MID-YEAR OUTLOOK **2021**

Traveling to the post-COVID world: New portfolios for a new economy

Citi Global Wealth Investments

Private Bank

Private Banking for Global Citizens

Mid-Year Outlook 2021

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Foreword

JIM O'DONNELL
Head of Citi Global Wealth

It gives me great pleasure to introduce **Mid-Year Outlook 2021 - Traveling to the post-COVID world: New portfolios for a new economy**. This is our first edition since the formation of Citi Global Wealth earlier this year. Our mission is to deliver the finest wealth management experience to all of our clients worldwide. Sharing the institutional-caliber thought leadership of David Bailin's Investment team is an example of how we do this.

The last year-and-a-half has been one of the most challenging periods in modern history. However, the end of the COVID crisis is thankfully coming into view. In Mid-Year Outlook, we set out our roadmap for exiting the pandemic and navigating the coming years. Our message is that the world is not simply returning to how it was before. Instead, we think that COVID has catalyzed important changes to the global economy that need to be reflected in your portfolio.

We believe the world is heading for a full recovery from COVID. Thanks to vaccine rollouts and unprecedented fiscal and monetary stimulus, most economies are reopening, albeit unevenly. The desire to see friends and family, visit restaurants, attend large events, and travel abroad is strong among consumers everywhere. So too is their financial ability, following a prolonged spell of involuntary saving. The combination of stimulus, personal savings, pent-up demand and changes in consumption patterns augur well for a rapid recovery and an expansion that could last several years.

For much of 2020, we made the case for investing in the assets hit hardest by the pandemic. Many of these have since rebounded powerfully. Nevertheless, we still see opportunities to get exposure to the recovery, especially in non-US markets, although the breadth and scope of their potential appreciation is no longer as great. Certain real estate assets and select national markets, such as Brazil and the UK, are among the possibilities we identify here.

At some point in 2022, however, we believe that the adjustment process, which we call "mean reversion," will have run its course. Thereafter, we expect a new, more traditional expansion and mid-cycle conditions. We have begun to prepare for this – see Traveling to the post-COVID world and Our positioning. While optimistic about the economy, we are not complacent. The pricing of developed markets assumes a fair amount of good news. As in any expansion, we know things could go wrong. We consider some major – albeit improbable – examples in Greatest risks to the global economy: A look back and a look forward.

Despite the steady return of everyday normality, we also believe the world beyond COVID will be rather different from how it was before. Certain shifts seem likely to endure long after the virus is vanquished. For example, businesses and consumers alike have discovered new efficiencies by embracing technology during the pandemic – see Deepening digitization.

Likewise, the rapid success in producing COVID vaccines will probably accelerate development of other treatments and medical technology – see Extending healthcare's frontiers. Last year's advances in renewable energy may persist far into the future, too – see Greener and sooner. Increasing "state capitalist" involvement in this and other key industries is likely to be a key driver, especially in the US and China – see Positioning for G2 polarization.

As we exit the pandemic, Citi Global Wealth stands ready to be your trusted partner and guide. We look forward to assisting you in strengthening your portfolio for the world beyond COVID.

It is our privilege to serve you.

1 Exiting the pandemic

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1.1

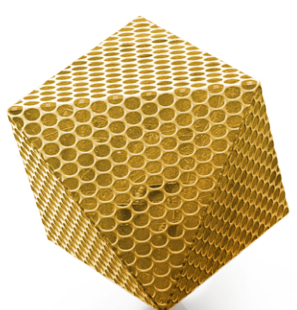
Faster and faster

DAVID BAILIN
Global Head of Investments and Chief Investment Officer
Citi Global Wealth

As we exit the pandemic, we see many causes for optimism about the global economy. And we identify attractive opportunities in the post-COVID world.

Perhaps you are feeling a sense both of exhaustion and elation. Maybe you are experiencing hope that the world will return to normal but simultaneous anxiety that things will never be the same. The end of a once-in-a-lifetime event – this pandemic – is the root cause of these dichotomous and perplexing feelings for investors.

As a CIO in contact with hundreds of clients, from family offices to sole practitioners, what I can say with certainty is that things are moving faster and faster as we travel towards the post-COVID world. From news cycles to the economy, data is travelling quicker and decision-cycles are shortening. All of this speed is magnified and blurred by the resilience, successes, ingenuity and failures the world has experienced in the face of COVID.



Getting your bearings

When it comes to investing at this time, there are certain facts and likelihoods that can make our vision of the world clearer:

- The pandemic will end in the next 6 to 12 months as vaccinations, testing and awareness most likely tame COVID into a treatable ailment like the seasonal 'flu. Solidarity among developed and emerging countries will be key to these efforts.
- The global economy will recover sharply due to effective monetary and fiscal stimulus around the world. With higher savings in developed markets, pent-up demand for services, technological change that has literally saved lives, and a more competitive global environment, the fuel for growth is abundant.
- Although some financial markets appear expensive, many are not. And while we will see a blast-off in global GDP, there is also enough momentum to propel a prolonged economic recovery.
- Interest rates are low and are likely to remain so. Where and when markets prevent fixed income investors from generating positive returns after inflation, equities and alternative investments will play even more important roles in asset allocation. The value of cash in the post-pandemic environment has diminished significantly.
- We will enter the new economy after COVID at mid-cycle stage. By the time the pandemic ends, global markets' valuations will already fully reflect the initial recovery. Interestingly, though, this does not mean we will see below-average equity returns. Looking back, we note that average mid-cycle equity returns have been almost as strong as those over full cycles.
- Diversification opportunities are prevalent and may become more so.[1] The evolution of markets, countries, politics and technology will create both more winners and more losers. That is good news for investors, as the indexes are unlikely to be the vehicles for our future success. Active management will be important.
- Solutions to complex environmental and social problems also represent attractive business and investment opportunities.

From this list, you can already see many causes for optimism about the global economy. By contrast, the feelings we may be experiencing can make us worse investors, more likely to see and act upon fears, even when the data does not bear them out. In our view, there has never been a better time to seek wise advice and to avoid market timing.

[1] Diversification does not ensure against a loss of the principal invested.

The path of travel

The present moment is unusual. For the next 12 months, we will be in transition. There are many near-term opportunities in industries that will benefit from the pandemic's end. Subsequently, there will be many longer-term opportunities that will have accelerated due to the pandemic. So, what should an investor do now?

The rapid changes we see coming in the global economy should be reflected in portfolios, preferably well in advance of the developments themselves. This requires earnest implementation of our core-opportunistic investment philosophy. Core portfolios that are fully invested over market cycles will tilt toward equities in this environment of negative real yields. They will also actively shift from near-term opportunities to longer-term ones. These include exposures to our unstoppable trends may to provide growth to portfolios, as reflected in the world economy. Such core portfolios will also benefit from the numerous diversification opportunities presented throughout this edition of Mid-Year Outlook.

For the portion of your wealth exposed to opportunistic investments, this will be a target-rich environment. There are many distortions in global markets that can be exploited in portfolios. Periodic bouts of volatility will enable capital markets strategies that seek to create yield and allow investors to set attractive entry-points for equities. In some industries, we see many potential winners and losers that will become evident. We want investors to look for and be overweight leaders, companies that stand to gain market share and maintain or grow profitability in the environment we see evolving.

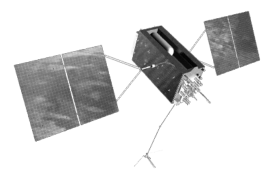
Near-term opportunities

This edition of Mid-Year Outlook is potentially more valuable than previous mid-year updates. That is because we are traveling to a truly new destination.

In the present report, you will note that there are still "mean reversion" investment opportunities. Mean reversion is one way to exploit the pandemic's distortions to our economy. Growth stocks may pause after their powerful 2020 performance. However, there are still COVID-cyclical sectors that will recover sharply only when the full global economy reopens in 2022. These include travel, hospitality, certain real estate sectors and services more broadly. Remember that during the final stages of mean reversion, areas that were big winners during the pandemic – think home electronics providers – will pause or suffer real downturns.

Mean reversion is also a geographic phenomenon. While the US is priced fully, China has already seen declines from peak equity prices. We think China could perform well after its markets finish consolidating. The likes of Brazil and the UK have not yet seen their recoveries take flight. And Southeast Asia also looks anemic, even though its demographics are strong. The region stands to be the biggest beneficiary of US-China polarization. Until the pandemic's is both seen and believed, these mean reversion trades will remain available and potentially profitable – see Traveling to the post-COVID world – New portfolios for a new economy.

Right after the pandemic is declared over, we can imagine a strong global economic recovery that actually feels more normal. Supply chains will be full of goods. Shippers will have the containers and vessels in the right locations to meet demand. Commodity prices that have surged will have stabilized, reflecting better supply-demand equilibria. The interventions of governments and central banks will have subsided somewhat, allowing the economy to function with fewer such unusual measures. All of this suggests that we can expect some level of normalcy in our business and personal lives.



A new, new normal

The new normal is not the old normal. In so many ways, the pandemic introduced a new set of realities. One of these is in the state of global relationships.

The steady rise of China and the tumultuous political climate in the US reflect the economic tussle between these two superpowers that will persist for decades to come. The US and its Western allies see threats from China. These include old ones such as the lack of intellectual property protection and new ones including real competition in new industries, such as electric vehicles, where China's intent is to go head-to-head with leading manufacturers worldwide. This points to the emergence of a "G2 world," in which a single global economy bifurcates – see Positioning for G2 polarization. This separation will not occur evenly or everywhere. However, it does mean is that in strategic industries such as semiconductors, two distinct markets are likely to evolve. This will also apply to capital markets themselves. One can imagine China's currency earning reserve status and there being two competing, major places to execute financing and trading activities.

A second reality is the devolving relationship between governments and their constituents. The pandemic itself exacerbated growing divides, with governments using the crisis to augment their power. From the US to India, and from Thailand to Indonesia, the erosion of democratic processes is clear. Polarization in politics feeds into the global economy in ways both obvious and insidious. Tariffs and the resulting trade distortions are plain to see. But when it comes to privacy rights, the use of surveillance by governments, and the rise of cyberattacks as a military threat, there are other costs and implications for the buyers and sellers of goods and services.

For investment portfolios, it is possible to make the argument that the "G2" bifurcation and the growing discord in some Western economies will create potential for diversifying portfolios. That represents the best-case scenario, in which increased competition, the rise of new capital markets and the speed of technological advancement combine to generate fresh investment opportunities that rise and fall in less correlated ways. However, there is also a potential downside, where disjoints in markets follow breaks in geopolitical relationships.

The role of the trusted partner has therefore become more important, as it is not possible for one individual or one family office to follow all of these events and act upon their implications alone.

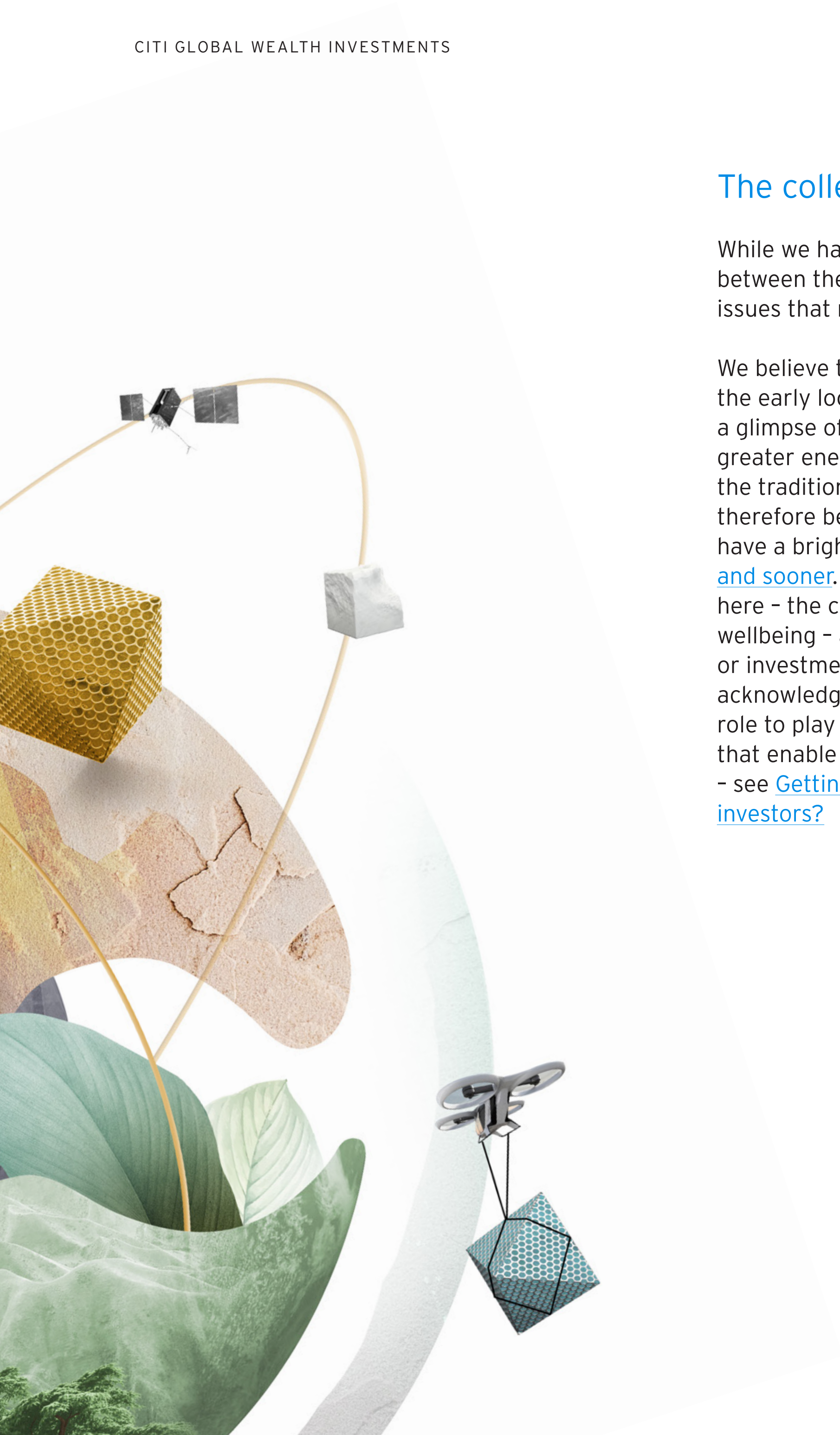
Longer-term opportunities

Those trends we identified as "unstoppable" before the pandemic have become even more relevant for investors. Think about the impacts of COVID and the consequent shutdown of the global economy. Biotechnology will power rapid advances in treatments for cancer, diabetes and many major types of illness. Robotics, telehealth and digital medicine will allow medical personnel to deliver treatments from distant locations –see Extending healthcare's frontiers. Competition in space is rampant, with critical implications for data transmission. Cybersecurity will advance to protect businesses and governments, sometimes from one another – see Deepening digitization.

Our day-to-day lives are all being transformed at greater speed. From e-commerce to online gaming, from streaming live concerts to global e-sports competitions, the next generation of commerce will be built around a purely digital backbone. Factories will become fully flexible, able to respond to changes in consumer demand more quickly. Warehouses will adapt to "in-an-hour" delivery requirements. Our offices will become flex-spaces and working from home will become working from anywhere. These and other developments have important implications for our need for and use of buildings and other properties – see Reshaping real estate.

Finally, the future includes the rapid advancement of fintech. This includes the way we manage our assets. Portfolios will benefit from improved implementation of strategies like the ones reviewed herein. Digital currencies will lead us to digital assets. Even the way we obtain advice and engage with advisors will be enhanced.

Every single one of these is investable, enabling us to build portfolios that are tilted toward the future.



The collective good

While we have spoken of the coming competition between the East and West, there are also some issues that markets are addressing collectively.

We believe the plunge in fossil fuel usage amid the early lockdowns of 2020 may have given us a glimpse of a future where cleaner energy and greater energy efficiency predominate. Even as the traditional energy sector bounces back, we therefore believe that alternatives continue to have a bright longer-term outlook – see Greener and sooner. Of course, the underlying issues here – the climate of our planet and our collective wellbeing – are much bigger than any business or investment opportunity. Nevertheless, we acknowledge that private capital has a critical role to play in reducing carbon emissions to levels that enable us to avoid a climate catastrophe – see Getting to zero: what does it mean for investors?

Return expectations

The rapid appreciation in 2020 of Chinese securities, technology shares and US small- & mid-capitalization companies suggest to some that the best opportunities are behind us, that they missed post-pandemic opportunities because of high market valuations. We disagree.

