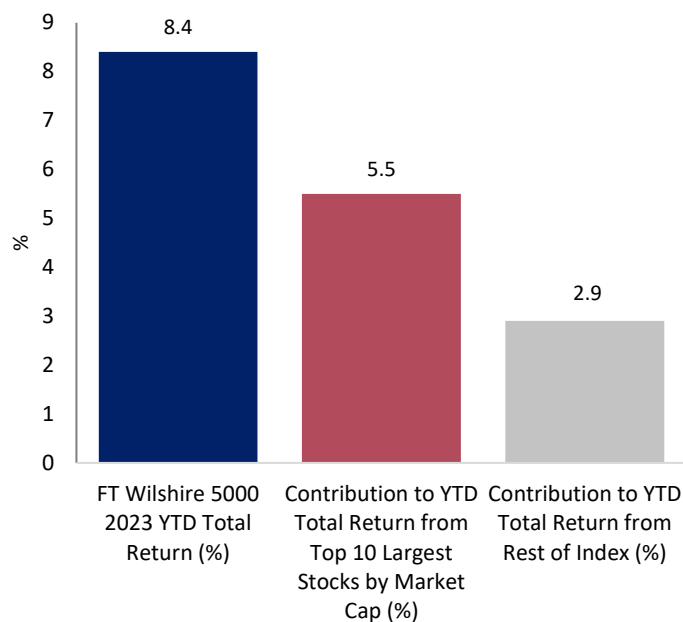


# Perspectives : Market breadth has deteriorated in 2023 with FT Wilshire 5000 year to date returns mainly driven by the top 10 largest stocks

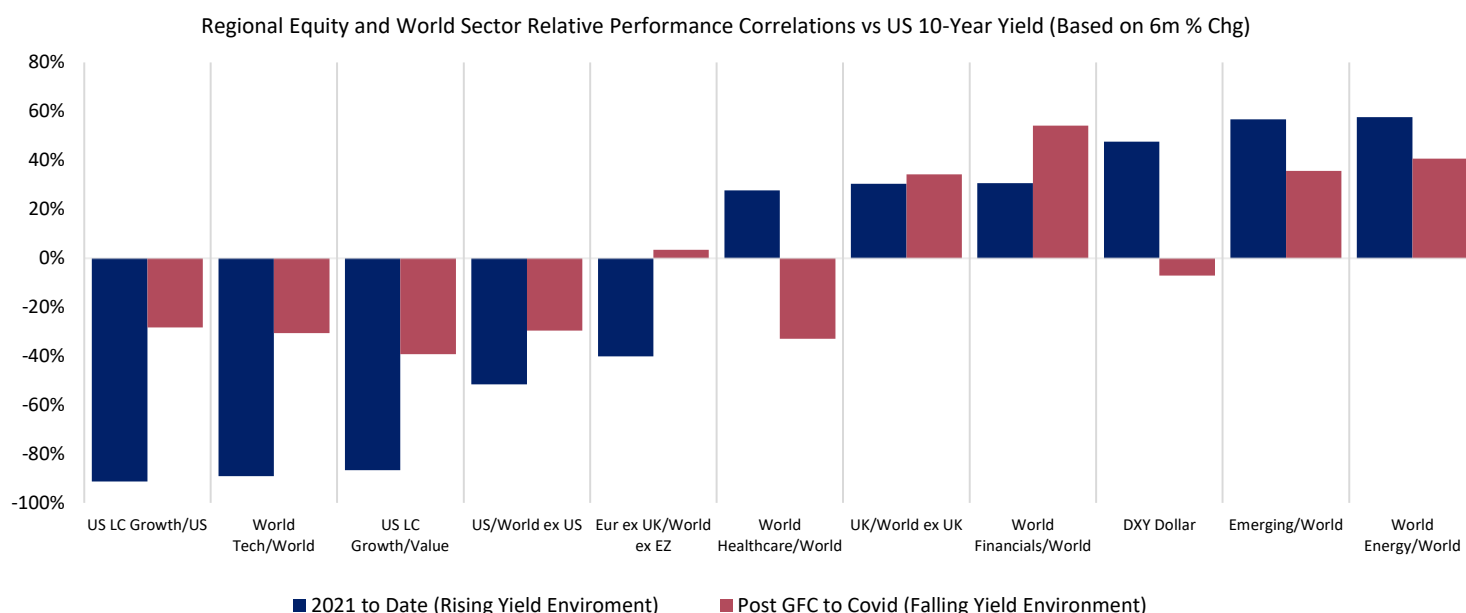
**Chart 1:** Since late February the equally-weighted FT Wilshire 5000 has underperformed the market-cap weighted index



**Chart 2:** The top 10 largest stocks by market cap have contributed 5.5% of the 8.4% FT Wilshire 5000 YTD return



**Chart 3: Perspectives on correlations.** Comparing various regional, style and sector relative performance correlations versus the US 10-year bond yield, both in a falling yield environment (post-GFC to Covid) and rising yield environment (2021 to date).

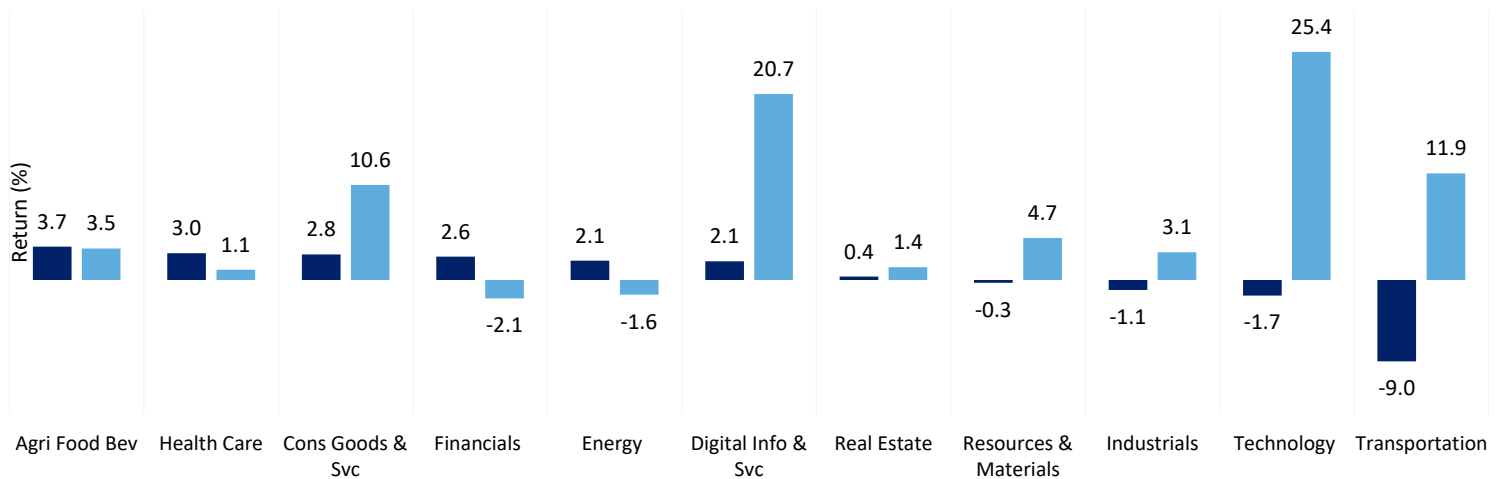


## Sector performance: Despite a late rally in April the Technology sector posted a negative return for the month. However, it has still delivered 25.4% YTD.

US technology, transportation, industrials and resources and materials sectors posted negative returns in April. Agriculture food and beverages, health care, consumer goods were amongst the outperformers. Despite renewed concerns over US regional banks, financials posted a positive return over the month.

FT Wilshire 5000: Returns 1M vs YTD (USD, TR, %)

■ 1M: 1.0% ■ YTD: 8.4%



**Highlighting differences in sector exposure:** Large cap are heavily exposed to the technology and digital info sectors while small cap are more exposed to the cyclical industrials, resources and real estate sectors. Value is skewed to energy and financials while growth is more exposed to tech and consumer goods.

1M	FTW 5000		Large Cap		Small Cap		Micro Cap		Growth		Value	
	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts
Agri Food Bev	3.7	3.5	3.8	3.7	2.8	2.5	1.4	2.5	1.0	0.6	4.0	6.7
Health Care	3.0	12.3	2.8	12.2	4.8	11.4	1.8	11.4	2.1	12.5	3.5	11.9
Cons Goods & Svc	2.8	11.9	3.2	11.9	0.9	12.7	-1.5	12.7	2.7	12.5	3.7	11.2
Financials	2.6	15.2	3.1	15.3	-0.5	13.8	-5.7	13.8	2.6	9.5	3.4	21.0
Energy	2.1	7.5	2.7	7.4	-0.8	8.7	-4.2	8.7	0.9	1.4	2.9	13.3
Digital Info & Svc	2.1	17.8	2.6	18.9	-4.6	10.9	-6.0	10.9	2.9	30.4	1.5	7.6
Real Estate	0.4	3.2	0.9	2.5	-0.6	8.0	-2.4	8.0	0.2	2.9	1.9	2.1
Resources & Materials	-0.3	3.9	-0.1	3.1	-0.6	9.4	-5.9	9.4	1.7	2.0	-0.8	4.2
Industrials	-1.1	7.3	-0.9	6.6	-1.7	11.9	-4.8	11.9	-0.3	4.2	-1.1	9.0
Technology	-1.7	13.7	-1.2	14.9	-11.1	6.1	-12.0	6.1	-0.6	20.7	-2.5	9.1
Transportation	-9.0	3.8	-10.4	3.7	-0.5	4.5	-8.5	4.5	-17.8	3.4	-3.3	4.0
<b>Market Return</b>	<b>1.0</b>		<b>1.4</b>		<b>-1.0</b>		<b>-3.5</b>		<b>1.0</b>		<b>1.8</b>	

Source: Wilshire. Data as of April 28, 2023

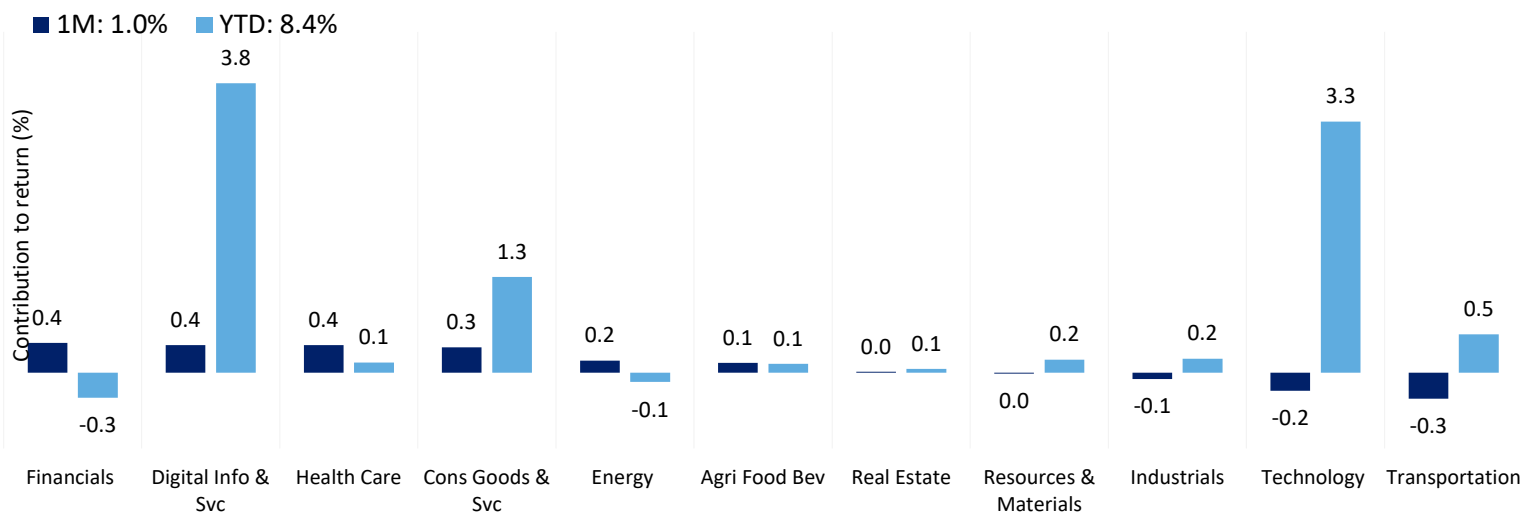
Wilshire Advisors LLC - Performance Report (April 2023)



## Sector-weighted performance contribution analysis : Positive contributions from financials, digital info and health care offset drag from technology and transportation

Sector weighted contributions blend sector performance with sector weighting to establish aggregate return drivers. Despite having a negative impact on returns in April, technology (along with digital information and services) remains a key positive contributor to returns year to date.

FT Wilshire 5000: Contribution to returns 1M vs YTD (USD, TR, %)



Comparing large cap versus small cap contributions: Large cap outperformance in April came from a positive contribution from digital info and financials, and a smaller negative contribution from technology. Value outperformed growth in part due to a larger positive financial contribution.

1M	FTW 5000	Large Cap	Small Cap	Micro Cap	Growth	Value
	Contr	Contr	Contr	Contr	Contr	Contr
Financials	0.4	0.5	-0.1	-1.0	0.2	0.7
Digital Info & Svc	0.4	0.5	-0.5	-0.5	0.9	0.1
Health Care	0.4	0.3	0.6	0.4	0.3	0.4
Cons Goods & Svc	0.3	0.4	0.1	-0.2	0.3	0.4
Energy	0.2	0.2	-0.1	-0.2	0.0	0.4
Agri Food Bev	0.1	0.1	0.1	0.0	0.0	0.3
Real Estate	0.0	0.0	0.0	-0.2	0.0	0.0
Resources & Materials	0.0	0.0	-0.1	-0.4	0.0	0.0
Industrials	-0.1	-0.1	-0.2	-0.5	0.0	-0.1
Technology	-0.2	-0.2	-0.7	-0.6	-0.1	-0.2
Transportation	-0.3	-0.4	0.0	-0.3	-0.6	-0.1
<b>Market Return</b>	<b>1.0</b>	<b>1.4</b>	<b>-1.0</b>	<b>-3.5</b>	<b>1.0</b>	<b>1.8</b>

Source: Wilshire. Data as of April 28, 2023

Wilshire Advisors LLC - Performance Report (April 2023)



## FT Wilshire Size and Style Indexes: Despite underperforming in April large cap growth has still significantly outperformed large cap value YTD

**Table 1:** April witnessed a modest rotation from growth into value, however growth has still delivered far superior returns YTD. Large cap continues to outperform small cap.

USD, TR %	Size			Style	
	Large Cap	Small Cap	Micro Cap	LC Growth	LC Value
<b>1M</b>	1.4	-1.0	-3.5	1.0	1.8
<b>YTD</b>	9.4	3.0	-4.7	17.0	2.6
<b>Oct 2022 Low</b>	17.3	9.7	0.3	20.9	13.8
<b>2022</b>	-19.2	-17.5	-21.4	-31.1	-6.0
<b>2021</b>	27.8	19.1	21.7	27.6	27.5

**Table 2:** Large cap have delivered a 10yr annualized return of 12.4% vs a small cap return of 9.3%

USD, TR %	Large Cap		Small Cap		Micro Cap		LC Growth		LC Value	
	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
<b>2Y</b>	1.3	0.7	-13.5	-7.0	-27.6	-14.9	-5.9	-3.0	8.3	4.1
<b>3Y</b>	52.3	15.0	51.2	14.8	46.2	13.5	49.5	14.3	53.0	15.2
<b>5Y</b>	71.1	11.3	36.4	6.4	16.9	3.2	91.7	13.9	49.3	8.4
<b>10Y</b>	221.0	12.4	142.7	9.3	116.4	8.0				
<b>20Y</b>	588.3	10.1	655.9	10.6	475.7	9.1				

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



# Style and Size Indexes: April saw growth relative to value lose some momentum. Large cap continued to outperform small cap.

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

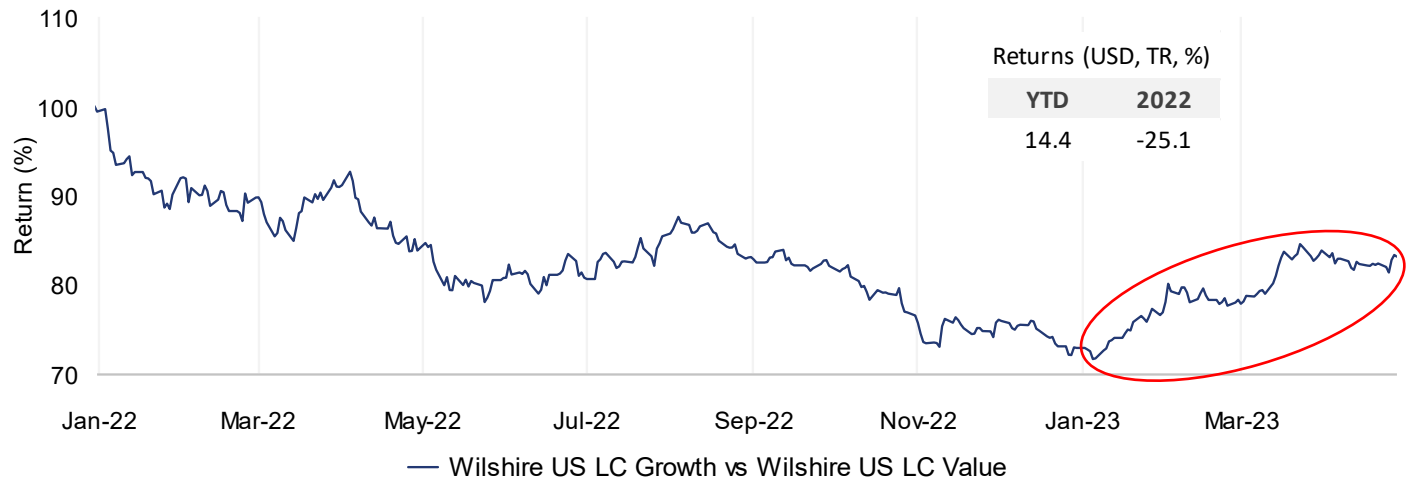


Chart 2: Large vs Small Cap (USD, TR, %).

