Allianz Global Investors

Under the *Macroscope*

New regimes for a changed world

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Anyone who has watched professional sports in the U.S. for many years realizes just how much the games have changed. The players have grown bigger and faster, rule changes have cleared the way for offenses to thrive, and equipment has gotten so much better. Similarly, financial market observers have borne witness to massive changes in technologies, demographics, politics and policies that render many fundamental and quantitative modes of analysis and trading obsolete. Failure by financial market participants to recognize the persistence and irreversibility of these trends will expose them not only to new risks, but errors of omission and commission that could render impossible the achievement of their financial goals.

Executive summary

Profound changes in the performance of the economy and financial markets over recent years disprove the old bromide that "the four most dangerous words in investing are *this time is different*." New regimes have taken hold in what has become a changed world. Markets across asset classes in recent years have moved more frequently than in the past in unexpected ways, defying those who proclaimed that "the markets are now late cycle," "this year volatility will be elevated," or "investors are complacent."

That's because powerful trends – some of which came in with fury, others silently, on cats' feet – have overwhelmed certain cyclical tendencies of economies, even when those tendencies, at times, generated strong momentum. The message is clear: The future is not there to be rediscovered; it is there to unfold uniquely and, more importantly, anew.

Radical changes in politics, policy, technology and demographics lie beneath these powerful irreversible trends and have become dominant forces affecting financial markets. Globally, power has shifted dramatically to the East and to emerging markets generally. Alliances are realigning among nations with common goals or enemies in ways unimaginable just a few years ago as Cold War-like rhetoric intensifies and official international institutions become less and less relevant.

Key takeaways

- Those who adhere to the old adage that "the four most dangerous words in investing are *this time is different*" can misconstrue and miscalculate some of the greatest investment opportunities – and risks – over the years ahead. These missteps can result in investment errors of commission and, just as importantly, errors of omission.
- Powerful trends – monetary, fiscal, regulatory, trade, immigration, social policies and the affairs of state – have overwhelmed certain cyclical tendencies of economies and will be drivers of change.
- Shifting power bases – globally, politically, technologically and demographically – are re-shaping economies and financial markets at an accelerating rate.
- Technology increasingly is intangible, and the businesses that will get the most from advanced technologies are the one that will be invested in organizational change, too. Governments and central banks that fail to master these implications not only will miss their policy targets, they will set the wrong targets.
- China's powerful influence on global developments, as well as the rising influence of new "influencers", bursts the bipolarity of the U.S.-Russia standoff. The global "order" built just after World War II has fallen apart, piece by piece.
- The Federal Reserve recognizes that existing models don't work well and new ways of forecasting economic outcomes must be considered. A nexus between big data, machine learning and artificial intelligence may become integral to the solution.
- Stay broadly diversified and seek active management that exploits opportunities respecting technological change, shifting power bases and a continuing low-interest rate environment.

Demographic shifts by age cohort or place of residence, declining birth rates and racial identity have altered spending patterns, household location decisions and the relationship between individuals and their governments. A surge in the power and influence of women in business and government promises to boost productivity while also ameliorating some sources of income and wealth disparity. Worldwide consciousness of environmental change, and the need for sustainable sources of energy, opens vast new opportunities for investment.

Technological changes have become the dominant progenitor of regime change. Intangible capital continues to replace physical capital in both public- and private-sector infrastructure. New combinations of technologies continue to open pathways to production, sales, distribution and profitability, particularly for businesses and governments that also alter their respective organizational structures. Meanwhile, the stream of technological advances has changed the relationship among economic variables, confounding economic theory and the best efforts of forecasters to anticipate what likely will come next in the economic and investment cycles.

The Federal Reserve now admits that powerful trends and new regimes make it necessary to adjust the timing and scope of monetary policy implementation. Over the months ahead, the Fed will adjust its models, consider new quantitative and technological approaches to its forecasts and analyses, and determine anew its policy targets, communication strategies and modeling techniques.

It's a new day and unrelenting trends will be vehicles of change; monetary, fiscal, regulatory, trade, immigration, social policies and the affairs of state will be the drivers. Adaptation by investors quantitatively and qualitatively to the magnitude, scope and timing of new-day regimes could well determine success or failure in the pursuit of financial gains and their preservation via risk management.

New regimes have taken hold

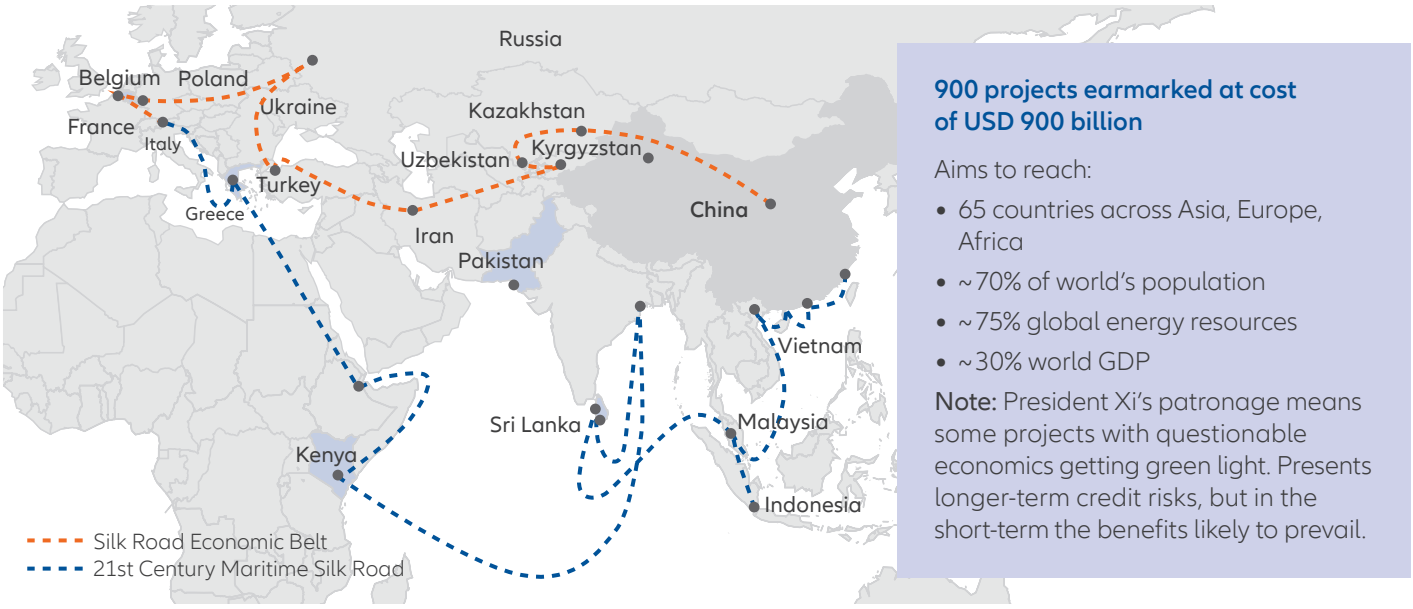
Participants in the 1988 Carter Center Consultation on Competitiveness, of which I was one, set out to write an agenda for Congress that would lead legislatively to conditions that would strengthen the U.S. position in the global economy. The meetings should have been called "The Carter Center Consultation on Preventing the Japanese from Eating Our Lunch."

Nowadays, discussions about U.S. competitiveness do not focus much on the Japanese. Instead, policy and tactics within both the public and the private sectors aim disproportionately at China. China's "One Belt, One Road and "Made in China 2025" initiatives, as well as its deepening high value-added manufacturing might,have shaken perceptions about global competitiveness (See Exhibits 1 and 2.)

This shifted focus provides an important lesson. Those who adhere to the old adage that "the four most dangerous words in investing are *this time is different*" can misconstrue and miscalculate some of the greatest investment opportunities – and risks – over the years ahead. These missteps can result in investment errors of commission and, just as importantly, errors of omission.

