Citi Global Wealth Investments

OUTLOOK **2022**

The expansion will endure: Seeking sustained returns

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Discover Outlook 2022

Foreword

JIM O'DONNELL
Head of Citi Global Wealth

I am delighted to introduce **Outlook 2022**, our annual publication that presents our latest investment insights and themes for the coming year and beyond. This is the first Citi Global Wealth edition of Outlook. Our new, unified organization delivers the full power of Citi to our clients throughout the world. Sharing the thought leadership of David Bailin, Chief Investment Officer and Head of Citi Global Wealth Investments, and his team is a prime example of how we do this.

Over the past two years, we have helped clients successfully navigate extraordinary events and markets. We have guided them as they sought to make their investment portfolios diversified and resilient. We have also tracked the profound changes taking place in the world around us. Many of the technologies that enable the world to survive and thrive during Covid are those that will transform commerce and communications in the future. These are some of the **unstoppable trends** of which clients should be aware and to which they should consider seeking exposure in their portfolios.

In 2021, we urged our clients to keep portfolios fully invested and positioned for the economic and market progress we expected. As we enter 2022, we believe that the early-cycle snapback from Covid is complete. We now expect slower but continuing economic growth, moderating inflation and diminishing pandemic impacts as the world learns to coexist with the virus. We have therefore titled this edition **The expansion will endure: Seeking sustained returns.**

While we have a positive view of 2022, shifting market conditions, persistent low interest rates, the extension of the pandemic and new opportunities mean that portfolios should change and adapt. The assets that perform over the next year and beyond are unlikely to be those that rebounded most strongly in 2021. We believe that seeking sustained returns requires greater exposure to more defensive sectors, quality firms, dividend growth strategies and many of the powerful long-term forces that are transforming the world around us.

In Outlook 2022, we give clients access to our thinking in long form. For your convenience, we have also prepared a summary version of this report and a series of short videos that explore our views. Your relationship team can then suggest appropriate strategies to help you implement our best thinking in your portfolio.

Citi is investing substantially in our technology and our talent to bring you best of our organization, including the many benefits of Citi's unrivaled global network. At the same time, we remain committed to being your partner and guide in navigating the potential opportunities and risks that arise in 2022 and beyond.

It is our privilege to serve you.

Announced in January 2021, Citi Global Wealth ("CGW") is comprised of the wealth management businesses of Citi Private Bank and Citi's Global Consumer Bank. Through these businesses, CGW delivers Citi's wealth solutions, products and services globally. The unified management and delivery of CGW's wealth strategy represents a further commitment by Citi to become a leading global wealth business. Citi Global Wealth Investments ("CGWI") is comprised of the Investments and Capital Markets capabilities of Citi Private Bank, Citi Personal Wealth Management and International Personal Bank U.S.

Enduring and thriving in 2022 and beyond

DAVID BAILIN

Chief Investment Officer and
Head of Citi Global Wealth Investments

In the weeks leading up to the release of Outlook 2022, we all learned that the pandemic will persist well into 2022. The hope that 8 billion vaccinations and widespread population exposure to the Delta variant would be sufficient to subdue Covid turned out to be false when Omicron struck. At the same time, my team and I became convinced that, for 2022 and 2023, the global economic recovery that is now underway will endure and ultimately outlast the pandemic – see Sustaining returns: Moderate growth ahead. In short, we believe the world economy and equity markets have not peaked and have room to grow.

Our confidence here speaks to the brilliant adaptability of industry and individuals, paired with the power of technology and timely government action. "Digital everything" continues to substitute for "being there" in person. Governments' fiscal spending and central bank liquidity continue to buoy consumers and businesses. And people have returned to many social and consumer activities to a greater degree than one might have expected. The value of these actions is reflected in markets. Earnings for the S&P 500 exceeded their 2019 levels by 26% in 2021. US and global equity markets ended November 2021 42% and 29% above their December 2019 levels. The Nasdaq Composite (Technology) Index was 73% above year-end 2019.

That said, we do not believe there will be a rapid "return to normal" anytime soon. In fact, there is a "new normal" evolving now that is central to our positive economic outlook. This new normal consists of the establishment of a data-enabled, decentralized, flexible and highly efficient economic order. Within it, the accelerated adoption of technology across every industry and every business is a necessity.

From online medicine to virtual fitness classes, from digital assets to the metaverse, a parallel "digital dimension" has been added to our lives forever. Underpinning all of this is capital. Early and late-stage venture investments in the first three quarters of 2021 surpassed $283 billion in the US alone and there were more than $510 billion[1] in exits, exceeding any prior year by a long shot. From alternative energy to electric trucks, from fintech to 5G, we see the future of innovation and investment intersecting in ways unimaginable just two decades ago. This new normal is based on many of Citi Global Wealth's Unstoppable trends, as we discuss later in this report. It turns out that the "new normal" is totally investable. We believe exposing portfolios to these trends is the way to their longevity.

[1] National Venture Capital Data November, 2021

Advice to action

Clients who have followed the guidance provided by Citi Global Wealth during the pandemic period have seen the value of their portfolios rise. Our timely equity overweights, specific allocations to small caps, emerging markets and real estate, and willingness to trust the financial data and look closely at the unfolding medical facts have enabled us to make choices about where to deploy capital and when. We call this "advice to action," where our views are carefully vetted and then reflected in the composition of our discretionary and advisory client portfolios.

There is no better time than today to revisit our guidance.

There are many worries on investors' minds. The distortions caused by Covid to supply chains, labor markets, input prices and inflation are undermining consumer confidence. The response by the US Federal Reserve has become muddled, as a decision to fight inflation through higher rates and lower liquidity would slow the economy before it has healed. The rise of the Omicron variant is also an obvious big worry, with its winter appearance intensifying an already bad Covid season around the globe. And on top of all this is the expected slowing of the economy after a burst of growth unseen since just after World War II. These factors and circumstances have made people doubt the resilience of the global economy. That has sent tremors across the financial markets as we approach 2022. This is where having a clear and objective mind becomes critical.

So, here are our Outlook 2022 expectations in short form:

- Global GDP growth will be solid. The world's factories are catching up to demand and we expect real GDP to slow to 3.8% in 2022 from 5.6% in 2021, when the world was rebounding from a depressed 2020.
- Inflation is likely to retreat to tolerable levels in 2022. So many of the current distortions are not permanent events. We expect trend inflation will be 2.5% in the coming decade.
- Interest rates will remain low or negative. We expect US cash yields to average -1.6% less than inflation in the coming decade.
- Corporate earnings per share are going to continue to rise, by a probable 7% in both 2022 and 2023, even with a new US corporate minimum tax. CEOs remain confident.
- The impacts from Covid will gradually abate as more exposure, vaccines and effective treatments diminish the impact of the disease.

Given these views, we are making some substantial changes to portfolio allocations and portfolio content.

- Our allocations have evolved in 2021 toward less cyclical, higher quality assets – see Our positioning. In 2022, we will continue to emphasize quality in portfolios, identifying stronger companies with leading positions in growing industries – see Long-term leaders.
- We are also emphasizing dividend growth strategies in both US and non-US portfolios – see Why dividends matter more today than ever.
- Industry-leading firms in "secular growth industries" combined with quality income generating equities have the potential to outperform as the initial rebound trades fade into memory – see Long-term leaders.
- We will be leaning toward equities relative to fixed income as 2022 begins. Accepting negative real returns from many bonds seems a poor choice.
- Alternative investments should shine relative to traditional investments, if our strategic return estimates prove right – see The long-term return outlook for major asset classes has changed. It is better to be a borrower when rates are low, favoring potential private equity, real estate, venture and hedge fund opportunities.
- Finally, diversification remains a critical emphasis, as it is historically the way to reduce portfolio volatility. Market timing should be avoided.

The cash thief returns

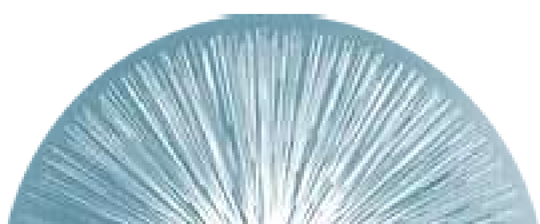
In Outlook 2022, you will once again be reminded that the "cash thief" is on the prowl. While the effect of negative real interest rates may appear mild, cash will be a bigger drag on portfolio returns than in many decades. We estimate than in just ten years' time, every dollar that has remained uninvested has seen its purchasing power shrink to 80 cents. Nonetheless, many sophisticated investors have 20% or more in cash, believing that to be a hedge, safety net or pool to be invested later, at the "right" time. None of this is true. Cash is not a safe investment, given that inflation and taxes can destroy its value. Instead, we urge investors to maintain a fully diversified, global portfolio. With 86% of all months since 1945 seeing economic expansion, history has shown that it is safer to grow wealth than hold cash.

Final thought

There have been no dull days these past two years. If there is a silver lining to living through a pandemic, it is having been able to devote even more time to engaging with you, all thanks to the latest digital technologies. And you have responded by investing more of your time and capital with Citi Global Wealth than ever before. Our record-setting year would not have been possible without CGW colleagues from across the globe, whose dedication, professionalism and insights have provided the fuel for our shared progress with you. We wish you all a bright 2022 and beyond. Let's endure and thrive together.

Chief Investment Officer and
Head of Citi Global Wealth Investments

December 2, 2021



1 Overview

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1.1

Sustaining returns: Moderate growth ahead

STEVEN WIETING - Chief Investment Strategist and Chief Economist

The economy and markets are shifting from early-cycle snapback to a phase of more moderate growth. For portfolios, this means a rather different set of potential opportunities and risks.

- The economic recovery and bull market are maturing, with moderate growth expected ahead
- We expect less inflationary pressure in the coming year, albeit somewhat higher inflation over the next ten years when compared to the last decade
- We look for global equity total returns of 7% to 9% in 2022 and fixed income returns of -1% to 0%
- The assets that perform best over the next year and beyond are unlikely to be those that rebounded most strongly in 2021
- Portfolios should evolve to provide exposure to more defensive sectors, quality firms and dividend growth strategies

Figure 1.
Positive years for US equities have been far more common

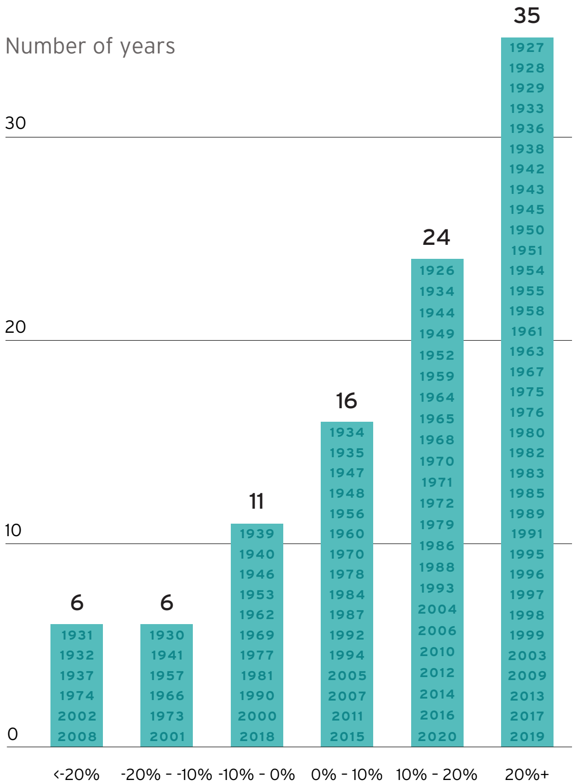


Chart shows distribution of S&P 500 total returns by year since 1927. Source: Haver Analytics, as of 1 Oct 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

After the sharpest and shortest economic contraction in recorded history, it might seem strange to discuss a maturing bull market. But the speed and breadth of the recovery leads us to this critical observation. Since World War II, US economic expansions have lasted an average of 58 months. The economy has grown in 86% of all months, with the average expansion growing longer in more recent times. The distribution of gains and losses in equity markets is fairly consistent with this pattern of economic progress – FIGURE 1.

Over that period, we have seen even fewer global contractions, as most are triggered by idiosyncratic regional issues. There have been just three periods of worldwide real economic decline since 1950, including 2020's pandemic collapse.

No bust, no boom

With this in mind, we see a normalization over the next few years in financial markets. Slower, positive economic growth with more typical "mid-cycle" characteristics is likely. We expect that growth to be below the rate of 2021, which was flattered by the "easy comparisons" to 2020's collapse – FIGURE 2. Perhaps to the surprise of many, we also expect inflation to decelerate.

Figure 2. Our outlook for real GDP (%)

	2021	2022	2023	2024
CHINA	2.4	8.0	4.5	5.0
US	−3.4	5.5	3.5	2.6
EU	−5.9	4.8	3.9	2.4
UK	−9.7	6.0	4.2	2.5
GLOBAL	−3.2	5.6	3.8	3.5

Source: Haver and Office of the Chief Investment Strategy, as of 1 Dec 2021. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Figure 3.
Key 2022 macro investment factors

We expect a total return for global equity of 7% to 9%, and -1% to 0% for global fixed income

DIMINISHED MONETARY AND FISCAL POLICY SUPPORT FOR ECONOMIES

DIMINISHED IMPACT FROM THE PANDEMIC
Adaptations to "live with the virus" continue to grow in effectiveness – see Enduring and thriving in 2022 and beyond

DISRUPTIONS TO SUPPLY CHAINS START TO CLEAR
The "rebound" from the Covid impact will also largely be history. Without financial restraints, "natural" sources of economic growth endure.

SLOWING CORPORATE PROFIT GROWTH
as margins have already surged

BOND YIELDS NEAR HISTORY'S LOWEST LEVELS
as we enter the earliest stages of a central bank tightening phase

Source: Office of the Chief Investment Strategist, Citi Private Bank, as of 17 Nov 2021. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

After strong financial market performances in both 2020 and 2021, there are several conflicting factors that are likely to result in moderating, positive returns in 2022. We've spent much of the past year realigning portfolios to sustain returns in the face of these factors – **FIGURE 3.**

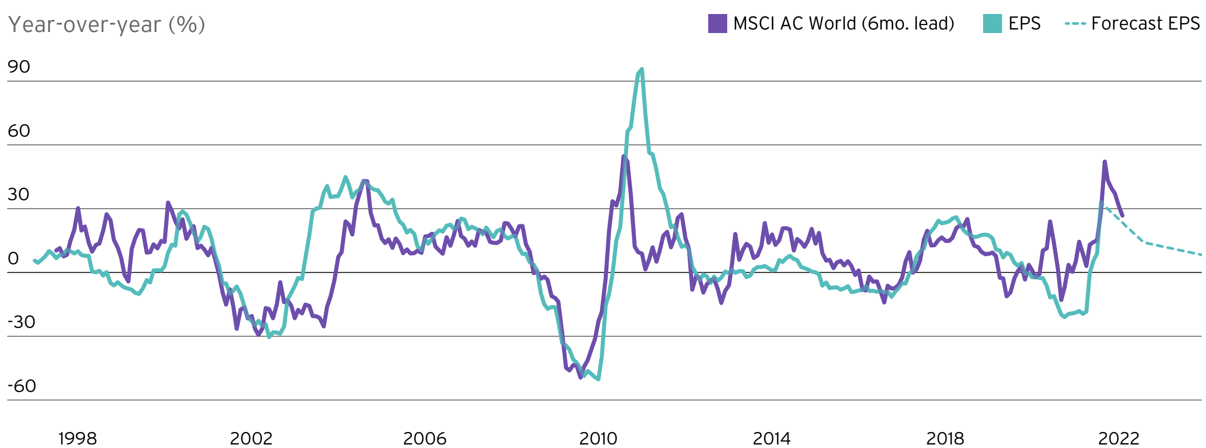
As we hit the summer of 2022, investors will have to contemplate the economy of 2023. As always, they will treat tomorrow as far more relevant than today – **FIGURE 4.**

Diminished tailwinds for growth and inflation

The strong tailwinds from emergency fiscal and monetary easing will abate. By mid-2022, investors will most likely confront a modest US monetary tightening cycle. As is typical when the economy simply fails to boom, markets are more likely to suffer periods of doubt about the sustainability of slower growth, leading to routine setbacks.

Against this backdrop, we look for global equity total returns of 7% to 9% in 2022 and fixed income returns of -1% to 0%.

Figure 4. Earnings forecasts suggest smaller equity gains not declines



Source: FactSet through 16 Nov 2021. Equity price changes are lagged 6 months to align with EPS. The period of 2H 2021–2023 shows analysts' bottom–up consensus forecast. 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

The return to more "normal" volatility may lend itself to capital markets strategies that seek to capture the bulk of the equity market's expected return with lower volatility – see Beat the cash thief! Seeking yield from volatility. For investors who are willing and able to assume more illiquidity risk, potential returns are stronger for private equity and real estate opportunities that have a long-term horizon and embedded leverage – see The long-term return outlook for major asset classes has changed.

Despite the current widespread belief that inflation is on a long-term acceleration path, we expect a reduction in price pressures over the coming year. However, we also maintain our long-held view that "secular disinflation" is coming to an end. Our view is that the Fed will tolerate a higher "ambient" rate of inflation over the next ten years compared to the past ten – see Beat the cash thief! We are not dismissing the mean extreme economic distortions of the Covid period. Rather, we do not expect supply disruptions and the purchase of unusual levels of goods over services to continue. Accordingly, US headline inflation may decline from 4.5% in 2021 to 3% in 2022.

Figure 5. Global retail and recreation restored

Source: Haver Analytics and Google through 1 Oct 2021.

Peak cyclical momentum, not peak expansion

As David Bailin discusses in Enduring and thriving in 2022 and beyond, world health authorities and private sector innovators are making slow but sure progress in battling the Covid pandemic. But as the millennia-old common cold is a variety of coronavirus, there will likely not be a complete eradication.

The economic impact of the Covid pandemic is waning. Mobility data suggest that the public is adapting to live with the virus, returning to stores and recreational activities – **FIGURE 5**. But as we discussed in Mid-Year Outlook 2021, the post-Covid economy will not be the economy of 2019. During the pandemic, digital tools have seen accelerated adoption at the expense of many long-established practices, such as commuting to an office or traveling to every meeting. These changes will not reverse, but rather provide new market dynamics that portfolios may exploit.

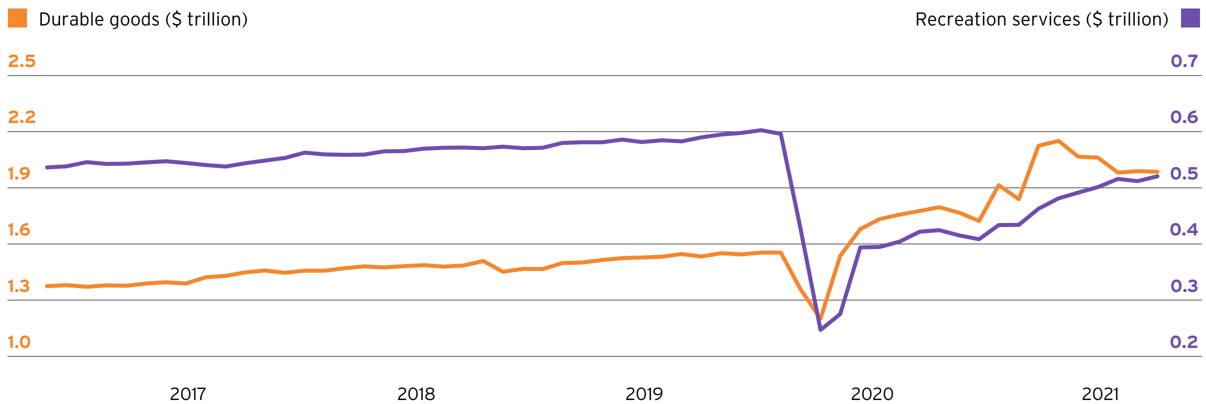
Past the cyclical peak

Distortions from Covid – including its strongly positive impact on consumer goods sales – are coming to a welcome end. As **FIGURE 6** shows, US consumer spending on durable goods is finally falling. In the past twenty months, nominal spending on durable goods rose 30%. This is equal to the gains of the prior ten years. Living with some remaining Covid risk while adapting to flexible work arrangements will not encourage the purchase of more TVs, appliances and new ways of reheating frozen foods.

Demand for goods will appear stronger for longer due to the refilling of severely depleted inventories. Our view is thus that global manufacturing and trade will remain on a strong trajectory for most of 2022. We expect both manufacturing activity and labor-intensive services will continue their recovery. However, the pace of industrial recovery is likely at its peak right now. Manufacturing orders measured by US purchasing managers have only been more rapid in 6% of all months since World War II. The sharp rebound in manufacturing and trade alongside falling consumer goods demand and diminished macro policy support suggests we have achieved peak cyclical growth – **FIGURE 7**.

Slowing down is not recessionary. Nor does slower growth imply a lasting decline for equities. It does, however, suggest an economic outlook of moderation, with a 7% pace of global EPS growth on average in the next two years after a 45% gain in 2021. We expect the 2021 US or global equity return to be far less dramatic than the 28% total return that global equities posted

Figure 6. US consumer durable goods spending falls off



Source: Haver, as of 10 Nov 2021.

Figure 7. Yields point to waning new orders

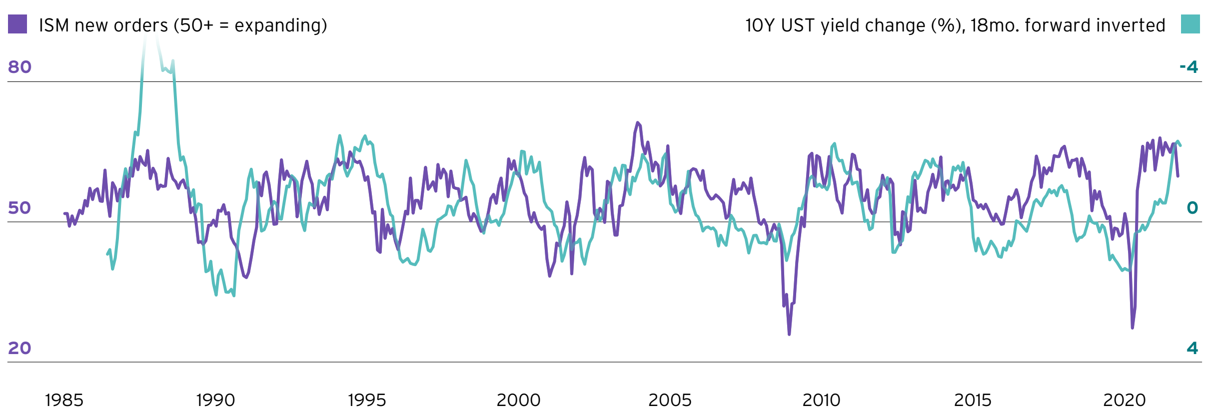


Chart shows change in 10–year US Treasury (UST) Yield pushed forward by 18 months and US Manufacturing Purchasing Managers Orders. Source: Haver, as of 10 Nov 2021. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Figure 8. Input inflation rate may have peaked

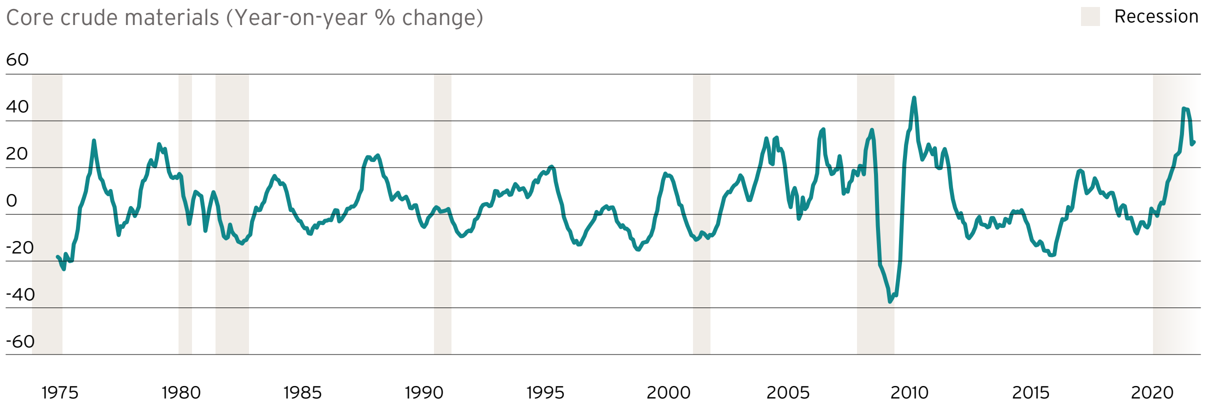
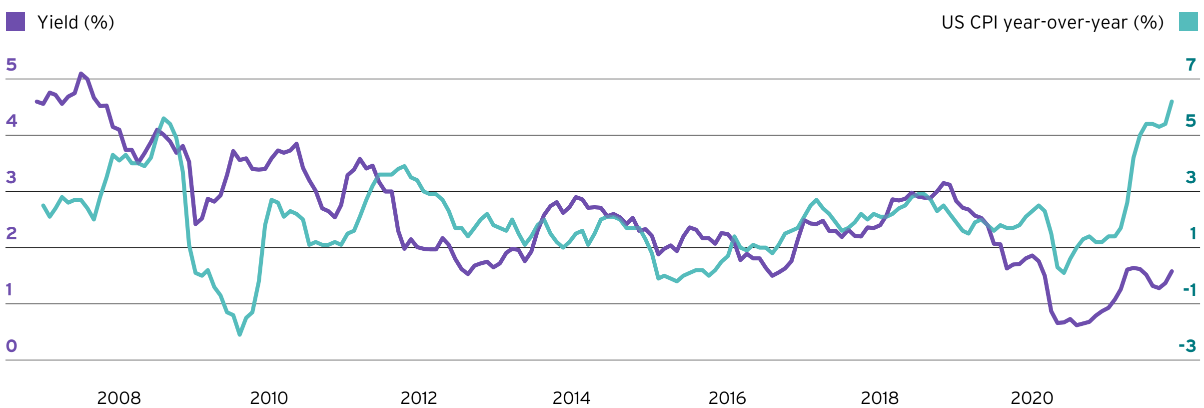


Chart shows year–on–year percentage change in US Producer Prices: Core Crude Material Inputs. Shaded zones indicate US recessions. Source: Haver, as of 10 Nov 2021.

Figure 9. High inflation but low yields



Source: Haver, through 1 Nov 2021. Past performance is no guarantee of future results. Real results may vary.

in the past twelve months. In our view, the strongest performing equity sectors of 2021 will not be the strongest of full-year 2022.

Implications of slower, steadier growth

In the early cycle recovery of 2009, price pressures and delayed deliveries were concerning. Just as in 2009, commodity prices and other basic inputs will not rise sharply in price forever – **FIGURE 8**. This is the case even as the Federal Reserve leans into job growth at the expense of short-term inflation. Given the Fed's preferred inflation measure and the Consumer Price Index differ, we'd assume the coming ten-year inflation rate is about 0.5% higher on average than in the ten years prior to the Covid shock. Unfortunately for bond investors, yields are roughly two percentage points lower than the period 10 years ago – **FIGURE 9**. This is bad news for bondholders.

Before and after

In Outlook 2021, we argued that the first year of a recovery following a recession is quite different from the remainder of expansion periods. The market segments that perform the best in these times are typically the most beaten down of the contraction. For the full year 2020, energy (-34%), airlines (-31%), hotels (-20%) and banks (-14%) accounted for the bulk of the equity market declines. In the past twelve months, the same sectors and groups have rebounded the most (+83%, +43%, +51% and +80% respectively).

The strategy of "exploiting mean reversion" – a 2021 theme that we have retired for 2022 – has historically been an outperforming strategy only in first-year expansion periods – FIGURE 10. Thereafter, assets with more consistent growth or incomes outperform most routinely – FIGURE 11. The "mean reversion" theme or, less elegantly, the "buy the dogs" strategy indeed worked well for the past year but is now not optimal for the future.

Figure 10. Mean reversion has performed strongly coming out of recessions

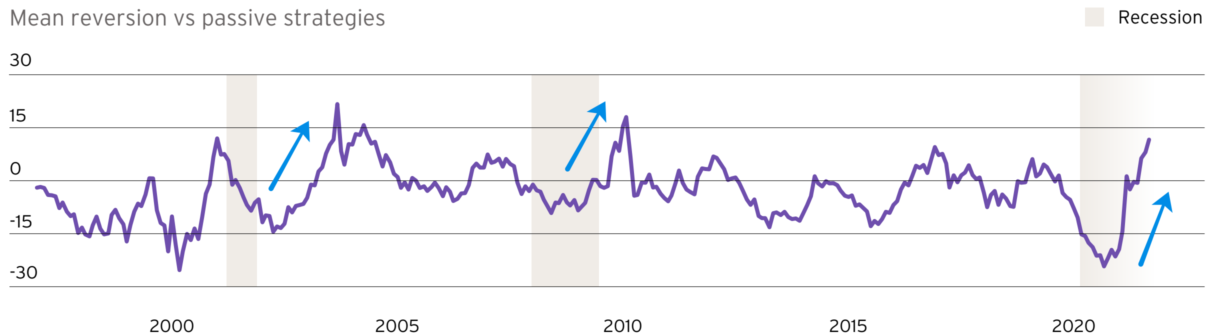
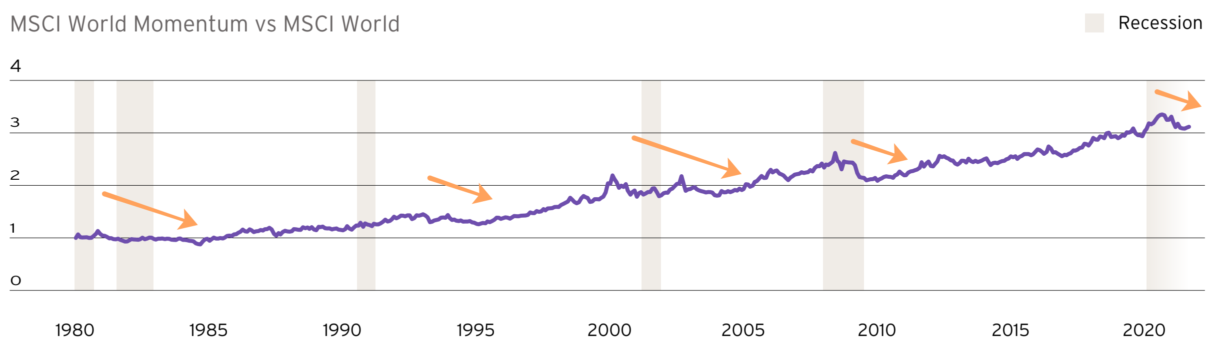


Chart shows a strategy of buying the previous year's worst performers relative to passive buy–and–hold strategy returns represented by buying and holding MSCI AC World Index. Source: Bloomberg, as of 23 Sep 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for 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. Past performance is no guarantee of future results. Real results may vary. See Glossary for definitions.

Figure 11. Momentum strategies have suffered around recessions



Source: Bloomberg and FactSet, as of 23 Sep 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. Past performance is no guarantee of future results. Real results may vary. See Glossary for definitions.

A whole new portfolio strategy

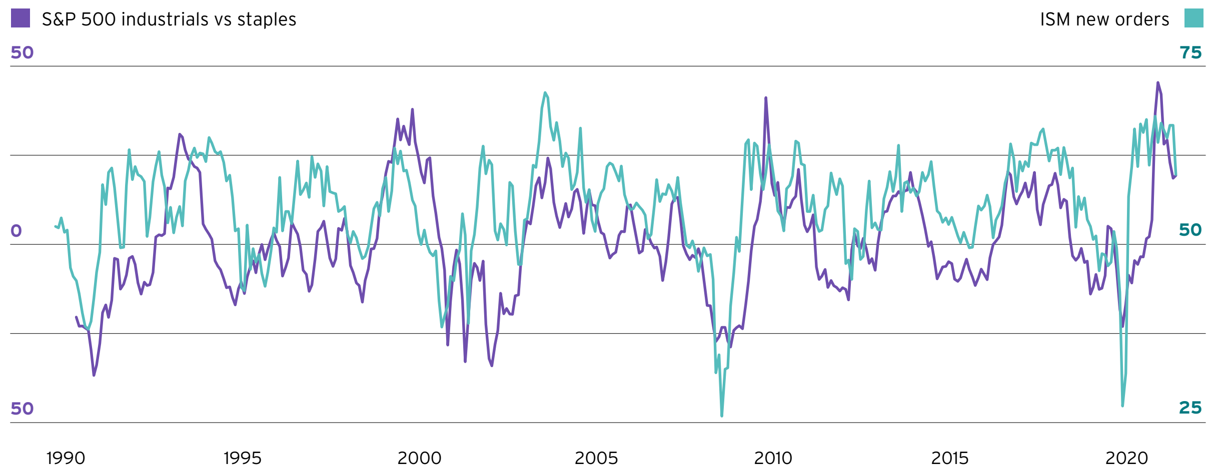
The "post-boom" is a time when the marathoners outperform the sprinters, So, what sort of portfolio should investors build for periods of moderating growth? For one, defensive industries tend to outperform cyclicals – FIGURE 12. This largely represents a reversal of the cyclical outperformance in the earlier "snapback" phase of recovery. Large capitalization equities tend to outperform leveraged, risky small caps. Again, this is the opposite of what happens in the first year of a recovery.

For some, the rapid change in economic conditions in 2020-2021 might give way to a "new boredom." Somehow, though, we suspect there will be plenty of surprises and excitement in store for us in the coming year. Investor sentiment is now gloomy once again simply based on the reality that central banks are refraining from easing further in a recovering world economy.

Our allocations have evolved in 2021 toward less cyclical, high quality assets. This will continue in 2022. While we expect moderating financial market returns compared to the past year's pandemic recovery, we don't believe the world economy or equity markets are near a peak or turning point.

Our portfolios have also adjusted to moderating growth with several sectoral, asset and regional allocation changes this year – see Our favored markets. This includes a switch to higher quality large caps and from a Latin America regional overweight to an enlarged global healthcare overweight – see Unstoppable Trends.

Figure 12: Industrials have underperformed staples as new orders diminish



Source: Bloomberg and FactSet, as of 23 Sep 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. Past performance is no guarantee of future results. Real results may vary.

We have also upgraded dividend growth strategies in both US and non-US portfolios for all medium-risk discretionary portfolios. For the highest quality firms, dividends of 2% to 3% that grow at a 5% long-term pace can potentially capture the bulk of the equity return of the coming year with lessened risk.
Therefore, we suspect they could return even more. We discuss what provides "leadership quality" in Long-term leaders.

Finally, with global bond yield aggregates below even long-term central bank inflation targets, what we haven't seen – as yet – is a compelling improvement in bond valuations or a severe overshoot in global equities as a whole.

As the powerful post-Covid boom gives way to moderation in 2022 and beyond, the opportunities and risks for investors shift accordingly. In the sections that follow, we set out our strategies for seeking sustained returns. And sustained returns are something from which all portfolios can benefit.

1.2

Greatest risks to an enduring expansion

STEVEN WIETING - Chief Investment Strategist and Chief Economist

The pandemic came as a major shock to the world economy. We consider other major risks that could now threaten the continuing recovery we expect.

- We believe the chances of another economic contraction in the next two years is low
- However, we also see various major risks that could derail the ongoing recovery
- A significant variant that would throw the world into a sustained lockdown remains a risk, as does a renewed pandemic via a breakout virus
- A US-China military escalation or a complete breakdown of trade relations would be highly destabilizing
- If we have misjudged the sources and "inertia" of inflation, greater macro policy restraints may be needed, harming recovery
- 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 allocation rather than simply seeking the highest overall return, in line with your specific investment situation

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 diminishing chances of another economic contraction any time soon, equity market returns have generally been well above historic averages. For the 19-month recession-and-recovery period to date, global equity returns are annualizing near 23%.[1]

Against this backdrop, we have been gradually reducing the extent of our overweight to global equities since April 2021. Perhaps more importantly, we have shifted the composition of that allocation to seek sustained growth and income rather than "cyclical recovery." Even after lowering our overall allocation, we remain 6% overweight global equity. We also remain 6% underweight fixed income and cash. This compares to risk asset allocations that were as much as 11% overweight at our peak weighting – see Sustaining returns: Moderate growth ahead.

There are several major risks to the world economic outlook. The future could involve many different outcomes, not just the likeliest one of continued recovery and positive returns on our existing asset allocation. As the Covid pandemic so brutally reminded us, major but less likely 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 the highest 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.

Pandemic reboot or redux

Perhaps the most easily imaginable 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 and immunity development ineffective. Epidemiologists whom we have consulted believe this to be improbable.[3] And researchers are working hard to adapt today's vaccines to a changing virus, just as they 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 their efforts globally.

A secondary risk that would delay the ongoing recovery would be a new variant that did not cause a renewed pandemic but did cause major international economic border closures. While this may not be recession-worthy, it would certainly cause a setback in global markets.

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 regardless of its cause.

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, his successor Biden along with both US political parties is focused on far wider issues. These include China's growing military might, rising

[1] Haver, as of Nov 2021

[2] Our analysis is based on Adaptive Valuation Strategies, the Private Bank's proprietary strategic asset allocation methodology that has a historical database dating back to 1926. 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. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Past performance is not indicative of future returns.

[3] Citi Global Wealth interview with Dr. Michael J Mina, Professor of Epidemiology and Immunology at Harvard T.H. Chan School of Public Health, on 16 Jul 2021

technological capacity, global political influence, and its human rights record. For its part, China's President Xi has suggested China's state autocracy provides a better growth and development model than democracy. The future of the world economy is highly dependent on leaders from both sides maintaining a peaceful coexistence while coping with their conflicting interests.

With a growing range of territorial disputes in Asia, both sides 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, such as in 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 – 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.[4] Much larger financial linkages suggests the US-Soviet comparison is a deep understatement of the complex relationship between the two largest national economies.

As Covid-related supply chain disruptions highlight, there are acute vulnerabilities in the trade of intermediate products such as semiconductors. Disruptions could hamper a much larger share of the economy than the value individual components might imply. The world's vast dependency on Taiwan-sourced semiconductors represents such a concentrated supply risk in our view – **FIGURE 1**.

Because of the potential severity of the impact, both sides have sought gradual reduction of their co-dependence, diversifying their trading relations away from one another. There have also been positive diplomatic gestures from both sides to lower risks. An immediate and complete

Figure 1. Rising US tech dependency on Taiwan

US imports of advanced technology from Taiwan ($m)

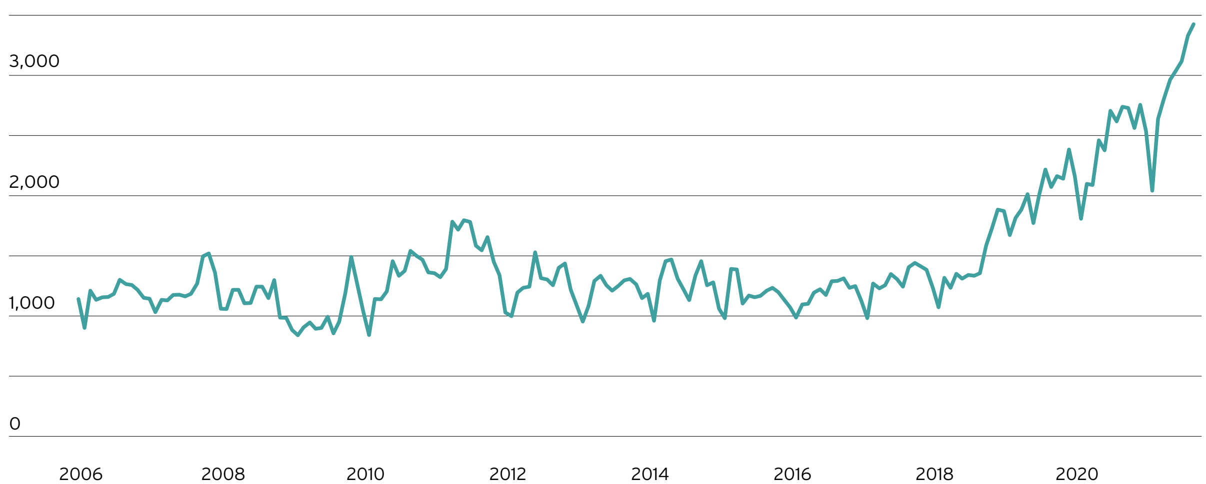


Chart shows US imports of advanced technology from Taiwan, including semiconductors. Source: Haver through 10 Nov 2021.

[4] US Department of Commerce, Haver Analytics, as of 22 Nov 2021

de-coupling of the two economies is improbable, likely less than a 5% chance by our reckoning.[5] We explore the more potentially probable and positive base case view in The rise of Asia: From setback to opportunity.

Inflation persists

Fiscal stimulus – coupled with central bank money printing – proved to be a highly potent driver of economic activity in the pandemic crisis. It helped finance a sharp rise in goods demand to adjust for Covid-led social changes, such as housing choices. It has left an "afterglow" of shortages as the world's consumers bid for scarce goods – FIGURE 2.

We believe the fuel for the consumer spending binge is waning, as the sharpest fiscal policy easing steps were discrete payments in 2020 and early 2021 – FIGURE 3. This resulted in a surge in household savings, then a large drop to normal levels as consumers bought goods at a dramatically above-trend pace.

Central banks are moving gradually to slow money creation. Fiscal action is becoming more gradual and balanced, key ingredients for sustainable growth. However, the risk remains that the high inflation rate of the past year has altered consumer inflation expectations in a way that makes stability harder to achieve.

[5] Citi Global Wealth Office of the Chief Investment Strategist and Global Investment Committee, as of 23 Nov 2021

Figure 2: Goods inflation spikes vs services inflation

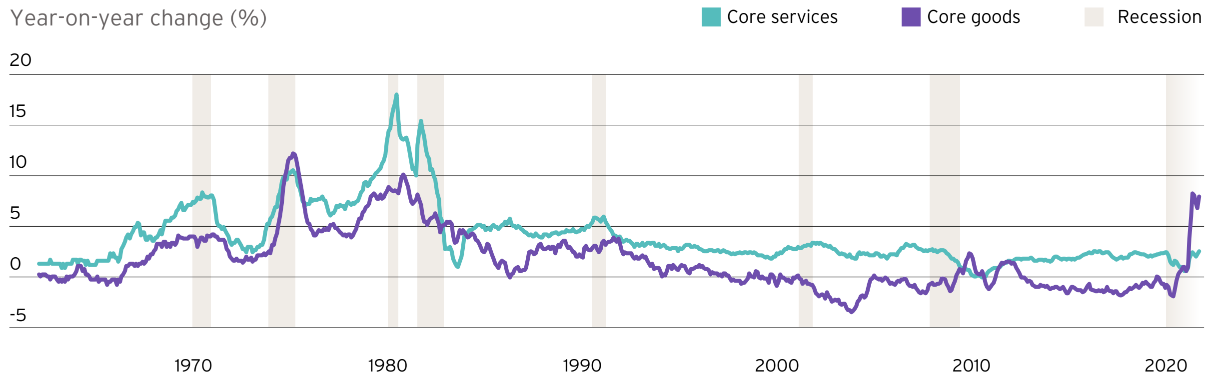


Chart shows year–on–year % change for US Consumer Price Index for Goods vs Services Ex Food and Energy. Shaded zones are US recessions. Source: Haver Analytics and FactSet, as of 10 Nov 2021; Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes 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.

Figure 3: Savings rates normalizing, suggesting waning consumer pressure

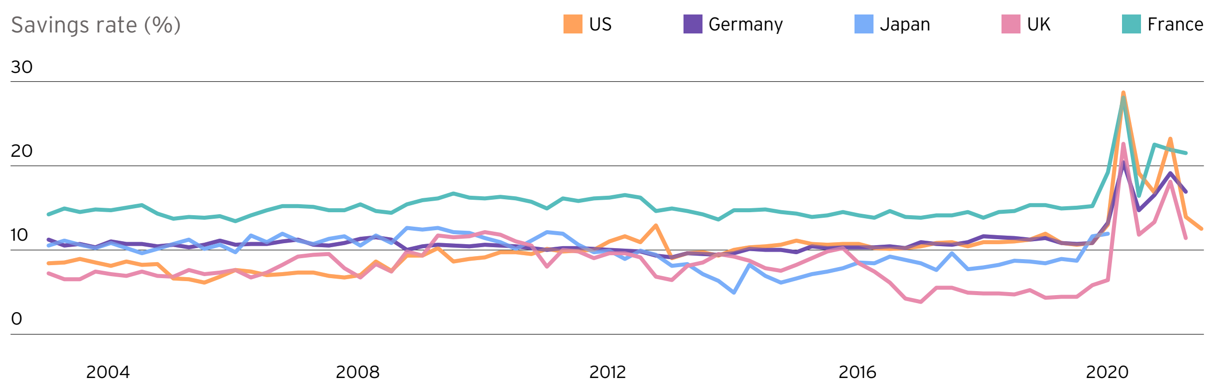


Chart shows the savings rates reported by each country. Shaded zones are US recessions. Source: Haver Analytics and FactSet, as of 10 Nov 2021.

