

EYE ON THE WORLD

Beware recession earnings quality

Tuesday, May 11

US markets flat on second wave COVID fears. We put in context, alongside positive further Saudi production cuts, and game-changing Fed high yield support. **HOT TOPICS** looks at recent corporate scandals, amidst decline in earnings quality in recessions, with rising non-GAAP measures, spiking earnings quality ratio (EQR), and high non-cash charges equal to half total earnings fall. Current EQR is average, with materials and energy outliers.

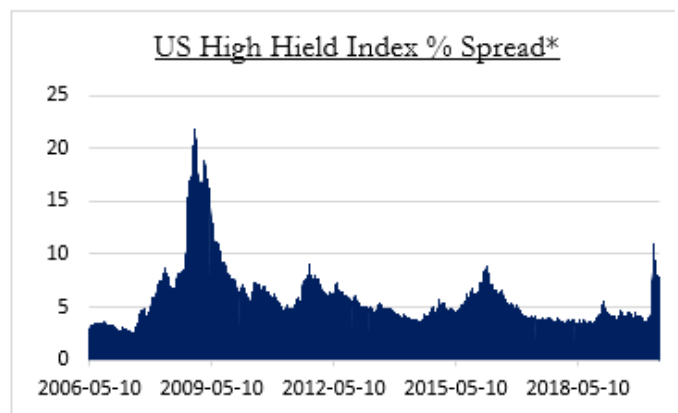
Global equities flat yesterday on second wave infection fears in China, Korea, Germany. Asian markets weaker overnight, and Europe mixed, with US futures down. Wuhan reported 5 new cases in first cluster since lockdown lifted month ago.

Fed now buying corporate bonds. Fed said now buying up to US\$750bn in corporate bond ETFs, through it's Secondary Market Corporate Credit Facility. Will focus mainly on investment grade (IG), but will also purchase high yield (HY), in historic expansion of support. Primary Market facility, to invest in new issues, will be operational in

Key Markets Performance Table

Index	Level	1D	1W	YTD
S&P500	2929.8	0.0%	3.1%	-9.3%
ACWI xUS	40.2	0.0%	2.7%	-18.1%
DXY USD	100.2	0.5%	0.8%	4.0%
US 10Y YLD	0.73	6.6%	14.0%	-62.0%
Brent Spot	23.4	6.6%	48.9%	-66.0%
Gold Spot	1696.0	-0.3%	-0.3%	11.8%

'near future'. We argue HY spreads better guide of EPS pressure than GDP (see *Worst over for Earnings*), and Fed intervention talk kept spreads even lower, at current 7.5%, than 2016 volatility (9%), let alone the 19.8% 2008 peak (see chart).



Source: FRED, THR. *ICE BofA US High Yield Index Option-Adjusted Spread

HIGHLIGHTS FROM REST OF DOC

- **Hot Topics** on [Earnings Quality](#), with recent scandals, earnings quality decline in recessions, rising non-GAAP measures, spiking earnings quality ratio, and charges equal to half EPS fall.
- **What to watch:** Four regional Fed President speakers today, and April US inflation (+0.4% yoy)
- **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	2929.8	0.0%	3.1%	-9.3%
NASDAQ	9298.9	0.8%	5.5%	2.4%
Russell 2000	1321.2	-0.6%	4.5%	-20.8%
US IT	351.1	0.8%	6.3%	5.2%
US Healthcare	349.8	2.0%	4.1%	0.6%
US Financials	145.5	-2.0%	0.0%	-28.8%

Oil supported by Saudi Arabia deepening oil production cuts, by extra 1mbpd, or 1% global supply, from June, to 'encourage peers' to do same. Kuwait and UAE also agreed to further 180kbpd cuts. Comes day after Saudi Arabia tripled VAT rate and cut employee allowances in austerity drive. Further **evidence of rebalancing oil market** puts short term focus on US oil inventories, with American Petroleum Institute weekly report tonight, after last week 8.4mb inventory build. We recently increased our Energy weighting. See *Less bearish on Energy*.

Reinfection in context. Equities vulnerable to second wave reinfection news after recent rally. This is inevitable given the gradual reopening, testing/tracking constraints, and lack of vaccine, but needs context. WHO reported 88.9k new global cases yesterday, down from week ago (86.1k), and current epicenter US saw 25.8k new cases down from week ago 31.8k. New infections in China, Germany, and Korea are a **fraction of prior caseloads**: China reported 20 new cases yesterday vs 84k total cumulative cases, Korea 35 vs 11k cumulative cases, and Germany 357 vs 169k total cumulative cases.

FX, Fixed Income, Commodities

Index	Level	1D	1W	YTD
DXY USD Index	100.2	0.5%	0.8%	4.0%
EUR/USD	1.08	-0.3%	-0.9%	-3.6%
US 10Y YLD	0.73	6.6%	14.0%	-62.0%
US 10-2 BOND	0.55	-14.9%	14.5%	26.4%
CBOE VIX Index	27.6	-1.5%	-23%	100%
CRB Index	2309.5	-1.4%	2.6%	-25.1%

Events to Watch

Indicator	Period	Forecast	Last
CPI YY, China	Apr	3.63	4.30
Core CPI YY, US	Apr	1.70	2.10
Federal Budget, US	Apr	-797 B	-119 B
Weekly Earnings MM, US	Apr	NA	0.20

Sector View

Healthcare (+1.7%) and tech (+0.7%) outperformed the US market yesterday, while financials (-1.9%) and energy (-1.7%) lagged.

The good news. Biggest US mall operator Simon Properties said would have half it' 200 properties open by next week. Big 3 auto producers (GM, Ford, Fiat Chrysler) Michigan plants began reopening, as did Tesla's California plant – though fighting a county shutdown order. Europe's largest low-cost airline Ryanair planning to restore 40% flight schedule in July. **The bad.** Struggling US shale pioneer Chesapeake Energy considering bankruptcy over US\$9bn debt.

What to Watch

China April producer prices (PPI) fell a greater than expected 3.1% yoy, on lower oil prices, whilst consumer prices (CPI) rose a less-than-expected 3.3%, **strengthening the case for more fiscal and monetary support**, potentially along with the May 22 legislative meetings, China's largest annual political meetings.

