Morgan Stanley

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Sunset for 60/40?: Assessing Its Long-Term Success, Its Recent Struggles and Some Potential Pivots

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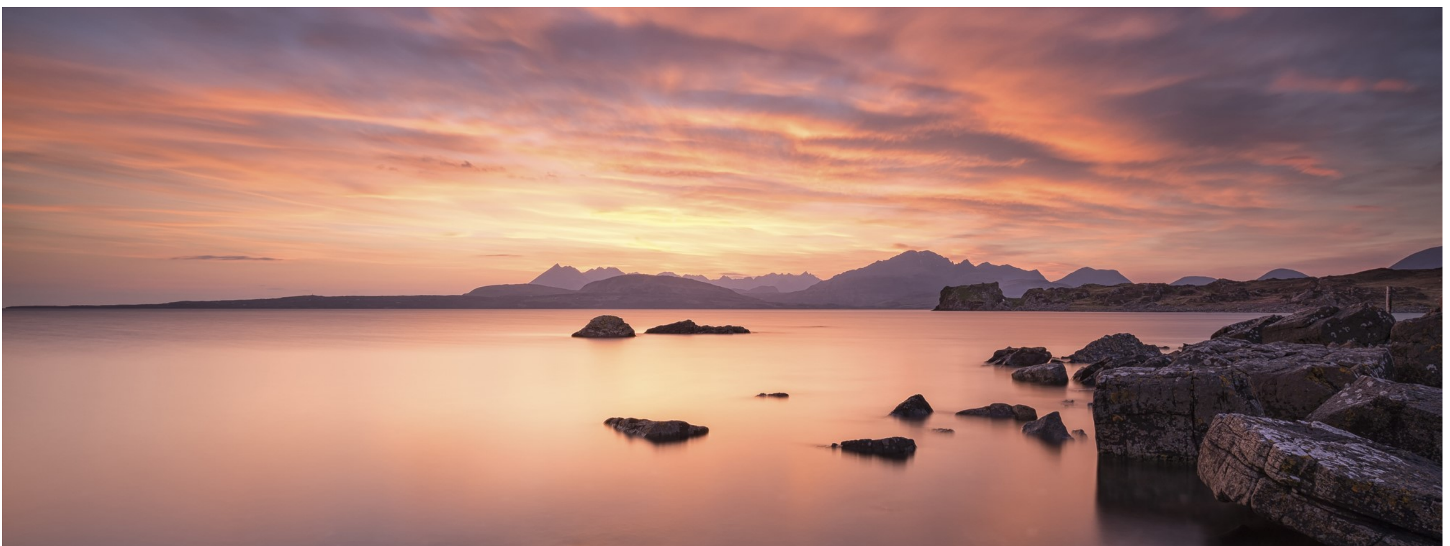
Since the early 1980s, blended portfolios of equities and fixed income have become more popular as starting points or benchmarks for portfolio construction. Anchored in the science of Modern Portfolio Theory, these blends historically provided a straightforward means of achieving attractive risk-adjusted returns, taking advantage of the two asset classes' low correlations. A common mix— 60% equities and 40% fixed income, more frequently known as 60/40— has become widespread as a reference point.

From October 1981 to December 2021, the 60/40 enjoyed a remarkable stretch of relatively sunny weather. It simply worked—both practically and theoretically—producing a 10.9% annualized return and achieving 87% of the S&P 500 Index's return with 63% of the annualized volatility. From January 2000 to May 2020, 60/40 outperformed the S&P 500, with just 60% of the annualized volatility. Deviating from this simple, effective balanced portfolio represented a "risky" proposition, as alternative portfolios often fell short of these superb results.



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Supported by falling interest rates and moderating inflation, equities and fixed income both enjoyed positive expected returns and consistently low correlations, aside perhaps from the period following the late-1990s equity market bubble. The Federal Reserve's readiness to provide monetary accommodation, together with fundamental shifts in the US economy, propelled 60/40's success.

In early 2022, inflection points in these 40-year trends have caused a meaningful drawdown for the 60/40 portfolio, as the US has experienced its strongest inflationary pressures in more than a generation. Looking ahead, the prospects for 60/40 returns appear less attractive, given an unfavorable starting point, mean reversion, normalizing inflation and less reliable Fed intervention.

In response, we recommend the following approach: First, investors should consider forward returns through this realistic lens and avoid extrapolating from the recent past. Instead, we anticipate that investors may face lower returns and volatility for both asset classes and positive cross-correlations, paving a bumpier road ahead for the 60/40 portfolio. Second, rather than simply increasing equity exposure to boost returns, we propose that investors look to thoughtful portfolio implementation—including tactical asset allocation, active-passive and manager-selection decisions—and greater emphasis on diversifying exposures. Finally, while investors may have eschewed investing in alternatives during the 60/40 portfolio's time in the sun, they may wish to consider these less-correlated asset classes for their longer-term strategic allocations.

For simplicity, we use the S&P 500's total returns to measure equities and the Bloomberg US Aggregate's total returns to measure fixed income and assume monthly rebalancing for the 60/40 portfolio.

Practical Takeaways

- Over the past 40 years, the 60/40 portfolio experienced a "golden age," supported by moderating inflation, falling real yields and a Fed put.
- Thus far in 2022, both equities and fixed income have declined sharply, marking the most challenging start for the 60/40 portfolio in decades.
- Beyond today's volatility, the Global Investment Committee (GIC) anticipates a bumpier road ahead for the 60/40 portfolio, due to several factors: an unfavorable starting point, the power of mean reversion, a normalizing inflation environment and a Fed less likely to intervene to support risky asset valuations.
- Investors may best respond by accepting the reality of lower absolute and risk-adjusted returns and adapting through thoughtful portfolio implementation and allocations to diversifying investment strategies.

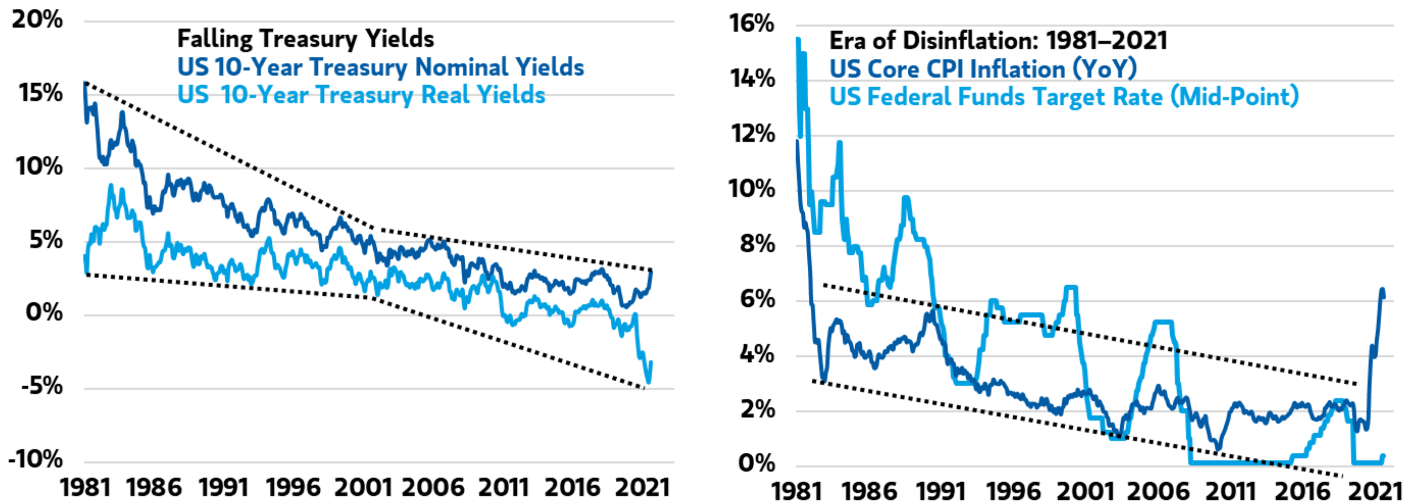
Secrets to Four Decades of Success: Disinflation, Falling Real Yields and an Effective Fed Put

Disinflation, Leading to Decorrelation. Since the Paul Volcker-led Fed broke inflationary impulses from the late 1970s, US 10-year Treasury yields have steadily declined from 15.84% in September 1981, finally reaching a secular trough of 0.57% on April 21, 2020. Softening inflationary pressures bolstered this nearly 40-year trend and fostered lower correlations between equities and fixed income. Following the 2000 Tech Bubble, globalization and digitization allowed the Fed and other central banks to unleash increasing monetary accommodation at each bout of weakness. This accommodation eventually expanded the Fed's dual mandate of maximum employment and stable prices to include financial stability. As such, the Fed became not only a macroeconomic support but a salve in times of falling risk appetites and tightening financial conditions, which only amplified these decorrelation benefits.

