



THE 2030 FORECAST

Ten ways our human civilization will come
to grips with the forces it has unleashed

Ogilvy CONSULTING



Ten Forecasts

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Introduction

Let's be honest: forecasting is always an iffy proposition, no matter who does it, how much data we analyze, and how many trends we consider. Too many variables can change the trajectory of what might seem a rock-solid conclusion. Both “known unknowns” and “unknown unknowns” pile up as time advances and can turn a forecast into a fool's errand.

But as we looked at the years 2023-2030, we realized they will be pivotal for humanity, as we face new problems to solve and innovate to address them. Ogilvy Consulting is intrepidly bringing you our look into where the world will move by 2030 with this report.

Modern civilization will have to double down on our characteristic ingenuity and innate drive to

thrive, because through our own advancement, we've made the world more volatile and less hospitable. At Ogilvy Consulting, we think this will change the way business is done in ways that are worth looking at critically. As more people assume economic power and the world becomes more complex, multi-polar, and likely more dangerous, it remains filled with the opportunity to have impact.

Two independent strains of global thought are already colliding: tech optimism and environmental concern. The members of the church of tech promised a utopian vision of prosperity and a better life through technology, and, while that dream is incomplete, the world is vastly better because of analog and then digital revolutions. In a more instrumented and intelligent world, technology advances have enabled historic flows of people from poverty to a new middle class. Tech will continue to shift labor from humans to machines, improve health, extend lifespans, and increase the carrying capacity of the land, allowing humanity to thrive. But that process will have to take into account the people and landscapes it uses up and leaves behind, the species it exterminates, and the climate it imperils. Otherwise, it's one step forward and two steps back—with extremely serious consequences to the planet.

It's official: the dangers of the warming world are unmistakable. Battling this threat to civilization can only be done through collaboration, and this should bring humanity's faith in technology and fear of its ravages together. Now we need technological innovation to be directed at environmental problems, fast, so that planet Earth remains livable. If successful, this will give rise to a new level and a new ethos of sharing, one that will drive new business structures and new goals for much of our human endeavor—taking into account both collective and individual needs. Impatience with governments is growing, and many are turning to businesses to meet the urgent needs of this new age. We hope our critical thinking on the major shifts the world faces and their implications will help you to evaluate your strategies for the future.

As always, Ogilvy Consulting is here to help you navigate, plan, and execute those new strategies.



CARLA HENDRA
Global CEO,
Ogilvy Consulting



EXTREME VOLATILITY ACCELERATES



Science calls it the Holocene—an era of climate stability uniquely conducive to human development. It's coming to an end, largely by humanity's own doing.

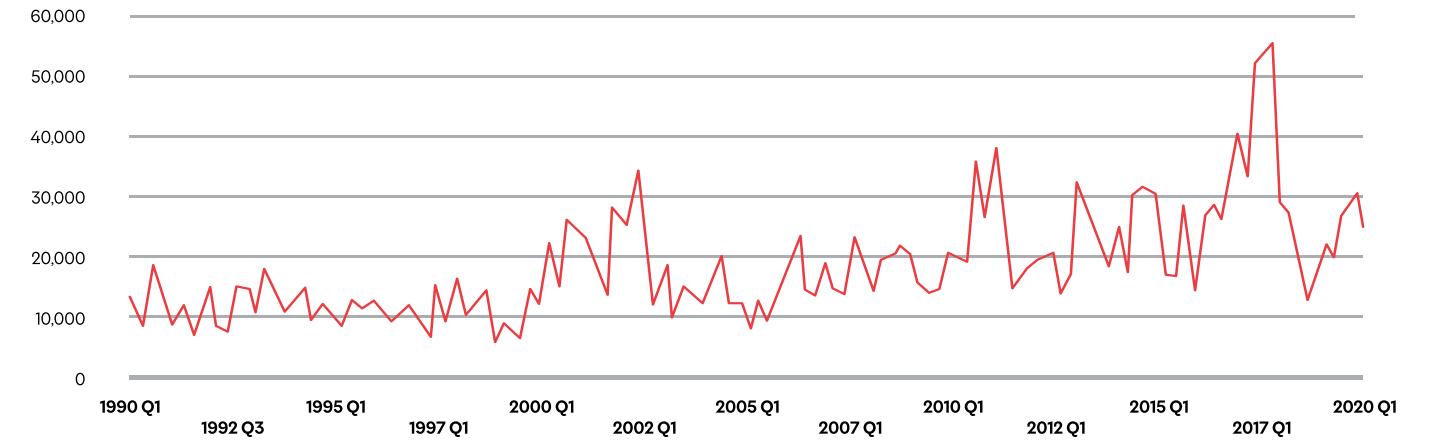
The same is true of the economic and political worlds. As international cooperation in business and governance recedes, the consumer economy destabilizes and an unruly transformation is coming.



From Stability to Uncertainty

Despite regional wars, brinkmanship, and economic ups and downs, the world has been a remarkably stable place since the end of World War II. That's led to a Holocene of sorts for business, one in which there was an unusually stable climate for growth and globalization. Buffered by geopolitical constancy, businesses could plan well into the future and internationalize supply and value chains in search of the highest efficiency and margin.

THE WORLD UNCERTAINTY INDEX



Source: World Uncertainty Index: Global, retrieved 2022

The automotive industry is a case in point, with a complicated dance of original equipment manufacturers producing their own components in factories around the world and then delivering to assembly lines everything from tires and transmissions to seats and sunroofs at just the right moment. And then came the COVID-19 pandemic, which threw manufacturing and shipping into chaos, revealing the great weakness of a globalized, just-in-time supply chain.

While the world has hoped for a renormalization of the stable, highly distributed networks of earlier years, global volatility was on the rise before the pandemic. The World Uncertainty Index has trended upwards for the last two decades, with the years since 2017 largely defined by spiking volatility bred by the pandemic, international conflict, rising ethnonationalism, protectionism, and unstable supply chains.

Enduring Upheaval

Businesses will need to adapt to instability. Globalization continues to retreat in the face of weakening international ties and rising protectionism. The effects of climate change are here now, leading to extreme weather events, human migration, and more frequent pandemics.

THE DECLINE OF GLOBALIZATION

No business wants a repeat of the inventory shocks from 2020 and 2021. That's leading to reshoring of supply chains, where possible, or pushing for supply chain diversity. Of course,

any degree of reshoring leads to significant challenges. Raw materials are not often located where they are needed, and businesses will have to make significant investment in manufacturing capacity and the development of expertise.

Once again, the automotive industry shows the essence of the issue. The move toward battery electric vehicles depends on high-capacity lithium-ion batteries which are overwhelmingly produced in China. In order to boost US independence in this critical industry, manufacturers are investing \$40 billion dollars, according to the Federal Reserve

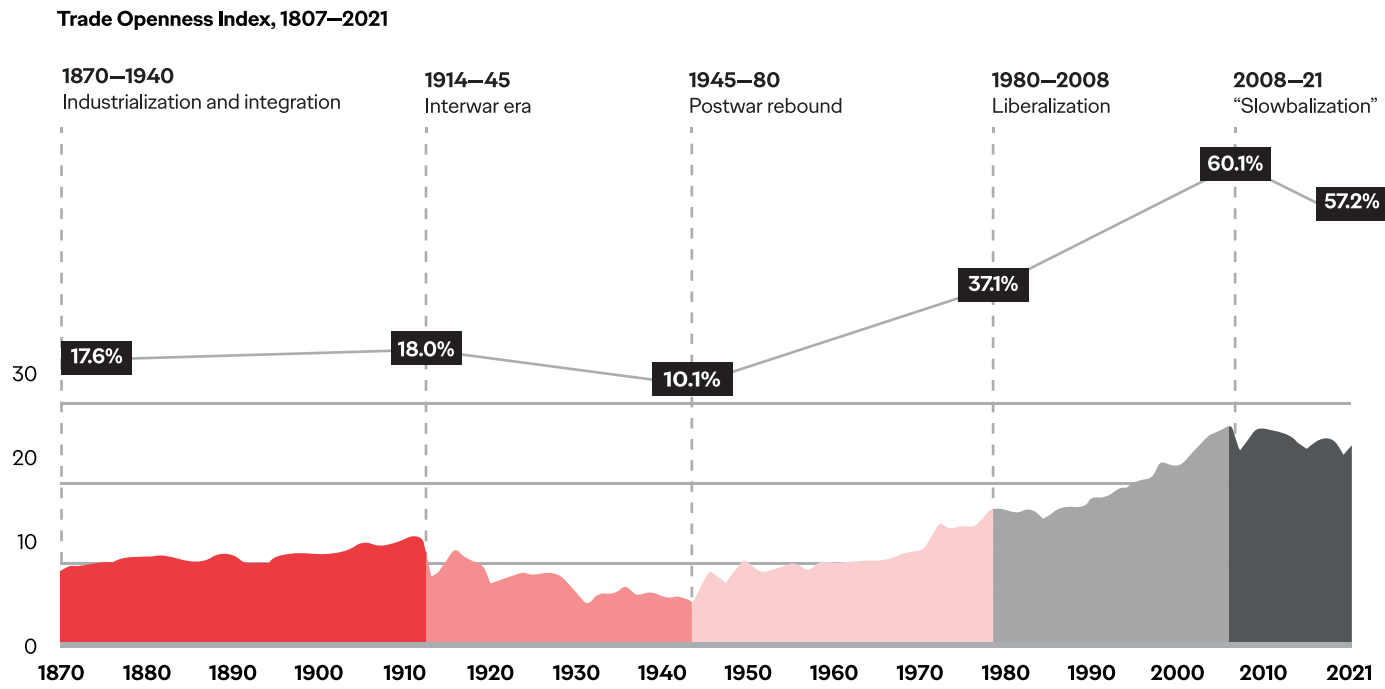
Bank of Dallas, in US-based battery production, even though there is a maturing industry elsewhere. Despite that influx of cash, sourcing raw materials remains a challenge, with additional investment needed to exploit the US's ample domestic lithium reserves.

Geopolitical conflict is another drag on globalization. There has been a threefold increase in internationalized civil conflicts since 2010, with dominant powers fighting proxy wars with their rivals. According to the Atlantic Council, "because of this internationalization of intrastate conflicts, fighting is increasingly

protracted, intense, and complex." Ukraine is exhibit A for this. The US and China may not be in a proxy war, but government actions are decoupling the two nations' economies. The CHIPS and Science Act, for example, heavily incentivizes the domestic manufacturing of computer chips—something that had largely flown overseas—and its implementation comes amidst greater enforcement of export controls on high technology. This will protect the US lead in semiconductor design and marry it to robust onshore manufacturing capacity.



GLOBALIZATION STUMBLES

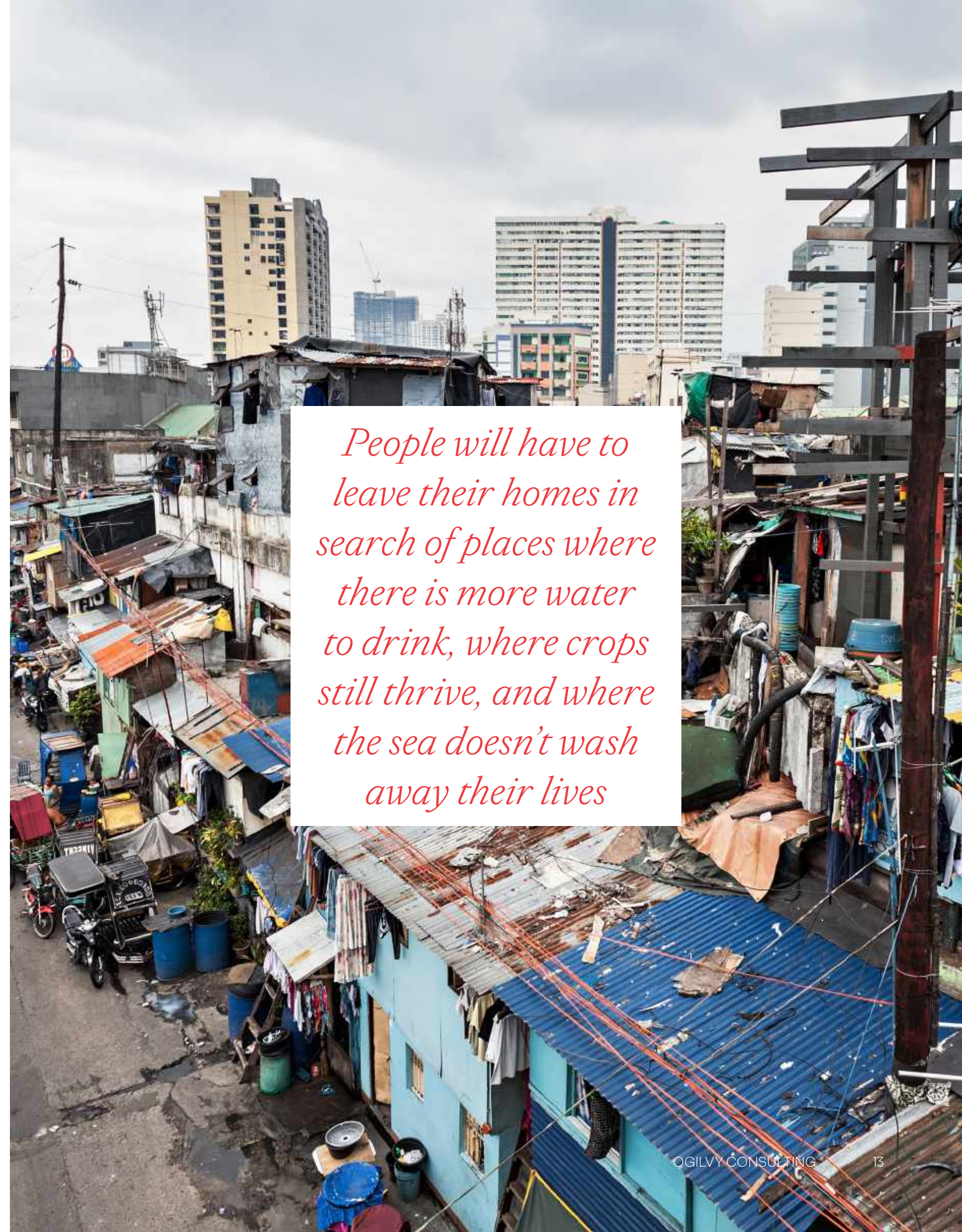


Source: "Globalization is in retreat for the first time since the second world war," Peterson Institute for International Economics, 2022.

CLIMATE CHANGE IS HERE

Extreme weather is on the rise worldwide. Devastating floods have paired with extreme drought—often in the same areas. Temperatures are rising rapidly, and not just in historically hot places or at the poles. Storms are growing more intense, permafrost is melting, and emissions continue to rise. People will have to leave their homes in search of places where there is more water to drink, where crops still thrive, and

where the sea doesn't wash away their lives. By 2050, the *New York Times* projects, 150 million people will be displaced from their homes by sea level rise alone. Climate disruptions will also put people into the path of nasty pathogens, both novel ones that come from habitat encroachment and old enemies unleashed by crowding, melting permafrost, and weather disasters. The WHO estimates that pathogens related to climate change will kill an additional 250,000 people a year between 2030 and 2050.



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Business Steps Up

Business has a major role to play in this more volatile world. In fact, the years leading up to 2030 are a once-in-a-generation opportunity for businesses and governments to make themselves more resilient, agile, and innovative. In so doing, they will secure a better future for themselves and, more importantly, for humanity as a whole.

The businesses that succeed in these insecure years to come will prioritize resilience and agility. There are obvious steps to take, such as diversifying and hardening supply chains and ensuring businesses are prepared to endure disruptions. While agility has long been a business goal, it will soon be an imperative.



Technologies that can streamline workflows, automate processes, and improve communications will be essential investments for any business that seeks to pivot quickly to new opportunities and away from risks. Careful partner selection, too, can insulate business from volatility and enhance nimbleness, providing strategic advantage and keeping companies from overinvesting in vertical integrations that trip over their own feet in the face of fast-changing circumstances.

Businesses must not neglect talent and brand in the years to come, but they would be wise to apply different strategies. Seek out and nurture employee skills such as adaptability, entrepreneurship, and multidisciplinary, multi-industry exposure. Build a brand that reassures, offers peace of mind, and enhances consumers' trust. After all, they will be facing disruptions of their own.



THE GREAT TALENT SHORTAGE

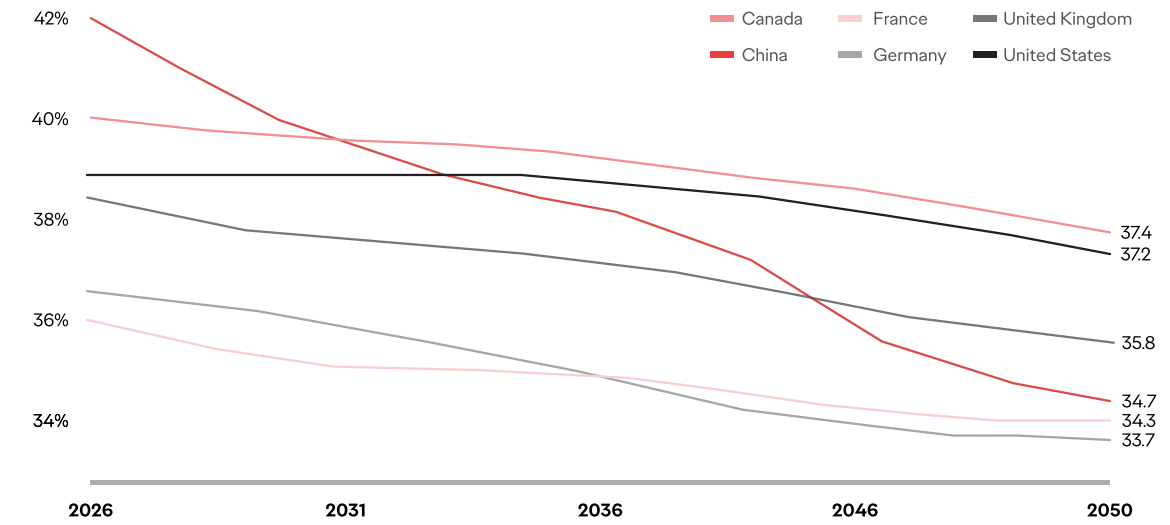
The “help wanted” signs won’t be going away anytime soon, even with eight billion people on planet Earth. The world has plenty of people, but there aren’t enough of them with the right skills. Say hello to robot colleagues and an unemployed, unskilled underclass.



Talent Scarcity and Workforce Realignment

Businesses have long enjoyed a dependable and abundant stream of talent. As the population expanded, the economy grew—but rarely enough to provide full employment, especially given central bank policies discouraging exactly that. Companies had consistent power over the workers.

AGE 25-54 POPULATION AS A PERCENTAGE OF TOTAL, BY COUNTRY



Source: "Indeed & Glassdoor's Hiring and Workplace Trends Report 2023," Indeed and Glassdoor, 2023.