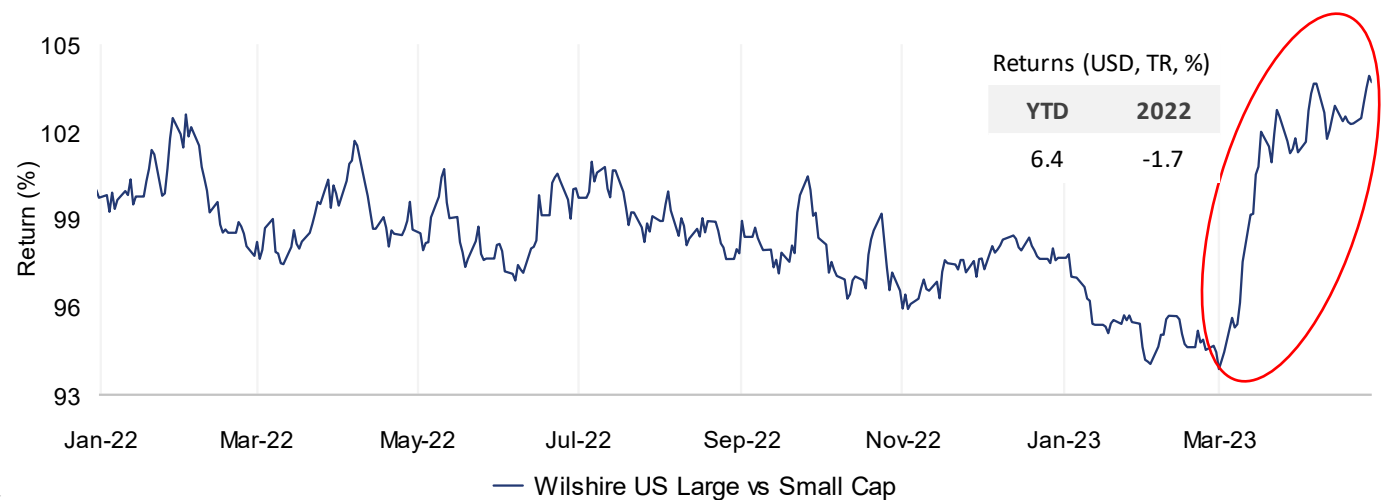


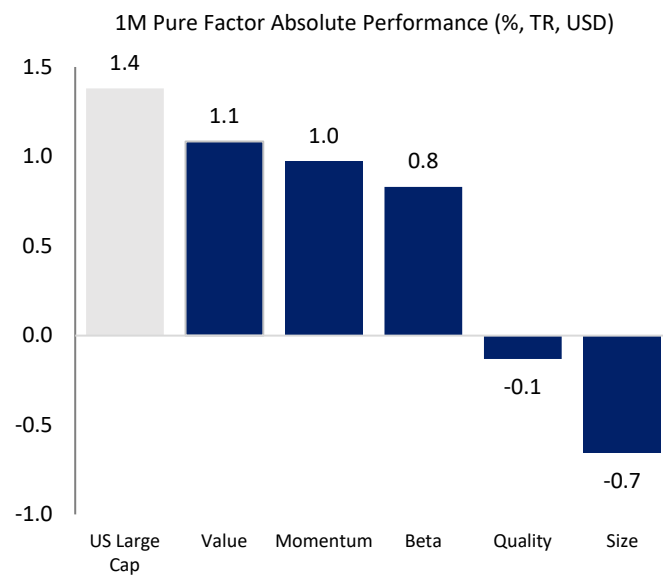
Chart 3: Large vs Micro Cap (USD, TR, %).



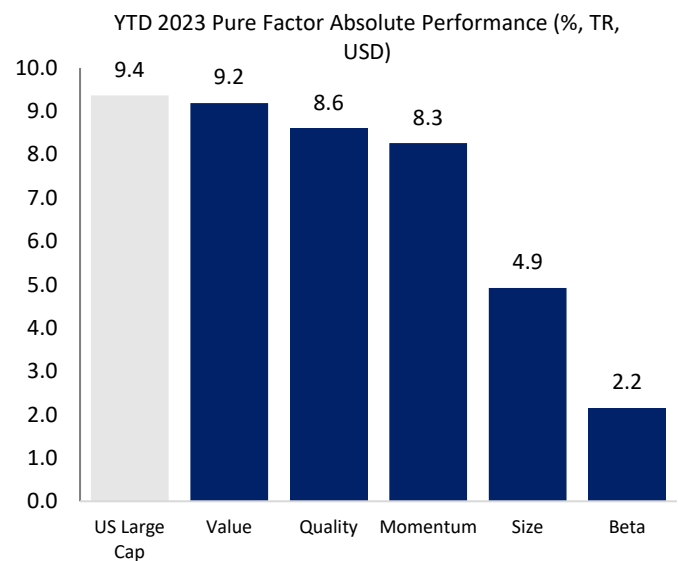
## Pure Factor Indexes: Value and momentum outperform in April with size the notable laggard

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.

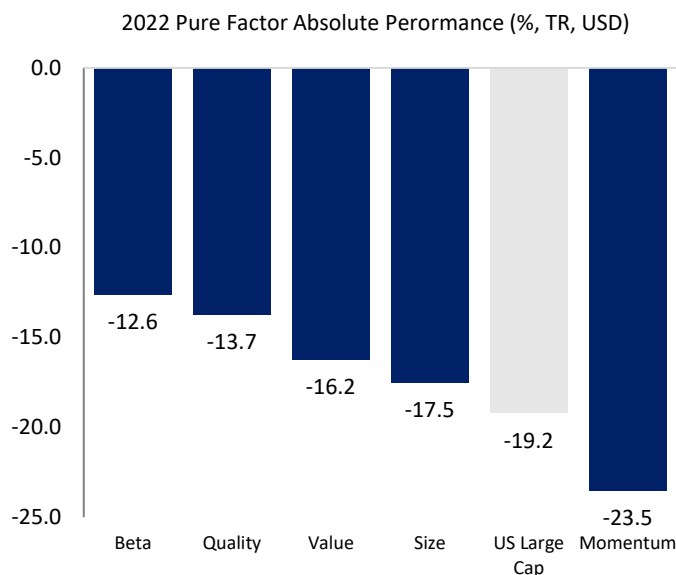
**Chart 1: 1M - Pure value outperformed in April with size the laggard**



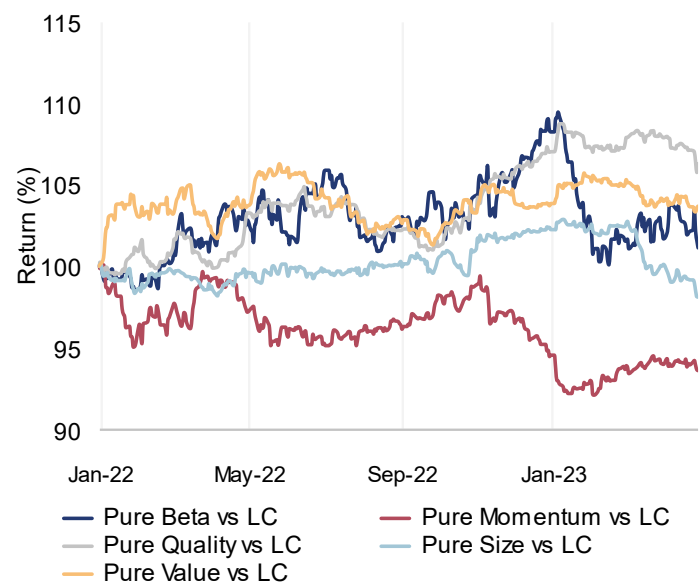
**Chart 2: YTD 2023-Pure value has outperformed, size and beta have underperformed**



**Chart 3: 2022-Only Pure Momentum underperformed US Large Cap in 2022**



**Chart 4: Pure Factor Indexes Relative to FT Wilshire US Large Cap Index from Dec 2021 (Rebased, TR, USD)**



# Comparing Factor vs Style returns: Pure Quality factor continues to lag growth style. Pure Value continues to outperform style value year to date.

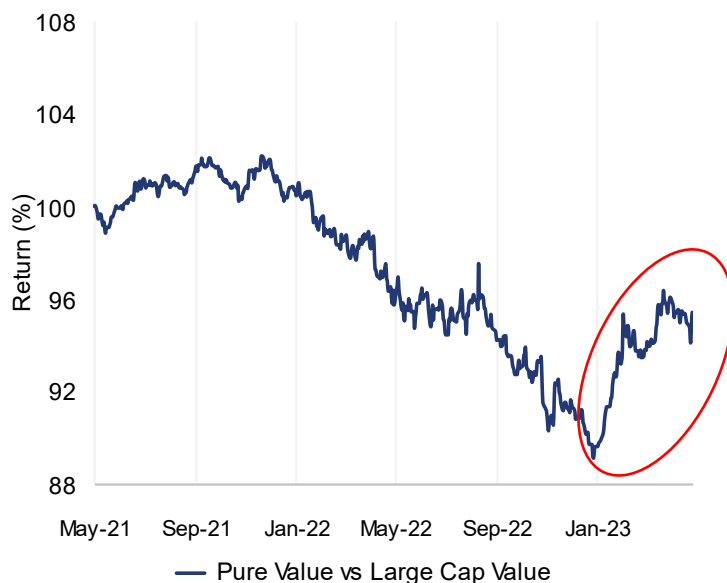
**Chart 1:** Pure Factor and Style Absolute Performance - 1M, Q1, 2022 and 3YR

Returns (USD, TR %)	1M	YTD	2022	3Y
<b>Pure Factor Quality</b>	-0.1	<b>8.6</b>	-13.7	59.5
Style Growth	1.0	17.0	-31.1	49.5
<b>Pure Factor Value</b>	1.1	<b>9.2</b>	-16.2	53.8
Style Value	1.8	2.6	-6.0	53.0
<b>Pure Factor Size</b>	-0.7	<b>4.9</b>	-17.5	49.4
Style Small Cap	-1.0	3.0	-17.5	51.2

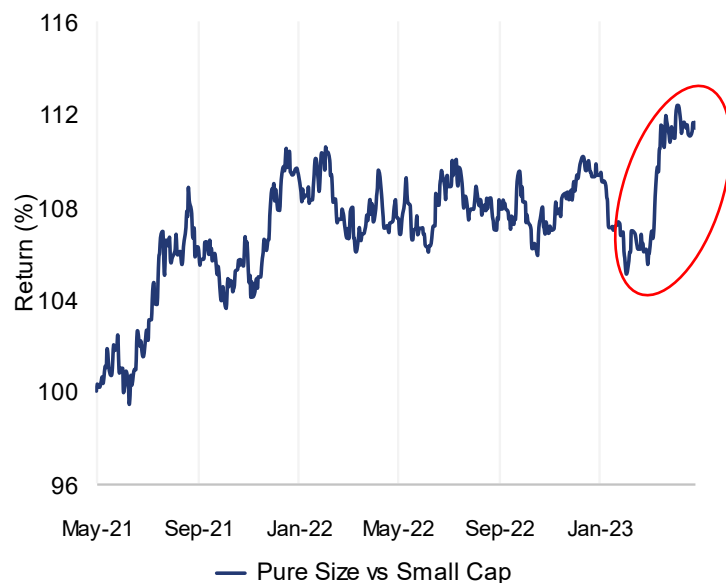
**Chart 2:** Pure Factor Quality Index lagged the recovery in the Growth style index so far in 2023



**Chart 3:** Pure value factor has continued to regain ground against value style since the start of 2023

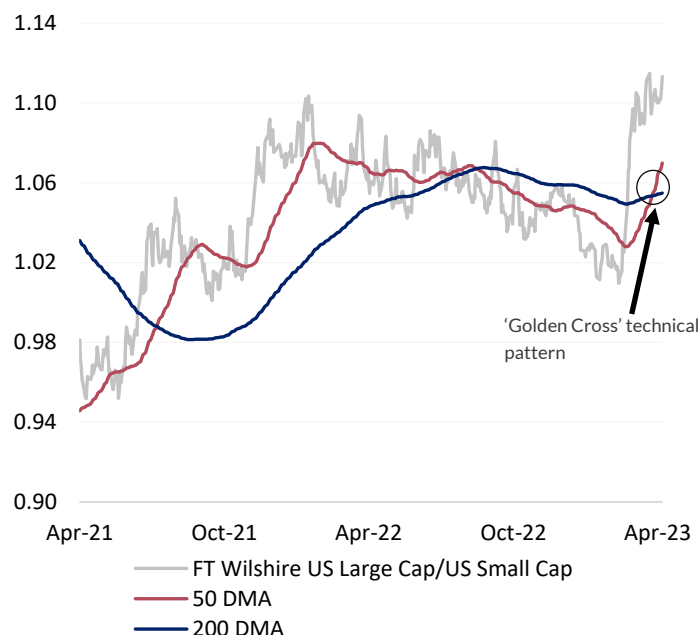


**Chart 4:** Pure Factor Size Index relative performance vs Style Small Cap Index - 5 years

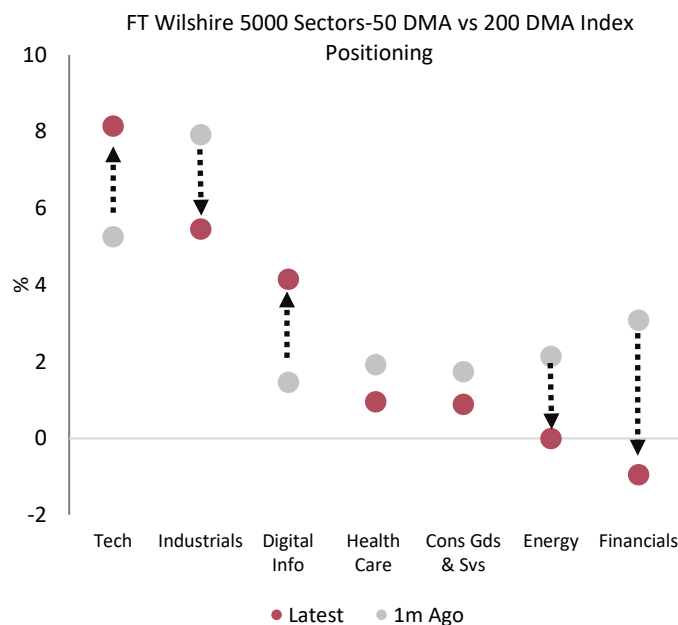


# Technical Analysis: FT Wilshire large cap relative to small cap performance sees positive moving average intersect. Tech and digital information gain momentum.

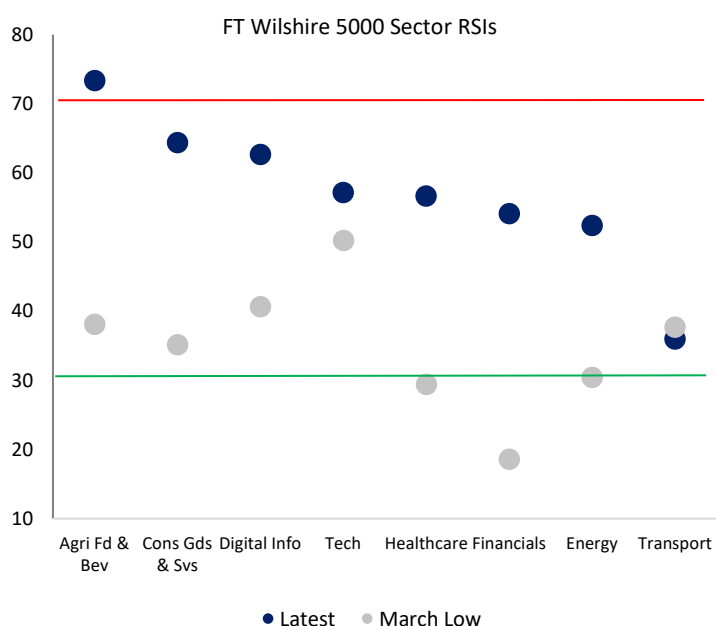
**Chart 1:** FT Wilshire large cap relative to small cap performance saw a positive 50 vs 200 DMA intersect pattern on 19th April



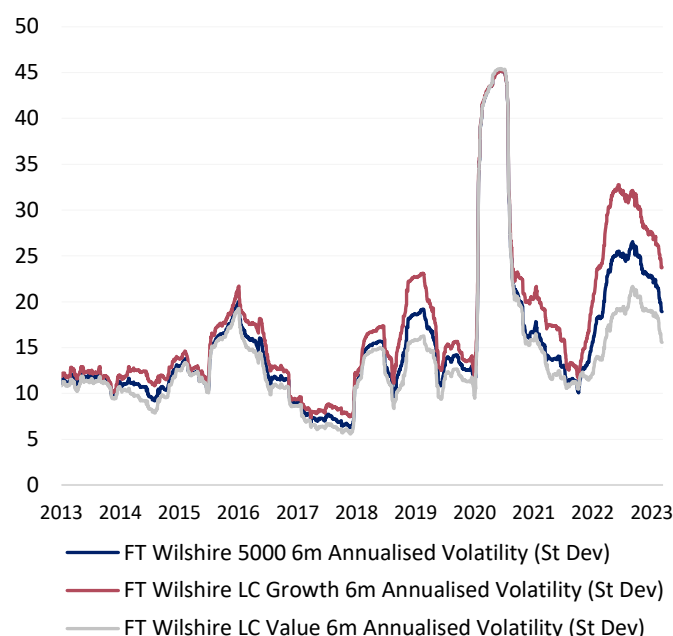
**Chart 2:** FT Wilshire 5000 sector 50 DMA vs 200 DMA index positioning vs 1 month ago-tech and digital info gaining momentum



