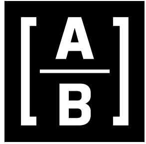


ALLIANCEBERNSTEIN

AB IQ

INSTITUTIONAL INSIGHTS

Three Principles for Solving the Diversification Dilemma

Authors
Christopher Hogbin
Scott DiMaggio

Finding the right asset mix for long-term investment goals is challenging in the best of times. Today, the dilemmas are even more daunting. In conversations with clients, we're hearing recurring questions about diversification that require innovative solutions for unusual market conditions.

In early 2021, investors have become increasingly upbeat about the world's path to recovery from the pandemic. But ironically, this optimism has fueled market trends that add uncertainty to the outlook. Bond yields remain extremely low, but a shift may be beginning. Stock market valuations—particularly in the US—look relatively high. Mounting expectations of accelerated economic growth are tempered by distinct country-specific experiences and policies. Massive fiscal stimulus could resurrect inflation, yet investors are rusty at addressing this long-dormant risk.

Against this backdrop, we're hearing one underlying question from clients: How do you meet target premiums with persistent low yields and elevated valuations? While there's no one-size-fits-all answer, three principles can help point the way. First, think critically about how the recovery will unfold and don't be seduced by simplistic headlines. Second, check that your exposures offer diverse sources of return—both within and across asset classes—for changing conditions. Third, strike a balance between capturing diverse sources of return potential and securing adequate protection against complex risks, even if this exacts a short-term performance cost in some cases.

1. Prepare for a Bumpy Three-Phase Recovery

Every investment planning discussion today must begin with an assessment of the pandemic exit path and its macroeconomic implications. While much is still unknown, we project a three-phased recovery, each presenting investment challenges given the opaque outlook.

In early 2021, Phase 1 of the pandemic recovery began to unfold. COVID-19 vaccination programs began to gain momentum around the world, though some countries are far behind and many experienced new peak infection and mortality rates that began to retreat in February. These developments present a conundrum for investors seeking signs of economic improvement as governments struggle to balance reopening efforts against fears of a virus relapse.

By late February, we started to see the first signs of Phase 2. Efforts to contain the pandemic began to succeed at reducing the spread of coronavirus in the US, Europe and Asia. This raised hopes that economic activity could soon reopen—albeit at a "new normal" level—and consumers would unleash pent-up spending. By midyear, we believe many companies will report strong recoveries in earnings growth, especially given the low level of comparable profits in 2020.

Yet the road to a sustainable recovery won't be smooth. By 2022, after the initial sharp rebound, companies are unlikely to post such rapid growth. And as the world begins to normalize during this third post-COVID phase, we're likely to find that economic growth faces the same hurdles—and likely the same risks—that prevailed before the pandemic.

Through all three recovery phases, investors should brace for periodic market turbulence. Indeed, in late February, US Treasury yields jumped, prompting market volatility as investors began to digest the implications of rising interest rates on different types of assets. But with a solid conceptual framework, it should be easier for investors to calibrate exposures to realistic market expectations and to maintain firm strategic allocation plans through uncertainty.

Where Will Interest Rates Go?

Interest rate expectations underpin any investing outlook today. Record low rates have become a persistent source of uncertainty for investors, with central banks pledging to maintain extremely loose monetary policy to support COVID-stricken economies.

For bond investors, low yields make it harder to find income while raising concerns about the efficacy of sovereign bonds as a tool for risk reduction. Equity investors have seen low rates provide powerful fuel for growth stocks, while suppressing multiples for value stocks. These trends complicate diversification efforts within asset classes and between them.

Clients often ask us where we think interest rates will go through our three-phased recovery outlook. While global economic growth is expected to accelerate in the second half of the year, we don't think interest rates will rise dramatically anytime soon. Since the recovery is very fragile, policymakers aren't likely to let rates rise too far, too fast—even if inflation begins to materialize. Yields in most markets will probably stay low through 2021.

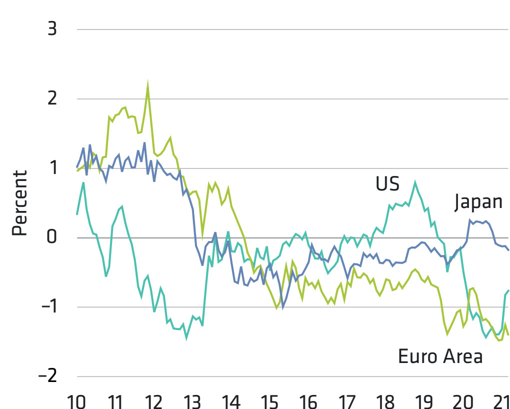
In the US, our economists forecast the 10-year US Treasury yield to reach 1.75% at year-end, from about 1.60% in mid-March. That's below the level that prevailed before COVID-19, yet a 21% leap from the March 1 rate of 1.45%. Massive fiscal stimulus should help the US grow faster than other developed economies, prompting a faster increase in rates from 2022 than in the euro area and Japan, where rates are unlikely to turn positive. In all three regions, real yields were still negative by the end of January *(Display)*.

