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Discussion paper

On the cusp of a new era?

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On the cusp of a new era?

Summary

The past two and a half years have been extraordinary. What we are seeing is surely more than the progression of just another business cycle. The unnerving combination of a global pandemic compounded by energy scarcity, rapid inflation, and geopolitical tensions boiling over has people wondering what certainties are left. Today's events might even feel like a cluster of earthquakes that is reshaping our world.

We have been here before. Similar "earthquakes" have struck the past: in the immediate aftermath of World War II (1944–46), during the period around the oil crisis (1971–73), and at the time of the breakup of the Soviet Union (1989–92). Like a real earthquake, each of them changed the global landscape with the sudden release of powerful underlying forces that had been building up around a fault line over time—but in these cases, unfolding over a few years rather than in a big bang. Each of them ushered in a new era: the Postwar Boom (1944–71), the Era of Contention (1971–89), and the Era of Markets (1989–2019). Are we now on the cusp of a new era presaged by today's earthquakes?

We are reminded most of the aftermath of the oil shocks in the early 1970s, which shared features resonant with today: an energy crisis, a negative supply shock, the return of inflation, a new monetary era, rising multipolar geopolitical assertion, resource competition, and slowing productivity in the West. The aftershocks came in many waves and took almost 20 years to resolve. The return of stability required investment in energy independence by non-OPEC countries and painful monetary stabilization, including double-digit interest rates and recessions associated with the US Federal Reserve under Paul Volcker. In addition, there was strong political will, personified by Ronald Reagan, Margaret Thatcher, and Deng Xiaoping.

But there are differences between now and the earthquake of the early 1970s that arguably magnify the reasons for concern. Today's world is much more globally entwined, financially leveraged, and carbon constrained. This time, can we do better and write a new narrative of progress more quickly?

Of course, we could be overblowing the momentousness of current events. However, this is different from other tremors like the Asian financial crisis in 1997, the dot-com bust in 2000, and the global financial crisis in 2008. Most of these events were on the demand side and were largely contained in a region or a sector. Today, however, we face a supply-side crisis, inherently physical rather than psychological, against a backdrop of a shifting geopolitical landscape upon which the crisis needs to be resolved.

Moreover, today's earthquakes have largely come as surprises, shaking the world after a 30-year era of relative calm. In truth, for all of us authors, and we suspect most of our readers, our professional lives have played out on one clear and consistent global landscape—one where perhaps we have embedded many implicit assumptions and beliefs about how the world works, which are now under direct challenge.

We start the next era—if indeed one is about to unfold—from a fundamentally different point from which we started the prior one. The world at the turn of the 1990s had a much more obvious gap between the developed and the developing worlds: huge populations poor in energy and resources, more people living in rural areas outside of the orbit of global markets

and capital, more people uneducated, and disconnected from each other and from the world's information. In the previous era, the world converged much more into a globalized economy, with rapid catch-up growth for billions of people where we managed peacefully to keep the gains. Without question today's world is better, but with this growth there is also much more disruption to established constituencies, more pangs of imbalance, and more powerful new players asserting their place at the global table.

What could that new era look like? The die is not yet cast. While there is a current direction of travel, there are also complex unresolved questions, which will determine how the situation plays out. To try to build a map for the new era, we looked at five domains (Exhibit 1).

In the **world order,** there is a tendency toward multipolarity, which in turn may imply realignment into regionally and ideologically aligned groups. This immediately raises questions of *what might that multipolarity look like in practice; will the economy remain global in nature, and will we find new workable mechanisms to cooperate beyond the economy?* Moreover, years of relative moderation in international politics seem to be giving way to more political polarization between blocs. *How effectively will global and local institutions and leadership adapt to, and shape, this different world order?*

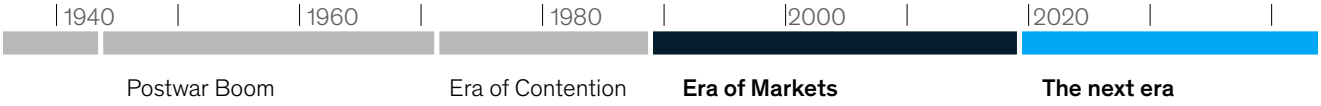
Across **technology platforms**, the key drivers of the most recent era's digitization and connectivity seem to be approaching saturation. Yet a set of already potent transversal technologies, particularly artificial intelligence (AI) and bioengineering, may combine to create another big surge of progress in the next era. At the same time, combined with the forces described, technology may move to the forefront of geopolitical competition and call into question the very meaning of being human. Again, big questions remain. *What impact will the next wave of technologies have on work and social order? How will technology, institutions, and geopolitics interact?*

In **demographic forces,** a young world will evolve into an aging, urban world, the age of communicable diseases may give way to an age of noncommunicable diseases, and inequality within countries may increasingly challenge the social fabric. *How will countries, institutions,*

Exhibit 1

The world may be transitioning to the next era.

The recent global landscape and open questions for the next era



World order	Globally interconnected world built on factor-cost arbitrage and cooperative economic rules	Multipolar world with global connectedness coexisting with increased polarization?
Technology platforms	Digital emanation: connected and enabled	Postdigital world where transversal technologies take off?
Demographic forces	Global convergence to small, urban family with better health and education	Aging gracefully as health improves and social inequalities are reduced?
Resource and energy systems	Fossil fuel–abundant world with global access but climate damage	Affordable and feasible transition to low-carbon energy amid growing resource competition?
Capitalization	Massive debt expansion with low inflation, supply–demand shock as billions enter global market economy	Outgrowing debt enables orderly stabilization of the large global balance sheet?

Source: McKinsey Global Institute analysis

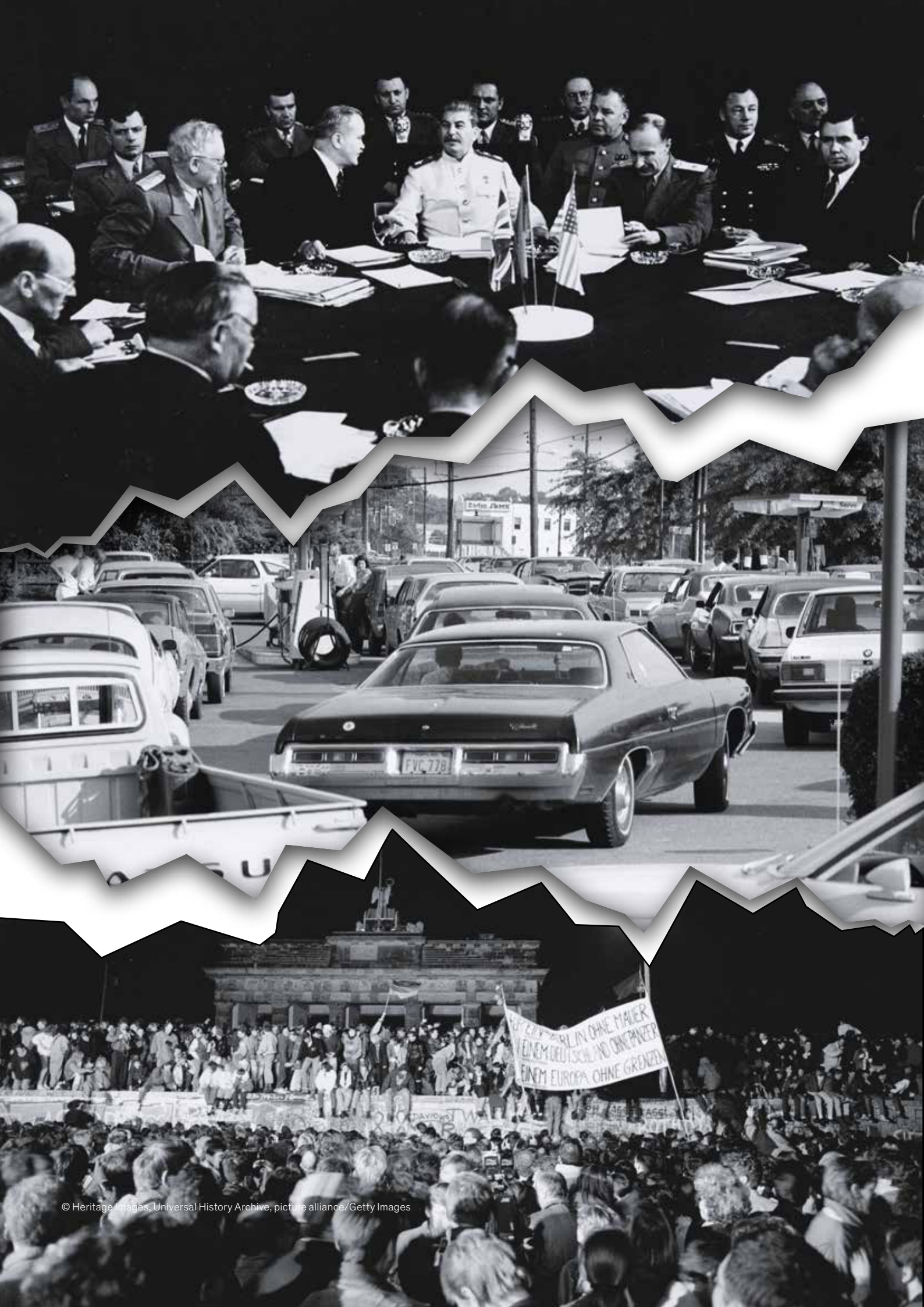
and individuals adapt to demographic changes—will we age "gracefully"? How will capital and institutions respond to inequality?

Today, we have been forced to refocus on **resource and energy systems** where recent underinvestment combined with geopolitical disruption has created real vulnerability. There is a strong desire to shift investment toward low-carbon energy, but total investment in all forms of energy appears to be struggling to keep pace with energy needs. Resilience, feasibility, and affordability concerns may challenge the velocity of the transition. Critical resources for the future economy are becoming economic and geopolitical pinch points. Question marks abound. *How will the world navigate an affordable, resilient, and feasible path to climate stability? What dynamics will play out between those who have critical resources and those who do not?*

Finally, let's look at **capitalization**, the long-term trend toward capital-deep and financialized economies. Economic growth rates appear to be normalizing. Growing leverage and credit may evolve into balance sheet stress. The Organisation for Economic Co-operation and Development (OECD) century will, on its current course and speed, give way to the Asian century. *Will we find the next productivity engine to drive growth? Will the rise and rise of the global balance sheet be reversed?*

If we are indeed in the early throes of a seismic shift—as the evidence appears to suggest—leaders must both prepare for the possibility of a new era and position themselves to shape it. The current vantage point may invite pessimism. Yet, through all the ups and downs of the world, progress has marched on and performed the miraculous. Our times demand action, but history also offers great hope.

In this paper, we suggest a framework to imagine the new era, drawn from a historical perspective of the structural tectonics that underpinned the world we have today and how they might play out in the next era. Working out how to respond to the current moment and the path ahead is complex and requires boldness. We invite you to join us in a conversation about the future.



1. Eras and earthquakes

Recent events would have been jolting under any circumstances.[1] They are all the more unsettling because we have not experienced anything like this for many years. For all of us authors—and we suspect most of our readers—our professional lives have played out on one clear and consistent global landscape. To fully understand current events, we therefore need to zoom out to a perspective broader than any of our individual memories.