**Chart 3:** FT Wilshire 5000 sector Relative Strength Index (RSI) vs the recent March low

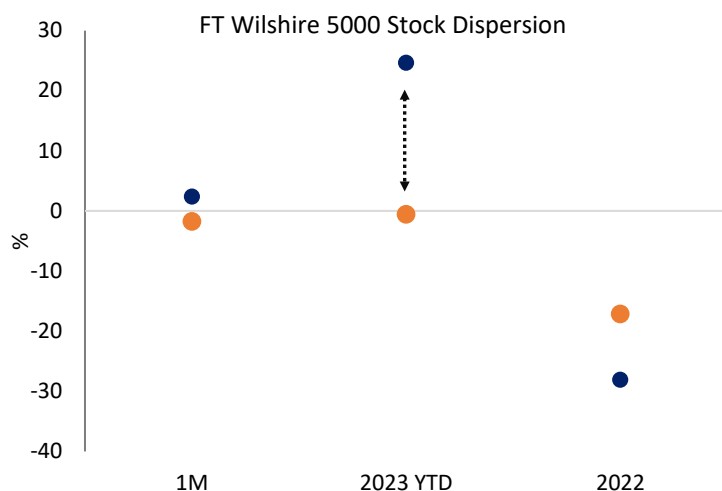


**Chart 4:** Volatility levels (6m annualised) have continued to decline, heading back towards pre-Covid levels

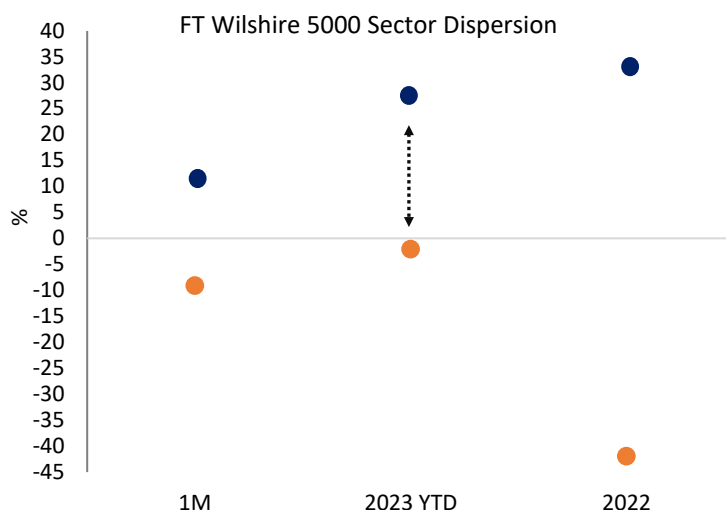


# Performance Dispersion Analysis: Comparing the aggregate performance of the top 10 stocks (by market cap) vs median stock and sector dispersion

**Chart 1:** FT Wilshire 5000 stock dispersion-deteriorating breath YTD versus 2022 with the top 10 largest stocks comfortably outperforming median



**Chart 2:** FT Wilshire 5000 sector dispersion-continued wide dispersion between sector returns



● Top 10 Stocks by Market Cap Aggregate Return (Equally-Weighted)  
● Median Stock Return

● Top Performing Sector ● Bottom Performing Sector

## 1M Returns (USD, TR, %)

FT Wilshire 5000: 1.0%	Wght	Return (%)	Contrib (%)
Microsoft Corp	5.2	6.6	0.34
Apple Inc	6.5	2.9	0.19
Meta Platforms Inc	1.2	13.4	0.16
Texas Instrs Inc	0.4	-10.1	-0.04
Cisco Sys Inc	0.5	-8.9	-0.05
Tesla Mtrs Inc	1.2	-20.8	-0.29

Wilshire Large Cap: 1.4%	Wght	Return (%)	Contrib (%)
Microsoft Corp	6.0	6.6	0.40
Apple Inc	7.4	2.9	0.22
Meta Platforms Inc	1.4	13.4	0.18
Texas Instrs Inc	0.5	-10.1	-0.05
Cisco Sys Inc	0.6	-8.9	-0.05
Tesla Mtrs Inc	1.4	-20.8	-0.33

Wilshire Small Cap: -1.0%	Wght	Return (%)	Contrib (%)
Nuvalent Inc	0.2	35.6	0.07
Immunogen Inc	0.2	40.4	0.06
Viking Therapeutics Inc	0.2	28.0	0.05
Viewray Inc	0.1	-65.9	-0.07
Addus Homecare Corp	0.3	-23.4	-0.07
Adtran Holdingsinc	0.1	-42.5	-0.08

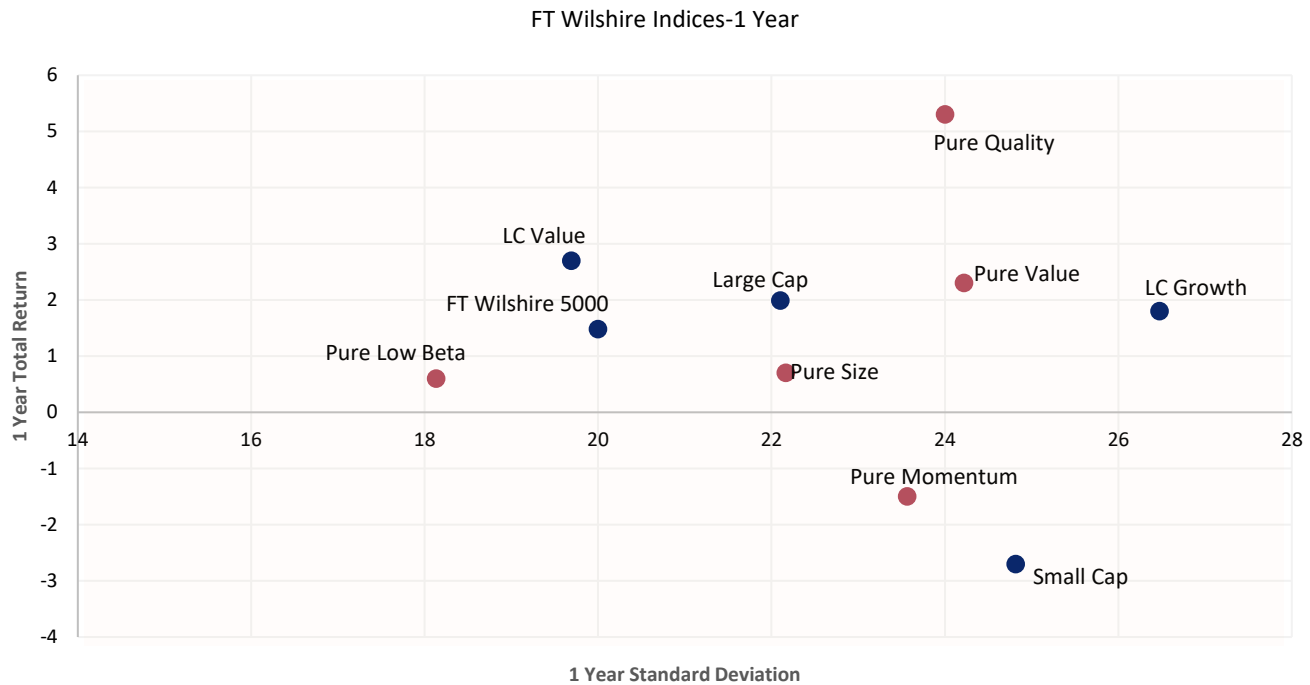
Wilshire Micro Cap: -3.5%	Wght	Return (%)	Contrib (%)
Nuvalent Inc	0.2	35.6	0.07
Immunogen Inc	0.2	40.4	0.06
Viking Therapeutics Inc	0.2	28.0	0.05
Viewray Inc	0.1	-65.9	-0.07
Addus Homecare Corp	0.3	-23.4	-0.07
Adtran Holdingsinc	0.1	-42.5	-0.08

Wilshire Growth: 1.0%	Wght	Return (%)	Contrib (%)
Microsoft Corp	10.8	6.6	0.71
Apple Inc	13.3	2.9	0.39
Meta Platforms Inc	2.5	13.4	0.32
Deere & Co	0.6	-8.4	-0.05
Advanced Micro Devic	0.7	-8.8	-0.07
Tesla Mtrs Inc	2.5	-20.8	-0.59

Wilshire Value: 1.8%	Wght	Return (%)	Contrib (%)
Eli Lilly & Co	1.8	15.3	0.25
Exxon Mobil Corp	2.7	7.9	0.20
J P Morgan Chase & C	2.2	6.9	0.15
Qualcomm Inc	0.8	-8.5	-0.07
Texas Instrs Inc	0.9	-10.1	-0.10
Cisco Sys Inc	1.2	-8.9	-0.11

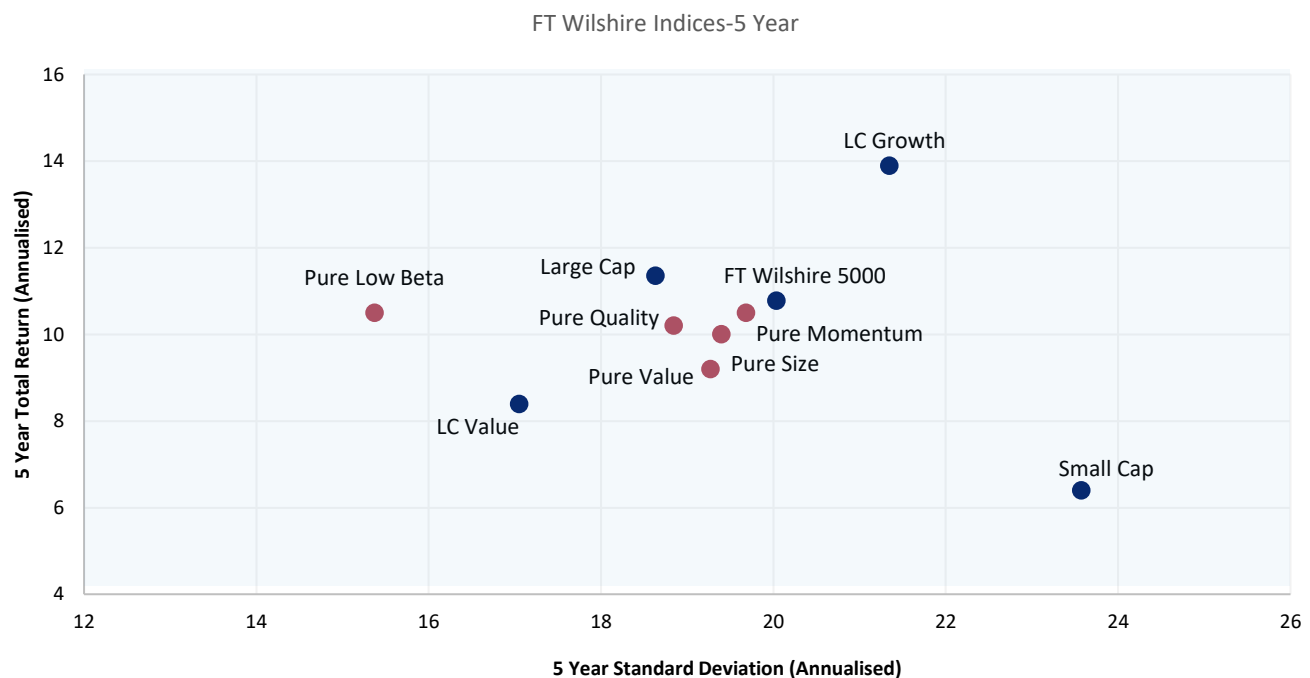
# FT Wilshire Index Risk vs Return: 1 year and 5 year perspectives

## FT Wilshire Indexes: Risk vs Return Over 1 Year



## FT Wilshire Indexes: Risk vs Return Over 5 Years

Pure Factor ■ Style ■





# Global Equities

1

**+1.5%**

Return of the World Index in April

2

**+9.3%**

Rise in World Index YTD

3

**+5.1%**

Rise in UK equity Index in April

4

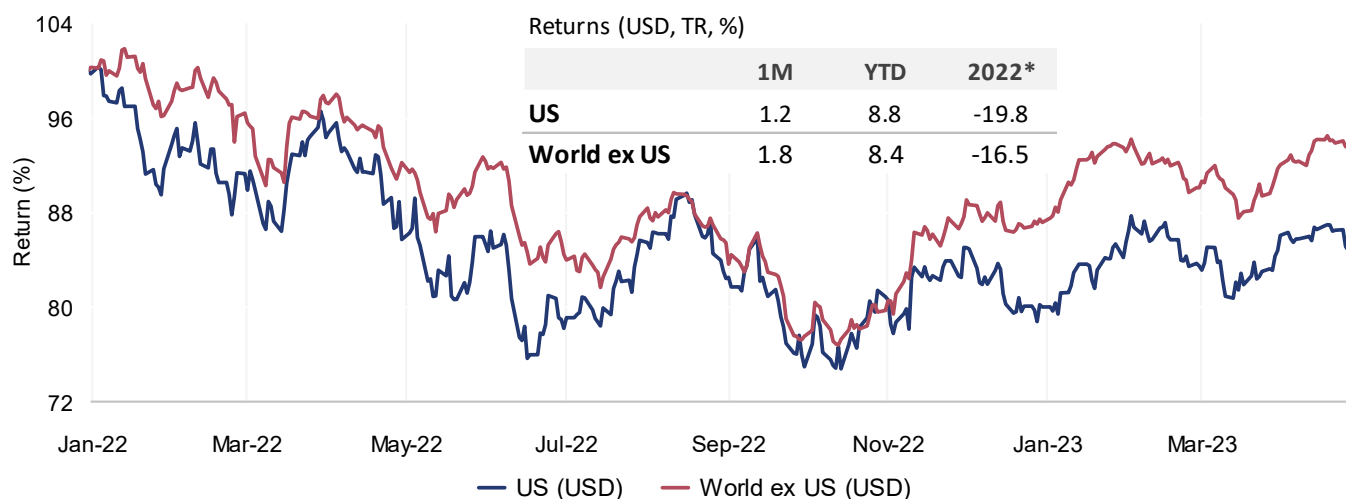
**+8.4%**

10-year annualized return for the World Index

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**US equities performance vs global non US equities.** Since the start of 2022 the World ex US index has outperformed US equities. However the US has now marginally outperformed year to date in 2023.



Source: FactSet. Data as of April 28, 2023

# Global Equity Market Synopsis: Global equity market rally maintains momentum supported by further gains in UK and Europe

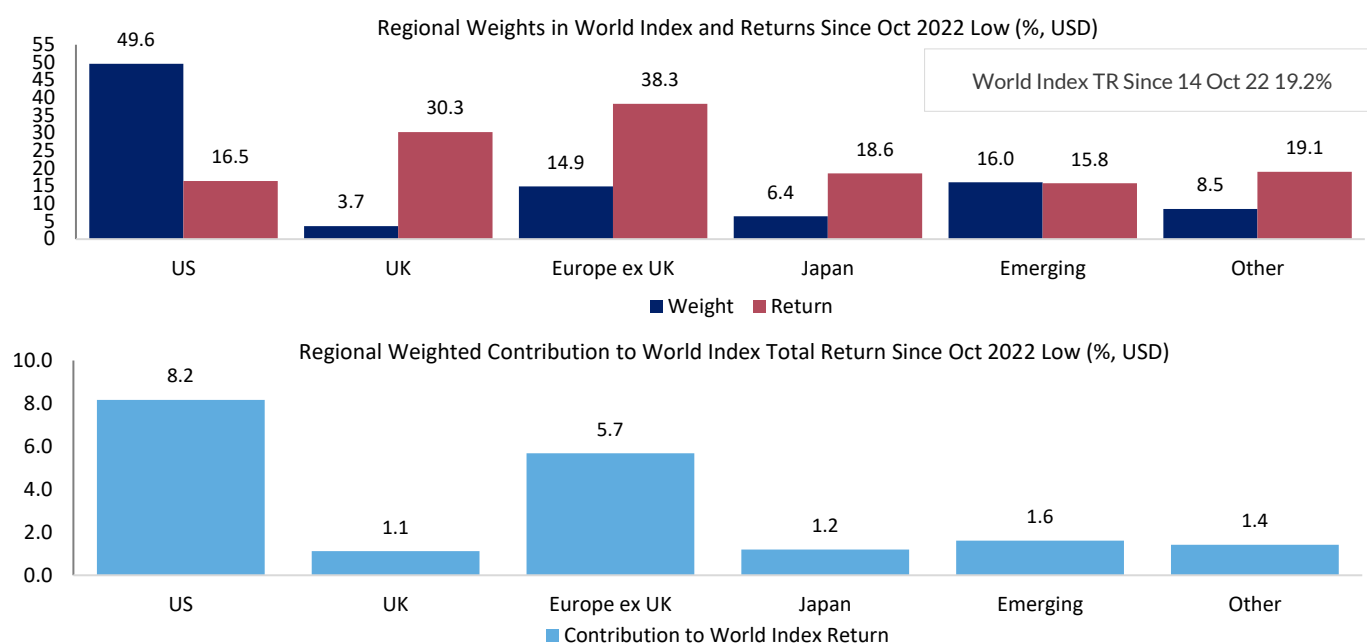
## Global Markets Snapshot

- ◆ Most regions posted small gains in April with UK equities outperforming. Emerging markets was the only region to post a negative return last month ([page 18](#))
- ◆ The US underperformed the World ex US in April but the US has marginally outperformed YTD ([page 18](#))
- ◆ In April the World ex US benefited from superior contributions from the energy, financials and industrials sectors vs the US. This offset the negative contribution from technology ([page 23](#))
- ◆ Deteriorating performance dispersion dynamics in the US and Europe ex UK as top 10 largest stocks comfortably outperform the median stock ([page 24](#))
- ◆ US relative to Europe ex UK performance approaching key support levels ([page 25](#))

## Key Global (non US) Economic data

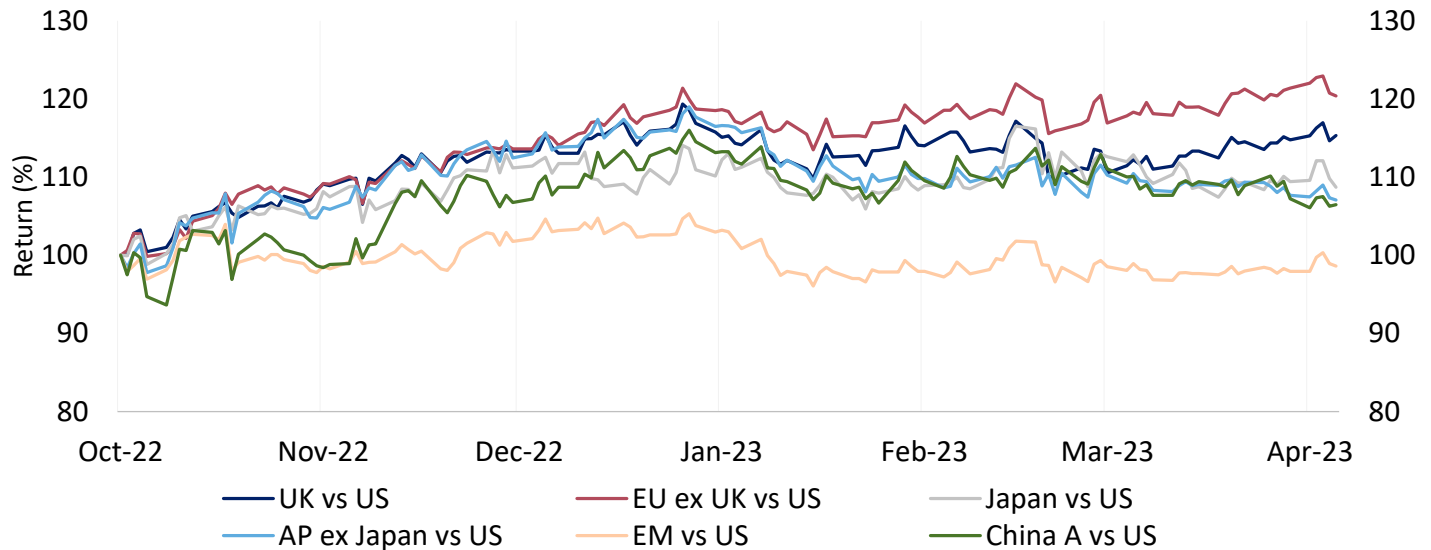
- ◆ Chinese first quarter GDP comes in at 4.5%, up from 2.9% in Q4 2022 and beating consensus forecasts. Renewed Chinese-US geopolitical tensions hit Chinese equities in April
- ◆ Eurozone sees modest economic growth in Q1 with GDP rising 1.3% year-on-year. Y/E 2023 consensus forecasts (0.5%) see the region avoiding a recession. Eurozone market interest rate expectations continue to rise relative to the US, leading to further gains in the Euro in April.
- ◆ UK CPI comes in above expectation at 10.1% in March. Markets increase Y/E 2023 UK interest rate expectations to around 5%.
- ◆ The Japanese Yen saw declines against all major currencies in April as markets perceive new BoJ governor Kazuo Ueda maintaining the bank's dovish stance

**Chart 1:** Regional weights, returns and weighted-contribution to World index total return since the October 2022 market low. US has not been the top performer but has been the largest contributor to World index return.



