

GLOBAL RISK REPORT

RETHINKING RISK IN AN UPSIDE-DOWN WORLD

Fall/Winter 2023-2024

For professional investors only. All investments involve risk, including possible loss of capital.

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Trade policy has been and will be part of international policy. With the geopolitical environment shifting, trade and investment policy is shifting too."

MAGDALENA POLAN Head of Emerging Market Macroeconomic Research PGIM Fixed Income

INTRODUCTION

When it comes to charting the world's economic future, the old rules no longer seem to apply.

The US is putting the weight of the federal government behind a reindustrialization drive at the same time China's economy is sputtering and Japan is rekindling growth, all while the world taps the brakes on a decades-long era of globalization. The trade relationship between the US and China is also changing along with the global economy, as competition between the world's two largest economies intensifies. In Europe, Germany scrambled to avert an energy crisis after the war in Ukraine began, but the region's largest economy is feeling the ill effects of rising power prices and investments in new factories on the other side of the Atlantic.

With this evolution in global trade and economic policy comes a heightened sense of uncertainty over the outlook. The challenge facing institutional investors is twofold: rethinking forecasts for a new economic era, and managing risk—and unintended consequences—as trade policy takes a different course.

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CHAPTER 1 GLOBAL COMPETITION AND A NEW TRADE LANDSCAPE

Global divergence and policy shifts are defining a new economic era with unexpected implications.

US RESILIENCE AND DIVERSIFYING SUPPLY CHAINS

Swirling headwinds around the world have not deterred the US economy and financial markets as much as feared in 2023—reminding investors to take stock of upside risk.

Growth has proven to be resilient in the face of inflation, higher interest rates, war in Europe and a tepid recovery in China, bucking forecasts that a downturn would soon materialize. Consumer spending can be credited with much of the nation's economic outperformance; a tight labor market and higher home prices have supported spending, from a run on furniture, food, RVs and other goods early in the pandemic to an ensuing resurgence in travel demand and the broader services sector. The trajectory of the economy also shows evidence of the lasting impact of fiscal and monetary stimulus, which has helped carry the economy through a period of rising rates.

On the fiscal side of the equation, the US has launched an industrialization effort on a scale not matched since World War II. But even before the more recent introduction of a new US industrial policy, national security concerns and geopolitical tensions laid the foundation for a reset in trade policy that kicked into high gear with the imposition of trade tariffs in 2018 and the renegotiation of NAFTA. Scars from supply-chain logjams during the pandemic provided further motivation for bringing supply chains closer to home, with businesses and policymakers alike hoping to reduce the risk of future disruptions.

The US has set out to promote the onshoring and socalled near-shoring of critical industries, particularly advanced semiconductors used by the military. Burgeoning technologies considered central to a US energy transition, namely electric cars and their batteries, have also been targeted for fiscal support.



Exhibit 1: Rise in US-China Trade Decelerates (\$ in millions)

Source: US Census Bureau, January 2023

The \$280 billion Chips and Science Act of 2022 allocated \$53 billion toward the construction and expansion of semiconductor factories, part of an effort to bring production of US chips in-house. Another bill, dubbed the Inflation Reduction Act, extended \$369 billion in tax breaks over 10 years for companies making EVs, batteries and other clean-energy technology. This onslaught of federal spending and incentives has set the stage for a global manufacturing competition with other regions vying for new factories and encouraging local innovation.¹

Beyond injecting fiscal support into its domestic manufacturing sector, the US has sought to expand trade alliances with Canada, Mexico, India and other allies. Supply chains are becoming more complex as a result, even if these efforts reduce US dependence on China.

Meanwhile, the surge in US industrial spending, which is on pace to triple over the course of this decade, has increasingly become a driving factor on the supply side of the economy. The result of this policy could be one of two starkly different scenarios. Policy spending may support accelerated productivity similar to the late 1990s, lifting real GDP growth and keeping inflation in check. If the US industrial drive is unsuccessful, the economy could suffer under weak productivity, decelerating growth, rising inflation, and soaring fiscal waste in an already heavily indebted economy.²

\$53BN Allocated towards the construction & expansion of semiconductor factories in US.