Government Bond Yields Remain Subdued, Even After US Treasury Rise

10-Year Yields: AB vs. Consensus Year-End Forecasts (Percent)

	AB		Consensus	
	2021	**2022**	**2021**	**2022**
US	1.75	2.00	1.34	1.68
Euro Area	–0.25	0.00	–0.32	–0.05
Japan	0.00	0.00	0.04	0.04
China	3.20	3.25	3.17	3.09

Real 10-Year Bond Yields*



Past performance and current analysis do not guarantee future results

Left display as of February 1, 2021; right display through February 28, 2021

*Current 10-year bond yield less five-year-forward inflation swap

Source: Bloomberg and AllianceBernstein (AB)

2. Broadening Sources of Return

With yields so low, fixed-income investors need to find diverse sources of better return potential. Looking for global credit opportunities that offer different types of exposure to economic recovery can help investors benefit from yield disparities across regions and sectors.

Countries' bond returns differ greatly from year to year because of varying economic cycles, monetary cycles, business cycles, inflation regimes, geopolitical concerns and yield curves. Returns also vary by sector within countries and regions. Retailers in the US aren't exactly like retailers in Japan, for instance. The result of all this variety is a compelling risk/return profile and strong defensive characteristics.

In a world with over US$17 trillion of negative-yielding debt, pockets of the global corporate credit market stand out as a sizeable, investable group of assets offering attractive levels of yield. Fundamentals are broadly supportive, companies have taken advantage of low rates to strengthen their liquidity buffers, and supply and demand conditions are very favorable. The key is to be selective.

For a healthy yield pickup over investment-grade corporate bonds, fixed-income investors can tap US securitized assets, whose underlying cash flows come from different sources than credit. This sector has performed well during periods when Treasury yields rose. In particular, we believe credit risk–transfer (CRT) securities—residential mortgage-backed bonds issued by US government-sponsored enterprises—are especially attractive. CRTs enjoy strong fundamentals, thanks to resilient demand in the US housing market.

Financials are another sector that should benefit from an economic recovery and rising rates. In Europe, subordinated bank debt is especially attractive, in our view. Yields on Additional Tier 1 bonds (AT1s) of European banks exceed those of European and US high-yield issuers in other sectors, while their balance sheets have been bolstered by improving capital and liquidity ratios.

We also expect emerging-market debt to be buoyed by the weaker US dollar, continued fiscal stimulus, attractive valuations and strong investor demand for income in a low-yield environment.

For investors willing to sacrifice liquidity, private credit is becoming an increasingly popular way to complement and diversify public credit exposure. Yet many institutional investors are still underexposed to private credit, which offers return streams that are uncorrelated with other asset classes plus the added benefit of an illiquidity premium. Private credit can provide access to pre-crisis return potential driven by transactions with much lower risk profiles than in the past. And since private loans are usually based on floating rate notes, we believe the asset class should do well in a rising rate environment, too.

What do these diverse sectors have in common? They should all benefit in different ways if vaccine rollouts continue, economies reopen and growth rebounds, prompting a tightening of credit spreads. Most fixed income sectors have delivered strong returns since US Treasury yields started to rise last summer, because these rising rates are accompanied by expectations of better growth as the economy reopens.

Revisiting the Growth-Value Equities Gulf

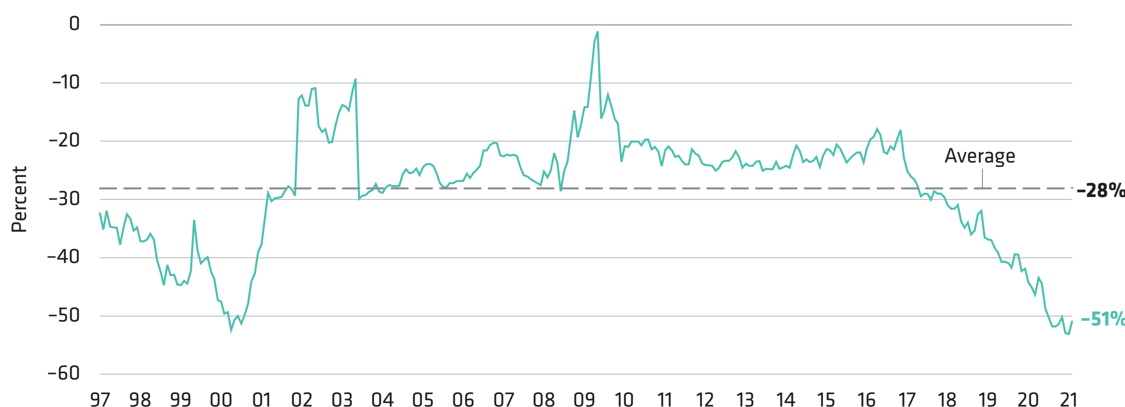
Equity investors also face diversification challenges that have been fomented by the low rate environment. In particular, growth stocks have outperformed strongly through the pandemic, led by a small group of dominant US-based mega-cap giants and high-flying companies with supercharged sales. Value stocks, meanwhile, have suffered a decade of underperformance.