Higher inflation expectations can mean consumers exacerbate shortages and increase demand in fear of paying more in the future. As many left the labor force during the pandemic, businesses competed harder for labor, raising wage payments in a way that can be self-reinforcing of inflation. The gradual pace at which developed markets central banks hope to normalize monetary policy might prove to be out of step with these risks.

We believe the waning macro policy distortions and diminishing Covid impact will mean growth outlasts the inflation spike. Indeed, the flattening futures price of oil alone suggests that there will likely not be a repeat of 2021's inflation spike in the coming year. However, upward inertia in demand could risk a harder landing for the economy than our base case view.

Large-scale cyber attack

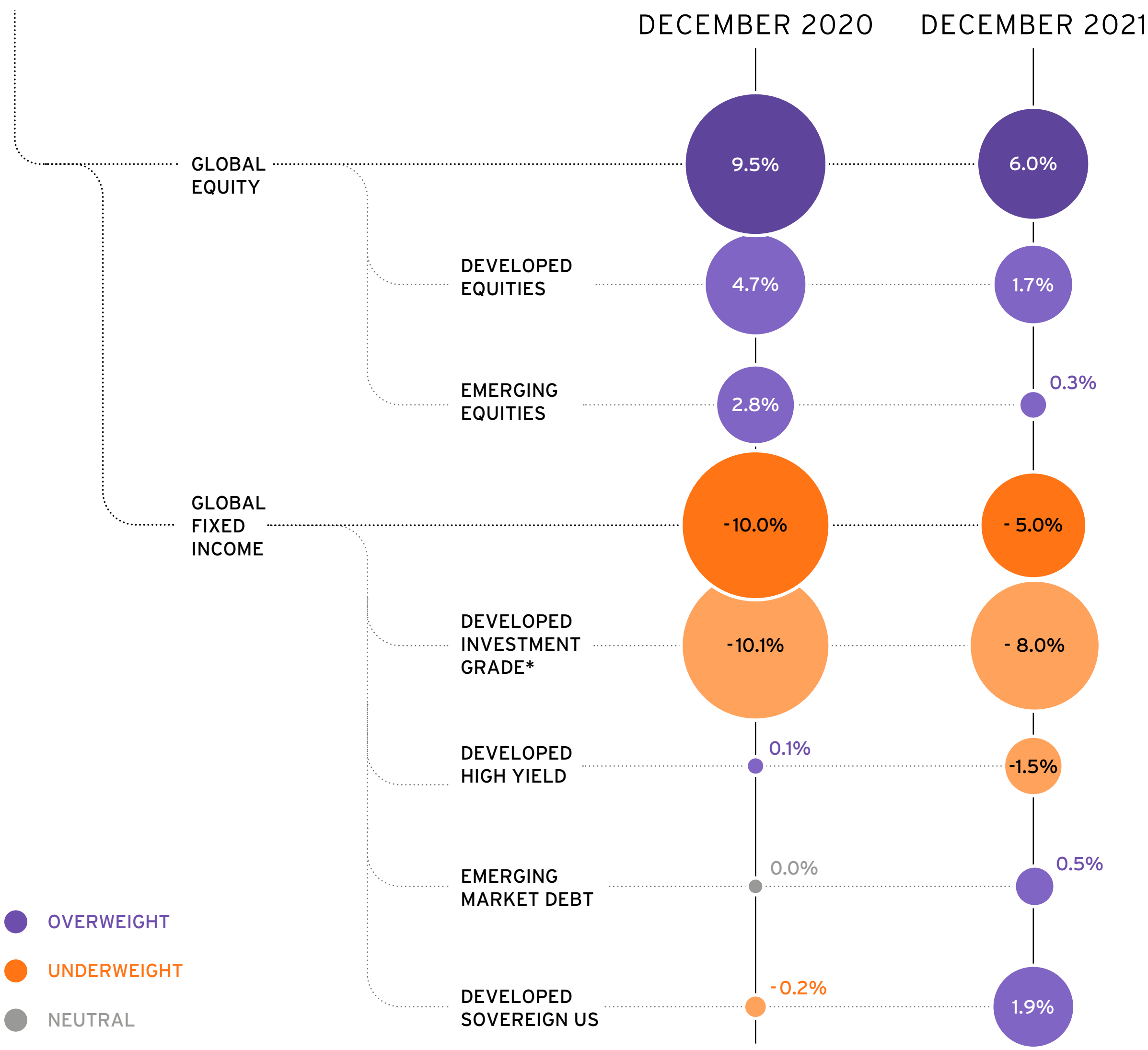
A large-scale cyberattack that does lasting economic damage may be the most probable of the major risks we consider here. The ransomware attack against the US's Colonial Pipeline resulted in fuel shortages in the US for a brief period in May 2021. A more severe and somewhat longer-lasting impact can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

The world's infrastructure and financial institutions are subject to continuous 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.

Global energy prices

In addition, geopolitical risks remain in global oil and gas markets. Admittedly, the concentration of world oil supplies has decreased over time. In our view, this lowers the probability of a global oil price shock, such as those of 1973 and 1979. That said, though, events in 2021 show that regional gas supply vulnerabilities are acute. Supply disruption arising from international tensions still have the potential to hurt economic activity and fuel inflation.

Our positioning



Office of the Chief Investment Strategist, Citi Private Bank, as of 1 Dec 2021.

*Factors in non–US Developed Market Investment Grade underweight

Opportunities

HIGHER QUALITY LARGE-CAP EQUITIES, ESPECIALLY IN THE US

GLOBAL HEALTHCARE EQUITIES

GLOBAL "DIVIDEND GROWER" EQUITIES

CYBER SECURITY, SUCH AS PROTECTION OF CLOUD COMPUTING AND THE "INTERNET OF THINGS"

ENABLERS AND BENEFICIARIES OF 5G, 6G AND SATELLITE-BASED INTERNET TECHNOLOGIES

CLEAN ENERGY COMPANIES AND OTHERS RELATED TO THE TRANSITION TO A MORE SUSTAINABLE EXISTENCE

E-COMMERCE'S REAL ESTATE ENABLERS; OFFICES IN FAST-GROWING US CITIES

EXPOSURE TO THE ONGOING RISE OF ASIA

FINTECH, ESPECIALLY PAYMENTS COMPANIES AND DEVELOPERS OF SOLUTIONS FOR TRADITIONAL FINANCIAL FIRMS

SELECT FIXED INCOME ASSETS INC. VARIABLE-RATE BANK LOANS, EMERGING MARKET DEBT, PREFERRED SECURITIES AND US TIPS

CAPITAL MARKETS STRATEGIES THAT SEEK INCOME FROM VOLATILITY

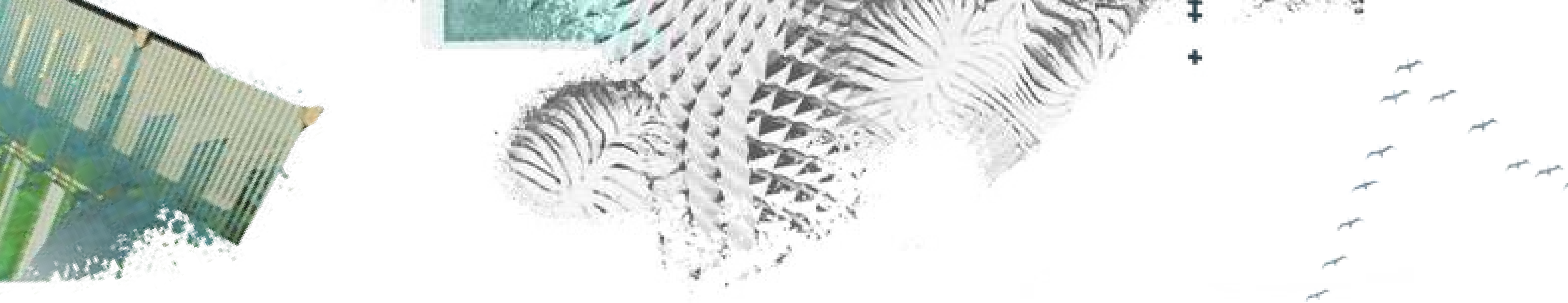
1.4

A personalized approach to building sustainable portfolios

HARLIN SINGH
Global Head of Sustainable Investing

How we address the various ways investors want to express their sustainability objectives

- Private capital has a vital role to play in bringing about a more sustainable world and economy
- Addressing investor requirements for sustainable investing requires expertise
- Innovative strategies to such challenges as climate change and biodiversity represent potential opportunities for companies and their investors
- We help clients define their sustainability objectives and then reflect these in their investment portfolios
- Our "Investment with Purpose" platform offers strategies to help implement sustainability goals



Sustainable investing's evolution has accelerated rapidly over the past decade. What was once seen as a niche is now front and center for many investors. The growing interest in sustainable investing is based on ever-greater awareness of its potential benefits. These include a diverse set of investment opportunities with potential for outperformance and management of certain risks that financial analysis may overlook. Alongside the potential investment benefits, there is increasing awareness of the role of private capital in helping to address some of the challenges in the world around us. With this realization, it is evident that sustainability considerations can be implemented holistically for client portfolios.

The challenges and opportunities of sustainability

The United Nations' Intergovernmental Panel on Climate Change's (IPCC) latest report[1] leaves no doubt that the planet is warming and that humans are responsible. A total transformation of the world's energy system is required to reduce the concentration of CO_2 in the atmosphere and help avert a climate catastrophe – see Greening the world.

Shifting to clean methods of energy production demands innovation and massive capital investment. According to a Citi GPS report, some $122tn of investment may be necessary. This is made up of electrification and renewables ($94.6tn), efficiency and circularity ($12.1tn) and alternative technologies ($15tn).[2]

Biodiversity loss – the reduction in the number of plant and animal species – is also a critical challenge for humanity. We have lost 76% of freshwater wildlife, 39% of terrestrial wildlife and 39% of marine wildlife since 1970.[3] Biological diversity plays a vital – but often overlooked – role in human health, food security, business operations, supply chains and economic growth. Still, the risk that biodiversity loss poses is gaining recognition, as are the related opportunities for innovation. For example, seeking nature-positive solutions may create $10 trillion in business opportunities and 395 million new jobs by 2030.[4]

Meanwhile, widening inequality raises many concerns about fundamental fairness, social cohesion and faith in public institutions. Increasingly, though, it is also seen as a core issue for macroeconomic performance. Addressing inequalities could enhance growth, which ultimately serves everyone. Improved education systems, better access to affordable healthcare and meeting other basic needs all boost long-term prosperity and economic growth.[5]

[1] Climate Change 2021 The Physical Science Basis, IPCC, as of Sep 2021

[2] Financing a greener planet — Citi GPS, as of Feb 2021

[3,4] Biodiversity — Citi GPS, as of July 2021

[5] Inequality and prosperity in the industrialized world - Citi GPS, as of Sep 2017

Sustainable investment at Citi Global Wealth

Over the last ten years, sustainable investment has evolved from an approach of primarily seeking values alignment by excluding certain investments to one of identifying companies that effectively manage environmental, social and governance (ESG) risks and opportunities and/or seek to deliver a measurable impact.

At the same time, companies are now much clearer about the challenges society faces and their role in addressing them. The Sustainability Accounting Standards Board (SASB) identifies specific regulatory, ethical and operational risks that can be financially material across industries, companies, regions and countries. The UN Sustainable Development goals identify 17 interlinked areas that require capital to achieve an equitable future for the people and planet. Investors too are now focused on innovative solutions that make a real contribution toward addressing these goals.

Our personalized approach

At Citi Global Wealth Investments (CGWI), we help clients define their own individual sustainability objectives that embrace their worldview and values. We then reflect these when recommending strategies for their core investment portfolios. These core portfolios are based on the long-term investment plans we customize for them.

To complement these core portfolios, many clients also wish to pursue opportunistic investments. These may seek additional environmental and/or societal impact as well as financial returns and/or exposure to specific sustainability themes that may be unavailable in broad market-based investments. Our sophisticated portfolio analytics can help identify suitable strategies to consider for a specific portfolio, based on clients' specific sustainable and investment priorities.

Both the core and opportunistic strategies we recommend are drawn from Investing with Purpose (IwP), our sustainable investment platform. IwP comprises suitable managed strategies, alternative and direct private investments, as well as non-discretionary strategies including, for qualified investors, capital markets investments and new securities offerings.

To select investments for our IwP platform, we have an extensive due diligence process. Not only do our internally managed products exhibit these standards, we spend significant time engaging with third-party providers and ESG data specialists to evaluate and classify risks and attributes. This includes seeking to mitigate exposure to "greenwashed" investments – those that are marketed as sustainable but whose actual credentials fall short.

Our sustainable investing professionals can help you evaluate the various approaches and identify investment strategies that best suit your needs, however simple or complex.

1.5

The long-term return outlook for major asset classes has changed

GREGORY VAN INWEGEN
Global Head of Quantitative Research and Asset Allocation,
Citi Investment Management

Over the coming decade, our outlook for returns across asset classes calls for getting portfolios fully invested and avoiding common investor mistakes.

- Long-term asset class return estimates are central to building a long-term investment plan
- Our strategic asset allocation methodology points to moderating returns across many asset classes over the coming decade
- Many qualified investors have too little or no allocations to alternative and private asset classes, but far too much in cash. Our recommended allocation holds much less cash, just 2% compared to 33% in a naïve base case.
- We strongly recommend maintaining fully invested portfolios and adding to them
- We also believe that long-term investment plans customized for clients are well suited to meeting their goals and risk profiles

What might the next ten years hold in store for the returns of major asset classes? With many valuations higher than they were before the pandemic – and with the pandemic still roiling markets – where are better values to be found?

Our proprietary strategic asset allocation methodology, Adaptive Valuation Strategies (AVS), looks beyond a near-term horizon to estimate annualized returns over the coming ten years based on current valuations and other fundamentals. We call these "Strategic Return Estimates" (SREs). When an asset class is expensive or cheap compared to its long-term average, AVS lowers or raises its SRE accordingly.

Across many asset classes, current valuations are high. This reflects the powerful recovery in risk asset prices since the depths of the pandemic sell-off in March 2020, as well as sustained monetary easing policies from global central banks. In turn, current high valuations are reflected in SREs - **FIGURE 1**. For Global Equities, for example, AVS estimates an annualized return of 4.2% for the decade to 2031, 2% for fixed income and 0.9% for cash.

Despite many low or falling SREs, we do not believe investors should be discouraged by the multi-year outlook. For one thing, our SREs have often proved conservative, giving way to higher returns than estimated. Nonetheless, we do need to consider the implications for asset allocation and take action accordingly.

Figure 1. Strategic return estimates

GLOBAL EQUITY	**4.2**
GLOBAL FIXED INCOME	**2.0**
CASH	**0.9**
DEVELOPED EQUITY	3.8
EMERGING EQUITY	8.1
DEVELOPED INVESTMENT GRADE FIXED INCOME	1.8
HIGH YIELD FIXED INCOME	2.6
EMERGING FIXED INCOME	3.6
US CASH	0.9
HEDGE FUNDS	4.1
PRIVATE EQUITY	11.6
REAL ESTATE	8.8
COMMODITIES	1.5

Global Equity consists of Developed and Emerging Market Equity. Global Fixed Income consists of Investment Grade, High Yield and Emerging Market Fixed Income. Source: Citi Private Bank Asset Allocation team, preliminary estimates as of 24 Nov 2021 for the AVS methodology. Strategic Return Estimates are in US dollars; all estimates are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Strategic Return Estimates are no guarantee of future performance.

Within this overall environment of lower returns, AVS has identified the potential for higher returns in certain areas. In Emerging Market Equities – shares from economies such as China, India and Brazil – the SRE is 8.1%. Over the last 10 years, this asset class has returned an annualized 4.8%. Its SRE is also more than double the SRE of 3.8% for Developed Market Equities, which covers shares from economies such as the US, most of Europe and Japan.

Higher returns may also be possible for qualified investors who are willing to invest in the illiquid asset class of Private Equity, whose SRE is 11.6%. While our SRE for PE has come down from its level of 14.2% a year ago, the decline reflects the increased valuations of publicly traded small-cap companies, which represent many of the target investments of private equity strategies. We still see Private Equity's SRE as attractive amid today's conditions, nonetheless.

Another illiquid asset class – Real Estate – also offers a higher SRE. On the one hand, the rental income component of this estimate has dropped slightly. On the other, the property value appreciation component rose. As a result, the SRE remains similar to last year at 8.8%.

Be wary of fixed income

The fixed income outlook remains challenging. Investment Grade Fixed Income – which includes bonds from the most creditworthy sovereign and corporate issuers – has an SRE of 1.8%. Admittedly, this represents an improvement on last year's level of 1.2%. The increase comes from higher yield to maturities on US and non-US sovereigns and IG corporate bonds. Expectations of central bank tightening have moved the Cash (US) SRE up slightly to 0.9%.

By contrast, the SRE for High Yield Fixed Income – bonds issued by less creditworthy corporate borrowers – has fallen to 2.6%. This reflects spread tightening: a decline in the yield premium of High Yield over the highest quality fixed income assets.

In both of these cases, our expected slightly higher inflation rate for the next decade makes real returns for Investment Grade and High Yield bonds much less likely.

The SRE for Emerging Market Fixed Income – bonds from less economically developed countries – has stayed stable meanwhile. Two main countervailing forces were at work here. Bonds issued by sovereign borrowers from emerging markets in Europe, the Middle East and Africa saw yields drop. Increased revenues for oil exporters improved these borrowers' balances of payments. Higher Latin American yields offset that effect, however, leaving the SRE at 3.6%.

Hedge Funds' SRE has components drawn from various different kinds of hedge fund strategy. The equity component was down, fixed income up, and cash up, leading to a slightly higher SRE of 4.1%. For Commodities, increases in inflation forecasts has led to an increase in the SRE to 1.5%.

How to allocate in today's environment

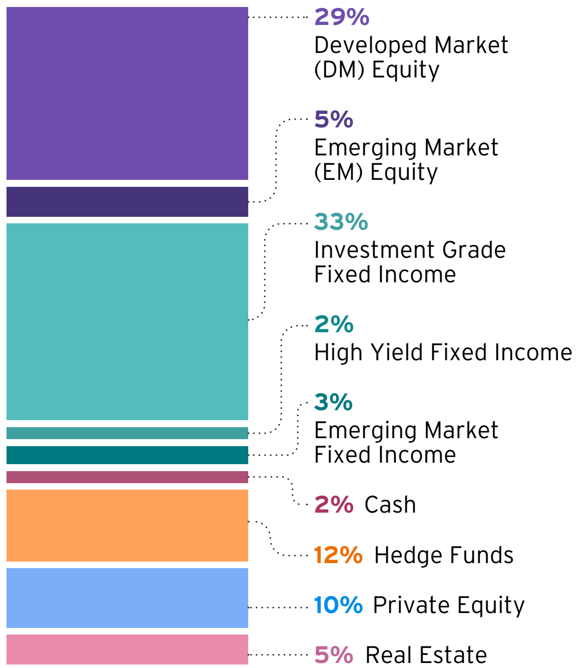
Given today's environment and SREs, what are appropriate Strategic Asset Allocations (SAAs) for long-term investors? Again, we look to our AVS methodology for an answer. AVS combines SREs, risks and other inputs. For an investor of moderate risk appetite – and for whom alternative and illiquid asset classes are suitable – it then optimizes an allocation such as that shown in FIGURE 2.

We compare the performance of these allocations to an allocation frequently held by many of our clients: a "naïve" allocation where one third is held in each of equities, fixed income and cash - FIGURE 3.

Considering the AVS allocation in FIGURE 2, it is notable how much our methodology recommends allocating to alternative and illiquid allocations. Together, Hedge Funds, Private Equity and Real Estate make up over one quarter of the allocation. This is quite intuitive given the limited SREs for Global Equity and Global Fixed Income. Experience has shown these asset classes can help seek balanced portfolio returns and diversify risks.

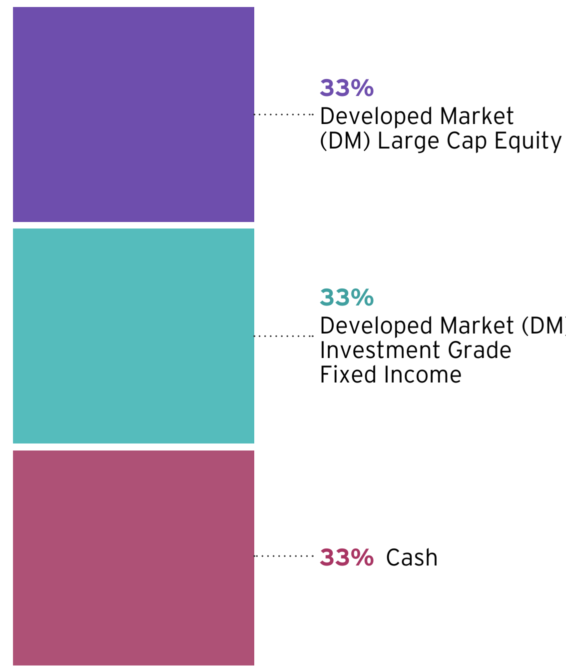
In the past, the Private Equity and Real Estate asset classes were not optimized in AVS. Instead, various allocations were provided from which suitable and qualified clients could choose, based on their preferences. In 2022, we have taken the decision to adopt an optimized approach with Private Equity and Real Estate and have found 15% to be an attractive allocation for illiquids

Figure 2. 2022 SAA Weights



The allocation shown is a US dollar Allocation at Risk Level 3, as of 24 Nov 2021. Risk levels are an indication of clients' appetite for risk, ranging from 1 (the most conservative) to 5 (the most aggressive). Risk Level 3 seeks modest capital appreciation and, secondly, capital preservation. Source: Global Asset Allocation team, Citi Private Bank, as of 31 Oct 2021. The returns shown were calculated at an asset class level using indices and do not reflect fees, which would have reduced the performance shown. See Glossary for asset class definitions. Past performance is no guarantee of future returns. Real results may vary. Diversification does not ensure against loss of investment.

Figure 3. A frequently seen naïve asset allocation



The allocation shown is a naïve allocation where an investor equally weights all of their portfolio weightings without regard for expected returns, risk and the relationship between the holdings, as of 24 Nov 2021. See Glossary for asset class definitions. Past performance is no guarantee of future returns. Real results may vary. Diversification does not ensure against loss of investment.

within a moderate risk portfolio. The assignment of two-thirds of this illiquid allocation to Private Equity and one-third to Real Estate reflects the market capitalization of these respective markets and the investing patterns of our investors in these asset classes.

Compared to the naïve allocation shown in **FIGURE 3**, the recommended allocation holds much less cash, just 2% compared to 33%. Over time, large allocations to cash over long periods have led to significant underperformance. This can be seen in **FIGURE 4**, which shows the the hypothetical performance of these two portfolios based on more than 35 years of historical data.

For the entire period, the AVS Level III allocation on an asset class level would have outperformed the naïve portfolio by an annualized 270 basis points. These higher returns, however, would have involved taking greater risks. The naïve allocation would have had lower volatility and a lower Extreme Drawdown Risk (EDR). EDR is the measure of risk that AVS considers and represents performance during periods of market stress.

Assuming that the owner of a naïve allocation is actually suitable for a Level 3 allocation, annualized volatility (as measured by standard deviation) of 8% to 10% would be appropriate. The naïve allocation resulted in rather lower volatility than that, meaning that the investor was taking less risk than they should have and foregoing potential returns accordingly.

Figure 4.
AVS Level 3 vs naïve allocation

	AVS LEVEL 3 ALLOCATION	NAÏVE PORTFOLIO
ANNUALIZED MEAN RETURN (%)	9.4	6.9
ANNUALIZED MEAN RETURN LAST 10Y (%)	8.4	5.7
ANNUALIZED STANDARD DEVIATION (%)	8.8	5.2
ANNUALIZED STD LAST 10Y (%)	7.9	4.5
EXPECTED DRAWDOWN RISK (%)	-28.3	-16.7
PORTFOLIO RETURN BASED ON 2022 SRES	4.3	2.1

Table considers data from the period 31 Dec 1985–31 Oct 2021. The allocation shown is a US dollar Allocation at Risk Level 3, as of 24 Nov 2021. Risk levels are an indication of clients' appetite for risk, ranging from 1 (the most conservative) to 5 (the most aggressive). Risk Level 3 seeks modest capital appreciation and, secondly, capital preservation. Source: Global Asset Allocation team, Citi Private Bank, as of 31 Oct 2021. The returns shown were calculated at an asset class level using indices and do not reflect fees, which would have reduced the performance shown. See Glossary for asset class definitions. Past performance is no guarantee of future returns. Real results may vary. Diversification does not ensure against loss of investment. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Figure 5.
Global Equity vs Mix of Private Equity and Real Estate 1986-2021

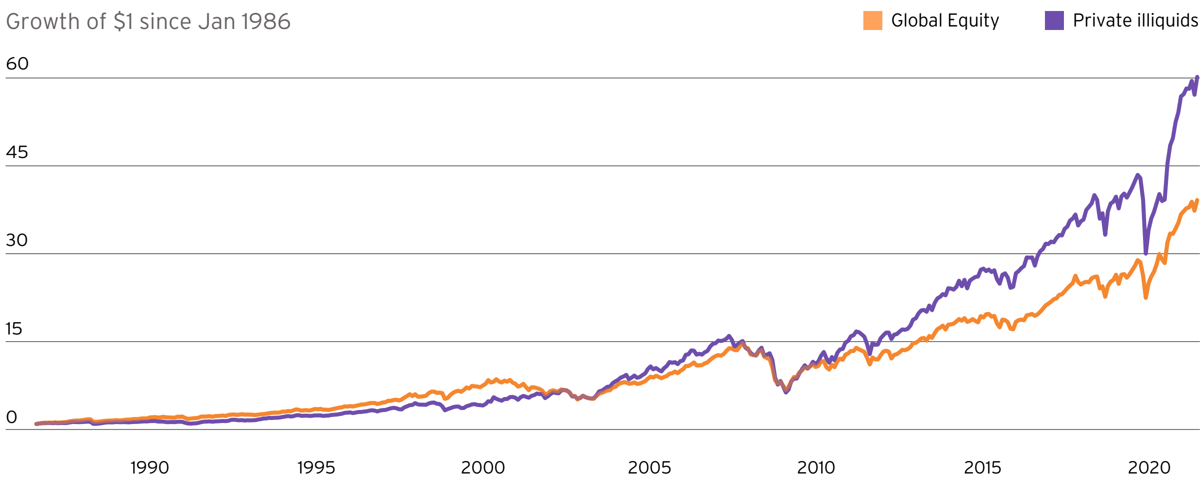


Chart displays the performance of the Global Equity asset class, consisting of 90% Developed Market Equity and 10% Emerging Market Equity, compared to a private illiquids allocation of 65% Private Equity and 35% Real Estate for the period 1986–2021. Source: Global Asset Allocation team, Citi Private Bank, as of 24 Nov 2021. The returns shown were calculated at an asset class level using indices and do not reflect fees, which would have reduced the performance shown. Past performance is no guarantee of future returns. Real results may vary. Diversification does not ensure against loss of investment. See Glossary for definitions.

What should the owner of the naïve allocation shown consider doing? By switching to a Level III allocation, they could assume a level of risk more suited to their goals and risk appetite and potentially seek higher returns. The large holding of cash should be put to work in a broader range of asset classes, but particularly into illiquid alternatives and private asset classes, whose SREs are higher.

In FIGURE 5, we compare the historic performance of two equity allocations. The first is made up of 90% Developed Equities and 10% Emerging Equities. The second consists of 65% Private Equity and 35% Real Estate with a higher level of risk. The performance differential is large, highlighting for qualified clients the return potential of adding illiquid investments to a diversified allocation.

Get invested and stick to the plan

Potential long-term returns have come down across most asset classes. Even so, many seem likely to keep holding too much cash and taking too little risk. Based on long experience, we believe this behavior will lead them to underperform fully invested portfolios over time.

What should you do now, therefore? We urge you get your portfolio fully invested and aligned with the strategic asset allocation that is consistent with your investment objectives and risk tolerances, embracing diversification across multiple asset classes and geographies. Your relationship team can help you evaluate your current allocation and then suggest strategies to bring your portfolio into alignment with the long-term plan.

Paisan Limratanamongkol, Xin He, Wenjing Wu and Alex Rizea contributed to this article.

2 Long-term leaders

CONTENTS

2.1

Introducing our focus on long-term leaders

STEVEN WIETING - Chief Investment Strategist and Chief Economist

The sectors and companies that led markets higher in the 2021 rebound are unlikely to repeat their performance. We now advise exposure to long-term leaders, companies in the right industries whose quality, size, balance sheets and focus on dividends may provide benefits to portfolios.

- For much of 2020 and 2021, we recommended buying beaten down assets, given their rebound potential
- With the rebound phase largely complete, we recommend shifting portfolios toward sectors and equities that are well positioned to lead markets higher over time
- We believe that companies with records of growing dividend payments have the potential to strengthen portfolios
- When managements are focused on enhancing their industry position for the long term, they present a total return opportunity as earnings growth and buybacks may further propel returns

We believe 2022 will be a rather different year for financial markets than 2020 and 2021. Neither do we expect a recession nor another 30% return for global equities of the type we experienced in the last 12 months – **FIGURE 1**. What worked well in portfolios during the last two years, therefore, is unlikely to work in the period ahead.

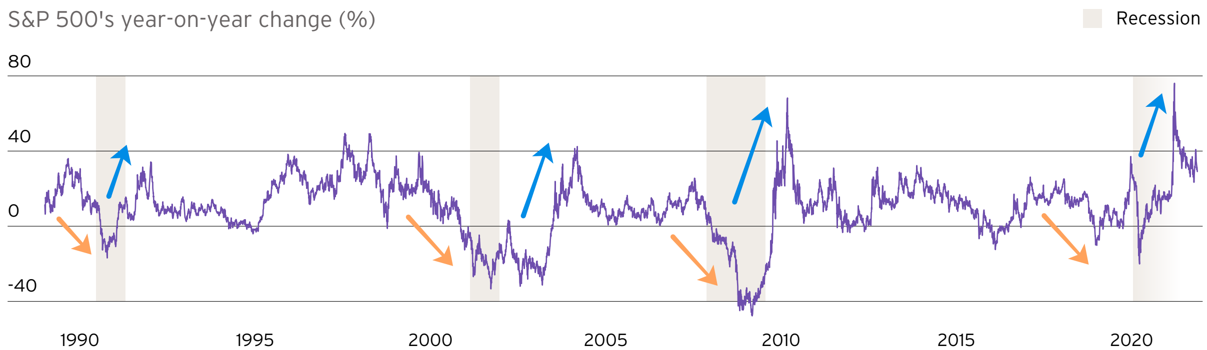
Looking back to help us look forward

During the initial rebound from the pandemic collapse beginning in 2020, we advised exposure to "Covid cyclicals."[1] Investors who did not follow our recommendations such as buying airline equities – or entire country markets such as Brazil – should not now expect the same sort of performance they missed out on in the past year – **FIGURE 2**. Many of the assets that have posted the strongest rises – such as the 120% annualized gain since April 2020 in hotels, resorts and cruise line operators – were only able to do so because of their previous plunge into the abyss of the Covid recession.

While plunges and rebounds captivate investors' attention, their effects average out over time. Given this, the wisest approach is to stay invested throughout, thereby remaining exposed to economic progress. **FIGURE 3** shows how average returns from being constantly invested throughout cycles have been above those if the one year before and after recessions are excluded.

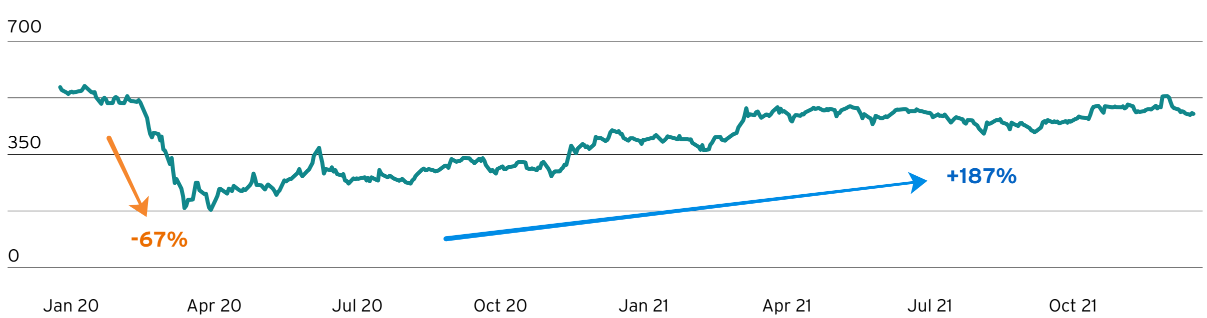
[1] Energy, materials, consumer discretionary (ex–e–commerce), industrials, financials and real estate

Figure 1. From bust to boom in US equities



Source: Bloomberg, as of 3 Nov 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. Past performance is no guarantee of future results. Real results may vary.

Figure 2. A rapid round-trip



Source: Citi, Standard & Poors, Haver, as of 3 Nov 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. Past performance is no guarantee of future results. Real results may vary.

Figure 3. The cost of being out of equities around recessions

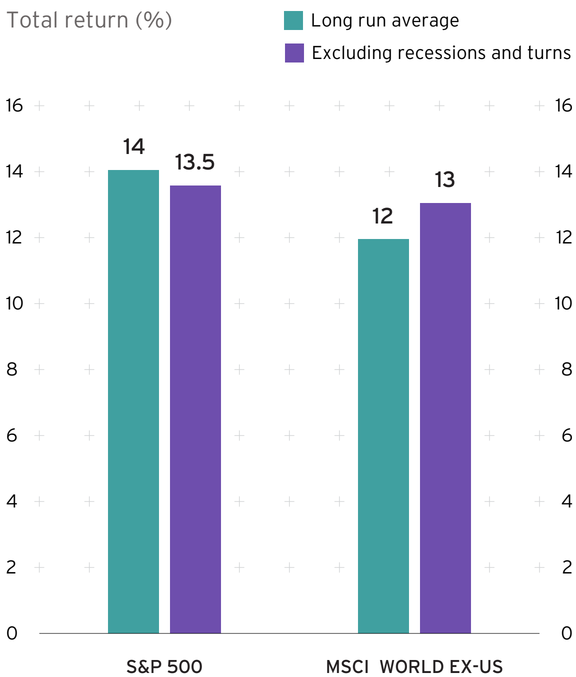


Chart shows long–term average index returns and average returns excluding the period one year before and after recessions. Source: Haver, as of 30 Oct 2021.

Figure 4. Digitization leaders' superior sales growth

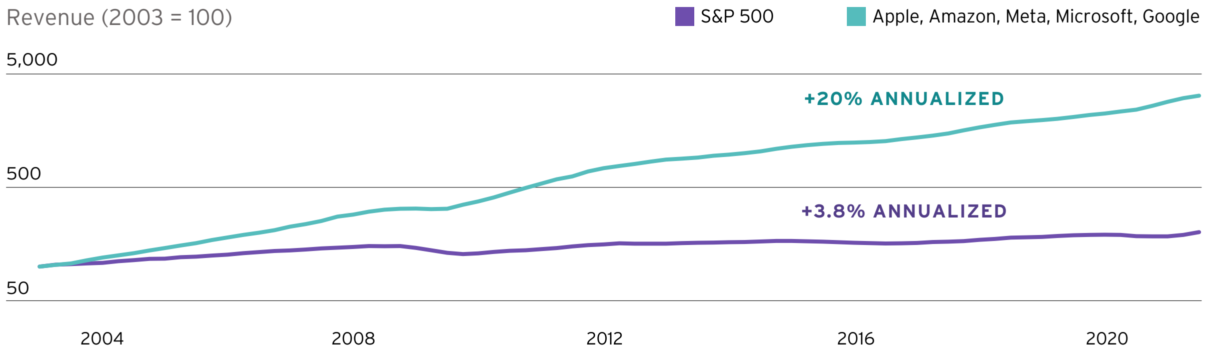


Chart shows revenues of S&P 500 Index companies and those of Facebook, Amazon, Apple, Netflix and Google rebased to 100 as of 2003. Indices are unmanaged. Source: Haver, as of 19 Nov 2021. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. This should not be construed as an offer of, or recommendation of companies discussed.

Figure 5. Healthcare's importance grows as autos shrink

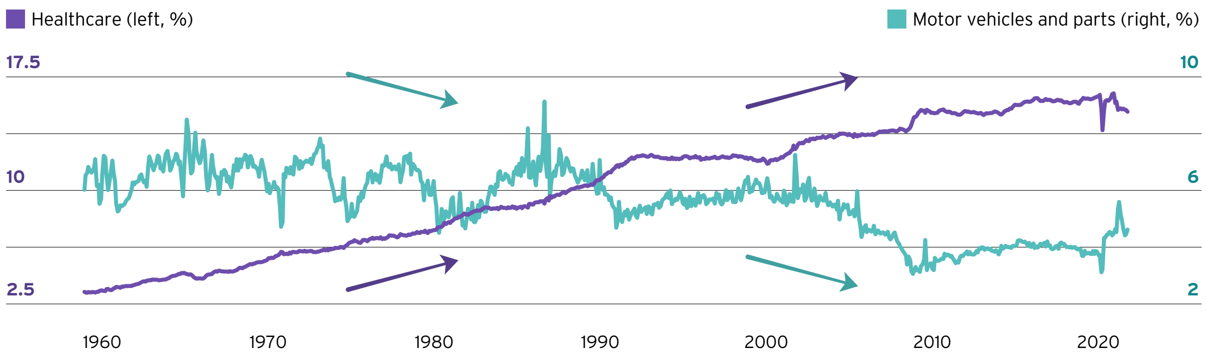


Chart shows personal consumption expenditure (PCE) for healthcare and motor vehicles & parts, both as a proportion of total PCE. Source: Haver, as of 19 Nov 2021. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Figure 6. Quality and dividend growers have outperformed

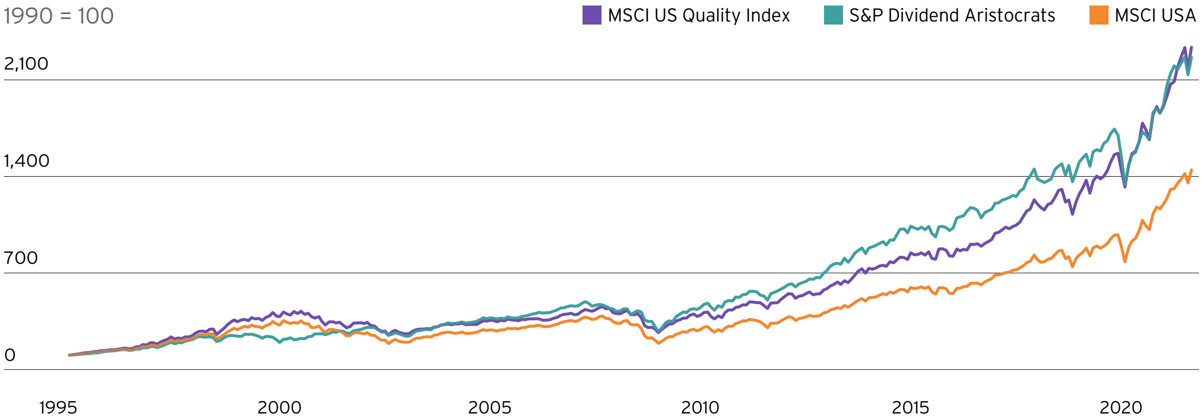
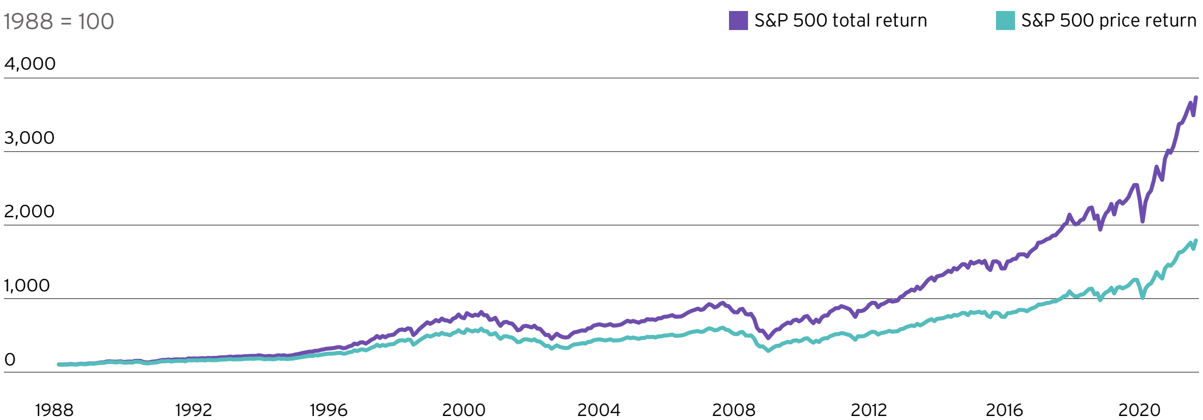


Figure 7. The power of reinvested dividends



Source: Haver, as of 19 Nov 2021. 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. Past performance is no guarantee of future results. Real results may vary. See Glossary for definitions.

Spotlight: Growing companies in growing sectors

Rather than trying to avoid downturns, seeking to beat long-term average returns in equity markets involves two approaches. The first is by investing in firms that consistently lead their industry and within industries whose share of total economic output is growing. Many of these relate to "unstoppable trends" such as the secular rise in healthcare demand or the digitization of the economy as macro-level examples of "secular growth industries." The opposite of this phenomenon also exists in sectors like traditional autos or oil drilling. They face gradually diminishing growth but are still exposed to cyclical booms and busts – **FIGURES 4** and **5**.

Spotlight: The discipline of dividend growth

The other approach for seeking to outperform long-term average equity returns is to invest in firms that sustainably grow income distributions to shareholders. US firms with the most consistent dividend growth have outperformed the S&P 500 – itself one of the world's strongest performing markets – by about 60% in the last 30 years – **FIGURE 6**. Firms with the most compelling business opportunities prefer to abstain from dividend distributions and instead deploy cash on expanding operations. However, where a firm's growth opportunities are less obvious, increasing dividends are highly valuable for investors – **FIGURE 7**. In other words, firms must have extraordinary growth opportunities to be able to ask investors to forego dividends, which have cumulatively driven half of long-term equity market returns.

Given their potential to deliver sustained outperformance over time, we categorize both these types of equity as "long-term leaders."

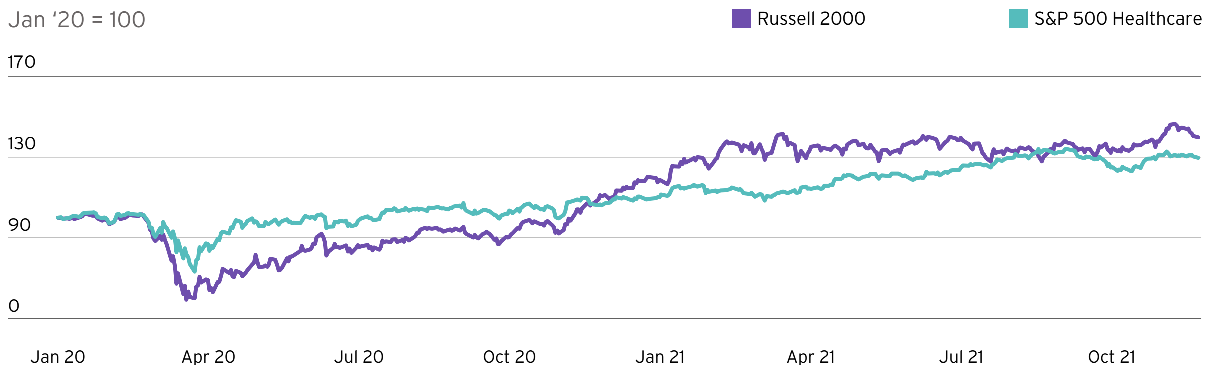
Retiring a theme

Although there are industries and national equity markets suffering from Covid's elongated impact, we believe the transition from "snapback" to "normal expansion" in financial markets is largely over. For this reason, we have retired our **Exploiting mean reversion theme** – see Outlook 2021. This was our high conviction call to invest in many assets that were most beaten down amid the pandemic.

