September 2020

WILL THE DIGITAL FRENZY CONTINUE?

Key macro themes

Consumer spending – We investigate the impact of COVID-19 on household expenditure patterns. Despite creating deep economic losses, **the pandemic has caused a surge in demand for IT and internet services** (F1), enabling rapid growth in the tech-heavy US equity market. We explore the implications of a normalization in expenditure patterns for equity prospects.

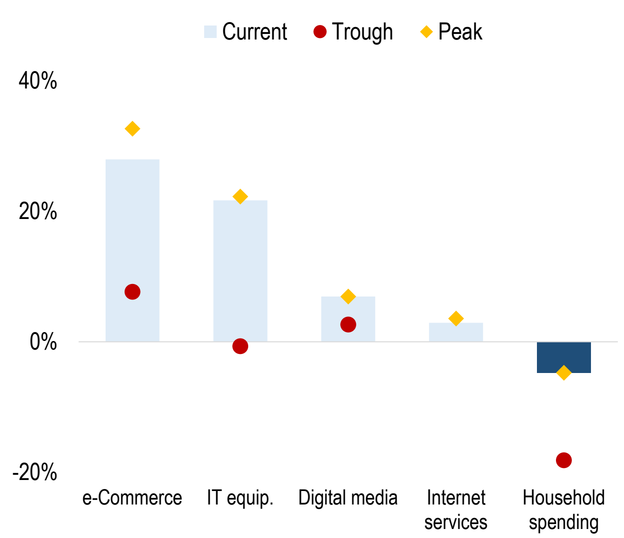
Investment strategy

Sell-off implications – Unlike the original COVID shock, this month's 8% equity correction was far from unexpected (F2) given extremely high valuations in cyclical stocks. **The ongoing adjustment improves both the absolute and relative appeal of total US equity investments** by realigning stock prices with economic fundamentals.

Sector rotation – Although total US stocks exhibit a better risk-reward trade-off, the upside varies considerably across equity segments. In particular, we recommend relative underweight positions for IT, communication service and e-Commerce stocks as **stronger away-from-home consumption should weaken demand for online services**, thus reducing their 'fair' value.

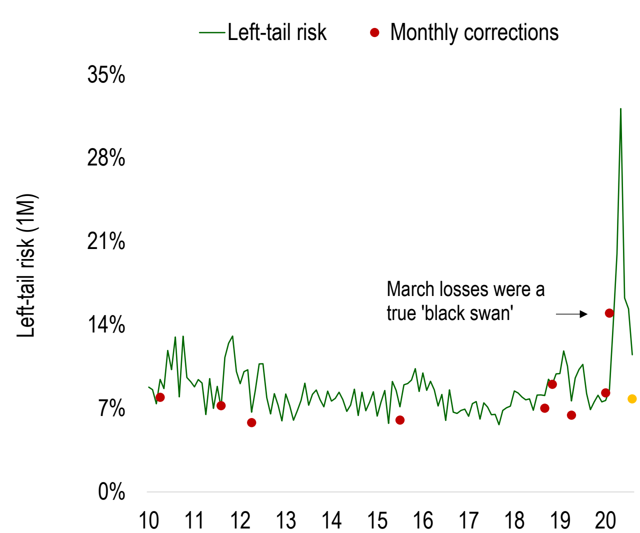
Charts of the month

F1: Strong demand for online services
Change in consumer spending by category



Note: Chart compares change in consumer spending by category vs. 02/20. IT equipment includes spending on PCs and computer software; digital media is spending on video and audio streaming. Source: BEA; Numera calculations.

F2: Equity sell-off was not unexpected
Left-tail risk and S&P corrections



Note: Green line is the 1% value-at-risk on 1M US equity investments. It denotes the extent of potential losses with a 1% probability on 1M investments in US stocks. Red dots are realized corrections (MoM). Source: Numera Analytics; S&P

Economic activity:

- **Growth** – *Gradual recovery*. High frequency data points towards a pick up in consumption since late August (F6). We continue to expect a 'check' mark recovery, with a 92% chance of positive GDP growth next year. The Fed's shift towards 'average' inflation targeting improves the upside by reducing the likelihood of pre-emptive rate hikes.