Fed speakers. Regional Fed Bank President's Kashkari, Bullard, Harker, and Mester are all due to speak today, ahead of Chair Powell's Peterson Institute talk tomorrow on the US economy.

US inflation. April CPI report today forecast at +0.4% yoy, down from +1.5% last month, on lower oil. Core CPI (ex energy/food) expected at +1.7% yoy, below the Fed 2.0% inflation target.

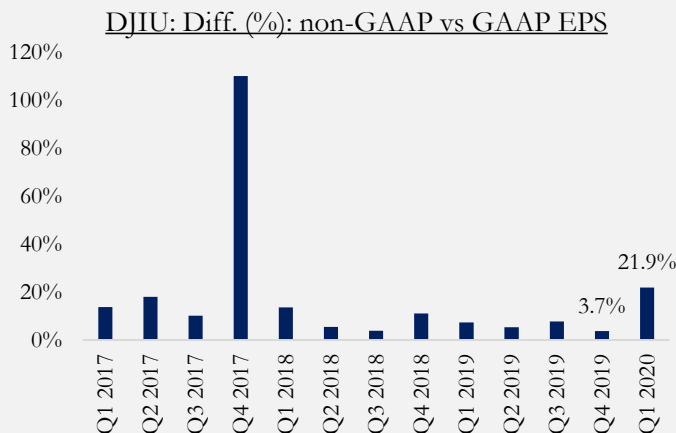
HOT TOPIC

BEWARE RECESSION EARNINGS QUALITY

Earnings quality comes into focus in market crashes and recessions. We have seen increasing use of non-GAAP measures, and regulators stepping up oversight. US earnings quality ratio (EQR) spiked in last two recessions, and noncash charges accounted for half the earnings fall. Recent scandals at Him Leong Trading, Luckin Coffee, TAL Education serve as a reminder. Currently Energy sector has by far lowest EQR and Materials highest.

Attracting attention

[Audit Analytics](#) showed 97% of S&P 500 reporting non-GAAP earnings measures, with an average 7 metrics each, and up from 59% and 2 the past two decades. The International Accounting Standards Board (IASB) is now considering new rules for non-GAAP disclosure, and SEC updated guidance in 2016.



Source: Refinitiv, THR

Emperor has no clothes

History shows it is easier to manage earnings when markets are doing well, whilst crashes and recessions tend to expose accounting issues. Recently we've seen Singapore oil trader Hin Leong declare bankruptcy, after hiding US\$800m trading losses, and forcing provisions from banks. Chinese Starbucks-rival Luckin Coffee overstated 2019 sales by US\$300m, and China's TAL Education overstated sales by forging contracts. The 2008-9 crisis saw the Madoff, Stanford, and Petters Ponzi schemes

and corporate frauds included India's Sattayam and Canada's Biovail. However, many more may engage in less severe earnings management. Chart shows companies that reported 'adjusted' Q1 EPS, did so 22% higher than GAAP equivalents, compared to an average ~10%.

The SEC focus

Active SEC earnings management cases tend to focus on two areas: 1) accelerating revenue, by encouraging customers to take product early, and 2) managing expenses either to improve results (through delay or under-accrual) or to create "cookie jar reserves" (by over-accruing).

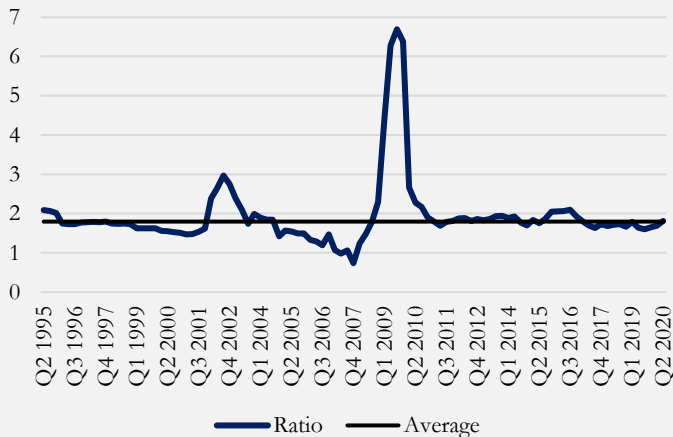
COVID-19 may provide opportunity for firms to be overly generous in increasing accruals and reserves, so called 'cookie jar' reserves. Or may opt not to recognise risks, creating suspicions of 'under-reserving'. Conscious of this, the SEC has provided COVID-specific [guidance](#) for complying with securities laws.

Detecting earnings management

Earnings can be split into two parts: cash flow and accruals, representing the difference between cash earnings and reported earnings, measured as changes in operating assets. Unusual disparities in the ratio of these elements could suggest earnings management. We consider an earnings quality proxy: net cash from operating activities divided by net income.

Below 1, net income is greater than operating cash flow, and could be a firm accelerating income. Well above 1, and the business may be overly conservative. S&P500 average is near 2.

US Earnings Quality Ratio (EQR)



Source: Refinitiv, THR. * EQR=Earnings Quality Ratio=Net cash from operating activities/net income

In the US we saw the ratio spike in the recessions of 2001 and 2008. Aligning the timing of changes in operating cash flow and net profit, we see the ratio peaked at an above average ~2.8 in 2002 and ~4 in 2009.

'Big bath' earnings management

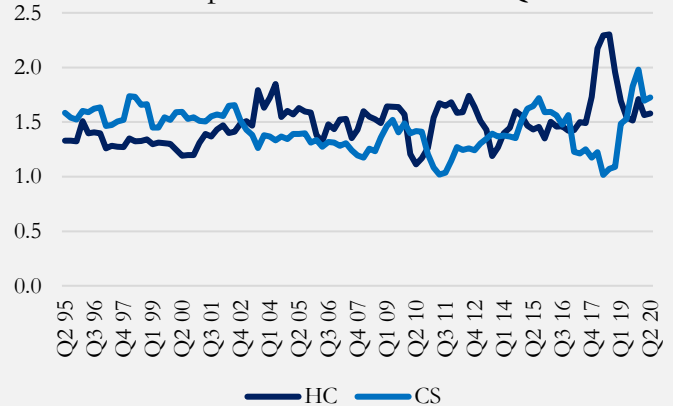
Our analysis also shows firms take large non-recurring losses or expenses during recessions. These 'big bath' charges can be used to clear the decks for improved future performance. Managers may use bad news as cover to unwind prior aggressive accounting or gain future flexibility. On basis of 2002 and 2009, we expect to see Q2 and Q3 results with large non-cash charges, obscuring actual COVID EPS impact.