Unstoppable trends

As we discuss throughout Outlook 2022, the challenge now is to realign portfolios toward the drivers of sustainable returns or "long-term leaders." This has already led us to alter many of our allocations over the past year. For example, we reduced holdings of volatile, leveraged small-cap firms that enjoyed an exaggerated recovery from depressed levels. We reinvested in the generally more stable growth and value offered in the healthcare sector – **FIGURE 8.**

Figure 8. US small- and mid-caps were early-cycle leaders



Source: Haver, as of 19 Nov 2021. 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. Past performance is no guarantee of future results. Real results may vary. See Glossary for definitions.

Figure 9. The world's aging population

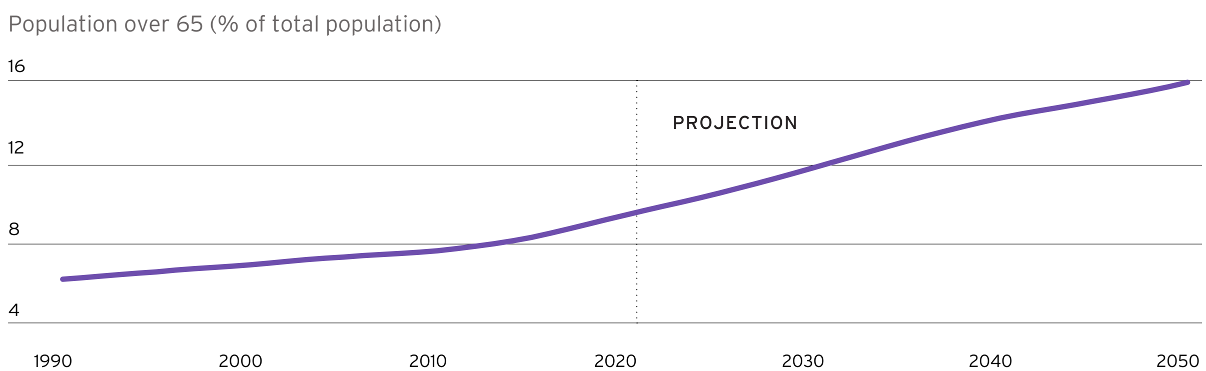


Chart shows the percentage of the global population aged over 65, historic and UN projections.
Source: Haver, as of 19 Nov 2021. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Figure 10. The growth in intellectual property investment

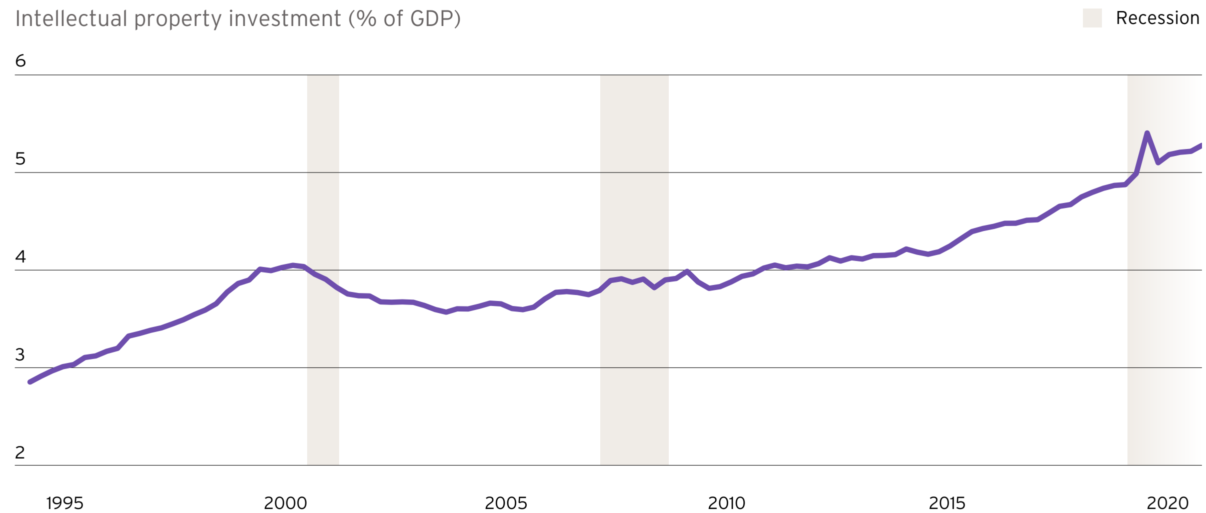


Chart shows intellectual property investment ex. software as % of US GDP. Shaded zones represent US recessions.
Source: Haver, as of 15 Nov 2021.

Accelerating global healthcare demand goes hand in hand with an aging world population, with the United Nations projecting a doubling in the size of the over-65 population within less than 30 years. The growth of this demographic is more than four times faster than expected growth in the world's total population. With science enabling longer lives – and ever-increasing demand for the related healthcare services – we consider "Increased longevity" an unstoppable trend – FIGURE 9.

Likewise, the digital transformation of the world is set to continue. The potential that investors anticipated during the dot.com bubble that burst in 2000 was realized in the following two decades – FIGURE 10. But we believe that there is still great potential here. Unlike in the late 1990s, though, we do not see excessive or unsustainable expansion in this area.

Digitization played a critical role in helping the world adapt to Covid. The mobility and flexible work arrangements it enabled likely saved hundreds of millions of jobs. In doing so, it likely reduced the speed and scope of the pandemic, as it facilitated social distancing. Beyond the extremes and distortions of this period, the digital world is increasingly the "real economy" for more and more of the world's people.

In the section that follows, we first explore the techniques we use for identifying long-term leaders – see The case for long-term leaders. We then take a closer look at examples of this phenomenon in action. These include dividend grower strategies – see Why dividends matter more today than ever. They also incorporate sectors and companies at the cutting edge of our unstoppable trends such as **digitization**. It is our case that select investments from these areas have the potential to sustain returns in 2022 and over the remainder of the expansion.

2.2

Time to follow the long-term leaders

JOE FIORICA
Head of Global Equity Strategy

ROB JASMINSKI
Global Head of Citi Investment Management

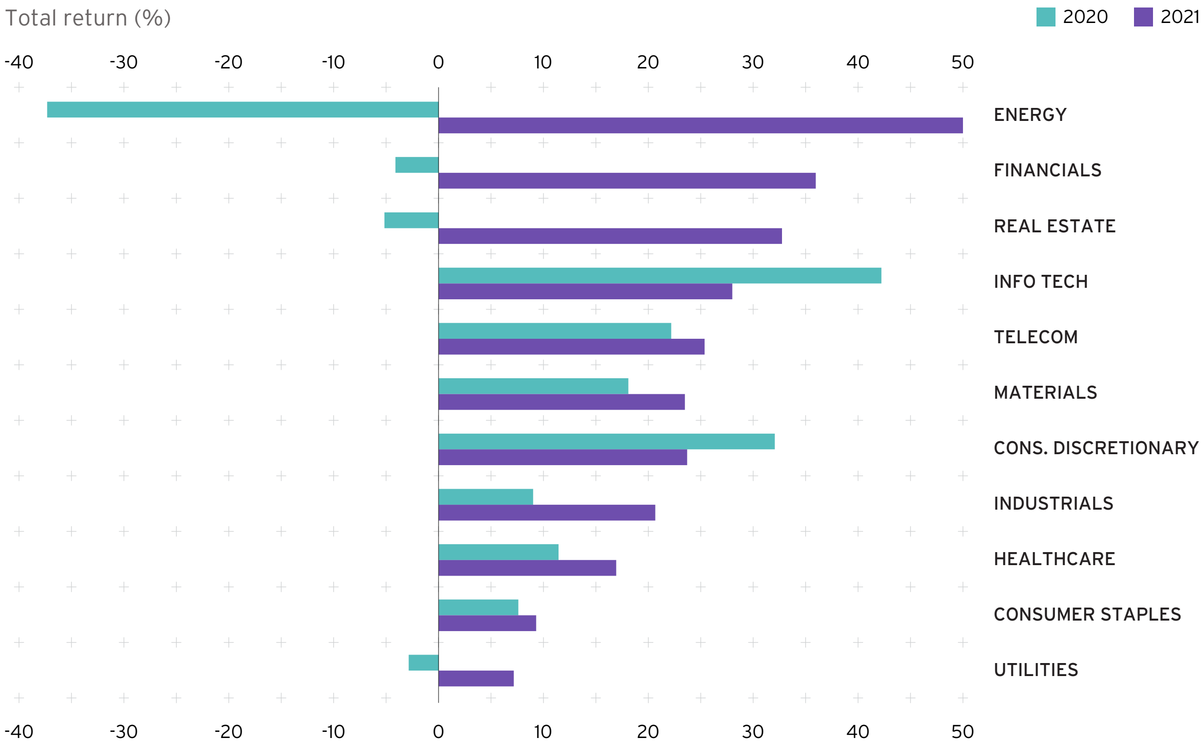
MARK MITCHELL
Co-Head of Global Equities and Director of Portfolio Research,
Citi Investment Management

Long-term leaders are often to be found among dividend growers and companies linked to unstoppable trends. It is timely to shift portfolios toward leaders as we enter the pandemic recovery's mid-cycle period.

- The equity sectors hit hardest during the pandemic were among 2021's biggest winners. Companies with weaker balance sheets in the most affected sectors provided large returns. That trend is over, in our view.
- As the economic cycle matures, history suggests that market leadership will come from higher quality companies in sectors with above-average growth prospects
- We therefore seek out long-term leaders – companies with a variety of quality characteristics
- Dividend growers and companies related to our unstoppable trends include many long-term leaders

Global equities continued to stage a powerful comeback in 2021. As the world economy reopened from shutdown conditions, sectors that had suffered worst in 2020 rebounded strongly. They included the likes of financials, real estate and energy – **FIGURE 1.** We advocated exposure to these and other "Covid cyclicals" early on in the pandemic as well as in our last edition of Outlook – see **Exploiting mean reversion.**

Figure 1: Losers of 2020 were 2021's winners



Source: Bloomberg, as of 16 Nov 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. Past performance is no guarantee of future results. Real results may vary.

A good idea

Our recommendation worked well. From the announcement of Pfizer's successful Covid vaccine in early November 2020 through October 2021, Covid cyclicals advanced by 56%, compared to 38% for global equities over the same period. From another angle, equities in firms whose publicly traded debt had the lowest credit ratings outperformed those with higher ratings by 32% over the last twelve months.

In 2022, however, we will no longer be in an environment characterized by early-cycle conditions and excess liquidity. Investors must avoid the trap of assuming that the sectors that prospered amid those conditions will continue to do so as the economic expansion matures.

A time for quality is upon us

So, what type of approach is warranted now that the early and most powerful phase of the new cycle is behind us? History suggests that the answer may lie in strategies that focus on higher quality firms with sustainable business models and a track record of returning capital to shareholders.

While such strategies have tended to underperform during early cycle recovery periods and amid waves of market euphoria, they have outperformed over the long run. Since 1995, for example, quality strategies in the US have delivered roughly 1.6% higher annualized performance than the wider equity market. What

Figure 2: Low credit rating companies have beaten high credit rating ones

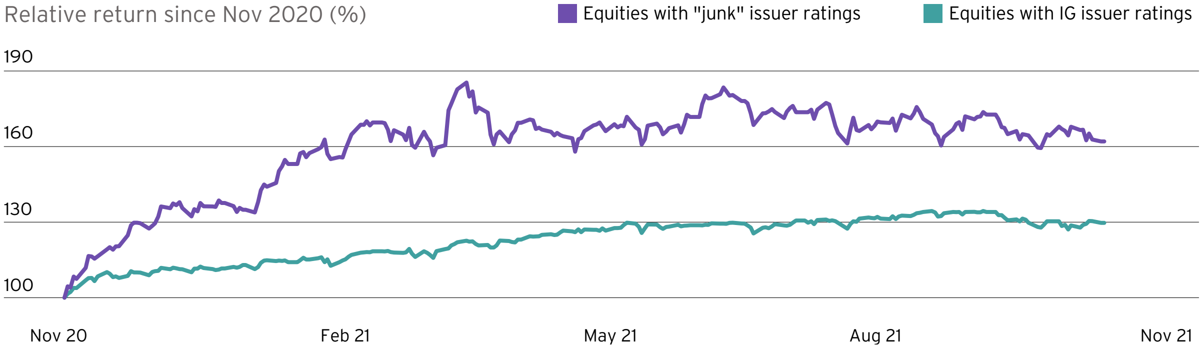
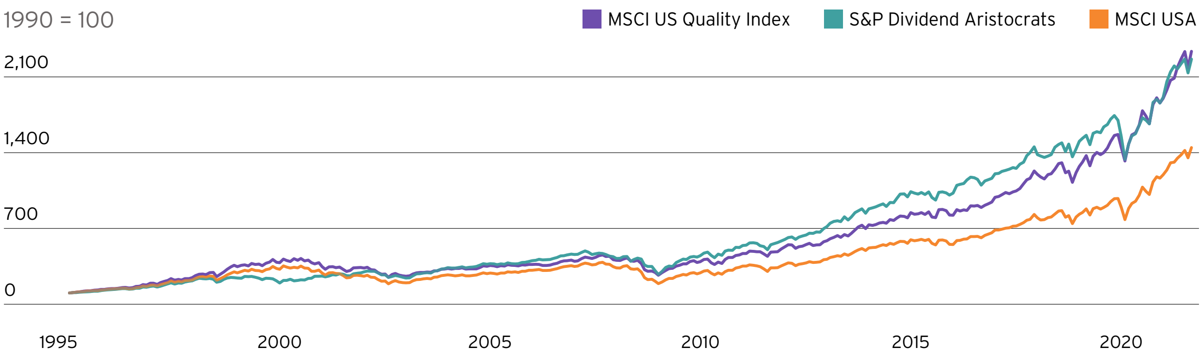


Chart shows the relative equity performance of companies with low corporate credit ratings versus those with higher ratings. Source: Bloomberg, as of 16 Nov 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Figure 3: Quality and dividend growers' long-term leadership



Source: Bloomberg, as of 16 Nov 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. Past performance is no guarantee of future results. Real results may vary. See Glossary for definitions.

is more, they have done so with lower volatility, thereby also producing superior risk-adjusted performance.

Take the last economic cycle that began in 2009 as an example. Admittedly, the circumstances were rather different to today's, given that the world was recovering from a financial crisis rather than a health crisis, but we can also identify some key similarities. Thanks to aggressive intervention from monetary authorities in developed economies and from Chinese fiscal policy, financial markets bottomed out. In early 2009, the sectors hit hardest during the recession – banks, real estate, and cyclical industrials – experienced the strongest recovery.

However, the first year of the post-GFC market recovery was no guide to what followed. Over

	QUALITY	DIVIDEND GROWERS	MSCI USA
AVG ANNUAL RETURN (%)	12.6	12.7	11.0
AVG ANNUAL VOLATILITY (%)	14.4	13.7	15.2
SHARPE RATIO	0.88	0.93	0.72

the next 11 years, the sectors propelling the market higher were largely in businesses such as e-commerce, social media, streaming, and health care, which all experienced a secular boom during the last economic cycle – **FIGURES** 4 and 5.

The qualities that make companies long-term leaders

As we shift from an early-cycle to a mid-cycle environment where returns are likely to be more modest, our quest is to identify and invest in the sort of quality growth opportunities that have the potential to outperform over the rest of the present cycle.

Investing in quality companies is not simply a top-down exercise of picking the industries likely to deliver superior earnings growth over time. Identifying quality, long-term leaders within an industry also requires considering both quantitative and qualitative factors at the firm level.

The objective of fundamental analysis is to understand the drivers of competitive advantage, focusing on how sustainable and significant the advantage is or how a company can generate higher future returns on capital.

When identifying compelling investment opportunities at the company level, it is essential to understand the underlying business fundamentals. Our focus is to find companies that are generating returns above their cost of capital or that may do so in near future. Those

Figure 4: Leaders in the first year after the Global Financial Crisis

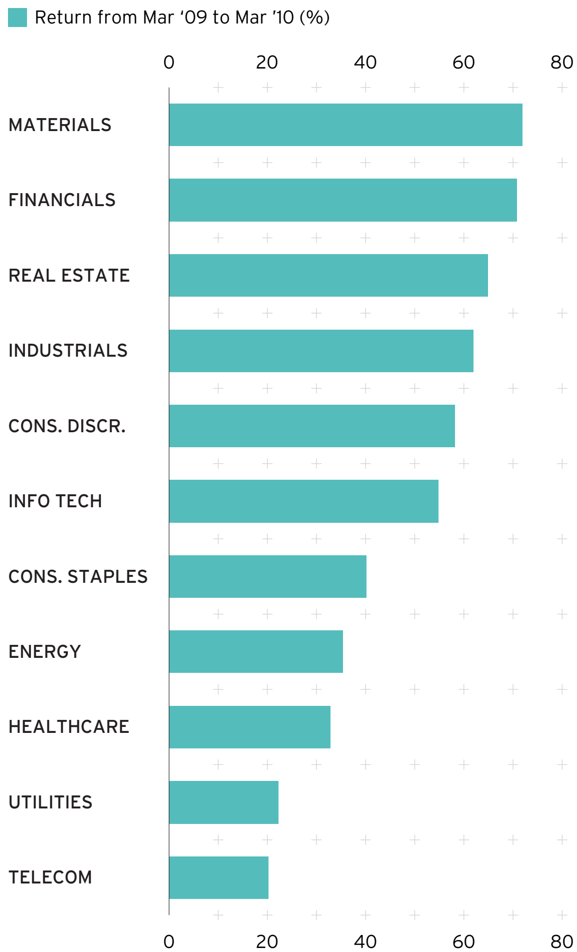
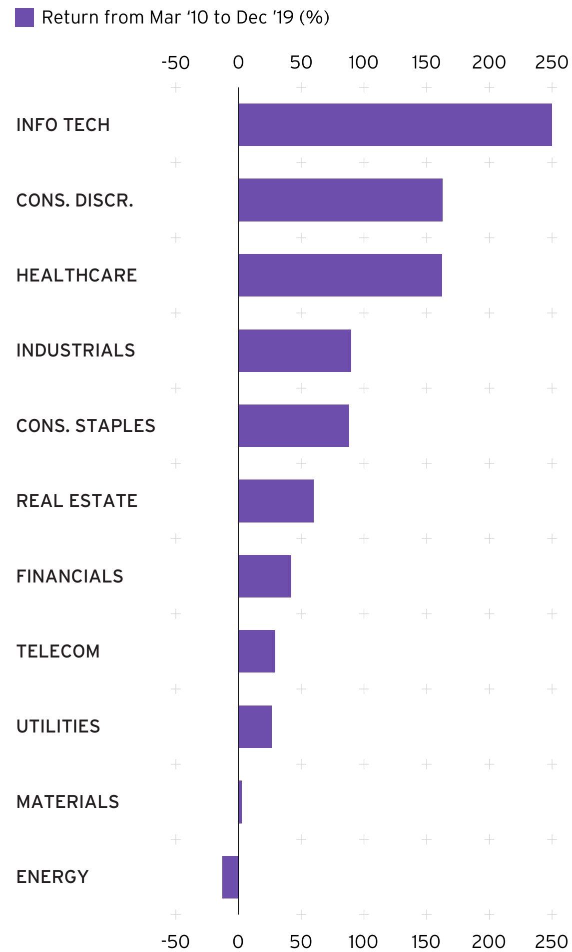


Figure 5: Leaders over the rest of the cycle



Source: Bloomberg, as of 15 Oct 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. Past performance is no guarantee of future results. Real results may vary. See Glossary for definitions.

businesses that can sustain excess returns tend express their competitive advantage.

Among the metrics we use to evaluate this is free cash flow generation. Strength here is vital to reinvesting for future growth and returning capital to shareholders by way of dividends and/or buybacks. Market share, revenue growth and profit margin trends tend to influence this cash flow generation, so we examine them closely.

We also look at companies' return on invested capital and equity. Higher returns tend to be a characteristic of firms with competitive advantages.

For dividend-paying companies, an established record of dividend growth is desirable. Such firms have historically outperformed the wider equity market. Related to this are payout ratio and debt levels, both of which companies need to manage well if they are to navigate more challenging times.

In every case, we seek reasonable valuations relative to a firm's underlying growth prospects. This provides potential mitigation of downside in the event of a market drawdown but also scope for upside if a company's business does well.

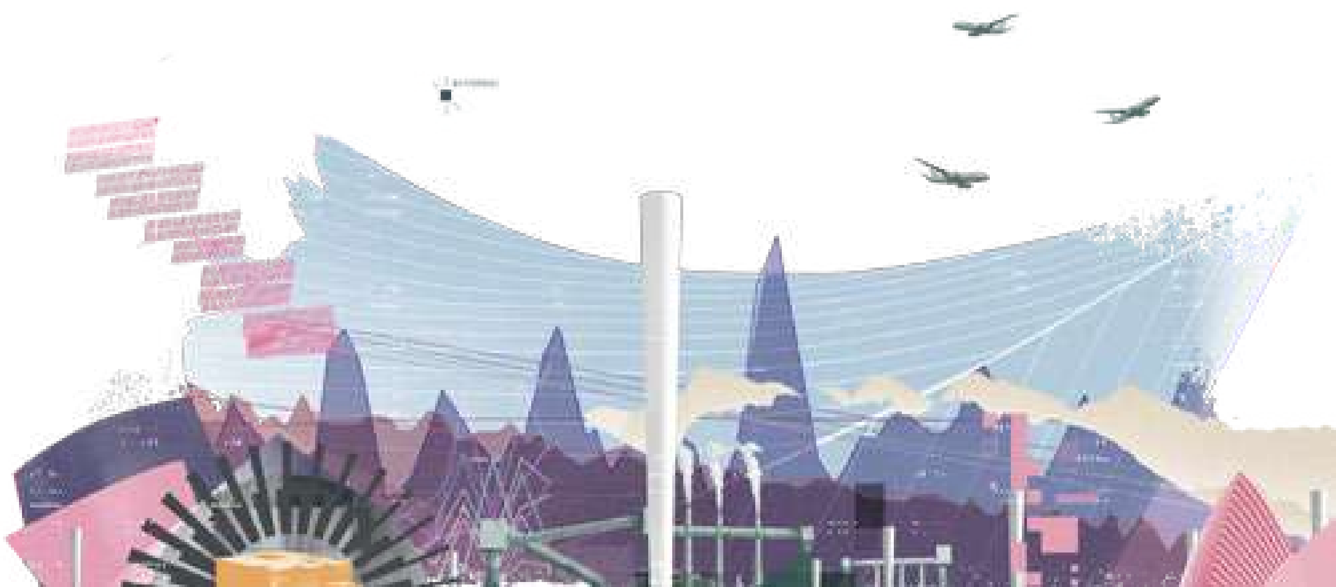
Qualitative factors also point toward quality

When researching companies, it is just as important to understand a firm's value proposition and ability to execute on its mission as it is to identify strong quantitative fundamentals. Qualitative research is about assessing factors such as management quality, future growth opportunities, strategic direction and decisions, and industry and competitive dynamics, none of which are easy to determine based solely on backward-looking financials. A favorable qualitative and fundamental view, compelling forward-looking growth prospects, along with an attractive valuation relative to a firm's growth rate are all necessary in identifying attractive long-term equity investments.

Finding potential long-term leaders

As the economic recovery continues to mature, we reiterate our call to shift allocations away from the cyclicals that led the way as markets first rebounded. In the enduring expansion that we expect, we want robust portfolio allocations to long-term leaders. We believe many potential opportunities exist among "dividend growers" – see Beat the cash thief! Why dividends matter more than ever, as well as among our Unstoppable trends. In the articles that follow, we therefore discuss some of the specific sectors we favor. To seek exposure, we favor managed and capital markets strategies that follow the selection principles we discuss above.

Are you following long-term leaders in your portfolio? We think it is timely to do so.



3 Beat the cash thief!

CONTENTS

3.1

Beating the cash thief: A primer

STEVEN WIETING - Chief Investment Strategist and Chief Economist

Negative real interest rates destroyed the purchasing power of cash and many bonds over the last year. We believe this process is set to continue and urge taking steps to help preserve portfolios.

- Real interest rates went even more negative in 2021, as inflation picked up but rates stayed low
- As a result, owners of cash and very low yielding bonds have suffered declining purchasing power
- We expect the "cash thief" to remain at large in 2022 and beyond
- To seek to preserve portfolio value in the face of this threat, we advocate a shift away from cash and certain bonds and towards income-generating assets

A prolific thief is stealthily preying on investors' wealth. Over the last year alone, its victims – the owners of cash and many bonds globally – have seen their collective purchasing power decline by trillions of dollars. The culprit? Negative real interest rates.

As the global economy has reopened, the rate of inflation in various countries has risen to highs not seen in decades. In the US, inflation reached above 6% at its 2021 peak. Broadly measured, inflation in developed economies will have been 4% for the past year.

Figure 1. Real yields went deeply negative in 2021

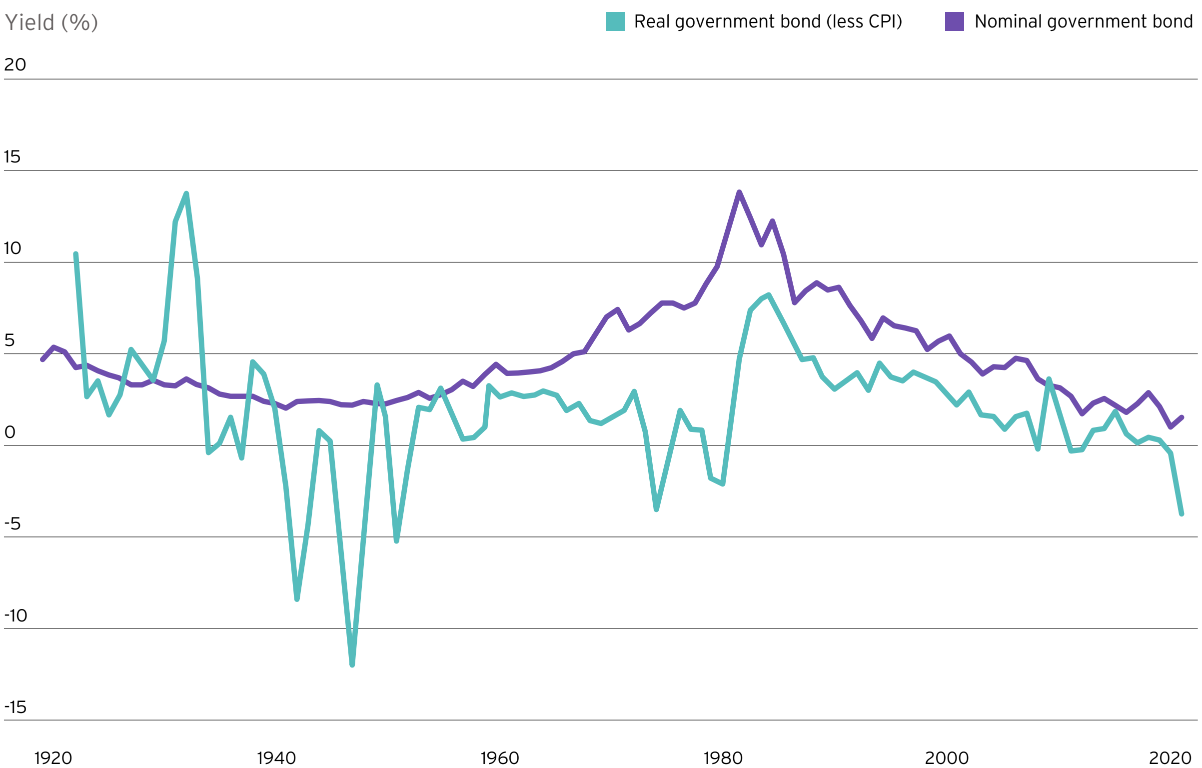


Chart shows nominal US 10–year Treasury yield and the inflation–adjusted (real) yield. Source: Bloomberg, as of 3 Nov 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

At the same time, accommodative monetary policy has seen interest rates remain close to historic lows. Nominal developed markets' government bond yields average less than 1% – **FIGURE 1**. As a result, the yield on US 10-year Treasuries after inflation has dipped to a negative 4.0%.

The portfolio pain caused by such negative real interest rates is plain to see. In the twelve months to November 2021, investors in global fixed income have suffered a loss after inflation of 6.7%. The holders of cash have suffered a loss of 5.3%. We warned of this risk and advised repositioning portfolios in our previous edition – see **Overcoming financial repression** in Outlook 2021.

More devaluation to come

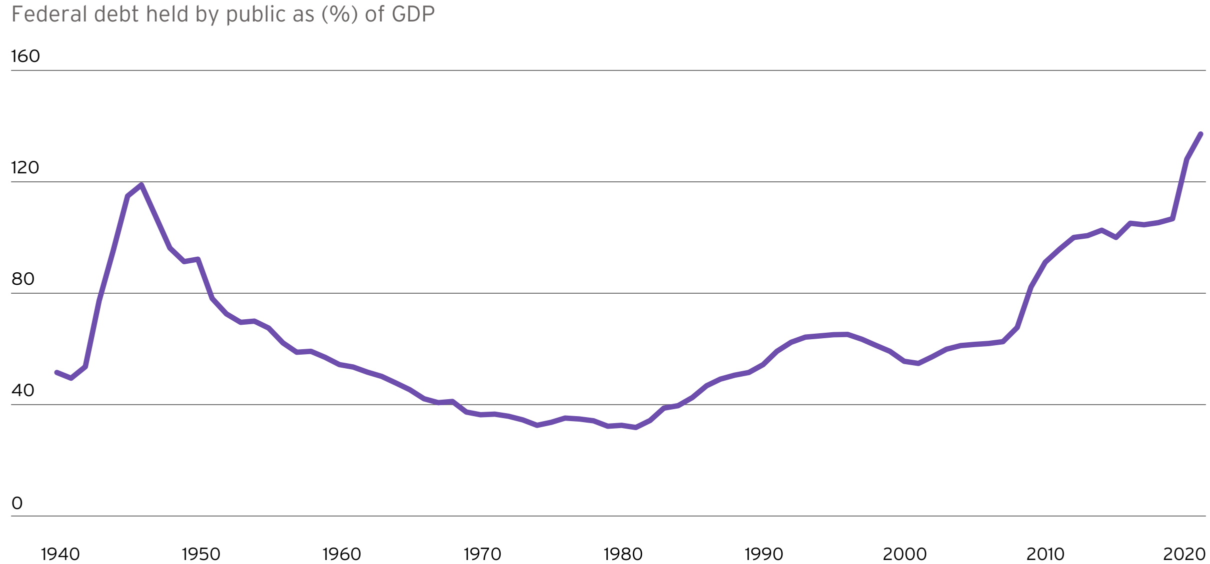
In 2022, we believe the global economy will return to greater normality after the distortions from emergency measures during the pandemic. The strong boost to growth and inflation from fiscal stimulus – largely in the form of income support for the public – will soon wear thin. Might this normalization put an end to the cash thief's spree?

In short, no. In fact, while growth and inflation may moderate next year, the enormous nominal value of the debt issued by governments to finance the pandemic stimulus is set to persist. As **FIGURE 2** shows, the US government debt-to-GDP ratio has now eclipsed the World War II high.

For holders of cash and bonds, history is not comforting in respect of what might happen next. One way of "paying" for excessive debt issuance is to underpay debt holders. In the decades after 1945, governments relieved themselves of the burden of the debts they had accumulated to fight the war by deliberately holding interest rates below the rate of inflation. In this way, they kept their financing costs low and inflated away much of the value of their large borrowings. Their gain, however, came at the direct expense of investors holding cash and many bonds.

Whether governments today do this openly or deliberately is somewhat beside the point. The sustainability of their achievements is what is critical for investors and the economy. So far, it has worked, as the Federal Reserve, European Central Bank and Bank of England have made only token efforts to normalize monetary policy. The willingness of bond investors to finance their borrowings has stayed high, as evidenced by low rates and the strength of their respective currencies against others.

Figure 2. The US debt burden is above WWII peak levels



Source: Haver, as of 3 Nov 2021.

Somewhat higher inflation for longer is bad for cash too

We do not expect the rate of inflation in 2021 to persist throughout the coming years. At the same time, though, inflationary prospects are no longer as benign as they were for much of recent decades. For example, China's entry to the World Trade Organization in 2001 led to a rapid increase in its exports of cheap goods, which had a disinflationary impact globally. But this effect is set to diminish further going forward.

That said, appropriate trade policies and transparent, competitive markets should limit upward inertia in inflation. The public's inflation pains in 2021 will also provide a bit of a counter-restraint on public policy. However, the way the combination of fiscal and monetary policy worked to limit economic damage during the pandemic will surely encourage policymakers to reach for their spending levers again in the next crisis.

We believe that central banks in developed economies are now effectively targeting a higher trend rate of inflation. As a result, we would expect measures like the US Consumer Price Index to rise about 0.5% more each year relative to the past decade, or by 2.5% per annum on average.

Despite this, yields on the highest quality bonds are much lower than they were a decade ago. The US 10-year Treasury yield is fully two percentage points below its level of 2011. Given prevailing bond yields and our expectation for inflation, we believe that bond and cash investors will likely be compensated poorly for lending their capital over the coming years. At today's prices, a US 10-year Treasury note will deliver an estimated 12% real loss of wealth in the coming decade (-1.2%

annually) compared to a 5% gain (0.5% per annum) in the past decade.

Again, there is precedent for low or negative real returns on cash and bonds persisting for long spells during the previous century – **FIGURE 3**. The era from roughly 1983 to 2008 was an exception, with real US yields averaging 3%. However, many of those who lived through some or all of this period may remain under the impression that such positive real yields was the normal state of affairs to which we will soon revert. Such thinking leaves them especially vulnerable to the cash thief.

Don't fall victim to the cash thief

Many leading institutions have little choice but to invest capital in very low yielding bond markets, even as inflation persists. Investment mandates and regulations frequently oblige them to hold a certain amount of these assets. The European and Japanese government bond markets are virtually "captive" to central bank financing. Some of these economies have both higher debt burdens than the US and less international investor interest. As individual investors, however, we are not captives in this way.

In our view, today's combination of lower yields and higher trend inflation demand different portfolio holdings and investment strategies to preserve and grow real wealth. In particular, we advise seeking to replace the portfolio income previously earned from cash and high-quality bonds with income from other sources. Such income can play a vital role in seeking to preserve and grow wealth, while potentially mitigating portfolio volatility.

Position to beat the cash thief

So, which asset classes might best preserve the purchasing power of wealth in the years ahead? **FIGURE 3** shows our strategic return estimates for the coming decade, adjusted for expected inflation. We believe global equities will produce positive real returns after inflation. After all, equities represent owning "the factors of production": the firms that produce goods and services. Unlike currencies, goods and services

Figure 3. The long-term outlook for asset classes after inflation

	REAL SRE ANNUALIZED (%)	CUMULATIVE RETURN (%)
GLOBAL EQUITY	1.7	18.4
DEV IG DEBT	-0.7	-6.8
GLOBAL HY DEBT	-0.1	-1.0
GLOBAL EM FIXED INCOME	1.1	11.6
US CASH	-1.6	-14.9
HEDGE FUNDS	1.6	17.2
PRIVATE EQUITY	9.1	138.9
PRIVATE REAL ESTATE FUNDS	6.3	84.2
COMMODITIES	-1.0	-9.6

Strategic Return Estimates (SRE) are the Private Bank's forecast of annualized returns for specific asset classes over a 10-year time horizon. Source: Private Bank Quant Research & Global Asset Allocation team. SREs for 2021; Based on data as of 31 Oct 2020; Historical returns for last 10 years as of 31 Oct 2021; Returns estimated in US dollars; All estimates are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Strategic Return Estimates are no guarantee of future performance. Past performance is no guarantee of future returns. The index composites for each asset class are described in the appendix. The real SRE deducts our estimate of the Federal Reserve's implied inflation target over a ten-year horizon from the SREs, while the inflation-adjusted return shows the cumulative 10-year estimated return. See Glossary for definitions.

cannot be printed by central banks. In aggregate, corporate revenues are earned in inflated currencies.

In our attempt to beat the cash thief, however, we do not advocate owning just any old equities. Instead, we advocate replacing some low- and negative-yielding bonds with equities that have a long track record of growing their dividend payments – see Why dividends matter more today than ever.

Despite the outlook for fixed income in aggregate, we see some potential for beating the cash thief via parts of this asset class. Emerging markets, with a few key exceptions, have run less expansive fiscal policies and lower inflation rates than the US in 2021. Their higher real yields in US dollars appear attractive to us, per FIGURE 3.

There are other select segments of fixed income and alternatives to traditional fixed income that yield positive real returns with acceptable credit risks. Investor concern with past periods of inflationary excess and external vulnerability in emerging markets keeps the developed market fixed income as the "low-risk, low return" component of asset allocation. We set out potential opportunities in The hunt for real yield is on.

Our search for real returns with an income component extends beyond traditional asset classes and strategies. For suitable investors, select hedge fund strategies may help preserve portfolios' purchasing power against the cash thief – see Alternative paths to portfolio income. We then explore how certain capital markets strategies enable equity market volatility to be converted into a valuable source of income.

In 2022 and beyond, the cash thief remains at large and a danger to wealth preservation and growth. However, there is no need to leave your portfolio as easy pickings for the coming heists. Instead of holding too much cash and low-yielding bonds, consider building a portfolio that seeks to stay one step ahead of negative real interest rates. In the articles that follow, we show you how.

3.2

Why dividends matter more today than ever

JOE FIORICA
Chief Investment Strategist and Chief Economist

MARK MITCHELL
Co-Head of Global Equities, Citi Investment Management

Negative real interest rates have increased the importance of dividends in income-seeking portfolios.

- With global dividend yields above bond yields, we believe equities can generate a greater share of portfolio income
- We favor equities in companies that have a consistent record of dividend growth over time
- Not only do these "dividend growers" offer yield, but they have frequently outperformed the broader equity market
- Among the sectors where we see clusters of dividend growers are healthcare, consumer staples and semiconductors

Negative real interest rates have taken a bite out of portfolios. Over time, many income investors have relied predominantly upon bonds to earn yield in their portfolios. But with interest rates remaining close to their historical lows, it has become increasingly difficult to generate sufficient returns after inflation from this source alone. Any attempt to beat the cash thief therefore requires us to look beyond this asset class.

While more volatile than bonds, equities can also distribute steady income in the form of dividends, in addition to their ability to deliver capital appreciation. For many decades, equity dividend yields were much lower than investment grade fixed income yields – FIGURE 1. However, that dynamic changed after the Global Financial Crisis of 2007-08, as central banks drove bond yields persistently lower. Today, equities offer a consistently higher dividend yield relative to investment-grade bonds.

In the context of a modestly higher equilibrium level of inflation going forward, the importance of dividend income in core portfolios has risen considerably.

Quality dividend growth

We think that most investors and market pundits fail to fully recognize the importance of dividends to total returns over time. Even during the past three decades – when markets have been led higher by growth-orientated equities – 52% of the total return in the S&P 500 Index has come from receiving and reinvesting dividends – FIGURE 2.

Figure 1: Equities yield more than fixed income

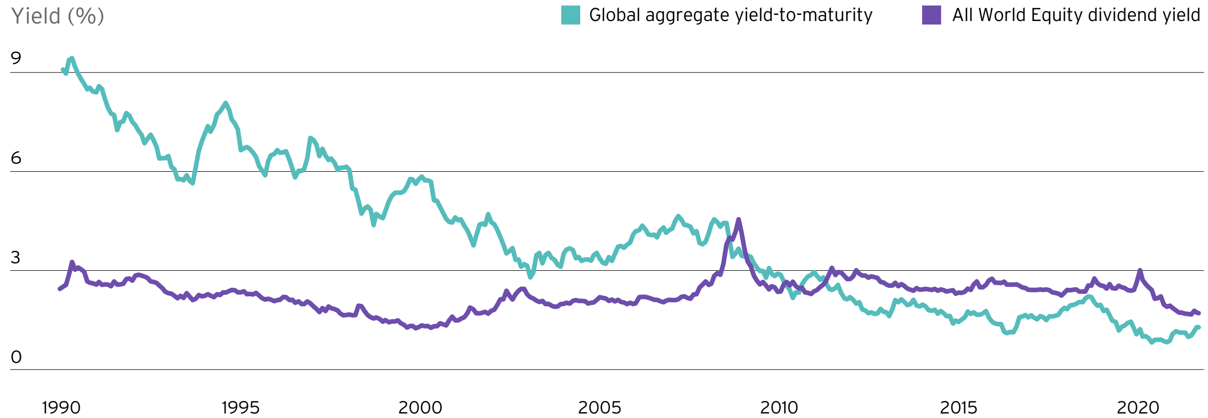
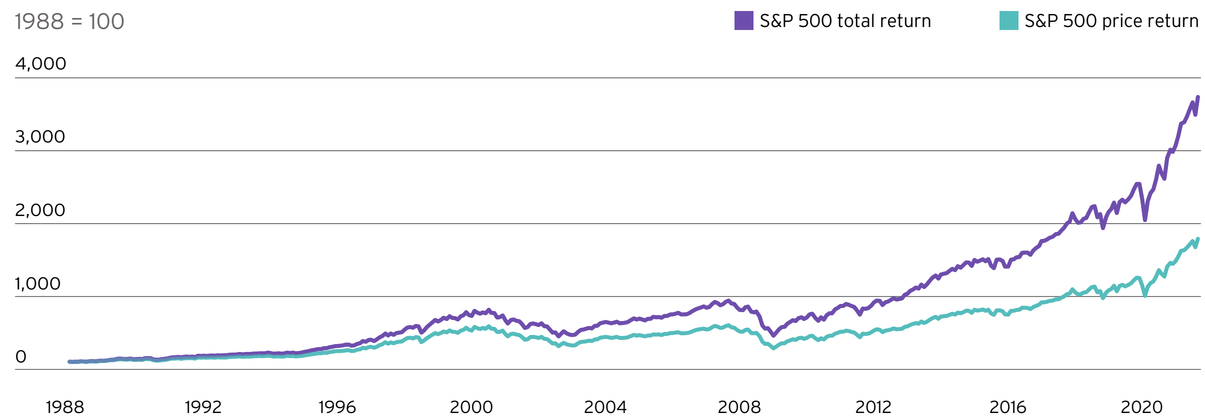


Figure 2: The power of reinvesting dividends



Source: Bloomberg, as of 16 Nov 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. Past performance is no guarantee of future results. Real results may vary.