Strong increases in corporate earnings still lie ahead. For many industries, companies and regions, the ability to exceed 2019's revenue, earnings, cash flow and/or dividends is meaningful. This is because we are still in the early stages of in the new economic cycle. However, as you will read, the marketplace is more competitive than ever. Management teams of companies will need to make decisions as to how and where to invest their capital, and these decisions will lead to sharper differences in performance and valuations.

It has thus never been more important to engage in active portfolio management.

We thank you for our partnership, especially across the past fifteen turbulent, scary and unprecedented months. Our commitment to you, as your trusted and present partner, is stronger than ever. And we remain equally committed to being your guide as we move into a future filled with positive possibilities and complex interdependences.

1.1

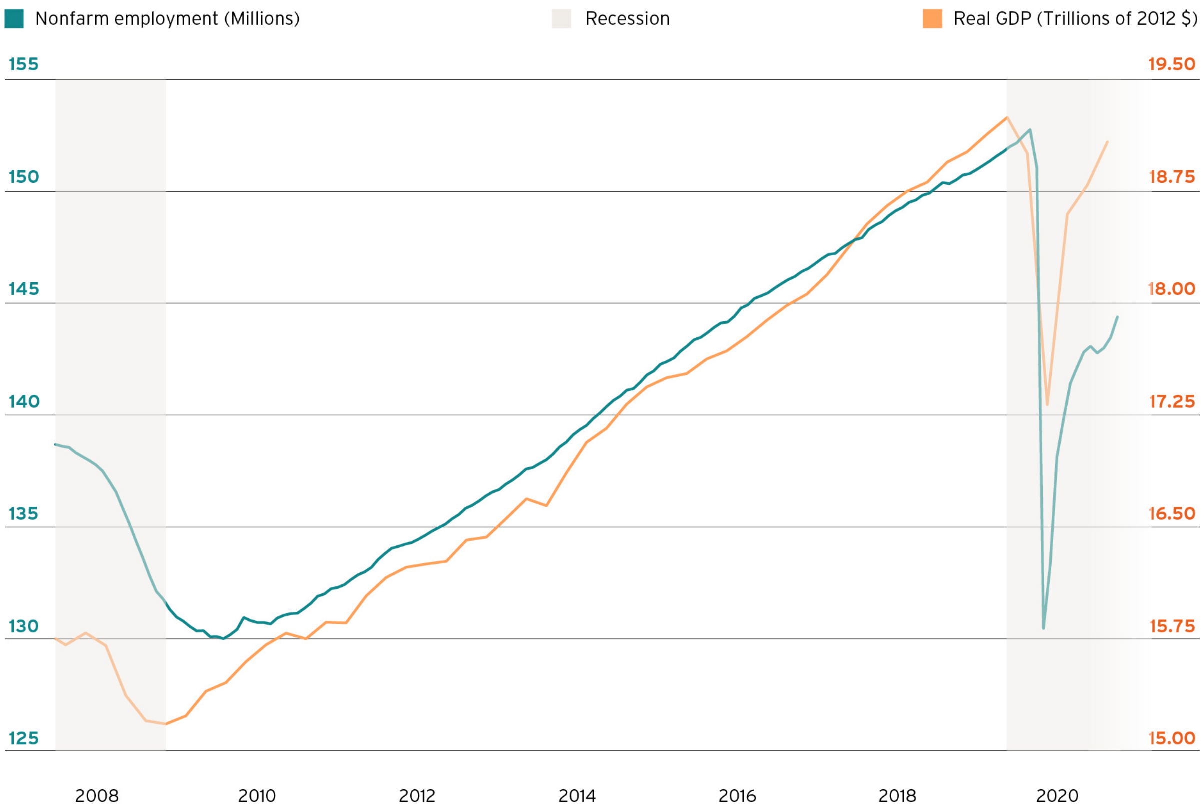
Traveling to the post-COVID world – New portfolios for a new economy

STEVEN WIETING - Chief Investment Strategist and Chief Economist

With the end of COVID coming into view, we expect a multi-year economic expansion. But the pandemic has changed the economy, and portfolios need to reflect this.

- The end of the global pandemic will be at hand in the coming quarters, with a strong multi-year recovery ahead
- COVID has changed the world economy, largely via adaptations and efficiencies made to cope with pandemic restrictions
- Macroeconomic management and the scale of government involvement may have also changed for the long run
- The strongest "bounce back" investment returns have already been earned, with some of the lowest quality assets leading the way
- Certain sectors and national markets still offer mean reversion potential, but the range and scope of opportunities is narrowing
- We have started to position our asset allocation for mid-cycle conditions
- We favor exposure both to assets that still have untapped recovery potential and to reasonably valued long-term growth assets
- While we have started increasing portfolio quality, this in no way implies a negative outlook
- Fixed income assets and cash remain unappealing, with a few exceptions

FIGURE 1. ECONOMY OUTPACING EMPLOYMENT DUE TO TECHNOLOGY BOOST



Source: Haver, as of 26 Nov 2020.

As the doctor on a television drama might say, "the patient is heading for a full recovery." Our prognosis is the same for the world economy following the pandemic shock of 2020 and the ongoing rollout of effective vaccines. Admittedly, COVID remains a clear and present danger in several highly populous countries. Even in places where the virus isn't raging, it presents lingering dangers to many communities and "socially close" industries. Meanwhile, international mobility remains in a deep freeze. Nonetheless, we continue to envisage a transition over the coming year that will leave the world economy larger than it was at the end of 2019, with growth for several years thereafter.

As with the sharp swings during 2020, the recovery path for the world in the year ahead will be rapid but uneven. This reflects the exogenous nature of the COVID shock, the generally healthy state of many economies going into the health crisis, and unprecedented stimulus by certain nations compared to others. Crucially, the world economy has changed significantly owing to adaptations and efficiencies made during COVID.

Remarkably, US real GDP was just 1% smaller at the end of the first quarter of 2021 than at end of 2019. Employment, however, was 5.5% lower. With so many supply shortages and bottlenecks amid COVID's distortions to industry, consider how much larger the economy will be once full employment is restored – FIGURE 1. Ingenuity and technology helped humanity to adapt during the pandemic, and the lessons will not be forgotten as the virus retreats.

Cyclicals for the recovery, not for the long run

As of early June, a few wealthy countries such as the US have pulled far ahead in immunizing their populations. Others, however, have lagged badly. Economies that depend most on international travel and hospitality sectors remain deeply depressed, as always seemed likely. Ultimately, though, the vaccination laggards will catch up. So, while we expect the US growth to outstrip global growth this year, we envisage strong recoveries outside the US to reverse this situation in 2022 – **FIGURE 2.**

COVID required shutdowns in discretionary services such as hospitality. It also hindered some rather more necessary ones, such as elective healthcare. Flush with stimulus checks in the US in particular, consumers shifted their expenditures massively towards goods purchases. This spurred a colossal rise in manufacturing and trade activity for domestic items – **FIGURE 3.** In the quarters ahead, deeply depressed service industries are set to rebound in region after region – **FIGURE 4.**

FIGURE 2. US GROWTH TO OUTPERFORM THE WORLD IN 2021, VICE VERSA IN 2022

	2020	2021 (January projection)	2021 (March estimate)	2022
CHINA	2.3	6.0	8.0	6.0
US	-3.5	3.9	6.0	3.5*
GLOBAL	-4.0	4.2	5.0	4.5

*UPSIDE POTENTIAL FROM FISCAL EXPANSION

Source: Office of the Chief Investment Strategist, Citi Private Bank, as of May 2021. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Chart shows changes in inflation adjusted US dollars from the national sources and the International Monetary Fund for the aggregate.

FIGURE 3. REBOUND POTENTIAL IN US SERVICES

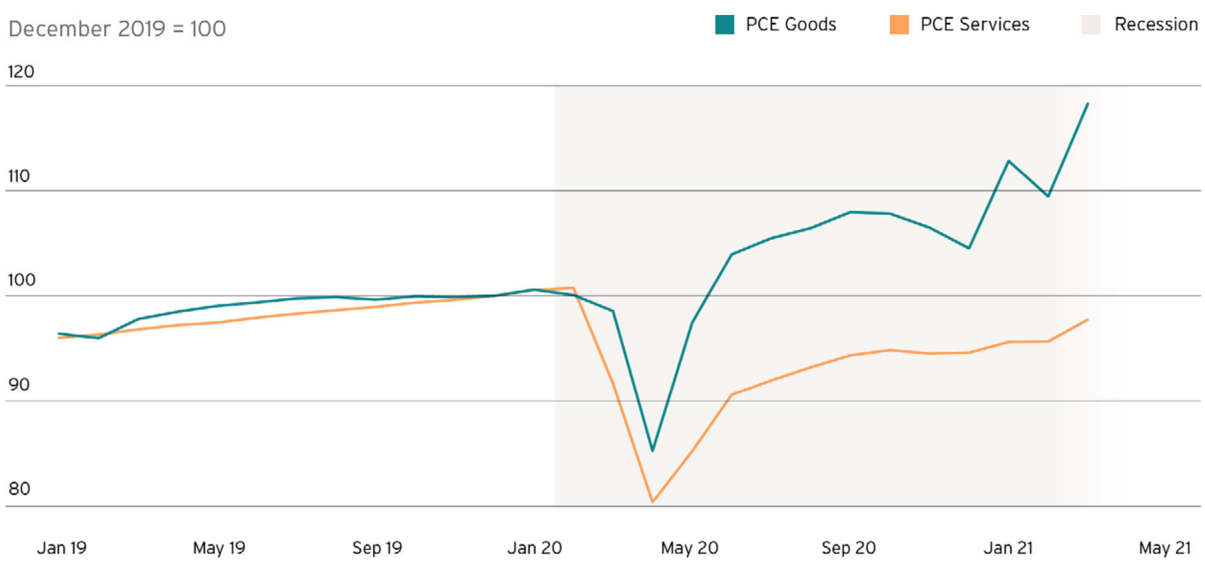


Chart shows real US consumer spending on goods vs services. Source: Haver, as of 30 Apr 2021.

FIGURE 4. GLOBAL SERVICES CAN CATCH UP WITH US SERVICES

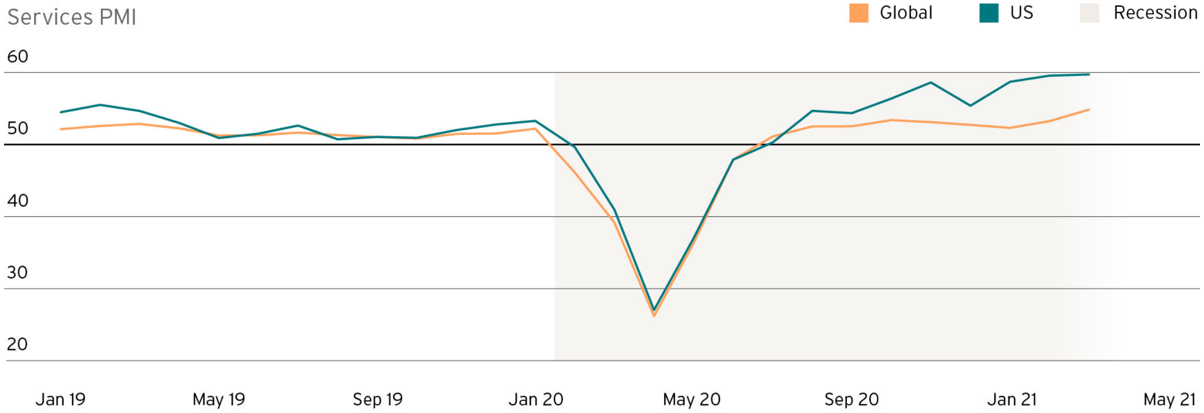
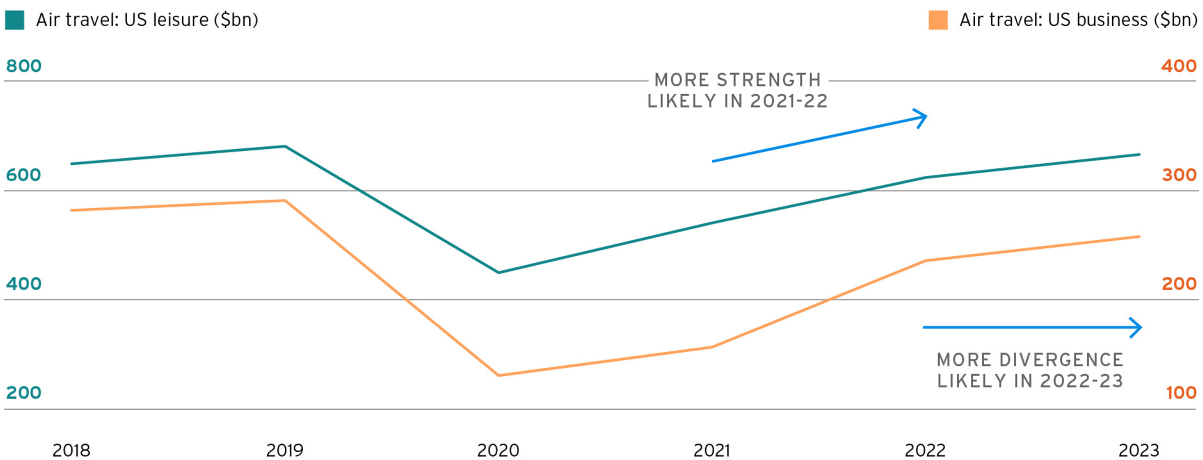


Chart shows US vs Global Services Purchasing Managers' Indices. Source: Haver, as of 30 Apr 2021.

FIGURE 5. US AIRLINE TRAVEL OUTLOOK: LEISURE VS BUSINESS



Source: Haver, as of 30 Apr 2021.

When conditions become safe, we expect pent-up demand for personal travel to generate a boom in the transportation and hospitality industries. At the same time, pent-up demand for business travel may give a misleading signal that suggests a return to the "pre-COVID normal" – **FIGURE 5**. Within a year, however, we believe we will see evidence that business life has changed in a lasting way.

Put simply, advances in and adoption of communications technology will generate permanent efficiencies. The widespread embrace of teleconferencing – and the new era of 5G enabled "hyper-connectivity" more broadly – will permanently alter demand for office space and business class airline seats. On future days of heavy snowfall, schools may simply shift lessons online, such that pupils need not miss out on class.

For much of last year, we made the case for exploiting mean reversion – see Outlook 2021. This involves investing in assets whose prices were hit hardest by COVID, with the aim of riding the rebound from depressed levels. This theme remains relevant as of early June 2021. However, there are now fewer such opportunities and less upside potential. For example, there is no longer scope to earn extraordinary returns in cyclical manufacturing firms and consumer goods producers, as these have already snapped back – FIGURE 6.

By contrast, mean reversion potential in "COVID cyclical" services, such as travel and hospitality, has further to go – FIGURE 7. Even these, though, have already staged a significant recovery. The same is true of certain other sectors and regional markets that are lagging in their recoveries from the pandemic – FIGURE 8. We continue to see upside potential in the global real estate sector – see The world beyond COVID: Reshaping real estate – as well as UK and Brazilian equities. However, we have already shifted away from overweight positions in the "COVID cyclicals" that have recovered most completely, such as US small-cap equities.

