

July 31, 2022

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

- FT Wilshire 5000 July performance largest monthly return since November 2020
- Falling real yields help drive large-cap growth outperformance relative to large-cap value
- Technology and Cons Goods and Services

+9.6%

FT Wilshire 5000
in July

+6.4%

LC Growth
outperformance
vs LC Value

See [PAGE 4](#)

Global Equities

- Developed markets outperform emerging
- US outperforms with large sector-weighted contribution from the Technology & Cons Discretionary sectors
- Chinese equities sell-off sharply

+5.0%

Scale of DM
outperformance
of EM in July

+5.8%

Scale of US
outperformance in
July vs World ex US

See [PAGE 16](#)

Fixed Income, Foreign Exchange

- Bond yields fall, driven by decline in real yields
- US inflation-linked and HY corporate bonds perform strongly in July
- Euro weak, while JPY recovers from multi-decade lows

-2.9%

EUR vs USD in July

-82bp

Decline in
US 10yr bond
yield from mid-June
peak

See [PAGE 28](#)

Alternatives

- A bifurcation in commodities with energy strength but weakness in agricultural goods and industrial metals
- Digital assets see a strong rebound in July

+42.7%

Rise in natural gas
price in July

+29.3%

Rise in FT Wilshire
Digital Assets
Index in July

See [PAGE 33](#)

Multi-Asset Class returns (1M and YTD) : July saw US equities outperform led by large-cap growth. Chinese equities, oil and copper all declined

Chart 1: July saw solid returns across most asset classes, the notable exceptions being gold, copper, oil and Chinese equities. Strong US equity returns helped developed outperform emerging. US TIPS and HY credit outperformed within the fixed income space.

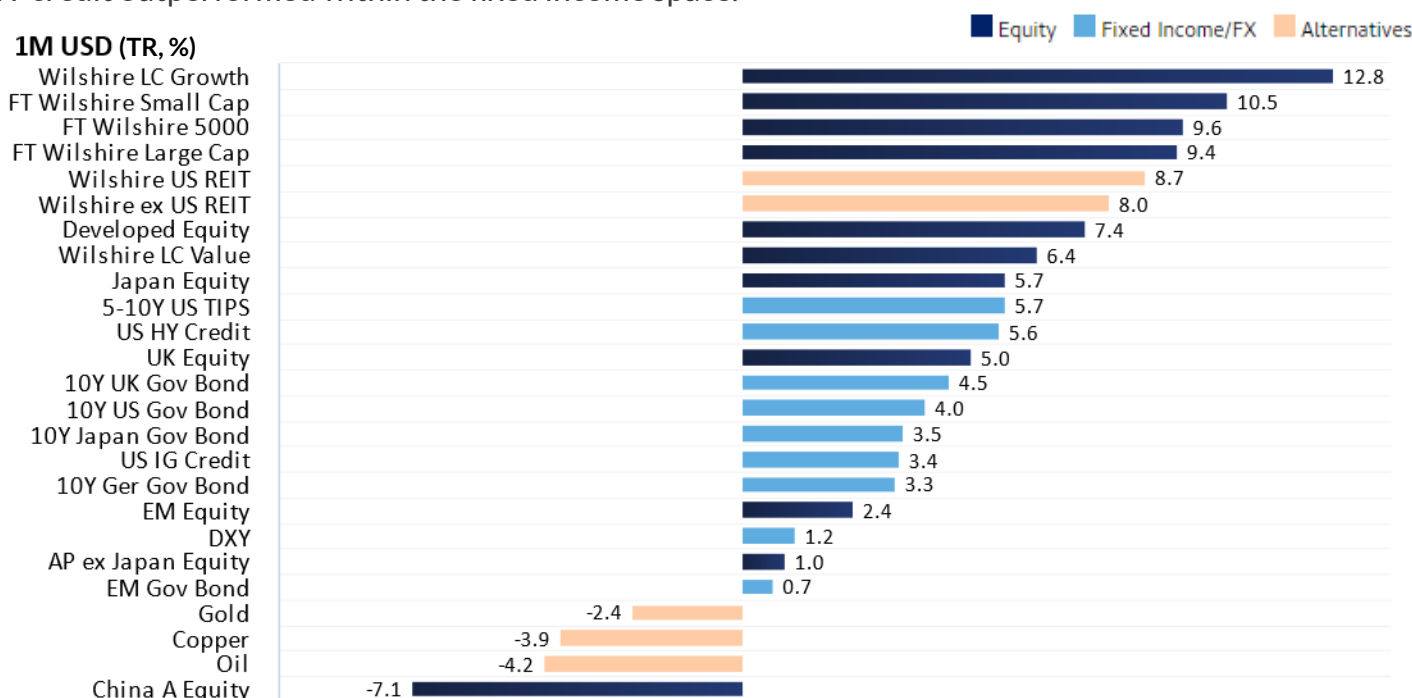
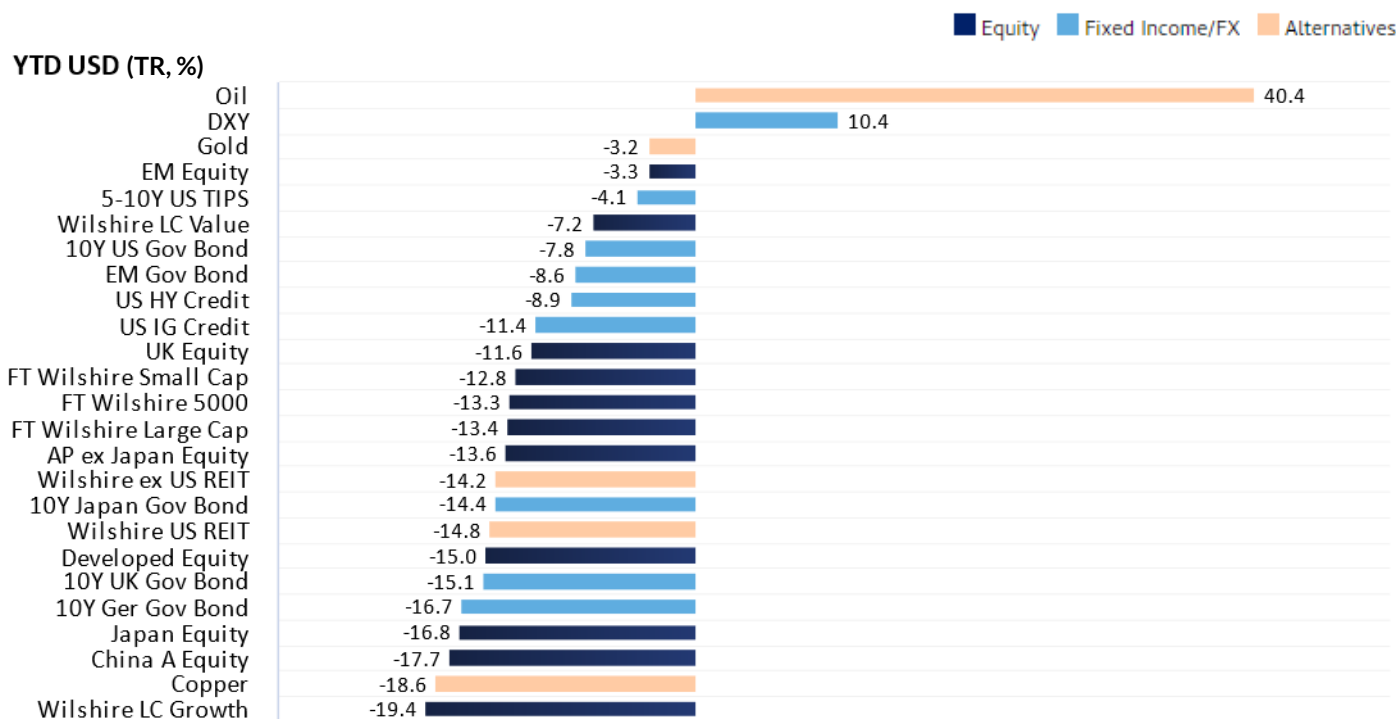


Chart 2: YTD oil and the dollar are the only assets in positive territory. Despite strong returns in July, large-cap growth is still a notable laggard, EM still comfortably outperforming DM YTD.



FT Wilshire 5000 Index Insights

1

+9.6%

The appreciation in the FT Wilshire 5000 in July

2

-13.3%

YTD return for the FT Wilshire 5000

3

+6.4%

The outperformance of LC Growth vs LC Value stocks in July

4

+10.7%

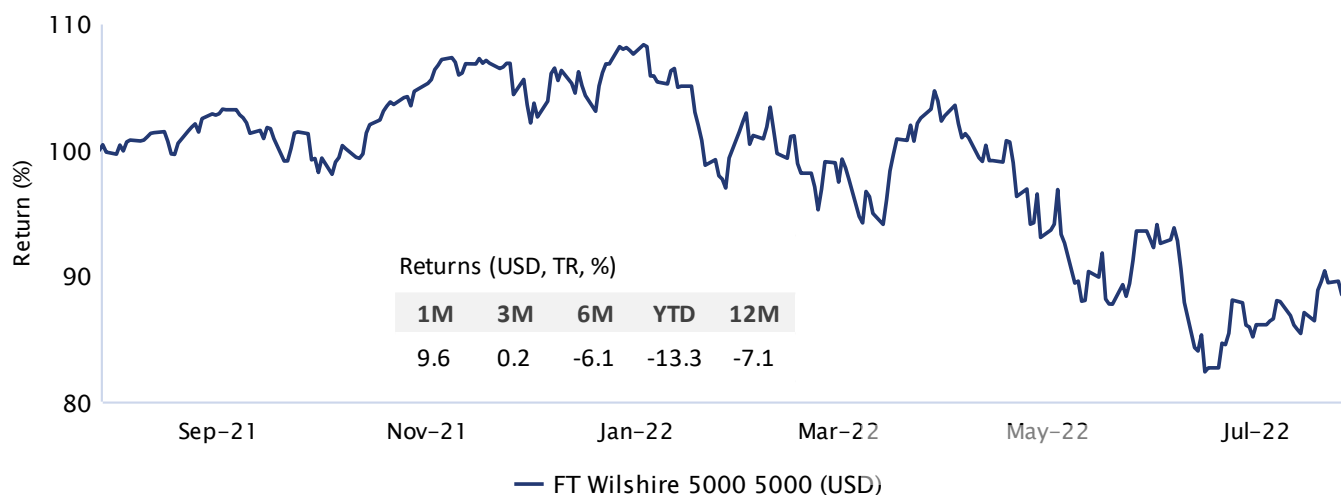
The 10yr real annualized return of US equities .

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- 07 Sector performance
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- 09 Style indexes performance
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- 11 Pure Factor Indexes
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- 14 Dispersion
- 15 Risk/return analysis

After a torrid first six months of the year, the FT Wilshire 5000 posted positive returns in July driven by a rotation to growth stocks.



Source: Wilshire, FactSet and Refinitiv. Data as of July 29, 2022

Wilshire Advisors LLC - Performance Report (July 2022)

FT Wilshire 5000 Key Observations: A rally in growth stocks in July in response to declining US real yields and mounting recession concerns.

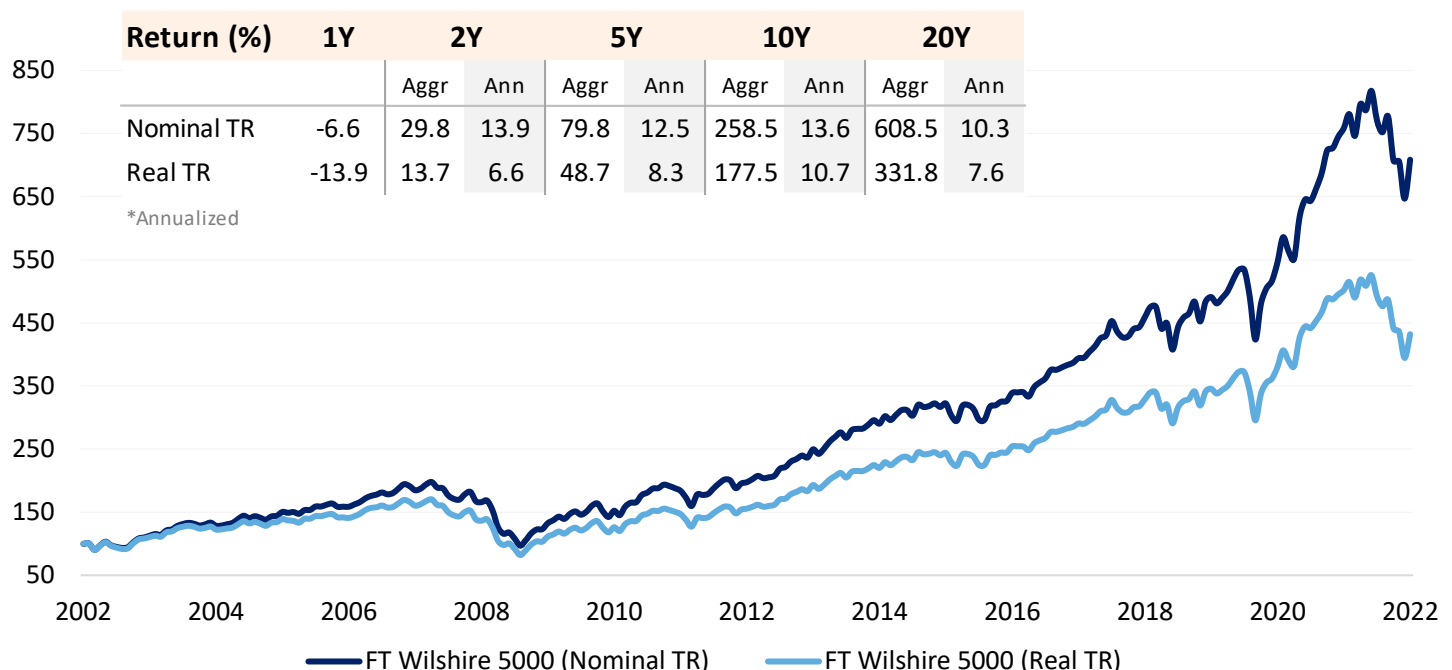
Market snapshot

- ◆ The FT Wilshire 5000 rose 9.6% in July, the fifth largest monthly return in the past 20 years. ([page 6](#))
- ◆ Declining real yields helped drive a rotation into large-cap growth ([page 6](#))
- ◆ Technology and Consumer Goods and Services sectors biggest contributors to return in July ([page 7](#))
- ◆ FT Wilshire 5000 has found some support around the 38.2% Fibonacci retracement level ([page 13](#))
- ◆ FT Wilshire Pure Momentum and Quality outperform among factors ([page 12](#))
- ◆ July produced a widening in performance dispersion most notably in micro-cap stocks ([page 14](#))

Key US Economic data in July

- ◆ Q2 GDP comes in below expectations at -0.9% after contracting 1.6% in Q2, meaning the US is experiencing a technical recession.
- ◆ Fed raises interest rates by 75 basis points taking the fed funds target rate to 2.5%
- ◆ CPI rises to 9.1% from 8.6% in May, above consensus expectations. Core CPI falls marginally to 5.9%.
- ◆ Core PCE rises to 4.8% year-on-year, up slightly from 4.7% in the previous month.
- ◆ Average hourly earnings decline from 5.3% to 5.1% year-on-year. Wage growth at -4% in real terms.
- ◆ Unemployment remains at 3.6% for the fourth month in a row.
- ◆ ISM manufacturing Index falls to 52.8, the lowest level since June 2020.

Chart 1: FT Wilshire 5000 Real vs nominal total return - despite the recent drawdown, US equities have still delivered a 9.4% real annualized return over the last 10 years.



Perspectives on: The impact of real yields on the Growth/Value rotation, a history of annual equity drawdowns and the shifts in performance dispersion

Chart 1: Large Cap Growth/Value relative performance responds to shifts in the US Real Yield.

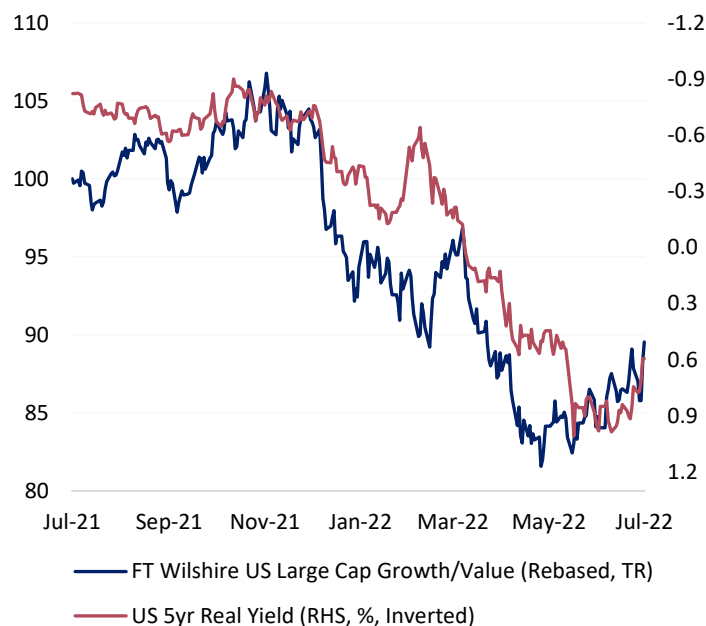


Chart 2: FT Wilshire 5000 annual returns and max drawdowns in the respective calendar year.

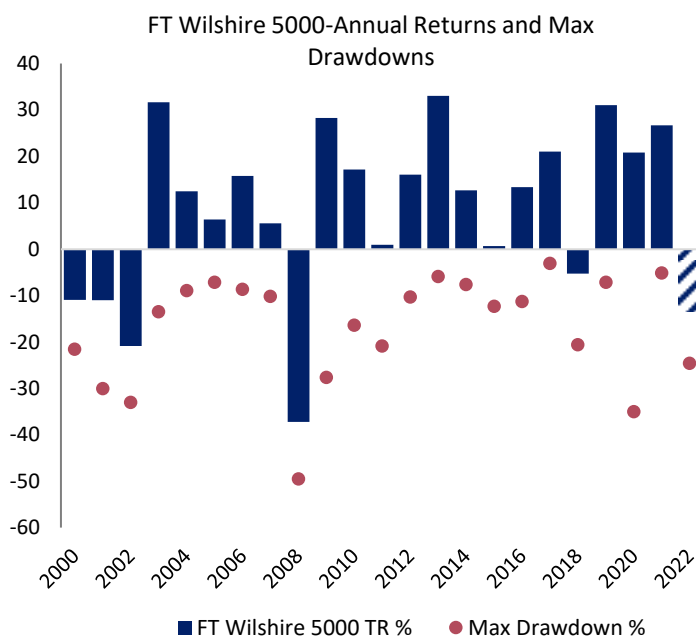


Chart 3: Performance dispersion 2022 YTD vs 2021. Value has seen dispersion widen this year.

