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The New Frontier: A History of Economic Crisis and Recovery from 1918 to COVID-19

June 2020

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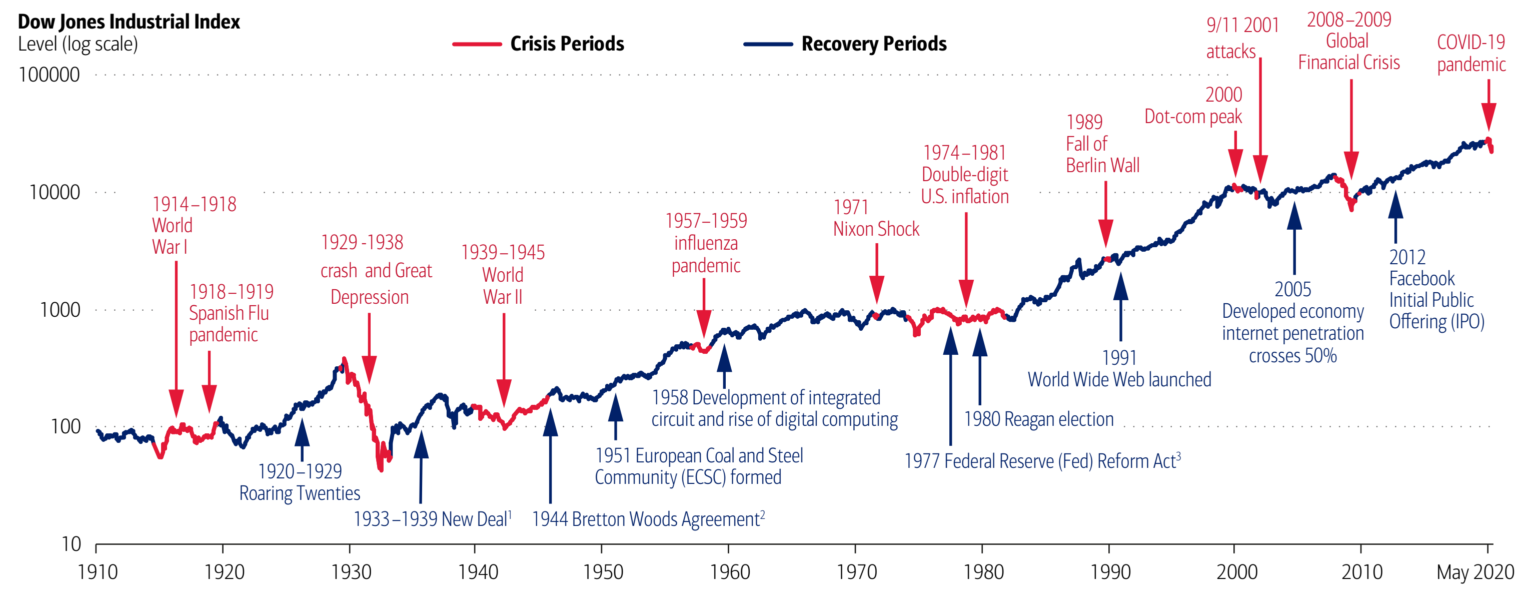
Months on from the initial outbreak, the world remains in the grip of the novel coronavirus pandemic. From shuttered storefronts to school closures and government-enforced shutdowns, the impact on daily life worldwide has been extreme, and the global economy is still operating well below capacity. The scale of the crisis has been unparalleled in living memory. But a look at the past 100 years shows several periods of societal, economic, geopolitical and financial crisis that would eventually give way to new patterns of activity, innovation, policy support and cooperation that were more constructive for households, companies and investors. The early 20th century included a world war and a global flu pandemic. The 1930s saw an economic depression and military conflict on an even larger scale. The 1970s was a period of economic stagnation and high inflation. And the first decade of the new millennium brought the collapse of a stock market bubble, the rise of global terrorism and a financial crash. Crucially, each of these historical crisis periods was ultimately succeeded by an economic revival, a more favorable investment environment and sustained price gains for equity markets (Exhibit 1).