- **Inflation** – *Rising*. Despite high unemployment, inflation should strengthen on the back of stronger commodity prices. The most likely outcome is for PCE inflation to reach 1.9% one-year out, with a 44% chance of exceeding the Fed target. De-globalization and rapid growth in money supply increase inflationary risks 2-years out.

- **Fed policy** – *Expansionary*. The Fed's shift to 'average inflation targeting' increases the likelihood of zero interest rates and ample liquidity support over the next 12M. Although inflationary risks are on the rise, the low probability of very high (say 4%+) inflation effectively ties the interest rate outlook to the speed of economic recovery.

Equity strategy:

- **Stock market** – *Neutral*. This month's tech-driven correction helps reduce downside risk by bringing stock prices closer to market and economic fundamentals. We now recommend a neutral (50/50) stock-bond allocation as the ongoing adjustment increases the risk-reward balance of one-year equity holdings.

- **Sectors** – *Select overweight*. Last month, we warned that rapid growth in 'lockdown' sectors like IT or e-commerce had pushed prices well above their 'fair' value (F11). Even with the ongoing correction, we recommend rebalancing towards sectors that have underperformed since April, with generally higher risk-adjusted expected returns.

Bond strategy:

- **Treasuries** – *Neutral*. Dovish Fed policy and weak potential growth continue to limit the chances of a deep sell-off. Higher inflationary risks, however, increase the likelihood of a pick-up in bond yields, eroding their investment appeal. We expect 10Y yields to fall in the 50-100 bps range 12M out, higher than our <50 bps forecast last month.

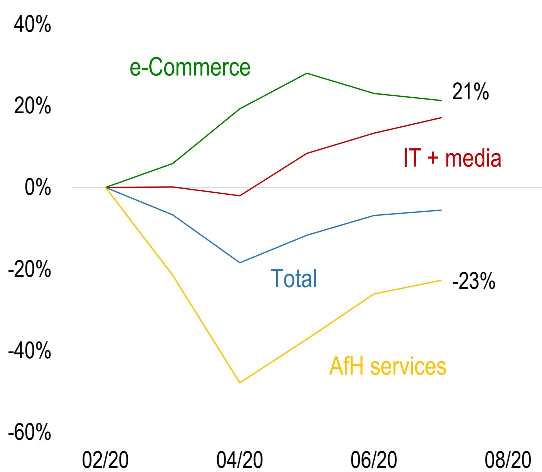
- **Corporate bonds** – *IG neutral*. The Fed's pledge to provide liquidity until economic conditions normalize continues to compress the risk premia on corporate yields. In combination with declining financial stress, this continues to increase the appeal of new investments, particularly on investment-grade (IG) bonds.

In this section:

Budget shifts and stock returns – Despite causing unprecedented economic losses, stay-at-home orders and now voluntary social distancing have proven extremely beneficial to certain industries. In the early days of the pandemic, for example, consumers flooded grocery stores fearing shortages of food and household items. The surge in demand mitigated equity losses in this space, with food retail stocks outperforming the S&P by over 20% until May.

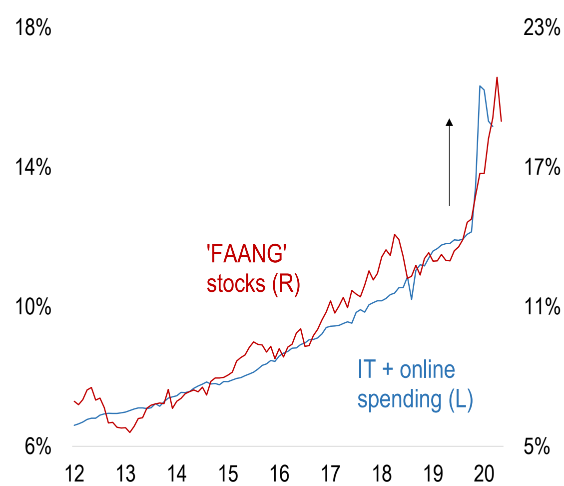
Similarly, the combination of **mobility restrictions and direct income support has boosted demand for IT equipment and internet services**, ranging from streaming platforms to online shopping. F3 shows the impact of COVID-19 on real consumer spending and selected expenditure categories. While the virus lowered consumption by as much as 18% (a $2.5T loss), e-Commerce, IT and digital media exceeded their pre-COVID baseline by about 20% in July.