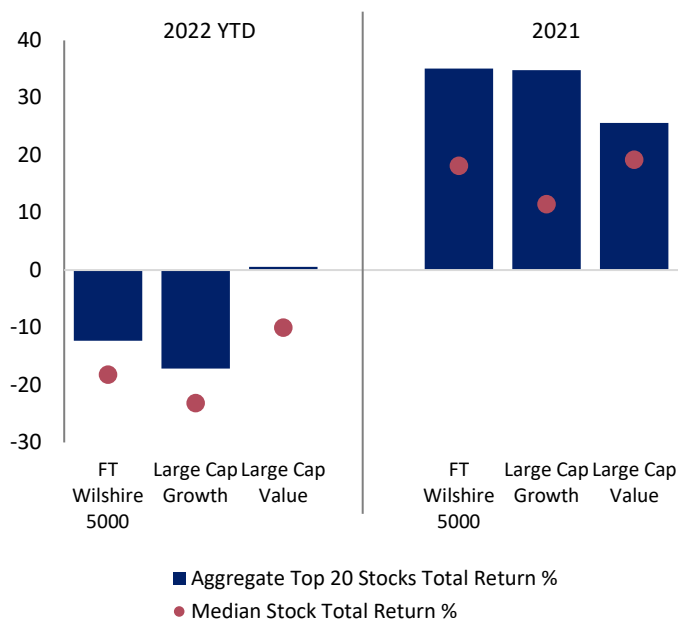
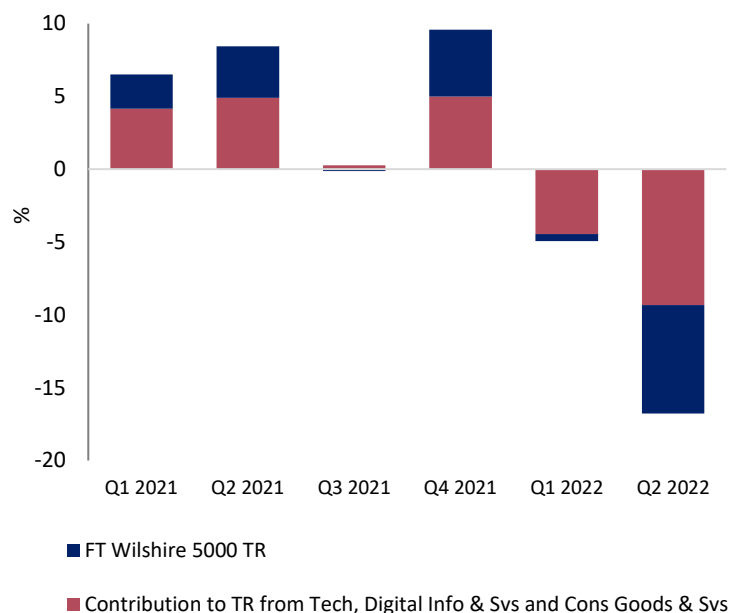


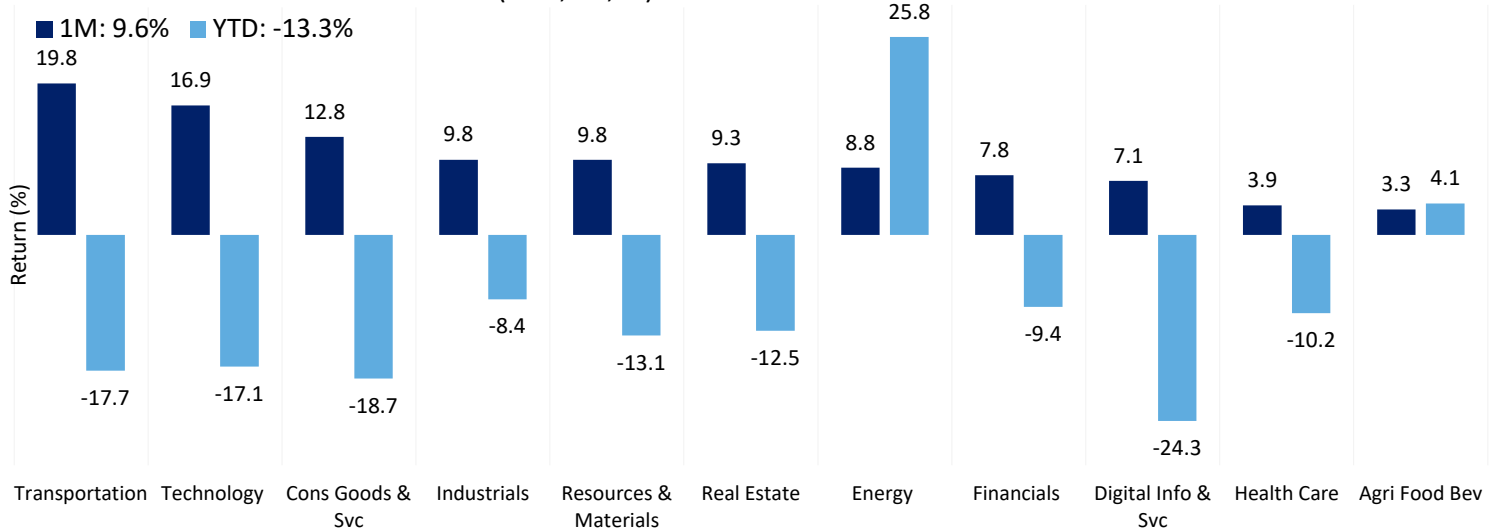
Chart 4: US equity returns have been dominated by the weighted contributions of the Tech sectors.



Sector performance (1M and YTD): A rebound in the technology, transportation and consumer goods sectors in July

July saw strong positive returns from the technology, transportation and consumer goods sectors, with health care and agriculture, food and beverages the laggards. YTD energy and agriculture food and beverages remain the only sectors that have delivered a positive return.

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



There is a significant difference in sector exposure between the large cap and small cap indices. 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.

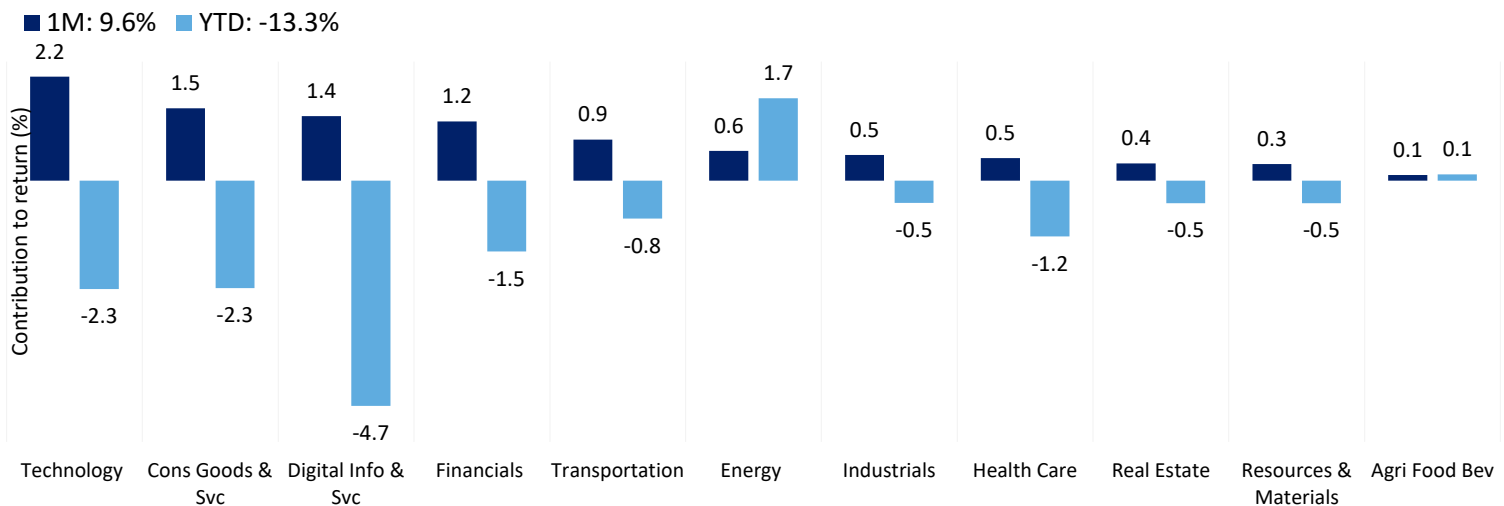
1M	FTW 5000		Large Cap		Small Cap		Micro Cap		Growth		Value	
	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts	Return	Wghts
Transportation	19.8	4.4	20.7	4.4	13.5	4.5	12.3	3.7	29.9	4.1	10.0	4.4
Technology	16.9	12.9	17.0	14.1	14.9	4.8	18.0	5.6	19.0	19.2	13.5	14.1
Cons Goods & Svc	12.8	11.8	13.1	12.0	10.9	11.0	8.6	9.1	18.7	14.4	5.9	12.0
Industrials	9.8	5.5	9.2	4.9	12.2	10.1	9.4	9.0	13.1	3.3	7.7	4.9
Resources & Materials	9.8	3.5	8.2	2.6	12.9	10.3	10.9	5.9	6.6	1.9	8.9	2.6
Real Estate	9.4	3.9	8.8	2.9	10.5	10.5	10.7	8.5	8.8	3.4	8.8	2.9
Energy	8.8	7.2	8.1	6.9	12.2	9.1	12.8	6.9	7.5	2.1	8.2	6.9
Financials	7.8	16.0	7.9	16.0	7.2	15.2	6.9	20.8	10.1	10.8	7.0	16.0
Digital Info & Svc	7.1	19.1	7.0	20.3	8.1	11.8	8.8	7.4	8.9	27.7	1.9	20.3
Health Care	3.9	12.2	3.1	12.3	9.5	10.5	9.9	22.1	5.3	12.2	1.1	12.3
Agri Food Bev	3.3	3.5	3.1	3.6	6.6	2.3	-1.5	1.1	5.7	1.0	2.8	3.6
Market	9.6		9.4		10.5		9.8		12.8		6.4	

Source: Wilshire and Refinitiv. Data as of July 29, 2022

Wilshire Advisors LLC - Performance Report (July 2022)

Sector-weighted performance contribution (1M and YTD): A positive contribution from the technology, consumer goods and digital information

Sector weighted contributions blend sector performance with sector weighting. July saw the technology, consumer goods and digital information sectors drive most of the market return. YTD these three sectors have accounted for over two-thirds of the market's negative return.



Comparing large cap growth and value, tech, consumer goods and services and digital info were the primary drivers of the strong outperformance in July. Small cap saw a relatively even contribution from eight of the 11 sectors, compared with more concentrated contributions within large cap.

1M	FTW 5000	Large Cap	Small Cap	Micro Cap	Growth	Value
	Contr	Contr	Contr	Contr	Contr	Contr
Transportation	0.9	0.9	0.6	0.5	1.2	0.4
Technology	2.2	2.4	0.7	1.0	3.7	1.9
Cons Goods & Svc	1.5	1.6	1.2	0.8	2.7	0.7
Industrials	0.5	0.5	1.2	0.9	0.4	0.4
Resources & Materials	0.4	0.2	1.3	0.6	0.1	0.2
Real Estate	0.4	0.3	1.1	0.9	0.3	0.3
Energy	0.6	0.6	1.1	0.9	0.2	0.6
Financials	1.2	1.3	1.1	1.4	1.1	1.1
Digital Info & Svc	1.4	1.4	1.0	0.7	2.5	0.4
Health Care	0.5	0.4	1.0	2.2	0.6	0.1
Agri Food Bev	0.1	0.1	0.2	0.0	0.1	0.1
Market	9.6	9.4	10.5	9.8	12.8	6.4

Source: Wilshire and Refinitiv. Data as of July 29, 2022

FT Wilshire Size and Style Indexes: While July saw an outperformance of Growth

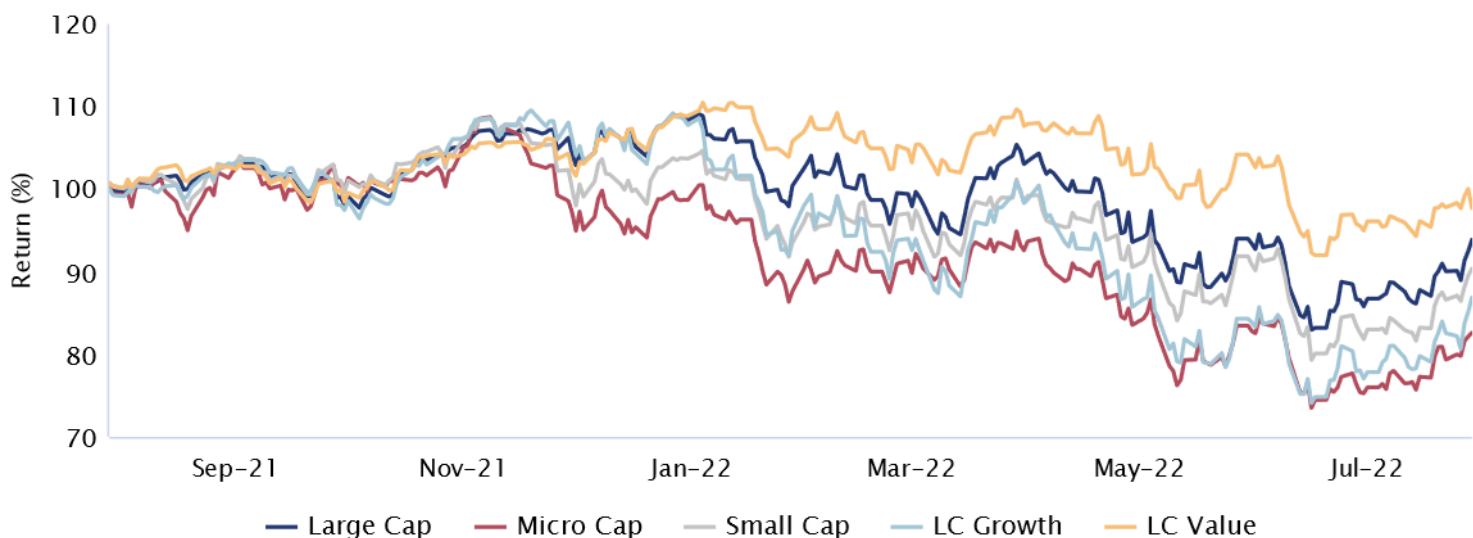
Table 1: Short Term returns - despite the growth style staging a recovery in July it continues to significantly underperform value year-to-date.

USD, TR %	Size			Style	
	Large Cap	Small Cap	Micro Cap	LC Growth	LC Value
1M	9.4	10.5	9.8	12.8	6.4
3M	0.3	-0.2	-1.1	1.4	-0.7
6M	-6.5	-3.3	-5.7	-8.5	-4.5
YTD	-13.4	-12.8	-16.3	-19.4	-7.2
12M	-6.5	-10.3	-17.7	-13.2	0.3

Table 2: Aggregate and annualized long term returns

USD, TR %	Large Cap		Small Cap		Micro Cap		LC Growth		LC Value	
	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
2Y	29.8	13.9	32.0	14.9	36.0	16.6	22.2	10.5	36.9	17.0
3Y	44.5	13.1	28.6	8.8	34.0	10.2	54.8	15.7	32.7	9.9
5Y	84.0	13.0	53.0	8.9	45.3	7.8	109.6	16.0	58.7	9.7
10Y	265.4	13.8	202.5	11.7	189.7	11.2				
20Y	595.2	10.2	698.8	10.9	578.2	10.0				

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



Size and Style Indexes: Relative return analysis - an inflection in Growth vs Value

Chart 1: Large vs Small Cap (USD, TR, %). Large cap outperformance has been flatlining over the last few months

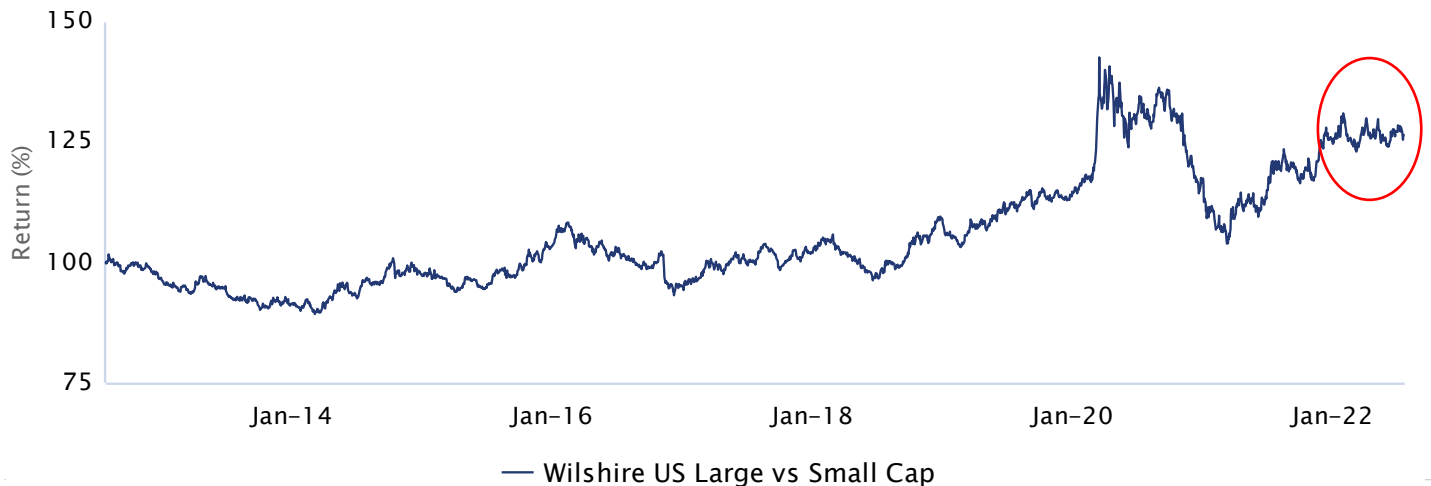


Chart 2: Large vs Micro Cap (USD, TR, %). Large cap outperformance has started to stall over the last 3 months



Chart 3: Growth vs Value (USD, TR, %). A notable feature of 2022 market dynamics has been the scale of value outperformance relative to growth. However July saw a reversal in this trend.



Source: Wilshire, Refinitiv. Data as of July 29, 2022

Pure Factor Indexes: Momentum and Quality rebound in July, while Low Beta underperforms

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 - Momentum and quality the strongest performers in July.

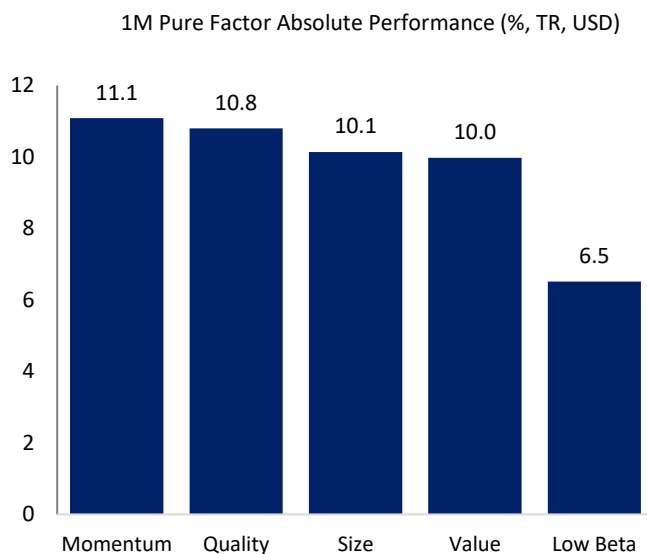


Chart 2: Low Beta was the only underperformer relative to the FT Wilshire 5000 index in July.