FIGURE 6. US MACHINERY NO LONGER AN UNDERPERFORMER

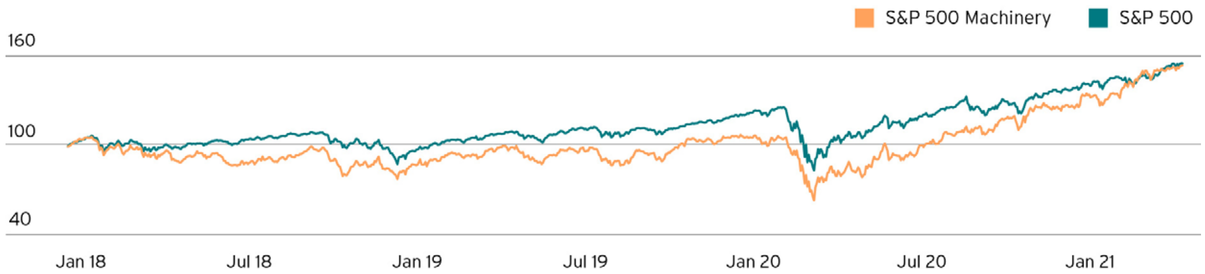


FIGURE 7. TRAVEL AND HOSPITALITY STILL TO RECOVER

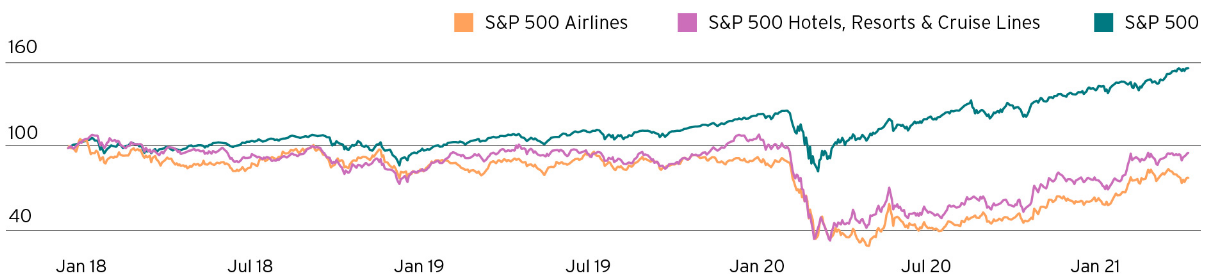
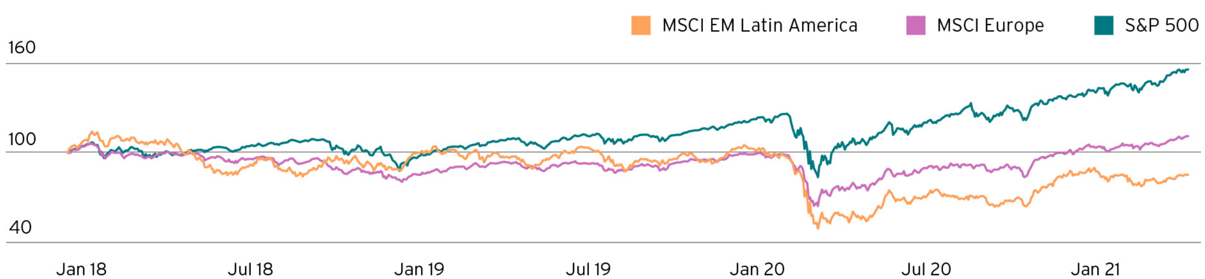
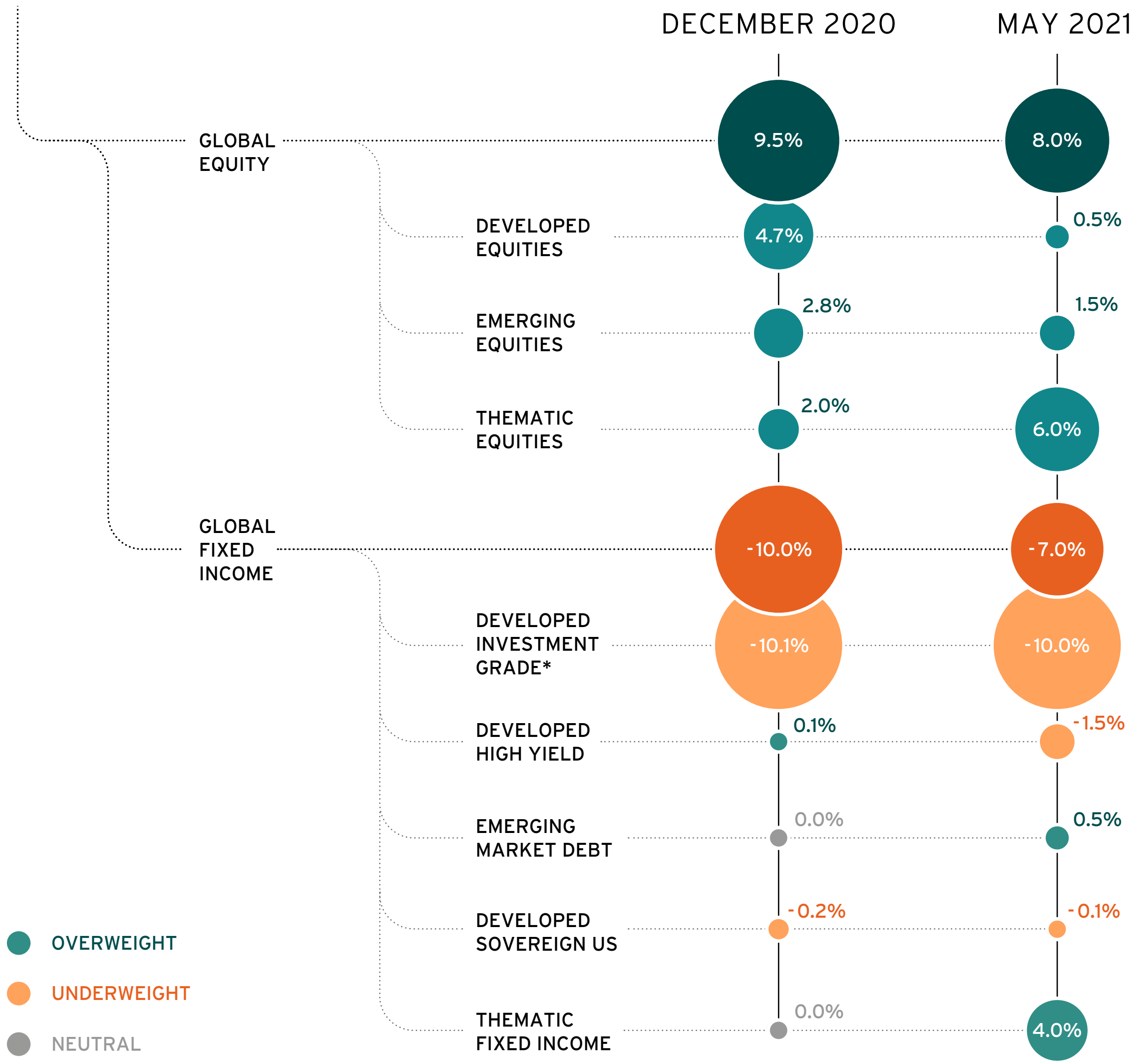


FIGURE 8. GLOBAL REGIONS RECOVERING AT DIFFERENT SPEEDS



Source: Factset, as of 17 May 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. See Glossary for definition.

Our positioning



Source: Office of the Chief Investment Strategist, as of 19 May 2021

*Factors in non–US Developed Market Investment Grade underweight

Opportunities

COVID CYCLICAL SECTORS WITH ONGOING MEAN REVERSION POTENTIAL, INC. TRAVEL, HOSPITALITY, GLOBAL REAL ESTATE

SELECT UNDERVALUED NATIONAL MARKETS, INC. UK AND BRAZIL EQUITIES

GLOBAL HEALTHCARE EQUITIES, INC. MEDICAL TECHNOLOGY, LIFE SCIENCES AND TOOLS

BIOTECH STRATEGIES FROM SPECIALIST PRIVATE MANAGERS

"G2" PRODUCERS OF SEMICONDUCTORS, SATELLITES, SOFTWARE, RENEWABLE ENERGY AND COMMODITIES

SOUTHEAST ASIAN BENEFICIARIES OF US-CHINA POLARIZATION

REAL ESTATE MANAGERS INVESTING IN DIGITIZATION BENEFICIARIES, SUCH AS WAREHOUSING AND DIGITAL INFRASTRUCTURE

REAL ESTATE MANAGERS SPECIALIZING IN HOSPITALITY

ADDING LONG-TERM EXPOSURE DURING CORRECTIONS TO DIGITIZATION AREAS SUCH AS:

- E-COMMERCE, ONLINE GAMING, STREAMING ENTERTAINMENT
- CYBERSECURITY, FINTECH
- FACTORIES OF THE FUTURE, CONNECTED CARS,
- ROBOTIC SURGERY AND TELEHEALTH

RENEWABLE ENERGY AND ENERGY EFFICIENCY

EXPOSURE TO INFLATION-LINKED BONDS AND VARIABLE RATE LOANS

SEEKING TO LIMIT FUTURE INCREASES IN FINANCING COSTS WHILE CENTRAL BANK POLICY RATES REMAIN ZERO AND BELOW

Expansion ahead, but no longer a snapback from crisis

At some time in 2022, we believe that the opportunity to exploit mean reversion will have run its course. We emphasize, however, that this does not mean that economic growth and positive equity returns will also cease. Instead, the markets will merely have shifted from "early-" to "mid-cycle:" the phase that begins one year after a recession and ends one year before the next recession.

FIGURE 10.
MID–CYCLE RETURNS IN THE US AND GLOBALLY

The chart shows overall returns vs returns excluding the periods 12 months prior to and after US recessions. Source: Haver, as of 30 Apr 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. See Glossary for definitions.

FIGURE 11. COVID CYCLICALS SNAPPING BACK

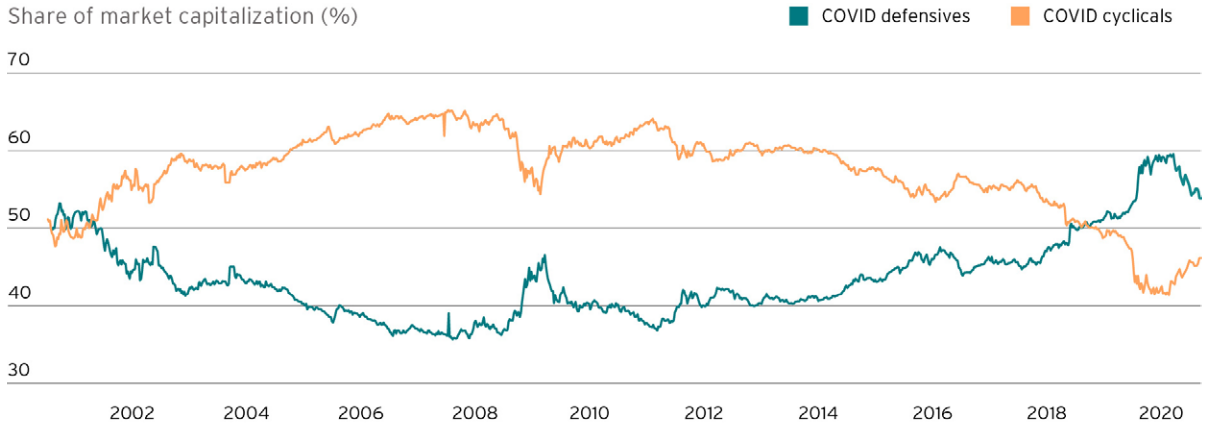


Chart shows COVID cyclicals and COVID defensives as a percentage of total market capitalization. COVID cyclicals: Financials, industrials, energy, materials, real estate, consumer discretionary ex–Amazon. COVID defensives: IT, healthcare, communication services, consumer staples, utilities, Amazon. Source: Haver Analytics, as of 30 Apr 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary.

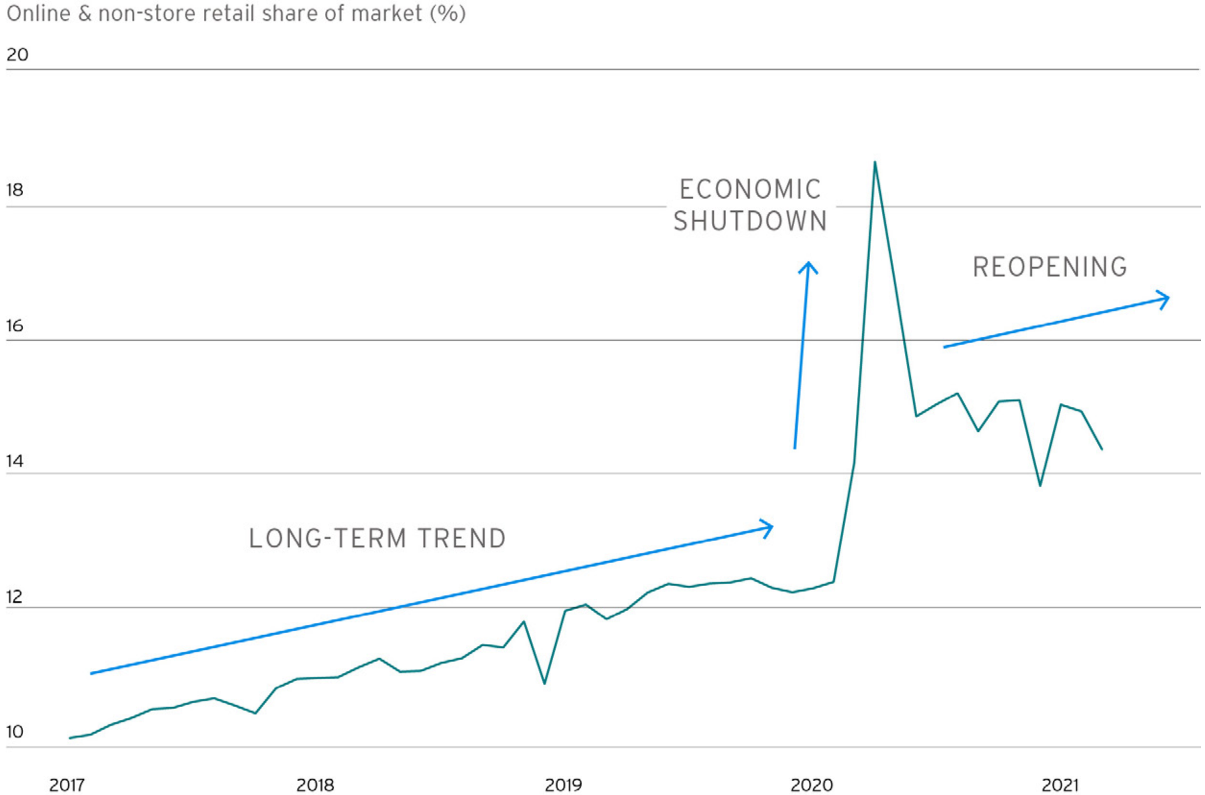
History shows that "mid-cycle" equity returns are on average just as strong as those over full cycles – FIGURE 10. And during the previous eight economic cycles since 1960, the second and third years of recovery have only seen a drop in earnings per share (EPS) on one occasion apiece. The average EPS increase in the second and third years of recoveries is 15% and 14% respectively. Admittedly, we see likely distortions from a US corporate tax hike and greater deceleration after a strong 2021. However, the stage of the present business cycle recovery – with US employment still 5.5% below peak levels – argues for fundamental bullishness.

Importantly, the endpoint for mean reversion is unlikely to see particular asset valuations simply restored to their pre-COVID levels. The relative value of many assets will have shifted in a way that is not entirely reversed with the end of the pandemic – FIGURES 11. The same technologies that helped the world exist under pandemic restrictions will have a significant and lasting impact on demand in the economy. This does not mean continued isolated living or working entirely remotely. Instead, it will involve accelerated adoption of certain technologies whose transformative effects will long outlast the reopening of the world economy.

Some things will just never be the same

The COVID shock has been a terrible human tragedy that has already claimed more than 3.38 million lives.[2] It has also been a profound learning experience. It has spurred medical innovations that have enabled us to fight back in record time. By necessity, many millions of the world's older population adapted to digital services and adopted e-commerce in ways that will permanently improve their lives – FIGURE 12. Many office workers will find themselves producing dramatically more for their employers working from home rather than commuting to the office.