In the prior two recessions US net profit fell 27pp further than operating cash flows, or around **half the total fall in earnings**. Much of the non-cash changes making up this difference will be legitimately related to weak economic conditions, but it does show the possible scope for earnings management.

Earnings 'quality' by sector

We look at earnings quality ratio (EQR) for US sectors over last 25 years. Those with most consistent ratio were defensives: consumer staples, health care, and (ex 2002) utilities sectors. This makes sense; if earnings are less volatile there can be less opportunity to hide earnings management in the changes.

US Staples and Healthcare EQR

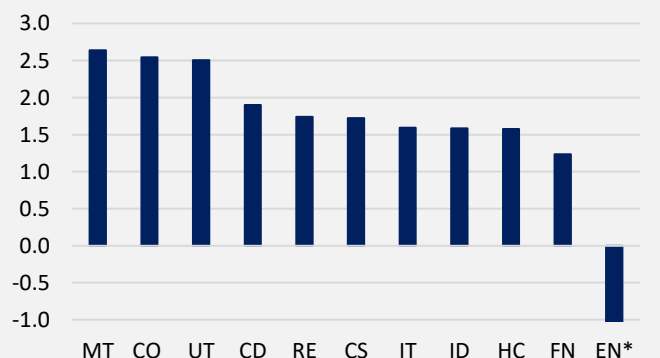


Source: Refinitiv, THR

IT and discretionary bucked trend, with the former's ratio falling dramatically in 2002 and the latter in 2009. Given IT's role in dot-com crash, perhaps managers were more inclined to prop-up earnings rather than 'take a bath'.

Energy and Materials had the most extreme historic upward ratio changes. Literature suggests the more competitive industries are less likely to see earnings management, perhaps explaining why Energy is an outlier.