Low rates are generally good for all stocks but especially for growth. That's because a stock's value is determined by the present value of its future cash flows. And since cash flows of growth companies are typically generated much further in the future than value companies, a decline in the discount rate benefits growth stocks disproportionately. Conversely, a higher discount rate is generally more favorable to value-oriented companies, which have nearer-term cash flows and earnings streams.

That helps explain why value stocks rallied during the fourth quarter of 2020 and again in early 2021. Vaccine successes in November fueled optimism for an accelerated economic recovery that could prompt a rise in rates. And value stocks are more heavily represented in cyclically sensitive sectors such as industrials, materials and financials, that tend to benefit from rising economic growth. In the first two months of 2021, the MSCI World Value Index advanced by 3.9% in local currency terms, while the MSCI World Growth Index slipped by 0.2%. In the US, the Russell 1000 Value Index rose 5.1%, while the Russell 1000 Growth Index fell by 0.8% over the same period.

Our research suggests that the gulf between value- and growth-stock performance in recent years has been driven primarily by multiple expansion. Over the last six years, growth stocks outperformed value by 92%. Of that, 82% of the difference is explained by multiple expansion and only 10% by the combined effect of earnings growth and dividends. At the end of February, global value stocks trade at an unprecedented 51% price/forward earnings discount versus growth stocks *(Display)*.

Global Value Stocks Trade At a Near-Record Discount to Growth



Past performance and current analysis do not guarantee future results.
Through February 28, 2021
*Price to forward earnings (next 12 months) since January 1997
Source: FactSet, MSCI, Thomson Reuters I/B/E/S and AllianceBernstein (AB)

This sets the stage for a potentially big style rotation toward value, with the exit from the pandemic serving as the catalyst. As the world recovers from COVID-19, economic growth could broaden and become less volatile, while visibility into the economic outlook and post-pandemic behavior improves. Asset allocators may rebalance into value after years of outflows. These trends would all help boost value multiples. As interest rates begin to normalize, growth multiples may narrow. Meanwhile, tighter regulatory scrutiny of some growth giants could reduce their earnings and multiples.

Does that mean investors should pile in headfirst to value stocks? Of course not. However, for investors who have avoided or reduced value holdings in recent years, we think the time is right to initiate or add exposure to what could potentially be a powerful source of returns in a recovery.

That doesn't mean growth stocks are doomed if rates rise. Investors should check that their growth allocations aren't overly exposed to the most expensive names, which could retreat sharply in a style rotation. Growth portfolios focused on stocks with resilient business models to support consistent earnings growth and profitability through the recovery should be capable of delivering sustainable long-term returns, even if some of the hypergrowth and momentum winners of the last year recede. Pay special attention to valuation and to overheated pockets of the market.

3. How to Control Equity Risk?

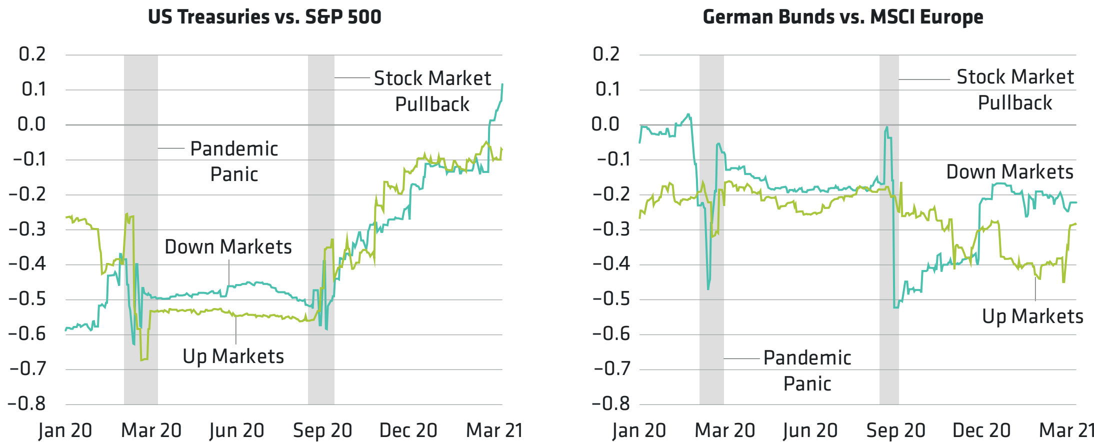
Some of those hot market segments started to cool down during the first quarter of 2021. As they did, fresh volatility in late February also elicited questions about how to reduce equity risk in an allocation. Do government bonds still help offset equity risk at today's low yields? And are there effective diversifiers within equities to help control volatility?