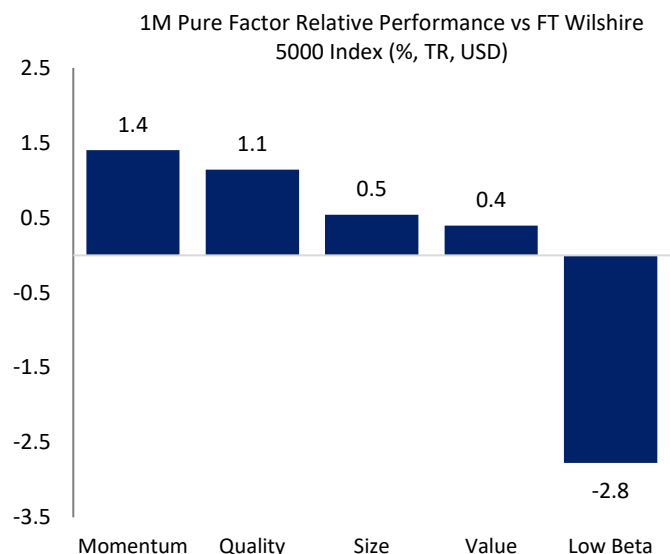


Chart 3: Pure Factor Indexes Absolute Performance YTD (Rebased, TR, USD)

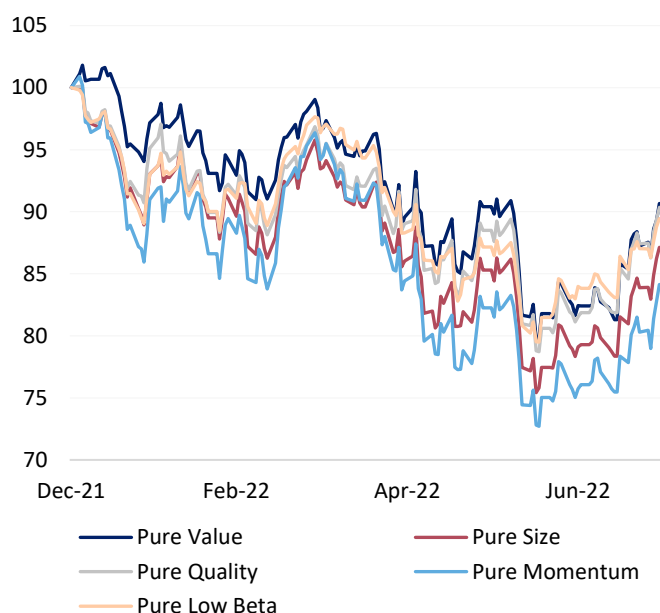
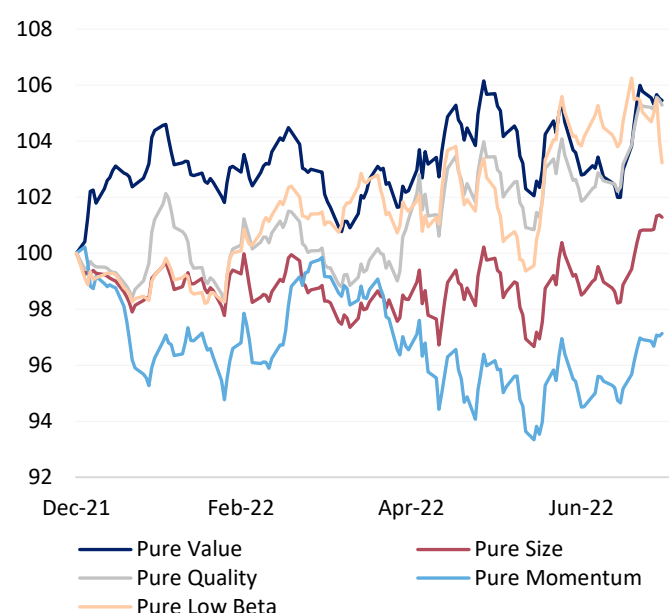


Chart 4: Pure Factor Indexes Relative Performance vs FT Wilshire 5000 Index YTD (Rebased, TR, USD)



Comparing Factor vs Style index returns: Pure value factor outperforms style value in July, Pure factor quality underperforms style growth

Chart 1: Pure Factor and Style Absolute Performance - 1M, 3M, YTD, 12M and 3YR

Returns (% TR, USD)	1M	3M	YTD	12M	3YR
Pure Factor Quality	10.8	1.5	-9.6	-2.7	36.9
Style Growth	12.8	1.4	-19.4	-12.5	57.1
Pure Factor Value	10.0	1.3	-9.3	-2.8	32.9
Style Value	6.4	-0.7	-7.2	0.7	34.3
Pure Factor Size	10.1	1.3	-12.9	-7.5	37.6
Style Small Cap	10.5	-0.2	-12.8	-10.0	27.7

Chart 2: Pure Factor Quality Index has outperformed the Growth Style index YTD



Chart 3: Pure Factor Value Index staged a recovery relative to Style value in recent months

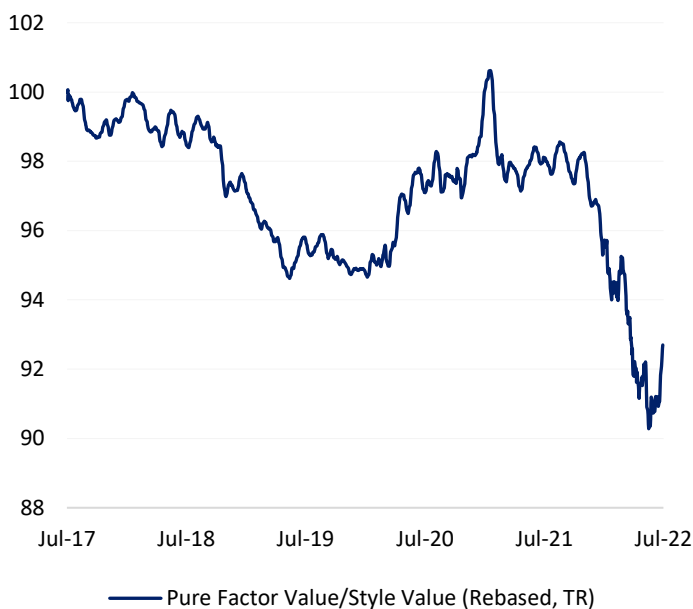


Chart 4: Pure Factor Size Index relative performance versus Style Small Cap Index - 5 years



Technical Analysis: Fibonacci retracement analysis. July rally pushes Relative Strength Indicators close to overbought levels.

Chart 1: FT Wilshire 5000 has found some support around the 38.2% Fibonacci retracement level



Chart 2: FT Wilshire US large cap growth relative to value has rebounded off a long term support level



Chart 3: FT Wilshire Indexes latest Relative Strength Indicator levels approaching overbought (70) levels

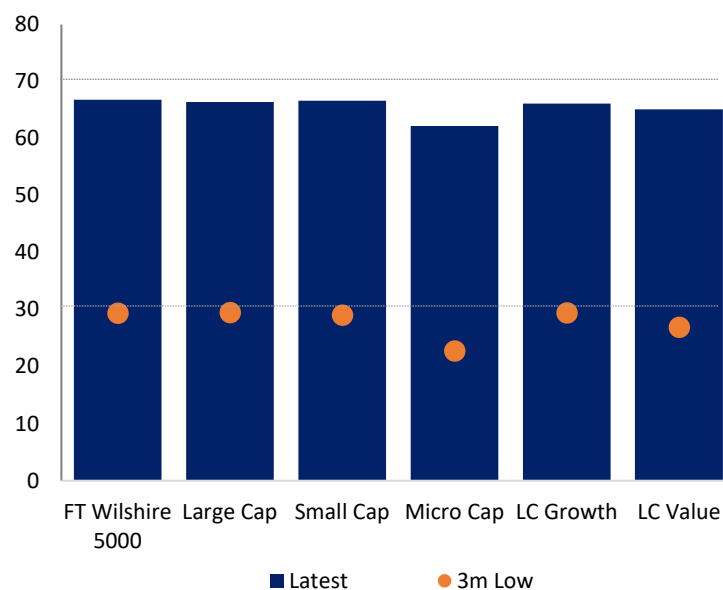
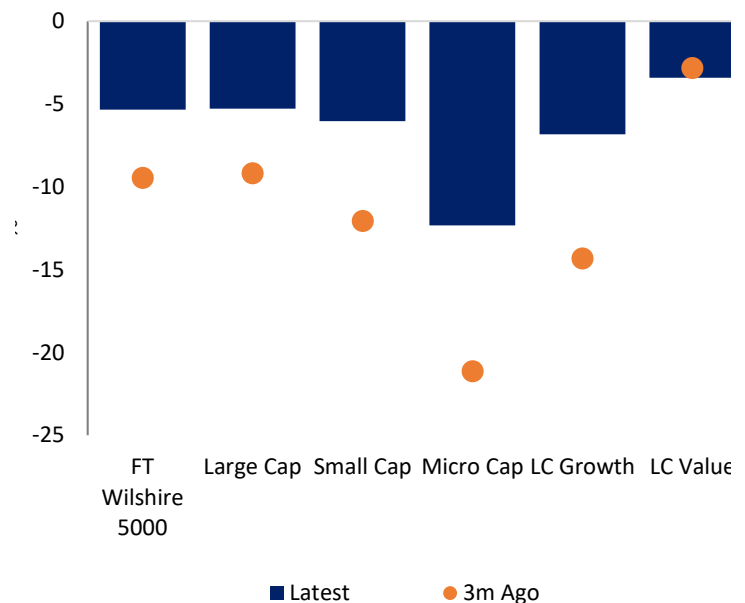


Chart 4: FT Wilshire index positioning vs respective 200 day moving average (latest vs 3m ago)



Performance Dispersion Analysis: Comparing the aggregate performance of the top 20 stocks to the performance of the median stock

Chart 1: In July the top 20 stock returns have outperformed the median stock return, with micro cap stocks displaying the greatest dispersion

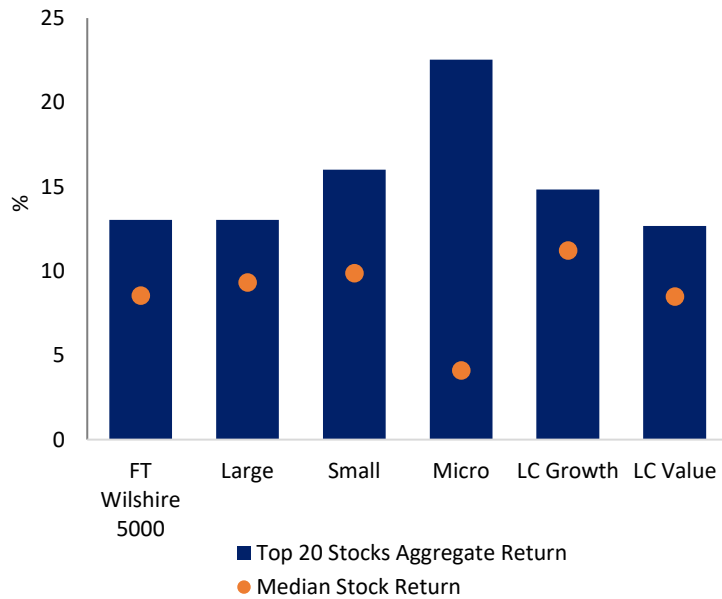
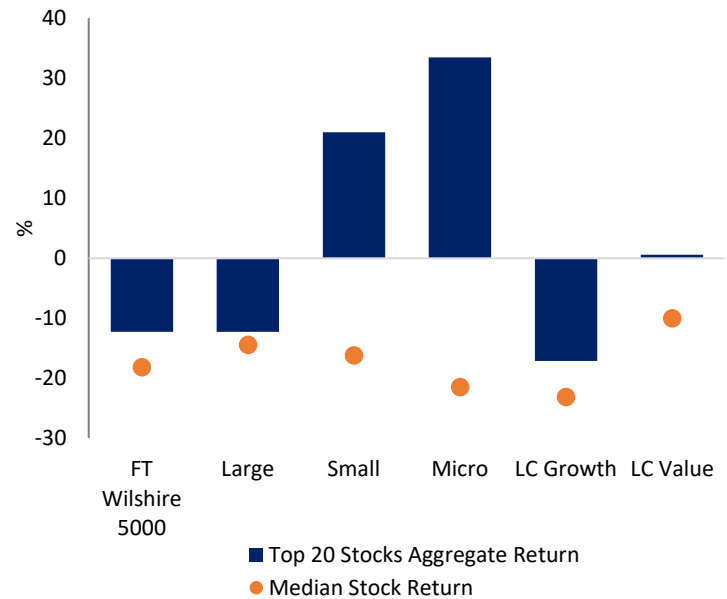


Chart 2: YTD Aggregate top 20 stock returns have outperformed the median stock return



FT Wilshire 5000: 9.6%

	Wght	Return (%)	Contrib (%)
Apple Inc	6.7	18.9	1.16
Amazon Com Inc	3.3	27.1	0.77
Tesla Mtrs Inc	2.1	32.4	0.56
At&T Inc	0.3	-9.2	-0.04
Abbvie Inc	0.6	-5.4	-0.04
Verizon Communications	0.5	-7.8	-0.05

Wilshire Large Cap: 9.4%

	Wght	Return (%)	Contrib (%)
Apple Inc	7.7	18.9	1.33
Amazon Com Inc	3.8	27.1	0.88
Tesla Mtrs Inc	2.4	32.4	0.64
At&T Inc	0.4	-9.2	-0.04
Abbvie Inc	0.7	-5.4	-0.05
Verizon Communications	0.6	-7.8	-0.05

Wilshire Small Cap: 10.5%

	Wght	Return (%)	Contrib (%)
Warner Bros Discovery I	0.8	11.8	0.10
Eqst Corp	0.3	28.0	0.08
Coterra Energy Inc	0.5	18.6	0.08
Everest Re Group Ltd	0.2	-6.8	-0.02
Renaissance Re Hldgs	0.1	-17.3	-0.02
Msp Recovery Inc	0.1	-26.2	-0.05

Wilshire Micro Cap: 9.8%

	Wght	Return (%)	Contrib (%)
Impinj Inc	0.3	44.9	0.10
Extreme Networks Inc	0.2	46.6	0.08
Clearfield Inc	0.2	59.1	0.08
Atara Biotherapeutics I	0.0	-61.1	-0.07
Energy Vault Holdings I	0.1	-55.6	-0.08
Cassava Sciences Inc	0.1	-41.9	-0.08

Wilshire Growth: 12.8%

	Wght	Return (%)	Contrib (%)
Apple Inc	13.7	18.9	2.45
Amazon Com Inc	6.8	27.1	1.63
Tesla Mtrs Inc	4.3	32.4	1.17
Charter Communications	0.3	-7.8	-0.03
Meta Platforms Inc	1.8	-1.3	-0.03
Servicenow Inc	0.5	-6.1	-0.03

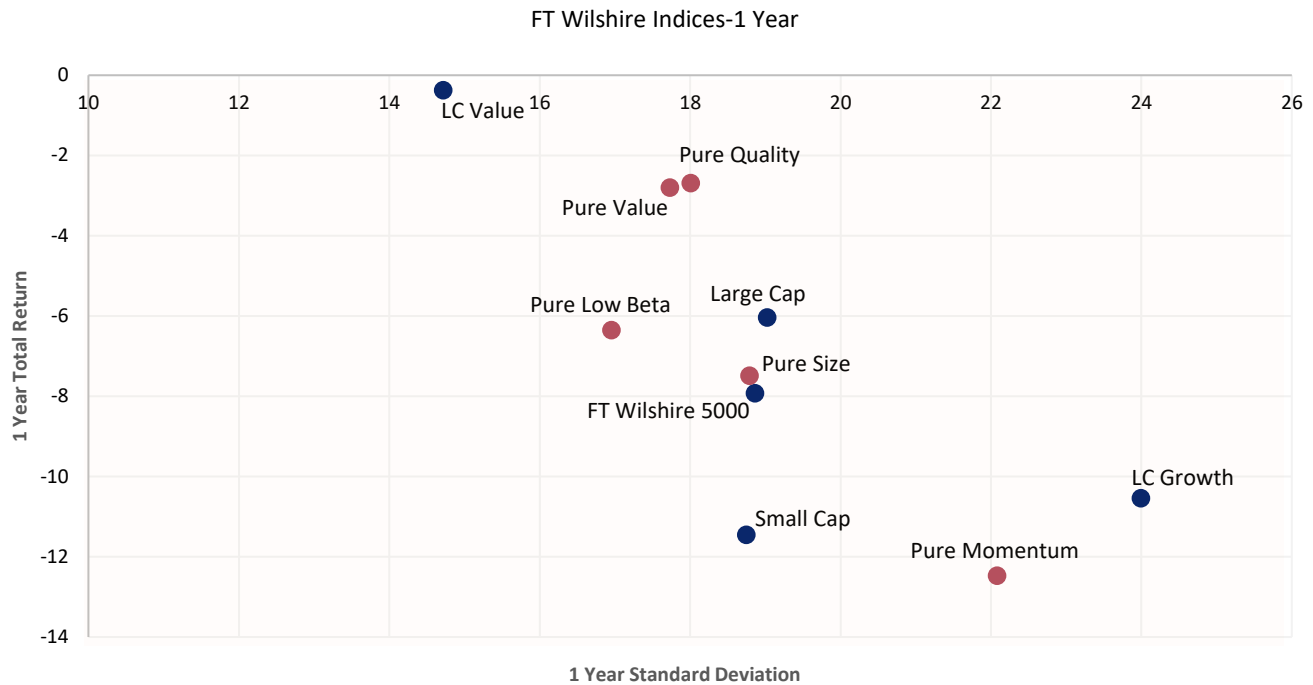
Wilshire Value: 2.8%

	Wght	Return (%)	Contrib (%)
Exxon Mobil Corp	2.3	13.2	0.29
Chevron Corp	1.9	13.1	0.23
Danaher Corp	1.2	15.0	0.17
At&T Inc	0.8	-9.2	-0.09
Abbvie Inc	1.5	-5.4	-0.09
Verizon Communications	1.1	-7.8	-0.10