Those days are done. The Great Resignation hastened the arrival of a trend that had been building for years, and companies now struggle to attract and retain the talent they need. All the employees shed in the tech bloodbath of 2022 will be reabsorbed before too long, and the trend toward knowledge workers dictating the terms of their employment will continue

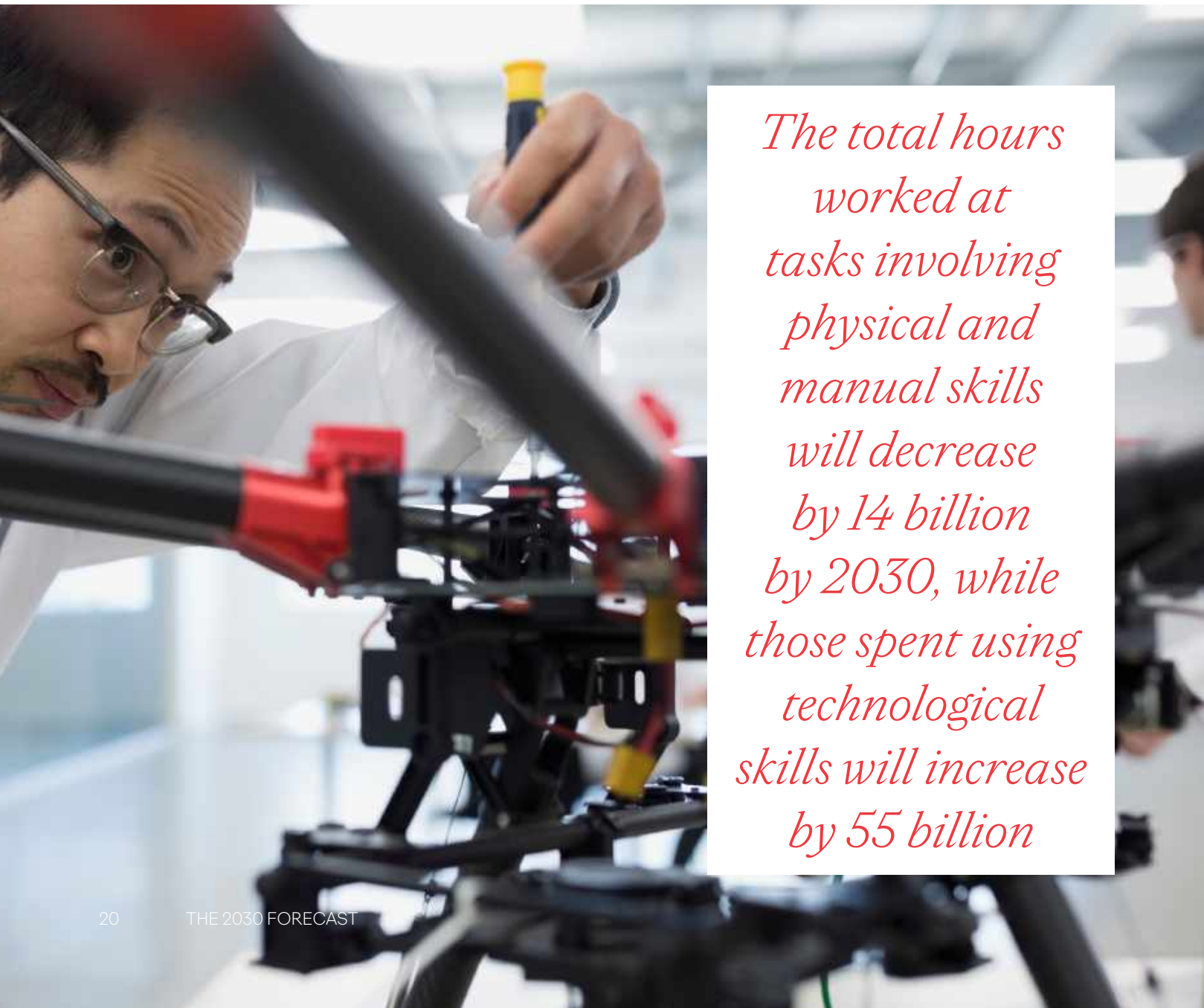
unabated. Population growth has slowed in many countries, and the World Bank predicts a contracting labor force in economies from North America to Asia. Even the demographic boost from Gen Z will neither make up for retiring (and expiring) boomers nor constitute a large enough workforce to meet the needs of the economy.

Those needs are changing. The total hours worked at tasks involving physical and manual skills will decrease by 14 billion by 2030, while those spent using technological skills will increase by 55 billion. The softening demand for physical and manual labor—brought on in part by automation and AI—will further marginalize those without higher education, and that may have social impact. Those who feel left behind

by globalization have contributed to rises in nationalism and nativist political energy, which have played a starring role in eroding globalization. The result will be a global labor deficit leading to 85 million unfilled jobs by 2030, according to Korn Ferry. That’s not just a pain for employers; it’s a drag on the economy. Korn Ferry also projects that the unrealized output due to labor deficits will hit \$8.5 trillion.

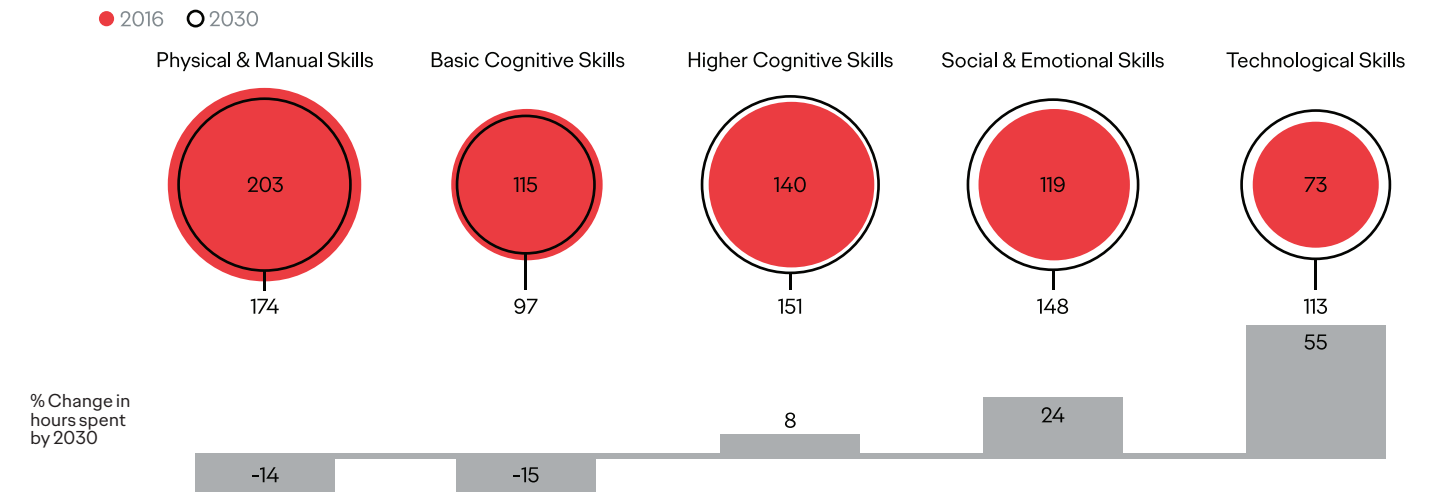
Of course, global population growth isn’t declining everywhere. The United Nations notes that “more than half of the projected increase in the global population up to 2050 will be concentrated in eight countries: the Democratic Republic of the Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and the United Republic of Tanzania.” The rise in the working-age population will pay economic dividends

for these countries, insulating them from the worst of the worker shortages. Climate change complicates this picture further. All of the countries the United Nations mentioned are likely to experience significant climate impact, which may increase migration of these newly expanded populations.



The total hours worked at tasks involving physical and manual skills will decrease by 14 billion by 2030, while those spent using technological skills will increase by 55 billion

TOTAL HOURS WORKED IN EUROPE AND THE US, 2016 VS 2030, ESTIMATE IN BILLIONS



Source: "Skill Shift: Automation and the Future of the Workforce," McKinsey Global Institute, 2018.

Changing Workforce Strategies

A tight labor supply shifts the advantage to workers, who will be in a position to demand that the world of work meet their needs. According to “Indeed & Glassdoor’s Hiring and Workplace Trends Report 2023,” “the tight supply of workers has a fundamental impact on the workplace as a whole. Not only will hiring be more difficult, but workers will have more power to demand changes.” Those changes will include sought-after outcomes like “higher pay, stronger benefits, scheduling flexibility, and a variety of other perquisites,” wrote Glassdoor. Yes, Virginia, remote work is here to stay, and

Airbnb epitomizes the trend with their “Work from Anywhere” policy—a corporate decision that expresses their brand’s ethos beautifully.

A decentralized, more autonomous workforce must be managed in a whole new way, which is something that many enterprises have not yet fully grasped. Companies are still coming to terms with how to mentor younger employees, create company culture, build loyalty, and avoid unfairly sidelining even top performers who choose to work remotely.

The allure of shared values will help some companies remain attractive places to work, even in a tight labor market, and the absence of them will be fatal. In addition to flexible and remote arrangements, young workers will be on the lookout for competitive compensation, social values, concern for mental well-being, and action on diversity, equity, and inclusion (DE&I).

Still, companies will have to do more than just attract young workers. The sheer size of the labor shortfall will broaden recruiting standards, and companies should start looking at once-ignored talent pools like retirees, those without experience (but with ambition), and potential employees with criminal records. Flexible arrangements in particular will allow more caregivers of young children to stay in—or return to—the workforce. Those with disabilities remain a rare sight in corporate environments, despite purported non-discrimination policies, but in a tight labor situation especially, companies need to make it comfortable for greater numbers of people with disabilities to contribute.

Don’t forget the robots, either. As AI and machine learning progress, jobs that once required a human will be done by computers.

Factory workers have been steadily displaced by robots, but new technology is bringing autonomous drones into challenging new environments where they work alongside humans. Sewer Robotics, for example, helps keep vital infrastructure functional, even with fewer hands to do the work. Some places, such as search-and-rescue environments, present huge risks to humans, but robots that can scamper over obstacles use scanning technology to find people trapped by disasters, alerting human rescuers to save the day.

Enterprise AI and automation software aren’t quite as splashy, but their impact may be even more profound. Those tasks that can be rendered into heuristics and rules will steadily devolve to expert systems, changing the workplace dramatically. Gone will be many of today’s worker bees, skilled though they may be. As learning mechanisms improve, AI will be able to tackle many more of those tasks, while human workers will focus on the smaller number of jobs that require strategic thinking and creativity. These developments may be enough to cover the worker shortage. They may also way overshoot it, leading to yet more people in need of reskilling and at risk for marginalization.

EMPLOYEES DEMAND DE&I

72%

of employees aged 18-34 would consider turning down a job offer or leaving a company if there was a lack of racial or ethnic diversity in leadership

67%

of employees aged 18-34 would consider turning down a job offer or leaving a company if there were a gender imbalance in leadership

65%

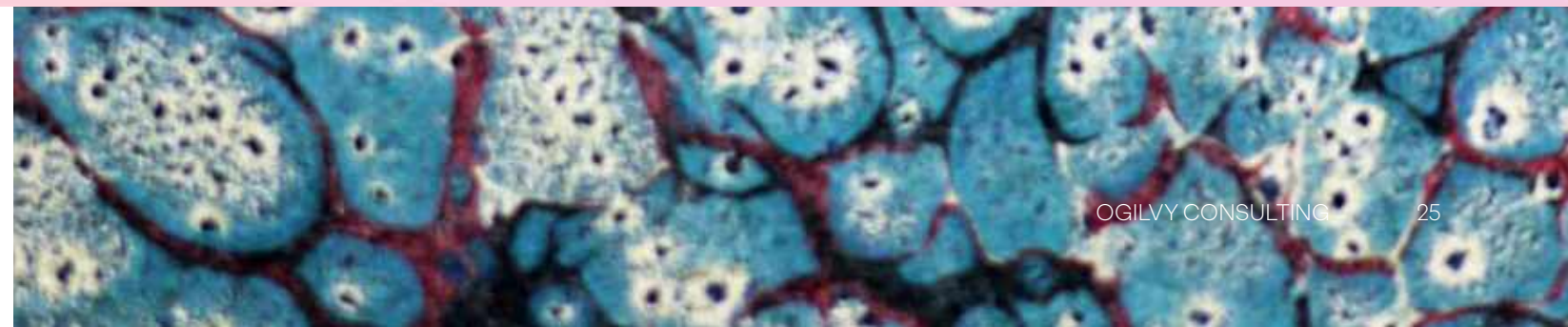
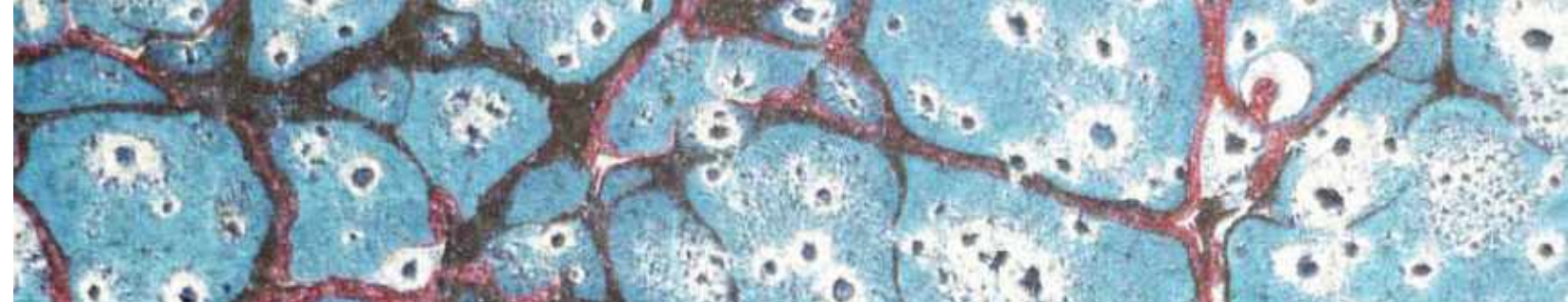
of employees aged 18-34 would consider turning down a job offer or leaving a company if their manager were unsupportive of DE&I

Source: “Indeed & Glassdoor’s Hiring and Workplace Trends Report 2023,” Indeed and Glassdoor, 2023



HEALTHCARE EMBRACES PREVENTION

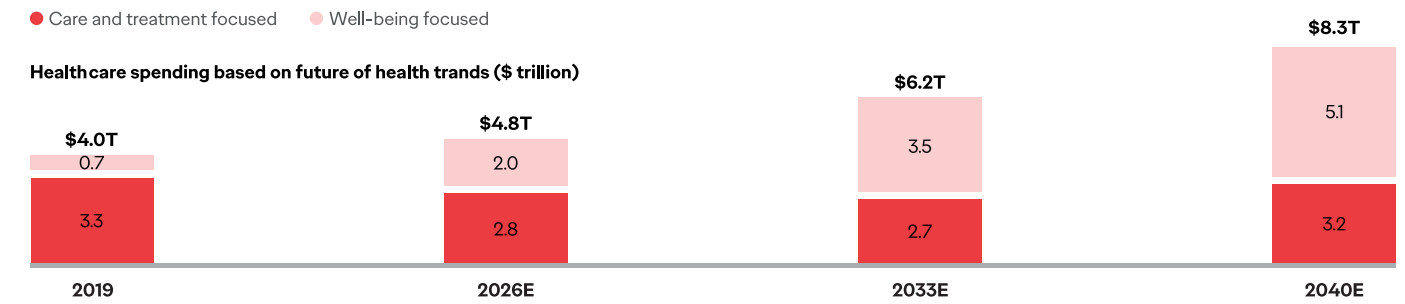
Modern medicine is allopathic: healthcare practitioners use drugs and treatments to cure illness. For all the wonders modern medicine has brought humanity, it's far from perfect. Not only is this model hugely expensive; it ignores all the suffering that could be averted by preventing disease. Armed with a distributed ecosystem, technology is putting preventive medicine into the mainstream.



First, Do No Harm

The Hippocratic oath enjoins doctors to make sure their efforts don't make the patient worse, and while every healthcare consumer appreciates that, the whole system doesn't seem to subscribe to the same notion. By ignoring the power of prevention, Western medicine consigns people to illness in order to get the interventions they need to get well.

HEALTHCARE SPENDING SHIFTS FROM TREATMENT TO PREVENTION



Source: "Breaking the Cost Curve," Deloitte Insights, 2021.

That made sense in a world of limited treatments and scarce resources, and the system has produced miracles. People survive and even thrive with once-fatal conditions like diabetes and many cancers. Those with mental illnesses can lead much more comfortable lives. Infectious disease in childhood no longer stalks the nightmares of parents. Life expectancy is greater than it has ever been—in no small part because far fewer children die before age five.

The very success of modern medicine, however, may point to the limits of its current model. Now that so many urgent needs are addressed, is it time to invest more in prevention? Deloitte certainly thinks so. They predict that US healthcare spending will shift dramatically between now and 2040. Eighty percent of spending is treatment focused now, but by 2040, they estimate that 60% will center on health and well-being.

The very success of modern medicine, however, may point to the limits of its current model. Now that so many urgent needs are addressed, is it time to invest more in prevention?

Decentralized Well-Being

That shift is being driven by technology, and these advancements will lead to a proactive, targeted, and individualized system of healthcare. The healthier future population can thank three breakthroughs for their coming robust vitality.

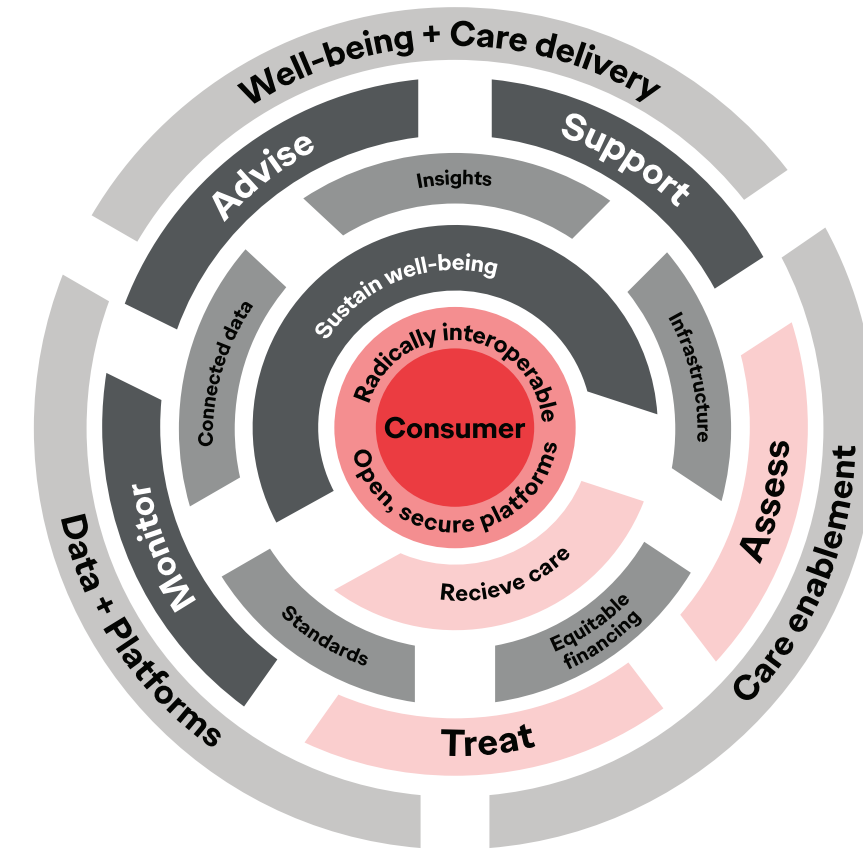
WEARABLE HEALTH TECH GOES MAINSTREAM

Your phone is tracking your health and so is your smartwatch. These technologies are being adopted as fast as the internet once was. Even your bed has its plush eye on you while you snooze. These intimate tracking devices do more than just give you an ego boost when you close your rings. They can help alert you—and

your doctor—to underlying problems, from heart problems and suboptimal oxygen to dangerous lifestyle choices.

