

EYE ON THE WORLD

Comparing booming ESG funds

Thursday July 23

Markets supported by US earnings momentum, fiscal deal upside risk, and new corporate bond yield lows, ignoring renewed China tension and 1k+ US virus deaths. **HOT TOPICS** looks at the strong growth of ESG passive funds, outperforming broader indices and with surging AUM. They are US focused, tech heavy, constructed to maximise ESG exposure, but also have low tracking error, and overlap with quality styles. Is a low correlation between rating providers given reporting and taxonomy short-comings.

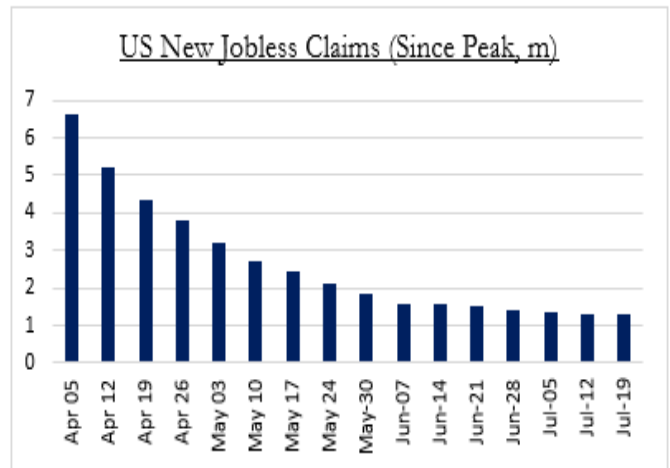
Markets resilient to renewed US-China tensions and US virus deaths over 1,000 for first time since May, as US fiscal stimulus talks advanced, with room for an upside surprise; 15% of S&P 500 reported Q2 earnings with average 14.8% 'beat' so far; corporate bonds continued to rally with US **HY at new crisis low 5.5% yield**, half of March peak, and IG under 2% for first time ever. Asia flat, with Europe and US futures up.

US-China relations context: US told China to

Key Markets Performance Table

Index	Level	1D	1W	YTD
S&P500	3257.3	0.6%	1.5%	1.4%
ACWI xUS	46.0	0.0%	0.9%	-6.5%
DXY USD	95.0	-0.1%	-1.1%	-1.5%
US 10Y YLD	0.60	-2.0%	-5.6%	-68.8%
Brent Spot	43.7	-3.4%	-1.9%	-36.7%
Gold Spot	1871.8	1.6%	3.3%	23.4%

close Houston consulate amid spying accusations, marking further deterioration of relations, with China' foreign ministry calling it



Source: Refinitiv, THR

HIGHLIGHTS FROM REST OF DOC

- **Hot Topics** on [ESG Funds](#). Are outperforming, with surging AUM. US focused, tech heavy, try to maximise ESG, but have low tracking error. Is quality overlap but low rating correlations.
- **What to watch:** Forecast stalled weekly US jobless claims fall. Intel, AT&T, Airlines report Q2
- **Country and Sector 'Eye':** We favor US and select EM's, and US Consumer and IT sectors
- **Data pages:** Performance, valuation, earnings, macro forecasts. See [Library](#) for prior dailies

*Sources if not stated are Refinitiv, THR

US & Sector Performance

Index	Level	1D	1W	YTD
S&P500	3257.3	0.6%	1.5%	1.4%
NASDAQ	10870.8	0.2%	1.5%	19.3%
Russell 2000	1490.1	0.2%	0.8%	-10.7%
US IT	404.9	0.6%	1.6%	21.1%
US Healthcare	376.3	0.7%	1.7%	6.9%
US Financials	156.6	0.3%	0.6%	-21.5%

'unprecedented escalation'. With US cross-party support and presidential election looming **expect further tension** but short of unravelling Phase 1 trade deal - though tail-risks are one-sided. See June 2nd *Beware US China one-sided risks*.

Fiscal upside: Phase 4 stimulus debate shifting from 'if and when' to 'how much', with **upside risk to Republican US\$1trn** range as increasing clear more stimulus needed, pressure of upcoming election, and virus impact shift to Republican states, and some agreement on key unemployment benefit and cash transfer issues.

Safe-haven rally. Gap between higher equities and strong safer-havens continues, a warning on risks and a **contrarian bullish equity** support. Gold rallied further, US 10-yr yields anchored at 0.60%, and haven FX such as Swiss Franc strong. BAML investor sentiment survey shows cash levels at 4.9% and only 14% see a v-shaped economic recovery. Our sentiment index near buy levels. July 10th *Sentiment a contrarian support*.

Sector View

S&P 500 led up by utilities (+1.5%) and real

FX, Fixed Income, Commodities

Index	Level	1D	1W	YTD
DXY USD Index	95.0	-0.1%	-1.1%	-1.5%
EUR/USD	1.16	0.4%	1.4%	3.2%
US 10Y YLD	0.60	-2.0%	-5.6%	-68.8%
US 10-2 BOND	0.45	-4.8%	-0.4%	21.7%
CBOE VIX Index	24.3	-2.1%	-12%	76%
CRB Index	2596.2	-0.3%	1.2%	-15.8%

Events to Watch

Indicator	Period	Forecast	Last
Consumer Sentiment, Ger	Aug	-5.48	-9.60
Initial Jobless Claims, US	18/07 w/e	1.32M	1.30M
Consumer Confid., Euro	July	-12.13	-14.70

estate (+1.2%) while energy (-1.3%) and financials (0.3%) lagged. Healthcare boosted as US to pay Pfizer and partner BioNTech US\$1.95bn for final virus vaccine, as start Phase III trials. Tesla reported profit, setting up for S&P 500 inclusion.

Pershing Square Tontine Holdings (PSTH) raised US\$4bn as latest special purpose acquisition company (SPAC) to IPO, seeking a 'mature unicorn' acquisition target. **SPACs raised US\$16.2bn YTD**, more than whole of 2019.

China' STAR Market, year-old market for growth companies, modelled on NASDAQ, launched STAR 50 benchmark, and is +48% YTD, **double NASDAQ**. See June 5th *US tech vs China tech*.

What to Watch

Yesterday June existing US home sales increased greater than expected 20.7%, to 4.72m, whilst house prices rose 3.5% yoy. Today export-heavy Korea reported Q2 GDP fall greater than expected -3.3% qoq, as **consumption takes developed market recovery early lead**.

Weekly new US jobless claims expected flat, down 5k at 1.295m as jobs rebound stalling (front chart), while continuing claims seen at 17.1m, down only 0.3m vs last week, putting further **pressure on lawmakers** for additional stimulus.

Q2 Reports today include Intel (Q2e US\$1.11, +5% yoy) with focus on PC and cloud-computing; AT&T (\$0.79, -11%) on store closures and lower advertising; and losses at American, Southwest.

HOT TOPICS

COMPARING ESG FUNDS

In latest of our ESG series we analyse the growth of ETF funds, there outperformance and surging AUM, and focus on the 5 largest products. These are US focused, tech heavy, constructed to maximise ESG exposure, but also to have low tracking error to broader US equities. There is overlap with quality investment styles and a low correlation between ESG rating providers, with short-comings of limited reporting standardization and taxonomy.

