PIMCO

SECULAR OUTLOOK

OCTOBER 2021

Age of Transformation

Investors should prepare to navigate unfamiliar terrain as the macroeconomic landscape undergoes dramatic transformations over the secular horizon.

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SUMMARY

- In the next five years the global economy will likely experience more uncertain, volatile, and divergent growth and inflation than in the New Normal decade leading up to the pandemic.
- Three broad trends should drive major secular transformations: the transition to green energy, the faster adoption of new technologies, and an increasing tendency to share gains more widely.
- Returns across asset classes will likely be lower and more volatile over the secular horizon given starting valuations today and the outlook for disruption, division, and divergence. But active investors capable of navigating change should find good alpha opportunities.
- Although we see upside risks to interest rates over the short term as economies continue to recover, over the secular horizon we expect rates to remain relatively range-bound, enabling lower but positive returns for core bond allocations. We remain generally constructive on equities, but we expect to see substantial differentiation across regions and sectors. In addition, we expect to see attractive return potential in private credit and real estate as a result of the COVID-19 crisis, and we will look to pursue these opportunities.

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PIMCO's annual Secular Forum this September was the 40th in our firm's 50-year history. There were no in-person celebrations, though, because like last year we only met virtually. Still, with plenty of input from invited speakers (see box), PIMCO's Global Advisory Board, and internal cross-divisional thematic teams, our global investment professionals zoomed in on the post-pandemic outlook for the global economy, policy, politics, and financial markets over the next five years and discussed the implications for investors' portfolios. Here's what we concluded.

THESIS

Investors and policymakers alike will have to come to grips with a radically different macro environment over the secular horizon as the post-financial-crisis, pre-pandemic New Normal decade of subpar-but-stable growth, below-target inflation, subdued volatility, and juicy asset returns is rapidly fading in the rearview mirror. What lies ahead is a more uncertain and uneven growth and inflation environment with plenty of pitfalls for policymakers. Amid disruption, division, and divergence, overall capital market returns will likely be lower and more volatile. But active investors capable of navigating the difficult terrain should find good alpha opportunities.

Three broad trends are likely to drive a major transformation of the global economy and markets

INITIAL CONDITIONS

As such, this year's secular thesis further develops the themes we highlighted in our 2020 *Secular Outlook*, "Escalating Disruption." We argued then that the pandemic would serve as a catalyst for accelerating and amplifying four important secular disruptors: the China–U.S. rivalry, populism, technology, and climate change.

Developments over the past year have reinforced those expectations. China–U.S. tensions have not only continued but intensified under the Biden administration. Populism and polarization have been on the rise in many countries, further fueled by politically charged divisions over lockdowns and vaccines. Digitalization and automation have been turbocharged by the pandemic. Extreme weather conditions in many parts of the world have also inflicted severe human and economic losses and contributed to major gyrations in energy markets. In our forum discussions we concluded that each of these secular disruptors will remain active in the foreseeable future.

Another important *initial condition* for the secular outlook is the sharp further increase in public and private sector debt caused by the pandemic recession and the policy responses. To be sure, with borrowing costs at or close to record lows, record high debt levels are not an immediate concern. However, higher leverage implies heightened vulnerability of public and private sector balance sheets to negative growth shocks and to positive interest rate shocks, thus increasing the risk of destabilizing runs on sovereign and private borrowers. Moreover, elevated debt levels and highly financialized economies as measured by wealth-to-income ratios will likely constrain central banks' ability to push interest rates aggressively higher without causing severe economic pain – a *financial market dominance* theme to which we will return below.

Last but not least, the pandemic either forced or encouraged many individuals to pause and rethink their lifestyle and the work-life balance. It is still too early to tell if and how preferences will change and how lasting any changes will be. However, it is well possible that we will see significant shifts in preferences for work versus leisure, for working from home versus the office, and for working in certain sectors or locations versus others. Also, consumption patterns may change permanently as many people may no longer be comfortable traveling or participating in mass gatherings even after the pandemic ends. This calls for a larger dose of humility in trying to predict economic outcomes over the secular horizon and strengthens our earlier point about elevated macro uncertainty in the years ahead.