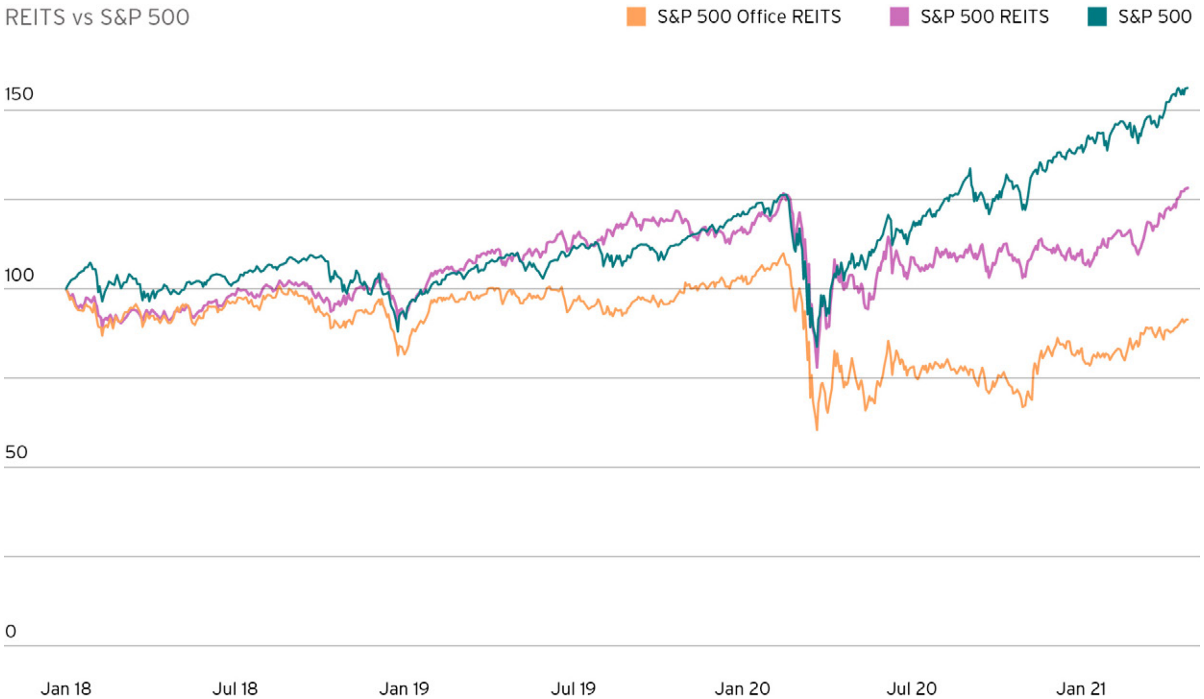
FIGURE 12. E–COMMERCE'S SHARE OF US RETAIL GOODS SALES



Source: Haver, as of 30 Apr 2021.

[2] World Health Organization, as of 19 May 2021

FIGURE 13. OFFICES STILL LAGGING



Source: Bloomberg as of 7 May 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. Basket constituent names are neither a solicitation buy nor a recommendation to sell the underlying equity.

With this in mind, we are not of the view that every COVID-impacted industry will see a return to the "old normal." Office and traditional retail properties are still somewhat cheap and have room for recovery, but secular pressures will re-emerge. Increased ability and desire to bank digitally, see a doctor remotely or work seamlessly from anywhere in the world will mean certain competing assets will not see a full recovery to the valuations and perhaps even the prices of late 2019. US office REITs – **FIGURE 13** – and US retail REITs are a case in point.

The strong secular growers of the pre-COVID period have generally seen their valuations rise significantly. The run-up may look superficially like that of the late 1990s technology bubble era. Unlike in those days, there is no tech recession on the horizon. Instead, we expect further long-term growth for this industry against the backdrop of an economic recovery – see The world beyond COVID: Deepening Digitization. In the event of market corrections, we would consider opportunistically adding to US and China growth equities.

Among "enduring growth" opportunities, we believe that healthcare represents the cheapest sector. We are already overweight the unstoppable trend of increasing longevity. In aggregate, the sector has never posted a year of decline in either sales or profits. However, it trades at a 25% valuation discount to the S&P 500. We explore its attractions and ways to gain exposure in The world beyond COVID: Extending healthcare's frontiers.

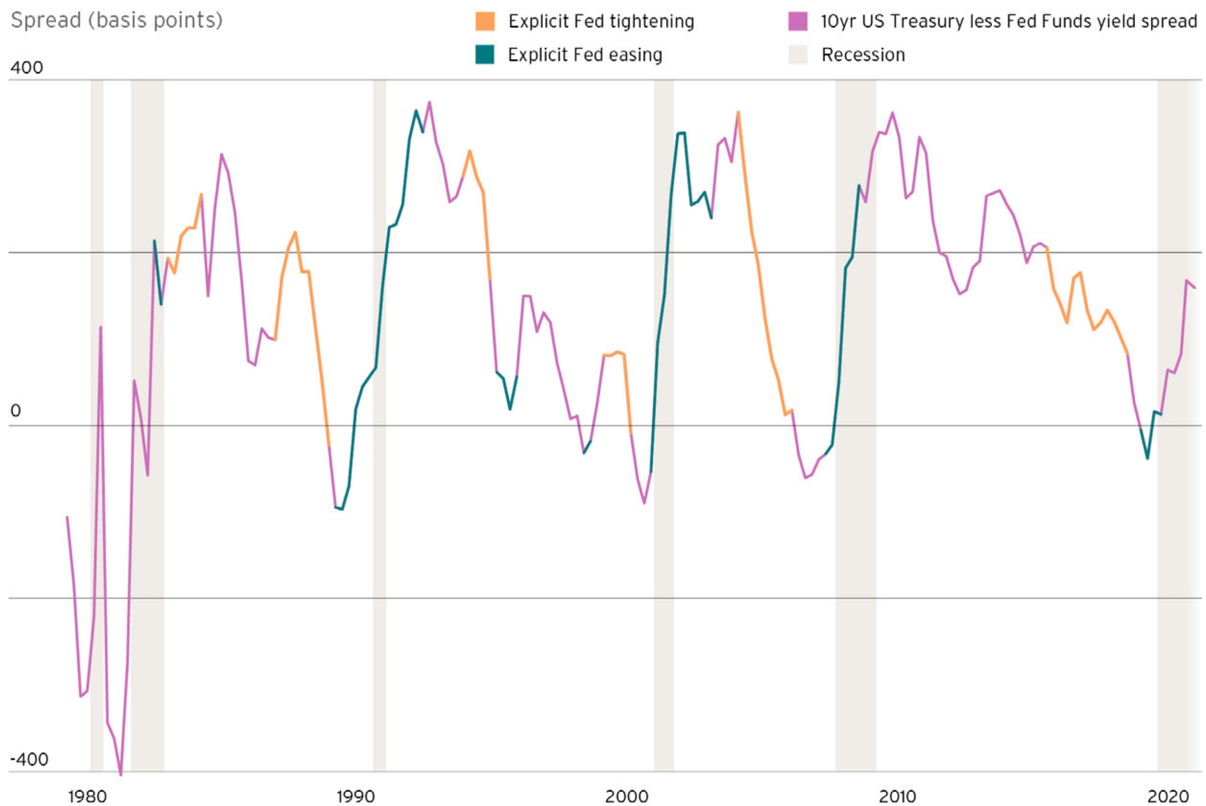
Big government and populist technological challenge

Another enduring change stemming from the COVID crisis is macroeconomic management. Policymakers will have been encouraged by the effectiveness of fiscal and monetary policy working in tandem, with very limited negative effects apparent thus far. For example, global interest rates remain below those of the pre-COVID period even after the largest increase in government borrowing in history.

We believe that even historically minimal central bank tightening steps could drive market volatility ahead. Once COVID is completely behind us and the world economy is growing strongly, the US 10-year Treasury yield will likely gravitate toward 2.5%. With the Fed almost certain keep its rate rises lagging far behind market-determined yields, we have high conviction in the likelihood of further yield curve steepening - FIGURE 14. Even with the 10-year yield at 2.5%, this would merely match long-term market expectations for the Consumer Price Index. In other words, real interest rates would be zero.

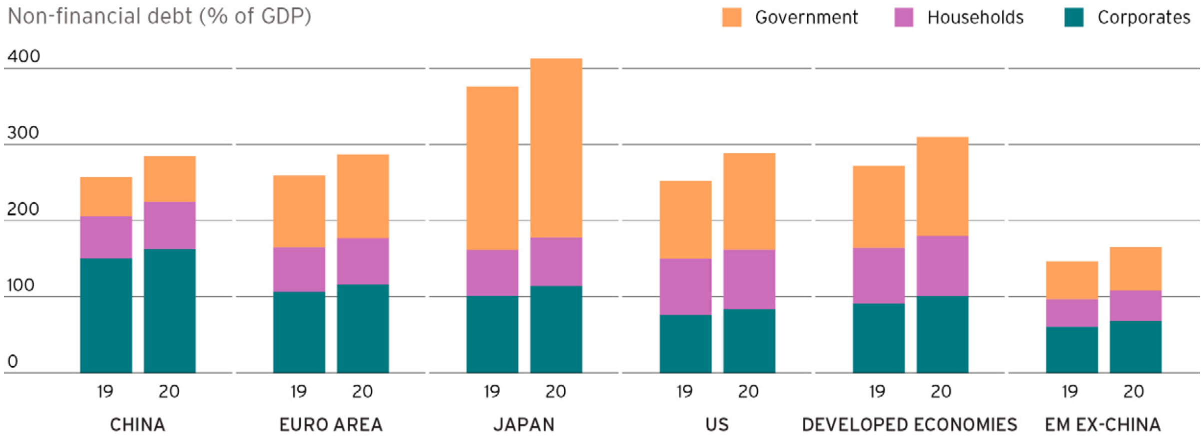
More profoundly, the COVID crisis has reawakened activist fiscal policy in both the US and Europe. The US wants both to spend and tax more, driving up the US government's share of GDP. The US has also decided to embrace an industrial policy, with key industries such as green technology targeted for direct subsidy – see [The world beyond COVID: Greener and sooner](). The Biden administration's proposed fiscal-industrial plan is remarkably similar to that of China, as discussed in [The world beyond COVID: Positioning for G2 polarization]().

FIGURE 14. US TREASURY YIELD CURVE SET TO STEEPEN FURTHER



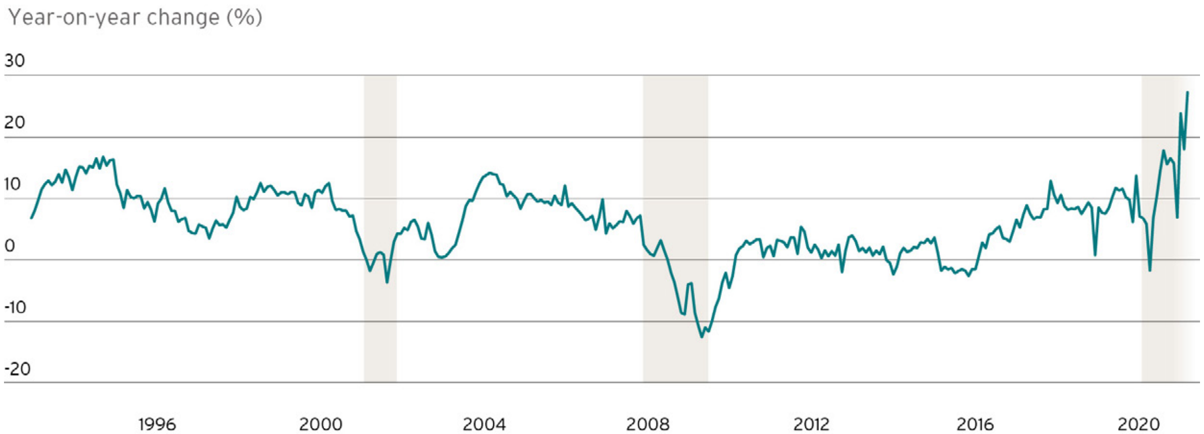
Source: Haver, as of 30 Apr 2021.

FIGURE 15. DEBT–TO–GDP BURDENS BEFORE AND AFTER COVID



Source: Haver, as of 1 May 2021.

FIGURE 16. US CONSUMER PURCHASES OF COMPUTERS AND HOME ELECTRONICS



Source: Haver, as of 30 Apr 2021.

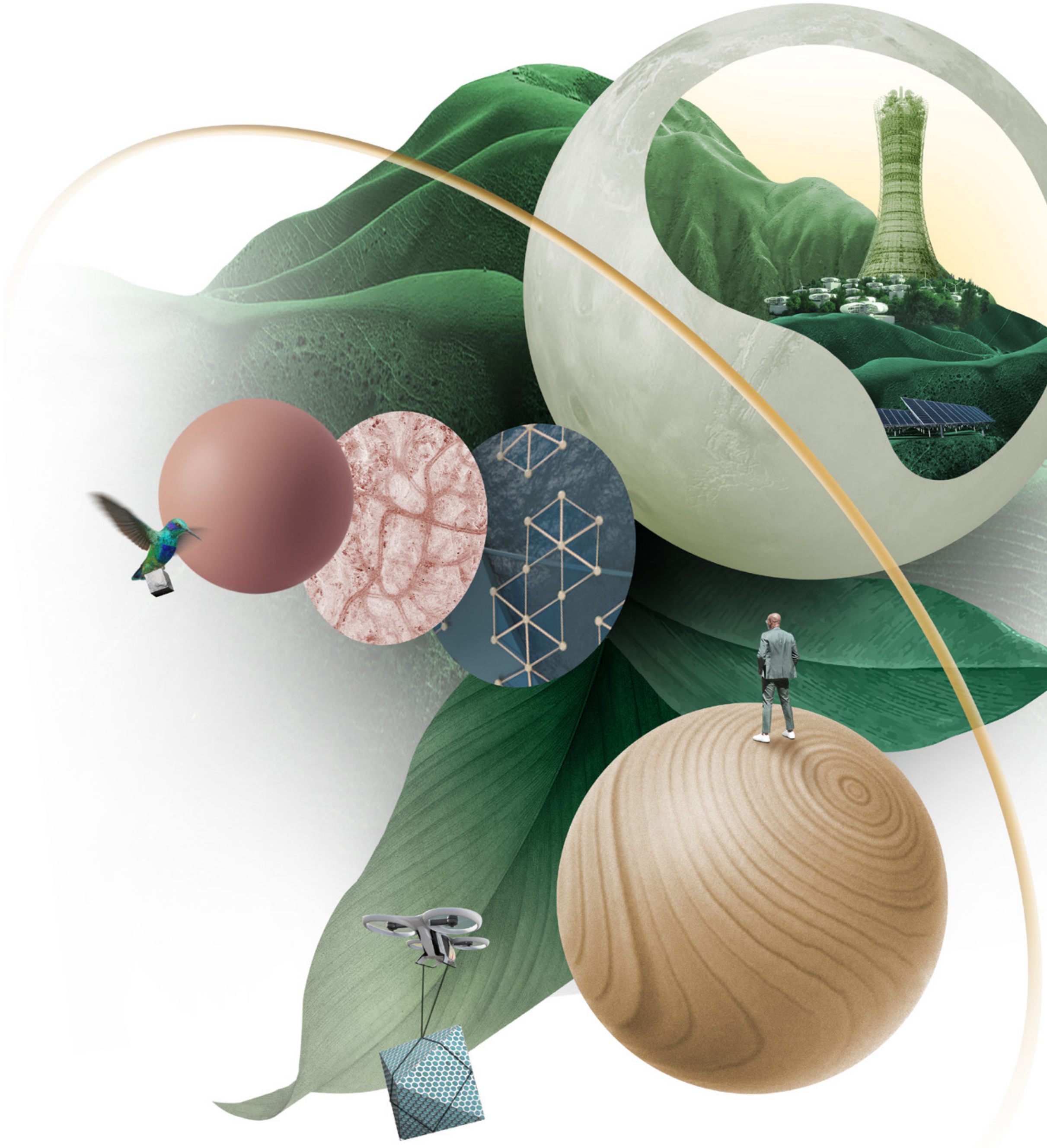
Among the major economies, China has ironically been the least decisive in easing fiscal and credit policies, focusing instead on the sustainability of its growth. Consequently, other governments have experienced substantial increases in their debt burdens relative to China – **FIGURE 15.**

In January 2021, we reduced our overweight allocation to Chinese equities. This partly reflected the Chinese market's strong performance in 2020, which leaves less recovery potential this year. It was also based on cyclical pressures and restrictive credit policies locally. We also reduced the extent of our tactical overweights in the rest of North Asia. COVID restrictions gave business and exports in this region a big boost, as consumers brought forward purchases of electronics – **FIGURE 16.** In the case of a market correction, though, we would consider increasing our exposure, much as we would in US technology. Both China and North Asia are likely to be long-term growth opportunities. We see Asia as providing diversification for global investors.

By contrast, we still see both fixed income assets and cash as broadly unappealing. We remain underweight fixed income globally by 7% as of May 2021. Admittedly, we have reduced this from 10% going into 2021. Nonetheless, it is a large underweight position. Fixed income and cash are highly vulnerable to rising inflation and deliberately suppressed interest rates – see Overcoming financial repression in Outlook 2021. That said, we do see some attractive areas within fixed income. These include exposure to inflation-linked bonds and variable rate loans – see Our positioning. For clients seeking to limit future increases in financing costs, we believe there is a case for doing so while many central banks' policy rates remain at zero or below.

New portfolios for the new economy

As the end of the pandemic comes into view, we face distinct sets of opportunities and challenges. Many of the investments that might do best in the year ahead are not necessarily those we envisage leading markets higher longer-term. For the rest of 2021 and into 2022, we continue to seek selective exposure to the cyclical recovery from the COVID recession. Thereafter, we look to exploit the trends that have helped to reshape the world economy during the pandemic. We explore these more deeply – and the investment opportunities we see – in The world beyond COVID.