Making the most of these sensors requires a shift in attitudes around health data. Society is working through the tension between those who produce data (people) and those that use it (enterprises), with greater regulations and awareness gradually shifting power back to individuals. People are growing tired of being the product, but, ironically, they seem to be enthusiastically embracing far more intimate data sharing when it comes to their health. Individuals derive great benefit from this free flow of data, but corporations do too.

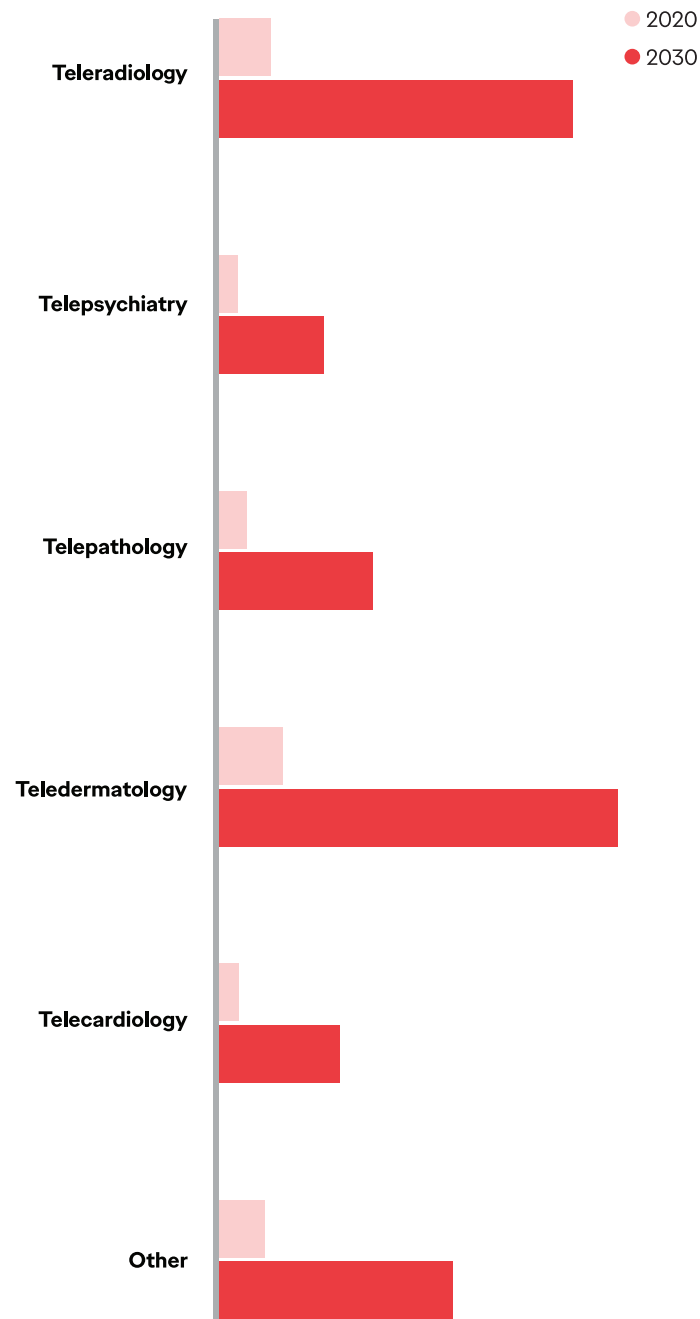
RADICALLY INTEROPERABLE DATA WILL LEAD THE TRANSFORMATION TO PREVENTION



Source: "Forces of Change: The Future of Health," Deloitte Insights, 2019.

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TELEHEALTH ADOPTION BY CATEGORY



Source: "Global Telemedicine Market 2021-2030," Allied Market Research, 2021.

Most of the health data gathered by wearable sensors is siloed. An Apple Watch doesn't send biometric data to your doctor or your insurance company, but as systems become more interoperable, that will change; data will be leveraged from multiple sources and combined with human and AI expertise to provide preventive solutions to individuals. Imagine the benefit if a smart toilet could alert your doctor that colon cancer has been detected. Now imagine the level of intrusion that's required, too. All that is likely to create friction and the need for compromise.

TELEHEALTH DISTRIBUTES HEALTHCARE

Just as the pandemic taught people that they didn't have to go to work to work, it showed them that they didn't need to go to the doctor to see a physician. Telehealth, like remote work, is here to stay, and while some issues will still require an in-person examination, preventative monitoring, by and large, does not. Telehealth also lowers the bar for interaction between an individual and a healthcare provider, which makes it easier and cheaper to address a concern before it becomes serious.

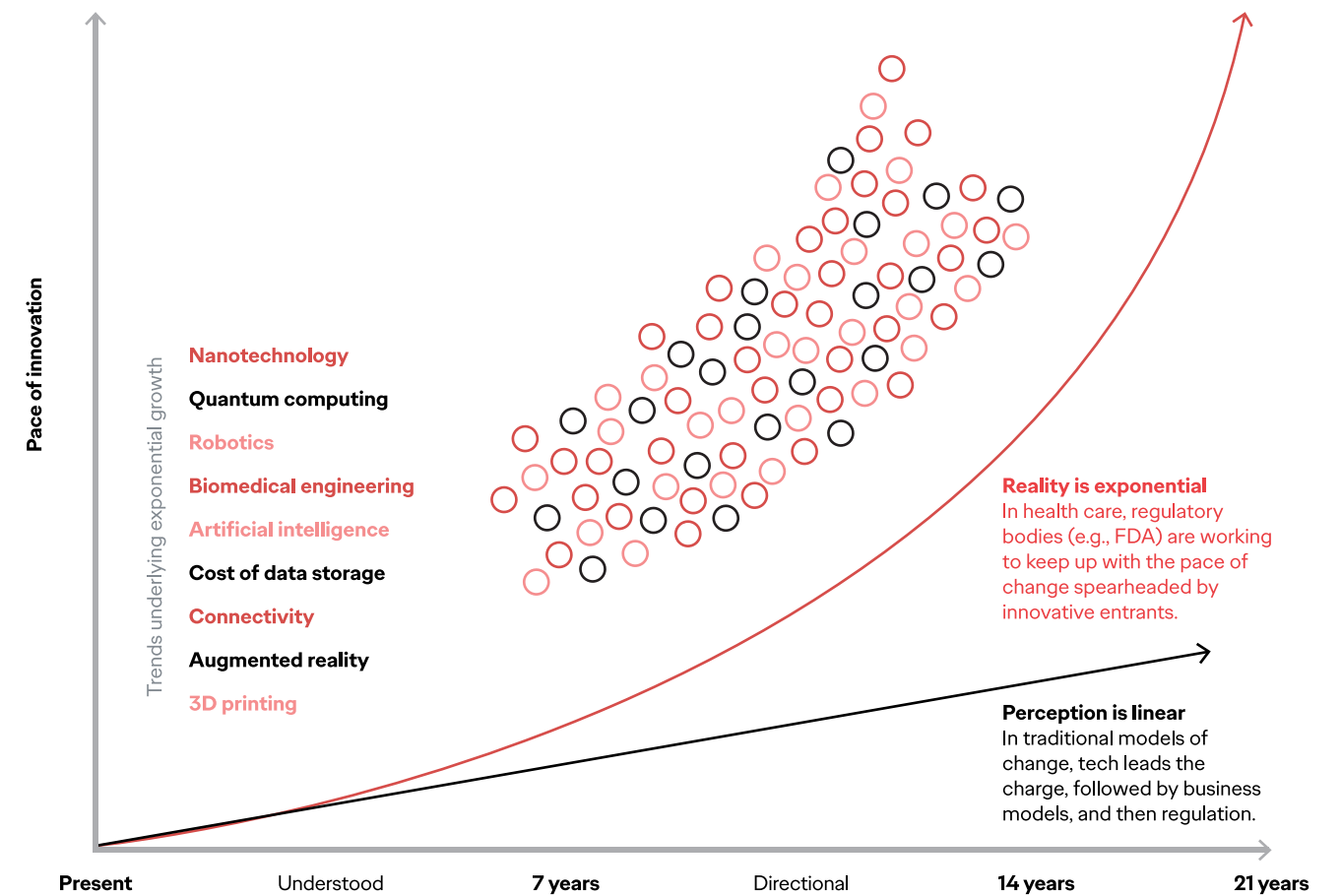
This takes medicine out of the hospital and doctor's office and puts it back in the home while still extending the reach of each healthcare provider. Moreover, it allows them to proactively monitor those with concerning family histories, preventing outcomes that would have been foreordained in an earlier era.

GENOMIC MEDICINE KILLS MASS DRUGS AND SAVES PEOPLE

There are a lot of fantastic medicines out there, but many of them are blunt instruments. A drug to treat essential hypertension in one person may cause a lingering cough in another. Patients are conditioned to think of these as side effects, and while some of them are inevitable, others are due to the quirks of an individual's biochemistry. Advances in genomics and associated technologies like robotics, nanotech, biomedical engineering, and more will soon change the nature of medicine itself. By 2030, we will increasingly be turning to genomic therapy to

blunt the impact of illnesses caused by genetic abnormalities, through either careful monitoring or outright cure. Customized medicines such as those currently being used to treat cancer will reach many more people and will come to be seen less as heroic cures and more as quotidian prevention. Given the possibilities, it's no surprise that the genomics market is projected to grow to **\$129 billion by 2030**, up from \$27 billion in 2021. However, insurance payment structures will need to catch up, given that genomic medicine can be enormously expensive, with one hemophilia drug setting a record at **\$3.5 million per treatment**. But that must be balanced against the cost of ongoing therapies.

EXPONENTIAL CHANGE



Source: "Forces of Change: The Future of Health," Deloitte Insights, 2019.

Build a Healthy Business

A healthier workforce is good for business, and in countries like the US where businesses pay healthcare costs for their workers, better health can have an easily measured impact on costs. Dig beyond that simple point, however, and things get more interesting.

A NUDGE TOWARD BETTER HEALTH

In an age when prevention is the norm and well-being medicine helps bottom lines, businesses will look for effective ways to incentivize employee health. Integrated data from wearable devices will give them a wealth of metrics to track, either directly or via insurance providers, and employee expectations of privacy may run up against the desire of enterprises to reduce health spending.

Business should tread carefully. Healthcare companies, insurers, and the companies footing the bill for coverage can think instead about incentives for better health and constructive action, taking care to avoid policing employee behavior. Behavioral economics and ethics will be vital in the effort to thread this needle, but one solution is simple investment in wellness technology for workers, allowing them to choose their desired level of connectedness with the healthcare system.

That has a further implication: every business becomes, at least in part, a wellness company



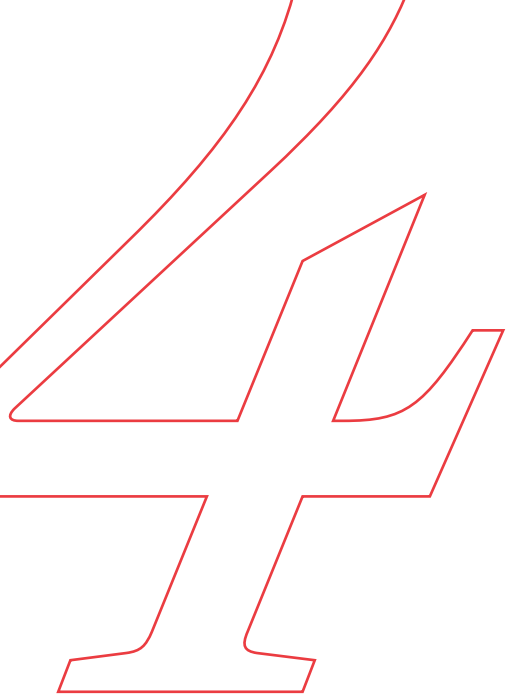
THE WELLNESS OPPORTUNITY

As society becomes more vigilant about and proactive in promoting good health, companies focused on allopathic medicine will have an opportunity to add substantial wellness portfolios. The key, of course, is costs. While wearable technology is being adopted by consumers on their own dime, costly treatments to optimize health will need to be covered by insurers, either private or government. Take the example of weight-loss drugs. A new class of medicines, GLP-1 agonists, was originally developed to help people with diabetes, but these drugs also showed promise as weight-loss agents. Reducing obesity, even in those who are simply overweight, can make a big difference in health outcomes, quality of life, and systemic healthcare costs. Due to their high cost, these medicines are reaching far fewer people than would benefit from them (and selling out nevertheless), but a more wellness-focused society may find a way to pay the short-term costs to reap the long-term benefits.

That encapsulates an issue that will arise in a wellness-focused world: who pays? An expensive treatment—like weight-loss medicines or the aforementioned hemophilia drug—can forestall decades of future costs; the system as a whole benefits in that case, but an individual insurer or employer can lose out. Payment plan structures and innovative reinsurance models will arise to smooth out this market friction.

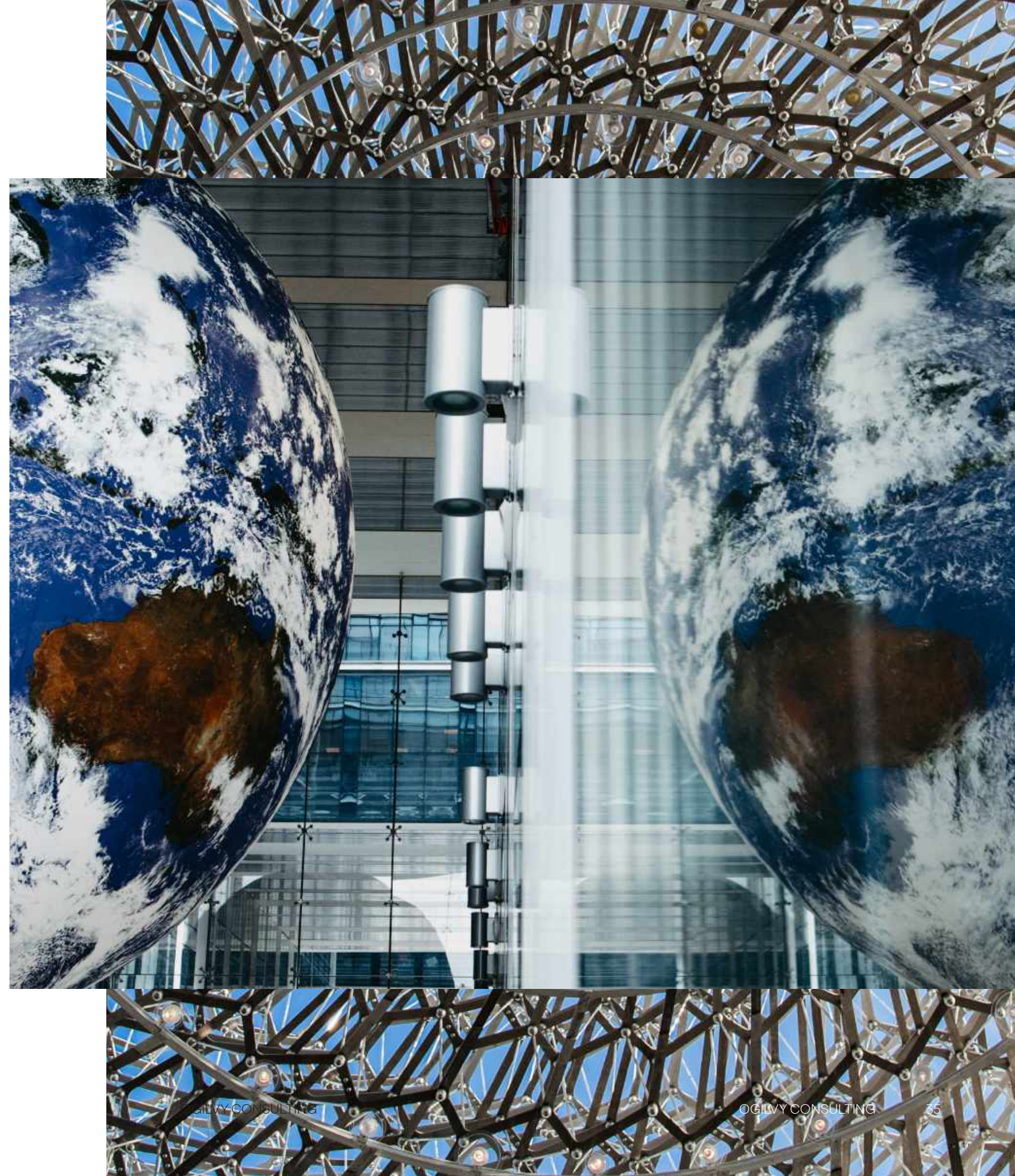
And then there is the consumer side. The ubiquity of health sensors will lead consumers to be far more cognizant of the health impacts of products, experiences, and environments. The companies that market to them will need to take this awareness into account when developing their offerings and communicating their messages.

That has a further implication: every business becomes, at least in part, a wellness company. Apple, with its suite of sensors and close proximity to users' bodies, didn't have to make much of a leap to realize that, as Tim Cook put it, its greatest contribution would be "about health." Other companies will need to think a little deeper, but bringing about an era of good health for customers will become a business imperative.



THE TWO FRONTIERS OF ECONOMIC GROWTH

The era of economic collaboration between East and West, South and North, is coming to a close. The world no longer looks to Western multinationals as the signifiers of economic success and quality merchandise. A bipolar economic order is emerging, with the West and the East reducing their interdependence.