1 A New Era: From Deglobalization to Regionalization, PGIM.

2 The Evolution of US Supply Side and Duration, Weekly View from the Desk, PGIM Fixed Income.

CHINA ECONOMIC HEADWINDS PORTEND SLOWER GROWTH

A growing geopolitical divide with the West portends a bumpy road ahead for trade, as well as roadblocks to foreign investment. But these are just some of the challenges facing the world's second-largest economy.

Slowing growth, an aging population and a savings glut are bringing fundamental change to the Chinese economy, whose rate of expansion outpaced developed markets for much of the last three decades. These unfavorable trends help illustrate China's struggles to jumpstart its economy following the COVID-19 pandemic. The country's central bank cut key interest rates in 2023 in hopes of stimulating economic activity after data showed declines in exports and consumer prices in the summer.

One of the challenges facing China is that its recent economic malaise comes despite its own industrialpolicy drive. In the coming years, China's ability to spur growth appears constrained. Heavy spending on new infrastructure was a significant driver of economic expansion when China was working overtime to bring its economy into the 21st century. Opportunities for infrastructure improvements are becoming scarce, demonstrated by a glut of apartments and underused roads, airports and rail lines. Furthermore, the nation will be forced to spend more on debt payments going forward, limiting its spending power in other areas.

The International Monetary Fund estimates that China's GDP growth will slide from a projected 5.2% in 2023 to 3.4% in 2028—a far cry from the doubledigit expansion seen two decades ago.

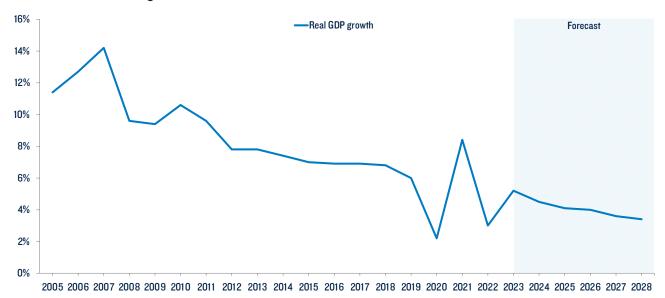


Exhibit 2: China's Slowing Growth

Source: International Monetary Fund, July 2023

With China potentially entering an era of slower growth, expectations for another round of policy prescriptions have risen. Thus far, the Chinese government has thrown its support behind domestic semiconductor production, aiming to reduce its dependence on other players. More sophisticated chips are primarily designed and manufactured elsewhere. Meanwhile, facing a slump in foreign investment, officials have issued a proposal to relax rules governing investments made by overseas firms.

A weakening outlook suggests that China will not serve as a reliable backstop for the global economy as it has in the past. In a semi-annual outlook, the World Bank downgraded its forecasts for developing East Asia economies as a reflection of China's struggles, penciling in 4.5% growth in 2024 after previously estimating 4.8%. In particular, downside risks to the Chinese property sector may weigh heavily on regional economies, such as Mongolia, as demand for construction materials falters.³

3.4% THE IMF ESTIMATES THAT CHINA'S GDP GROWTH WILL SLIDE FROM A PROJECTED 5.2% IN 2023 TO 3.4% IN 2028.

3 East Asia and Pacific Economic Update (October 2023), The World Bank, https://www.worldbank.org/en/publication/east-asia-and-pacific-economic-update

JAPAN ROLE REVERSAL MAY CHART NEW POLICY PATH

Consider it a role reversal: While China grapples with a lackluster recovery, the Japanese economy has shown signs of a resurgence.