MID-YEAR OUTLOOK | **2021**

Watchlist

COVID has changed the economy. Is your portfolio ready?

While the end of the pandemic is coming into sight, the world beyond will be different from before.

Mid-Year Outlook 2021 explores some of the key shifts and strategies to seek exposure to them.

To find out how your portfolio compares to your recommended allocation and our themes, please ask us for your personalized Outlook Watchlist.

More than 5,000 clients globally took this important step at the start of 2021.

Let us show you how to prepare your portfolio for the world beyond COVID.

We can also offer you customized analyses to help you:

- Get a holistic view of all your investments held at Citi and elsewhere
- Understand whether your cash is working hard enough
- Determine your portfolio's environmental, social and governance impact
- Gauge your positioning relative to your peer group's portfolios

To receive the analyses of your choice, please ask your relationship team.

1.2

Greatest risks to the global economy: A look back and a look forward

STEVEN WIETING - Chief Investment Strategist and Chief Economist

The pandemic came as a major shock to the world economy. We consider other major but improbable risks that could now threaten the multi-year expansion we expect.

- We believe the chances of another economic contraction any time soon have fallen sharply
- But we also see various major – but improbable – risks that could derail the ongoing recovery
- These include a mutation of COVID that proves resistant to vaccines
- US-China military escalation or a breakdown of trade relations would be highly destabilizing
- The potential economic damage from a large-scale cyberattack also presents a danger
- In the face of probable and improbable risks, we advocate globally diversified asset allocations

The deep recession triggered by the COVID-driven economic shutdowns was a severe exogenous shock. When it struck, the global economy was healthy, which explains much of the resilience seen since. So too does the massive stimulus from policymakers in developed markets to offset the shutdown's effects. The unprecedented easing measures have added further to the rally in asset prices, while accelerating the pace of the early recovery. With tech-powered productivity improvements and sharply diminishing chances of another economic contraction any time soon, financial market returns have been extraordinary. For the 16-month recession-and-recovery period to date, global equity returns are above 25%.[1]

Against this backdrop, we reduced our equity allocation in April 2021 for the first time since February 2020. We have also shifted the composition of that allocation to seek exposure to particular regional and industry valuation opportunities that we see. But even after lowering our overall allocation, we remain 8% overweight Global Equity. We remain 8% underweight Fixed Income and Cash, reflecting the prevalence of negative real yields – see Traveling to the post-COVID world – New portfolios for a new economy.

During the initial shock of 2020, we recommended retreating from the sectors most immediately impacted by the pandemic, which we termed "COVID cyclicals." These included airlines, hospitality and traditional retailers. We also identified certain sectors as "COVID defensives," or areas that might initially benefit from the pandemic's distortions to the economy. These included the likes of telecommunications, e-commerce and staples.

Monetary easing and collapsing interest rates were also very supportive of the high-growth, tech-related COVID defensives. As such, tech and related shares surged beyond the strength of their earnings, ultimately adding to overall market risk. However, the most impacted COVID cyclicals globally continue to offer opportunities and our tactical positioning reflects this.

There are several major, but improbable risks to the world economic outlook. The future could involve many different outcomes, not just the likeliest one of continued recovery and strong returns in our existing holdings. As the COVID pandemic so brutally reminded us, such major but improbable risks are always with us. We thus prefer to seek to preserve and grow wealth by way of a diversified asset allocation rather than taking highly concentrated risks in pursuit of high returns. While there are specific hedging techniques that your Investment Counselor may recommend based on your own circumstances, our analysis shows that strong risk-adjusted returns over the past 80 years have been earned from investment allocations including lowly correlated or negatively correlated assets.[2] Such an allocation can be constructed around suitable risk and return objectives.

[1] Haver, as of 15 May 2021.
[2] Our analysis is based on Adaptive Valuation Strategies, the Private Bank's proprietary strategic asset allocation methodology that utilizes a historical database. Our analysis was performed at an asset class level using indices as a proxy for each asset class. For more details, please see https://www.privatebank.citibank.com/insights/a-new-approach-to-strategic-asset-allocation

Greatest, if improbable, risks

Pandemic reboot

Perhaps the easiest-to-imagine risk to the world economy is the one that has dominated our lives most recently. An unanticipated, major mutation in the coronavirus could conceivably render today's vaccinations ineffective. Epidemiologists we have consulted believe this to be improbable. And researchers are working hard to adapt today's vaccines to a changing virus, just as they regularly do with influenza jabs. Still, the risk of a dangerous mutation increases alongside the time that it takes to vaccinate the whole world. This possibility should provide a strong incentive for the governments that have already succeeded in vaccinating their populations to pivot to global efforts.

The origin of the COVID pandemic has not yet been scientifically settled. The risk of bioterrorism – where viruses are weaponized and deployed against populations – cannot be ruled out. While it took more than 100 years for a pandemic to impact the world economy so severely, a wholly new pandemic will always be a danger.

Military escalation or hard break in US-China relations

China's relationship with the West has clearly evolved in a more antagonistic manner. While President Trump focused almost solely on commercial relations during his tenure, President Biden and both US political parties are focused on far wider issues. These include China's growing military might, rising technological capacity, global political influence, and human rights record. For his part, China's President Xi has suggested China's state autocracy provides a better growth and development model than democracy.

With a growing range of territorial disputes in Asia, both the US and China have prepared for the possibility of a military escalation. Aside from that danger, the US wields potent financial sanctions power, given that the US dollar remains the most dominant trade and reserve currency in the world. It has exercised this power to the fullest in extreme circumstances, as in the cases of North Korea and Iran.

The US and China have very strong direct trading and financial linkages. They also have many significant secondary linkages with third parties. As such, a hard break in US-Chinese trade and financial relations between the two – or more improbably between Europe and China – could have a highly negative economic impact. Bilateral US-China trade remains ten times larger than the peak relationship between the US and Soviet Union during or after the Cold War. Globalization of supply chains and powerful financial linkages suggests the Soviet-US comparison is a deep understatement of the complex relationship between the two largest national economies.

Unlike the mild impact of Trump's tariffs, a complete breakdown of trade between the US and China would result in major shortages of both inputs and finished goods. These would drastically hamper US production and consumption. In turn, the rest of the world would suffer via the channels of financial markets and reduced imports.

Because of the potential severity of the impact, both sides have sought gradual reduction of their co-dependence, diversifying their trading relations away from each other. We explore this in The world beyond COVID: Positioning for G2 polarization. An immediate and complete de-coupling of the two economies is improbable, perhaps no more than a 5% chance, by our reckoning.

Large-scale cyberattack

A large-scale cyberattack that does lasting economic damage may be the most probable of the major risks we consider here. The ransomware attack against the US's Colonial Pipeline resulted in fuel shortages in the US for a brief period in May 2021. A more severe and somewhat longer-lasting impact can easily be imagined.

The world's infrastructure and financial institutions are subject to continual hacking and extortion attempts, likely with the resources of state actors. This risk drives considerable growth in cybersecurity investment spending by firms and governments, which ideally would not be necessary. Even for individuals, this spending may be considered an "information technology staple," something we need to do to protect our data and assets. We thus view it as a long-term thematic investment.

2 The world beyond COVID

CONTENTS

2.1

Positioning for G2 polarization

KEN PENG - Head of Investment Strategy, Asia Pacific

The economic struggle between the US and China seems destined to intensify over the coming years. We think this could benefit appropriately positioned portfolios.

- We believe the continued shift in economic power towards Asia to be an unstoppable trend
- Strategic economic competition between the US and China is set to continue and intensify
- However, both countries are focusing more on domestic development, with state capital playing a bigger role
- We believe this represents a potentially more favorable environment for global investors than did heightened confrontation under Trump
- Likely investment beneficiaries include producers of semiconductors, satellites, software, renewable energy, and commodities in the US and China, as well as markets in Southeast Asia

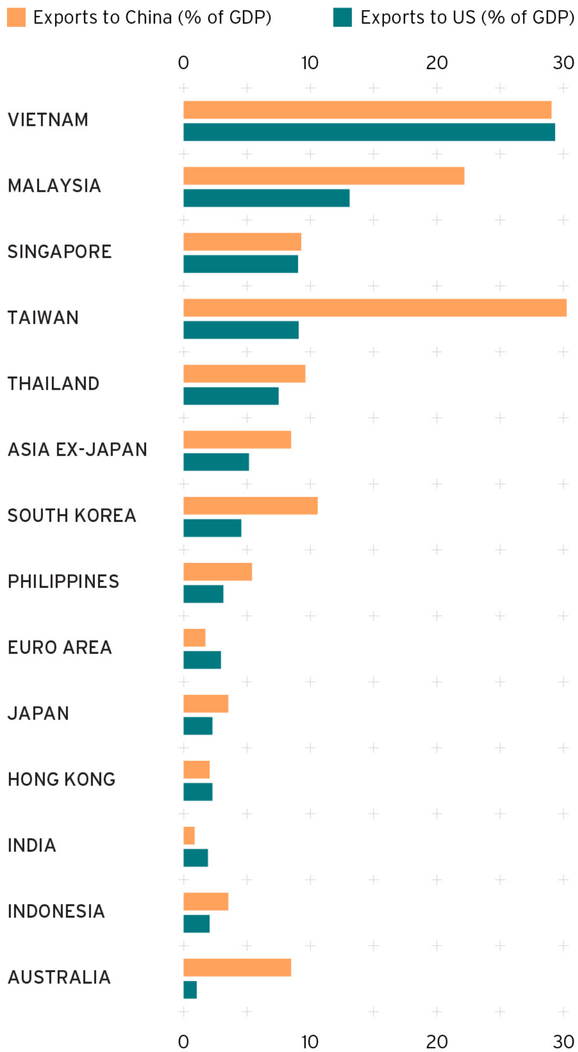
What do you call a $4 trillion plan to boost national competitiveness, achieve ambitious emission reductions, invest significantly in infrastructure, seek self-sufficiency in core technologies, and redistribute income from large corporations and wealthy individuals to reduce inequality? You'd be forgiven for thinking the answer might be China's 14th Five Year Plan. In fact, it's the American Jobs and Families Plan.

The US's adoption of a more Chinese approach is the latest development in what we call the emergence of a "G2 world" – see Outlook 2021. Our base case is that there will be increasing strategic competition between the world's two foremost powers, especially in fields such as technology and security. We also expect moderate escalation in restrictions on trade and corporate activity, but no military conflict.

The experience of the pandemic has likely influenced the US drive for greater self-sufficiency and competitiveness. Supply-chain disruptions have occurred in multiple products, including rare earth metals, vital medical supplies, and semiconductors. These reminded both the US and China of the vulnerabilities that can result from heavy reliance on certain imports, particularly if a strategic rival dominates production.

Increased self-sufficiency also involves the state playing a bigger role in other aspects of the economy. Investing in infrastructure and boosting welfare aim to make the domestic market more attractive and sustainable, while companies may be hindered from investing abroad. By contrast, the US private sector has in recent decades preferred the opposite policies of conservative fiscal policy, global free trade, and offshoring.

FIGURE 1. MOST EM ASIA EXPORTS MUCH MORE TO CHINA THAN TO THE US



Source: Haver, as of 1 May 2021.

Well before COVID and the election of Joe Biden, the US had already begun decoupling its economy from China's. However, these measures have not really achieved the intended effects. Higher tariffs have failed to shrink the US's large trade deficit. Indeed, some in the US are now advocating tariff reduction to alleviate shortages of certain products. The US has also taken steps to prevent its citizens and companies from investing in Chinese assets, including forcing certain Chinese companies' shares off the New York Stock Exchange. But this simply saw more fundraising and investment activity switch to Hong Kong and mainland China.

The Strategic Competition Act (SCA) under consideration by the US Congress effectively intends to intensify the above measures. It also highlights US intentions to gather its allies in collective opposition to China. However, this is likely to prove difficult, as most US allies have even stronger business ties with China than with the US. This is especially true among EM Asia where exports to China outweigh exports to the US in most places except India and Vietnam - **FIGURE 1.**

More importantly, though, the SCA emphasizes the need for US to strengthen domestic competitiveness. The American Jobs and Families Plan aims to do just that. And China's concept of long-term development called "dual circulation" also focuses on domestic development and self-sufficiency, while further opening up to the external market.

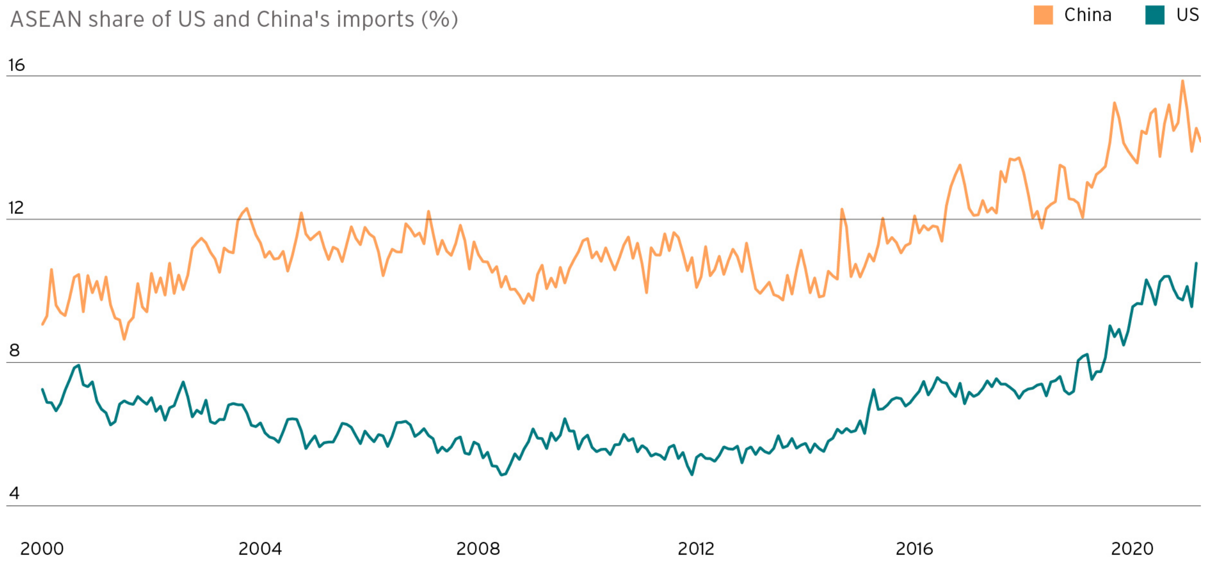
Overall, we believe that the US-China relationship is shifting from a state of heightened confrontation under Trump to a more nuanced two-pronged approach of external competition and more focus on domestic development, aided by state capitalism on both sides. In some ways, therefore, the two powers' economic models are coalescing. Might this even soften the ideological confrontation at some level and make extreme conflict less likely?

Positioning portfolios for polarization

An important implication of our "G2 world" case has always been that global investors should have meaningful exposure to both the US and China in their portfolios. We believe that intensified strategic competition could accelerate the two countries' growth. More state capitalism in the US may be helpful. In China, that approach has proved effective in directing large amounts of capital towards strategically important industries. We highlight three types of beneficiaries here.

First, there are the tools that enable competition, such as semiconductors and equipment. Satellite communications are critical to the future rollout of self-driving vehicles in each market. Within software, cybersecurity to protect burgeoning data production stands to gain. Commodities related to power grid and physical infrastructure represent another focus, especially as China tries to reduce overcapacity in steel, aluminum, PVC and glass, which likely would tighten supply and boost prices.

