Market Risk Insights

Spirit of resilience

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"What's natural is the microbe. All the rest – health, integrity, purity (if you like) – is a product of the human will, of a vigilance that must never falter. The good man, the man who infects hardly anyone, is the man who has the fewest lapses of attention"

Albert Camus, *The Plague*

Exactly 60 years after his death, the Algerian-born French writer Albert Camus staged a surprise return to the best-seller lists early in 2020 with sales of his 1947 novel 'The Plague' spiking across the world along with news of the novel coronavirus breakout from China.

As *The New Statesman* reported in May, since late January this year 'The Plague' has "become a global sensation; it is, it seems, the novel for now"[1].

"In recent weeks, UK sales of the English translation have been up more than 1,000%. In Japan, more copies sold in March than in the past 31 years combined, and at least one bookshop had to ration copies to one per person: people were panic-buying *The Plague*," *The New Statesman* article says. "Publishers – never ones to let a good crisis go to waste – have rushed out reprints."

Now almost nine months after the 2020 Camus-rush began, Covid-19 has turned the page from its novelty opening to a grim, repetitive everyday reality phrased in global infection-rate and death statistics denominated in the millions.

Or, as *The Plague* itself puts it: "The truth is that nothing is less sensational than pestilence, and by reason of their very duration great misfortunes are monotonous."

With many regions, now enduring second- or third-wave outbreaks of Covid-19, the global population has likely "reached the phase when plague would seem to them the very tissue of their existence; when they forgot the lives that until now it had been given them to lead".

Entering the final chapter of 2020 after a turbulent year to date, it's clear individuals, businesses, governments and investors are adapting to radically different circumstances where risk and disruption are normalised.

Most recently, governments in Europe and the UK have reprised various phase-one lockdown and public health measures to combat a virus surging again as the winter takes hold. Meanwhile, in the US – and other parts of the Americas – the coronavirus appears to be winning round two as fragmented government responses, strained public health systems and the politicisation of science undermine any rational, coordinated approach to disease management.

In the June quarter issue of *Market Risk Insights* (MRI), we surveyed a world in peak pandemic panic. While investment markets had bounced back strongly from the late March plunge that wiped up to 30% off share index values, Covid-related economic fears remained elevated as many countries entered lockdowns and global virus cases ticked ever higher. Governments and central banks responded to the uncertainty with massive monetary and fiscal measures, hosing down immediate concerns.

Whether the combined mega-doses of fiscal and monetary firepower has cured the global economy of coronavirus side-effects for good, or set the world up for a worse reaction in coming months or years, remains to be diagnosed. However, the short-term prognosis is more positive, buoyed by good news on vaccine developments in November.

Promising human trial results from pharmaceutical firms Pfizer and Moderna mid-November raised hopes that effective (above 90% in both cases) Covid-19 vaccines could be rolled out before year-end – at least to frontline health workers. The results provoked instant cheer in stock markets, pushing the US Dow Jones Index past 30,000 at the time of writing.

At the same time, despite Donald Trump's failure to concede, markets have priced in a Biden administration in office come January 20 next year when the transition becomes official. Biden promises a more traditional presidential presence in the White House, a less aggressive approach to global geopolitical relations and a refreshing willingness to combat climate change, which was notably absent in the Trump administration.

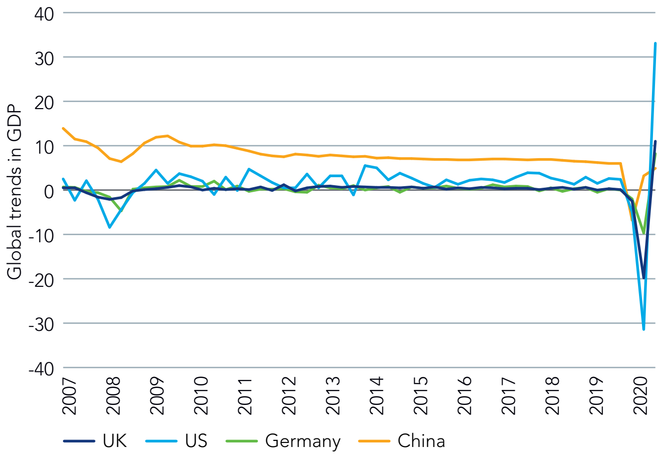
Furthermore, investors generally have welcomed the fact that Biden won't be able to implement radical changes given the Democrats (pending run-off elections in Georgia) failed to gain control of the Senate while holding a reduced majority in Congress.

Coming into year-end, most governments now shoulder massive debts, raised to fill the yawning GDP gaps left by Covid-19 shutdowns in the middle months of 2020, and many workers are still supported by government furlough schemes. But most economies are also adapting with the rise of remote-working and new services tuned to the socially distanced reality.

Over the short term, we should see some stability in markets and in the global economy. However, as detailed below, the post-Covid recovery has already led to sharply divergent experiences in different countries. In particular, China, which led the way into the Covid crisis through Wuhan, is also the first to emerge out the other side in a burst of healthy growth.

[1] "How Albert Camus's *The Plague* became the defining book of the coronavirus crisis," by Samuel Earle. Published in in The New Statesman on 27 May 2020.

Figure 1: How economies are recovering and diverging post Covid-19



Source: Bloomberg and Federated Hermes (for Q3 UK GDP Estimate) as of November 2020.

As shown in figure 1, the coronavirus exerted a profound influence on the global economy, leading to the one of the sharpest contractions ever followed by the quickest rebound on record.

The second quarter of 2020 saw huge drops in economic growth – in the US, GDP growth collapsed by over 30% and in the UK it was the harshest recession since the early 1700s – followed by almost instant trend reversals during the September quarter in most countries.

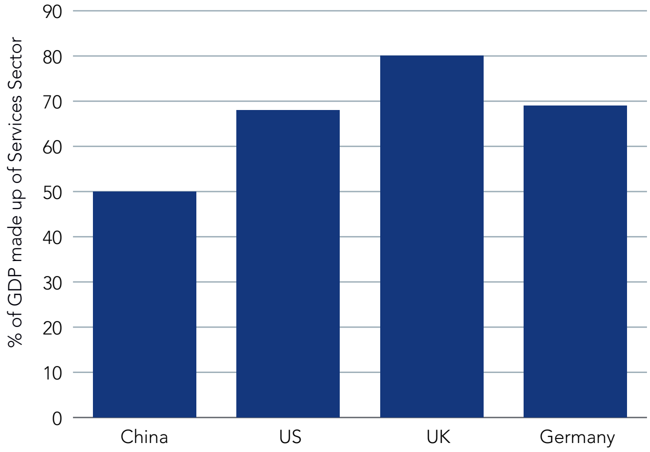
Economic recovery in the third quarter was sparked by several factors, notably an easing first wave of Covid infections by the end of June that allowed most economies to reopen, at least in part. Tellingly, those countries first to recover either imposed stringent lockdown measures early (such as China) or ones with a smaller consumer services sector relative to overall GDP.

The consumer services sector – including leisure, travel, hospitality and bricks-and-mortar retail – experienced by far the worst of the immediate coronavirus economic damage. During lockdowns, many services businesses were unable to operate at all but as economies slowly reopened, and firms adopted technology-led flexible practices, the sector sprung back to life.

Notably, the asymmetric hit to the service sectors marks the Covid recession out as a very different beast to the Global Financial Crisis (GFC), where large swathes of the economy, such as real estate and financial services, sustained severe damage.

Given the size of the services sector in most large economies (figure 2) it can be expected that this recession, while severe, should not be as long lasting as previous slowdowns.

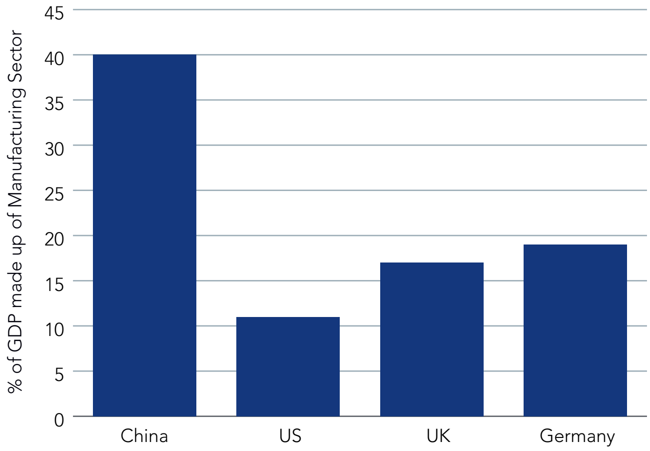
Figure 2. GDP contributions of services sectors in the US, China, Germany and UK



Sources: Office for National Statistics, Deloitte, Statista and Investopedia as at November 2020.

Figure 2 shows what a large proportion of world GDP is made up by the services sector. But both Germany and China – countries with a higher exposure to manufacturing (see figure 3) – reported lower GDP declines during the Covid economic crisis relative to the US and UK.

Figure 3. Manufacturing has helped China and Germany weather the pandemic



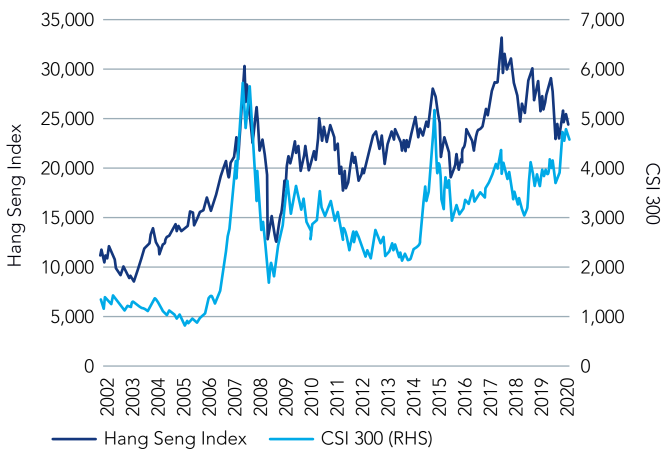
Trading Economics for Germany data, Statista for UK data, Industry Week for US data and Wikipedia for China data as at November 2020.