Exhibit 1: Equity Markets and Historical Periods of Crisis and Recovery



Source: Chief Investment Office, Bloomberg. Data as of May 2020.

[1] A series of programs, public work projects, financial reforms, and regulations enacted by President Franklin D. Roosevelt to respond to needs for relief, reform, and recovery from the Great Depression.

[2] A global monetary and exchange rate regime in which international currencies were linked to the U.S. dollar, which in turn was pegged to the price of gold.

[3] Introduced a number of reforms to the Federal Reserve, giving it greater accountability and establishing its dual mandate of maximum employment and price stability.

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The main lesson from these past episodes is that it is important in times of disruption to recognize emerging new trends that may be obscured by the immediate crisis fallout but that nonetheless have positive implications for economic output, market returns and asset allocation strategies. Over the past century, we count at least four major periods of upheaval that have preceded periods of economic regeneration, and we expect a similar pattern of renewal to emerge from the current crisis.

A decade of consumerism follows the outbreak of war and disease

The 2020 coronavirus pandemic has been the most severe public health crisis in generations, but its global impact is nonetheless dwarfed by the Spanish influenza outbreak of 100 years ago. Starting at the tail end of the First World War in early 1918 and continuing until mid-1919, the Spanish Flu is thought to have infected over one-quarter of the world population, with estimates of the number of fatalities caused by the epidemic reaching as high as 50 million or more. Despite its much higher death toll, many of the actions taken to contain the 1918 pandemic were the same as those being used today: bans on large gatherings, the wearing of face coverings in public and the closure of schools and businesses. And compounding the impact of the disease on global activity was the typical age of those worst affected. Across the three waves of the pandemic, close to half of the fatalities are estimated to have occurred among working-age adults of between 20 and 40 years,[4] in contrast with the current outbreak in which older populations have been most at risk. Prior to the onset of the Spanish Flu, World War I had itself resulted in tens of millions more military and civilian casualties around the world between 1914 and 1918, making the second half of the 1910s a period of widespread societal devastation. The global economic impact from both the war and the flu outbreak were significant. While the two events overlapped, the typical reduction in per capita real gross domestic product (GDP) caused by the Spanish Flu across 42 countries covering around 90% of the 1918 world population has been estimated at -6.0%. And on the same measure, the economic cost of World War I has been estimated at -8.4%.[5]

The subsequent decade nonetheless brought much stronger economic and market conditions. The turmoil of the 1910s was followed by the Roaring Twenties, a period of widespread consumerism in the U.S. and Europe that emerged from the destruction of the preceding years. The 1920s boom in consumer activity was driven in large part by innovations in telecommunication and manufacturing that had supported the war effort. These included new devices such as the telephone and the radio as well as mass production techniques like the moving assembly line that made electronics, automobiles and other consumer products more affordable to individual households. The 1920s was also a period of rapid growth in commercial media, arts and entertainment, in stark contrast with the devastation of World War I and the physical distancing measures introduced during the Spanish Flu. Long-term growth data from the Maddison Project[6] at the University of Groningen show above-trend annual real GDP growth of 4% in the U.S. and Western Europe between 1920 and 1929. And over the same period to the peak that preceded the 1929 market crash in September of that year, the Dow Jones delivered an outsized 21% annualized return in price terms. The 2020 coronavirus pandemic has been the most far-reaching global health crisis of the contemporary era, but the economic exuberance of the 1920s that followed the dual shocks of World War I and the Spanish Flu outbreak demonstrates the world's ability to rebound even in the wake of extreme societal disruption.

[4] "Pandemic versus Epidemic Influenza Mortality: A Pattern of Changing Age Distribution," The Journal of Infectious Diseases, Volume 178, Simonsen, Clarke, Schonberger, Arden, Cox and Fukuda (1998).

[5] "The Coronavirus and the Great Influenza Pandemic: Lessons from the "Spanish Flu" for the Coronavirus's Potential Effects on Mortality and Economic Activity," NBER working paper 26866, Barro, Ursua and Weng (2020).