Figure 3: US dividend growers have beaten the broader market

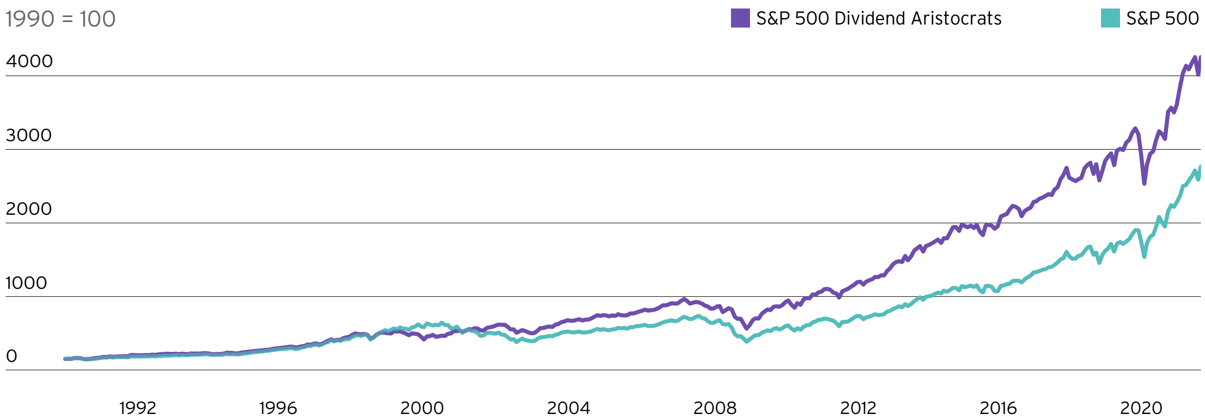
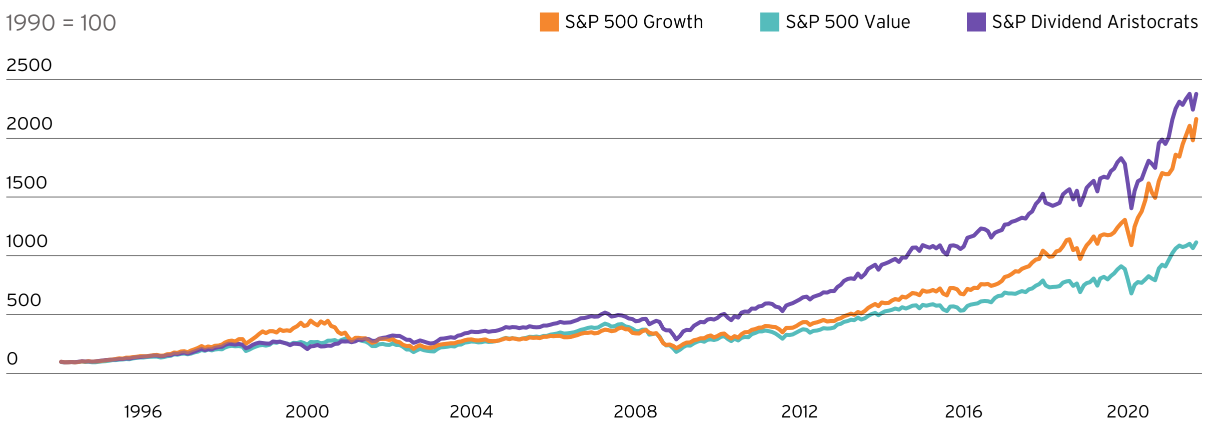


Figure 4: Dividend growers have outperformed value and growth



Source: Bloomberg, as of 16 Nov 2021. Note: S&P Dividend Aristocrats Index identifies companies that have consistently grown dividend payouts for at least 25 consecutive years. 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. Past performance is no guarantee of future results. Real results may vary.

The power of reinvesting dividends is underappreciated. Although the past is not indicative of future performance, we see a potential opportunity to seek further increased returns by investing in a select group of companies that have a long track record of growing their dividends. By consistently increasing payouts to shareholders over time – throughout recessions and expansions – such companies demonstrate their commitment to growing their profits over time. In turn, the evidence suggests that these "dividend growers" can potentially produce higher total returns.

Over the last 30 years, a strategy of investing in dividend growers has outperformed the S&P 500 Index, as well as both its value and growth indices – **FIGURES** 3 and 4. While there is less historical data for dividend growers outside the US, we believe the same strategy can outperform globally. This is because the fundamental drivers underpinning perennial dividend growers transcend any single geography or place of business.

Focus on dividend growth, not high dividend yield

The quality of dividends matters. Intuitively, companies that can consistently grow dividends tend to outperform those with unsustainably high payouts that they ultimately have to suspend or reduce. Over the last 47 years, dividend growers' outperformance of dividend "cutters" is over 3% a year, and with 30% lower volatility.

The same companies that have a record of dividend growth often exhibit moderate levels of dividend yield, payout ratios and leverage. In turn, they have tended to deliver stronger long-term performance than both higher and lower yielding alternatives.

By contrast, high dividend yield strategies often come with indicative yields more than double that of the broader market, which may seem alluring to investors. However, those higher yields denote significant risks. We find that the companies with the highest nominal yields of all actually have lower cash flow generation, lower return on equity and higher leverage. In these cases, the very high yield is a warning sign that the firms are paying out an unsustainably high proportion of profits as dividends and that investors may expect a cut.

Three sectors with sustainable dividend growth

Dividend growers can be found in many different sectors of the equity market. However, there are certain areas where we identify clusters of such firms, that we believe to be potential sources of opportunity.

Semiconductors that power an increasingly digitized world

The semiconductor sector is an underappreciated source of dividend growth. Its five-year dividend growth stands at 20.8%, versus 4.5% for equities more broadly. This is underpinned by its above-average return on equity of 25.5% versus 14%, and an operating margin of 20.5% versus 9.5%.

We believe the sector's outlook is attractive. Among its chief drivers is the unstoppable trend of **digitization**, which includes artificial intelligence, big data and cloud computing, electric vehicles (EV) and autonomous driving, sensors and robotics. All of this is leading to demand for smaller, more power-efficient and ultimately more complex semiconductors. We expect the industry will consolidate due to the increasing complexity of semiconductors and the associated cost in developing and producing such chips at scale. In our view, the management of leading companies in this sector will become more comfortable committing to regular and higher dividend payouts.

Healthcare

Aging populations globally and expansion of the middle class in Asia are two major long-term drivers of demand for healthcare. As such, a broad range of companies in this sector could enjoy consistent growth in sales over time. What is more, recent successes producing Covid-19 vaccines and Alzheimer's therapy approvals have highlighted healthcare's innovation credentials. We therefore see it as a desirable place to seek absolute and risk-adjusted performance – see Sustaining returns: Moderate growth ahead.

Many leading healthcare companies also continue to generate substantial free cash flow. This allows them to reinvest in their pipelines of new treatments, both via increased research and development spending and acquiring other companies. We believe these investments will drive the industry's next phase of growth and innovation, also enabling the continued return of capital to shareholders.

In addition to investing in their pipelines, pharmaceutical and biopharmaceutical companies use some of their cash to return to shareholders. Many bear dividend yields of above 3%.
We expect many to grow their dividends by at least mid-single digit percentage amounts annually in the years ahead.

Despite the prospects we see, many healthcare equities trade at sizeable discounts to their growth counterparts in other sectors. Concerns over possible new US regulations on drug prices and insurance are among the main reasons for this. We believe these discounts offer a further source of potential returns once concerns prove overdone.

Consumer staples with pricing power

Consumer staples companies currently yield nearly twice the average US equity market dividend, 2.5% versus 1.3%. Overall, the consumer staples sector can be something of a mixed bag when it comes to quality, sustainable business models. Nevertheless, we can identify select high quality companies that have consistently delivered revenue growth ahead of inflation thanks to their household name brands, pricing power, relatively inelastic consumer demand and competitive position over private-label store brand rivals.

We also believe that leading consumer staple businesses may benefit from a post-pandemic environment as input costs decrease and labor costs stabilize. Some will increase their focus on restructuring, leading to greater free cash flow generation. After the necessary reinvestment in technology and growth strategies, boards of these companies have elected to return the excess cash to shareholders in the form of share repurchases and dividends.

Dividends matter

Earning income in portfolios has seldom been more challenging. Nor do we see much relief in store for investors. While interest rates may rise from current levels, we do not expect them to do so by much. As such, the yields on cash and many bonds are likely to remain meager. If so, we believe dividends from equities can step up to replace some of the income no longer available from cash and bonds. We therefore believe that dividends matter greatly when constructing portfolios in the current environment.

3.3

The hunt for real yield is on

BRUCE HARRIS
Head of Global Fixed Income Strategy

KRIS XIPPOLITOS
Global Fixed Income Portfolio Strategist, Citi Investment Management

We believe positive real returns from fixed income remain achievable for properly diversified portfolios within this asset class.

- With negative real rates likely to persist in 2022, earning real returns from most fixed income investments will be challenging
- We identify specific areas within this asset class that can provide yield for income-oriented investors
- The opportunities we see include variable-rate bank loans, emerging market debt, preferred securities and US Treasury Inflation Protected Securities (TIPS)
- Investors who are holding too much cash would be wise to build more diversified portfolios that include these fixed income exposures

The pitfalls of low rates

Fixed income and cash are the primary asset classes at risk from negative real interest rates. Since we warned of the risks of this phenomenon in Outlook 2021 – see **Overcoming financial repression** – its effects have intensified. Throughout 2021, many global central banks continued to maintain near- or sub-zero policy rates, in some cases also engaging in outright purchases of government bonds.

As the pace of economic recovery has picked up, so has inflation. For fixed income investors, the results of rates deliberately restrained below a rising rate of inflation are plain to see. Intermediate-maturity US Treasuries, for example, have delivered a year-to-date total return of -2.8% as of 1 December 2021. After subtracting year-to-date headline CPI of 5.7% through October, that total "real" return is -8.5%.

A similar situation exists in the eurozone, where aggregate investment grade yields are near zero and year-to-date inflation is over 4.5%, also leading to a very negative "real" return. Indeed, negative real yields in almost every region are a global phenomenon. Those who have remained wedded to overly large allocations of certain types of fixed income have seen their wealth eroded.

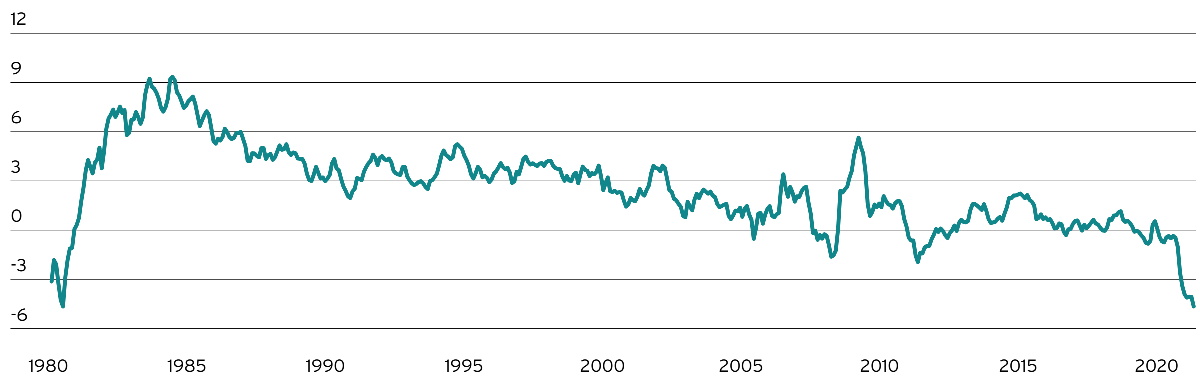
The prospects for 2022 do not look better. Admittedly, the US Federal Reserve and other central banks are now sounding more vigilant on inflation, while also wanting to sustain the economic recovery. In November, the Fed began its "taper" – a gradual reduction in its monthly $120 billion in bond purchases - which will likely

Figure 1. Tipping into negative territory

US 10-year TIPS yield (%)

Figure 2. The most repressive conditions for more than a generation

10yr US Treasury yield less CPI year-on-year (%)



Source: Haver Analytics, FactSet, as of 1 Dec 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

finish sometime near the summer of 2022. Fed Chairman Powell stated in recent comments that he would like to drop the word "transitory" to describe inflation, and that the pace of taper – currently $15bn a month – may be accelerated. That is despite the emergence of the Omicron Covid variant, which may nonetheless yet complicate the Fed's taper timing.

The Fed's policy rate, currently at 0% as of 1 December 2021, may be raised at some point after the taper is concluded. Tapering combined with expectations of a higher policy rate may lead to higher overall interest rates in the future. This could ease the current negative real yield as measured both by the TIPS yield and the 10-year US Treasury yield less annual consumer price inflation – FIGURES 1 and 2.

Poor prospects for total returns

This gradual increase in yields will be welcomed by fixed income investors. However, total returns for most types of bonds may remain challenged until rates have reset into a higher range. Which are some areas that may perform better if rates do indeed rise as we envisage?

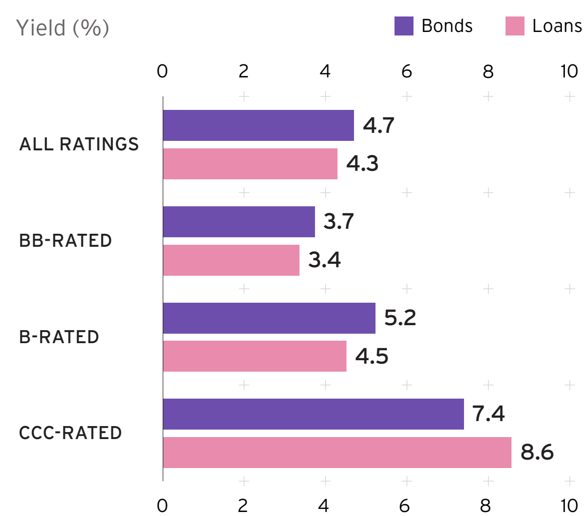
Good ideas in fixed income: Variable rate bank loans

Bank loans – also called "levered loans" since they are generally made to below-investment grade borrowers – are an interesting sub-asset class of fixed income for several reasons. First, most variable rate loans are secured by assets of the borrowing company, and therefore the loans rank as "senior" in the capital structure to unsecured borrowings such as bonds. For this reason, these loans are often described as "senior-secured."

Second, the interest rate of loans is equal to a floating-rate base rate plus a spread. Because of this feature, when central banks begin raising their policy rates, it is likely that these floating-rate bank loans will benefit from higher interest coupons. They are also considered "short duration" assets, meaning that their prices are not very sensitive to rising market interest rates even if the policy base rate is not increasing.

Finally, despite offering better collateral, loans tend to yield similar to unsecured high yield bonds. This is often because loans are made to smaller companies and, as such, are deemed riskier, although loan price movements tend to be less volatile since high yield bonds are much more liquid. This was demonstrated recently with the spike in bond yields over loan yields due to renewed Covid concerns – FIGURE 3.

Figure 3. Collateral-backed loans often have similar yields to unsecured bonds



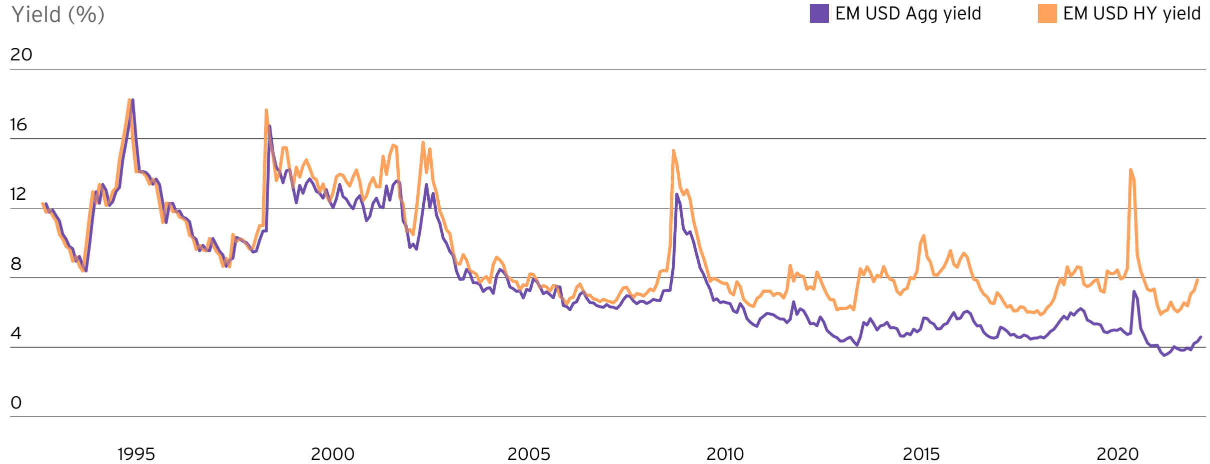
Source: Haver Analytics, FactSet, as of 1 Dec 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events. See Glossary for Bond Quality Ratings explanation.

Good ideas in fixed income: Emerging market ("EM") US dollar-denominated debt

EM debt is a very broad category of fixed income offering many potential opportunities, depending on an investor's risk profile. Broadly speaking, EM debt comes from sovereign entities such as national governments, quasi-sovereigns such as local governments and government-owned companies, and private sector companies. Within each grouping, there are investment grade (IG) and high yield (HY) issuers. And there may be potential opportunities in certain countries and segments to find value. Currently, this may include selected issuers in Asia HY due to the weakening Chinese property sector – **FIGURE 4** – which has pushed up yields. Other countries such as Brazil and Turkey also have their own idiosyncratic political issues that have increased yields. The recent emergence of the Omicron variant may also negatively impact selected EM bond yields until such time as more is known, especially in countries with very low average vaccination rates.

Both IG and HY categories potentially offer yield pick-ups over developed market indexes. For more risk-adverse investors, we would suggest a broader index encompassing sovereigns and corporates, both IG and HY. This is to reduce concentration to these idiosyncratic exposures while still potentially benefiting from the yield enhancements to the index. Most EM debt tends to be exposed to certain sectors such as energy, other commodities, consumer services and consumer durables. We believe that all these sectors will improve their credit metrics in 2022 thanks to more robust revenue. We also think many companies – especially within energy – may use their additional cashflow to continue deleveraging, thus reducing the overall supply of EM debt. Such an improvement in creditworthiness, along with a reduction in supply of EM bonds in the market, might tend to be supportive of EM bond valuations.

Figure 4. EM yield pickup potential



Source: Haver Analytics, FactSet, as of 1 Dec 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Good ideas in fixed income: Preferred securities

Preferred and hybrid preferred capital securities have return characteristics that may offer relatively higher yielding opportunities owing to their lower ranking in the capital structure. They have both investment grade and high yield ratings depending on issuer risk profile – **FIGURE 5.** Primary issuers are typically banks, insurance companies and other financial firms. Other issuers may include real estate, utility and industrial companies. There are various types of "preferred securities," and many may rank senior to equity but junior to all debt as to their claim on a borrower's assets. This type of hybrid equity can provide issuers with flexible regulatory and rating agency capital without dilution of control.

Two common types of preferred securities are $1,000 par "fixed-to-float" capital securities and the "$25 par" exchange-traded securities. Fixed-to-float securities are generally issued by banks and other financial institutions. They trade "over the counter" rather than being bought and sold on an exchange. Generally, they pay a fixed coupon until a pre-determined future call date, typically five or ten years out. When that date is reached, the borrower has the option to "call in" the security, i.e. repay it at a pre-determined price. If the borrower does not exercise the call feature, the security switches from paying a fixed coupon to paying a floating rate, generally with no maturity date. The rate paid is typically either a short-term reference rate or a specified Treasury rate plus a spread.

These types of security can be attractive for those who are comfortable with investing lower in an issuer's capital structure and who seek to add higher-yielding and potentially shorter-term instruments to their portfolios. If US Treasury rates rise in the future, it is possible that the borrower will call the bonds, repay them at par and choose not to pay higher floating rates over time.

By contrast, the $25 par securities are exchange traded under unique ticker symbols. Coupons are generally one stated fixed rate for the preferred's life – often 50 years or more – and many are perpetual. While these instruments may also be callable at the end of five or ten years, their Treasury rate exposure is different from the "fixed-to-float" securities. If rates rise in the future, the very long duration of these instruments could result in significant mark-to-market principal losses for investors. This is because it is unlikely these securities will be called and also because there is no switch to floating rate status after the call date.

Figure 5. Preferred security yields in action

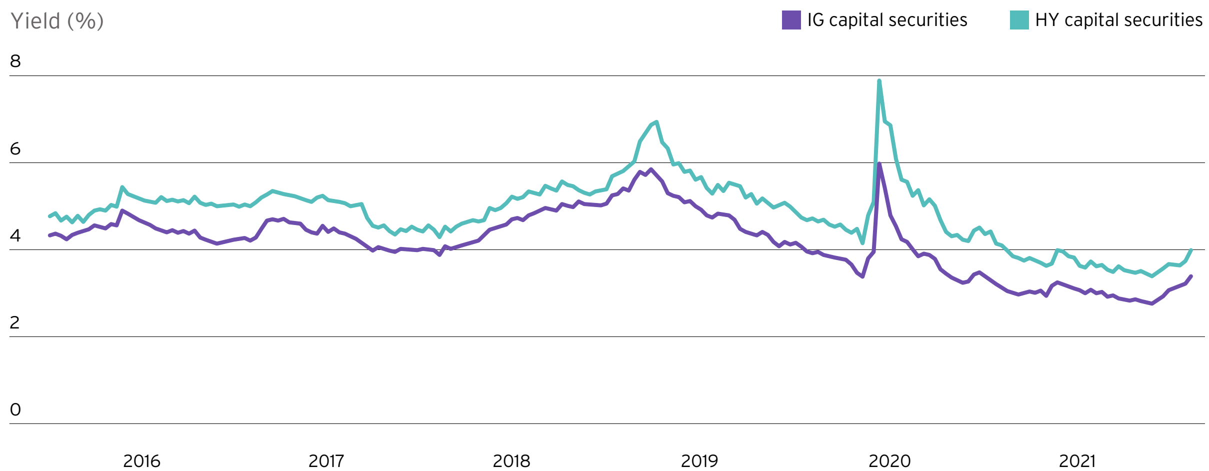


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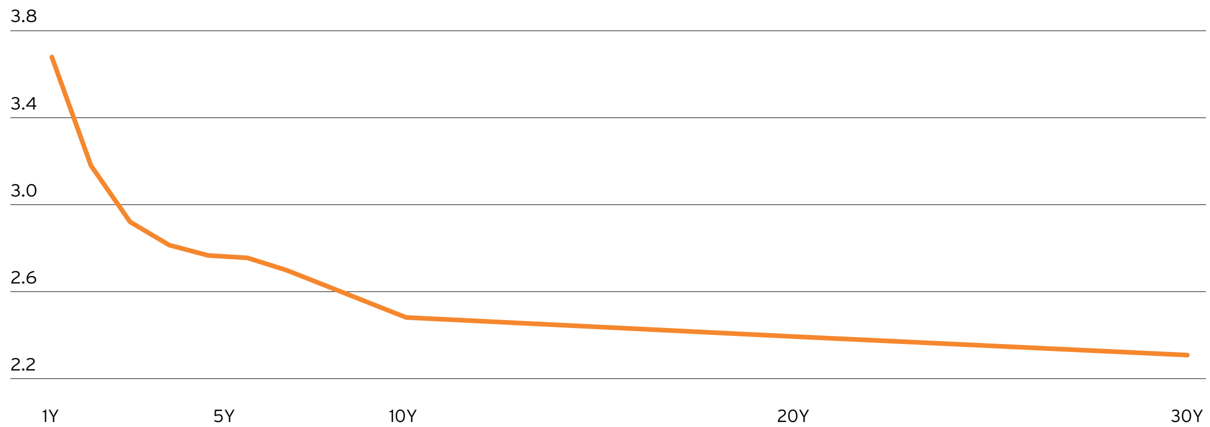
Figure 6. Market inflation expectations

US breakeven inflation curve (%)



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A wise inflation hedge: TIPS

US Treasury Inflation-Protected Inflation Securities (TIPS) are a unique instrument that pay their holders a return equal to the US headline rate of inflation, specifically based on the Consumer Price Index Urban Non-Seasonally Adjusted Index. This composite includes food and energy costs, and over the 12 months to 30 September 2021 rose by 5.3%.

Most TIPS are issued with a very small nominal coupon such as 0.10%, so their yield is derived exclusively from the monthly index reading, which is then added to the principal balance of the security and eventually paid once the security matures. Should inflation decline in any given month below zero (i.e., deflation), that amount is subtracted from the accumulated return. However, TIPS' principal balance will never drop below par.

Generally speaking, investors might wish to consider TIPS if they believe that inflation will average higher than the "breakeven inflation rate." This is the market's estimate at any point in time of the future rate of CPI inflation for a given maturity. It is calculated as the difference in yield between a normal US Treasury security's yield and the TIPS yield. However, even if investors do not have a view about inflation, adding TIPS can bring valuable diversification to a portfolio of fixed income assets. It does so by providing some element of additional return if future inflation proves higher than the market currently expects – **FIGURE 6.**

3.4

Alternative paths to portfolio income

DANIEL O'DONNELL
Global Head of Alternative Investments

MICHAEL STEIN
Global Head of Hedge Fund Research and Management

Amid repressive conditions, we believe that qualified investors should consider taking less traveled paths to fixed income yield via alternative strategies.

- Higher yielding alternative fixed income and private credit may help mitigate negative real interest rates' impact on portfolios
- These sub-asset classes typically offer higher yields than more traditional, liquid fixed income sub-sectors
- Credit hedge fund strategies have often produced positive monthly return when the wider bond market has fallen, as well as positive returns when bonds have risen
- For qualified investors, we advocate select strategies from hedge fund managers and certain registered vehicles

Fixed income ain't what it used to be. Seeking yield from most traditional bond sources has become increasingly challenging in recent years. And if interest rates rise as inflation persists, duration-sensitive assets often found in core portfolios will suffer negative real returns.

Amid this landscape, we still see certain less traveled paths to portfolio income. Specifically, we identify potential opportunities in the higher yielding alternative fixed income and private credit sub-sectors. These can be difficult to access via traditional investment strategies. But for qualified investors willing to sacrifice liquidity and assume more risk, we believe that allocating to such strategies via hedge fund managers can help mitigate the effects of negative interest rates upon portfolios.

Alternative fixed income

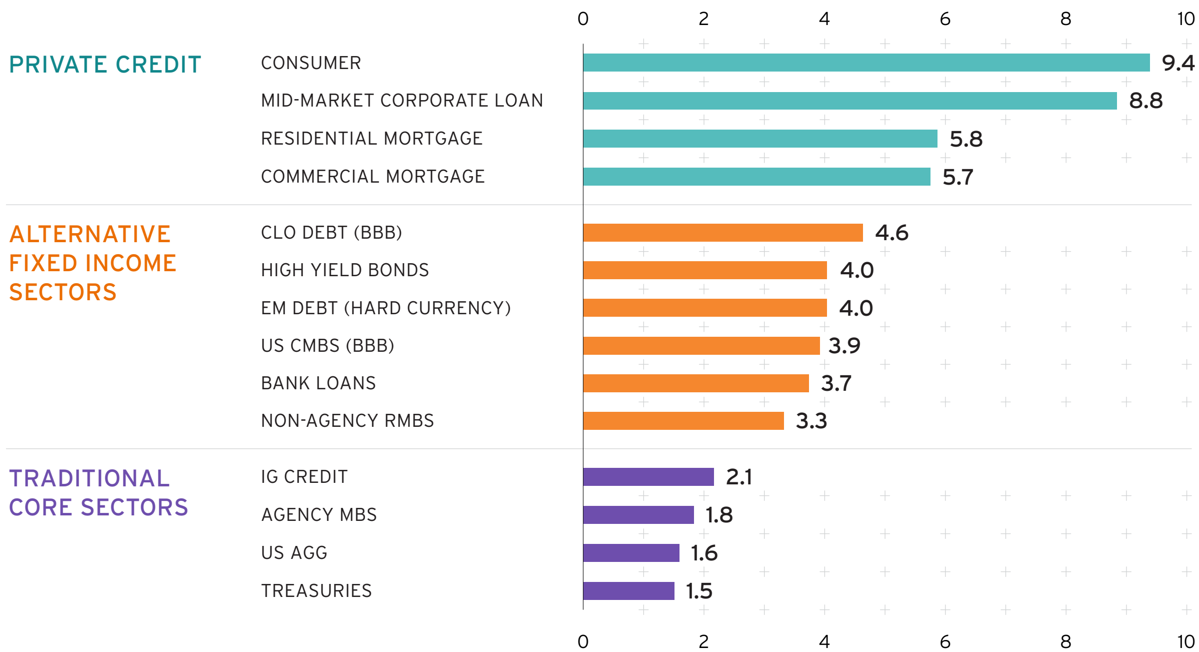
FIGURE 1 shows the yields available to investors across various sub-sectors of fixed income. The four more liquid, traditional fixed income sub-sectors on the left have yields ranging from 1.5% for US Treasuries up to just 2.2% for investment grade corporate credit. These are the fixed income sub-sectors that most commonly feature in liquid structures such as mutual funds and ETFs.

What we call "alternative fixed income sub-sectors" – the middle bars – offer potentially higher yields. These are somewhat less liquid and enable managers to seek a "complexity premium" through in-depth analysis of more credit-sensitive borrowers, potentially capturing both yield and additional capital appreciation. These areas require a deeper commitment to fundamental research and analytical tools, making for higher barriers to entry. These sectors do feature secondary trading activity, and therefore potentially offer a sweet spot on the liquidity spectrum.

We observe even higher potential yields available in private credit – the four right-hand bars. For suitable investors with fewer liquidity constraints, extending into the private markets offers additional complexity and illiquidity premiums. These investments typically entail

Figure 1. Fixed income yields by asset class subsector

Yield (%)



US CMBS (BBB) data as of 15 Oct 2021. Consumer data as of 31 Aug 2021. Mid–Market Corporate Loan data as of 30 Jun 2021. All other data as of 30 Sep 2021. Sources: Bloomberg, JP Morgan, FRED, Cliffwater, NYMT, EARN, ACRE, ARI. 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

portfolios of individually negotiated loans requiring detailed manager engagement in structuring, pricing and monitoring the assets.

Private debt capital has been replacing traditional bank lending in the corporate markets since the Global Financial Crisis. Bank market share of the primary loan market has fallen from 30% in 2009 to 11% as of end-June 2021.[1] Accordingly, private debt funds have received greater attention from investors willing to accept illiquidity in return for potentially higher yield than liquid markets offer.

For the last five years, private debt funds have raised an average of $167.4 billion annually, 5.1 times the amount raised in 2009.[2] The Cliffwater Direct Lending Index was generating a yield of 8.8% as of 30 June 2021, more than double the 4.0% for the high yield bond index.[3] Additionally, private loans are predominantly floating rate instruments. If interest rates rise in response to the recent higher inflation, private loans' payout would increase too. The ability to capture higher yields via private credit exists not only among the loans of corporate borrowers, but in areas such as commercial and residential mortgages and consumer finance.

[1] Source: S&P LCD, as of 22 Oct 2021

[2] Source: Pitchbook Global Private Debt Report 1H 2021; five years ended 31 Dec 2020

[3] Bloomberg US Corporate High Yield Bond Index, as of 30 Sep 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. Past performance is no guarantee of future results. Real results may vary.

Figure 2. Annual returns by strategy

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
CLO debt 29.7%	CLO debt 10.8%	Non-agency RMBS 6.7%	Non-agency RMBS 3.3%	High yield 17.1%	Non-agency RMBS 9.6%	US CMBS 4.6%	High yield 14.3%	High yield 7.1%	US CMBS 7.0%
Non-agency RMBS 25.9%	Non-agency RMBS 8.9%	US CMBS 6.3%	EM debt 1.3%	CLO debt 11.2%	CLO debt 8.8%	Non-agency RMBS 3.0%	EM debt 13.1%	EM debt 6.5%	Non-agency RMBS 5.2%
US CMBS 24.8%	High yield 7.4%	EM debt 4.8%	US CMBS 0.7%	Bank loans 10.2%	EM debt 8.2%	Bank loans 0.4%	US CMBS 11.3%	CLO debt 5.5%	High yield 4.5%
EM debt 17.9%	Bank loans 5.3%	CLO debt 3.4%	CLO debt 0.0%	EM debt 9.9%	US CMBS 7.9%	CLO debt -0.7%	CLO debt 8.9%	Non-agency RMBS 3.3%	Bank loans 4.4%
High yield 15.8%	US CMBS 4.0%	High yield 2.5%	Bank loans -0.7%	Non-agency RMBS 5.4%	High yield 7.5%	High yield -2.1%	Bank loans 8.6%	Bank loans 3.1%	CLO debt 4.0%
Bank loans 9.7%	EM debt -4.1%	Bank loans 1.6%	High yield -4.5%	US CMBS 3.8%	Bank loans 4.1%	EM debt -2.5%	Non-agency RMBS 5.4%	US CMBS -0.9%	EM debt -1.1%

Source: Bloomberg, Citi, JP Morgan. Data from 1 Jan 2012 to 30 Sep 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Accessing alternative sources of yield

Over time, yields and, even more importantly, total returns can vary greatly – **FIGURE 2**. Corporate high yield, for example, delivered strong returns in 2016 and 2019 and negative returns in 2015 and 2018. The average annual return across the sub-sectors from 2012 to 2020 was 6.9%. For a skilled manager who took a 10% overweight to the top-performing sub-sector and a 10% underweight to the bottom-performing sub-sector, the average annual return would have been 1% greater at 7.9% annualized, a 14.4% improvement, before any potential benefits from security selection.

Fixed income sub-sectors go through periods of outperformance and underperformance over time. One approach is to diversify intelligently across these areas. For qualified investors, we believe a good way to do this is via an allocation to alternative fixed income managers with expertise and a flexible mandate. However, diversification does not ensure against loss or guarantee profit.

Finally, in private markets, direct lending has been a consistent source of income for investors, as highlighted by the Cliffwater Direct Lending Index 10-year annualized total gross return of 9.5%.[4] These diversified yields and returns can be attractive for seeking broad exposure to credit but may also involve some cyclicality.

Given such cyclicality, we believe investors could benefit from some thematic exposure to the unstoppable trend of digitization within their fixed income allocation. Technology represents a large, growing portion of the global economy, serving diverse end markets. Tech companies typically have significant contractual revenue visibility, attractive free cash-flow margins and low fixed costs. These attributes have given them resilience through market cycles, where technology and software companies have experienced low annual default rates of 1.7% and 1.0% respectively since 1998.[5].

[4] Cliffwater Direct Lending Index, as of 30 Jun 2021

[5] S&P LCD loan data from Jan 1998 to Jun 2021

The alternative edge

We believe alternative strategies such as those from certain hedge funds may offer an attractive way to access alternative and private credit sub-sectors. They can typically allocate across fixed income sub-sectors in an unconstrained manner, also having the liquidity to invest opportunistically at times of market stress.

Figure 3. Credit hedge funds' returns during up and down periods for bonds

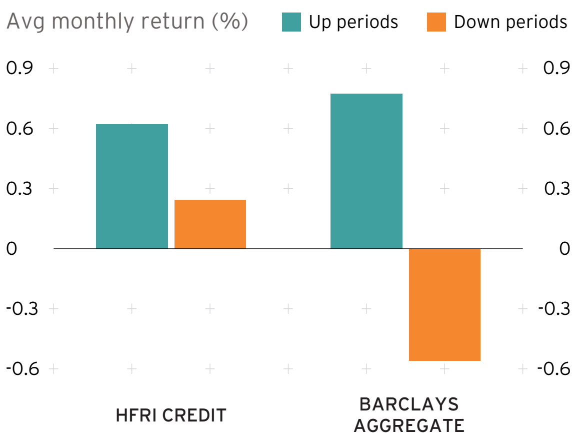
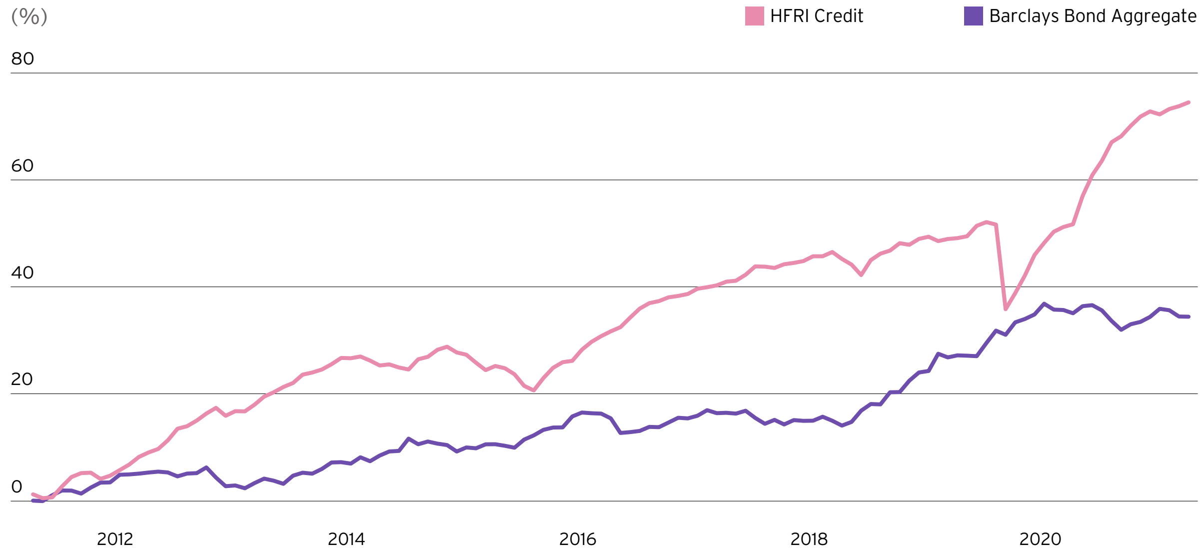


Chart shows credit hedge funds as measured by the HFRI Credit Index, Barclays Aggregate Bond Index Data from 1 Oct 2011 to 30 Sep 2021. Sources: HFR, Bloomberg. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Figure 4. Credit hedge funds have beaten the bond market



Sources: HFR, Bloomberg. Data from 1 Oct 2011 to 30 Sep 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Credit-oriented hedge funds that focus on these sub-sectors have produced positive returns irrespective of the direction of interest rates and the performance of traditional fixed income indices – **FIGURE 3.** Hedge funds' positive returns in both up- and down-periods for traditional fixed income have resulted in long-term outperformance – **FIGURE 4.**

From a structural perspective, it is worth noting that these strategies are not only available through typical private placement offerings. They can also be accessed through registered products such as semi-liquid private business development countries (BDCs) and interval funds. This democratization of alternatives via newer registered structures may mitigate some of the illiquidity, particularly in private credit markets, and allow access at even lower minimum investments.

3.5

Seek to turn Covid's higher market volatility into higher yields

IAIN ARMITAGE
Global Head of Capital Markets and Deputy Head of Citi Global Wealth Investments

Equity volatility has been structurally higher during the pandemic than before. Certain capital markets strategies enable this to be converted into a valuable source of income.

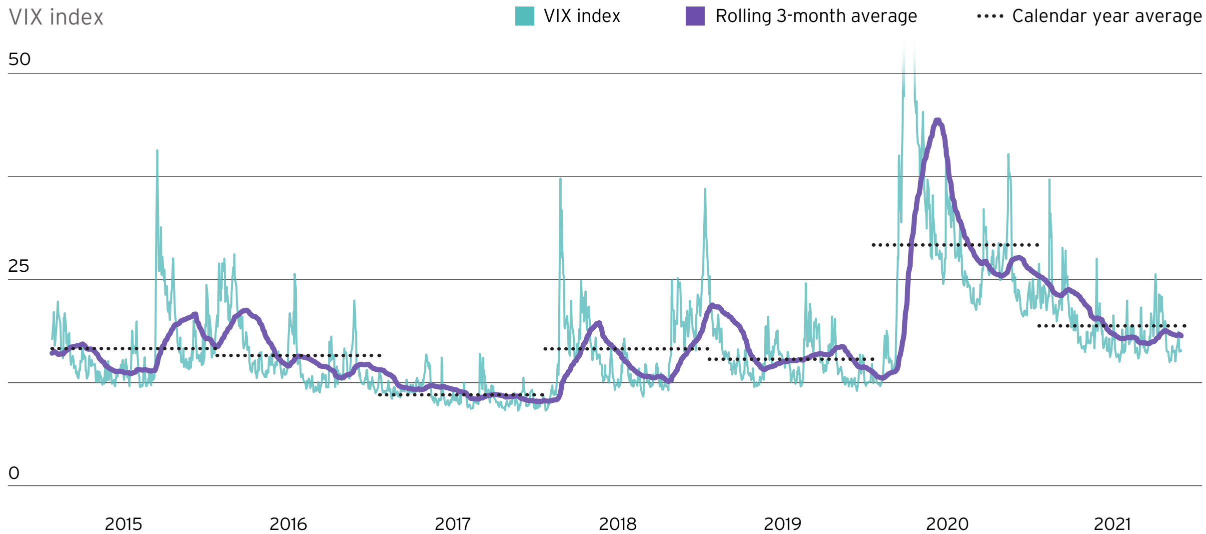
- While equities have recovered from their Covid lows, volatility has persisted above pre-pandemic levels
- Such higher volatility can potentially provide an income stream to suitable investors
- For investors reluctant to deploy cash into equities, such income-seeking strategies may also enable buying after a substantial pullback
- Amid present conditions, we think "getting paid to wait" is preferable to negative real returns on cash

The waves of the pandemic continue to linger in very tangible and often tragic ways. The winter of 2021 is seeing a new normal with cases of Covid rising globally. The Omicron variant is fueling further uncertainties at precisely the same time.

While financial markets have broadly refocused on more fundamental drivers such as geopolitics, company earnings and monetary policy, Covid has clearly created sustained higher levels of market volatility. In the five years prior to the pandemic, the VIX – an option-market implied estimate of the S&P 500 Index's expected volatility – averaged 15.1%. The turmoil of 2020 saw this measure peak at 82.7% and average 29.3% over the year.

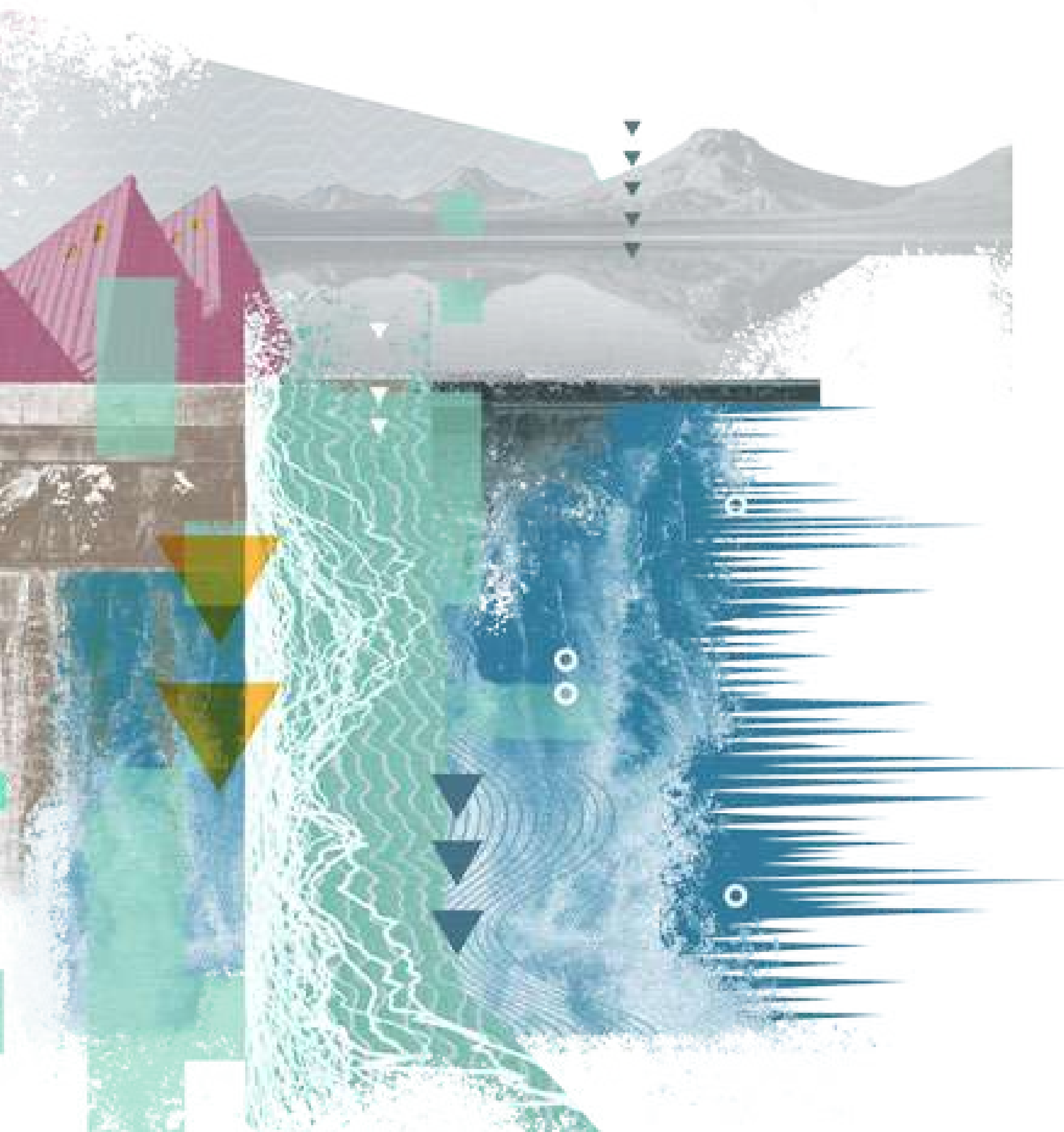
In 2021, the VIX has returned to more subdued levels. However, its average reading has settled at a structurally higher level of 19.8% in the year to date, nearly one-third higher than its pre-pandemic level – **FIGURE 1.** Implied volatility followed a similar pattern in the early years of the last economic recovery, creating a favorable risk-reward set-up for investors. Today, we believe that those who are hungry for portfolio income can likewise seek to extract more value from the market than was available prior to the pandemic.