F3: Major shift in expenditure patterns
COVID impact on household spending



Note: Chart compares evolution of real consumer spending and sub-categories relative to a no-shock / pre-COVID baseline (in %). For example, online purchases were 20%+ higher in July than what could have been expected in early 2020. Source: Numera Analytics.

F4: Shift has benefited market leaders
Online spending vs. 'FAANG' stocks

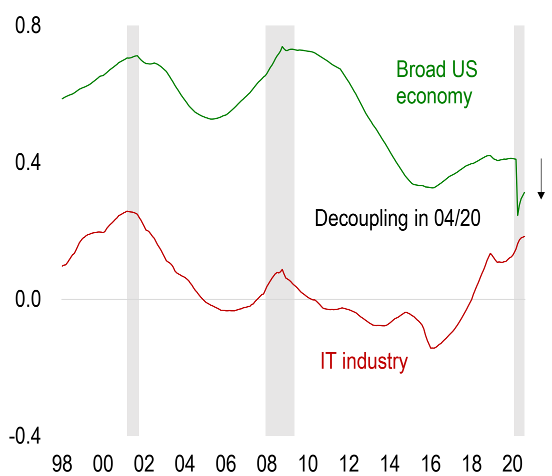


Note: Chart plots share of household spending allocated to IT (software + hardware) and online (streaming, media, internet access, e-commerce) services versus the S&P market share of 'FAANG' stocks. Source: BEA, NYSE, S&P; Numera calculations.

What explains these extraordinary expenditure shifts? Unlike standard recessions, the pandemic restricts consumer choice by limiting the accessibility (and supply) of contact-intensive goods and services. Faced with reduced choice, households alter their shopping habits and redirect a portion of their budget to sectors that do not pose a direct health risk. In the case of the US, fiscal stimulus has magnified this 'substitution' effect by increasing disposable income.

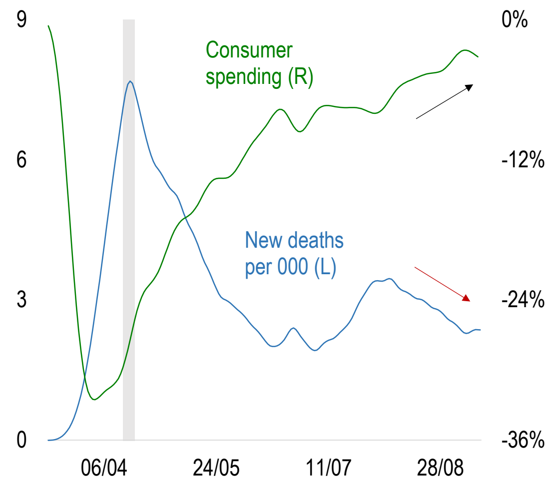
This budgetary shift is a key reason for the surge in US large-cap stocks between late March and early September. Unlike other regions, tech players dominate the US equity space, with IT, communication service and e-Commerce

F5: Break with broad economic activity
Time-varying effects - US equity returns



Note: Time-varying coefficients linking average monthly real equity returns to Numera's composite US real activity and IT activity indices. Coefficients are the Kalman smoother output of a state-space model with time-varying parameters. Source: Numera Analytics.