US Sector Q220e EQR

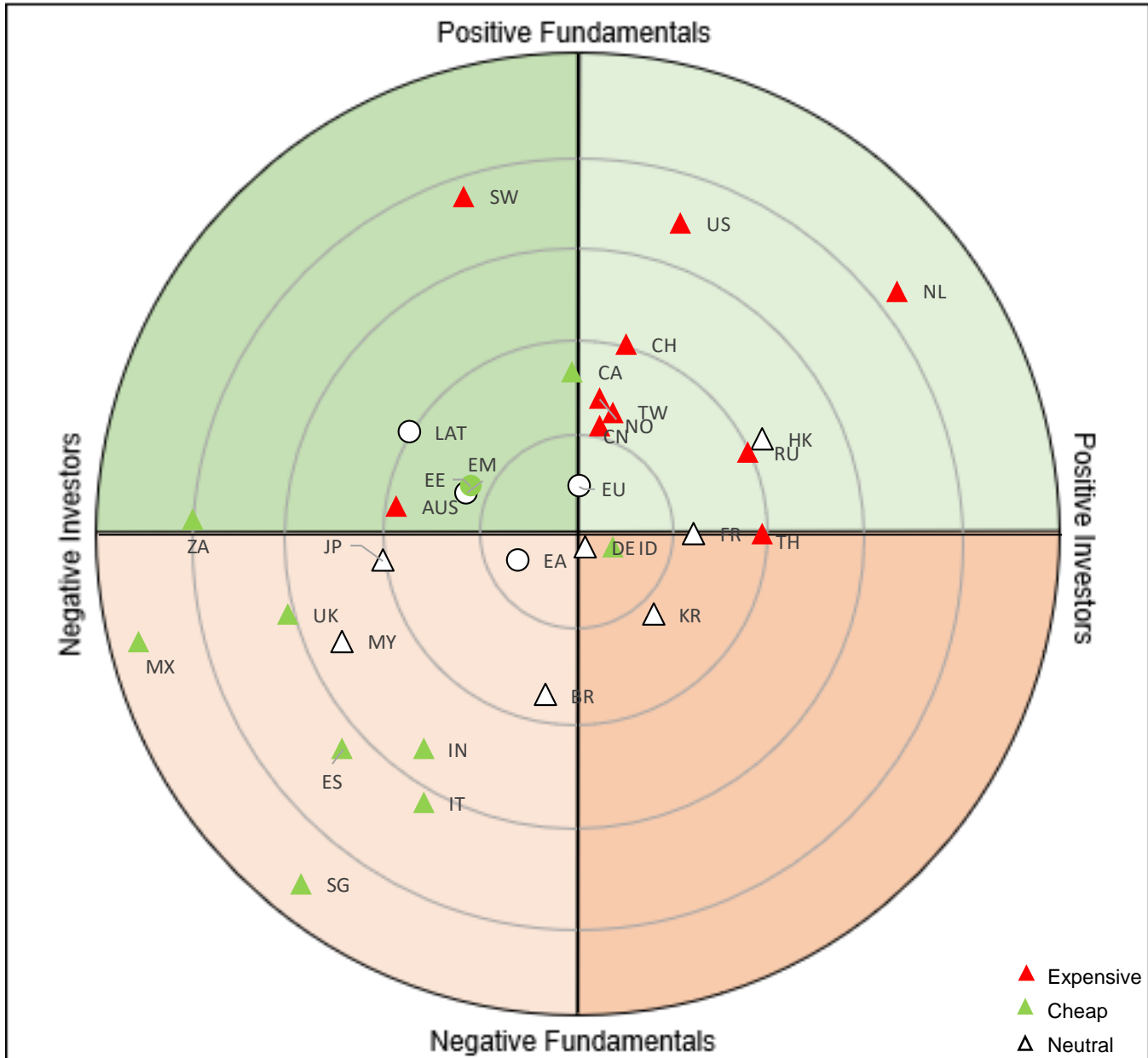


Source: Refinitiv, THR. * Energy sector EQR -15.7

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



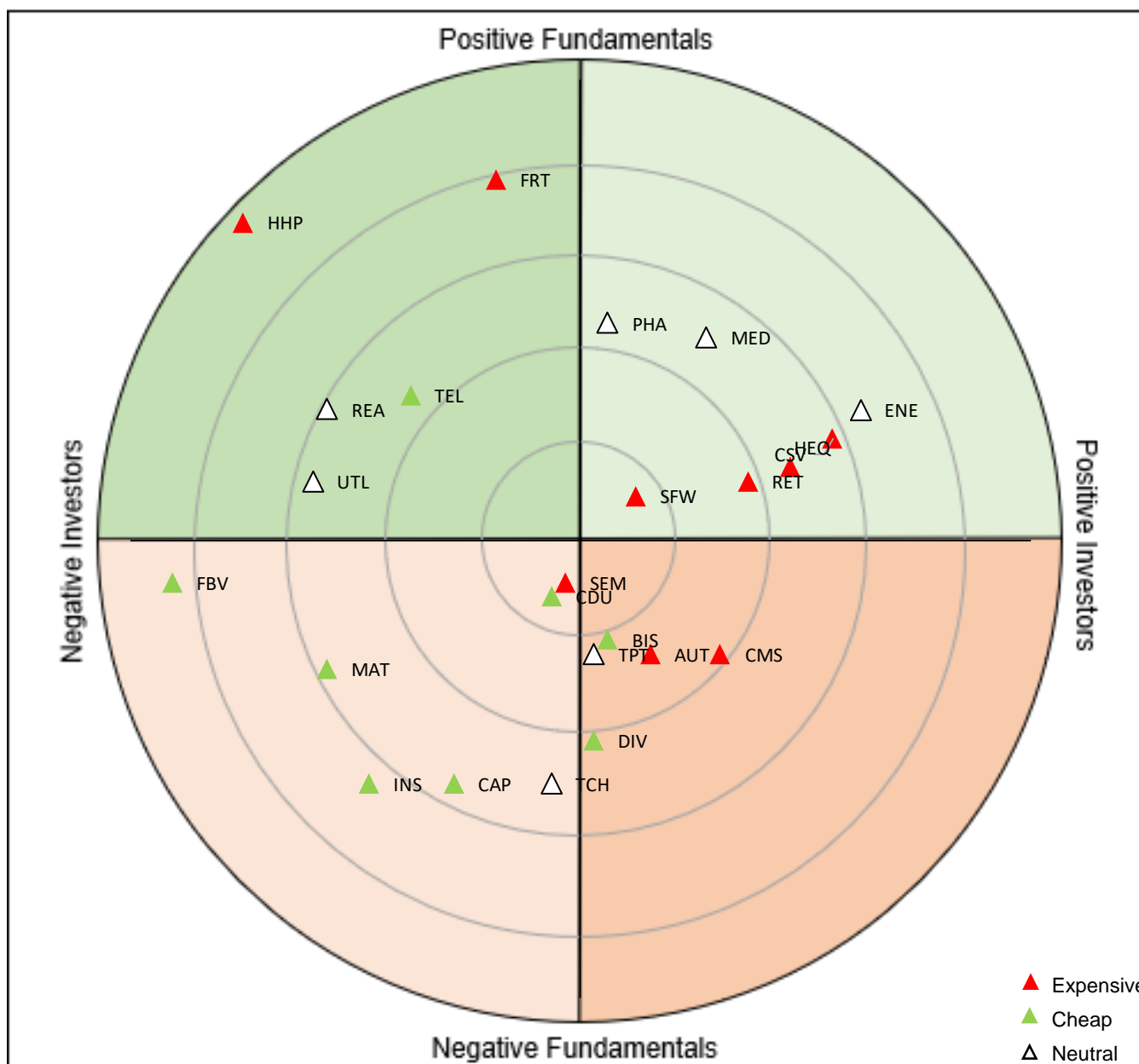
Source: Refinitiv, THR. SEE PAGE 12 FOR FULL METHODOLOGY

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

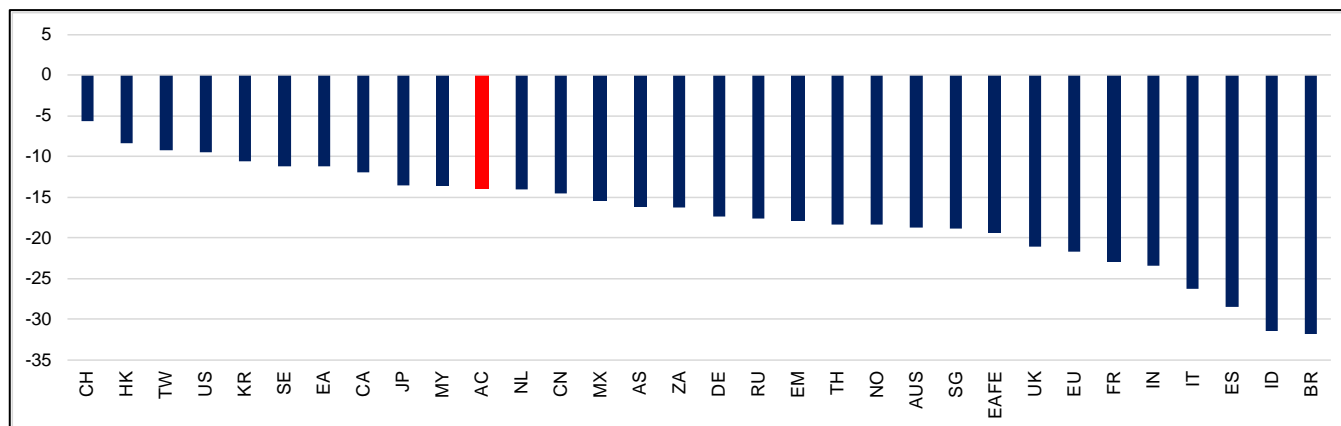
Country/ Region	Rationale	P/E (x)		EPS Gr. (%)	
		2020e	2021e	2020e	2021e
	United States (Overweight): Remains a global equity 'safer haven' despite currently centre of COVID outbreak. Has relatively closed economy and stock market, trend GDP growth into crisis, and seen unprecedented policy response, with unlimited QE and initial 10%/GDP fiscal stimulus. Valuations fundamentally supported by tech, tax, and UST. Earnings 'recession' was easing pre COVID-19. Is in the 'momentum' Eye quadrant, with some of world's strongest relative fundamentals, but also some of the most optimistic investors.	23.0	18.3	-18.5	26.0
	Emerging Markets (Neutral): Economic growth recovery vulnerable even before COVID outbreak. USD strength and plunging oil prices are additional broad headwinds for many. Much of the valuation discount structural. However, lower oil welcomed by many, and also have some growth support, with +8% EM EPS growth. Favor China on combo of policy flexibility, FIFO on COVID cases, <10x P/E. Brazil also well-placed on Eye framework.	13.2	10.9	1.6	21.6
	Eurozone (Neutral): To lead global GDP 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 is important support for Europe's globalised corporates. As COVID cases peak and countries look to restart economies is set to be the key beneficiary of cyclical economic and market upturn. Focus domestic cyclicals (Financials)	17.1	13.5	-21.9	26.6
	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 poorest globally. Domestic stocks significantly underperformed global-exposed peers.	15.1	14.1	-18.3	7.1
	UK (Underweight): One of the poorest positioned of all major countries/regions on the 'Eye'. Relatively in-favour with investors, but with relatively weak fundamentals. Market more expensive than generally perceived (on P/E), and has above average cyclical equity exposure, making it vulnerable to a broader economic downturn (or lower oil prices). Weak GBP has been a key support to large caps, with c60% index revenues ex UK.	15.3	12.0	-28.8	27.3

