Walking the tightrope: What if? Stress-testing the conventional wisdom about the global business outlook

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Kearney, Chicago

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The COVID-19 pandemic presents a historic challenge to business and government leaders. While there have been some achievements in responding to the virus—from the rapid development of vaccines to new technologies enabling effective remote work, uniform success has been elusive. Lack of preparedness, inconsistent leadership, supply chain breakdowns, and inadequate safety protections, among others, have impeded the containment of the virus. Above all, the pandemic has highlighted an absence of the imagination needed to sufficiently question conventional wisdom. As was illustrated in our 2020 FDI Confidence Index® survey of global investors, fielded in the initial months of that year, business leaders were caught off guard as the world was fundamentally changing. In fact, most respondents were optimistic about the year ahead, taking a "business as usual" view of what was to come. While it is certainly understandable that most did not expect a once-in-a-century pandemic that would cause global upheaval, the failure to even consider such an outcome was costly—in both human and economic terms.

It is for these reasons that in 2021, the Global Business Policy Council is launching a new annual flagship report to stress-test five prevailing conventional wisdoms about the global business outlook. Our annual *What if?* report is intended to give executives insights into plausible and powerful contingencies that could take place in the next three years. We believe that by challenging "status quo" assumptions, by affirming some and repudiating others, leaders can better anticipate and prepare for an uncertain future. We continue to hope for good outcomes in putting the worst of the pandemic behind us. But we must also prepare for a continued struggle with COVID-19 to enhance our ability to tame the virus and its adverse consequences.

In that spirit, this year's report explores distinct contingencies that should keep executives up at night: global failure to recover from the pandemic, a world marred by persistent inflation, the emergence of broader cyberwars, a COVID-induced demographic inflection point with unexpected consequences for the marketplace, and the rise of more virulent protectionism. Each of these contingencies can easily generate outcomes counter to the conventional wisdom that is consistent with an end to the pandemic. The non-conventional outcomes may also carry high costs, to businesses and the global economy alike. For this reason, we have titled this year's report *Walking the tightrope*. Given the turbulence implied in these outcomes, executives will need steady balance to stay aloft as they pursue strategic goals. A misstep or failure to plan accordingly could easily result in disaster, as many have already learned the hard way during the course of the COVID disruption.

In some cases, our Council has developed econometric models to quantitatively illustrate the potential costs of these contingencies—and they are significant. Our analysis suggests that the costs of a protracted COVID recovery could exceed $9.5 trillion in cumulative output between 2022 and 2024 relative to baseline projections. Similarly, our analysis finds that a future in which inflation remains elevated over the next three years could cost the global economy roughly $6 trillion. And in modeling an outcome in which the quest for greater national self-sufficiency spills into extreme economic protectionism, we estimate that cumulative output losses could exceed $10.5 trillion through 2024. Each represents a foundational shock to the global economy. And while each "What if?" is intended as a standalone contingency, the potential interplay between them could compound these costs. For example, a world that fails to recover from COVID, resulting in continued loose monetary and fiscal policies that fuel inflation alongside rising protectionism, remains possible.

While the contingencies explored in this report each present a distinct challenge for businesses, they also reflect the reality of constant change and disruption. For those business leaders who can stay steady and focused, traversing such obstacles not only is possible, but also presents opportunities to grow more resilient to external shocks. It is only by questioning conventional wisdom and thinking through the potential risks, however, that such success is within reach.

As always, we welcome your views regarding our analysis.

Erik R. Peterson
Partner and managing director,
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Executive summary

Business leaders have encountered their fair share of challenges since the onset of the COVID-19 pandemic. In the face of remarkable complexities and competing views on the outlook—some of which are radically divergent, business leaders have been forced to assess the viability of their operations, take immediate actions to address urgent priorities ranging from employee safety to cash flow concerns to continuity of operation, react effectively to the "great shakeout" generated by the unprecedented lockdowns, and position their operations strategically to thrive in the post-COVID environment. No small task.

Years from now, when analysts look back at the first 12 months of the pandemic and the diverse forecasts by a wide range of groups from the International Monetary Fund (IMF) to management consulting groups such as this one, no doubt they will unearth a number of prescient observations. The trouble is that they will be few and far between. The record is likely to reveal that many "conventional wisdoms" had far more "convention" than "wisdom."

Now, more than 18 months into the pandemic, we stand at a point where many of the early assumptions and insights associated with the pandemic have been thoroughly tested. Some have been validated; others have fallen short. Many more uncertainties remain as leaders continue to extricate themselves from their respective predicaments. As before, they now need to be asking themselves, "What if?"

Thus, we have thrown the spotlight on five crucial "What if" questions that we think business leaders should be considering. Our time frame is three years. The idea is to highlight potential contingencies rather than evolving trends, which our Council considers each year in our Global trends assessment (with a five-year horizon).

Here is the summary of our thinking:

What if ...

... the world fails to recover from the pandemic? The conventional wisdom is that most advanced economies, led by the United States and Europe, will emerge from the pandemic this year or soon thereafter and that most developing economies will return to stability and growth in 2022–23. But what if even more COVID-19 variants emerge that seriously undercut—or even undermine altogether—the hard-won progress in vaccinations?

... inflationary pressures are structural rather than transitory? The conventional wisdom is that the current inflation is to be expected—part and parcel of the fast-and-furious restart of the economy after the unprecedented lockdown—and that price rises are the inevitable result of temporary supply–demand dislocations. According to analysts, many of these bubbles will likely disappear or diminish in the space of 12 to 18 months. But what if the underlying dislocations—in everything from commodities to semiconductors to skilled workers—lead to longer and higher inflation? What if government stimulus policies exacerbate the restabilization of prices?

... today's cyberattacks are mere opening salvos of what could morph into full-blown digital wars? The conventional wisdom is that denial-of-use and other cyberattacks on governments and businesses will increase—amounting to an extrapolation of the SolarWinds and other episodes we all know. But what if continued development of computational capabilities (including quantum) and other tech developments subject large segments of society to dislocation? What if the already-serious attacks escalate into big-ticket threats—even, possibly, overflowing to kinetic conflict?

... the pandemic triggers a worldwide demographic inflection? Prepare for a gradual population deceleration, says the conventional wisdom. Maybe not. What if the pandemic fast-tracked population compressions that the Great Recession had already started? And, if the great demographic slowdown—and the potential contraction of the labor force—is really under way, what might the consequences be for markets?

... the pandemic leads many of the major economies to reimpose protectionist policies under the pretense of national self-sufficiency? The conventional wisdom is that countries will reopen their economies once they are beyond the pandemic and reach the economic limits of national self-sufficiency (the point at which they recognize that national capabilities do not exist or are too non-economic to make viable). But what if political and social movements that have surfaced during the pandemic aggressively pursue "home-shoring" of operations and mandated controls in a much greater sphere of national interests? What if this kind of economic nationalism creates the kinds of reciprocal pressures that destabilized the world a century ago?

While we hope for better outcomes, in our judgment, the jury is out on each of these crucial questions. Any one of them that runs contrary to the prevailing conventional wisdoms could have a tremendous effect on the marketplace. If all were in play, especially simultaneously, it would defy the imagination. What follows here is a more detailed exploration of each of these questions. In some cases, we have sought to deepen the assessment by layering on quantitative analysis of what might happen if the answer to "What if?" cuts in unexpected directions.

While we hope for better outcomes, in our judgment, the jury is out on each of these crucial questions.

What if? Stress-testing the conventional wisdom about the global business outlook

What if the world fails to recover from the pandemic?

"Global vaccination," asserted IMF Director of Fiscal Affairs Vitor Gaspar at the IMF–International Bank for Reconstruction and Development spring meeting in 2021, "may well be the highest return public project ever identified." Alas, against the backdrop of the infections mounting across the planet, there is scant evidence to suggest Gaspar's assertion has gained traction. Just the opposite. The gulf between vaccinated populations and the unvaccinated majority of humanity continues to widen. Beyond that, national economic recoveries are diverging significantly. What if even more COVID-19 variants emerge that seriously undercut—or even undermine altogether—the hard-won progress in vaccinations? Our analysis suggests the costs could exceed $9.5 trillion in cumulative output between 2022 and 2024 relative to baseline projections, severely compounding existing economic, social, and political challenges across the globe.

A pyrrhic victory? The state of global COVID recovery and vaccination in 2021

The costs of the COVID-19 pandemic have already been historic. On a global level, the decline in gross domestic product in 2020 was the largest since the Great Depression. The International Labour Organization estimates that it cost the equivalent of 255 million full-time jobs. And the Pew Research Center posits that the global middle class shrank for the first time since the 1990s. While 2021 has brought signs of recovery, the realities of the Delta variant and other challenges have proven that the pandemic is far from over. As of early August 2021, global COVID cases surpassed 4 million per week—up from roughly 3 million per week just a month prior. Reported COVID cases in Vietnam surpassed 9,000 on a single day, August 8—which is four times the total case numbers in the country for all of 2020. Meanwhile, in France and Italy, surging cases compelled lawmakers to introduce "vaccine passes" and require this proof of vaccination or a negative COVID test for entry into certain spaces, sparking national protests. These developments, having hit both developed and developing markets alike, suggest there is an ongoing risk of a persistent pandemic—with effects lasting through 2024.

In leading advanced economies, the Delta variant has hit hard. Making up more than 80 percent of new COVID cases in the United States in July 2021 and causing cases to rise more than 700 percent that month, the Delta variant threatens to further delay the COVID recovery process in the country, at best. Across the Atlantic, the European Center for Disease Prevention and Control predicted that by the end of August 2021, the Delta variant would represent 90 percent of all SARS-CoV-2 viruses circulating in the EU. Australia was also experiencing a slow recovery as Delta outbreaks emerged throughout the country in June. A month later, it was still battling the virus with strict containment measures. A new lockdown in New South Wales, for example, is projected to cost $1 billion per week. And after initially experiencing what appeared to be a V-shaped recovery, New Zealand's economy contracted in the final three months of 2020 as the tourism industry plummeted, and experts warn that a future outbreak there could quickly overwhelm hospitals and require another hefty lockdown. Thus, even a country widely recognized as a paragon of COVID response confronts the prospect of a double-dip recession and virus resurgence.

