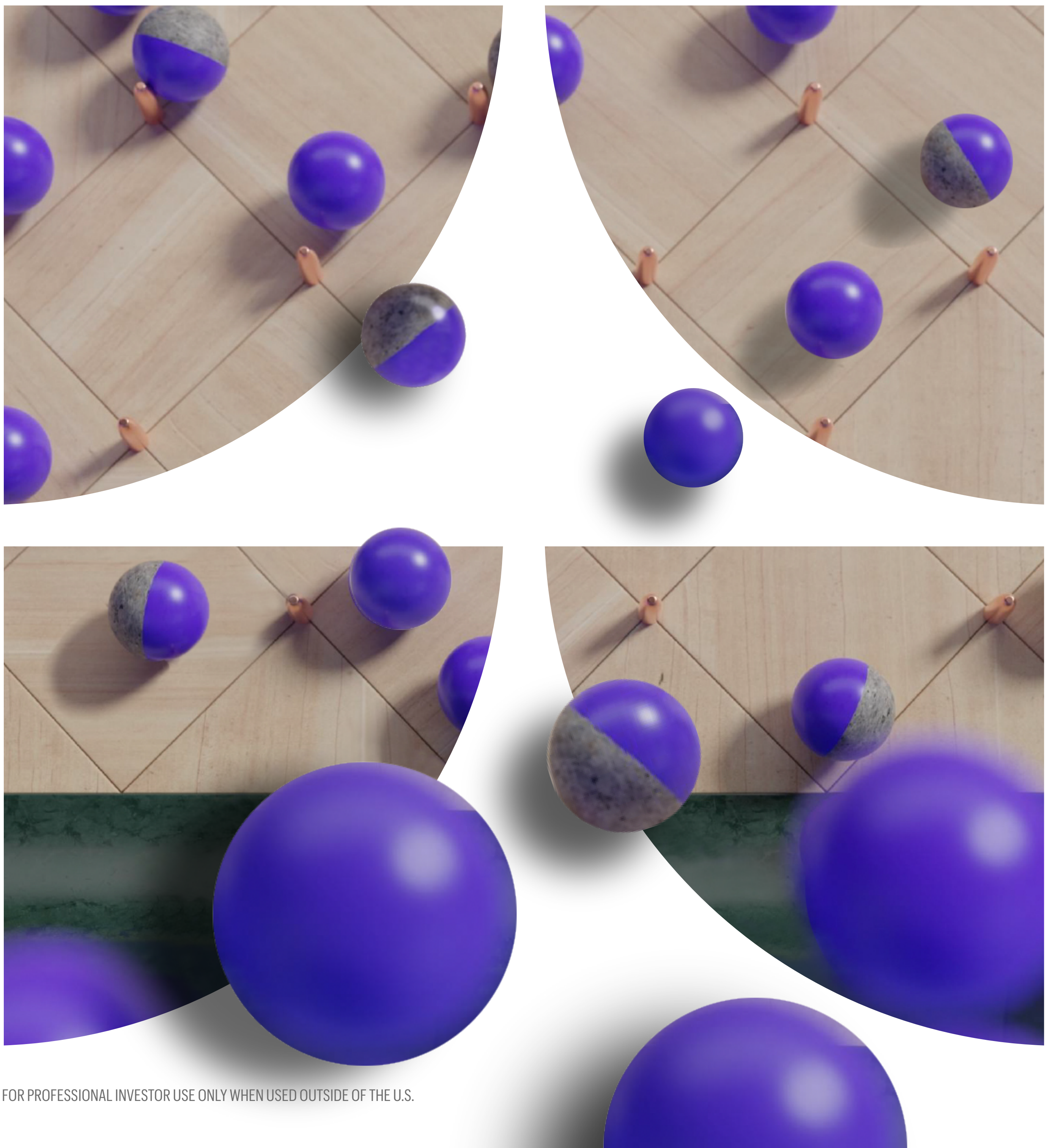
2023 MIDYEAR OUTLOOK

High Hopes

UNCOVERING POCKETS OF OPPORTUNITY IN CHALLENGING MARKETS



Never stop learning

A midyear update from Allspring's chief investment officers

JON BARANKO
+ Chief Investment Officer
+ Fundamental Investments

DAN MORRIS
+ Chief Investment Officer
+ Systematic Investments

As 2023 matures, the global economy is slowing and the risks of recession are rising. Witnessing the contraction phase of an economic cycle is nothing new for seasoned investors—there have been six recessions in the U.S. since 1980, and each has had unique circumstances that investors can try to pull from today. We have to go back to the 1970s and early 1980s for some clues on interpreting today's inflationary environment, which is admittedly a period that few of today's professional investors managed through.

The return of inflation after such a long absence adds a degree of difficulty in interpreting reported gross domestic product (GDP) growth. Nominal growth remains robust, but "real" growth is weak—the difference attributable to meaningful levels of inflation. Hidden in plain sight, the real growth slowdown is difficult for many market participants to recognize, and it will take some time to fully manifest in market expectations. We think we are living through a period of "slowflation," which, to date, is a less severe form of the stagflation (zero growth, high inflation) that existed in the 1970s.

Another circumstance of today's economic slowdown is stress in the global banking system. We can look to the Global Financial Crisis in 2008–2009 for clues. Back then, cheap financing and subsidies inflated a residential real estate bubble built on poor underwriting standards. Banks originated, repackaged, and sold loans as complex derivatives and structured products until the financial system was saturated with housing exposure. When interest rates rose to throttle the excesses, markets learned very quickly that housing prices can in fact fall. Banks with the most exposure to housing were hit first, and then the damage spread to the broader financial system in history's biggest margin call to date.

Nearly 15 years later, monetary stimulus has reinflated real estate values, but the excesses are taking a slightly different form. Today's high vacancy rates in office buildings and the shuttering of retail outlets are hitting regional banks that specialize in commercial real estate lending, and rapidly rising interest rates are also hitting banks' broader loan and securities portfolios. Meanwhile, high short-term rates are luring low-yielding bank deposits into much-higher-yielding money market accounts. We can think of deposit flight—really an old-fashioned bank run—as another form of margin call. The point of this story is that the characters may be different, but the plotline is very similar and can be anticipated.

The speed of some of today's bank runs is remarkable. Consider that in 2008, Washington Mutual lost $17 billion of deposits in nine days. Earlier this year, Silicon Valley Bank saw $42 billion withdrawn in just four hours! Our investment research led us to higher-quality names and limited our exposure to recent bank failures across fundamental strategies. Underweights to regional banks and short exposures to some failing banks have benefited systematic strategies. However, the speed of deposit flight has been a surprise, and we are accounting for this new reality in our evaluation of risk in the banking sector going forward. We never stop learning.

Looking ahead

Mark Twain once said that history never repeats itself, but it does often rhyme. Maybe markets were his inspiration. There are always new circumstances that challenge the perfect analogue to past experiences. But the rhyming part gives us a road map for how to get the big decisions right. Below are broad brushstrokes that can guide investors for the balance of 2023.

01 **Income:** In the recent past, investors could rely on broad economic growth and suppressed interest rates to drive capital gains, but that market phase has likely passed. History shows us that to pursue portfolio growth today, investors must lean more heavily on dividends, coupons, and cash income. An income focus can be made in traditional equity and bond markets as well as in multi-asset and derivatives strategies that combine investment capabilities. Income can augment total returns and buffer capital losses.

02 **Quality:** First-quarter earnings season showed us that companies with strong balance sheets, ample free cash flows, and largely self-funded operations were rewarded by markets. For example, many larger banks have held up better than others due to their broader asset and depositor bases that support more stable net interest margins. Quality fundamentals also support the sustainability of income, whether in the form of dividends or scheduled fixed income payments.