Last year's coronavirus sell-off provides important insight on the role of government bonds in an allocation. In fact, government bonds were one of the few true offsets to equity market volatility when stocks crashed in February–March 2020 and again during the pullback in September.

On days when US stocks fell in 2020, the correlation between US Treasuries and the S&P 500 *(Display, left)* remained below –0.4. And in Europe, yields on 10-year German Bunds were well into negative territory when stock markets fell in March and September. But correlations between Bunds and the MSCI Europe Index *(Display, right)* became even more negative during those sell-offs, falling to around –0.5. In other words, government bonds became more defensive when defensiveness was needed most.

Government Bonds Still Act as Anchor to Windward

10-Year Bonds vs. Stocks: Six-Month Rolling Correlation of Daily Moves



Through March 10, 2021
Source: Bloomberg, MSCI, S&P and AllianceBernstein (AB)

Correlations can be unstable. Over the last three decades, the inverse correlation between stocks and bonds has broken down several times. Most recently, in early March, rising US Treasury yields (and falling bond prices) prompted weakness in equities, resulting in a very low positive correlation between the markets. Historically, though, these episodes have been brief and the correlation has always returned to negative territory.

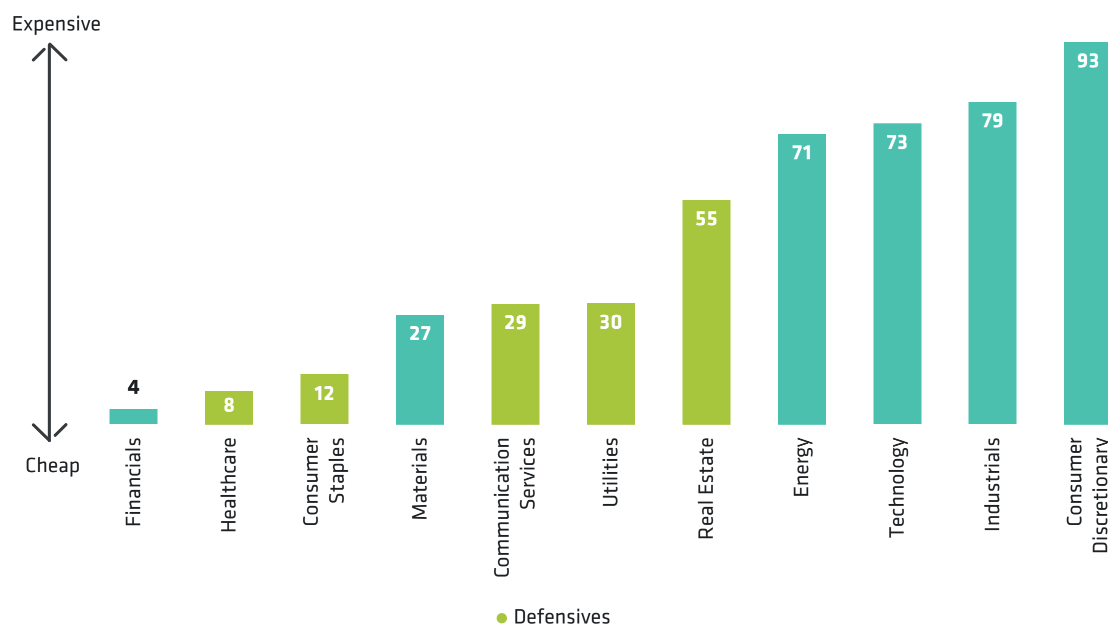
In the near term, we expect occasional blips of the correlation between Treasuries and stocks into low positive territory, thanks to supportive central banks and a periodic repricing of bond yields as the economy recovers. But over the longer term—and particularly during risk-off events—we believe negative correlations will prevail and government bonds should provide an essential anchor to windward.

That's why investors shouldn't react to the prospect of rising rates by eliminating duration from their fixed income portfolios. A healthy allocation to diverse sources of credit allows investors to participate on the upside when risk assets rally, but duration provides a cushion against credit-related losses, as well as equity downturns.

Within equities, too, investors can find good ways to combat volatility in allocations. For example, consider traditional defensive stocks, which are usually prized for stable businesses and cash flows that can help reduce risk but underperformed sharply through the pandemic in 2020.

As a result, relative valuations of defensive sectors such as healthcare and consumer staples are much lower than sectors such as technology and industrials *(Display)*. While rising rates are usually a headwind for defensive stocks, we believe attractive valuations of high-quality stocks create different starting conditions today. Strong balance sheets and businesses with high cash flows should position companies well for an array of risks and provide sources of solid long-term return potential while cushioning allocations from volatility.

Relative Valuations of Defensive Sectors Are Attractive



Past performance and historical analysis do not guarantee future results.