The rise of ESG funds

ESG issues have gone mainstream and both active and passive managers have responded:

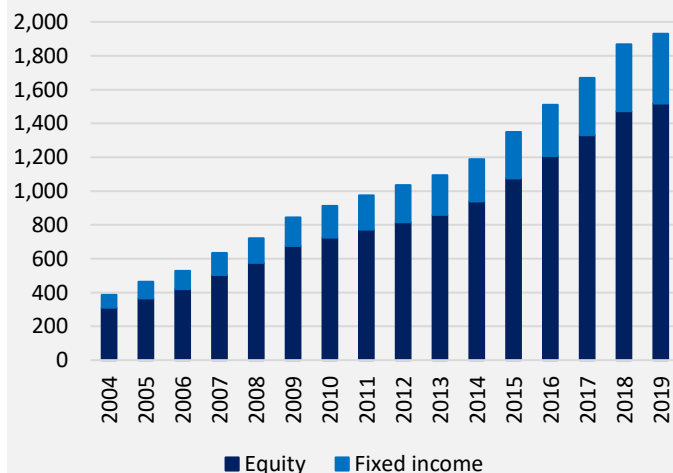
- Over 500 mainstream US funds added ESG criteria to their fund prospectus last year, over five times the number of the prior year, according to [Morningstar](#).
- The number of asset owners signing the UN Principles of Responsible Investment ([PRI](#)) has increased by 28% this year alone, to over 3,000 signatories.
- The number of dedicated ESG funds has swelled to over 1,900 (chart below). ESG ETF growth has been led by EU (60% total), followed by US (31%), with integration the most popular strategy ([UNCTAD](#)). For background on our ESG

analysis see May 22nd *Crisis accelerating ESG adoption* and June 26th *The rise of carbon pricing*.

A look at the largest passive ETF's

We examine the five largest ESG ETF's: four managed by Blackrock and one by DWS (see below). They have seen dramatic asset growth of up to 380% YTD, mostly outperformed the S&P 500, and often first option for investors looking for ESG exposure. Yet they can have important sector, country, and fee differences. They can also not be different enough for some, constructed with a low tracking error to mainstream indices. For background on the pros and cons of the passive funds boom see July 16th, *The side effects of passive growth*.

ESG Mandated Funds (No.)



Five largest ESG dedicated ETF's

	ESGU.O	USSG.K	DSI	IQLT.K	SUSA.K
Provider	BlackRock	DWS	BlackRock	BlackRock	BlackRock
AUM (US\$bn)	7.75	2.41	2.05	1.64	1.55
Exp Ratio (bps)	15	10	25	30	25
Benchmark	MSCI USA ESG Focus Index	MSCI USA ESG Leaders Index	MSCI KLD 400 Social Index	MSCI World ex US Neutral Quality Index	MSCI USA Extended ESG Select Index

Source: Bloomberg, IMF, THR

Source: Refinitiv, THR

Comparing the underlying indices

Four of the five benchmarks select constituents from a parent index through an optimization process using ESG ratings and aim to maximize the ESG factor. The MSCI indices are constructed to have a relatively low tracking error to the underlying equity market though. The MSCI World ex USA Sector Neutral Quality index, which is tracked by IQLT, and often categorized with ESG funds uses instead three fundamental ‘quality’ variables: high ROE, low leverage and low earnings variability.

Sector exposure and ESG Score

ESGU, USSG, DSI and SUSA have very similar sector exposures, as all parent indices of their relative benchmark track the US market. The DSI overweight of the tech sector is the only notable difference. The most held top ten stocks are Microsoft, Visa, P&G, Alphabet, Amazon, Visa, Apple, Home Depot, Intel, Mastercard, Disney, Salesforce, Facebook and 3M. IQLT has a more balanced exposure amongst its top six sectors, and has a global ex US benchmark, with Japan, UK and Switzerland the top 3 countries. It is also the most expensive. Interestingly, IQLT is also the fund with the overall highest Refinitiv/Asset 4 composite ESG score, adding weight to view that ESG criteria can closely mimic traditional quality style investment characteristics.

Broader debate on ESG ratings

There is a broader debate on the use of ESG ratings, and divergence between providers. A 2019 [research paper](#) by MIT Sloan found that the ratings of the five most prominent ESG rating houses were only correlated at 0.61. This compared to a 0.99 correlation between S&P and Moody’s credit ratings. This divergence is driven by 1) Corporate ESG reporting improving but still somewhat limited and lacking in standardization, 2) ESG scoring

Sector Exposure and ESG Ratings

%	ESGU.O	USSG.K	DSI	IQLT.K	SUSA.K
IT	34.1	34.3	42.2	9.4	36.5
HC	14.0	14.6	10.8	12.8	12.1
CD	14.0	12.8	11.0	12.3	10.7
FN	13.0	12.2	10.4	19.8	12.7
ID	8.9	8.8	9.0	12.5	10.5
CS	6.4	7.1	8.1	11.5	9.2
ESG Comp.	67.1	69.3	67.7	70.3	69.2
E Score	63.2	65.7	63.4	66.1	65.9
S Score	72.0	74.6	73.3	74.5	74.2
G Score	63.5	64.1	63.2	66.0	65.0

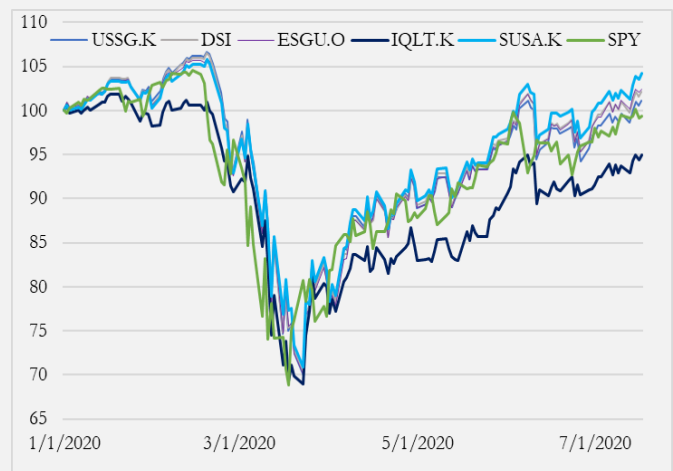
Source: Refinitiv, THR

methodologies varying, partly reflecting the lack of an agreed ESG taxonomy, and 3) there being a debatable correlation between ESG scores and corporate valuations (we prefer to focus on the direction not level).

ESG Outperformance and Inflows

All the US focused ESG ETF’s have outperformed S&P 500 (SPY) this year. The underperformance of IQLT has been due to lagging of ex-US equities YTD. Assets under management have increased YTD for all the five ETFs, as the crisis has accelerated ESG adoption and investment trends. In particular ESGU assets have surged from US\$1.5bn to over US\$7.0bn. By contrast the SPY ETF, the world’s largest, saw an 11% AUM decline.