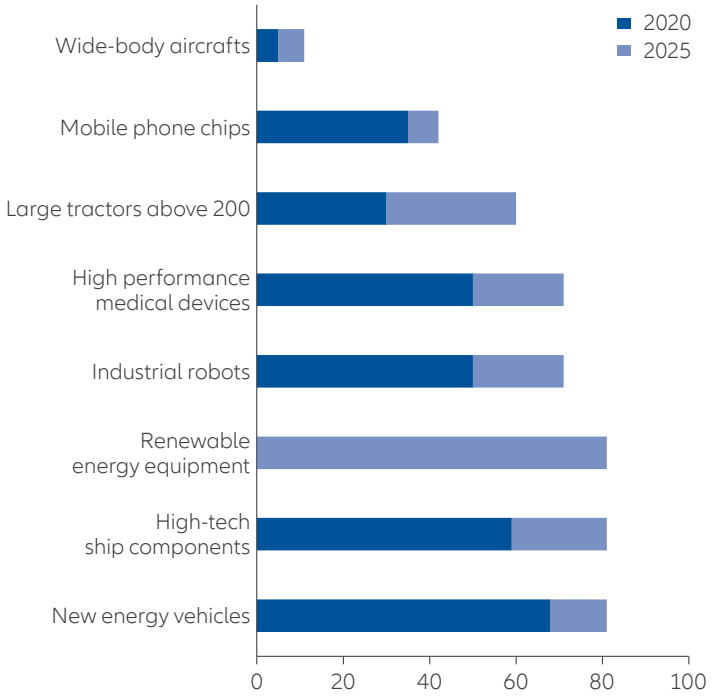
Indeed, new regimes have taken hold in what has become a changed world. The word "regime" has multiple connotations. A regime, of course, can be political or otherwise governmental, like a presidency or the operations of a central bank. "Regime" also refers to a persistent condition or status, such as the long period when the U.S. economy seemed to add 200,000 jobs per month, the unemployment rate dropped slowly and persistently, and inflation remained in a range of 1.5%-2.0% annually. However, "regimes" also can be ways of behaving or

Exhibit 1: China: The "One-Belt, One-Road" (OBOR) by the numbers



As of March 2019.
Source: Allianz Global Investors, Global Economics & Strategy; Mckinsey.

Exhibit 2: Semi-official targets for the domestic market share of Chinese products (in %)



As of December 2018.
Source: Office of the U.S. Trade Representative; Allianz Global Investors.

doing things, like industrial processes, negotiation protocols, modes of analysis or the practice of ethical standards that guide actions by individuals and institutions.

Perhaps the former finance minister of Greece, Yanis Varoufakis, said it best. Looking back at the Great Financial Crisis and the subsequent economic and financial distress in his home country, Varoufakis observed: *"Regular crises perpetuate the past by reinvigorating cycles which started long ago. In contrast, CRISES are the past's death knell. They function like laboratories in which the future is incubated… Once they strike, the past ceases to be a predictor of the future and a brave new world is born."*

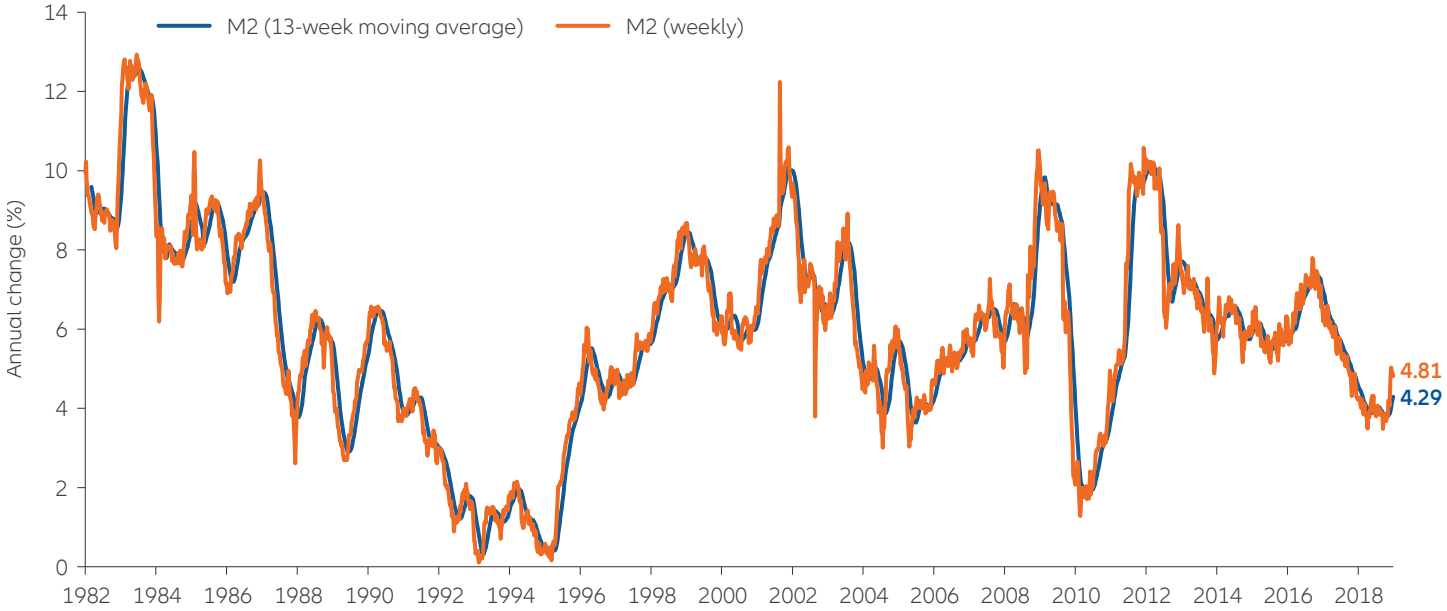
Present day financial market performance reminds us that "brave new worlds" have been incubated. Markets across asset classes in recent years moved more frequently than in the past in unexpected ways, defying those who proclaimed that "the markets are now late cycle," "this year volatility will be elevated," or that "investors are complacent." That's because powerful trends have overwhelmed certain cyclical tendencies of economies, even when those tendencies generated strong momentum.

Central bankers now have become acutely aware of the apparent breakdown in the relationship between bank reserves, credit and money supply growth, and eventual inflation. Countries in may parts of the world, for example, struggle to achieve money supply rates that exceed growth in nominal GDP despite implementing extraordinary and unconventional policies. (See Exhibit 3.)

Certainly, all of the laws of economics and investing have not been repealed (though some have). These laws still provide guideposts against which certain empirical findings can be understood. However, the performance of asset markets since the Great Financial Crisis reveals the hazards of reliance on historical averages, past tendencies, probabilities based on past cycles and correlation coefficients measured over broadly diverse time periods. If Varoufakis is correct, the future is not there to be rediscovered; it is there to unfold uniquely and, more importantly, anew.

And that is exactly what is happening now, powerfully, sometimes silently, sometimes with a shout, but the unrelenting trends are happening nonetheless. They will be vehicles of

Exhibit 3: Like many countries, the US struggles to accelerate money supply growth



Data as of January 25, 2019.
Source: FactSet; Allianz Global Investors, Global Economics & Strategy.

change; monetary, fiscal, regulatory, trade, immigration, social policies and the affairs of state will be the drivers.

Unrelenting trends overwhelm cyclical forces

Analysts and discussants around the world have pointed repeatedly at many of the persistent trends that have reshaped economies and financial markets at an accelerating rate over recent past years. Some of these patterns started and have been extended with fury or might; others have come in "on cats' feet," starting and evolving day by day, almost imperceptibly, as they advanced until they became dominant forces affecting the asset markets. Here is a partial list of some important ones:

Shifting global power bases

- Shifting power and influence away from North America and Europe and toward Asia
- The unrelenting growth of power and influence of emerging market countries
- Realignment of alliances among nations with common goals or enemies in ways unimaginable just a few years ago
- Reawakening of Cold War rhetoric and belligerence that again pits the West, mainly, the U.S., at odds with Russia
- Weakening of official international economic and financial organizations that no longer reflect the nationalist priorities in developed market countries and fail to recognize the already-advanced global importance of emerging market countries
- A breakdown in norms of diplomacy, conflict, political discourse and inter-personal relations
- New means of conflict that focus both on conventional weapons as well as weapons of mass destruction, side-by-side with cyberattacks, theft of intellectual property, corporate espionage, sanctions, embargoes, protectionism and use of social media to influence political outcomes.

Shifting political power bases

- A surge in political populism that fostered strong nationalist movements and weakened long-standing alliances and international agreements, while stoking latent nationalist sentiments, anti-immigrant movements and the spread of religious bigotry
- Simultaneous energizing of conservative, right-wing and liberal, even socialist, philosophies, even in places unaccustomed to each even as autocratic regimes wield power in more and more places.

Shifting technological power bases

- A 21st century industrial revolution that already has passed through at least three separate phases (arguably, development of technologies, development of platforms and innovative ways to use both) that have disrupted how governments and businesses source materials, produce, distribute, market, sell and interact with each other
- A technology "race" to develop super-fast capabilities, like 5-G, that will enable machine learning and artificial intelligence to be driven by big data and new quantitative methods.