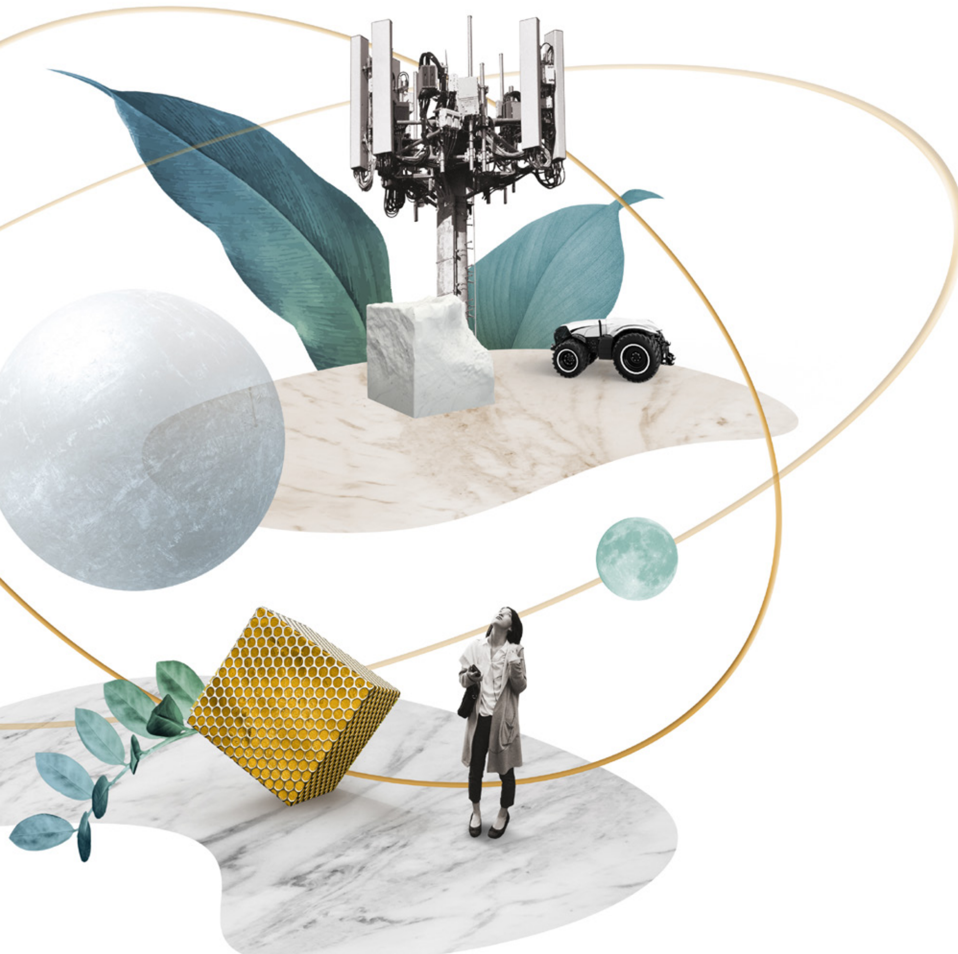
FIGURE 2. ASEAN EXPORTING MORE TO BOTH CHINA AND US



Source: Haver, as of Apr 2021.

State involvement in green initiatives is set to increase significantly. Both countries are trying to demonstrate leadership in this area. Greater spending is likely to boost renewable energy and electric vehicles, as well as the commodities involved.

At the same time, we expect continued efforts to diversify supply chains from companies that want to serve both markets. A key destination is likely to be Southeast Asia (SEA), with investment from both China and the US. Such a shift was already underway, with ASEAN taking a greater share of imports for both China and US - FIGURE 2. The pandemic slowed the progress last year, but we believe it will resume, with more investment in traditional infrastructure. Likely beneficiaries include companies involved in infrastructure, industrial automation, regional trade and real estate.



2.2

Deepening digitization

WIETSE NIJENHUIS
Senior Equity Portfolio Manager, Citi Investment Management

JOE FIORICA
Head of Global Equity Strategy

Digitization has taken a great leap forward during the pandemic. But we believe there is much more to come, which calls for long-term portfolio exposure to potential beneficiaries.

- COVID restrictions have accelerated digitization in many areas of business and consumer life
- We believe this unstoppable trend will persist even after the world returns to normal
- The age of hyper-connectivity is set to benefit many other areas within digitization
- Investors are currently focusing on assets that stand to benefit from economic reopening
- We continue to emphasize the importance of long-term exposure to digitization
- Our favored areas include e-commerce, online gaming, streaming entertainment, cybersecurity, telehealth, mobility, connected cars, factories of the future, robotic surgery and fintech

The world is longing for a return to normality. After more than a year of unprecedented restrictions, we crave everyday things that we once took for granted, such as dining out, traveling freely, and attending live performances. However, there are some features of the last year that will probably not only persist but also intensify once the pandemic is finally defeated. In particular, the increased digitization of our everyday lives and business activities looks set to accelerate.

Of course, digitization was already a powerful force well before the pandemic struck. For some years, we have highlighted it as an unstoppable trend that would transform how we lived and worked, with major implications for investment portfolios – see Outlook 2019, 2020 and 2021. But COVID-related restrictions forced even faster adoption of many of the disruptive technologies that we had featured. In the process, businesses have seen new possibilities for enhancing productivity, while consumers have also found ways to make life more convenient and enjoyable. Even as the world reopens, we believe they are unlikely to revert entirely to old habits. We therefore consider a selection of key changes and, more importantly, further progress that we expect in the coming years.

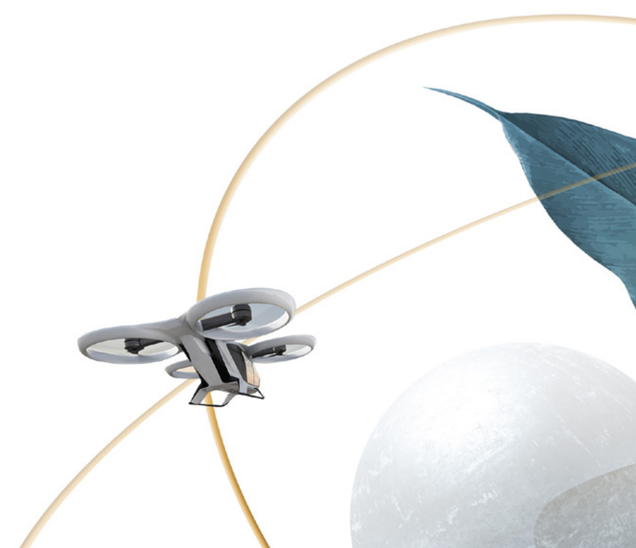
The new habits will die hard

Our desire to spend time around other people again is strong. Equally, though, we would rather do so in places such as restaurants and theaters than doctors' waiting rooms. Owing to stay-at-home orders and fear of COVID infection, many more people have had to consult with physicians and specialists virtually. Not only have they become accustomed to the experience, they have saved journeys, waiting times, and money. As such, we believe telemedicine will play a growing role in patient care, especially given the rapidly aging global population – see also Extending frontiers in healthcare.

Of course, there are purposes for which video interactions are not as effective as face-to-face exchanges. As countless parents can attest, remote learning is not a perfect substitute for in-person lessons, particularly for the youngest pupils. However, the pandemic also demonstrated that remote education can be a useful complement to traditional classes, both for students and those looking to reskill after losing their jobs. Education technology was already expanding rapidly prior to COVID. We expect that to continue well after the pandemic ends, with Asia likely to remain the fastest-growth market – see Unstoppable trends: The rise of Asia in Outlook 2020.

The pandemic has also emphasized the case for automating many more basic but vital tasks. COVID outbreaks in food preparation units, meat-processing plants and warehouses highlighted the advantages of reducing reliance upon human labor in such environments. In various industries, businesses have indeed made greater use of robots, including in care homes for the elderly, delivering groceries to quarantined families, and disinfecting public areas. With worsening labor shortages in certain countries and sectors already, we reiterate the case for robotics and automation that we set out in Outlook 2019.

Just as our work, shopping and entertainment have become more digitalized during COVID, so have our finances. Fears of infection have hastened the shift away from cash and bank branches and towards online payments. Besides online payment platforms, mobile-only stock trading apps and cryptocurrency providers have seen marked increases in activity. We argued that a tipping-point was close in Fintech: Disrupting financial services in Outlook 2020, released shortly before the virus struck. While we did not realize that COVID would provide the impetus, we reiterate the longer-term potential of payments and other areas within fintech.



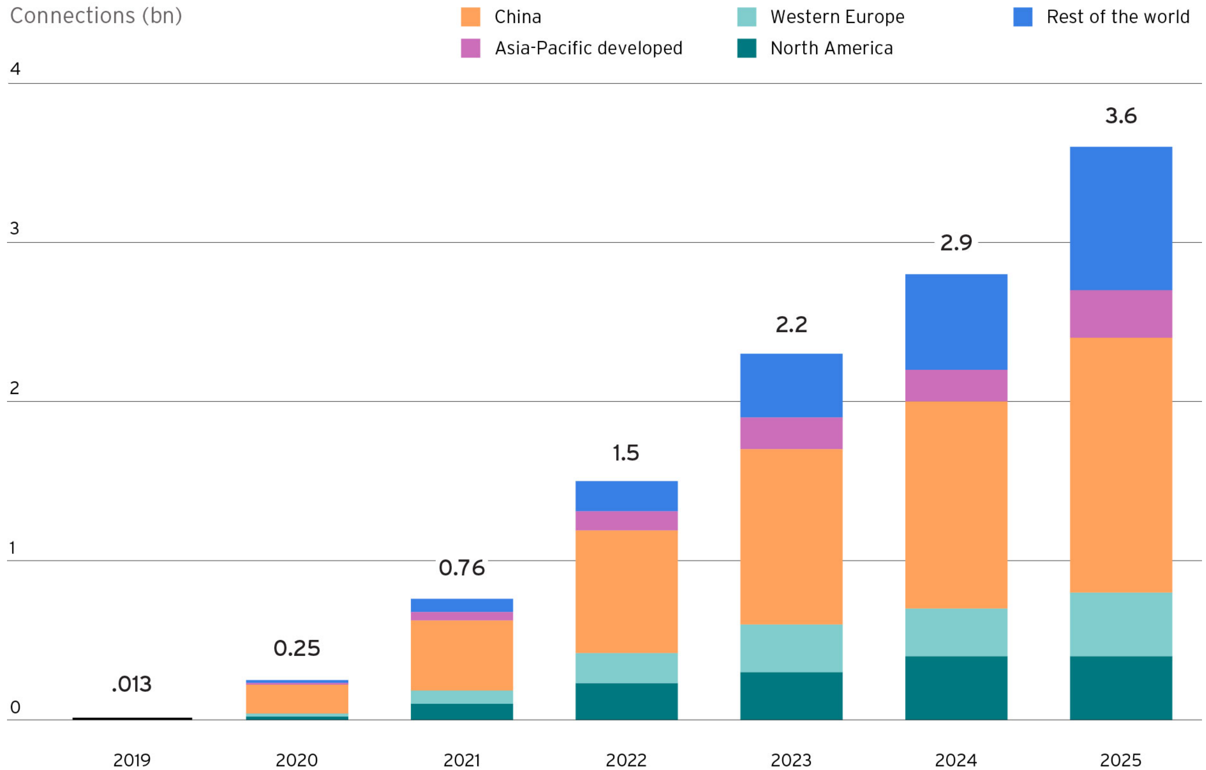
We've only just begun

Digitization has taken a big step forward during the pandemic. That was also reflected in the 2020 performance of many investments related to our digitization sub-themes. But with investors now looking towards the reopening of economies, their focus has shifted towards sectors that suffered most from COVID restrictions. But while "old economy" sectors like banks, traditional energy, airlines, cruise lines, hotels and restaurant groups are enjoying a powerful recovery in earnings forecasts and equity performance, we believe it is unlikely that they will lead markets higher in the medium or long term.

One reason for this is that digitization still has far to go. For example, we believe the rollout of the fifth generation of wireless data technology (5G) will enable a vast increase in the number of devices connected to the internet. Rather than just computers or smartphones, these devices will include household appliances, clothing, cars and machinery. The total number of connections globally could increase from 0.76 billion today to 3.6 billion by 2025. As such, we made the case for "the age of hyper-connectivity" in Outlook 2021. As part of this, we envisage a vast increase in the production, collection and real-time analysis of data.

An opportunity in its own right, the age of hyper-connectivity has implications for many other dimensions of digitization. Data proliferation means a greater requirement for artificial intelligence to make sense of it all. It also increases the need for enhanced

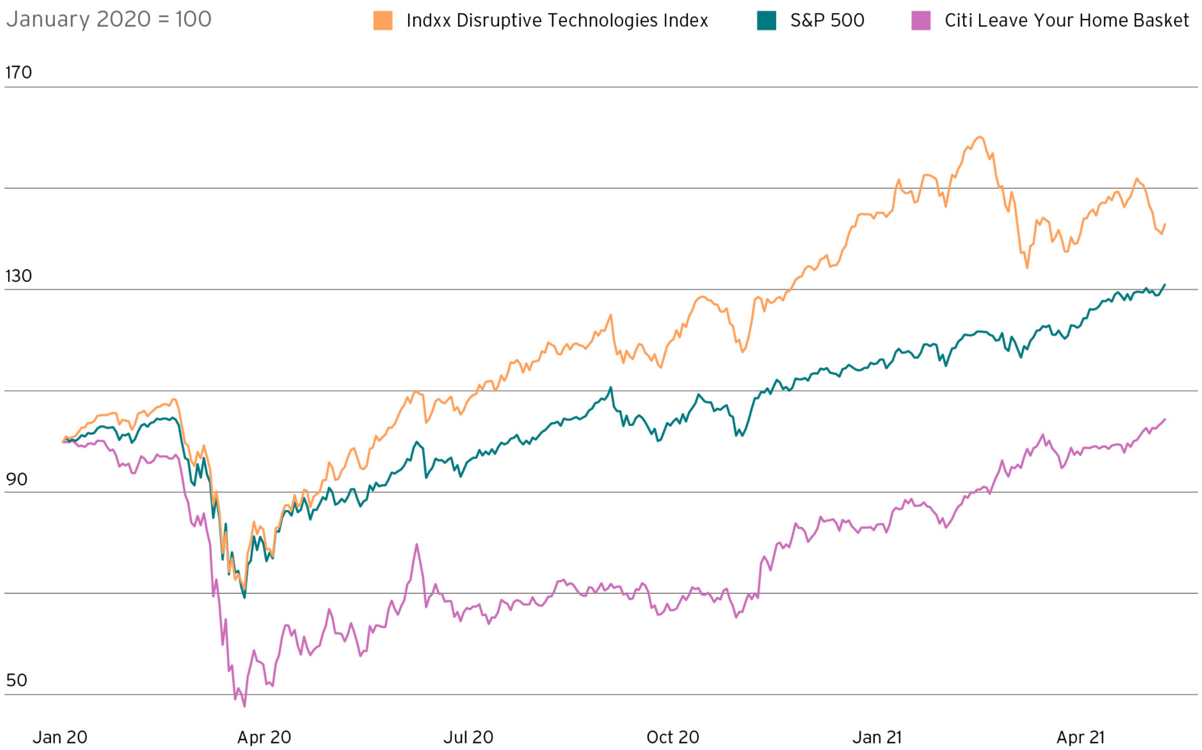
FIGURE 1: ESTIMATES AND PROJECTIONS FOR GLOBAL 5G CONNECTIONS, DEVICES TO MATCH



Source: CCS Insights, as of 31 Dec 2020. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

cybersecurity to protect privacy. Faster 5G communications are set to enable the development of smart cities and robotics, including self-driving vehicles. Hyper-connectivity also impacts our other unstoppable trends, including the rise of Asia. Many millions of people in Asia will gain internet access for the first time, transforming their consumer behavior.

FIGURE 2: DIGITIZATION VS GLOBAL EQUITIES VS COVID CYCLICALS



Source: Bloomberg as of 7 May 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. Basket constituent names are neither a solicitation buy nor a recommendation to sell the underlying equity.

"Leave Your Home" basket includes Citi rated "buy" and "neutral" US names in the following sub–industries: Banks, Industrial Conglomerate, Machinery, Oil Gas & Consumable Fuel, Textiles Apparel & Luxury Goods, Energy Equipment & Services, Hotels Restaurants & Leisure, Building Products, Retail REITs, Construction & Engineering, Leisure Products, Airlines, Multiline Retail

Indxx Disruptive Technologies Index (per Bloomberg) is based around companies that enter traditional markets with new digital forms of production and disruption, and are likely to disrupt an existing market and value network, displace established market leading firms, products and alliances and increasingly gain market share.

Stay connected to digitization

In 2021 so far, digitization has broadly underperformed old economy sectors that stand to benefit from the reopening of the global economy – **FIGURE 2.** Our tactical positioning indeed emphasizes many "COVID cyclical" sectors within our equity allocation. However, our conviction in digitization for the longer term remains steadfast. As the experience of 2020 showed, investments in digitization, other unstoppable trends, and some of our other themes can help portfolios grow even amid economic turbulence. We would thus view further dips in many parts of digitization as opportunities to buy. Among the areas we favor are e-commerce, online gaming, streaming entertainment, cybersecurity, telehealth, mobility, connected cars, factories of the future, robotic surgery and fintech.