The present time reminds us of three previous periods of global inflection and reordering—more so in the intensity, global reach, and concurrence of major events than in their specific content. We describe these periods as "earthquakes." Each is the culmination of subterranean tensions building over time, amassing at a point of fracture, and then apparently releasing suddenly and with great force. Fortunately, perhaps, the earthquakes in economic and political affairs that we describe happen not in a split second but through a series of consecutive tremors in the transition from one era to the next.

Each of the three earthquakes preceded a new "era"—a prolonged period during which the underlying global landscape or terrain remained relatively consistent. That is not to say the world itself was constant in each era. The eras that played out in the postwar period have combined to be one of the most transformative times in human history, but the underlying terrain upon which often radical change played out was relatively settled.

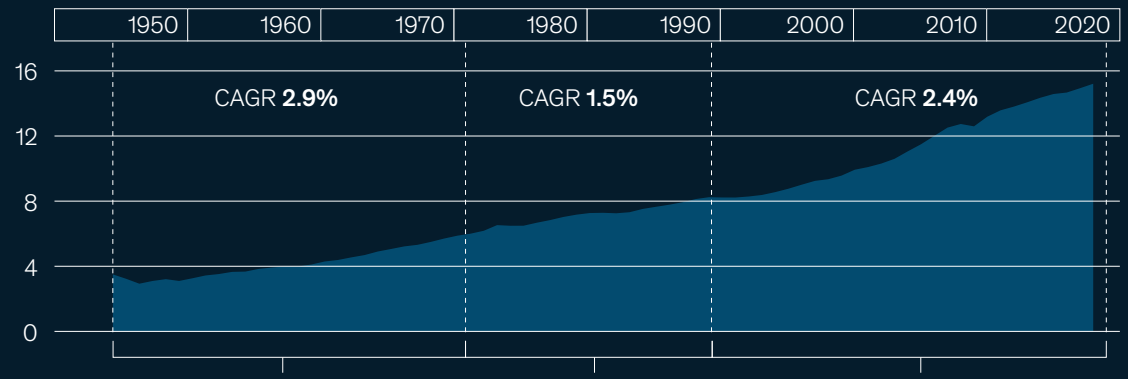
Significant regional and sectoral tremors have occurred from time to time (most notably the 1997 Asian financial crisis and the 2008 global financial crisis), but overall the consistency of the terrain was so marked that many stopped questioning whether the ground could ever shift again—until now, when we are forced anew to check our implicit assumptions about the world.

To try to map the eras that followed each pivotal transition, we looked at five domains: (1) **world order:** the institutions, frameworks, and rules that shape international affairs; (2) **technology platforms:** platforms and applied sciences enabling development and innovation; (3) **demographic forces:** demographic trends and socioeconomic contours across populations; (4) **resource and energy systems:** the systems for transporting and converting energy and materials for use; and (5) **capitalization:** drivers of global supply and demand, and trajectories of finance and wealth. We look at the economic outcomes collectively delivered by each domain, specifically changes in global growth and productivity. Through this lens, each era can be seen to have its own distinctive landscape upon which varied but similarly remarkable progress took place (Exhibit 2).

Exhibit 2

Between ‘earthquakes,’ three distinct ‘eras’ played out.

Three eras of development by domain



	Postwar Boom, 1944–71	**Era of Contention,** 1971–89	**Era of Markets,** 1989–2019
World order	Decolonizing world transitions to two competing blocs and doctrine of mutually assured destruction	Cold war détente, non-Western countries arise economically; fiat money	Globalized world built on factor-cost arbitrage and cooperative economic rules
Technology platforms	Golden age of engineering; world becomes moving, mechanized, and megawatted	Rise of consumer electronics and foundations of digital tech established	Digital emanation: connected and enabled
Demographic forces	Exploding population; radical inequality between “first” and “third” worlds	Fertility drops globally, below replacement rate in West; life expectancy increases further	Global convergence to small, urban family with better health and education
Resource and energy systems	Petroleum boom supports rapid energy expansion	Severe supply crisis in oil, diversified energy, including nuclear	Fossil fuel–abundant world with global access but climate damage
Capitalization	Rapid first-world growth in shift to peace; industrializing, rebuilding, and deleveraging	China enters top-gear growth and West grapples with stagflation	Massive debt expansion with low inflation; supply–demand shock as billions enter global market economy

[1]Growth rate during the era excluding the pivotal transition period at the start of each era (considering the periods 1946–71, 1973–89, and 1992–2019).
Source: Jutta Bolt and Jan Luiten van Zanden, Maddison Project Database, Oct 2020; McKinsey Global Institute analysis

The Postwar Boom (1944–71)

The years surrounding the end of World War II (1944–46) ushered in a new world order after the horrors of global conflict. The United Nations and the Bretton Woods institutions (the International Monetary Fund and the World Bank) were established, and the US dollar became the de facto global reserve currency pegged to gold. The United States officially ended its isolationist policies and formally assumed its hegemonic mantle at the Potsdam Conference; a few days later, the atomic bomb was detonated over Hiroshima. The organization of economies and societies shifted from wartime to peacetime reconstruction: for example, the Marshall Plan mobilized funds to rebuild Europe. Meanwhile, Joseph Stalin negotiated the division of Eastern Europe from Western Europe and raced to develop nuclear capabilities. The foundations for the first era were set.

In the **world order**, the globe transitioned to two competing blocs. In the Western bloc, which included the United States and Europe, pan-Western institutions such as the North Atlantic Treaty Organization (NATO) and the European Economic Community were created. The bipolar order led to a period of heightened geopolitical tensions with flashpoints including the Cuban Missile Crisis and the Korean and Vietnam wars. Meanwhile, the world decolonized as a weakened United Kingdom lost its grip, acutely demonstrated by the declaration of Indian independence in 1947 and the inability of the United Kingdom (along with France) to assert ownership of the Suez Canal in the 1950s. Hard colonialism was replaced with the new arrangements of NATO—in the 1950s and 1960s, more than 300,000 US troops on average were deployed in Europe—as well as the soft power of Westernization.[2] Nuclear deterrence forestalled a return to open global aggression, but at the cost of a massive escalation. By 1971, there were around 40,000 nuclear warheads globally, 99 percent of them in the combined arsenals of the United States and the Soviet Union.[3]

In **technology platforms,** innovations that had been developed before and during the war became the foundation for a golden age of engineering. The electrification of manufacturing enabled the mass production of affordable consumer durables. Fast, easy transportation became the Western norm: in the United States, there were two cars for every ten people in 1946; by 1971, that had tripled to six for every ten.[4] During these years, the jet engine, modern steelmaking with basic oxygen furnaces, semiconductors and integrated circuits, lasers, the shipping container, and the television emerged. The pinnacle was the Apollo program (spurred on by the Soviet Union's early lead in the space race).

In **demographic forces**, modern (sub)urban life enabled by cars extended across the developed world, and with it the spread of US culture and its icons as well as the emergence of a confident youth culture. There was a step change in population growth, with most countries experiencing a baby boom. In the United States, the fertility rate peaked at 3.6 births per woman in the late 1950s. The planet's median age fell to 21 in 1970, never to be younger again.[5] Globally, between 1950 and 1971, child mortality rates fell by 44 percent and life expectancy increased by nine years. But there was still considerable scope for progress in a predominantly poor, rural world. In 1971, about 60 percent of the world still lived in extreme poverty.[6] And the majority were rural—only 37 percent lived in cities.

In **resource and energy systems**, the foundations of a global carbon-based energy system were established. Between 1946 and 1971, global oil reserves grew ninefold, supported by the discovery of massive fields in the Middle East.[7] The petroleum boom enabled a rapid rise in energy use: per capita global oil consumption quadrupled.[8] This was possible because of a stable low oil price of less than $20 a barrel in today's money.[9] As a result, by 1971, the energy intensity of GDP was at an all-time high of 13 megajoules per dollar of GDP in the United States, almost three times higher than today.[10] However, as with wealth, energy had not yet gone global. By 1971, the 40 percent of the world living in low- and lower-middle-income countries consumed an average of 4.4 gigajoules of energy per capita a year; in the United States that figure, at 317 gigajoules, was more than 70 times higher.[11] While there were concerns about feeding a rapidly growing population, the Green Revolution, enabled by synthetic fertilizers (and other fossil fuel–based technologies), underpinned decades of growth in agricultural productivity. For instance, per capita production of cereals increased by

almost 20 percent between 1961 and 1971.[12] This growth was supported by a ninefold increase in global ammonia production in the 1950s and 1960s.[13]

In **capitalization**, the rebuilding and development of Europe and Japan from the ravages of war enabled robust supply and demand growth. Around the world, governments deleveraged wartime debts as their economies expanded, with the ratio of public debt to GDP in G-20 countries declining from 121 percent in 1946 to 32 percent in 1971.[14]

The Postwar Boom delivered a golden age of productivity growth, driven largely by the spread of the "great inventions" of the previous decades whose dissemination had been hampered by war. However, the regions then known as the Third World grew more slowly—GDP growth of 3.3 percent per year against an OECD average of 4.8 percent per year—with the effect that the 20 percent of the global population in OECD countries accounted for 59 percent of GDP growth in the era.[15]

This golden age could not last forever. Subterranean tensions were building that contributed to the earthquake of the 1970s. European dissatisfaction with the "exorbitant privilege" of the Bretton Woods system enjoyed by the United States, combined with dwindling US gold reserves, exposed tensions in the global monetary system.[16] Decolonization, with its emphasis on self-determination, was at odds with a carbon-hungry economy that relied on resources extracted from poorer, producing nations with little sovereignty over their natural endowments. And by 1970, the one-off changes and innovations that had driven progress throughout the era appeared to have declined in intensity and frequency in the West—the transition from animal transportation to highways and jet engines, from domestic toil to domestic appliances, and from rural life to cities could happen only once.[17]

The Era of Contention (1971–89)

The early 1970s bore witness to seismic shifts as new actors rose up to claim their place in the global order (1971–73), particularly as the shift to regional self-determination created tensions in a now international resource system. In 1973, an oil shock contributed to a yearlong recession that hobbled large and heavily oil-dependent Western economies when Organization of Petroleum Exporting Countries (OPEC) nations sought to leverage the power of what lay beneath their earth. At the same time, the expensive and difficult war in Vietnam divided the United States and demonstrated the limits of its power. There was increasing strain on the peg to the US dollar and its convertibility to gold.[18] The gold standard ended when US President Richard Nixon suddenly closed the gold window and the age of fiat money began—a seeming footnote of history that went on to become the basis of ongoing US hegemony, financialization, and global interconnectedness. The West underwent an inflationary recession, and momentum shifted toward the East: Japan's GDP overtook Germany's. In a historic move, Nixon visited China after 25 years of noncommunication between the two great powers.[19]

The era that followed the pivotal transition of 1971–73 had a different but similarly consistent effect across domains. The mood of this era was less buoyant as people and institutions struggled to adjust to a slowdown and persistent inflation, shifting from the rapid growth of the preceding years.