Growth versus value: China A Shares and H Shares provide a case study

Over the last half-century, the Chinese equity market – like much of the rest of the nation – has been under rapid development as it becomes more integrated with the global economy. Previously, onshore Chinese equity markets – based in Shanghai and Shenzen and known as the 'A Shares' – were almost exclusively used by domestic, mostly retail, investors.

Until recently, international institutional investors primarily gained exposure to Chinese stocks described as 'H Shares', those mainland China companies listed on the Hong Kong market.

Figure 4. Hong Kong- versus mainland China-listed stocks



Source: Bloomberg as at November 2020.

In April 2012, as part of the country's gradual integration into global markets, China opened up a new type of fund structure for foreign investors called the QFII (Qualified Foreign Institutional Investor). Under QFII rules foreign institutional investors could invest in domestic Chinese A Shares but only under restrictive terms.

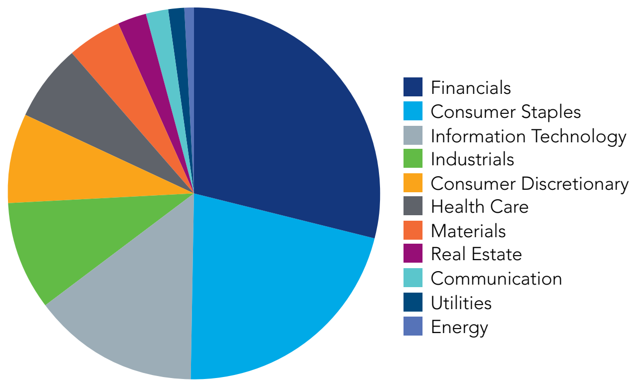
Near the end of 2014, however, China established the Shanghai-Hong Kong 'Stock Connect' programme, allowing eligible offshore investors to trade Chinese listed companies seamlessly across the border. The new Stock Connect channel set up an interesting, and globally unique, dynamic between sophisticated long-term international institutional fund managers and the typically short-term trading mentality of Chinese retail investors.

Indeed, a growing number of institutional investors have found it easier to outperform the China A Shares market index compared to most other jurisdictions precisely because of the style-clash between their longer-term, fundamental approach and the short-term, high-turnover retail traders.

Recently, too, the China A and H markets have diverged into two distinct flavours, giving investors a clear choice between the traditional and emerging aspects of the Chinese economy. Since inception, the Hong Kong-listed H Shares favoured larger Chinese companies, such as heavy industry and finance, that were seeking access to international capital; A Shares, meanwhile, usually lent to smaller, locally focused firms.

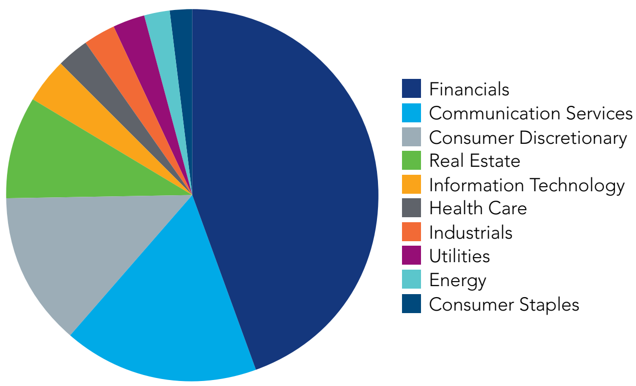
Of late, though, many of the larger Chinese technology and healthcare brands with global ambitions have listed on the A Shares market, providing global investors with exposure to significant future growth opportunities compared to the more staid old-world H Shares companies.

Figure 5. Sector weightings of the A share market

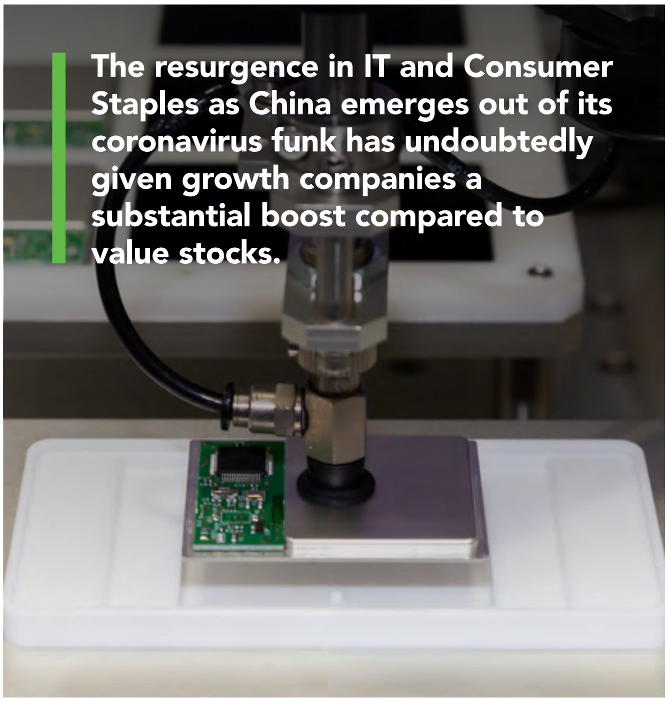


Source: Bloomberg as at November 2020.

Figure 6. Sector weightings of the H share market



Source: Bloomberg as at November 2020.


The resurgence in IT and Consumer Staples as China emerges out of its coronavirus funk has undoubtedly given growth companies a substantial boost compared to value stocks.

As illustrated in figures 5 and 6, the growing dispersion between the China A and H shares essentially represents the familiar battle between 'growth' and 'value' that is playing out in extreme form across other global markets today.

Comparing the composition of the two Chinese share markets as per the three largest sectors clearly shows the growth-value divide. Under this model, Financials serve as a proxy for value while Consumer Staples and IT represent growth stocks.

Figure 7. Relative weightings of China A and H Share Markets to financial, consumer staples and IT

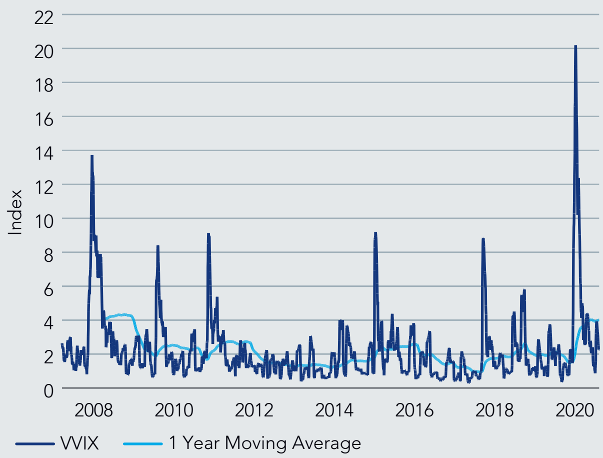
Market	Financials weighting	Consumer Staples weighting	IT weighting
A Shares	28.26%	15.28%	12.43%
H Shares	44.12%	2.19%	5.06%

Source: Bloomberg as at November 2020.

The resurgence in IT and Consumer Staples as China emerges out of its coronavirus funk has undoubtedly given growth companies a substantial boost compared to value stocks. However, the nagging question (as in other global markets) remains as to when value shares hit price levels low enough to lure back investors to this out-of-favour style: of course, it is impossible to accurately predict the exact moment of sentiment change in investment markets.

We now turn to consider the impact that the extraordinary third quarter of 2020 has had on our standard range of risk gauges, starting, as usual, with the complacency indicator.

Figure 8: Complacency Indicator



Source: Federated Hermes, Bloomberg as at November 2020.

What does it measure?

How sensitive equity investors are to general market conditions.

What does it consist of?

The US equities volatility index, or the 'VIX'. We compare volatility high points to the sum of daily volatility readings from the start of a jump to its conclusion.

How to read it

A low level reading of the VIX implies that investors are less worried about big negative moves in the markets. Typically, following negative surprises in markets volatility surges. This can be seen both in 2008/2009 during the financial crisis and in March 2020 as the world was hit by the first wave of the coronavirus.

What does the latest reading show?

The latest reading shows a moderate increase in the volatility level, which is related to increase in the number of coronavirus cases recorded in Europe and the US. However, levels as of October 2020 remain significantly below the highs seen earlier in the Spring.

In short, the recession following the onset of the coronavirus has been sharp and painful, hitting employment hard as the labour-intensive services sector felt the brunt of the crisis.

More optimistically, the flexible services sector will likely recovery quickly once economies open up again post-lockdowns. China, for example, is now operating almost at normal levels (including very high domestic tourism activity) after suppressing Covid-19 through drastic lockdowns early in the outbreak.

Elsewhere, despite second-wave worries, other global economies continue to show signs of recovery – some at a faster pace than others. The UK, for instance, is lagging its European neighbours.

After an extremely volatile first half of 2020, markets settled down slightly over the September quarter as investors scoped out possible paths ahead with scenarios ranging from a worsening pandemic to an early vaccine discovery. The imminent US elections also added to angst as investors weighed up the consequences of either a Trump sequel or a Biden-led Democratic 'blue wave' revival.