Shifting demographic power bases

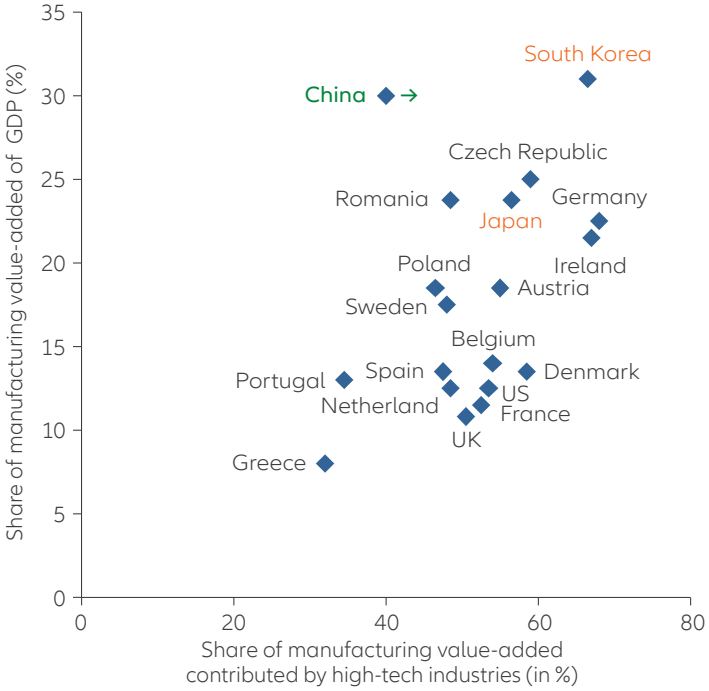
- Demographic shifts by age cohort or place of residence, declining birth rates or and racial identity;
- The surge in the power and influence of women in business and government;
- Worldwide consciousness of environmental change, including global warming; pollution of land, seas and air; and the need for sustainable sources of energy.

Together, these trends' unrelenting advances – combined with many others – already have rendered many existing economic and market theories, models, structures and modes of analysis obsolete. In so doing, the formulation and implementation of policies by official international organizations, governments, central banks, businesses and even households will change in ways that cannot even be postulated today. Many already have. Consequently, financial markets can be expected to behave in unprecedented ways, leading to potential opportunities and new risks.

Technological trends drive many regime changes

The economic, financial and regulatory policies that helped to drive current populist movements have not kept up with the current industrial revolution. Development, marketing and implementation of new technologies radically reshaped the organization of businesses, business location decisions, the demand for and supply of labor, the physical structure of work places and the demand for resources, transforming the activities of individuals, businesses and governments, as well as the globalization process itself.

Exhibit 4: Importance of high-tech industries vs. dependence on manufacturing



As of February 2019.
Source: Allianz Global Investors, Global Economics & Strategy; DataStream.

High-tech manufacturing will only continue to advance in importance within the value chain of both developed and emerging market countries. (See Exhibit 4.)

Presently, some of the discussion in political and central banking circles focuses on the efficacy of infrastructure spending as a way to stimulate real economic growth over the short run while also meeting existing economic and social needs. Yet just as advances in technological innovation have generated changes in the stock of tangible private-sector capital, infrastructure comprises much more than roads and bridges. Looking at a local coffee shop, one realizes that an important part of urban infrastructure consists of intangible capital, like WiFi access, that brings people together to interact. Without intangibles, a computer is just an inanimate box unable to do much of anything productive. However, with software, internet connectivity, tools of quantitative analysis and other "software," that box becomes empowered and indispensable. With growth stocks generally outperforming value stocks over the past decade or so, investors already know that intangible capital will lead and make possible what the Davos World Economic Forum called "the fourth industrial revolution."

Several factors explain the growth of intangible investment, including the changing balance between manufacturing and services, globalization, the increased liberalization of markets, developments in IT and management technologies, and the changing input costs of services (which play a greater role in intangible investment). Intangible assets have the advantage of being usable over and over again, often at no additional marginal cost and without depreciation, in multiple places simultaneously. In Thomas Jefferson's words, "He who receives an idea from me receives instruction himself without lessening mine; as he who lights his taper at mine receives light without darkening mine."

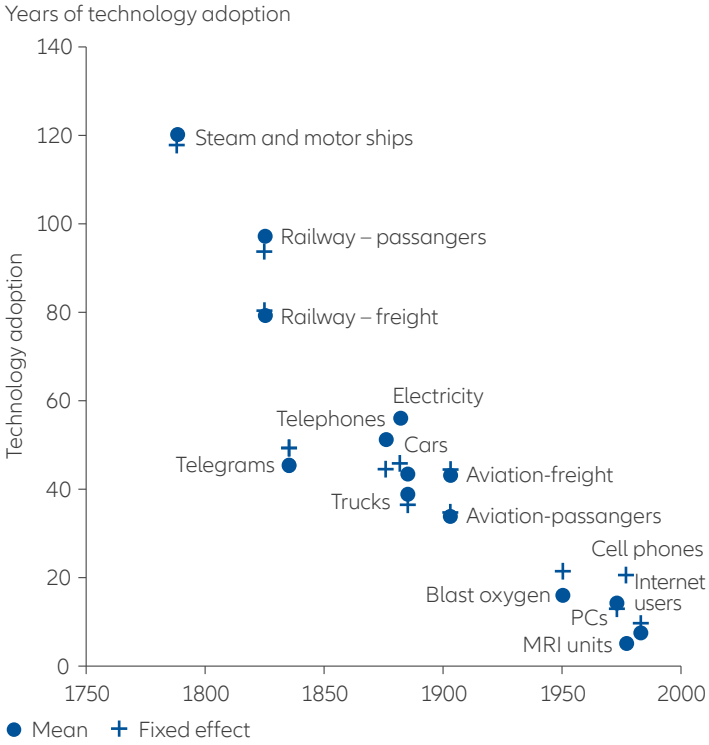
Implications of technology's next phase

Innovation cycles inevitably turn over faster and faster. (See Exhibit 5.)

The first three phases of the fourth industrial revolution involved the development of new technologies, the development of platforms and the efficacious deployment of them (the current phase). However, in 1990, economist Paul David came to the conclusion that new technological infrastructure is most useful when used in conjunction with new ways of working.[1] Herein may lie the key to the next phases of the technological revolution – businesses that will get the most from their advanced technologies are the ones that invest in organizational change, too.

Fusing of complementary technologies with organizational changes will result in myriad breakthroughs – and they will emerge rapidly. Combining the modern domains of innovation will be transformative across industries and sectors in more ways than were possible in past industrial revolutions that

Exhibit 5: The innovation cycle is getting ever faster



Dots represent mean number of years until the takeoff stage of usage or adoption.
Crosses represent the number of years until general adoption or diffusion.
Source: D. Comin and B. Hobijn, "An Exploration of Technology Diffusion" (2010)

focused on mechanization, electronics and digitalization. Modern domains are largely nonspecific and can be used at all levels of companies across pretty much all sectors.

With big data and advanced medical imaging, for example, a rapidly advancing application of combinant technologies, doctors will be able to provide more accurate and thorough

"Dear iPhone,

A decade ago, Steve Jobs said that you were 'three revolutionary products' in one. He was wrong. You've already displaced so many more: alarm clocks, guitar tuners, product calculators, atlases, Filofaxes, dictaphones and weathermen…

But you're no 'product' at all: You're a life partner. You're the first thing I look at in the morning and the last thing I look at before I sleep. There's no turning you off."

Geoffrey A. Fowler
Wall Street Journal, June 22, 2017

1. David pointed out that for a factory in 1900 to make the most of electric power, it needed to restructure radically the way it worked. Whereas in the steam-powered factory, all machine tools had to be powered by a belt connected to a single rotating shaft, electricity allowed every tool to have its own motor, making possible a 20th century production line. He also observed that some 40 years after the development of the first central electrical power plant, still only slightly more than half of all factory mechanical-drive capacity had been electrified. Until then, the remarkable innovation of electrical power delivered remarkably little in the way of increased productivity for factory workers.