In the **world order**, the terrain continued to be shaped by changing US economic power. The world moved to a floating exchange rate system and fiat money as the US dollar lost its peg to gold. The intensity of the Cold War waxed and waned. The rapprochement of Nixon and Leonid Brezhnev and the détente was followed by deteriorating relations after the Soviet invasion of Afghanistan in 1979.[20] Stockpiles of nuclear warheads increased throughout the era, but at a slower rate, and by 1987, the two sides had more than 60,000 nuclear warheads in total.[21] Many Western economies struggled—for example, the United Kingdom required a $3.9 billion bailout from the International Monetary Fund in 1976. Meanwhile, non-Western countries such as Japan emerged as economic powerhouses but not geopolitical ones, while China opened up to the outside world. Over time, Western economies responded by undertaking significant market-based reforms of their own, such as those led by UK Prime

Minister Margaret Thatcher and US President Ronald Reagan, who laid the foundations for the rise of markets globally over subsequent years, culminating in the last of the three eras discussed here: the Era of Markets.

In **technology platforms,** consumer electronics became widespread in the West. By the end of the era—but not at its start—the majority of US households had a clothes dryer, an electric stove, a color television, air conditioning, and a microwave.[22] Meanwhile, the foundations of the computer age were laid with the advent of network technology and communication protocols, the widespread use of transistors, and the first commercial production of a microprocessor: the Intel 4004 four-bit central processing unit. In 1971, fewer than 30 hosts were running the Advanced Research Projects Agency Network—the precursor to the internet—a figure that topped 150,000 by the end of 1989.[23] However, the seeds of global connectivity would not fully germinate for another generation.

In **demographic forces**, the era was shaped by rising female empowerment. The widespread adoption of the contraceptive pill led to historic alterations in family and social structures, with female economic participation becoming the norm in the West. In the United States, from 1970 to 1990, the gap between male and female labor participation rates fell by nearly 20 percentage points.[24] Related to this, Western fertility rates fell further and started dropping below the replacement rate. Globally, child mortality continued to fall, enabled by rising levels of female education and improving basic public health infrastructure.[25] This contributed significantly to rising life expectancy; the average person lived eight years longer. However, the benefits of economic progress continued to accrue more quickly in the West, and, as a result, between-country inequality peaked.[26]

In **resource and energy systems**, the new landscape was one of supply crises, particularly in oil after Middle Eastern nations asserted sovereignty over their reserves. The world responded to the global oil shock by diversifying into nuclear and gas, boosting non-OPEC oil production, developing coal basins in China, and investing in energy efficiency. Economic growth became notably less energy intensive. By the end of the era, 10 percent fewer joules were required per dollar of GDP.[27] Growth in per capita energy consumption slowed from 3.5 percent per year in the late 1960s to 1.3 percent per year in the 1970s.[28] Ongoing improvements in agricultural productivity enabled by energy, chemicals, and machines led to increasing global food supply while increasing the amount of labor available off the farm—despite the 1972 Club of Rome report warning of the limits to growth.[29] In Africa and Asia, per capita calorie consumption increased by 8 percent and 21 percent, respectively.[30] There was enough food in each continent for no one to go hungry. Good governance became the biggest bottleneck, as the Ethiopian famine of the 1980s tragically demonstrated.

In **capitalization**, the landscape was one of stagflation in the West. Inflation hit double digits, and many economies suffered from recession and high unemployment; towering interest rates were used to try to tame inflation, and the end of the gold standard corresponded with a gradual releveraging of public balance sheets.

Economic growth in the West sputtered during this era. Productivity growth in G-7 countries more than halved, from 4.3 percent in the 1960s to 1.8 percent in the 1980s.[31] However, GDP growth in East Asia started on a long upward trajectory. With its transition from a planned economy to a market-based economy starting in 1978, China switched from lower growth to hypergrowth—a pivot that went on to fundamentally change the world.

Again, tensions were mounting that would lead to a shift in the landscape. The foundations for a more deregulated market-based economy had been laid in the West, exemplified by the policies of Reagan and Thatcher. The Soviet Union's rival model was slowly imploding. The groundwork for a new digital age was set.

The Era of Markets (1989–2019)

Between 1989 and 1991, the Berlin Wall fell, the Soviet Union broke up, and Europe's geopolitical deck was reshuffled, with global consequences. Pro-democracy movements swept across Europe, Asia, and Africa. The Maastricht Treaty was signed in 1992, signaling a leap forward in Europe's economic and political integration. China, after halting progress, fully recommitted to its market reforms with Deng Xiaoping's Southern Tour of 1992. Meanwhile, the Gulf War became a showcase of US military power. In the technological sphere, the World Wide Web was born in 1989, creating the scaffold for a digital revolution.

And so began the era that is most familiar to many of us, the years that have been our recent home. Again, this era had its own distinctive landscape. The world has changed a lot—but analysis of global trends during this period finds the same constants echoing throughout: deepening global connections enabled by a US-led order, computerization and connectivity, and the rise of Asia, to name a few.

In the **world order**, one prominent feature was global integration, the foundations for which had been laid in the 1980s as more economies drove market-based economic reform.[32] Global supply chains spread rapidly, built on factor-cost arbitrage and cooperative economic rules.[33] They were supported by the newly formed World Trade Organization, which fostered multilateral reductions in trade barriers. Total trade grew to the equivalent of, on average, 56 percent of countries' GDP in 2019.[34] In particular, from 1990 to 2008, trade grew at almost double the pace of GDP.[35] China's role in trade became truly global. By the end of the era, China was a top-five import or export partner for economies accounting for 99 percent of global GDP.[36] In Europe, integration deepened, spurred by the creation of the economic union and eventually the monetary union.

A second key feature was relative unipolarity around a US-led neoliberal, democratic order. The dissolution of the Soviet Union had reshaped the bipolar world into a unipolar one, centered on an unchallenged United States.[37] Democracy spread, and, globally, military conflict deaths fell to their lowest levels in recent history.[38]

In **technology platforms**, mobile phones and the internet became the norm in the West and, eventually, around the world, enabled by the persistent march of Moore's law, which made processing technology powerful, cheap, and ubiquitous.[39] By 2019, 67 percent of the world's population had a mobile phone—a new majority.[40] Fifty-four percent had access to the internet.[41] At the start of the Era of Markets, both numbers had been close to zero. Even "plain old telephone system" landlines peaked at two for every ten people globally, easily eclipsed by internet protocol and mobile-based technologies.[42] Digital became the means to store the world's information. At the start of the era, almost 99 percent of the world's data was stored on analog media; now, effectively 100 percent of the world's data is in digital form.[43] More recently, disruptive transversal technologies like applied AI, bioengineering, and immersive reality technologies accelerated in innovation, production, and adoption, with large potential for value creation in coming years.[44]

In **demographic forces**, the march of urbanization led an additional two billion people into cities, and city dwellers outnumbered those living in rural areas. By 2019, 56 percent of the global population was urban—another new majority. The number of large cities more than doubled, from 274 to 579, with 81 percent of them outside the West.[45] Fertility rates continued to fall globally, converging toward smaller family sizes. The fertility rate in Latin America and Asia fell to 1.9 and 2.1 births per woman, respectively—below the replacement rate—with only women in Africa having larger families, with 4.4 children on average. Life expectancy continued to rise. During this era, the average person gained an additional nine years of life. Of course, the flip side of this was that the world aged. Likely for the first time in history, the global median age topped 30.[46] Falling fertility and rising life expectancy were supported by people becoming more educated and less poor. The secondary education enrollment ratio increased to 76 percent.[47] By 2019, 53 percent of the world's population had income above the World Bank's highest poverty line of $6.85 per day.[48] As a result of rising Asian prosperity, hundreds of millions were lifted out of poverty.[49] However, large development opportunities still remained. By the end of the era, in sub-Saharan Africa 35 percent of people lived in

extreme poverty; 35 percent of adults could not read and write; 59 percent lived rurally; and 54 percent did not have access to electricity.[50] Notably, these rates had all improved throughout the era, but given population growth, absolute numbers remained high. Reasons for optimism persisted. For example, between 2000 and 2019, countries such as Botswana, Rwanda, and Uganda registered 20-year increases in years of life expectancy.[51]

Viewed through a country lens, the world has become more equal as developing economies have narrowed the income and wealth gap with their advanced counterparts. For example, high-income countries' share of global wealth fell slightly, from 80 percent in 2000 to 71 percent in 2014; the share of middle-income countries such as China and India rose from 14 to 22 percent.[52] At the same time, in the West, and viewed more locally, there was a growing sense that the economic benefits of the era were not being equitably shared. Between 2005 and 2014, the real incomes of about two-thirds of households in 25 advanced economies were flat or declined—with the risk of corrosive economic and social consequences. For the first time in recent Western history, the assumption that each generation would be better off than the previous generation faltered.[53] Moreover, within advanced economies, wealth and income inequality has risen. Measured by the mean-to-median wealth ratio, wealth inequality has increased in two-thirds of OECD member economies since 2000. In income terms, the top 1 percent in the OECD almost doubled its share of total pretax income, from 6 percent in 1980 to about 11 percent in 2014.[54] Such trends—the result of, among other things, the rise in global interconnectedness, the increasing prominence of knowledge work, and high asset price growth underpinned by cheap money—have sown societal discord in the West, undermining the social contract and powering the rise of polarized politics and nonmainstream electoral success.[55]

In **resource and energy systems**, fossil fuels became ever more abundant as ongoing technological improvements and a flood of investment brought new basins into the global mix, including, for instance, deep-sea oil, intercontinental pipelines, shale gas and oil (particularly in the United States), and liquefied natural gas. During this era, annual global consumption of oil, coal, and gas increased by 44, 67, and 108 percent, respectively.[56] Per capita energy consumption grew significantly. Globally, the average person now consumes 76 gigajoules, equivalent to about 580 gallons of gasoline, a year.[57] However, the energy intensity of GDP continued to fall, with 36 percent fewer joules required per dollar at the end of the era than at its start.

This growth competed with a new feature of the terrain: the increasing awareness of potentially irreversible climate damage. A race to salvage global habitability began, and the Paris Agreement laid out a path to reducing climate damage. This led to some notable results. The move toward renewables has been tangible. By 2019, a significant majority—72 percent—of net new annual electricity-generating capacity globally came from renewables.[58] Countries around the world have committed (in pledge, policy, or law) to net zero, and these commitments cover about 83 percent of countries (by terrestrial greenhouse gas emissions).[59] However, such efforts did not act as a real constraint on demand or supply. For example, over the course of the era, China's energy demand underwent a step change. Per capita energy consumption in China jumped from 26 gigajoules to 100 gigajoules, driving a global increase in per capita energy consumption of 20 percent.[60] Looking at supply, the share of energy from renewables grew slightly, but fossil fuel consumption rose further in absolute terms. By the end of the era, 84 percent of the global gigajoules consumed still came from fossil energy sources, a figure that remained essentially unchanged over the past 30 years.[61] Meanwhile, electricity—the current focus of so much effort to decarbonize—continued to provide a relatively small proportion of the world's final energy consumption: 13 percent at the start of the era and 20 percent at its end.[62]

Demand for food and materials also grew explosively. As people around the world became wealthier, their appetite for meat grew. Over the course of the era, meat production in China tripled; in Brazil, it quadrupled.[63] The surge in domestic animals came with a surge in crops to feed them—China's corn production grew nearly threefold and Brazil's fivefold, while production in the United States nearly doubled.[64] And as countries developed, they built.