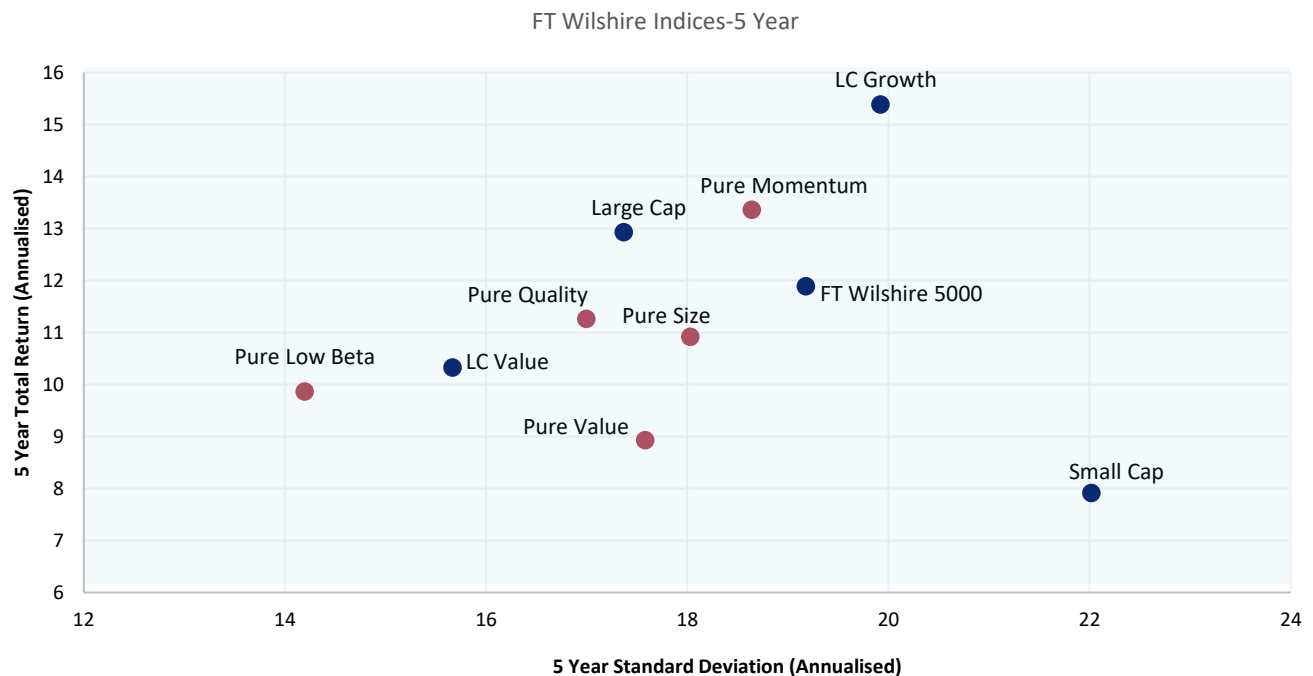
1M Returns (USD, TR %)

FT Wilshire Index Risk vs Return

FT Wilshire Indexes: Risk vs Return Over 1 Year



FT Wilshire Indexes: Risk vs Return Over 5 Years



Global Equities: An inflection in US relative performance

1

+5.9%

US equity
outperformance v
World ex US in July

2

-7.1%

Chinese equity returns
in July

3

+4.8%

Contribution boost from
US Tech & Consumer
sectors v global returns

4

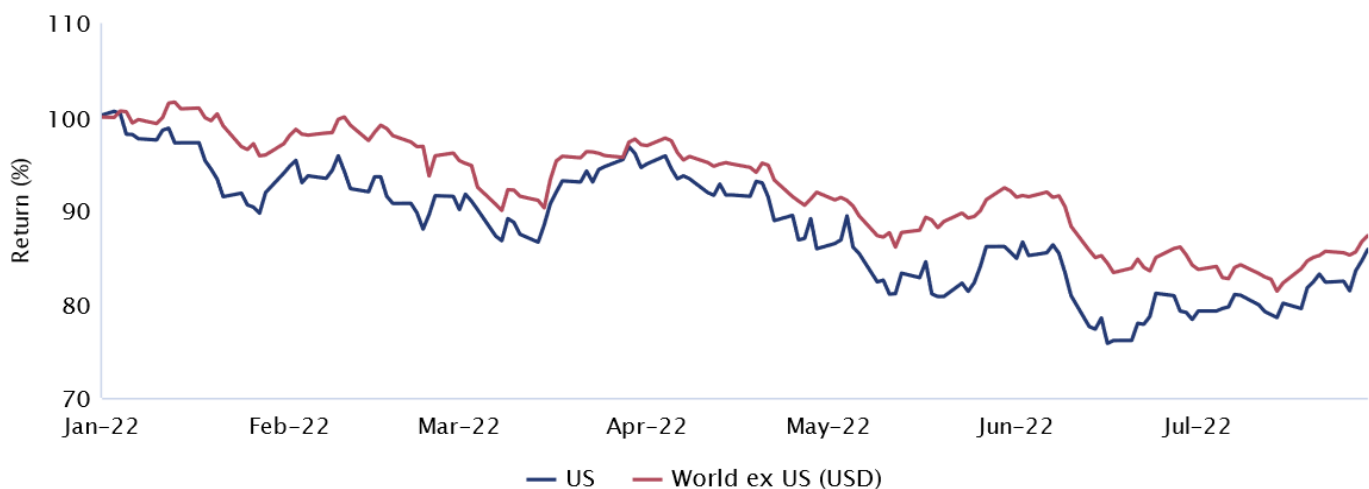
+5.1%

Developed market
outperformance vs
emerging in July

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US equities performance v global non US equities in 2022. Despite a strong July, US equities have underperformed YTD.



Source: FactSet. Data as of July 29, 2022

Global Equity Market Synopsis: A recovery in US relative performance in July

Global Markets Snapshot

- ◆ US sees a recovery in relative performance in July (page 18)
- ◆ China A sells off sharply in July, reversing the trend seen since the start of May (page 18)
- ◆ Developed markets outperform emerging (page 21)
- ◆ US relative performance breaks back above its 200 day moving average (Page 22)
- ◆ Big contribution from technology and consumer discretionary sectors drive US outperformance in July (Page 24)
- ◆ USD strength continues to reveal huge divergence in year to date returns (Page 19)
- ◆ UK, Europe ex UK and Asia Pacific ex Japan see the widest performance dispersion in July (Page 25)

Key Global (non US) Economic da-

- ◆ ECB raises interest rates by 50 basis points-its first rate rise since 2011.
- ◆ Preliminary Q2 Eurozone GDP comes in above expectation at 0.7% but German economy stagnates.
- ◆ Eurozone CPI rises from 8.6% to 8.9% in July.
- ◆ The Bank of Canada raises interest rates by 100 basis points to 2.5%.
- ◆ Q2 Chinese GDP comes in below expectations at 0.4%, down from 4.8% in Q1 as COVID restrictions hit economic activity.
- ◆ UK CPI rises to 9.4%, up from 9.1% in May.
- ◆ UK retail sales fall 5.8% year-on-year
- ◆ Japanese CPI falls marginally to 2.4%.

Chart 1: Inflections in US equity relative performance responds to inflections in the US dollar

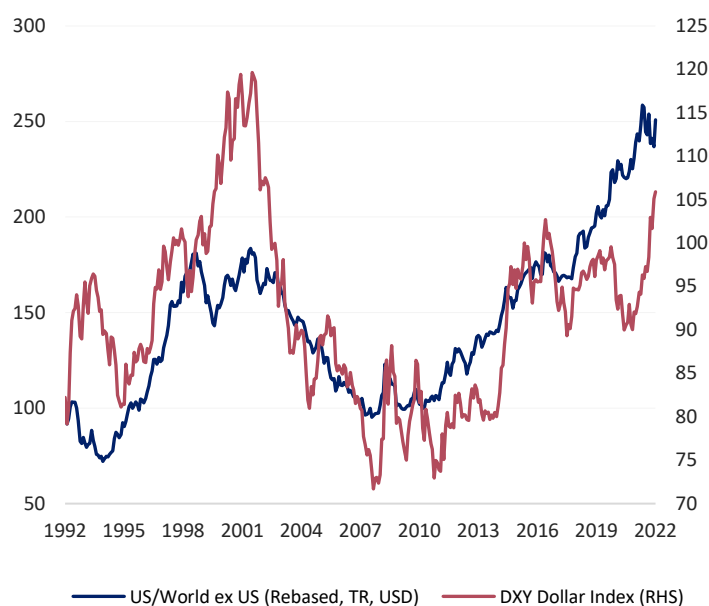
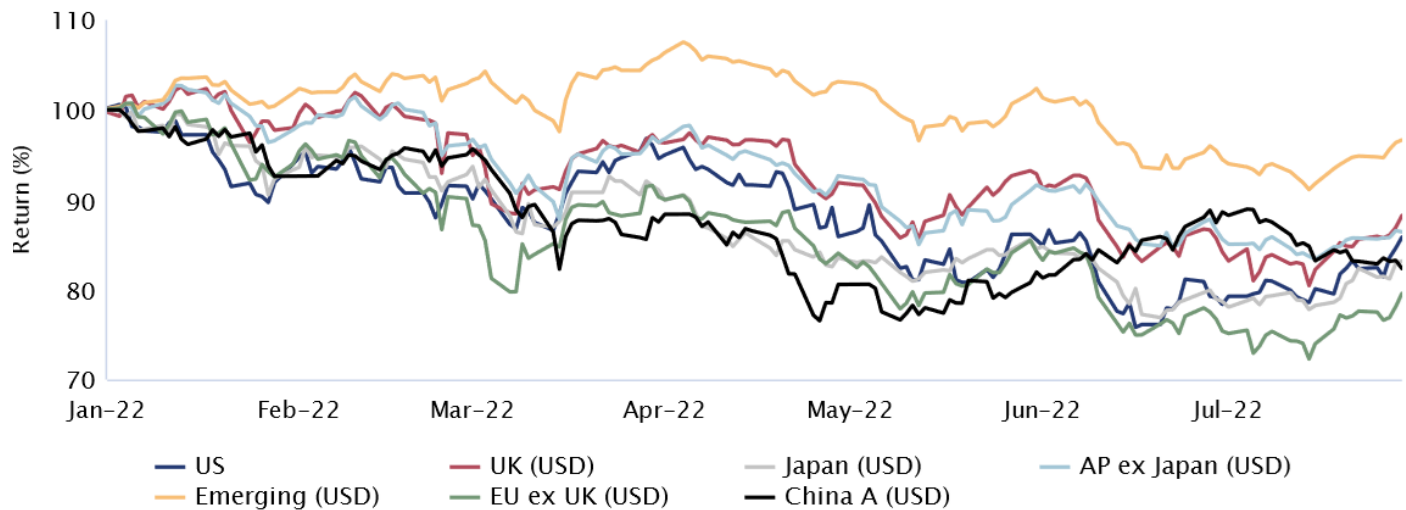


Chart 2: Key Emerging market performance YTD (Rebased, TR)



Region and major market performance (USD returns): US, Japanese and European equities were the best performers in July. Chinese equities underperformed.

Regional YTD (USD, TR, %) - Emerging markets have been the key outperformers and Europe the main laggard. US equities have still delivered double digit annualized 10-year returns.



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

	1M	3M	6M	YTD	12M
US	9.6	-0.1	-6.6	-14.2	-8.5
Japan	5.7	-0.4	-9.9	-16.8	-17.9
Europe ex UK	5.6	-5.3	-14.0	-20.4	-19.6
UK	4.8	-4.0	-9.7	-11.7	-10.9
World ex US	3.8	-5.0	-8.9	-12.7	-12.7
Emerging Markets	2.4	-6.2	-3.7	-3.3	-1.8
Asia Pac ex Japan	1.0	-6.7	-10.5	-13.6	-15.2
China A	-7.1	2.2	-11.1	-17.7	-13.7

	3Y		5Y		10Y		20Y	
	Aggr	Ann	Aggr	Ann	Aggr	Ann	Aggr	Ann
US	39.4	11.7	52.9	8.9	240.0	13.0	586.8	10.1
UK	6.5	2.1	2.1	0.4	50.9	4.2	207.6	5.8
Europe ex UK	12.3	4.0	11.6	2.2	103.0	7.3	355.6	7.9
Japan	5.0	1.6	-2.2	-0.4	87.6	6.5	162.8	4.9
Asia Pac ex Japan	7.8	2.5	5.7	1.1	69.6	5.4	532.8	9.7
Emerging Markets	15.8	5.0	17.5	3.3	56.6	4.6	639.4	10.5
China A	18.9	5.9	26.4	4.8	79.1	6.0	255.6	6.5
World ex US	12.3	3.9	10.4	2.0	77.6	5.9	344.9	7.7

Comparing (unhedged) region and major market returns: From a USD, GBP, Euro and Yen perspective

FX swings can have a large impact on unhedged regional equity returns depending on the location of investors. Due to Euro and JPY weakness, investors in Europe and Japan have not seen anything like as big a drawdown in regional market returns based in Euros and JPY vs the returns seen in by a US dollar based investor.

Table 1: 1M and YTD Returns in USD

USD (TR, %)	YTD	1M
Emerging	-3.3	2.3
UK	-11.7	4.8
World ex US	-12.7	3.7
Asia Pacific ex Japan	-13.6	1.0
US	-14.2	9.6
Japan	-16.8	5.7
China A	-17.7	-7.1
Europe ex UK (EUR)	-20.4	5.6

Table 2: 1M and YTD Returns in EURO

EUR (TR, %)	YTD	1M
Emerging	7.8	4.9
UK	-1.6	7.5
World ex Eurozone	-2.4	9.5
Asia Pacific ex Japan	-3.6	3.5
US	-4.3	12.3
Japan	-7.3	8.4
China A	-8.2	-4.8
Europe ex UK (EUR)	-11.2	8.2

Table 3: 1M and YTD Returns in GBP

GBP (TR, %)	YTD	1M
Emerging	7.6	2.1
UK	-1.8	4.6
World ex UK	-3.7	6.4
Asia Pacific ex Japan	-3.8	0.8
US	-4.5	9.3
Japan	-7.4	5.6
China A	-8.4	-7.3
Europe ex UK (EUR)	-11.4	5.4

Table 4: 1M and YTD Returns in JPY

JPY (TR, %)	YTD	1M
Emerging	12.2	0.7
UK	2.4	3.1
World ex Japan	0.7	4.9
Asia Pacific ex Japan	0.3	-0.7
US	-0.4	7.8
Japan	-3.5	4.0
China A	-4.4	-8.6
Europe ex UK (EUR)	-7.6	3.9

Global Equity Relative Returns: A recovery in US relative performance in July and a loss of momentum in Emerging Markets

Chart 1 : FT Wilshire 5000 vs World ex US (USD, TR, %)



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



Chart 3: AP ex Japan vs World (USD, TR, %)

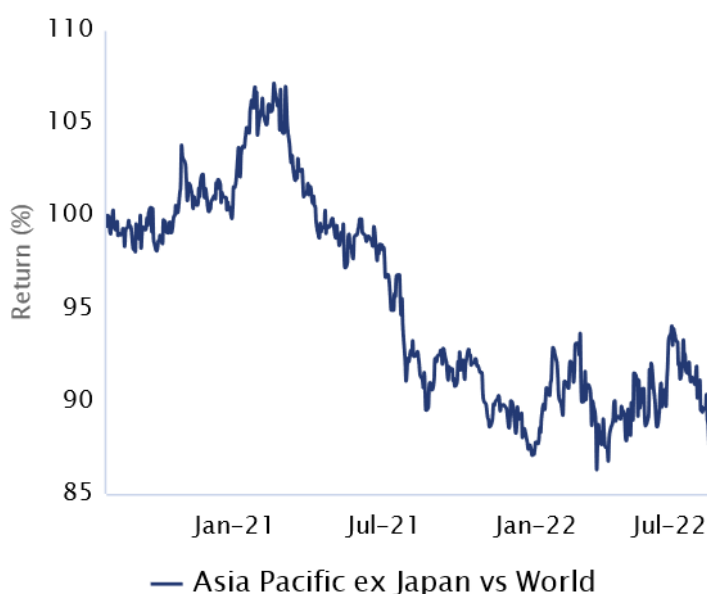


Chart 4: Japan vs World ex Japan (USD, TR, %)



Developed and Emerging market country level performance : 1M and YTD

Chart 1: July - A wide divergence within European market performance with strong returns delivered by Sweden, Denmark and Netherlands but low and negative returns delivered by Italy and Spain. In Asia, India performs strongly, while China and Hong Kong underperformed significantly in July.