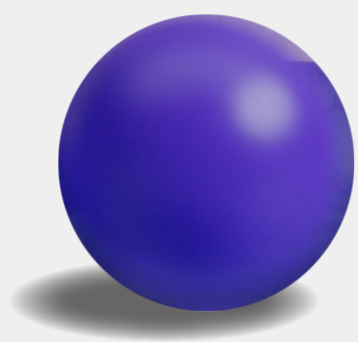
03 **Active management:** The past teaches us that dispersion in the performance of individual securities increases in periods of market stress. The ability to differentiate winners from losers through fundamental and quantitative methods can provide opportunities for selection alpha. More broadly, the ability to under- and overweight sectors, or the ability to be outright short, can support the pursuit of allocation alpha. In fixed income markets in particular, the inverted yield curve in the first half of 2023 provided a great opportunity to take advantage of higher short-term rates. The pace of monetary tightening should moderate with a slowing economy in the second half of the year. As the yield curve steepens, this will provide an opportunity to rotate to longer-duration assets.

04 **Diversification:** Within portfolios and across asset classes, the benefits of diversification are back on center stage. We were a bit surprised by the strength of the information technology rally in January, and we have generally favored defensive positioning in this environment. Investors appear to be anticipating a pivot by central banks toward more accommodative policy, even on days we would have expected defensives to outperform handily. This heightens our need to manage exposure to changes in interest rate expectations across all asset classes and risk premia. Portfolios need to be reassessed using multiple risk lenses to identify where weakness may be hidden. This only serves to highlight the valuable role that diversification plays in managing uncertainty and mitigating the cost of making mistakes—we've learned that those are inevitable for even the most seasoned investors.

Later in this report, we've asked senior members of our investment teams to comment on their respective areas of expertise. We think you will find echoes of the above themes in their contributions. For now, we encourage you to remain patient and balanced in your posture toward accepting risk in your broader portfolios. Don't stop believing, and never stop learning.

Thank you for the honor and privilege of managing your capital.

Sincerely,

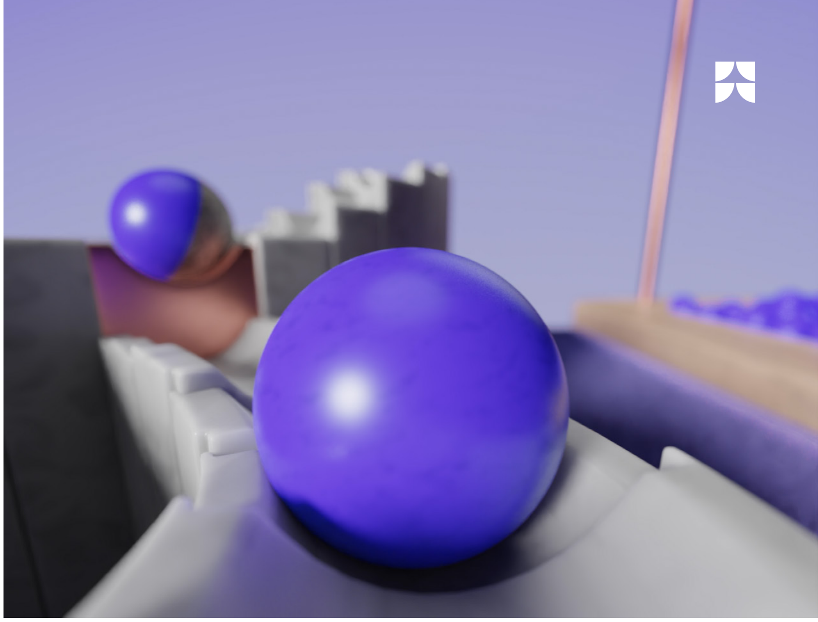


Allview face-off

In our 2023 Midyear Outlook, we are featuring investment team members across different asset classes and teams in a “face-off” format. At Allspring, all investment team members have a voice, which we believe is key to our long-term success. Therefore, we’ve asked them to respond to a series of questions, with the end goal of demonstrating divergent perspectives. This is our Allview approach—uniting independent thinking, disciplined risk management, and diverse perspectives that ultimately empower thoughtful investing and create returns that expand above and beyond financial gains.

👍 =Yes 👎 =No

Questions	 **HENRY NAAH** Head of U.S. High Yield Credit Research, Global Fixed Income Research	 **MONISHA JAYAKUMAR, CFA** Portfolio Manager, Systematic Edge Equity	 **TYNDALE BRICKEY, CFA** Associate Portfolio Manager, Focused Global Equity	 **SARI ROTHENBERG, CFA** Senior Research Analyst, Discovery Growth Equity	 **RUSHABH AMIN** Portfolio Manager, Systematic Edge Multi-Asset	 **MIRA PARK, CFA** Senior Portfolio Manager, Investment Grade Income
Is the contagion from the global banking crisis contained?	👍	👎	👍	👍	**Not fully**	👍
What will be the best-performing asset class for the year?	**Bonds**	**Bitcoin**	**Bonds**	**Equities**	**Equities**	**Bonds**
Where will the U.S. Consumer Price Index end the year?	**< than 4%**	**< than 4%**	**< than 4%**	**< than 4%**	**< than 4%**	**> than 4%**
Where will the S&P 500 Index end for the 2nd half of the year?	**Neutral**	**Neutral**	**Bearish**	**Neutral**	**Neutral**	**Bearish**
Will the yield curve still be inverted at the end of the year?	👍	👎	👎	👎	👎	👍



GETTING AHEAD OF RECOVERY

Equities from 10,000 feet up

ANN MILETTI
+ Chief Diversity Officer,
Head of Active Equity

A *lot* has happened in the economy and equity market in the first six months of 2023. The Federal Reserve (Fed) continued raising its key interest rate, and while the inflation rate declined following those moves, it's still pushing up costs for businesses and prices for consumers. March brought us the banking crisis, which shocked financial markets, weakened stock prices, and added to worries over the economy. Now, as we reach the year's midpoint, I think many equity investors are concerned and wondering: What's in store for us for the rest of this year?

I've been reflecting on this question, taking into account key economic and equity data and consulting with members of our team. As investment professionals, it's essential that we develop educated estimates of what the market's future could hold—for equities overall and for the equity styles, market capitalizations, and countries in which we invest. Below are trends we believe will be evident during the second half of this year.

WE'RE LEANING TOWARD THE PROBABILITY OF A COMING U.S. RECESSION.

While it may not be a deep recession, it could be longer-lasting than some predict, led by the delayed impact of rate increases totaling 500 basis points (bps; 100 bps equal 1.00%) over such a compressed period of time. Inflation is retreating, but it won't be a smooth decline. It's likely that deflation will be seen in many areas of the economy where supply constraints are less problematic—like autos and energy—but it will remain a bit stickier in other areas like housing.

WEAKENING IN COMMERCIAL REAL ESTATE (CRE)—A HUGE MARKET—IS LIKELY TO CONTINUE.

The Fed's rate increases in the latter part of 2022 and thus far in 2023 have led to weakening in the CRE market. Two key reasons for this are that rising rates have reduced the present value of commercial properties—particularly office real estate—that have fixed cash flows and they've made it harder to finance CRE purchases. With a slowing economy, there's less demand for goods and services, and some employers have reduced employment as a result—especially in the information technology sector. While reduced demand for office space has been observed nationwide, locations known as tech centers—like San Francisco and Seattle—have seen some of the highest vacancy rates. It's possible, too, that hybrid work schedules maintained by many employers following the pandemic could play a major role in how much demand there'll be for office space going forward.

ONGOING TURMOIL WITH REGIONAL BANKS COULD LEAD TO PRESSURE ON CREDIT.