SECULAR DRIVERS

In our discussions, we identified three broad trends that are likely to drive a major transformation of the global economy and markets.

While a net zero carbon world is desirable for many reasons, the path to this destination is unlikely to be smooth

The transition from brown to green. With increasing voter and consumer focus in many parts of the world, governments, regulators, and the corporate sector are stepping up their efforts to decarbonize and achieve net zero emissions by 2050. This means that both private and public investment in renewable sources of energy will be boosted over our secular horizon and for years to come. While the heavy lifting will have to be done by the private sector, both the U.S. bipartisan infrastructure bill and the EU Next Generation fund will support the transition with sizable spending on "green" infrastructure over the next five years.

Of course, higher private and public spending on clean energy is likely to be partly, but not fully, offset by lower investment and capital destruction in brown energy sectors such as coal and oil. During the transition there is a potential for supply disruptions and spikes in energy prices that sap growth and boost inflation, as recent events in China and Europe have demonstrated. Moreover, as the process creates winners and losers, there is a potential for political backlash in response to job losses in brown industries, higher carbon taxes and prices, or carbon border adjustment mechanisms that make imports more expensive. While the destination – a net zero world – is desirable for many reasons, including economic ones, the path to this destination is unlikely to be smooth.

Faster adoption of new technologies. In last year's outlook we expected the pandemic to turbocharge digitalization and automation. This is borne out by the data available so far, which show a significant rise in corporate spending on technology. Similar increases in investment in the past, e.g., during the 1990s in the U.S., have been accompanied by an acceleration in productivity growth. Developments over the past year suggest this may again have been the case as productivity has surged, though the cyclical rebound clearly also played a role. It remains to be seen whether the recent surge in tech investment and productivity growth is a one-off or the beginning of a stronger trend, but the data so far do support the notion that the pandemic served as a catalyst for a faster adoption of new technologies.

Digitalization and automation will lead to better economic outcomes overall by creating new jobs and making existing jobs more productive. But it will also be disruptive for those whose jobs will disappear and who may lack the right skills to find employment elsewhere. As with globalization, the dark side of digitalization and automation will likely be rising inequality and more support for populist policies at both ends of the political spectrum.

Many policymakers and societies are focused on addressing widening income and wealth inequality and making growth more inclusive

Sharing the gains from growth more widely. The third potentially transformative trend underway is the heightened focus by policymakers and society at large on addressing widening income and wealth inequality and making growth more inclusive. The latest case in point is the new focus by China's leadership on "common prosperity," aimed at narrowing the private wealth and income gap. As we write this essay, another example is the U.S. Democrats' proposed $3.5 trillion "soft infrastructure" spending package, which is mainly focused on social safety net programs such as Medicare and includes, among other things, expanded child tax credits for working families, universal preschooling, and free community college. While the size of a package that will pass Congress is likely to be much smaller, the changes would "hard-code" such policies for years to come.

Meanwhile, partly due to pressure from investors increasingly focused on ESG (environment, social, and governance) and partly due to self-interest, many companies are focused on improving working conditions, pay structures, and workforce diversity. Anecdotal evidence suggests that in many companies, the balance of power in the employer-employee relationship has started to shift from the former to the latter, thus improving workers' bargaining power. It remains to be seen whether this trend continues or whether work from home with the help of technology eventually allows companies to outsource more jobs to cheaper domestic and global locations, thus preserving or even increasing employers' bargaining power.

MACRO IMPLICATIONS

In an Age of Transformation characterized by disruptive trends and more interventionist policies, economic cycles may well be shorter in duration, larger in amplitude, and more divergent across countries. It is not difficult to imagine investment booms fueled by accelerating labor-intensive green investment and efforts to diversify or re-shore supply chains in order to increase resiliency, followed by busts caused by stop-go fiscal policies, energy price shocks, or overly ambitious and abrupt regulatory changes.