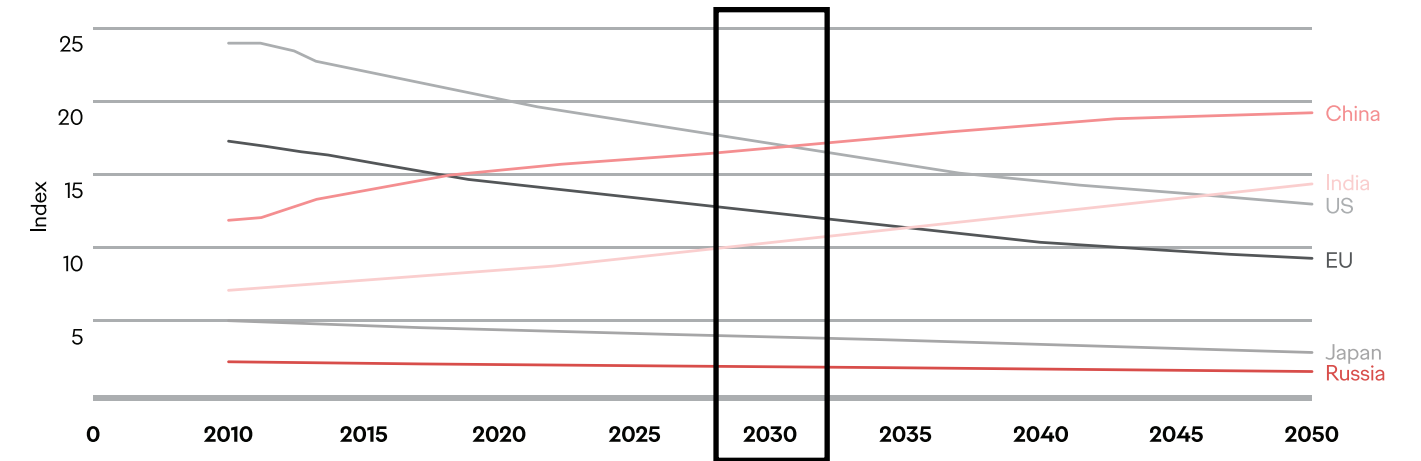
Decoupling Hemispheres

Upon hearing that news accounts had him dying in penury in London, Mark Twain famously told a reporter, “The report of my death has been grossly exaggerated.”¹

¹Ironically, the famous version of the remark is itself an exaggeration. Twain’s actual remark, according to a piece in Mental Floss, which quoted a contemporaneous *New York Journal* article, was, “James Ross Clemens, a cousin of mine, was seriously ill two or three weeks ago, in London, but is well now. The report of my illness grew out of his illness. The report of my death was an exaggeration.”

THE WANING OF US HEGEMONY

Traditional, four-component power forecast



Source: “Global Trends 2030: Alternative Worlds,” National Intelligence Council, 2012.

The same can be said of the reign of the US as the world’s dominant power. The end of US dominance has been predicted for years, yet the nation has remained in a commanding position in consumer consumption, military might, influence, and innovation. But just as Twain did, eventually, die, so too will the supremacy of the US finally wane. In the years just after 2030, China is expected to overtake the US as the world’s largest power, with India hot on its heels. India’s 7% annual growth rate as of the end of 2022 and rapidly expanding economy will make

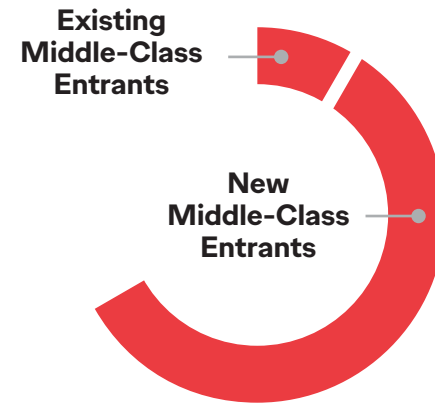
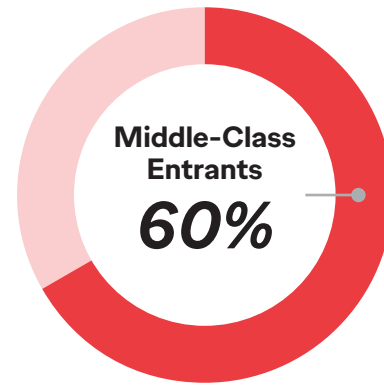
it a growing rival to China’s economic dominance in the East. Concerns about Chinese nationalism and worries about over-reliance on Chinese manufacturing have, as *The New York Times* put it, “pushed corporations to make global supply chains less risky by diversifying toward an open India and away from China’s surveillance state.”

No matter how the race between China and India turns out, this will mark the dawn of a bipolar world, with power and influence divided between the West and APAC.

**THE GLOBAL MIDDLE CLASS WILL BRING
\$15 TRILLION IN ADDITIONAL CONSUMER SPENDING**

60%

**of all new consumer
spending will come from
middle-class households**



Source: "The Geography of the Global Middle Class: Where They Live, How They Spend," Visa.

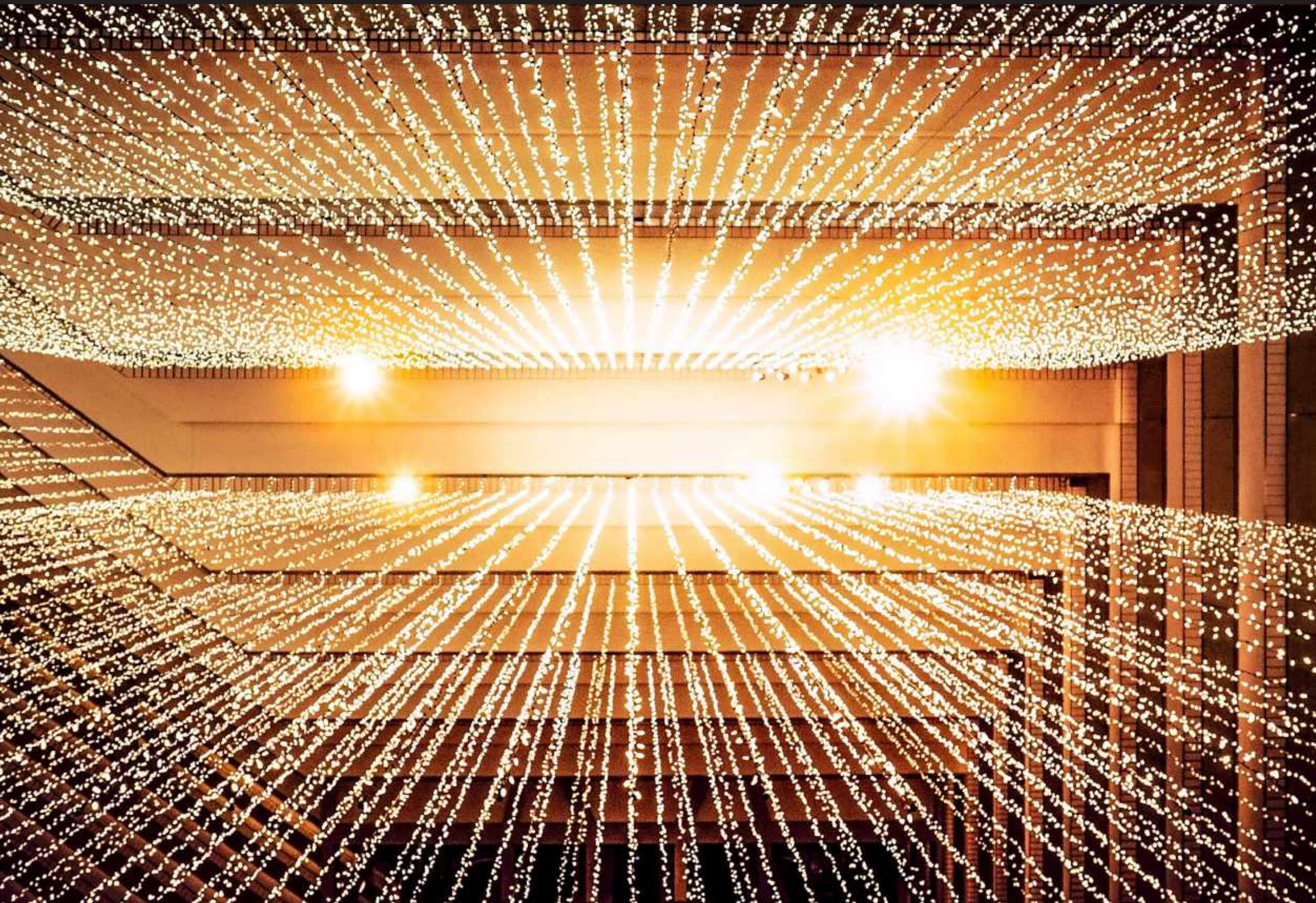
Adam Posen, president of the Peterson Institute for International Economics, predicts that "the world really will split into blocs, each attempting to insulate itself and then diminish the influence of the other." It's already happening. China's Belt and Road program spread that nation's influence to Southeast Asia and Africa, building up infrastructure, securing raw materials, and locking client nations into heavy debt.

Should China continue to become more insular and nationalistic, its enormous internal market and international aspirations will ensure its rise continues. The nation's pursuit of renewable energy to feed its growing economy has made it the preeminent player in this critical energy battleground. So too, its massive internal market for autos has made China the dominant battery supplier for electric vehicles even before its

marquee brands like BYD and Great Wall Motor crack Western markets. Tech behemoths like Alibaba, Tencent, and WeChat have amassed immense market power while ignoring the West, and even though the regime wants to rein in tech barons like Jack Ma, their creations continue to thrive. Many Chinese people get their dairy products from Yili, not Danone, and their premier luxury liquor from Kweichow Moutai, not Diageo.

Home to the world's largest free-trade deal, RCEP, 59% of the global middle-class by 2030, and fast-rising consumer markets like China, India, and Indonesia, APAC will, not surprisingly, have collective consumer spending that will eclipse that of all other regions. In fact, this is likely the start, not the apex, of regional cooperation, which will put pressure on the West to shore up its own ties.





A Two-Front War For Consumers

With the West and East reducing their interdependence, businesses will need to build regionally oriented infrastructure, consumer trust, and government partnerships in each. Rather than giving the Asian or African consumer a repackaged Western product, companies must begin to cater to their interests, culture, and tastes. Just look at the success Chinese company ByteDance has had by doing exactly this in the West, providing TikTok there and Douyin in China.

With so much dynamism coming from APAC and Africa, enterprises should look there for innovation and talent, transferring knowledge where needed in order to build strong regional businesses that may also bolster their success in the West. They should also be prepared for significant disruption and cost-base adjustment. Local governments will prioritize local firms, especially in China, where protectionism will continue to favor homegrown companies—perhaps even more now that the US is bolstering its chip and battery businesses and further restricting technology transfer.



INDUSTRIES MOVE FROM AN OWNED TO A SHARED MODEL

The consumer economy is driven by personal—often individual—ownership of things, but spending priorities have changed, due in part to prices for key durable assets rising faster than wages. Fractional ownership and renting will take over many sectors, upending industries, changing the way companies make money, and impacting income inequality.



A Subscription for Everything

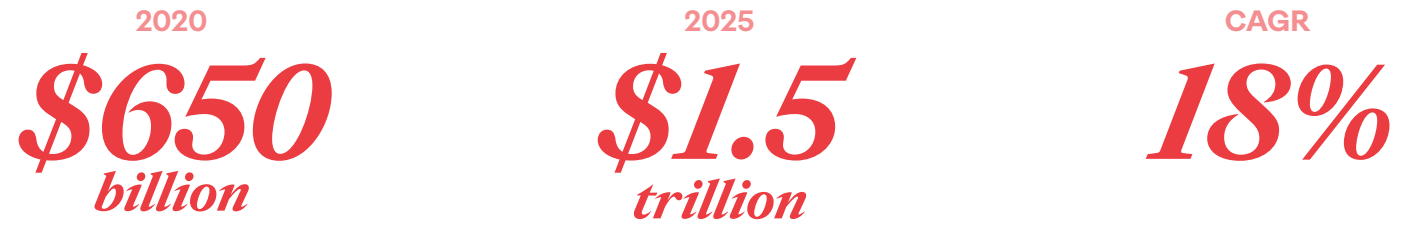
BMW buyers got a shock when they learned that heated seats and automatic high beams were now available as a subscription option. Other luxury automakers are following suit, showing that even companies catering to the wealthy are beginning to deprecate ownership models in favor of subscriptions. And they're not the only ones.

General Motors anticipates that customers will be willing to pay \$135 a month for products and services, and other automakers are going so far as to encourage consumers to subscribe to the car itself. That's a smart move for consumers eager to stay ahead of a steep technology curve as the transition to electric vehicles accelerates, and a valuable one for automakers, who get multiple bites from the apple. And then there's another class of customer, one living in a place where it's possible to get by with a share of a car. In-car subscriptions, auto subscriptions, fractional ownership—all that leads to a global subscription market that could top \$40 billion in 2030, according to the Boston Consulting Group (BCG)—up to 15% of total new-car sales. That's an especially vivid example of how

something that was once owned is turning into something to rent, but it's part of an overall trend toward the decoupling of owners and users in the economy—something that may have long-term impacts on wealth distribution.

Subscriptions are hardly new. They've been used for content since the 16th century, but they've begun to take over our lives. A TV watcher who would have once had a single cable bill now pays multiple individual streaming services. Exercise machines come with mandatory content subscriptions. People don't purchase a license for personal data storage, phone apps, and essential business software anymore. Instead, they subscribe.

MASSIVE GROWTH IN THE GLOBAL SUBSCRIPTION MARKET



Source: "Investing in Digital Subscriptions," UBS, 2021.

For companies, this has the virtue of allowing them to charge multiple times for the same product, often ending up with a higher lifetime value as a result. For consumers, it allows them to spread costs over time—or even access things that would be difficult to afford otherwise.

Rent the Runway and other fashion rental companies are built on that model, and they, too, are exploding. The [Ellen MacArthur Foundation](#) projects that these companies

will grow from 3.5% of the market to 23% by 2030, with significant environmental benefits if manufacturers can decouple revenue from production and resource use.

It's no surprise, then, that subscription services are proliferating. Cars and streaming channels are being joined by consumer-goods subscription boxes, exercise programs, offices (WeWork is very much alive), software, meals, and Internet of Things services.

For companies, this has the virtue of allowing them to charge multiple times for the same product, often ending up with a higher lifetime value as a result

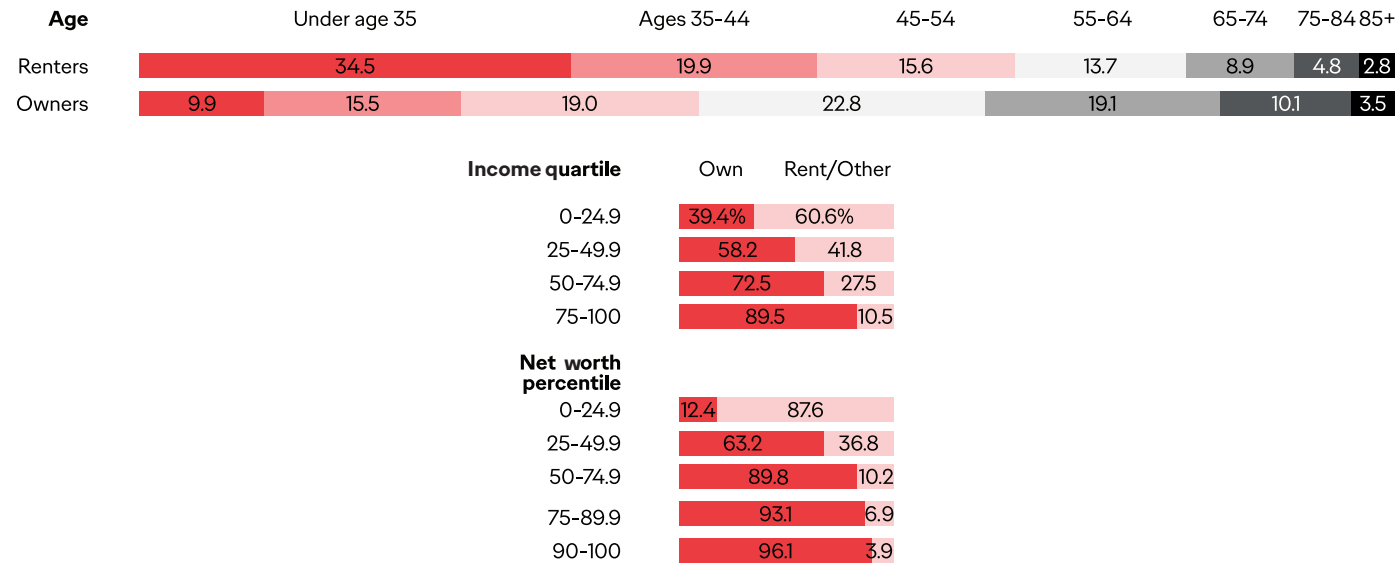
Life for Rent

There's a slightly different form of subscription that many people are far too familiar with: rent. The American Dream of home ownership has fallen out of reach for many and, like car ownership, has fallen out of favor with some, too, as the cachet of ownership has declined among younger generations.

One need only look at the ratio of home price to median income to see why that is. Millennials and Generation Z are dealing with home prices that are rising to more than seven times the median income—much worse than what the boomers and Generation X contended with.

But that's not all. Millennials (and Gen Z, too) have significantly more debt, much of it from student loans, than earlier generations, and they entered the workforce in the teeth of a recession, depressing their lifetime earning power. Inflation has rocked their budgets while wages have only begun to rise. As a result, their rates of home ownership are starkly lower than those of older cohorts, as, presumably, are their opportunities to build generational wealth.

HOUSING STATUS BY AGE, INCOME, AND NET WORTH



Source: "As national eviction ban expires, a look at who rents and who owns in the U.S.," Pew Research Center, 2021.

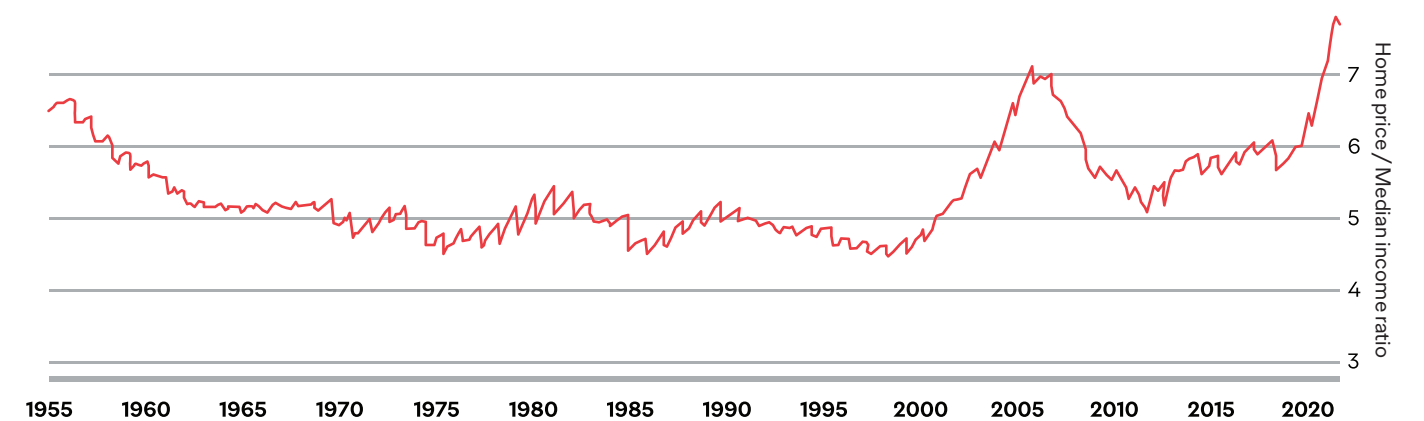
Share and Share Alike

Individual ownership is often inefficient. Why pay for a car that sits idle much of the time or a vacation home that's empty much of the year? That's a profligate way to consume the planet's—and a person's—resources, something younger generations are keenly attuned to. The sharing economy has provided a way to make better use of those assets, and consumers have embraced that. Nasdaq reports that Uber, with its steadily growing user base, is expected to become a break-even business in 2024 and a big part of the nearly \$400 billion ride-sharing industry. Profit margins and market share are growing in tandem at Airbnb, and like Uber, it can grow without investing heavily in additional assets. Sharing economy participants take on that burden.