Figure 1. Volatility persists above pre-Covid levels



Source: Bloomberg, as of 30 Nov 2020. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Some investors see equity markets as fully valued and hesitate to deploy further cash for now. Instead, they are sitting on the sidelines in the hope of "buying the dip," when and if that comes. Today's environment of negative real rates means that such investors suffer a loss of purchasing power on their cash while they wait. The longer they do so, the greater the potential erosion they face.



We therefore believe a more compelling strategy is to receive an income from the market in the meantime, effectively "getting paid to wait", before possibly buying into the equity market at lower levels. An equity market substantially below today's levels represents a price at which many currently reluctant investors would surely feel happier buying.

Of course, "getting paid to wait" strategies do come with risks. Prior to investing in these strategies, an investor should ascertain if they are consistent with their investment objectives and risk tolerance.

Still, our analysis suggests that such strategies can add to portfolio income potential without increasing overall risk.

Over the coming decade, our strategic asset allocation methodology points to lower returns in equities and fixed income than in the decade past – see The long-term return outlook for asset classes has changed. As such, we believe that putting capital to work in "getting paid to wait" strategies rather than sitting in zero-yielding cash seems a highly competitive portfolio addition.

4 Unstoppable trends

CONTENTS

4.1

Cyber security: Protecting the internet's critical infrastructure

JOE FIORICA - Global Head of Equity Strategy

Cybercrime continues to intensify. Large-scale spending on cyber security is therefore both vital and likely to accelerate, presenting a potential opportunity for investors.

- Stealing data and ransoming businesses whose networks are vulnerable is becoming its own major industry
- In this environment, ongoing expenditure on cyber security is not discretionary but essential to help mitigate risk and protect vital corporate and personal assets
- We thus expect potential growth for the cyber security sector over the coming years
- Companies that help protect cloud computing and the "internet of things" are among the major beneficiaries

The long-term viability of digitization rests upon cyber security. Companies, consumers and society at large require their data to be protected from malicious actors. The expenditure involved in securing it is not discretionary but an integral cost of doing business. As a result, we expect cyber security providers to experience continuing potential growth over the coming years and beyond. We thus believe investors should consider installing cyber security within their portfolios while keeping their allocations regularly updated according to their specific needs.

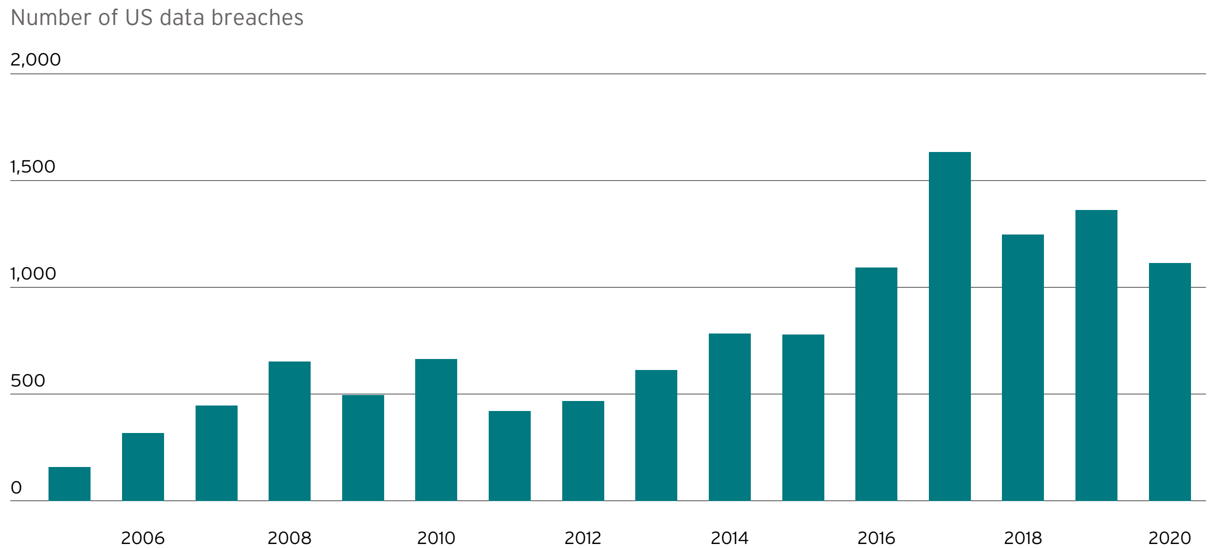
Cyber security's role in protecting a huge part of the economy

The digital economy is large and growing fast. To take just one measure of activity, global e-commerce reached $26.7 trillion in 2020.[1] Integral to this ongoing digital revolution is a massive increase in the flow of data. In 2022, global internet protocol traffic is expected to exceed all internet traffic up to 2016.[2] These trends are likely to provide an ongoing productivity boost to businesses while making our lives as consumers more convenient and enjoyable. Unfortunately, the rise of digitization presents a range of attractive opportunities for cybercriminals.

[1,2] Measuring e-commerce and the digital economy, UNCTAD, 2020: https://unctad.org/topic/ecommerce-and-digital-economy/measuring-ecommerce-digital-economy

[3] cybersecurityventures.com/cybercrime-damages-6-trillion-by-2021/

Figure 1. Data breaches rising over time



Source: Bloomberg, as of 17 Jun 2021.

The business of cybercrime

The theft of data and assets online now represents a major economic threat. According to Cyber Ventures, a cyber research organization, the annual impact of cybercrime is already around $6 trillion and could reach $10.5 trillion by 2025.[3] There were over 1,100 data breaches in the US alone last year, up from below 500 in 2012 – **FIGURE 1**. In one incident, hackers carried out a highly sophisticated attack on a US technology company, whose clients include the US government and various major companies. In May 2021, the Colonial Pipeline, a fuel network in the Southwestern US, was disrupted for several days after a ransomware attack on the software behind it. The problems can be even more acute outside the US and particularly in emerging economies, where technology ecosystems are often less secure.

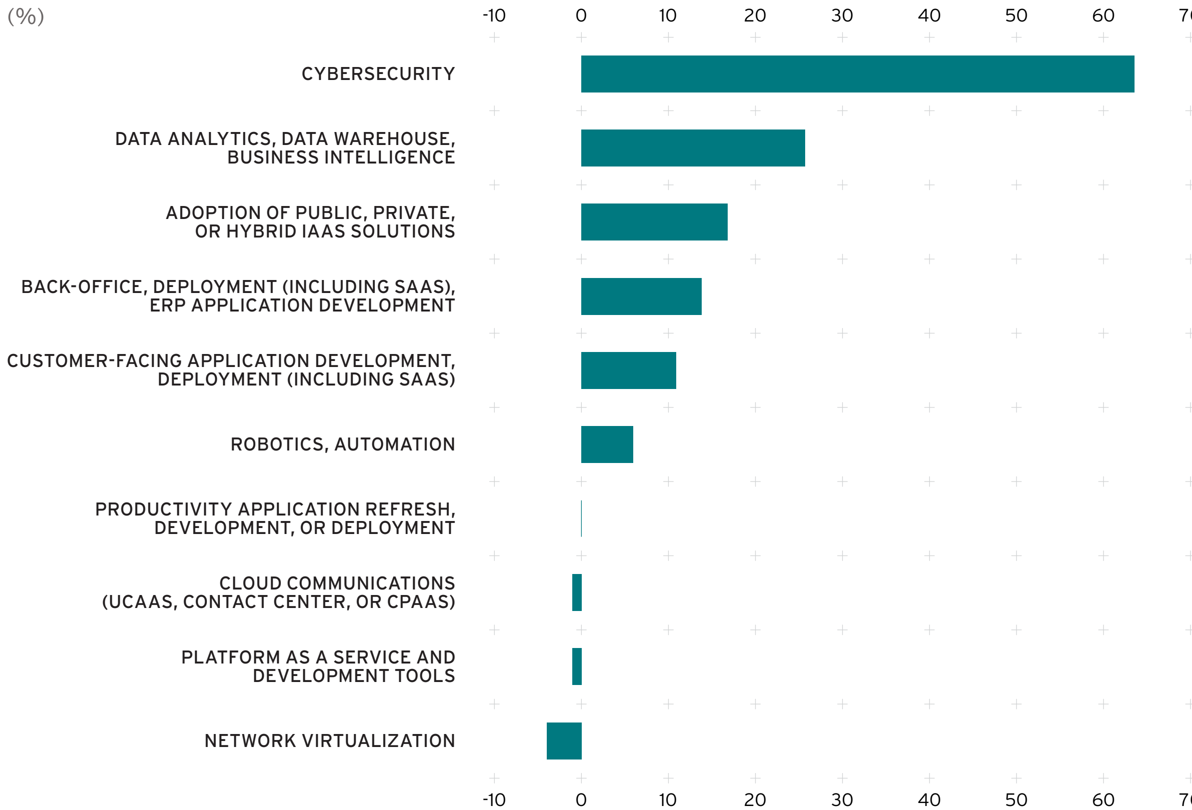
The costs of cybercrime extend far beyond the value of what is stolen. For companies that fall victim, there is often reputational damage, which harms their ongoing business. Increasingly, they may also face regulatory sanctions if they are found not to have adequately protected others' data. Cyberattacks that target vital infrastructure have the potential to cause widespread disruption to other businesses and even economy-wide harm. And national security and human life is at threat when hackers target government and other highly sensitive data systems.

Defending digital assets and data is an unstoppable trend

We believe that the digital revolution is set to continue for decades. As the rollout of fifth generation (5G) mobile technology continues, we expect a vast increase in the number of devices connected to the internet – see Unstoppable trends - 5G and beyond: The connection to our future. This will also result in an unprecedented increase in the amount of data generated - **FIGURE 3** – much of which will be stored on "cloud" facilities. Artificial intelligence can then analyze the data, leading to even more responsive goods, services and processes. As with any other valuable resource, all this data will need to be protected against increasingly brazen and sophisticated attempts to compromise it. The need for greater cyber security thus represents an unstoppable trend.

As a result, global expenditure on cyber security could reach $269bn by 2026, up from $187bn in 2021.[4] A recent survey of companies' chief

Figure 2. Top CIO investment priorities



Source: Citi Research, as of Oct 2021.

[4] Forbes, as of Apr 2020

Figure 3. Data generation is growing rapidly

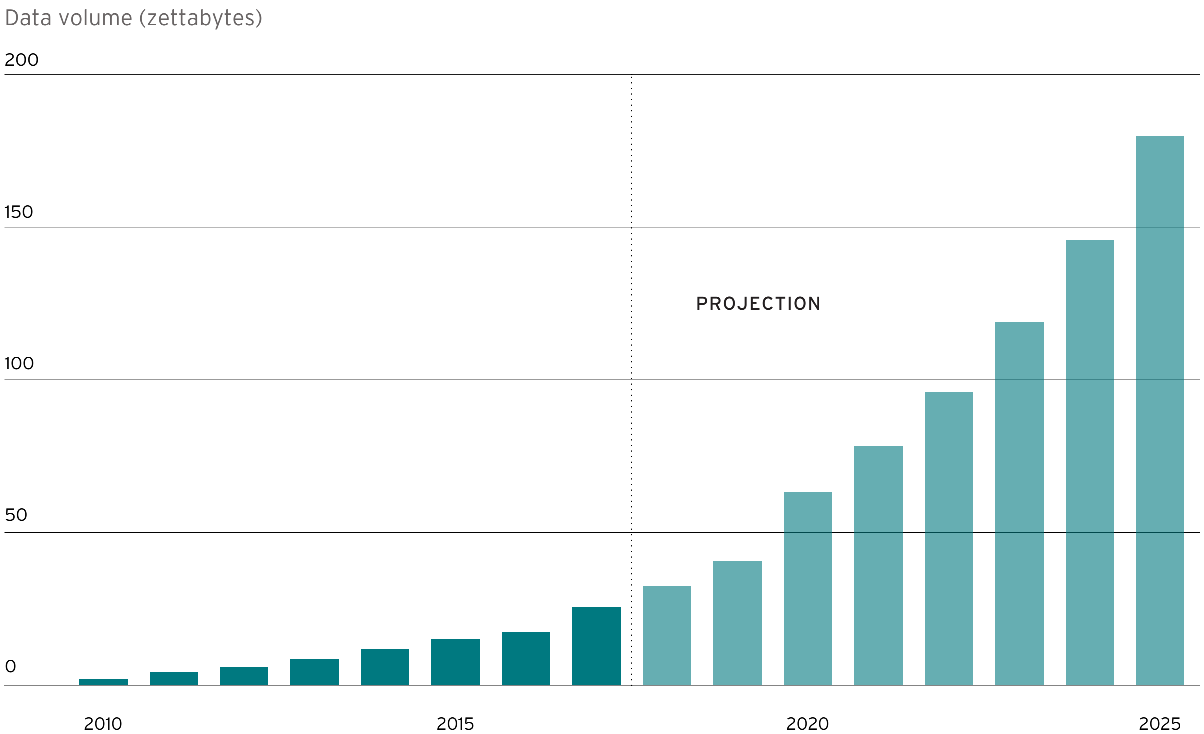


Chart shows global volume of data/information created, captured, copied and consumed from 2010 to 2025 (in zettabytes). Source: Statista, as of Jun 2021. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

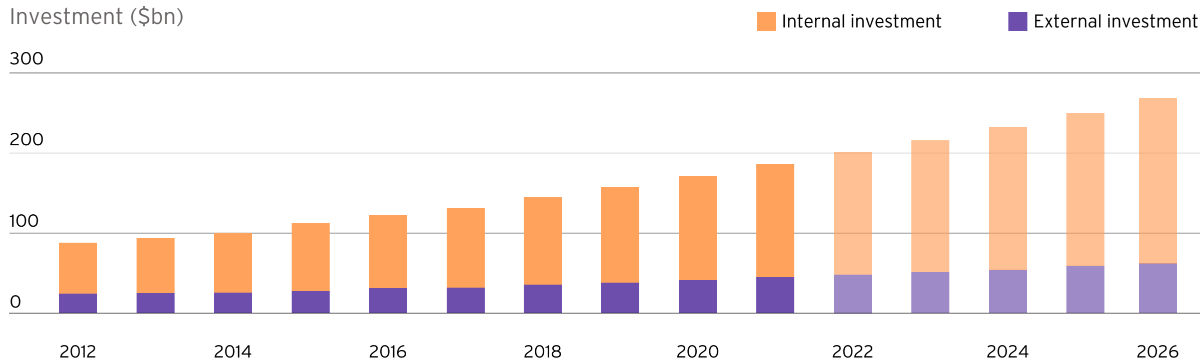
information officers in the US – **FIGURE 2** – revealed that cyber security was their number one priority for investment. The majority of their incremental spending is likely to go to specialized external cyber security providers rather than to companies' in-house teams – **FIGURE 4**. We believe such specialists have the expertise to provide scalable solutions.

Installing cyber security in your portfolio

Cyber security firms have delivered steady top- and bottom-line growth over the past five years, including through the 2020 pandemic, as our lives became even more digital amid lockdowns and social distancing – **FIGURE 5**. The sector – as measured by the Nasdaq Cyber Security Index – has delivered 6% revenue growth in 2021 with expectations of 7.7% in 2022. Cyber security year-over-year growth has been much more stable than those of the broader technology space – **FIGURE 5**.

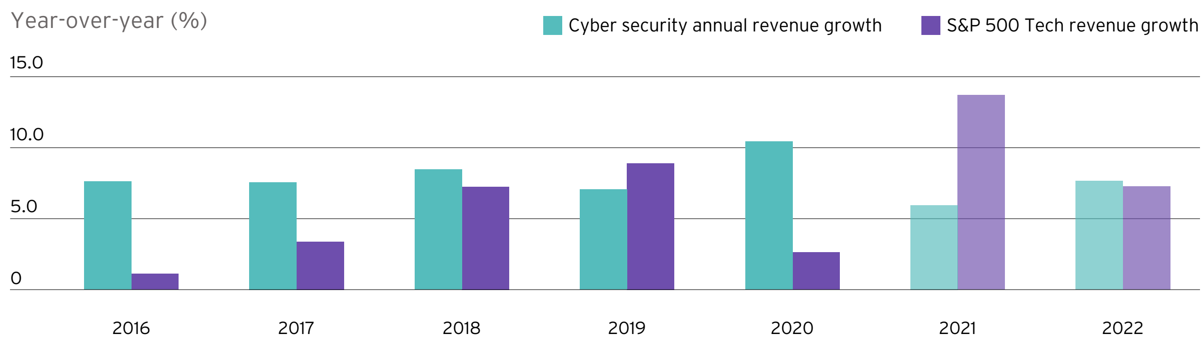
While we believe the outlook for cyber security overall is bright, we are especially attracted to certain potential beneficiaries of increasing expenditure in this area. Among these are firms focused upon cloud security, given the pressing need to protect newly created data. We are also drawn to firms that help secure the "internet of things" (IoT), the many billions of items including household appliances and industrial machinery that will soon be embedded with sensors and connected to the internet via 5G technology.

Figure 4. Projected global investment in cyber security



Source: Forbes, as of 18 Jun 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.

Figure 5. Faster growth than tech as a whole



Cyber security is proxied by the Prime Cyber Defense Index. Source: Forbes, Accenture, as of 17 Jun 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. See Glossary for definitions.

4.2

5G and beyond: The connection to our future

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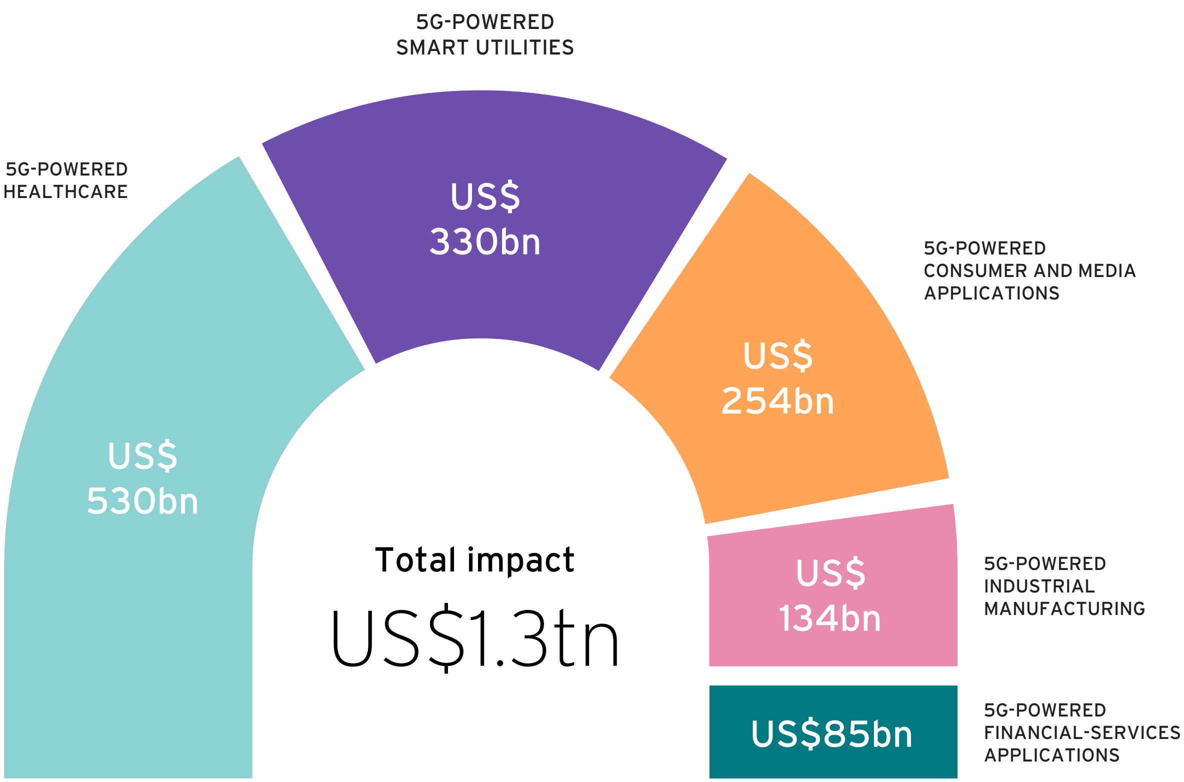
The rollout of 5G technology enables a step change in digitization through businesses and in our lives. We recommend investment exposure to beneficiaries of a ubiquitous Internet.

- The rollout of fifth generation (5G) wireless data networks is now well underway in many countries
- 5G's higher speeds and low latency enables a huge array of new activities that were previously impossible
- 5G – and eventually the still-fledgling 6G and satellite-based internet technologies – will connect billions of devices for the first time ever
- Data is becoming the new "oil" - a vast increase in data will lead to greater economic activity and efficiency, while increasing the value of artificial intelligence
- We seek investment exposure to this unstoppable trend via 5G-related real estate and beneficiaries including artificial intelligence, telemedicine and autonomous vehicles

Across much of the world, 2021 was a year of reunion and reconnection. Though we face an extended pandemic as we begin 2022, the adoption of digital everything has mitigated our isolation and improved our efficiency. 2021 saw significant advances in digital connectivity.

The rollout of fifth generation or "5G" wireless technology ramped up. The number of cities globally with 5G coverage leapt by some 350% year-on-year to over 1,336.[1] Download speeds in some of the first places to have embraced the standard are accelerating. By 2025, one-third of the world's population is likely to have 5G coverage, according to telecom industry consortium GSMA.

Figure 1. 5G's boost to global GDP by industry by 2030



Source: PwC, as of Oct 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.

The benefits of 5G are material

We believe the ongoing rollout of 5G - and the promise of even faster and more reliable connections in the race to develop 6G - could have far reaching impacts on business and everyday life. Whereas previous generations of wireless technology have mainly helped connect people to one another and to their devices, the Internet of the Future is set to do much more. This could include unleashing important advances in artificial intelligence, cloud computing, robotics and the Internet of Things (IoT). 5G and its descendants will not only enhance connections between people but also create new networks between devices that were never previously linked.

The 5G difference

5G networks promise to provide connectivity 10 times faster and much more reliable than 4G, although maximum speeds are only likely to be available in dense urban centers. The higher ranges offered by lower band 5G, and eventually satellite wireless technologies being developed by several major tech companies, could provide internet access to hundreds of millions of people worldwide for the first time, particularly in rural locations and in emerging markets. While most

[1] https://www.viavisolutions.com/en-uk/news-releases/command-5g-network-5g-roll-outs-more-tripled-2020-reach-1336-cities-worldwide-according-viavi-report

residences in rich urban centers rely on wired connections for internet in their homes, we see 5G's speeds and reliability as likely to enable "fixed wireless broadband," a much cheaper and less capital-intensive solution than running fiber into every home.

The combination of high speed and low downtime should also allow many more industrial, urban and household functions to be reliably connected and automated. The future of Internet holds the promise of a ubiquitous, connected world and has the potential to enable the next step change in both the digitization of business and the home, as well as the coming evolution of mobility. Today, only 1% of all data collected is analyzed. This is expected to rise to 37% in the coming years as better networks and more robust software allows for near real-time analysis.[2]

[2] Cisco, white paper, Cisco Visual Networking Index: Forecast and Trends 2017–2022

Figure 2: The developing world's digital catch-up potential

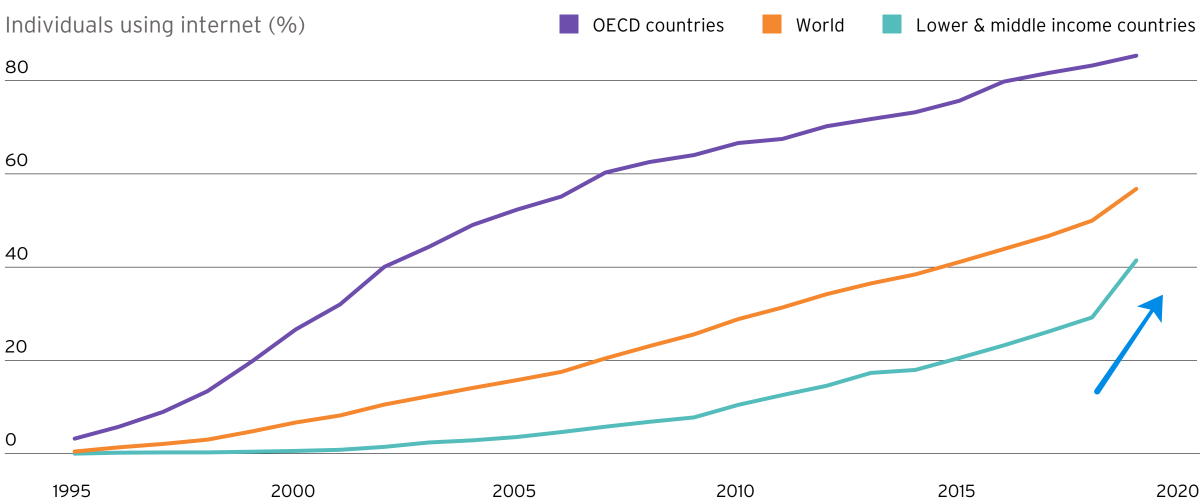


Chart shows global internet usage among wealthy, middle and lower income countries. OECD is the Organisation for Economic Co-operation and Development, consisting of 38 nations. Lower middle–income economies are those with a GNI per capita between $1,046 and $4,095. Source: Haver, as of 15 Oct 2021. See Glossary for definitions.

5G drives efficiency and productivity

We believe that this will lead to a virtuous cycle of efficiency improvements across many areas of the economy, helping to boost productivity and combat the negative consequences of aging populations. In the same way that smartphones have changed our daily lives over the past 15 years, we believe the combination of 5G and ubiquitous technology will lead to similarly dramatic change in the decades to come, with far-reaching ramifications for factories, cities, education, logistics, homes and healthcare facilities.

For investors, there is a wide range of possibilities for getting exposure to the unstoppable trend of ever-greater connectedness. These can include firms directly involved in providing 5G services and devices, although for some the 5G rollout will require significant up-front investment. We therefore believe the most compelling long-run investment opportunity in this space focuses upon likely beneficiaries of 5G and a ubiquitous internet, including newer businesses and industries whose development essentially depends on this technology. Here, we set out some of the potential opportunities that we identify.

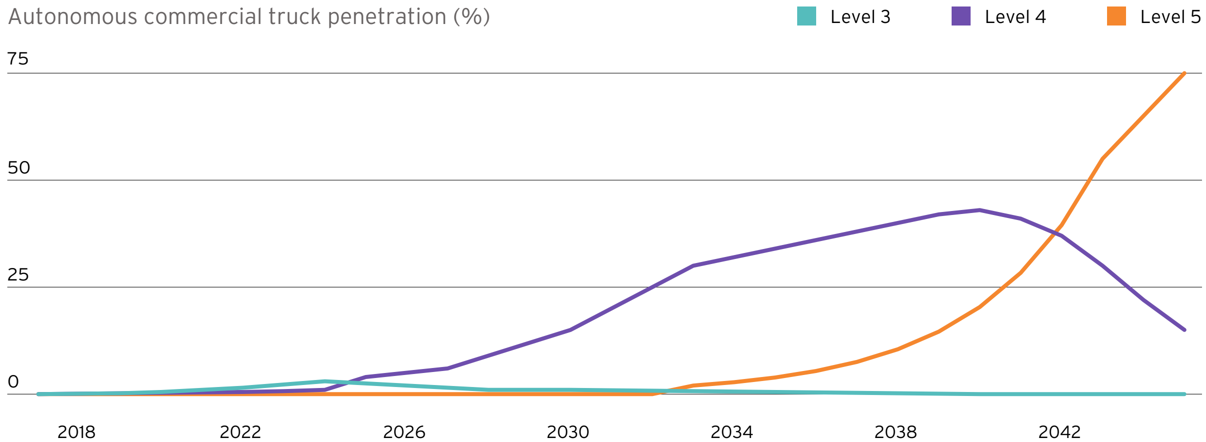
AI and cloud computing

Artificial intelligence (AI) – the ability of machines to learn, reason and create using human-like thought processes – could potentially transform the world as we know it. While the concept of AI has existed for decades, it remains in its early stages. Advances have been held back by insufficient processing power and a lack of enough data to train AI engines.

We believe this is now changing. Semiconductor makers are continually enhancing the speeds of mobile chips, which are integral to AI. Meanwhile, access to the vast data stored on cloud-based servers via 5G enables every smartphone to become a supercomputer. This capability will enable step changes such as more powerful and smarter in-app experiences, cloud-based gaming and augmented reality.

To invest in this dimension of 5G, we favor semiconductor companies at the cutting edge of chip processing. We also like strategies that focus upon the real estate relating to cell towers that transmit wireless signals. Another potential opportunity we see are the companies that offer cloud-based solutions and services, and also those cybersecurity firms that specialize in securing cloud-based systems.

Figure 3. From drive-assist to fully autonomous trucks



Source: Citi Research, as of 30 Sep 2021. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events. Note: "Adoption rate" measured as percentage of the active US class 8 tractor population (the heaviest duty trucks of 33,000lbs (14,969kg) and above), where mass adoption is 50%+ of the population. Level 3 vehicles are semi–autonomous vehicles, where a human driver shares the driving task. Level 4 vehicles are fully automated but only within specific zones. Level 5 vehicles could drive themselves in any location without any human intervention.

Autonomous vehicles

The potential benefits of autonomous vehicles have never been greater. Around the world, shortages of e-commerce, warehouse logistics and long-haul truckers are impacting the distribution of goods. Meanwhile, resurgent passenger demand for cabs has not been matched by an increase in available drivers, causing service gaps and price surges in cities across Europe and the US. Shortages in trucking began long before the pandemic, as the industry struggled to attract new recruits to a career renowned for long hours and loneliness.

The problem threatens to worsen as working age populations shrink further across various developed economies.

Reliable and far-reaching internet connection is critical to the future of autonomous vehicles. Driverless vehicles need to communicate constantly with each other and with traffic infrastructure. They collect millions of data points every second, which then need to be transmitted and processed. Because of its faster speeds and low latency, 5G is the first wireless standard capable of supporting widespread autonomous driving. Robo-taxis and autonomous trucking are already a reality, albeit only in a highly limited way in a handful of urban zones and on a few highways. But with massive expansion of 5G infrastructure, further advances in internet technology, and evolution in the law, a large-scale shift towards autonomous vehicle use can occur.

We believe the potential is huge. According to Citi Research, the US urban robo-taxi market could exceed $350bn by 2030 and the market for tier-1 suppliers in advance driver-assistance systems and autonomous vehicles could rise by over $100bn. Likewise, it is estimated that a fully autonomous truck would produce nearly 50% savings per mile compared with the driver-operated long-haul commercial trucks of today.[3]

While 5G is a prerequisite for robust autonomous driving ecosystems, a world where self-driving cars are widespread is likely still several years away. In the interim, we believe investors can consider accumulating investments in firms leading in the development of sensor technologies, processing and communications chips and transportation software. Traditional automakers and startups alike are investing in driver assist and autonomous technologies. However, we do not expect every household auto brand today to survive the transition to electrification and autonomous driving. Firms that are able to produce popular cars and have enough cash flow to invest in this transformation will likely be the global auto leaders of the next decade.

[3] Car of the Future v4.0: The Race for the Future of Networked Mobility, Citi GPS. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

The metaverse: Turning fantasy into a new alternative reality

Another intriguing emerging theme is "the metaverse." The metaverse is very broadly defined, as it impacts several different layers of technology. Many argue it represents the next generation of the internet, just as our current era of mobile computing began with 3G and the advent of the smartphone. The vision for the metaverse has both social and corporate applications, with the end-goal being a highly immersive digital economy that blurs the lines between reality and fantasy. Experiences can range from enhanced virtual reality gaming, concerts and museums to life-like simulations of industrial innovation, providing a framework for forward-thinkers to thrive.

The metaverse has a variety of sub-themes through which investors can participate including gaming, hardware and software, semiconductors, augmented and virtual reality, social media, and payments. We are still in the early stages of development. However, we are evaluating potential opportunities and sub-themes as the theme continues momentum through broader adoption.

Healthcare innovation: Telemedicine and remote surgery

Telemedicine has taken a great leap forward during the pandemic, as patients chose or were required to consult with healthcare professionals online rather than in person. As vaccines continue to roll out and restrictions have eased, the surge in activity has somewhat abated. However, we believe that this trend still has far to go.

While the Covid-driven surge in telemedicine visits has abated somewhat as vaccine rollouts continue apace, we believe remote healthcare services are only in their infancy and are likely to be accelerated by the rise in global connectivity. Telemedicine, coupled with wearables that monitor key vital signs, is likely to replace regular visits to the doctor's office for the young and healthy, and it will also facilitate services for people in more remote locations across the globe.

Improving internet latency is also likely to revolutionize the patient experience when an individual does have to go to the hospital, enabling connectivity across devices in a hospital-wide centralized network. Eventually, we even see the possibility of remote surgery, where the world's top surgeons can offer their services far beyond the cities where they typically operate.

Among the potential opportunities we see in this area are companies that offer innovative services like telemedicine and remote monitoring while successfully navigating the arcane global health care system through partnerships with insurers and providers. Winners in the space will likely not only be restricted to the healthcare sector, as US tech giants are also investing in wearables and health applications.

4.3

How digitization is reshaping real estate

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Head of Private Equity and Real Estate - Americas

Digitization is having far-reaching effects on the demand for and use of real estate. We see specific opportunities within e-commerce related industrial properties and offices.

- Increased adoption of e-commerce and remote working is set to endure far beyond the pandemic
- These developments are reshaping the real estate landscape, changing the frequency and use of offices, while powering the logistics of the digital economy.
- We expect continued demand growth for the warehouses, distribution facilities and other properties that facilitate e-commerce
- We also see an increased uptake of office space in certain cities where white-collar jobs are growing fastest

A changing real estate landscape

The Covid pandemic has required extensive changes to how we live and work. While there are some features that we hope we will never suffer again, others are set to endure. Most notably, these include greater convenience in our consumer habits and more accommodative working arrangements. Obtaining the goods that we desire from the comfort of our homes and doing business without attending a workplace are both made possible by the unstoppable trend of digitization. As technology advances further, both activities are likely to become even more attractive.

Large swathes of global real estate assets are therefore set to be heavily impacted – for better and for worse – by digitization, especially in the industrial and office sectors. We also believe that our asset allocation needs to reflect this unstoppable trend.

The real estate needs of digital enterprises

While e-commerce replaces shop floors with webpages, its physical real estate needs are still enormous. Warehouses, distribution and fulfillment centers and other industrial properties are critical to meeting our increased demand for goods delivered rapidly to our front doors. The pandemic has increased the extent of business-to-business and business-to-consumer e-commerce activity. For example, consumers have taken to purchasing things online that they were previously reluctant about, such as perishable goods and furniture.

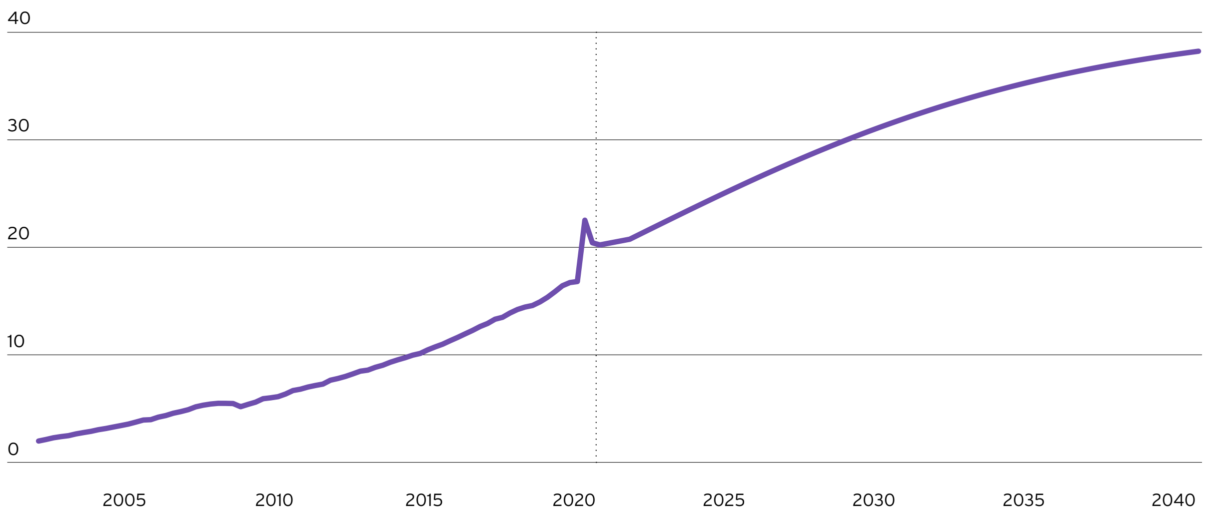
Globally, e-commerce sales accounted for 18% of total sales in 2020 and are expected to account for over 25% by 2025.[1] In the US, the equivalent figures are 20% and 25% – **FIGURE 1**.[2] This rapid growth has increased global demand for regional distribution centers and enhanced "last-mile" bases for same-day or next-day delivery. Demand for US warehouse and distribution centers is expected to surpass 1 billion square feet by 2025 (92,903,040m^2) as operators try to reduce delivery times and get even closer to customers in dense urban environments.[3] This incremental need equates to approximately 10% of the 10 billion square feet of warehouse and distribution centers currently available in the US.

This unprecedented expansion is partly due to online order fulfilment requiring more logistics space. With e-commerce, 100% of inventory is stored in warehouses, rather than some on store shelves and in backrooms. This feature allows for greater product variety, deeper inventory levels, space-intensive parcel shipping operations and value-add activities such as processing returns. As a result, it is estimated that e-commerce requires three times more industrial warehouse

[1] CBRE, July 2021
[2] Moody's Analytics, CBRE – Econometric Advisors ("EA"), Q2 2021
[3] Jones Lang LaSalle, August 2021

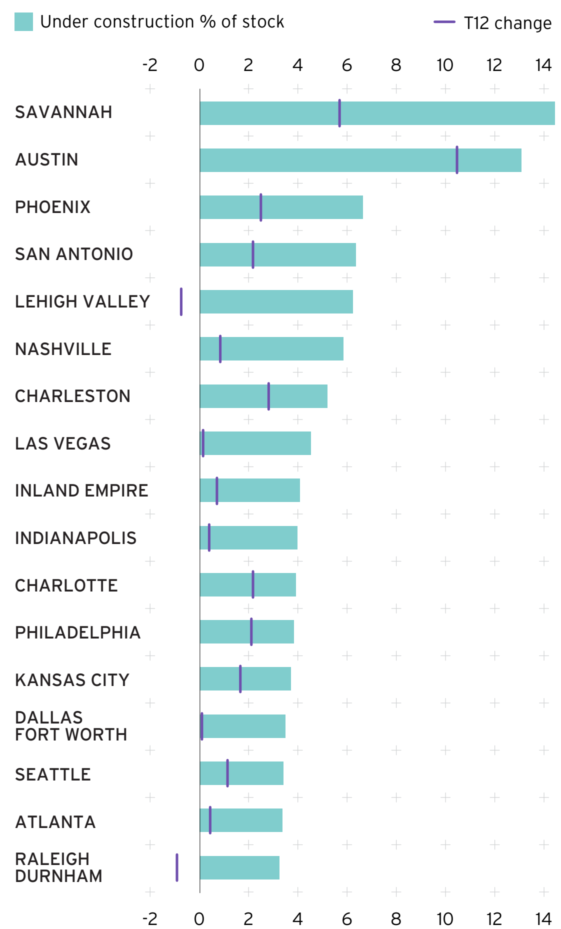
Figure 1. Online shopping's relentless rise

Share of US e-commerce as % of core retail sales (%)



Source: Moody's Analytics, CBRE – EA, as of 30 Jun 2021.

Figure 2. Industrial construction pipeline as % of existing stock



Source: Transwestern, as of 30 Jun 2021. Purple lines represent trailing 12–month (T12) change in construction as a percentage of existing stock.

square footage than traditional brick-and-mortar retail to fulfill orders.[4] US cities in the Sun Belt such as Savannah, Austin, Phoenix, San Antonio, Charleston and Charlotte have seen the fastest acceleration in new development as a percentage of existing stock over the past year – **FIGURE 2**.[5]

Real estate is at the core of all digital logistics

Mainland China and the US are the world's biggest e-commerce markets, accounting for 57% of global internet sales. These two markets, along with South Korea, the UK and Indonesia are driving global demand for industrial space.[6] As of the third quarter of 2021, US industrial vacancy stood at an all-time low of 4.1% – **FIGURE 3**. Net absorption – take-up of space less space vacated – totaled 140.7 million square feet, an all-time quarterly record.[7] Increased e-commerce demand and the need for a stock buffer to counter supply chain disruptions is expected to keep vacancy near all-time lows despite new supply coming online. This will further push up asking rents in the near term.

In addition, digitization has redefined traditional brick-and-mortar retail real estate. While retail foot traffic at prime urban locations like Fifth Avenue and Rodeo Drive have recovered to pre-pandemic highs, regional shopping mall vacancies remain at an all-time high of 10% as of the second quarter of 2021.[8] The headwinds for the retail sector are likely to persist long after the pandemic subsides, as consumers have grown

[4] Prologis Research, June 2020

[5] Transwestern, Q2 2021

[6] CBRE, June 2021

[7] Cushman and Wakefield, Q3 2021

[8] Jones Lang LaSalle, September 2021

accustomed to the convenience and flexibility of e-commerce.

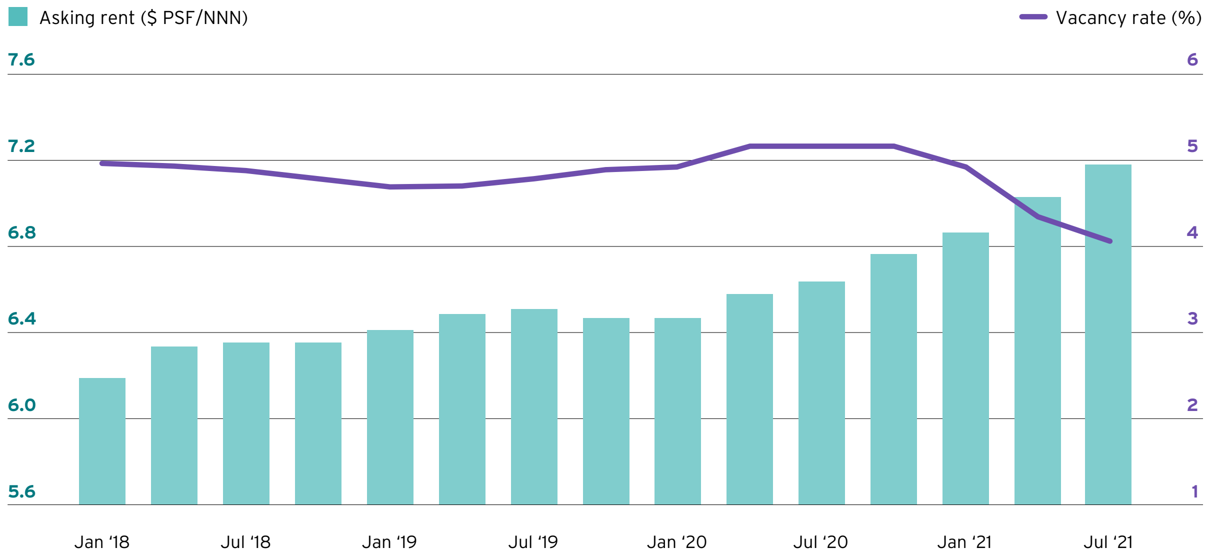
Against this backdrop, we favor "build-to-core" e-commerce related real estate opportunities: those where projects are developed from scratch and then held for the long term. Our preference is for strategically located properties that connect well with supply chains.