[6] A project to collate historical economic statistics, such as GDP, GDP per capita, and labor productivity.

Exhibit 2: Crisis and Recovery: World War I and Spanish Flu

Crisis Period	Post-Crisis Recovery	Global Real GDP Growth (annualized)	Equity Return (annualized)
World War I (1914–1918) Spanish Flu pandemic (1918–1919)	1920–1929: Roaring Twenties, mass production, boom in media, entertainment, consumerism	+4.0%*	+21.2%

Sources: Chief Investment Office, Maddison Project Database, Bloomberg. Data as of 2020. *Average of U.S. and Western Europe. Equity return is Dow Jones Industrial Index price return to 1929 peak. **Past performance is no guarantee of future results.**

Innovation, cooperation and prosperity after economic depression and global conflict

The global economic boom of the 1920s came to an end with the Wall Street crash of 1929 and the start of the Great Depression. The stock market collapse was preceded by a large run-up in valuations, involving widespread participation by commercial bank retail deposits and individual investors, many of whom extended their positions through margin buying. A decade of easy credit and strong industrial output growth over the course of the 1920s had left banks, households and businesses overextended. As a result, the market declines of late 1929 were sufficient to cause a major contraction in credit and a collapse in real activity that would stretch well into the 1930s. On top of the stress in financial markets, the depression itself was worsened by the responses of global policymakers, which included pro-cyclical monetary policy under the gold standard, an escalation in trade protectionism and, in 1932, contractionary fiscal policy in the U.S. aimed at closing the budget deficit. The impact on economic activity was severe, with U.S. real GDP falling by close to 30% in the acute 1929–1933 phase of the crisis and the unemployment rate rising to just under 25% by the end of the period. Stimulus and reform under the New Deal kept a floor under activity over the years that followed, but fiscal policy was tightened prematurely as the economy began to recover, causing an economic relapse later in the decade. From the equity market bottom in 1932, it would ultimately take another 20-plus years and a substantial increase in deficit spending during the Second World War for stocks to eventually regain their 1929 peak.

The economic turbulence and global conflict of the 1930s nonetheless gave way to a much more benign environment for economies, markets, geopolitics and policy in the post-war years. The effects of the Great Depression led to a rash of new regulations and programs designed to prevent a recurrence of the extreme economic stress of the period. Agencies such as the Securities and Exchange Commission and the Federal Deposit Insurance Corporation were formed to protect investors and depositors, while social security and unemployment insurance programs were created to limit financial hardship for the most economically vulnerable populations. From the mid-1940s, the hostilities of World War II were replaced by a new period of global cooperation under the Bretton Woods institutions, the Marshall Plan,[7] the European Coal and Steel Community, and the start of multilateral trade coordination under the General Agreement on Tariffs and Trade. Central banks shifted away from pro-cyclical monetary policy under the gold standard to the less deflationary Bretton Woods system, which no longer required the money supply to be backed by physical gold reserves. Countries instead tied their domestic monetary and exchange rate policies to a gold price-linked U.S. dollar, with additional financial support available from the newly formed International Monetary Fund. Pro-cyclical fiscal orthodoxy was also replaced by the Keynesian revolution, which favored deficit spending over balanced budgets during periods of economic weakness and to this day remains the principal method by which governments act to limit the duration of downturns. It is notable that the average length of U.S. recessions prior to World War II was 21 months, whereas the average recession duration since 1945 and the broad acceptance of countercyclical fiscal measures has been just 11 months. Outside geopolitics and policy, the post-war years also brought major gains in innovation and

[7] An American initiative passed in 1948 for foreign aid to Western Europe.

the wider economy. Through the invention of the transistor in the late 1940s and the development of the integrated circuit in the 1950s and 1960s, the foundations were laid for the rise of digital computing, which would accelerate later in the century. And led by the need for construction, manufacturing and public investment in civil infrastructure, as well as the post-World War II baby boom, household incomes rose, and the middle class expanded across industrialized economies. Real global GDP grew at an annualized rate of over 4% during the second half of the 1940s and through the '50s and '60s, alongside annual equity market price gains of over 7%. Indeed this was a period that also included another influenza pandemic (in 1957–1958) which, though far less virulent than the Spanish Flu, was still estimated to have caused at least one million fatalities worldwide. Nevertheless the strong growth rates and market returns that surrounded this outbreak and followed the extreme destabilization of the Great Depression and the Second World War once again demonstrate that economic activity and investor sentiment have tended not to suffer lasting damage in the aftermath of major crises.