Although the U.S. government has acted to support the financial system in the wake of the banking crisis, the environment is now tougher for regional and smaller banks. Despite not being large, these banks play an important role in the U.S. economy: They account for about 50% of U.S. commercial and industrial lending, and many of their loans support small/midsize businesses. Their size, unfortunately, means these banks also carry higher risk: If new deposits decline (due to depositors' concerns from the banking crisis, for example), their lending ability also declines—and subsequently, they'll need to tighten lending guidelines. Tighter guidelines, in turn, could constrict the ability of many small and midsize clients to obtain loans they need to maintain and grow their companies. As a result, quality differentiators among small/midsize companies will matter more now than they did in recent years. To be clear, small and midsize companies are quite interesting from an investment and valuation perspective, but now is not the time to own the entire index.

DESPITE ALL THE RISKS, THERE ARE STILL POTENTIALLY PROMISING INVESTMENTS TO BE FOUND.

Emerging markets, for example, may be one area to look for investment opportunities this year. Emerging market central banks are close to the peak of their respective rate cycles, which historically has heralded strong emerging market returns. Growth in the U.S. is slowing at the same time it's accelerating in China and other emerging markets—another tailwind for emerging equities. Nearshoring (moving supply chains out of China to other countries) appears to be gaining momentum, which we believe should benefit Southeast Asia, India, and Mexico in the medium term.

Wherever investors choose to look, it's important to me to emphasize what I've said elsewhere recently: Now is the time to be selective. Investors should know more about the companies they are investing in at this part of the cycle. Do those companies have:

- Healthy balance sheets (the right capital structures)?
- Strong free cash flow per share?
- Management teams with good risk controls and experience through difficult times?

Next, Tom Ognar and Eddie Cheng share their thoughts on important questions for equity investing in the second half of 2023.

GETTING AHEAD OF RECOVERY: GROWTH EQUITIES

What are you expecting for the second half of 2023?

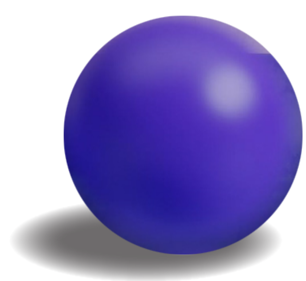
TOM OGNAR
+ Managing Director, Senior Portfolio Manager
+ Dynamic Growth Equity

Given the wide range of possible outcomes for the U.S. economy, we don't believe we'll see a straight-line recovery. The economy appears to be in solid shape: Employment has remained strong, consumers in the upper half of incomes have continued spending at a robust rate, and China's reopening has been a boost for the global economy. However, we think the banking sector's issues likely increase the probability of a recession as credit becomes scarcer in the market.

We believe 2023's second half will be a tug between macroeconomic factors and earnings. Stocks don't necessarily have to go down when earnings weaken. Declining discount (interest) rates can support equity multiples even if we see an earnings slowdown. Historically, secular growth stocks have outperformed when growth was scarce—typically, in a slower-growth economic environment. If that's what materializes in the second half, we believe growth stocks are primed to sustain the recovery we've seen so far.

What potential risks and/or surprises do you think could lie ahead in the next six months?

The Fed got surprised by inflation's persistence, and the repercussions of its resulting massive interest rate hike cycle are still playing out and not fully known. This increases uncertainty and risk—specifically in the banking sector, which provides critical support to the economy. If credit losses mount, the markets could be at significant risk. Another key risk is geopolitical: the evolving dynamics of a precarious relationship between China and the U.S. that may deteriorate further. We'll also be watching how U.S. consumers navigate the higher interest rate environment. One thing to remember is that even though borrowing costs have risen, the higher costs are being somewhat offset by consumers' increased earnings on their savings due to the higher rates. A resilient consumer could be a positive surprise.



" A resilient consumer could be a positive surprise.

What potential opportunities do you see for investors in the second half?

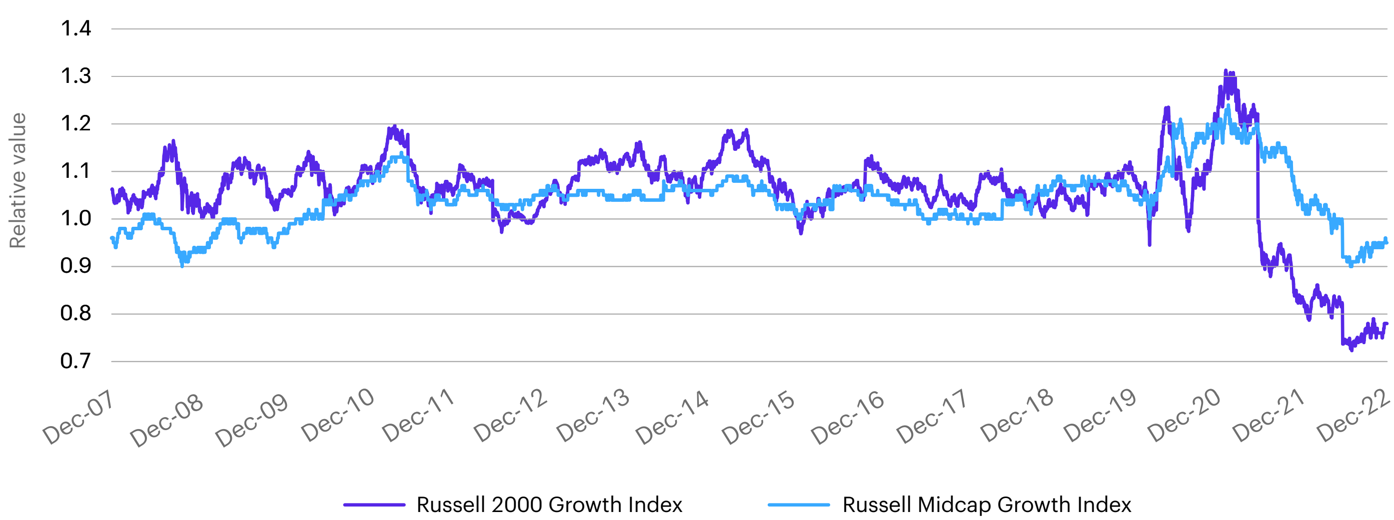
Now that we are out of an era of ultralow interest rates, investment decisions cannot be solely focused on growth—valuation and how a stock is pricing for future growth expectations of cash and earnings will be critical. The environment for much of the past decade provided a huge tailwind for growth stocks, leading many investors to deemphasize diversification, portfolio construction, and risk management. We expect investors will have a renewed focus on these attributes, which are ingrained in our philosophy and investment process. We believe the current environment will show the benefits of this discipline, and we remain balanced and diversified in our approach.

The area that looks the most incrementally interesting to us in the growth equity space is a bit down the market cap. While we aren't excluding large- and mega-cap stocks from our portfolios, we're very attuned to the valuation discounts currently being afforded to small- and mid-cap stocks after protracted periods of underperformance relative to large-cap stocks. The chart below shows the potential opportunities for both small- and mid-cap growth stocks as their valuations have remained discounted relative to large-cap equities on a historical basis.

At the sector level, spending on health care appears to be accelerating and normalizing after health care utilization dipped because of COVID. There appears to be some pent-up demand flowing into the health care system.

SMALL-CAP GROWTH AND MID-CAP GROWTH RELATIVE VALUATIONS ARE AT DECADE-PLUS LOWS

RELATIVE VALUATIONS OF MID- AND SMALL-CAP GROWTH TO LARGE-CAP GROWTH; ENTERPRISE VALUE/EBITDA* (NTM**)



*EBITDA = earnings before interest, taxes, depreciation, and amortization
**NTM = next 12 months
Source: FactSet, as of December 31, 2022. **Past performance is not a reliable indicator of future results.**

GETTING AHEAD OF RECOVERY: SYSTEMATIC EQUITIES

What are you expecting for the second half of 2023?