In most cases, developing markets are facing even steeper challenges than those confronting developed economies. In early 2020, developing countries saw more than $100 billion in portfolio outflows from the region—more than three times the amount during the global financial crisis. This dramatic capital outflow led to major emerging market currencies depreciating by 15 percent, forcing consumers to pay more for imported goods. The impact of these shocks has lasting implications for GDP, particularly if inflation takes hold (see *What if current inflationary pressures are structural rather than transitory?* on page 9). Corporate debt burdens in emerging and developing markets pose another serious threat. Already at historically elevated levels before the COVID-19 outbreak, such debt is now growing exponentially. High corporate risk premiums indicate an elevated risk of debt defaults, and large debt overhangs facing some firms may hamper future investment and cause them to grow more slowly over the medium term.

In recent months, key developing markets have been most affected. India experienced a devastating new wave of COVID-19 in early 2021, with other countries in the region such as Bangladesh, Nepal, Pakistan, and Laos set to experience similar catastrophes. China, initially quick to recover from its own COVID outbreak that was primarily centered in Wuhan, is also showing signs of a lagging economic recovery. The country's manufacturing sector and exports have been particularly affected by the persistent semiconductor shortages resulting from COVID-disrupted supply chains.

Vaccine uptake and distribution trends are exacerbating the divide. Even in developed markets where vaccines are more accessible, challenges have emerged—namely vaccine hesitancy and misinformation. The Wharton School of the University of Pennsylvania conducted a study forecasting that if vaccine hesitancy persists in the United States and people increase social contact to 85 percent of pre-COVID levels, there could be up to 4.6 million additional COVID cases in 2021 alone.

Developing markets are faring even more poorly on the vaccine front. According to July 2021 IMF data, only 11 percent of populations in emerging economies had been administered a vaccine dose—compared with more than 40 percent in advanced economies. The discrepancy caused the IMF to raise its growth projections for advanced economies to 5.6 percent from a previous 5.1 percent and lower its forecast for the rest of the world to 6.3 percent from a prior 6.7 percent that month. Until vaccine distribution in emerging markets improves, these markets remain particularly vulnerable to new outbreaks, as developments in Indonesia, Vietnam, and South Africa show. Failure to attain high enough vaccination levels—in developed or emerging markets—could well lead to the emergence of new variants and set the world on a course toward persistent COVID.

Our worst-case scenario envisions a world in which global COVID recovery is slow, lockdowns are frequently reinstated, and intensified protectionism continues to disrupt supply chains.

The economic impact of persistent COVID: global, regional, and sector disruption

If new COVID variants, weak vaccine distribution, and growing vaccine hesitancy converge on a large scale, the pandemic could still be wreaking havoc in 2024. To better understand the implications of persistent COVID for the world, we have developed a set of scenarios, combined with econometric modeling analysis. Our worst-case scenario envisions a world in which global COVID recovery is slow, lockdowns are frequently reinstated, and intensified protectionism continues to disrupt supply chains. Global annual growth averages just 2.4 percent over the three-year forecast period, well below the 3.7 percent baseline and 4.9 percent rapid recovery scenario, and growth sinks to 2.1 percent by 2024 (see figure 1 on page 7). The implications for cumulative global output are also striking—the global economy will be $9.5 trillion lower than our baseline over the forecast period.

Regions will experience uneven impacts in this persistent COVID scenario:

— Though the **Asia and Australasia** region will remain a significant engine of global growth, averaging 3.8 percent over the forecast period, this estimate is well below the baseline growth projections of 4.9 percent in an environment with steady pandemic recovery.

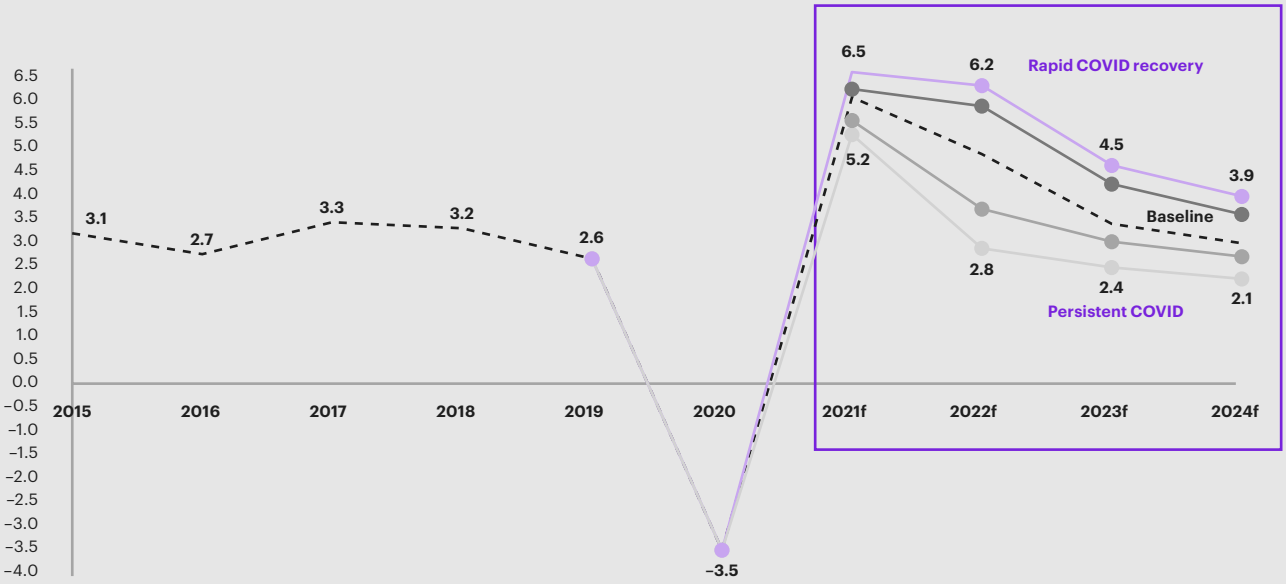
— **Europe** will experience even more economic losses. In a persistent COVID scenario, the region averages just 1.0 percent growth over the next three years, compared with 2.7 percent in the baseline recovery scenario. In both cases, our model suggests the region will not surpass its 2019 output levels until 2022.

— In the **Americas**, a resurgence of COVID could reduce average growth to 1.7 percent between 2022 and 2024 compared with current 2.9 percent baseline projections over the same period. Countries such as Brazil, Chile, and Paraguay would suffer similar damage to near-term growth. Indeed, COVID-induced economic damage in Brazil will exceed $166 billion between 2021 and 2024 in a persistent COVID scenario.

Figure 1

In a persistent COVID scenario, global growth slows to just 2.1 percent by 2024

Global economic output (year-on-year percentage growth)



Sources: Oxford Economics; Kearney analysis

— Although the outlook for the **Middle East** has improved since Q1 2021 as oil prices climb on bullish demand, the risks of persistent COVID remain due to a slow vaccine rollout and the potential emergence of new variants.

— **Sub-Saharan Africa** would also be hit hard if the region were unable to recover from COVID, as challenges related to extreme poverty and hunger levels would be exacerbated. Indeed, our analysis suggests South Africa will remain $10 billion below its 2019 GDP in 2024 if the pandemic continues.

An operating environment marred by persistent COVID will exacerbate the economic damage felt in a number of sectors. Trade in services is not projected to return to pre-pandemic levels before 2022, a timeline that would be pushed back even farther without pandemic recovery. The hospitality and travel sectors would remain the most severely affected by the crisis, with tourism-dependent countries from the Caribbean to the Balkans being hurt acutely. Morningstar forecasts that corporate air travel may not recover until 2026. This creates ripple effects for hotel chains such as Marriott, Hyatt, and Hilton as business travel accounted for 60 to 70 percent of their pre-pandemic revenue. Big tech, on the other hand, could benefit from a slow pandemic recovery as workers would likely stay online and continue their switch to hybrid or full-time remote working models. Apple, Microsoft, and Google owner Alphabet reported combined profits of more than $50 billion in Q2 2021, with Apple in particular nearly doubling its profits year over year. A persistent-COVID environment would likely drive these profits even higher.

Conclusion and implications for business

If the developed and developing worlds cannot recover from COVID-19 by 2024, business executives will have to pivot on a large scale to maintain or grow operations. Existing supply chains would need to be reassessed as long as global models are proving vulnerable to COVID-related shocks. Some industries are learning about the drawbacks of "just in time" manufacturing the hard way as they face shortages of key inputs due to pandemic-related disruptions and lack enough inventory to adjust. Several automakers, for instance, have paused production because of a widescale shortage of semiconductors—though companies that used digital tools to track developments along the value chain and stockpiled chips, such as Toyota, are faring better. Other firms are following suit by asking suppliers to hold extra inventory, improving tracking of materials, and sourcing from multiple entities. Companies may also need to adjust to highly volatile commodity prices, which initially surged on wide-scale economic reopening but have since softened on pessimistic pandemic news. The commodities outlook remains highly uncertain and dependent on the broader macroeconomic outlook (see *What if current inflationary pressures are structural rather than transitory?* on page 9).

A persistent COVID scenario will also result in many business leaders embracing new tech offerings that make operations and employee engagement smoother. A joint Microsoft–Economist Intelligence Unit study carried out during the earlier stages of the pandemic found that the three technologies that factored most heavily into business leaders' COVID-induced technology increase were cloud computing (50 percent), apps and devices that enable remote work (40 percent), and artificial intelligence and machine learning (33 percent). As the COVID era continues, we will see even greater uptake of such tech offerings—alongside new innovations—that make remote work and external operations more robust.

Companies will also face greater industry consolidation and changing labor markets, regulation, and consumer attitudes. If persistent COVID becomes a reality, companies may need to adjust their employee benefits. Beyond essential measures such as ensuring access to technologies that support virtual meetings and collaboration and taking safety precautions at the workplace, businesses will face pressures to boost healthcare, wellness, and other benefits, ranging from more frequent mental health days to subsidies for home office supplies. Firms will also have to manage shifting regulations as countries double down on efforts to build or expand self-sufficiency (see *What if the pandemic leads many of the major economies to reimpose protectionist policies under the pretense of self-sufficiency?* on page 23). They can also expect more sector disruption in the form of more mergers and acquisitions as part of the broader shakeout stemming from the pandemic. Shifting consumer attitudes will also present challenges. Emerging data show that many consumers remain wary of spending, especially in sectors such as travel and leisure, because of pandemic concerns and pessimism about the broader economic recovery. Consumer apprehension could weaken the macroeconomic outlook, which would impact businesses in all sectors.