For all the good that a sharing economy can do, there is a significant downside. Those priced out of homeownership lose the chance to

secure a large, appreciating asset—often the biggest one a family will acquire. While young people may shore up the sharing and subscription economies, the growth of this sector will have a pernicious effect on income inequality. Those who own will be in a "premium tier" of life, able to pay less for many goods and services simply because they're able to pay for them all at once. Moreover, they will be able to extract benefit from the assets they do own. Airbnb is going to skyrocket in revenue between now and 2030, and the ones cashing in on that won't just be shareholders; they'll be homeowners. The same is true of fast-growing carshare service Turo, which enables individuals to rent out their own cars. Those without the means to own will be locked out of these opportunities. In fact, they'll be the ones paying.

HOME PRICE TO MEDIAN US HOUSEHOLD INCOME



Source: Home Price to Median Household Income Ratio (US), Longterm Trends, 2022.



Prepare to Share

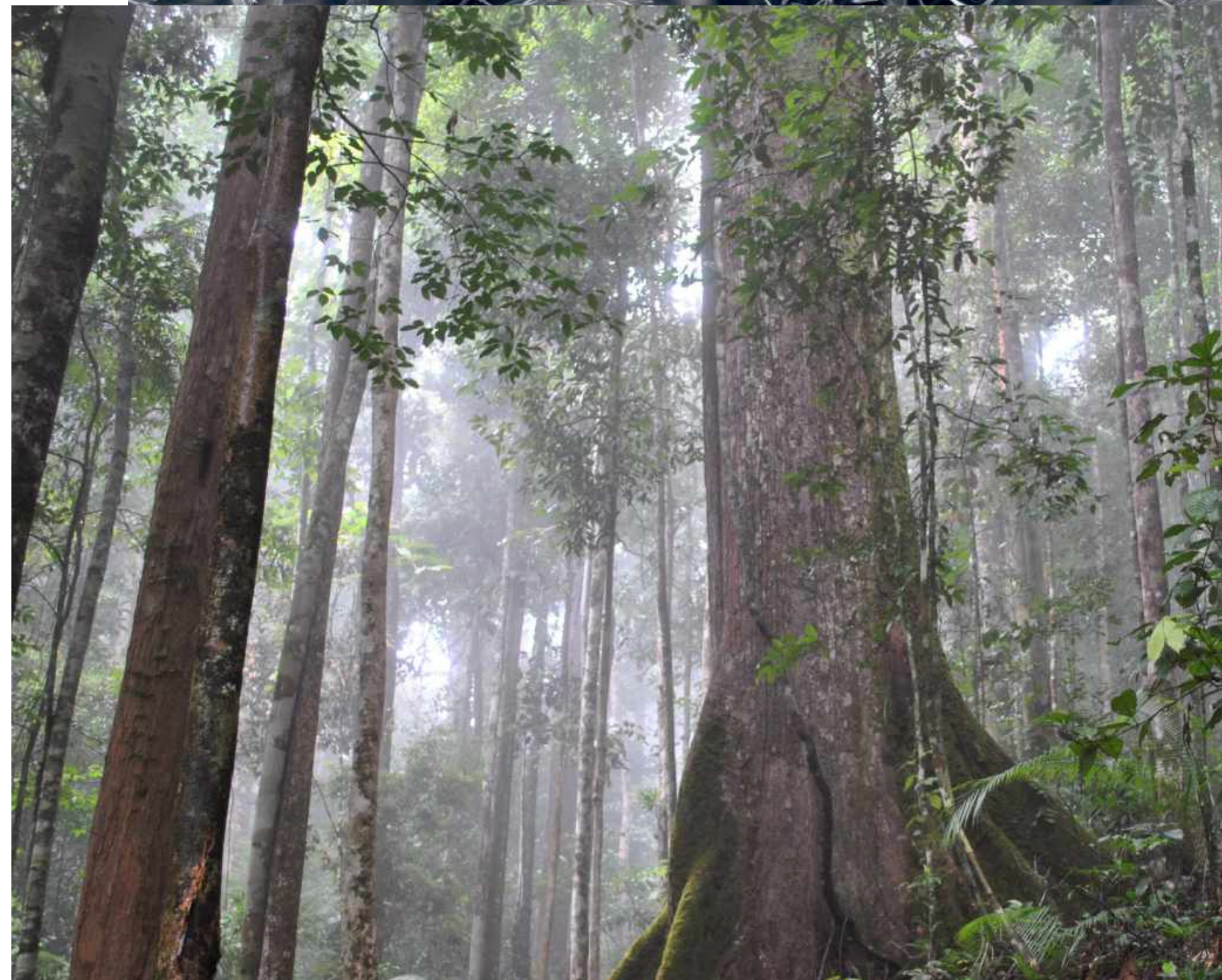
Subscriptions, rentals, and share-centric businesses represent a major opportunity for companies across industries. Younger generations, less interested in ownership and less able to attain it, have grown comfortable with sharing products, services, and experiences with strangers. Businesses can meet this growing need by rethinking the basic contract between customer and company. If cars no longer need to be purchased, what else can be unshackled from that model? Appliances, furniture, hardware, and consumer electronics are four sectors soon to evolve toward shared or subscription structures. Others will follow as businesses see the benefits of recurring revenue from their products, services, and sharing platforms—often created by the manufacturers themselves—enable the easy exchange between those who own and those who want. Think of it as a manufacturer-to-consumer-to-consumer supply chain. This will come at the expense of retailers and resellers, unless they too are able to reinvent their roles as facilitators of an efficient ecosystem, not intermediaries there to take a cut. Fandom, too, is evolving to a shared model, with devotees prepared to pay for preferred access to the celebrities and artists they follow.

This more collective approach to goods and services will have positive environmental impact as the era of planned obsolescence becomes both uncool and bad business. Goods that can stand up to many hands and retain their utility over longer periods will command higher prices, last through more sharing cycles, or both. Money is there to be made on maintenance, too, giving rise to new (old) industries and new lines of business.



ESG BECOMES MANDATORY

Environment, social, and governance (ESG) measures have been ubiquitous—but not yet meaningful. The absence of standards and enforcement has led to greenwashing and a devaluation of the entire ESG concept, which is not too surprising for an emergent trend that has new costs. Climate change targets are not yet optimized—especially if we want to keep Earth habitable. ESG will become a corporate priority, but like the crypto business, it will need metrics, standards, and independent oversight.



A Controversial Metric Gets Real

For a few years there, the hottest investing club in New York (and elsewhere) went by three initials: E, S, and G. They stand for environment, social, and governance and describe a poorly defined set of reporting principles aligned to the United Nations Sustainable Development Goals (UNSDGs).

BlackRock led a crusade of investor money flowing into companies that measured and reported on their ESG progress, but as the tide grew, so did criticism. Those eager to see real progress on diversity, equity, and inclusion and aggressive climate action decry the absence of regulation and standards. To them, ESG reports just supplied the means to paper over business as usual. ESG also became a target in the culture wars, with states like Florida and Texas enacting punitive anti-ESG laws and divesting from firms that prioritize ESG. They maintain that these principles are just another manifestation of “woke capitalism” and an attack against fossil fuels. Businesses, the argument runs, have no place in making decisions that have any political flavor.

Despite the headwinds, ESG will only gain steam between now and 2030. Universal standards and regulation regimes will answer criticisms of greenwashing while revanchist attacks will keep grabbing headlines. And yet underlying progress will continue. Florida may have divested \$2 billion from BlackRock for political reasons, but that’s not going to deter a company with \$8 trillion in assets under management.

Here’s why the movement toward accountable ESG is unstoppable: it works. An NYU Stern School meta-analysis of over 1,000 studies found a definitive positive correlation between

ESG and financial performance—a trend that becomes more pronounced over time. The meta-analysis also found that managing for a low carbon future improves financial performance, while an ESG focus for investors protects against downside risk. McKinsey’s analysis produced similar results, and its analysts delved into the ways ESG can boost financial performance.

McKinsey analyst Robin Nuttall notes that a better ESG score lowers the cost of capital. It also boosts top-line growth. Nuttall says, “If you are a consumer goods company with a stronger sustainability proposition, you are more likely to attract customer loyalty and new customer segments. There is evidence that brands with more sustainable impact grow faster than brands that have a less sustainable proposition.” Improved ESG efforts also use resources more efficiently, lowering costs in the process and reducing the risk of stranding assets. It reduces regulatory exposure, and, Nuttall reports, “newer recruits and millennials demand purposeful work and if you are an employer that can meet that need, you will attract and retain that talent, and likely higher productivity in the workplace.” That’s a quantifiable benefit, too—one that can add approximately 2% annually to a company’s stock price, McKinsey reports.

DE&I IS ESSENTIAL FOR ATTRACTING AND RETAINING TALENT

76%

of US employees and job seekers consider a diverse workforce important when evaluating employment

32%

of US employees and job seekers would not apply to a company that lacks diversity

41%

of US employees and job seekers have quit a job after witnessing or experiencing discrimination at work

Source: "Diversity & Inclusion Workplace Survey," Glassdoor, 2020.

DE&I is also a growing industry. States like California are spending big on DE&I initiatives—so much so that the Center for Organizational Research and Education reports that it “is easily worth \$1 billion in Golden State spending.”

Major pushes are happening at the national level, too, with federal officials working on a strategy for DE&I policies for the government, which, it is hoped, will provide a framework for companies and organizations nationwide.



Real Metrics

ESG has been hampered by a lack of transparency and inconsistent metrics, and that's fueled the backlash. However, calls for universal, effective, and consistent standards are growing around the world. Brands that once advertised themselves as environmentally and socially responsible without third-party verification are seeing the party end. Given the financial benefit that accrues to companies with good ESG performance, subpar efforts masked by greenwashed reports are nothing short of financial malpractice.

The unmistakable, urgent, and present reality of climate change takes sustainability from a value to promote to a mission-critical outcome. Investors and regulators have dialed up scrutiny and demanded transparency and effectiveness—and not just because they see the impacts of climate change firsthand. Instead, the externalities of a warming world are forcing businesses to recognize that “sustainability” now means remaining in business. Absent efforts by individual businesses and industry as a whole to decarbonize, the existential threat posed by climate change will shutter—and shatter—the global economy.

Business leaders are feeling the heat: 58% of CEOs are under increased pressure for ESG reporting and transparency. The EU, at least, has responded, implementing a new ESG framework called the Corporate Sustainability Reporting Directive (CSRD). The CSRD will require many more companies to engage in ESG disclosure and begin the process of building consistency in reporting. After all, to sustain is to last.



Good COP, Bad COP

A dose of reality is in order. Society has been talking about curbing emissions for three decades, since the Rio de Janeiro Earth Summit, and, as Elizabeth Kolbert writes in the *New Yorker*, “at some point during all the ‘blah, blah, blah’-ing—it’s hard to say when, exactly—climate change ceased to be a prospective problem and became a clear and present one.” Humanity will not dodge this bullet, even as leaders convene COPs and “speak loftily about ‘net zero’ and a ‘low-carbon economy.’” But nothing will change, and, as a result, everything will change.” The impacts of that are frightening—crop failures, aridification, inundation, conflagration, and, finally, migration. Kolbert points to economic anthropologist Jason Hickel, who points out that, as a product of capitalism, climate change can’t be solved by the same solution.

That’s crap. Capitalism, especially the poorly regulated late-stage variety, has plenty of problems both practical and moral, but if it is anything, it is this: an exquisitely skilled survival machine. Businesses are starting to take planetary issues seriously, albeit way too late, because shareholders and stakeholders are concerned about sustainability—for the businesses they are invested in and for themselves. And so ESG will thrive for years to come because it will become an essential metric to evaluate a business’s future potential.

Act Now

Delaying efforts to achieve gender parity will cost the global economy \$13 billion. Companies with larger numbers of women executives outperform those with fewer (or, sadly, none), according to a landmark McKinsey study. The effect is even more pronounced for ethnic diversity.

INCREASING GENDER PARITY IN THE WORKPLACE PAYS OFF

GDP impact to 2030, \$ trillion (2019)



Source: “COVID-19 and gender equality: Countering the regressive effects,” McKinsey Global Institute, 2020.

Build sustainability considerations into business decision-making. Policy is an easy solution, but it won't create enough change on its own

The implications should be obvious. Build a diverse talent pipeline. The one already in place isn't good enough, and any honest business knows that a diverse workforce helps companies understand, reflect, and relate to a diverse world. Structural issues are real, and any technical business needs to invest in secondary and postsecondary scouting and preparation lest great talent never get the chance to enter historically closed industries. The societal costs of that are clear. The financial ones to an individual business should be, too. And make sure your workforce knows. Talent is looking to remain at or join companies that are DE&I leaders, but data from Glassdoor shows that two-thirds of employees and applicants trust DE&I reports from a company's workforce the most.

Build sustainability considerations into business decision-making. Policy is an easy solution, but it won't create enough change on its own. Inculcating the behaviors in management, however, will. While making executives accountable for the sustainability of their areas and tying compensation to their success may be more complex, it will also be more effective. Every business needs to recognize that it is part of an industry ecosystem; individual actions can spur good behavior in competitors and suppliers. In fact, a supplier code of conduct or a sustainability imperative can decarbonize an

entire supply and value chain. Don't wait on verified ESG reporting, either. Businesses should get behind efforts to regulate and regularize disclosures. Engage third-party auditors if standards are not in place. Better yet: build an industry coalition to set them and work with local authorities to get them codified. That's part of the “G” in ESG, but there's much more to that heretofore neglected letter, like respect for shareholders, operating in the public interest, and planning and acting for the long term.

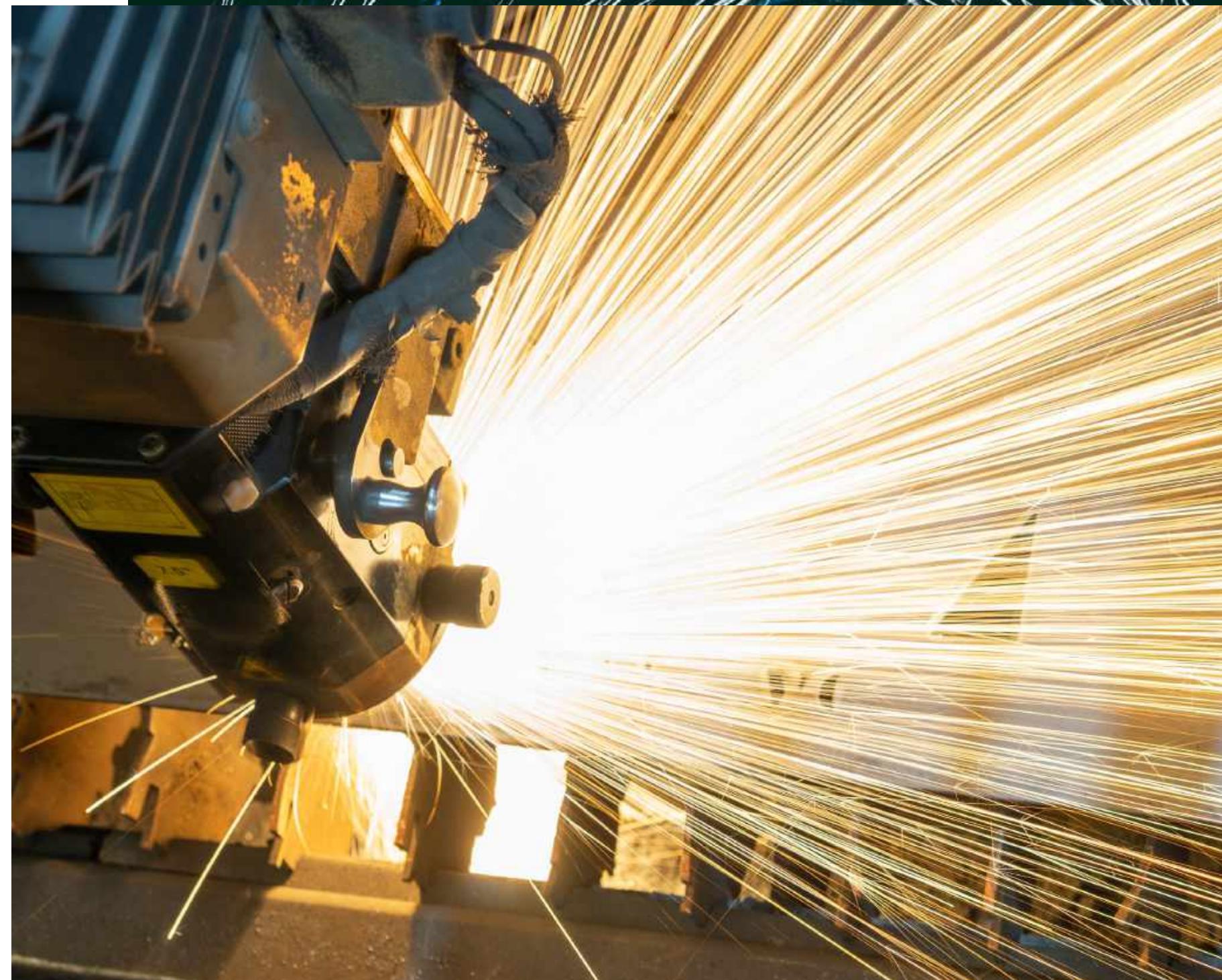
Inherently polluting industries need to take heed, too, since the expense of carbon offsets and carbon capture is sure to balloon. The carbon trading market is growing fast. In fact, it grew by 164% in 2021 alone, and prices are on an upward trend, too. Net-zero policies will also goose carbon-offset markets—and prices.