By late November the announcements of two promising Covid vaccine trial results and a politically restrained win for Biden, presented investors with best-case scenarios at the end of a difficult year.

Even without an immediate vaccination programme, however, the global data show that in spite of escalating infections in some countries, the overall death-rate from the disease continues to fall: with nine months of brutal experience as training, health professionals are getting much better at treating Covid patients.

Overall, a sense of optimism appears to be growing. As Camus described it: "And indeed it could be said that once the faintest stirring of hope became possible, the dominion of plague was ended."

Just three months on from the peak pandemic panic of late March, the traditional barometer of market fear – the VIX – was falling rapidly as rapid government and central bank actions calmed investor nerves.

While still elevated compared to the immediate pre-Covid months, the VIX settled down further in July and August before a spike in coronavirus cases, especially in Europe, saw market volatility bump briefly higher again.

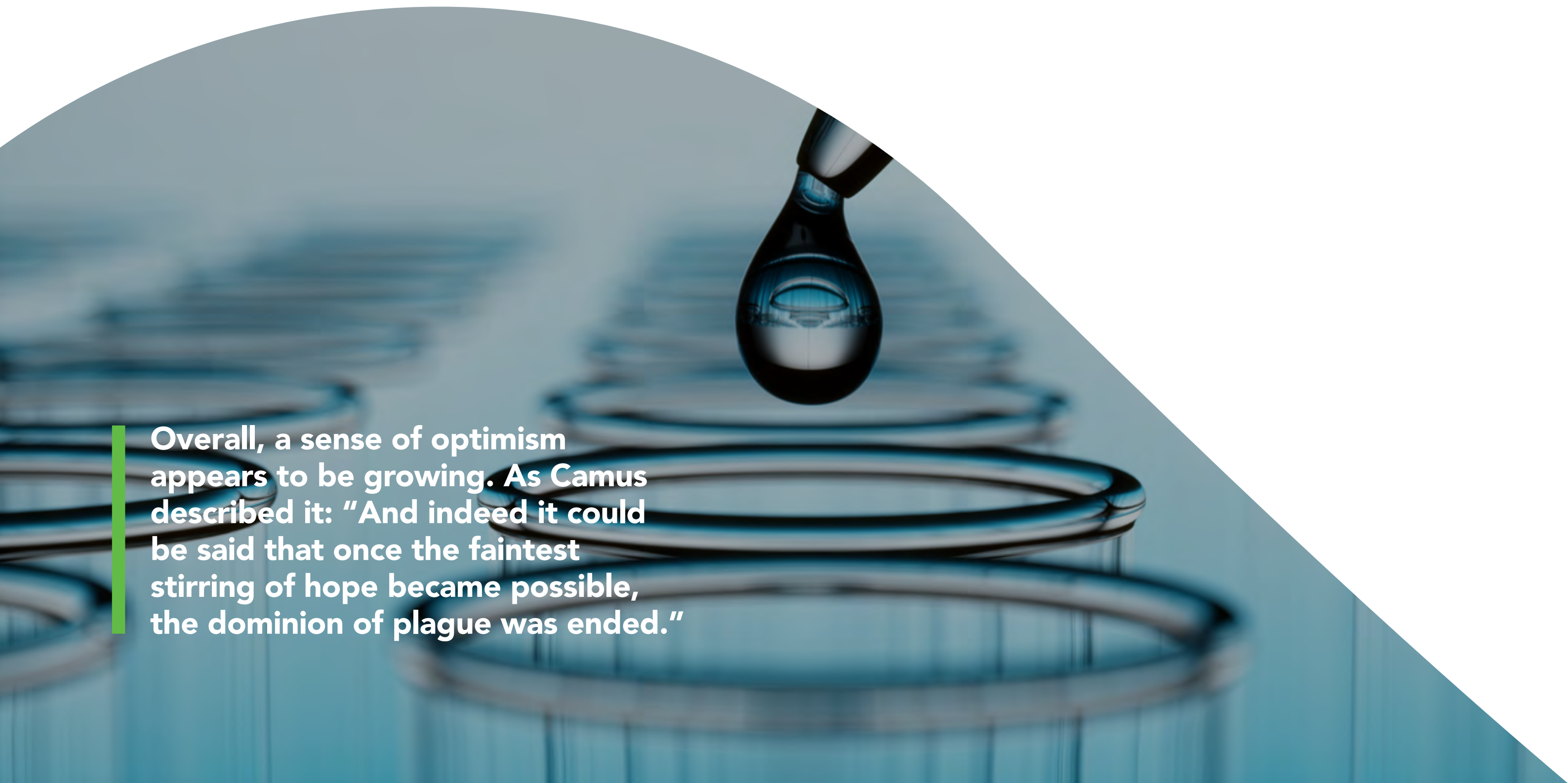
Volatility assumes many forms but we begin, as usual, by interrogating it across several market sectors via the most common method: standard deviation from historical norms.

In this issue, we consider six key aspects of market risk.

1. **Volatility**
2. **Correlation**
3. **Stretch**
4. **Liquidity**
5. **Event**
6. **ESG**

The Investment Office at the international business of Federated Hermes

Independent of the investment teams, the Investment Office continuously monitors risk across client portfolios and ensures that teams are performing in the best interest of investors. It provides rigorous analyses and attributions of performance and risk, demonstrating our commitment to being a transparent and responsible asset manager.



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Volatility

From deep despair to overt optimism in six months

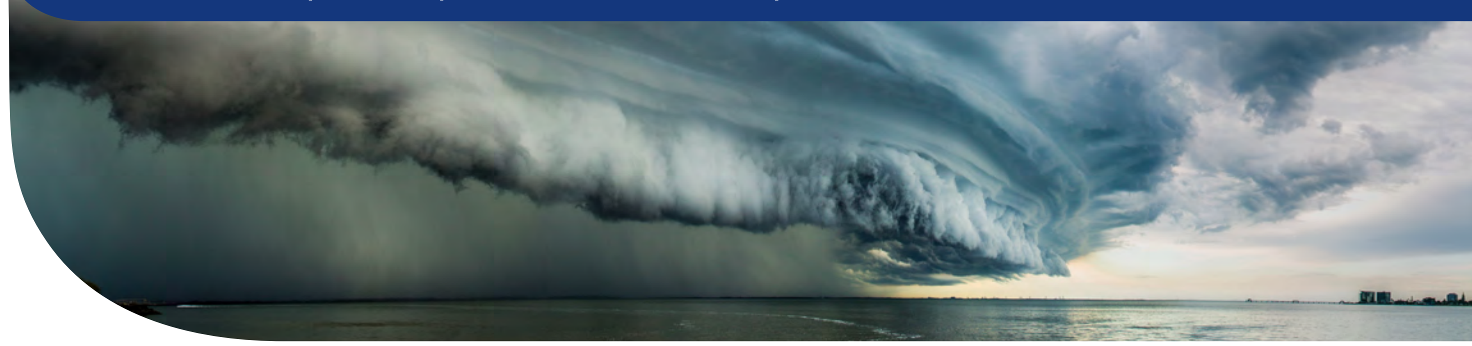

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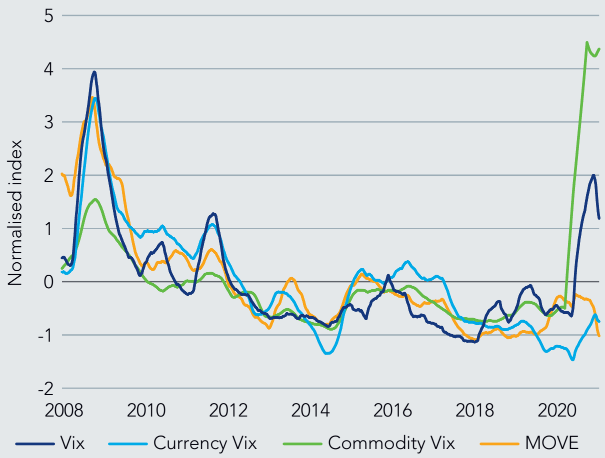
Figure 9. Standardised, long-term moving average volatility



Source Federated Hermes, Bloomberg as at November 2020.

What does it measure?

The implied volatility of equities, government bonds, currencies and commodities.

What does it consist of?

The 52-week moving average of the VIX, Merrill Lynch Option Volatility Expectations Index, Deutsche Bank FX Volatility Index and the expected volatility of the Bloomberg Commodity Index.

How to read it

The graph standardises each metric of volatility to make them directly comparable. Each index represents the market's expectation of future volatility and is often viewed as a benchmark of risk appetite.

What does the latest reading show?

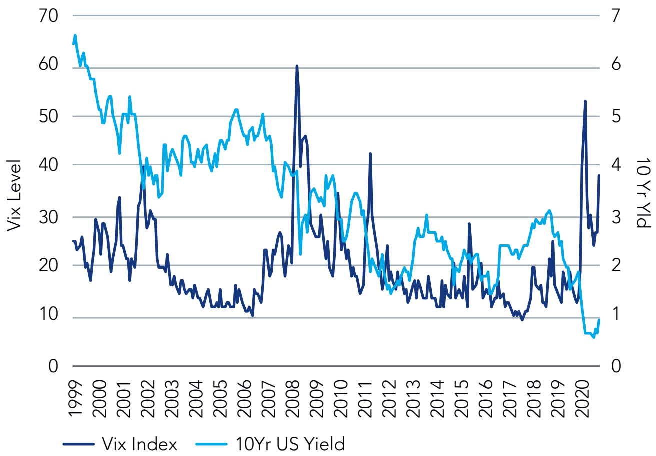
All the asset class volatility levels have spiked and returned to more normal levels, with the exception of volatility in the commodity asset class which remains at very high levels. In recent times the volatility among currencies has increased again.