Overall, in a persistent COVID scenario, successful business leaders will not remain comfortable with the status quo of their operations. They will bolster their supply chains, invest in more digital transformations, and, most importantly, boost their resilience and crisis preparedness capabilities to ensure they can manage any more COVID-related disruptions that may come their way. Taking such actions will be essential to survive—and even thrive—in a world confronting persistent COVID.

What if current inflationary pressures are structural rather than transitory?

The conventional wisdom is that the current inflation is to be expected—part and parcel of the fast-and-furious restart of the economy after the unprecedented lockdown—and that price rises are the result of temporary supply–demand dislocations. According to analysts, many of these bubbles will likely prove transitory, disappearing or diminishing in the span of 12 to 18 months. But what if the underlying dislocations—in everything from commodities to semiconductors to skilled workers—lead to longer and higher inflation? What if government stimulus policies prevent the restabilization of prices? We envision a contingency in which inflation increases between 4.7 and 3.1 percent year on year—higher than baseline forecasts for inflation over the next three years—costing the global economy $6 trillion between 2022 and 2024. Business leaders should pay attention.

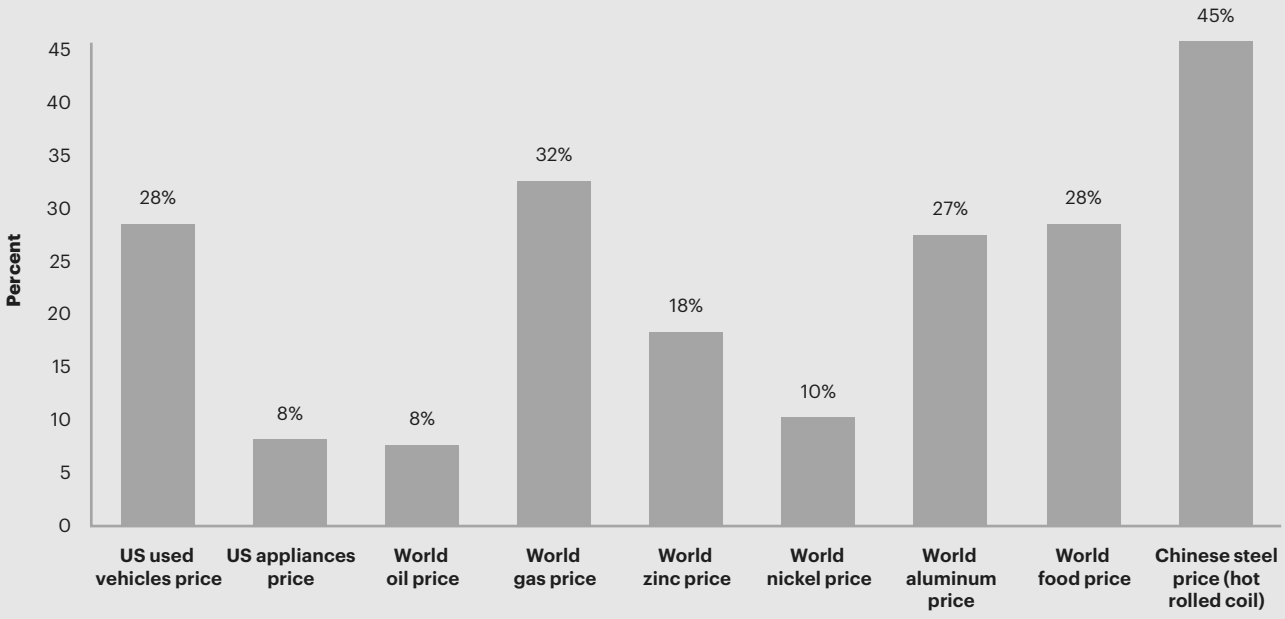
The beginning of "persistent" inflation? Consumers, workers, and businesses feel the effects

Inflation has already arrived, and government and economic forces—including federal stimulus programs, supply and demand imbalances, and labor and materials shortages—are contributing to growing uncertainty about how long it will last. The IMF defines "inflation persistence" as "the tendency for price shocks to push the inflation rate away from its steady state—including an inflation target—for a prolonged period." Because this threat is real, our contingency analysis explores inflation rates rising by 4.7 percent year on year above baseline in 2022, 3.7 percent above baseline in 2023, and 3.1 percent above baseline in 2024. Before exploring the implications of this contingency, it is useful to understand how we arrived at the present inflection point and the effects of inflation on the business environment more broadly.

The roots of current inflationary pressures are all too clear. In 2020, monetary and fiscal policies limited the scope of a pandemic-induced economic shock. The US Federal Reserve slashed interest rates, and a $2.2 trillion March stimulus aided companies, local governments, and individuals. In 2021, the US Congress passed another $1.9 trillion of pandemic stimulus. These measures have been accompanied by accommodative monetary policy and historically low interest rates. To support the economy, the Federal Reserve also increased its balance sheet to $7.7 trillion in April 2021—up from about $4.7 trillion a year previously. And to support spending and borrowing, the Fed will keep rates at or near zero through 2023. Across the Atlantic, the European Central Bank is also unlikely to raise its zero interest rates before 2024 which will keep spurring inflation in a region where structural factors have kept it low for the past decade. Already, Eurozone inflation accelerated to 2.2 percent in July 2021, its highest rate since October 2018.

Such policies lay the foundation for current inflationary pressures, though additional factors such as rising commodity prices, public expectations of higher inflation, and a disappointing recovery in labor market participation could make it persistent. According to the IMF's Chief Economist Gita Gopinath, "more persistent supply disruptions and sharply rising housing prices ... could lead to persistently high inflation." Many such disruptions are already evident, particularly in emerging and developing markets, which are seeing higher food prices because of supply chain bottlenecks, increased global demand, and lingering pandemic restrictions raising costs for food import-dependent countries. In addition, currency depreciations in some markets—for instance, Turkey—are putting upward pressure on inflation. Markets affected by inflation also include Angola, Ethiopia, Jordan, and Pakistan, among others. Another element is the potential for higher consumer spending fueled by the approximately $5.4 trillion in accumulated excess savings globally during the pandemic as of April 2021. If these factors keep driving prices higher, they will have wide-ranging domestic and international economic effects, especially for consumers, workers, and businesses.

Figure 2
Prices have risen across a range of consumer items and product inputs



Sources: The Global Findex database 2017, the *World Payments Report*, *Computer Weekly*; Kearney analysis

Consumers would bear the brunt of persistent inflation. Rising inflation reduces the value of savings for consumers over time. Those living on fixed income and those with high debts or loans with floating interest rates are the most vulnerable as currency is devalued. Persistent inflation also raises the cost of living by raising prices for consumer items—from rent to groceries to electronics. Such developments are already evident. In June 2021, prices of used vehicles in United States were 28 percent higher than their 2019 levels, and world gas prices had risen by 32 percent, in part because of rising inflation (see figure 2).

Labor market dynamics also factor heavily in current inflationary pressures. If inflation is persistent, some workers may become hesitant to work because of the lower real-wage prospects amid constantly rising prices. Further, the labor participation rate in the United States—currently lower than the pre-COVID rate—can fuel higher inflation as millions of unfilled positions give workers the opportunity to negotiate and demand higher wages. At the time of this writing, the US labor force participation rate stands at 61.7 percent, significantly below its pre-pandemic value of 63.4 percent. This decrease suggests that fulfilling the Fed's full employment mandate will take longer than initially thought, potentially extending the duration of current fiscal and monetary policies.[1] Such a tightening would be even less likely if pandemic recovery takes longer than expected (see *What if the world fails to recover from the pandemic?* on page 4). Additional fiscal spending and accommodative monetary policies in the United States are most likely to continue, which could result in increased credit demand, greater spending, and higher prices—all factors that fuel inflationary pressures.

[1] The full employment mandate is defined as "the highest level of employment or lowest level of unemployment that the economy can sustain while maintaining a stable inflation rate."

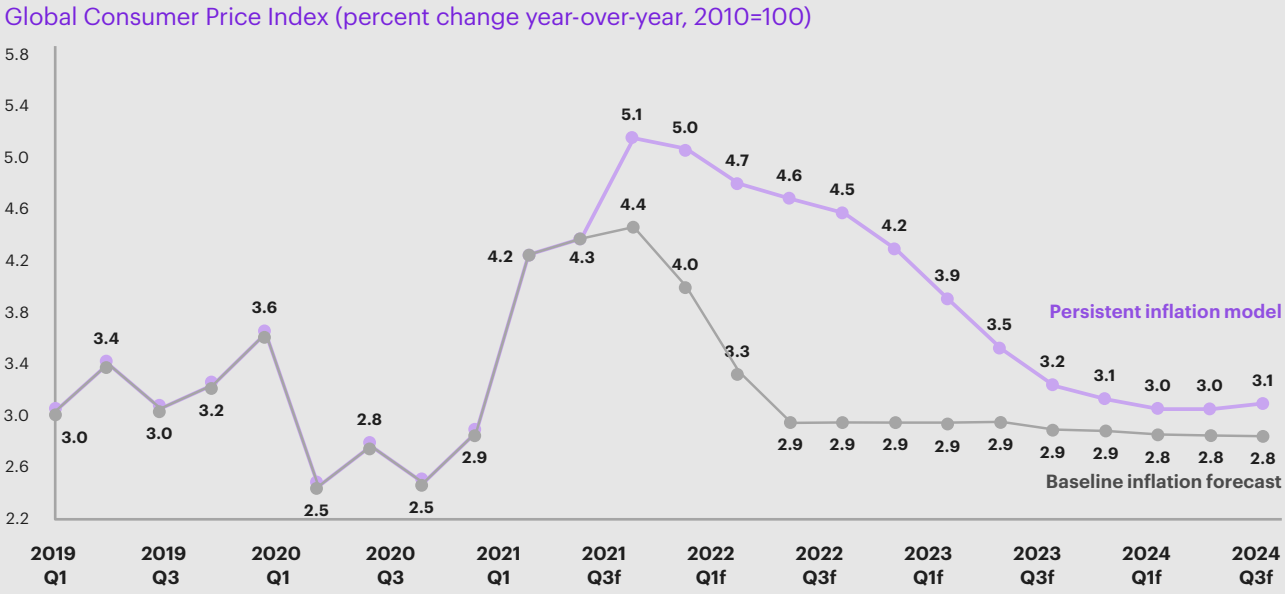
Beyond its implications for labor markets and consumers, persistent inflation would affect business operations in several ways. Historically, it has encouraged workers to demand higher wages, and the aggregate economic effects have included higher consumer demand and spending. At some point, however, higher consumer prices and worker demand for higher wages may also result in some firms determining that they simply cannot compete for talented labor anymore. This shift may drive up investments in technology and automation solutions to reduce costs and improve efficiencies—which is what occurred at the height of the pandemic in 2020. As the Council highlighted last year, automation accelerated during the recession as falling company revenues made automated alternatives more appealing than human labor force. Businesses will also face pressures to raise their prices in an inflationary environment—a trend already apparent in 2021. Consumer-facing product companies, such as Procter & Gamble and Whirlpool, were among the companies compelled to raise sales prices to counteract rising raw materials and transportation prices as well as to benefit from a rebound in demand for their products.