Given the oft-reported propensity for consumers to buy from companies that share their values, companies need to market their ESG. Since many companies have proclaimed themselves to be good corporate citizens while failing to follow through on public commitments, skepticism reigns among consumers and investors. Nevertheless, the brands of the future will rest on a foundation of sustainability. Build that brand incrementally—in conjunction with progress on ESG.



IT'S AN AI WORLD AFTER ALL

We are entering into a new phase of our relationship with technology. Whereas technology has been a tool for humans to direct and use, AI has introduced bilateral interactions. Humans will continue to delegate labor and even decision-making to AI. Their presence will become ubiquitous and indispensable.



As Essential as Electricity

At the dawn of the age of electricity, no one quite knew how much the world would come to depend on what was still a novelty—not a utility.

In fact, people didn't even know what kind of electricity would prove dominant. As it happened, Westinghouse's alternating current won the world's first format war, and AC ended up reshaping cities, politics, and society. Electricity drove the elevators that turned the city vertical. It made assembly lines possible, conquered the night, and launched the career of Lyndon Johnson—a crusader for rural electrification in the Texas Hill Country— whose actions on the Vietnam War, civil rights, and the Great Society program

reverberate to this day. It is the fundamental prerequisite for digital technology.

Now that computing has become a utility, even if it isn't regulated that way, AI is in the position electricity was in the early 20th century. Costs—and by implication, computational barriers—have begun to drop below analogous human-powered solutions. By 2030, therefore, the foundational rethinking of the human/technology relationship that is AI will be well on its way to becoming as ubiquitous—and as consequential—as electricity.

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THE POWER OF AUTONOMY

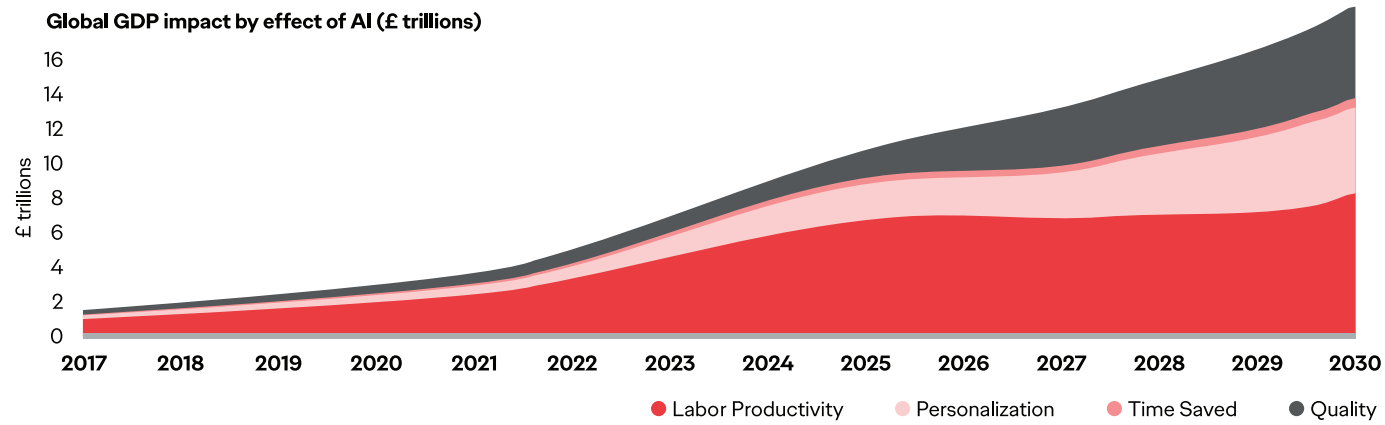
The printing press (in the West, at least) was invented in 1436. Martin Luther's 95 Theses were nailed to the Wittenberg church door in

1517, and that act, nearly one hundred years after the invention of moveable type, lay behind the first conclusive demonstration of the power of printing. Since the digital computer only came about in 1945 and the internet in 1969,

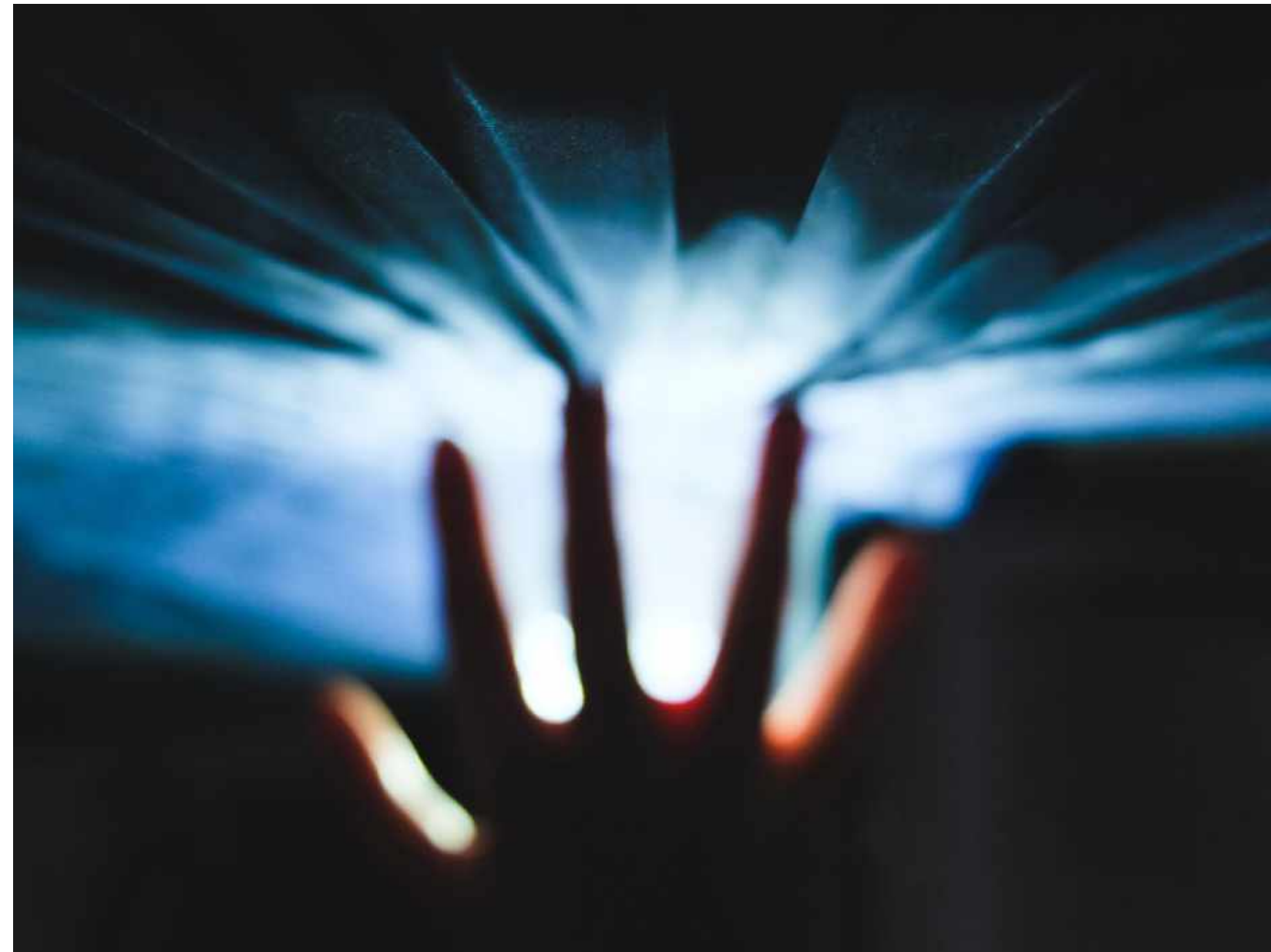
it's no surprise that society is still figuring out the power of connected computing, but the most consequential demonstration of that may have finally arrived. The emergence of AI marks the first time the potential for autonomy that was always inherent in computing (just

ask Alan Turing) has been realized. And that changes everything. Humanity finally has a technology that can do more than save labor; it has one to which it can delegate, one which can anticipate its needs, and one which can adapt to changed circumstances.

WHERE WILL THE VALUE GAINS FROM AI COME FROM (£ trillions)



Source: "Sizing the prize What's the real value of AI for your business and how can you capitalise?" PwC, 2017.



Two early demonstrations of the mind-melting progress AI has made are found in the work of OpenAI. Its AI image generator, DALL-E, has shown that what humans see as creative may be achievable by computers after all. The work produced by DALL-E had, within months of its launch, presented fundamental arguments about inspiration, ownership, and the nature of art. Its copy-generating cousin, ChatGPT, takes AI writing right past the uncanny valley and into the realm of communication that

sounds human. Or at least human-ish. This is how it responds when asked to write the opening lines of an article about itself: "Meet Assistant, the advanced language model trained by OpenAI to assist users in generating human-like text on a wide range of topics. As a computer program, Assistant does not have personal experiences or a physical body, but it has been designed to process and generate text with a high degree of accuracy and coherence. In this article, we will explore

the capabilities and functions of Assistant, as well as its limitations as a language model." That copy isn't going to win a Pulitzer, but it's impressive for an AI at this stage of the game.

BEYOND ART AND COPY

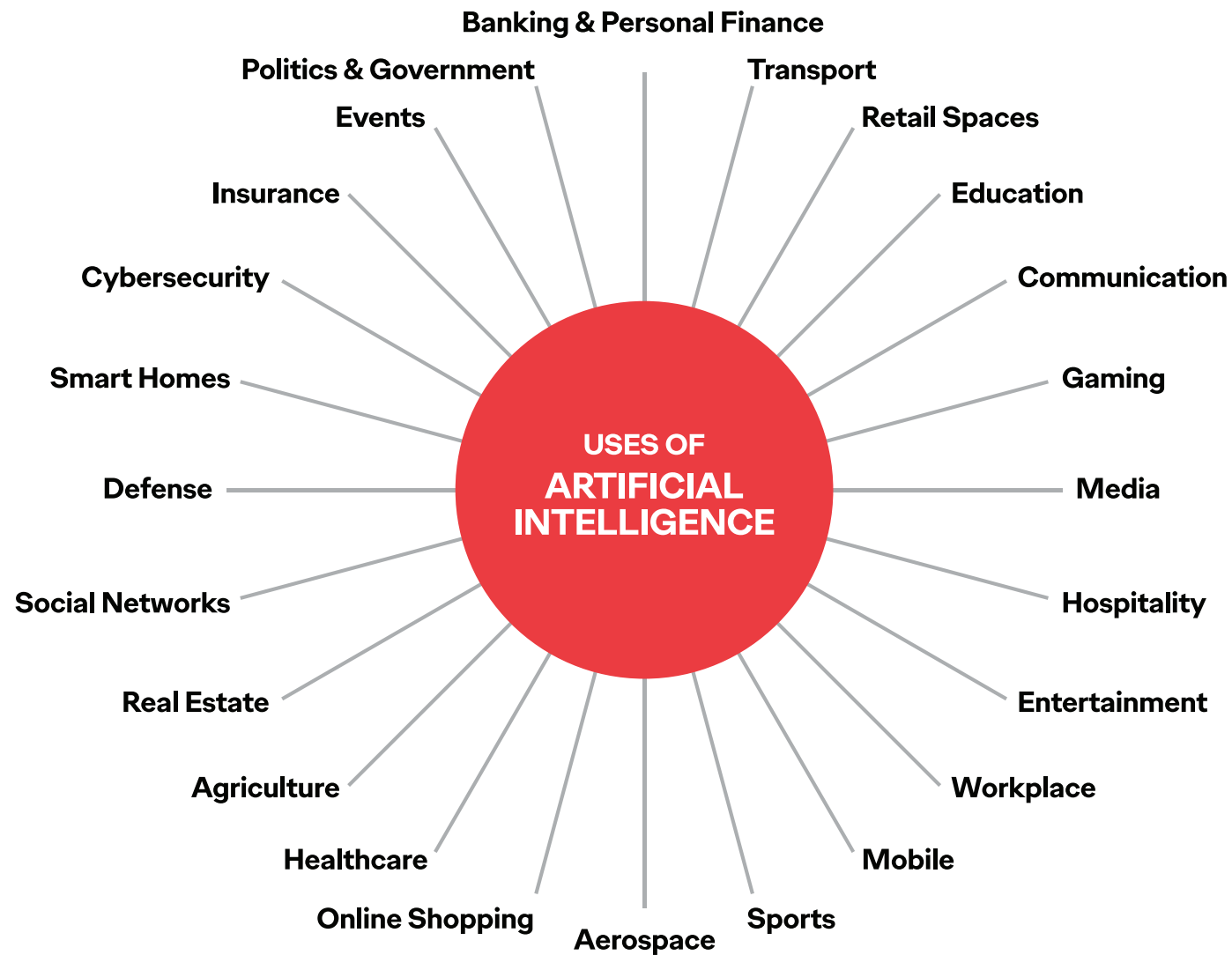
According to PwC, AI could contribute up to \$15.7 trillion to the global GDP by 2030. That will come from automation-based productivity gains (those with no human in the loop),

augmentation-based productivity gains (those with a human in the loop), and consumer demand for AI-enhanced products and services.

Like electricity, AI will impact all sectors of the economy, and there will be effects which cannot now be predicted. The scary effects could form the plots of dystopian movies: killer robots, algorithmic law enforcement, machine-dominated societies, and newly empowered malicious actors. But the good AI can do is equally compelling, if less screen-worthy.



AI will play a crucial role in decarbonizing the global economy



Source: One Ragtime

The [University of Queensland](#) notes that the most consequential effects that can be foreseen now will cluster around healthcare, sustainability, and service. AI is already helping doctors diagnose patients, but before long, it will be able to do so with greater autonomy and accuracy. AI can extend the reach of healthcare professionals—a finite and expensive resource—to provide better, cheaper care to more people than ever before. Armed with population-level data, smart systems can learn to detect disease faster than before, boosting prevention and leading to a healthier world. Intelligent implants can combat chronic conditions, while AI-enabled R&D can search for new pharmaceuticals and biologicals.

AI will play a crucial role in decarbonizing the global economy. Not only can machine intelligences boost operational efficiency, but they will also be able to automate the heretofore manual review of complex data around processes, energy use, landfill intensity, water requirements,

and emissions, leading to sustainability improvements all along the value chain.

Expert systems will change the lives of consumers as well. Much has been said already about autonomous driving, but the real promise of that will be in fleets of autonomous, on-demand vehicles. Granular personalization in retail offerings will allow for individual customization of offers, products, and services. Robot help will become the norm in physical environments of all kinds, while smart systems will act on customers' behalf in everything from financial to consumer goods transactions.

Before long, even parenting will become part of the AI remit, and eldercare, especially as the balance between old and young shifts, will see AI entrants even sooner. As Peter Diamandis, the founder of XPRIZE, put it, AI will “become your cognitive prosthetic 24/7... [and] will learn your preferences, anticipate your needs and behavior, shop for you, monitor your health, and help you problem solve.”

The Real Killer App

Cities are grappling with whether to permit police to use deadly force with autonomous vehicles. Militaries have already crossed that threshold, and as expert systems get smarter, this debate will intensify. Hopefully, everyone will agree that killer robots are a dumb idea, but even without munitions, AI is going to be deadly to some—namely those businesses ripe for machine intelligence disruption. AI is the ultimate killer app for connected computing, and like all killer apps, it will wipe out some businesses even as it propels others to great heights.

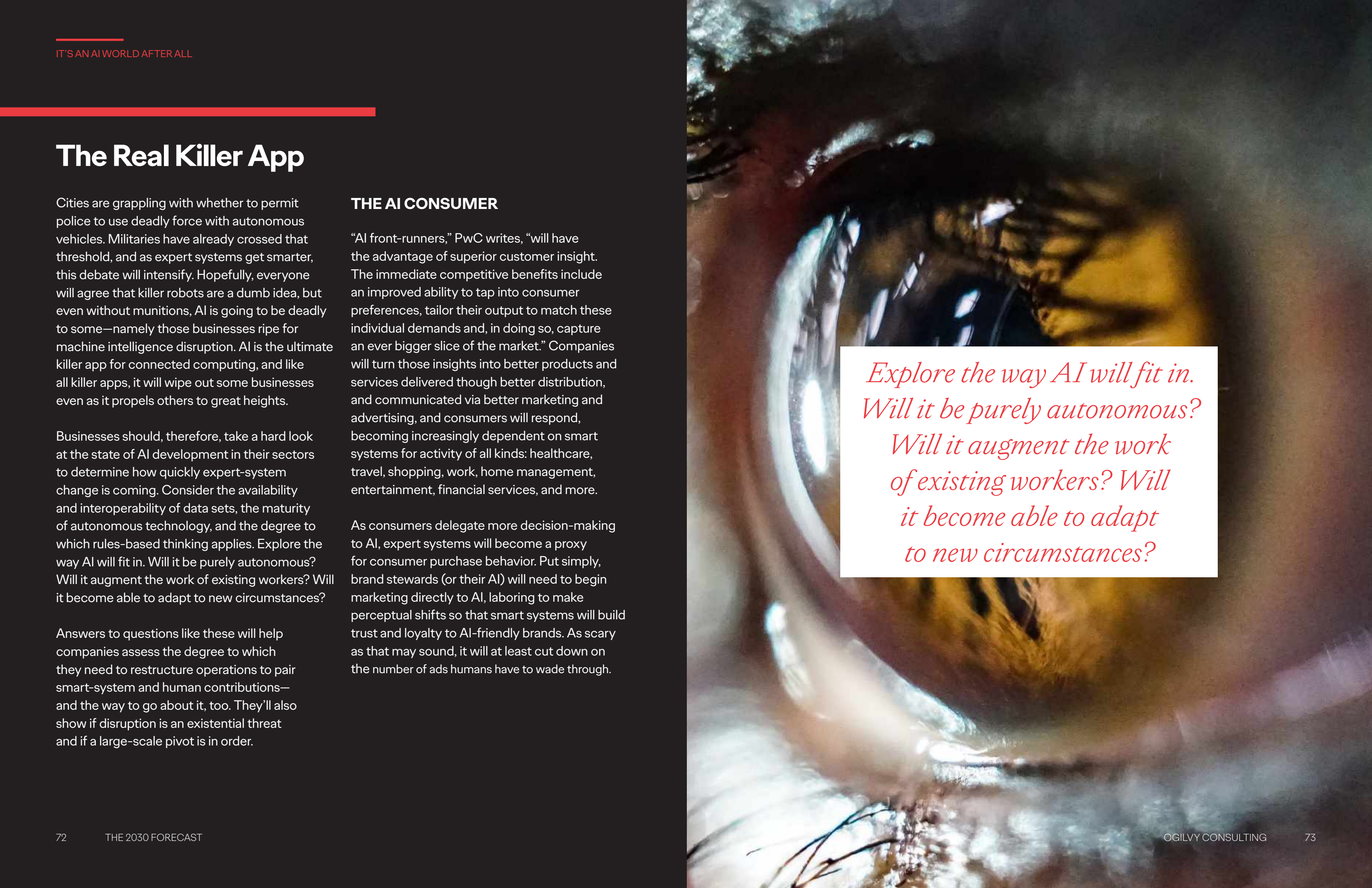
Businesses should, therefore, take a hard look at the state of AI development in their sectors to determine how quickly expert-system change is coming. Consider the availability and interoperability of data sets, the maturity of autonomous technology, and the degree to which rules-based thinking applies. Explore the way AI will fit in. Will it be purely autonomous? Will it augment the work of existing workers? Will it become able to adapt to new circumstances?