As of December 31, 2020

*Valuation percentiles for sectors are cap-weighted average price-to-next 12 months earnings forecast relativeto benchmark and relative to their own history. Valuation percentiles calculated within Europe (including the UK), Japan, and the US separately, subsequently averaged using MSCI World aggregate market capitalization weights to arrive at the Developed Market numbers. The investable universe contains Russell 1000 stocks in the US and the MSCI World constituents from Europe (including the UK) and Japan.

Source: FTSE Russell, I/B/E/S, MSCI, Refinitiv and AllianceBernstein (AB)

Time to Talk About Inflation

While market shocks in 2020 were fast and violent, the inflationary effect on markets is more of a creeping risk. Many investors are rightly seeking advice now on how to prepare.

Our economists don't expect a sustained inflationary burst anytime soon. However, with massive stimulus funds sloshing around the global economy and expectations of a pickup in GDP growth, it's time to dust off the playbook for inflation—with adjustments for the post-pandemic environment.

Several investment options deserve consideration. In fixed-income portfolios, moderately reducing duration can be an effective hedge against inflationary risk. Similarly, securitized credit—such as credit risk–transfer securities—provides solid defenses against inflation while still capturing return potential and yield. But beware of Treasury Inflation-Protected Securities (TIPS) and similar inflation-linked bonds in Europe and other regions. In many cases, the real yields on these bonds today are negative, so they are unlikely to help provide a return lift amid inflationary drag.

In equities, the recovery of value stocks discussed earlier could be catalyzed by inflation. But beyond the growth-value divide, investors should make inflation risk a high priority when scrutinizing new and existing holdings. Company business models and margins should be tested for their ability to absorb potential price rises for inputs and passing through rising prices to customers.

This may also warrant a new look at companies in sectors that can benefit from inflation, such as commodities and financials. All equity portfolios—core, growth or value—must demonstrate that their allocations at the stock and sector level reflect a proactive position for inflationary changes. Beyond equities and fixed income, investors may also want to consider commodities, real estate and other real assets that could serve as an inflationary hedge.

Emerging markets (EM) may also offer benefits in an inflationary environment. Many EM countries produce commodities, whose prices would be expected to rise in an inflationary world, adding another impetus for faster growing developing economies.

Proactive Positioning for a Post-Pandemic World

While every investor is different, following clear principles can help inform strategic planning for a variety of long-term goals. With a coherent set of guidelines about how the recovery path is creating new opportunities and risks, we believe investors can capture diverse sources of return in stocks and bonds of companies that are set to emerge stronger from the pandemic.

Though it may sound cliché, a historic crisis can create conditions for an equally historic recovery. But given the risks and uncertainties, you can't be passive about how the future will unfold. Proactive investing approaches are the best way to make sure that portfolios are positioned to reap diverse sources of return in a post-pandemic world while protecting allocations from volatility both within and across asset classes.

Christopher Hogbin is Head of Equities at AllianceBernstein (AB). Scott DiMaggio is Co-Head of Fixed Income at AB.

Author
Stuart Davies

The Quest for Uncorrelated Nontraditional Returns

The pursuit of diversification through return sources that are uncorrelated to traditional exposures continues. But it's important to explore the many facets of correlation in order to design diversifying exposures that don't unknowingly magnify risk or come up short in market drawdowns.

Trditional asset classes are unlikely to generate outsize returns in the years ahead, with elevated equity valuations and developing headwinds for government bonds. With equity risk (public and private) still the dominant risk in most portfolios, investors are increasingly seeking stable returns uncorrelated to equities.

To reinforce portfolio diversification, many investors are broadening their scope beyond the traditional equity risk premium, term premium and credit premium. The notion of accessing nontraditional risk premia certainly isn't new—many institutions seek to tap into them through allocations to alternative assets and strategies such as commodities and hedge funds.

The word "uncorrelated" is often used to describe a wide range of hedge fund strategies and styles, but this general categorization actually encompasses specific outcome objectives and considerations that vary among investors. And while some nontraditional return sources may seem uncorrelated on the surface, achieving uncorrelated returns is more complex than it may seem.

The Evaluating Time Horizon Matters

Asset allocators need to carefully consider the time horizon over which they want return sources to be uncorrelated to equities: Is it daily, weekly, quarterly or longer? Correlations are, by nature, highly dynamic, and the time periods over which they're evaluated can change the answer.

The time factor is critical when evaluating certain alternative strategies that have historically exhibited a tendency to revert to the mean after short-term losses that happen as a result of positive correlation to equity markets—with merger arbitrage a prime example.

The long-term beta of merger arbitrage to equity markets, based on daily data, has been 0.20, and it can increase during periods of market stress. Measured over a longer time frame—quarter to quarter—the realized beta since 2007 has been zero, very much an uncorrelated return source. Why is this? Over a longer time frame, merger-arbitrage deals have a chance to close, producing returns that can be differentiated from those of equity markets.