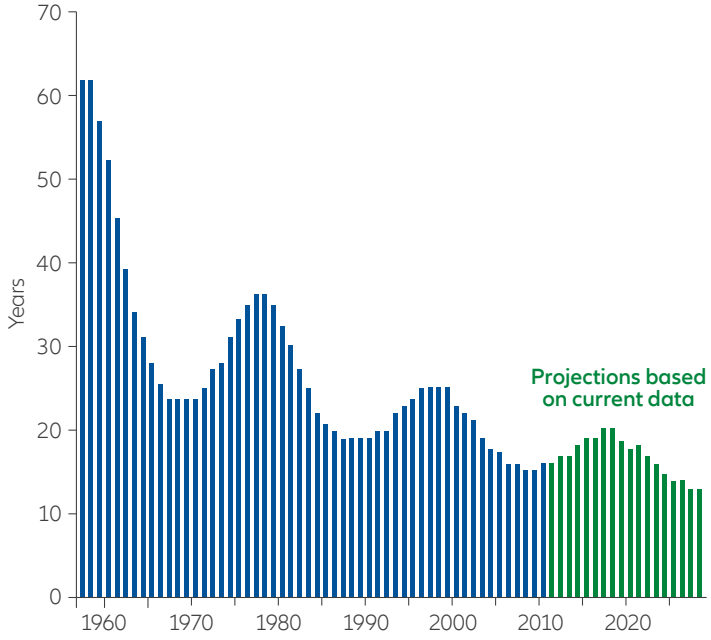
examinations, diagnoses and treatments. No doctor could possibly know the content of millions of articles, 25,000 more per week, and every medical book ever written the way a big data platform could. Devices equipped with artificial intelligence (AI) also can learn from experience and they never forget anything.

By comparison, only after 40 years, long enough for original managers to retire and be replaced by a new generation, did the introduction of electric motors and devices change factory layouts. The benefits of electrification stretched for nearly a century as more and more complementary innovations were implemented. However, unlike the steam engine or electricity, the current industrial revolution advances at an exponential pace, creating even more opportunities for combinatorial breakthroughs.

Given the irreversibility of technological breakthroughs, existing companies will be forced to change their business model, just as traditional car companies have adapted to autonomous vehicles and brick-and-mortar retailers have turned cellphones into shopping carts. Fusion of technologies also will help lead to environmental and infrastructure solutions. In the process, jobs will be eliminated, with the biggest losses in the places that experienced the biggest changes (e.g., among the 3.5 million truck drivers). Perfect machine translation of language will mean that anyone in any country can do just about anything.

Governments and central banks that fail to master the implications of this industrial revolution not only will miss their policy targets, they will set the wrong targets. For example, the dynamics of inflation have been altered irrevocably by online shopping and the ability of consumers to engage in price comparisons quickly, at no cost and internationally before making purchases. Not surprisingly, goods inflation has remained muted for an entire generation.

Exhibit 6: Average company lifespan in the S&P 500 Index



As of December 2017.
Source: Innosight/ Richard N. Foster/Standard &Poor's, Legend: Each data point represents a 7-year rolling average of average lifespan.

In addition, failure to adjust economic policies and regulations will further weaken real economic growth and productivity over the long run. Inertia will encourage a further shift of output and incomes to emerging market countries and the most forward-looking developed countries.

For businesses, the failure to rethink and redirect business strategy, investment, governance and organization in light of revolutionary technological change will result in lost competitiveness and opportunities to enhance profits. As the fourth industrial revolution proceeds, substantial new opportunities will open up in companies that will become the industrial leaders of the next generation. As the head of the investment committee of an internationally-known California-based technology giant told Allianz Global Investors last year, "We are always one innovation by a startup company away from being knocked out of business." (See Exhibit 6.)

Even if this warning turns out to be exaggerated, its message about the relentless change in the industrial landscape remains sound. Central banks and governments need to take notice or else their economic and regulatory policies will focus on the wrong targets – and the populist movements will gain deeper traction for longer periods of time. Intangibles can be expected to increase inequality of wealth and income until changes in education, training and organizational structures lead to a steady and expanded flow of workers who can be productive differently and create synergies. During this transformative period, women likely will be at the forefront of productivity advances, as the largest group of currently under-employed workers takes on greater and greater responsibilities in established enterprises and as entrepreneurs.

Meanwhile, however, the spillovers from intangibles will continue to make living in cities even more attractive, forcing up housing prices and wealth for those fortunate enough to own. More speculatively, the cultural characteristics required to succeed in an intangible economy could intensify the socio-economic tensions that underlie populist politics in many developed countries. Note the populist sentiments are affecting business location decisions of some technology companies.

Great risks and dangers from the changing global political order

Beginning with the disengagement from the Cold War, the Western market-based, democratic countries seemed to experience relative political stability and focused generally on extracting the benefits of globalization. Silently and for more than a quarter-century, though, that emphasis has changed. An inward focus has germinated and bloomed, elevating global risks. (See Exhibit 7.)

The historical record reminds us that political turning points and their consequences typically gain recognition only long after they have taken place. Such is the case with the global "order" built just after World War II consisting of two parallel regimes. That "order" has fallen apart, piece by piece.

The Cold War regime and its aftermath have deteriorated
One half of the post-World War II global regime grew out of the Cold War between the West and the Soviet Union

Exhibit 7: The global risks landscape 2018

Categories: Economic Environmental Geopolitical Societal Technological

Top 10 risks in terms of likelihood	
1	Extreme weather events
2	Natural disasters
3	Cyberattacks
4	Data fraud or theft
5	Failure of climate change mitigation and adaptation
6	Large-scale involuntary migration
7	Man-made environmental disasters
8	Terrorist attacks
9	Illicit trade
10	Asset bubbles in a major economy

Top 10 risks in terms of impact	
1	Weapons of mass destruction
2	Extreme weather events
3	Natural disasters
4	Failure of climate change mitigation and adaptation
5	Water crisis
6	Cyberattacks
7	Food crisis
8	Biodiversity loss and ecosystem collapse
9	Large-scale involuntary migration
10	Spread of infectious diseases

Source: World Economic Forum Global Risks Perception Survey 2017–2018.
Note: Survey respondents were asked to assess the likelihood of the individual global risk on a scale of 1 to 5, 1 representing a risk that is very unlikely to happen and 5 a risk that is very likely to occur. They also assess the impact on each global risk on a scale of 1 to 5 (1: minimal impact, 2: minor impact, 3: moderate impact, 4: severe impact and 5: catastrophic impact). To ensure legibility, the names of the global risks are abbreviated.

(later, Russia). At the core of this regime was a rough balance of military strength in Europe and Asia, backed up principally by nuclear deterrence. The two sides showed a degree of restraint in their rivalry. When some former Soviet states chose to enter NATO or the Eurozone, the Russians had to sit back and take it. When the Russians opened naval bases in the Middle East, staked claim to oil-rich areas in the Arctic Circle and repeatedly engaged in cyber warfare, the West had to sit back and take it.

However, the bi-polar order now is in disrepair. Nuclear deterrence still holds, but some of the arms control agreements buttressing it have been broken; others are fraying. In February 2019, President Vladimir Putin threatened in no uncertain terms to ramp-up the development of Russia's nuclear capabilities if the West puts more advanced weapons systems in Europe even though the West has never demonstrated first-strike willingness. Yet Russia repeatedly signs agreements and then violates them. Note Russia's use of force in Georgia (2008) and Ukraine (since 2014), and that country's often indiscriminate military intervention in Syria; and Russia's aggressive use of cyberwarfare to affect political outcomes in the U.S. and Europe.

Meanwhile, NATO has positioned defensive missile batteries in Poland over Russian protests and built up the military capability of Turkey, over 70 years of Russian protests; Western powers imposed economic and financial sanctions;

Exhibit 8: Many high-risk international conflicts rage

Impact: High
Likelihood: Moderate

- A highly disruptive cyberattack on **U.S. critical infrastructure and networks**
- Renewed tensions on the **Korean Peninsula** following a collapse of the denuclearization negotiations
- An armed confrontation between **Iran** and the **United States** or one of its allies over Iran's involvement in regional conflicts and support of militant proxy groups
- An armed confrontation over disputed maritime areas in the **South China Sea** between China and one or more Southeast Asian claimants (Brunei, Malaysia, Philippines, Taiwan, and Vietnam)
- A mass casualty terrorist attack on the **U.S. homeland** or a treaty ally by either (a) foreign or homegrown terrorist(s)

Impact: Moderate
Likelihood: High

- Continued violent re-imposition of government control in **Syria** leading to further civilian casualties and heightened tensions among external parties to the conflict
- Deepening economic crisis and political instability in **Venezuela** leading to violent civil unrest and increased refugee outflows
- Worsening of the humanitarian crisis in **Yemen,** exacerbated by ongoing foreign intervention in the civil war
- Increased violence and instability in **Afghanistan** resulting from the Taliban insurgency and potential government collapse.