F6: Consumption is on the rise
COVID deaths and consumer spending



Note: Chart compares new COVID deaths per 000 to a daily changes in consumer spending (versus 01/20) based on credit and debit card purchases. Source: ECDC, Opportunity Insights Economic Tracker; Numera calculations.

stocks accounting for nearly 40% of the S&P just before the pandemic. **Rapid growth in IT and online spending drove equity flows into already dominant sectors**, lifting returns and widening differences in performance (F4).

More generally, strong demand for online services helps explain the otherwise puzzling 'disconnect' between US stocks and the real economy. The green line in F5 tracks the impact of a 1-point change in US economic activity on real equity returns, when also controlling for IT-specific developments. The link has weakened markedly since 2008 (as Fed policy became the dominant driver), and fell to an all-time low in April as stocks rallied amid dismal economic conditions. Notice, however, that IT-specific shocks have gained in importance, and today matter almost as much as broad economic developments.

Will budgets normalize? – Although a broad economic recovery would clearly benefit overall US equities, a normalization in expenditure patterns could potentially *hurt* technology stocks if it reduces demand for online services. High frequency data reveals **total consumer spending is on the rise after stalling in June and July**. As we can see from F6 above, the pick-up in consumption is consistent with an improvement in health prospects.

Low infection rates in most major states increase the likelihood of further improvements in consumption. T1 below shows our latest projections for overall private consumption and away-from-home (AfH) services. The latter measures spending in contact-intensive sectors like restaurants, hotels and entertainment venues. We now expect consumption to contract 4% this year, and to expand nearly 7% in 2021. Although the outlook is highly uncertain, there is a 94% chance that consumption will strengthen next year – leading the US economic recovery.

Falling critical cases and still low COVID reproduction rates are crucial ingredients for stronger demand for contact services. As we can see from the yellow line in F3 (see p.3), US consumers cut spending in AfH services by nearly

T1: Consumption	Baseline				2021 probabilities (%)	
	2019	2020f	2021f	2022f	Left-tail risk	> 2020
All goods and services	2.4%	-4.0%	6.9%	2.6%	1.9%	94%
AfH services	1.6%	-19%	12%	4.3%	-5.4%	88%
AfH share (%)	24%	21%	22%	23%	18%	69%

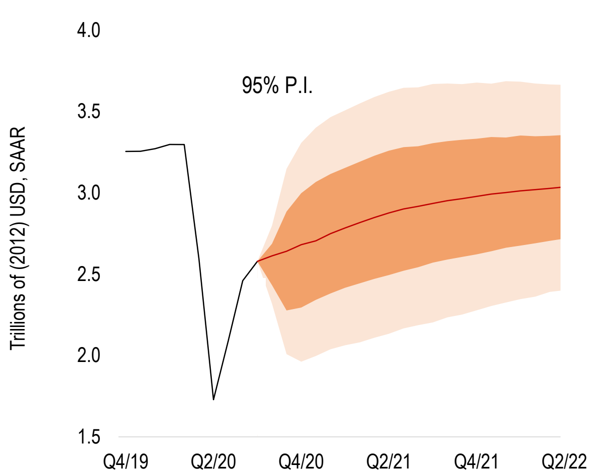
Note: Away-from-home (AfH) includes transportation, entertainment, food & accomodation, education, personal care and outpatient services.

Source: History: BEA; Numera calculations; Forecast: Numera Analytics

half early in the pandemic. Although AfH spending has partly recovered, it remains extremely low compared to pre-COVID levels. **We expect spending in AfH services to continue strengthening**, although a full recovery is unlikely (F7) given permanent reductions in supply (e.g. restaurant closures encourage at-home dining). Our base scenario is for AfH services to rise 12% next year, lifting the expenditure share by 1.5 points to 22.4%.