The office of tomorrow is everywhere

No one knew how close the world was to a major turning point in the redefinition of work and home. Following the largely successful experiment of mass remote working during lockdowns, companies are taking varying approaches toward working arrangements. While some are mandating a full return to the office, others are embracing hybrid or even fully remote working. As a result, New York City workplace activity was 52% below pre-pandemic levels as of the end of September 2021, and London and Singapore were 42% and 21% below, respectively.

Irrespective of approach, all office tenants are reassessing their space and location strategies. The previous decade-long trend of seeking greater space efficiency is now reversing as companies maintain social distancing. Ultimately, individual company choices will vary depending on location, workforce demographics, type of work, desk-sharing ability and corporate budgets.

Figure 3. Overall US industrial vacancy and asking rent



Source: Cushman and Wakefield, as of 30 Sep 2021.

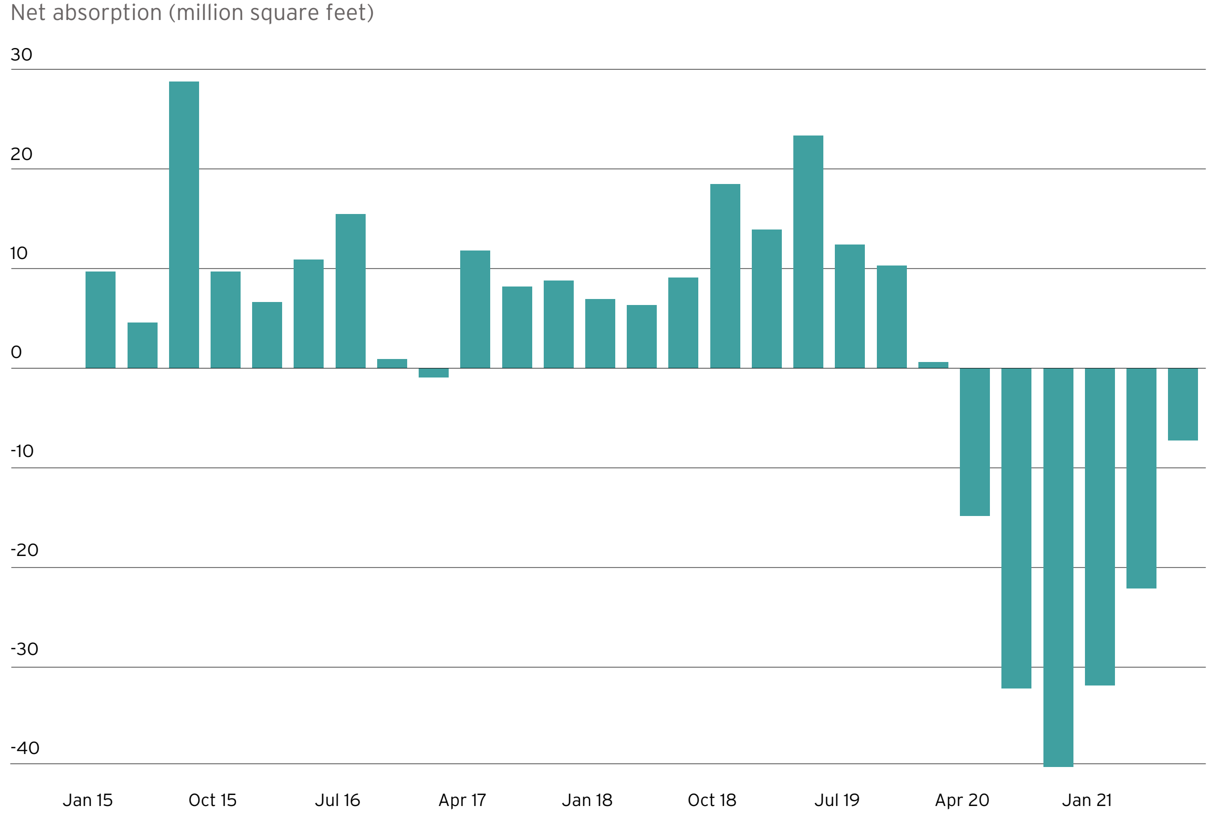
The flexibility of remote working is fueling growth and investment opportunities in "18-hour" US metros, or mid-sized cities where living costs are lower and amenities attractive. These cities are expected to outpace major metros in population and employment growth in the near to medium term. Cities like Austin, Dallas and Raleigh are among the fastest growing cities in the US and are projected to see faster-than-average annual population growth. These cities are seeing increasing numbers of white-collar jobs in technology, finance, and research that, in turn, will drive new office space demand.

Selective improvement in office markets

Signs of a tentative rebound in the global office market persisted in the second quarter of 2021, with leasing volumes up 44% year-on-year, although they remain 36% below that of the same period in 2019. As of the third quarter of 2021, US office vacancies stood at 17.4%, in line with previous post-recession peaks. Net absorption was negative for the sixth straight quarter, but the trend was improving. Total negative net absorption for the US office market since the start of the pandemic totals approximately 150 million square feet, more than the total negative absorption resulting from the post-2000 dot.com recession and the Global Financial Crisis combined – **FIGURE 4**. We believe office vacancy rates may begin dropping in 2022, with net absorption projected to return positive in 2022 driven by continued job growth and tenant demand.

Companies that require offices in primary cities such as New York City and London are taking advantage of market conditions to upgrade. This means renting higher quality, newer buildings with state-of-the-art ventilation, flexible floor plans and touchless access. These features enable firms to attract new talent and encourage returning to the office. Furthermore, "green" office buildings are commanding higher rents as tenants prioritize sustainability. For example, in Asia Pacific, green certified buildings are commanding 7% to 10% rental premiums.

Figure 4. US office absorption since 2015



Source: Jones Lang LaSalle, as of 30 Sept 2021.

Given the unprecedented shifts in working practices, we favor real estate strategies from specialist managers focused on office investments in high-growth cities.

4.4

Fintech is redefining financial services

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The disruption of financial services is gathering pace. We advise building portfolio exposure to fintech leaders, while avoiding potential victims.

- The Covid pandemic has accelerated the adoption of digital financial services
- Fintech firms are effectively and directly competing with traditional providers, which we expect will accelerate and disrupt markets
- Among our favored areas in fintech are payments and developers of solutions that can be sold to traditional providers

What makes fintech unstoppable

The world of financial services is changing fast. Disruptive technologies are transforming how we perform many vital activities, such as making payments, investing, borrowing, and saving. Increasingly, financial institutions' back-office work – including administration and compliance – is now being carried out by intelligent machines.

These developments are being driven by a new breed of innovators: financial technology or "fintech" firms. For consumers, the benefits are typically faster service, better access and lower costs. In developing countries, hundreds of millions of people are gaining bank accounts and vital financing for the first time ever. But while recent progress has been impressive, we believe fintech's transformation of financial services still has far to go.

In our Outlook 2020 report, we identified fintech as an unstoppable trend. The financial services sector was facing genuine and sustained disruption for the first time, driven by shifting demographics and the considerable resources of sovereign wealth funds and venture capitalists. We believed this disruption presented investment opportunities that could potentially benefit portfolios over the long term.

Now the benefits of fintech innovation are evident and essential. The spread of the coronavirus caused structural changes across many sectors, as lockdown forced large swathes of the global population online. Few of these digital natives are likely to revert to their old behaviour.

Why is fintech unstoppable?

People generally want to transact more efficiently and conveniently. They want access to their money and to information about how to spend and save it. Their customer experience thus remains a key driver of fintech adoption. Digital payments offer benefits to customers, businesses and governments alike. For customers, they are convenient, faster and more hygienic. Businesses no longer need to worry about having cash on hand, while accounting and inventory management have become much easier.

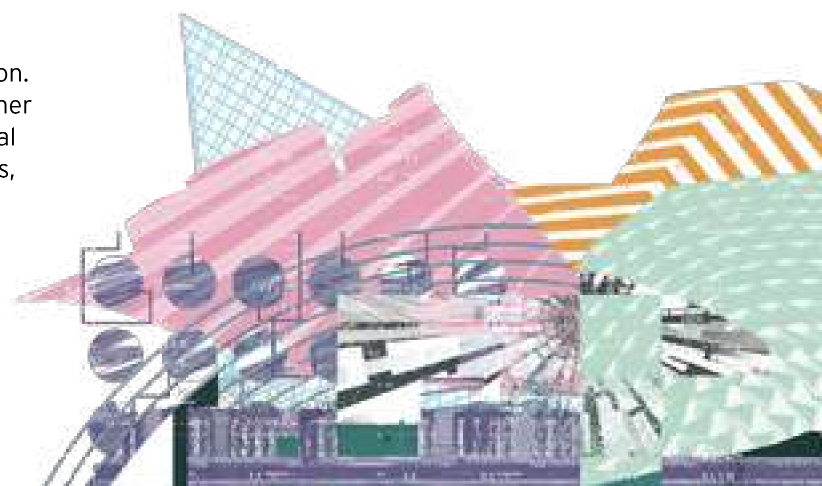
In markets that have less access to traditional financial services, fintech may provide a "leapfrog" opportunity. For example, in countries lacking the Western world's regulatory and political barriers, entire new financial ecosystems have emerged with such speed and success that the term "bank" may be irrelevant to local consumers. Across parts of China and Africa, payments are predominantly digital. Gone are the days when people living in rural areas needed to travel several hours to open a bank account. They can now sign up on their smartphones.

Regulation is another driver of fintech adoption. In the past, strict capital requirements and other regulations made it difficult to disrupt financial services. Now, for regulators and governments, an electronic trail may help help them collect taxes and tackle corruption.

Footholds, the dominance

As we discussed in Outlook 2020, fintech firms initially plugged gaps in the market. They focused on activities such as peer-to-peer lending or improving customer experience at the point of sale. However, evolution typically happens in stages. At first, disruptors erode market share by targeting new segments while coexisting with the incumbents. After achieving a certain scale and establishing their reputation, disruptors compete directly with the incumbents for their core business revenues.

We have witnessed this scenario play out in recent years. Companies focused on point-of-sale transactions amassed a wealth of data, gaining unique insights into the habits of users and the profitability of merchants. Using this information, fintech firms are branching out into traditional banking products like merchant loans, cross-selling inventory management or payroll services and providing digital wallets and "buy now, pay later" options to consumers.



Fintechs extend their reach

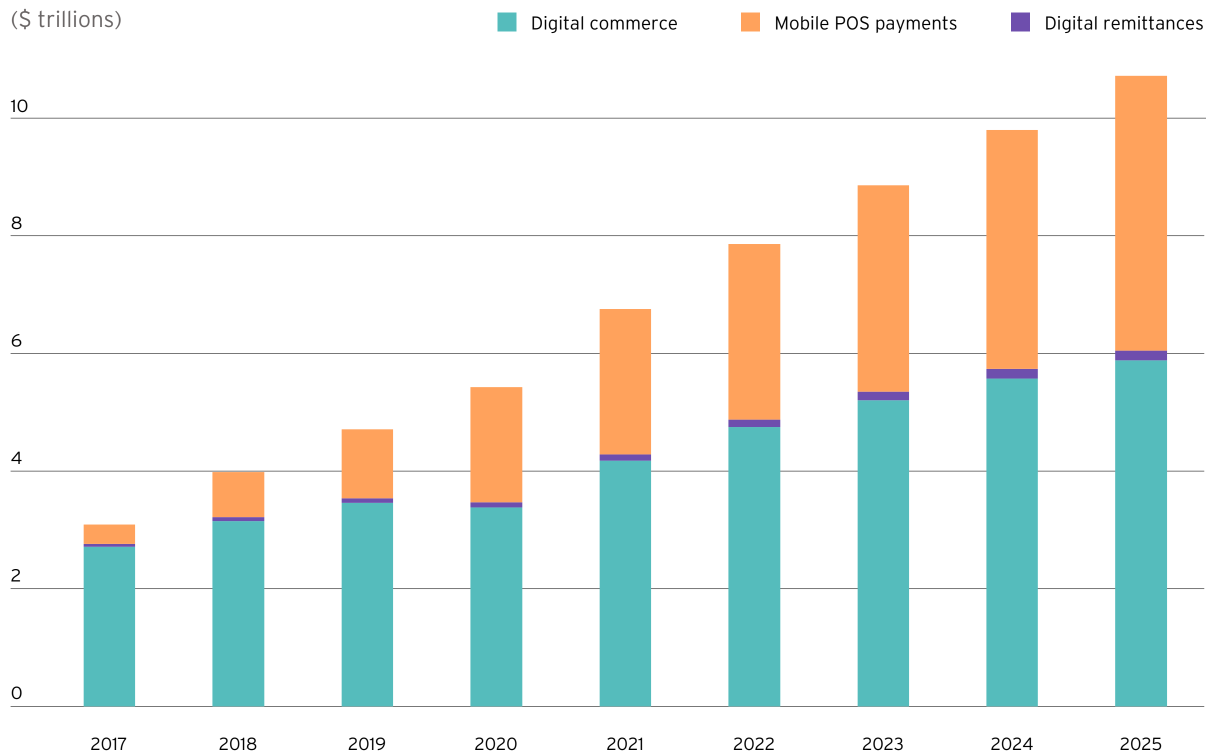
We expect newer fintech firms to continue to improve areas traditionally neglected by the incumbents, such as foreign exchange. Meanwhile, established firms will leverage the vast amounts of data they have accumulated to compete with banks. We thus look for continuing growth in digital commerce, mobile point-of-sales activity and digital remittance – **FIGURE 1.**

Recent market declines present attractive potential entry points

Since we presented as an unstoppable trend, the sector has continued to make progress.

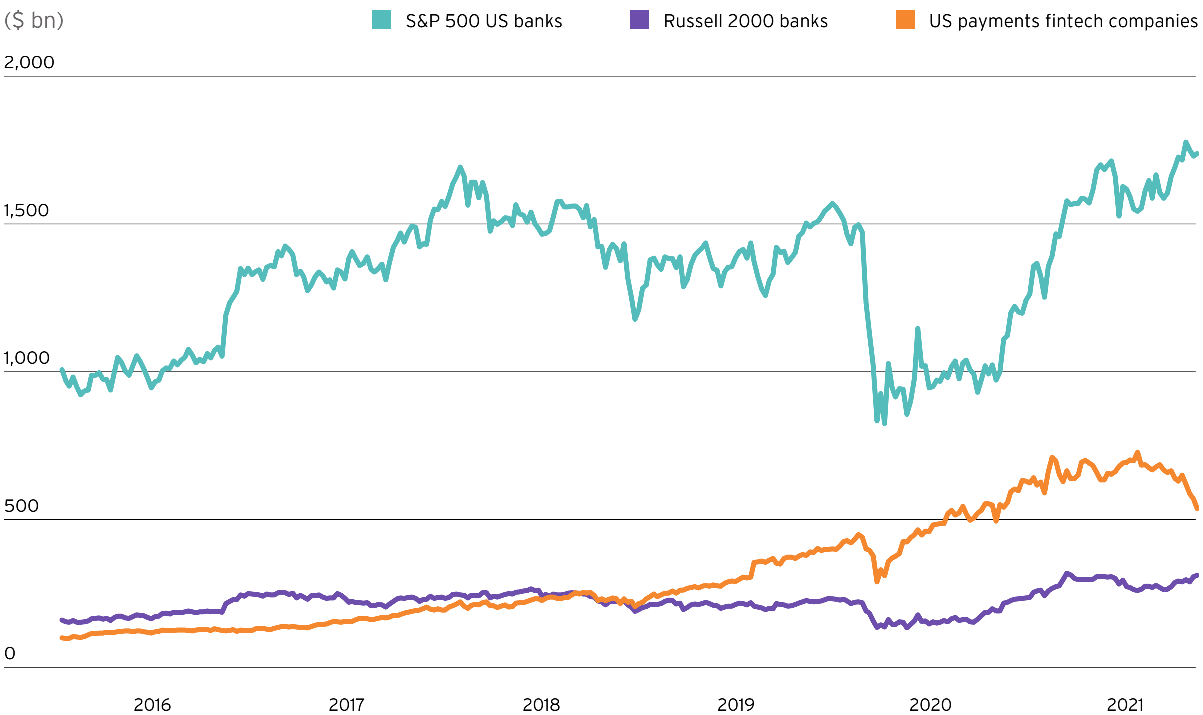
Fintech equity performance has been mixed in recent months. Some segments like "buy now, pay later," peer-to-peer lending and blockchain systems have rallied relentlessly. But in the more mainstream fintech spaces, like payments, equities are 10-40% down since the beginning of September 2021 - **FIGURE 2.** A confluence of factors, such as the US Department of Justice investigation into Visa's relationships with payment firms, a moderation in growth after the pandemic and idiosyncratic concerns about the long-term strategy of one of the largest payment players, all contributed to the recent selloff.

Figure 1. Flourishing fintech



Source: Bloomberg, as of 12 Nov 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. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Figure 2. Fintech payments companies' growth



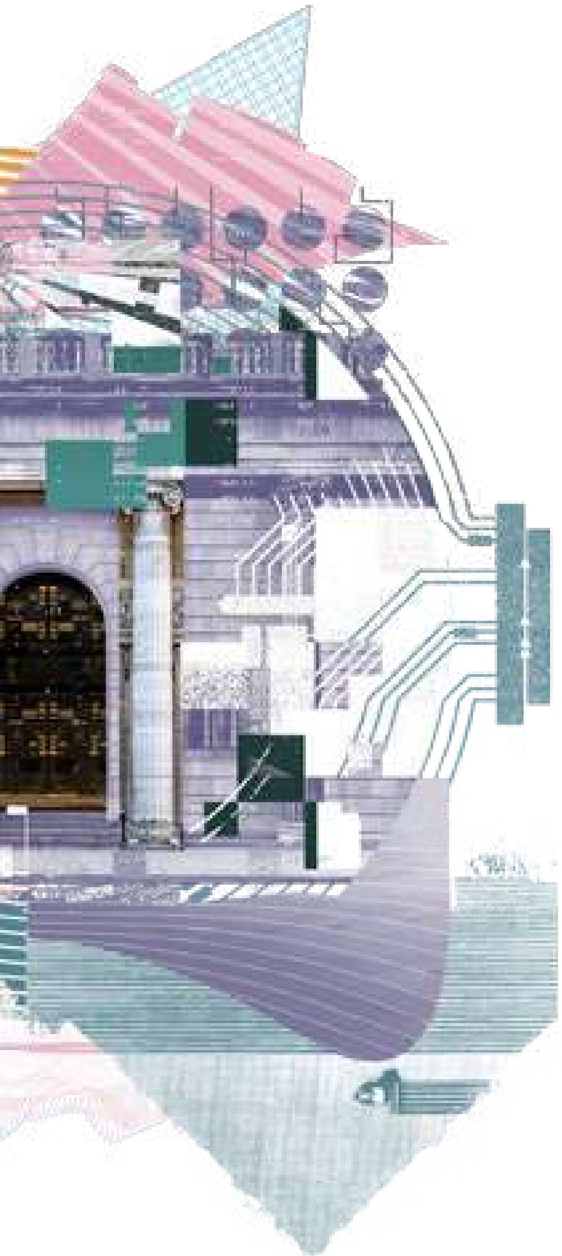
Source: Bloomberg, as of 12 Nov 2021. Note: US Payments Fintech Companies include Paypal, Square, Fidelity National, Fiserv, Global Payments and Fleetcor. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Despite recent performance, payments continue to be our preferred fintech sub-sector for long-term exposure, given the size of the market and the ability to harvest valuable data. In many countries, digital payments penetration remains low, which creates growth potential – **FIGURE 2.** The digitization of business-to-business (B2B) payments presents a potential opportunity, as cash and checks still represent over 50% of B2B transactions in the US, for example.

Valuations in the payments space still trade well above pre-pandemic multiples – **FIGURE 2.** However, we believe investors should calibrate their assessment of valuations to the level of growth being delivered by a given company. We see the larger platform companies as most able to leverage their massive user bases to cross-sell other higher-margin products, while also seeking bolt-on acquisitions of smaller players in adjacent industries like mobile investing, lending, and e-commerce.

Fintechs to power banks?

We also see potential in fintech firms developing and selling software to banks and asset managers to upgrade their aging information technology infrastructure. Several issues hinder incumbent banks, which are already weighed down by low interest rates. Outdated systems frustrate customers, especially when the comparison is made with newer entrants that have lower cost bases and simpler, more intuitive apps. Banks also face complex and demanding regulatory obligations. Shifting to a modern core platform,



for example by purchasing a solution from a third party, allows them to harvest and analyze data more effectively, which improves the customer experience, cuts costs and facilitates cross-selling.

Upgrading legacy systems is vital if incumbents are to execute their digital strategy successfully and compete with disruptive new entrants. Services delivered by third parties are essential in this process.

Watch out for fintech's victims

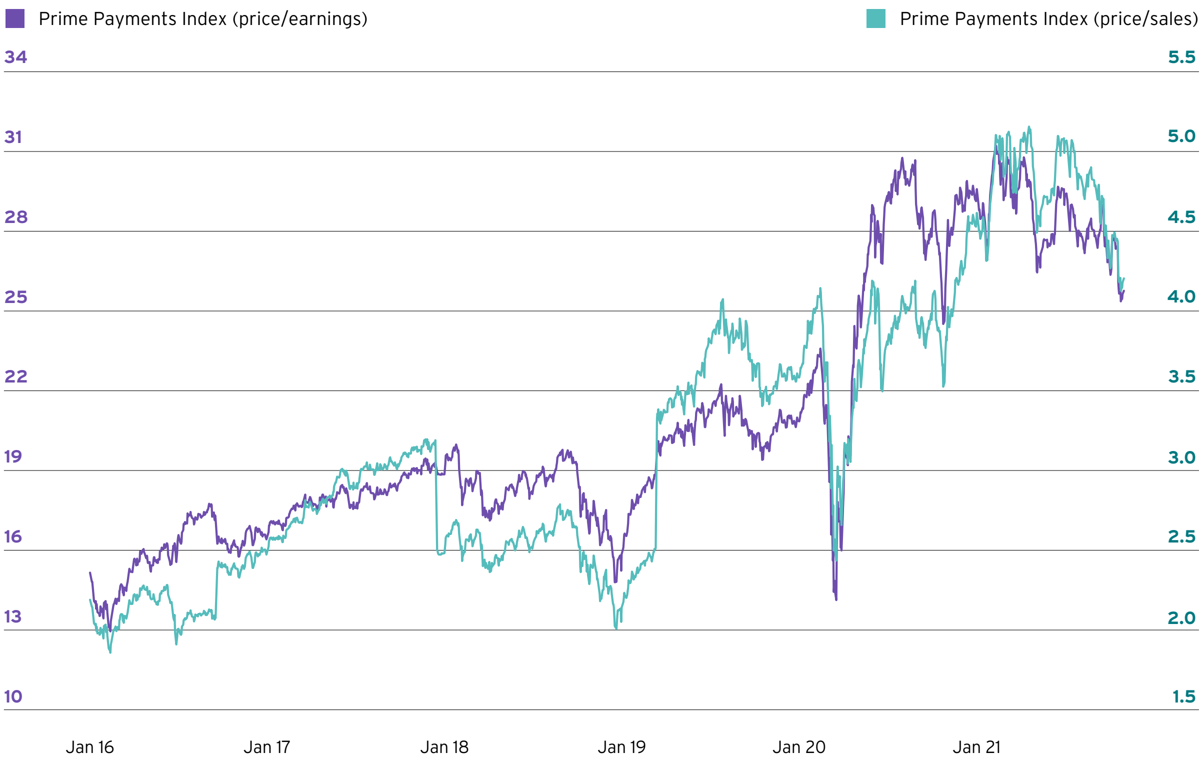
Local banks face the greatest risk of disintermediation by the challengers. They do not have the scale or diversified revenue streams of larger players, which typically involve asset management, investment banking, lending and credit cards. They also lack the resources to make meaningful investments in digital transformation.

That said, the relationship between fintech and the incumbents is not always that of predator and prey. Many seek partnerships. Each has what the other wants: fintech firms need customers and data, while the incumbents require innovative technologies and cultural change. Banks could also cut costs by automating front- and back-office activities performed by staff.

Figure 3. Low digital payment penetration leaves growth potential

Source: JPAM, Statista, World Bank, as of Jun 2021.

Figure 4. Payments valuations since 2016



Source: FactSet, as of 12 Nov 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. Past Performance Disclosure: Past performance is no guarantee of future results. Real results may vary.

What risks are fintechs facing?

Both during and before the pandemic, fast-growing firms have benefited from historically low interest rates, which increase the present value of their more distant future cash flows. As inflation has picked up, rates have begun to push higher. If central banks pursue more aggressive monetary policies to choke off inflationary pressures, higher rates could hurt both fintech valuations and sentiment towards the sector.

Financial regulations are constantly evolving, and fintech firms that fail to keep up risk incurring hefty penalties, not to mention severe reputational damage. This risk becomes even greater for those operating across borders and dealing with different regulatory regimes.

As the global vaccine rollout reduces infections, economic activity is returning to normal levels. The markets have rallied, but they remain sensitive to the emergence of new strains of the coronavirus, which could see renewed lockdowns.

Finally, the digitization of finance has attracted a more sophisticated brand of cybercriminals. If fintech firms do not manage these threats effectively, they could undermine trust in the services they provide. Cyber security is therefore vital to this industry – see Cyber security: Protecting the internet's critical infrastructure in **Unstoppable trends**.

4.5

The rise of Asia: From setback to opportunity

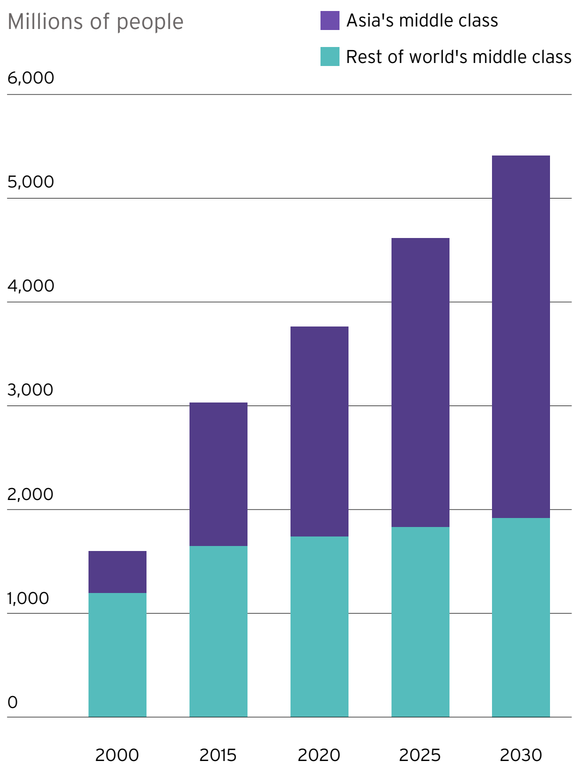
KEN PENG - Head of Investment Strategy, Asia Pacific

While the last year has seen Asia's progress stutter, the long-term shift in economic power towards the region remains well intact. We reiterate the potential opportunities that we see for investors.

- Amid slow vaccine rollouts and China's regulatory crackdown, Asia has suffered setbacks to its growth in 2021
- However, we believe that the long-term drivers of the region's development remain in force and that the rise of Asia is still an unstoppable trend
- Even the setbacks of the last year may contain the seeds of opportunity for Asian economies and investors in the region
- Among the potential opportunities we favor are China tech, re-opening consumption and Southeast Asia

While the 21st century will likely be recalled as belonging to Asia, the same is unlikely to be true of the year 2021. On the face of it, the world's most populous and fastest-growing region has suffered setbacks to its prodigious development over the last twelve months. Slow progress in the vaccine rollout across South and Southeast Asia – and even in Japan – has held back its economic recovery. Meanwhile, a harsh and far-reaching regulatory crackdown in China has shaken global investors' confidence in the development model of the world's second-largest economy.

Figure 1.
Asia's expanding middle class



Source: Brookings Institute, as of Oct 2021.

Despite these clear setbacks in 2021, we believe that Asia's future remains bright. The multi-year forces driving the shift in economic power towards the region have not changed. By 2030, over 1 billion more people are likely to have joined the ranks of the Asian middle class. Ongoing urbanization – particularly in India and Indonesia – may add 100 more names to the list of global cities with populations of over one million. And for all the disruption caused by the pandemic and China's crackdown, these events have also created further development and investment potential. We thus believe that the unstoppable trend of the rise of Asia remains fully intact.

Short-term snapback, long-term services boom

We see both short- and long-term potential opportunities emerging from the pandemic in Asia. The first concerns economic recovery, which has thus far been restrained by the region's relatively slow aggregate vaccine rollout. Supplies were initially insufficient, given that the leading countries in vaccine development naturally prioritized themselves. Since the third quarter of 2021, though, supplies have begun reaching Asia in large quantities.

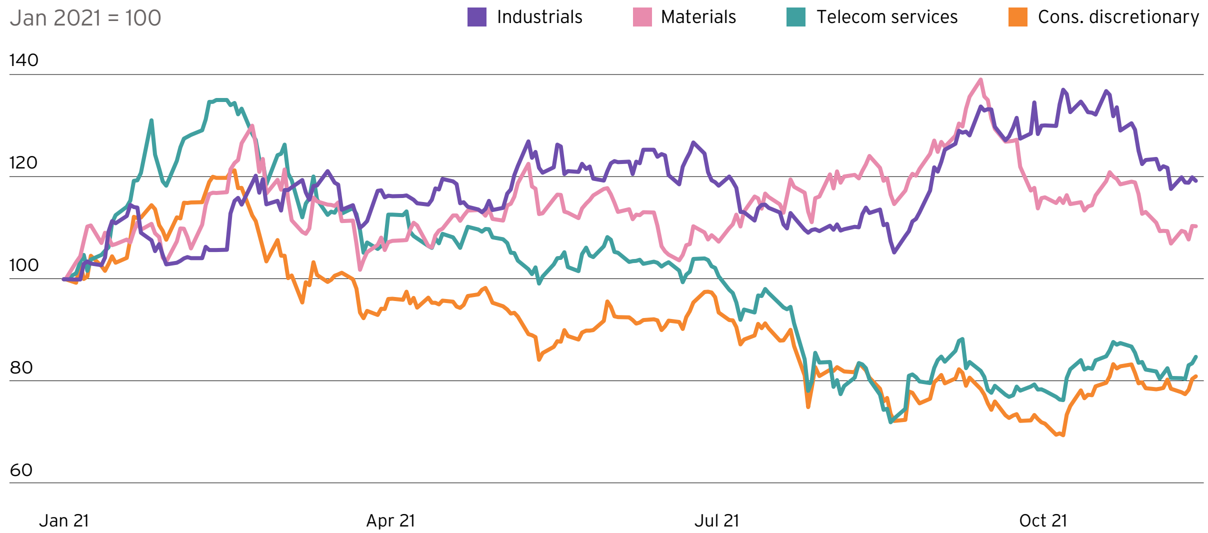
The number of fully vaccinated Asians has risen accordingly. Malaysia, Japan and South Korea had reached the 70% threshold by October. Meanwhile, India and others in Southeast Asia (SEA) have now doubled or tripled their vaccination levels, albeit from a very low base. Singapore is now the world leader in vaccinating its population and has joined the US and EU by reopening to some international travel. When the rest of SEA reaches sufficient vaccination levels, its economic recovery is likely to accelerate, as pent-up goods and services demand is unleashed.

A longer-term beneficial consequence of the pandemic is that it has significantly accelerated digital technology adoption in the region. We believe that this is likely to enable greater services sector development. Traditionally, the manufacturing sector was the driver of development in Asian emerging markets (EM), such as Japan in the post-war era, the Asian tigers in the 1990s and latterly China. However, automation is diminishing the advantage of lower labor costs. As such, manufacturing is returning somewhat to developed markets, while China is proving an early adopter of automation. This creates a dilemma for policymakers in many EMs, now that the traditional development path of adding more low-cost manufacturing seems more constrained.

Asian services could be a long-term beneficiary of increased digital adoption in the region. The embrace of virtual delivery across fields including education, healthcare, finance and industrial services is likely to endure after the pandemic. As such, these services – which were once only possible to provide locally – are becoming globally tradable.

A good example is online "gig" workers, who are now commonplace globally. From software engineers to graphic designers to content creators, freelance work now transcends countries and continents. The tradability of services is also evident in the success in the US of streaming entertainment produced in Korea, the ability of a teacher in India to teach English to a pupil in Vietnam or a technician in China providing instructions to troubleshoot machinery in Indonesia. The ability to work remotely increases flexibility, while reducing the requirement for capital and traveling. This enhances the potential for much greater exports of services by lower cost producers, providing another channel of development for EMs, particularly those in Asia that have relatively highly educated workforces.

Figure 2. The Chinese crackdown's focused impact



Source: Haver, as of 1 Nov 2021. The indices are unmanaged and are not investable. Index data is provided for comparative purposes only. Past performance does not guarantee future results. Investors cannot invest in an index.

The upside of China's crackdown

China's regulatory crackdown and policy tightening hit hard in 2021. The authorities' ultimate goal is what they term "common prosperity," an effort to share the fruits of the nation's development more equitably. The immediate effect, though, was to send economic growth to its lowest rate in modern history outside of the pandemic – see Asia regional section. And the country's equity market slid into bear market territory, even as indices in much of the rest of the world hit fresh record highs. The selling, however, was concentrated in areas most affected by the crackdown – FIGURE 2.

China's crackdown on real estate credit has caused major declines in bond prices and economic growth but is unlikely to create systemic fallout. The highest levels of government are directly managing credit risk in the sector and have shown willingness to ease the credit crunch in order to contain spillover.

A hit to property prices is likely but may be relatively limited. Leverage is low, such that property owners are a long way overall from negative equity. Likewise, any new property taxes are unlikely to be imminent and only applicable to third residences and beyond. Still, the collapse in sales and building activity is likely to weigh on economic growth into 2022 – FIGURE 3 – with the drag easing late in the year.

Strange as it may sound, we believe that China's crackdown will have economic and investment benefits. The reforms could mark the first steps on a healthier path of development towards a more advanced and consumption-driven economy. The measures to force property developers to rein in leverage are a case in point. While media coverage has focused upon the resulting defaults, the flipside is the liberation of savings that were stashed away to invest in property. These could be spent on greater consumption.

As with many other countries globally, China has experienced power shortages of late. This is a side effect of the country's effort to reduce its dependency on carbon fuels. In the near term, higher prices from such shortages lead to more fossil fuel burning. However, we think it will also encourage the acceleration of efforts to expand the production and use of green energy, an area where China has some competitive advantage.

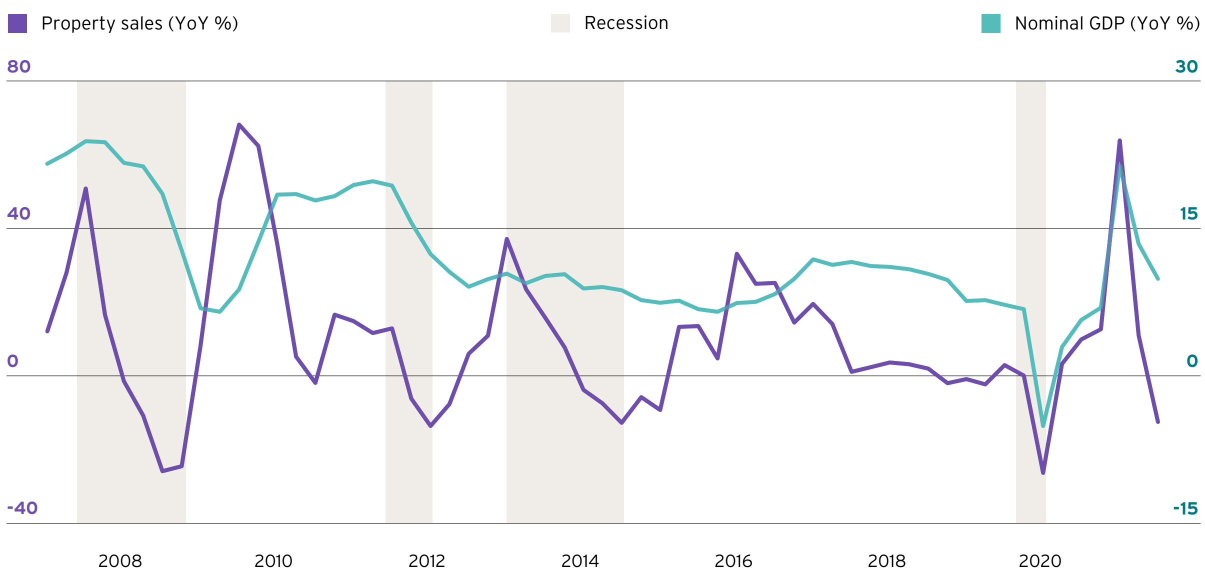
Technology companies have been among the most prominent casualties of the crackdown. Tough new rules have affected tech firms specializing in spheres as diverse as e-commerce, education, taxis, food delivery and online gaming. We expect the measures taken to result in a flatter competitive landscape, with innovation taking place in a less concentrated and more widespread way. Small- and medium-sized businesses – which provide most Chinese jobs – could benefit from this.

Despite the sharp slowdown in Chinese growth, the authorities have held back from imparting stimulus near term, in an attempt to wean the economy off reliance on borrowing. This would not only help contain systemic risks but also redirect capital towards more productive industries, rather than real estate speculation and overproduction leading to price wars.

In our view, the bottom line is that China's common prosperity agenda is supportive of the unstoppable trend of the rise of Asia. If successful, it should bolster the expansion of the country's middle class, expected to increase by 150 million over the coming decade. Further increases in their disposable income would be beneficial for industries in China, Asia and beyond.

From a pandemic perspective, China is the odd man out for targeting zero cases. But this policy is likely to ease after the winter Olympics in February 2022. Even now, aside from quarantines, life is beginning to return to normal, as masks are off and parties are back on. With some easing in both macro and pandemic policies, China's economy in 2022 could shake off 2021's setbacks.

Figure 3: Lower property sales set to drag on GDP



Source: Haver Analytics, as of Aug 2021.

The G2 relationship and risks in geopolitics

Both progress and reversals occurred in the US-China relationship in 2021.

We expected a more stable relationship between the two countries after the election of Joe Biden in the US. Things got off to a rough start but have recently shown signs of improvement. The release

of Huawei's chief financial officer from detention in Canada in connection with charges in the US has thawed the relationship. We think this enabled further negotiations on the next phase of the US-China trade deal. Even though the US stance remains hawkish, pragmatism has brought both sides to the negotiating table. There are some odds that a path towards reducing tariffs can be found if conditions are met in a potential phase two deal. The fate of Chinese ADRs – securities in Chinese companies listed on US exchanges – may also hang in the balance.

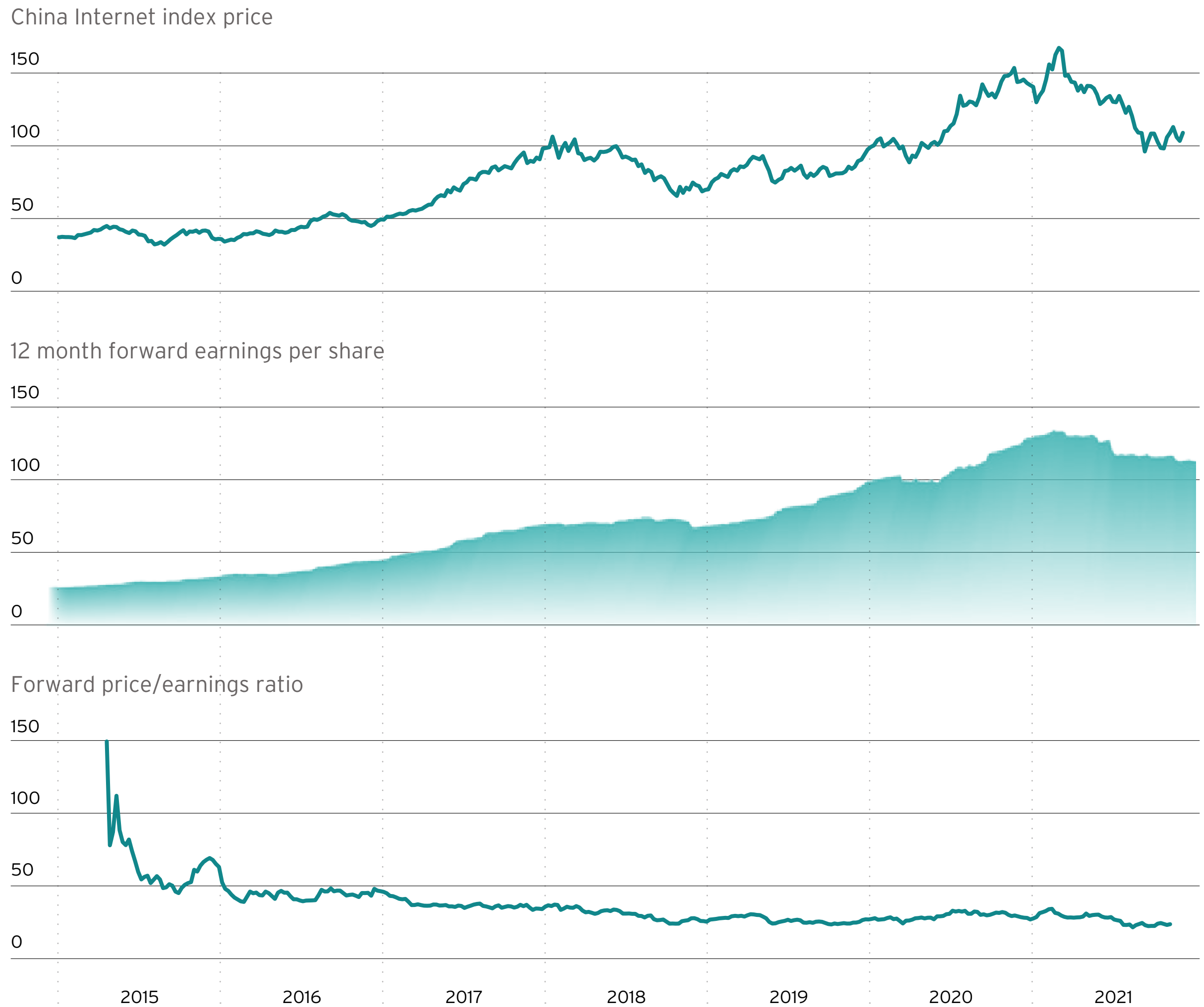
The more worrisome issue is geopolitical. The probability of conflict may have risen somewhat, as some observers see the potential for China to pursue more nationalistic policies due to its weaker domestic. What is more, the US's perceived commitment to Asian regional security was shaken by the retreat from Afghanistan. Still, we believe that if the US-China relationship can thaw and China's economic prospects improve in 2022, the risks of real conflict would still be kept to a minimum.

Seeking exposure to the rise of Asia

We remain convinced of the case for the rise of Asia and advocate long-term portfolio exposure. Many global investors remain underweight in their Asian allocation, something that the more difficult year in 2021 has not helped to improve. Given the latest developments, we highlight various areas within the region that we find attractive.

First, we expect China's internet sector to bounce back after the crackdown – **FIGURE 4.** There are likely to be additional revelations about how the new regulations are implemented. However, we don't see major new tightening. We expect that the sector's earnings may likely bottom in the fourth quarter of 2021, which could potentially generate double-digit earnings growth. Valuations may see some repair once earnings revisions turn positive in 2022.

Figure 4. China's internet sector has bounce back potential



Source: Bloomberg, as of 15 Nov 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. Past performance is no guarantee of future results. Real results may vary.

4.6

Greening the world

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Combating climate change is a momentous challenge for humanity. We believe the shift toward greater sustainability is also creating potential opportunities for investors.