Exhibit 3: Crisis and Recovery: Great Depression and World War II

Crisis Period	Post-Crisis Recovery	Global Real GDP Growth (annualized)	Equity Return (annualized)
Great Depression (1929–1938) World War II (1939–1945)	1945–1969: New investor and consumer protections, global cooperation on trade, monetary and exchange rate policy, Keynesian revolution, dawn of digital computing, middle class expansion	+4.1%*	+7.2%

Source: Chief Investment Office, Maddison Project Database, Bloomberg. Data as of 2020. *Average of U.S. and Western Europe. Equity return is Dow Jones Industrial Index price return. **Past performance is no guarantee of future results.**

Pro-market policymaking and a computing revolution follow a decade of stagnation

The 1970s began with a crisis of the global monetary system that sparked a prolonged stagflationary period of economic underperformance and high inflation. Years of fiscal excess by the U.S. federal government during the 1960s culminated in the "Nixon Shock" of 1971, which brought the collapse of the post-war Bretton Woods system, a devaluation of the U.S. dollar and a breakdown in global monetary policy discipline. The Nixon Shock was preceded by a major increase in discretionary and military spending to fund the Great Society and the Vietnam War. Crucially, the subsequent widening of the budget deficit and pick-up in domestic inflation (which rose from 1.0% at the start of 1965 to over 6.0% by the start of 1970) were not resisted by the Fed due to the type of political interference in monetary policy that would be unthinkable to investors today. In spite of the deteriorating fiscal balance, falling unemployment rate and growing inflation concern, it is well known that the Fed came under pressure to boost the money supply under successive presidents in the late 1960s and into the early 1970s. Data from the Federal Reserve Bank of St. Louis show a spike in the frequency of communication between the Fed and the White House during this period, and downward pressure on the exchange rate ultimately made it impossible to maintain the fixed dollar price of gold that had anchored global monetary policy since the Second World War. In August 1971, President Nixon was eventually forced to break the U.S. dollar link to the gold price, allowing the Fed and other central banks more latitude to expand their domestic money supply and launching the era of fully floating global exchange rates. This breakdown in the global monetary order would give rise to the stagflation of the 1970s, which was only exacerbated by high rates of labor unionization and the twin oil shocks of 1973 and 1979. Over the course of a decade in which inflation averaged over 7% and peaked at close to 15%, equity markets delivered negligible returns.

The economic malaise of the 1970s was, however, followed by a shift toward more market-friendly government and monetary policy, and a period of much stronger investment performance in the 1980s and 1990s. Beginning with the Federal Reserve Reform Act of 1977, central banks around the world gained explicit mandates and a higher degree of independence, which allowed them to regain control of inflation. This in turn contributed to a structural decline in global interest rates. Governments in the major Western economies introduced new pro-business agendas of de-unionization, privatization and lower tax rates, most recognizably under the conservative governments of Ronald Reagan and Margaret Thatcher. Internationally, the 1980s also saw a similar shift toward pro-market policies in non-Western economies. Government reforms in China began a process of economic development through which hundreds of millions of workers were mobilized into higher value-added activity such as privatized agriculture, manufacturing and infrastructure building, while the country was opened up to foreign direct investment and global trade. And the fall of the Berlin Wall at the end of the decade brought a Soviet population of close to another 300 million out from behind the Iron Curtain and into the global system. This surge in the international labor pool accelerated the trend toward globalization, allowing large corporations to extend their supply chains to lower-cost countries and further restraining wage growth in Western economies. At the same time, ongoing cost reduction and miniaturization in digital computing saw the rise of the personal computer in the 1980s, followed by the emergence of the commercial internet in 1990s, with the dot-com boom in the second half of the decade providing an additional tailwind for global markets. Everyday life was being transformed as email and other web applications began to substitute for traditional forms of communication, connecting businesses with their customers and individuals with each other more efficiently. Alongside the trends toward lower inflation, lower interest rates, global supply chains and new export markets, growth in digital communication would also help to boost corporate profitability. The years that followed the stagflationary 1970s were therefore a boom period for multinational companies, making the 1980s and 1990s two of the strongest decades for equity market returns in post-war history.