Macroeconomic consequences: output losses, falling consumer spending, and disrupted trade and investment flows

To better understand the potential effects of persistent inflation on the global economy, we developed an econometric model to explore such an outcome. In this model, the global Consumer Price Index is 4.7 and 3.7 percent higher than baseline estimates of 3.3 and 2.9 percent in 2022 and 2023, respectively, and it remains above the baseline through 2024 (see figure 3). These dynamics reflect the potential for expansionary monetary policies coupled with higher unemployment levels to trigger inflation. The model also assumes that the Fed proceeds to raise its federal funds target rate to one percent in Q1 2024—up from 0.38 percent in Q4 2023—to combat inflation.

Figure 3

In our high inflation scenario, the Consumer Price Index peaks at 5.7 percent and remains above baseline projections through 2024



Note: Data for 2021–2024 are forecasted projections.

Sources: Oxford Economics; Kearney analysis

The results are striking. In 2024, global output growth, already hit by inflation consistently overshooting central bank targets in the previous three years, would be 2.8 percent lower relative to a baseline inflation forecast—the equivalent of just under $2.7 trillion. The cumulative effects between 2022 and 2024 are even more noteworthy, with a combined output loss of $6 trillion relative to baseline. In fact, each of the 10 largest global economies would suffer notable losses relative to baseline projections (see figure 4). By 2024, US output is 3.3 percent lower than our baseline, the EU's GDP is 2.8 percent—or $438 billion—lower, and China's GDP is 2.8 percent lower. Developing markets are hit particularly hard by the overall fall in global demand for goods and services in advanced economies. India's output in 2024, for example, is 3.3 percent lower, and that of South Africa is almost 3.4 percent lower compared with baseline estimates.

These GDP losses would be fueled in part by a drop in consumer spending and an insufficient recovery in global labor markets. By 2024, our model projects consumer spending to be 3.4 and 4.0 percent below baseline estimates for the United States and the United Kingdom, respectively. Mexico (4.0 percent below baseline) and Germany (2.8 percent below baseline) would also see notable drops in consumer spending.

Our analysis also shows that these decreases in consumer spending and demand after years of inflationary pressures have ripple effects across borders, through international trade and commodities transmission channels, among others. For example, industrial production would fall because of reduced global demand and spending, with China's manufacturing GDP 2.9 percent or about $223 billion lower than baseline estimates by 2024. Rising inflation in advanced economies would benefit commodity exporters due to the dollar denomination of most commodity prices. Our analysis shows that in 2023, gas prices would exceed baseline forecasts by as much as 9.5 percent. However, in the aftermath of the Fed tightening in 2024, energy prices would increase by a smaller rate compared with baseline figures until beginning to fall below baseline starting in 2026—in line with new monetary policy effects.

Figure 4
In our high inflation scenario, the world's 10 largest economies will experience significant output losses

10 largest economies	GDP impact 2022–2024[1] ($ million, constant prices and exchange rates)
United States	–1,695,190
China	–1,121,820
Japan	–325,213
Germany	–275,119
United Kingdom	–228,016
India	–240,866
France	–160,626
Italy	–124,704
Brazil	–133,507
Canada	–136,299

[1] Relative to baseline projections
Sources: Oxford Economics; Kearney analysis

Investment flows would also be reshaped by interest rate rises. Monetary tightening in the United States will attract capital from lower yield environments. Global inward foreign direct investment (FDI)—already lower under the inflationary environment between 2021 and 2023—is $40 billion lower than baseline in 2024. Capital outflows have profound implications for poorer countries, which will see their currencies depreciate. They may be compelled to use capital controls to support their depreciating currencies, as India, Russia, and Cyprus have following currency depreciations. In addition, countries where current account deficits and budget financing rely on foreign currency debt will suffer from higher debt payments. For example, US interest rises in 2018 sparked capital outflows from Argentina, eventually contributing to an economic crisis following unsuccessful attempts by the government to restore economic confidence.

Forward-looking businesses may need to embrace automation and technological innovation to increase productivity.

Conclusion and implications for business

What if inflation proves to be structural rather than transitory? Anticipate higher inventory, input, and labor costs. Strategic executives navigating this high-wire act will move to transform supply chains and inventories to secure inputs that keep production going and mitigate operational cost increases. This change could mean delaying new product launches to offset higher input costs or employee wages. To prevent rising prices from hurting their bottom lines, forward-thinking businesses should stock up on any crucial inputs or supplies to the extent possible. Negotiating longer-term contracts with suppliers will help keep production and services running for longer. And more inventory may entail costs for some businesses, but it will also offer better protection against higher prices.

Strategic CEOs would also consider issuing shares to raise capital and borrowing now to help mitigate costs amid a persistently swelling inflation or to offset expected interest rate hikes. Negotiating fixed interest rates on loans would be prudent. In addition, estimating borrowing needs and taking out loans as early as possible would help offset debt payments, as would building cash and rainy-day fund buffers. Further, asset price inflation presents opportunities to raise capital by issuing stock. While issuing more shares may initially devalue existing share prices, the productive use of that capital should contribute to corporate health.

Finally, to contend with persistent inflation, forward-looking businesses may need to embrace automation and technological innovation to increase productivity. Such investments not only hedge against rising temporary or permanent input and employment costs, but also are a survival mechanism in a future that will be powered by technology. Even if technology and automation solutions involve higher costs up front, savings can compound over time. Businesses that make such investments will become more insulated from future economic, financial, or labor market shocks, such as those triggered by a recessionary environment (see *What if the world fails to recover from the pandemic?* on page 4).

What if the current cyberattacks are mere opening salvos of what could morph into full-blown digital wars?

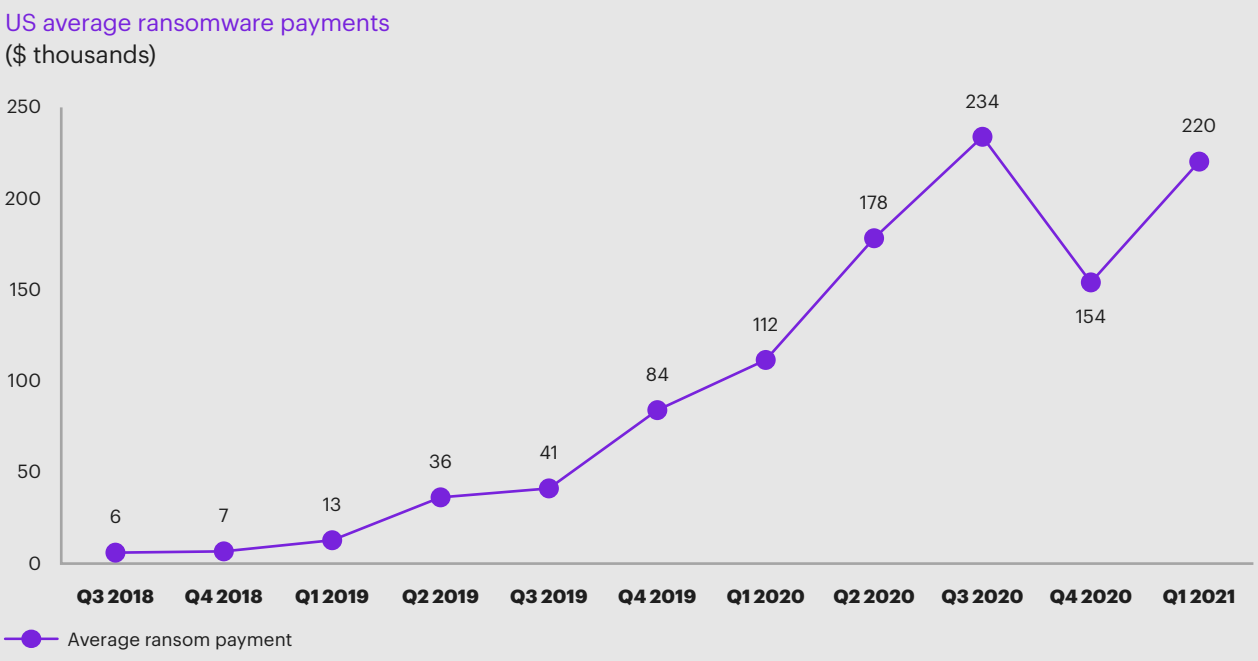
The conventional wisdom is that denial-of-service and other cyberattacks on governments and businesses will increase. This thinking amounts to an extrapolation of the SolarWinds and other prior attacks that have been publicly reported. But what if continued computational capabilities (including quantum) and other tech developments open even larger segments of society to dislocation? What if the already-serious attacks escalate into big-ticket threats—such as kinetic conflict? Our analysis suggests that by 2024, a new cybereconomy will emerge, regulations will proliferate, and cross-sector cooperation will be more necessary than ever before.

Today's cyber landscape: high-profile attacks and ransomware on the rise

This year began with several high-profile cyber breaches that grabbed the attention of governments, companies, and the public. In May, the Colonial Pipeline attack shut down a major US oil pipeline and caused local gasoline shortages and consumer panic. Later that month, an attack on Brazil-domiciled food processing company JBS provoked fears of meat shortages in a time of rising food insecurity. And in July, hackers demanded $70 million from IT and software firm Kaseya, impacting 1,500 companies.