The key to reducing sensitivity to equity markets in a merger arbitrage strategy is to focus on "safer" deals that are both friendly and strategic in nature. Our research suggests that merger arbitrage deals will continue to close at a high rate, irrespective of equity market volatility.

Uncorrelated…But with a Tail Risk

Alternative return streams that appear uncorrelated may be knowingly underwriting some type of risk in order to capture a premium and generate returns. Stock market sell-offs can expose the underlying risks in these strategies—such as momentum, volatility and illiquidity risk premia.

When these risks manifest themselves, managers are forced to reduce or hedge positions. This can cause losses, regardless of the time horizon in consideration —a rather meaningful tail risk that may not be apparent until times of equity market stresses. Highly levered relative value premia, for example, may be subject to this risk, because leverage across asset classes drives increased correlations among the most highly levered market participants.

This happened in recent periods, such as in February 2018, and more recently in March 2020. Strategies using high leverage, including fixed-income basis trades or equity-index dividend futures roll and carry, were hit hard. In the case of 2018, short-volatility strategies faced outsize losses. Holding these positions in the face of

investor anxiety, which can drive redemptions and increased margin calls from financing counterparties, may lead to a path-dependent outcome with levered exposures cut and losses crystallized.

For investors seeking uncorrelated exposure to equities through alternative return sources, research and due diligence are vital to understanding underlying performance drivers.

Uncorrelated "On Average" Can Be Misleading

Averages can be misleading. This is a truism in many aspects of investing, and correlations are no different. Directional exposures that are systematically or fundamentally changed on a frequent basis may appear—when examined over a long time frame—to be uncorrelated with equities.

However, those underlying point-in-time exposures may result in very correlated outcomes to sizable equity drawdowns. Commodity trading advisor (CTA) exposures highlight this issue: today, long global equity, short US-dollar, long commodity and short global bond exposures are decidedly risk-on and therefore not uncorrelated to equities.

How can these varying behaviors be better managed? We believe, for example, that a systematic approach across macro asset classes can better ensure neutrality, from signal up to strategy and into distinct asset class groups.

Belly to the Wings: Tail Protection

Some investors would like to avoid the challenges inherent in achieving an uncorrelated result in the core portion of an investment portfolio. Instead, they choose to offset the portfolio's equity risk by creating positive convexity—namely, accessing tail protection in order to better balance the overall portfolio.

Classical tail hedging, however, can be very expensive and further compounded by timing. In some instances, an investor's hedging budget may be depleted before a true tail event even occurs, and the gap between the basis risk of the hedging program and the risk clients are exposed to may turn out to be unacceptably wide.

In order to build increasingly customized protective exposure for portfolios, we think it's prudent to consider a number of key features, namely liquidity, notional funding, diversity of structures and signals. It's also vital to develop a well-thought-out process for monetizing and rebalancing this protection.

Conclusion

The search for return sources uncorrelated to equities—still the dominant exposure in most portfolios—continues for many investors. And in an environment where traditional return streams are expected to be thinner, diversification is vital to managing risk-adjusted returns, and alternative allocations are a needed contributor.

There's a great deal of nuance and complexity beneath the surface that can defy "plug-and-play" solutions. Correlations can vary substantially based on the reference time horizon, average correlations conceal very changeable point-in-time responses, and uncorrelated return sources need to be appropriately sized and integrated to align with individual portfolio design.

The good news is that, when effectively harnessed, deployed and managed, nontraditional return sources do indeed offer investors the potential to enhance portfolios by diversifying equity beta. Given the expectations for modest return streams ahead and the ever-present need to mitigate downside risk, getting the formula right can be well worth the effort.

Stuart Davies is Co-Head of AB Custom Alternative Solutions at AllianceBernstein (AB).

Author
Michelle Dunstan

Portfolio Diversification: The Responsibility Dimension

It's no secret that a landscape of lower expected returns and higher volatility have institutional investors casting the net wider in search of new opportunity sets that can bolster portfolio diversification. Increasingly, responsible investing solutions are part of this conversation.

Momentum for responsible investing has been aided by two catalysts: In 2015, the United Nations (UN) developed Sustainable Development Goals (SDGs) to end extreme poverty, reduce inequality and protect the earth by 2030. And to coalesce efforts around the SDG 13 goal on climate change, the 2016 Paris Agreement produced a pledge to limit global warming.

These developments, along with a growing commitment to direct capital responsibly, have driven a broad wave of solutions. As with any investment category, there's no one-size-fits-all approach to responsible investing: distinctive opportunity sets, varying exposures to markets and segments, and different scopes of ESG themes and goals provide ample choice.

Categorizing Responsible Investing Solutions

The lack of uniform terminology is a bit of a challenge, with words like "ESG," "sustainable" or "sustainability," for instance, alternately used to refer to the broad spectrum of solutions or distinct categories. But there does seem to be some support coalescing around specific definitions.