- The scientific consensus is that far-reaching action on greenhouse gas emissions is urgently needed to avert a climate catastrophe over the coming decades
- We consider the transition to clean energy and the broader shift to a more sustainable world to be an unstoppable trend
- Companies across many industries need to adapt their operations or face possible displacement
- In addition to companies directly involved in clean energy, we see potential opportunities for investors in diverse areas such as food production, cement making and water

The facts are clear

The scientific consensus could hardly be louder or clearer. Without radical changes to how we live, humanity faces a potential climate catastrophe during our or our children's lifetimes. Greenhouse gas emissions are already causing extreme climate and weather events, with devastating consequences for people and planet alike. The growing frequency and severity of floods, fires, droughts, polluted air and water scarcity are among the most obvious.

Within the next twenty years, the rise in the Earth's surface temperatures is set to reach 1.5°C (2.7°F) above pre-industrial levels.[1] However, there is an acute risk of even greater increases. A 2°C rise, for example, would likely see many more extreme heat events, higher sea levels, worse losses of plants and wildlife, lower crop yields, near-total coral reef destruction and shrinking marine fish stocks. The impact upon economic activity and human life would be severe, with some of the world's most vulnerable people suffering most.

More focus and more action

As such, the focus upon climate change is now greater than ever before, with many citizens, governments and companies convinced of the need for action. The UN's 26th climate change conference, known as "COP26" in November 2021 saw further pledges to strive for net-zero carbon emissions, methane emission reduction, halting and reversing deforestation and the phasedown of coal. If enforced, the International Energy Agency estimates that such measures could allow global warming to be limited to 1.8°C. But translating pledges into results will require considerable commitment, coordination and capital.

Increasingly, actions are indeed matching words. Governments across the world are boosting support for vital measures to reduce emissions. The latest initiatives form an important part of some nations' post-pandemic economic recovery and job creation plans. The US, China, the European Union and Japan are among those poised to spend trillions on creating and upgrading their sustainable infrastructure, including renewable energy production.

[1] Source: United Nations Intergovernmental Panel on Climate Change "Climate Change 2021 The Physical Science Basis," as of Aug 2021

Figure 1. Fossil fuels reignited

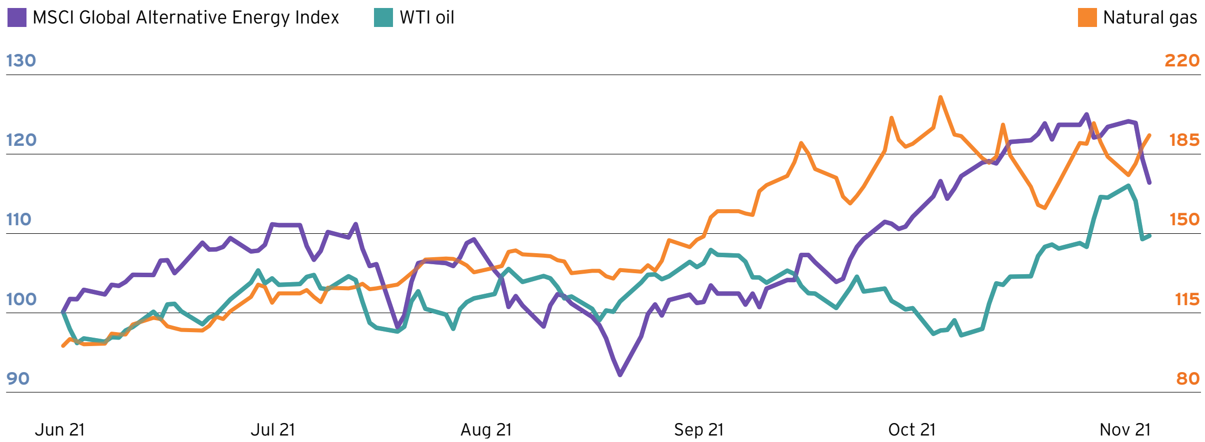
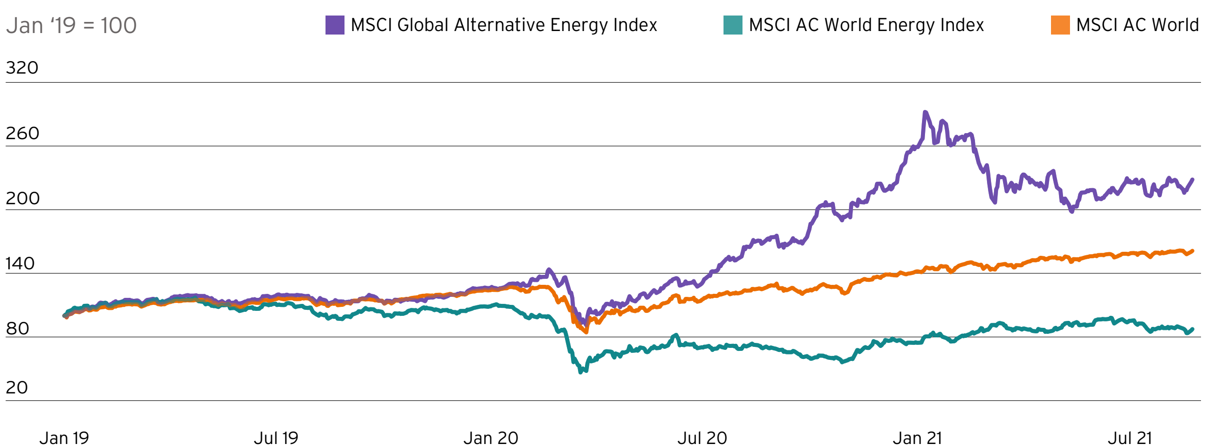


Figure 2. Traditional energy equities not burnt out yet



Source: Bloomberg, as of 4 Nov 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns.

Greening is an unstoppable necessity

Given its importance to the future of humanity – and the legislative, market and social momentum behind it – we consider the transition to a more sustainable existence to be an unstoppable trend. We presented our case for ongoing advances in green energy innovation, electrification and efficiency in **The future of energy** in Outlook 2020 and **Greening the world** in Outlook 2021. And we recommended long-term portfolio exposure to the transition's potential beneficiaries, including electric carmakers, battery makers, infrastructure suppliers and installers, and smart appliance makers.

The last twelve months have emphasized that progress does not occur in a straight line. The global economic reopening from lockdowns has seen acute energy shortages and price spikes. In the face of more expensive natural gas, some countries have resorted to burning more coal, the dirtiest fossil fuel of all – **FIGURE 1**. Likewise, equities in traditional energy companies have staged a revival after their sustained underperformance of recent years. By contrast, the global alternative energy sector has given up some of its gains – **FIGURE 2**.

In our view, these recent developments only strengthen the case for the alternative energy transition. Despite economic shutdowns, greenhouse gas levels reached record highs in 2020.[2] Meanwhile, reductions in investment in

[2] World Meteorological Organization, as of Oct 2021

fossil fuel capacity have occurred faster than clean replacements have come online. To help meet net zero emissions pledges, therefore, we believe the world needs to speed up the construction of green energy capacity and mitigation technologies, such as carbon capture utilization and storage.

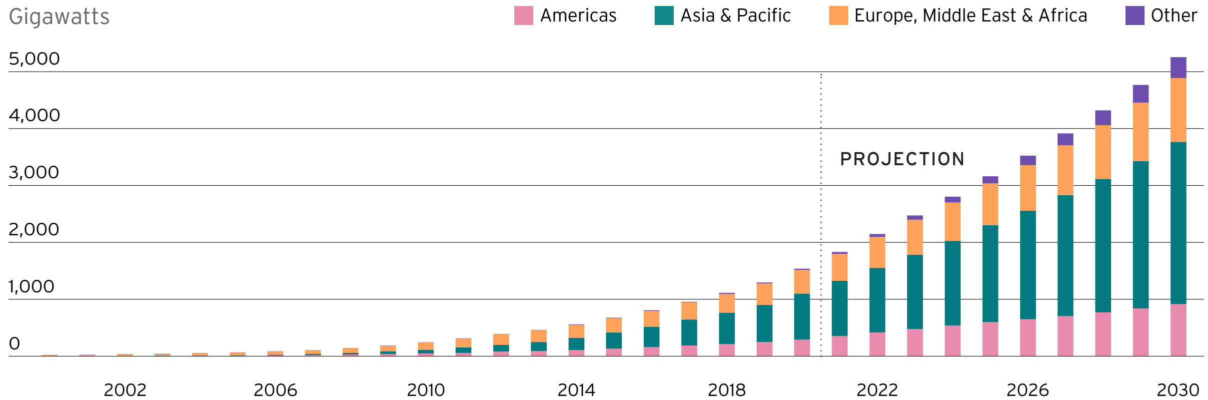
Thanks to the strong support of governments and consumers, we believe the stage is set for this to happen. Twice as much green energy supply may be brought on stream in the next ten years as in the prior twenty – **FIGURE 3**.

Bright future

Encouragingly, history suggests such estimates may prove to be conservative. New technologies and efficiencies of scale have been driving down prices at an accelerating pace, one not accurately embedded in forecasts. It is technologically and economically plausible that within a decade, green energy with battery storage will be less expensive than keeping old fossil fuel plants running.

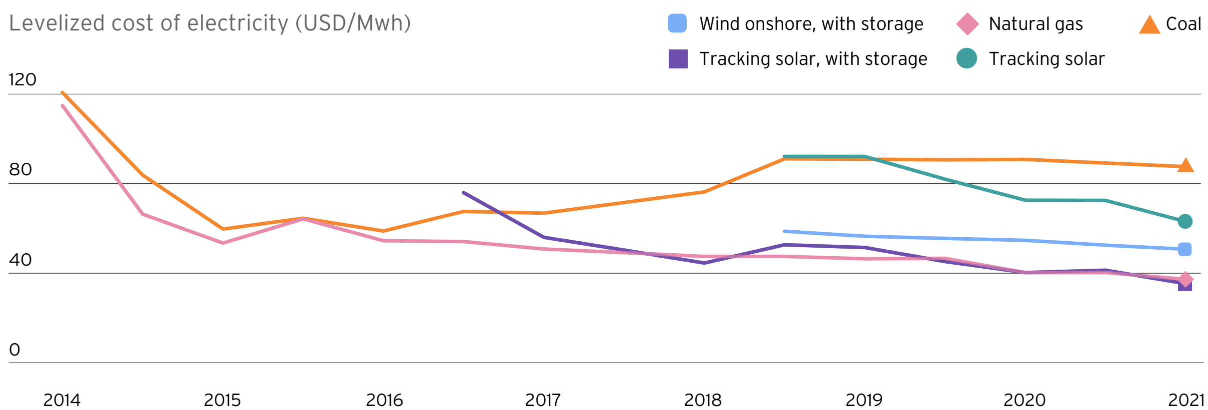
Indeed, green energy is already cheaper than certain varieties of fossil fuel energy. The cost of solar and wind energy – when combined with storage – fell below the price of installing new coal plants two years ago – **FIGURE 4**. What is more, unlike with fossil fuels, solar and wind power sources are not subject to surging input prices. While calm winds and cloudy skies are a challenge, they are a challenge that can be met with battery or other energy storage.

Figure 3. Clean energy supply: Current and future



Source: Bloomberg New Energy Finance, as of 4 Nov 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events.

Figure 4: Global electricity costs by source

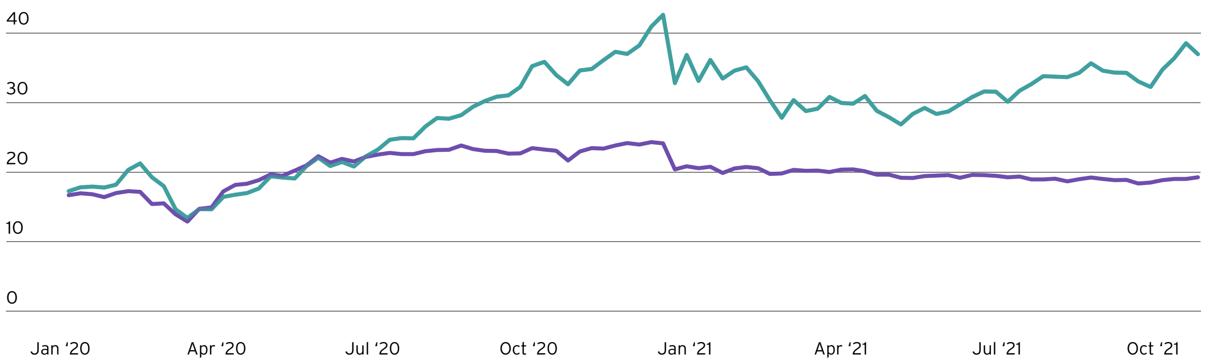


Data series have been indexed for comparison. Source: Bloomberg New Energy Finance, as of 4 Nov 2021.

Near-term volatility for alternative energy equities

Despite the pullback in alternative energy-related equities in 2021, we continue to see a bright long-term future for this sector. That said, the run-up in valuations since 2020 – FIGURE 5 – means that selectivity has become even more important. We stress seeking to buy at the right price rather than at any price. In the same way, we do not believe that the revival in traditional energy investments is anything more than a counter-trend rally within a secular decline for those assets. Despite booms and busts in traditional energy, the sector has had a cumulative negative return since 2007.

Figure 5. Clean energy valuations surge



Source: Bloomberg, as of 4 Nov 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

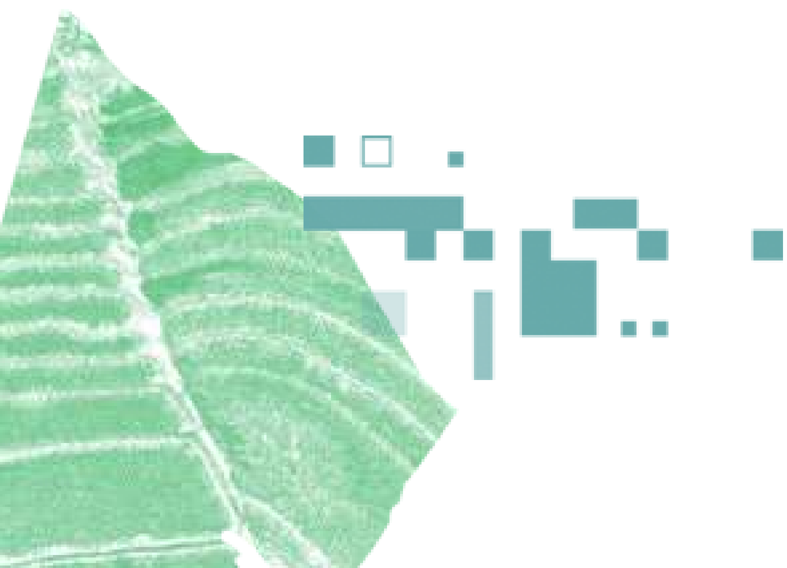
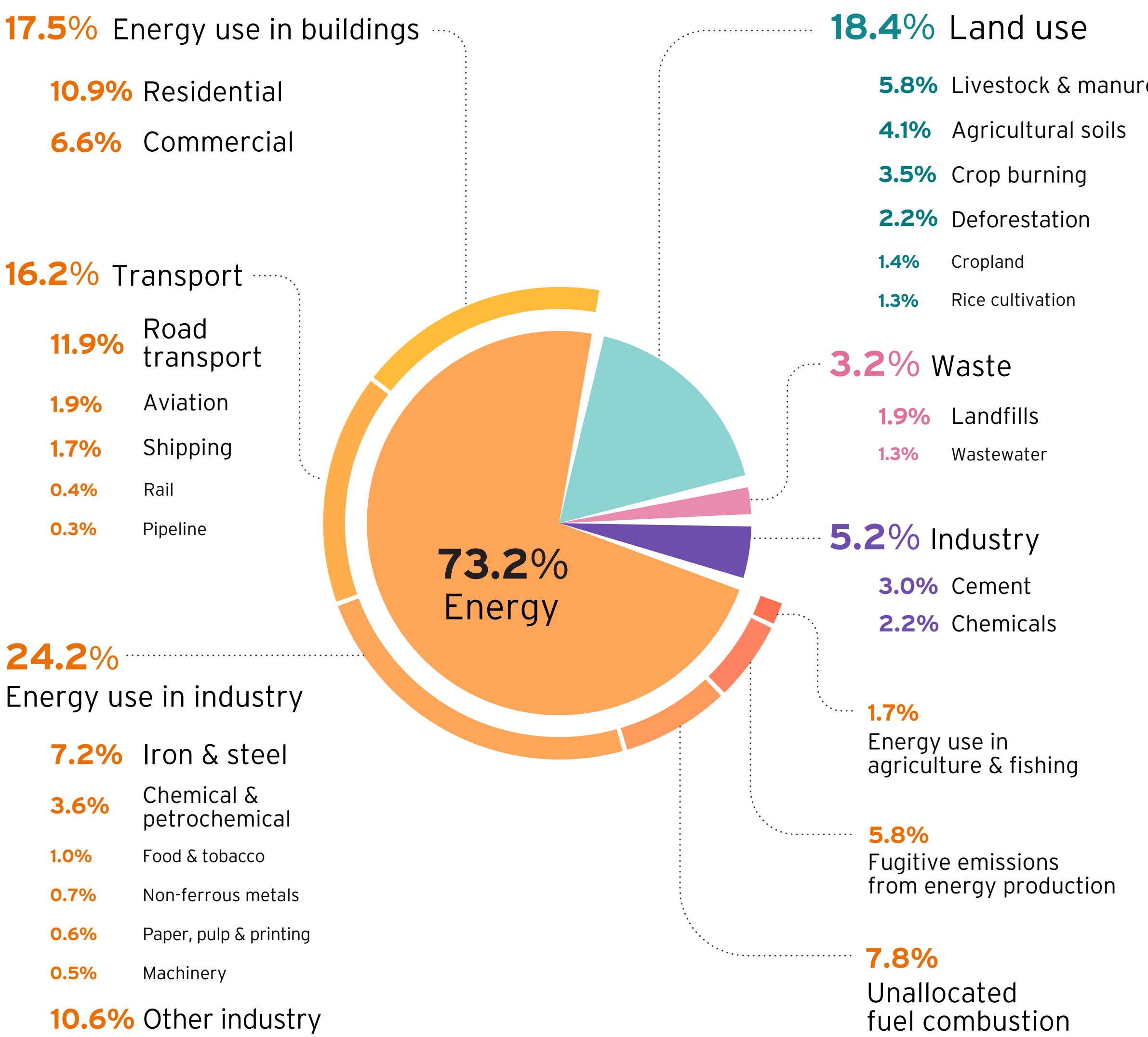


Figure 6. Share of global greenhouse gas emissions



Source: Climate Watch from the World Resources Institute.

Beyond green energy: Adapt or die

While clean energy and electrification are essential to greening the world, they are only part of the story. We believe that securing a more sustainable future also demands action in many other spheres of the economy and everyday life – **FIGURE 6**. We look to possible solutions to various problems that currently seem almost out of reach, but where technological advances and market forces are converging to create the potential investment opportunities of tomorrow.

In our view, the potential opportunities fall into two broad categories. First, there are the developers of new technologies that seek to enhance energy efficiency and reduce emissions. Next, there are the users of energy in each area, which will either have to adapt their operating processes by embracing new technologies or face business extinction. Some of today's heaviest greenhouse gas-emitting sectors represent the most promising areas for disruption.

Feeding ourselves sustainably

Agriculture and food production account for more than 15% of global greenhouse gas emissions. Meat production is a significant offender, giving off 6% of the global total. In the US, cattle pasture takes up 41% of total land.[3] In addition, the impact on biodiversity loss is catastrophic, and the loss of forests to pastures reduces the availability of nature-based carbon sequestration. We see high-end and low-end potential solutions within this area.

At the lower end, enormous investment has gone into developing meat alternatives. While the quality is impressive, these products typically remain slightly dearer than traditional meat. In time, we expect them to breach price parity and for their adoption to accelerate, eating into the market share of the mass market meat industry.

High-end solutions include high-price carbon neutral or carbon negative meat cultivation techniques. These range from special feeds such as seaweed that reduce cattle methane emissions by cattle to grass land fertilization that can accelerate carbon sequestration in topsoil. With the right care, grassland can function as carbon sinks – drawing in carbon from the atmosphere – potentially offering an additional revenue stream to their owners. But whereas meat substitutes are more accessible via public equity markets, high-end sustainable meat production ranches tend to be family-run businesses.

Energy efficient construction materials

A key component in construction, Portland cement production has changed little since it was patented almost two centuries ago. The high-temperature kiln firing and hardening processes involved in its manufacture are estimated to produce between 3% and 10% of global greenhouse gas emissions.[4] Alternatives to Portland cement already exist that either cause fewer emissions or that are even net absorbers of greenhouse gases. However, none are yet cost-competitive with the traditional variety.

In time, we believe these alternative technologies will enter the mainstream. Increasing consumer awareness, corporate sustainability initiatives and legislative pressure are among the likely drivers. For example, carbon emissions allowances such as those in the EU and elsewhere will drive up the cost of traditional cement. However, economies of scale are ultimately what we see as the likeliest source of progress as low-emission alternatives go from boutique cement producers to global competitors. Once a few alternatives reach cost competitiveness, the switch may happen surprisingly rapidly. It will thus be important to identify if specific cement makers and users are preparing for adaptation, particularly since some hard-to-abate sectors such as cement and steel are critical in the transition.

There are numerous environmental, social and governance (ESG) data providers that evaluate companies on their ESG performance and provide reports and ratings. Report and ratings methodology, scope and coverage vary greatly among providers.

[3] World Resources Institute, Climate Watch, as of Dec 2020; Bloomberg New Energy Finance, as of Nov 2021.
[4] World Resources Institute, Climate Watch, as of Dec 2020

Conserving water, our most precious resource

Scarcity of water – humanity's most precious resource – is worsening because of climate change. More frequent droughts are reducing available supplies, while flooding often contaminates reserves. As the global population and temperatures keep rising, these challenges are set to intensify.

Part of the solution to water scarcity may lie in desalinization of sea water. Currently, the world's 20,000 desalinization plants consume a lot of energy. A tenth of Saudi Arabia's electricity is used to produce fresh water, while desalinization accounts for more than 22% of CO_2 emissions in Abu Dhabi.[5]

Solar energy offers a potential solution here. So strong is the sun's radiation in those arid places that solar panels can easily overheat, leading to wastage. However, this excess heat can instead power the energy-intensive desalinization process. The heat is used to boil seawater and the resulting steam is cooled and condensed into freshwater.

In addition to desalinization, we emphasize the importance of data and analytics in managing water in today's warming world. Digital technologies are helping both utilities and heavy water users such as farmers to improve delivery and usage efficiency. We advocate selective portfolio exposure to water investments, which we believe can help pursue vital sustainability goals as well as financial returns and diversification.

Greening portfolios

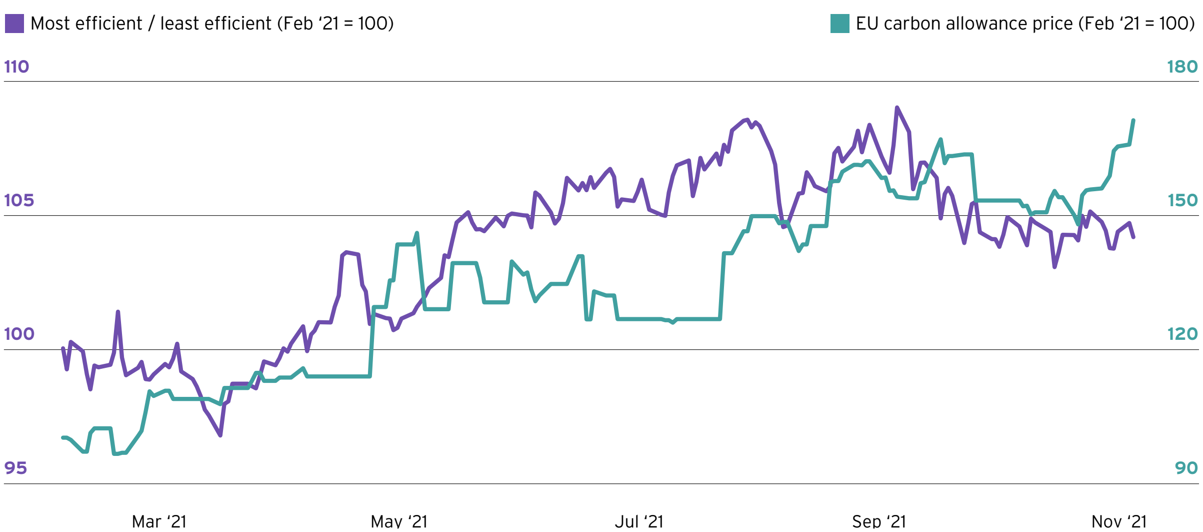
The unstoppable trend of greening the world is set to accelerate. As it does so, its effects will likely be felt throughout the global economy. The challenge for investors is to assess whether sectors and businesses are making sufficient preparations to adapt themselves. Those that do so are likelier to survive and thrive, while those that do not face displacement. We believe the earlier that companies and their investors adopt this approach, the better the potential outcomes for people, planet, profits and portfolios.

[5] Sustainability in Desalination, WaterWorld, as of Jun 2020.

The carbon allowance opportunity

In the European Union, carbon allowances are central to the drive to combat climate change. Since 2005, the bloc has sought to encourage companies to lower their greenhouse gas emissions through a system of emissions trading. This involves setting a cap on the overall level of greenhouse emissions and issuing permits or allowances for each ton emitted. Companies need to acquire allowances to cover their emissions, either by getting them from the government or buying them in the traded market. The cost of this creates a powerful incentive for them to lower their emissions.

Figure 7. Lower emitters outperform



Source: Bloomberg New Energy Finance, as of of 4 Nov 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

With the reopening of the global economy, demand for European carbon allowances has shot up. As a result, their price has risen by as much as 150% year over year. For businesses, this clearly represents an additional cost of doing business. In turn, it can affect portfolios, as the recent outperformance by low carbon-intensive companies has shown – **FIGURE 7**.

Over time, this is likely to lead to greater investment in clean energy and greater energy efficiency. In the near term, though, consumers of energy-intensive goods and services are feeling pain, as companies pass higher prices on to them.

Spiking natural gas prices in Europe – as well as in the liquified market globally – are at least partly attributable to the rapid shift from coal to relatively less CO_2-producing natural gas. While there are other forces at work, it will be important to watch how regulators react to higher heating bills and distributors going under. If European regulators flinch, it could not only undermine the price of tradeable allowances, but also undermine confidence in similar projects around the globe.

For suitable investors seeking to mitigate the effects of rising emissions costs on their portfolios, integrating environmental, social and governance (ESG) considerations across asset classes may be a good starting point. As data continues to be consistently reported across companies and sectors across all three spheres of emissions, managers who are incorporating ESG into their securities evaluation will focus on the impact of carbon markets on asset prices. For investors who want to participate directly in the price of emissions, strategies exist that seek to offer exposure.

5 Regional asset class previews

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5.1

Asia: Resilience likely for an unstoppable region

KEN PENG - Head of Investment Strategy, Asia Pacific
BRUCE HARRIS - Head of Global Fixed Income Strategy

As Asian economies continue to reopen, we seek selective exposure to assets with the greater recovery potential.

- After 2021's strong rebound, we expect Asian economic growth to return to pre-pandemic average levels of around 4.6% in 2022
- In equities, we seek exposure to a recovery in Chinese and Hong Kong markets, Southeast Asia and select beneficiaries of economic reopening
- We see potential opportunities in Asian fixed income, including China property, as well as large companies from certain other sectors
- Most regional currencies seem likely to remain range-bound in the coming year

Our favored Asian markets

EQUITIES EPS GROWTH FORECAST [1]	
CHINA	13.9%
HONG KONG	17.7%
ASEAN	12.9%

SECTORS EPS GROWTH FORECAST	
CONSUMER DISCRETIONARY	27.6%
IT	14.1%
SEMICONDUCTORS & EQUIP.	14.4%

FIXED INCOME YIELD [2]	
CHINA IG USD	2.6%
ASIA EX-JAPAN IG USD CORP	2.8%
ASIA EX-JAPAN USD SOV	3.4%
ASIA EX-JAPAN USD HY CORP	14%

Sources: 1 – FactSet consensus estimates, as of 30 Nov 2021; 2 – Bloomberg, as of 30 Nov 2021. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Overview

Having experienced an initially sharp recovery from the pandemic, Asian economies are entering a mid-cycle phase in 2022. The region overall grew by an estimated 7.9% in 2021, the highest rate in eleven years. We expect this growth to moderate to 4.6% in 2022, similar to the five-year pre-pandemic average growth rate of 4.5%.

That said, there are challenges to a complete return to normal. Omicron presents a particular threat to economies with lower vaccination rates or those whose vaccines are less effective against Covid. Waning policy stimulus, limited vaccine supplies, supply chain disruptions and other political actions by China are still playing out.

We believe many of these factors will abate later in 2022, assisting a return to trend growth.

Most countries in Asia struggled to procure vaccines in the first half of 2021, while the US and Europe have made remarkable progress in vaccinations since springtime. This limited Asia's ability to reopen economies. Even for China, whose "zero case" strategy produced great economic results in 2020, is now struggling with intermittent outbreaks that have capped consumption recovery in 2021.

However, inoculations have sped up since August. Singapore, China, Malaysia, Japan and Korea had fully vaccinated more than 70% of their populations by the end of October, surpassing the UK and US.[1] The rest of Asia, including the one-time epicenter India, also saw significant progress, increasing their vaccination rate by 28% on average in just two months.[2] This is likely to enable more Asian markets to re-open to international travel in 2022.

In the near term, supply chain disruptions and China's slowdown present constraints on Asian growth. But supply chain disruptions, such as the energy crunch and shipping bottlenecks, are byproducts of the atypical recovery from the pandemic. Demand for goods is sharply higher while there has been insufficient investment to meet this unusual demand. Meanwhile, commodities such as coal and crude oil are not only in short supply but facing logistical difficulties. These difficulties will likely fade as higher prices incentivize more production.

China's slowdown is likely to persist into early 2022, but we expect some recovery thereafter. First, the power crunch has already eased after policy response to increase supply and suppress speculation. More importantly, the slump in real estate sales is likely to send Chinese GDP growth to near zero sequentially in the fourth quarter of 2021, the lowest in three decades aside from in the pandemic. By spring 2022, however, we are likely to see greater impetus for easing policy to support growth. This is especially true given that it will be the last year of President Xi's second term and October 2022 marks the beginning of the 20th Party Congress. The need to restore economic health is stronger than in 2021. And there will be no easy comparisons with last year's data this time round.

Finally, amid the US Federal Reserve's tapering of its asset purchases, some investors are worried that potential US dollar strength will hit emerging markets' performance. However, the present situation is very different than in 2014 because most central banks are considering withdrawing stimulus. Only China may ease policy, but even that will unlikely be substantially sized. As such, a lack of policy divergence will probably keep exchange rates in a relatively tight range.

[1,2,3] Bloomberg, as of 19 Nov 2021

Equities

Asian equity market performance showed great divergence in 2021. India (up 25.3%) and Taiwan (up 19.0%) significantly outperformed the rest, with very robust earnings recovery. Japan (up 8.4%) and Singapore (up 6.0%)[3] held up until the Omicron variant hit markets and retreated along with other virus-sensitive markets like Thailand and the Philippines. China and Hong Kong were bottom performing on policy tightening. Since policy and vaccine supply drove relative performance in 2021, we suspect they could contribute to some reversal in 2022.

As most of the world heads toward a mid-cycle recovery, Asian earnings per share growth is likely to normalize to between 8% and 10% in 2022, after spiking 43% in 2021 – FIGURE 1. We expect markets with stretched valuations to first feel the downward pressure from earnings revisions, such as India.

In China's case, we remain slightly overweight despite the local economic slowdown. This is because tech and internet companies have very heavy weightings in the market and the worst of the regulatory tightening is now likely behind these sectors. A key turning point was President Xi's affirmation that digital technologies are critical to China's future development. Now, markets are just waiting for firms to revive their earnings growth, which we believe is likely in the first half of 2022. Aside from tech, domestic

[3] Bloomberg, as of 19 Nov 2021

Figure 1. Asia valuations and our favored sectors

	FREE MC	PE		EPS YoY%		P/B	ROE	DY (%)	CAPE
	US$bn	22E	23E	22E	23E	20E	20E	20E	10yr
JAPAN	3,977	14.5	13.5	11.6	7.2	1.4	8.8	2.2	23.0
ASIA PAC EX JP	7,970	14.2	12.8	7.1	11.3	1.8	12.1	2.9	19.3
AUSTRALIA	1,144	17.0	16.8	1.9	0.9	2.2	13.1	4.4	21.0
HONG KONG	492	15.5	13.8	16.5	12.4	1.2	6.9	3.1	16.7
SINGAPORE	195	14.8	13.0	15.4	13.3	1.2	7.9	4.0	13.9
NEW ZEALAND	38	36.9	30.9	10.7	19.4	3.1	7.6	2.2	28.8
CHINA	2,635	12.9	11.1	13.7	15.8	1.7	11.7	2.5	15.4
KOREA	949	10.2	9.2	-4.3	10.3	1.2	12.2	2.2	16.4
TAIWAN	1,189	14.6	13.8	-1.8	6.3	2.6	17.9	3.7	29.3
INDIA	929	21.9	18.8	23.3	14.8	3.5	13.9	1.3	39.2
THAILAND	128	18.2	16.0	12.1	13.5	2.1	10.2	2.6	15.7
INDONESIA	114	15.0	13.4	20.0	12.0	2.3	13.3	2.8	19.1
MALAYSIA	101	14.2	13.2	-4.5	7.7	1.4	10.9	4.4	14.1
PHILIPPINES	54	17.8	14.8	23.3	20.8	1.9	8.6	1.5	21.2
CONSUMER DISC.	1,173	22.5	17.7	36.4	27.6	2.7	9.0	1.0	20.0
IT	1,691	15.5	13.6	9.3	14.0	2.8	16.8	2.5	34.0
SEMI & SEMI EQUIP	774	17.3	15.1	15.6	14.5	4.6	23.2	2.2	37.0

Source: Citi Research, Worldscope, MSCI, FactSet, data as of 26 Nov 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events. *Note: The above data are compiled based on companies in MSCI AC World Index. The market capitalization for regions, markets and sectors are free–float adjusted. P/E, EPS Growth, P/B, Dividend Yield and ROE are aggregated from FactSet consensus estimate (calendarized to December year end) with current prices. CAPE is calculated by current price divided by 10–year average EPS based on MSCI index–level data. NM = Not Meaningful; NA = Not Available.

consumption remains a key theme, but with greater emphasis on middle class domestic brands, rather than luxury imports.

China's cyclical woes are also likely to ease. For political reasons, there may be a greater willingness to ease policy in 2022 in the lead up to the 20th Party Congress. In fact, some of the constraints upon property have already been loosened marginally, such as the relaxation of mortgage loans and reopening of financing via the interbank and securitization markets for some developers. We expect more decisive and broader easing in late 2021 and early 2022, which is likely to support a meaningful rebound in economic growth in the second half. The low valuations of China – on 13.3 times 2022's estimated EPS, compared to Asia ex-Japan (14.6) and the US (22.2)[4] – may suggest potential in some of the oversold areas. Hong Kong equities also point to similar opportunity.

The rest of Asia's economies have yet to feel the spillover from China's economic weakness. And some may have benefited slightly. Exports are seeing a slowdown in general, but exports to China were still growing faster than those to the US as of the third quarter of 2021. To offset the impact of potentially slower Chinese imports, the rest of Asia still has solid domestic recovery prospects amid potential re-opening, without the pressure of major policy tightening.

South Korea and Taiwan are more likely to feel the pain from weaker Chinese demand given their close trading relations. By contrast, Southeast Asia, Japan and India are somewhat more insulated. Within the region, we also like Southeast Asia given its relatively low sensitivity to China's slowdown, its quickly developing digitization trends and its greater potential for eventual recovery from the pandemic.

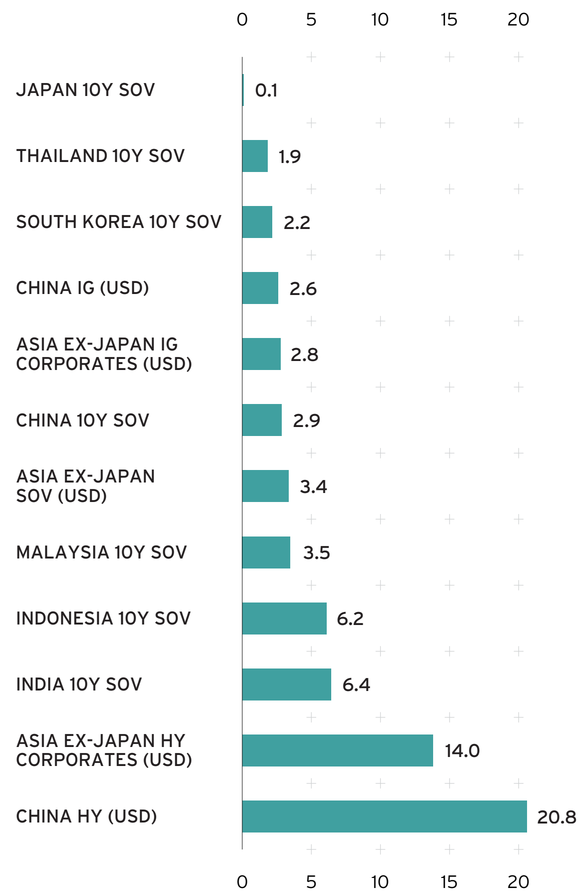
As the economic activities in Asia continue to normalize, consumer demand is likely shifting away from goods toward services. We continue to prefer tourism-related sectors, such as leisure, consumers, hospitality and airlines. We also like sectors with long-term growth potential even with the pandemic coming to an end, including new energy, semiconductors and technology.

Fixed income

Asia fixed income saw mixed performance in 2021. Investment grade (IG) credits remained largely stable, while high yield (HY) credit spreads widened significantly.

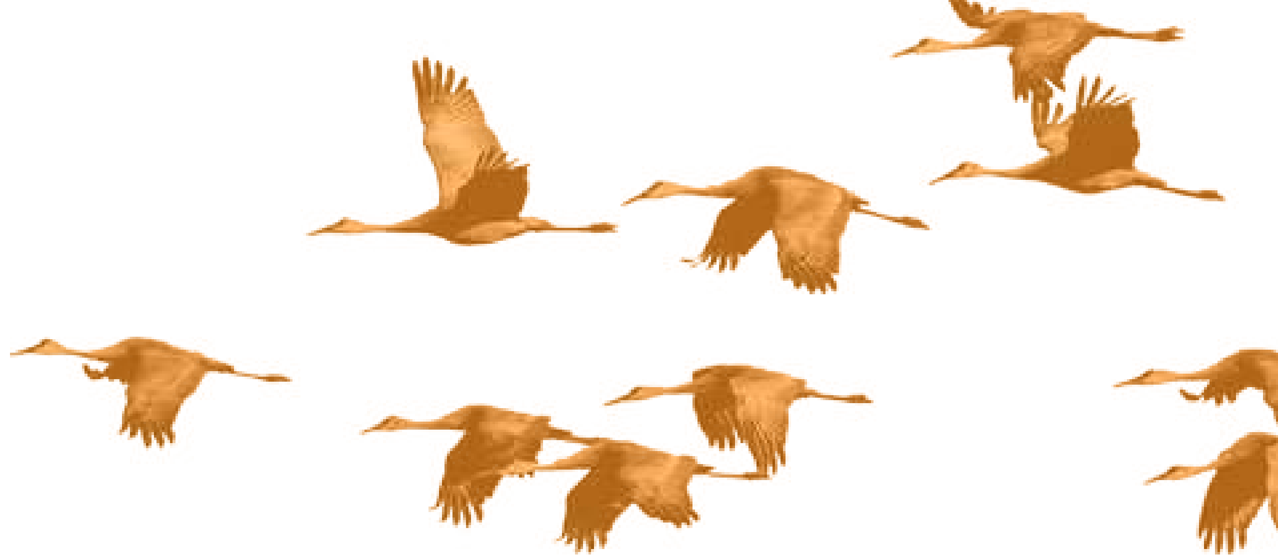
The primary cause of the yield spread widening was the Chinese government's "three red lines" policy. In force since 2020, this policy aims to force property developers to deleverage, thereby reducing residential real estate overcapacity and improving the overall financial health of the real estate sector. Credit availability was thus tightly restricted, particularly for the most indebted developers. Many such companies, including Evergrande, experienced sharp losses on both their local currency and US dollar denominated bonds. Some have defaulted and the outlook for Evergrande remains uncertain. Consequently,

Figure 2: Asia fixed income yields (%)



Source: Bloomberg, as of 30 Nov 2021. Past performance is no guarantee 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 and do not represent the performance of any specific investment.

[4] Bloomberg, as of 22 Nov 2021.



other issuers' bonds have fallen in price, but this was mostly limited to the real estate sector.

The reason this event was so profound for Asian fixed income markets is because real estate makes up at least 30% of China's GDP. Also, real estate developers' bonds comprise over 60% of China's high yield US dollar bond market, resulting in a steep drop for the China High Yield index in 2021. The contagion from both the overall high yield bond price drops and the overall impact on China's economy also affected investment grade bonds, but to a much lesser extent.

Going forward, many uncertainties remain, but the tone of policy has turned towards a more accommodative stance in November, reopening some channels of real estate financing, such as mortgages and the interbank bond market. Overall monetary policy is also poised to ease, as signaled by the central bank. As a result, we see potential opportunities for investors to buy a very high yielding part of the credit market, as China's policies relax somewhat.

Aside from Chinese property, there may be value in selected IG and HY bond issuers whose prices have been impacted due to unrelated concerns. We favor large companies in sectors such as industrials, infrastructure, leisure and telecommunications.

In addition, the relative cheapness of the Asia IG index versus other regions is very favorable for investors comfortable with the risks to consider entry points in the credits, especially given that it has a fairly low duration of just over five years.

Currencies

Asian currencies, as represented by the Bloomberg JP Morgan Asia Dollar Index, have weakened modestly by 1.3% in 2021. The rise of expectations for US interest rates has weighed on the region's currencies, while the resilience of the Chinese yuan has partly offset the effects. We expect most currencies in the region to remain range-bound in 2022 amid continued recovery from the pandemic.

The Fed tightening cycle may present some headwinds to emerging Asian currencies in the coming year. However, we see the impact as likely being much smaller than the 2014-19 episode for several reasons. The key reason is that monetary policy is much more synchronized in the US and Europe. The Bank of England and the European Central Bank are likely set on a path toward tightening next year, albeit at different paces, which would limit the upside of the US dollar. In emerging Asia, except for potential easing in China, several countries are expected to normalize their policies going into 2022, including India, Singapore and Korea. The overall balance of payments in emerging Asia looks more resilient this time around.

Having weakened around 10% against the US dollar in 2021, the Japanese yen is likely to be mostly driven by US interest rates in 2022. This is likely to see further weakness for the yen against the US currency.

Finally, after its surprising resilience in 2021, we expect the Chinese yuan to weaken in 2022. Some policymakers have voiced concerns over the strong currency and have called on banks to curb speculative positions for currency strength. China's weaker growth and an increasing monetary policy gap with the US are also likely to weigh on the currency. The need to maintain a stronger currency to counter a commodity price surge should also be less pronounced in 2022. Any downside is likely to be manageable, though, as the ongoing US-China talks should keep the currency in check.

5.2

Europe: Transitioning to mid-cycle expansion

GUILLAUME MENUET - Head of EMEA Investment Strategy and Economics
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Although slowing from 2021, European and UK growth will likely remain strong in 2022. We identify various potential opportunities in regional equities.

- We expect real GDP growth in the eurozone of 3.9% in 2022 and 4.2% in the UK
- Both Europe ex-UK and UK equities trade on low valuations compared to other developed markets
- Western European bond markets remain the lowest yielding of all global regions

Our favored markets

EQUITIES EPS GROWTH FORECAST [1]	
UK	2.5%
GERMANY	5.9%
SWITZERLAND	5.7%

SECTORS EPS GROWTH FORECAST	
ENERGY	14.2%
INDUSTRIALS	16.5%
CONSUMER STAPLES	9.3%
HEALTHCARE	9.9%
FINANCIALS	-5.1%

FIXED INCOME YIELD [2]	
UK IG CORP	1.9%
EURO CAPITAL SECURITIES	3.5%
EURO HY CORP	3.6%

Sources: 1 – FactSet consensus estimates, as of 30 Nov 2021; 2 – Bloomberg, as of 30 Nov 2021. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Overview

Real economic growth for the eurozone is expected to slow from 5.2% in 2021 to 3.9% in 2022. UK growth is expected to slow from 6.9% in 2021 to 4.2%. Consumer spending is strong, driven by pent-up demand and fueled by high savings accumulated during the pandemic and ongoing low interest rates. Companies' capital expenditure intentions are rising from low levels. Overall goods demand has been firm throughout 2021 and services are likely to recover gradually.