According to most experts, this cyber threat is global and growing. In 2020, cyberattacks in Kenya were more than double the 2019 figures, while the United Arab Emirates' top cyber official said the region was facing a "cyber pandemic" as the number of attacks surpassed 15 million last year. In 2020, ransomware attacks were 150 percent higher than in 2019, and the quarterly average ransom payment surpassed $200,000 (see figure 5). While average payments dropped at the end of the year as more companies refused to pay the ransom, the trend was quickly reversed in early 2021. The actual costs, however, could be even higher—potentially $20 billion globally—when accounting for the time businesses may be non-operational during an attack and the price of rebuilding after one.

Figure 5
Ransomware payments in the United States have skyrocketed since the start of the pandemic



Sources: Coveware, Institute for Security and Technology; Kearney analysis

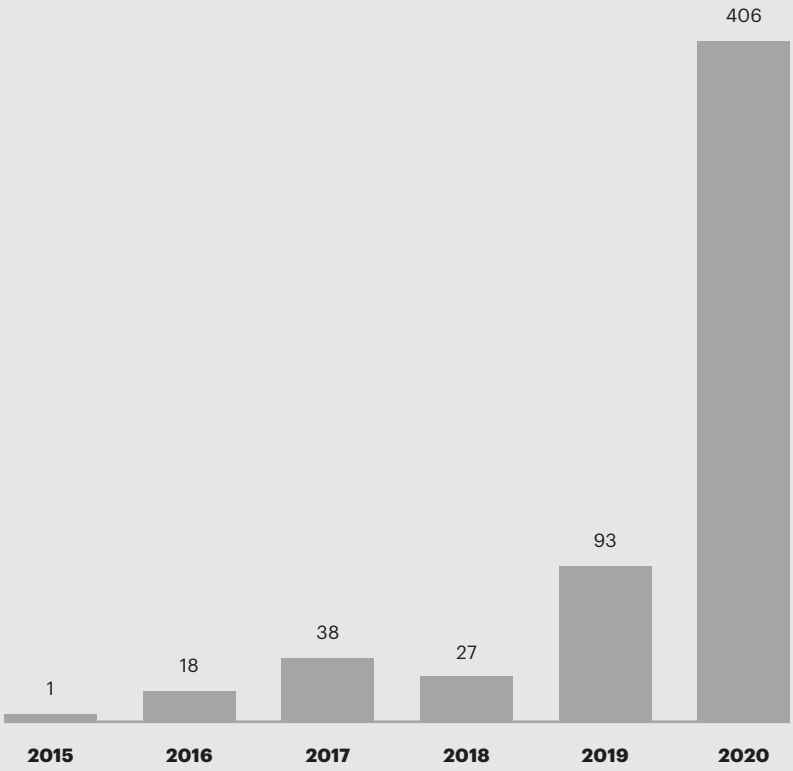
Unfortunately, staging a successful ransomware attack is easier and more lucrative than ever. Advanced technology enables hackers to steal and encrypt data quickly, minimizing the chances of a company retrieving its data without having to pay the ransom. The rise of cryptocurrency has also helped hackers receive compensation without getting caught. Last year was indeed a breakout year for ransomware leveraging cryptocurrency, with total payment value growing by more than 330 percent (see figure 6). At the same time, hackers are gaining new opportunities as more businesses digitize. Cyber hygiene practices, on the other hand, remain limited. A market for ransomware attacks is forming as a result, and hacking groups have begun renting out viruses in exchange for commissions. Though the US Federal Bureau of Investigation and other groups advise against paying such ransoms, it can paradoxically be the most cost-effective option for victims. The US city of Baltimore, for example, refused to pay roughly $75,000 when its systems were hacked, yet the total cost of system recovery to taxpayers ultimately exceeded $18 million. However, paying up brings its own risks: there is no guarantee that hackers will destroy the stolen data that enabled access to company systems, leaving victimized companies vulnerable to subsequent attacks. In fact, 80 percent of victimized companies that pay the ransom are subject to repeat attacks.

Risk outlook: emerging threats and regulations, vulnerable industries, and a new cybersecurity economy

The risks of cyber breaches will continue to escalate, especially as Fourth Industrial Revolution technologies continue to accelerate and hackers leverage artificial intelligence to expand the scope and efficiency of their attacks. Quantum computing may also present a double edge. While it could help victimized companies by monitoring and detecting attacks, it could also make staging cyberattacks easier by letting hackers crack even the most sophisticated forms of encryption.

Figure 6
2020 was a record year for payments to ransomware addresses, and the upward trend shows no sign of stopping

Total cryptocurrency value received by ransomware addresses ($ millions)



Sources: Chainalysis, Institute for Security and Technology; Kearney analysis

Some sectors, such as financial services and utilities, present outsized cyber risks. A major attack on banks, for instance, could derail online banking and even serve to disrupt the digital payments base of the global economy. Attacks on stock exchanges—such as the attack on the New Zealand stock exchange that led to a stop in trading for days in 2020—could cause financial market turmoil. Banks are aware of the threat, and some large organizations have reportedly spent up to $1 billion on cybersecurity in recent years. Many banks are also investing in dress rehearsals in which they simulate a cyberattack and response to ensure preparedness, and the Financial Systemic Analysis & Resilience Center helps groups share best practices and cooperate to prevent an industrywide cyber meltdown. Utilities have already been subject to attacks—from Ukraine, where a 2016 attack on the power grid caused outages, to the United Kingdom, where an attack on Elexon, an important "middleman" in the power grid, affected its internal IT system and email server.

Small and medium-size enterprises (SMEs) are also highly vulnerable to attacks. Lacking the resources of larger competitors, these companies may not have sufficient funds to invest and reinvest in cybersecurity practices. Already, almost half of cyberattacks target small businesses, with very real economic costs: about 60 percent of targeted small firms go bankrupt just six months after a breach. These numbers are likely to increase as hackers prioritize poorly defended small companies over major corporations with sophisticated cyber protection. The result could be devasting to the global economy since small businesses make up 90 percent of all businesses worldwide and employ 70 percent of workers. A spike in attacks on SMEs would invariably reduce worldwide economic growth, and these issues would be exacerbated if the pandemic proves long-lasting (see *What if the world fails to recover from the pandemic?* on page 4).

Policymakers are responding to these risks (see figure 7 on page 16). In May, US President Joe Biden signed an executive order to look into cybersecurity risks and challenges. Across the Atlantic, the EU introduced a new cybersecurity strategy in 2020 in the hopes of managing cyber risks while building self-sufficiency in technology (see *What if the pandemic leads many of the major economies to reimpose protectionist policies under the pretense of self-sufficiency?* on page 23). The bloc also strengthened its Cybersecurity Act to empower the EU's lead cyber agency to address challenges, all while creating a new cybersecurity certification for businesses to attest that their products comply with essential practices. In addition to promoting cyber hygiene, authorities are concerned about rising ransom payments. The US Department of the Treasury, for instance, warned firms in 2020 that paying ransom to cybercrime groups could be illegal if the group is already subject to sanctions—and some indicators suggest that more regulations along these lines are coming. Several hacking groups have already been sanctioned, including Evil Corp, a Russia-based group known for Dridex malware, in December 2019; Lazarus Group, which has ties to North Korea and was subjected to US sanctions that same year; and Rana Intelligence Computing, with links to Iran, in September 2020. More are likely to follow. While intended to deter ransomware attacks, such measures could ultimately give victimized companies fewer options to respond.

In response to rising attacks, a new cybersecurity economy is emerging. Some firms negotiate with hackers on behalf of companies to reduce ransom demands, lowering the amount that victimized companies pay by as much as 35 percent. Others are leveraging blockchain technologies to track cryptocurrency used for ransom payments with success. The Colonial Pipeline, for example, was able to recover $2.3 million through such methods. Cyber insurance is also growing, with the market projected to reach over $20 billion by 2025, from $9.5 billion today. These emerging services provide new ways for companies to respond to cyberattacks. However, certain service providers—such as hacker negotiators—may find themselves subject to regulatory scrutiny if governments crack down on ransom payment. Hence, this cybersecurity economy may continue to grow in the next three years, but the nature of services will continue to evolve through 2024.

Figure 7

Cybersecurity policies in major markets are expanding to address growing cyber risks

Significant national policies to improve cybersecurity (2018–2021)

Country	Policy
Canada	The **National Cyber Security Strategy** (2018) and **National Cyber Security Action Plan** (2019–2024) outline priority areas, such as protecting critical infrastructure, safeguarding energy systems, and preparing for quantum threats. The actions also establish a National Cybercrime Coordination Unit to support police efforts.
China	The June 2021 **Data Security Law**, which comes into full force in September 2021, brings in penalties of up to $10 million for companies that transfer sensitive data abroad. The policy also establishes a protection system for "core state data." A 2017 cybersecurity law requires that data be stored within China and subject to periodic government checks.
European Union	The 2020 **EU Cybersecurity Strategy** calls for regulation, policy, and investment to boost protection from key risks. The EU Cybersecurity Act also gives the EU Agency for Cybersecurity more powers to support companies bloc-wide and creates a certification framework for companies. The plan calls for the creation of a Joint Cyber Unit which would coordinate efforts across EU institutions and member states to combat cyber risks.
Russia	Key aspects of the country's "digital sovereignty" role include the 2019 **sovereign Internet law** that gives the government the ability to shut down web connections in emergency situations. The government argues that the measure could help reduce reliance on foreign servers, strengthening cybersecurity. Critics, however, worry it could promote censorship.
United Kingdom	In April 2021, the government outlined plans to strengthen cybersecurity in **smart devices and phones**. Specific measures include forbidding manufacturers to use highly common passwords in factory settings and offering a point of contact for users to report issues.
United States	President Joe Biden issued **Executive Order 14028** in May, advocating for stronger cybersecurity in the federal government, greater supply chain security for software, and a standard playbook for cyber incident response. The order also calls for a Cybersecurity Safety Review Board to analyze cyberattacks and provide recommendations for improving security.

Sources: BBC News, Bloomberg, Center for Strategic and International Studies, European Commission, GOV.UK, Public Safety Canada, UK National Cyber Security Centre, US White House; Kearney analysis

Conclusion and implications for business

Executives traversing the tightrope amid rising cybercrime will need to make several changes to maintain their balance. Perhaps most obviously, they will need to invest more in cybersecurity to mitigate risks by introducing two-factor authentication, improving cyber hygiene in general, and implementing practice drills. Firms without appropriate defenses may find themselves at risk, not only of attack, but also of subsequent lawsuits, investor scrutiny, and backlash from consumers.