Let's start with the integration of environmental, social and governance (ESG) considerations. In our view, integration isn't a specific solution but a foundation, because ESG considerations are financial considerations—a heavy carbon emitter carries both environmental and financial risks, for example. So, whether an issuer is being considered for a large-cap equity portfolio, emerging market debt strategy or multiasset solution, integrating ESG is vital to fundamental research.

Responsible solutions build on that foundation. If we envision solutions on a continuum that balances financial and responsibility goals, it might make sense to start with **ethical solutions**, which move beyond ESG integration. Ethical solutions apply negative screens to the more controversial areas of capital markets, reflecting moral considerations.

Best-in-class or positive screening seeks to reward the most positive or responsible issuers on ESG practices and behaviors. Strategies using best-in-class and ethical screening are predominantly designed to avoid doing harm. Ethical, values-oriented approaches have gradually evolved to include scrutiny of a company's ESG profiles as a means to reduce ESG-related risk and align with investors' moral values.

Further out on the responsibility continuum are solutions that give greater consideration to businesses' environmental and social effects on society: **sustainable thematic** strategies, sometimes simply called sustainable strategies. With a sustainability lens, investors consider the longevity of a company's products or business model and why it's sustainable over the long run.

Thematic investing uses a top-down process to identify global themes and then applies bottom-up fundamental research to identify the issuers best-positioned to capitalize on those themes. Combining sustainable and thematic approaches, by extension, seeks to invest along themes that will help the world tackle pressing environmental and social challenges.

Impact investing is intended to generate a measurable social and environmental impact on society along with a financial return. The key distinction between impact and other types of responsible solutions is the commitment to generate a specific, measurable and reportable impact by investing in issuers with that goal in their mission.

As with traditional investing, investors can access responsible solutions in equity, fixed income or across asset classes. Strategies can provide exposure to broad-based opportunities with higher beta or targeted markets or themes such as climate change or water that would bring more diversification potential to conventional portfolios along with more idiosyncratic risk. And, of course, they can be combined and deployed to complement existing exposures to bring an added dimension.

Surveying the Issuer Opportunity Set

Of course, what makes all of these solutions work are individual issuers, identified through careful research, with ESG considerations in the equation. While the global opportunity set is very broad, it's useful to organize issuers based on how they contribute to advancing responsibility.

Transition leaders are the high-profile issuers at the leading edge of ESG progress. Tesla is a good example—it's at the head of the electric vehicle (EV) field, driving the transition to a greener future for autos. Other leaders? Utilities and equipment manufacturers delivering wind and solar farms to drive the transition to net zero carbon. Transition leaders are often high quality and growth oriented.

Transitions require **enablers**—companies supplying vital materials, products and services to leaders. For every EV manufacturer, there's a supply chain to create battery components—cathodes, anodes, separators and electrolytes—and mining and processing the critical raw materials. For every wind or solar farm is a specialist firm getting it connected to the electrical grid. Enablers may be lesser known, but they offer abundant opportunities that tend to skew toward value.

We're also finding opportunities among underrecognized transition **improvers**—companies from all walks of life that are upping their ESG game. An improver could be a nickel-mining company working to reduce its emissions through upgrading its facilities. The ranks might also include a protein producer that, while building its business in more sustainable plant-based protein, is also setting targets for net-zero carbon emissions as well as packaging and food-waste reduction in its legacy animal-protein operations. Improvers may be off the beaten path, but they offer investors the chance to benefit from the market's eventual recognition of their ESG advances.

Of course, the responsible investing arena is always evolving, with new initiatives, products and services reshaping the map of firms that will benefit—and possibly those that will struggle. Some of these disruptors may be in the early venture-capital or private-equity stage right now, but they're coming—and bringing new avenues of diversification with them.

Early-Stage Potential: the Hydrogen Economy

One promising path is the "hydrogen economy." Japan is collaborating with 30 countries to establish 10,000 hydrogen-refueling stations by 2030. France and Germany have made multibillion-dollar investments in a transition to hydrogen as part of their COVID-19 recovery plans. And the Australian government launched a fund in 2020 to help develop a hydrogen industry.

While hydrogen won't be a silver bullet that instantly decarbonizes society, we believe it's likely to become an important part of the global energy mix over a 20-year time frame. In our view, green hydrogen has a bright future—even if the economics don't generally work today. For investors, that means preparing now to understand how different firms will be exposed to the hydrogen value chain.

Bellwether Projects in Carbon Capture and Storage

Another potential growth path is carbon capture and storage (CCS). To satisfy Paris commitments, CO_2 generation needs to be reduced through greener products and captured from carbon emitters, "scrubbed" from the air using direct-air-capture technologies and chemical extraction, and stored permanently, safely and feasibly.

Our colleagues at Columbia University's Earth Institute are tracking bellwether CCS projects, including a recent Norwegian project to capture CO_2 from industrial plants, convert it to a liquid and coinject it with water into offshore, subsurface geological formations for storage. If CCS can center on deep-ocean locations, entire operations could be powered by wind—an abundant energy source in those locations.