Japan has experienced an export-driven economic revival in 2023 after years of struggling to jumpstart growth and tackle deflation. Growth hit 6% on an annualized basis in the second quarter, Japan's third straight quarter of growth and its best showing since the fourth quarter of 2020. Exports were up 3.2%, with auto shipments recovering from the chip shortage and production constraints stemming from pandemic restrictions. A lack of global supply postpandemic, and the premium prices that automakers have commanded as a result, have been a boon to the industry and, by extension, Japan's economy. In fiscal 2022, exports surged 15.5% in yen terms.

Wages for union workers in Japan rose 3.58% yearover-year in 2023, the biggest average pay hike in 30 years, according to Japanese labor organization Rengo. Japan's economic story this year is much different than the one written in previous cycles. Investors have been accustomed to a world in which Japan could be categorized as an outlier, exhibiting weak growth, weak inflation (even deflation) and near-zero rates since the late 1990s. Its revival in 2023, along with a return of inflationary trends, could chart a new path for the Bank of Japan, which has maintained ultra-low rates amid uncertainty around the global outlook.

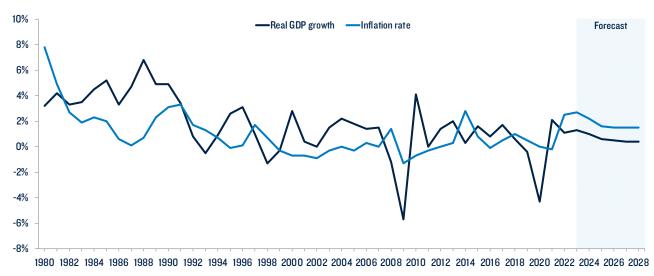
Higher rates could have broad implications for domestic banks, which are the primary holder of government debt in Japan. As investors observed during the regional bank crisis in the US, a shift in monetary policy could have unforeseen repercussions.

EXPORTS	WAGES	FOREIGN DIRECT INVESTMENT
115.5% IN FISCAL 2022	13.58% IN SPRING OF 2023, THE BIGGEST HIKE FOR UNION WORKERS SINCE 1993	114.9% IN THE QUARTER ENDED IN JUNE

Exhibit 3: Japan's Economy Takes Flight

Sources: Ministry of Finance Japan, Rengo, Bank of Japan (July 2023)





Source: International Monetary Fund, July 2023

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These industrial strategies do represent a wholesale shift in how governments are managing their economies....We're seeing a complete reversal in that it's the central bank having to step back from supporting the economy, needing to raise interest rates, get inflation back to target, and it's the fiscal authority that is doing the heavy lifting to support the macro outlook."

KATHARINE NEISS Deputy Head of Global Economics and Chief European Economist PGIM Fixed Income

GERMANY DEINDUSTRIALIZATION THREATENS EUROPE'S ECONOMIC POWERHOUSE

Germany was a significant beneficiary of globalization. Its manufacturing base grew to support export demand from around the world, with buyers in other countries craving German cars, electronics and pharmaceuticals.

The EU's largest economy has struggled more recently as it faces challenges on three main fronts: the war in Ukraine, foreign subsidies, and a reshuffling of global trade routes. Add to this the competition that German automakers now face from new entrants in the electriccar market, creating a tougher operating environment for an industry critical to the strength of the country's factory sector.

Germany's long-term challenges are exacerbated by tensions between the US, a strategic ally, and China, Germany's main trade partner. Trade between Germany and China grew by 21% in 2022 compared with the prior year, reaching a record level. It marked the seventh consecutive year that China ranked as Germany's biggest trade partner.

Nonetheless, in response to growing tensions globally, the German government has adopted its first national strategy related to China, which it labeled a "partner, competitor and systemic rival." As part of this policy⁴, German officials aim to make the country's economy less dependent on Chinese imports while increasing export controls—following a path similar to Europe's vision of "de-risking."

Other policy changes in the region have emerged. Europe countered new clean-energy subsidies in the US with its own package of incentives. In March, the EU eased state-aid rules by allowing national governments to match subsidies that companies would be offered in the US. However, the US carries greater financial might, and some manufacturers—even stalwarts of Germany's industrial base—have directed new investments there. This has raised the risk of a manufacturing flight out of Europe, although EU officials have expressed confidence in their plan to remain competitive.