Impact: High
Likelihood: Low

- A deliberate or unintended military confrontation between **Russia** and **NATO** members, stemming from assertive Russian behavior in eastern Europe
- A crisis between the **United States** and **China** over **Taiwan,** as a result of China's intensifying political and economic pressure campaign ahead of Taiwan's elections in 2020

Impact: Moderate
Likelihood: Moderate

- Intensified clashes between **Israel** and **Iranian-backed** forces, including Hezbollah, in Lebanon and/or Syria
- Intensification of organized crime-related violence in **Mexico**
- Increasing political instability in **Iraq** exacerbated by underlying sectarian tensions
- Increased fighting in eastern **Ukraine** between Russian-backed militias and Ukrainian security forces
- Heightened tensions between **Israelis** and **Palestinians** leading to attacks against civilians, widespread protests, and armed confrontations
- Political violence and instability in **Nicaragua** worsening the migration crisis in Central America
- Escalation of violence between **Turkey** and various **Kurdish armed groups** within Turkey and in neighboring countries.

Source: Council on Foreign Relations; Allianz Global Investors, Global Economics & Strategy. As of March 1, 2019.

the U.S. pulled out of decades-old nuclear disarmament deals, citing Russian violations; and the U.S. continues to push for regime change in Syria, Venezuela and several African countries over Russian protestation.

In short, numerous high-risk international conflicts just do not seem to be near easy or imminent resolution. (See Exhibit 8.)

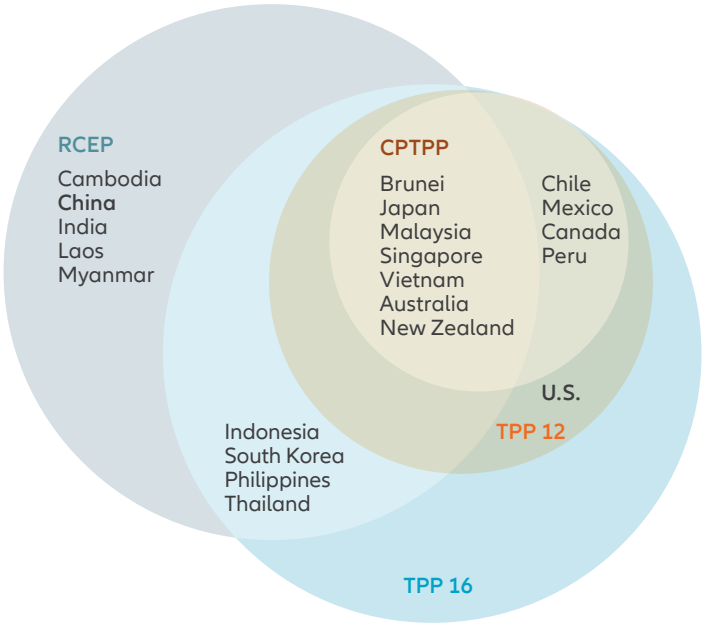
While the trend toward elimination of the bi-polar regime has proceeded, a third power base has emerged and grown powerfully. China has staked claim to islands in the South China Sea in order to control shipping lanes, gain a military advantage and exploit the world's greatest fishery. Chinese banks, largely state-owned, now finance infrastructure development and even the international debt of countries on at least four continents. China's One Belt-One Road strategy seeks to extend that country's political, economic, financial and military influence to at least 70 countries by using Chinese funding, expertise, materials and technologies in ways that counter the bi-polar influence of the U.S. and Russia. China seeks, as well, to fill voids in multilateral agreements left by Russia and the U.S. in order to make Beijing the eventual regional leader in economics and finance while also foisting the Chinese yuan upon the Pacific Rim as a reserve currency. (See Exhibit 9.)

Certainly, China now experiences its sharpest cyclical slowdown in three decades and a complicated unwinding of excessive private and public debt. A slowdown in global trade flows, both caused by China's economic downturn and wrestling with the Trump Administration, and affecting China via sluggish export markets, has taken several percentage points off China's real economic growth rate. A pattern of stop-go policy stimulus and policy tightening, increasing authoritarianism by the central government during this time of stress and a permanent downshift in the country's sustainable growth rate have taken some of the luster from "socialism with Chinese characteristics." (See Exhibit 10.)

Nonetheless, China's eminence not only will not fade, it will grow. Massive subsidies to targeted industries and companies, government-sponsored R&D at levels incomparable elsewhere, a national commitment to modernizing industry and empowering consumers, and encouragement of both pubic- and private-sector entrepreneurship likely will give China renewed thrust toward global economic and financial leadership. Take President Xi at his word when he says that, "Technology is the sword of the modern economy."

As all of this has unfolded, regional "influencers" have gained more and more prominence. Iran, for example, has stretched its hegemony throughout the Middle East and, perhaps, in Africa and parts of Asia, too, through its financial and military support of certain regimes and non-state players. Turkey has done likewise. International agreements have failed broadly to contain these challenges and the rapid proliferation and deployment of advanced military weaponry. Nine states at least and, perhaps, some non-state agents, may possess nuclear weapons even though the Nuclear Nonproliferation Treaty allows only five states to do so.

Exhibit 9: Regional Comprehensive Economic Partnership (RCEP*)



*RCEP involves 10 ASEAN countries (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam) and 6 FTA partners (China, India, Japan, South Korea, Australia and New Zealand).
Source: Office of U.S. Trade Representative; Allianz Global Investors, Global Economics & Strategy.

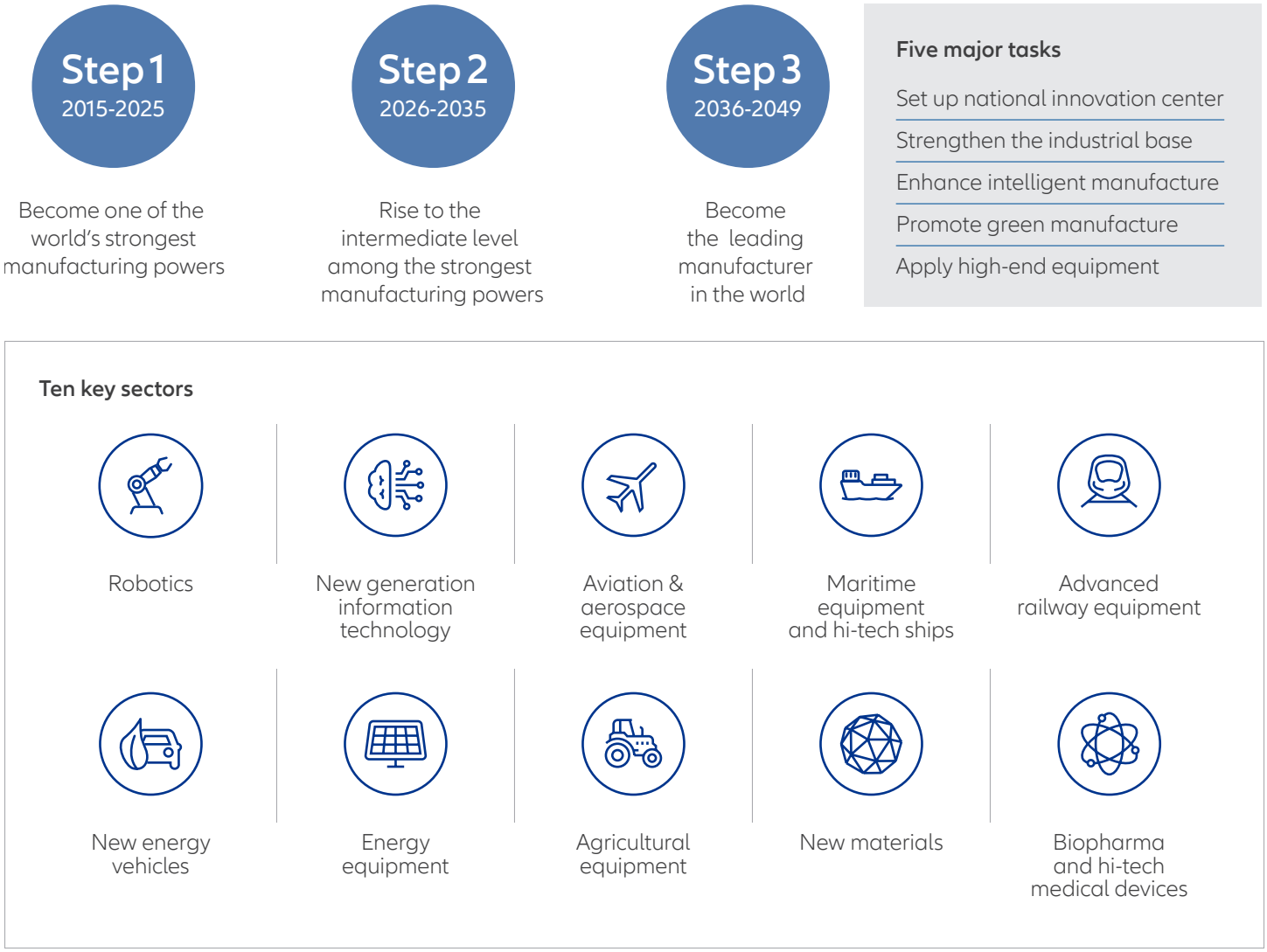
Dissolution of the "liberal order" creates relationship vulnerabilities

The second dimension giving structure to the post-World War II order can be called "the liberal order." Democracies were the main participants in this effort, which used aid and trade to strengthen ties and foster respect for the rule of law both within and between countries. This regime depended, in the non-Communist world, at least, on accepting U.S. primacy as a relatively benign hegemon admired as much for what it did at home as for what it did abroad. That primacy, while still intact, has worn thin.