In the quest for diversification, responsible investing offers a different dimension to opportunity sets and the flexibility to direct capital toward specific responsibility goals or initiatives. And emerging opportunities continue to appear on the horizon.

Michelle Dunstan is Global Head of Responsible Investing and Portfolio Manager of the Global ESG Improvers Strategy at AllianceBernstein (AB).

Past performance, historical and current analyses, and expectations do not guarantee future results. There can be no assurance that any investment objectives will be achieved.

Note to All Readers: The information contained here reflects the views of AllianceBernstein L.P. or its affiliates and sources it believes are reliable as of the date of this publication. AllianceBernstein L.P. makes no representations or warranties concerning the accuracy of any data. There is no guarantee that any projection, forecast or opinion in this material will be realized. Past performance does not guarantee future results. The views expressed here may change at any time after the date of this publication. This document is for informational purposes only and does not constitute investment advice. AllianceBernstein L.P. does not provide tax, legal or accounting advice. It does not take an investor's personal investment objectives or financial situation into account; investors should discuss their individual circumstances with appropriate professionals before making any decisions. This information should not be construed as sales or marketing material or an offer or solicitation for the purchase or sale of any financial instrument, product or service sponsored by AllianceBernstein L.P. or its affiliates. **Note to Canadian Readers:** This publication has been provided by AllianceBernstein Canada, Inc. or Sanford C. Bernstein & Co., LLC and is for general information purposes only. It should not be construed as advice as to the investing in or the buying or selling of securities, or as an activity in furtherance of a trade in securities. Neither AllianceBernstein Institutional Investments nor AllianceBernstein L.P. provides investment advice or deals in securities in Canada. **Note to European Readers:** This information is issued by AllianceBernstein Limited, a company registered in England under company number 2551144. AllianceBernstein Limited is authorised and regulated in the UK by the Financial Conduct Authority (FCA—Reference Number 147956). **Note to Readers in Japan:** This document has been provided by AllianceBernstein Japan Ltd. AllianceBernstein Japan Ltd. is a registered investment-management company (registration number: Kanto Local Financial Bureau no. 303). It is also a member of the Japan Investment Advisers Association; the Investment Trusts Association, Japan; the Japan Securities Dealers Association; and the Type II Financial Instruments Firms Association. The product/service may not be offered or sold in Japan; this document is not made to solicit investment. **Note to Australian Readers:** This document has been issued by AllianceBernstein Australia Limited (ABN 53 095 022 718 and AFSL 230698). Information in this document is intended only for persons who qualify as "wholesale clients," as defined in the Corporations Act 2001 (Cth of Australia), and should not be construed as advice. **Note to Singapore Readers:** This document has been issued by AllianceBernstein (Singapore) Ltd. ("ABSL", Company Registration No. 199703364C). AllianceBernstein (Luxembourg) S.à r.l. is the management company of the portfolio and has appointed ABSL as its agent for service of process and as its Singapore representative. AllianceBernstein (Singapore) Ltd. is regulated by the Monetary Authority of Singapore. This advertisement has not been reviewed by the Monetary Authority of Singapore. **Note to Hong Kong Readers:** This document is issued in Hong Kong by AllianceBernstein Hong Kong Limited (聯博香港有限公司), a licensed entity regulated by the Hong Kong Securities and Futures Commission. This document has not been reviewed by the Hong Kong Securities and Futures Commission. **Note to Readers in Vietnam, the Philippines, Brunei, Thailand, Indonesia, China, Taiwan and India:** This document is provided solely for the informational purposes of institutional investors and is not investment advice, nor is it intended to be an offer or solicitation, and does not pertain to the specific investment objectives, financial situation or particular needs of any person to whom it is sent. This document is not an advertisement and is not intended for public use or additional distribution. AllianceBernstein is not licensed to, and does not purport to, conduct any business or offer any services in any of the above countries. **Note to Readers in Malaysia:** Nothing in this document should be construed as an invitation or offer to subscribe to or purchase any securities, nor is it an offering of fund-management services, advice, analysis or a report concerning securities. AllianceBernstein is not licensed to, and does not purport to, conduct any business or offer any services in Malaysia. Without prejudice to the generality of the foregoing, AllianceBernstein does not hold a capital-markets services license under the Capital Markets & Services Act 2007 of Malaysia, and does not, nor does it purport to, deal in securities, trade in futures contracts, manage funds, offer corporate finance or investment advice, or provide financial-planning services in Malaysia.

Important Note for UK and EU Readers: For professional client or Investment Professional use only. Not for inspection by, or distribution or quotation to, the general public.

The [A/B] logo is a registered service mark of AllianceBernstein and AllianceBernstein® is a registered service mark used by permission of the owner, AllianceBernstein L.P.

© 2021 AllianceBernstein L.P., 1345 Avenue of the Americas, New York, NY 10105