Nominal Treasury yields comprise two components: real yields and inflation expectations. During the 40-year bond bull market, both notably declined. Falling real yields, leading to lower discount rates for future cashflows, allowed equity valuations to rise and prevailing bond yields to fall. Meanwhile, inflation expectations softened and became well-contained, materially reducing fixed income volatility.

Both equities and fixed income typically suffer during periods of unexpectedly high inflation. For fixed income, higher inflation causes a spike in yields and decline in bond prices. For equities, the effect flows through corporate pricing power: Consumers eventually balk at higher prices, even for the essentials. From February 1966 to September 1981, the US economy weathered multiple inflation shocks, owing to expansionary fiscal policy in support of the Great Society and the Vietnam War and OPEC oil embargos.

Exhibit 1: The Volcker Fed's Victory Over Inflation Commenced a New Era of Disinflation and Lower Nominal and Real Treasury Yields



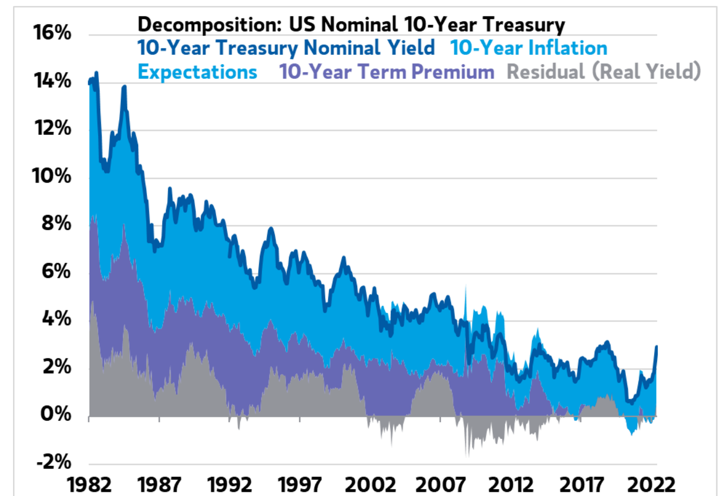
Note: We measure real yields as the differential between the 10-year US nominal Treasury yield and US core Consumer Price Index inflation.
Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg as of April 30, 2022

While both equities and fixed income produced positive annualized nominal returns, they fell well below other historical periods outside of the Great Depression and much of World War II (September 1929 to December 1944), when equities experienced negative annualized returns. Given annualized Consumer Price Index (CPI) inflation of 6.70%, real returns for both equities and fixed income fell below zero during this period; in fact, the 60/40 portfolio experienced a 30% drawdown in real terms.

The Volcker Fed ultimately dampened these inflationary pressures by raising the federal funds rate[1] from 4.75% in November 1976 to a crescendo of 20.00%, reached three times, lastly in May 1981. From that point, core CPI inflation moved sharply lower, tracking a downward-sloping channel (see the right-hand chart in Exhibit 1). This "victory over inflation" propelled a long-term decline in the Fed's policy rate (right-hand chart) and a sharp move lower through 2001 in nominal Treasury yields, which continued to drift lower more gradually in the two decades afterward (left-hand chart in Exhibit 1). Exhibit 2 breaks down nominal Treasury yields into three components: inflation expectations, term premiums and residual (real) yields.

For equities and fixed income, persistently lower core inflation and falling Treasury yields supported healthy total returns and attractive diversification. As evidenced in Exhibit 3, in the post-1981 period, the 60/40 portfolio enjoyed double-digit total returns with volatility below 10%.

Exhibit 2: Contained Inflation, Declining Real yields and Compressed Term Premiums have Fostered Lower Nominal Yields



Note: Here, we deploy (1) the Cleveland Fed's 10-year inflation expectations and (2) 10-year term premiums from the New York Fed's Adrian, Crump and Moench model. We calculate the residual (real) yield as the differential between the 10-year nominal Treasury yield and the sum of (1) and (2).
Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg as of May 1, 2022

Exhibit 3: The 60/40 Portfolio's Performance Has Varied Widely by Inflation Regime and Has Experienced Notable "Golden" and "Lost" Periods

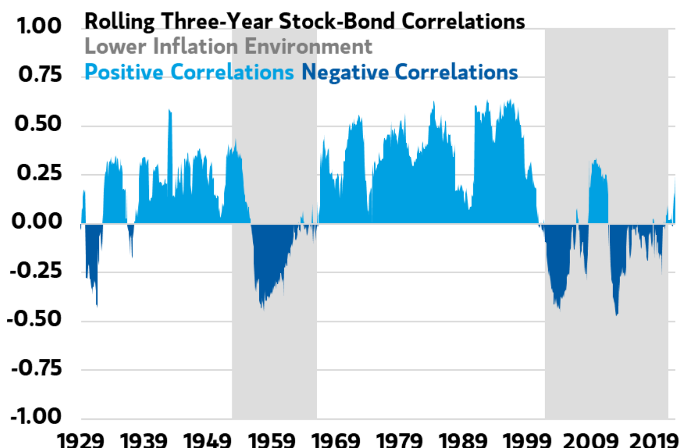
			Returns			Volatility			Equities ↓, Fixed Income ↑		Fixed Income ↓, Equities ↑	
	Start	End	Equities	Fixed Income	60/40	Equities	Fixed Income	60/40	Hit Ratio	Avg. FI Return	Hit Ratio	Avg. Equity Return
Decade-by-Decade	Jan-1926	Apr-2022	10.2%	5.0%	8.6%	18.6%	4.4%	11.4%	61%	11.5%	53%	47.5%
	Jan-1930	Dec-1939	-0.1%	5.0%	3.2%	37.8%	3.0%	21.8%	74%	8.6%	44%	204.1%
	Jan-1940	Dec-1949	9.2%	2.2%	6.6%	15.9%	1.3%	9.8%	64%	3.1%	30%	44.2%
	Jan-1950	Dec-1959	19.4%	1.0%	12.4%	11.8%	3.1%	7.3%	47%	10.3%	65%	44.3%
	Jan-1960	Dec-1969	7.8%	2.6%	6.0%	12.1%	3.5%	7.5%	64%	9.2%	61%	36.2%
	Jan-1970	Dec-1979	4.6%	6.7%	5.7%	16.2%	5.5%	10.6%	49%	13.6%	33%	29.3%
	Jan-1980	Dec-1989	17.9%	12.4%	15.8%	15.9%	8.5%	11.3%	56%	21.5%	47%	39.7%
	Jan-1990	Dec-1999	18.2%	7.7%	14.1%	13.4%	3.9%	9.0%	49%	13.4%	44%	42.9%
	Jan-2000	Dec-2009	-0.9%	6.3%	2.6%	16.1%	3.8%	9.4%	72%	14.6%	62%	45.4%
	Jan-2010	Dec-2019	13.6%	3.7%	9.8%	12.5%	2.9%	7.3%	65%	15.3%	71%	32.7%
	Jan-2020	Dec-2021	23.4%	2.9%	15.3%	19.5%	3.3%	11.8%	38%	17.3%	55%	75.4%
Inflation Regimes	Sep-1929	Jun-1945	0.8%	4.3%	3.1%	32.2%	2.6%	18.7%	74%	7.4%	37%	186.6%
	Jul-1945	Dec-1965	14.4%	2.1%	9.8%	12.6%	2.5%	7.6%	61%	7.3%	62%	44.5%
	Jan-1966	Sep-1981	4.7%	4.1%	4.8%	15.0%	6.5%	10.1%	46%	13.3%	43%	34.5%
	Oct-1981	May-2020	11.7%	8.0%	10.6%	15.0%	4.7%	9.5%	63%	16.5%	57%	37.9%
	Jun-2020	Apr-2022	19.0%	-4.9%	9.3%	16.2%	4.4%	10.9%	13%	3.6%	50%	72.3%
Golden Periods	Jan-1926	Aug-1929	34.1%	4.0%	22.2%	15.0%	1.4%	9.4%	75%	4.5%	50%	43.5%
	Jul-1950	Dec-1961	18.2%	2.0%	12.1%	11.8%	3.2%	7.2%	51%	12.2%	66%	44.3%
	Oct-1981	Sep-1987	24.7%	16.5%	21.7%	14.7%	7.8%	10.6%	62%	22.6%	44%	35.3%
	Oct-1990	Mar-2000	21.0%	8.0%	15.9%	13.0%	3.8%	8.6%	48%	12.9%	47%	42.9%
	Mar-2009	Jan-2020	16.9%	4.3%	11.9%	12.8%	2.9%	7.6%	67%	15.3%	72%	32.5%
Lost Periods	Sep-1929	Apr-1942	-5.5%	4.7%	-0.6%	35.3%	2.8%	20.5%	72%	8.2%	36%	204.1%
	Dec-1968	May-1976	1.8%	5.8%	3.8%	17.4%	5.8%	11.3%	48%	12.4%	36%	30.7%
	Apr-2000	Feb-2009	-6.0%	6.0%	-0.6%	15.5%	3.9%	8.9%	72%	14.8%	63%	46.4%