As with the onset of previous unstoppable trends from the recent and more distant past, there is typically a rush to invest in new technologies. Capital flows into equities of both true innovators and those of imitators that are unlikely to survive. The significant appreciation in areas such as clean energy earlier this year was a case in point, with both stronger and weaker constituents rising together. We believe an active approach to unstoppable trends is a more prudent strategy amid these conditions. Managers who have expertise in these areas can build exposure to potential winners while avoiding those with less promise. Given the risk of further volatility as markets continue to adjust to the post-COVID period, we also see opportunities to add exposure using certain capital markets strategies that seek to capture elevated implied volatility across these themes.

2.3

Extending healthcare's frontiers

DAN O'DONNELL - Global Head of Citi Investment Management Alternatives
STEFAN BACKHUS - Head of Private Equity – Americas, Citi Investment Management
ROB JASMINSKI - Global Head of Citi Investment Management
DIANE WEHNER - Senior Portfolio Manager, Citi Investment Management

Increasing human longevity is a major challenge to humanity. But healthcare innovation during the pandemic could prove transformative for patient care and portfolios.

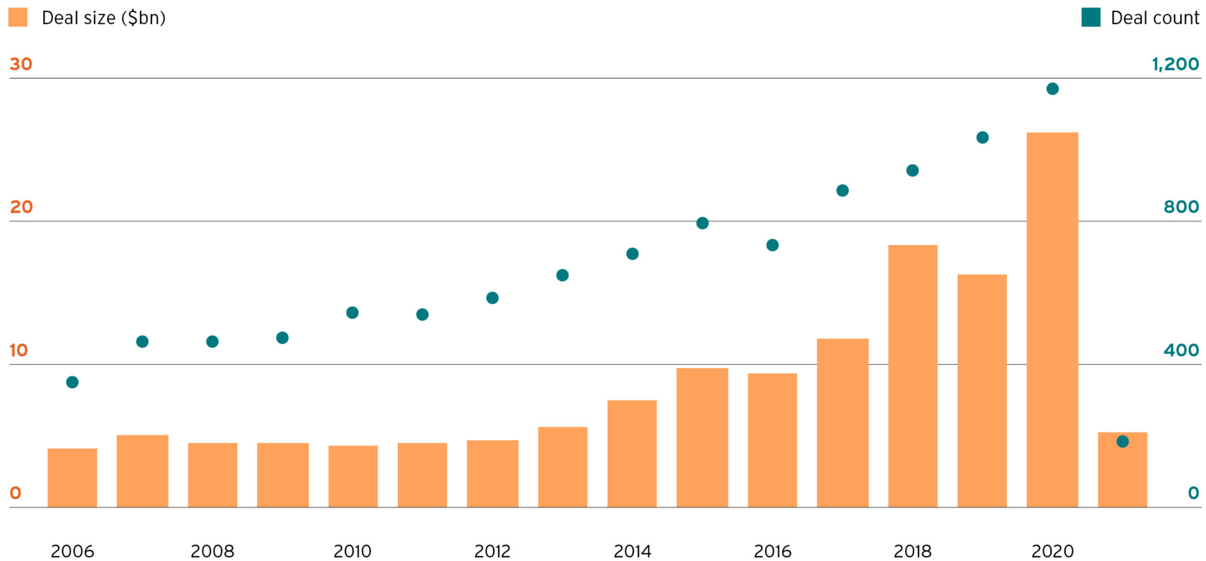
- COVID has driven progress across much of the healthcare industry
- We believe this will transform the development and testing of new treatments and technologies after the pandemic
- Such healthcare breakthroughs are ever more important as the world's population ages
- We see potential opportunities among large, quality pharma companies that pay high and growing dividends
- Medical technology, life sciences and tools also offer attractive potential
- For suitable investors, private managers of biotech strategies offer exposure to transformative growth areas

While first and foremost a human tragedy, COVID has also spurred meaningful progress. The intense challenges of the worst pandemic in a century have demanded ingenuity and adaptability throughout the economy and society. Healthcare is a prime example. Until now, no vaccine had ever been developed, tested, and approved in under five years. After COVID-19's identification in January 2020, the first vaccines were approved and deployed within eleven months. Today, at least eight of these vaccines are in use globally. We believe this experience could accelerate innovation in healthcare for decades to come.

Such innovation is not merely desirable but vital. The world's population continues to age rapidly, with the number of people over 65 likely to double to 1.5bn by 2050.[1] This profound demographic change will mean many more cases of chronic and life-threatening diseases. We therefore describe increasing human longevity as an unstoppable trend, a powerful long-term force that is transforming the world around us – see Outlook 2021. But while this unprecedented aging creates a challenge, we believe it also creates an opportunity for certain sectors and companies.

Development of new treatments for chronic and life-threatening conditions will involve pharmaceutical and biotechnology companies of all sizes, public and private. Many such firms were critical to the delivery of COVID vaccines in record time. The completion of the mapping of the human genome in 2003 has enabled much subsequent progress. These include innovations such as immunotherapy, where a patient's own immune system is activated to fight cancer, as well as gene editing, where DNA is altered to cure disease.

FIGURE 1. US BIOTECHNOLOGY AND PHARMACEUTICALS FUNDING ACTIVITY



Source: PitchBook Data, Inc., as of 1 Mar, 2021

Investment across the industry is another key driver of progress. In aggregate, large pharmaceutical companies have boosted research and development expenditure around 10-fold over the past 20 years.[2] They spend an average 25% of their total revenues in the search for new drugs to address serious illnesses. In 2020, US venture capital deal activity within biotechnology and pharmaceuticals reached a historical high of 1,073 transactions worth $28.5bn[3] – FIGURE 1.

The last year has also prompted other advances in care delivery. Faced with lockdowns and social distancing measures, providers have accelerated their adoption of innovative technology, such as telemedicine. We expect the trend towards remote diagnosis and treatment to persist after the pandemic ends, given the efficiency and convenience gains on offer. The same is true of medical technology. For example, wearable devices could play an increasing role in monitoring individuals' health going forward.

[1] United Nations, 2019 Revision of World Population Prospects Report, as of Aug 2019. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.
[2] Congressional Budget Office, as of Apr 2021.
[3] PitchBook Data, Inc.

The healthcare opportunity

The biotech industry and healthcare technology providers have played a pivotal role in the fightback against COVID. We believe their experiences this past year will transform the development and testing of new products. Even companies that have fallen short in developing COVID treatments and vaccines have gained valuable knowledge. This concerns much more than research into infectious diseases. Development efforts around conditions including cardiovascular disorders, Alzheimer's, cancer, and genetic disorders could also benefit.

We see many possibilities for gaining exposure to potential healthcare advances over the coming years. These include some of the largest, quality enterprises, which pay high and growing dividends. We also favor companies specializing in life sciences and tools, which enable the manufacturing and research efforts of healthcare innovators. Medical technology – which can reduce patients' time in hospital settings and lower costs – is another important potential growth area.

For suitable investors, we identify attractive potential opportunities among early-stage biotech companies that aren't represented on public markets. These are accessible via experienced private managers of biotech strategies. The pandemic has increased investors' focus upon biotech. Initial public offering (IPO) activity was up 67% to $37.3bn in 2020, with median valuations 1.3 times those at the prior round of private financing. This has occurred despite few broad-based changes to drug development, approval risks and costs. What is more, private biotech deal activity rose to a new high of $28.5 billion in 2020.[3]

In the years ahead, the world will depend even more – and spend more – on healthcare than at any time in history. As well as spurring progress, COVID has highlighted inequalities in access to healthcare worldwide. To address this, we expect governments to work more closely with providers. For investors, we believe that exposure to these trends offers both long-term growth potential and a way to enhance human wellbeing.

Joe Cordi, Equity Analyst, Citi Investment Management, also contributed to this article.

[3] PitchBook Data, Inc.

2.4

Reshaping real estate

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The pandemic has had very different effects on various sectors within real estate. Amid this complicated landscape, we identify various attractive opportunities.

- COVID restrictions have severely impacted the hospitality and retail sectors globally
- But accelerating digitization – such as e-commerce – has benefited some industrial properties such as warehousing
- We favor strategies from experienced managers specializing in the hospitality sector
- We also recommend strategies that provide exposure to digitization beneficiaries, including warehousing and digital infrastructure

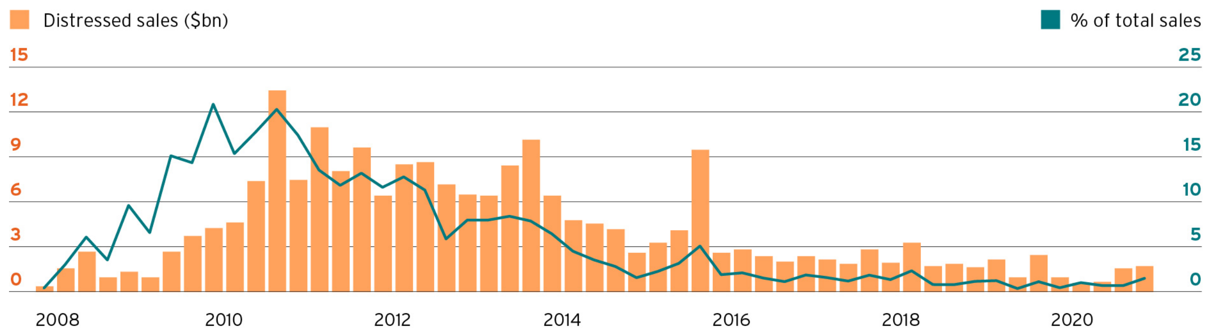
For commercial and residential real estate, the COVID pandemic has created very different challenges than other crises. Whereas some sectors within these asset classes have suffered unprecedented difficulties, others have managed to thrive. We believe that the divergent fortunes of various sectors of real estate create opportunities for investors.

Lockdowns and other COVID restrictions have severely impacted the hospitality and retail sectors globally. Hotel occupancy in US, Europe, and Asia-Pacific plunged 33%, 54%, and 36% respectively in 2020. In retail, 12,200 US stores with floor space of 159 million square feet ($14.78m^2$) closed in 2020.

By contrast, some other real estate sectors have remained resilient. Within industrial, existing trends such as the shift from traditional brick-and-mortar retail to e-commerce have accelerated – see Deepening digitization. This has boosted demand for properties such as warehouses. Within residential, there was a marked tendency for relocation from urban to suburban locations. Within the office sector, many uncertainties remain. It is especially unclear how the hybrid in-person and remote-work model and "de-densification" will impact layouts, locations, and overall demand for office space.

Amid this complicated landscape, we identify pockets of distress but also other attractive opportunities.

FIGURE 1. DISTRESSED SALES AND SHARE OF TOTAL SALES



Source: Real Capital Analytics www.rcanalytics.com

Where to find distress

Despite its severe impact on rents in parts of commercial real estate, the pandemic has not forced asset fire-sales like in 2008. Easy financing conditions have helped owners refinance their assets and buy themselves time, which has helped sustain values overall. As such, US distressed sales accounted for just 1.8% of total sales in the first quarter of 2021, compared to 21% in the aftermath of the Global Financial Crisis in the first quarter of 2010. Instead, global property transaction volume has fallen dramatically. In the first quarter of 2021, year-on-year transaction volume was down across all major income-producing property types in gateway cities including Los Angeles (-41%), central London (-33%), central Paris (-45%), Sydney (-36%), Hong Kong (-23%), and Manhattan (-64%).

The pockets of distress are unevenly spread, with the impact on pricing also sector-specific. Hotel and retail assets continue to make up most of distress in the US. They accounted for 44% and 40% respectively of total distressed assets outstanding at the end of Q1 2021. By contrast, the figures were practically 0% for industrial and just 5% for multi-family. Due to lower transaction volumes, real estate investment trust (REIT) pricing is a good indicator of sectoral trends. In equity REIT markets, office, retail, and multi-family REITs are down 14%, 11%, and 2% respectively from their peaks in the first quarter of 2020, while industrial REITs are up 20%. Meanwhile, hospitality REITs have recovered to their 2020 peak levels, as investors anticipate a surge in summer leisure travel.

[1] STR, Apr 2021. [2] CoStar, Jan 2021.
[3,4] Real Capital Analytics www.rcanalytics.com, Apr 2021.
[5] FTSE NAREIT as of 29 Apr 2021.

Real estate opportunities

Despite some ongoing deep distress in the hospitality sector, pent-up demand is expected to drive a strong recovery globally. In the near term, we anticipate that leisure travel will drive most of the demand, while business and convention travel will lag. According to a recent US survey by STR, 93% of participants say they are "as likely" or "more likely" to travel domestically after the pandemic. Some 85% say the same about international travel.[6] To capitalize upon the opportunity, we recommend seeking partners with proven expertise in value-add, asset repositioning, or developing assets in the hospitality sector throughout market cycles.

The industrial sector continues to benefit from the surge in e-commerce activity, including online grocery shopping. This is fostering billions of dollars in new industrial real-estate development. Niche sectors of the market are seeing strong new demand from institutional investors in assets such as self-storage, life sciences, single-family rentals, data centers, and other digital infrastructure, a hybrid of real estate and infrastructure.

We favor exposure to digital infrastructure investments that have benefited from recent tailwinds. Other trends related to digitization – such as cloud computing, mobility, big data, 5G roll-out – were strong entering 2020. The COVID-19 pandemic has increased our reliance on and accelerated the need for digital infrastructure. Additionally, the total number of devices connected to the internet is projected to grow 25-fold from 20 billion to 500 billion in 2030,[7] further driving demand for digital infrastructure, such as data. The increased demand has spurred the need for the ground-up development of new data centers and cell towers globally.

[6] STR, Apr 2021.
[7] CISCO, as of Jun 2020.

2.5

Greener and sooner

MALCOLM SPITTLER - Investment Strategist

Traditional energy use and investments suffered in 2020 while alternative energy advanced. Despite a recent reversal, we expect further progress for alternatives and energy efficiency.

- Plunging fossil fuel consumption during lockdowns may have given us a preview of the future
- Business travel and commuting may initially resume significantly as the pandemic retreats
- But we believe increased remote working and video conferencing are here to stay
- Advances in energy efficiency can ease the mass adoption of electric vehicles
- Governments in the EU, China and US are poised to spend heavily on green infrastructure
- We reiterate the case for long-term exposure to the unstoppable trend of "greening the world"

Nostalgia for lockdowns seems an unlikely prospect to say the least. While essential to contain COVID's spread, they have come at great cost to livelihoods, mental health and much more besides. But there is at least one by-product of stay-at-home orders that will be remembered fondly. As roads and skies first emptied of traffic and factories powered down, air quality soared in many parts of the world. With the haze dispelled, some faraway mountains became visible for the first time in years, while many people quite literally breathed easily. We believe that this offered a glimpse of the future.

We presented the transition to clean energy as an unstoppable trend in December 2019 – see The future of energy. We further explored the ongoing shift in Outlook 2021, given that new electricity from renewables became cheaper than power from key fossil fuels for the first time in 2020 – see Greening the world. We have emphasized the technological progress that is making solar-powered batteries and green energy generally more economical. Our case is that developments like these are likely to hasten the greening of energy use in the coming years. Ultimately, we expect this to lead to the decline of fossil fuel consumption.

Such thinking is spreading rapidly. In March 2021, Volvo became the first major traditional automaker to set an end date for new fossil fuel vehicle sales, for the year 2030. While it has hitherto been governments that have made such commitments, we believe Volvo's move will be the first of many. The pandemic has also shown how major change can happen quicker than anyone had anticipated. Previously, it seemed unthinkable that US commuting levels could nearly halve, and air travel virtually vanish, but GDP could then be virtually unchanged just a year later.

That said, we anticipate a major reversal towards the pre-pandemic status quo in the coming months. Commuting and business travel could increase substantially, at least to start with. However, we also believe that many of the changes during COVID will prove more enduring. While a large-scale return to the office seems probable, remote working will also remain to some degree. Companies have realized that they can save space and make productivity gains. Likewise, while many corporate executives may enthusiastically take to the skies after being grounded for so long, the novelty may wear off rapidly. And given the success of video conferencing, we suspect that business travel will need to pass a higher approval threshold from now on.