While small-scale digital attacks will likely escalate, the risks of a systematic attack are also high. Such an attack could derail financial systems by halting online banking, which in turn could mean a sharp drop in economic activity. It could also target energy supplies, transportation, and other daily operations such as distribution of drinking water. Therefore, companies are inextricably linked to vulnerabilities not only in their own operations, but also in those of their vendors and the economy at large. Clearly, companies are also tied to potential systemic attacks. Corporate and cross-sector partnerships may grow more common—such as the Cyber Threat Alliance, which provides real-time cyber threat information sharing to its members—though it is unlikely that such programs alone can fully prevent a widescale breach.

It is highly unlikely that a growing cybersecurity economy alone will be able to stop all attacks in the short term, as the budding sector is still finding its feet, and the volume of cyberattacks is growing. Though cybersecurity start-ups have received more than $12 billion in investor funding through the first seven months of 2021, and demand for chief information security officers is skyrocketing, attacks still proliferate as hackers target vendors and software used by many companies, as was the case in the SolarWinds attack. As a result, companies will find their sensitive data and intellectual property increasingly at risk, no matter how much they invest in services. The widescale sharing of such stolen corporate information could also encourage malign actors and competitors to copy best practices and potentially run companies out of business. As the "splinternet," or dividing of the Internet and technology between countries, takes hold, companies from various nations could secretly use these methods to undermine foreign competitors, potentially aided—or at least purposely overlooked—by national actors. For instance, the United States, United Kingdom, EU, Japan, and others accused China of hacking US tech firm Microsoft in a breach that impacted their exchange services, which are used by many companies.

It is no surprise, then, that cybersecurity will become an increasingly hot-button national security topic, and the challenge of mitigating breaches will increasingly fall to governments as well as businesses. According to July 2021 remarks from US President Joe Biden, "If we end up in a war, a real shooting war with a major power, it's going to be as a consequence of a cyber breach." Since the stakes of cybersecurity are so high, companies can expect greater government support—and scrutiny—in managing cyber risks. This approach marks a significant change from previous practice, when firms were afraid to accuse cybergroups with potential government ties out of fears that they might lose access to lucrative international markets. Instead, firms that fail to cooperate with local authorities could face risks. The United States, for instance, is already requiring better cybersecurity practices from companies and will soon begin investigating breaches to determine what went wrong and where fault lies, much like the nation already does with airline crashes.

Countries are also working with allies to manage risks. The United States and European Union, for example, plan to cooperate on cybersecurity information sharing and certification in a broader push to support technology known as the US–EU Joint Technology Competition Policy Dialogue. For businesses, partnering with national governments now to address cybersecurity could prove beneficial later, as such partnerships could help businesses understand best practices, shape new policies, and gain support for efforts. By 2024, going it alone to address cyber risks may no longer be an option, so forward-looking companies will start cooperating today.

By 2024, going it alone to address cyber risks may no longer be an option.

What if the pandemic triggers a worldwide demographic inflection?

Prepare for a gradual population deceleration, says the conventional wisdom. Maybe not. What if the pandemic fast-tracked population compressions that the Great Recession started? And, if the great demographic slowdown—and the potential contraction of the labor force—is really under way, what might the consequences be for markets? Our analysis suggests a remaking of the global economy, with shocks to trade, resources, immigration patterns, consumer behavior, and more.

Shock convergence: COVID-19, excess death, and disrupted birthrates

The demographic impact of COVID-19 has been stunning and immediate. Excess deaths were more than 50 percent above the expected annual mortality rate in several countries ravaged by the pandemic—namely Peru, Ecuador, Bolivia, and Mexico. In 2020, the US death rate rose by almost 16 percent year over year. COVID was the third leading cause of death in the United States, accounting for 11.3 percent of all deaths in 2020, or roughly 378,000 people. The elderly were acutely affected. Initial analysis shows that the rate of growth in retired Americans who collect Social Security has slowed down sharply amid the pandemic—a drop that may be partly the result of the disproportionate number of COVID deaths among older Americans.

In addition to causing historic levels of excess death, the pandemic is upending birthrates throughout the world. Countries such as the United States, Japan, and select western European economies were already facing stalling birth rates, particularly since the Great Recession—though many emerging markets also have seen significant declines in birth rates since 2000 (see figure 8 on page 20). Now the demographic crisis is far more acute. In the United States, the Brookings Institution predicts that the economic fallout from COVID-19 will lead to 300,000 to 500,000 fewer births in 2021. The situation is no less alarming in Europe. Indeed, a London School of Economics survey conducted in June 2020 shows that the pandemic was already pushing down fertility rates. In France and Germany, more than 50 percent of the sample were postponing their fertility plans compared with roughly 30 percent who were not. Economic uncertainty is also crippling Italy's birth rate, which as of June 2021 was at its lowest since its unification in 1861.

Asia is facing similar challenges. Japan is expected to see a further decline in birth rates because of COVID-19 as couples delay parenthood amid economic concerns. In addition, China is facing its own demographic crisis, as its population of potential workers aged 15 to 59 has fallen by 5 percent between 2011 and 2020. In an effort to counter these troubling trends, China implemented a three-child policy in May 2021, which allows parents to have up to three children (as opposed to the former two-child policy implemented in 2016). It also provides for supportive housing and education measures to lower the costs of raising a family with an aim of expanding the country's population. Considering historical precedent in times of extreme economic hardship, however, this decline in fertility rates in major economies is likely to last beyond the virus, with significant implications for the workforce. Almost a decade after the Great Recession of 2008, for instance, birthrates in a number of economies remained low because of employment losses and cuts to welfare that made raising children financially unfeasible for many families. Today, birthrates remain below replacement levels (2.1 births per woman) in nine of the 10 largest economies (see figure 9 on page 20).

In many respects, the emerging and frontier markets are experiencing the opposite trends. Though birthrates have been trickling down in recent years, they frequently remain at or above population replacement levels and are much higher than those in advanced economies. Nigeria's fertility rate, for instance, is more than five children per woman. COVID could lead to more boosts in fertility. The United Nations estimated that COVID-19 could lead to 7 million unplanned pregnancies in developing markets over just six months in 2020. In many places, the pandemic has disrupted access to family planning while the social and economic pressures brought about by the pandemic have led to an increase in gender-based violence and other harmful practices.

Figure 8

Birth rates around the world are dropping, reaching dire lows in several large economies

Note: Crude birthrate is the number of resident live births for a specified geographic area (nation, state, county, etc.) during a specified period, usually a calendar year, divided by the total population (usually mid-year) for that area and multiplied by 1,000.

Sources: World Bank; Kearney analysis

Figure 9

Fertility rates are below the population replacement level of 2.1 in nine of the world's 10 largest economies

10 largest economies	Fertility rate (births per woman)
United States	1.64
China	1.60
Japan	1.34
Germany	1.54
United Kingdom	1.65
India	2.10
France	1.84
Italy	1.32
Brazil	1.72
Canada	1.47

Note: Fertility rate is the number of children that a woman would bear should she live to the end of her childbearing years and bear children at rates that align with age-specific fertility rates during that year.

Sources: DW, Ipsos, *Financial Times*, Institut national de la statistique et des etudes economiques, *The New York Times* Statistics Canada, The Week, World Bank, World Economic Forum; Kearney analysis

Disruptions to global supply chains have also led to significant shortages of contraceptives. In India specifically, the Ipas Development Foundation estimated that about 1.85 million women were unable to gain access to abortions they otherwise would have sought between March and May 2020, owing to pandemic dislocations. Another study by the Delhi-based Foundation for Reproductive Health Services India calculated in May 2021 that about 25 million couples could have been cut off from contraception access during the country's shutdown. And in Indonesia, about 10 million married couples stopped using contraception because of pandemic-related disruptions in April 2020, according to the National Population and Family Planning Agency. In the short term, the implications are significant, from mothers being forced to leave the workforce to heavier economic burdens for poorer families—but the broader impacts on the global economy could be even more profound.

Federal budget projections suggest the potential US labor force growth rate will remain just above zero for years to come.

The new global economy: demographic impacts on labor markets, resources, trade, and more

As the demographic shocks brought about by COVID continue to be absorbed, the implications for the global economy will be significant. In aging societies, the strain of longer lives and low fertility could upend the organization of societies—especially around the notion that a surplus of young people will drive economies and help pay for the elderly. In China, a reduced population could have ramifications for the country's economic ambitions. Such a development could fuel fears that the country "grows old before it grows rich" as its aging population outpaces its working-age population. This shift, combined with the fact that China receives far fewer immigrants than the United States and other Western economies, could hamper its workforce in comparison to its rivals.

In the United States, because younger people work and pay taxes that finance Social Security, Medicare, and all other public-sector activities, population aging could strain government budgets. Recent federal budget projections suggest the potential labor force growth rate will remain just above zero for years to come, down from around 2.5 percent starting in the mid-1970s and 0.5 percent from 2008 through 2020. Similarly, governments in Europe may not be able to adequately fund pension commitments. Indeed, Europe's old-age dependency ratio has already grown by 5.7 percentage points during the past decade (from 26.3 percent in 2010 to 32 percent in 2020). These developments could result in higher taxes or the raising of the retirement age to help offset these costs. If COVID proves long-lasting, these demographic-induced budget challenges could be even harder to overcome (see *What if the world fails to recover from the pandemic?* on page 4).

In contrast, government and business leaders in developing countries would have to contend with rapid population growth that could lead to even greater food insecurity and general resource strain. Chatham House found that malnutrition in emerging markets can cost companies up to $850 billion in lost productivity each year—a number that would rise even higher in this contingency. And high food prices, another major driver of food insecurity, have been tied to a greater likelihood of civil unrest, suggesting an elevated risk of resource conflict.

Population booms in developing markets have additional implications for trade flows and the labor market. Countries with growing populations could serve as popular new export markets if they are able to achieve higher standards of living and more purchasing power. A larger working-age population could bring significant economic benefits to emerging market economies: estimates show, for instance, that a growing working-age population in sub-Saharan Africa will contribute 3 percentage points to average annual GDP growth in the next decade. The services sector in rapidly populating countries could see an uptick as more young people take jobs in call centers and in tourism, for example. There would also be more opportunities for immigrants to work as healthcare workers in developed markets as aging overhangs become more pronounced. Such dynamics are already under way in countries such as Japan, which implemented a relaxed immigration policy in early 2019 to contend with its shrinking labor market in industries ranging from food services to lodging.