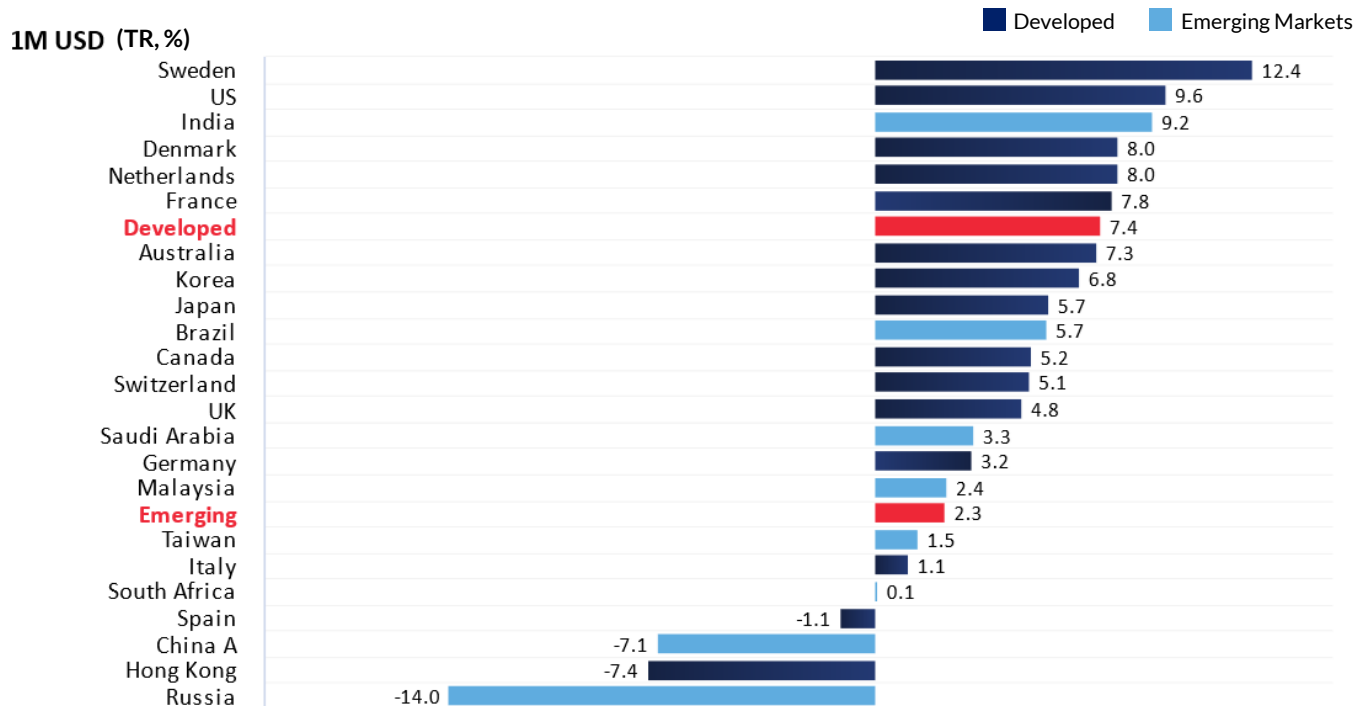
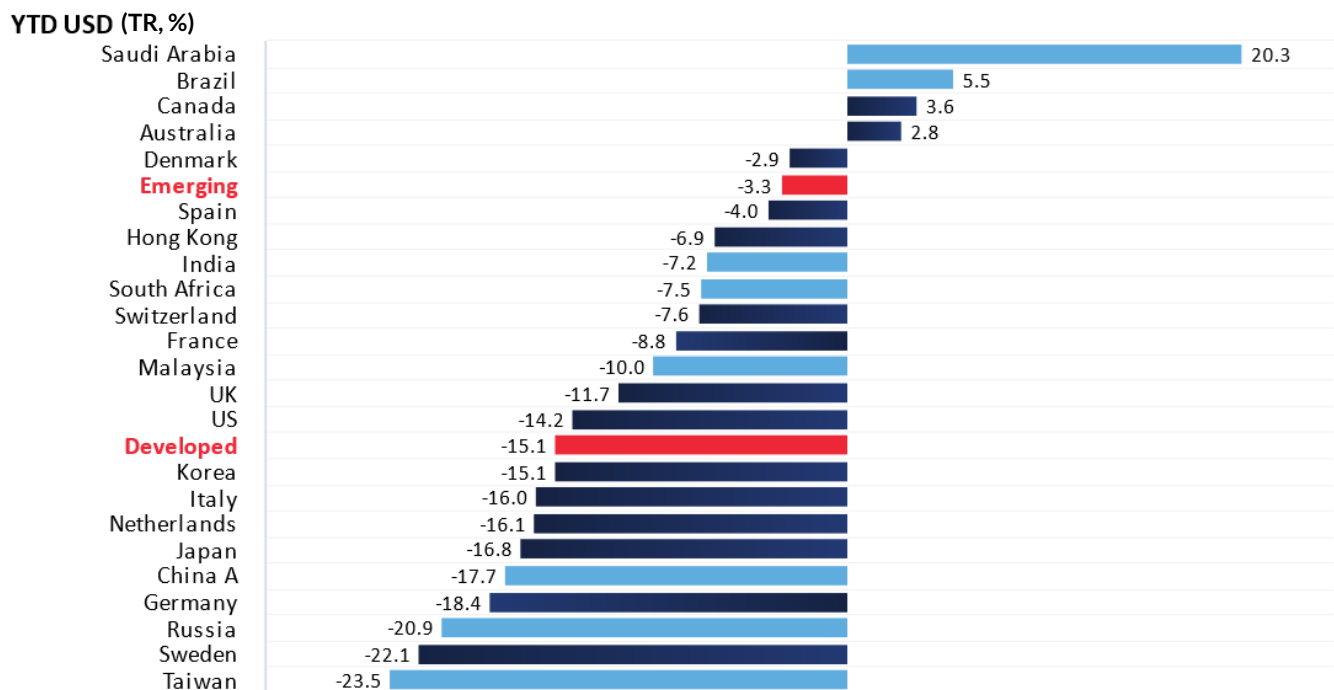
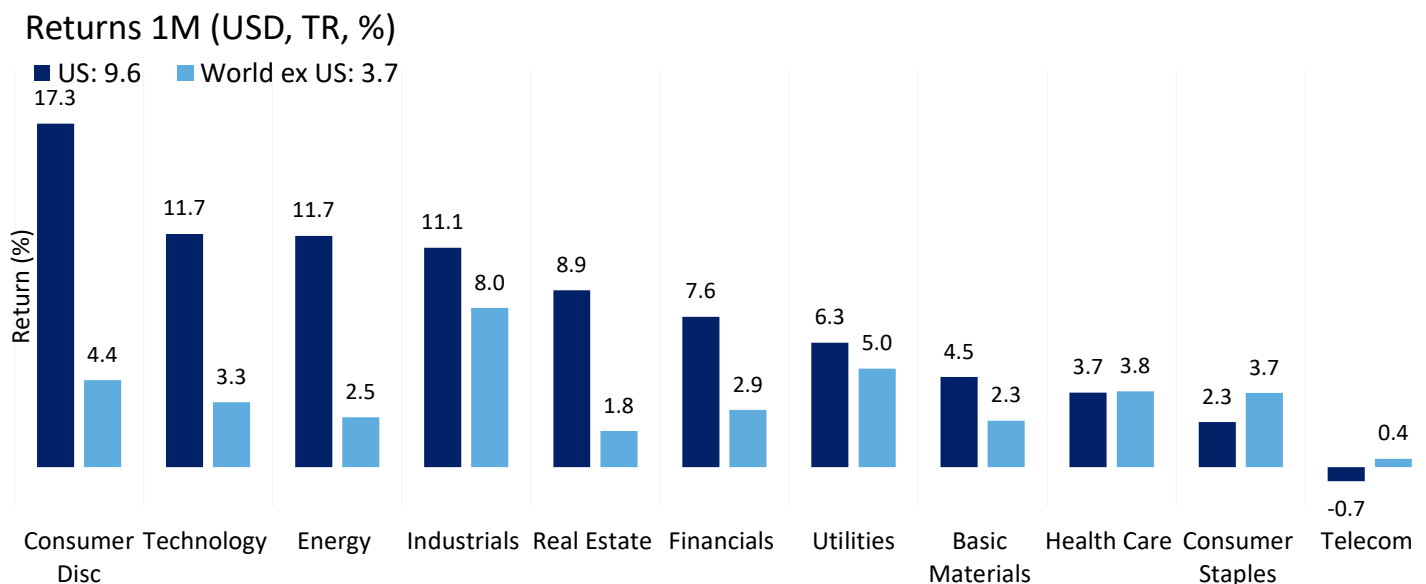


Chart 2: YTD the weakness in developed markets was driven primarily by US, UK, Japanese and German returns among the major markets. In Asia, Chinese and Taiwanese equities have also been weak performers YTD.



Regional Sector Performance and Sector Weighting Comparisons

Comparing the performance of US sectors to those of World Ex US sectors in July: The US has seen significantly stronger returns from the consumer discretionary, technology, energy, real estate and financials sectors compared with non-US global equities.



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 healthcare sectors

1 Month	US		World ex US		UK		EU ex UK		Japan		AP ex Japan		Emerging		China	
	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght	Return	Wght
Consumer Disc	17.3	15.2	4.4	13.2	9.1	10.4	12.1	16.6	4.9	1.2	-3.5	12.5	-3.8	9.3	-6.5	12.5
Technology	11.7	26.6	3.3	10.1	8.1	1.8	12.0	7.5	8.1	0.9	-0.5	18.9	2.8	9.8	-7.5	8.2
Energy	11.7	4.9	2.5	11.4	1.7	11.2	5.4	5.2	4.7	0.0	-1.8	5.8	2.0	23.6	-4.3	6.9
Industrials	11.1	12.0	8.0	12.8	12.3	10.1	13.1	17.1	7.3	1.7	5.7	9.7	5.0	7.7	-4.4	12.5
Real Estate	8.9	3.2	1.8	3.7	9.7	2.5	8.8	2.4	4.4	0.2	-2.7	5.8	2.0	2.3	-6.9	1.5
Financials	7.6	11.1	2.9	19.1	3.9	23.0	4.1	14.9	3.2	0.3	2.3	22.0	3.0	23.6	-9.2	21.6
Utilities	6.3	3.2	5.0	4.1	8.8	3.5	7.6	5.6	-0.4	0.0	4.3	3.7	6.1	4.2	0.4	3.3
Basic Materials	4.5	2.1	2.3	6.3	3.3	8.2	6.4	4.3	5.2	0.3	3.1	6.0	1.0	7.0	-6.7	9.3
Health Care	3.7	13.1	3.8	7.5	-0.1	11.3	5.8	13.9	7.7	0.7	4.7	4.5	5.1	2.1	-11.1	6.5
Consumer Staple	2.3	5.8	3.7	7.3	4.5	15.6	6.7	8.8	5.7	0.3	1.8	6.5	5.4	5.8	-8.7	14.9
Telecom	-0.7	2.8	0.4	4.6	-3.4	2.5	-0.4	3.7	3.2	0.2	0.7	4.7	1.2	4.6	-2.5	2.8
Market	9.6		3.7		4.8		5.6		5.7		1.0		2.3		-7.1	

Source: Wilshire, FactSet and Refinitiv. Data as of July 29, 2022

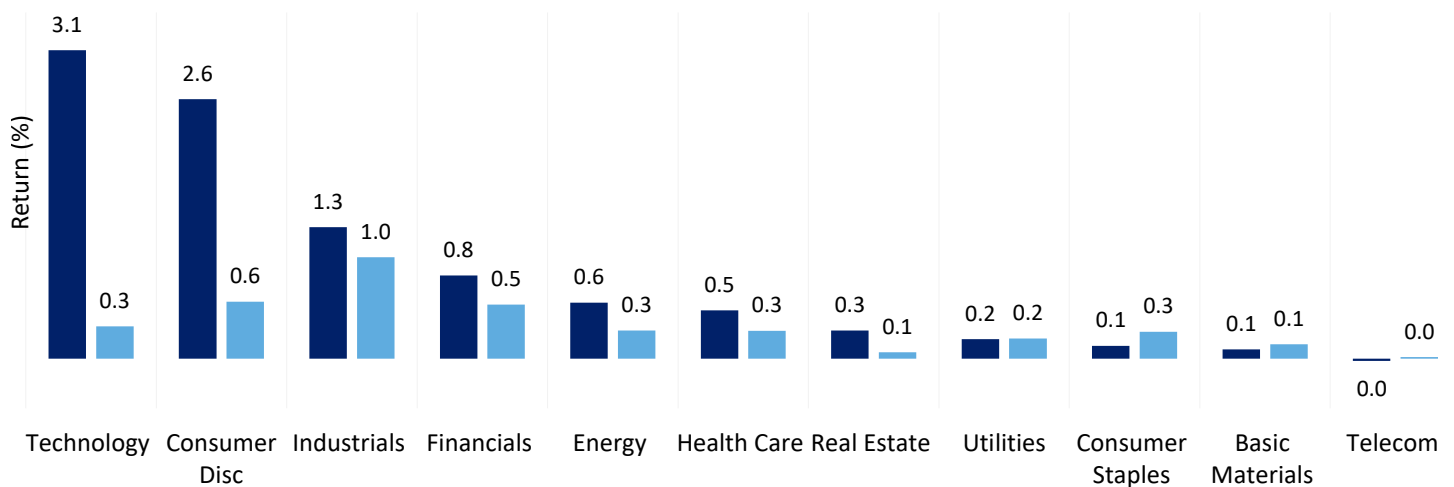
Wilshire Advisors LLC - Performance Report (July 2022)

Regional sector-weighted contribution analysis: Understanding what has been driving returns

Contribution analysis blends sector performance with respective sector exposure. Relative to the World ex US benchmark, the US outperformance is mainly ascribable to the scale of positive contributions from the technology and consumer discretionary sectors in July.

Contribution to Returns 1M (USD, TR, %)

■ US: 9.6 ■ World ex US: 3.7



Regional contribution analysis. While the consumer discretionary sector was a major contributor to returns in US, UK, EU and Japan in July, the sector was a drag on performance in Asia Pac ex Japan, EM and China.

1 Month	US	World ex US	UK	EU ex UK	Japan	AP ex Japan	Emerging	China
	Contr	Contr	Contr	Contr	Contr	Contr	Contr	Contr
Technology	3.1	0.3	0.1	0.9	0.9	-0.1	0.3	-0.6
Consumer Disc	2.6	0.6	0.9	2.0	1.2	-0.4	-0.4	-0.8
Industrials	1.3	1.0	1.2	2.2	1.7	0.6	0.4	-0.6
Financials	0.8	0.5	0.9	0.6	0.3	0.5	0.7	-2.0
Energy	0.6	0.3	0.2	0.3	0.0	-0.1	0.5	-0.3
Health Care	0.5	0.3	0.0	0.8	0.7	0.2	0.1	-0.7
Real Estate	0.3	0.1	0.2	0.2	0.2	-0.2	0.0	-0.1
Utilities	0.2	0.2	0.3	0.4	0.0	0.2	0.3	0.0
Consumer Staples	0.1	0.3	0.7	0.6	0.3	0.1	0.3	-1.3
Basic Materials	0.1	0.1	0.3	0.3	0.3	0.2	0.1	-0.6
Telecom	0.0	0.0	-0.1	0.0	0.2	0.0	0.1	-0.1
Market	9.6	3.7	4.8	5.6	5.7	1.0	2.3	-7.1

Source: Wilshire, FactSet and Refinitiv. Data as of July 29, 2022

Wilshire Advisors LLC - Performance Report (July 2022)

Regional Equities: Performance dispersion and return decomposition analysis

Chart 1: 1M Aggregate top 20 stocks vs median stock return - widest dispersion in Europe ex UK and Asia Pac ex Japan

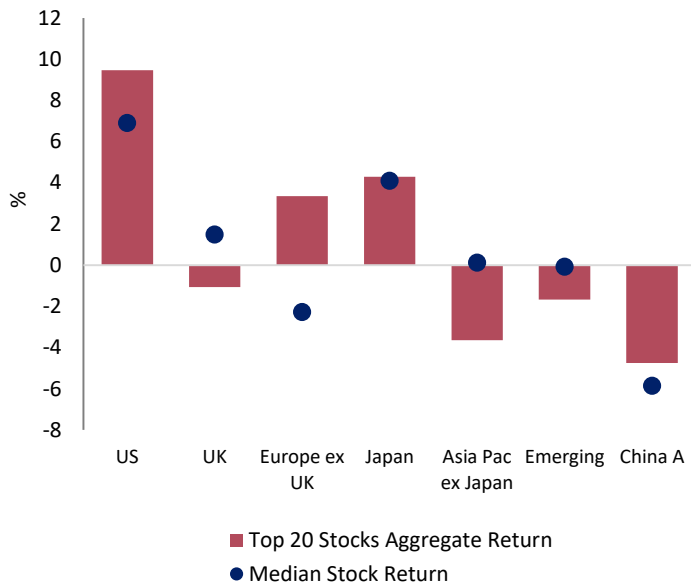


Chart 2: YTD Aggregate top 20 stocks vs median stock return - largest dispersion in the UK and EM

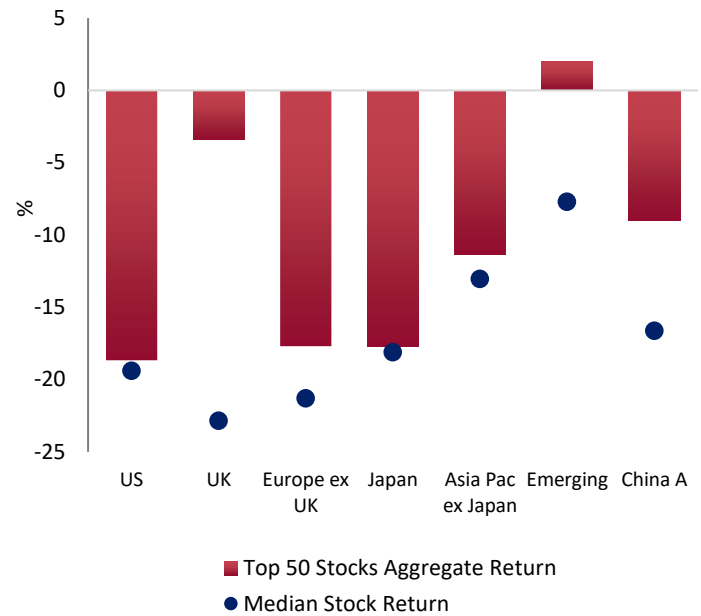


Chart 3: Regional YTD total return decomp. Main driver of negative returns has been the PE shift

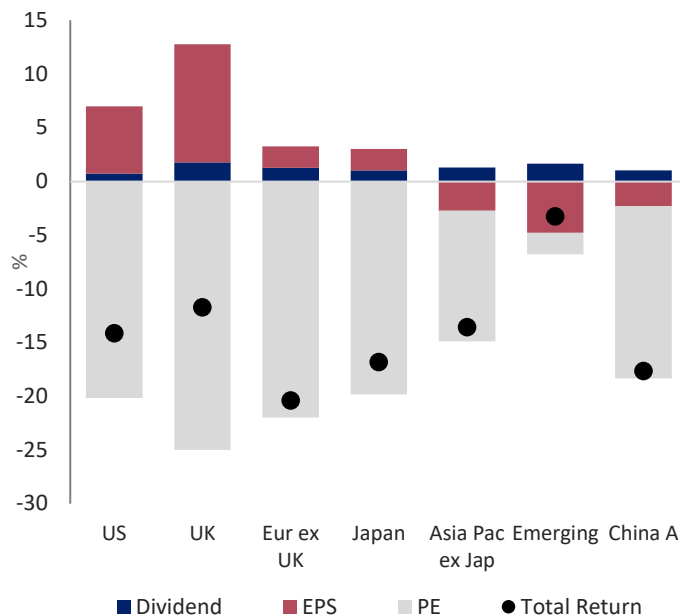
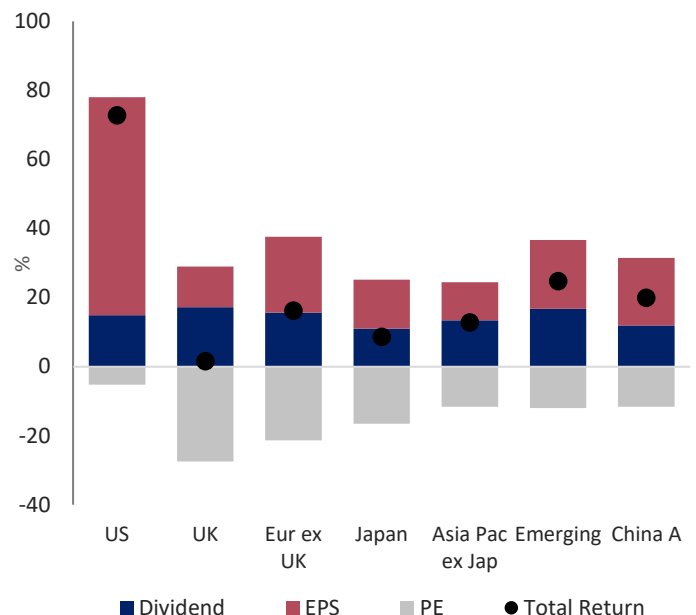


Chart 4: Regional 5-year total return decomp. In the US the main driver of returns has been EPS growth



Technical Analysis: Moving average intersects and the scale of overbought/oversold signals using RSI

Chart 1: After a burst of outperformance from the middle of 2021, on a relative basis the US appears to have found support at a new higher level



Chart 2: Emerging Markets relative to Developed appears to have faced resistance from the upper end of its long term channel

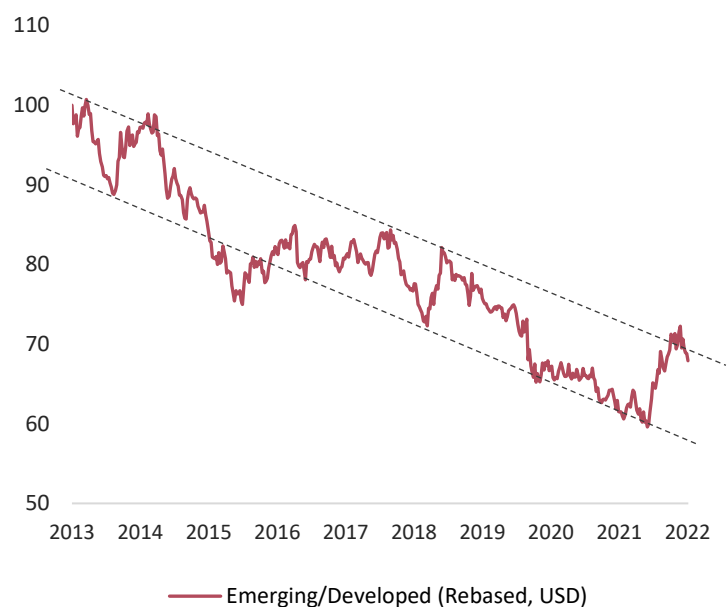


Chart 4: Regional Relative Strength Index levels v lowest reading over prior 3 months.