Germany pledged \$11 billion in financing to back the construction of a semiconductor manufacturing complex for Intel. It also will help finance a Thyssenkrupp plant with subsidies that were approved during the summer. Still, smaller companies are less likely to benefit from the EU's plans than large firms, and local subsidies are primarily directed toward building up capacity rather than sharing production costs over time like in the US.

The shortcomings of this industrial policy underscore the challenges facing Germany's export-heavy economy. A change in direction may be in order, as leaders in Germany search for ways to reinvigorate the economy.⁵ With tensions between China and the West growing, Germany may look to its European neighbors for export growth—lessening its reliance on Chinese demand and continue crafting its own policy measures aimed at spurring domestic investment.

\$11BN Pledged by germany to back the construction of a semiconductor factory.

4 Strategy on China of the Government of the Federal Republic of Germany, <u>https://www.auswaertiges-amt.de/</u>

5 Germany Needs Its Very Own Marshall Plan, PGIM Fixed Income Deputy Head of Global Economics and Chief European Economist Katharine Neiss, Financial Times.

KEY TAKEAWAYS

Great-power competition is helping set off a new era in which globalization will take a different form: regionalization.

Moving away from the comparatively unfettered global exchange of goods and services observed in past decades, the world's largest economies have pursued tactical trade strategies to strengthen relationships with allies, reduce risks associated with supply disruptions, and avoid becoming reliant on rival nations for critical goods and technology. Export controls, tariffs and other trade restrictions are becoming the norm.

This creates a far different trade and economic environment for countries like South Korea that transformed themselves into formidable trade partners and centers of tech innovation. While opportunities may arise as the US and China rearrange supply chains, an evolving trade landscape runs the risk of leaving smaller economies with less financial might behind.

With competition likely to intensify in the decades ahead, the far-reaching and varying impact of new trade policies will inject greater uncertainty into the investment outlook.

CHAPTER 2 REGIONALIZATION'S RIPPLE EFFECT

The US and China are rearranging supply chains around each other, benefiting other economies and introducing a new layer of risk for others. The cascading impact will be felt around the world and elevate country risk in the portfolio.

A FACTORY TURF WAR

US subsidies are fueling a global turf war over new factories, and there are some early signs that these incentives are attracting foreign investment.

In one of the largest examples of foreign direct investment in the US, Taiwan Semiconductor Manufacturing Company said in 2022 it would build a second plant in Arizona for a total planned investment of \$40 billion in the state. BMW broke ground in South Carolina, where the German car maker is building a new battery plant. Hyundai and LG revealed plans for their own battery plant in Georgia. Overall, the US registered an increase in foreign direct investment from every region worldwide in 2022.

Beyond just onshoring supply chains, the objective of some US policymakers is to promote near-shoring—

bringing manufacturing closer to home, particularly through partnerships with strategic allies and neighboring trade partners.

China has made subsidies available to strategic industries since 2015, when it rolled out its "Made in China 2025" plan to expand its manufacturing base. The plan includes a variety of support, including government funding and tax breaks, for firms in burgeoning high-tech sectors such as EVs, robotics and AI. Moreover, China has focused its attention on ramping up domestic chip production to reduce its reliance on rival economies.



Exhibit 5: Investments are Flowing into the US (\$ in billions)

Source: US Bureau of Economic Analysis, July 2023

ECONOMIES BENEFITING FROM NEW SUPPLY ROUTES

Near-shoring and efforts to rearrange supply chains may prove to be a boon for economies that can present an alternative for key exports. For example, food consumption is changing with "western diets" taking hold.

This has China seeking agricultural imports from countries such as Brazil to lessen its dependence on US beef and corn feed.⁶ Meanwhile, the US is turning to allies such as Canada, South Korea and Australia. South Korea's exports to the US in 2022 outstripped shipments of Chinese goods for the first time in nearly two decades. Australia's mineral and defense suppliers were labeled "domestic" through the US Inflation Reduction Act.