Most asset classes rallied along with falling volatility during the June and September quarters with the exception of commodity markets where investor uncertainty lurched higher.

Credit markets, in particular, mounted an impressive rally from the March blow-out with spreads snapping back to almost pre-pandemic levels.

Simple volatility measures provide useful rolling views into different market conditions but we can gain a deeper perspective by exploring long-term dynamics between asset classes, in this case we compare the well-established relationship between Treasury spreads and the VIX, with a three-year lead.

Figure 10. Treasuries as a predictor of equity volatility



Source: Bloomberg as at November 2020.

The spread between US 2- and 10-year yields increased significantly during the Covid crisis. Despite generally tranquil conditions during the September quarter, the 2- and 10-year Treasuries spread differential finished the period at a relative high of 65bps – albeit that yields across the curve remained at extremely low levels.

But if macro-comparisons offer a birds-eye view of volatility, market uncertainty is also expressed at a more down-to-earth level in the daily spread between the best- and worst-performing securities – an attribute we track through the cross-sectional dispersion in equities as below.

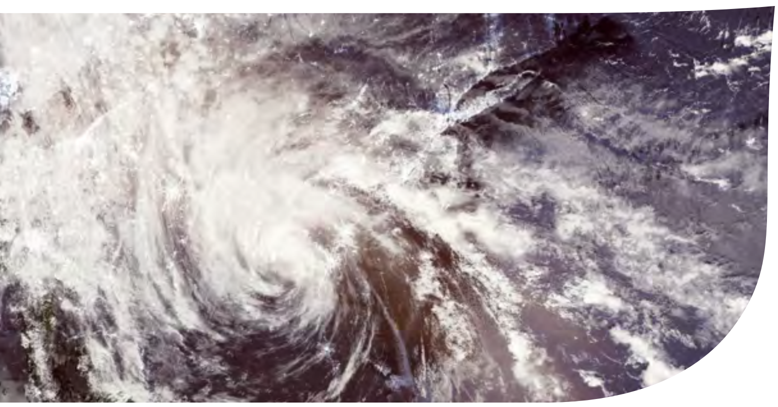
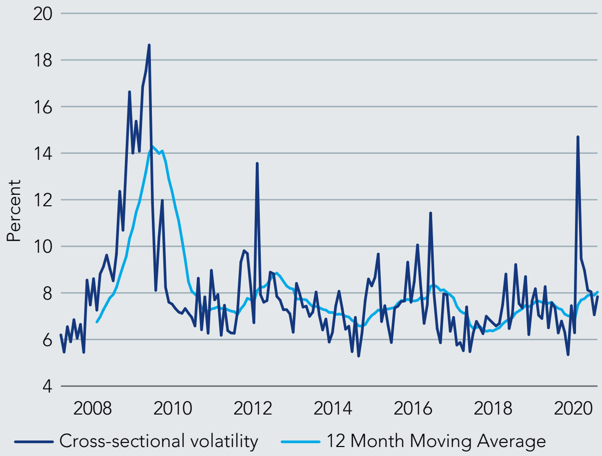


Figure 11. Cross-sectional dispersion of stock returns



Source: Bloomberg as at November 2020.

What does it measure?

The spread between the market's best and worst equity returns.

What does it consist of?

The daily gap between the best- and worst-performing shares in the FTSE Europe.

How to read it

If cross-sectional dispersion is compressed, equity returns fall within a tighter band. A higher cross-sectional dispersion provides more opportunities for stock-pickers to exercise their active-management skills.

What does the latest reading show?

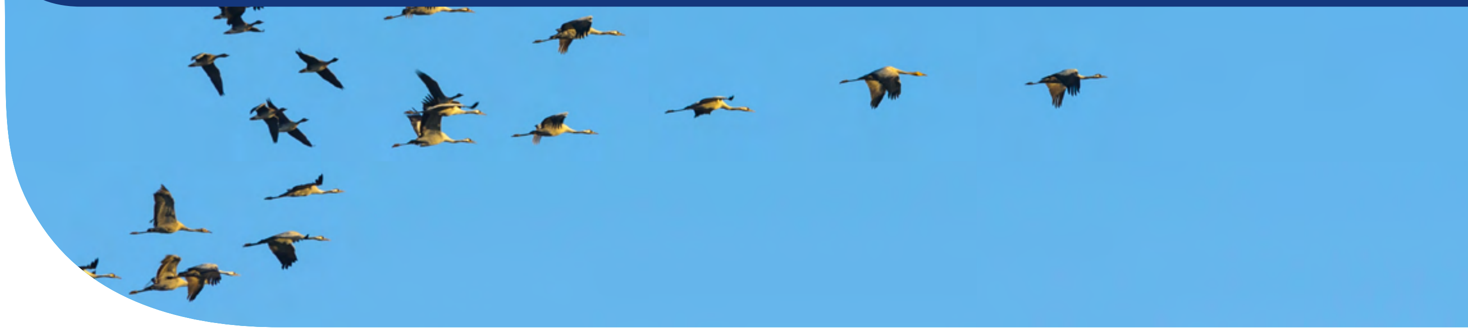
The cross-sectional dispersion in equities has plunged, indicating how equities sold off (and partly recovered) in unison. The level of dispersion has increased somewhat making it more interesting from a stock pickers point of view.

Overall, our volatility measures show investors have likely discounted the worst-case scenarios that flashed up earlier this year amid the initial global Covid-19 outbreak. After falling quickly from the late March peak where the VIX hit its highest point since the global financial crisis (GFC), volatility continued to drift down through most of the third quarter before jumping a little on news of a coronavirus 'second wave'.

Clearly, markets remain sensitive to the trajectory of the virus throughout the world, suggesting volatility will stay above pre-Covid levels until reliable treatments and/or vaccines appear – on that score, encouraging news from two vaccine trials in November boosted investor sentiment.

But even amid a divisive US presidential election and rising coronavirus cases in much of the world, investors appear to be looking ahead to better times that, while still out of sight, could be just around the corner.

Correlation risk
How assets moved one way then another



We have noted many times that during times of crisis cross-asset correlation typically trends higher, rising close to one in extreme circumstances. And for a brief moment during the coronavirus sell-off this spring, correlations converged close to the dreaded singularity as almost all assets moved in unison.

If all asset classes move as one, of course, diversification – among the most important and reliable forms of risk management – becomes almost impossible. But if crisis can affect all assets equally, recovery is often associated with falling correlations, allowing investors once again to rebuild their portfolios according to different themes.

And indeed our correlation gauges show markets have followed this historic pattern over 2020 to date, moving from crisis mode to business-as-usual in rapid succession. As the global implications of Covid-19 first hit home early this year investors rushed en masse to traditional safe havens including cash and gold, forcing correlations between all assets to increase significantly.

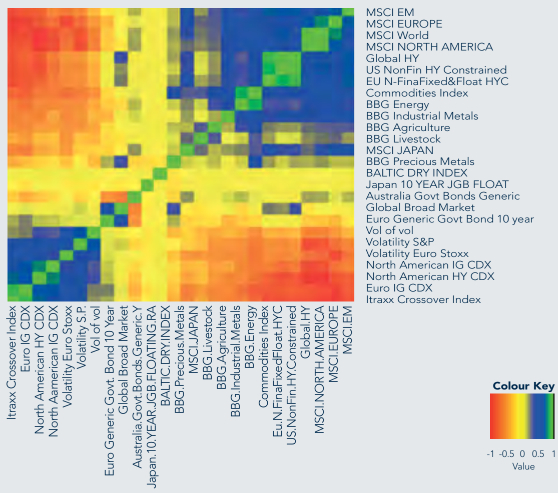
However, almost regular service resumed shortly after the first wave of panic with asset class correlations falling to more normal levels during the September quarter.

Aside from short-term variability, investors also need to analyse long-term correlation patterns to understand what factors can drive asset classes closer together or further apart at any given time.

Importantly, as correlation is based on mean values, we must also account for sample error in our trend analysis.

Measuring correlations among many different asset classes requires some technical, data-heavy calculations. Heat maps offer a simple way to illustrate the complex and changing relationships over different time periods. Here, we look at the correlations between a dozen assets in the third quarter.

Figure 12. Correlation heat maps



Source: Federated Hermes, Bloomberg as at November 2020.

What does it measure?

The relationship between the returns of different assets.

What does it consist of?

The degree of correlation between the return series of selected asset classes within the quarter.

How to read it

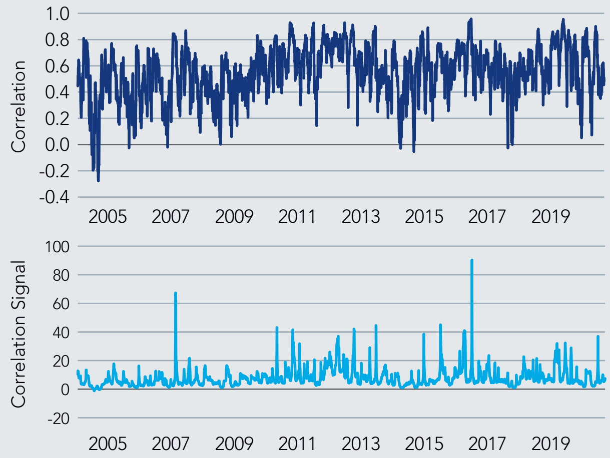
The colour key depicts correlations on a scale from -1 to +1.

What does the latest reading show?

As we noted last quarter, there continues to be a subtle but notable rise in correlation across most asset classes, particularly within high-yield credit.