## Region and major market performance (USD returns): UK equities the standout performer in April, and YTD. Emerging markets continue to underperform.

Regional returns vs US since the October 2022 low (USD, TR, %) - UK and European equities have continued to outperform since October, with Emerging markets underperforming



### Regional Returns - Short Term (USD, TR, %)

	1M	YTD	2022	2021
UK	5.1	11.0	-12.2	15.6
Europe ex UK	3.1	14.9	-17.7	15.6
World ex US	2.3	8.1	-13.1	8.4
<b>World</b>	1.8	8.4	-16.5	16.1
US	1.2	8.8	-19.8	24.8
Japan	0.7	5.9	-17.4	-0.2
China A	0.0	6.6	-24.4	2.1
Asia Pac ex Japan	0.0	2.4	-14.0	0.4
Emerging Mkts	-0.6	3.1	-16.6	14.7

### Regional Returns - Long Term (USD, TR, %)









	3Y		5Y		10Y		20Y	
	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
US	48.9	14.2	64.6	10.5	195.8	11.5	582.9	10.1
UK	43.8	12.9	10.9	2.1	42.2	3.6	246.5	6.4
Europe ex UK	45.8	13.4	38.7	6.8	115.2	8.0	424.9	8.6
Japan	14.6	4.7	1.5	0.3	51.2	4.2	239.9	6.3
Asia Pac ex Japan	24.4	7.5	4.8	0.9	45.0	3.8	585.5	10.1
Emerging	46.0	13.4	15.6	2.9	42.1	3.6	643.1	10.5
China A	81.0	21.9	36.9	6.5	131.2	8.7	246.2	6.4
World ex US	43.4	12.8	35.5	6.3	109.1	7.7	392.5	8.3
<b>World</b>	43.2	12.7	39.3	6.9	123.9	8.4	485.4	9.2

Source: Wilshire and Refinitiv. Data as of April 28, 2023









## The FX adjusted market returns: Currency volatility creates very different perspectives for unhedged USD, GBP, Euro and Yen based investors

FX swings can have a large impact on unhedged regional equity returns depending on the location of investors. Due to GBP, Euro and JPY weakness versus the dollar in 2022, investors in the UK, Europe and Japan had very different perceptions of regional market returns last year (unhedged) compared with a USD based investor. The largest FX impact YTD has been in JPY returns vs other major currencies.









**Table 1: Returns in USD - YTD 2023 and 2022**

USD (TR, %)	YTD	2022
Germany	 13.7	-15.0
UK	 11.0	-12.2
Developed	 9.3	-18.3
US	 8.8	-19.8
<b>World</b>	 8.4	-16.5
Japan	 5.9	-17.5
Emerging	 3.2	-16.6
Asia Pacific ex Japan	 2.4	-14.0









**Table 2: Returns in EURO - YTD 2023 and 2022**

EUR (TR, %)	YTD	2022
Germany	 14.8	-19.6
UK	 7.4	-6.4
Developed	 5.6	-13.0
US	 5.2	-14.6
<b>World</b>	 4.8	-11.0
Emerging	 3.2	-16.6
Japan	 2.3	-12.1
Asia Pacific ex Japan	 -1.0	-8.3

**Table 3: Returns in GBP - YTD 2023 and 2022**

GBP (TR, %)	YTD	2022
Germany	 13.7	-15.0
UK	 6.3	-1.1
Developed	 4.6	-8.0
US	 4.2	-9.7
<b>World</b>	 3.8	-6.0
Japan	 1.3	-7.1
Emerging	 -1.3	-6.1
Asia Pacific ex Japan	 -2.0	-3.1

**Table 4: Returns in JPY - YTD 2023 and 2022**

JPY (TR, %)	YTD	2022
Germany	 22.6	-13.5
UK	 14.6	0.6
Developed	 12.8	-6.4
US	 12.3	-8.1
<b>World</b>	 11.9	-4.3
Asia Pacific ex Japan	 10.0	-13.4
Japan	 9.3	-5.5
Emerging	 6.5	-4.5

# Global Equity Relative Returns: Europe ex UK relative outperformance has continued to gather momentum. Emerging continuing to underperform.

Chart 1 : US vs World ex US (USD, TR, %)

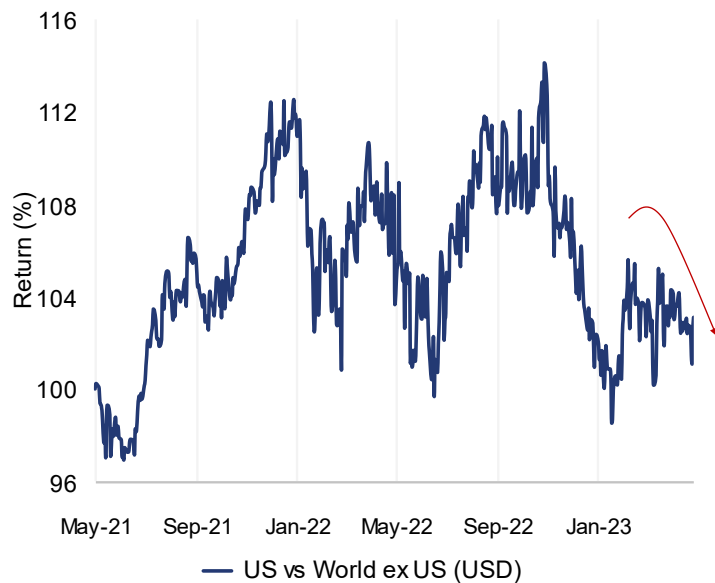


Chart 2: Emerging Markets vs Developed (USD, TR, %)

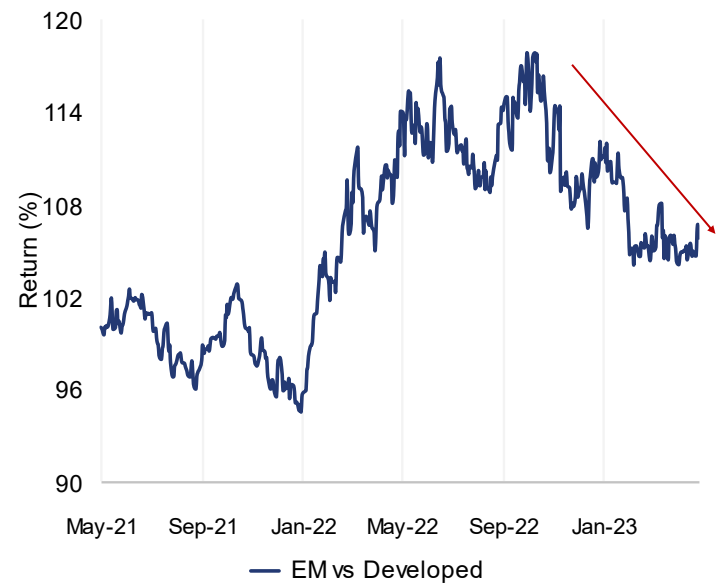
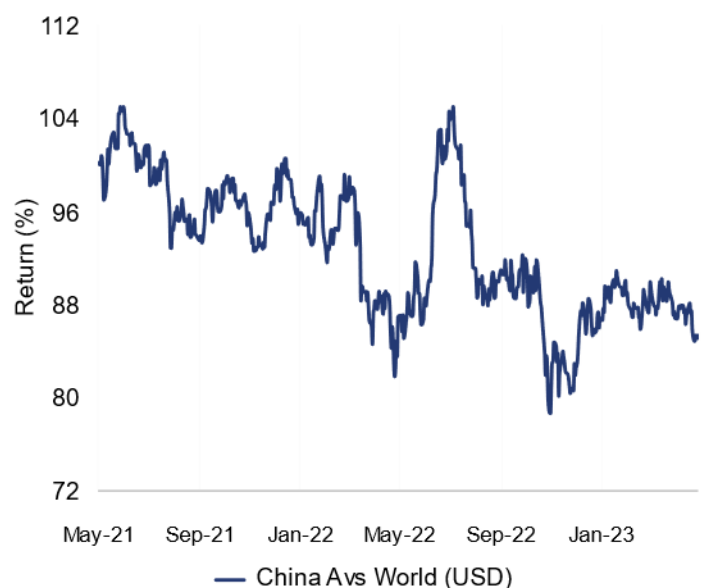


Chart 3: Europe ex UK vs World ex Dev Europe (USD, TR, %)

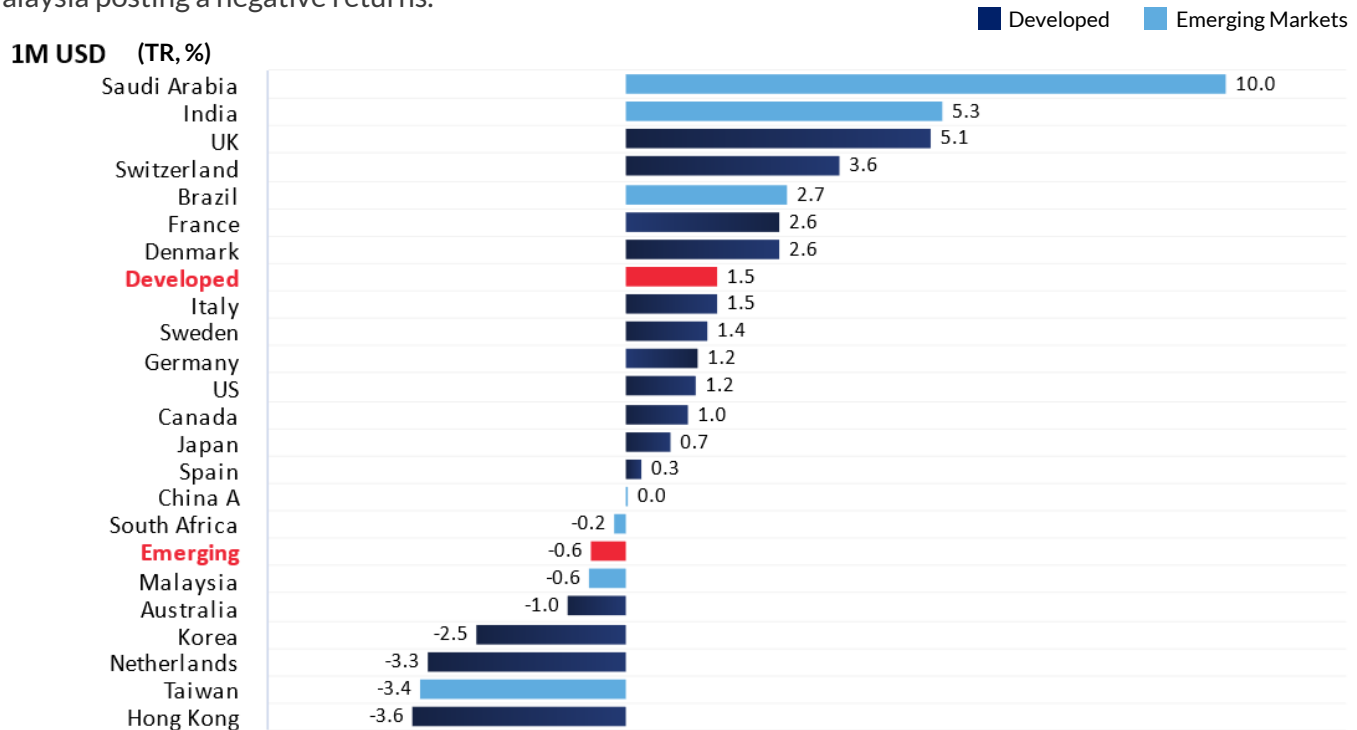


Chart 4: China A vs World (USD, TR, %)

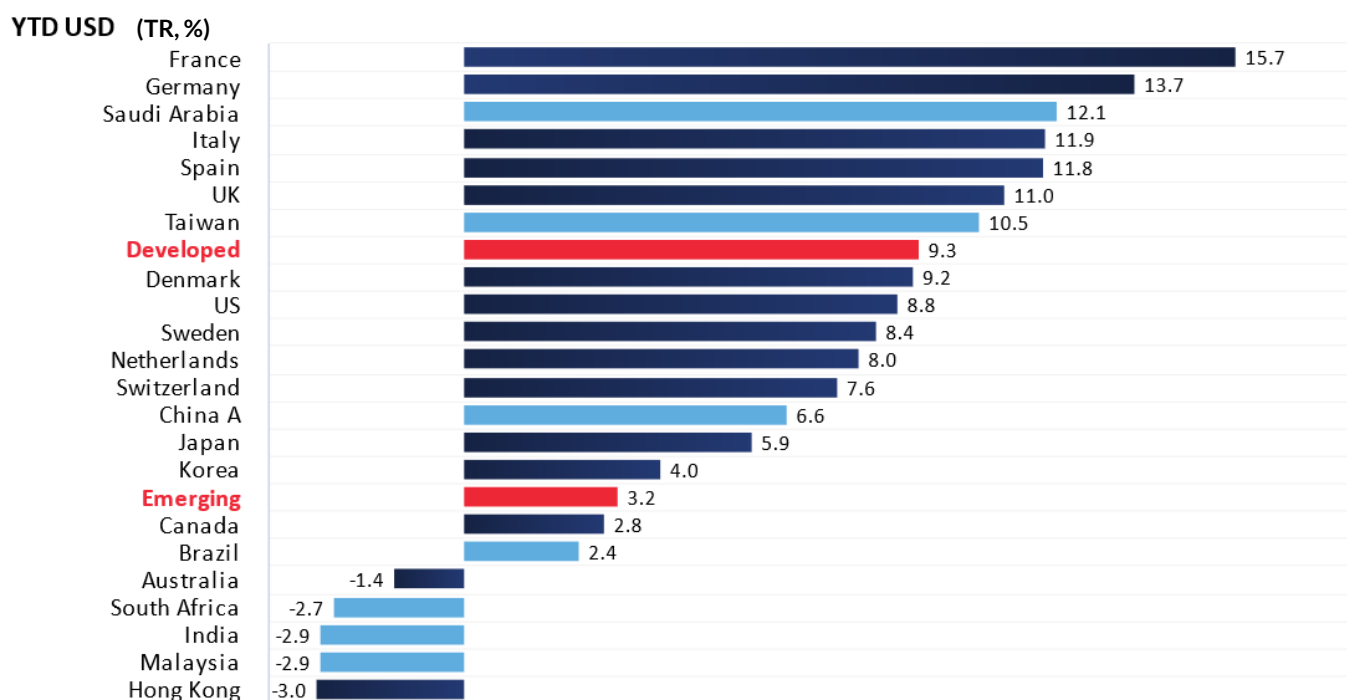


## Developed and Emerging market country level performance: Further gains in April mean UK and European markets continue to lead the way in 2023

**Chart 1: April -** UK and European markets were again the strongest in the developed world in April. Despite strong returns in April for Saudi Arabia and India Emerging markets underperformed developed, with Taiwan and Malaysia posting a negative returns.

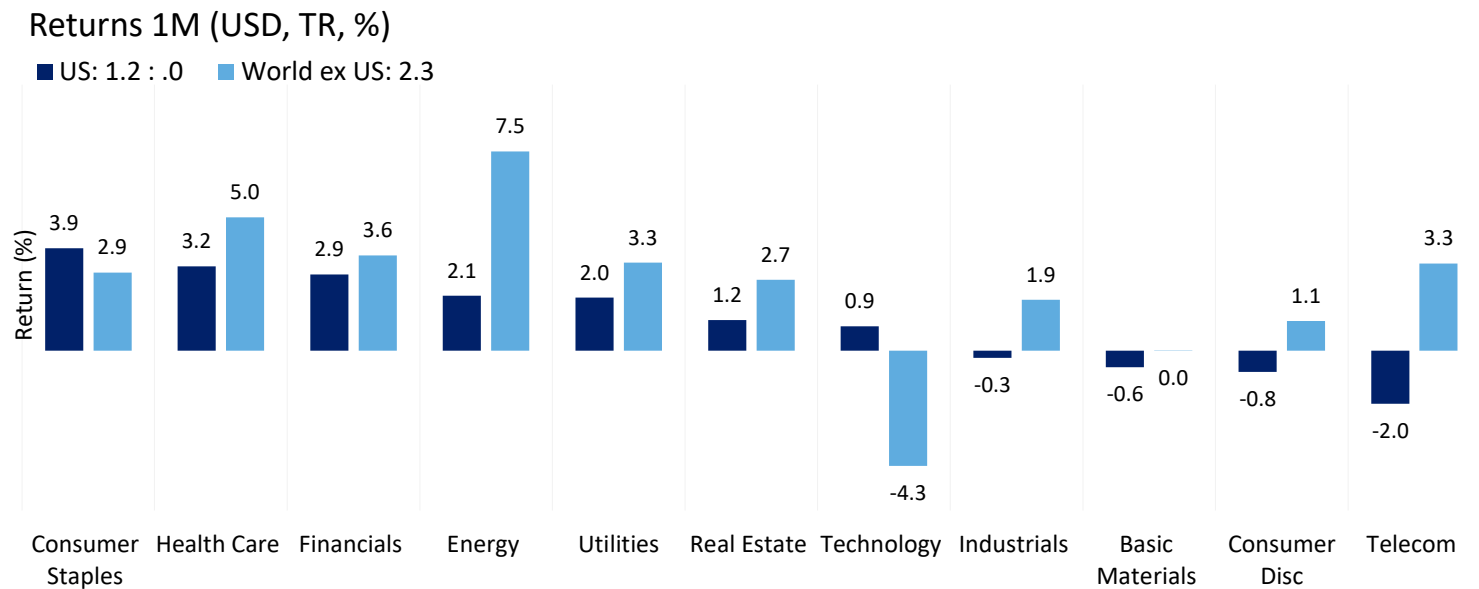


**Chart 2: YTD 2023 -** European markets remain the standout performers year to date, helping developed markets outperform emerging. South Africa, India and Malaysia have been the notable underperformers amongst emerging markets.