Australia serves as an example of an economy that successfully became less dependent on China, potentially offering a blueprint for others seeking to "de-risk" without completely severing ties. It found new markets for goods that have been under Chinese trade sanctions, and its partnership with the US is poised to benefit its mining and manufacturing sectors. However, ties with China remain. China continues to be a destination for other Australian resources, including natural gas and iron ore. Despite "de-risking," China is still a key trade partner for other economies as well. Beneficiaries of new US trade policies, such as Canada, Mexico, South Korea, Vietnam and India, are home to manufacturers that continue to rely on parts and materials sourced from China. This makes the overall impact to the Chinese economy less certain. Even as US policy promotes greater self-reliance and economic cooperation with allies, China could remain a crucial link in supply chains.

While fewer goods may travel between the US and China directly, supply chains for a variety of manufactured items are likely to keep the world's two biggest economies connected through intermediaries. A review of US National Highway Traffic Safety Administration reports will find that some vehicles assembled and sold in the US, particularly EVs, are made with parts from Chinese suppliers. Some vehicles assembled in other countries, such as Mexico and Belgium, and later sold in the US also contain Chinesemade parts.⁷

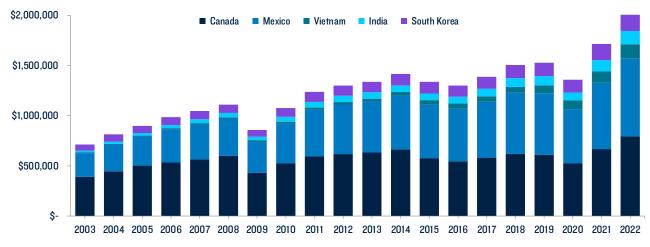


Exhibit 6: Beyond China: US Expanding Trade Relationships with Other Nations (\$ in millions)

Source: US Bureau of Economic Analysis, September 2023

6 Food for Thought: Investment Opportunities Across a Changing Food System, PGIM, <u>https://www.pgim.com/pgim-japan/insights/pgim-megatrends-food-for-thought</u> 7 Part 583 American Automobile Labeling Act Reports, US National Highway Traffic Safety Administration,

https://www.nhtsa.gov/part-583-american-automobile-labeling-act-reports

NEW CHALLENGES AND INFLATION RISKS

The shake-up in global trade may prove costly for others.

Despite its headline-grabbing investment in a new chip plant, Germany is nonetheless heading toward a path of deindustrialization amid uncertainty over energy security, domestic labor shortages and attractive US subsidies. As tax credits and other subsidies attract manufacturing to the US, economies such as the UK risk becoming more reliant on imports—and thus more sensitive to increasingly complex supply chains. With subsidies proving to be a significant consideration for global manufacturers, some companies are rethinking the locations of their factories, favoring the US and Europe over countries with smaller pools of cash to offer as an incentive. The challenge for smaller economies in this environment will be creating new trade alliances and capturing growth as partners reindustrialize.

For emerging markets, trade constraints may result in a reallocation of capital and lower growth if supply chains are rerouted to mirror geopolitical blocs. A country such as Mexico could benefit from "friend-shoring" given its proximity to the US and its existing foothold in global supply chains. Investing in both developed and emerging markets will require analysis that puts a greater emphasis on geopolitical factors, regional trading patterns and capital flows. The regionalization of supply chains and return of industrial policy present new inflation risks as well. Globalization brought with it a lengthy period of moderate inflation. After the onset of the pandemic, the combination of supply-chain disruptions and government stimulus contributed to price pressures that lifted inflation to levels not seen since the 1980s. With reindustrialization taking shape, the prospects for higher inflation in the years ahead appear to be growing stronger. Indonesia, the world's largest nickel producer, has raised the possibility of creating an OPEC-like group to coordinate exports of the mineral, a key component in EV batteries and other electronics. Policies of this kind hold the potential to keep prices up and inject greater uncertainty into global supply chains.