Note: Here, we define "Hit Ratio" as a percentage of months during which equities or fixed income delivered positive returns in months when their counterparts experienced negative returns. The "Avg." columns provide the annualized fixed income and equity returns, respectively, during those months when the counterpart experienced negative returns.
Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg, FactSet and Morningstar as of April 30, 2022

Since January 2000, the 60/40 portfolio's underlying diversification benefits have improved. In the 2000s and 2010s, when the S&P 500 experienced a negative month, the Bloomberg US Aggregate posted coincidently positive returns approximately 70% of the time. In negative months for fixed income, equities gained with a similar frequency. Exhibit 4 highlights the rolling three-year correlation for the two asset classes, pointing out the extended period of negative correlations since 2000. The two asset classes experienced similar decorrelation from the mid-1950s to mid-1960s.

Falling Real Yields. As noted in Exhibit 1, real yields declined consistently from 1981 to 2000, but the move lower accelerated after 2000. Since August 2011, the US 10-year real yield has remained consistently below 1%, as a result of the Fed's highly accommodative monetary policy in the wake of the 2007 to 2009 Great Financial Crisis (GFC) and the COVID-19 pandemic. Lower real yields have supported several secular developments for investors and the economy:

Exhibit 4: Equity-Fixed Income Correlations Have Fallen and Stayed Materially Lower Since 2000



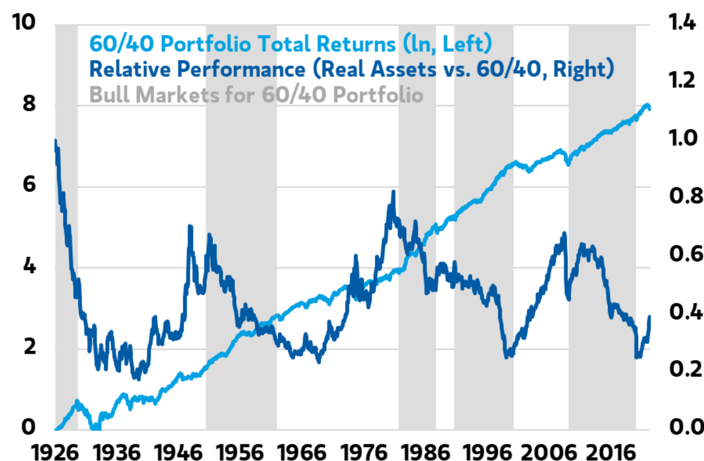
Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg, FactSet and Morningstar as of April 30, 2022

1. *Greater Financialization*. Along with globalization and deindustrialization, lower real yields have propelled the expansion of the US financial services sector since the late 1970s. Financial innovations, including mortgage securitization and derivatives, have allowed investors to tailor and hedge exposure to the real economy and market risk factors. Leading up to the 2007–2009 GFC, financial services firms increased leverage to maximize returns on capital; meanwhile, a "shadow banking" system emerged to facilitate nonbank credit creation and to facilitate the pursuit of private investment opportunities. Following the crisis, more stringent capital requirements for systemically important banks increased the prevalence of private lending. While this greater financialization created employment opportunities and democratized access to consumer credit, it deepened the US economy's vulnerability to financial instability and may have contributed to income inequality. Moreover, the rise of shadow banks increasingly shifted value creation to private markets, with the benefits accruing to accredited investors.

2. *Lower Cost of Capital for Borrowers*. As a key component of borrowing costs, lower real yields promoted and extended a post-World War II "debt supercycle." Having watched governments borrow heavily to support the war effort, policymakers organized the Bretton Woods monetary system in 1944, which established the US dollar as the world's primary reserve currency. In the subsequent years, falling bond yields and a powerful recovery allowed governments to inflate away their heavy debt burdens. Unsurprisingly, the 60/40 portfolio enjoyed a similar period of success in the two decades from July 1945; at that time, equities delivered the lion's share of total returns, while fixed income contributed attractive diversification and modestly positive returns.

Starting in the mid-1960s, governments expanded their fiscal programs, especially through entitlements and other social welfare programs. Individuals found greater credit availability through more flexible mortgages, auto loans, credit cards and even unsecured personal loans. Corporations raised their debt-to-equity ratios, leading to greater operating leverage and operating profit margins in favorable periods. Meanwhile, organized labor's declining influence allowed productivity gains to flow to capital, fueling a secular increase in corporate margins. Particularly since 2000, equity investors have also placed greater value on cashflow generation and lower capital intensity, with the potential to increase shareholder returns through dividends and share repurchases. Financial engineering allowed investors to maximize returns from profitable companies, while unprofitable companies received extended lifelines through equity or debt financing.