The European Union's €850 billion Recovery Fund is a key driver of renewed growth for the region. This is especially so for Euro area periphery countries such as Greece and Spain and EU-27 members in the East such as Hungary. For these nations, fund disbursements will represent a higher percentage of their GDP. In addition, the region is leading the way with alternative energy development initiatives, which should support growth in the quarters ahead.

Our growth expectations remain dependent on ongoing policy support. Fiscal policy is transitioning from emergency measures to longer-term growth promotion, focused mainly on infrastructure and alternative energy. The European Central Bank (ECB) and Bank of England (BoE) differ slightly in their approach, despite both holding the view that inflationary pressures are transitory. The ECB is not likely to raise its deposit rate from -0.5% any time soon, and their current open-ended monthly asset purchase program of €20 billion, which began before the pandemic, is likely to continue, and could be increased further during 2022. The BoE is expected to start slowly raising its base rate before the end of its bond buying program.

We see two main potential risks. Firstly, inflation could prove to be more than just transitory, although this is not our base case. In turn, more persistent inflation would probably see interest rates rise earlier than currently expected and perhaps a greater degree of other monetary tightening. Secondly, opinion polls for the French elections in the second quarter of 2022 are already showing robust support for extremist parties. Our baseline scenario, however, remains the business-friendly centrist President Macron winning a second term.

Equities

We have a positive view of both Europe ex-UK and UK equities for the next 12 to 18 months. Consensus EPS growth expectations for Europe ex-UK and the UK of 7.7% and 2.7% in 2022 and 7.8% and 3.9% for 2023 respectively.[1] We see EPS expectations for the UK in particular as probably too low, given that economy may grow 4.2%.[2] Subsequent earnings upgrades would likely be supportive for local equity prices. Both Europe ex-UK and the UK benefit from low valuations compared to other developed markets. Europe ex-UK trades on a multiple of 17 forecast earnings for 2022 and the UK on 13 times. Their average dividend yields are also high, at 2.8% and 3.8% respectively.[3]

Our favored national markets are Germany, the UK and Switzerland. While Germany faces short-term challenges including the latest wave of Covid and slower exports to China, we believe that these are reflected in its undemanding valuation multiple. Likewise, the UK faces ongoing post-Brexit adjustment issues, but its earnings multiple and dividend yield reflect worst-case Brexit outcomes. By contrast, Switzerland trades on a premium valuation, which we see as likely to be

[1,2,3] Bloomberg, as of 20 Nov 2021.

Figure 1. Europe valuations and our favored European sectors

		PE			EPS YoY%			P/B	ROE	DY (%)	CAPE
	WEIGHT	21E	22E	23E	21E	22E	23E	20E	20E	20E	10yr
EUROPE	15.8	15.2	14.5	13.7	63.6	4.8	6.0	1.9	13.2	3.2	22.0
UK	3.5	11.8	11.5	11.1	82.4	2.5	3.5	1.6	14.4	4.4	15.8
EUROPE EX-UK	12.3	16.5	15.7	14.6	57.1	5.7	7.0	2.0	12.8	2.8	24.8
FRANCE	2.8	16.3	14.9	14.2	108.6	9.1	5.2	1.9	11.8	2.7	25.9
SWITZERLAND	2.5	19.3	18.3	16.9	21.3	5.7	8.5	3.3	17.1	2.6	28.3
GERMANY	2.2	13.6	12.9	11.8	66.5	5.6	8.7	1.7	12.4	3.1	19.4
NETHERLANDS	1.2	26.8	24.0	21.0	37.5	11.7	14.5	1.7	11.6	1.6	38.5
SWEDEN	0.9	15.7	18.0	17.1	39.0	-12.9	5.7	2.4	16.0	3.3	24.5
DENMARK	0.7	21.3	20.3	22.1	68.0	4.6	-7.9	3.2	24.8	2.1	45.5
ITALY	0.6	11.6	10.4	9.9	61.7	11.3	5.5	1.3	10.8	4.4	21.9
SPAIN	0.5	13.0	12.1	11.0	51.6	7.7	9.9	1.2	9.1	4.0	14.9
FINLAND	0.2	17.2	18.3	16.7	31.4	-6.1	9.4	2.4	13.7	3.4	27.1
BELGIUM	0.2	18.3	18.6	16.5	41.0	-1.5	12.4	1.5	8.1	3.2	19.2
IRELAND	0.2	22.1	19.8	17.2	10.7	11.7	14.8	2.3	10.5	1.5	36.0
NORWAY	0.2	13.2	12.1	12.6	108.0	8.7	-3.6	2.1	15.9	4.3	19.2
AUSTRIA	0.1	9.1	8.7	9.0	175.4	4.4	-3.2	1.1	11.9	4.0	17.2
PORTUGAL	0.0	24.4	20.0	18.8	34.1	22.0	6.7	2.3	9.5	3.3	21.2
ENERGY	4.5	8.2	7.2	7.5	1,397.3	14.6	-4.2	1.1	13.3	5.1	12.9
INDUSTRIALS	14.8	21.7	18.6	17.3	117.0	16.7	7.4	3.7	18.1	2.3	31.1
CONS. STAPLES	13.0	21.2	19.4	18.0	7.1	9.4	7.9	3.6	17.1	2.8	25.3
HEALTHCARE	14.6	19.2	17.5	15.8	9.4	9.9	10.7	3.4	20.5	2.5	28.5
FINANCIALS	15.6	9.1	9.6	8.9	68.2	-5.1	7.6	0.8	9.2	4.8	14.0

Source: Citi Research, Worldscope, MSCI, FactSet, data as of 26 Nov 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. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion, are subject to change without notice, and are not intended to be a guarantee of future events. *Note: The above data are compiled based on companies in MSCI AC World Index. The market capitalization for regions, markets and sectors are free-float adjusted. P/E, EPS Growth, P/B, Dividend Yield and ROE are aggregated from FactSet consensus estimate (calendarized to December year end) with current prices. CAPE is calculated by current price divided by 10-year average EPS based on MSCI index-level data. NM = Not Meaningful; NA = Not Available. Where this presentation shows information coming from Citi Research (CR), please refer to the "Citi Research" section within In View Insight (https://citiprivatebankinview.com) for CR details, including individual research reports. If you are unable to access the provided link, please contact your Private Banker to obtain a copy of the aforementioned CR information.

sustained. High quality companies, brand strength and exposures to our favored sectors such as healthcare are all features of the Swiss market.

We see various potential sector opportunities with strong earnings growth, particularly financials, consumer discretionary, industrials and healthcare. The continued recovery from Covid and abating supply side risks should support these sectors' earnings.

European financials, for example, have seen performance strengthen, helped by positive third quarterly earnings from several banks. Even so, they still trade on low average price-to-book valuations of 0.75. Loan growth is rising from depressed levels and balance sheets are robust. We also favor healthcare for its consistent top-line and profit growth. Given the ramp-up in sustainable investments by many European governments, we continue to see upside potential in European green energy stocks in 2022. Mature energy companies are slowly transitioning parts of their businesses from traditional to green energy.

As the markets transition into a mid-cycle phase, we increasingly favor quality companies that offer resilient earnings growth. Europe has a significant number of quality companies, characterized by strong brand recognition, capable management and robust balance sheets. They should remain resilient during volatile periods. Key risks to our view arise from a global growth slowdown, renewed Covid-related disruptions and further macro risks emanating from China.

[4,5] Bloomberg, as of 20 Nov 2021.

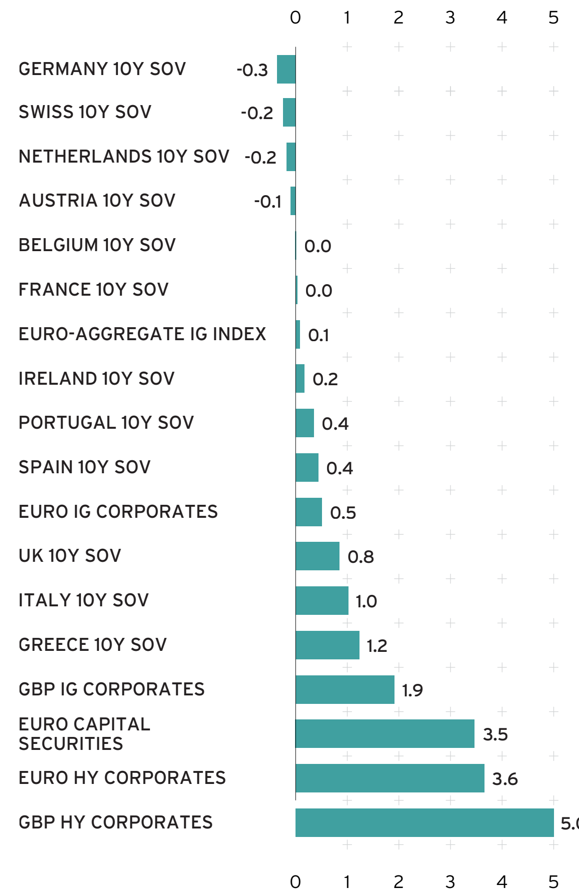
Fixed income

Western European bond markets remain the lowest yielding of all regions, although yields have increased somewhat from 2020. The aggregate investment grade benchmark yield has increased from -0.15% to 0.04%. The biggest contributor to the low yield is the eurozone, where the European Central Bank's (ECB) policy deposit rate remains -0.5%. The ECB's quantitative easing via the €1.85 trillion Pandemic Emergency Purchase Program ("PEPP") has driven bond prices in much of the region into negative or near-negative territory. Through late November, the average yield of all euro-denominated IG sovereign and quasi-sovereign bonds is 4 basis points (bps), with most investment grade (IG) corporate bonds rated "A" or higher trading on negative yields.[4]

In our view, the ECB will continue to keep rates negative, ECB president Christine Lagarde has said she thought a rate hike in 2022 was "very unlikely." In addition, the ECB meeting in December may result in an expansion of regular asset purchases once the PEPP winds down in March. This would maintain downward pressure on bond yields. However, despite the ECB's buying activity in the market, regional sovereign bond yields have increased somewhat due to increased inflation concerns. In the eurozone, yields have increased 30-40bps, with Spain 10-year bonds yielding 0.4%, Italy 10-year yields at 0.9%, and even German 10-year yields moving higher in 2021 from -0.60% to -0.3%.[5]

In the UK, the Bank of England is charting a different course to the ECB and is likely to raise

Figure 2: EMEA fixed income yields (%)



Source: Bloomberg Barclays, Bloomberg and The Yield Book, as of 30 Nov 2021. Past performance is no guarantee 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 and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

policy rates in 2022 in order to combat inflation. Accordingly, UK 10-year gilt yields have risen from 0.2% to 0.9%, the biggest move among large European countries.[6] As the BoE adjusts short-term rates and other intermediated duration rates potentially move higher following the Federal Reserve taper, gilts' yield relative to other developed sovereigns may increase somewhat further.

For income investors, we do not think that such higher medium-term yields yet represent value for investors, given their intermediate duration and the uncertain outlook of ECB and BoE policies in 2022 and beyond. However, if intermediate yields continue to move higher in 2022 as global rate markets normalize, there may be interesting entry points in the future. The same caution applies to Euro IG paper, although intermediate duration BBB issuance may offer some attractive individual issuer opportunities, with this 5-10y segment averaging yields of about 0.5%. More value can be found in British pound denominated IG, which trades at 1.9% currently.[7]

In high yield, both euro-denominated bank Tier 1 capital securities and non-bank issuers including loans offer yields around 3%.[8] They are likely to see their credit metrics supported by the ECB's continuing provision of liquidity through its asset purchases.

In the ongoing environment of negative real rates, EU green bonds represent a new asset class that could also offer potential opportunities. The EU has issued its inaugural green bond by selling €12 billion of 15-year bonds with a yield of 0.45%.[9] The EU's green bonds will be based on the EU's sustainable finance rules, and the capital raised will be used to help finance the EU's €800 billion Recovery Fund, with a process in place to ensure that the cash is used to fund genuine environmental projects.

Currencies

The British pound is supported at current levels by valuation assets from global investors and the BoE starting its rate rising cycle ahead the Fed and the ECB. However, rallies will likely be capped this winter, which could be a challenging time owing to higher living costs and rising Covid cases. Disruption from the long-delayed implementation of full post-Brexit customs declarations and controls during 2022 is a further risk to the UK's economy. Any long-term upside depends on the government formulating and communicating its post-Brexit and post-pandemic economic vision.

The euro looks vulnerable as the ECB delays tightening monetary policy. Inflation-adjusted eurozone rates do not offer much support to the currency against the US dollar among others. Uncertainty is also heightened as the newly elected German coalition government finds its feet. More positively, the eurozone periphery countries are mostly performing well, aided by EU loans and grants. On the other hand, the market will soon start to focus on the potential risks presented by a far-right euro-skeptic candidate winning the April 2022 French presidential election.

[6,8,9] Bloomberg, as of 20 Nov 2021
[7] The Yield Book, as of 20 Nov 2021

5.3

Latin America: Uncertainty creates value opportunistically

JORGE AMATO - Head of Investment Strategy, Latin America
BRUCE HARRIS - Head of Global Fixed Income Strategy

Many Latin American assets remain poorly valued in relative and absolute terms. However, we do not see obvious catalysts for a near-term rerating.

- We look for a deceleration of Latin American growth to around 2.5% in 2022
- Some local equity markets trade on valuations that have previously been followed by sharp reratings
- We expect higher volatility in regional fixed income in 2022, amid political uncertainty

Our favored markets

EQUITIES EPS GROWTH FORECAST [1]	
BRAZIL	-14.80%
CHILE	-5.1%
COLOMBIA	6.6%

SECTORS EPS GROWTH FORECAST	
IT	0.25%
TELECOM	70.4%
HEALTHCARE	10.6%
CONSUMER STAPLES	6.8%

FIXED INCOME YIELD [2]	
LATAM USD HY CORP BONDS	5.8%

Sources: 1 – FactSet consensus estimates, as of 30 Nov 2021; 2 – Bloomberg, as of 30 Nov 2021. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Overview

Latin America is likely to have a challenging year in 2022, due both to internal and external macroeconomic forces. We expect a deceleration of regional GDP growth from 6.9% in 2021 to 2.25%. Political and policy uncertainty will probably weigh heavily on investors' confidence. Investors are already applying large discounts to regional financial markets and there are few obvious near-term catalysts for a rerating. We expect a moderation of global GDP growth from 5.6% in 2021 to 3.8% in 2022. The Federal Reserve could spend much of the first half of the year reducing its asset purchases, while later in the year might begin slowly raising policy rates.

Commodity prices rallied in 2021. However, the likes of crude oil, copper and agricultural commodities, are forecast to see lower prices by end-2022. Supply-demand imbalances will potentially resolve slowly as the extended pandemic ends and the global economy enters a mid-cycle phase. We forecast China's GDP growth to slow from 8% to 4.5%. This China slowdown could impact Latin America through its commodity exposures as well as a decrease in overall trade activity and investment from China.

On the domestic front, fiscal deficits and debt loads are larger than before the pandemic. Debates as to how to finance public accounts in an environment of low growth will pressure policymakers and create friction between presidents who want to spend and legislatures who wish to run tighter finances, particularly in countries with upcoming elections. Meanwhile, Latin American central banks are likely to continue the interest rate hiking cycle they began in 2021, tightening regional credit conditions.

Equities

The MSCI Latin America Index is down over 20% from its June 2021 highs, retracing nearly 50% of its rally from the pandemic lows of 2022. At its current levels near 2000, the MSCI is down 17% year-to-date, lagging the MSCI World Index of developed markets by nearly 32%. This absolute and relative performance was only matched by the MSCI China Index, which was also down about 19%.

The decline has left Latin American equities looking cheap – **FIGURE 2**. Previously, multiples of around nine times forecast earnings per share (EPS) for 2022 and 2023 have given way to sharp price rallies. EPS are forecast to grow 200% to around $256 in 2021, before pulling back to $232 in 2022.

At the individual country level, Brazil, Colombia and Chile trade on the most depressed multiples of forecast earnings for 2022 of 7.4, 8.1 and 13 respectively. These are nearly two standard deviations below long-term averages, levels that have never previously persisted for sustained periods. In addition – and in the case of Brazil specifically – other balance sheet indicators such as earnings before interest depreciation and amortization (EBITDA) and profit margins, return on equity, and free cash flow generation have recovered to above pre-pandemic. And leverage indicators such as net debt-to-EBITDA have continued falling. Based on history, then, these markets may offer opportunistic value potential.

This is far from a straightforward call, though. Even before Covid, these economies were growing very slowly. EPS for the MSCI Latin America Index grew only 8.4% in 2018 and fell 21% in 2019. Regional GDP grew only 1.1% in each of those years. Social discontent and political change have been brewing since. The pandemic lockdowns, health crisis and increased fiscal pressures have since exacerbated economic and political fragilities and deepened social polarization. A potentially strong rebound in economic growth in 2021 of 4.7% may be followed by 2.5% in 2022. And having jumped 220% in 2021, regional EPS may contract by 9.5% in 2022.

Figure 1. Latin America valuations and favored sectors

	FREE MC US$bn	PE 22E	PE 23E	EPS YoY% 22E	EPS YoY% 23E	P/B 22E	ROE 22E	DY (%) 22E	CAPE 10yr
MSCI EM LATAM	534.4	9.0	8.5	-9.5%	5.5%	1.6	22.7	6.0	19.1
ARGENTINA	12.8	24.8	27.6	NA	-10.0%	2.4	-1.6	NA	NA
BRAZIL	312.6	7.4	7.1	-14.8%	4.5%	1.5	25.5	8.1	19.6
MEXICO	145.4	13.3	12.1	5.9%	10.6%	2.1	28.9	3.1	19.3
CHILE	36.8	13.0	13.0	-5.1%	-0.4%	1.4	13.4	3.3	14.1
COLOMBIA	12.5	8.1	7.6	6.6%	6.2%	1.1	24.2	3.4	12.1
PERU	14.3	10.3	9.3	17.1%	11.3%	1.6	22.5	2.6	NA
IT	13.1	50.9	40.3	25%	26%	7.7	11.9	0.2	NA
TELECOM	14.0	26.5	20.7	70%	28%	4.1	10.5	0.9	NA
HEALTH CARE	42.4	13.2	10.9	11%	21%	2.6	38.7	2.9	NA
CONS. STAPLES	82.1	17.0	15.5	6%	10%	2.5	17.6	2.4	26.9

Note: The above data are compiled based on companies in MSCI AC World Index. The market capitalization for regions, markets and sectors are free–float adjusted. P/E, EPS Growth, P/B, Dividend Yield and ROE are aggregated from FactSet consensus estimate (calendarized to December year end) with current prices. CAPE is calculated by current price divided by 10–year average EPS based on MSCI index–level data. NM = Not Meaningful; NA = Not Available. Source: Bloomberg, FactSet, as of 22 November 2021. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index.

Mexican equities have bucked the broader regional trend, with the MSCI Mexico Index up nearly 9% through 29 November 2021. On nearly 13.2 forecast earnings for 2022, its valuation is in line with its long-term average. While our long-term macroeconomic outlook for Mexico's economy is one of continued slow deterioration, its close trade ties with the US and the administration's decision to provide very limited direct fiscal support during the pandemic – thereby protecting public accounts – have positively differentiated its equity market prospects from the rest of the region.

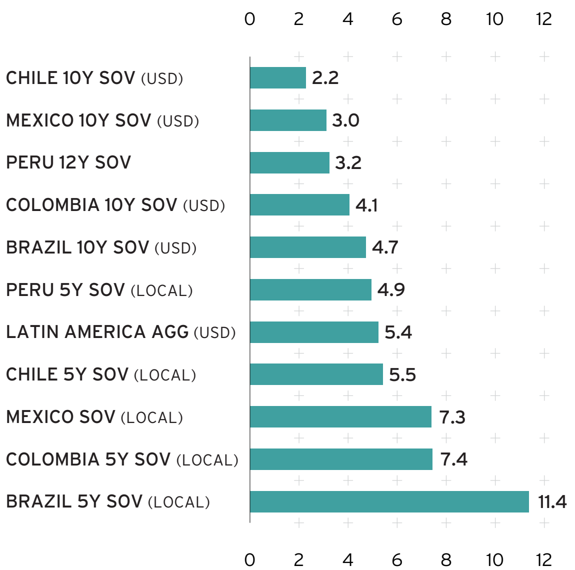
Our favored regional sectors are information technology, communications, healthcare and consumer staples. The first three exhibit high rates of growth and have longer investment cycles, while all four are less correlated to the economic cycle.

Fixed income

Latin American fixed income weathered the Covid situation in 2021 relatively well. In part, this is due to the region's strong ties to cyclical industries and commodity exports, where prices have soared thanks to the re-opening of the global economy. For example, Ecuador – a country that defaulted and restructured its sovereign debt last year – experienced year-to-date total returns of over 30% on its sovereign bonds. This was partly due to the sharp increase in the price of crude oil, its most important export. Indeed, virtually all Latin American countries have important sovereign-owned oil companies, with two of the largest integrated oil companies in the world – PEMEX and Petrobras – based in the region.

The region is also a substantial exporter of commodities and commodity byproducts as diverse as soybeans, beef, coffee, sugar, copper, zinc, iron ore, petrochemicals, animal feed, paper products, steel, and lithium. This commodity exposure helps improve the region's trade-weighted US dollar balances of payments for the region and sovereign debt ratings. It has also fueled the growth of large, globally dominant companies and local banks that finance them. These can offer potential fixed income investment opportunities denominated in US dollars.

Figure 2: Latin America fixed income yields (%)



Sources: 1 – FactSet consensus estimates, as of 30 Nov 2021; 2 – Bloomberg, as of 30 Nov 2021. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Overall, we continue to favor US dollar-denominated corporate and quasi-sovereign bonds over USD-denominated sovereigns, owing partly to the spread premiums on offer. Our expectation is that commodity prices will stay relatively high in 2022 as the global economy continues to expand, albeit perhaps not at 2021's peak levels. This would also favor many of these companies' credit profiles as they are actively using their 2021 "windfall" excess cashflow to pay down debt.

The downsides of higher commodity prices are increased local inflation, growing populist discord and higher local rates as central banks tighten monetary policy. This combination creates the potential for unfavorable political outcomes in 2022. Brazil may experience a particularly contentious election cycle in late October. This should result in higher overall volatility for fixed income, which we would generally expect to create potential entry points for investors. Peru recently went through a volatile election cycle, in the wake of which its sovereign bonds rose by over 5%. Similarly, there may be entry points for local currency denominated sovereign bonds. In this segment, we think that for now local central banks will continue to be vigilant against inflation, so that rates may continue rising into early 2022. However, at some point next year, local currency bonds may become an interesting opportunity once inflation appears to be decelerating.

Currencies

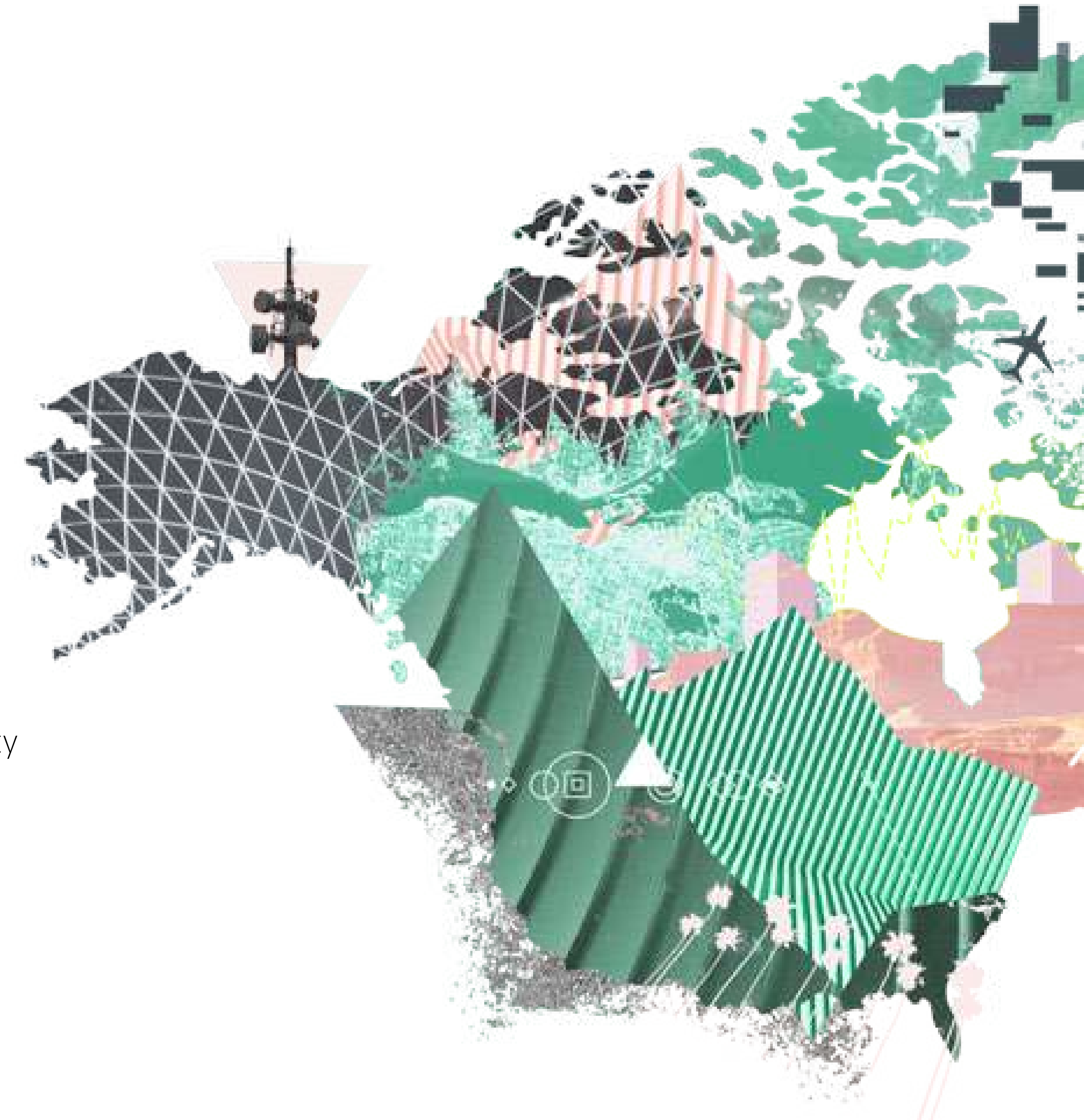
Robust Latin American economic growth was not matched by regional currency weakness in 2021. For the second year in a row, severe depreciation was suffered. Losses ranged from 6% in the Mexican peso to a 16% drop for its Argentine equivalent.

Poor expectations for growth beyond 2021, inflationary pressures from supply and demand imbalances, electoral cycles and concerns over fiscal account sustainability are feeding into a vicious cycle of exchange rate depreciation.

Paradoxically, this comes at a time when external accounts should be benefiting from some of the strongest conditions in years. The prices of all major regional commodity exports have seen significant gains relative to pre-pandemic levels. Indeed, the relationship between real effective exchange rates and terms of trade has not been so distorted since the 1990s, when these economies were running managed or fixed exchange rates. Moreover, current account deficits should remain manageable, as central bank foreign currency reserves provide more than adequate cushion and foreign currency refinancing needs are limited.

While uncertainty is elevated, it appears that Latin American currencies are reflecting a hefty discount on political and policy risks. This is despite central banks' aggressive rate hikes – which increase the currencies' yields and makes short selling more onerous – and macroeconomic fundamentals remain relatively healthy. Our base case scenario is that most governments will try to maintain fiscal discipline and that not all political pressure will lead to laxer policies.

Amid global economic recovery in 2022, we expect the currencies of the major economies, the Brazilian real, the Colombian, Chilean and Mexican peso and the Peruvian sol, to appreciate relative to the 2020 lows.



5.4

North America: Strength, quality and resilience

CHARLIE REINHARD
Head of Investment Strategy, North America

BRUCE HARRIS
Head of Global Fixed Income Strategy

We see select opportunities in regional equity and fixed income, as bottlenecks ease while the Fed normalizes its pandemic policies.

- In North America, we expect 3.5% growth in the US and 4.3% in Canada in 2022
- In equities, we favor US large caps, dividend growers, and the financials, industrials and healthcare sectors
- North American fixed income still offers some of the world's most attractive yields
- We look for a slightly firmer US dollar in 2022. The Canadian dollar could lose ground.

Our favored North American markets

EQUITIES EPS GROWTH FORECAST[1]	
US LARGE CAP EQUITIES	7.1%

SECTORS EPS GROWTH FORECAST	
FINANCIALS	-8.2%
INDUSTRIALS	19.2%
HEALTHCARE	6.1%

FIXED INCOME YIELD[2]	
US HY BANK LOANS	4.3%
US HY PREFERREDS	4.0%
US HY CORP (BB-RATED)	3.8%
US IG PREFERREDS	3.4%

Sources: 1 – FactSet consensus estimates, as of 30 Nov 2021; 2 – Bloomberg, as of 30 Nov 2021. Past performance is no guarantee of future returns. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Overview

As Covid-induced bottlenecks subside and inflation recedes, we look for the US economy to grow by 3.5% in 2022 and 2.6% in 2023. This comes after 5.5% growth in 2021. If we are correct, the unemployment rate could decline further, and the private sector may advance without relying on the large fiscal relief measures that characterized 2020 and early 2021.

With reduced fiscal support, the deficit as a proportion of GDP may shrink. Consequently, new Treasury debt issuance is likely to decline. This may cap the extent of any rise in 10-year Treasury yields relating to the Fed's tapering of its monthly bond purchases. The Federal Reserve is likely to begin raising rates in 2022 and continue doing so in 2023 as it strives to achieve a more neutral policy stance in support of a continued expansion.

After growth of around 5% in 2021, we expect Canadian GDP to increase by 4.3% in 2022 and 2.4% in 2023. The Bank of Canada began tapering its bond purchases before the Fed and appears likely to raise rates before the Fed, as it did in 2002 and 2010.

Given that 2022 is a midterm election year in the US, equity returns may well prove stronger toward the end of the year. All seats in the House of Representatives and 34 of 100 Senate seats will be contested. Fourteen of the contested Senate seats are held by Democrats and 20 by Republicans. The norm is for the sitting president's party to lose seats in the midterms, especially in the House. Since 1946, S&P 500 returns from the fourth quarter of midterm election years through the second quarter of the following year have been the highest of any rolling three-quarterly stretch in the presidential cycle, at 22.1%. This may be because investors like gridlock, the law-making stalemate that occurs when rival parties control different parts of the presidency and legislature.

In addition to an unexpected deceleration in growth or increase in rates, the recent new Covid developments, geopolitical provocations, US-China relations and energy prices are among the risks we are actively monitoring.

Equities

US equities returned over 24% in the year through October 31, as the economy registered its fastest-ever recovery after the depths of the pandemic. This came after returns of over 31% in 2019 and 18% in 2020. We expect more modest returns in 2022, by contrast, with occasional bouts of volatility along the way. Earnings per share for the broad market are likely to grow by around 7-8% a year in 2022-2023, in our view. Equity returns may be broadly similar. We had an overweight stance in US large-cap equities as of early December 2021.

Canada's market trades on a lower earnings multiple of 2022's estimated earnings, given its higher weighting in value-oriented financials, materials and energy companies. We have a neutral stance on Canadian large caps. This is based on our view that rising oil prices will not persist for the entire 12- to 18-month period ahead, although natural gas prices stay more stubbornly high in North America.

We see potential opportunities in US large-cap equities, that have traditionally performed better than small-cap equities after the first year of a new bull market emerging from recessions. We are focusing on equities with consistent high quality dividend payments that have consistently increased over time. These tend to be less volatile than the market at large. This approach leads to a greater skew toward consumer staples and industrials than would result from investing in the S&P 500 index.

When the return to a more normal way of life takes hold more fully, a positively sloped yield curve and an expanding economy will strengthen the case for the financials sector, in our view. Financials were not impacted in 2020 as they were in the Global Financial Crisis, which bodes well for them and the wider economy. The same goes for industrials, which should benefit from capital-for-labor substitution, along with parts of the technology sector, to address strong demand coupled with tight labor markets. Many industrial companies are quickly making and absorbing the robotics and artificial intelligence of the digital revolution that allow for increased automation – see 5G and beyond: The connection to our future. The rapid development of Covid vaccines

Figure 1. North America valuations and our favored sectors

	FREE MC	PE			EPS YoY%			P/B	ROE	DY (%)	CAPE
	US$bn	21E	22E	23E	21E	22E	23E	20E	20E	20E	10yr
NORTH AMERICA	43,663	22.7	21.1	19.5	49.4	7.2	9.9	3.5	19.8	1.8	40.5
USA	41,698	23.2	21.6	19.7	48.8	7.1	10.2	3.7	20.3	1.7	41.5
CANADA	1,965	15.4	14.3	15.4	59.1	7.9	3.1	2.0	13.9	3.0	26.0
INDUSTRIALS	3,296	25.1	21.1	18.4	58.1	19.2	14.0	5.1	22.7	1.5	35.8
HEALTHCARE	5,324	18.3	17.2	16.6	25.6	6.7	3.5	4.5	27.7	1.8	42.0
FINANCIALS	4,506	13.2	14.4	12.9	65.1	-8.2	11.4	1.6	13.1	2.1	25.4

Source: Citi Research, Worldscope, MSCI, FactSet, as of 24 Nov 2021. *Note: The above data are compiled based on companies in MSCI AC World Index. The market capitalization for regions, markets and sectors are free–float adjusted. P/E (Price/Earnings), EPS growth (Earnings per share), P/B (Price/Book), Dividend yield and RoE (Return on Equity) are aggregated from FactSet consensus estimates (calendarized to December year end) with current prices. CAPE is calculated by current price divided by ten–year average EPS based on MSCI index level data. NM = Not Meaningful; NA = Not Available. Indices all from MSCI. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

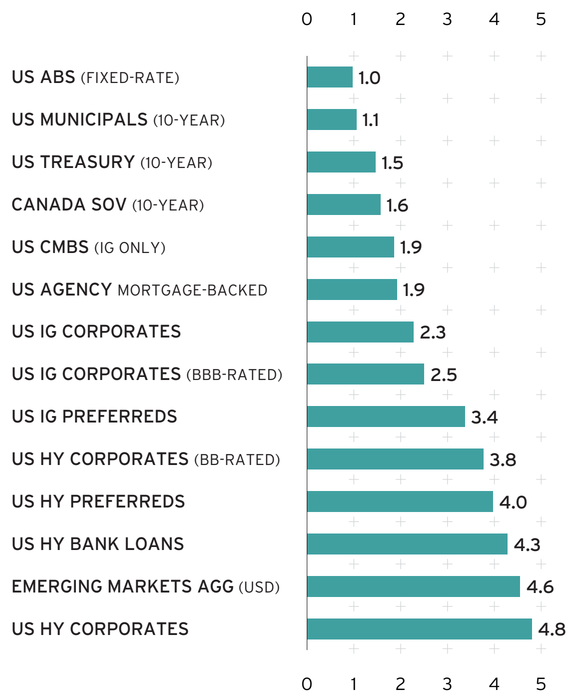
is a reminder of the recurring innovation taking place in healthcare where an aging population is also a tailwind – see **Increasing longevity: The healthcare opportunity** in Outlook 2021.

Fixed income

US fixed income markets offer attractive relative value yield potential compared to their European and Japanese counterparts. Admittedly, US Treasury and investment grade bond yields are unlikely to keep up with inflation in 2022. However, as the Federal Reserve reduces its monthly bond purchases, yields may rise further and provide interesting entry points for investors. This will be particularly true if portfolios are constructed as "ladders," with bonds of staggered maturity dates that allow for the reinvestment of matured principal at potentially higher rates in the future. For investors concerned about inflation, Treasury Inflation-Protected Securities (TIPS) pay the headline Consumer Price Inflation rate and offer a portfolio hedging opportunity. That said, we do expect US inflation to subside to 3% in 2022 and average 2.5% longer-term.

A growing US economy bodes well for corporate issues, particularly those with a lower credit rating. This is despite the likely withdrawal of accommodative monetary policy and the expected upward shift of the US Treasury yield curve. High yield (HY) bonds yield 4.8%, which represents a spread of 337 basis points over similar duration US Treasuries. This is the highest yield for the asset class since November of last year. While still below the 5.54% average of the last three years, it is more than the expected rate of inflation.

Figure 2: North America fixed income yields (%)



Source: Bloomberg, as of 30 Nov 2021. Past performance is no guarantee of future returns. Real results may vary.

Within the HY segment, selected "rising angels" issuers – i.e., companies that may be upgraded to an investment grade rating – could see outsized capital gains as their yield spreads narrow versus Treasury securities. Similarly, certain sectors such as energy may generate higher returns as these companies use much of their excess cashflow from higher prices to pay down their debt. Within high yield, "levered loans" – or variable-rate bank loans – offer similar returns to high yield bonds. However, they also offer the advantages of having floating-rate coupons and being secured by assets of the borrowing company.

The financial sector's capital has grown rapidly during the pandemic. We therefore remain comfortable moving down the capital structure for higher yields in preferred securities. Depending on the issuer or structure, preferred securities could offer suitable investors yields between 3% and 4%. New issuance is limited, which also creates a strong technical environment. We favor the more liquid $1,000 par institutional fixed-to-floating rate securities. That said, we would be willing to give up some yield for structures that have larger floating-rates spreads. Larger "back-end" spreads can help relative performance if the issuer does not redeem the security at its first call date, as it thus begins to pay floating-rate income, and if the security is called, it may be in a higher interest rate environment, creating a potential "ladder" effect for investors to roll their cash proceeds.

For most high-income earners in the US, tax-exempt municipal bonds will continue to be a core portfolio holding. Absolute yields may be near historically low levels. However, the relative proposition to taxable bonds remains attractive and we look to take advantage of any material weakness. Municipal bonds have historically blended well with dividend stocks for investors seeking income. Much of the Covid relief efforts to assist state and local governments has yet to be spent, and tax collections are rising as the economy re-opens, thereby improving credit quality. For holders of munis, current pending tax legislation may increase tax rates, improving the relative attractiveness of tax-exempt issues versus taxable bonds.

Currencies

We expect the US dollar to be slightly firmer in the year ahead. This is partly because the Fed is likely to raise interest rates more than most other G10 economies even as economic growth slows. It also reflects the ongoing threat from Covid, which may increase investor appetite for a currency often seen as a "safe haven."

Among the G10 nations, the Bank of Canada is one of the exceptions that has been taking monetary tightening steps before the Fed. However, a lot of further tightening is already embedded in the Canadian dollar exchange rate. If this assumption proves too aggressive and if oil prices start to decline, the Canadian dollar could weaken.

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 asset class 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.

Emerging Markets (EM) Hard Currency Fixed Income is represented by the FTSE Emerging Market Sovereign Bond Index (ESBI), covering hard currency emerging market sovereign debt.

Global Developed Market Corporate Fixed Income is composed of Bloomberg Barclays indices capturing investment debt from seven different local currency markets. The composite includes investment grade rated corporate bonds from the developed-market issuers.

Global Developed Market Equity 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.

Global Developed Investment Grade Fixed Income is composed of 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 Emerging Market Fixed Income is composed of Barclays indices measuring performance of fixed-rate local currency emerging markets government debt for 19 different markets across Latin America, EMEA and Asia regions. iBoxx ABF China Govt. Bond, the Markit iBoxx ABF Index comprising local currency debt from China, is used for supplemental historical data.

Global High Yield Fixed Income is composed of 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.

Hedge Funds is composed of investment managers employing different investment styles as characterized by different sub categories – HFRI Equity Long/Short: Positions both long and short in primarily equity and equity derivative securities; HFRI Credit: Positions in corporate fixed income securities; HFRI Event Driven: Positions in companies currently or prospectively involved in wide variety of corporate transactions; HFRI Relative Value: Positions based on a valuation discrepancy between multiple securities; HFRI Multi Strategy: Positions based on realization of a spread between related yield instruments; HFRI Macro: Positions based on movements in underlying economic variables and their impact on different markets; Barclays Trader CTA Index: The composite performance of established programs (Commodity Trading Advisors) with more than four years of performance history.

High Yield Bank Loans are debt financing obligations issued by a bank or other financial institution to a company or individual that holds legal claim to the borrower's assets in the event of a corporate bankruptcy. These loans are usually secured by a company's assets, and often pay a high coupon due to a company's poor (non-investment grade) credit worthiness.

P**rivate Equity** characteristics are driven by those for Developed Market Small Cap Equities, adjusted for illiquidity, sector concentration, and greater leverage.

INDEX DEFINITIONS:

Bloomberg Barclays Global Aggregate Bond Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

Bloomberg Barclays US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes US dollar denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

Bloomberg Barclays US Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury.

Bloomberg-JP Morgan Asia currency index is a spot index of the most actively traded currency pairs in Asia's emerging markets valued against the US dollar.

FTSE All-World Index is a stock market index representing global equity performance that covers over 3,100 companies in 47 countries starting in 1986.

FTSE NAREIT Mortgage REITS Index is a free-float adjusted, market capitalization-weighted index of US Mortgage REITs. Mortgage REITs include all tax-qualified REITs with more than 50 percent of total assets invested in mortgage loans or mortgage-backed securities secured by interests in real property.

MSCI AC Asia ex-Japan Index captures large and mid-cap representation across 2 of 3 Developed Markets (DM) countries* (excluding Japan) and 9 Emerging Markets (EM) countries* in Asia. With 1,187 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI China Index captures large and mid-cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). With 704 constituents, the index covers about 85% of this China equity universe.

MSCI Emerging Markets Index captures large- and mid- cap representation across twenty-four Emerging Markets (EM) countries. With 837 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

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 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.

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

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

MSCI ACWI World ex-USA Index covers large and mid cap representation across 22 of 23 Developed Markets (DM) countries (excluding the US) and 27 Emerging Markets (EM) countries. With 2,352 constituents, the index covers approximately 85% of the global equity opportunity set outside the US.

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.

MSCI World Momentum Index is designed to reflect the performance of an equity momentum strategy by emphasizing stocks with high price momentum, while maintaining reasonably high trading liquidity, investment capacity and moderate index turnover.

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.

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.

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.

S&P 500 Healthcare Index includes companies from the S&P 500 Index that are involved from such areas as pharmaceuticals, healthcare equipment & supplies, biotechnology and healthcare providers and services.

S&P 500 Hotels, Resorts and Cruise Lines Index is a sub-index of the S&P 500 Index and represents the performance of hotels, resorts and cruise line companies that are represented in the latter index.

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.

VIX or the Chicago Board Options Exchange (CBOE) Volatility Index, is a real-time index representing the market's expectation of 30-day forward-looking volatility, derived from the price inputs of the S&P 500 index options.

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.

Correlation is a statistical measure of how two assets or asset classes move in relation to one another. Correlation is measured on a scale of 1 to -1. A correlation of 1 implies perfect positive correlation, meaning that two assets or asset classes move in the same direction all of the time. A correlation of -1 implies perfect negative correlation, such that two assets or asset classes move in the opposite direction to each other all the time. A correlation of 0 implies zero correlation, such that there is no relationship between the movements in the two, over time.

Digital commerce involves transactions conducted online to purchase goods and services.

Digital remittances are funds sent from one person to another over the internet, typically across borders.

EU or the European Union is a political and economic union of 27 member states located in Europe.

Mobile POS payments are payments made at the point of sale but facilitated via mobile devices like smart phones.

OECD or the Organisation for Economic Co-operation and Development is an intergovernmental economic organization with 38 member countries, aimed at stimulating economic progress and world trade.

Sharpe ratio is a measure of risk-adjusted return, expressed as excess return per unit of deviation, typically referred to as risk.

Strategic Return Estimates (SRE) are based on Citi Private Bank's forecast of returns for specific asset classes (to which the index belongs) over a 10-year time horizon. The forecast for each specific asset class is made using a proprietary methodology based on the assumption that equity valuations revert to their long-term trend over time.

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Bond rating equivalence

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.

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