Given their limited time horizons, however, heat maps can't reveal much about the long-term development of correlation trends. For this, we look to the Morgan Stanley Global Correlation Index.

Figure 13. Morgan Stanley Global Correlation Index



Source: Federated Hermes, Bloomberg as at November 2020.

What does it measure?

An aggregate of global cross-asset correlation over time.

What does it consist of?

Correlations between asset classes, geographies, sectors and factors.

How to read it

A high reading suggests that assets are more closely correlated across geographies, sectors and factors, and hence will all move together.

What does the latest reading show?

Correlations across geographies, sectors and factors have moved lower in the last quarter. This is typical of improving conditions as markets tend to move more independently of each other.

Meanwhile, our correlation-surprise indicator, while not infallible, has previously offered a useful signal of impending asset-class disruption.

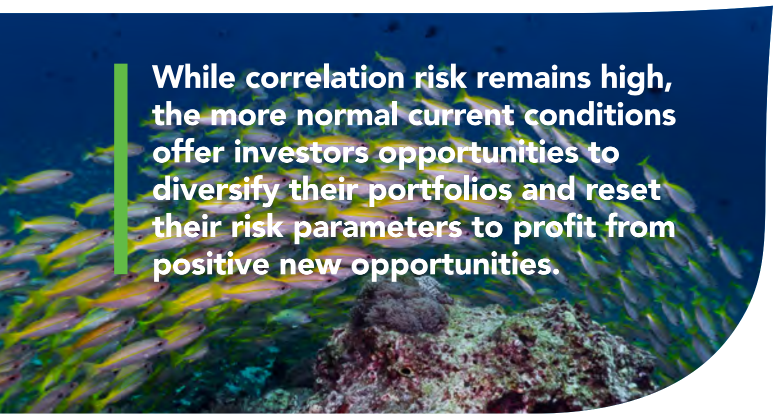
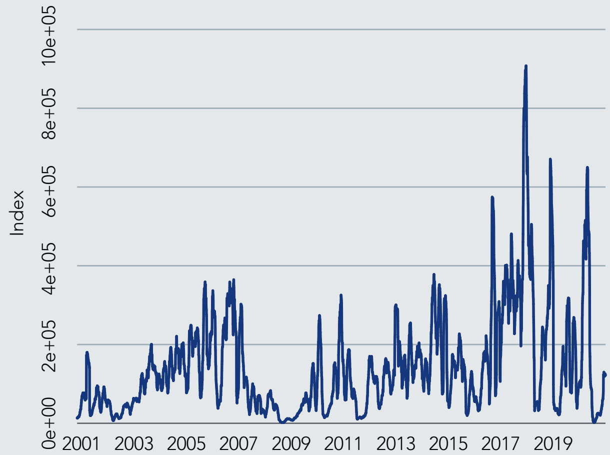


Figure 14. Correlation surprise in the global equity universe



Source: Federated Hermes, Bloomberg as at November 2020.

What does it measure?

Our correlation-surprise measure attempts to capture the likelihood of unanticipated spikes.

What does it consist of?

The returns of five stock market indices are analysed for their 'unusualness'. We then subdivide that measure into a component derived from unusual volatility movements (which we define later as turbulence) and a separate one from correlation movements (surprise).

How to read it

Higher levels of surprise predict uncertain times ahead. Spikes in correlation surprise lead on average to poor returns in the subsequent month.

What does the latest reading show?

Correlation surprise spiked earlier this year, reflecting extreme uncertainty. It has since settled down, which suggests that much of the coronavirus crisis has been discounted by the market. However, recently the level has increased somewhat due to the second wave of virus cases.

As correlations climb close to one, asset-price swings become more violent. While correlation risk remains high, the more normal current conditions offer investors opportunities to diversify their portfolios and reset their risk parameters to profit from positive new opportunities.

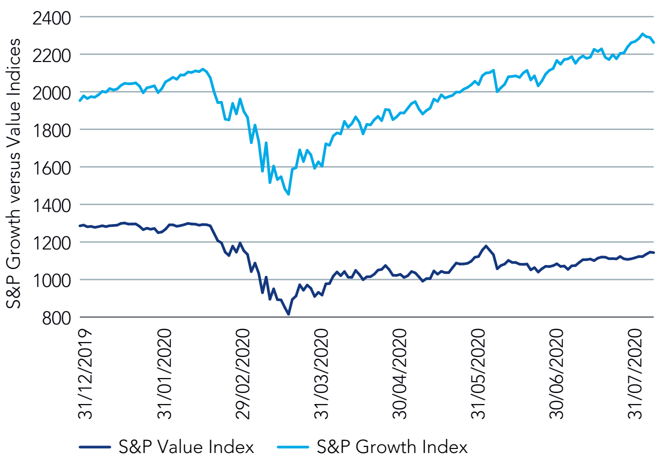
Stretch risk
The tension between growth and value

Stretched assets may sustain price extremes for a while without triggering an uptick in volatility. We use stretch risk to analyse assets that have apparently low levels of volatility or have trended one way for an extended period of time.

We currently see persistent dislocations between several asset classes as momentum continues to dominate markets.

Value, for instance, has persistently underperformed for over a decade with the gap between growth widening further in recent months, as the chart below shows. Some investors have long expected value stocks to snap back in line with 'mean reversion' theories, yet – as 2020 nears its finale – it's not clear when, or if, the growth momentum will slow. In fact, the 'stay at home' trade during the pandemic has seen growth stocks power on relentlessly.

Figure 15. Growth v value in US equities

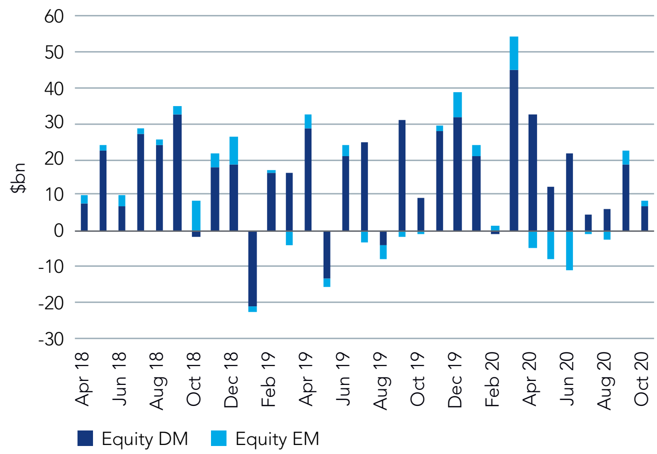


Source: Bloomberg as at November 2020.

In particular, the IT and pharma sectors have performed extremely well during the coronavirus era, accounting for much of the growth dominance.

While the perennial tussle between value and growth appears to have been settled in favour of the latter, it may be too soon to call the game over. Currently, the gap between the two investment styles is close to historical highs, indicating value stocks could be now cheap enough to attract investor attention.

Figure 16. Flows into emerging and developed markets



Source: Bloomberg as at November 2020.

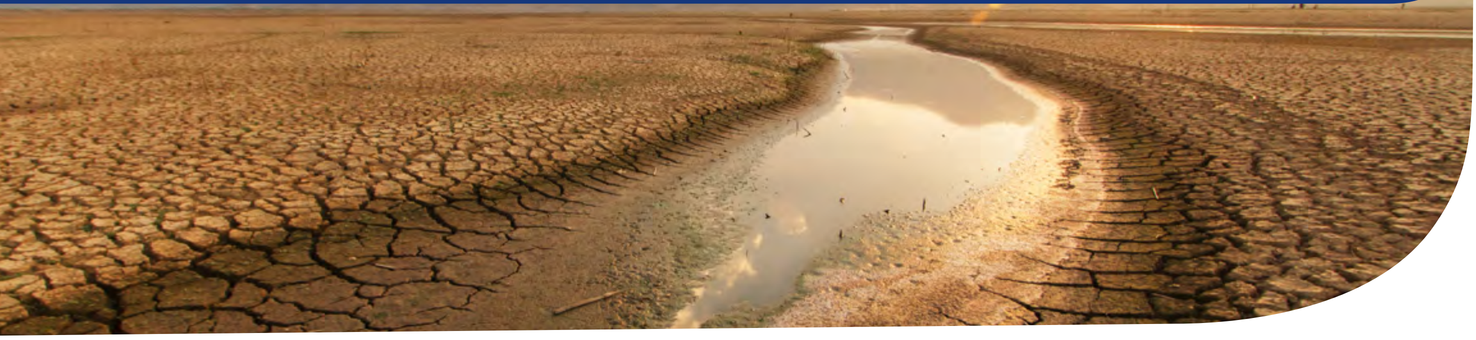
If the distance between value and growth stocks represents, perhaps, the most glaring example of stretch risk at the macro-level, the divergence between emerging and developed market equities during the Covid-19 crisis also rates a mention.

Despite the relative success of emerging markets in managing the spread of the virus – particularly Hong Kong, China, South Korean and Taiwan – investors dumped shares in the sector during the early months of the crisis.

But emerging markets equities have returned to favour somewhat in the September quarter, rallying in excess of 9.35% by the end of the period (see figure 16).

The first nine months of 2020 included one of the most violent market crashes and quickest rebounds of the modern era, testing the flexibility of asset values and the patience of investors. Despite the brief unwinding of many high valuations early in the piece, the rapid return of momentum and investor enthusiasm during the latter half of the year leaves us with plenty of examples of 'stretched' assets to put on the watch-list.

Liquidity risk
Investors dive back in



Liquidity is usually the first casualty, and also cause, of market panic. The early Covid meltdown proved true to historical trends as liquidity evaporated quickly – and almost completely in credit markets – during the investor scramble for safety.