Conclusion and implications for business

For executives walking the tightrope of profound demographic change, shifts in the strategic approach will vary widely by industry. Demand for baby products such as diapers, formula, and infant and children's clothing, for example, will fall in countries with aging populations. And as the smaller cohort of children grows older, schools, athletic programs, and the products that depend on young people to drive sales, such as McDonald's Happy Meals, could suffer as well. As a result, successful business executives in these markets will seek to pivot to products that appeal to older consumers. Examples of companies' efforts to draw in older demographics include Pedialyte's new campaign to market its drinks, originally targeted at children, to young adults, and phone company T-Mobile's plans specifically for users over 55.

In a tight labor market, companies may take steps to expand benefits to attract workers. For example, they may offer policies to support parental leave, which could have the ancillary benefit of ultimately boosting fertility rates. American retail giant Target, for example, has stepped up in this regard, expanding its 20-day backup care benefit that offers last-minute childcare free of charge to include all hourly and salaried employees at stores and distribution centers. The company is also offering paid family leave for hourly and salaried workers and upping its contributions for employees' adoption and surrogacy fees.

In emerging and developing economies where pandemic-induced disruptions to contraceptives or health care facilities cause birth rates to increase, some industries will have opportunities to mitigate related risks—such as those related to food security. Food and grocery businesses, for example, could use blockchain to track food supply, an initiative that the government of India has recently supported. And in Kenya, British drinks giant Diageo has shown the economic benefits to both suppliers and buyers of better organizing farmers and improving supply chain efficiencies. This process now provides a market to about 17,000 farmers. Such moves could improve bottom lines in the long run and open up new opportunities in the growing agritech sector.

Changing marketing strategies and product offerings to adjust to new consumers will be crucial as developing countries grow rapidly while advanced markets age. Older adults in advanced economies will become an even more significant consumer base for companies, especially as younger generations struggle with the economic fallout from COVID, reporting higher rates of financial struggle and job loss than older age groups. Growing populations in emerging economies could open up new markets for global companies, especially those in technology and consumer goods, as these countries become wealthier and benefit from a larger working-age population. A demographic inflection is likely to demand these and other changes to corporate strategy, but it will present important opportunities for those companies that carefully time these recalibrations for maximum advantage.

What if the pandemic leads many of the major economies to reimpose protectionist policies under the pretense of self-sufficiency?

The conventional wisdom is that countries will reopen their economies once they are beyond the pandemic and have reached the economic limits of national self-sufficiency (the point at which they recognize that national capabilities do not exist or are too expensive to make viable). But what if political and social movements that have surfaced during the pandemic aggressively pursue "home-shoring" of operations and mandated controls in a significantly greater sphere of national interests? What if this kind of economic nationalism creates the kinds of reciprocal pressures that destabilized the world a century ago? Our analysis suggests a loss of $10.5 trillion in cumulative output by 2024 is possible, with dramatic drops in demand alongside disruptions to the labor market more broadly.

Creeping protectionism: COVID unleashes a wave of self-sufficiency

Achieving self-sufficiency in key industries has been a long-standing priority for many countries, from China and Russia to Western economies, albeit on differing scales. The COVID pandemic rapidly accelerated this trend as leaders were confronted with the vulnerabilities of highly globalized value chains and found themselves without necessary domestic stocks of goods such as medical supplies or personal protective equipment. In early 2020, countries took profound steps to expand domestic production in certain industries by controlling exports of medical supplies and food, scrutinizing FDI in crucial industries such as technology and healthcare, and offering firms incentives to reshore manufacturing supply chains.

Since these initial steps, efforts have only intensified, especially in areas such as technology, energy, medicine, and agriculture (see figure 10 on page 24). Nations are using many tools to achieve their goals, from restricting FDI inflows to investing in priority domestic companies to introducing new export controls. For instance, in June, Italy blocked the acquisition of a semiconductor equipment manufacturer by a Chinese firm, citing concerns that foreign ownership would negatively impact the strategic sector, especially in light of recent chip shortages. Similarly, the United States doubled down on its plans to boost semiconductor manufacturing, with the Senate passing a bill in June that sets aside $52 billion for the industry. More action is likely in the next three years as more countries push to build national reliance.

Such protectionist policies have significant geopolitical implications. As more countries look inward, tensions with other states could escalate. Self-sufficiency goals risk intensifying technology competition between the United States and China as both countries vie for supremacy in emerging areas such as quantum computing and artificial intelligence. For instance, additional moves to curtail US chip exports to China, which accounts for 25 percent of worldwide sales for American semiconductor firms, would prove highly disruptive. And in energy, commodity markets may prove volatile as more countries invest in domestic resources, causing price fluctuations. The oil price crash of late 2014, driven by US shale oil development that led to an oversupply in markets, is just one example of what could come.

When protectionism goes extreme: diminished output growth, rising prices, and disrupted labor markets

As policymakers intensify their interest in strengthening selected national industries, the risk that such efforts may tip over into new levels of protectionism is growing. More industries—such as industrial metals and mining, infrastructure, telecommunications, and technologies—could become subject to greater degrees of government intervention. Such action would have ripple effects throughout the global economy. We have explored these effects using econometric modeling. In our model, we simulated a highly protectionist environment by gradually reducing levels of goods and services imports and foreign direct investment, starting with single-digit reductions to baseline in 2021 and escalating to more than 10 percent annual drops compared with baseline by 2024. As a result, we were able to project the impact of such an environment on output growth, prices, and the labor market more broadly.

Figure 10

Since the beginning of the COVID pandemic, countries have doubled down on their efforts to build national self-sufficiency in key sectors

Industries impacted by national self-sufficiency polices

Technology

- **China** unveiled a "dual circulation" strategy in September 2020 that would increase national production of tech goods.
- Since February 2021, the **United States** has taken steps to improve supply chains of goods, including chips, and began investing in advanced tech like AI, quantum, and biotech.
- The **EU's** policy of "digital sovereignty," updated in late 2020, includes addressing supply chain vulnerabilities and investing in local talent.

Food and agriculture

- **Russia** took steps in early 2021 to enhance export controls on food stuffs to ensure sufficient domestic supply.
- In December 2020, **Abu Dhabi's** food agency approved over $142 million in investment projects to boost food and agriculture production.
- In September 2020, **Singapore** introduced $40 million to support indoor and high-tech farms as it aims to increase national food production.

Energy and resources

- The **EU** launched a plan to secure supply of critical minerals in September 2020.
- **US** efforts to boost national battery production, highlighted in a February 2021 Executive Order, include improving domestic value chains.
- **Australia** allocated more than $400 million to hydrogen and carbon capture and storage projects in April 2021 in a push to boost its economy.

Health and medicine

- In July 2020, **Mexico** took steps to create a state-run medicine agency to address goods shortages and ensure equitable distribution.
- In September 2020, the **UK** government announced more than GBP 32 million ($44 million) in funding for health tech projects.
- In June 2020, **Japan** tightened FDI rules for the manufacture of select pharmaceuticals and medical devices, mandating that foreign companies notify the state should they plan to acquire at least a 1% stake in a domestic firm.

Note: Chart is non-exhaustive.

Sources: Arabian Business; Australian Government Department of Industry, Science, and Resources; Bloomberg; European Commission; *Financial Times*; The Hill; Kyodo News; Med-Tech Innovation News; Reuters; UK National Health Service; US White House; *The Wall Street Journal*; Kearney analysis

Domestic and global output suffer in an extreme protectionism contingency. In our model, global output growth year on year in 2024 is about 2.1 percent lower than baseline forecasts, US GDP growth finishes 2024 1.8 percent lower than baseline, and China sees a 2.0 percent drop. Global output grows by a meager 0.1 percent in 2023 year on year compared with baseline estimates of 3.3 percent, leading to cumulative GDP being $10.5 trillion lower than baseline by 2024 (see figure 11 on page 25). The impact on export-oriented economies, however, is even greater. South Korean GDP, for instance, ends 2024 at 9.3 percent lower than baseline, and Irish output is 7.1 percent lower than baseline. Export-facing businesses in many countries also suffer. German manufacturing output in 2024, for example, could be as much as $92 billion lower than baseline forecasts. And GDP in the French agricultural sector would be 3.1 percent lower in 2024 compared with the baseline. In other words, though extreme protectionism dampens economic output worldwide, its impact will not be evenly felt across countries and industries.

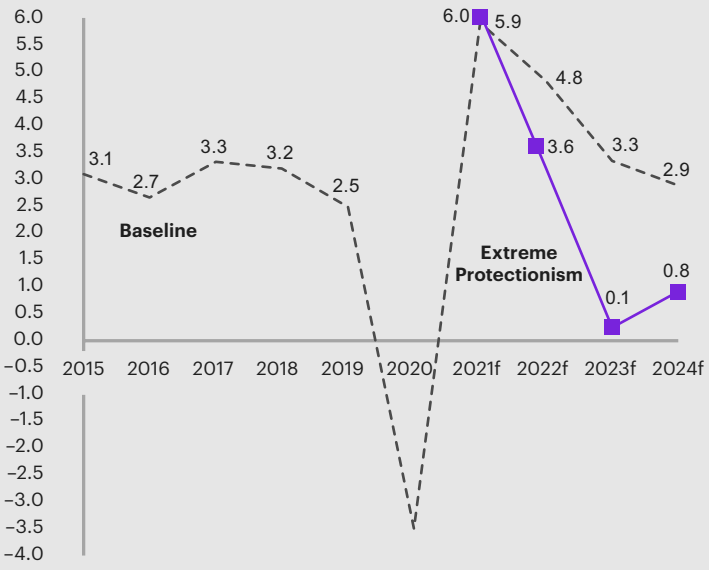
Beyond drops in output, the impact of high protectionism on employment and labor is also profound. Lower trade would contribute to rising national unemployment rates, especially as companies in export-oriented industries find their bottom lines squeezed. This shift would occur despite national efforts to support domestic companies in the hopes that the programs would employ more local labor. In fact, our analysis suggests that such protectionist policies would result in a 6.7 percent global unemployment rate by 2024, compared with base forecasts of 5.1 percent (see figure 12 on page 25). However, companies may still face challenges finding workers, especially highly skilled individuals. In advanced economies, demand for blue-collar labor would grow thanks to rising domestic agriculture and manufacturing. Technology firms, on the other hand, would likely struggle to access skilled labor, particularly if immigration laws tighten. This scenario would create a paradox in which more individuals find themselves without work, and more companies simultaneously find themselves without workers. This dynamic may be particularly challenging in countries with aging societies, where the pool of young and able labor is already shrinking (see *What if the pandemic triggers a worldwide demographic inflection?* on page 19).