EDDIE CHENG, CFA
+ Head of International Portfolio Management
+ Systematic Edge Multi-Asset

While there seems to be consensus around a U.S. recession, it's worthwhile to differentiate between a *profits* recession and an *economic* recession. In recent quarters, we've seen a series of earnings declines across different companies and industries—for example, in the U.S. financials and communication sectors—providing strong evidence that a profits recession has already started. However, what's key for us to monitor now is when earnings start to rebound, as equity markets often stage a profits recovery before the economy starts recovering. Considering that many industries have already experienced a profits recession, it's possible we'll see market multiples and credit spreads pointing toward recovery before the reality of an economic recession sinks in.

While inflation has trended down, the path to lower inflation may not be a straight line, as Ann noted earlier. Finding a balance between taming inflation and maintaining economic growth is always hard and leaves plenty of room for surprises. With this in mind, we see higher potential for downside risk in equity markets with possible upside surprises.

What potential areas of opportunity do you see for investors in the second half?

In an environment where we experience some form of recession while inflation stays higher for longer, we believe a more cautious and defensive positioning is warranted. Depending on different preferences and portfolio characteristics, investors may wish to consider approaches that we use to adjust equity exposures to be more defensive:

Looking for income?

We believe an enhanced equity income approach could fit well in this environment given its dual focus on income and total return. The income approach we use strongly emphasizes stable and sustainable businesses that can support their dividend policy. Those types of businesses have proven more resilient during recessionary environments. As we witnessed in 2023's first quarter and many other periods in history, a dampened economic outlook might not always translate into a disappointing equity market. Should there be any market upside, we think a total-return focus may allow investors to retain higher upside capture.

Concerned over higher stock and bond correlations going forward?

We feel that diversifying these exposures is more important than ever. A long/short equity approach offers the potential to provide equity-like returns with lower volatility and, importantly, preserve capital during market downturns. Over the long term, we've seen high-risk segments of the market frequently underperform their low-risk counterparts. High-risk stocks tend to fall farther during market downturns. This trend, called volatility drag, means they have a harder job to regain lost ground, and it's led to underperformance of high-risk stocks over the long term. We witnessed this most recently in 2022, when high-risk stocks underperformed low-risk stocks by 26%. By shorting high-risk stocks, losses may be mitigated during down markets while retaining attractive upside potential.

Seeking more explicit risk management strategies?

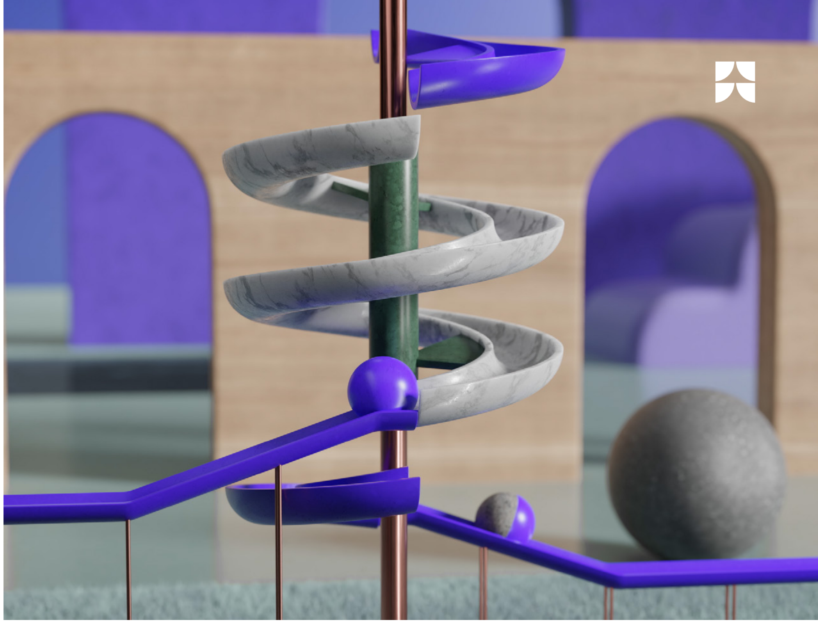
One approach is to use options, which may provide more certainty on the hedging outcome but also can be costly. Another possibility is to consider a more flexible and futures-based dynamic risk-hedging approach. Its goal is to provide protection based on a consistent, systematic assessment of the market. A dynamic risk-hedging approach is activated only when deemed necessary, which may help preserve capital at a more affordable cost. This type of approach does not offer guaranteed protection but may provide a meaningful cushion during market downturns.

With possible downside risk on the horizon, a combination of diversifying and defensive equity approaches can be an attractive way to potentially improve the probability of achieving positive outcomes.

RIDING THE CURVE

A balancing act:

Fixed income playbook for 2H 2023



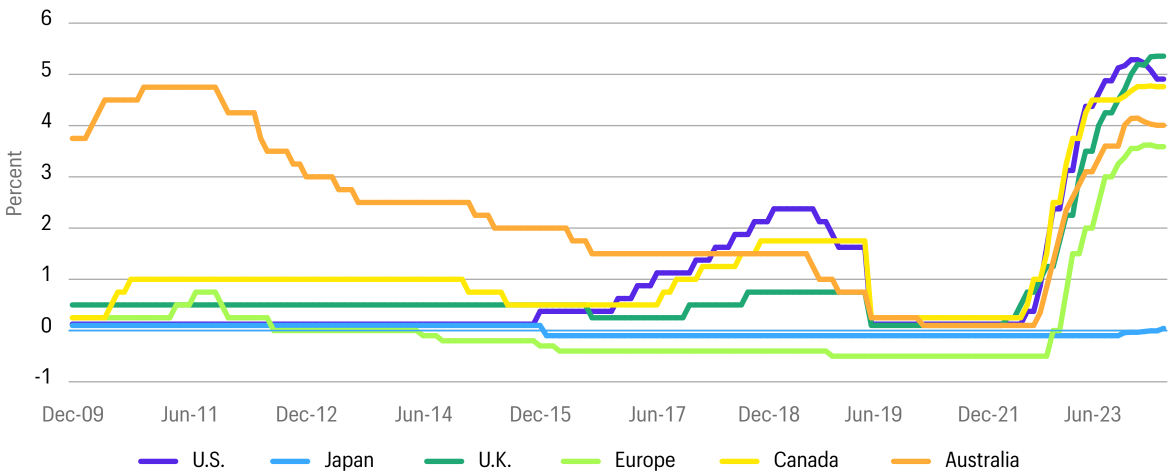
GEORGE BORY, CFA
+ Chief Investment Strategist
+ Fixed Income

Fixed income investors are in the hot seat as inflation pressures, fragmented growth, and political strains present ongoing global challenges. For many, yield-based strategies can help investors pursue attractive total returns, preserve capital, and maintain adequate levels of liquidity.

BACKGROUND

Higher yields have boosted returns in many bond portfolios to date this year, helping investors weather economic uncertainties that continue to unfold around the world. Inflation remains hot in both Europe and the U.K., and core inflation in the U.S. remains sticky—this is keeping central banks in inflation-fighting mode. However, an inflection point may have been reached in the first half of 2023, when central banks had to begin dealing with challenges beyond fighting inflation as global growth slowed and cracks appeared in the financial system. The liability-driven investing crisis in the U.K. last autumn made the first kink in the armor. This was followed by the failure of Silicon Valley Bank in the U.S. and the forced merger of Credit Suisse with UBS in Europe this spring. Questions remain about banking system stability. In our view, these events reflect a general increase in financial market risk following the aggressive monetary tightening cycle that began in 2022. As a result, regional economies have desynchronized and pulled capital away from U.S.-dollar-denominated bonds. Many non-U.S. investors are choosing to remain invested in their domestic currencies, and some U.S. investors are following suit and diversifying away from the dollar.