US Sector	Rationale	P/E (x)		EPS Gr. (%)	
		2020e	2021e	2020e	2021e
	Information Technology (Overweight): Software and Semiconductors 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.	24.3	20.8	-0.2	17.1
	Healthcare (Overweight): Both Healthcare Equipment and Pharma are in the top-right 'momentum' quadrant, well 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 cyclical and a domestic revenue focus. US election risks easing as Biden rises in primary polls and seeing Federal support to combat COVID.	18.0	15.5	0.0	15.9
	Financials (Underweight): All three sector components (Banks, Diversified, Insurance) in the bottom-left 'value trap' quadrant of the 'Eye'. All out of favour with market, with strong fund outflows and valuation derating, whilst fundamentals have also been under pressure from ever lower 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 expensive.	16.2	11.7	-36.5	38.1
	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..	22.5	18.6	-10.7	21.1
	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.	40.5	25.1	-36.6	61.6

Source: Refinitiv, THR

REGION/COUNTRY PERFORMANCE & VALUATION

Total Return YTD

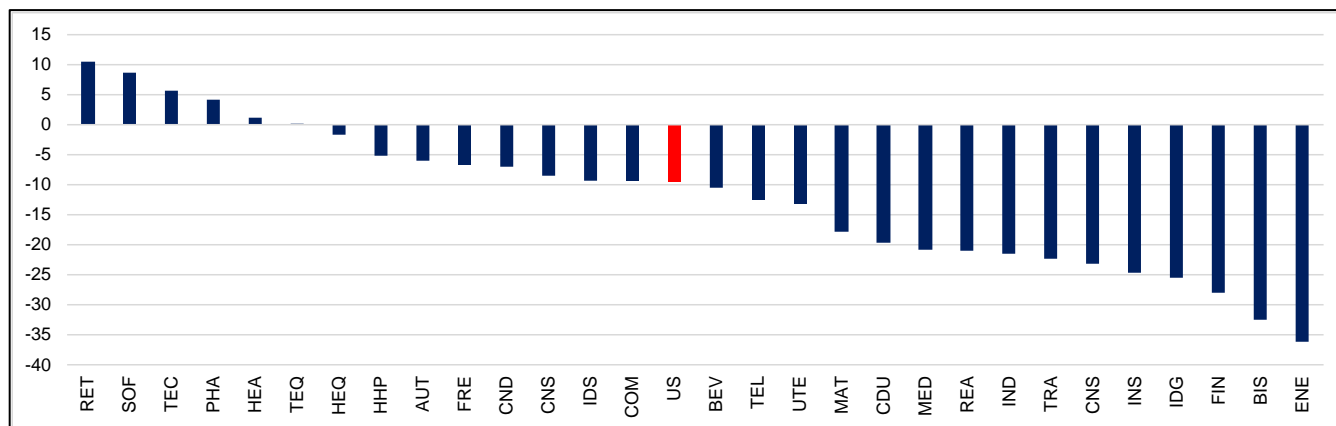


Index	Abbreviation	Price Performance				PE			EPS Growth	
		1D (%)	1W (%)	3M (%)	YTD (%)	2019A	2020E	2021E	2020E	2021E
World	AC	0.0	2.5	-16.0	-14.0	16.3	19.0	15.3	-14.6%	24.2%
EAFE	EAFE	-0.3	1.9	-19.5	-19.3	13.8	16.1	13.2	-14.4%	22.3%
Europe	EU	-0.8	1.8	-22.0	-21.6	13.4	17.1	13.5	-21.9%	26.6%
Asia	AS	0.7	1.2	-15.6	-16.2	14.8	14.1	11.8	5.0%	19.4%
Emerging Global Markets	EM	0.5	1.9	-17.5	-17.8	13.4	13.2	10.9	1.6%	21.6%
Emerging Asia	EA	0.8	2.2	-11.9	-11.2	14.8	13.9	11.5	6.4%	21.3%
Australia	AUS	1.3	0.0	-22.9	-18.8	13.6	15.9	16.5	-14.6%	-3.3%
Brazil	BR	-1.3	-0.1	-30.1	-31.8	11.1	13.7	9.9	-19.3%	38.6%
Canada	CA	0.8	2.2	-15.0	-11.9	13.5	18.1	14.0	-25.2%	29.1%
China	CN	0.9	1.0	-10.5	-14.5	13.6	13.2	11.2	3.2%	18.0%
France	FR	-1.1	0.7	-24.5	-23.0	13.0	17.4	13.2	-25.3%	31.9%
Germany	DE	-0.6	1.4	-19.4	-17.4	13.6	16.6	12.1	-18.2%	37.5%
Hong Kong	HK	1.4	2.9	-7.3	-8.4	14.3	15.9	13.2	-10.1%	20.3%
India	IN	0.0	-0.8	-24.8	-23.4	19.4	17.5	14.1	10.8%	24.1%
Indonesia	ID	1.1	-1.9	-27.9	-31.4	11.8	12.1	10.7	-2.6%	13.2%
Italy	IT	-0.2	0.4	-29.3	-26.3	9.1	13.1	10.4	-30.2%	26.0%
Japan	JP	1.6	3.3	-13.5	-13.5	12.3	15.1	14.1	-18.3%	7.1%
Korea	KR	-0.5	1.7	-12.7	-10.6	15.7	12.5	9.0	26.4%	38.1%
Malaysia	MY	0.0	-0.1	-11.2	-13.5	15.4	16.6	14.6	-7.6%	13.8%
Mexico	MX	0.1	3.5	-16.7	-15.4	13.5	13.7	11.2	-0.9%	21.5%
Netherlands	NL	-0.3	2.2	-17.5	-14.0	17.8	19.6	16.3	-9.4%	19.9%
Norway	NO	-0.8	1.2	-17.6	-18.3	12.2	17.1	12.6	-28.9%	35.7%
Russia	RU	0.0	-0.6	-17.0	-17.6	5.0	7.0	5.8	-27.6%	20.4%
Singapore	SG	0.8	0.9	-17.9	-18.8	10.9	12.6	11.0	-14.1%	14.9%
South Africa	ZA	-1.4	1.7	-14.4	-16.2	12.9	10.9	9.3	17.7%	17.2%
Spain	ES	-1.5	-0.8	-30.9	-28.5	9.9	12.9	10.8	-23.3%	19.1%
Sweden	SE	-0.4	2.0	-16.5	-11.2	13.9	19.4	14.8	-28.2%	30.4%
Switzerland	CH	0.4	2.6	-9.7	-5.7	18.4	19.7	17.2	-6.6%	14.7%
Taiwan	TW	1.1	1.0	-6.9	-9.3	16.6	15.8	13.8	4.9%	14.2%
Thailand	TH	1.9	1.6	-14.9	-18.3	14.8	17.3	14.4	-14.9%	20.3%
United Kingdom	UK	0.0	1.8	-20.4	-21.0	10.9	15.3	12.0	-28.8%	27.3%
United States	US	0.0	3.5	-12.8	-9.5	18.8	23.0	18.3	-18.5%	26.0%