The economic dimension of this regime was defined by trade, development and well-functioning monetary operations. Free trade was to be an engine of growth that would bind countries together so that war would be deemed too costly to wage and the U.S. dollar would serve as the de facto global currency. Disputes among, and within nations, would be resolved through an honorable code of conduct and diplomacy. Where that would not be possible, debate and the voice of official international organizations would mediate or arbitrate. In that context, settings like the U.N. and the International Court of

> **"All successful revolutions are the kicking in of a rotten door."**
>
> **John Kenneth Galbraith**

Exhibit 10: The steps toward making China the leading manufacturer in the world



As of February 2019.
Sources: Government of the People's Republic of China; XinhuaNet; Allianz Global Investors Economics & Strategy.

Justice at The Hague would bring settlement. Organizations like the OECD, IMF and World Bank would help to promote a fairer distribution of income and wealth, backstop financial institutions under stress and keep order in the economic relations among nations.

However, these organizations have lost their relevance, at least partially, as their structure no longer reflects the world at large and their mandates too easily can be ignored. Meanwhile, parallel institutions have developed in Asia, especially, and among emerging market countries generally to fill the void left by the disappearance of the relevance of post-World War II organizations and codes of conduct among nations. The Trump Administration may conduct talks with North Korea about issues of war and peace and with China about trade and intellectual property rights, but compliance with any agreement that might be made will be difficult to verify and enforce. Regardless of whether that is true of Iran in its nuclear weapons agreement with the West, the Trump Administration, at least, believes this is so.

The tattering of the liberal order has taken other forms, as well:

- The U.S. has backed away from some free trade agreements and has imposed substantial tariffs on a widening range of products and services even though some recent negotiations did end with agreement on pressing issues, notably, the U.S.-Mexico-Canada trade agreement.
- The World Trade Organization has been unable to deal with the most pressing challenges, such as nontariff barriers and the theft of intellectual property.
- Military allies and trading partners increasingly reject unilateral U.S. actions on sanctions, climate change, tariffs and trade, mining on land and sea, and detention of prisoners without formal charges and trials.
- The U.S. president is testing constitutional limits on the powers of the White House and the authority of Congress in order to press ahead with an unprecedented immigration policy.

- Warfare continues to be carried out in Africa, the Middle East and Asia in ways that violate the human rights of civilians and the Geneva Conventions.
- The U.N. Security Council is of little relevance to most of the world's conflicts. The composition of the Security Council bears less and less resemblance to the location and influence of power across the globe.
- The European Union, by far the most significant regional arrangement, is struggling with Brexit and disputes over migration and sovereignty. Meanwhile, authoritarian governments, espousing strong nationalist sentiments, have gained strong footholds in central Europe, even as acts of religious and racial intolerance become more and more reminiscent of that of the 1930s.

As the liberal order deteriorates, however, a new, more-modern regime now is in its infancy. Only time will tell if it will catch fire and halt, or even reverse, the deterioration of the liberal order. A complicated and slow-moving web of free trade agreements – most bilateral, some multilateral – are in various stages of completeness. The E.U. now champions a new generation of free trade agreements, particularly with the world's largest growth regions, such as the ASEAN nations. Within both Europe and Latin America, intra-regional trade agreements appear to be gaining strength, not losing it. Many of these deals touch upon not only tariffs, but also rules applying to services, investment and the removal of non-tariff barriers. The U.S., Mexico and Canada did, at least, replace NAFTA with a trade deal. China and the U.S. have made concessions on trade, albeit, ones that leave the most pressing issues still unresolved.

Simultaneously, talk of increasingly socialist solutions to domestic and international challenges has popped up across the globe, from several politicians in the U.S. to countries formerly part of the Soviet Union. Embedded in these nascent movements are not only ideas about wealth redistribution and universal, government-funded health care for all, but immediate and drastic actions to address environmental, climate, social and governance challenges. These movements, which will not go away soon, at times have met sharp rebukes and, sometimes, violence, from those who want to protect the status quo and reduce the role of government in the financial and personal lives of individuals. Nonetheless, the trend is unmistakable, powerful and irreversible.

The new-quant Federal Reserve

Over the past 40 years, the Federal Reserve has adopted many "regime changes" as economic and financial conditions, and the base of theory surrounding them, have evolved and adapted. While remaining steadfast in its commitment to a dual monetary policy mandate – to set policies consistent with the achievement of maximum employment and stable prices – the Fed, from time to time, has shifted emphasis among control of interest rates, the money supply and bank reserves; from implicit to explicit policy targets; from attempting to hit a single numerical target for its policy goals to hitting a target range; from influencing the supply of reserves daily to using policy interest rates in order to keep the federal funds rate within its target range; from influencing the short end of the yield curve directly to various versions of Operation Twist that target the long end of the yield curve.

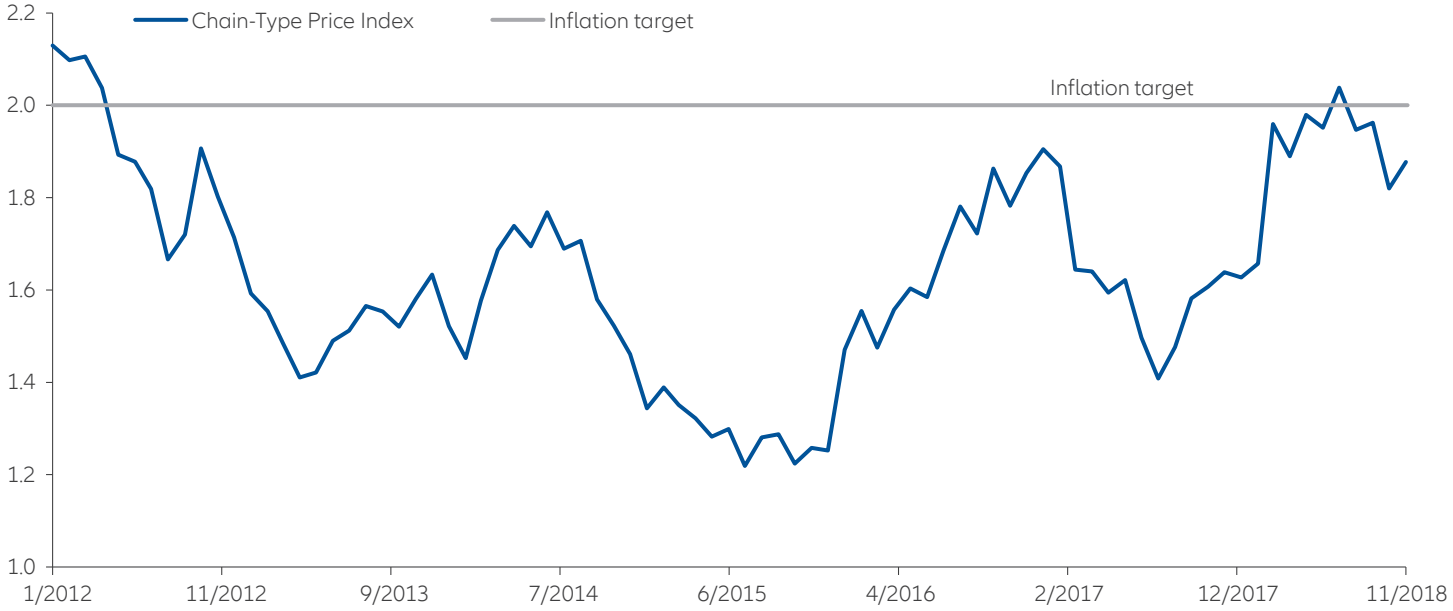
However, no regime shift can match in scope and scale the actions taken by the central bank during and following the Great Financial Crisis that began roughly in 2007. In response to the crisis, the Fed adopted unconventional policies and deployed means of policy implementation unlike any since the founding of the Federal Reserve System in 1913. Beginning in 2015, though, the Fed entered a new regime, one that gradually and persistently unwinds those unconventional actions while staying true to its legislated monetary policy mandate. An adjustment to that regime came in January 2019 when the FOMC and Chairman Powell made clearer how monetary policy implementation would unfold over the months, and maybe the years, ahead. To wit:

- Adjustment of the level of the federal funds target range and the rates on other policy instruments would remain the primary tools and the FOMC would consider adjusting the timing, scale and scope of balance sheet normalization if warranted by conditions in the economy and banking system.
- Holdings on the Fed's balance sheet, the System Open Market Account (SOMA), likely will decline during the normalization process by meaningfully less than planned by the FOMC or anticipated by private-sector analysts.[2] By the end of 2018, the normalization process already had reduced the total amount of bank reserves by about one-fourth and FOMC members feared that, in the event of a crisis, hoarding of reserves, by large banks especially, could create a liquidity crisis.
- The FOMC "paused" increasing policy interest rates in order to measure the impact of its nine rate increases since December 2015. The Committee also will monitor the loss of global economic growth momentum (especially in Europe and China); flattening, and even inversion of a portion, of the Treasury yield curve; signs of a slowdown in U.S. manufacturing, weakness in the housing and automotive sectors declines in non-manufacturing PMIs; and slippage in both business and consumer confidence. The Fed recognized, perhaps belatedly, that the economy simply did not respond to persistent low interest rates in the ways it had expected and it was time to figure out why and, perhaps, adopt new operating procedures.
- Similarly, the FOMC admitted for the first time that it simply does not have a model or methodology upon which it can rely for forecasting inflation accurately. Old bromides

2. Though the size of the SOMA depends mainly on requirements to collateralize all U.S. currency and certain other liabilities on the balance sheet, the Fed customarily holds a relatively modest amount of assets to give it operational flexibility should economic or financial conditions change. Before the Global Financial Crisis, those holdings typically averaged less than $50 billion at any moment in time, in part because the Fed, between 1931 and 2008, never sold assets in order to stabilize financial or banking conditions.

Exhibit 11: Personal consumption expenditures deflator, excluding food and energy (chained price index)

Percent change from a year ago, monthly, seasonally adjusted



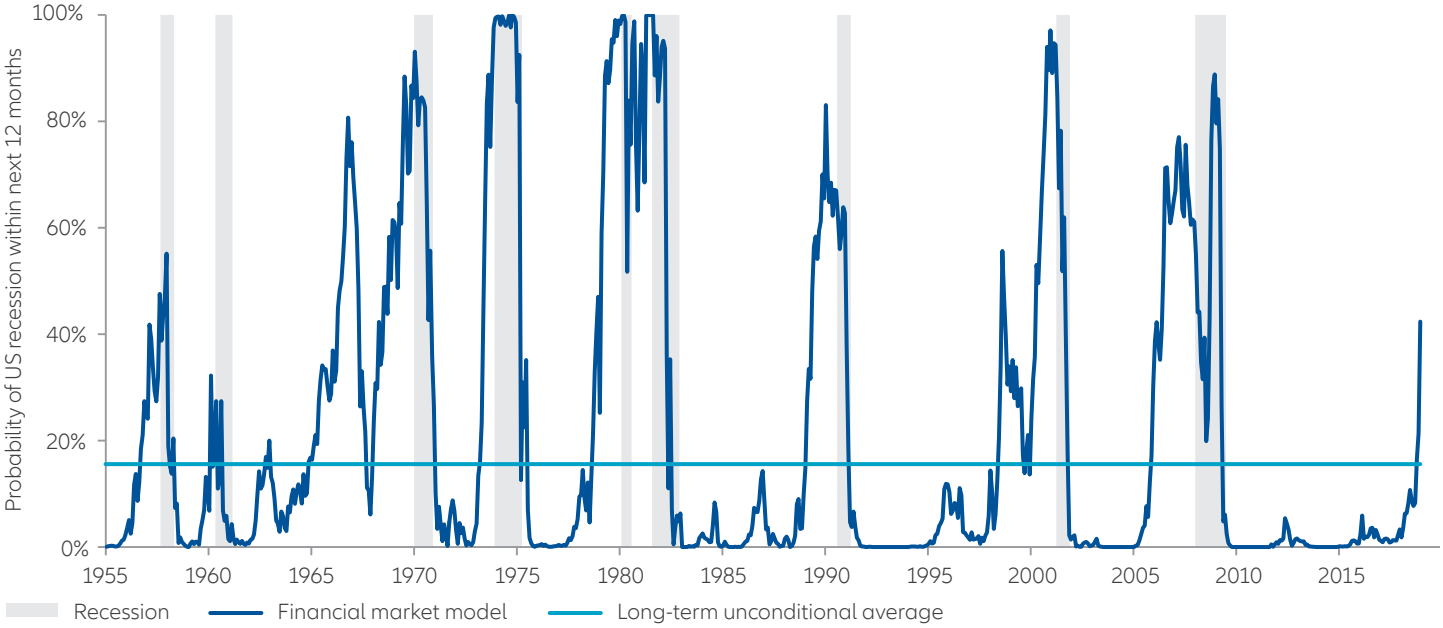
Data as of February 7, 2019.
Source: FactSet; Allianz Global Investors.

about the inevitability of accelerating inflation if the unemployment rate drops below its natural rate proved false. In addition, the links between the level of reserves in the banking system, expansion of credit, growth in the money supply and the eventual increase in inflation rates also proved tenuous, at best. In this context, the FOMC in 2019 plans to seek alternatives to its 2% anchor for core personal consumption expenditures inflation. Under consideration will be a new operating procedure that would focus on average inflation rates over a full cycle and targeting a price level instead of a fixed inflation rate. (See Exhibit 11.)

- In his formal comments on February 26 before the House Finance Committee, Jerome Powell confirmed once again the growing importance of rules in the formulation of monetary policy. Chairman Powell said that, "For guideposts on appropriate policy, the FOMC routinely looks at monetary policy rules that recommend a level for the federal funds rate based on measures of inflation and the cyclical position of the U.S. economy...I continue to find these rules to be helpful benchmarks...." Increasingly, as well, Federal Reserve analysts who provide research to FOMC members can be expected to consider deploying a combination of big data and machine learning and, perhaps, AI to make more-informed policy decisions.
- Deep within the orthodoxy of the Fed is protection of its independence from political influence. Thus, the Fed will consider taking steps to rid its balance sheet of agency mortgage-backed securities beyond the pace announced in 2016. Those holdings bolster the housing sector by restraining increases in mortgage interest rates, an action more associated in the past with fiscal, than with monetary, policy and a generally undesired intrusion into fiscal policy.
- The Sub-Committee on Federal Reserve Communications will meet in June for a comprehensive review of communications policies and practices. Under discussion will be misunderstanding of the dot-plot and the Summary of Economic Projections (SEP) by private-sector analysts, leading to false conclusions about the outlook for interest rates, inflation and real economic growth; phrasing of the official statement following FOMC meetings that, like the dot-plot and SEP, have been subject to misunderstanding; how to increase transparency about monetary policy decisions by, perhaps, stating in advance, the precise conditions under which interest rate changes can and will take place; and setting guidelines for the timing and frequency of appearances on national television by FOMC members that, with increasing frequency, have moved markets.
- The FOMC has long acknowledged that the primary forecasting model used by economists at the Board of Governors, the so-called FRBUS model, has under-estimated unemployment and over-estimated real economic growth. For instance, Vice Chairman Richard Clarida admitted in a February 28, 2019 speech that, "Were we to predict a surge of inflation, a decision for preemptive hikes before the surge is evident in actual data would need to be balanced against the considerable cost of the model being wrong." Look for Federal Reserve analysts to adjust the massive FRBUS model of the U.S. economy to include many more equations and variables related to non-U.S. data in order to reduce forecasting errors, though doing so could force existing equations to be re-specified, creating different unintended and unexpected brand-new errors. (See Exhibit 12.)
- Reversal of some of the regulatory requirements and restraints on banking activities put in place during and

Exhibit 12: Recession model based on financial market variables[1]

Tariffs, rising energy and commodity prices, and wage pressures building, offset by a stronger dollar and ongoing demographic and structural shifts



[1]Probit model based on Treasury 3-month vs. 10-year curve, investment-grade corporate bond spreads, T-Bill 3m yield, S&P 500 YoY performance. Unconditional probability is the percentage share of time the economy fell into recession within the subsequent 12 months based on the historical NBER business cycle data. Source: Allianz Global Investors, Global Economics & Strategy. Bloomberg, Datastream, NBER (data as of December 2018).

immediately after the Great Financial Crisis likely will continue. Already, since the confirmation of Randal Quarles as vice-chairman for supervision, the Fed has sped the bank M&A process, reduced the paperwork burdens on small- and mid-size banks associated with stress tests and examinations, lowered capital requirements, shied away from reemergence of a shadow banking system, and made it easier for banks to trade for their own account. Since announced nominees for positions on the Board of Governors tend to have histories of pro-business leanings, this liberalization of regulations can be expected to increase.