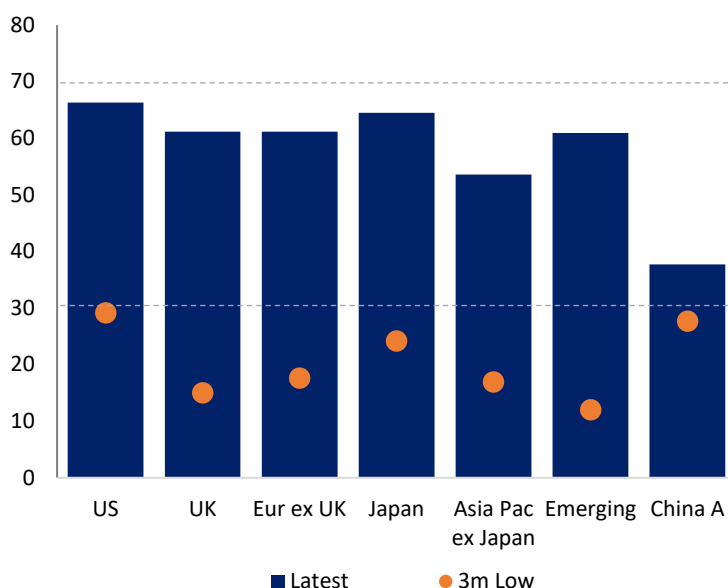
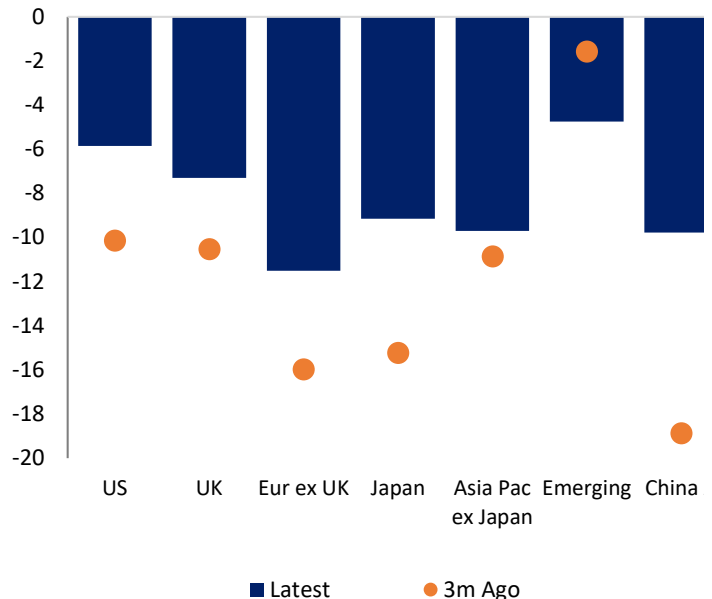


Chart 5: Regional index positioning vs respective 200 day moving average (latest vs 3m ago)



Market Capitalization of major markets

Chart 1: Markets size (USD, Bn)

	Latest	% World Index	10Y Ago	% World Index
US	41,810	50.4	16,573	37.4
UK	3,121	3.8	2,875	6.5
Japan	5,268	6.4	3,229	7.3
China A	6,827	8.2	2,415	5.5
Switz	1,870	2.3	1,065	2.4
France	2,755	3.3	1,441	3.3
Germany	1,862	2.2	1,221	2.8
Canada	2,521	3.0	1,604	3.6
Australia	1,476	1.8	1,113	2.5
Taiwan	1,171	1.4	463	1.0
India	2,765	3.3	924	2.1
Korea	1,202	1.4	789	1.8
World	82,938		44,267	

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

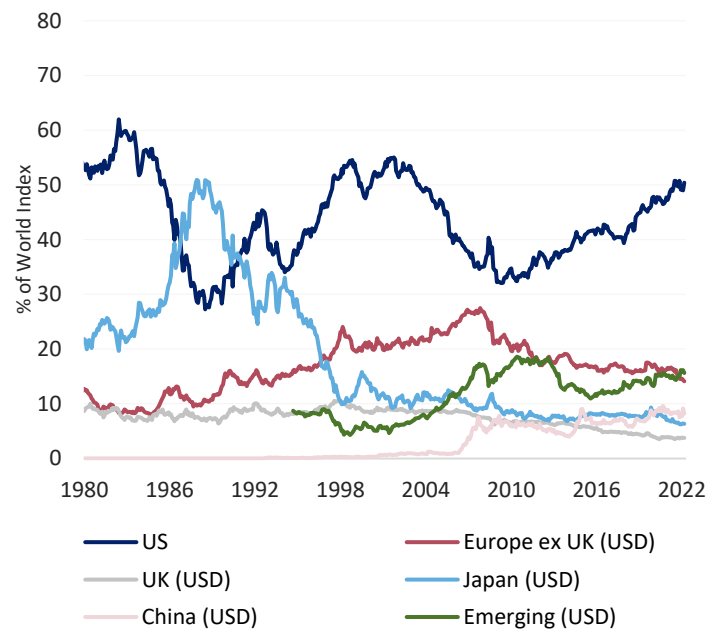
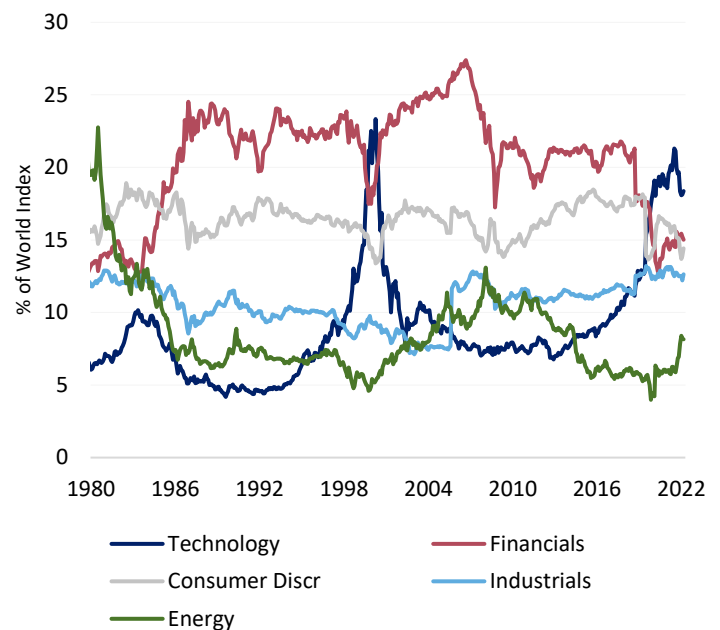


Chart 3: Regional sector weightings (%)

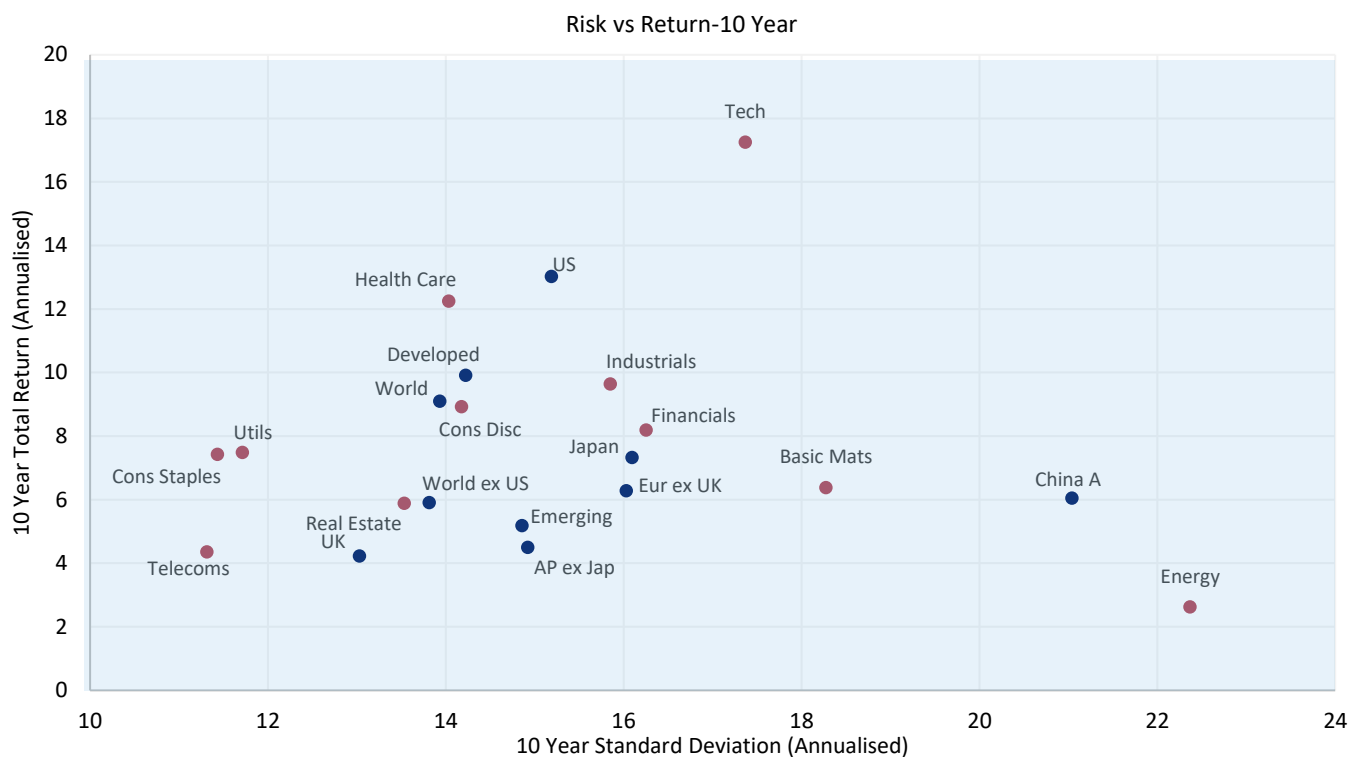
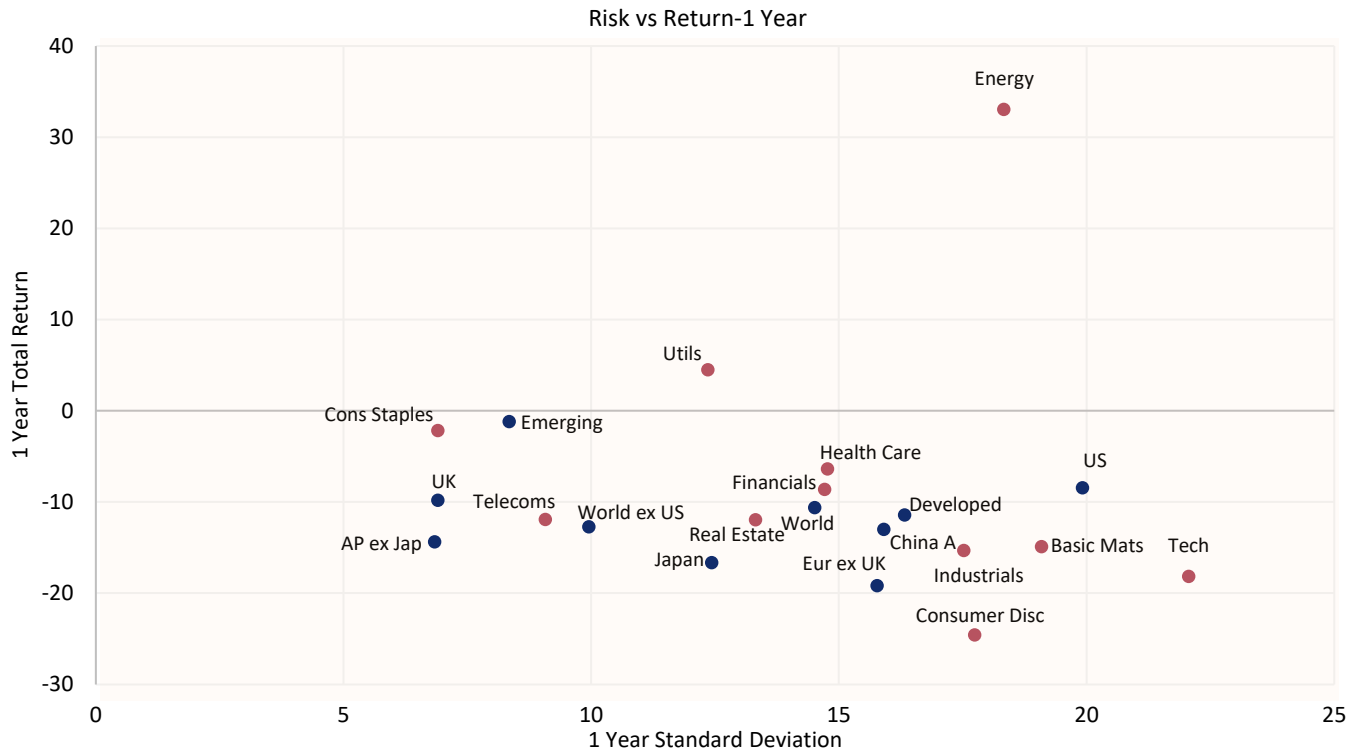
	US	World ex US	Emerging Mkts
Energy	4.9	11.5	23.5
Basic Materials	2.0	6.2	6.9
Industrials	12.2	13.1	7.8
Consumer Staples	5.6	7.3	5.8
Health Care	12.8	7.5	2.1
Consumer Disc	15.7	13.2	9.0
Utilities	3.2	4.1	4.3
Telecom	2.7	4.5	4.5
Financials	11.1	19.0	23.9
Technology	26.6	10.0	9.8
Real Estate	3.2	3.7	2.3
Total	100.0	100.0	100.0

Top 3 Bottom 3

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



Risk vs Return: Regional equities and global sectors



Fixed Income and FX

1

-82bps

Decline in US govt 10 year bond yield from recent mid-June peak

2

-75bps

Decline in US 10 year real yield from recent mid-June peak

3

+2.9%

Rise in USD vs EUR in July

4

+5.6%

US High Yield corporate bond index return in July.

CONTENTS

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

The US dollar and bond yields-The last few months had witnessed a simultaneous rise in US bond yields and the dollar. After briefly decoupling, the dollar has started to follow global yields lower in recent weeks.



Source: FactSet. Data as of July 29, 2022

Wilshire Advisors LLC - Performance Report (July 2022)

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

Chart 1: 7-10 year government bond returns: Canadian Australian bonds rally strongly in July.

USD (TR, %)	1M	YTD
Aus (7-10yr)	7.0	-12.5
Can (7-10yr)	6.4	-9.2
UK (7-10yr)	4.5	-15.1
US (7-10yr)	4.0	-7.8
Japan (7-10yr)	3.5	-14.4
EURO* (7-10yr)	3.3	-16.7
Italy (7-10yr)	0.2	-20.8
China (3-5yr)	0.1	-3.4

Chart 2: Inflation-linked returns: US, UK, Canadian and Australian IL deliver strong returns in July.

USD (TR, %)	1M	YTD
Can IL (All)	9.4	-12.3
Aus IL (All)	6.8	-12.3
UK IL (5-10yr)	6.6	-13.9
US IL (5-10yr)	5.7	-4.1
Japan* IL (5-10yr)	2.7	-11.0
EURO* IL (5-10yr)	2.7	-11.3
Italy IL (All)	0.3	-13.5

Chart 3: Investment grade & high yield returns. All corporates post positive returns in July.

USD (TR, %)	1M	YTD
US HY (All)	5.6	-8.9
UK IG (All)	4.4	-20.8
US IG (All)	3.4	-11.4
Japan IG (All)	2.7	-14.6
Japan BBB (All)	2.6	-14.6
UK HY (All)	2.6	-18.7
EURO IG (All)	2.2	-17.6
EURO HY (All)	1.3	-20.0

Chart 4: Mortgage-backed securities

USD (TR, %)	1M	YTD
FHLMC 30Y	4.3	-6.6
FNMA 30Y	4.2	-6.3
MBS 30Y	4.1	-6.0
MBS All	4.0	-5.9
GNMA 30Y	4.0	-4.9
GNMA All	3.9	-4.8
FNMA All	3.9	-6.1
GNMA Curr Cpn	2.3	-6.1

Fixed Income key observations: Nominal yields have been declining since mid June, mainly being driven lower by real yields. The US yield curve has inverted.

Chart 1: Regional 10yr bond yields have been inflecting lower reflecting mounting recession fears

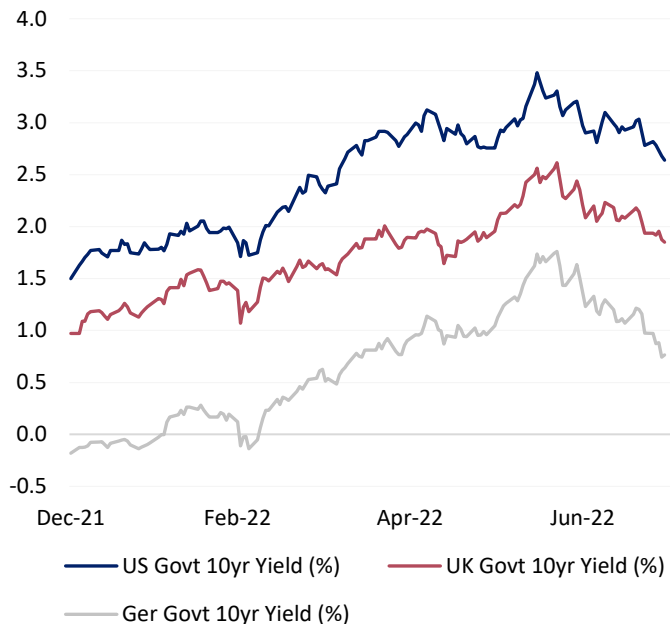


Chart 2: Regional 10-2yr curves - Inversion in US and UK curve but not so far in the German curve

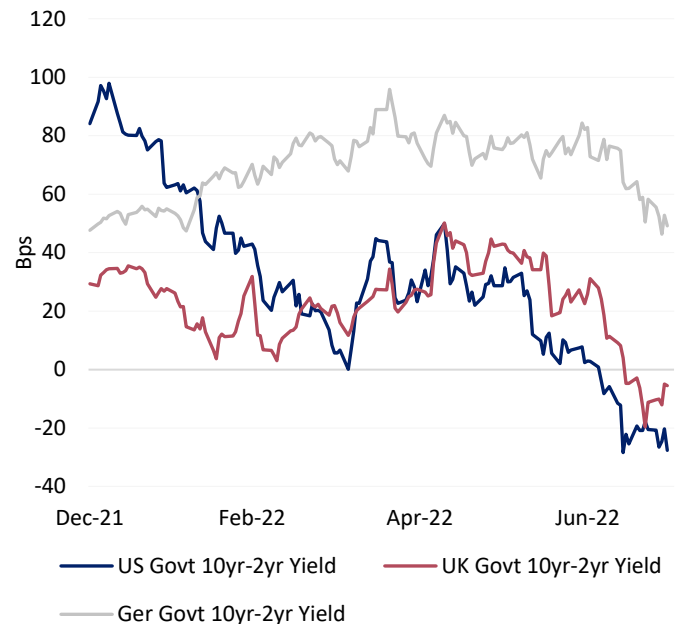


Chart 3: The decline in nominal yields from the recent peak has been driven by the decline in real yields.