What lies ahead globally is a more uncertain and uneven growth and inflation environment

Cyclical divergence among regions and countries is also likely to increase as the various transformations progress at different speeds and as fiscal policy, which is often driven by election cycles that are asynchronous across countries, becomes a more dominant driver of demand. Moreover, with China becoming more self-sufficient and its economic growth likely to slow further over the secular horizon due to demographics, deleveraging, and decarbonization, one large common driver of export growth in many emerging and developed economies will likely fade in importance.

Like economic growth, inflation in the Age of Transformation is likely to become more volatile within countries and more divergent across regions. We continue to believe that inflation tails have become fatter, with periods of much higher, and periods of much lower, inflation becoming more probable. Upside risks emanate from the net zero transition and its impact on carbon prices, and from de-globalization, fiscal activism, and potential "mission creep" at central banks. Downside risks stem from companies learning to do more with less thanks to better technology. In addition, record high levels of debt and leverage increase the risk of debt deflation in the case of negative growth shocks.

Taken together, the pre-pandemic New Normal decade of subpar-but-stable growth, below-target inflation, subdued volatility, and juicy asset returns is rapidly fading in the rearview mirror. What lies ahead in the Age of Transformation is a more uncertain and uneven growth and inflation environment with plenty of pitfalls for policymakers.

2021 Secular Forum Guest Speakers

Susan Athey
Economics of Technology Professor at Stanford Graduate School of Business

Arminio Fraga
Former President of the Central Bank of Brazil

Jason Furman
Aetna Professor of the Practice of Economic Policy at Harvard Kennedy School

Kai-Fu Lee
Computer scientist, businessman, and author

Meghan O'Sullivan
Former Deputy National Security Adviser on Iraq and Afghanistan; Jeane Kirkpatrick Professor of the Practice of International Affairs at Harvard Kennedy School

Alfonso Prat-Gay
Former Minister of the Treasury and Public Finances of Argentina; former President of the Central Bank of Argentina

Ricardo Reis
A.W. Phillips Professor of Economics at the London School of Economics and Political Science

Daniel Yergin
Energy expert and economic historian; Vice Chairman of IHS Markit

Investment conclusions

We believe that the Age of Transformation over the next five years will mean a more uncertain outlook for growth and inflation – within countries and across regions. A world of disruption and divergence will present more difficult terrain for investors than the experience of the New Normal over the past decade. But we also believe it will provide good alpha opportunities for active investors who are equipped to take advantage of what we expect to be a period of higher volatility and "fatter tails" than the common bell curve distribution.

Higher macroeconomic and market volatility is very likely to mean lower returns across fixed income and equity markets. Starting valuations – low real and nominal yields in fixed income markets and historically high equity multiples – reinforce the expectation.

Central bank interventions have inflated asset prices as a byproduct of the monetary authorities' macro interventions. Developed country monetary and fiscal policy actions to combat the COVID-19 crisis have helped stave off the worst economic outcomes, but may have contributed to medium-term financial market vulnerabilities. With higher global public and private debt levels, there is less margin for error, requiring a strong focus on capital preservation.

In our baseline we expect low central bank rates to anchor global fixed income markets

THE LOW PATH OF RATES

We believe the secular factors that have driven neutral policy rates lower – including demographics, the balance of savings and investments, and high debt levels – remain in place. While a potential pickup in investment and productivity growth over the next several years could lift the neutral rate, there is also the potential for higher precautionary saving by households to partially or fully offset these pressures. Uncertainty over the outlook for growth and inflation mean there are a range of possible outcomes for policy rates over the secular horizon. But our baseline remains low neutral policy rates and the potential for lower terminal rates in the next cycle for central banks that were able to move meaningfully away from their lower bound in the last cycle owing to financial market sensitivity to higher rates.

The U.S. Federal Reserve provides an example. The Fed was able to raise the fed funds rate to a target range of 2.25% to 2.5% in late 2018 and at the time thought it had some way further to go. But cracks in the financial markets forced the Fed to reverse course and cut its target rate back down to 1.5% to 1.75% in 2019 – even before the pandemic and subsequent emergency actions. Financial market dominance may again make it difficult for the Fed and other central banks to tighten policy significantly in the next five years. If higher inflation risks are realized, this would lead to difficult choices, higher volatility – and opportunities for active investors.