For developing economies in Asia Pacific, inflationary concerns and high interest rates abroad will likely constrain monetary policy and keep borrowing costs high. Governments' ability to provide fiscal support or respond to unexpected economic developments may thus be limited. Meanwhile, rising debt elevates the risk of distress and threatens to drag on private investment.⁸

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The intensifying competition between the great powers is one of the global macroeconomic anchors that is weakening and, as it does, we expect it will narrow the diplomatic space for constructive compromises and complicate responses to shared global problems."

MEHILL MARKU Lead Geopolitical Analyst PGIM Fixed Income

8 East Asia and Pacific Economic Update (October 2023), The World Bank, https://www.worldbank.org/en/publication/east-asia-and-pacific-economic-update

KEY TAKEAWAYS

Fighting a tide of tightening financial conditions, the resilience of the US economy brought upside risks to light. Yet a soft landing is not inevitable.

Typically, the world sees credit squeezes emerge following the sort of policy tightening that the Federal Reserve and other central banks have adopted. Investor sentiment turned cheerful after the economy avoided a broader crisis after the fall of Silicon Valley Bank and other regional lenders, potentially leaving markets vulnerable to recession risks and unforeseen shocks. Investors no doubt face a difficult environment with the outlook for inflation and global growth seemingly becoming more volatile, along with conflicts such as the war in Ukraine and the attack on Israel.

Economic policies are in a constant state of change, taking new directions with vast portfolio implications.

CHAPTER 3 AGILE INVESTING IN A FAST-CHANGING WORLD

A changing US-China relationship, the regionalization of global supply chains and the reemergence of industrial policy in the West are bringing fundamental change to the macro landscape.

INVESTMENT IMPLICATIONS

A changing US-China relationship, the regionalization of global supply chains and the reemergence of industrial policy in the West are bringing fundamental change to the macro landscape, making it imperative for investors to both manage risk and capitalize on new opportunities that emerge in this era of change.

While a full decoupling is less likely, globalization will take a different path in the next decade than it did in the last, reflecting the regionalization of trade and the benefit of subsidies to key industries. Investment opportunities will continue to present themselves but in different regions and sectors, as supply chains are redirected and fiscal support incentivizes domestic growth. Savvy investors with dry powder will be poised to capture these unexpected opportunities.

In order to manage risk, it is crucial to anticipate industrial policy's potential shortcomings.

Policymakers aim to simplify supply chains and limit exposure to geopolitical turmoil by encouraging manufacturers to take up roots closer to their own borders. But there is a risk that today's economic interventions fall short of their objectives over the long haul. A corresponding increase in government spending adds to bloated public debts worldwide, and managing this debt burden will become trickier in a higher-rate regime. Domesticating supply chains threatens to raise the risk of inflation, supporting the case that central banks will hold interest rates higher for longer as they fight to bring down underlying price pressures. Investors have already observed liquidity challenges across global markets, particularly in bond markets and in regions such as Japan, as a normalization in monetary policy takes shape. Higher interest rates may also crowd out private investment and dent industrial policy's potential benefits to growth.

Government policy shifts bring with them another possibility: picking winners that turn out to be misses. China may serve as a cautionary tale given its recent economic struggles, showcasing the limitations of infrastructure investments and diminishing returns over time.

Unintended consequences may also arise. Rather than encourage cooperation among strategic allies, there's a risk that US industrial policy pushes some trade partners closer to China, especially those that rely on Chinese demand (such as Germany) and inputs (such as India). This may in turn create new geopolitical tensions. Furthermore, geopolitical strife threatens

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A lot of people think of risk narrowly and perhaps wrongly in terms of what sort of tools can they apply to their portfolio. But I think increasingly the light bulb is coming on that risk really means thinking outside the box."

MICHAEL DICKS

Chief Economist and Deputy Head of Research PGIM Wadhwani to put a greater strain on government budgets, potentially leaving less money to spend on economic development or other stimulus programs.