Exhibit 4: Crisis and Recovery: Nixon Shock and 1970s Stagflation

Crisis Period	Post-Crisis Recovery	Global Real GDP Growth (annualized)	Equity Return (annualized)
Nixon Shock (1971) 1970s stagflation	1980–1999: Central bank independence, disinflation, structural interest rate decline, de-unionization, privatization, lower tax rates, rise of global labor force, rise of personal computer and commercial internet	+3.2%	+13.4%

Source: Chief Investment Office, International Monetary Fund, Bloomberg. Data as of 2020. Equity return is S&P 500 Index price return. **Past performance is no guarantee of future results.**

A record economic expansion and technology sector leadership after serial crises

The first decade of the new millennium brought serial crises for financial markets in the dot-com bust of 2000, the 9/11 terrorist attacks, two high-profile accounting scandals in 2001 and 2002 and, later in the decade, the global financial crisis of 2008/2009. Equity returns were negative for the 2000s as a whole, with the period bookended by the two deepest bear markets since the 1930s. Overvaluation and a lack of profitability among high-flying technology startups turned the dot-com boom of the 1990s into a dot-com bust, with the equity market beginning a long period of de-rating that would drag down the S&P 500 by a total of 49% between March 2000 and October 2002. With the pause in internet infrastructure investment came the first U.S. recession since the early 1990s, ending what at that time had been the longest economic expansion since World War II. But the recession itself was relatively mild in comparison to the savage bear market in

equities, which continued through the terrorist attacks of September 11, 2001, (which prompted a four-day closure of the New York Stock Exchange) and the crisis of investor confidence stemming from successive corporate accounting scandals at Texas-based energy firm Enron in October 2001 and Virginia telecommunications operator WorldCom in mid-2002. A series of interest rate cuts between 2001 and 2003, an easing of bank lending standards and a surge in household and financial sector credit spearheaded an economic and market recovery over the next five years. But the equity market failed to break materially above its year 2000 peak before a turn in the debt-driven U.S. housing boom precipitated a wider global credit contraction and the financial crisis of 2008/2009.

The 2008/2009 financial crisis was the most damaging since the Great Depression of 80 years earlier. But the shifts made in government and central bank policymaking over the intervening period allowed for earlier and stronger official support. An aggressive response of interest rate cuts, quantitative easing, emergency liquidity facilities, government guarantees on bank debt, purchases of troubled assets and public spending by fiscal authorities around the world would eventually restore stability to financial markets. And after the string of crises that had occurred over the course of the decade, the global economy went on to register its longest span of continuous growth of the post-war era between June 2009 and March 2020. The accompanying bull market of the 2010s was led by massive outperformance in the technology sector, both in the U.S. and globally. The dot-com crash of the early 2000s had been a major setback for public equity returns in the sector, but the underlying trend toward an expanding digital economy nonetheless remained intact. Telecommunications service providers continued to build out their networks, and the internet penetration rate within industrialized economies rose in each consecutive year of the 2000s and 2010s, crossing the 50% threshold in 2005. The digitization of the global economy has been the most significant investment theme of the past decade, particularly the emergence of the smartphone and the growth of the mobile internet. Social media, digital advertising, internet retail, video streaming, ride hailing and other online services have driven the explosive growth in the sector over the past 10 years, and information technology leaders now account for seven of the largest 10 publicly traded companies by market capitalization globally. This was the trend coming into 2020 before the arrival of the latest crisis to hit the global economy in the form of the novel coronavirus.