Global steel production increased 2.4 times, driven by a 16-fold increase in China's steel production.[65] Cement production nearly quadrupled.[66] Again, this was driven by China, which between 2011 and 2013 poured more concrete than the United States used in the entire 20th century.[67] All of this was supported, too, by plastics—packaging the world's food and lining its buildings—whose annual production grew fourfold across the era.[68] In this way, at the end of the era, human-made materials had reached a crossing point, weighing more than all the living biomass on Earth.[69]

In **capitalization**, one feature at least remained constant from the previous era—China's growth. Propelled by prosperity and urbanization, hundreds of millions of people in China left agricultural employment to join the modern labor force. This led to a historically large supply shock of hundreds of millions of urbanites joining the global workforce, which, over time, evolved into robust demand growth from the burgeoning middle classes as well as a complete restructuring of global supply chains. For example, while China does not produce most of the world's lithium, cobalt, manganese, or iron ore, it processes most of each.[70]

A second, new feature of the terrain was stable, low interest rates and inflation. The world experienced a record buildup in household, nonfinancial corporate, and government debt, which, on average, by 2020, accounted for 256 percent of each country's GDP, up from close to 100 percent when countries started releveraging in the 1970s.[71] This effect was particularly pronounced in the case of public debt in advanced economies. In 2019, 57 percent (by GDP weight) of advanced economies had government debt of more than 100 percent of GDP.[72] The global financial crisis was a midpoint breather in the leverage race, but ultimately the massive monetary expansion in response kept fueling long-term asset values and debt. Indeed, between 2000 and 2020, the market value of the global balance sheet tripled, from $150 trillion or about four times GDP in 2000 to about $500 trillion or about six times GDP in 2020.[73] One small but important piece of the growing balance sheet was—and is—intangible assets such as intellectual property and data. Investment share in intangibles in the US and European economies increased 29 percent in the past 25 years, a change associated with increasing total factor productivity in economies.[74]

In this era, China's growth supported an economic shift in global growth away from high-income countries. Low- and middle-income countries are now, for the first time, responsible for the majority of global GDP growth.[75] For most of the era, China sustained top-gear GDP growth of close to 10 percent a year in real terms, an achievement unprecedented for a country of its size.[76] Moreover, China was joined by India and some Southeast Asian emerging markets entering a high-growth gear, with annual GDP growth of 5.0 to 7.5 percent for most of the era.[77] These stellar growth rates started to ease only toward the end of the 2010s. In advanced economies, GDP growth was more muted, and the productivity boom of the late 1990s started tapering off in the 2010s.[78]

At the end of this third era, the world was very clearly globalized, urban, and, in aggregate, very prosperous. New majorities abounded (Exhibit 3). Without question, today's world is an improved version. At the turn of the 1990s, the world had much more inequality, with significant energy-poor, food-poor, and capital-poor populations, more people living rural lives outside of the orbit of global markets, and more people uneducated and disconnected from one another and from the world's information. The peaceful progress of the world enabled us to address this inequality and keep the gains that have been made.

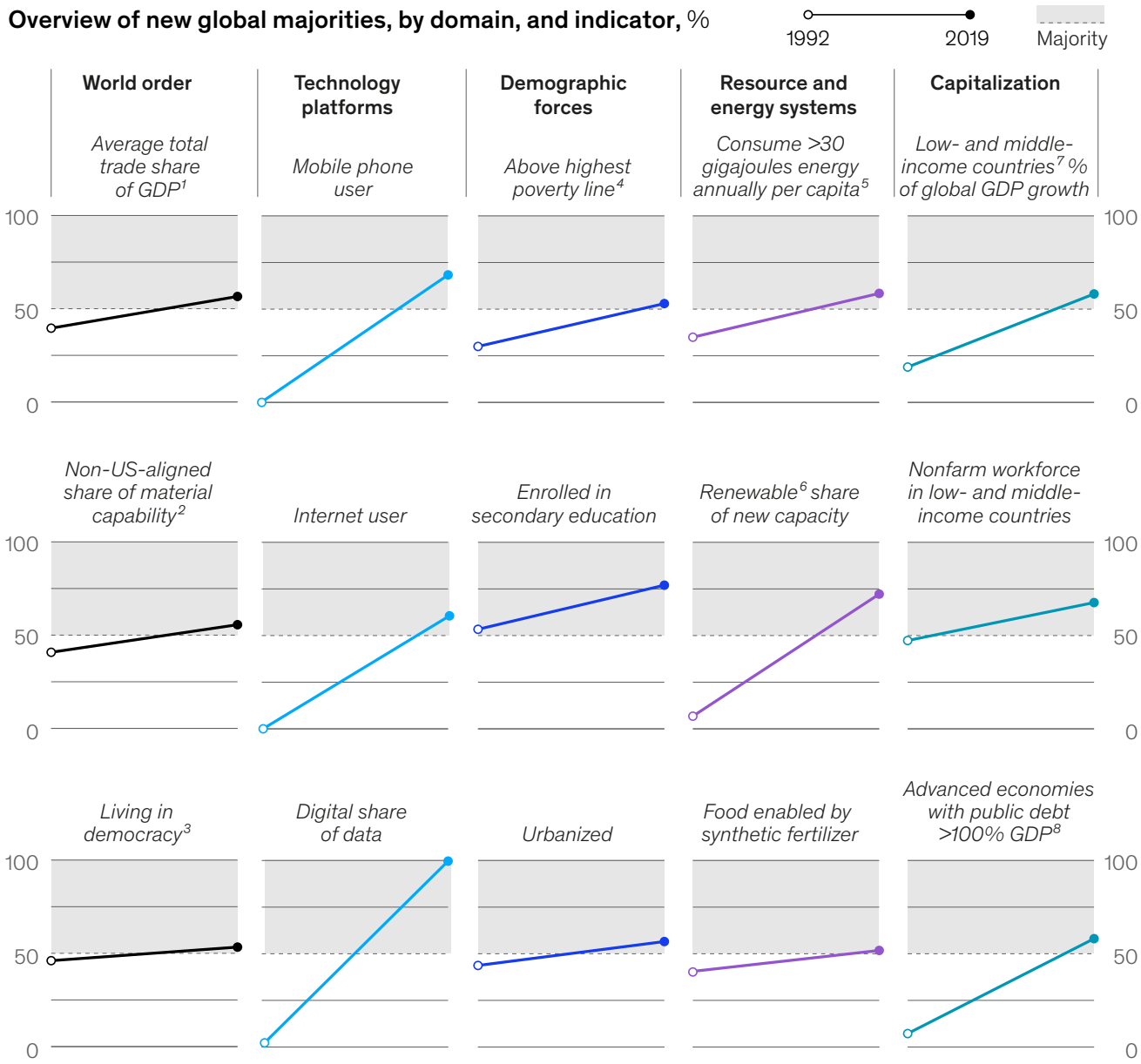
Here, too, one can identify tensions, imbalance, and complexity mounting with sufficient force to create ruptures. While markets had supported remarkable growth and progress, a narrative was emerging that fault lines were beginning to show and limits to free markets were being exposed.[79] COVID-19—and its role in the expansion of the role of government—has passed its worst stages, but it leaves a legacy of higher debt as well as a rapid acceleration in digitization. Russia's invasion of Ukraine displaced any remaining complacency about global energy (and food) supply, the threat of unbound autocracy, and the limits of global institutions. The returning specter of inflation and the associated rapid monetary tightening are redolent of a different age. The huge improvement in living standards has drawn billions into the modern energy system (without which there is no modern life as we know it), but the shift has

meant that we approach the end of our carbon budget. The financial system that enabled global investment, underpinned by the global reserve fiat currency and turbocharged money expansion, has created potential vulnerabilities in record leverage on the liabilities side and record valuations on the asset side. So, yes, the current earthquakes may seem to have come suddenly, but as in other times of transition, they reflect a longer buildup of tensions, which we are now forced to resolve in the next era.

Exhibit 3

In the Era of Markets, many new 'majorities' emerged.

Overview of new global majorities, by domain, and indicator, %



[1]The sum of exports and imports of goods and services (World Bank definition). [2]Among top 4 powers (NATO plus Australia, China, India, Japan, and Russia), using a composite indicator of military, economic, and demographic power. [3]Using a "thin" definition as per Charles Boix et al., "A complete set of political regimes, 1800-2007," *Comparative Political Studies*, 2013, Volume 46, Issue 12. To demonstrate change, a 1989 starting point has been used. [4]$6.85/day, the median poverty line for upper-middle-income countries (2022 updated World Bank definition); note that this is higher than the "extreme poverty" line. [5]Based on country-level average per capita consumption. [6]Excluding nuclear power; 1992 value estimated using US Energy Information Administration and BP data. [7]World Bank definition. [8]GDP-weighted proportion of advanced economies (IMF definition) with total government debt >100% GDP.
Source: BP Statistical Review of World Energy; Charles Boix et al., "Boix-Miller-Rosato dichotomous coding of democracy, 1800–2020," Harvard Dataverse, 2022; Composite Index of National Capability v6.0, Correlates of War, July 2021; GSMA Mobile Economy; Martin Hilbert and Priscila Lopez, "The world's technological capacity to store, communicate, and compute Information," *Science*, February 10, 2011, Volume 332, Issue 6025; IMF Global Debt Database; International Renewable Energy Agency; Our World in Data; UN Department of Economic and Social Affairs; World Development Indicators, World Bank; McKinsey Global Institute analysis

2. Imagining the next era

What form the next era might take—and what key decisions could help to shape the new terrain—are uncertain in this unusually febrile context. The major question on the minds of many political leaders and CEOs right now is whether we are in danger of a repeat of the 1970s and 1980s Era of Contention, whose tremors in so many ways remind us of current times: an energy shock, a negative supply shock, the return of inflation, a new monetary era, rising geopolitical assertion, resource competition, and slowing productivity in the West.

Could we be overblowing that comparison and the momentousness of current events? There is a fundamental difference between today and other crises during the Era of Markets. Most of them were demand-driven cycles when confidence crashed; examples include the dot-com bust, financial crises in Asia, and the COVID-19 pandemic. Citizens and businesses retrench and economic activity falters, but when confidence returns and spending and growth resume, the dangers diminish. However, today we are seeing a supply shortage—and geopolitical tensions around supply—in the context of strong demand. The result is inflation, and the specter of inflationary recession.

While a demand cycle is colored by psychology, a supply cycle is physical and takes much more time and effort to resolve.[80] Can the challenges surfacing during the current pivotal transition be resolved faster and less painfully than was possible after the 1970s earthquake? The aftershocks of the 1970s took almost 20 years to settle down and only on the back of a rigorous long-term response. It included investing in energy independence (consider, for example, rising non-OPEC production in Alaska, the North Sea, and the Gulf of Mexico), the growth of a less energy-dependent economy, and painful monetary stabilization, including double-digit interest rates and associated recessions under the Volcker-era US Federal Reserve. Strong political leaders from Reagan to Thatcher to Deng emerged from the maelstrom, often by applying tough—and unpopular—medicine.

Given that the average CEO would have been a teenager during the 1970s and 1980s, it is unlikely that many of today's leaders have a playbook for how to navigate this confluence of forces and the unresolved questions that need to be negotiated. Moreover, differences between now and the earthquake of the early 1970s only magnify cause for concern: today's world is much more globally entwined, much more leveraged, and much more carbon constrained.