Exhibit 5: Propelled by Falling Real Yields, Financial Assets, Well-Represented by the 60/40 Portfolio, Thrived in Absolute Terms and Relative to Real Assets



Note: Here, we define real assets as commodities from 1926 to 1971; as an equal-weighted blend of commodities and real estate investment trusts (REITs) from 1972 to 2005; and as an equal-weighted blend of commodities, REITs and energy infrastructure since 2006.
Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by AQR Capital and Bloomberg as of April 30, 2022

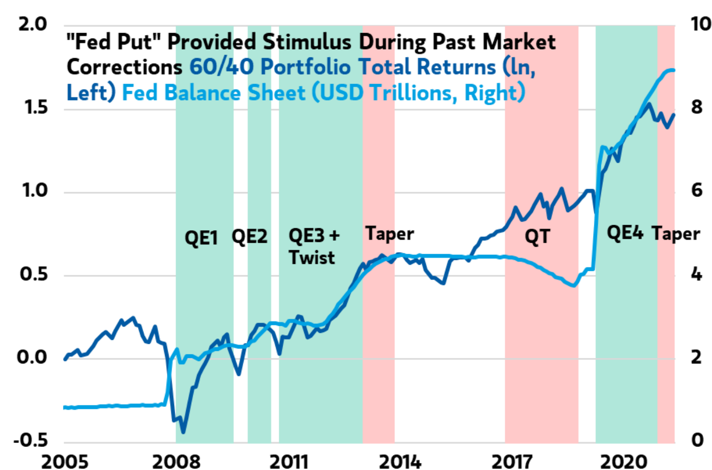
3. *Higher Valuations for Financial Assets, Influencing Investor Preferences*. Lower real yields translate into reduced discounting of long-term cashflows, benefitting longer-duration assets like growth-style equities and long-term bonds. This factor produced a positive tailwind for the 60/40 portfolio over the 1981–2021 period. Meanwhile, real assets languished, as globalization, advancements in supply-chain technology, relative peace and a greater prevalence of services versus goods consumption combined to limit resource constraints. Investors increasingly welcomed financial or "paper" assets as stores of value. As such, by mid-2020, the 60/40 portfolio reached all-time highs versus real assets.

An Effective Fed Put. Following the Volcker Fed's intervention to stamp out inflation, subsequent Fed action has increasingly targeted healthy financial market conditions. In times of dislocation, the Fed has coordinated with other global central banks to ensure market liquidity, looking to avoid the potentially severe costs to the financial system and broader economy. Investors gained confidence in the "Fed put," reasoning that the central bank would intervene in times of material sell-offs in equity and risky credit markets. These actions have helped diminish volatility, likely moderating swings in macroeconomic conditions and corporate profitability, though they are still subject to unwelcome interruptions.

Following the 2007–2009 GFC, central banks expanded their toolkits to include quantitative easing—large-scale asset purchases intended to stabilize borrowing costs and asset prices. Policymakers had observed Japan's nearly 20-year stagnation and resolved to avoid a deflationary spiral at any cost. These concerns help to explain the multiple rounds of quantitative easing and extended period of near-zero interest rates. By late 2018, however, the Fed began unwinding its accommodative policy, increasing the federal funds rate to 2.50% and planning to reduce its balance sheet assets. However, market turmoil, especially after the US 10-year real yield climbed above 1.00%, caused a dovish pivot, even prompting three 25-basis point rate cuts in 2019.

The COVID pandemic and its lockdowns triggered a collapse in demand, threatening a long entrenchment and compelling an even greater and quicker release of stimulus. Over time, lower real yields likely boosted the level of stimulus required to counter demand shortfalls, reinforcing the dynamics behind the debt supercycle. Exhibit 6 highlights the tight relationship between the size of the Fed's balance sheet and the S&P 500's cumulative total returns in the post-crisis period. The areas highlighted in green represent periods of balance sheet expansion, while red indicates contraction.

Exhibit 6: Fed Accommodation Has Recently Included an Expanding Balance Sheet, Bolstering the 60/40 Portfolio



Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg and FactSet as of April 30, 2022

Beyond the Challenging Start to 2022, a Bumpier Road Ahead

Turning to 2022, the 60/40 portfolio has struggled mightily, with both legs experiencing sharp losses. After labeling inflationary pressures transitory in mid-2021, the Fed began acknowledging the more substantive nature of the combined impact of extraordinary stimulus and supply-chain disruptions by November 2021. Continued inflation surprises crystallized this hawkish view in early 2022, leading to 75 basis points of rate increases at the Fed's March and May meetings and the announcement of plans for quantitative tightening (through balance sheet reduction), starting in June.

Beyond the immediate market backdrop, we would like to evaluate several crosscurrents that suggest a bumpier road ahead for the 60/40 portfolio:

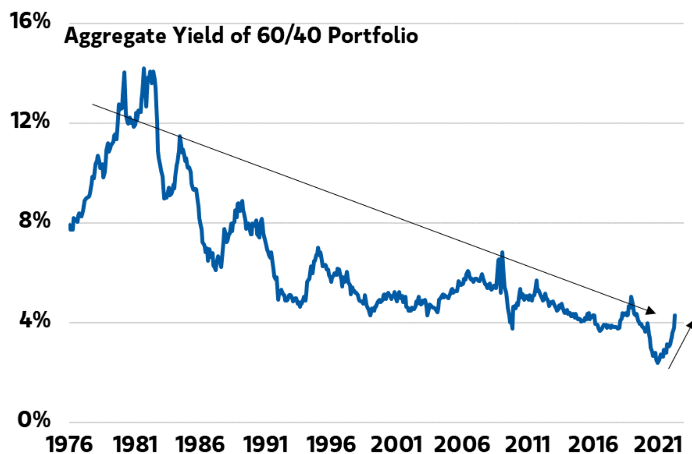
1. *An Unfavorable Starting Point*. In its "Annual Update" to its capital markets assumptions, the GIC assigned the 60/40 portfolio an expected forward return of 3.8% over the strategic seven-year horizon. The GIC determines these expectations through a building-block approach, which adds the likely contribution from several return drivers, including prevailing yields and expected changes in valuations.

For both equities and fixed income, valuations move inversely to real yields, which help to determine the cost of capital for government, companies and individuals. As of Dec. 31, 2021, US 10-year real yields remained in deeply negative territory, whether pricing based on Treasury Inflation-Protected Securities (TIPS) or the differential between nominal Treasury yields and inflation. Having engineered negative real yields for

over 10 years, the Fed faced the unenviable prospect of rising real yields while they sought an overall soft landing for the economy amid the unwind of COVID-related policy. Importantly, the Fed has indicated an openness to allowing financial markets to adjust organically to this new reality, reducing both the likelihood and strike price of the Fed put.

While TIPS-based real yields have risen sharply from early March, their relatively low level and probable upward trajectory suggest an unfavorable starting point for the 60/40 portfolio. If real yields were to increase even gradually to pre-GFC levels, investors would likely experience much lower returns from the 60/40 portfolio in coming years, which would be consistent with the GIC's expectations but would likely be disappointing relative to the broader investment community's expectations.

Exhibit 7: The 60/40 Portfolio's Aggregate Yield Has Registered a Long-Run Decline Since 1981



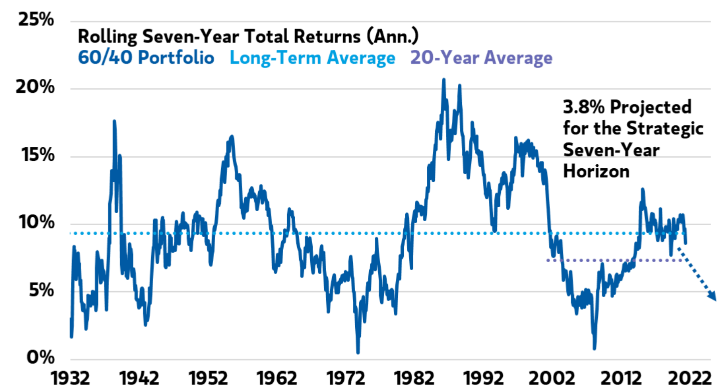
Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg and FactSet as of April 30, 2022

Exhibit 7 visualizes the 60/40 portfolio's historical aggregate yield, computed as a weighted average of the S&P 500's earnings yield and the option-adjusted yield on the Bloomberg US Aggregate Index. Along with declining bond yields, the S&P 500's earnings yield has fallen amid rising valuations. Although 2022's market action has trimmed equity valuations, they remain high relative to history. Likewise, bond yields have risen from secular lows in mid-2020, but their absolute levels remain well below those of previous decades. In both cases, low starting yields suggest that traditional assets may deliver less appealing returns than in previous decades.

Moreover, at these lower yields, the convex relationship between yield and price amplifies the 60/40 portfolio's sensitivity to changes in yield. Heightened sensitivity contributed to the sharp reaction from both equities and fixed income to higher yields in early 2022.