ESG ETF Performance YTD vs S&P500

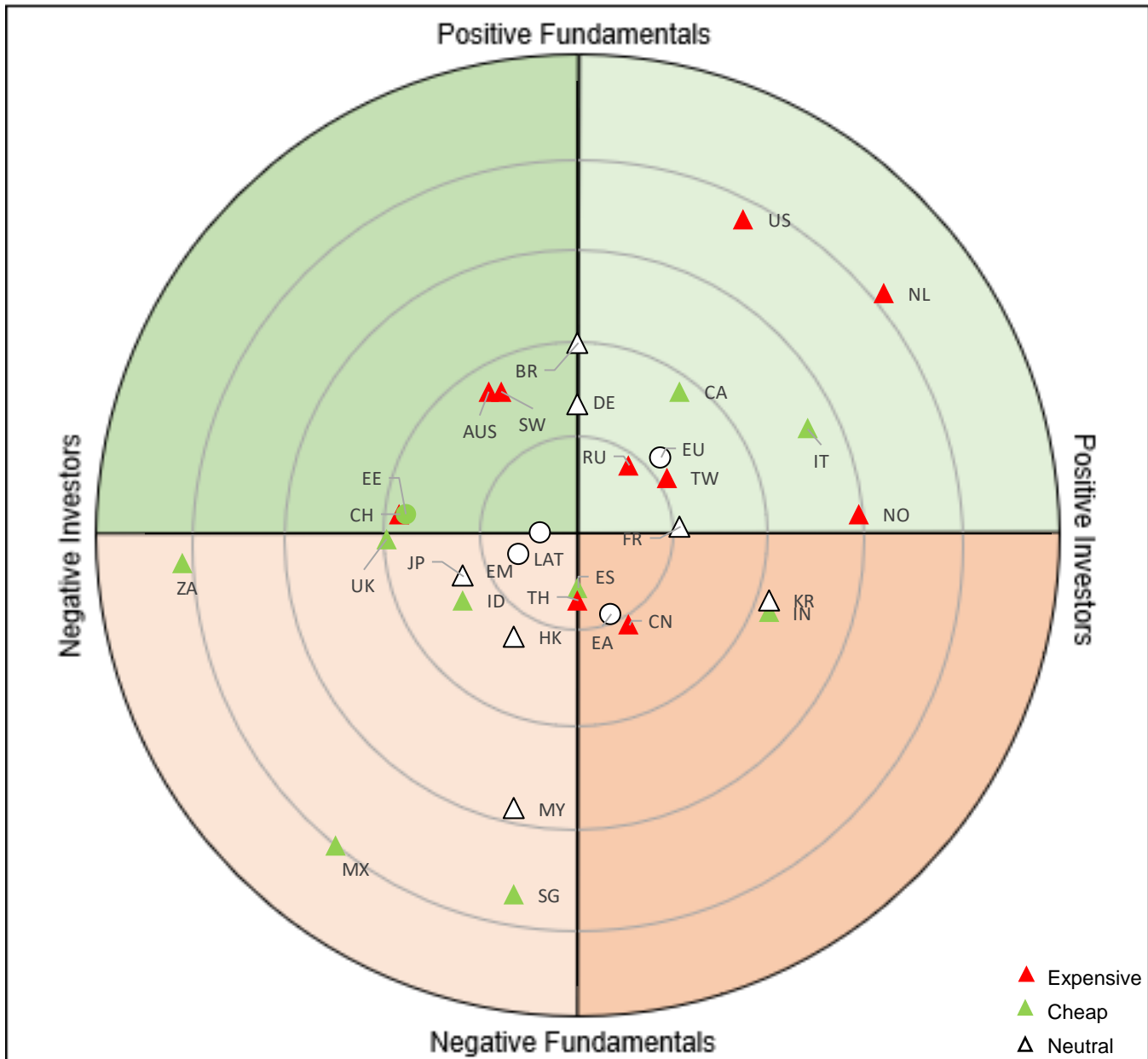


Source: Refinitiv, THR

COUNTRY 'EYE' & ALLOCATIONS

Country Allocation Views

Market	Main Index	THR View	Market	Main Index	THR View
US	S&P 500	Overweight	UK	FTSE 100	Underweight
EM	MSCI EM	Neutral	Canada	S&P/TSX	Overweight
Eurozone	EUROSTOXX	Neutral	Switzerland	SMI	Overweight
Japan	TOPIX	Underweight	Australia	S&P/ASX	Neutral



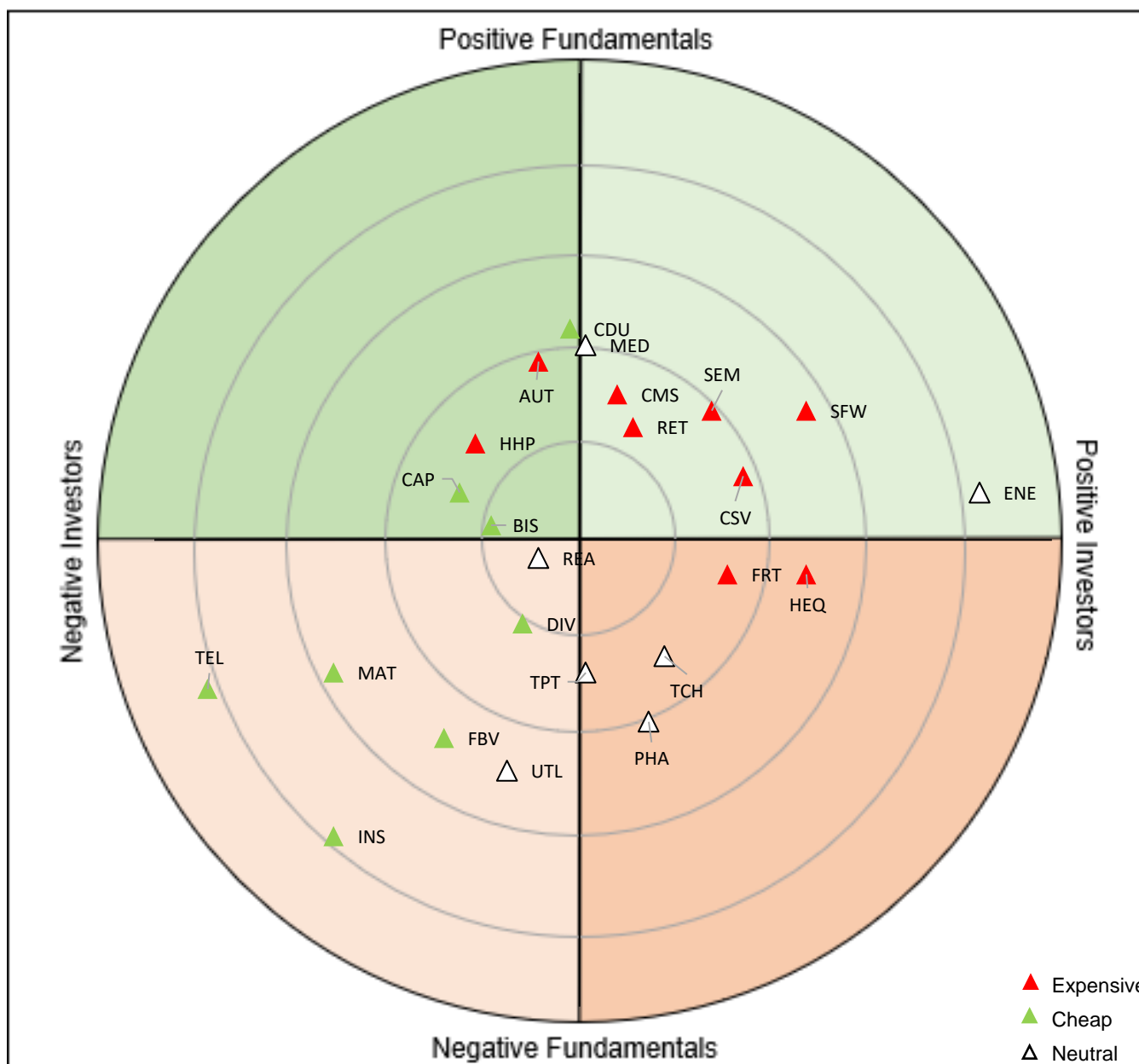
Source: Refinitiv, THR. SEE PAGE 13 FOR FULL METHODOLOGY