Electrification may not require much more power

The electric vehicle (EV) revolution is still in its early stages. Can it accelerate without causing a massive surge in electricity consumption, some of which may be from fossil fuel sources? Some studies have argued that is what would happen if all gasoline cars were instantly replaced by electric versions. However, we would point out that the EV revolution is taking place in parallel with a historic advance in efficiency. US electricity use in 2020 was broadly unchanged from 2005, despite the economy and population growing 25% and 11% respectively over that period.[1]

Energy efficiency has thus already made great strides. In consumer appliances, a 2021 flagship smartphone with the largest battery pack on the market uses less energy to reach a full charge than a single 60-watt incandescent lightbulb does in 5 minutes. A contemporary washing machine requires almost a third less electricity than its 2005 counterpart, while a modern 50-inch flat panel television uses less than half the energy of a 28-inch cathode-ray tube set.[2]

However, it is not just consumer goods that are seeing transformational efficiency gains. Data centers are increasingly adopting energy efficient processors that were initially designed for mobile devices. They are also locating their facilities to harness natural cooling from hydro or glaciers or even sell their waste heat. In late 2019, for example, Facebook opened a major European data center in Odense, Denmark. The center not only takes advantage of Norway's reliable and inexpensive power grid, but also uses its servers' waste heat to provide heating to the central district's homes and offices in place of costlier and dirtier heat sources.

Put simply, the "one-size-fits-all" giant solutions of the 20th century have a lesser role in a greener future. Instead, elegant custom solutions to specific problems will take center stage. And heightened green infrastructure spending of governments in the EU, China and US will boost both energy efficiency and alternative energy.

1 Haver, as of 15 May 2021
2 IEA, as of May 2021

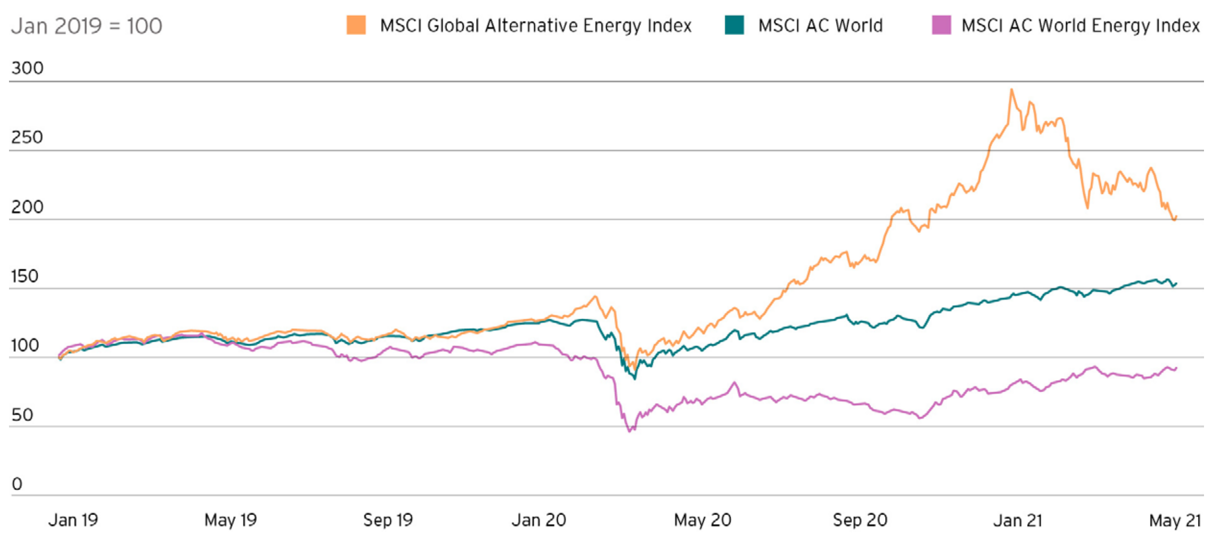
Greening your portfolio

It was not just cleaner air from lower fossil fuel consumption that may have given us a preview of the future in 2020. Financial market moves may have done so too. Amid the sudden glut of unused oil, storage capacity came close to running out. Energy markets went into spasm and the price of oil futures contracts briefly went negative.

Amid the extreme uncertainty of the early stages of the pandemic, alternative energy and traditional energy bottomed the same day. But alternative energy then rallied so powerfully that it ended 2020 at twice the level it had started the year. By contrast, traditional energy only regained about half its pandemic losses to finish the year 30% down.[3] In 2021 so far, alternative energy has underperformed its traditional counterpart – FIGURE 1. However, we think that last year's experience is likelier to prove the more relevant template for the longer term. The potential future we expect will reward clean energy, efficient use and innovative digital solutions.

As COVID retreats, we therefore reiterate the importance of the unstoppable trend of greening the world. To add long-term exposure in core portfolios, we favor actively managed strategies from specialists with robust credentials. Investing with Purpose – our approach to sustainable investing – provides our framework for selecting such managers and other relevant investments – see [Getting to zero: What does it mean for investors?](#) For suitable investors concerned about the possibility of further weakness in alternative energy equities, a capital markets strategy may offer ways to mitigate downside risk.

FIGURE 1. ALTERNATIVE ENERGY GIVES UP SOME GAINS



Source: Bloomberg through 1 May 2021. Past performance is not indicative of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

[3] Bloomberg, as of 15 May 2021

Getting to zero: What does it mean for investors?

HARLIN SINGH UROFSKY
Global Head of Sustainable Investing

The world is facing a climate catastrophe. Human activity is already estimated to have caused global warming of around 1° Celsius over pre-industrial levels. The consequences for people, wildlife and planet are severe. Aside from extreme weather events and destruction of natural habitats, global warming contributes to poverty, food scarcity and disease. Those who earn less than $1 a day are particularly vulnerable due to their high dependence on natural resources for food and income, as well as to their proximity to the growing, virus-bearing mosquito population. Even in the developed world, low-income city dwellers are worse affected by pollution and are likelier to live in areas exposed to climate change.

To avert even more devastating consequences, the scientific consensus warns that further warming must be limited to 1.5° Celsius above pre-industrial levels. To achieve this, humanity must strive for "net zero" emissions by mid-century. This requires significantly reducing human-caused emissions of greenhouse gases, such as those from burning fossil fuels. The remaining emissions are then balanced out by methods such as capturing and storing carbon from the atmosphere, but also by reforestation. Reaching net zero by 2050 is an enormous task, with approximately $131 trillion of investment required in renewable energy, electrification, efficiency and infrastructure.[1]

While governments play a key role in setting net zero targets, leadership from industry and corporations is critical. Today, approximately 20% of the largest global companies and 100 nations have set such targets.[2] Growing recognition of the potential climate disaster is a key driver here. However, companies that show leadership are also likely to be viewed more favorably by investors and consumers. They might thus enjoy a lower cost of capital and more demand for their products and services.

More and more, investors are scrutinizing companies' performance in relation to environmental, social and governance (ESG) issues. They are showing an increasing preference for investing in companies that are reducing their carbon footprint, cutting emissions across supply chains, and embedding innovative sustainability frameworks. Such investors understand the climate-associated risks to operations and the pending regulatory risks to companies that do not transition quickly enough. Not only are investors seeking evidence of climate risk mitigation in their investments, many are also seeking investment growth opportunities around the creation of technology and infrastructure to enable the achievement of net zero.

The prevalence of greenwashing – where companies seek reputational benefits by misleadingly claiming they operate sustainably – creates a challenge for investors. It is important to keep in mind that ambitious corporate targets do not equal outcomes. For each target, investors should gauge the range of emissions included in companies' calculations, their plans for achieving it, their timeline, and their progress to date.

Investing with Purpose – our sustainable investment platform – consists of in-house and third-party investment managers who are actively engaged with portfolio companies, seeking to ensure that targets are met. We also offer access to strategies linked to key performance indicators that relate to a low carbon transition, as well as green and social bonds that fund environmental goals. For suitable clients, we also offer direct investments in companies that are seeking to make a positive impact. Whether clients seek exposure to individual investments or wish to build entire core and opportunistic portfolios aligned to their values, we can help them realize their sustainability goals – including a net zero world.

In our view, it is already clear that companies that identify and implement innovative solutions to achieve net zero will be favored by investors. We also believe those that do not will be left behind.

[1] 2021 World Energy Transitions Outlook, International Renewable Energy Agency, March Preview, 2021
[2] Taking stock: A global assessment of net zero targets, Energy & Climate Intelligence Unit, as of Mar 2021.

Glossary

ASSET CLASS DEFINITIONS:

Cash is represented by US 3-month Government Bond TR, measuring the US dollar-denominated active 3-Month, fixed-rate, nominal debt issues by the US Treasury.

Commodities contains the index composites — GSCI Precious Metals Index, GSCI Energy Index, GSCI Industrial Metals Index, and GSCI Agricultural Index — measuring investment performance in different markets, namely precious metals (e.g., gold, silver), energy commodity (e.g., oil, coal), industrial metals (e.g., copper, iron ore), and agricultural commodity (i.e., soy, coffee) respectively. Reuters/ Jeffries CRB Spot Price Index, the TR/CC CRB Excess Return Index, an arithmetic average of commodity futures prices with monthly rebalancing, is used for supplemental historical data.

Global Developed Market Equities is composed of MSCI indices capturing large-, mid- and small-cap representation across 23 individual developed-market countries, as weighted by the market capitalization of these countries. The composite covers approximately 95% of the free float-adjusted market capitalization in each country.

Emerging Markets Equities is composed of MSCI indices capturing large and mid-cap representation across 20 individual emerging-market countries. The composite covers approximately 85% of the free float-adjusted market capitalization in each country. For the purposes of supplemental long-term historical data, local-market country indices are used, wherever applicable.

Global Developed Market Equity is composed of MSCI indices capturing large-, mid- and small-cap representation across 18 individual developed markets countries, as weighted by the market capitalization of these countries. The composite covers approximately 95% of the free float-adjusted market capitalization in each country

Global Emerging Market Equity is composed of MSCI indices capturing large- and mid-cap representation across 20 individual emerging-market countries. The composite covers approximately 85% of the free float-adjusted market capitalization in each country.

Global High Yield Fixed Income is composed of Bloomberg Barclays indices measuring the non-investment grade, fixed-rate corporate bonds denominated in US dollars, British pounds and Euros. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/ BB+/BB+ or below, excluding emerging market debt. Ibbotson High Yield Index, a broad high yield index including bonds across the maturity spectrum, within the BB-B rated credit quality spectrum, included in the below-investment-grade universe, is used for supplemental historical data.

Developed Market Fixed Income is composed of Bloomberg Barclays indices capturing investment-grade debt from twenty different local currency markets. The composite includes fixed-rate treasury, government-related, and investment grade rated corporate and securitized bonds from the developed-market issuers. Local market indices for US, UK and Japan are used for supplemental historical data. Global High Yield Fixed Income The asset class is composed of Bloomberg Barclays indices measuring the non-investment

Emerging Market Fixed Income is composed of Bloomberg Barclays indices measuring performance of fixed and floating-rate US dollar denominated emerging markets sovereign debt for 3 different regions including Latin America, EMEA and Asia.

INDEX DEFINITIONS:

Indxx Disruptive Tech Index (per Bloomberg) is based around companies that enter traditional markets with new digital forms of production and disruption, and are likely to disrupt an existing market and value network, displace established market leading firms, products and alliances and increasingly gain market share.

MSCI Emerging Markets (EM) Latin America Index captures large and mid-cap representation across five Emerging Markets (EM) countries in Latin America. With 113 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI Europe Index captures large- and mid- cap representation across 15 Developed Markets (DM) countries in Europe*. With 437 constituents, the index covers approximately 85% of the free float-adjusted market capitalization across the European Developed Markets equity universe.

The **MSCI Global Alternative Energy Index** includes developed and emerging market large-, mid- and small-cap companies that derive 50% or more of their revenues from products and services in Alternative energy.

The **MSCI World Energy Index** captures the large- and mid-cap segments across 23 Developed Markets countries. All securities in the index are classified in the Energy sector as per the Global Industry Classification Standard.

The **MSCI AC World Automobiles Index** is composed of large- and mid-cap automobile stocks across emerging and developed countries.

The **MSCI World Index** covers large- and mid-cap equities across 23 Developed Markets countries. With 1,603 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The **MSCI World ex USA** Index captures large and mid cap representation across 22 of 23 Developed Markets (DM) countries excluding the United States. It covers approximately 85% of the free float-adjusted market capitalization in each country.

The **MSCI ACWI Index**, represents performance of the full opportunity set of large- and mid-cap stocks across 23 developed and 27 emerging markets. It is designed to take into account variations reflecting conditions across regions, market cap sizes, sectors, style segments and combinations.

The **S&P 500 Index** is a capitalization-weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large-cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.

The **S&P 500 Airlines** sub-index consists of airline companies that are represented in the S&P 500 Index.

The **S&P 500 Hotels, Resorts & Cruise Lines** sub-index consists of hotels, resorts & cruise lines companies that are represented in the S&P 500 Index.

The **S&P 500 Machinery Index** covers companies that produce heavy-duty trucks, rolling machinery, heavy farm machinery and other construction equipment.

The **S&P 500 Office REITS Index** consists of office real estate investment trusts that are represented in the S&P 500 Index.

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The **MSCI World Information Technology Index** tracks the large- and mid-cap IT segments across 23 developed markets countries.

The **MSCI World Index** covers large- and mid-cap equities across 23 Developed Markets countries. With 1,603 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

Nasdaq 100 is a large-cap growth index consisting of 100 of the largest US and international non-financial companies listed on the Nasdaq Stock Market based on market capitalization.

The **Russell 2000 Index** measures the performance of the small-cap segment of the US equity universe. The Russell 2000 Index is a subset of the Russell 3000 Index representing some 10% of the total market capitalization of that index.

The **S&P 500 Index** is a capitalization-weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large-cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.

The **S&P Global Dividend Aristocrats** is designed to measure the performance of the highest dividend yielding companies within the S&P Global Broad Market Index (BMI) that have followed a policy of increasing or stable dividends for at least ten consecutive years.

OTHER TERMINOLOGY:

Adaptive Valuations Strategies is Citi Private Bank's own strategic asset allocation methodology. It determines the suitable long-term mix of assets for each client's investment portfolio.

Personal Consumption Expenditures (PCEs) refers to a measure of imputed household expenditures defined for a period of time.

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Alpha and/or numeric symbols used to give indications of relative credit quality. In the municipal market, these designations are published by the rating services. Internal ratings are also used by other market participants to indicate credit quality.

Bond credit quality ratings	Rating agencies		
Credit risk	**Moody's[1]**	**Standard and Poor's[2]**	**Fitch Ratings[2]**
Investment grade			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (strong)	A	A	A
Medium grade	Baa	BBB	BBB
Not Investment grade			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	C	CC
No interest being paid or bankruptcy petition filled	C	D	C
In default	C	D	D

[1] The ratings from Aa to Ca by Moody's may be modified by the addition of a 1, 2, or 3 to show relative standing within the category.

[2] The ratings from AA to CC by Standard and Poor's and Fitch Ratings may be modified by the addition of a plus or a minus to show relative standing within the category.

Bonds are affected by a number of risks, including fluctuations in interest rates, credit risk and prepayment risk. In general, as prevailing interest rates rise, fixed income securities prices will fall. Bonds face credit risk if a decline in an issuer's credit rating, or creditworthiness, causes a bond's price to decline. High yield bonds are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. Finally, bonds can be subject to prepayment risk. When interest rates fall, an issuer may choose to borrow money at a lower interest rate, while paying off its previously issued bonds. As a consequence, underlying bonds will lose the interest payments from the investment and will be forced to reinvest in a market where prevailing interest rates are lower than when the initial investment was made.

(MLP's) — Energy Related MLPs May Exhibit High Volatility. While not historically very volatile, in certain market environments Energy Related MLPS may exhibit high volatility.

Changes in Regulatory or Tax Treatment of Energy Related MLPs. If the IRS changes the current tax treatment of the master limited partnerships included in the Basket of Energy Related MLPs thereby subjecting them to higher rates of taxation, or if other regulatory authorities enact regulations which negatively affect the ability of the master limited partnerships to generate income or distribute dividends to holders of common units, the return on the Notes, if any, could be dramatically reduced. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.

Mortgage—backed securities ("MBS"), which include collateralized mortgage obligations ("CMOs"), also referred to as real estate mortgage investment conduits ("REMICs"), may not be suitable for all investors. There is the possibility of early return of principal due to mortgage prepayments, which can reduce expected yield and result in reinvestment risk. Conversely, return of principal may be slower than initial prepayment speed assumptions, extending the average life of the security up to its listed maturity date (also referred to as extension risk).

Additionally, the underlying collateral supporting non—Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

Alternative investments referenced in this report are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in the fund, potential lack of diversification, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and advisor risk.

Asset allocation does not assure a profit or protect against a loss in declining financial markets.

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Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Factors affecting commodities generally, index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as manmade or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including grains, may be subject to a number of additional factors specific to agricultural products that might cause price volatility. These include weather conditions, including floods, drought and freezing conditions; changes in government policies; planting decisions; and changes in demand for agricultural products, both with end users and as inputs into various industries.

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