2. *Gravity Affects Financial Markets, Too*. As Exhibit 3 showed and Exhibit 8 visualizes, the 60/40 portfolio has experienced its share of lost periods: the 1930s, 1966 to 1982 and the 2000s. While only making up 60% in asset terms, the equity component has historically accounted for more than 80% of the 60/40 portfolio's volatility. As such, extended bouts of equity weakness have typically accounted for these lost periods, with golden periods (supported by equity bull markets) preceding them: the 1920s, the 1950s and 1982 to 2000. The 60/40 portfolio will likely face some mean reversion after the extended period of exceptional total returns since 2009.

Exhibit 8: The 60/40 Portfolio Has Shown a Mean-Reverting Pattern in Its Rolling Seven-Year Total Returns; After Rampant Success in Recent Years, We Anticipate Lower Future Returns



Note: The "Projected" figure comes from the forward seven-year (strategic) forecasts in the "Annual Update to GIC Capital Markets Assumptions," published March 31, 2022.
Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg, FactSet and Morningstar as of April 30, 2022

3. *Normalizing Inflationary Environment*. In addition to a mean reversion of returns, changes in the macro and monetary environment may increase financial market volatility, lowering risk-adjusted returns and frustrating investors.

As noted above, moderating inflation has undergirded solid risk-adjusted returns for the 60/40 portfolio for much of the post-1981 period, but particularly over the past 12 years. Exhibit 9 summarizes the 60/40 portfolio's coincident Sharpe ratios, based on changing growth and inflation regimes. Higher percentile values point to greater positive changes in growth or inflation. The table suggests that stagflationary environments, with lower growth and higher inflation, have corresponded to the lowest (even negative) risk-adjusted

returns for the 60/40 portfolio (dashed-line box). While other data looks less unidirectional, the solid-line boxed region, representing attractive risk-adjusted returns, includes two types of regimes: (1) moderating inflation and (2) reasonable growth. Since 1981, aside from the 2007–2009 GFC, the US economy has typically fallen into either of the two favorable regimes, thanks to Fed interventions and globalization's macroeconomic benefits, which explains the 60/40 portfolio's persistent success since 1981.

As indicated in the GIC's 2022 Outlook, several dynamics threaten to interrupt that moderating inflation trend: digitization, deglobalization, decarbonization and a directional change in labor markets. With digitization and deglobalization, US corporations must react to COVID-era shifts in business models and supply chains, while the pursuit of decarbonization involves a multiyear pivot to less carbon-intensive means of transportation and production. The three trends may encourage investment and spur innovation and job creation, but they come with real costs that will likely place a higher floor under inflation. Employees may have gained meaningful ground in securing better compensation, owing to labor market tightness and greater mobility through gig and remote positions. Populist sentiment has also shifted momentum from capital to labor, with workers' share of productivity gains set to increase through higher real wages after stagnating in the post-1981 period.

Exhibit 9: These Key Drivers Help to Determine an Investor's After-Tax Returns

Sharpe Ratio for 60/40 Portfolio

Inflation Regimes	Growth Regimes					
	Percentile	Low	40th	60th	80th	High
	Low	1.96	0.64	1.19	1.84	-0.14
	40th	0.16	0.09	1.45	1.56	1.07
	60th	-0.31	0.57	2.44	0.43	0.35
	80th	-0.23	0.31	0.27	0.88	0.67
	High	-0.15	-0.23	-0.03	0.08	0.24

Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg and FactSet as of April 30, 2022

Based on historical evidence from Exhibit 4, a normalized inflation environment would likely coincide with a materially higher positive stock-bond correlation, weighing on the 60/40 portfolio's risk-adjusted returns. While investors may still reap diversification benefits over the long term, fixed income would likely prove a less effective cushion in negative months for equities. Perceptions of less effective short-term diversification could cause investor unease, particularly when compared to the extraordinary 1981–2021 period that gave birth to their expectations.

4. *Lower Prevalence of Fed Intervention*. In the 2000–2021 period, Fed intervention lowered real yields and likely diminished market and macroeconomic volatility, leading to the favorable conditions outlined above. Given its still-substantial balance sheet and the potential shift in inflationary conditions, the Fed may be less able and less willing to intervene in moments of financial market turbulence. As such, the 60/40 portfolio's volatility may rise slightly, particularly should fixed income volatility rise from the halcyon period of 1990 to 2021.

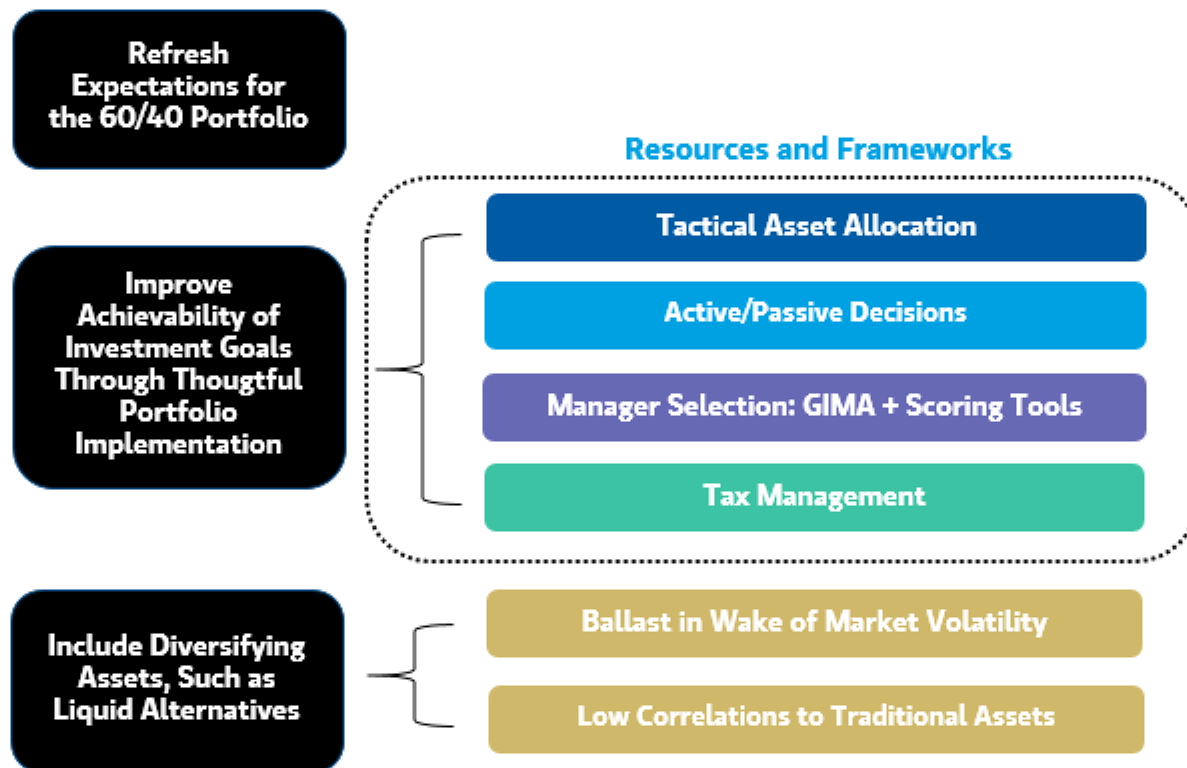
How Should Investors Respond to the Bumpier Road for the 60/40 Portfolio?

Given its 40-year run of success, investors may naturally experience some discomfort watching the 60/40 portfolio's disappointing start to 2022. After rising sharply through April, the 10-year US Treasury yield may have moved into a higher trading range, as investor attention has transitioned from inflationary pressures to growth concerns. Still, as we detailed in the previous section, we perceive signs of a potential longer-term regime shift. We believe that prudence suggests investors consider several pivots to their portfolio construction approach, summarized in Exhibit 10.