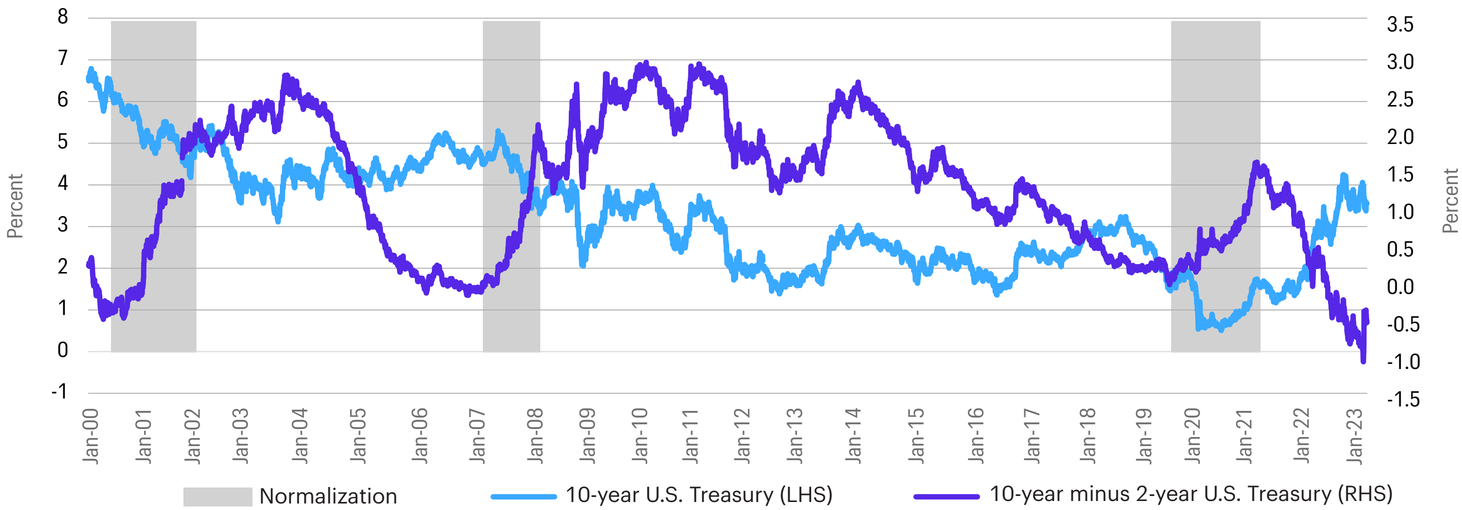
FIGURE 1: CENTRAL BANK POLICY RATES AND FORWARD EXPECTATIONS



Source: Bloomberg. Data presented from 31-Dec-09 through 31-May-23. Market implied forecast from 30-Jun-23 through 31-Dec-23.

Looking forward, policymakers must walk a tightrope, balancing weakening growth prospects and financial system fragility against persistent inflationary pressures. We may currently be working through a period of "slowflation," which represents slowing growth and persistent inflation. It remains to be seen if this ultimately transitions to stagflation (no growth and persistent inflation—our base case), a hard landing (outright recession), or a soft landing (accelerating growth and receding inflation). With such wide divergence in plausible outcomes, we think portfolios optimized for high income and some interest rate exposure may be the sweet spot for generating attractive risk-adjusted returns in this macro environment.

FIGURE 2: YIELD CURVE NORMALIZATION*



Source: Bloomberg. Data presented from 03-Dec-00 through 30-Mar-23. *A normal yield curve is upward sloping, or when long-term rates are higher than short-term rates.

Beyond the inflection point

Many bond investors are looking for less volatility and the return of more stable and predictable returns after a difficult 2022. Bonds of many different stripes and flavors have historically provided 1) attractive income generation, 2) a buffer against volatility, and 3) diversification against cyclical risks. High-quality bonds are particularly well positioned to pursue stable income and attractive yields to offset volatility. Publicly traded bonds should provide an attractive alternative to more cyclical assets such as equities and to less liquid assets such as private debt in the next several years.

Beyond the inflection point in monetary policy, we think bond investors should focus on building out five key strategies going forward. We discuss these in turn below.

01 **Position for yield curve normalization** → Add duration

02 **Seek to maximize yield** → Use income to drive total returns

03 **Stay up in quality** → Use structured products to seek to reduce risk

04 **Pursue stability** → Use municipal bonds to seek to reduce volatility

05 **Pursue global yield** → Diversify beyond the U.S. dollar

01

POSITION FOR YIELD CURVE NORMALIZATION: ADD DURATION

With the Fed much closer to the end of its rate-tightening cycle than the beginning, fixed income investors should start to position for normalization of the yield curve. Adding duration should benefit portfolios if yields fall, as we expect they will. The opportunity cost of waiting for a perfect entry point is high and difficult to time.

> " Falling intermediate rates should steepen the investment-grade credit curve and drive returns. Tighter monetary policy and credit conditions within the banking sector will likely contribute to ongoing volatility in credit spreads. Opportunities within structured products are mixed, but we favor quality, a liquidity bias, and opportunities to diversify away from consumer-backed debt. Overall, diverging fundamentals among issuers and higher volatility should provide ample selection opportunities for the balance of 2023.

SCOTT SMITH, CFA
+ Senior Portfolio Manager
+ Head of Investment Grade Income

02

SEEK TO MAXIMIZE YIELD: USE INCOME TO DRIVE TOTAL RETURNS

Income remains the primary driver of returns for any fixed income portfolio. The most efficient way to harvest income opportunities is to maximize income per unit of risk at various locations along the yield curve and among various credit sectors. Currently, the flatness of the curve means that income is most attractive on the front end, and this is particularly true for lower-rated segments of corporate and structured product markets.

> " With the rise in short-term interest rates and recent widening of credit spreads, European loans stand out for their ability to offer attractive levels of income. All-in yields for this asset class are near 9% at the time of this writing. In addition to their portfolio diversification benefits, European loans offer creditor protection through their senior-secured status, and defaults are expected to remain below historical averages in the next 12 months. Moreover, a lack of new supply and strong demand for loans should provide strong price support.

JENS VANBRABANT, CFA
+ Senior Portfolio Manager
+ Head of European High Yield, Plus Fixed Income

03

STAY UP IN QUALITY: USE STRUCTURED PRODUCTS TO SEEK TO REDUCE RISK

Slowing growth and a lack of expected monetary and fiscal policy support suggest that moving up in quality will be attractive. Corporate credit fundamentals are deteriorating, as evidenced by rising leverage, declining interest coverage, and rising default rates. Collateralized pools of receivables can provide higher-quality cash flows than bonds that are dependent on only one issuer. We expect that higher-quality cash flows will likely outperform in the foreseeable future. Evidence of quality includes collateral coverage, cash flow generation, healthy balance sheets, and financial flexibility. Dispersion among issuers on these quality metrics should create many attractive selection opportunities across structured products.

04

PURSUE STABILITY: USE MUNICIPAL BONDS TO SEEK TO REDUCE VOLATILITY

Healthy fundamentals and strong technicals should support municipal bonds this year. Municipalities are still basking in the glow of $5 trillion in federal support paid out from COVID-19-era stimulus. Higher yields raise the value of the municipal bond tax exemption, creating technical support for the asset class that can offset overall bond market volatility. We caution that municipals are not immune to cyclical trends—for example, we expect that municipal credit spreads will widen if the economy slows down. However, tax revenue streams are generally more stable than corporate revenue streams (at least initially), and some municipal issues that support public services, like water and sewer, are often much less affected by cyclical factors that might wreak havoc on a typical industrial company.