AUS=Australia, BR=Brazil, CA=Canada, CN=China, FR=France, DE=Germany, HK=Hong Kong, IN=India, ID=Indonesia, IT=Italy, JP=Japan, KR=Korea, MY=Malaysia, MX=Mexico, NL=Netherlands, NO=Norway, RU=Russia, SG=Singapore, ZA=South Africa, ES=Spain, SE=Sweden, CH=Switzerland, TW=Taiwan, TH=Thailand, UK=United Kingdom, US=United States, EU=Europe, LAT=Latin America, EM=Emerging Markets, EE=Emerging Europe, EA=Emerging Asia.

US SECTOR 'EYE' & ALLOCATION

US Sector Allocation Views






Market	Main ETFs	THR View	Market	Main ETFs	THR View
IT	XLK/VGT	Overweight	Staples	XLP/VDC	Overweight
Healthcare	XLV/VHT	Overweight	Energy	XLE/VDE	Neutral
Financials	XLF/VFH	Underweight	Utilities	XLU/VPU	Overweight
Communications	XLC/VOX	Overweight	Real Estate	XLRE/VNQ	Overweight
Discretionary	XLY/VCR	Neutral	Materials	XLB/VAW	Underweight
Industrials	XLI/VIS	Neutral			








Source: Refinitiv, THR. SEE PAGE 13 FOR FULL METHODOLOGY

AUT=Auto & Auto parts, BIS=Banking & Investment, CAP=Capital Goods, CMS=Commercial & Prof Svcs, CDU=Consumer Durables & Apparel, CSV=Consumer Svcs, DIV=Diversified Financials, ENE=Energy, FRT=Food Staples & Retail, FBV=Food, Bev. & Tobacco, HEQ=Healthcare Equipt. & Svcs, HHP=Household & Personal Products, INS=Insurance, MAT=Materials, MED=Media & Entertainment, PHA=Pharma, Bio & Life Svcs, REA=Real Estate, RET=Retailing, SEM=Semiconductors & Equipt, SFW=Software and Svcs, TCH=Technology Hardware & Equipt, TEL=Telecoms TPT=Transport, UTL=Utilities

'EYE' ALLOCATION BREAKDOWN

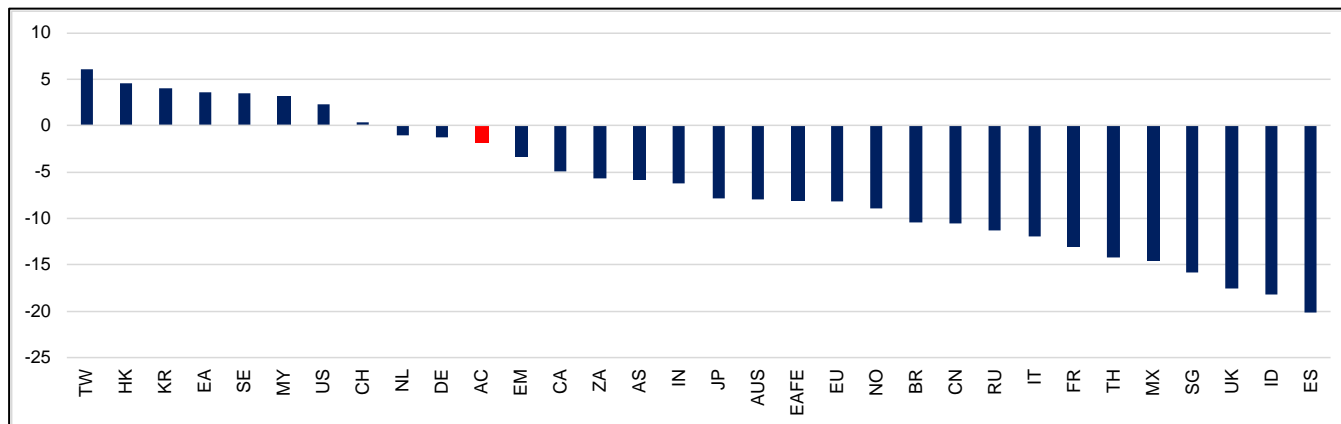
Country/ Region	Rationale	P/E (x)		EPS Gr. (%)	
		2020e	2021e	2020e	2021e
	United States (Overweight): Remains a global equity 'safer haven' despite currently centre of COVID outbreak. Has relatively closed economy and stock market, trend GDP growth into crisis, and seen unprecedented policy response, with unlimited QE and initial 14%/GDP fiscal stimulus. Valuations fundamentally supported by tech, tax, and UST. Earnings expectations very quickly adjusted. Is in the 'momentum' Eye quadrant, with some of world's strongest relative fundamentals, but also some of the most optimistic investors.	26.1	20.5	-20.0	27.6
	Emerging Markets (Neutral): Economic growth vulnerable even before COVID outbreak. USD strength and low oil prices have been additional broad headwinds for many. Much of the valuation discount structural and overstated. LatAm and CEEMEA now centre of virus outbreak, after north Asia (60% EM) control. Favor China, EM's largest market, on policy flexibility, resilient GDP/EPS, FIFO on COVID cases, 12x P/E. Underweight rest of EM.	17.2	13.3	-8.0	29.3
	Eurozone (Neutral): To lead global GDP and EPS decline, whilst most of valuation discount vs US is just sector composition. Recession has triggered a broader fiscal policy response, whilst ECB help extended, and weak EUR been support for Europe's globalised corporates. As COVID cases ease and countries reopen, set to be the key beneficiary of cyclical economic and market upturn. Focus on cheap domestic cyclicals, such as Financials.	21.0	15.7	-29.5	33.6
	Japan (Underweight): Has been moving out of the value-trap 'Eye' quadrant, but has significant fundamental headwinds on growth, trade, policy flexibility, and longer-term structural issues (demographics, debt). Valuation is attractive vs history, but EPS outlook overstated and vulnerable. Domestic stocks underperformed global-exposed peers.	19.3	14.5	0.3	32.8
	UK (Underweight): In value-trap framework quadrant. Exposed to twin-headwinds of above-average COVID impact (with high infections and relatively low fiscal response) and rising Brexit hard-exit risks (into Dec. 31 cliff edge), and market valuations at long-term average. Risk that lags our preferred recovery cyclicals (Canada, EU Financials, US small caps) despite 50%+ cyclical equity index composition and 60% overseas revenue exposure.	17.7	13.4	-35.7	32.1