In subsequent months, though, liquidity conditions have eased dramatically, hand-in-hand with the general improvement across almost all markets.

By the September quarter, both the TED and credit spread, key indicators for funding and liquidity risks, had fallen back to pre-pandemic levels following the sharp spike upwards marking the start of the crisis earlier in the year (see figure 17). The recovery has spilled over to all credit markets not just the higher quality end of the scale.

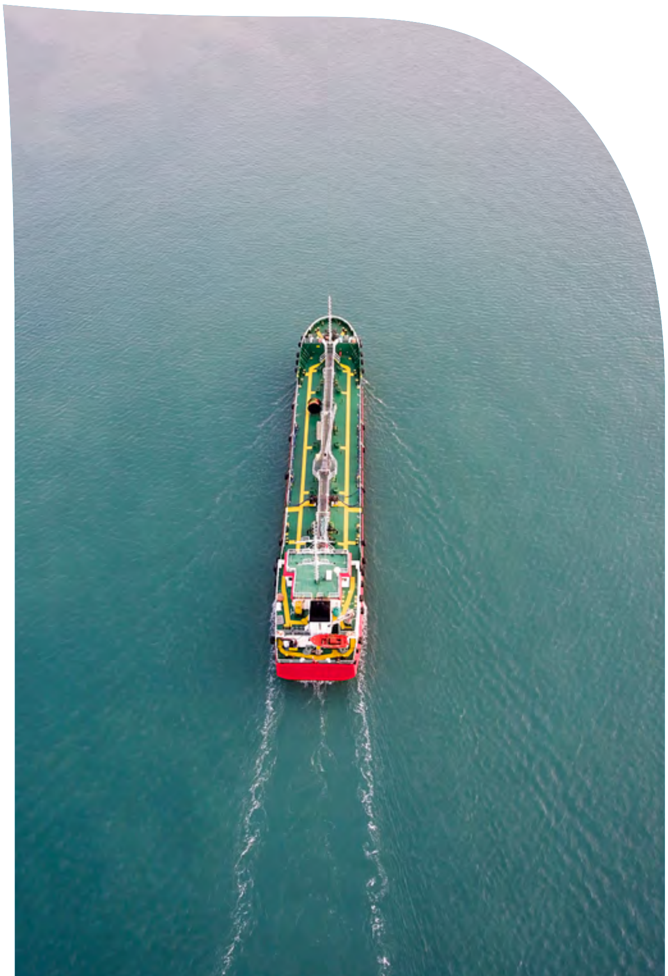
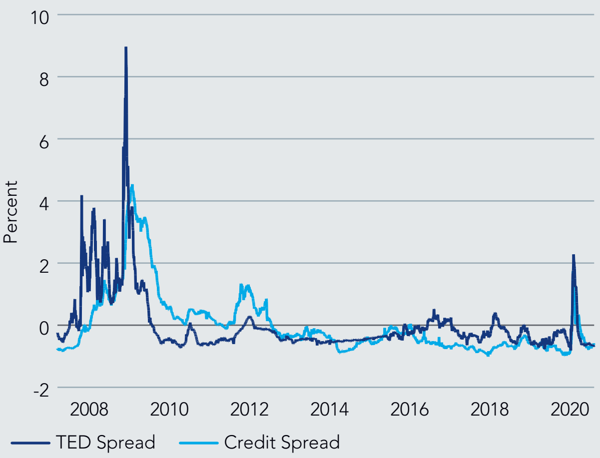


Figure 17. Funding and credit risk



Source: Federated Hermes, Bloomberg as at November 2020.

What does it measure?

Liquidity conditions in government-bond and global credit markets

What does it consist of?

The TED (Treasury-EuroDollar) spread compares the gap between US interbank lending rates and short-term government treasuries, while the Credit Spread measures the changing relationship between corporate and government-bond spreads.

How to read it

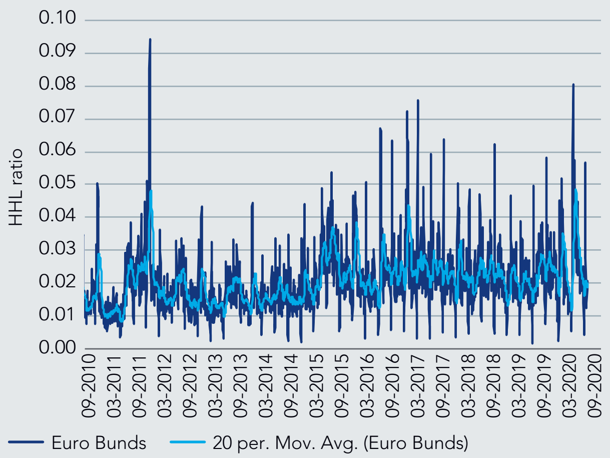
The TED spread is a proxy for overall funding conditions in the economy. The Credit Spread represents how easy or difficult it is for corporates to source debt from investors. Together they indicate total market liquidity conditions.

What does the latest reading show?

The decline in both TED and Credit spread levels indicate the market conditions returned to more normal levels as opposed to the elevated levels earlier on in 2020.

We also reference the Hui-Heubel ratio for Bund futures to look at the state of liquidity in fixed-income markets.

Figure 18. The Hui and Heubel ratio for Bund futures



Source: Federated Hermes, Bloomberg as at November 2020.

What does it measure?

The ratio measures intra-day price movement relative to the ratio of traded volume to either market capitalisation or open interest.

What does it consist of?

Bund futures are usually extremely liquid, which means that pockets of illiquidity can act as a harbinger of broader trends.

How to read it

If the volume of trades relative to the price changes is greater, the market is deeper and more resilient.

What does the latest reading show?

Liquidity conditions have clearly improved in recent week but remains somewhat strained

Despite the Hui-Heubel ratio showing the bund market is trading as normal, liquidity constraints can also manifest themselves in other sectors, which we investigate with the 'Kyle's lambda' statistical analysis as below.

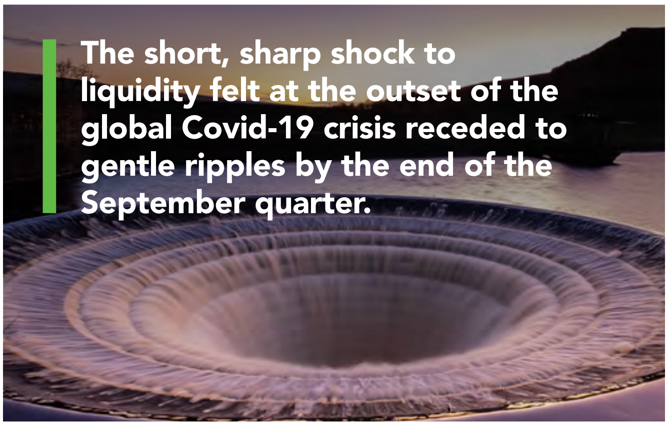
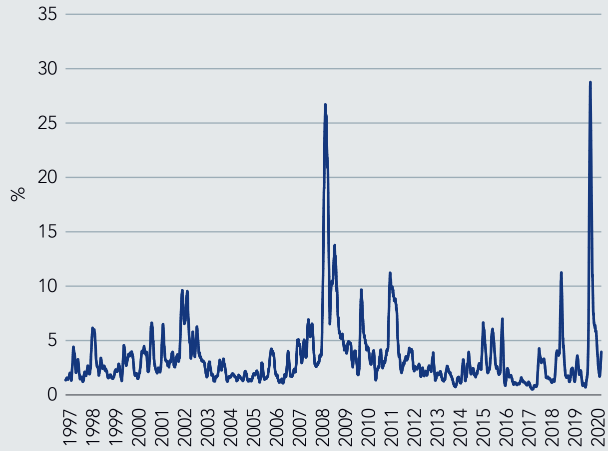


Figure 19: Kyle's lambda



Source: Federated Hermes, Bloomberg as at November 2020.

What does it measure?

Liquidity conditions in equity markets.

What does it consist of?

The statistic compares the cost of market liquidity over time by estimating the price impact of a trade that represents 2% of the average daily volume.

How to read it

A low reading shows that a trade worth 2% of the average daily volume has a minimal impact on market prices, meaning that liquidity is plentiful. But if the same trade causes equity-market prices to rise significantly, liquidity is scarce. The five-year average highlights trend movements over time.

What does the latest reading show?

The graph shows that after a spike due to heightened volatility, liquidity conditions have returned to more or less normal levels reflecting solid demand for equities as rates stay lower along with healthy transaction volumes.

The short, sharp shock to liquidity felt at the outset of the global Covid-19 crisis receded to gentle ripples by the end of the September quarter. Encouraged by record fiscal and monetary stimulus across the world, investors have waded back into markets with enthusiasm.

For the time being, liquidity is flowing freely again but, as the coronavirus-led market seizure earlier this year illustrates, conditions can morph quickly from one state to another on surprise news. As always, we will be keeping a close eye on our liquidity gauges for the rest of this year and beyond.

Event risk
Pandemics and presidents

The Covid-19 pandemic highlights why investors need to track global 'events' as part of their risk management strategies. While news about a strange viral outbreak in the obscure Chinese city of Wuhan percolated through global media outlets as early as January, most investors did not factor in the threat of a serious planet-wide pandemic at the time.

By March the true scale of the Covid problem, and its potential to devastate the global economy, finally dawned on health experts, governments, investors as well as the public.

In the immediate aftermath, our 'event risk' indicators remained on high alert as news of a worsening health crisis, regional lockdowns and closed borders gave weight to worst-case scenarios.