So let us go back to the five domains. Within each, there are possible directions of travel or trends that could determine the flavor of the coming era. However, in each domain are unresolved questions—perhaps many of them—and choices to be made about which path to take. Very different outcomes are still on the table (Exhibit 4).

Exhibit 4

Directions of travel are emerging, but questions abound.

Potential direction of travel and unresolved questions

Source: McKinsey Global Institute analysis

World order

Potential direction of travel

— **The unipolar and settled world order of the most recent era has become multipolar and proactive.**[81] As an illustration, the gap between the share of global material capability held by US-aligned powers and China is fewer than ten percentage points, smaller than the gap between US-aligned powers and the Soviet Union during the Cold War (Exhibit 5).[82] A second example is the slow spread of democracy: the share of the world living in a democracy topped 50 percent in the 1990s but stalled thereafter.[83]

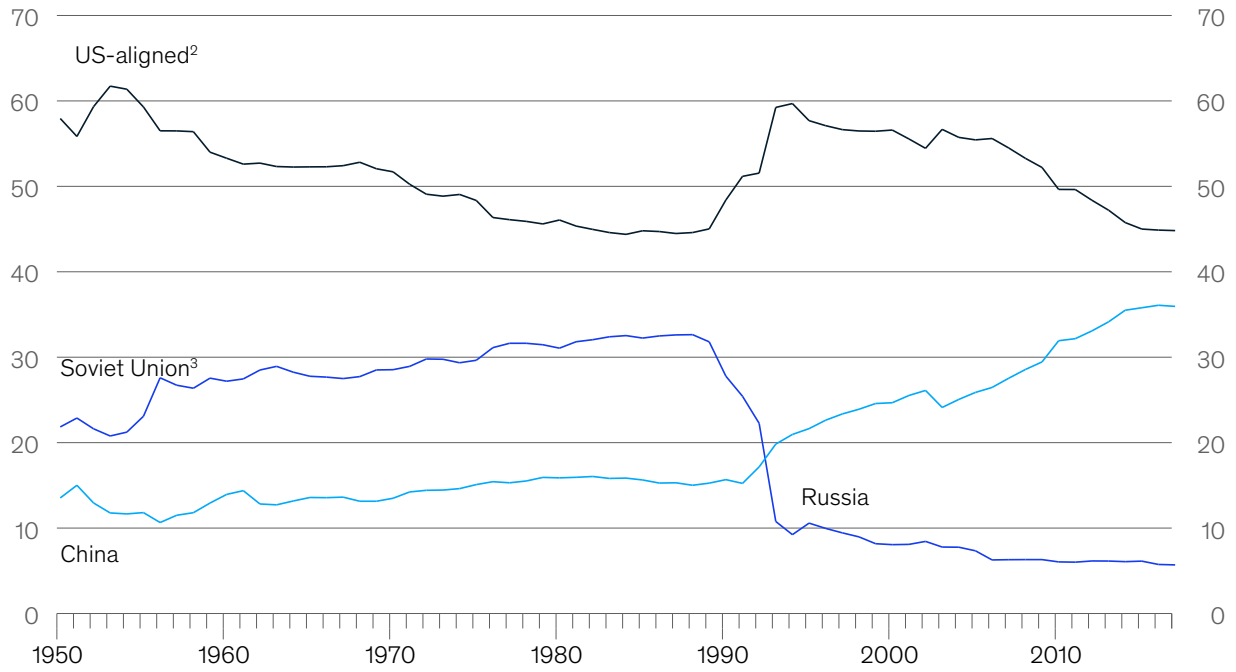
These deeper trends have been accelerated and highlighted by a series of tremors in recent years. In February 2022, China's rise as an economic power reached a crossroads as its GDP overtook that of the European Union (EU); at the end of March 2022, India passed the United Kingdom to become the world's fifth-largest economy by GDP. At the same time, peace in Europe—and the global economy—was rocked by Russia's invasion of Ukraine. Western-led condemnation was swift, but China, India, and 33 other states abstained from a UN resolution to condemn Russia.[84] Finally, the COVID-19 pandemic delivered the largest global economic shock since World War II and prompted an overall expansion of the state just about everywhere, at least for the period of the pandemic, as public intervention and leadership came roaring back.[85]

— **Increasing multipolarity may support a trend toward realignment into regionally and ideologically aligned groups.** Global integration through flows of trade, people, capital, and, increasingly, intangibles remains a force in the world. However, some underlying trends have been evolving. For example, trade intensity has stabilized. After growing rapidly from the mid-1990s to the global financial crisis, merchandise trade as a share of GDP has remained flat over the past decade.[86] Realignment may be seen in the

Exhibit 5

The world is becoming multipolar.

Share of material capability,[1] largest nations/alliances, %



[1]Composite index including population and demography, production capabilities, military expenditure, and personnel. Share is calculated between largest four nations/groups (those represented on chart, and India).
[2]Includes NATO and US-aligned non-NATO members (eg, Australia, Japan).
[3]Including Warsaw Pact nations and observers during relevant period.
Source: Composite Index of National Capability v6.0, Correlates of War, July 2021; McKinsey Global Institute analysis

technological sphere, too, with a decline in global interoperability and a splintering of the tech stack as the availability of major platforms and technologies increasingly depends on political lines that are drawn.[87]

Again, these trends have led to some tremors in the past two years that signal regional realignment. In trade, for example, as many regional trade agreements were notified in 2021 as in the previous five years combined.[88] The Regional Comprehensive Economic Partnership, a free trade agreement among Asia–Pacific nations, came into force in January 2022, creating the world's largest trading bloc.[89] In geopolitics, as a consequence of the Ukraine war, Finland and Sweden's accession to NATO is undergoing ratification, marking the largest addition to NATO's material capability since 2004.

— **Years of relative moderation in internal and international politics may give way to more political polarization, both internally and between blocs.** Internationally, a persistent gap separates liberal democracies and some more autocratic regimes.[90] Moreover, since Russia's annexation of Crimea in 2014, the number of active sanctions—a marker of tension between states—has hit an all-time high.[91] All this occurred against a backdrop of increasing strain between people and institutions, particularly in the West. The rise of polarization in US politics has been well studied.[92] Between 2010 and 2020, Europe witnessed a near doubling of the share of the popular vote taken by polarizing political parties.[93] Citizens' protests are on the rise.[94] Liberal democracy faces not only increasing internal tensions but also opposition from rising powers with alternative ideologies.[95]

Unresolved questions

— **What might the multipolarity of the world look like in practice?** Will the economy remain global in nature, and will we find new, workable mechanisms to cooperate beyond the economy? At one end of the spectrum, there could be a gradual transition to a multipolar order where blocs develop autonomous control over limited, strategically important resources and capabilities—such as energy systems and semiconductor manufacturing—while global collaboration continues more generally. At the other end, there could be a more abrupt transition with much more limited collaboration between blocs across all dimensions, combined with heightened geopolitical tensions.

— **How effectively will global and local institutions and leadership adapt to, and shape, this different world order?** On the one hand, global institutions could play a powerful and pivotal role in managing an orderly transition. Domestically, institutions could make the appropriate decisions and investments to thrive in a growing world. On the other hand, global institutions could be sidelined by international blocs while, domestically, short-sighted decision making leads to a misallocation of resources, exacerbating the strain on society.

Technology platforms

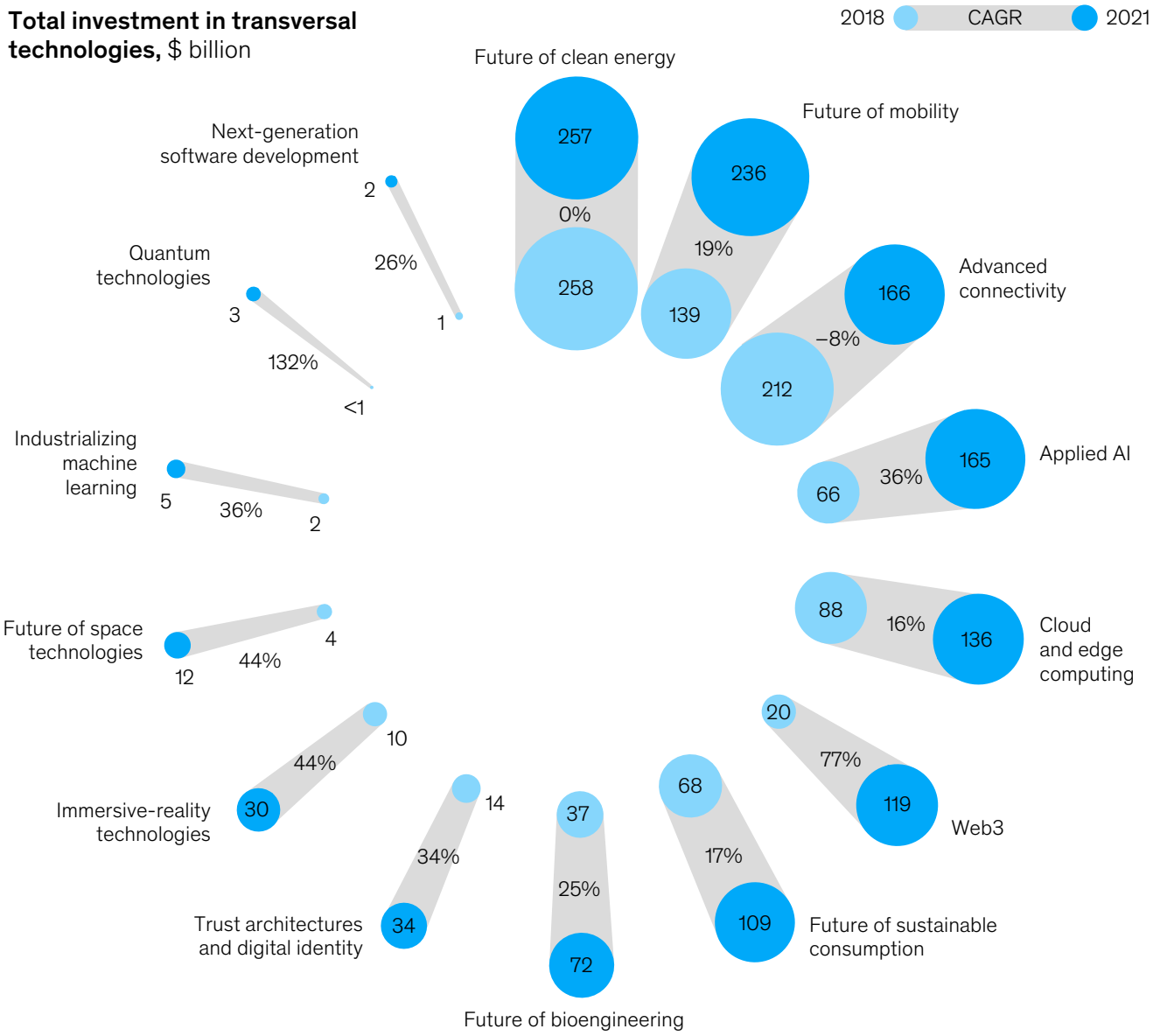
Potential direction of travel

— **Key drivers of previous eras—such as Moore's law and the spread of digital—may slow in the coming years.** The physical limits of Moore's law are being approached—consider the atomic limit of transistor size—while the expense of adhering to Moore's law is growing exponentially.[96] However, new dimensions of semiconductor innovation may extend advances in computing power. A deceleration in hardware innovation may lead to greater emphasis on software development. In the Era of Markets, cellphones and the internet far outspread fixed-line phones and PCs in adoption. However, a saturation point may be near. While smartphones will become the norm even in the least developed countries, global volume growth will end as demand falls in the West; indeed, smartphone shipments have been in decline globally since 2018.[97]

— **A set of transversal technologies, including applied AI, may shape the next era.** New and emerging transversal technologies, such as applied AI, bioengineering, and immersive-reality technologies, are attracting tens and hundreds of billions of dollars of annual investment, often with double-digit investment growth rates (Exhibit 6).[98] These technologies may counteract the slowdown suggested above. For example, developments in quantum computing may spur the next big S-curve of development. And, in the digitally saturated world, frontier technologies such as the metaverse will begin to enter the mainstream.[99] Focusing on AI in particular, the wide range of potential applications has led some to claim it will underpin a Fourth Industrial Revolution.[100] AI innovation, as measured by AI-based patent applications, grew at a rate of more than 75 percent a year between 2015 and 2022.[101] Accelerating the preexisting trend, the pandemic propelled even faster adoption of AI and automation.[102]

Exhibit 6

Investment is flooding into 14 transversal technologies.