Answers to questions like these will help companies assess the degree to which they need to restructure operations to pair smart-system and human contributions—and the way to go about it, too. They'll also show if disruption is an existential threat and if a large-scale pivot is in order.

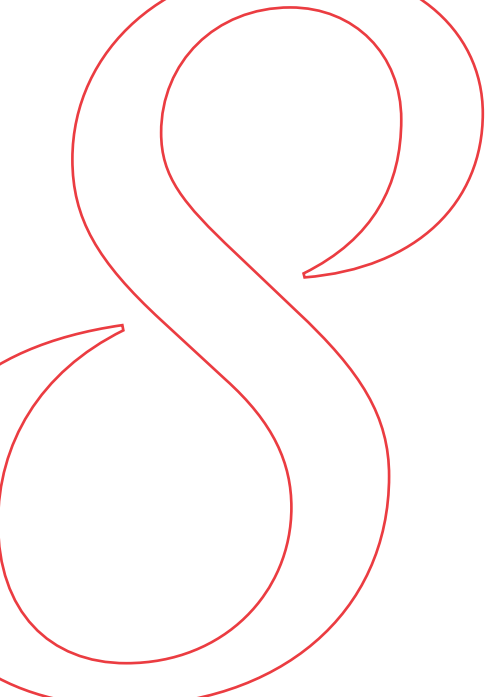
THE AI CONSUMER

“AI front-runners,” PwC writes, “will have the advantage of superior customer insight. The immediate competitive benefits include an improved ability to tap into consumer preferences, tailor their output to match these individual demands and, in doing so, capture an ever bigger slice of the market.” Companies will turn those insights into better products and services delivered through better distribution, and communicated via better marketing and advertising, and consumers will respond, becoming increasingly dependent on smart systems for activity of all kinds: healthcare, travel, shopping, work, home management, entertainment, financial services, and more.

As consumers delegate more decision-making to AI, expert systems will become a proxy for consumer purchase behavior. Put simply, brand stewards (or their AI) will need to begin marketing directly to AI, laboring to make perceptual shifts so that smart systems will build trust and loyalty to AI-friendly brands. As scary as that may sound, it will at least cut down on the number of ads humans have to wade through.



*Explore the way AI will fit in.
Will it be purely autonomous?
Will it augment the work
of existing workers? Will
it become able to adapt
to new circumstances?*



AN AGING POPULATION TURNS SILVER INTO GOLD

Whether they were venerated, ignored, or something in between, older generations were never thought of as an economic force. Not anymore. Seniors will become one of the dominant consumer groups, displacing the young as the go-to generation for marketing.

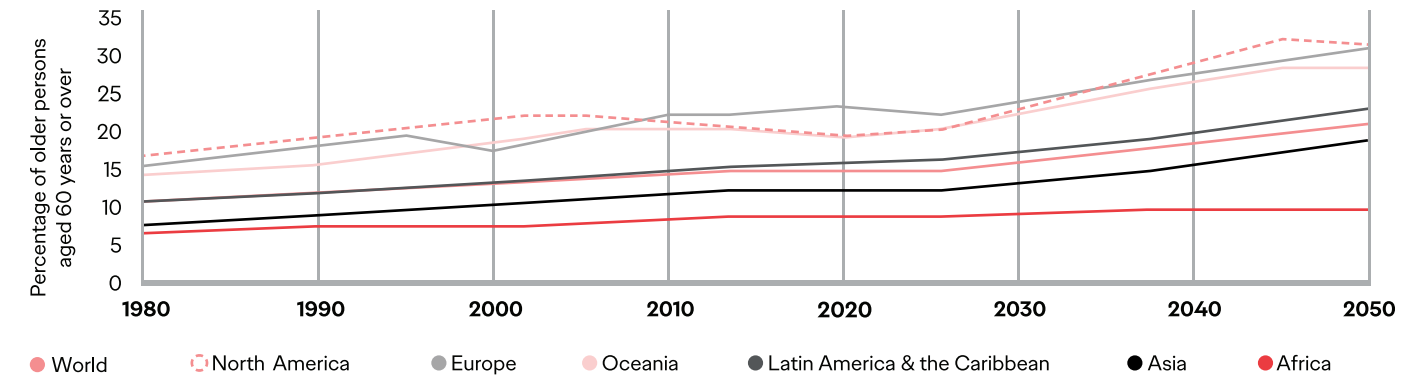
Get ready for the silver economy.



From 18-24 to 65-90

To hell with Generation Alpha. The real consumer power by 2030 will be held by the olds, especially in the world’s largest economies—Asia, Europe, and the Americas.

THE GLOBAL INCREASE IN THE SENIOR POPULATION



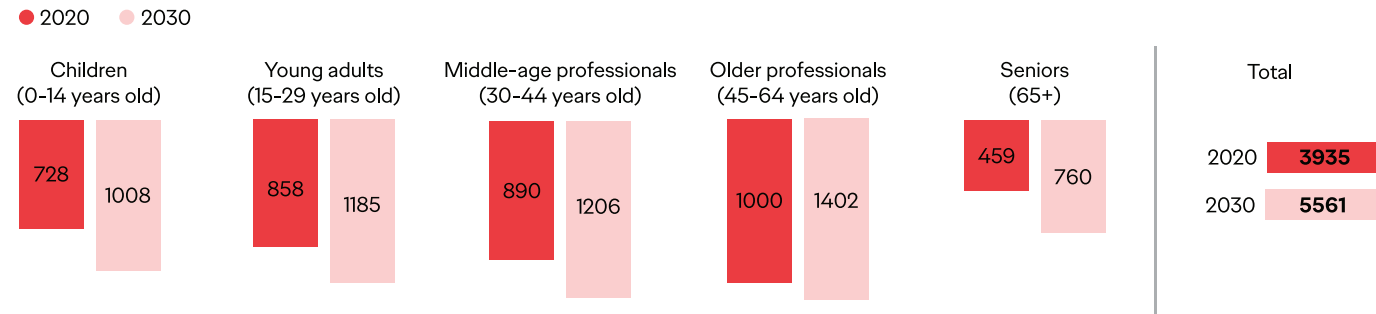
Source: "Ageing, Older Persons, and the 2030 Agenda for Sustainable Development," The United Nations.

The number of people over 60 already outnumbers those under five. By 2030, one out of every six people will be a sexagenarian or beyond. The global population of those over 60, which stood at one billion in 2020, will rise to 1.4 billion by 2030. That's over 16% of the global population. When 2050 comes around, there will be 2.5 billion seniors.

"Seniors are the wealthiest age cohort in the world, together with older professionals (45-64 years)," writes Wolfgang Fengler for Brookings, with a contribution to the global consumer class that outpaces that of all other cohorts. Their spending in 2030, per the World Bank, will reach \$15 trillion.

The number of people over 60 already outnumbers those under five. By 2030, one out of every six people will be a sexagenarian or beyond

THE FASTEST-GROWING SLICE OF THE CONSUMER CLASS



Source: "The silver economy is coming of age: Looking at the growing spending power of seniors," Brookings, 2021.

As their affluent populations age, the US and China won't be just the largest economies in the world; they'll be the largest silver economies, too, by 2030. Japan, long the world's aging capital, will see more modest gains, while even India will boast a trillion-dollar over-sixty economy.

The effect of employment will magnify this further. As people stay healthier longer and labor shortages begin to bite, more and more older people won't just stay in the job market—they'll be actively recruited. Even as the US labor force shrinks by 7.5% between 2020 and 2030, the over-75 workforce will shoot up by 96.5%. This will be the case wherever there are

large older populations, even if they need to develop new skills. Case in point: Generation, a nonprofit reskilling organization, is [training older workers in Singapore](#) for new careers in tech.

Greater senior employment will cause [the asset gulf between older and younger generations](#) to grow even more. Those born before 1945 control an average of \$817,000 per person. Boomers, who have an average of \$834,000 per person, soak up nearly \$60 trillion of wealth in the US. Generation X has about half the available assets compared to boomers, while millennials are far, far behind, with an average of just \$68,871 per person.



Earth to Brands

So why focus all the marketing heat and light on the younger generations? Brands, product designers, and marketers are hardwired to focus on young people. After all, they're the future, and developing brand loyalty early on can pay lifelong dividends. Older people, the story goes, may have a lot of disposable income, but they spend it on healthcare, cruises, and chunky walking shoes. But that story is played out. The seniors of 2030 will be dropping cash on ecommerce, experiences, and travel, in addition to all the other spending that goes along with an active life.

They also will be looking for products and services that make their lives easier, which is an enormous potential market. Just look at OXO. This line of premium kitchen tools began as a product designed to help the founder's wife

grasp a peeler despite arthritis in her hands. Now it's the number one kitchen gadget company by market share. Opportunities abound in other segments, from personal care and travel to education and electronics. Airbnb, noting that those 60 years of age and older are one of their fastest-growing traveler and host cohorts, is redesigning its experience and marketing around their needs. Rather than force the latest tech on an older workforce, several companies are providing simple solutions that can increase productivity. And for those needing a little extra help, Gillette introduced a razor especially designed for caregivers to use when shaving someone else.

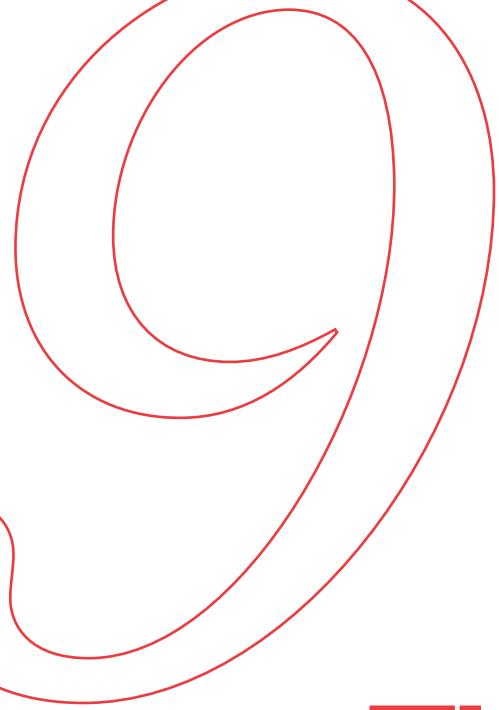
This market is ripe for a range of OXO-like companies that can thrive in the senior economy

and redefine a whole category in the process. Product designers should look to the unique needs of older consumers when introducing new technology and not fall into the trap that electric car makers did. The first few generations of electric vehicles dispensed with buttons in an effort to look futuristic (and save switchgear costs), but, by adding an unfamiliar UI to a new technology, manufacturers threw up a roadblock to a customer segment well-off enough to afford these more expensive vehicles. Consumer goods of all sorts need a silver-economy makeover. This well-to-do group needs apparel that works for older bodies but doesn't sacrifice style. It will flock to both electronics that keep seniors on the cutting edge without requiring grandchild tech support and a range of home goods tailor-made for the over-60 crowd.

Services, too, need a silver-economy facelift. Those looking for late-career shifts will need education designed for the older learner. Financial services and insurance are oriented around a path to retirement that is growing less relevant, and their over-60 customers will be clamoring for financial products that recognize their current reality. Healthcare for older customers will need to be simplified, requiring less time from active older people while still giving them the increased care they'll need.

And then there are branding and marketing themselves. It may be cooler to run an influencer campaign on a brand-new platform, but the smart marketers will be finding ways to spin gold from the silver economy.

Older people, the story goes, may have a lot of disposable income, but they spend it on healthcare, cruises, and chunky walking shoes



THE ERA OF RENEWABLE ENERGY ARRIVES

Now that renewable energy is growing cheaper than fossil fuels, the world can decarbonize quickly. However, the inertia of the global energy economy means this transition will not be smooth, even if whole swaths of civilization leapfrog the carbon economy.



Stored Sunlight

It's easy to look at the trend lines on renewable energy and declare that the world's carbon crisis is over, but while major technical hurdles have been solved, humanity still hasn't figured out how to live within its means.

Fossil fuels are demonized today—for good reason—but recall that humanity owes its great progression in the industrialized era to them. Go ahead and thank them for everything from lifespans to lidocaine to light before consigning them to the landfill of history.

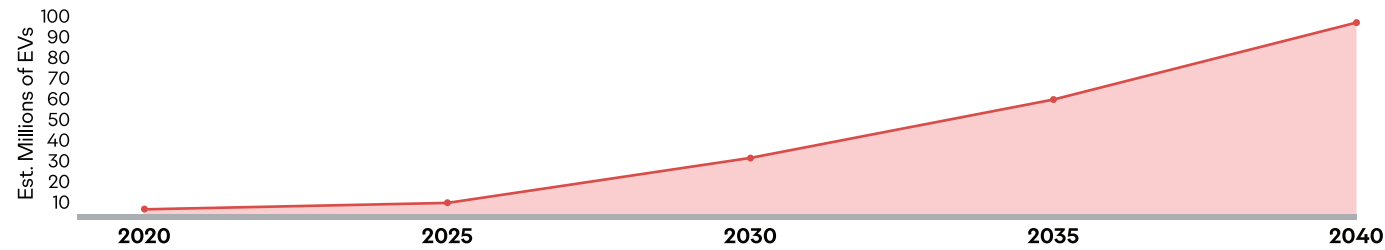
Aside from radioactive decay, every joule of energy on planet Earth comes from the sun, and people have been using concentrated, stored parcels of solar energy ever since a protohuman lit the first fire. The story of industrialization has been about doing more work with these stored energy products, increasing the ability to get stuff done by increasing the energy

density of the source or the efficiency of the machine that extracts it. But even the best mechanisms for turning stored sunlight into work have been terribly inefficient. Until now. Marveling at the MPG rating of modern cars, for example, belies the fact that they waste 65% of the potential energy in each gallon of gas on heat and friction. An electric vehicle inverts that, with 70% energy efficiency.

With electric cars needing few moving parts and no expensive gas tank to fill up, it's no surprise that consumers and businesses are forcing a rapid transformation of the transportation segment.

With electric cars needing few moving parts and no expensive gas tank to fill up, it's no surprise that consumers and businesses are forcing a rapid transformation of the transportation segment

GROWTH IN EVS IN THE US: 27 MILLION IN 2030; 92 MILLION IN 2040



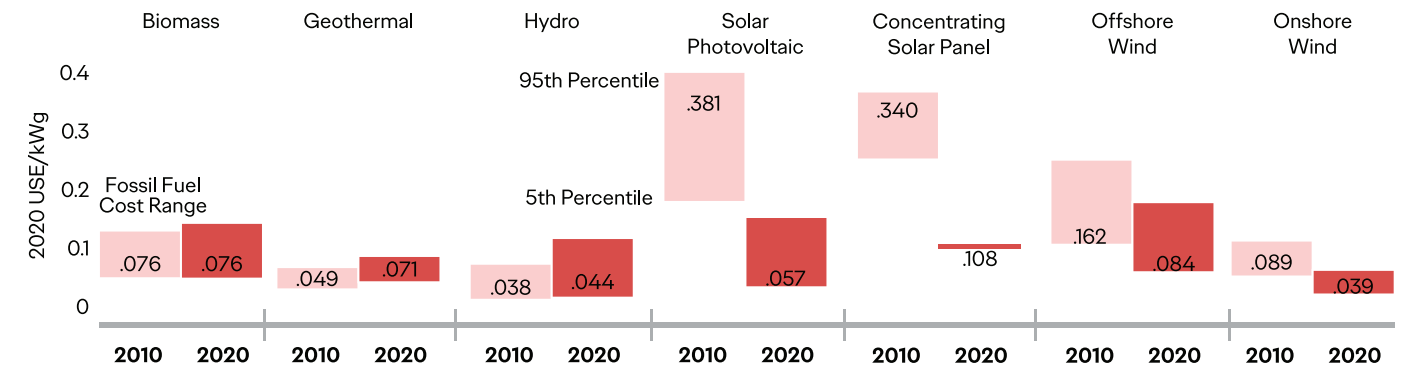
Source: "The US electric vehicle charging market could grow nearly tenfold by 2030," PwC.

A RENEWABLE TIPPING POINT?

But how are EVs to get the electricity they need to run? Charging stations, of course, be they commercial or residential amenities. Unsurprisingly, the EV service economy will grow at a pace that tracks with the development of EV sales. PwC projects that the EV infrastructure market will grow to \$100 billion in the US by 2040, with the number of charge points surging to 35 million by 2030. For all the talk of charging stations and an EV-charging infrastructure, the real problem is utility scale, and it is not simple.

Renewable generating capacity is coming online at a record pace. One recent analysis put the pace of renewable generation high enough to make up one-third of US generating capacity by 2030. The UN aims to see the global energy market transition to 65% renewable by 2030, which is more of an aspiration than a plan, but the economic incentives are there. The cost of renewable energy has fallen dramatically over the past decade, and those cost declines will only continue.

NEW RENEWABLE ENERGY CAPACITY IS AS CHEAP AS OR CHEAPER THAN FOSSIL FUELS



Source: "Renewable Power Generation Costs in 2020," International Renewable Energy Association, 2021.



In fact, the low cost of renewable energy is stranding fossil fuel plants on islands of unaffordability, “undercutting,” in the words of the International Renewable Energy Agency, “even the cheapest and least sustainable of existing coal-fired power plants.”

While it would seem that the problem is solved—on to the next one!—renewable energy causes some utility-scale headaches that need imaginative thinking to relieve. It all comes down to this: storing energy as electricity is hard. And energy storage is essential for an electric grid to operate.