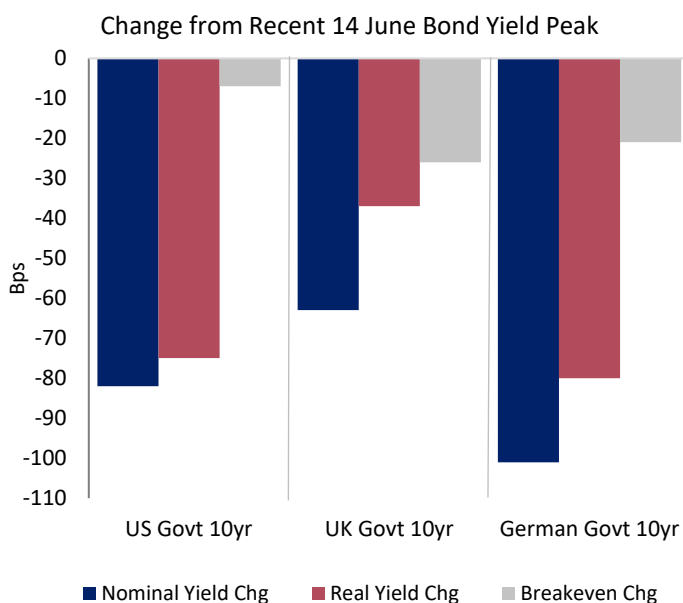
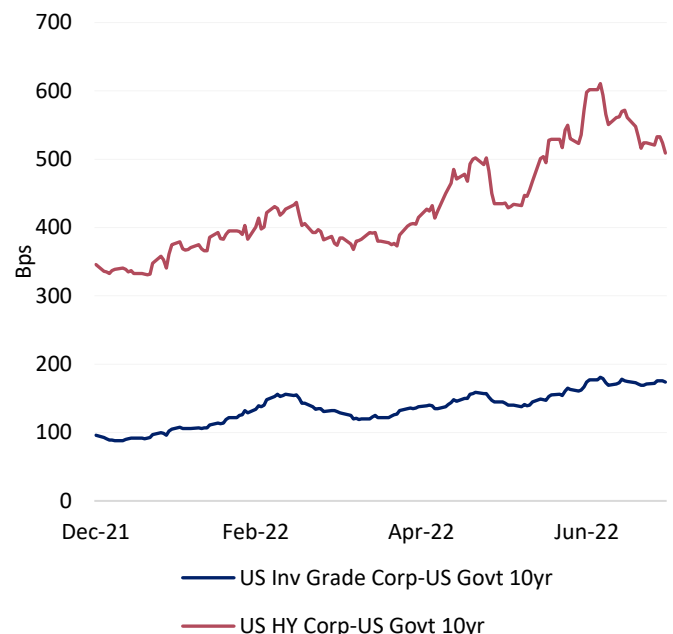


Chart 4: US IG and HY spreads have started to narrow.



FX return perspectives: USD DXY index, Regional Real Effective Exchange Rates (REER) and key spot rate performance

Chart 1: DXY Dollar Index YTD (rebased)

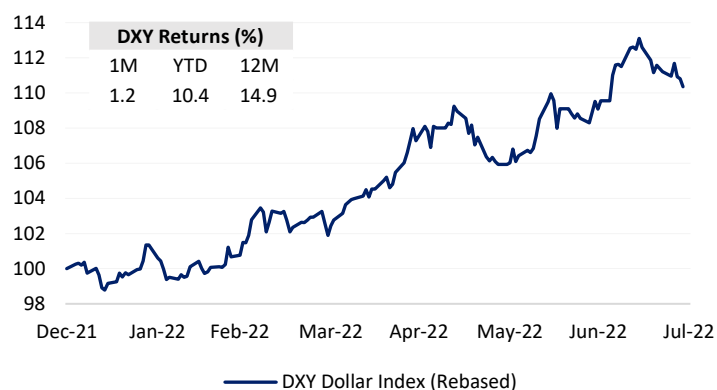


Chart 2: The DXY Dollar Index is at levels last seen in 2002

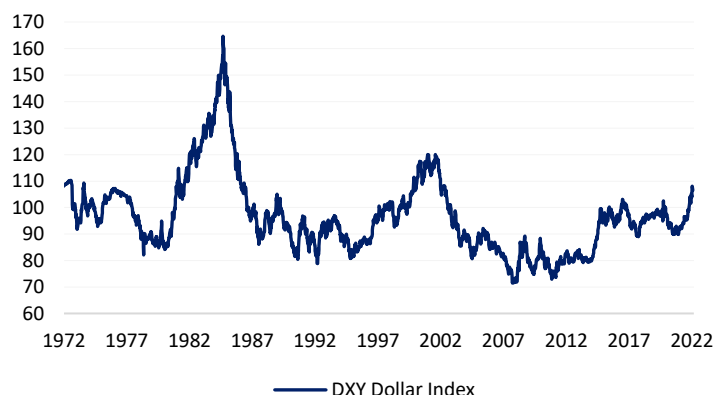


Chart 3: Regional Real Effective Exchange Rate returns over YTD (rebased)

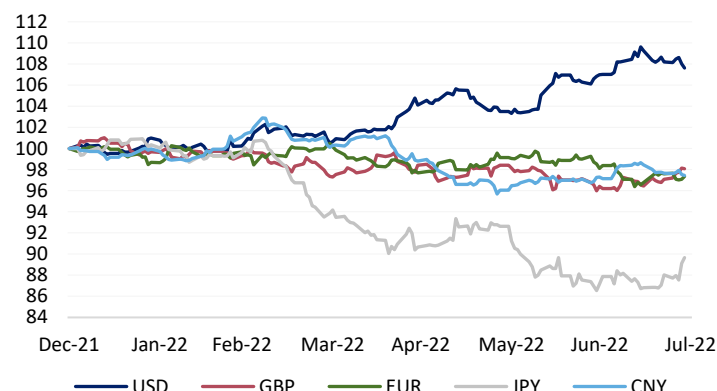


Chart 4: Regional Real Effective Exchange Rate returns over 10 years (rebased)

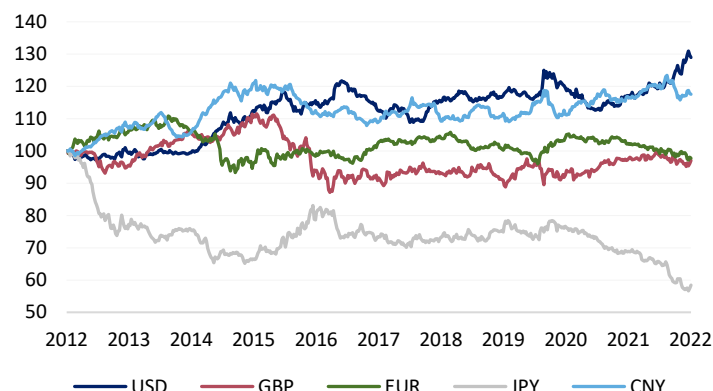


Chart 5: USD v JPY, Euro, GBP and Renminbi spot rate returns YTD (rebased)

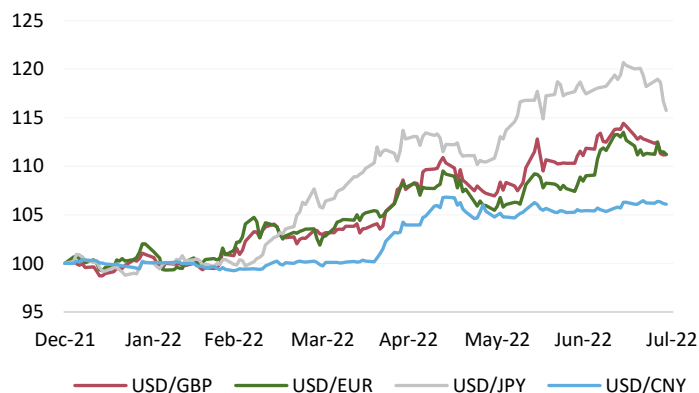
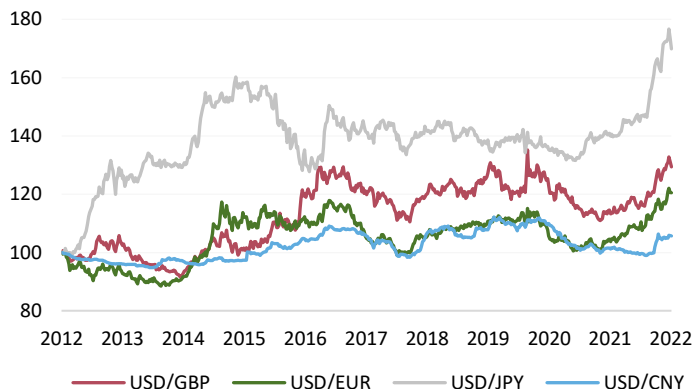


Chart 6: USD v JPY, Euro, GBP and Renminbi spot rate returns over 10 years (rebased)



FX spot rate returns from a regional perspective

USD strength eased against GBP and JPY in July, with JPY rebounding from 20-year lows. The Euro continued to weaken against all major currencies.

Moves vs USD (TR, %)	YTD	1M	3M	6M	12M
AUD	-3.8	1.2	-1.1	0.0	-5.5
CHF	-4.1	0.4	2.3	-2.2	-4.8
CNY	-5.5	-0.5	-1.9	-5.5	-3.7
GBP	-9.6	0.0	-3.2	-9.0	-12.9
EUR	-10.5	-2.9	-2.9	-8.1	-14.3
JPY	-14.9	1.4	-5.1	-14.9	-18.7

Moves vs GBP (TR, %)	YTD	1M	3M	6M	12M
USD	9.6	0.0	3.2	9.0	12.9
AUD	6.8	1.3	1.3	10.0	8.3
CHF	6.5	0.3	5.2	7.7	9.3
CNY	4.8	-0.9	0.5	3.9	10.0
EUR	-0.2	-2.7	-0.3	0.7	-1.5
JPY	-5.3	1.2	-1.5	-5.7	-6.9

Moves vs EUR (TR, %)	YTD	1M	3M	6M	12M
USD	10.5	2.9	2.9	8.1	14.3
AUD	7.0	4.1	1.6	9.3	9.9
CHF	6.7	3.1	5.4	7.0	10.9
CNY	5.0	1.9	1.1	3.0	11.5
GBP	0.2	2.7	0.3	-0.7	1.5
JPY	-5.2	4.3	-1.4	-6.4	-5.2

Moves vs JPY (TR, %)	YTD	1M	3M	6M	12M
USD	14.9	-1.4	5.1	14.9	18.7
AUD	12.9	0.3	2.7	16.0	16.5
CHF	12.2	-1.5	6.2	13.7	17.0
CNY	9.1	-2.5	0.5	9.0	16.5
GBP	5.3	-1.2	1.5	5.7	6.9
EUR	5.2	-4.3	1.4	6.4	5.2

Moves vs CNY (TR, %)	YTD	1M	3M	6M	12M
USD	5.5	0.5	1.9	5.5	3.7
AUD	2.1	2.0	0.4	6.0	-1.5
CHF	1.8	1.1	4.5	3.9	-0.5
GBP	-4.6	0.9	-0.6	-3.8	-9.1
EUR	-4.7	-1.8	-1.1	-2.9	-10.3
JPY	-9.1	2.5	-0.5	-9.0	-16.5

Moves vs CHF (TR, %)	YTD	1M	3M	6M	12M
USD	4.1	-0.4	-2.3	2.2	4.8
CNY	-1.8	-1.1	-4.5	-3.9	0.5
GBP	-6.5	-0.3	-5.2	-7.7	-9.3
EUR	-6.7	-3.1	-5.4	-7.0	-10.9
JPY	-12.2	1.5	-6.2	-13.7	-17.0

Moves vs AUD (TR, %)	YTD	1M	3M	6M	12M
USD	3.8	-1.2	1.1	0.0	5.5
CNY	-2.1	-2.0	-0.4	-6.0	1.5
GBP	-6.8	-1.3	-1.3	-10.0	-8.3
EUR	-7.0	-4.1	-1.6	-9.3	-9.9
JPY	-12.9	-0.3	-2.7	-16.0	-16.5

Source: FactSet. Data as of July 29, 2022

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

1

-11.4%

Decline in Agricultural commodity prices in July

2

+8.7%

July return for the Wilshire US REIT index

3

+7.4%

YTD return of the Wilshire Liquid Alt Global Macro index

4

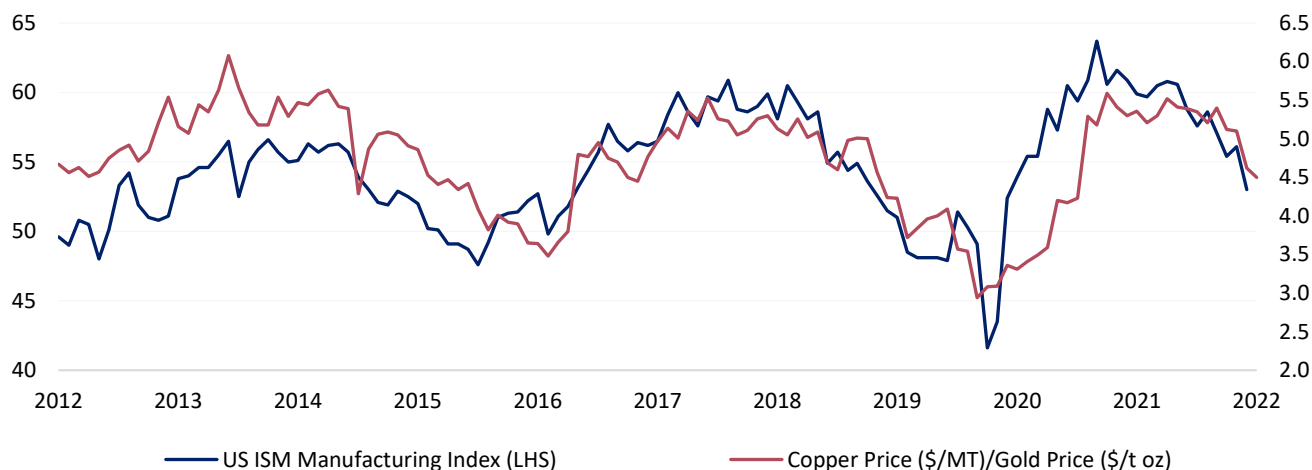
+29.3%

Rise in FT Wilshire Digital assets index in July

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- 34 Commodities
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- 38 Risk/return analysis

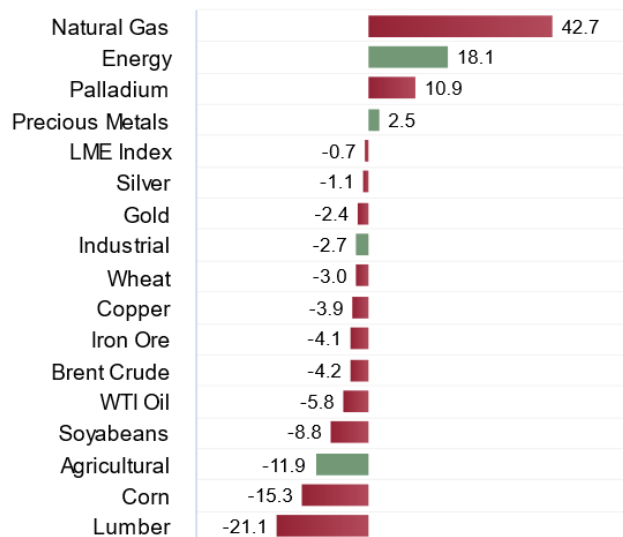
Copper relative to gold vs US ISM Manufacturing Index - The underperformance of the copper price relative to gold has often coincided with downturns in the US ISM manufacturing Index



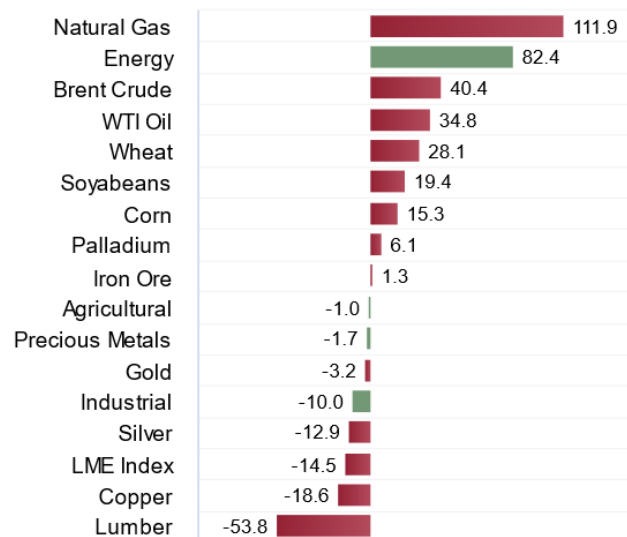
Commodities: A bifurcation between the strong performance of energy and the weakening in industrial metals and agricultural prices

Energy prices continue to rise (principally due to a large spike in natural gas) but there has been some weakening of other commodity prices over the last few months, most notably industrial metals and agricultural goods.

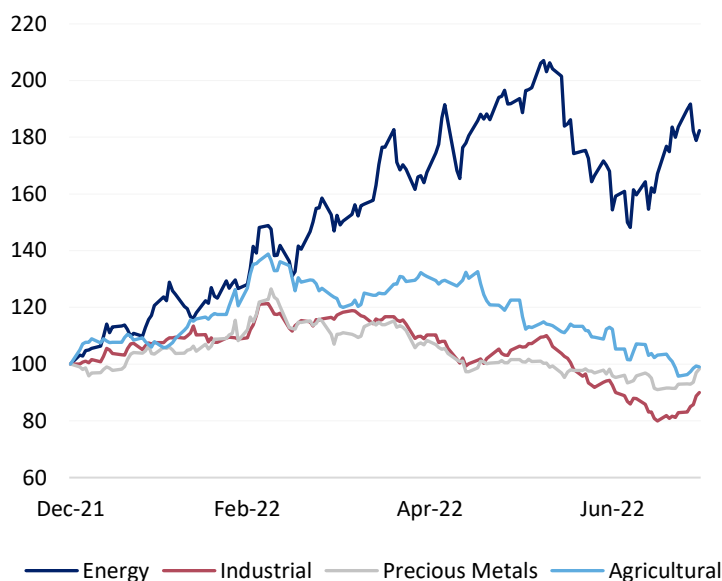
1M USD (TR, %)



YTD USD (TR, %)



Commodity composite index returns year-to-date:
Energy, industrials, precious metals and agricultural



Gold vs US 7-10yr Real Yield (Inverted) - the gold price tends to move inversely to the US real yield



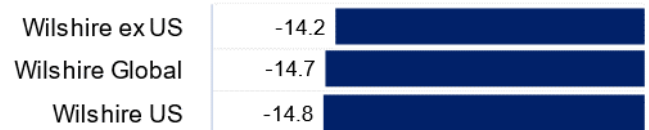
Property (Wilshire REIT indexes): A recovery in US Self Storage and Industrial REITS in July. US REITS outperform Global ex US

Among US REIT sectors, July saw a rotation to self storage and industrial, with manufactured homes underperforming. US REITs outperformed Global ex US in July but remain marginally behind. YTD.