In the end, these regime changes at the Fed likely mean that monetary policy over the months and, perhaps, years ahead will have a bit more of an accommodative bias. In fact, various technical factors could result in the Fed's actually adding reserves to the banking system, maybe late in 2020 and, particularly, if the economy moves into a recession. In the end, it appears that the FOMC increasingly finds that inflation will continue to struggle to move to and above its current 2% target. Interest rates, therefore, likely will be stuck in a range close to present levels for some time to come.

Active is … keeping the trends at the forefront of investing

Massive regime changes that reflect powerful trends suggest the need for investors to adopt more time-indifferent hedging, diversification and defensive positions. Prudent asset allocators will be forced to monitor political and technological upheaval, as well as the government and central bank policies, that attempt to respond to it at the margin.

In effect, past precedents will become increasingly less reliable as leading indicators. (See Exhibits 13 and 14.)

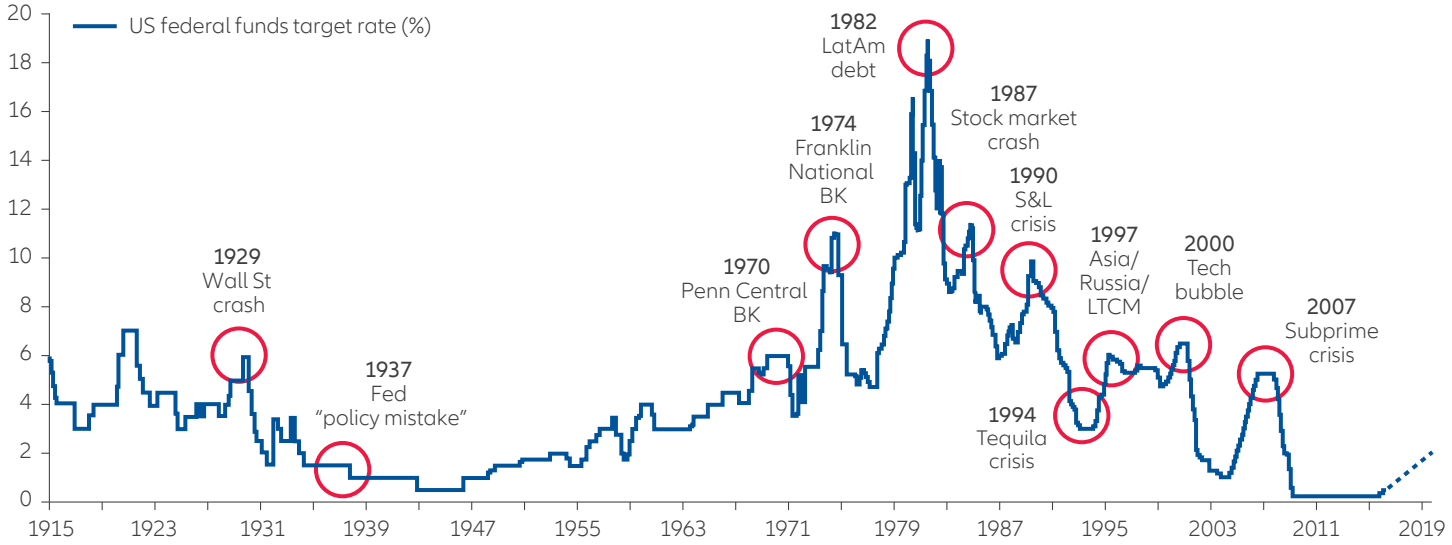
If this scenario plays out, it is important to understand qualitatively and quantitatively where possible the magnitude, scope and timing of these developments not just in the pursuit of financial gains, but in the protection of those gains via risk management. Data and models can and must be put to use effectively, but they must be different than those of the past that relied on historical patterns and assumptions to see what the future might hold. New quantitative methods and the inevitable big data-machine learning-AI nexus can become the most important game-changer.

In this context, investors might consider the following:

- Do not apply to the myriad powerful trends the reversion-to-trend techniques that are often employed in macroeconomic forecasts and securities valuation models. The assumption that past events are a good guide to the future has not worked well in recent years. Trends will overwhelm individual events and even momentum.
- More fundamentally, stability and weak volatility can be a sign of underlying fragility (rigid systems can implode under pressure), while mild instability suggests that markets countries can adapt well to crises. However, each crisis is unique and the reactions to them by households, businesses, governments, investors, savers, borrowers, lenders and others cannot be anticipated accurately. Reliance on past anecdotes or averages can point investors in the wrong direction. While extrapolation of near-term tendencies can lead to errors, deeply entrenched irreversible trends warrant following.
- Work more with scenarios to explore the universe of plausible outcomes and then try to anticipate the consequences of

Exhibit 13: 10 of the last 13 monetary policy tightening cycles since WW2 have preceded recessions

Tariffs, rising energy and commodity prices, and wage pressures building, offset by a stronger dollar and ongoing demographic and structural shifts



Source: Bloomberg; Allianz Global Investors, Global Economics & Strategy. Data as of October 18, 2018.

each of those scenarios. Scenarios are not forecasts, but they force analysts to consider alternatives and become explicit about their assumptions. Then, investors might be tempted to determine which of those consequences are acceptable, which are not, and then make decisions based upon these consequences. Others, however, will continue to allocate assets in ways that best exploit the potential opportunities and risk-protections offered by investments that follow powerful underlying trends.

- Be aware of your own biases and question your assumptions. It has been shown that subjective perceptions of risk, for example, are as important for risk management as the objectively measured level of risk. Herein, AI is likely to become mighty, as it will help to eradicate biases built into assumptions, models, algorithms and data interpretation.
- When undertaking fundamental analysis, small mixed teams of, say, economists, portfolio managers, political scientists and investment solution specialists typically make better forecasts than either individual forecasters or homogenous teams that become subject to "group-think." However, the decisions by mixed teams will be best used as merely an input into advanced quantitative decisions based on the big data-machine learning-AI nexus.
- Stay broadly diversified in order to keep appropriate asset allocations toward funds that invest positively in the fourth phase of the industrial revolution, ESG, the shift of power to the East and the emerging markets, the continued financial repression upon interest rates and inflation, and the new power bases within Congress and outside the U.S.

Exhibit 14: Disconnect between 10-year Treasury rates and US large cap stock valuations

As of February 8, 2019

Source: Bloomberg; Allianz Global Investors, Global Economics & Strategy. The above graph is illustrative in nature and should not be considered a recommendation to purchase or sell a specific security, strategy or investment product.

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Mr. Malin is senior investment strategist and a director with Allianz Global Investors, which he joined in 2013. He is responsible for making weekly US and global asset-allocation recommendations. Mr. Malin's responsibilities also include analyzing global economic, financial, political and regulatory developments; and briefing institutional, retail and retirement clients. He has 25 years of financial-markets, central-bank and investment-industry experience. Before joining the firm, he was the director of research at Wealthstream Advisors, a private wealth management firm; and an advisor to Aronson Johnson & Ortiz, a quant-based institutional equity manager. Earlier, Mr. Malin was a senior portfolio manager at AllianceBernstein, serving institutional, sub-advisory, Taft-Hartley and private clients throughout North America. He also worked at the Federal Reserve Bank of New York for more than 16 years, and during this time he was an officer who held several senior positions, including senior economist, media relations officer, vice president in the communications group and corporate secretary. Before that, Mr. Malin was the senior economist, founder and director of the regional economics center at The Conference Board. He also taught graduate and undergraduate macroeconomics and risk-management courses at Barnard College-Columbia University and the City University of New York. Mr. Malin has a B.A. in economics from Queens College and a Ph.D. in economics from the Graduate Center of the City University of New York.

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