Source: McKinsey Technology Trends Outlook 2022

— **Technology may move to the forefront of geopolitical competition and power.** Technology is permeating virtually every sector of the economy, determining competitive dynamics. At a time when geopolitics are shifting in unpredictable and potentially challenging ways, this makes strategic autonomy on critical technologies an ever more salient topic. A race for AI primacy between major powers is under way, with many recently questioning the belief that the United States leads its peers in AI capabilities.[103] There is competition for influence in global standard-setting bodies; consider, for example, China's ambition to take a more leading role through the China Standards 2035 strategy.[104] There are concerns about the security implications of globalized hardware flows as well as the selective block on exporting the world's most sophisticated chip-making machines, produced only by a single company in the Netherlands.[105] And cyberattacks as a tool of state power have increased. Between 2020 and 2022, 320 state-sponsored cyberattacks were publicly reported, nearly as many as in the full decade prior.[106]

Unresolved questions

— **What impact will the next wave of technologies have on work and social order?** AI technologies will present both opportunities for and challenges to the nature of society and work, the balance between digital and physical domains, the financial system, and the interplay between humans and machines.[107] Many forecast that AI may lead to job disruption rather than job destruction.[108] However, the threat of losing good jobs and the risk of leaving behind certain groups remains.[109] Depending on the choices made, a smooth transition to an AI-augmented world could be engineered, or technology could fracture the social order.[110]

— **How will technology, institutions, and geopolitics interact?** Technological innovation has become the crucible of global competition. Emerging questions concern the nature and extent of data localization, the balance—and sharing—of critical technological capabilities between powers, the role of technology in changing institutions, and the future frameworks for standard setting. Potential future paths range from healthy competition between powers under a broad framework of shared standards and breakthroughs to a decoupled world with a concentration of technological power held within blocs.

Demographic forces

Potential direction of travel

— **A young world will evolve into an aging, urban world.** The world is aging as never before as a result of declining fertility and rising life expectancy. Globally, the world has reached the plateau of "peak child"—it is unlikely that there will ever be many more under-fives alive than there are today. This demographic shift is not confined to the West: it is set to become an Asian phenomenon, too. In China, for example, the working-age population is already falling, and the old-age dependency ratio is projected to surpass that of the United States in the next 15 years. Africa, conversely, will be the source of more than half of global population growth in the coming decades. By the early 2030s, the continent is expected to have a larger working-age population than China or India and a median age of 20.[111] As Africa, the young continent, continues to grow even as populations elsewhere shrink, could it finally enter into a sustained period of rising prosperity?

The world will continue to urbanize, too. In 2021, the world hit "peak rural"—all future population growth is projected to come from urban centers as rural populations decline (Exhibit 7).[112] Again, urban growth will come from outside the West. Whereas Europe and North America are projected to gain 13 large cities by 2035, Africa and Asia are expected to gain about 50 and 100, respectively.[113]

— **The age of communicable diseases may give way to an age of noncommunicable diseases.** An aging world brings a shift from communicable diseases to often chronic, noncommunicable diseases (NCDs), the sizable impact of COVID-19 notwithstanding.

In developing countries, rates of death and disability due to NCDs have been falling.[114] However, an aging population means the absolute size of the NCD burden has been surging—a change for which developing countries are often ill-equipped.[115] In some high-income countries, most notably the United States, rates of death and disability due to NCDs are increasing. Indeed, the combination of the NCD burden and the COVID-19 pandemic—which led to an estimated 18 million excess deaths globally—contributed to a 2.7-year drop in life expectancy in the United States between 2019 and 2021, regressing to the average life expectancy seen in 1995.[116] The combination of the NCD burden and rising old-age dependency ratios is likely to increase demands on the welfare state across the development spectrum, putting further upward pressure on health expenditure and pensions.

— **Inequality within countries may increasingly challenge the social fabric.**[117] Within countries, the ratio of the top 10 percent measured by income and the bottom 50 percent is at the highest level since its peak at the start of the 20th century.[118] In the United States, trust in government is at historic lows.[119] In Europe, citizens' trust in government is at stable lows.[120] The link between rising inequality and falling trust in institutions may not be causal. Nonetheless, a narrative is increasingly circulating that the economic benefits of society are captured by elites, enabled by reinforcing institutions.

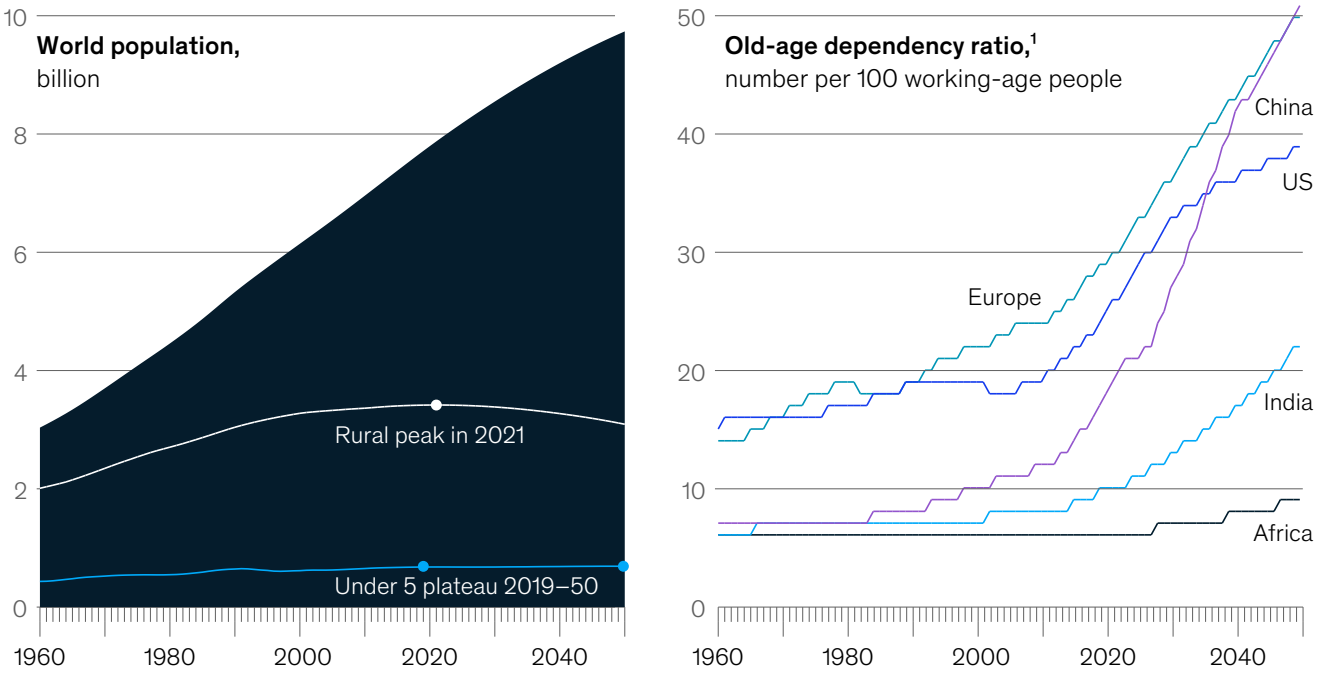
Unresolved questions

— **How will countries, institutions, and individuals adapt to demographic changes?** Managing the transition to an older society will require investment in, and supporting structures for, an equitable balance. There are choices to be made, for example, about the extent to which society prioritizes adding years to life and life to years—taking the view of health as an investment—rather than investing in other demands on expenditure.[121] In other words, the world could age gracefully, with healthy, productive later years becoming the norm, or old-age dependency could impose heavy social and economic costs on the

Exhibit 7

The world will continue to urbanize and age.

Overview of global shifts in urban and age demographics



[1]Ratio of people aged >65 to people of working age (ie, 15–64), UN Department of Economic and Social Affairs definition.
Source: Our World in Data; *World Population Prospects 2022*, UN; *World Urbanization Prospects 2018*, UN; McKinsey Global Institute analysis

young. Moreover, it is unknown how shrinking working-age populations, in China and Europe, for example, and growing ones in Africa and India will affect their economies.

— **How will capital and institutions respond to rising inequality?** Here, too, a spectrum of outcomes is plausible. Institutions and policies could facilitate a more equitable and inclusive distribution of the fruits of society in the interest of sustainable growth, and the narrative on inequality could be tempered, or within-country inequalities could continue to rise, exploited by destabilizing political forces that undermine the perceived legitimacy of institutions.