In our baseline we expect low central bank rates to prevail and anchor global fixed income markets. There are likely to be periods of optimism and pessimism on growth and inflation – just as we have experienced over the past year – given the uncertainty that the post-COVID environment injects into decision-making for policymakers and market participants alike.

Bonds should continue to provide diversification benefits within overall asset allocation portfolios

Real yields are low and indeed negative across developed country markets. Nominal yields are low and also negative in parts of the core eurozone markets and Japan. We expect broadly anchored markets and lower but positive returns for core bond allocations, and although we see upside risks to interest rates over the short term as economies continue to recover, over the secular horizon we expect rates to remain relatively range-bound.

We expect bonds to continue to provide diversification benefits in terms of overall asset allocation, and while return expectations should be muted across asset classes, there are states of the world in which bonds could outperform equities – especially on the basis of return per unit of volatility. (Read more about our research on bonds in a low-yield environment here.) While a sustained period of high inflation is not our baseline outlook, we continue to think that U.S. Treasury Inflation-Protected Securities (TIPS), as well as commodities and other real assets, make sense to help hedge against inflation risks.

We expect to find good opportunities across emerging markets and will approach it as a broad opportunity set

EMERGING AND DEVELOPED MARKETS

We expect to navigate an investment environment in which macro trends, disruptors, and drivers, combined with elevated debt levels, lead to substantial differentiation across regions, countries, and sectors. Divergent macro performance will create winners and losers. In Asia, the prospect of stronger growth and developing capital markets is likely to provide good investment opportunities, in spite of the risks associated with slower growth in China and ongoing geopolitical tensions. More broadly, while a number of emerging market (EM) countries face difficult secular circumstances, as always it is important to approach emerging markets as a broad opportunity set, not as a passive beta investment, and we expect to find very good opportunities across EM. (Learn more about PIMCO's investment approach in EM here.)

In developed countries, with central bank policy rates at low levels, we expect fiscal policy to be a more important driver during periods of economic weakness. While we do not expect the same "war time" footing that was adopted during the worst of the pandemic to be repeated, we do expect more active use of fiscal policy in the event of cyclical downturns compared with the New Normal period when central banks were the only game in town.

It is likely the U.S. and other English-speaking countries will be more willing and able to use fiscal levers than the eurozone countries, given the complications of a single currency unit with many different fiscal authorities. While the eurozone has avoided a sovereign crisis and looks unlikely to force austerity on weaker fiscal actors in the aftermath of the COVID recession, it is likely that Germany and its northern neighbors will remain fiscally conservative, however low – or indeed negative – the cost of borrowing.

That said, the response of the eurozone to the pandemic and the launch of the Next Generation EU fund to provide common European Union (EU) funding for pandemic recovery raises the prospect of ongoing common fiscal support during periods of economic weakness and to fund the EU's green goals. This is the first time we have seen common EU financing for cross-border transfers via grants and loans. European politics and especially Italian governance – given the systemic importance of the Italian bond market – will remain a source of uncertainty and potentially stress. But there is, at least, the prospect of a more stable eurozone, and we will look to exploit the investment opportunities that arise.

Semiconductors, factory automation, and green energy and mobility suppliers should all stand to benefit from secular trends

ESG

The transition from brown to green, the faster adoption of new technologies, and post-pandemic changes in supply chains and preferences similarly will create a range of winners and losers and reinforce the importance of active management in corporate debt markets. Shifts in environmental regulation will mean uncertainty and complexity as well as opportunity. High debt levels are a particular concern in the case of countries or companies that stand to lose out in the brown to green transition. It is critical to take into account ESG factors across our investment strategies, not only in dedicated ESG and climate portfolios, and we aim to provide high quality investment processes and client service in this area. (See Spotlight sidebar on ESG.)

About Our Forums

Honed over 50 years and tested in virtually every market environment, PIMCO's investment process is anchored by our Secular and Cyclical Economic Forums. Four times a year, our investment professionals from around the world gather to discuss and debate the state of the global markets and economy and identify the trends that we believe will have important investment implications.