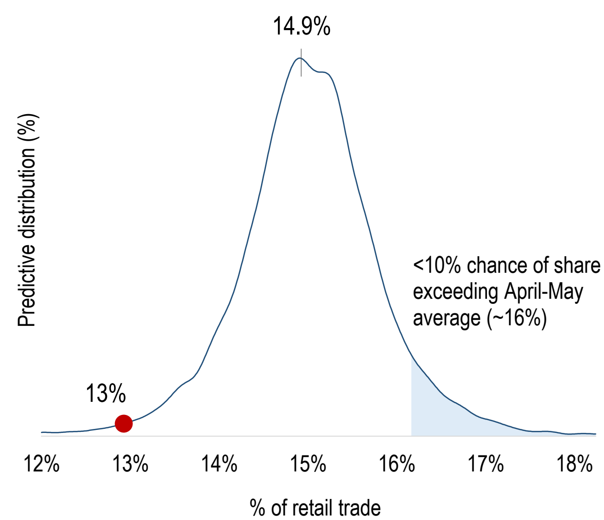
Given elevated economic uncertainty, households will likely maintain elevated precautionary savings. As a result, **consumers will partly 'finance' higher AfH purchases by reducing spending in goods and at-home services**. Internet retailers are already seeing signs of this budget normalization, with e-Commerce sales declining in July and August following three months of exceptionally strong growth. We expect this pattern to continue, with the expenditure share allocated to IT and online services declining from current levels (F8).

F7: AfH spending should pick up
Spending in AfH services (TR USD, SAAR)



Note: AfH services refers to real household spending on transportation, recreation, food & accomodation, education personal care, and outpatient health care services. Fan chart corresponds to 70 / 95% prediction intervals. Source: Numera Analytics.

F8: Normalizing expenditure patterns
e-Commerce retail share - 2021 (%)



Note: e-Commerce retail share projection for full-year 2021. Shaded area denotes likelihood of exceeding 16%, the retail share recorded in April and May. Source: Numera Analytics.

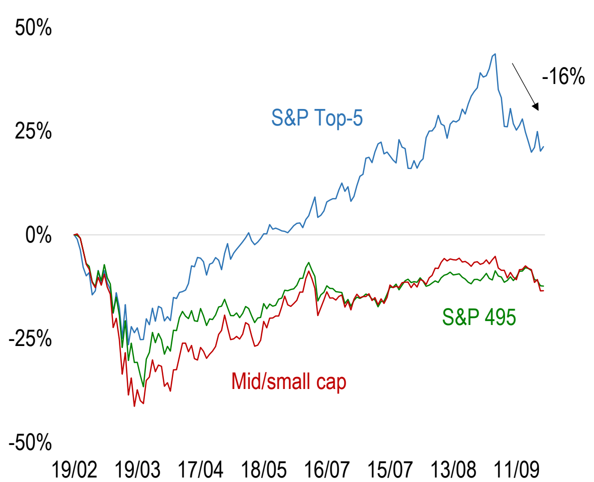
In this section:

- Investment implications of the recent equity sell-off (p. 6–7)
- How appealing are new investments in US tech? (p. 7)

Should investors buy the dip? – US stocks fell sharply in September after five months of extremely strong returns. Unlike the Q1 sell-off, however, this month's 8% correction was well within the range of potential outcomes (see F2 in p.1), as high valuations in cyclical stocks were keeping left-tail risk exceptionally high. In addition, **the latest sell-off was not broad-based, but rather concentrated in a handful of high profile technology stocks**.

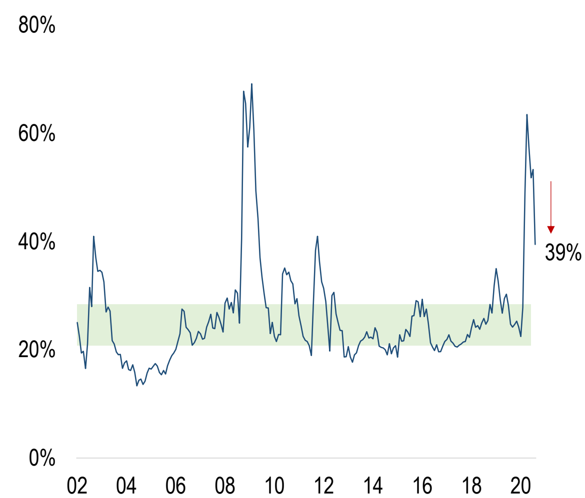
We can see this last point illustrated in F9, which compares the evolution of the five largest US stocks to the remainder of the US equity space. Notice that virtually all of the September correction stemmed from a 16% drop in the S&P-5. In fact, **excluding the leading tech names, the evolution of large-cap stocks has mirrored that of mid/small cap equities**, which typically exhibit a stronger link with the real economy.