US Sector	Rationale	P/E (x)		EPS Gr. (%)	
		2020e	2021e	2020e	2021e
	Information Technology (Overweight): Software in attractive top-right 'momentum' quadrant of the Eye. Are quality growth and attractive at this stage of cycle, reflected in defensiveness vs previous corrections. Valuations average but supported by net-cash and high RoE, giving buyback and M&A flexibility. Tech Hardware (Neutral) less well positioned, with weaker fundamentals, but beneficiary of easing growth concerns.	29.4	25.3	0.0	16.3
	Healthcare (Overweight): Both Healthcare Equipment and Pharma are close to the top-right 'momentum' quadrant, liked by the market (with multiple rerating and sell-side conviction), but with good fundamental momentum as quality growth attractive at this stage, with defensive cash flows, less EPS cyclicality and a domestic revenue focus. Seeing Federal support to combat COVID. Similar to Tech, set to come out of crisis more dominant.	18.5	16.0	-0.2	18.1
	Financials (Underweight): All three sector components (Banks, Diversified, Insurance) in the negative bottom left 'value trap' quadrant of the 'Eye'. Out of favour with market, with strong fund outflows and valuation derating, but fundamentals remain under pressure from low US bond yields, flat yield curve, and GDP growth collapse, despite stronger capital buffers. Insurance offers the best value, though none of the sector is optically expensive.	16.7	12.1	-36.7	38.8
	Communications (Overweight): Telecoms (AT&T largest sector weight) in most-attractive top-left quadrant, and Media (Facebook, Alphabet largest) in attractive top-right. Both seeing above average fundamentals, with Media led by EPS revisions, and Telecoms by price momentum. Telecoms has average valuation vs history, has derated, and sell-side sentiment especially poor. Media better liked by the market..	26.8	21.4	-15.9	25.1
	Consumer Discretionary (Neutral): Consumer Services and Retail (Amazon largest stock) best placed of Discretionary sectors, both in top-right quadrant. Services defensive to cycle and seeing positive EPS revisions. Autos poorest placed, in bottom-left quadrant. Whilst the least-in-favour, has some of worst fundamentals and more expensive than perceived. Leisure discretionary industries very COVID exposed.	64.4	32.7	-49.1	97.1

Source: Refinitiv, THR

REGION/COUNTRY PERFORMANCE & VALUATION

Total Return YTD

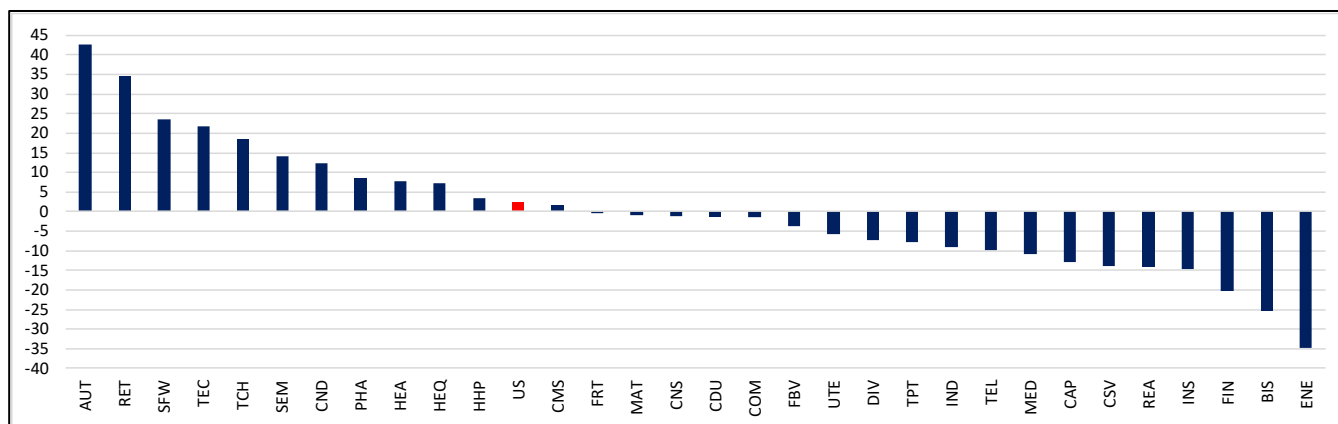


Index	Abbreviation	Price Performance				PE			EPS Growth	
		1D (%)	1W (%)	3M(%)	YTD (%)	2019A	2020E	2021E	2020E	2021E
World	AC	0.1	1.6	18.7	-1.8	17.8	21.7	17.0	-18.1%	27.8%
EAFE	EAFE	-0.4	1.1	17.9	-8.0	15.5	19.0	14.9	-18.4%	27.2%
Europe	EU	0.0	1.6	20.6	-8.2	14.4	19.9	15.1	-27.7%	31.6%
Asia	AS	-0.6	1.3	16.6	-5.8	16.9	16.3	13.2	4.0%	23.4%
Emerging Global Markets	EM	-0.7	2.2	22.6	-3.3	14.5	15.3	12.1	-5.4%	26.9%
Emerging Asia	EA	-1.1	1.8	21.6	3.6	16.0	15.7	12.7	1.6%	24.0%
Australia	AUS	-1.3	1.4	17.7	-7.9	15.5	18.5	19.0	-16.0%	-2.6%
Brazil	BR	0.0	2.4	28.3	-10.4	12.0	20.8	11.6	-42.2%	78.7%
Canada	CA	0.1	0.8	13.9	-4.9	13.9	21.3	15.4	-34.9%	39.0%
China	CN	-1.5	0.0	5.8	-10.5	14.8	14.7	12.2	1.1%	19.9%
France	FR	-1.1	-1.0	16.5	-13.1	14.0	20.5	14.8	-31.8%	38.9%
Germany	DE	-0.1	1.6	25.2	-1.3	15.4	20.3	14.1	-24.3%	43.9%
Hong Kong	HK	-2.6	3.2	17.2	4.6	13.9	16.6	13.2	-16.5%	26.0%
India	IN	-0.2	3.9	19.5	-6.3	20.8	21.6	16.3	-3.3%	32.0%
Indonesia	ID	-0.1	1.4	18.2	-18.2	13.6	15.7	13.2	-13.1%	19.3%
Italy	IT	-0.6	1.8	23.8	-11.9	10.4	19.2	13.0	-46.0%	47.5%
Japan	JP	-0.6	-0.4	10.5	-7.8	19.4	17.0	13.9	14.1%	22.5%
Korea	KR	-0.1	1.9	17.3	4.0	16.8	14.3	10.0	18.1%	42.6%
Malaysia	MY	-0.5	2.5	21.0	3.2	17.0	20.5	17.3	-16.8%	18.1%
Mexico	MX	1.4	2.2	11.0	-14.5	14.8	16.1	12.4	-8.5%	29.5%
Netherlands	NL	-0.7	0.1	18.7	-1.0	19.8	21.7	18.4	-8.9%	18.0%
Norway	NO	-0.1	1.5	15.8	-8.9	13.0	21.6	14.5	-39.6%	48.7%
Russia	RU	0.1	2.7	10.2	-11.3	5.7	9.1	6.7	-36.7%	35.6%
Singapore	SG	-1.3	0.2	5.8	-15.9	11.7	15.1	12.8	-22.9%	18.3%
South Africa	ZA	-0.8	1.3	18.3	-5.7	14.2	12.9	10.3	9.5%	25.4%
Spain	ES	-1.3	-1.3	12.1	-20.2	10.9	16.4	12.8	-33.7%	28.2%
Sweden	SE	0.5	1.4	20.5	3.5	15.6	22.1	16.8	-29.4%	32.0%
Switzerland	CH	0.0	-0.2	8.5	0.4	18.9	20.4	17.6	-7.7%	15.7%
Taiwan	TW	0.6	2.6	22.7	6.1	17.4	16.9	14.7	2.6%	15.5%
Thailand	TH	-1.6	0.4	7.2	-14.2	15.5	20.5	16.6	-24.5%	23.6%
United Kingdom	UK	-0.9	-1.1	8.2	-17.5	11.5	17.8	13.4	-35.6%	32.7%
United States	US	0.6	1.6	19.4	2.3	20.4	25.7	20.1	-20.3%	27.8%