05

ADD GLOBAL YIELD: DIVERSIFY BEYOND THE U.S. DOLLAR

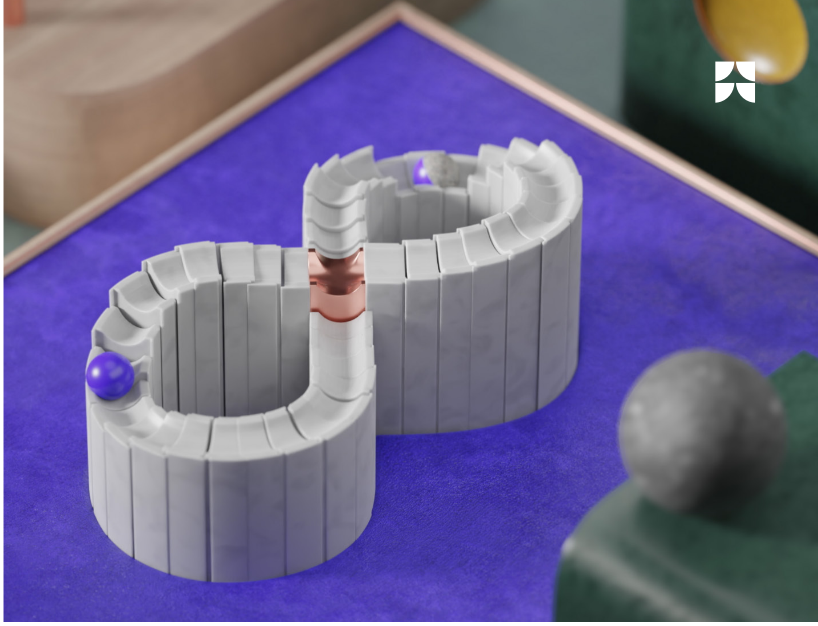
Global capital flows continue to seek diversification, and they are finding attractive value within the deep and broad European credit markets. Stubborn inflation is beginning to subside with falling input prices, which is boosting business confidence. Moreover, the eurozone economy, while growing very slowly, is showing some signs of acceleration in the second quarter. However, as in other developed regions, policymakers must balance sluggish growth against still-resilient price pressures.

> “Yield has returned to higher-quality, liquid segments of European fixed income markets through a combination of higher government bond yields and wider credit spreads. We think this presents an opportunity for European and global bond investors to return to euro-denominated credit after many years of sourcing yield globally. The size of European credit markets offers significant diversification opportunities as well. Currently, European investment-grade debt yields about 4%, and yields rise close to 6% when hedged back to the U.S. dollar.

HENRIETTA PACQUEMENT, CFA
+ Senior Portfolio Manager
+ Head of Global Fixed Income
+ Head of Sustainability

MARTIJN DE VREE, CFA, FIA
+ Head of Fixed Income Solutions
+ Global Fixed Income

Lessons from the boxing ring



WAI LEE, PH.D.
+ Co-Head of Systematic Research
+ Systematic Edge

Systematic ways to protect portfolios from heightened risks

Professional boxers are trained to endure unavoidable hits and get back up when they're down. They know to protect their weak spots where the risk of losing a match is concentrated. They combine defensive skills rather than count on a single technique against all opponents. They also know they cannot win if they remain in a defensive stance. Each move is a confidence-weighted calculation of risk.

These athletes may be the embodiment of resilience, inspiring multi-asset investors to thrive, even when markets seem to be moving every way but up. In an environment of heightened risks, it's difficult to know how to allocate assets or rebalance portfolios. Investors ought to think like a professional boxer—being strategic when they can, tactical when they must, and always realistic about what they can expect from their portfolio.

Punching above their weight

According to modern portfolio theory, the whole portfolio can be greater than the sum of its parts. How much greater depends, in large part, on how the investor allocates across those parts. A combination of tools can help multi-asset investors determine their optimal portfolio mix and how to execute it efficiently, as no single tool is tailor-made for all investors and all market environments. Here we focus on four investment techniques that investors can combine, depending on their own views and the prevailing market environment:

01 Strategic and tactical allocations

02 Capital and risk allocations

03 Asset class and factor allocations

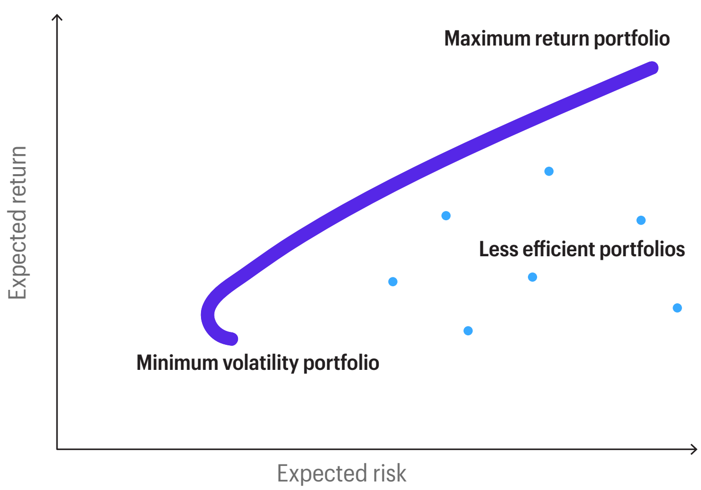
04 Dynamic risk hedging

01 Strategic and tactical allocations

The strategic asset allocation provides a base case for investment decision-making by setting long-term expectations of risk and reward over a full market cycle. Tactical asset allocation adds flexibility to fine-tune investment decisions based on short-term views of where to reduce risk exposure and where to take advantage of opportunities.

Theoretically, investors should aim to achieve an optimal portfolio allocation, also known as the maximum Sharpe ratio portfolio (Figure 1). The optimal portfolio allocation typically starts with a minimum volatility portfolio (a mix of securities that is expected to have the lowest risk). Added to this is a strategic asset allocation (SAA) portfolio overlay (determined by the investor's long-term financial goals, risk tolerance, and other factors) and a tactical asset allocation overlay (which incorporates short-term investment views). The SAA portfolio often includes long-term expected asset returns and risks, known as capital markets assumptions.

FIGURE 1: HYPOTHETICAL EFFICIENT FRONTIER OF PORTFOLIOS



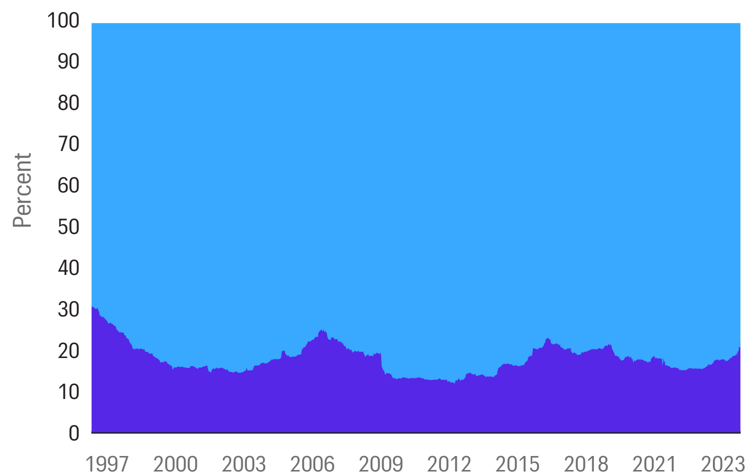
Source: Allspring

For example, global supply chain disruption, the Russia-Ukraine war and its effects on energy supply, and global inflation shocks can lead to different portfolio adjustments from strategic versus tactical perspectives. The effects may be transitory or more lasting, and related risks can be fed through the portfolio framework to help guide tactical trades or strategic rebalancing and align the portfolio with the investor's views. Framing investment decisions along the dimension of strategic and tactical allocations may help investors adapt as risks arise and markets react.