Resource and energy systems

Potential direction of travel

— **Spending on fossil fuels will shift to spending on replacing them, but overall investment may struggle to keep pace with growing energy needs.** The near-term energy landscape will be shaped by recent underinvestment. At its heart lies a paradox: the current pace of renewable energy infrastructure investment is too slow for the goals of the Paris Agreement to be met, but if those goals are not to be achieved, then current investment in fossil fuel infrastructure is too low to make up the shortfall.[122] Between 2014 and 2022, investment in energy infrastructure stagnated (Exhibit 8). Spending on renewables would need ramp up at four times the 2015–22 rate to be on the path to net zero.[123] Oil drilling has not responded to recent high prices as markedly as in the past, likely due to concerns about fossil fuel investment.[124] Indeed, recent years have seen a shortfall of more than $1 trillion of investment in energy infrastructure versus 2014 levels, with a 33 percent drop in fossil fuel and nonrenewable power investment over the period.[125] All of this is in stark contrast to the required additional annual global investment of as much as $3.5 trillion in low-emissions assets estimated to be needed to achieve net zero.[126] Increased investment in renewables, fossil fuels, or both will be needed to meet global energy requirements. A combination of underinvestment and catch-up investment in both renewable and fossil fuel energy infrastructure could produce a prolonged period of higher prices. Even before Russia's invasion of Ukraine, the deeper trend of underinvestment manifested in tremors in the form of high price signals across energy commodities in late 2021.[127]

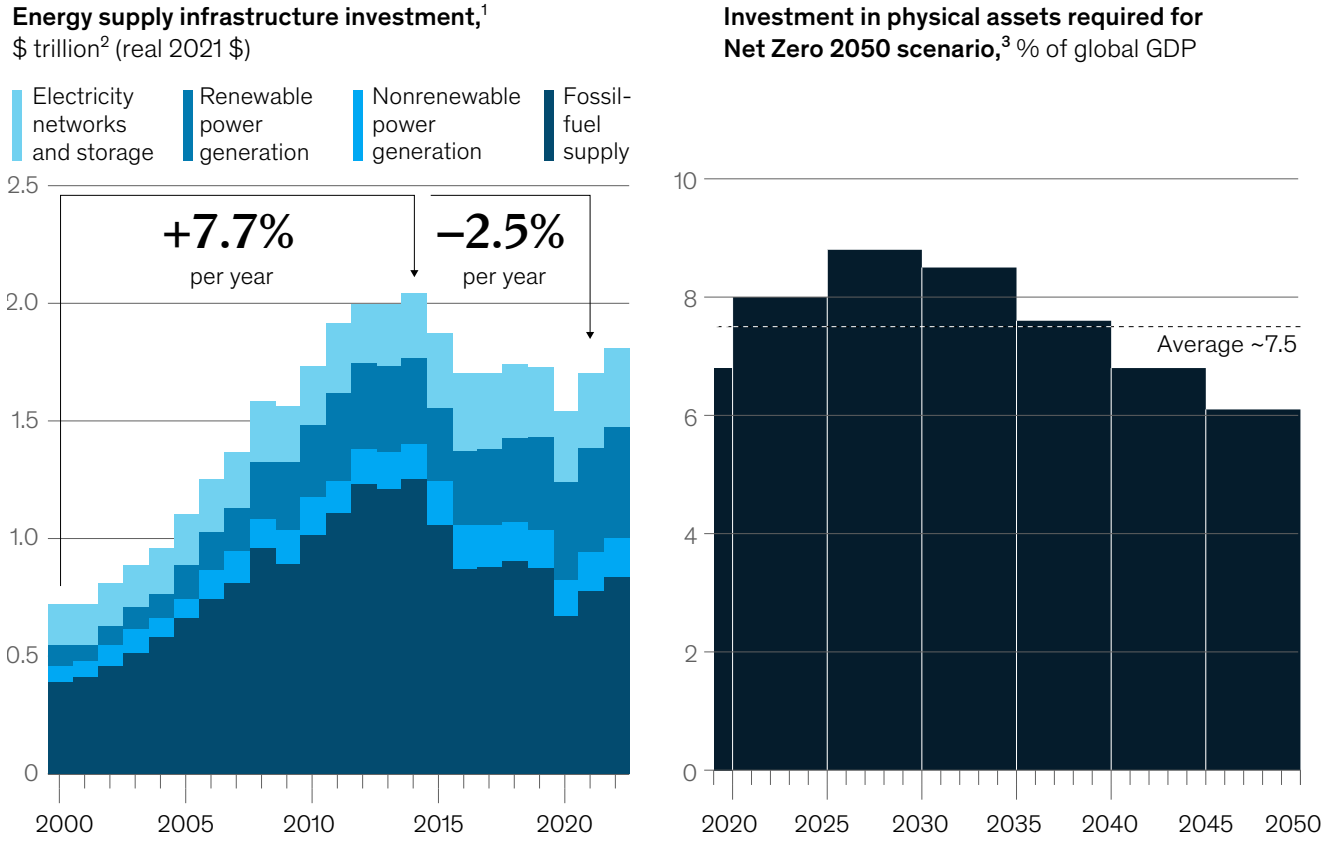
— **Resilience, feasibility, and affordability concerns may challenge the velocity of the transition to net zero.** Energy security will become a key consideration in countries' energy mix. In the short term, securing supply in the face of the energy shock triggered by Russia's invasion of Ukraine may trump the goal of net-zero carbon emissions by 2050. For example, €10 billion of investment in liquefied natural gas infrastructure is foreseen in Europe over the coming years to reduce reliance on pipeline gas.[128] However, renewables, too, will play a role in bolstering energy security.[129] When the current shock resolves, the trend toward increasing political commitments to net zero will likely resume. However, amid economic uncertainty, the strength of commitment to the spending required to achieve net zero is less certain—as are the technical feasibility and affordability of doing so. By some estimates, the amount of land needed for decarbonized electricity production may need to increase two- to threefold.[130] This would entail an incremental global footprint similar in size to Mexico. By the end of 2020, the world had the grid-level battery capacity to store only about one minute of its global electricity consumption.[131] And this is just for electricity, which, as noted, accounts for only 20 percent of global energy consumption. The picture is no brighter in other sectors: only two of the International Energy Agency's 55 clear energy progress indicators are green ("on track"); in its aggregated rating system, the fuel supply sectors, transport, buildings, and industry are red ("not on track").[132] Meanwhile, demand for currently irreplaceable steel, cement, ammonia, and plastics—together accounting for 25 percent of fossil fuel–related emissions—will continue to grow as the world completes its development pathway.[133] Of course, for those who can exploit the trends and implement solutions to these gnarly problems, a big business prize awaits.

— **Critical resources for the future economy, including minerals and food, may become increasingly important in economics and geopolitics.** In recent years, supply-demand imbalances for critical minerals, such as cobalt, have radically changed price signals and driven substitution and innovation. To meet demand for copper and nickel alone, an estimated $250 billion to $350 billion cumulative capital expenditure may be required by 2030.[134] Some estimate that to enable 50 percent fleet replacement with electric vehicles by 2050, consistent with a net-zero scenario, global production of lithium and cobalt would have to increase approximately 20-fold, and nickel 30-fold.[135] Copper supplies, too, are expected to come under strain.[136] However, the need for critical minerals presents multiple challenges. Sources and processing capabilities for many key minerals are highly concentrated in just a few countries. For example, China produces most of the world's rare earth elements and refines most of its lithium and cobalt.[137] The concentration of and demand for critical minerals may only heighten competition between global powers.[138] Diversification is possible, but it takes time and very significant and sustained investment. Moreover, processing requires technologies and human capital that may take many years to develop.[139] The environmental and social toll associated with some of these developments poses yet another hurdle to many potential projects.[140] And while many want

Exhibit 8

Investment in energy supply has stagnated, and more is needed.

A history and projection of energy infrastructure investment



[1]Using the International Energy Agency (IEA) infrastructure classification. Electricity networks and storage includes power grid infrastructure and batteries; renewable-power generation includes solar, wind, and other renewables; nonrenewable power generation includes coal, oil, gas, and nuclear power generation; fossil-fuel supply includes upstream and midstream infrastructure for supply of coal, oil, and gas. Clean fuel supply infrastructure investment represents less than ~1% of total spend and has been excluded from the analysis. Note that end-use energy infrastructure (eg, retrofitting buildings to improve efficiency) is not included in the energy supply totals.
[2]2000–14 investment figures and categorization are estimates based on the IEA World Energy Investment (2016) report, using an implicit GDP price deflator to adjust to 2021 dollars.
[3]Annual spending on physical assets for energy and land-use systems in a Network for Greening the Financial System Net Zero 2050 scenario.
Source: IEA World Energy Investment, 2016, 2022; *The net-zero transition: What it would cost, what it could bring*, McKinsey Global Institute, January 2022; McKinsey Global Institute analysis

the world to decarbonize, few want the mine that provides the necessary minerals to be dug in their back yard. In late 2021, Serbia revoked the mining license for what would have become one of the world's largest lithium mines on environmental grounds.[141]

Beyond minerals, the invasion of Ukraine highlighted how millions—particularly the world's most vulnerable—rely on global flows of food. Key grain crops are perhaps surprisingly concentrated in just a few breadbasket regions. The top ten grains exporters accounted for about 70 percent of global exports in 2019. The Middle East and North Africa region, for instance, relies on imports for 60 percent of its grains (and wheat largely comes from Ukraine and southern Russia). Moreover, key fertilizers are highly concentrated in just a few producer countries. In the case of potassium chloride, which accounts for most potash fertilizer, about 80 percent of exports originate in Canada, Russia, and Belarus.[142] This leaves importing countries vulnerable to disruption. The issue of global food security was climbing the global agenda because of early evidence of the impact of climate change, but disrupted supplies in Europe have only served to accentuate vulnerabilities.[143]

Unresolved questions

— **How will the world navigate an affordable, resilient, and feasible path to climate stability?** Net zero by 2050 is an ambition unprecedented in scale. Achieving it depends on significant investment. The incremental annual global investment required is estimated to be as much as $3.5 trillion.[144] It will also require rapid cross-sectoral innovation. To drive the required investment and innovation, supportive economic and political frameworks need to be in place. Again, therefore, many outcomes are on the table. Global collaboration and effective investment could spur innovation and deliver an affordable and resilient path to net zero. Conversely, progress could stall and innovation founder, leading nations, individuals, and the biosphere to undertake a difficult adaptation to a climatically different world.

— **What dynamics will play out between those who have critical resources and those who do not?** The salience of this question derives from recent global events, but it is one that has been asked for centuries. In the most recent era, market-based systems and global interconnectedness supported relatively peaceful and efficient exchange. One path leads this to continue, bolstered by improved mechanisms to address local environmental and human impacts; another path leads to imbalances in concentrations of power whereby either resource owners or resource buyers pay disproportionate and disruptive costs, economic or otherwise.

Capitalization

Potential direction of travel

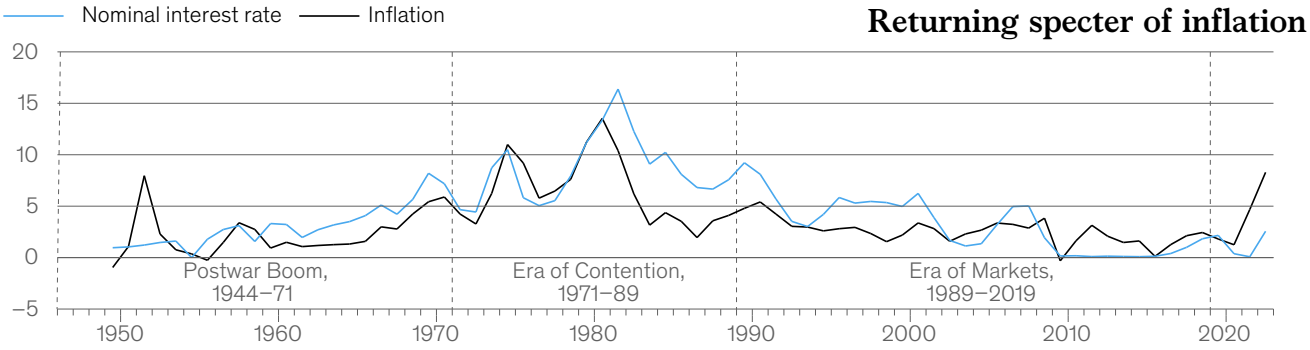
— **Economic growth rates may normalize.** One billion people lived in economies enjoying hypergrowth in recent decades. In the next era, it is unlikely that there will be more top-gear catch-up growth from large economies because the world has converged to the same productivity curve. Although China's GDP overtook that of the EU in early 2022, the economy moved out of top gear for growth for the first time in almost 40 years.[145] Meanwhile, productivity growth has continued to slow in advanced economies, falling to its lowest level in the postwar period.[146] Capital-labor ratios—as approximated by the agricultural proportion of labor—in emerging economies are converging with those in the West.[147] Lower growth and productivity may contribute to a global economic slowdown, and the end of the large, positive supply shock in global production may make inflation even harder to rein in.