Source: MSCI, Refinitiv, THR

US SECTOR PERFORMANCE & VALUATION

Total Return YTD

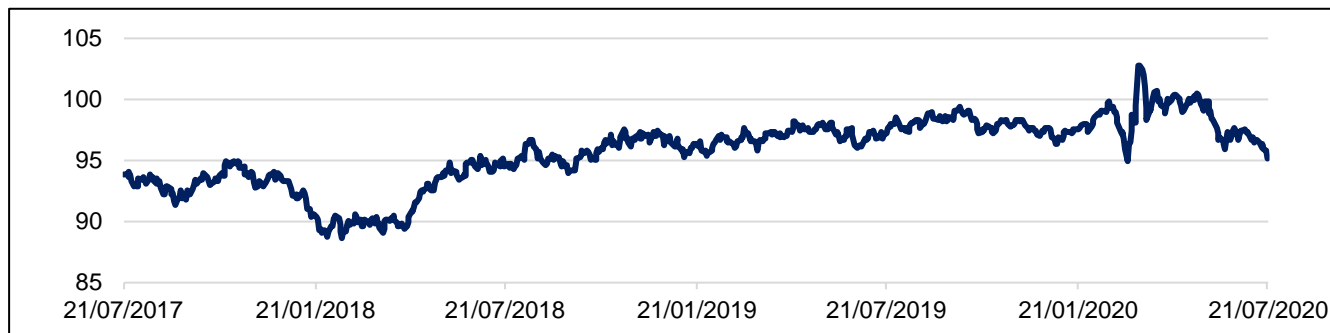


Index	Abbreviation	Price Performance				PE			EPS Growth	
		1D (%)	1W (%)	3M(%)	YTD (%)	2019A	2020E	2021E	2020E	2021E
United States	US	0.6	1.6	19.4	2.3	20.9	26.1	20.5	-20.0%	27.6%
Communications	COM	0.3	2.1	12.6	-1.5	22.5	26.8	21.4	-15.9%	25.1%
Media & Entertainment	MED	0.3	0.0	19.0	-10.9	28.7	36.3	26.2	-21.0%	38.7%
Telecommunication Svcs	TEL	-0.3	0.9	2.0	-9.9	11.1	11.9	11.4	-6.4%	3.8%
Consumer Discretionary	CND	0.5	1.9	28.5	12.3	32.8	64.4	32.7	-49.1%	97.1%
Autos & Components	AUT	1.5	2.1	69.3	42.7	20.8	NA	26.4	-112.8%	712.6%
Consumer Durables & App	CDU	1.7	2.5	36.1	-1.4	23.8	26.4	20.9	-9.8%	26.6%
Consumer Svcs	CSV	0.8	-0.2	17.0	-13.9	19.9	351.1	30.3	-94.3%	1058.5%
Retailing	RET	0.0	3.0	29.2	34.4	43.2	56.1	37.1	-23.0%	51.5%
Consumer Staples	CNS	0.8	1.6	7.5	-1.3	20.4	20.8	19.2	-2.1%	8.4%
Food & Staples Retailing	FRT	0.4	1.1	4.2	-0.4	21.5	22.1	20.7	-2.6%	6.8%
Food, Bev & Tobacco	FBV	1.0	2.1	8.2	-3.8	17.6	18.6	16.9	-5.0%	10.0%
Household Products	HHP	0.7	0.7	8.2	3.4	26.8	24.7	23.5	8.4%	4.9%
Energy	ENE	-1.3	1.0	15.0	-34.9	13.3	NA	31.5	-101.7%	2638.9%
Financials	FIN	0.3	0.6	12.9	-20.2	10.6	16.7	12.1	-36.7%	38.8%
Banks	BIS	-0.5	-0.2	14.7	-25.4	7.7	17.3	10.4	-55.2%	66.7%
Diversified Financials	DIV	-0.5	0.0	19.7	-7.2	14.4	19.1	15.0	-24.9%	27.8%
Insurance	INS	0.5	1.9	11.9	-14.7	10.9	12.6	10.4	-13.1%	20.7%
Health Care	HEA	0.8	1.7	11.0	7.9	18.9	18.9	16.0	-0.2%	18.1%
Health Care Equipment	HEQ	1.0	2.8	13.9	7.2	29.6	35.4	25.8	-16.5%	37.1%
Pharmaceuticals	PHA	0.5	0.7	8.2	8.5	15.5	15.3	13.3	1.2%	14.9%
Industrials	IND	0.8	1.4	20.7	-9.1	18.5	26.2	19.2	-29.1%	35.9%
Capital Goods	CAP	1.1	1.7	19.9	-12.8	16.1	23.7	18.0	-32.3%	32.0%
Commercial & Prof Svcs	CMS	0.9	1.5	22.6	1.6	29.7	33.0	28.4	-10.1%	16.2%
Transportation	TPT	0.0	0.8	24.4	-7.9	25.1	32.9	20.0	-23.8%	65.0%
Information Technology	TEC	0.6	1.6	27.2	21.7	29.4	29.4	25.3	0.0%	16.3%
Semiconductors	SEM	0.5	1.8	20.7	14.2	20.3	21.6	18.2	-6.0%	18.8%
Software & Svcs	SFW	0.7	2.0	26.1	23.6	38.3	36.4	31.9	5.0%	14.3%
Technology Hardware	TCH	0.4	1.0	29.3	18.4	24.7	25.2	21.4	-2.0%	17.4%
Materials	MAT	1.1	2.3	29.1	-1.0	19.2	24.3	18.8	-21.1%	29.3%
Real Estate	REA	1.6	0.8	10.3	-14.1	33.4	46.5	41.8	-28.0%	11.0%
Utilities	UTE	1.5	4.1	3.4	-5.7	18.2	18.1	17.1	0.1%	6.1%