F9: Sell-off concentrated in top US stocks
Total equity returns during COVID-19



Note: Chart plots evolution of large and mid/small cap stocks since mid-February. Mid-small cap stocks proxied by the Russell 2000. Source: S&P, NYSE, Russell Group.

F10: Correction reduces downside risk
Left-tail risk - US equities (12M)



Note: Chart tracks the (absolute) 5% conditional value-at-risk for 12M investments in the S&P 500. Shaded band is the interquartile range. Source: Numera Analytics.

Given ongoing market developments, a key question for investors is whether they should limit their equity exposure (in anticipation of further losses) or use this opportunity to add cyclical depth to their portfolios. When looking at total US equities, the September sell-off reduces left-tail risk (F10) by realigning stock prices with macro fundamentals. Given a projected improvement in the US economy, this greatly improves the risk-reward balance of US stocks.

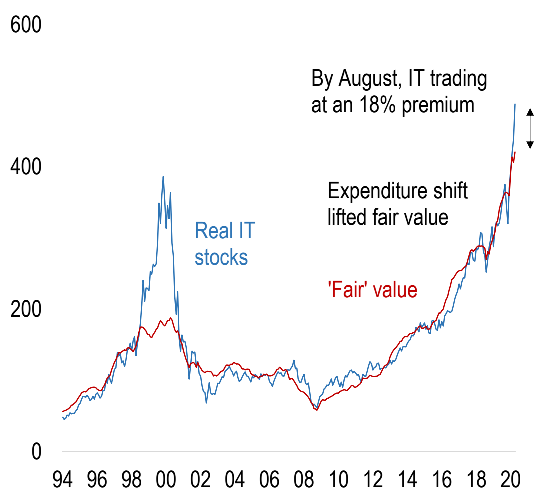
The recent correction also improves the relative appeal of US stocks. For balanced investors, **we suggest raising the equity weighting of US-only portfolios to 50%**, up from 33% last month. As we explained in this month's US

Investment Views, the higher equity weighting also reflects a projected pick-up in long-term Treasury yields, eroding the attractiveness of sovereign bond investments one-year out.

Sector rotation – Although total US stocks exhibit a better risk-reward trade-off, the upside of new investments varies considerably across equity segments. In particular, we are unsure that further economic improvements will benefit technology stocks even if the recent sell-off reduces the mismatch between prices and market fundamentals.

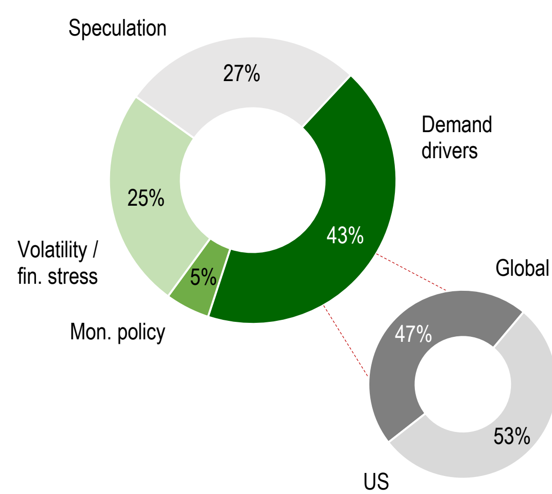
F11 shows the evolution of real (inflation-adjusted) IT stocks relative to their 'fair' value (the price level consistent with economic fundamentals). Unlike the dot-com bubble, **the surge in IT stocks during COVID is at least partly consistent with supply and demand dynamics**. Strong demand for IT software and hardware, alongside robust semiconductor sales, lifted equilibrium prices by an estimated 17% during the first 8M of the year.