A different path for policy and growth, from an industrialization drive to global economies taking unexpected and divergent trajectories, thus portends a new economic era that will alter the investment outlook.

With the world seemingly changing at a quicker pace, investors must avoid thinking of risk within a narrow spectrum. Managing risk today means finding the right assets and strategies that can mitigate downside risks from both high- and low-probability events—and even provide upside potential in an otherwise volatile market. Active managers who have experience investing through a variety of cycles can help build portfolio strategies that cut across public and private markets to meet investors' risk-management objectives.

A world that is shifting faster and more dynamically will compel investors to create more robust portfolios that can withstand volatility. This calls for diversification and more sophisticated strategies, such as systematic macro strategies, that can be long but also go short as risks develop. For instance, while an allocation in commodities can be used as a hedge against inflation, agile investors need to plan for an unexpected or sudden softening in price pressures.

When managing risk, reducing risk ahead of known events such as elections is a natural part of the investment playbook. Investors can prepare for "unknown unknowns"—and hard-to-predict geopolitical risks—by building agility into their portfolios, thus reducing reaction times when a new regime takes hold.

One thing investors have going in their favor is technology and quantitative models make it possible to quickly detect shifts in the correlation between asset classes and macro trends, allowing market participants to be much more responsive. By processing large amounts of data, quantitative managers can assess performance drivers and help optimize portfolios to not only capture excess returns, but account for expected and unexpected performance detractors.⁹

INVESTMENT TAKEAWAYS*

- Keep dry powder: Have dry powder on hand to capture unexpected opportunities in different regions and sectors as supply chains are redirected and governments extend fiscal support to domestic industries.
- Monitor liquidity risk: Be aware of liquidity challenges across global markets with inflation supporting the case for central banks to keep interest rates higher for longer.
- Mitigate downside risk: Find the right assets and strategies that can mitigate downside risks from both high- and low-probability events—and even provide upside potential in an otherwise volatile market.
- Experience across market cycles: Seek active managers who have experience investing through a variety of cycles and can help build portfolio strategies that cut across public and private markets.
- Nimble strategies: Use diversification and more sophisticated strategies, such as systematic macro, that can be long but also go short as risks develop in a dynamic, fastchanging world.
- Flexibility: Leverage quantitative models that make it possible to quickly detect shifts in the correlation between asset classes and macro trends.

*No risk management technique can guarantee the mitigation or elimination of risk in any market environment.

9 The ABCs of Alpha, Beta and Changing Markets, Patrick McDonough, Portfolio Manager, PGIM Quantitative Solutions.

CONCLUSION

A rapid evolution of the modern economy calls for thinking outside the box.

A reemergence of industrial policy, the regionalization of supply chains, and great-power competition are changing the foundation of the global economy and forging a new investment regime defined by greater uncertainty and a broader set of risks. The forces driving change across the global economy create fertile ground for the emergence of new and sudden risks to financial markets, making portfolio diversification, agile investment strategies and active management more important than ever.

BALANCING RISK AND REWARD

At PGIM, risk management is at the center of our corporate governance, investment process, and organizational culture.

Through our multi-manager model and global footprint, PGIM provides institutions access to a range of investment strategies that are designed to mitigate fallout in times of market stress, generate returns during periods of volatility, and provide diversification through public and private alternatives and dynamic multi-asset solutions.



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i 30 market cycles represent PFI's asset management expertise through PGIM and its affiliates and its predecessors. For additional information related to market cycles visit: https://www.nber.org/research/business-cycle-dating

ii PGIM is the investment management business of Prudential Financial, Inc. (PFI). PFI is the 11th largest investment manager (out of 434 firms surveyed) in terms of worldwide institutional assets under management based on Pensions & Investments' Top Money Managers list published June 2023. This ranking represents institutional client assets under management by PFI as of December 31, 2022. Participation in the P&I ranking is voluntary and open to managers that have any kind of U.S. institutional tax-exempt AUM.



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