## Regional Sector Performance and Sector Weighting Comparisons

Comparing the performance of US sectors to those of the World ex US index in April: The US saw superior returns for consumer staples and technology but underperformed amongst the remaining 9 sectors against the World ex US, mostly notably in energy and telecoms.



**Regional sector performance and sector weighting comparisons:** The key differences in sector weightings between the US and the World ex US occur in the financial and energy sectors (a smaller US exposure) and a significantly larger exposure in the US to the technology and health care sectors.

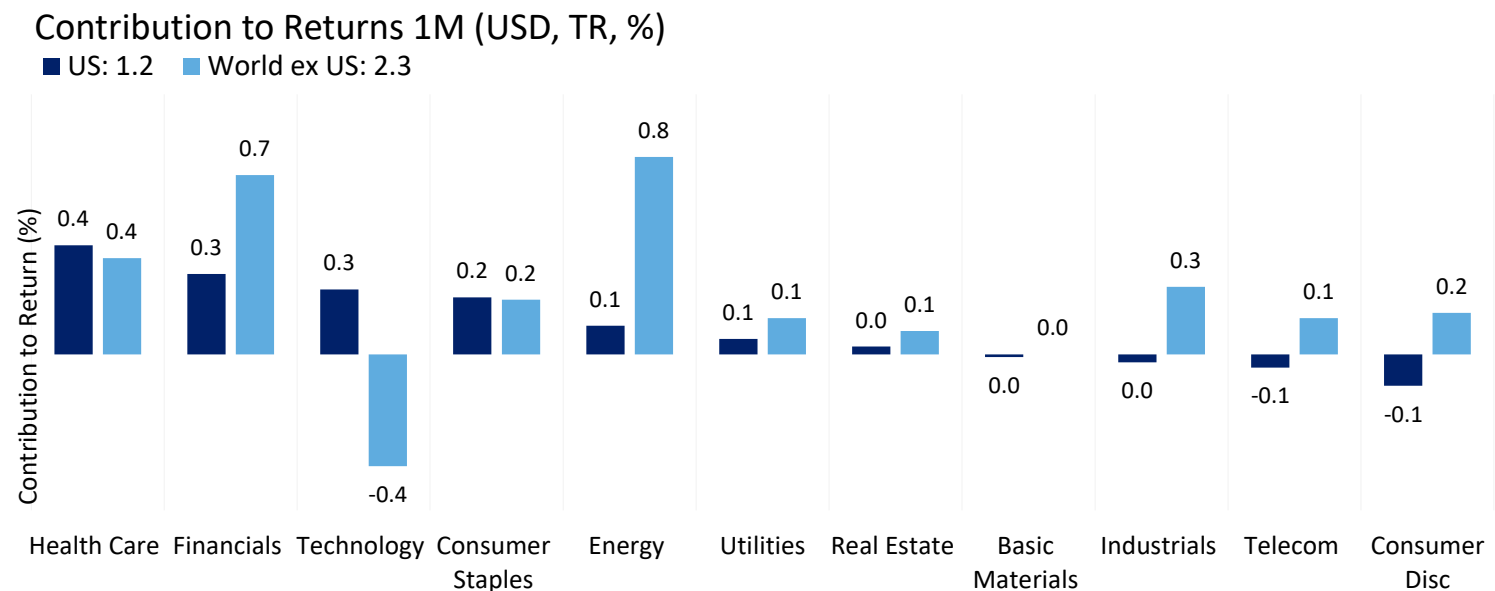
1M	US		World ex US		UK		EU ex UK		Japan		AP ex Japan		China	
	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght
Consumer Staples	3.9	5.7	2.9	7.2	3.9	15.3	2.5	8.1	5.8	6.3	-0.1	6.4	-7.5	10.8
Health Care	3.2	13.2	5.0	7.4	5.2	12.2	4.8	12.7	2.9	8.4	3.4	4.3	-0.6	6.8
Financials	2.9	10.7	3.6	19.2	3.7	22.6	2.4	15.2	4.0	9.6	3.7	22.7	7.7	23.5
Energy	2.1	5.1	7.5	10.2	5.6	10.7	1.6	4.6	3.4	0.7	3.5	6.0	12.2	8.3
Utilities	2.0	3.1	3.3	4.2	3.8	3.4	3.2	5.6	6.6	1.2	1.9	3.1	4.6	3.6
Real Estate	1.2	2.8	2.7	3.3	5.2	2.0	3.6	1.8	5.6	3.7	0.9	5.3	-1.2	1.2
Technology	0.9	27.3	-4.3	10.0	4.1	1.5	-4.2	7.7	0.4	10.9	-6.3	18.8	-8.3	8.4
Industrials	-0.3	12.3	1.9	13.5	2.2	10.6	0.8	17.5	2.4	23.9	2.4	9.8	0.7	14.1
Basic Materials	-0.6	2.3	0.0	6.6	-3.6	8.2	-1.1	4.3	-2.0	5.1	-0.4	6.8	-3.4	8.2
Consumer Disc	-0.8	14.8	1.1	14.2	2.8	11.6	1.3	19.1	4.3	24.6	-3.5	11.9	-1.5	11.0
Telecom	-2.0	2.6	3.3	4.4	8.3	1.9	0.5	3.5	2.7	5.7	3.5	5.0	-1.3	4.2
<b>Market Returns</b>	<b>1.2</b>		<b>2.3</b>		<b>5.1</b>		<b>3.1</b>		<b>0.7</b>		<b>0.0</b>		<b>0.0</b>	

Source: Wilshire, FactSet and Refinitiv. Data as of April 28, 2023



## Sector-weighted contribution analysis: In April US underperformance was driven by smaller positive contributions from financials and energy vs World ex US

Contribution analysis blends sector performance with respective sector exposure. In April, despite a superior positive contribution from technology the US underperformed the World ex US due to smaller positive contributions from energy and financials.

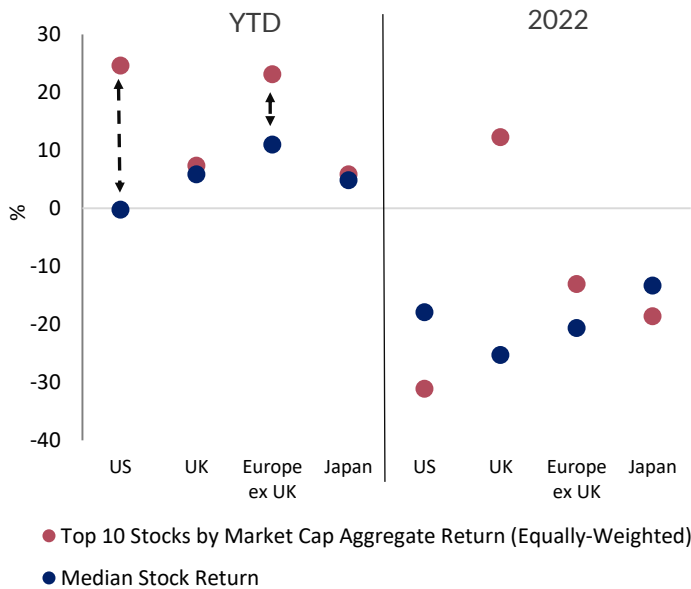


**Regional contribution analysis.** The World ex US saw superior positive contributions from financials and energy vs the US in April. The UK saw strong positive contributions from financials and consumer staples

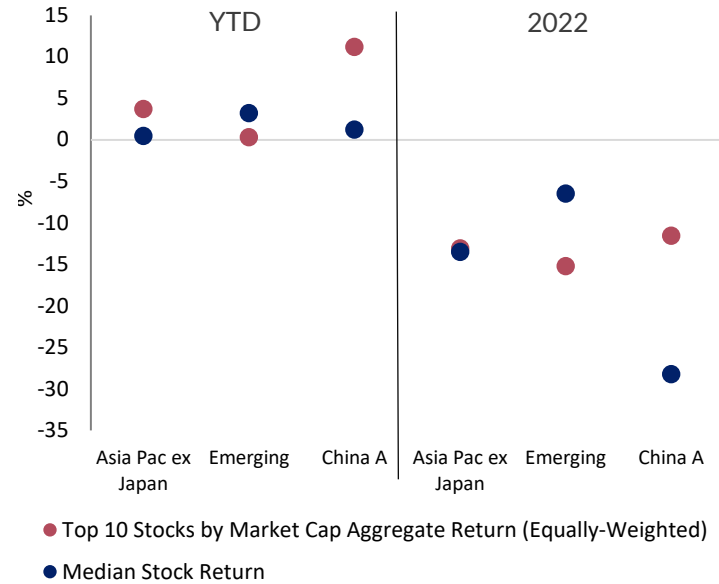
1M	US	World ex US	UK	EU ex UK	Japan	AP ex Japan	China
	Contr	Contr	Contr	Contr	Contr	Contr	Contr
Health Care	0.4	0.4	0.6	0.6	0.3	0.2	0.0
Financials	0.3	0.7	0.8	0.4	0.4	0.9	1.8
Technology	0.3	-0.4	0.1	-0.3	0.0	-1.2	-0.7
Consumer Staples	0.2	0.2	0.6	0.2	0.4	0.0	-0.8
Energy	0.1	0.8	0.6	0.1	0.0	0.2	1.0
Utilities	0.1	0.1	0.1	0.2	0.1	0.1	0.2
Real Estate	0.0	0.1	0.1	0.1	0.2	0.1	0.0
Basic Materials	0.0	0.0	-0.3	-0.1	-0.1	0.0	-0.3
Industrials	0.0	0.3	0.2	0.1	0.6	0.2	0.1
Telecom	-0.1	0.1	0.2	0.0	0.2	0.2	-0.1
Consumer Disc	-0.1	0.2	0.3	0.3	1.1	-0.4	-0.2
<b>Market Return</b>	<b>1.2</b>	<b>2.3</b>	<b>5.1</b>	<b>3.1</b>	<b>0.7</b>	<b>0.0</b>	<b>0.0</b>

# Regional Equities: Deteriorating dispersion dynamics in US and Europe ex UK as top 10 largest stocks continuing to outperform the median stock

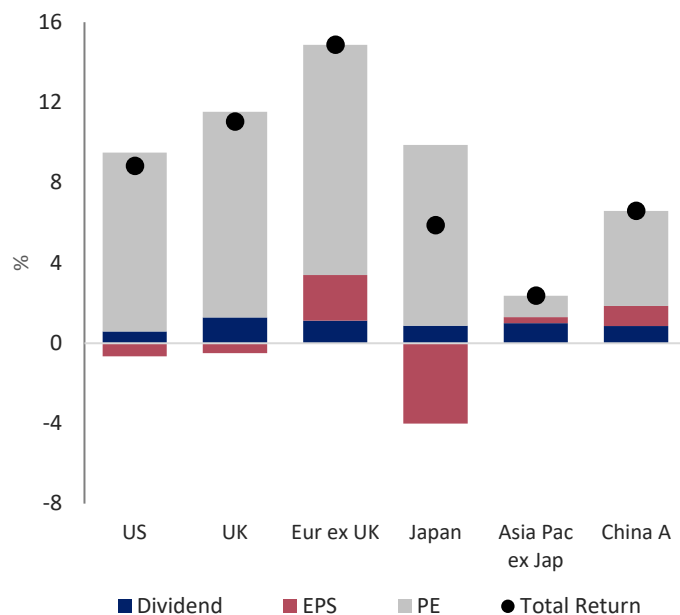
**Chart 1:** Aggregate top 10 stocks (by market cap) vs median stock return - deteriorating breath in US and Europe ex UK YTD



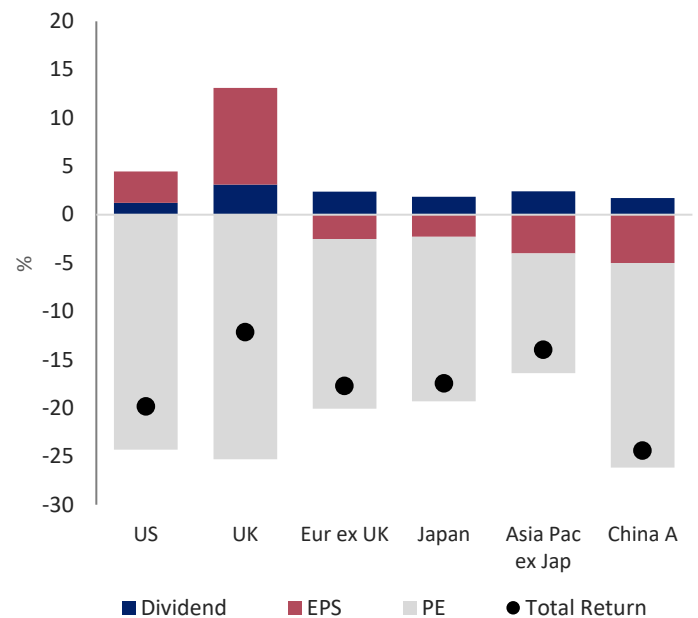
**Chart 2:** Deteriorating breath in China YTD. Very narrow dispersion in performance within Emerging markets so far in 2023.



**Chart 3:** YTD 2023 total return decomp-PE re-rating drives returns across most regions in 2023



**Chart 4:** 2022 total return decomposition - PE de-rating main driver behind market declines

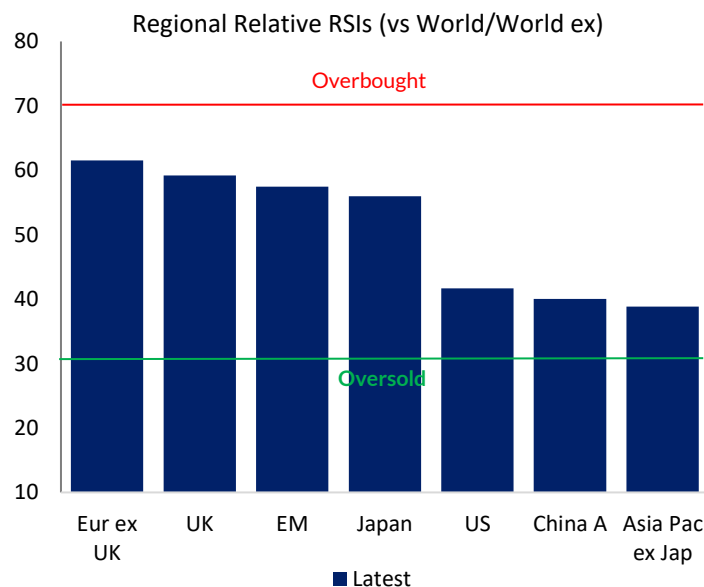


# Technical and sentiment Analysis: US relative to Europe ex UK performance approaching key support levels. Europe the most overbought on a relative basis.