— **Growing leverage and credit may evolve into balance sheet stress.** Economies could be under pressure to deleverage historically high levels of debt.[148] Total debt in advanced economies is at its highest levels since the end of World War II—in G-20 countries, the ratio of total debt to GDP is over 300 percent (Exhibit 9).[149] The postwar deleveraging approach, namely to "outgrow" the debt, may be more challenging in the context of low

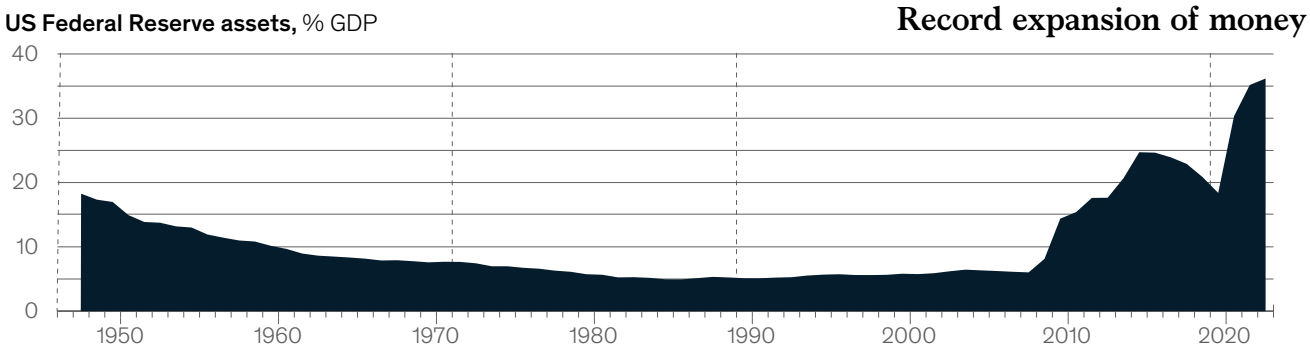
Exhibit 9

Multiple indicators signal a macroeconomic shift.

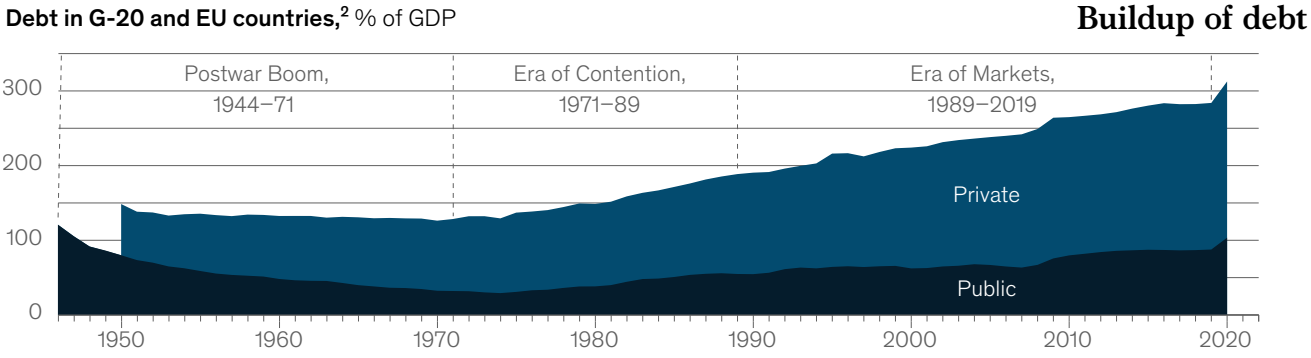
US inflation and interest rates,[1] %



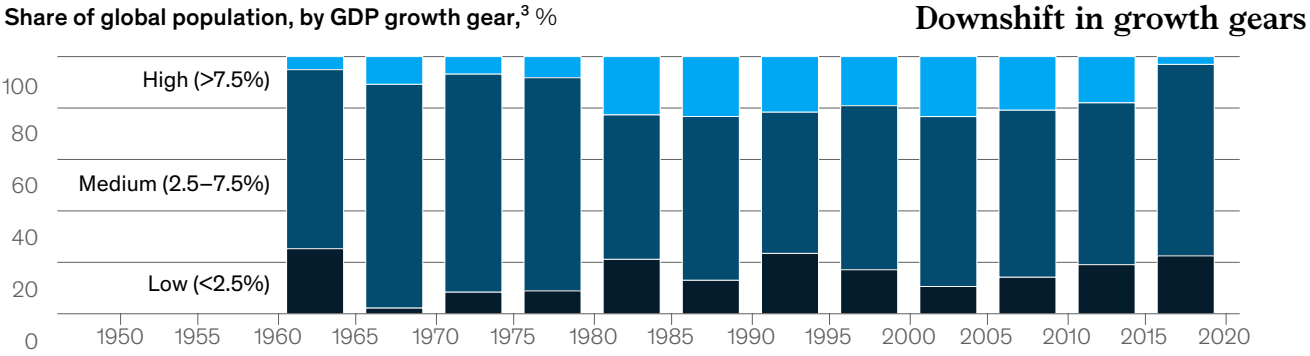
US Federal Reserve assets, % GDP



Debt in G-20 and EU countries,[2] % of GDP



Share of global population, by GDP growth gear,[3] %



[1]US consumer price index (all urban consumers) and the effective federal funds rate.
[2]Nonfinancial debt considering all debt instruments; private debt includes household and nonfinancial corporation debt; average across G-20 and EU countries weighted by purchasing-power parity (PPP) GDP. Note that data are incomplete, in particular for 1945–85, and have been complemented by the International Monetary Fund (IMF) Historical Public Debt Database; the trend for this period is therefore indicative.
[3]Average annual real GDP growth in local currency units.
Source: Federal Reserve Bank of St. Louis; IMF Global Debt Database; IMF Historical Public Debt Database; World Bank; McKinsey Global Institute analysis

productivity growth.[150] Looking beyond public debt, on the global balance sheet, asset values relative to income are nearly 50 percent higher than long-run averages. This rise is underpinned by real estate, which accounts for two-thirds of global net worth. These high valuations are at risk of reverting to their historical means.[151]

The tremors here are already widely felt. In some economies, inflation had already hit 40-year highs by September 2022, triggering a rise in nominal interest rates alongside historically high debt levels—raising the specter, once again, of an inflationary recession, but this time with radically higher leverage in both the public and private sectors. And there are signals that the current economic climate is destabilizing emerging markets, which are especially vulnerable to changing global economic conditions.[152]

— **The OECD century is giving way to the Asian century.** This shift is driven by a confluence of factors across domains, but its significance may be felt most in how it shapes the drivers of supply and demand, finance and wealth, in the next era. This confluence of factors includes the multipolar world order with China as a major power. It includes the demographic shift toward Asia—in 2030, India, China, Indonesia, and Pakistan will represent four of the world's five largest working-age populations.[153] And it includes the shift in GDP growth; Southern Asia was the world's fastest-growing region in GDP in 2015–19.[154] While a shift toward Asia appears likely to continue, the future Asian models for economic success, and whether and how they will differ from the Western paradigm, are less clear.[155]

Unresolved questions

— **Will we find the next productivity engine to drive growth?** Labor productivity growth in G-7 countries decelerated for almost the entirety of the Era of Markets. The world could identify and fire up the next productivity engine and double down on growth enablers, or a slower rate of growth could become the norm.[156]

— **Will the rise and rise of the global balance sheet be reversed?** Increasing leverage could be blunted or sustained by outgrowing debt or could lead to a difficult deleveraging across economies. Similarly, the growing global balance sheet could be sustained by accelerating GDP growth or increasing savings rates. Alternatively, asset prices could revert to the historical mean through a painful devaluation.

3. How can leaders think about the road ahead?

The current vantage point—looking at a future that could be less cohesive or less prosperous—may invite pessimism, but looking back over the past 80 years gives us a compelling case for optimism, too. Negativism should not overwhelm effective decision making. In Western societies, in particular, a chronic bias toward pessimism and lack of faith in the liberal order seem endemic. Yet, as highlighted, the postwar period brought unprecedented progress and global development. Even now, when so many challenges have coincided in just a few short years, there are firm reasons to think the future will be bright.

First, many issues can, at least in part, be addressed now with current technologies if we are able to prioritize systematically and focus our efforts in our circle of control. In the case of the net-zero transition, for instance, leaders could address methane emissions first before moving on to other aspects of the climate challenge.[157] In health, they could prioritize quick wins, one example being the Choosing Wisely campaign that is spreading around the world and aims to reduce low-value medical care.[158] It is better to make a start than to be deterred from acting for fear of not achieving everything now.

Second, another source of optimism is that many breakthrough technologies are moving from science fiction to reality. Just one example is small modular nuclear reactors; the first US final certification of such a design is likely to be issued this year.[159] The CRISPR gene editing tool is migrating from lab bench to bedside in order to tackle cancer and genetic disorders such as sickle cell anemia and thalassemia.[160]

Third, local, bottom-up bright spots act as a beacon for the path forward. Take, for instance, Finland's education system, which leads the world with a less regimented, locally empowering approach.[161] The Netherlands has developed an effective nurse-led model of holistic, continuous care for the elderly.[162] Perhaps the most compelling example of effective action in the teeth of a deep global challenge was the response in many parts of the world to COVID-19. Effective vaccines were developed faster than ever as the public and private sectors collaborated closely. Even in the face of war in Europe, governments and businesses have shown that they can mobilize, cooperate, and shift gears when the stakes are high. Just one instance of this is Germany's fast-tracked creation of liquefied natural gas infrastructure to reduce its energy dependency on Russia.

If we are indeed in the early throes of a seismic shift—as the evidence appears to suggest—what questions should leaders be asking themselves? They need both to prepare for the possibility of a new era and to position themselves to shape it:

— **Preparing for the next era.** Am I prepared for the direction of travel, and to which questions am I most sensitive? What are the no-regret moves as opposed to actions that are dependent on the particular flavor of the era? Which leading indicators can act as early warning signals for an upcoming change of direction?[163]

— **Shaping the next era.** How active should I be in trying to set the course through the unresolved questions? How can I help steer toward better outcomes?

Our next article in this series will address these questions.

It may be tempting to let pessimism diminish our aspirations and allow paralysis to jam up our decision making. The history laid out here, however, is a narrative of progress—and a new narrative of progress can still be shaped for the next era. As the famous adage goes, "Nobody can go back and start a new beginning, but anyone can start today and make a new ending."

Acknowledgments

This short discussion paper offers a view from the McKinsey Global Institute on current turbulence in economics and politics, and suggests some directions of travel and a menu of choices that could be made to write a new narrative of progress. By taking a historical perspective, we suggest a framework for imagining a new era that may lie ahead.

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