02 Capital and risk allocations

Portfolios with static capital allocations, such as the 60/40 stock/bond portfolio, are known to have overall risk levels that continuously and unintentionally shift over time, while portfolios with targeted risk allocations require dynamic capital allocations to align the risks to the targets (Figure 2). Both approaches require dynamic rebalancing.

FIGURE 2: CAPITAL ALLOCATIONS OF A PORTFOLIO WITH 50/50 RISK ALLOCATION TO STOCKS AND BONDS



Sources: Allspring and Bloomberg, January 1997 through April 2023. Stocks are represented by the S&P 500 Index; bonds are represented by the Bloomberg U.S. Aggregate Bond Index.

Can a risk-based portfolio improve resilience as risk varies? A risk-budgeting approach starts with a set of desired risk allocations and target risk at the total portfolio level. Expected asset returns consistent with the optimal risk allocations are then derived and used to construct a portfolio frontier at different levels of returns and risks, considering the investor's preferred risk level.

This approach gives investors flexibility to adjust risk budgets in light of macroeconomic, market, or other concerns. That can include a climate-aware asset allocation, for example. Investors can adjust their risk budgets to reflect a preference for climate-resilient assets without needing to precisely quantify the climate risk premium. The potential for deglobalization or onshoring is another example, where the effects on industries, regions, and even asset classes can be incorporated into the risk budgets. Pragmatism is a key characteristic of the risk-budgeting approach, with flexibility to address a variety of risks.

03 Asset and factor allocations

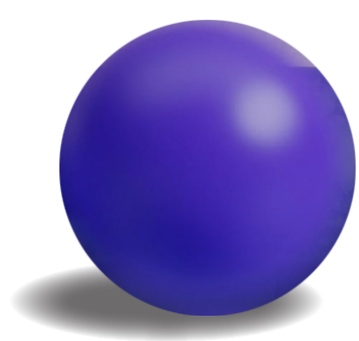
Asset pricing models prescribe the factors that drive risks and correlations of all assets, which then determine the makeup of expected asset returns. Factors have come from established theory (such as the market factor in the Capital Asset Pricing Model); empirical research into historical data; and investment practices such as environmental, social, and governance (ESG) strategies. Not all investable themes become material factors. Certain themes can prevail at certain times, but they may not be pervasive enough across the asset universe nor persistent enough through time to endure. One example is the stay-at-home factor, which added value at the beginning of the COVID-19 pandemic but became largely irrelevant in driving risks post-pandemic.

Factor structure within asset classes has generally been more mature and persistent than factor structure across asset classes, as asset classes can have relatively unstable factor sensitivities. Uncovering the underlying fundamental factors and structure across asset classes has proved to be far more challenging but potentially valuable—particularly when stock-bond correlation varies. A portfolio that looks well diversified across asset classes may be more concentrated when viewed through the lens of factors. Market performance from the past year demonstrated this quite clearly, as inflation sensitivities of both stocks and bonds moved in the same direction (Figure 3).

FIGURE 3: ROLLING THREE-YEAR CORRELATION OF STOCK AND BOND RETURNS

Sources: Allspring and Bloomberg, January 1997 through April 2023

Instead of alleging the death of stock-bond diversification, we believe it is more constructive to focus on what *can* drive stock-bond correlation. Studies show promising results from dynamics of economic output, inflation, interest rates, and supply-versus-demand shocks, among others. Investor behavior (such as changes in risk aversion) can also affect asset behavior; demographics may offer valuable insight for managing multi-asset portfolios in the future. Any portfolio technique that is shown to diversify traditional portfolio diversifiers is worth exploring.



04 Dynamic portfolio risk hedging

We can start combining these three techniques in a multi-asset portfolio, assigning risk budgets to fundamental factors' underlying asset classes such as growth, interest rates, and inflation. Based on their perceived exposures to these factors, factor risk budgets can be translated into asset risk budgets, with which expected returns assumptions can be derived to generate a portfolio frontier with different capital and risk allocations for a range of risk/return targets. Strategic exposures to fundamental factors, such as inflation, are inherently built into these portfolios. Transitory inflation shocks can then be expressed through tactical portfolio adjustments.

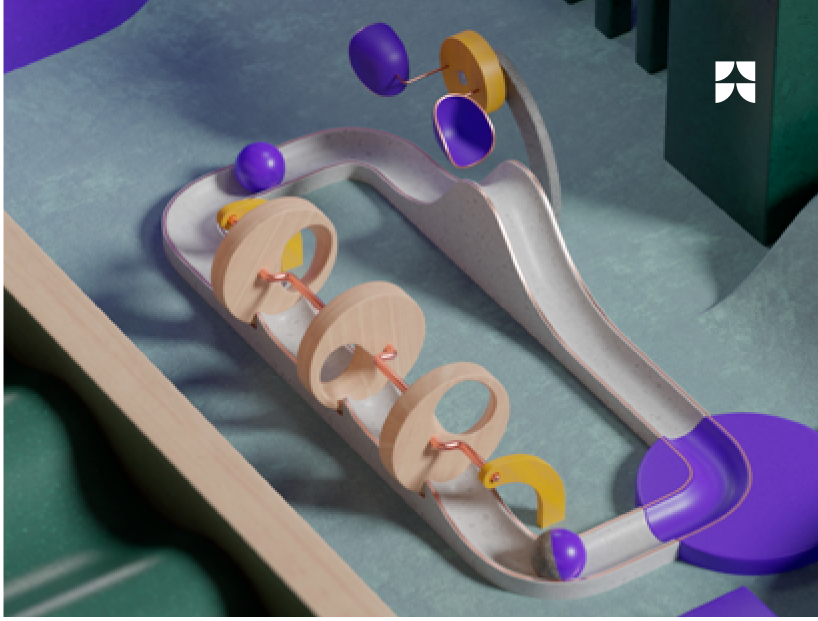
Lastly, investors could run dynamic risk hedging at the total portfolio level, combining customized option strategies, trend-following strategies benefiting from higher long-term volatility, and futures-based dynamic trading strategies, among others. Diversifying portfolio diversifiers and adding protection may improve multi-asset portfolio management.

A powerhouse combination

Investors can take a lesson from the boxing world to determine the combination of portfolio techniques that fits their needs and that may help protect portfolios from heightened risks. Especially as uncertainty rises and risks unfold, we suggest allocating along the three dimensions of strategic and tactical, capital and risk, and assets and factors, complemented by a mix of dynamic portfolio risk-hedging strategies. This powerhouse combination may be a more constructive approach to maneuver across a multitude of environments.

Agri-food for thought:

How might sustainability change markets in the coming decades?



Unless the agri-food value chain* restructures, we expect unacceptable damage to plant and animal life and expanding food-supply deficits. Investment risks would increase across the global economy.