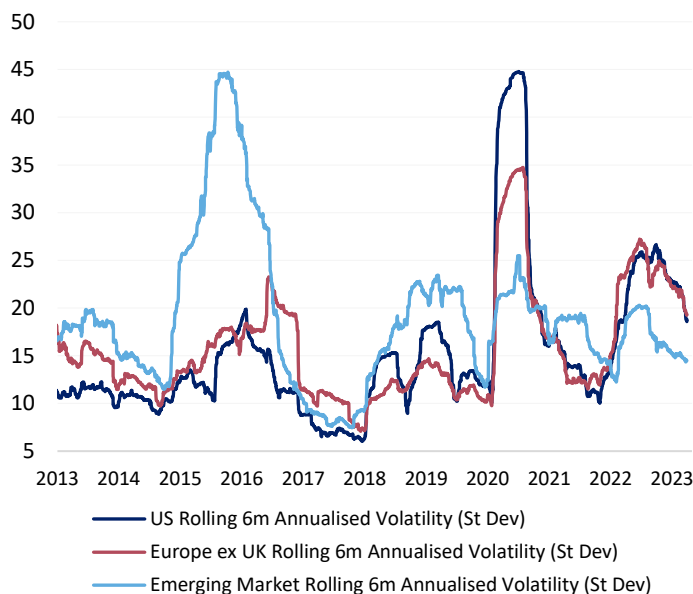
**Chart 1:** Having broken below the 61.8% Fibonacci retracement level, US/Europe ex UK performance is approaching another potential key support level



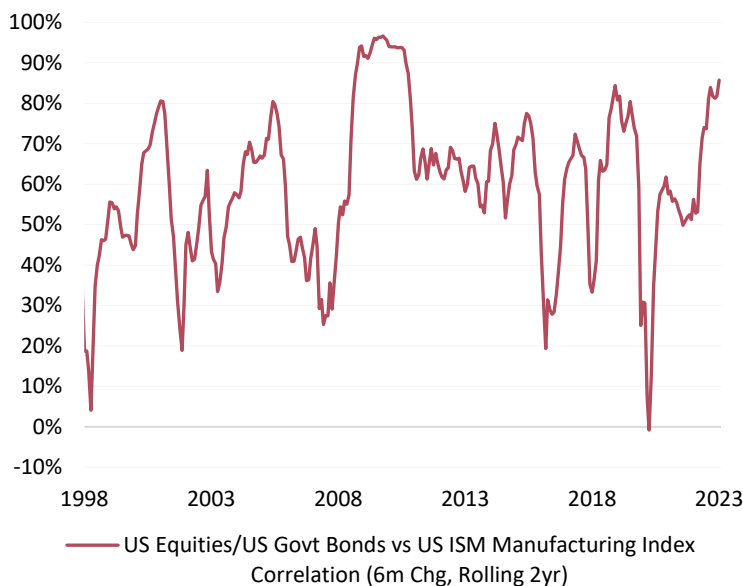
**Chart 2:** Regional relative RSIs (Relative Strength Index) readings



**Chart 3:** Volatility levels (rolling 6m annualised) in the US, Europe and Emerging markets have continued to decline from their highs in late 2022



**Chart 5:** The correlation between US equity/bond performance and the ISM manufacturing index has hit the highest (most positive) since 2011



# Market Capitalization of major markets and Regional sector weighting comparisons

Chart 1: Markets size (USD, Bn)

	Latest	% World Index	10Y Ago	% World Index
US	41,636	49.0	19,042	36.3
UK	3,262	3.8	3,300	6.3
Japan	5,405	6.4	4,176	8.0
China A	6,416	7.6	2,599	5.0
Switz	2,003	2.4	1,346	2.6
France	3,424	4.0	1,753	3.3
Germany	2,298	2.7	1,485	2.8
Canada	2,439	2.9	1,666	3.2
Australia	1,487	1.8	1,342	2.6
Taiwan	1,159	1.4	542	1.0
India	2,696	3.2	1,052	2.0
Korea	1,227	1.4	839	1.6
<b>World</b>	<b>84,922</b>		<b>52,445</b>	

Chart 2: History of regional market weightings in the world index (USD)

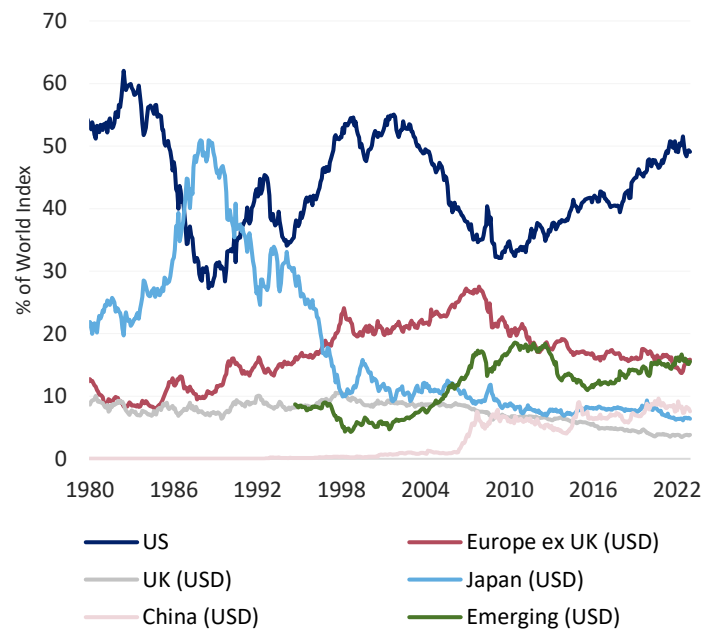
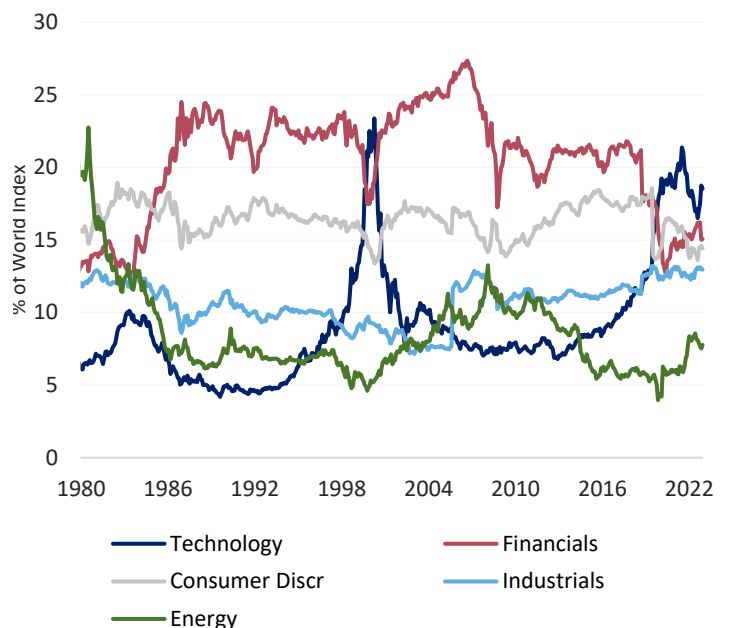


Chart 3: Regional sector weightings (%)

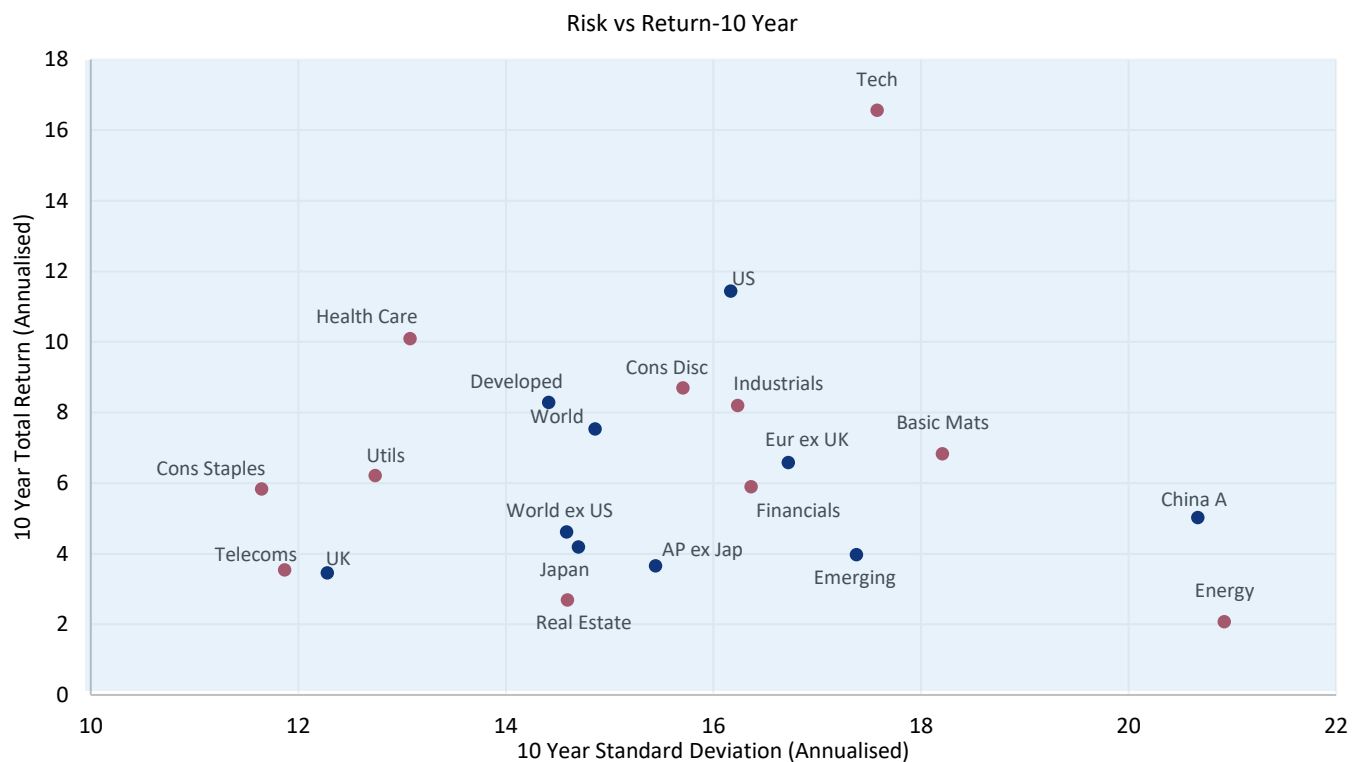
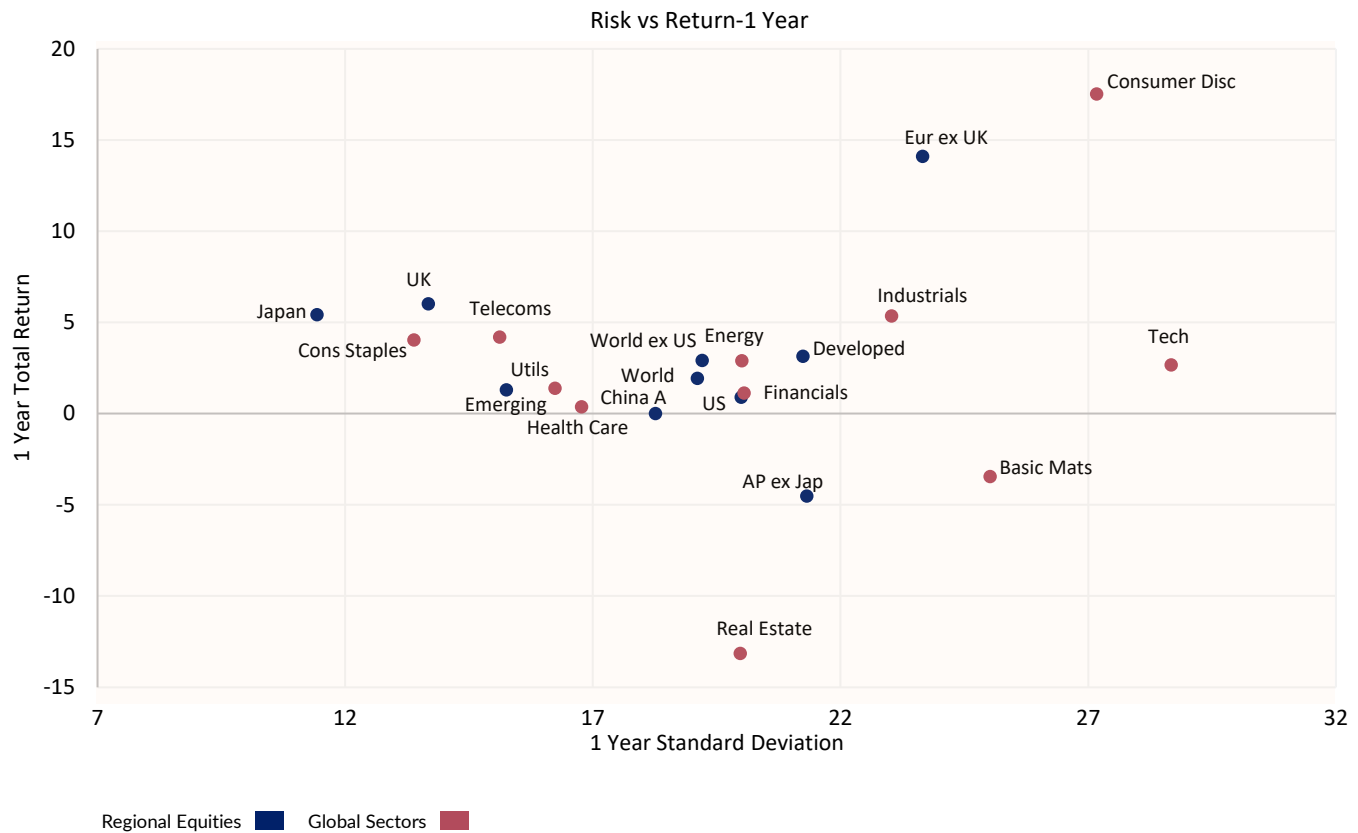
	US	World ex US
Energy	3.2	9.4
Basic Materials	1.9	6.6
Industrials	12.8	12.9
Consumer Staples	4.8	7.1
Health Care	11.9	7.7
Consumer Disc	17.0	14.4
Utilities	2.5	3.7
Telecom	3.0	4.3
Financials	11.3	18.4
Technology	28.6	11.6
Real Estate	3.0	3.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

Top 3 Bottom 3

Chart 4: History of top 5 sector weightings in world index (USD)



# Risk vs Return: Regional equities and global sectors



Source: Refinitiv. Data as of April 28, 2023

# Fixed Income and FX

1

**-0.8%**

Depreciation in DXY dollar index in April

2

**+1.9%**

Rise in GBP vs USD in April

3

**-64bps**

Decline in US 10 year yield from recent March 2 peak

4

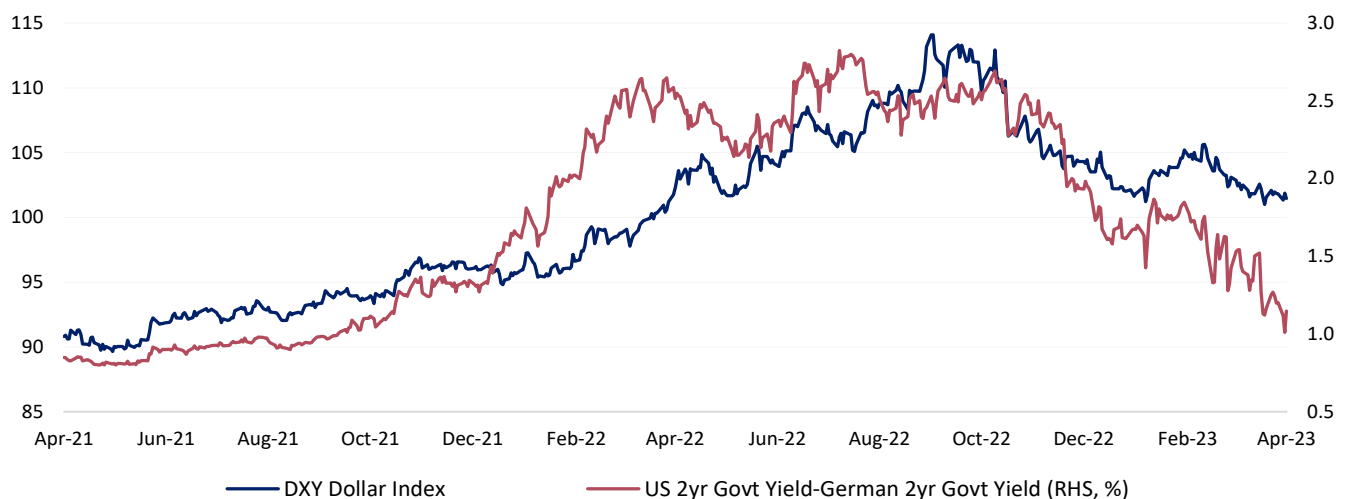
**-67bps**

Degree of US 10-2 year yield curve inversion

## CONTENTS

- 29 Fixed income performance
- 30 Fixed income market commentary
- 31 Foreign exchange - REER, key spot rates
- 32 Regional spot rate returns

**DXY dollar index vs US 2yr-German 2yr govt yield spread:** Yield/interest rate differentials between the US and Eurozone have been one of the key drivers behind moves in the dollar. Spread now back to late 2021 levels.



Source: Refinitiv and FactSet. Data as of April 28, 2023

# Regional fixed income performance summary: Government bonds, Inflation linked and Corporates

Chart 1: 1-3 year government bond returns

USD (TR, %)		YTD	2022
UK (1-3yr)		4.5	-14.0
Italy (1-3yr)		4.0	-10.1
EURO* (1-3yr)		3.5	-10.5
US (1-3yr)		1.6	-3.7
Can (1-3yr)		1.5	-8.9
China (1-3yr)		1.2	-6.0
Aus (1-3yr)		-0.3	-9.1
Japan (1-3yr)		-3.7	-13.0

Chart 2: 7-10 year government bond returns

USD (TR, %)		YTD	2022
Italy (7-10yr)		7.5	-24.6
UK (7-10yr)		5.5	-26.4
EURO* (7-10yr)		5.4	-23.6
Aus (7-10yr)		4.7	-19.9
Can (7-10yr)		3.8	-17.6
US (7-10yr)		3.2	-14.7
China (3-5yr)		1.5	-5.9
Japan (7-10yr)		-2.4	-15.6

Chart 3: Inflation Linked bond returns

USD (TR, %)		YTD	2022
Italy IL (All)		7.2	-14.4
UK IL (5-10yr)		6.7	-25.0
EURO* IL (5-10yr)		5.8	-14.8
Aus IL (All)		4.9	-17.4
US IL (5-10yr)		3.3	-11.8
Can IL (All)		-1.8	-19.8
Japan* IL (5-10yr)		-2.1	-9.9

Chart 4: Investment grade & high yield returns

USD (TR, %)		YTD	2022
UK HY (All)		8.5	-21.0
UK IG (All)		6.9	-28.9
EURO HY (All)		6.1	-16.9
EURO IG (All)		5.2	-19.2
US HY (All)		4.6	-11.2
US IG (All)		3.2	-15.5
Japan BBB (All)		-2.4	-14.8
Japan IG (All)		-2.7	-14.9

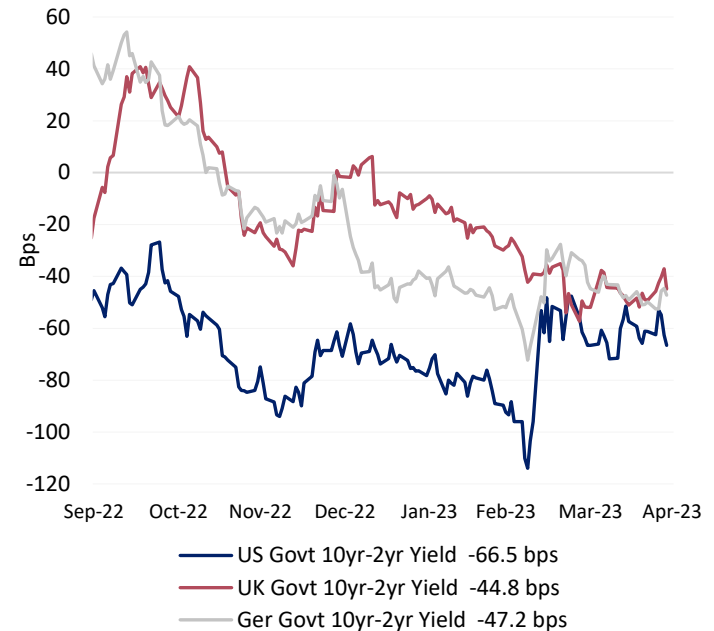


# Fixed Income key observations: Decline in US 10 year yield from March highs driven by decline in both real yield and breakevens. Corporate spreads have narrowed since