Exhibit 5: Crisis and Recovery: Dot-com Bust, 9/11 Attacks, Corporate Scandals, Financial Crisis

Crisis Period	Post-Crisis Recovery	Global Real GDP Growth (annualized)	Equity Return (annualized)
Dot-com bust (2000) 9/11 attacks (2001) Corporate scandals (2001–2002) Global Financial Crisis (2008–2009)	2009–2019: Global monetary and fiscal expansion, ongoing increase in digital penetration, rise of mobile internet and new online services	+3.8%	+11.2%

Source: Chief Investment Office, International Monetary Fund, Bloomberg. Data as of 2020. Equity return is S&P 500 Index price return. **Past performance is no guarantee of future results.**

The new frontier: digitization, automation and localized capacity for a post-COVID-19 world

The coronavirus pandemic has been a milestone event in public health and another seminal crisis in world history, dealing a major blow to global economic activity as we enter the new decade. But like all the major crises of the past century, we expect the immediate impact and aftershocks from the coronavirus outbreak to gradually subside as business and consumer activity begin to recover. While the near-term shock to economic activity has been severe, global growth is expected to stabilize and improve in the second half of 2020 and into 2021 as government-enforced shutdowns and other social distancing measures are scaled back. The latest projections from the International Monetary Fund forecast a global economic contraction of -3.0% in 2020, with a return to growth of 5.8% expected next year. And though the second quarter is expected to see the deepest sequential contraction in economic activity since the Depression era, unprecedented global policy stimulus of close to 20% of GDP alongside the gradual reopening of economies around the world should help to make this the shortest recession in post-war history.

The vulnerabilities revealed by the crisis are, however, likely to prompt a more lasting shift in behavior by consumers, businesses and policymakers in order to ensure they are better prepared to deal with disruptive events of this and other types that may arise in the future. We may not see the same boom in consumerism that followed World War I and the Spanish Flu given the likelihood that saving rates will rise. And it is doubtful that global cooperation will increase in the way that we saw following the Great Depression and World War II, particularly given growing U.S.-China frictions, ongoing division within the European Union and global export restrictions on medical equipment. But just as the Spanish Flu outbreak led to an increase in academic research into infectious disease, 9/11 left a legacy of tighter airport security measures to guard against the risk of terrorism, and all the major crisis events in between have given way to new, more constructive trends in policy, innovation and consumer behavior, another phase of renewal is likely to support related areas of economic activity and investment return in the period ahead (see chart).

Exhibit 6: Major Investment Themes For The Post-COVID-19 Recovery

Theme	Drivers	Sectors/Industry groups
Global healthcare spending	Demand for medical services, higher hospital equipment levels to build demand surge capacity, health infrastructure in underdeveloped systems	Healthcare providers and services, emerging market healthcare sector, healthcare equipment and supplies
Medical technology	Remote patient care, advanced devices and equipment for diagnosis and monitoring	Healthcare technology, healthcare equipment and supplies, life sciences tools and services
Genomics	Use of advanced techniques in disease treatment, pathogen genome sequencing, improved drug development capacity	Biotechnology, pharmaceuticals
Robotics and automation	Shorter supply chains, operation of factories, transportation systems, retail and essential services with less labor dependence	Electronic equipment, instruments and components, application software, electrical components and equipment
Cloud computing	Increased reliance on telecommuting, distance learning in education, need to process and store larger data volumes	Information technology, systems software
Digital media and entertainment	Online gaming, video streaming, social networking, digital media, virtual reality demand with more social distancing	Communication services, interactive media and services
Online retail	Demand for online ordering and delivery across a range of consumer categories including household products, food, consumer staples	Internet and direct marketing retail

Source: Chief Investment Office. Data as of May 2020.