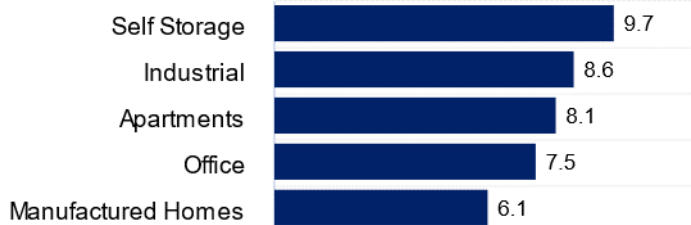
1M USD (TR, %)



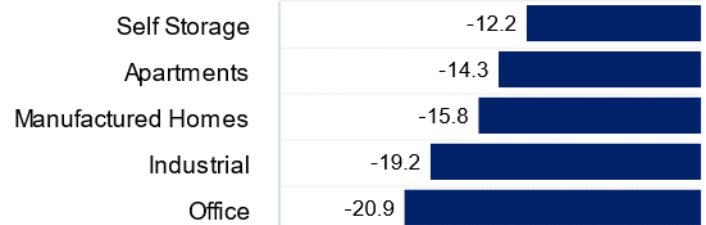
YTD USD (TR, %)



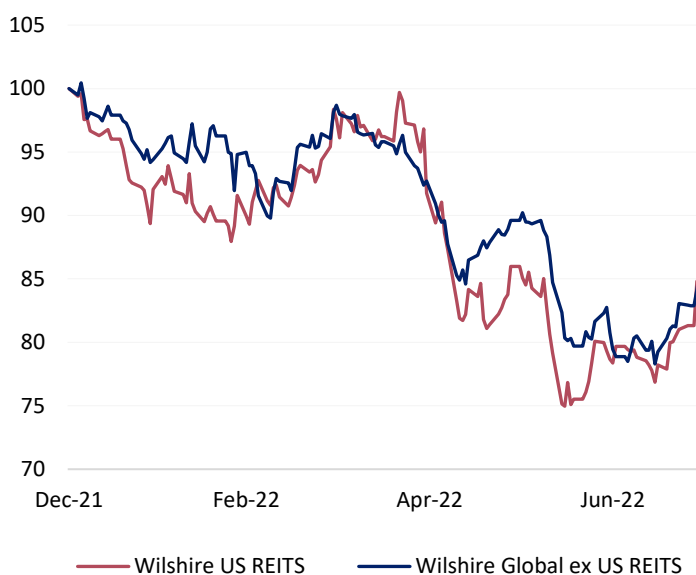
1M USD (TR, %)



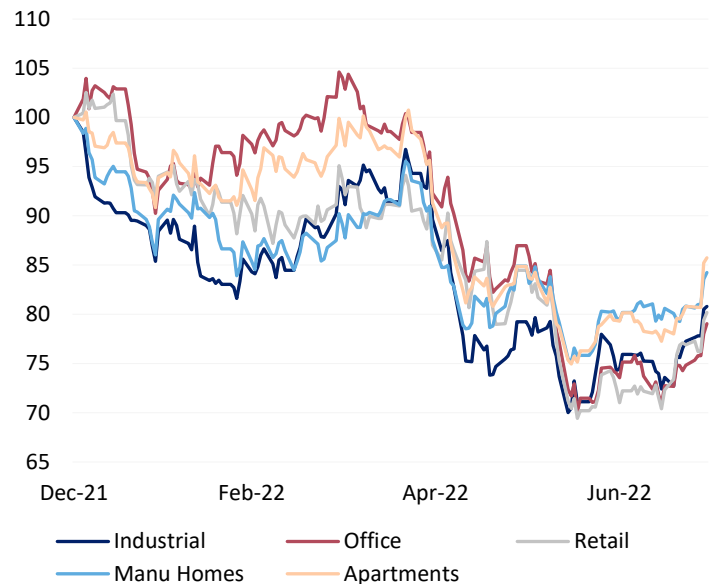
YTD USD (TR, %)



Wilshire US REIT vs Global ex US REIT year-to-date (Rebased, TR)



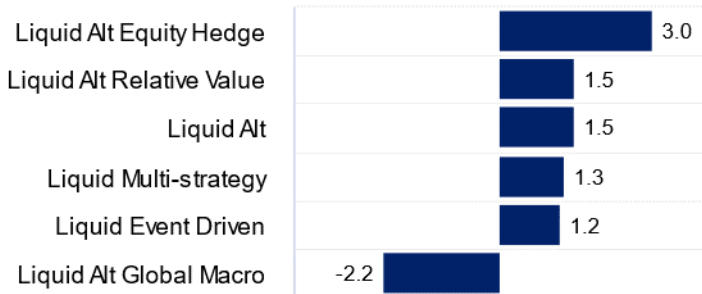
Wilshire US REIT sector performance year-to-date (Rebased, TR)



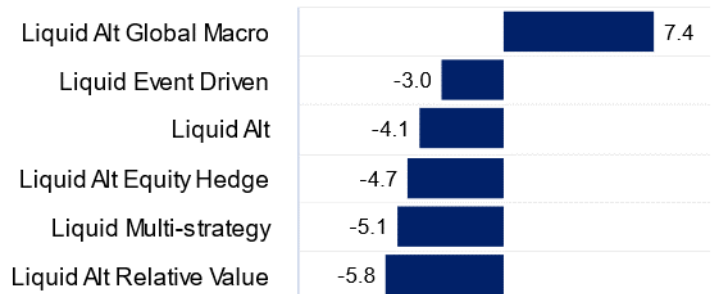
Wilshire Liquid Alternative Indexes (Absolute Return): Equity Hedge recovers but Liquid Alternative Indexes underperform FT Wilshire 5000 in July

Reversing the YTD trend, the Wilshire Liquid Alternative Indexes underperformed the main FT Wilshire 5000 index in July, most notably Global Macro. However returns have still exceeded the US market so far this year.

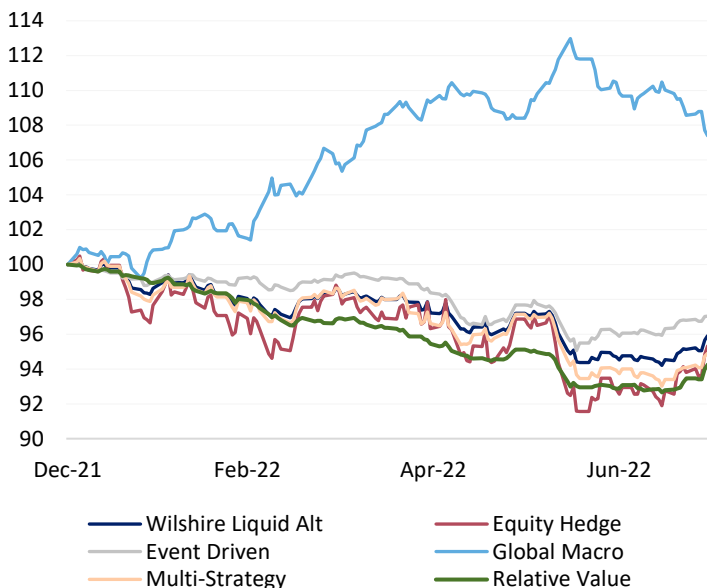
1M USD (TR, %)



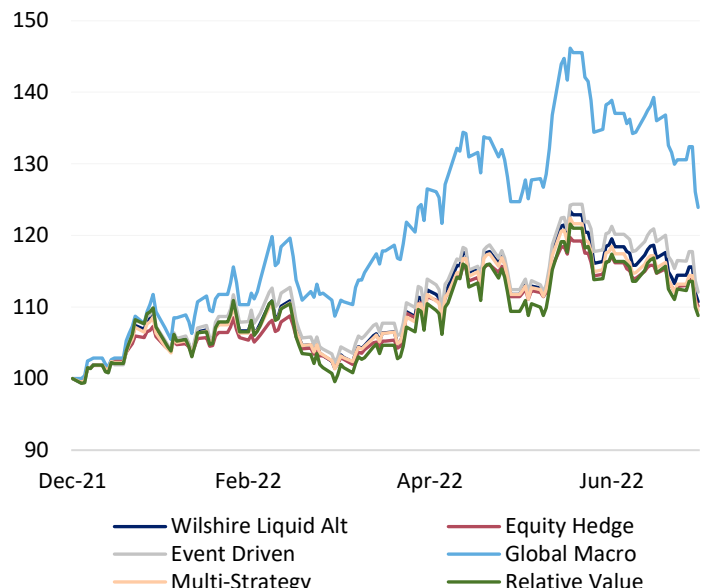
YTD USD (TR, %)



Wilshire Liquid Alternative Index performance year-to-date - total returns (rebased)

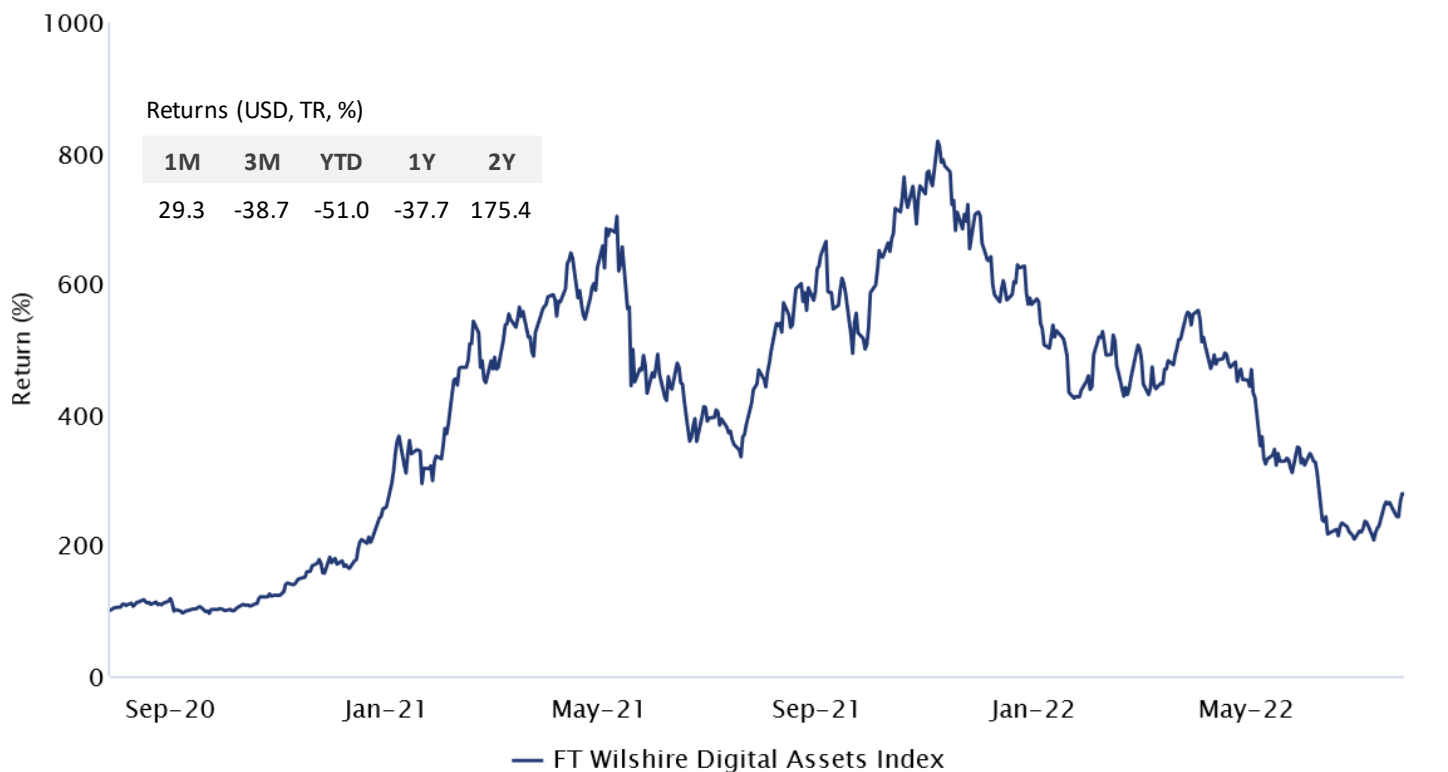


Wilshire Liquid Alternative Index relative performance vs FT Wilshire 5000 Index - total returns

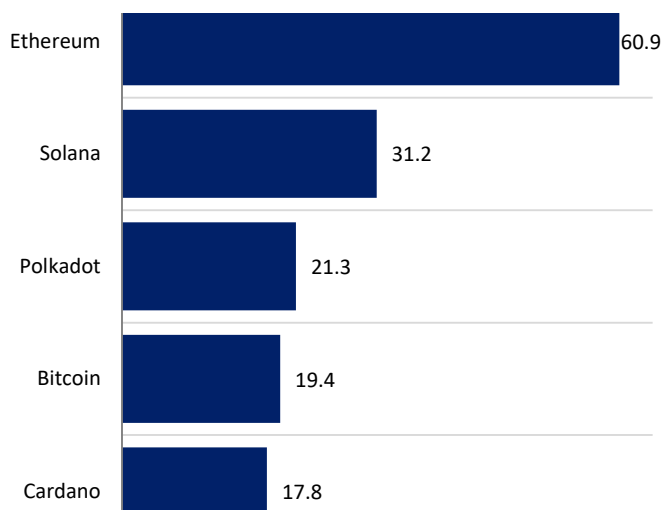


Digital Assets: A strong rebound as digital assets move higher with July's recovery in risk appetite

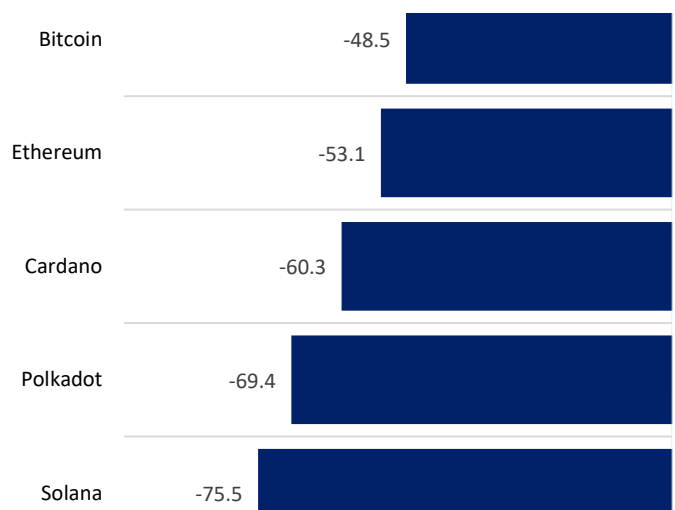
The FT Wilshire Digital Assets Index staged a strong rebound in July but remains well below the peak seen at the start of the year.



FT Wilshire Top 5 Digital Assets Index constituent performance July 2022 (% ,USD)

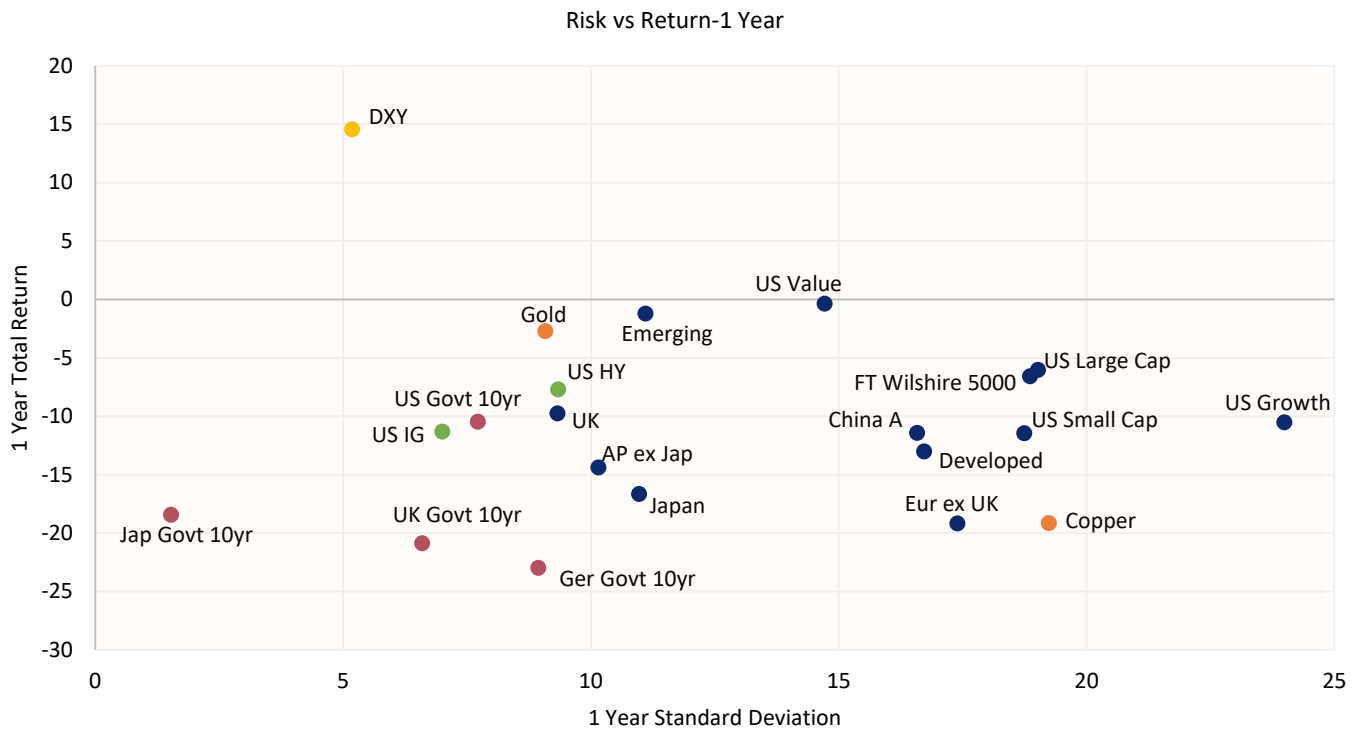


FT Wilshire Top 5 Digital Assets Index constituent performance 2022 YTD (% ,USD)



Multi Asset Class: Risk vs Return

Risk vs Return over 1 Year



Risk vs Return over 10 Years



Source: FactSet. Data as of July 29, 2022

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