F11: IT stocks trading at a premium
Real IT stocks vs. 'fair' value (2010=100)



Note: The 'fair' value is the price level consistent with market fundamentals. If real IT stocks exceed this equilibrium value, then IT stocks are trading at a premium. Source: IT stocks: S&P, BLS; Fair value: Numera Analytics.

F12: Recovery could hurt tech stocks
12M variance decomposition - Real IT stocks



Note: Pie charts break down contribution of selected market drivers to the overall variability in 12M real IT equity returns since 1992. 'Demand' captures economy-wide and industry-specific shocks. Source: Numera Analytics.

Real IT stocks, however, rose 35% during this period, creating an 18% wedge between actual and equilibrium prices (similar dynamics apply for communication services and e-Commerce stocks). The September sell-off has narrowed this differential, but tech stocks could suffer further losses if a pick-up in contact services reduces spending in IT and online services – as this would lower their 'fair' value. Investors should therefore closely monitor the evolution of tech demand drivers, traditionally the dominant force for 12M IT investments (F12).

Given a projected improvement in the US economy, and the Fed's extremely dovish stance, we recommend rebalancing towards sectors that have so far underperformed, or those that would unequivocally benefit from a normalization in AfH activities. **We favour absolute overweight positions in financials, industrials, energy, and health care**. We also suggest rebalancing towards mid/small-cap stocks, which offer considerable upside on 12M holdings.

1. Investment recommendations

Position:

Underweight	Neutral	Overweight
🔴	🟡	🟢

US investment calls[1] Asset class	Absolute	Relative[2]	Downside risk[3]	Comments[4]	Last change[4]
Equities *S&P 500 TR*	🟡	-	High	Falling downside risk	Apr. 20
IT	🔴	🔴	High	Downgraded (abs)	Sep. 20
Financials	🟢	🟡	High	Upgraded (abs)	Sep. 20
Cons. Discretionary	🟡	🟡	Very high		Apr. 20
Industrials	🟢	🟡	High		Aug. 20
Health Care	🟢	🟢	High		Aug. 20
Comm. Services	🔴	🔴	High		Jul. 20
Cons. Staples	🟡	🟡	Very high	Downgraded (rel)	Apr. 20
Energy	🟢	🟢	High		Feb. 20
Fixed income *10-year Treasury*	🟡	🟡	Moderate	Downgraded (rel)	Jul. 20
Investment-grade	🟡	🟡	High	Upgraded (abs / rel)	Sep. 20
High yield	🔴	🔴	High	Falling downside risk	Mar. 20
Cash	-	🟢	Low		Feb. 20
US dollar *USDX (ICE)*	🔴	-	Moderate		Jul. 20

1. Investment recommendations for 12-month holding period (September 2020 - August 2021).
2. In every case, relative performance versus S&P 500. Please see charts on p. 9 for a full asset comparison.
3. Downside risk compares to historical probabilities of specific asset class undergoing extreme losses (left tail risk).
4. Indicates change in position and warns of potential changes; last column tracks changes in absolute position.

Note: Click here for our sector-specific commentary and underlying probability forecasts.

2. Asset comparison

Charts compare expected gains to potential losses for individual assets over a 12M holding period. Numbers in red rank assets by their risk-reward ratio. To rank investments, we divide excess returns (against a minimum acceptable rate) to the downside risk measure. The resulting metric is the 'Omega ratio', a measure of investment quality that explicitly considers risk preferences. The investment calls on p.8 depend on the evolution of the Omega ratios over time, which signal whether investors should increase, maintain or reduce their exposure to a given asset. The top panel is the ranking for balanced investors, who attach greater value to assets with a low likelihood of undergoing extreme losses. For balanced investors, the minimum acceptable rate are positive real returns. The bottom panel ranks assets for growth investors, with a higher risk tolerance. For growth investors, real returns below 2% are considered losses.