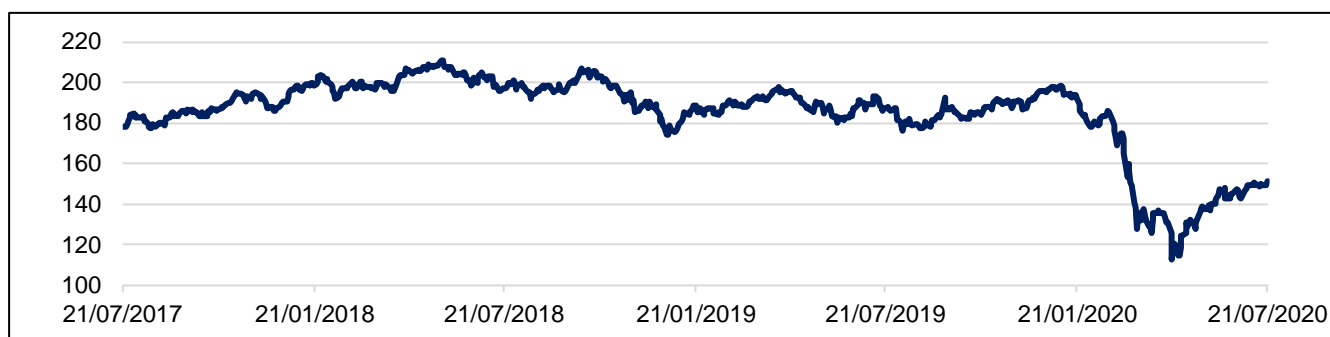
Source: MSCI, Refinitiv, THR

GLOBAL FX, BONDS AND COMMODITIES

DXY USD Index - 3 years



CRB Major Commodity Index* - 3 Years

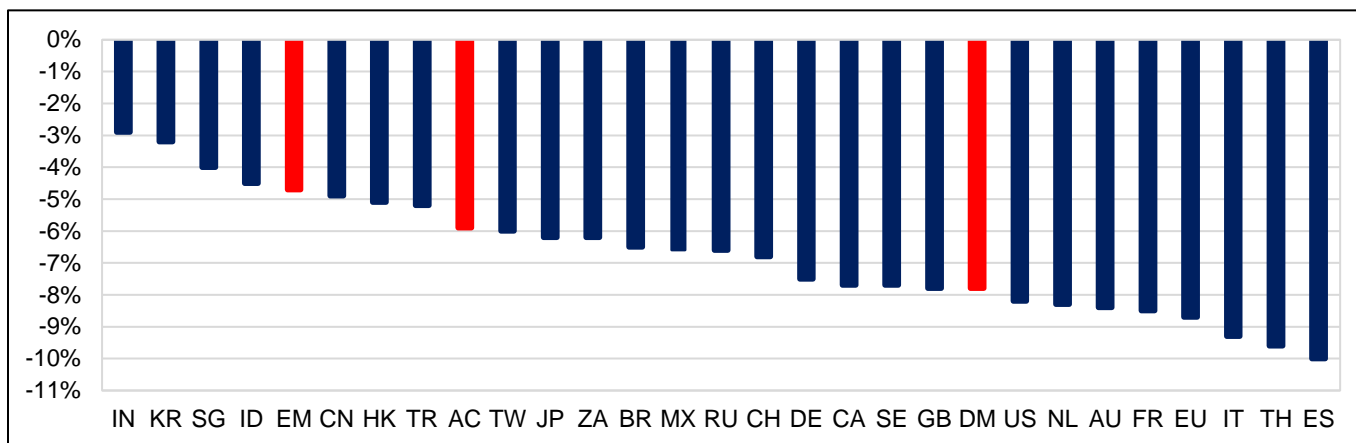


Name	Currency	Close Price	1 Day	1 Week	1 Month	3 Months	1 Year	MTD	QTD	YTD
Commodities										
CRB Commodity Index	USD	2596.21	-0.3%	1.2%	4.2%	18.4%	-13.5%	5.6%	5.6%	-15.8%
Gold Spot	USD	1871.75	1.6%	3.3%	6.7%	9.2%	31.4%	5.1%	5.1%	23.4%
Copper Spot	USD	2.91	-1.1%	1.3%	9.5%	25.5%	7.1%	7.2%	7.2%	4.1%
Brent Crude Spot	USD	43.67	-3.4%	-1.9%	0.0%	338.0%	-28.6%	2.7%	2.7%	-36.7%
CRB Agricultural Index	USD	4940.83	0.1%	0.6%	4.3%	16.6%	-11.0%	6.0%	6.0%	-13.8%
Currencies										
DXY USD Index	USD	94.99	-0.1%	-1.1%	-2.1%	-5.4%	-2.3%	-2.5%	-2.5%	-1.5%
EUR/USD	USD	1.16	0.4%	1.4%	2.8%	6.9%	3.2%	3.0%	3.0%	3.2%
USD/JPY	JPY	107.14	0.4%	0.2%	0.3%	-0.5%	-0.7%	-0.7%	-0.7%	-1.4%
GBP/USD	USD	1.27	0.0%	1.2%	2.2%	3.2%	2.1%	2.7%	2.7%	-4.0%
USD/CNY	CNY	7.00	0.3%	0.1%	-1.0%	-1.2%	1.7%	-0.9%	-0.9%	0.5%
Bond Yields										
DE 10Y BUND	EUR	-0.49	7.2%	11.0%	12.6%	17.7%	42.1%	7.2%	7.2%	163.6%
GB 10Y GILT	GBP	0.12	-10.3%	-26.5%	-36.8%	-62.7%	-82.8%	-29.1%	-29.1%	-85.2%
JP 10Y JGB	JPY	0.02	33.3%	-30.4%	128.6%	-633.3%	-111.7%	-40.7%	-40.7%	-172.7%
US 10Y BILL	USD	0.60	-2.0%	-5.6%	-15.5%	-3.9%	-70.9%	-8.9%	-8.9%	-68.8%
US 30Y BOND	USD	1.29	-1.8%	-3.1%	-11.8%	5.7%	-49.8%	-8.6%	-8.6%	-45.7%
US 10-2 BOND	-	0.45	-4.8%	-0.4%	8.0%	26.5%	21.0%	-4.3%	-4.3%	21.7%
Volatility										
CBOE VIX Index	USD	24.32	-0.02	-0.12	-0.23	-0.42	0.80	-0.20	-0.20	0.76

Source: Refinitiv, THR

MACRO INDICATORS: HISTORIC AND FORECASTS

Forecast Real GDP Growth 'Delta' (2020E % Growth – 2019)