At the Secular Forum, held annually, we focus on the outlook for the next five years, allowing us to position portfolios to benefit from structural changes and trends in the global economy. Because we believe diverse ideas produce better investment results, we invite distinguished guest speakers – Nobel laureate economists, policymakers, investors, and historians – who bring valuable, multidimensional perspectives to our discussions. We also welcome the active participation of the PIMCO Global Advisory Board, a team of world-renowned experts on economic and political issues.

At the Cyclical Forum, held three times a year, we focus on the outlook for the next six to 12 months, analyzing business cycle dynamics across major developed and emerging market economies with an eye toward identifying potential changes in monetary and fiscal policies, market risk premiums, and relative valuations that drive portfolio positioning.

ASSET CLASS ASSESSMENTS

In an environment of ongoing central bank support and the potential for countercyclical fiscal policy in the event of downturns, and negative or low real yields, we expect to remain constructive on equities in our asset allocation portfolios. As outlined above, we believe the post-COVID-19 recovery has underscored the need for physical infrastructure investment – after years of under-investment – owing to the trends of digitalization and automation and the push toward green adoption. Where the past decade was software-led, the coming one will be defined more by hardware investments related to these trends. The theme of differentiation and winners and losers in the recovery will be crucial across countries and sectors and at the stock selection level. In particular, we believe that semiconductor manufacturers, factory automation equipment providers, and green energy and mobility suppliers all stand to benefit, and we expect these sectors to be an important part of our portfolio construction.

We will look to take advantage of the illiquidity premium by pursuing opportunities in private credit, real estate, and select developing capital markets

In an Age of Transformation where real and nominal interest rates are likely to remain anchored at low levels, we think it makes sense to seek to maximize the opportunity in traditional fixed income strategies with flexible mandates aimed at taking advantage of the full global opportunity set. It also makes sense, in our view, to look for alternatives beyond traditional fixed income, including making use of private credit and developing global capital markets where this is consistent with client needs and expectations.

We believe real estate and alternative credit provide attractive income-generating potential, and these are areas where, as a business, PIMCO plans to continue to invest. (See Spotlight sidebars.)

Quantitative capabilities and technology will be important for all asset managers. We plan to continue to build these capabilities to provide dedicated quantitative strategies to fill client demand, as well as to provide insights and support for an investment process that is aimed at generating alpha and managing risk effectively across all our client portfolios.

Secular Spotlight

Opportunities and Trends in ESG

Our forum addressed macroeconomic and geopolitical considerations arising from the energy transition, as well as regulatory developments for ESG investing.

The world remains far from meeting the maximum global warming limit of 1.5 to 2.0 degrees Celsius established by the Paris Agreement adopted in 2016. Pledges and targets for decarbonization have notably increased, but the actions necessary to meet such ambitions remain insufficient.

The significant capital (political, financial, and human) required to facilitate these objectives has the potential to be highly disruptive to the global economy. Capital deployment by public and private actors will be meaningful given the commercial potential for scalable solutions, resulting in investment opportunities across a range of asset classes. Capital reallocation to cleaner sources of energy by governments and investors has long-term merits but also has the potential to cause short-term dislocations over the course of the transition.

The trajectory for fossil fuel demand peaking in parallel with tightening regulatory and ESG pressures on fuel exploration and production increases the risk of energy price volatility over the secular horizon and can translate to broader upward pressure to inflation.

Furthermore, the concentrated sources for the underlying minerals and raw materials needed for clean energy technologies cause overreliance on certain countries and supply chains, resulting in a trade-off between diversifying supplies and achieving a cleaner energy future over the shortest possible time frame. A concerted effort to reach the well- below 2.0 degrees Celsius goal would mean a quadrupling of mineral requirements for clean energy technologies by 2040. How the world ensures supply and demand remain relatively balanced for both old and new energy will be of critical importance to maintaining stability in financial markets and confidence in policymakers.

Climate disclosure requirements are expanding across geographies through a range of regulatory initiatives, while an increasing share of investors consider climate to be a material driver of performance. Climate change adaptation and mitigation are likely to be a major focus of policymakers and regulators over the secular horizon. Carbon pricing, and concepts such as the Carbon Border Adjustment Mechanism, will continue to gain momentum in many economies. While a carbon pricing policy is a remote political possibility in the U.S. at the federal level, certain state governments will continue to move ahead with such efforts in their jurisdictions with considerable impact.