1. *Refreshing Expectations for the 60/40 Portfolio*. Often, investors can take advantage of established patterns by following trends. They must be vigilant, however, to evaluate the possibility of regime shifts. The 60/40 portfolio may struggle in absolute and risk-adjusted terms amid higher real yields, normalizing inflation and less effective cross-asset diversification. Based on the GIC's strategic seven-year capital market assumptions, the 60/40 portfolio may generate lower annualized total returns than it did in the post-1981 period.

We believe that investors should refresh their return expectations and avoid the temptation to take greater equity risk to make up the shortfall. While GIC forecasts point to outperformance for equities versus fixed income, the limited spread suggests that additional equity exposure will only add marginally to expected returns. Instead, investors should consider other means to improve absolute and risk-adjusted returns.

Exhibit 10: We Recommend Constructive Action in Response to Challenging Conditions for the 60/40 Portfolio



Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics

2. *Improving Achievability of Investment Goals Through Thoughtful Portfolio Construction*. While strategic asset allocation, for the most part, typically explains investor outcomes, thoughtful portfolio implementation can potentially improve absolute and risk-adjusted returns without consistently increasing risk.

The GIC has identified several steps in the portfolio construction process, with four highlighted in Exhibit 10. The GIC's tactical asset allocation recommendations seek to take advantage of short-term dislocations, which can cause asset classes' risk premiums to shrink or grow. The GIC has developed an Active-Passive Framework to identify when and where to deploy active management in populating investor portfolios, given that lower market efficiency, greater dispersion and trending alpha generation typically point to more attractive alpha opportunities for high-quality active managers. To select specific strategies from Morgan Stanley Wealth Management's leading platform, Advisors and portfolio managers can leverage the conviction from the Global Investment Manager Analysis (GIMA) team and signals from our Manager Scoring tools. Taxable investors can look to diminish tax drag by capitalizing on direct indexing and tax management overlays through Morgan Stanley Wealth Management's investment platforms.

3. *Greater Inclusion of Diversifying Investments, Such as Hedged Strategies*. While equities and fixed income may struggle to match their historical levels of absolute and risk-adjusted returns, we believe that hedged strategies may prove useful in improving portfolio diversification and enhancing overall risk-adjusted returns.

The GIC has classified hedged strategies into three major groups: absolute return, equity hedge and equity return. Absolute return strategies normally feature low betas to equity exposure and attempt to provide consistent returns regardless of equity market conditions. Equity hedge strategies provide uncorrelated returns to traditional asset classes, and their underlying substrategies may potentially benefit from market volatility and consistent trends. Equity return strategies aim to deliver absolute returns through long/short exposure to equity or credit securities.

Exhibit 11: Hedged Strategies Have Provided Meaningful Diversification in 2022, Reversing Their Underwhelming Results in the Post-Crisis Period

			1997–2021				2010–2021				2022 (YTD)			
Category	Strategy	Seeking to Realize Value From ...	Return (Ann.)	Volatility (Ann.)	Corr. to S&P 500	Corr. to Bbg. US Aggt.	Return (Ann.)	Volatility (Ann.)	Corr. to S&P 500	Corr. to Bbg. US Aggt.	Return (Ann.)	Volatility (Ann.)	Corr. to S&P 500	Corr. to Bbg. US Aggt.
Absolute Return	Credit Long/Short	The spread between related instruments, where one or multiple components includes non-AAA-rated fixed income instruments	5.3%	5.8%	0.61	0.03	5.6%	5.1%	0.68	0.09	-1.0%	1.1%	-0.41	-0.91
	Equity Market Neutral	The spread between equity securities, typically through analysis of price data and relationships between securities and indexes	4.1%	3.0%	0.37	0.04	2.7%	2.6%	0.70	-0.05	-0.2%	2.2%	0.41	-0.71
	Relative-Value	The spread between mulitple related instruments, potentially across multiple asset classes, such as equities	6.7%	4.5%	0.61	0.09	5.2%	4.3%	0.70	0.03	0.2%	1.5%	0.95	0.32
Equity Hedge	Fund of Funds	The skillful management of underlying hedged strategy managers, typically across multiple strategy categories	4.8%	5.8%	0.65	0.01	3.8%	4.9%	0.81	-0.02	-2.6%	4.7%	0.35	-0.41
	Global Macro	The movement in equity, fixed income, currency and commodity markets, based on changes in underlying economic variables	8.0%	7.6%	-0.09	-0.06	4.1%	4.9%	-0.04	-0.27	20.3%	9.4%	-0.72	-0.78
	Managed Futures	The movement in equity, fixed income, currency and commodity markets, based on studying price or volume trends or changes	4.2%	11.0%	-0.05	0.29	1.8%	9.9%	0.12	0.31	12.6%	12.8%	-0.54	-0.80
	Multi-Strategy	Pursuing multiple categories of strategies simultaneously, typically among multiple portfolio managers or teams	6.9%	7.0%	0.78	0.00	5.2%	6.0%	0.87	-0.04	-1.9%	4.8%	0.81	0.01
Equity Return	Equity Long/Short	The relative movement in equity prices through maintaining long and short positions primarily in equity securities or derivatives	8.2%	9.2%	0.79	-0.02	6.3%	8.4%	0.89	-0.10	-7.5%	7.1%	0.86	0.32
	Event-Driven	Movements in corporate securities, primarily due to corporate actions, including mergers, restructuring, net issuance or distress	7.8%	7.0%	0.74	-0.05	5.9%	6.6%	0.79	-0.12	-3.4%	4.8%	0.92	0.39

Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg, FactSet and Morningstar as of April 30, 2022

In addition to these three major categories, we outline nine more granular categories of hedged strategies in Exhibit 11. We also reviewed their historical performance and quantitative characteristics in three different periods: (1) a fuller history, from January 1997 to December 2021; (2) the post-GFC period, from January 2010 to December 2021; and (3) January to April 2022. While hedged strategies' long-term statistics look quite attractive, their relatively muted returns and higher correlations to traditional asset classes in the post-GFC period have dampened investor enthusiasm. In 2022, however, hedged strategies have helped preserve capital overall, while global macro and managed futures strategies have demonstrated solid diversification and positive absolute returns amid equity and fixed income drawdowns and volatility.

To check on hedged strategies' diversification capabilities, we also studied their performance during challenging environments for traditional asset classes: equity bear markets and rising-rate environments. As shown in Exhibit 12, hedged strategies have outperformed the S&P 500 during equity bear markets and the Bloomberg US Aggregate in rising-rate periods. Given these attributes, we anticipate that hedged strategies may improve the robustness of multiasset portfolios by providing defensive and diversifying characteristics in the face of potentially higher equity and fixed income volatility.

Exhibit 12: Hedged Strategies Have Historically Outperformed Equities During Equity Bear Markets and Fixed Income in Rising-Rate Periods

		Equity Bear Markets: Relative Performance vs. S&P 500						Rising-Rate Periods: Relative Performance vs. Bloomberg. US Agg.				
Category	Strategy	Jul-98 – Aug-98	Mar-00 – Oct-02	Oct-07 – Mar-09	Apr-11 – Oct-11	Sep-18 – Dec-18	Feb-20 – Mar-20	Oct-98 – Jan-00	Mar-03 – Jun-06	Nov-08 – Dec-09	Jul-12 – Jan-14	Jul-15 – Nov-18
Absolute Return	Credit Long/Short	8.6%	37.9%	22.1%	2.2%	10.3%	7.7%	8.9%	36.0%	7.9%	11.7%	9.6%
	Equity Market Neutral	13.4%	55.5%	40.2%	0.5%	10.9%	16.1%	10.7%	9.5%	-14.6%	7.5%	2.9%
	Relative-Value	9.1%	56.9%	32.6%	2.4%	9.9%	8.9%	19.7%	19.3%	8.5%	13.1%	6.4%
Equity Hedge	Fund of Funds	7.7%	32.5%	26.3%	-0.7%	7.9%	10.5%	30.6%	23.1%	-6.6%	11.4%	-2.4%
	Global Macro	20.5%	83.9%	51.8%	9.7%	11.2%	17.5%	-9.3%	39.4%	-3.2%	6.2%	-3.7%
	Managed Futures	24.1%	57.1%	64.6%	0.3%	10.3%	18.1%	-1.8%	0.4%	-14.7%	-8.5%	-11.5%
	Multi-Strategy	5.9%	32.2%	28.0%	-0.8%	6.8%	8.4%	43.4%	41.2%	3.5%	12.3%	2.9%
Equity Return	Equity Long/Short	7.1%	26.1%	19.4%	-3.3%	4.0%	5.9%	63.0%	43.7%	6.7%	18.0%	5.0%
	Event-Driven	5.9%	39.1%	23.7%	-0.8%	8.6%	5.1%	34.3%	56.1%	5.2%	18.6%	7.2%