However, following a fraught June quarter event risk fears receded somewhat in the subsequent three months as the first wave of infections appeared to be peaking while people, and economies, adjusted to the new socially distanced daily routines.

Some semblance of normality returned in many parts of the world during the third quarter amid rising optimism that Covid was largely contained, allowing economies to open up again – although a worrying increase in case numbers at summer's end hinted the pandemic wasn't done yet.

Possibly overwhelmed by coronavirus, previous geopolitical tensions largely disappeared from the news cycle over the September quarter: for example, the regular trade spats between China and the US that had dominated the Trump era to date declined markedly in the period.

Instead, investors closely followed news of a potential positive event in the shape of an effective coronavirus vaccine. Over 20 vaccines were reported in testing mode by the end of September.

Meanwhile, as the quarter ended markets hardly flinched in the face of the looming US presidential race, set for early November. Despite rising rhetoric in the campaign build-up, most polls pointed to an easy Biden win. And, although some expressed concerns about the impact on business if a 'blue wave' saw Democrats capture full control of the US political apparatus, buoyant September quarter GDP figures buried any market fears.

As we now know, the US election was both closer than polls predicted and failed to hand Biden a dual-house mandate that would've enabled the president-elect to implement some business-unfriendly policies: investors voted with their money.

Regardless of the apparent return to status quo, we continue to monitor event risk as an early warning signal. As explained below, we use bespoke statistical measures of market uncertainty – our turbulence index and absorption ratio – to assess the scale of event risk.

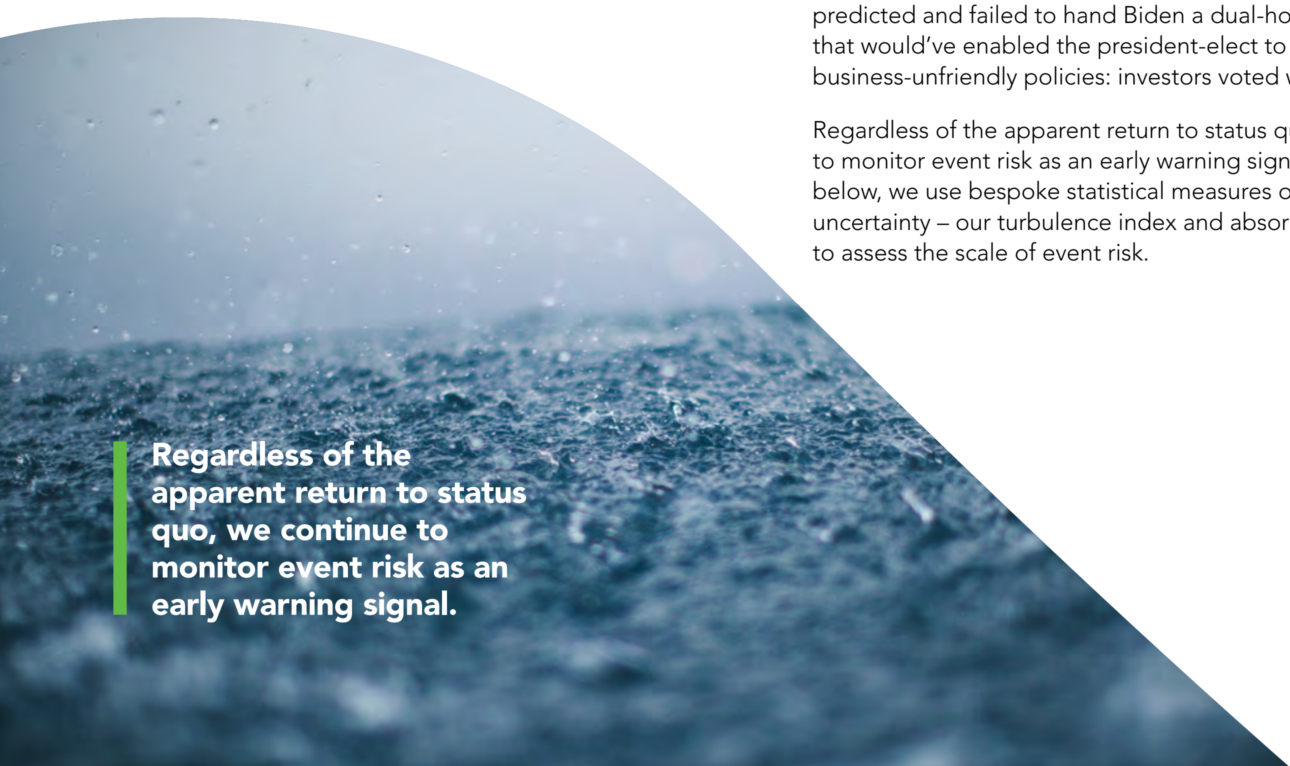


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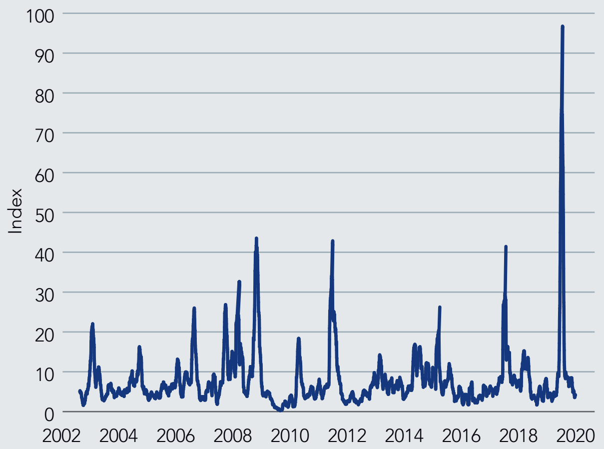
Figure 20. Turbulence index



Source: Federated Hermes as at November 2020.

What does it measure?

We analyse market turbulence by identifying how statistically unusual current volatility and correlation levels are.

What does it consist of?

The annualised returns of five equity indices following the most and least turbulent periods.

How to read it

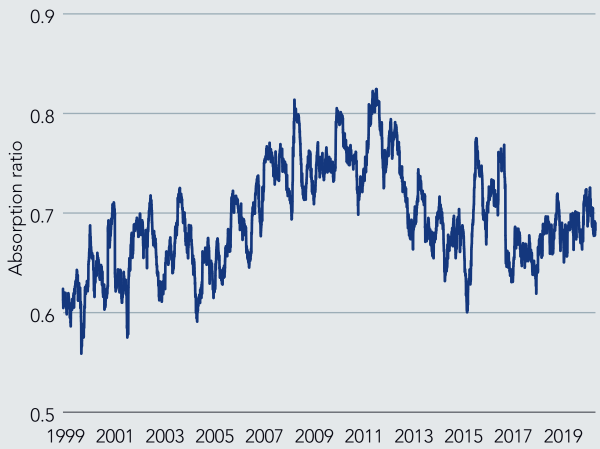
Our analysis demonstrates that the most turbulent periods typically precede significant drawdowns across a number of asset classes and markets. Times of financial turbulence are typically persistent and provide lower rewards for risk-bearing than normal times. As such, this measure could be used to construct portfolios that would be relatively resilient to turbulence via a conditioning process.

What does the latest reading show?

The turbulence levels have returned to much more normal levels following the very elevated conditions seen earlier in the year, particularly around March.

While the turbulence index tracks the level of uncertainty in equity markets, our absorption ratio takes in a wider vista and more closely approximates systemic risk.

Figure 21. Absorption ratio



Source: Federated Hermes, Bloomberg, MSCI as at November 2020.

What does it measure?

The extent to which financial-market risk is concentrated in just a handful of factors.

What does it consist of?

We use principal-components analysis to determine the extent to which the largest factors dominate the entire risk-factor set. Our dataset includes information for 17 different asset classes.

How to read it

The ratio rises as market risks gather around few factors. When the ratio is high, overall market conditions are fragile and prone to systemic risk across asset classes.

What does the latest reading show?

Although the absorption ratio has risen, it has been far higher in previous years – particularly during the financial crisis. This suggests that a wide and diverse set of risk factors are influencing market sentiment.

Finally, we turn to unstructured data to look at economic-policy uncertainty. The tool, which leans on a broad array of traditional and new social-media sources, picks up on underlying changes in the global economic mood that can signal market risks ahead.