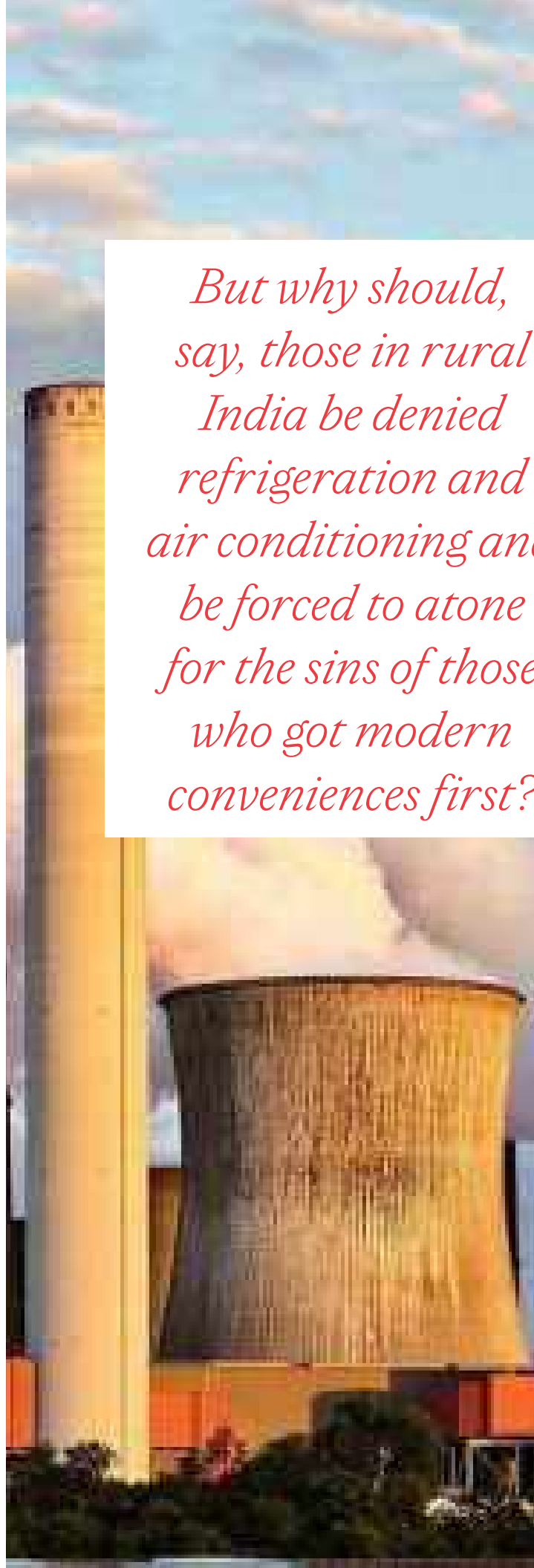
Electricity is consumed the moment it is created. The power that makes a light bulb shine was sunlight, coal, gas, or a puff of wind only a fraction of a second before. The grid itself has no inherent capacity to store electricity for future use, and the highly variable nature of renewable power means that utilities will always need ways to store power for the times when renewables aren’t producing enough power to supply the base (not to mention peak) load—and ways to store the excess power renewables produce when the sun is at its brightest or the wind is at a gale. That’s a new problem for grids, since they used to store energy as nuggets of coal, barrels of oil, or cubic feet of natural gas. Renewables generate electricity directly, and utilities need to store any excess immediately, lest it be lost forever and cause grid havoc—but that’s a subject for another paper. That excess will certainly be needed

for times when renewables are not producing wattage. Energy storage is also needed for grid services like reserves and frequency response.

Batteries are the obvious answer, but utility-scale batteries are expensive and far from perfect. New technologies, like molten sodium and lithium-ion, and old ones, like pumped storage, will need to combine with breakthroughs yet to be made in order to fully decarbonize the electric grid.

THE MOONSHOTS

There are other solutions on the horizon, too, ones that can make storable, transportable energy or even supply humanity with limitless power. Nuclear fusion is always a few decades away, and so the saying goes, always will be. But recent advancements in private-sector fusion projects and national-scale laboratories are starting to give scientists hope that this time, fusion may really be just a few decades away. Even better: there are multiple promising technological pathways. Green hydrogen—hydrogen generated through renewable energy—is on a more predictable timeline. Hydrogen has the advantage of being stored and transported just like natural gas. It can clean up polluting industries such as steel and ammonia by being a zero-carbon feedstock, and it can even drop into the existing gas grid to heat homes and power cookstoves without people having to junk a massive pile of installed infrastructure—itsself a significant carbon cost.




But why should, say, those in rural India be denied refrigeration and air conditioning and be forced to atone for the sins of those who got modern conveniences first?

The Emerging World

Thirteen percent of the world still does not have access to electricity, and large swaths of the global population live in only lightly industrialized societies. Should these billions of emerging middle-class consumers follow the same paths as their more fortunate kin elsewhere in the world, the result will be climate disaster. But why should, say, those in rural India be denied refrigeration and air conditioning and be forced to atone for the sins of those who got modern conveniences first? That’s an even crueler calculus when one considers where the heat of a warming world will scorch the hottest.

The rapidly declining cost of renewable energy coupled with innovations in energy storage will enable emerging societies to leapfrog the carbon-intensive energy phase, just as much of Asia and Africa went straight to mobile phones without so much as a “while you were out” message left for landlines. The nations of the world are discussing climate justice funds to ease this transition and make sure that the carbon cycle is left behind, but nothing is certain yet. Perhaps, too, the world will figure out how to price the externalities of carbon into energy generation, which will make renewable generation the only way for the new middle-class to energize their lives, helped along by those who have gotten this world into the state it is in today.



Humanity can begin to repair the damage it has done to its home, and while this sixth great extinction cannot be reversed, perhaps it can be halted

The Era of Fossil Fuels Is Over

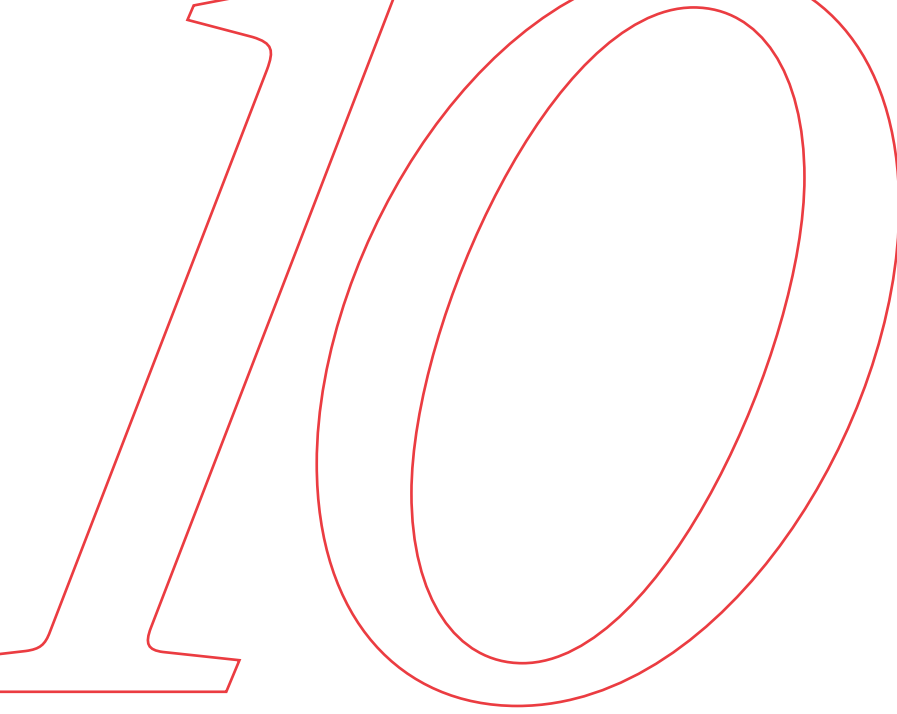
Even if their supporters haven't gotten the message yet, fossil fuels are yesterday's news, and any investment in them is inherently short-term. But don't for a second imagine that the world will break out into a Disney song of harmony. The global standard of living will continue to rise, though, just at less of a cost to all of the other living things on the planet. Humanity can begin to repair the damage it has done to its home, and while this sixth great extinction cannot be reversed, perhaps it can be halted.

The carbon budget needed to limit warming to 1.5°C is nearly exhausted, and the one that keeps warming to 2°C isn't going to last much longer, even with rapid electrification and progress on renewable energy. Net-zero commitments are magnificent things, especially if they become real, but carbon-negative projects will need to overtake the carbon humanity continues to emit and will have to battle natural feedback loops like lower albedo (the ability of a surface to reflect solar energy), changing ocean currents, methane from permafrost melting, reduced cloud cover, and who knows what other funhouse surprises that await.

That said, people and societies can always be counted on to act in their own immediate self-interest. (It's the long term that screws humans up.) And the tangible impacts of climate change are coinciding with technology and economic imperatives to transition the globe's energy budget away from stored to harvested sunlight—with all the positive knock-on effects inherent in that transition.

Energy harvesting and storage can become local, turning a major cost for business into a small one...or perhaps even a revenue center. Any product or service that touches the grid or is even adjacent to it is ripe for disruption. Any industry—like chemicals—dependent on fossil fuel feedstock will be both threatened and poised for absolute renewal. Energy reliability may become a regional, local, or even individual responsibility, and businesses that can foster a more decentralized grid will find a burgeoning marketplace.

Yes, the fossil fuel industry will go down fighting, and it will hang on longer than anyone who doesn't benefit from it directly would prefer. But change is coming, and it's coming now.



WOMEN TAKE CONTROL OF GLOBAL WEALTH

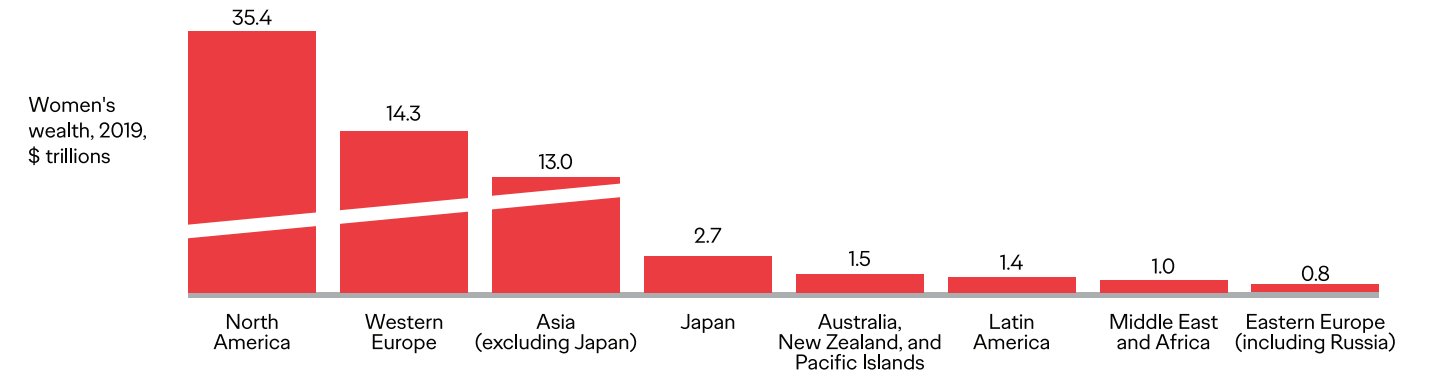
One of the largest wealth transfers in history will take place as women assume control of trillions of new assets by 2030. Whether that's a blip or a new way of being depends on how society evolves.



That's Right—the Women Are Richer

Women live longer than men. In the United States, women outlive men by five years on average. One of the less discussed aspects of this biological quirk is wealth transference.

WEALTHY WOMEN WORLDWIDE

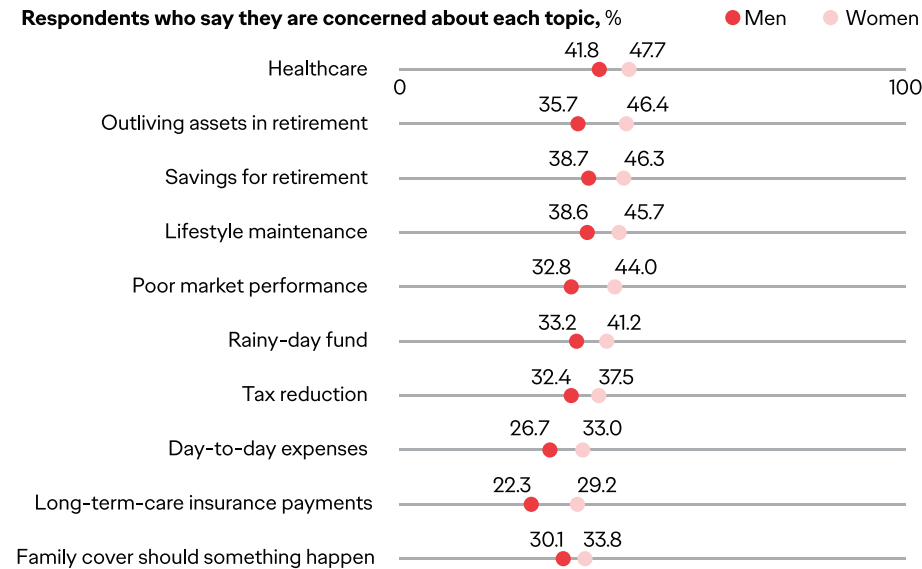


Source: "Managing the Next Decade of Women's Wealth, BCG, 2020.

As the baby boom generation ages, assets that had been held as community property are moving to the hands of surviving women. Given that generation's substantial wealth, the shift is historic, and by 2030, McKinsey reports, much of the \$30 billion in financial assets held by the baby boom generation will be controlled by women. That's a \$20 trillion swing from male or joint ownership to female control in just the 2020s.

Women control more wealth globally than ever before, too. According to BCG, they claim 32% of the world's financial resources and are adding \$5 trillion to the global wealth pool annually—outpacing the market as a whole. By 2024, women will control some \$97 trillion worldwide. The reasons for this are more than just a growing number of new widows.

WOMEN ARE GENERALLY CONCERNED ABOUT MEETING THEIR FINANCIAL GOALS



9 OUT OF 10

categories in which women are more concerned than men in regard to meeting their financial goals

Source: "Women as the next wave of growth in US wealth management," McKinsey, 2020.

The world has a long, long way to go before achieving gender parity, but the gains women are making in pay equity, more seats at the leadership tables, and representation in startups are finally starting to show in their assets. Women are also taking control of their (or their families') investments at a greater rate, with 70% of millennial women taking the lead on financial decisions, according to BCG.

The increased presence and authority of women will, no surprise, change the world. For starters, they ought to make business more successful. A BCG analysis shows that for every dollar of capital raised, women-owned startups produce 78 cents in revenue. Those owned by men return just three shiny dimes and a penny.

More women in charge of more money will also change the flow of assets and finance. Women think differently about investment. After all, their lived experience is significantly different; they have often suffered from the wage gap and the challenges of managing a career through a maternity leave—not to mention juggling family responsibilities that still fall disproportionately on the shoulders of women. As a result, BCG found, "women tend to invest to fund specific goals, whether those goals involve leaving a legacy for the next generation, supporting a postretirement lifestyle, endowing a family business, or making a social impact in their community." That last point is key, given that 64% of women report factoring ESG concerns into their investment decisions.

The increased presence and authority of women will, no surprise, change the world

Women are, in short, more tangible in their investing, going after goals that relate to life rather than aiming for abstract thresholds. McKinsey research noted that women are nearly 10 percentage points less likely than men to take big investment risks for big returns. They go for capital preservation, real-life goals, and passive (rather than active) money management. All this makes sense given the concerns women have about meeting their financial goals.

Wealthier Women = Better World

So women consider ESG factors, invest efficiently, eschew foolish risks, seek to have a social impact, and think generationally. They also perform better than their male counterparts when they are the subject of investments. It's no wonder then that "the European Investment Bank's report *Funding Women Entrepreneurs* states that greater gender diversity could lead to a potential increase of 26% of annual global GDP

and USD 160 trillion of human capital wealth, and could enhance business performance by 15%," as UBS wrote in their *Women's Wealth 2030* report.

As UBS lays out, there is still a long way to go in unleashing the capital genius of women, and for that to happen much of the world's mental furniture needs to be tossed out. Humans are still captive to long-standing biases—both conscious and unconscious—that dictate how women are judged and what opportunities come to them. Education is woefully unequal, and not just in parts of the world known to be hostile to women and girls. Household, child-rearing, and family care responsibilities still fall to women far more than to men. Women remain far too rare at the senior-most levels of business and politics, not to mention in the unofficial power centers where connections are forged and access is smoothed. One need only look at the state of abortion access in the United States to see how unequal healthcare and legal rights are. Consider all that and then paint a gloomier picture: That's what it's like for women of color.

"Greater gender diversity could lead to a potential increase of 26% of annual global GDP and USD 160 trillion of human capital wealth, and could enhance business performance by 15%"

This Women's Wealth

A bunch of newly flush women should inspire the financial services industry to design products and services attuned to women's needs, but the political backlash against ESG suggests that won't be a smooth development. But even so, the gendered influences on investment behavior need more study. The money preferences of women, at least as identified so far, fall neatly into how society likes to pigeonhole women's desires. It's a little suspect.

Still, this shift of capital power points to something deeper: The world works better when women have more opportunities. Marketers cater fluently to women as consumers, but markets are all but mute when it comes to women as capitalists. The formal and informal networks that nurture startups are unwelcoming to women. Venture capital funds don't underwrite nearly enough women-founded companies, and that hinders wealth creation for all.

Any business not actively working outside its own walls to build its pipeline of women leaders should be punished by shareholders for sheer stupidity. Gendered norms and gated opportunities are so ingrained in our thinking that businesses need to step beyond the spheres in which they operate and nurture gender parity in everything from educational institutions to politics. Setting aside the moral panic around "woke capitalism" and looking instead at business outcomes will reveal that investing in women from one end of civilization to another is just good business.





Conclusion: The Violet Hour

In the midst of daily doomscrolling and climate despair, it may seem that the violet hour of civilization's dusk has arrived.

It hasn't. For all the bad news—war, climate emergencies, creeping authoritarianism, and increased uncertainty—the trajectory humanity is on looks a lot better than it did just a short while ago. People are not going to reduce their energy usage in any meaningful way. Nor is veganism going to become the preferred diet around the world anytime soon. A giant

new generation won't spring up to help fill jobs, either. But technological progress and human need are, once again, coinciding to give humanity the tools to get past a sticking point.

The question remains, however, if civilization will take advantage of them in time to avert cascading crises. Not entirely, but business—a supremely agile form of human organization and collective effort—has awakened to the need for rapid action and the urgent demands of a substantial subset of their customers.

Unhindered by forces seeking retaliation, businesses are among the best vehicles for enacting widespread change, and the seven years commencing now, at the beginning of 2023, will be the years when they, with the help of regulatory nudges and governmental incentives, take the lead. This is not a perfect way forward. It's definitely not the way that many would have selected. But it is the method left to us now, after three decades of climate paralysis. The coinciding forces—AI, volatility, hemispherical competition, shifting wealth, new energy

technology, and a rethinking of the boundary between the individual and the collective—also weigh on business. They, too, argue for rapid action, if businesses are to remain sustainable in the full sense of that word—if they are, to put it bluntly, to even *last*.

The window for action is small. These seven years are crucial, and the world will earn no sabbatical when they end. To squander this opportunity will be to beget a wasteland. So hurry up, please. It's time.

**CONTRIBUTORS
TO THIS REPORT**



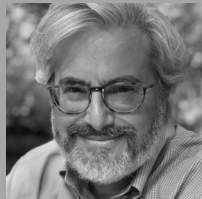
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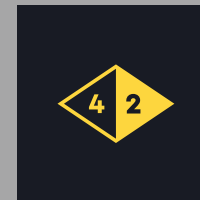
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