Overall, the energy transition represents a capital deployment event of historic proportions. Measuring the risks and opportunities for the transition directly, and indirect implications across asset classes, will be increasingly critical for investors. PIMCO is committed to ongoing engagement with policymakers and international organizations to help develop the best frameworks, tools, and solutions to enable investors to analyze the risks and opportunities in this rapidly evolving space.

Learn more about PIMCO's approach to ESG investing here.

Opportunities in Private Credit

Private credit remains an area of relative attractiveness, as investors can look to illiquidity and complexity premia to generate attractive risk-adjusted returns relative to public markets. We do caution that the global search for yield has resulted in significant capital formation in certain segments of private lending markets, which can lead to tighter valuations and weaker lending covenants. This is perhaps most notable in corporate middle market lending to companies backed by private equity (PE) sponsors.

Against this backdrop, we expect corporate capital solutions and more complex asset-based lending opportunities to provide superior risk-adjusted returns relative to more traditional PE-sponsored loans to middle market companies. The challenges posed by the pandemic have put significant pressure on many business models and balance sheets, resulting in many borrowers entering the current environment with highly complex and leveraged capital structures. This creates opportunities for private lenders given the bespoke needs of many borrowers. These opportunities can often come in the form of senior loans, but also in junior capital or structured equity investments that can benefit from highly negotiated covenants – all of which can provide a powerful combination of potential downside risk mitigation and equity-like upside.

We also expect a relatively target-rich opportunity set in residential mortgage lending and specialty finance markets where we believe investors can benefit from strong asset coverage, borrower diversification, and/or income streams that are less correlated to more traditional credit markets. While yields have compressed in certain higher-quality residential credit segments, we expect to continue to find opportunities in legacy loan portfolios across the U.S. and parts of Europe, as well as opportunities to originate new loans with well-structured credit covenants for end investors. Within specialty finance, we expect continued opportunities in higher-quality forms of consumer credit, as well as asset-based financing, including transportation, intellectual property rights, and legacy loan portfolios.

Learn more about how PIMCO invests in alternatives here.

Opportunities in Commercial Real Estate

COVID-19 has had a significant impact on global commercial real estate (CRE) markets, creating dispersion across property types. On top of those seismic shifts, there are numerous secular trends in the forefront of investors' minds, including global urbanization, the rise of the middle class in developing economies, lack of supply in housing, the acceleration of e-commerce, and advancements in life sciences.

As we look over the secular horizon, we believe the following themes will drive the CRE global opportunity set:

- Recovery from COVID-19-induced dislocations, most notably in global lodging and office sectors
- Sectors benefitting from the acceleration of secular trends, including industrial and residential, as well as other emerging niche sectors, such as data centers and alternative housing
- Growing secular distress amplified by COVID-19 pressures in retail and European non-performing loans, which is anticipated to accelerate in 2022 and beyond

Given the breadth of the opportunity set, we expect a relatively target-rich investment environment across the risk spectrum. For income-oriented investors, core and core-plus assets that benefit from the trends noted above are likely to provide attractive risk-adjusted yield relative to more traditional fixed income and credit assets. In addition, rising transaction volumes, capital needs to reposition assets, and the regulatory environment are likely to create attractive opportunities for senior CRE lenders.

For opportunistic and value-add investors, we believe there are opportunities to acquire or recapitalize assets as the recovery continues. Specifically, there is a significant need to reposition and develop assets to future-proof the next generation of real estate and incorporate ESG factors. Finally, given elevated debt levels we expect financial institutions to accelerate initiatives to repair their balance sheets, resulting in sizable dispositions of non-core, sub-performing and non-performing loans backed by CRE assets.

Past performance is not a guarantee or a reliable indicator of future results.