Source: MSCI, Refinitiv, THR

US SECTOR PERFORMANCE & VALUATION

Total Return YTD

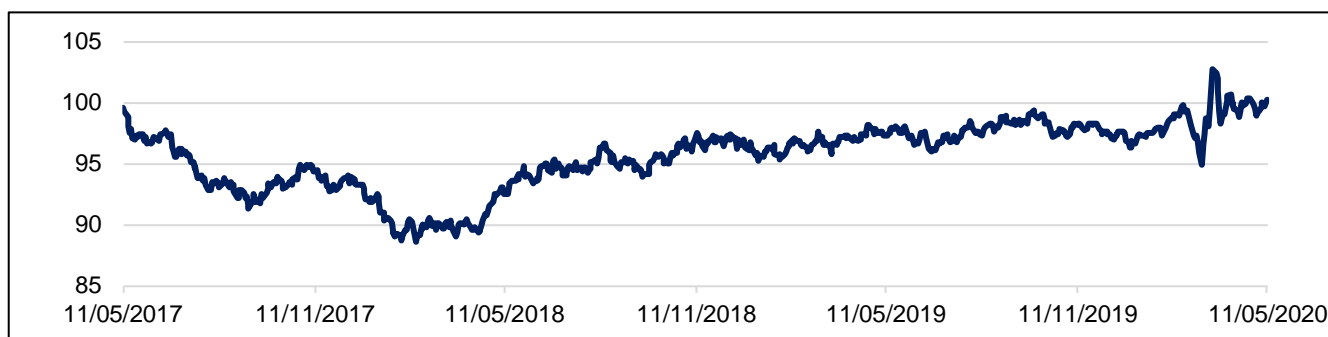


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		1D (%)	1W (%)	3M(%)	YTD (%)	2019A	2020E	2021E	2020E	2021E
United States	US	0.0	3.5	-12.8	-9.5	18.8	23.0	18.3	-18.5%	26.0%
Communications	COM	0.6	4.4	-12.0	-9.4	20.1	22.5	18.6	-10.7%	21.1%
Media and Entertainment	MED	-1.1	1.7	-20.9	-20.9	25.5	29.3	22.2	-12.9%	32.0%
Telecommunication Svcs	TEL	-1.2	0.4	-12.6	-12.5	10.6	11.4	11.0	-6.8%	3.2%
Consumer Discretionary	CND	-0.2	3.8	-10.7	-7.0	25.8	40.5	25.1	-36.3%	61.6%
Autos & Components	AUT	-1.5	6.4	-14.2	-6.0	13.6	NA	16.7	-100.7%	12209.8%
Consumer Svcs	CNS	-1.4	1.9	-23.0	-23.2	19.4	60.2	23.7	-67.7%	153.6%
Consumer Durables & App Retailing	CDU	-0.9	5.1	-20.5	-19.7	17.0	20.7	16.6	-17.6%	24.7%
Retailing	RET	0.9	4.5	2.2	10.5	34.4	39.0	29.2	-11.9%	33.3%
Consumer Staples	CNS	-0.3	1.0	-10.5	-8.5	20.1	20.3	18.8	-0.8%	7.8%
Food & Staples Retailing	FRE	0.6	0.8	-4.4	-6.8	21.4	21.4	20.1	-0.1%	6.6%
Food, Bev & Tobacco	BEV	-0.6	1.4	-13.3	-10.6	17.8	18.4	16.9	-3.5%	9.1%
Household Products	HHP	-0.4	0.3	-8.4	-5.3	25.5	24.1	22.7	6.1%	5.7%
Energy	ENE	-1.7	2.5	-28.1	-36.1	14.5	NA	40.3	-112.4%	389.2%
Financials	FIN	-2.1	0.1	-29.0	-28.0	10.4	16.2	11.7	-35.5%	38.1%
Banks	BIS	-2.7	-0.8	-31.8	-32.5	8.3	18.8	10.7	-55.7%	76.0%
Insurance	INS	-1.2	0.7	-27.3	-24.8	10.5	10.7	9.7	-2.6%	10.3%
Health Care	HEA	2.0	4.2	-0.6	1.1	18.0	18.0	15.5	0.0%	15.9%
Health Care Equipment	HEQ	1.3	4.4	-2.9	-1.7	27.9	31.0	24.4	-10.0%	27.3%
Pharmaceuticals	PHA	2.7	4.0	1.7	4.1	16.6	16.3	14.4	1.9%	13.3%
Industrial	IND	-1.2	2.1	-23.8	-21.5	16.7	23.3	17.2	-28.2%	35.7%
Capital Goods	IDG	-1.4	1.8	-27.5	-25.5	15.4	21.2	16.4	-27.2%	29.4%
Commercial & Prof Svcs	IDS	-0.6	3.5	-14.6	-9.3	26.4	29.9	25.8	-11.7%	16.3%
Transport	TRA	-1.0	2.7	-22.9	-22.4	17.8	29.2	16.5	-39.3%	77.5%
Information Technology	TEC	0.8	6.4	-4.0	5.6	24.3	24.3	20.8	-0.2%	17.1%
Software & Svcs	SOF	0.7	6.1	-3.2	8.7	31.1	29.6	25.8	5.1%	14.7%
Technology Hardware	TEQ	0.8	7.0	-5.6	0.1	19.7	20.3	17.0	-2.7%	19.2%
Semiconductors	SEM	0.7	6.3	-4.3	0.2	18.0	19.3	16.2	-6.4%	19.0%
Materials	MAT	-1.6	1.8	-15.0	-17.8	17.9	21.3	16.9	-16.1%	25.8%
Real Estate	REA	-1.5	1.1	-24.3	-21.1	31.9	41.5	36.9	-23.2%	12.4%
Utilities	UTE	-0.6	-0.4	-18.4	-13.1	18.6	18.1	17.1	2.4%	6.0%