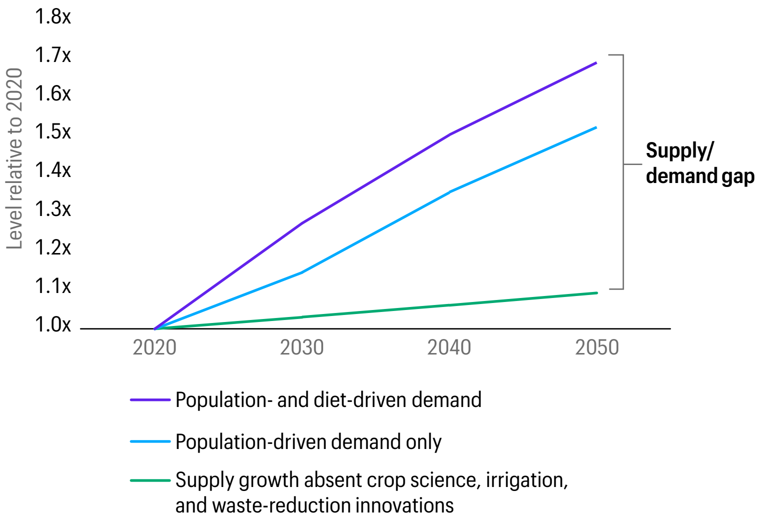
What drives our perspective? In the next 20 years:

- Global population could reach 10 billion, up from 8 billion today.
- Per-person food demand will likely rise as emerging markets grow wealthier—and so will demand for richer foods, like beef and pork, whose production strains the environment.
- Agriculture's pollution of soil and water—and its exacerbation of climate change—could easily surpass already-critical levels.
- Increasing competition for land and water, including overexploitation of fisheries, could drive food-supply shocks.

*The agri-food value chain includes all of the actors and activities that bring food from production in the field to final consumption, where value is added to the product at each stage in the process.

FOOD PRODUCTION AND CONSUMPTION POSE MAJOR SUSTAINABILITY RISKS

INNOVATION IS NEEDED TO AVOID A WIDENING FOOD SUPPLY/DEMAND GAP

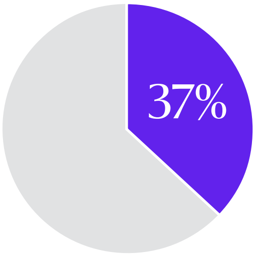


ESTIMATED

1/3 of the world's food is lost or wasted each year. Other studies suggest the **true figure is even higher.**

70% of global freshwater withdrawals, on average, are **due to agriculture.**

TOTAL GLOBAL GREENHOUSE GAS EMISSIONS



Food production generates 37% of **human-induced global greenhouse gas emissions.**

What are the biggest problems and their potential solutions?

Recognize the problems

- Identify unsustainable practices across the agri-food value chain.
- Evaluate specific industries and companies that depend on and perpetuate these practices.

Evaluate the solutions

- Which crops and fertilizers can most efficiently feed growing populations without toxifying fresh and ocean water?
- Which are most resistant to drought and pests?
- Which irrigation and tilling practices can improve soil health and increase crop yields at the same time?

Consider adjusting portfolios accordingly

Given the intensifying challenges from current food-production processes, the agri-food cycle will likely restructure in fundamental ways affecting many industries. Companies across the global economy will need to reposition their businesses. Crop sciences, capital goods, agricultural technology, advanced analytics, transportation, food production, packaging, services and waste management, and retail must all adjust to maximize growth and minimize losses.

By carefully evaluating these prospects today, investors can position to potentially capture growth opportunities and reduce exposure to businesses likely to decline.

TOM LYONS
+ Head of Climate
+ Global Fixed Income Research

THE AGRI-FOOD VALUE CHAIN

01 Pre-production

Problems:
- Overfishing
- Excessive tilling & fertilization

Solutions:
- Sustainable fisheries
- Regenerative farming practices
- Precision agriculture
- Soil carbon sequestration

02 Production

Problems:
- Excessive processing
- Food-packaging waste

Solutions:
- More efficient supply chains
- Reuse/recycling of food waste
- Refrigeration systems for small farms
- Biodegradable packaging materials

70% of all food waste in the U.K. occurs during household consumption.

24% of human-induced greenhouse gas emissions come from agriculture.

03 Consumption

Problems:
- Rising beef and pork demand
- Overconsumption of fats and sugars

Solutions:
- Education to promote healthier food
- Food-service efficiency through advanced analytics

04 Waste disposal

Problems:
- Overreliance on landfills

Solutions:
- Composting
- Co-digestion

$940 billion is the yearly cost of global food loss and waste.

Sources: Boston Consulting Group, Food and Agriculture Organization, and Greenpeace.org

For further information

We want to help clients build for successful outcomes, defend portfolios against uncertainty, and create long-term financial well-being. To learn more, investment professionals can contact us.

Contact details

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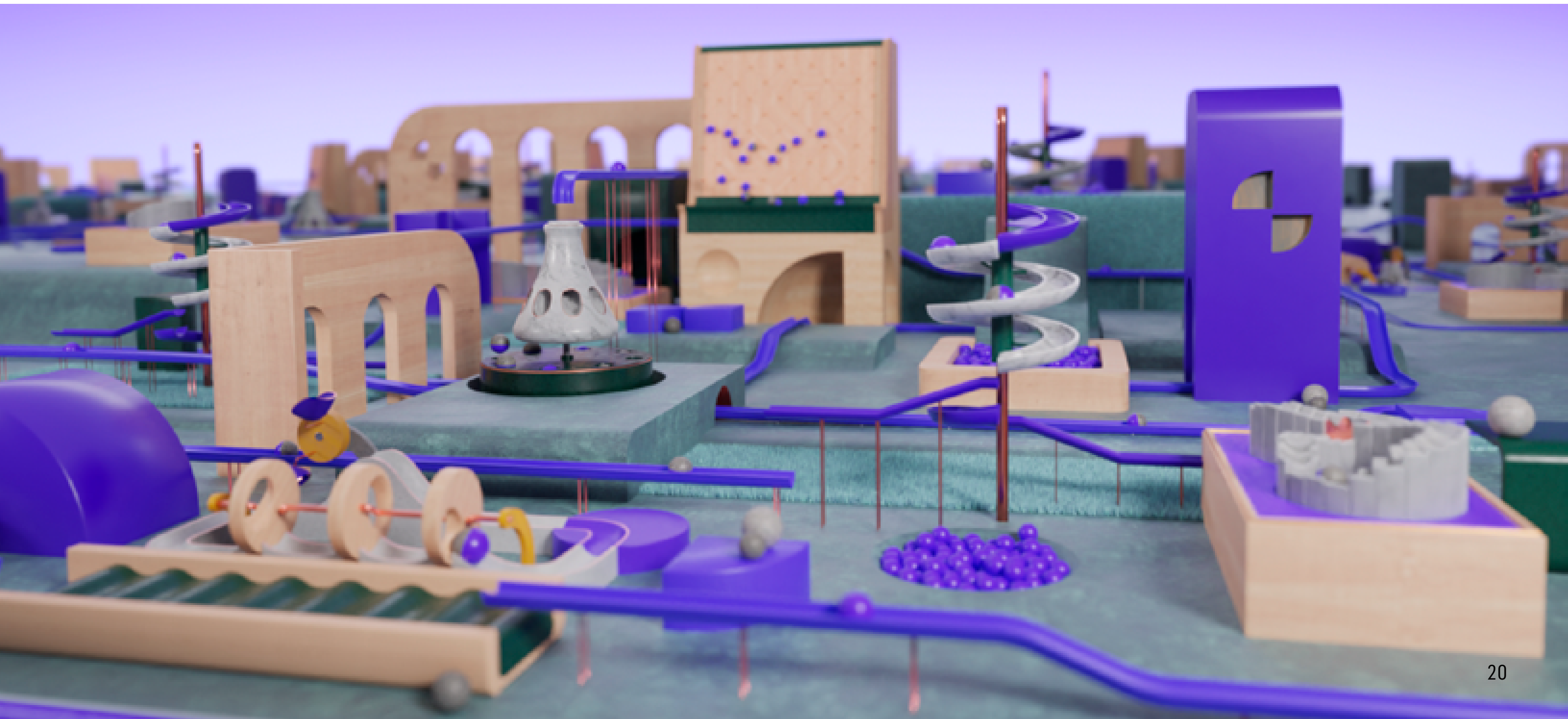

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