Source: Morgan Stanley Wealth Management Global Investment Committee and Portfolio Analytics, calculated with data provided by Bloomberg, FactSet and Morningstar as of April 30, 2022

Conclusion

Over the past four decades, the 60/40 portfolio has delivered robust returns, owing to a disinflationary environment, falling real yields and a faithfully accommodative Fed. These forces combined to provide healthy conditions for financial asset valuations to rise and bolstered the 60/40 portfolio's absolute and risk-adjusted returns. While equities delivered the lion's share of total returns, fixed income contributed positively as well, while also adding meaningful diversification, particularly in challenging months for equities.

Turning to 2022, however, several crosscurrents have interrupted the 60/40 portfolio's persistent success, perhaps marking a bumpier road ahead. First, the relatively low level of, and potential for further increases in, real yields suggests an unfavorable starting point. Valuations for both equities and fixed income tend to move inversely to real yields, and that negative sensitivity to real yields appears historically high, given the long-term decline in, and potential bottoming of, the portfolio's aggregate yield. Second, the 60/40 portfolio will likely face natural mean reversion, leading to lower returns. Third, a normalizing inflation environment and a less interventionist stance from the Fed may dampen the 60/40 portfolio's risk-adjusted returns and hinder the cross-asset diversification benefits in a mid-to-high-volatility setting.

To navigate these regime shifts, we recommend that investors adjust to this new reality by refreshing returns expectations. Instead of simply increasing risk levels to seek higher returns, we propose that investors seek improved absolute and risk-adjusted returns through thoughtful portfolio implementation and inclusion of diversifying assets, such as hedged strategies.

Endnotes

[1] Today, the Federal Reserve carries out open market operations to maintain the rate of interbank lending, encapsulated in the federal funds rate. During the Volcker era, the Fed controlled policy through nonborrowed reserves in the service of a (decelerating) target growth in monetary aggregates. This approach led to a broad range for the actual federal funds rate, even with a specific target. The high level and variability of the federal funds rate likely fueled higher volatility for fixed income securities, whereas more transparent and observable open-market operations today have likely dampened that volatility.

Disclosure Section

The **Global Investment Committee (GIC)** is a group of seasoned investment professionals from Morgan Stanley & Co. and Morgan Stanley Wealth Management who meet regularly to discuss the global economy and markets. The committee determines the investment outlook that guides our advice to clients. They continually monitor developing economic and market conditions, review tactical outlooks and recommend asset allocation model weightings, as well as produce a suite of strategy, analysis, commentary, portfolio positioning suggestions and other reports and broadcasts.

Daniel Hunt, Steve Edwards and Lisha Ge are not members of the Global Investment Committee, and any implementation strategies suggested have not been reviewed or approved by the Global Investment Committee.

For index, indicator and survey definitions referenced in this report please visit the following: https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions

Glossary

Alpha is the excess return of an investment relative to the return of a benchmark index.

Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

Correlation This is a statistical measure of how two securities move in relation to each other. This measure is often converted into what is known as correlation coefficient, which ranges between -1 and +1. Perfect positive correlation (a correlation coefficient of +1) implies that as one security moves, either up or down, the other security will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one security moves in either direction the security that is perfectly negatively correlated will move in the opposite direction. If the correlation is 0, the movements of the securities are said to have no correlation; they are completely random. A correlation greater than 0.8 is generally described as strong, whereas a correlation less than 0.5 is generally described as weak.

Dispersion is a measure for the statistical distribution of portfolio returns. It is the asset-weighted standard deviation of individual portfolio returns within a comparable composite from the composite return.

Drawdown refers to the largest cumulative percentage decline in net asset value or the percentage decline from the highest value or net asset value (peak) to the lowest value net asset value (trough) after the peak.

Mean reversion is the theory suggesting that prices and returns eventually move back toward the mean or average. This mean or average can be the historical average of the price or return, or another relevant average such as the growth in the economy or the average return of an industry.

Sharpe Ratio This statistic measures a portfolio's rate of return based on the risk it assumed and is often referred to as its risk-adjusted performance. Using standard deviation and returns in excess of the returns of T-bills, it determines reward per unit of risk. This measurement can help determine if the portfolio is reaching its goal of increasing returns while managing risk.

Volatility This is a statistical measure of the dispersion of returns for a given security or market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the volatility, the riskier the security.

Hedged Strategy Definitions

Credit Long/Short This strategy consists of a core holding of long credits hedged at all times with varying degrees of short sales of bonds and/or index options. Some managers maintain a substantial portion of assets within a hedge structure and commonly employ leverage.

Equity Long/Short consists of a core holding of long equities hedged at all times with varying degrees of short sales of stock and/or index options. Some managers maintain a substantial
portion of assets within a hedge structure and commonly employ leverage.

Equity Market Neutral Equity market neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. These can include both factor-based and statistical arbitrage/trading strategies. Factor-based investment strategies include strategies in which the investment thesis is predicated on the systematic analysis of common relationships between securities. In many but not all cases, portfolios are constructed to be neutral to one or multiple variables, such as broader equity markets in dollar or beta terms, and leverage is frequently employed to enhance the return profile of the positions identified. Statistical arbitrage/trading strategies consist of strategies in which the investment thesis is predicated on exploiting pricing anomalies which may occur as a function of expected mean reversion inherent in security prices; high frequency techniques may be employed and trading strategies may also be employed on the basis of technical analysis or opportunistically to exploit new information the investment manager believes has not been fully, completely or accurately discounted into current security prices. Equity market neutral strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Event Driven Investment managers in this strategy maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities. Event-driven exposure includes a combination of sensitivities to equity markets, credit markets and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

Global Macro This is a hedge fund strategy that bases its holdings—such as long and short positions in various equity, fixed income, currency, and futures markets—primarily on overall economic and political views of various countries (macroeconomic principles).

Hedge Fund of Funds This strategy tracks investment managers who trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Although some strategies employ relative value techniques, macro strategies are distinct from relative value strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments, rather than realization of a valuation discrepancy between securities. In a similar way, while both macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposed to equity hedge, in which the fundamental characteristics of the company are the most integral to the investment thesis.

Managed Futures Funds These funds primarily trade liquid global futures, options, swaps, and foreign exchange contracts, both listed and over-the-counter. A majority of these funds follow trend-following, price-momentum strategies. Other strategies included in this category are systematic mean reversion, discretionary global macro strategies, commodity index tracking, and other futures strategies. More than 60% of the fund's exposure is invested through derivative securities. These funds obtain exposure primarily through derivatives; the holdings are largely cash instruments.

Multi-strategy These funds use strategies that employ components of both discretionary and systematic macro strategies, but neither exclusively both. Strategies frequently contain proprietary trading influences. Strategies employ an investment process that is predicated on a systematic, quantitative evaluation of macroeconomic variables in which the portfolio positioning is predicated on convergence of differentials between markets, not necessarily highly correlated with each other, but currently diverging from their historical levels of correlation. Strategies focus on fundamental relationships across geographic areas of focus both inter- and intra-asset classes, and typical holding periods are longer than trend following or discretionary strategies.