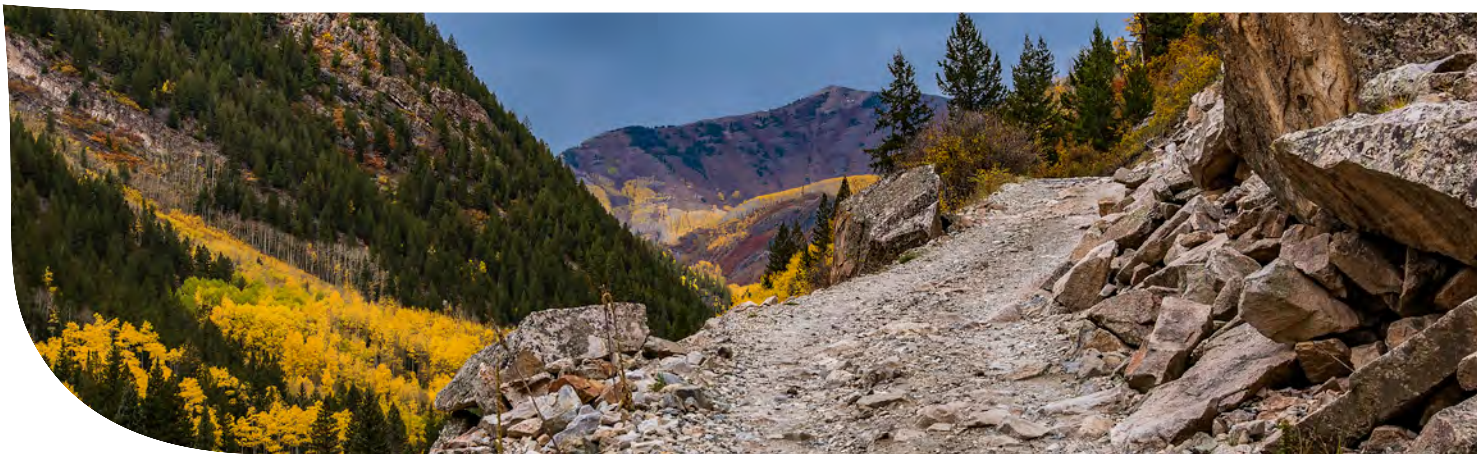
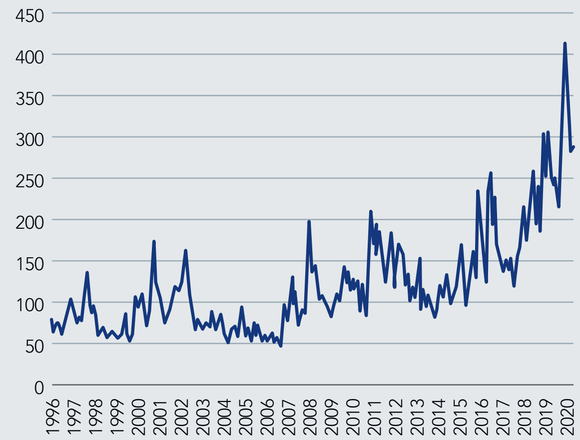


Figure 22. Economic policy uncertainty



Source: Economic Policy Uncertainty is a research entity: https://www.policyuncertainty.com/index.html Federated Hermes as at November 2020.

What does it measure?

The level of geopolitical concern in the world.

What does it consist of?

The metric considers global economic coverage to assess the frequency of bad news.

How to read it

The index moves higher as gloomy economic news becomes more frequent. Geopolitical uncertainty is often a precursor to financial market volatility.

What does the latest reading show?

Global policy uncertainty rose steadily for much of 2019, diminishing slightly at the end of the year before rising again. In recent months the level of economic uncertainty has diminished but still remains at elevated levels. It would be interesting to see how a change in the US presidential administration will change matters.

By almost any measure, 2020 has been an eventful year. Bookended by a global pandemic and probably the most divisive US presidential election of all-time, investors have had to absorb enormous short-term shocks while attempting to discern the path ahead for the long term.

As we speak, the release of highly promising trial data for two Covid vaccines and a, mostly, settled US presidential race might see 2020 end in a burst of positivity. But as the, possibly apocryphal, quote from former UK prime minister, Harold Macmillan has it, the most difficult challenges are down to "events, dear boy, events".

As we speak, the release of highly promising trial data for two Covid vaccines and a, mostly, settled US presidential race might see 2020 end in a burst of positivity.

ESG risk
Fueling up for the energy transition

According to the latest data, Covid-19 has infected almost 60m people while claiming the lives of 1.4m. The tragic loss of human potential is incalculable and will no doubt haunt individuals, families, economies and the world at large for many years to come.

However, if it's possible to claim a positive side-effect of the pandemic, we could point to the reduction in global carbon dioxide emissions in the wake of economic shutdowns. Of course, the pause in emissions will only be brief – and won't change the long-term trajectory – but it has allowed us to glimpse what a better, greener future could look like.

As well, the coronavirus has exposed the importance of providing access to decent work for all (as exemplified in the Sustainable Development Goal 8) while also highlighting how quickly we can adapt to work-from-home and social distancing conditions through technology.

At the same time, we remain focused on mitigating the same environmental, social and governance (ESG) investment risks that were already apparent pre-Covid and have not disappeared. Of late, we have carried out especially intense ESG engagements in the area of energy transition.

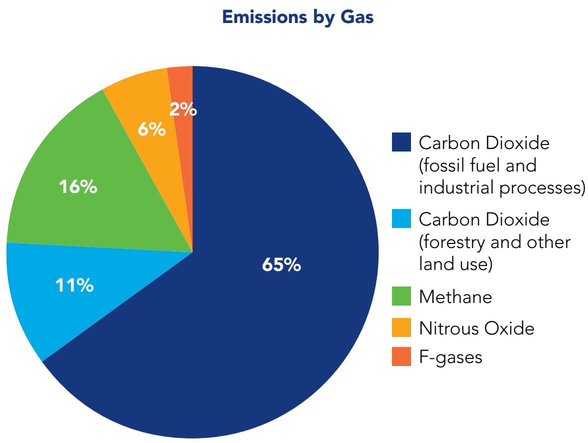
The world still has much to do if it is to achieve the stated goal of achieving net zero emissions by 2050. Even in the US, where political leaders have openly questioned climate change, the proportion of adults citing the environment as a major concern has increased over the last year from 38% to 52%. In Europe, environmental worries remain the second-highest global concern.

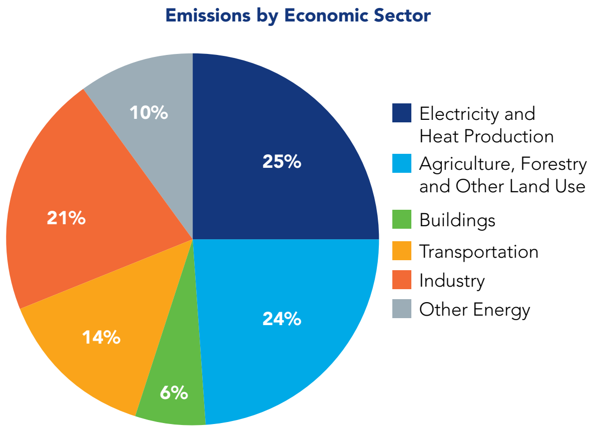
Recently, though, three developments have suggested the world is moving in a positive direction to meet the 2050 target: the EU 'Green Deal' targeting a climate neutral bloc by 2050; China's stated ambition to become carbon neutral by 2060; and, a promise by US president-elect Joe Biden to return the US to the Paris Agreement on climate change when he takes office next year.

Elsewhere, California committed to ending the sale of new diesel and petrol cars by 2035; the first US state to do so in what could be an inspirational act for other regions and countries.

In line with these major political and social advances on climate change, investors are also mobilising via the 'Transition Pathway Initiative', which will seek to measure how well-prepared companies are for a low-carbon economy.

Figure 23. Greenhouse gas emissions: by type and across sectors





Source: IPCC (2014) based on global emissions from 2010. Details about the sources included in these estimates can be found in the *Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.*

Over the long term, oil is on track to see a 40% decline in demand, according to estimates under the IEA's 'Sustainable Development Scenarios' (SDS). The SDS analysis shows the slump in oil use will primarily be led by a large increase in electricity, rising from the current 19% of the global energy mix to more than 30% by 2040.

Most of the changing energy use will come as electric vehicles supplant petrol and diesel-powered versions. Power generation, too, is evolving to emphasise low-carbon options such as biofuels, synthetic fuels and hydrogen. And finally, coal is set to decrease from generating the current almost 30% of global electricity production to less than 10% by 2040.

Amid such enormous secular changes to the energy sector over the coming decades, investors stand to profit by landing on the right side of history, or risk being overwhelmed by standing with past practices.

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Conclusion
Covid-19 and beyond

In some ways Covid-19 has united the world.

As Camus wrote in his 1947 novel: "Since plague became in this way some men's duty, it revealed itself as what it really was; that is, the concern of all."

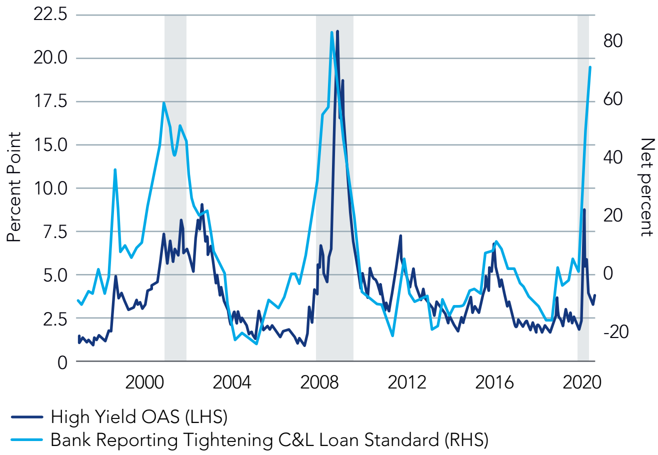
Now nine months into a global pandemic, investors have settled into more of a holding pattern as we better understand the coronavirus risks and underlying economic trends accelerate through the crisis.

Specifically, the Covid-19 year has spurred growth as an investment strategy, concentrated mostly in a handful of big tech players.

The strong resurgence in GDP in the third quarter, particular in the US, bolstered markets with the prospect of little monetary policy change in the near future suggesting more of the same as the year ends.

Nonetheless, evidence of tougher credit conditions and the knock-on effect of the second-wave lockdowns could create further strain at the corporate level. Figure 24 shows a tightening in bank-lending standards, which may foreshadow further corporate distress as access to capital becomes more difficult.

Figure 24. Crisis measures: US banks tighten lending standards



Source: Federal Reserve Bank of St Louis, as at October 2020.

Whatever lies ahead, though, investors can look back on a year that, for all its challenges, holds the key to a more positive future.

To conclude, fittingly, with Camus: "What's true of all the evils in the world is true of plague as well. It helps men to rise above themselves."

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