Healthcare stands of course at the center of the current crisis, and we expect more investment and innovation in the sector over the immediate term and beyond. The coronavirus outbreak has revealed major shortfalls in capacity across healthcare systems around the world, both in emerging and developed economies, and this highlights a fundamental lack of preparedness not only for medical emergencies, but also to meet growing demands over the coming years from ageing populations and the rising incidence of chronic disease. We therefore expect spending on healthcare infrastructure to increase globally over the years ahead as medical service providers look to build demand-surge capacity for diagnosis, treatment and monitoring. Healthcare expenditure has remained relatively stable at 9% to 10% of global GDP over the past several years, and the pandemic is likely to bring forward much-needed investment in medical equipment, healthcare facilities and advanced drug development techniques. Greater reliance on telehealth is likely to be among the key solutions to emerge from the crisis. And biosecurity practices should also gain in adoption over the period ahead. These are measures aimed at mitigating biological threats from pathogens, such as stricter regulations around sanitation, new health-related screening policies for entry into buildings or the use of contactless payment methods.

The trend toward automation in manufacturing and service operations is also likely to accelerate as a result of the crisis. The twin supply chain shocks of recent years from the U.S.-China trade war and now the virus epidemic will underscore the need to reduce interdependence in the sourcing of components and finished goods (including medical supplies and pharmaceuticals), not only for operational resilience but also for reasons of national security. Greater efficiencies from automation and the need for more self-sufficiency should therefore support the localization of manufacturing activity through faster adoption of robotics and new techniques such as 3D printing. Automation in service activity should bring a range of additional benefits. Restrictions, for example on travel and migration, are likely to exacerbate labor shortages, bringing forward robotics deployment in areas such as ground transportation and agriculture. And a renewed emphasis on hygiene will favor the use of robots over humans in packaged food preparation. In retail, the number of cashierless stores is already on the rise, and this is a trend that should be reinforced, while cloud computing should also be adopted more widely on the other side of the current downturn. Demand for cloud-based software services in teleconferencing and remote education has been on the increase with the introduction of social distancing, and this comes on top of existing structural growth in cloud infrastructure demand for remote storage and processing as global data volumes expand. With the likelihood of increased reliance on telecommuting for office workers and distance learning in education, we would expect an even greater demand for cloud services as global enterprises emerge from the crisis.

Shifts in consumer behavior should also drive new patterns of economic activity. Perceived risks around offline entertainment and large gatherings in the physical world are likely to be met with greater demand for digital services, and this would only reinforce the trend toward digital media usage in areas such as social networking, online gaming, virtual reality and video streaming. This tendency should also extend to internet retail. Demand for online ordering and delivery across a range of consumer categories including household products and consumer staples has been on a steady increase over recent decades, but it remains relatively low as a share of total retail sales. And online sales for individual categories such as food and drink remain well below the average, leaving even more scope for greater penetration within these segments. Along with a rise in cloud adoption, acceleration in the uptake of these new online services will only increase the need for investment in next-generation 5G telecommunications infrastructure. As the digital economy commands a larger share of global output, this improvement in network reliability, speed and capacity will be critical in supporting a larger number of wireless connections consuming ever-larger amounts of data over the years ahead.

The current period of global instability has weakened confidence among investors, businesses and consumers. But as past episodes have demonstrated, the years that follow major crises typically spawn new trends that may be more favorable for economic output and market returns. As we look across to the other side of the economic crisis caused by the coronavirus pandemic, we see another phase of renewal driven by digitization, automation, new online services and investment in telecommunication and healthcare infrastructure. This new frontier should be particularly beneficial for related sectors such as information technology, communication services, consumer discretionary and healthcare. And with the most exposure to these areas, the U.S. equity market remains well-placed, in our estimation, to further outperform the rest of the world. Alongside these technology-focused themes, we also expect the rise of a new equity culture across younger-aged millennial and Generation Z cohorts, particularly as global interest rates remain stuck at close to zero for a longer period. This new equity culture, combined with a recovery in economic activity from today's crisis levels, could allow equity markets to outpace expectations for below-average returns over the next decade. We therefore maintain a preference for higher strategic and tactical exposure in equities relative to fixed income across risk profiles. A portfolio with an asset allocation anchor of higher than traditional equity exposure will, in our view, be more effectively positioned to benefit from the investment trends that emerge as we move toward the new frontier.

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