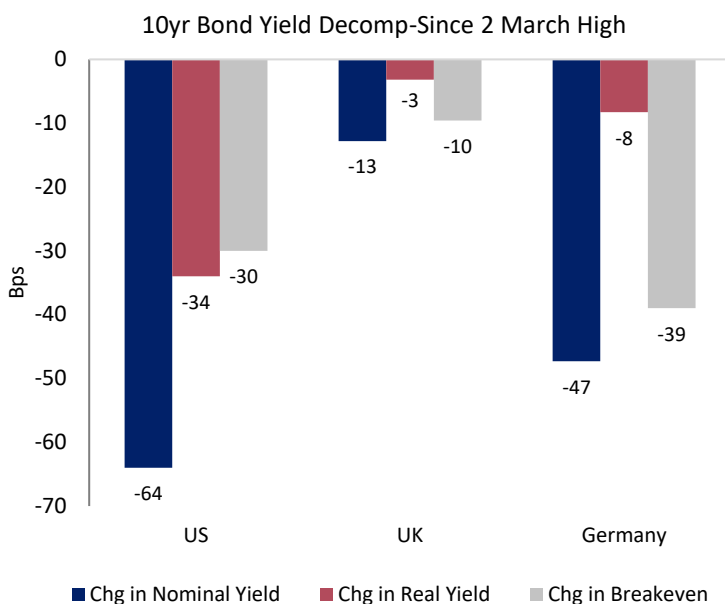
**Chart 1:** Regional 2yr and 10yr yields-Latest, recent March high and 31 Dec 2022

Regional 2yr and 10yr Govt Bond Yields						
	2-Year Yields (%)			10-Year Yields (%)		
	Latest	March High	31-Dec	Latest	March High	31-Dec
US	4.1	5.1	4.5	3.4	4.0	3.9
UK	4.2	4.1	3.7	3.6	3.8	3.7
Germany	2.8	3.4	2.6	2.3	2.6	2.6
France	2.9	3.4	2.9	2.8	3.1	3.1
Italy	3.3	3.7	3.3	4.1	4.3	4.6
Japan	-0.1	-0.1	0.0	0.4	0.5	0.4
China	2.3	2.4	2.3	2.8	2.9	2.9
Canada	3.7	4.3	4.1	2.8	3.3	3.3
Australia	3.0	3.4	3.3	3.4	3.7	4.0

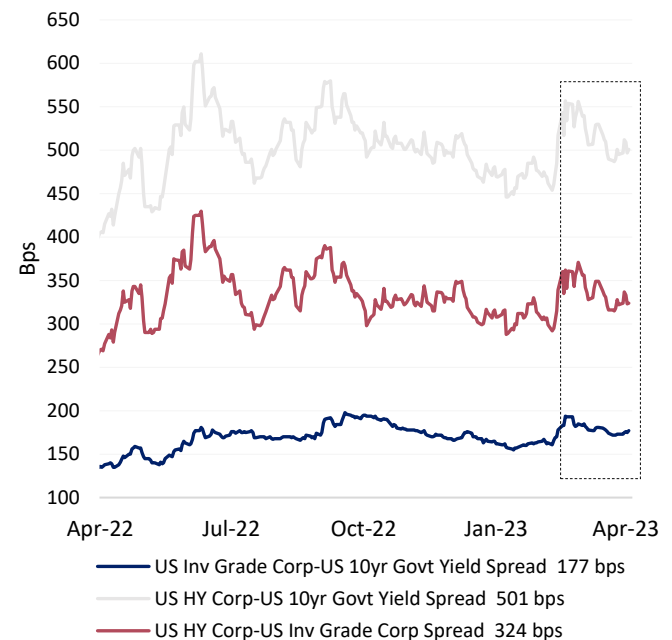
**Chart 2:** US and UK 10-2yr curves have largely flat-lined since March but remain deeply inverted. The German curve has inverted further.



**Chart 3:** The decline in US 10yr yield since the March high driven by decline in both real yield and breakeven inflation

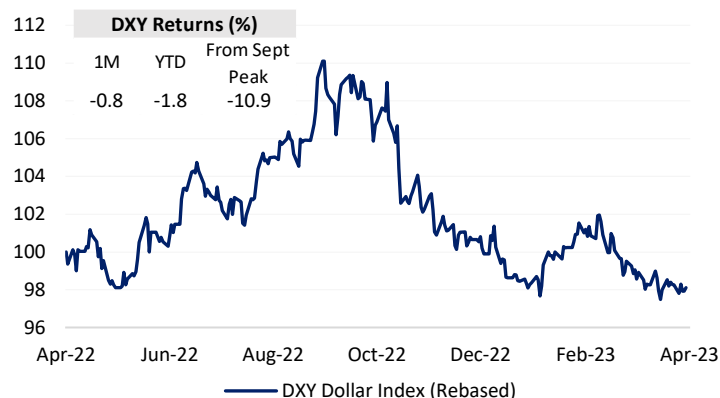


**Chart 4:** Corporate spreads have narrowed from their recent highs in March

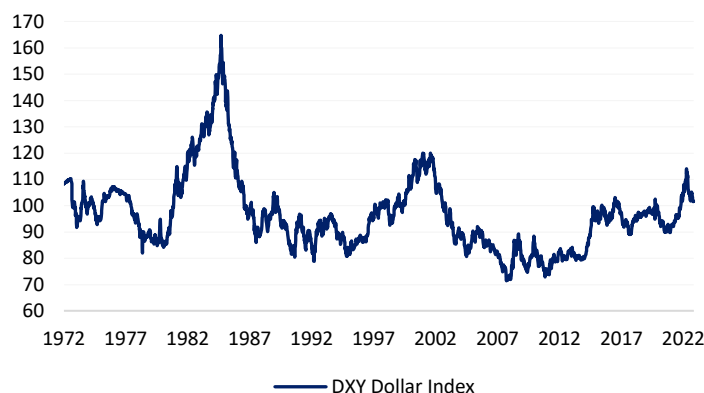


# FX return perspectives: The DXY dollar index continued its weakness from the recent March high largely driven by further declines against sterling and euro.

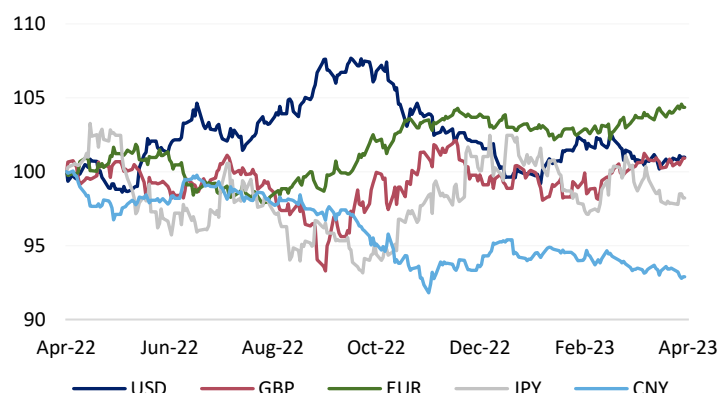
**Chart 1: DXY Dollar Index saw further declines in April**



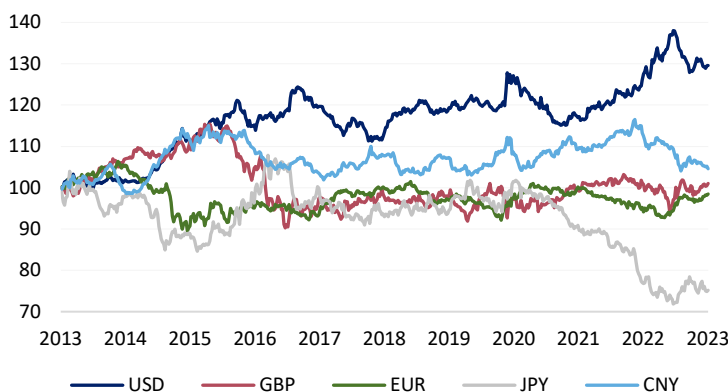
**Chart 2: Long term view of the DXY Dollar Index**



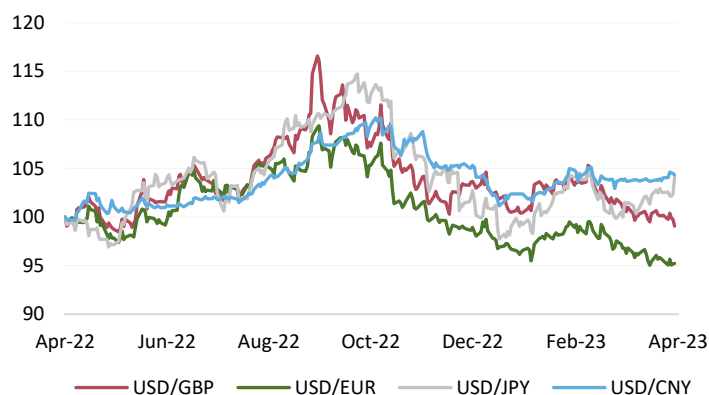
**Chart 3: Regional Real Effective Exchange Rate returns-12 months (rebased)**



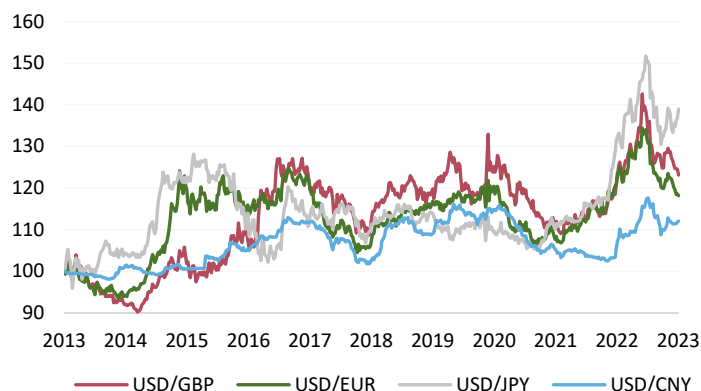
**Chart 4: Regional Real Effective Exchange Rate returns over 10 years (rebased)**



**Chart 5: USD returns vs JPY, Euro, GBP and Renminbi spot rate-12 months (rebased)**



**Chart 6: USD returns vs JPY, Euro, GBP and Renminbi spot rate returns over 10 years (rebased)**



## FX spot rate returns from a regional perspective

The dollar depreciated further against the Swiss Franc, Euro and Sterling in April. The Japanese Yen saw renewed declines against all major currencies over the month.

Moves vs USD (TR, %)	1M	YTD	12M	2022
CHF	2.9	3.4	8.7	-1.3
GBP	1.9	3.9	0.9	-10.6
EUR	1.6	3.0	5.0	-5.9
CAD	0.4	0.0	-5.5	-6.8
CNY	-0.7	0.6	-5.2	-8.5
AUD	-1.5	-3.0	-6.8	-6.2
JPY	-2.5	-1.1	-3.9	-13.2

Moves vs EUR (TR, %)	1M	YTD	12M	2022
CHF	1.5	0.5	4.0	4.9
GBP	0.1	1.0	-3.8	-5.4
CAD	-1.3	-2.9	-10.0	-1.0
USD	-1.6	-3.0	-5.0	5.9
CNY	-2.4	-3.5	-8.7	-1.9
AUD	-3.2	-5.8	-11.0	-0.6
JPY	-4.2	-4.2	-8.1	-7.8

Moves vs CNY (TR, %)	1M	YTD	12M	2022
CHF	4.0	4.2	13.9	7.1
EUR	2.4	3.7	9.6	2.0
GBP	2.3	3.1	5.1	-2.5
USD	0.7	-0.6	5.2	8.5
AUD	-0.8	-2.1	-2.7	1.4
CAD	-0.9	-0.2	1.5	-1.2
JPY	-3.6	-3.7	0.2	-5.0

Moves vs AUD (TR, %)	1M	YTD	12M	2022
GBP	3.3	6.7	7.6	-5.0
EUR	3.2	5.8	11.0	0.6
CAD	1.8	3.0	1.4	-0.6
USD	1.5	3.0	6.8	6.2
CNY	0.8	2.1	2.7	-1.4
JPY	-2.0	0.7	3.0	-7.4

Moves vs GBP (TR, %)	1M	YTD	12M	2022
CHF	1.5	-0.5	8.0	10.9
EUR	-0.1	-1.0	3.9	5.7
CAD	-1.4	-3.7	-6.3	4.3
USD	-1.9	-3.9	-0.9	10.6
CNY	-2.3	-2.9	-4.9	2.5
AUD	-3.3	-6.7	-7.6	5.0
JPY	-4.0	-4.6	-3.7	-3.0

Moves vs JPY (TR, %)	1M	YTD	12M	2022
CHF	5.0	4.4	12.9	14.3
CAD	4.5	3.9	-1.6	6.2
EUR	4.2	4.2	8.1	7.8
GBP	4.0	4.6	3.7	3.0
CNY	3.6	3.7	-0.2	5.0
USD	2.5	1.1	3.9	13.2
AUD	2.0	-0.7	-3.0	7.4

Moves vs CHF (TR, %)	1M	YTD	12M	2022
GBP	-1.5	0.5	-8.0	-10.9
EUR	-1.5	-0.5	-4.0	-4.9
CAD	-2.5	-3.3	-13.1	-5.5
USD	-2.9	-3.4	-8.7	1.3
CNY	-4.0	-4.2	-13.9	-7.1
JPY	-5.0	-4.4	-12.9	-14.3

Trade Weighted (TR, %)	1M	YTD	12M	2022
EUR	0.9	1.5	3.7	-0.4
GBP	0.2	1.8	-1.0	-4.9
AUD	0.1	-2.0	-4.5	0.0
CNY	0.1	-0.1	-3.5	-2.4
DXY	-0.8	-1.8	-1.9	7.9
JPY	-2.9	-2.4	-1.5	-7.6

Source: Refinitiv. Data as of April 28, 2023

## Alternatives: Commodity, digital asset, REITS and absolute return asset categories

1

**+9.6%**

Rise in Gold price YTD

2

**-4.7%**

Decline in copper price in April

3

**+4.8%**

Return of the Wilshire US Apartments REITS in April

4

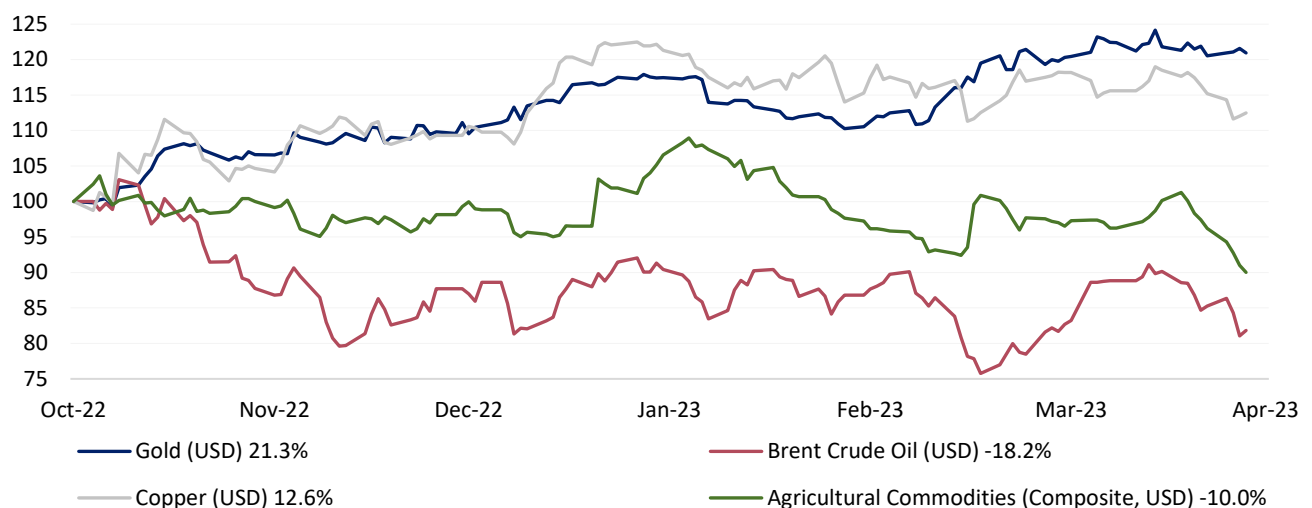
**+67.5%**

Rise in the FT Wilshire Digital assets index in YTD

## CONTENTS

- 34 Commodities
- 35 Property (Wilshire REIT indexes)
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- 37 Digital Assets
- 38 Risk/return analysis

**Commodity prices (rebased):** Movements in gold, copper, oil and agricultural commodities over the past 6 months



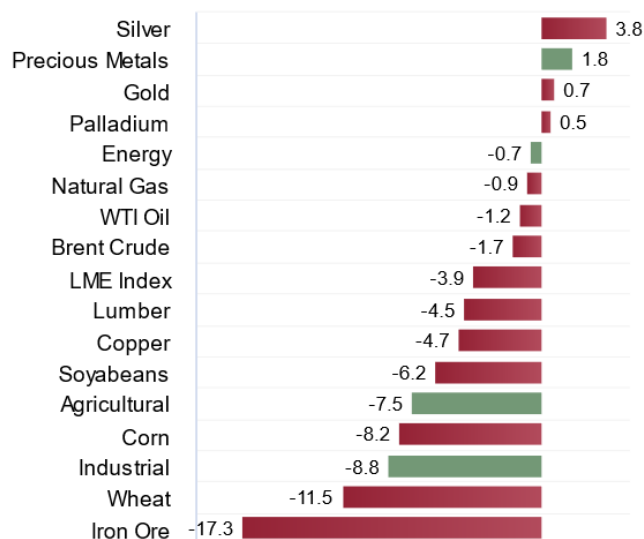
Source: Wilshire and Refinitiv. Data as of April 28, 2023

Wilshire Advisors LLC - Performance Report (April 2023)

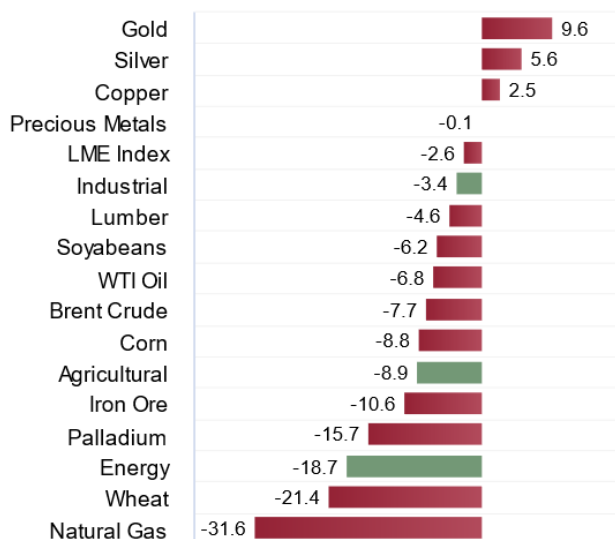
## Commodities: April saw weakness in many economically-sensitive commodities. Gold continues to perform well in response to lower real yields.