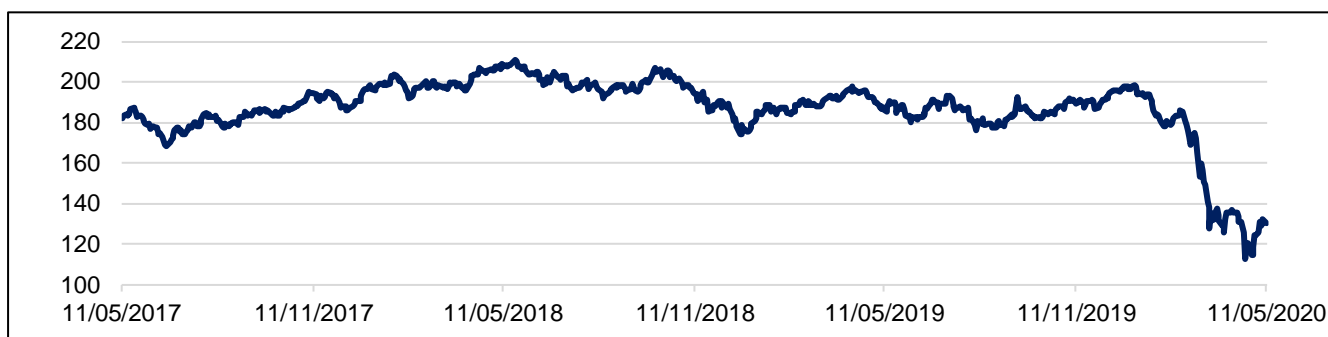
Source: Refinitiv, THR

GLOBAL FX, BONDS AND COMMODITIES

DXY USD Index - 3 years



CRB Major Commodity Index* - 3 Years

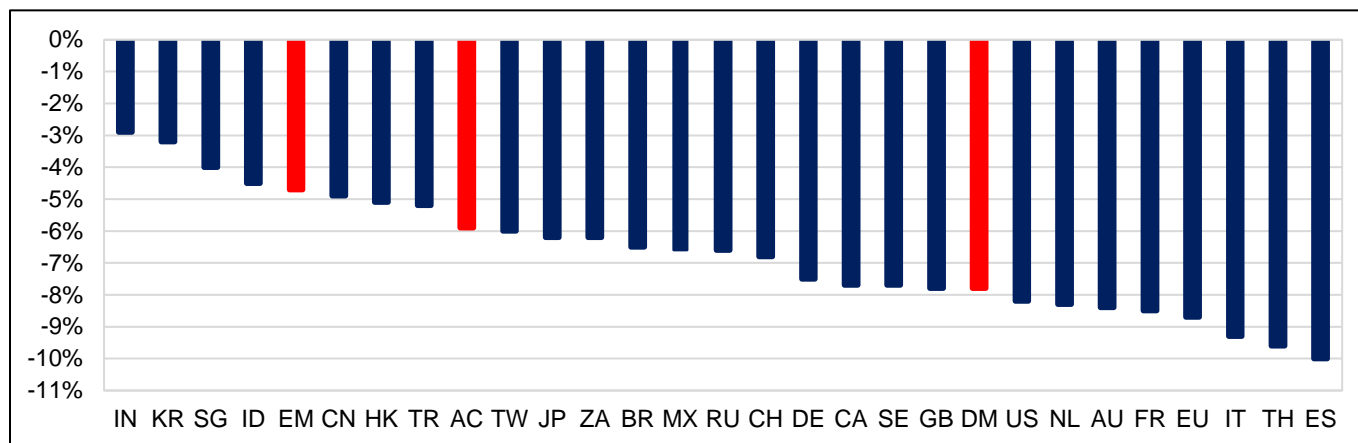


Name	Currency	Close Price	1 Day	1 Week	1 Month	3 Months	1 Year	MTD	QTD	YTD
Commodities										
CRB Commodity Index	USD	2309.49	-0.1%	0.7%	2.0%	-21.3%	-20.1%	-1.3%	11.0%	-25.2%
Gold Spot	USD	1695.98	0.4%	-0.2%	0.8%	8.8%	32.4%	1.3%	8.4%	12.2%
Copper Spot	USD	2.38	-0.5%	1.2%	4.1%	-9.1%	-14.9%	0.7%	5.8%	-15.2%
Brent Crude Spot	USD	23.43	0.0%	12.2%	25.2%	-58.3%	-67.5%	58.0%	51.1%	-66.0%
CRB Agricultural Index	USD	4356.60	0.2%	0.8%	-1.2%	-20.9%	-19.1%	-2.0%	5.0%	-23.8%
Currencies										
DXY USD Index	USD	100.24	-0.1%	0.5%	0.6%	1.1%	2.9%	1.2%	1.1%	3.9%
EUR/USD	USD	1.08	0.1%	-0.2%	-1.1%	-0.5%	-3.7%	-1.3%	-2.0%	-3.5%
USD/JPY	JPY	107.66	-0.1%	0.9%	-0.8%	-2.3%	-2.2%	0.4%	0.0%	-1.0%
GBP/USD	USD	1.23	-0.1%	-0.9%	-1.0%	-4.9%	-5.2%	-2.1%	-0.7%	-7.0%
USD/CNY	CNY	7.10	-0.1%	0.4%	0.8%	1.7%	3.9%	0.4%	0.1%	1.9%
Bond Yields										
DE 10Y BUND	EUR	-0.52	-5.0%	-14.5%	44.4%	31.4%	929.2%	-15.7%	8.1%	164.2%
GB 10Y GILT	GBP	0.27	4.4%	36.9%	-7.5%	-54.0%	-75.2%	22.1%	-20.6%	-65.8%
JP 10Y JGB	JPY	0.00	-133.3%	-88.5%	-400.0%	-92.3%	-93.8%	-92.1%	-117.6%	-86.4%
US 10Y BILL	USD	0.73	-2.7%	7.5%	-2.1%	-56.7%	-71.2%	13.0%	1.1%	-63.0%
US 30Y BOND	USD	1.44	-1.9%	6.5%	5.1%	-32.3%	-50.7%	11.5%	4.5%	-40.4%
US 10-2 BOND	-	0.55	-2.6%	10.3%	17.5%	30.8%	20.7%	16.9%	21.8%	25.4%
Volatility										
CBOE VIX Index	USD	27.57	0.02	-0.16	-0.32	1.05	0.76	-0.17	-0.47	1.05

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	21.4	2.9	2.3	-5.9	2.4	1.8	0.6	-2.4	-2.5	-2.6	106	110	
Canada	1.7	1.9	1.5	-6.2	2.2	2.0	0.6	-2.6	-1.9	-3.7	88	83	
Brazil	1.9	1.1	1.2	-5.3	3.7	3.8	3.6	-0.8	-1.2	-1.8	92	95	
Mexico	1.3	2.0	0.0	-6.6	4.9	3.8	2.7	-1.8	-1.2	-0.3	54	55	
Europe													
Eurozone	18.3	2.2	1.2	-7.5	1.9	1.5	2.0	2.0	2.0	1.6	80	78	
Germany	3.9	1.5	0.5	-7.0	1.9	1.5	0.3	7.3	7.0	6.6	59	53	
UK	2.7	1.4	1.3	-6.5	2.5	1.8	1.2	-3.9	-3.5	-4.4	86	85	
France	2.7	1.7	1.3	-7.2	2.1	1.2	0.3	-0.6	-0.5	10.4	99	99	
Italy	2.0	0.9	0.2	-9.1	1.2	0.7	0.2	2.5	2.9	3.2	133	134	
Spain	1.4	2.6	2.0	-8.0	1.7	0.7	-0.3	0.9	0.9	2.2	96	94	
Netherlands	0.9	2.6	1.8	-6.5	1.6	2.5	0.5	10.9	9.8	9.0	49	46	
Switzerland	0.7	2.8	0.8	-6.0	0.9	0.6	-0.4	10.2	9.6	7.2	39	36	
Sweden	0.5	2.3	0.9	-6.8	2.0	1.7	0.5	1.7	2.9	2.2	37	34	
Russia	1.6	2.3	1.1	-5.5	2.9	4.7	3.1	6.8	5.7	0.7	17	18	
Turkey	0.7	2.8	0.2	-5.0	16.3	15.7	12.0	-3.5	-0.6	0.4	30	32	
Asia													
China	14.1	6.6	6.1	1.2	2.1	2.3	3.0	0.4	1.0	0.5	56	65	
Hong Kong	0.4	3.0	0.3	-4.8	2.4	3.0	2.0	4.3	5.5	6.0	0	0	
Japan	5.2	0.8	1.0	-5.2	1.0	1.0	0.2	3.5	3.3	1.7	238	238	
India	2.9	6.8	4.8	1.9	3.4	3.4	3.3	-2.1	-2.0	-0.6	69	68	
Korea	1.6	2.7	2.0	-1.2	1.5	0.5	0.3	4.4	3.2	4.9	40	46	
Australia	1.4	2.7	1.7	-6.7	2.0	1.6	1.4	-2.1	-0.3	-0.6	42	41	
Indonesia	1.1	5.2	5.0	0.5	3.2	3.2	2.9	-3.0	-2.9	-3.2	30	30	
Taiwan	0.6	2.6	2.0	-4.0	1.5	0.8	0.5	12.2	11.4	8.2	34	31	
Thailand	0.5	4.1	2.9	-6.7	1.1	0.9	-1.1	6.4	6.0	5.2	42	44	
Singapore	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	-4.1	3.8
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	9.5	7.0
Average Earnings, Growth	1.9	2.0	1.9	2.1	2.1	2.2	2.6	2.6	3.0	3.3	2.6	2.5
Prices												
CPI	1.6	3.2	2.1	1.5	1.6	0.1	1.3	2.1	2.4	1.8	1.0	1.8
PCE, excluding energy	1.4	1.6	1.9	1.5	1.6	1.2	1.6	1.6	1.9	1.6	1.4	1.5
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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