	Codes	Nominal GDP 2019 US\$trn	Real GDP (%)			Inflation (%)			Current Account (% GDP)			Gov Debt (% GDP)	
			2018	2019	2020E	2018	2019	2020E	2018	2019	2020E	2019	2020E
Americas													
US	US	21.4	2.9	2.3	-5.9	2.4	1.8	0.6	-2.4	-2.5	-2.6	106	110
Canada	CA	1.7	1.9	1.5	-6.2	2.2	2.0	0.6	-2.6	-1.9	-3.7	88	83
Brazil	BR	1.9	1.1	1.2	-5.3	3.7	3.8	3.6	-0.8	-1.2	-1.8	92	95
Mexico	MX	1.3	2.0	0.0	-6.6	4.9	3.8	2.7	-1.8	-1.2	-0.3	54	55
Europe													
Eurozone	EU	18.3	2.2	1.2	-7.5	1.9	1.5	2.0	2.0	2.0	1.6	80	78
Germany	DE	3.9	1.5	0.5	-7.0	1.9	1.5	0.3	7.3	7.0	6.6	59	53
UK	GB	2.7	1.4	1.3	-6.5	2.5	1.8	1.2	-3.9	-3.5	-4.4	86	85
France	FR	2.7	1.7	1.3	-7.2	2.1	1.2	0.3	-0.6	-0.5	10.4	99	99
Italy	IT	2.0	0.9	0.2	-9.1	1.2	0.7	0.2	2.5	2.9	3.2	133	134
Spain	ES	1.4	2.6	2.0	-8.0	1.7	0.7	-0.3	0.9	0.9	2.2	96	94
Netherlands	NL	0.9	2.6	1.8	-6.5	1.6	2.5	0.5	10.9	9.8	9.0	49	46
Switzerland	CH	0.7	2.8	0.8	-6.0	0.9	0.6	-0.4	10.2	9.6	7.2	39	36
Sweden	SE	0.5	2.3	0.9	-6.8	2.0	1.7	0.5	1.7	2.9	2.2	37	34
Russia	RU	1.6	2.3	1.1	-5.5	2.9	4.7	3.1	6.8	5.7	0.7	17	18
Turkey	TR	0.7	2.8	0.2	-5.0	16.3	15.7	12.0	-3.5	-0.6	0.4	30	32
Asia													
China	CN	14.1	6.6	6.1	1.2	2.1	2.3	3.0	0.4	1.0	0.5	56	65
Hong Kong	HK	0.4	3.0	0.3	-4.8	2.4	3.0	2.0	4.3	5.5	6.0	0	0
Japan	JP	5.2	0.8	1.0	-5.2	1.0	1.0	0.2	3.5	3.3	1.7	238	238
India	IN	2.9	6.8	4.8	1.9	3.4	3.4	3.3	-2.1	-2.0	-0.6	69	68
Korea	KR	1.6	2.7	2.0	-1.2	1.5	0.5	0.3	4.4	3.2	4.9	40	46
Australia	AU	1.4	2.7	1.7	-6.7	2.0	1.6	1.4	-2.1	-0.3	-0.6	42	41
Indonesia	ID	1.1	5.2	5.0	0.5	3.2	3.2	2.9	-3.0	-2.9	-3.2	30	30
Taiwan	TW	0.6	2.6	2.0	-4.0	1.5	0.8	0.5	12.2	11.4	8.2	34	31
Thailand	TH	0.5	4.1	2.9	-6.7	1.1	0.9	-1.1	6.4	6.0	5.2	42	44
Singapore	SG	0.4	3.1	0.5	-3.5	0.4	0.7	-0.2	17.9	16.5	14.8	114	115
Other													
South Africa	ZA	0.4	0.8	0.4	-5.8	4.6	4.4	2.4	-3.5	-3.1	0.2	60	68
World													
Developed Markets	DM	51.7	2.3	1.7	-6.1	2.0	1.5	0.5	0.7	0.6	0.1	103	104
Emerging Markets	EM	34.9	4.5	3.7	-1.0	4.8	4.7	4.6	0.0	0.0	-0.9	53	58
World	AC	86.6	3.6	2.9	-3.0	3.6	3.4	3.0					

Source: IMF, THR

GLOBAL MACRO & FORECAST TABLES

Provides historic data, and consensus forecasts, for key macro-economic indicators in the major economies of US, Germany, and China. Forecasts highlighted in green and red indicate whether the latest change in the consensus forecast was an increase or decrease.

United States	Historic										Forecasts	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020E	2021E
Production												
Real GDP, Growth	2.6	1.6	2.2	1.8	2.5	2.9	1.6	2.4	2.9	2.3	-5.7	4.0
Industrial Production, Growth	5.5	3.1	3.0	2.0	3.1	-1.0	-1.9	2.3	3.9	0.8	-9.1	2.6
Labour Markets and Income												
Unemployment Rate	9.6	8.9	8.1	7.4	6.2	5.3	4.9	4.3	3.9	3.7	10.5	8.0
Average Earnings, Growth	1.9	2.0	1.9	2.1	2.1	2.2	2.6	2.6	3.0	3.3	2.8	2.4
Prices												
CPI	1.6	3.2	2.1	1.5	1.6	0.1	1.3	2.1	2.4	1.8	1.6	1.6
PCE, excluding energy	1.4	1.6	1.9	1.5	1.6	1.2	1.6	1.6	1.9	1.6	1.3	1.4
Government												
Budget Balance, Growth	-0.2	-0.2	0.0	-0.9	-0.2	0.0	0.2	0.1	0.2	0.1	0.6	-0.4
Current Account, % of GDP	-2.9	-2.9	-2.6	-2.1	-2.1	-2.2	-2.3	-2.3	-2.4	-2.5	-2.2	-2.4

Germany	Historic										Forecasts	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020E	2021E
Production												
Real GDP, Growth	4.2	3.9	0.4	0.4	2.2	1.7	2.2	2.5	1.5	0.6	-5.3	4.4
Industrial Production, Growth	11.6	8.8	-0.6	0.3	1.9	0.4	1.4	3.6	1.2	-4.5	-7.0	5.9
Labour Markets and Income												
Unemployment Rate	7.6	7.1	6.8	6.9	6.7	6.4	6.1	5.7	5.2	5.0	5.4	5.2
Prices												
CPI	1.1	2.1	2.0	1.5	1.0	0.2	0.4	1.7	2.0	1.4	0.8	1.4
Government												
Current Account, % of GDP	5.7	6.2	7.1	6.6	7.2	8.6	8.5	8.1	7.3	7.0	6.5	6.4

China	Historic										Forecasts	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020E	2021E
Production												
Real GDP, Growth	9.9	8.8	8.1	7.7	7.3	6.9	6.9	6.8	6.5	6.0	1.8	8.2
Prices												
CPI	3.5	5.5	2.6	2.7	2.0	1.4	2.0	1.5	2.1	2.8	3.3	2.3
Government												
Current Account, % of GDP	3.9	1.8	2.5	1.5	2.2	2.7	1.8	1.6	0.4	1.0	0.5	0.8

Source: Refinitiv, THR

TOWER HUDSON 'EYE': HOW IT WORKS

The 'eye' methodology helps identify relative buy and sell signals for countries, regions and US sectors, by comparing market sentiment vs fundamentals, with a valuation overlay. The more out-of-favor, with better relative fundamentals the better.

We compare: 1) **sentiment**: to understand whether markets are optimistic or pessimistic, and 2) **fundamentals**: focusing on earnings and business cycle fundamentals and price momentum. The output is also color-coded with a valuation overlay. This combines to give a relative allocation view

How to read the quadrants

Top left – Pessimistic sentiment/Positive fundamentals: The best place to be. Market expectations are low, but fundamentals are relatively good. As sentiment catches up to the better fundamentals, assets may outperform.

Top right – Optimistic sentiment/Positive fundamentals: The 2nd best place to be. The fundamentals are good, but so is market sentiment. This is a momentum quadrant that may deliver outperformance, but investors must be sensitive to relative fundamentals easing.

Bottom right – Optimistic sentiment/Negative fundamentals: Worst place to be. Fundamentals are poor but sentiment still positive. As sentiment catches up, assets may underperform.

Bottom left – Negative sentiment/Negative fundamentals: The second worst place to be. Can be a 'value trap'. Fundamentals are weak but sentiment is equally subdued. Investors need to be sensitive to any improvement in relative fundamentals, that can lead to a move up and rerating.

Sentiment	Indicator
Buy-side	Net ETF and Mutual Fund Flows vs average
Sell-side	Sell-side recommendation consensus score (RCS)
Re-rating/De-rating	Trailing P/E ratio vs average

Fundamentals	
Earnings revisions	Rolling earnings revisions ratio
Price momentum	Change in trailing P/E ratio
Business cycle	Correlation to this business cycle stage (rising, neutral, falling)

Overlay	
Valuation	Average of P/E, P/BV, and P/CF vs history

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