Oil initially rallied at the start of April on the back of OPEC announcing cuts to supply, but was dragged lower along with other economically-sensitive commodities (most notably copper and iron ore) on weaker demand from China and wider global growth concerns. Gold continues to hold up supported by lower real yields.

### 1M USD (TR, %)

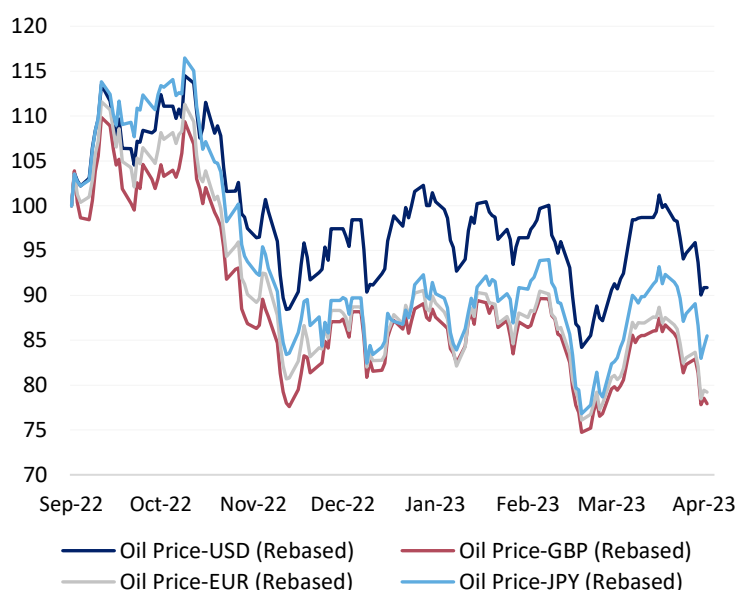


### YTD USD (TR, %)



The copper/gold price ratio responds to shifts in the US ISM manufacturing index

Oil price move adjusted for different FX impact since dollar peak on 27 September 2022



## Property (Wilshire REIT indexes): US REITs underperformed non-US REITS in April as industrial, office and self storage sectors see declines

April witnessed declines in industrial, self storage and office US sector REITS, while manufactured homes and apartments posted positive returns. YTD office REITS remain the notable laggard with double-digit declines so far in 2023. Industrial REITS and self-storage have outperformed YTD.

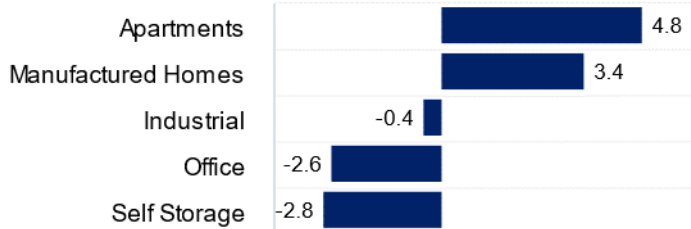
### 1M USD (TR, %)



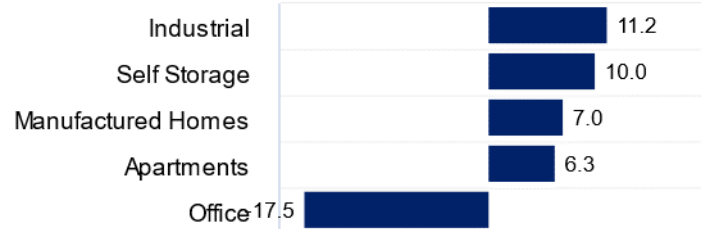
### YTD USD (TR, %)



### 1M USD (TR, %)



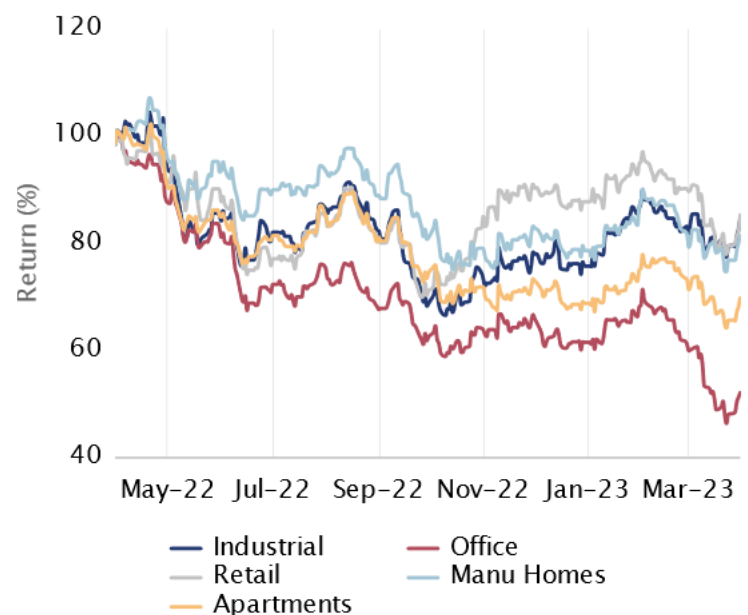
### YTD USD (TR, %)



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



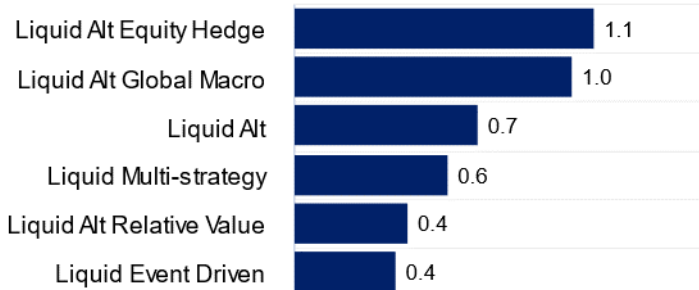
Wilshire US REIT sector performance - 12M (Rebased, TR)



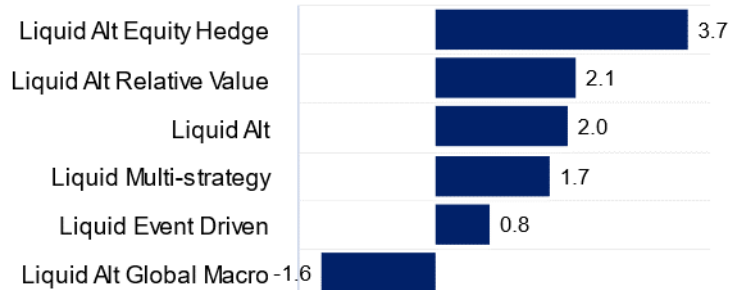
# Wilshire Liquid Alternative Indexes (Absolute Return): Equity Hedge outperforms in April and continues to lead the way year to date.

Liquid Alternative indexes posted modest gains in April. Global Macro regained some ground but remains the laggard YTD. Equity Hedge marginally outperformed in April and remains the top performer amongst the Liquid Alternative series in 2023 so far.

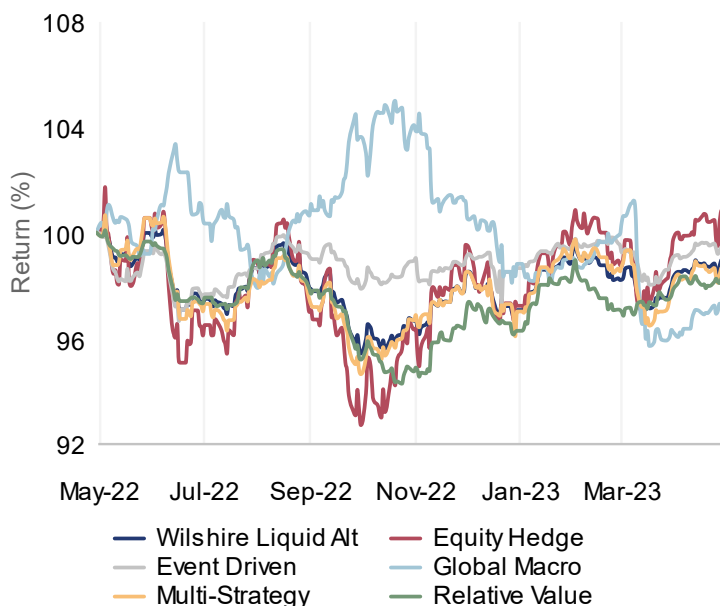
1M USD (TR, %)



YTD USD (TR, %)



Wilshire Liquid Alternative Index performance - total returns (rebased)



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

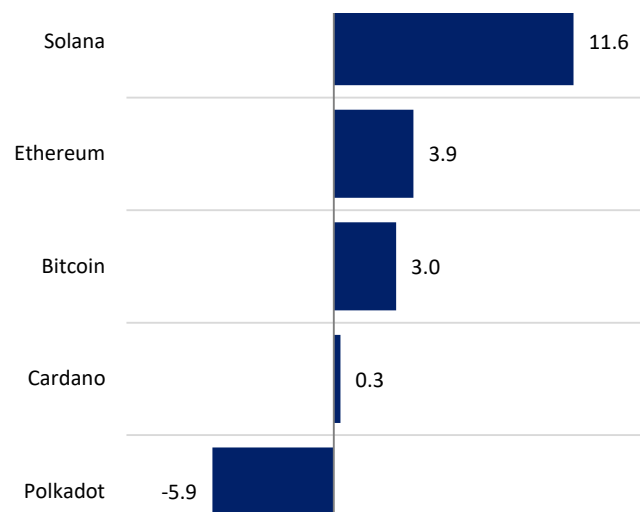


## Digital Assets

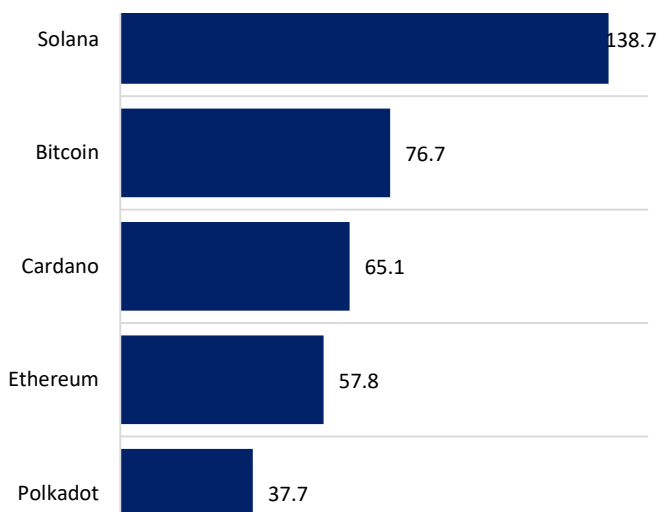
The FT Wilshire Digital Assets Index rebounded strongly in 2023 delivering a return of 67.5% YTD. The index is still down -31.4% over 12 months.



FT Wilshire Top 5 Digital Assets Index constituent performance - 1M (% ,USD)



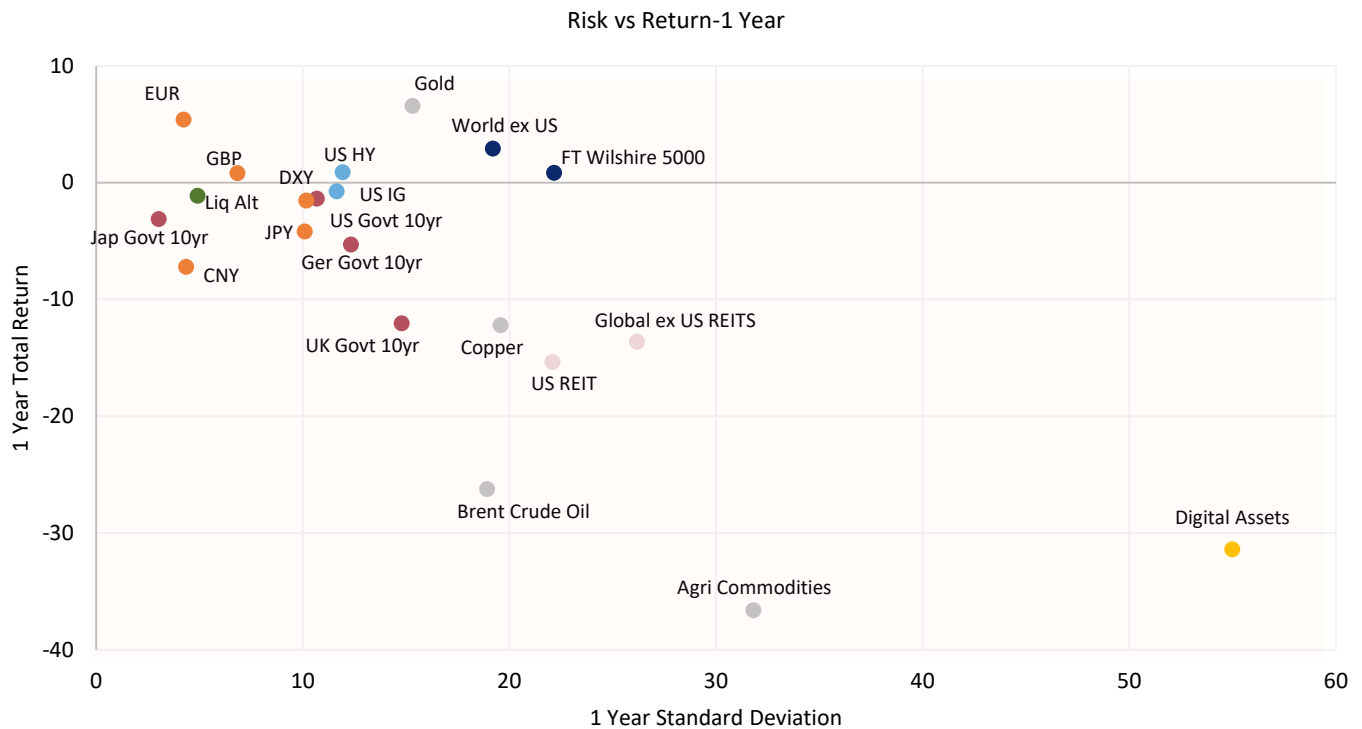
FT Wilshire Top 5 Digital Assets Index constituent performance - YTD 2023 (% ,USD)



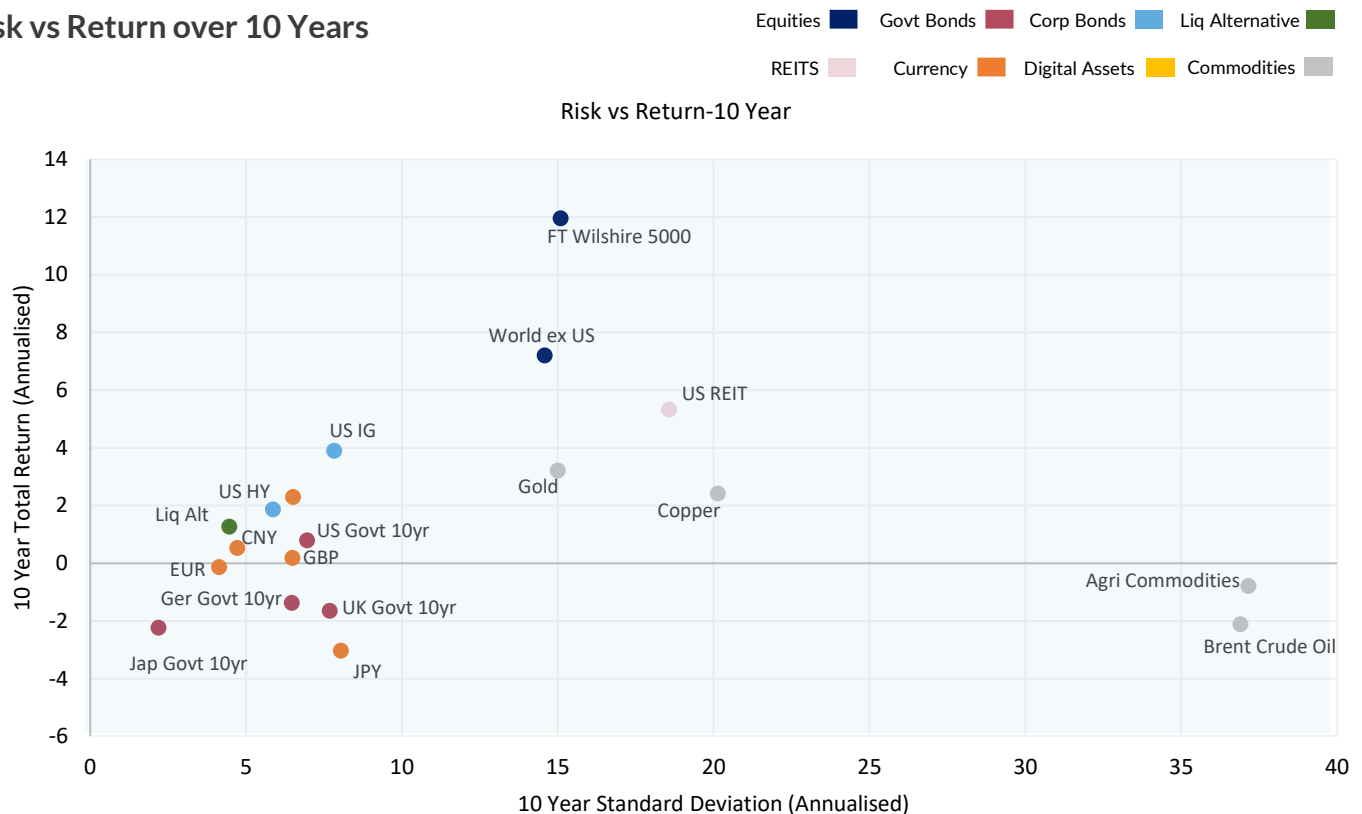


# Multi Asset Class: Risk vs Return

## Risk vs Return over 1 Year



## Risk vs Return over 10 Years



Source: Wilshire, FactSet. Data as of April 28, 2023

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