Figure 11

Global growth will falter under extreme economic protectionism

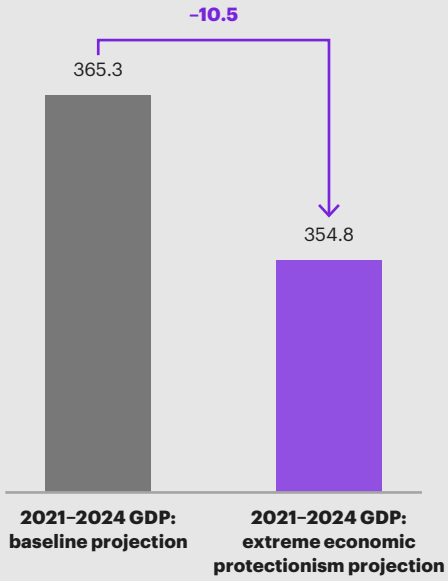
Global economic output

(Year-on-year percentage growth)



Cumulative global output

($ trillion)



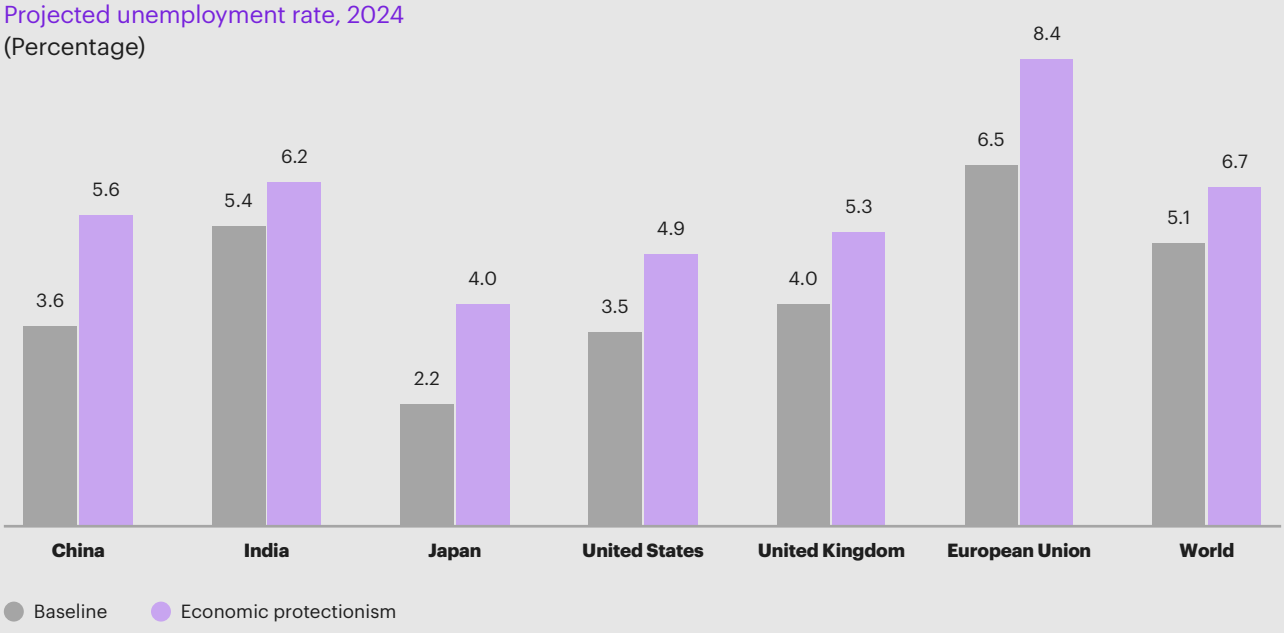
Sources: Oxford Economics; Kearney analysis

Figure 12

Extreme protectionism paradoxically increases national unemployment rates despite aiming to support domestic labor markets

Projected unemployment rate, 2024

(Percentage)



Sources: Oxford Economics; Kearney analysis

Protectionism, especially in the form of tariffs and similar trade measures, can also raise prices for consumers. Recent analysis shows that US tariffs on goods from China as well as metals imports cost up to $1,700 per household in 2020. And in 2002, US tariffs on steel imports contributed to spot prices for the metal rising by 27 percent in just a year. When the cross-border flow of scarce goods is reduced, prices can rise dramatically. For example, when China cut worldwide exports of rare earth minerals by 77 percent in the first three quarters of 2010, the global price quadrupled from $4.70 per kg in April to $36 per kg in October. In contrast, economic liberalization tends to lower consumer prices. For example, US manufacturing prices dropped by almost 8 percent between 2000 and 2006, which coincided with China joining the World Trade Organization (WTO) alongside increasing productivity in the sector. And after the WTO Agreement on Textiles and Clothing, average clothing prices for EU consumers fell by 16 percent from 1996-2005. Similarly, India's economic liberalization program, which resulted in tariff reductions of more than 60 percent, is predicted to have contributed to consumer prices dropping by 18 percent.

Conclusion and implications for business

Strategic business leaders seeking to walk the tightrope against a backdrop of growing protectionism will need to consider several factors. Industries crucial for national self-sufficiency, such as commodity extraction and processing, infrastructure and construction, technology, agriculture, and pharmaceuticals, would likely receive additional government benefits. Financial incentives could come in the form of tax breaks, subsidies, or investment in R&D. This shift has already taken place to some extent in technology and pharmaceuticals. In the United States, for instance, policymakers are using these tools to make medical supply chains more resilient and increase domestic semiconductor manufacturing. While it may be tempting for companies in these sectors to back economic protectionism since they may benefit from government support, the dampening macroeconomic impact of extreme protectionism could counteract these gains. Though national markets may expand, global reach will contract as trade barriers restrict flows, potentially harming bottom lines and requiring costly supply chain recalibrations. New opportunities will come with additional costs and new risk factors.

These risks include challenges in securing talent. As countries introduce stricter immigration policies and focus on national champions and local talent, it will become more difficult to attract highly skilled labor. Reskilling programs and training courses could prove crucial for companies, creating opportunities for businesses to cooperate with government and reduce unemployment. Existing national programs, such as Singapore's Institute for Adult Learning, which provides individuals with job training and continued education, or the EU's Centre for the Development of Vocational Training, which supports the bloc's vocational training offerings, could help companies find much-needed local talent.

Business executives will also have to contend with more economic dislocations as countries look inward. Companies will face more competition from other domestic rivals as they scramble for limited resources or supply networks. Given existing crucial dependencies on international trade, disruptions to vital products—including medicines, raw materials, basic food staples, and even electronics and cars—pose a serious risk. Companies could contend with these challenges by actively expanding domestic sourcing and manufacturing, which some firms are already doing. Intel, for instance, is expanding its chip manufacturing capabilities in Arizona, and Tyson Foods is investing $48 million to grow a poultry processing plant in Arkansas.

Ultimately, in an operating environment of extreme protectionism, successful executives will take steps to localize their supply chains. This effort may come with significant upfront investments, but the cost of inaction could easily prove to be greater. In some cases, connecting a network of local or national supply chains will be more efficient and resilient than designing long, integrated mechanisms. Companies may need to expand their inventory and lock in long-term contracts, to the extent that is feasible, to ensure sufficient domestic supply. In a world of reduced foreign competition, some businesses may be able to charge higher prices, especially in industries dominated by a few large domestic players, such as technology or telecommunications. While these higher prices could cost consumers, they may help companies remain on top of the high wire while protectionist policies remain in place.

Conclusion

Each of the five contingencies explored in this report was selected not because it is certain to happen and surely not because it would be desirable. Rather, we chose them because they challenge conventional wisdom and would have a major impact on the global business outlook if they were to materialize. In each case, as we have described, we see early indicators suggesting they might generate counterintuitive outcomes. New waves of COVID, creeping inflation, escalating cyberattacks, shifting birthrates, and moves toward greater protectionism are all already under way. Carefully considering these contingencies will not prevent them from transpiring, but business leaders who are wide-eyed about these prospects can take steps to mitigate the worst effects for their companies—and, perhaps, for society more broadly.

Some actions may provide benefits across multiple potential contingencies. Improving employee benefits provides advantages to businesses and employees alike in a world of persistent COVID, and some of these benefits, such as those pertaining to parental leave, would have application amid a major demographic inflection as well. Adjusting supply chains and seeking options for domestic sourcing and manufacturing would become table stakes in an operating environment of extreme protectionism, but they would also provide benefits amid persistent inflation as companies seek to mitigate rising input costs. And moves toward increased automation to offset rising labor costs in an environment with high inflation or toward more domestic R&D investments in an environment of high protectionism all have significant cybersecurity implications. Whether today's cyberattacks ultimately develop into full-blown digital wars or not, it is a safe bet that investing more in cybersecurity and implementing comprehensive cybersecurity strategies will be essential for all businesses.

Executives will be compelled to walk a tightrope over the next three years and beyond as exogenous shocks continue to rock the global operating environment. Those who stay balanced by taking strategic and preemptive steps to prepare for such turbulence will not only survive the potential treacherous walk, but also position their organizations for success and help prompt a more favorable outlook for the global community.

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About the series

The *What if?* series is a new annual flagship report intended to stress-test five prevailing conventional wisdoms about the global business outlook. This report gives executives insights into plausible and powerful contingencies that could take place in the near term. It explores five provocative questions that challenge executives to widen their aperture in thinking about the disruptions to the business operating environment that may be just over the horizon. Topics generally extend three years into the future, with each piece offering an assessment of a hypothetical near-term shock—where these issues stand today, where they may be heading, and how executives can best position themselves to prepare for them. While not intended as predictions of the future, the *What if?* series offers visions of conceivable outcomes that would directly impact businesses operations. The publication aims to help business and government leaders and strategic planners question their assumptions and build their capacity for adapting to the future—whatever it may bring. As such, the Council's *What if?* analysis can help organizations develop monitoring systems for the potential strategic shocks that are most germane to their sector or industry, mitigating downside risks, recognizing opportunities, and strengthening long-term strategies.

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