All investments contain risk and may lose value. Investing in the **bond market** is subject to risks, including market, interest rate, issuer, credit, inflation risk, and liquidity risk. The value of most bonds and bond strategies are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and volatile than those with shorter durations; bond prices generally fall as interest rates rise, and low interest rate environments increase this risk. Reductions in bond counterparty capacity may contribute to decreased market liquidity and increased price volatility. Bond investments may be worth more or less than the original cost when redeemed. **Inflation-linked bonds (ILBs)** issued by a government are fixed income securities whose principal value is periodically adjusted according to the rate of inflation; ILBs decline in value when real interest rates rise. **Treasury Inflation-Protected Securities (TIPS)** are ILBs issued by the U.S. government. **Equities** may decline in value due to both real and perceived general market, economic and industry conditions. **Commodities** contain heightened risk, including market, political, regulatory and natural conditions, and may not be appropriate for all investors. The value of **real estate** and portfolios that invest in real estate may fluctuate due to: losses from casualty or condemnation, changes in local and general economic conditions, supply and demand, interest rates, property tax rates, regulatory limitations on rents, zoning laws, and operating expenses. **Mortgage- and asset-backed securities** may be sensitive to changes in interest rates, subject to early repayment risk, and their value may fluctuate in response to the market's perception of issuer creditworthiness; while generally supported by some form of government or private guarantee, there is no assurance that private guarantors will meet their obligations. Investing in **foreign-denominated and/or -domiciled securities** may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. **Currency rates** may fluctuate significantly over short periods of time and may reduce the returns of a portfolio. **Private credit** and equity strategies involve a high degree of risk and prospective investors are advised that these strategies are appropriate only for persons of adequate financial means who have no need for liquidity with respect to their investment and who can bear the economic risk, including the possible complete loss, of their investment. **Management risk** is the risk that the investment techniques and risk analyses applied by an investment manager will not produce the desired results, and that certain policies or developments may affect the investment techniques available to the manager in connection with managing the strategy.

PIMCO is committed to the integration of **Environmental, Social and Governance ("ESG")** factors into our broad research process and engaging with issuers on sustainability factors and our climate change investment analysis. At PIMCO, we define ESG integration as the consistent consideration of material ESG factors into our investment research process, which may include, but are not limited to, climate change risks, diversity, inclusion and social equality, regulatory risks, human capital management, and others. Further information is available in PIMCO's Environmental, Social and Governance (ESG) Investment Policy Statement.

With respect to comingled funds with sustainability objectives ("ESG-dedicated funds"), we have built on PIMCO's 50-year core investment processes and utilize three guiding principles: Exclude, Evaluate and Engage. In this way, PIMCO's ESG-dedicated funds seek to deliver attractive returns while also seeking to achieve positive ESG outcomes through its investments. Please see each ESG-dedicated fund's prospectus for more detailed information related to its investment objectives, investment strategies and approach to ESG.

ESG investing is qualitative and subjective by nature, and there is no guarantee that the factors utilized by PIMCO or any judgment exercised by PIMCO will reflect the opinions of any particular investor, and the factors utilized by PIMCO may differ from the factors that any particular investor considers relevant in evaluating an issuer's ESG practices. In evaluating an issuer, PIMCO is dependent upon information and data obtained through voluntary or third-party reporting that may be incomplete, inaccurate or unavailable, or present conflicting information and data with respect to an issuer, which in each case could cause PIMCO to incorrectly assess an issuer's business practices with respect to its ESG practices. Socially responsible norms differ by region, and an issuer's ESG practices or PIMCO's assessment of an issuer's ESG practices may change over time. There is no assurance that the ESG investing strategy or techniques employed will be successful. Past performance is not a guarantee or reliable indicator of future results.

Statements concerning financial market trends or portfolio strategies are based on current market conditions, which will fluctuate. There is no guarantee that these investment strategies will work under all market conditions or are appropriate for all investors and each investor should evaluate their ability to invest for the long term, especially during periods of downturn in the market. Outlook and strategies are subject to change without notice. Investors should consult their investment professional prior to making an investment decision.

Alpha is a measure of performance on a risk-adjusted basis calculated by comparing the volatility (price risk) of a portfolio vs. its risk-adjusted performance to a benchmark index; the excess return relative to the benchmark is alpha. **Beta** is a measure of price sensitivity to market movements. Market beta is 1.

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