Relative Value Investment managers in this strategy maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. They employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivatives or other security types.

Risk Considerations

Hypothetical Performance

General: Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Hypothetical performance results have inherent limitations. The performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation. Despite the limitations of hypothetical performance, these hypothetical performance results may allow clients and Financial Advisors to obtain a sense of the risk / return trade-off of different asset allocation constructs.

Indices used to calculate performance: The hypothetical performance results in this report are calculated using the returns of benchmark indices for the asset classes, and not the returns of securities, fund or other investment products.

Indices are unmanaged. They do not reflect any management, custody, transaction or other expenses, and generally assume reinvestment of dividends, accrued income and capital gains. Past performance of indices does not guarantee future results. Investors cannot invest directly in an index.

Performance of indices may be more or less volatile than any investment product. The risk of loss in value of a specific investment is not the same as the risk of loss in a broad market index. Therefore, the historical returns of an index will not be the same as the historical returns of a particular investment a
client selects. Investing in the market entails the risk of market volatility. The value of all types of securities may increase or decrease over varying time periods.

This analysis does not purport to recommend or implement an investment strategy. Financial forecasts, rates of return, risk, inflation, and other assumptions may be used as the basis for illustrations in this analysis. They should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. No analysis has the ability to accurately predict the future, eliminate risk or guarantee investment results. As investment returns, inflation, taxes, and other economic conditions vary from the assumptions used in this analysis, your actual results will vary (perhaps significantly) from those presented in this analysis.

The assumed return rates in this analysis are not reflective of any specific investment and do not include any fees or expenses that may be incurred by investing in specific products. The actual returns of a specific investment may be more or less than the returns used in this analysis. The return assumptions are based on hypothetical rates of return of securities indices, which serve as proxies for the asset classes. Moreover, different forecasts may choose different indices as a proxy for the same asset class, thus influencing the return of the asset class.

Risk Score, Value Score, Tax Score, Adverse Active Alpha

Morgan Stanley Wealth Management's proprietary Risk Score methodology gauges managers' effectiveness in risk management. Based on extensive historical analysis, we evaluate over 18,000 strategies across 54 categories by ranking them according to several quantitative markers. We take a weighted average of these individual rankings to compute each manager's Risk Score, having found that managers with higher Risk Scores have historically produced more attractive subsequent risk adjusted returns, particularly under adverse conditions. For more

information on Risk Score, please see the Risk Score whitepaper.

Morgan Stanley Wealth Management's proprietary Value Score methodology considers active investment strategies' value proposition relative to their costs. We measure perceived benefit from several quantitative markers and compute (1) "fair value" expense ratios for over 10,000 managers across 40 categories and (2) managers' perceived "excess value" by comparing the fair value expenses ratios to actual expense ratios. We then rank managers within each category by their excess value to assign a Value Score, having found that greater levels of excess value have historically corresponded to attractive subsequent performance. For more information on Value Score, please see the Value Score whitepaper.

Morgan Stanley Wealth Management's proprietary Tax Score methodology evaluates investment strategies' quality and tax efficiency. The Tax Score reviews the quality of investment strategies' after-tax returns by measuring upside opportunity, downside mitigation and consistency, which have tended to correlate with strategies' subsequent risk-adjusted returns in after-tax terms. For more information on Tax Score, please see the Tax Score whitepaper.

GIMA defines the Adverse Active Alpha (AAA) ranking model as follows:

Global Investment Manager Analysis provides comprehensive manager analysis for Morgan Stanley's investment advisory platforms on a wide range of investment products, including separately managed accounts, mutual funds and exchange-traded funds in the equity, fixed income and alternative investment categories.

Adverse Active Alpha (AAA)

Adverse refers to the demonstrated ability to outperform in a variety of market environments and when conditions were difficult for active manager relative performance. "Difficult" periods were times when active management did not perform well relative to the index, as opposed to down market periods. At various times, active management has experienced difficult relative performance periods in up, down, and flat markets. We developed a set of factors to help discern which periods were more difficult for active managers that we utilize to identify managers that were able to overcome these headwinds and outperformed in the face of adversity.

Active refers to managers with portfolios that looked different from the index and had moderate to low tracking error. For all products, r2 is used to measure the degree of differentiation from the benchmark in conjunction with tracking error. The ranking seeks to find managers that were active, but not taking outsized bets, and that had some degree of style consistency. The combination of r2 and low tracking error is fairly uncommon among active managers, but we believe these traits may point toward managers with strong stock picking skills.

Alpha refers to the demonstrated ability to add value relative to an index and/or peers. Back tests indicate that highly ranked managers as a group outperformed the index and style peer group over subsequent periods and relative to active share alone. By combining the "adverse" component with the "active" component, we believe we increase the odds of finding some of the most proficient stock pickers.

Important Considerations Regarding the Adverse Active Alpha, Risk Score, Tax Score and Value Score ranking models:

In our view, the Adverse Active Alpha, Risk Score, Tax Score and Value Score manager rankings are an important part of evaluating managers for consideration. However, we do recognize that these ranking models cannot, in and of themselves, tell us which managers' strategies to invest in or when to buy or sell the strategies. While highly ranked managers historically performed well as a group in our analysis, past performance is not a guarantee of future results for any manager or strategy. Index returns assume reinvestment of dividends and, unlike fund or strategy returns, do not reflect any fees or expenses.

Indices are unmanaged and not available for direct investment.

GIMA strives to evaluate other material and forward looking factors as part of the overall manager evaluation process. Factors such as but not limited to manager turnover and changes to investment process can partially or fully negate a positive Adverse Active Alpha or Value Score ranking. Additionally, highly ranked managers can have differing risk profiles that might not be appropriate for all investors. For more information on the ranking models, please see Adverse Active Alpha 2.0: Scoring Active Managers According to Potential Alpha. This Special Report is available by request from your Financial Advisor or Private Wealth Advisor.

ADVERSE ACTIVE ALPHA is a registered service mark of Morgan Stanley and/or its affiliates. U.S. Pat. No. 8,756,098 applies to the Adverse Active Alpha system and/or methodology.

***High Adverse Active Alpha is generally defined as falling into the top two quintiles (40%) within the ranking model.** Separately Managed Account and mutual fund rankings could differ. In some cases where the separately managed account product and mutual fund are substantially similar, the separately managed account rating may be applied to the mutual fund and vice versa.

Alternative investments may be either traditional alternative investment vehicles, such as hedge funds, fund of hedge funds, private equity, private real estate and managed futures or, non-traditional products such as mutual funds and exchange-traded funds that also seek alternative-like exposure but have significant differences from traditional alternative investments. Alternative investments often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; Lack of liquidity in that there may be no secondary market for a fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; Absence of information regarding valuations and pricing; Complex tax structures and delays in tax reporting; Less regulation and higher fees than mutual funds; and Risks associated with the operations, personnel, and processes of the manager. Further, opinions regarding Alternative Investments expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other

businesses/affiliates of Morgan Stanley Wealth Management.

Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing.

Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice.

Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank.

Hedge funds may involve a high degree of risk, often engage in leveraging and other speculative investment practices that may increase the risk of investment loss, can be highly illiquid, are not required to provide periodic pricing or valuation information to investors, may involve complex tax structures and delays in distributing important tax information, are not subject to the same regulatory requirements as mutual funds, often charge high fees which may offset any trading profits, and in many cases the underlying investments are not transparent and are known only to the investment manager.

Direct indexing may only be appropriate for people who have a considerable amount to invest in a taxable account and want a level of customization they couldn't otherwise obtain through a portfolio of funds or individual securities. If you invest in a tax-deferred account, such as a 401(k) or IRA, the tax-harvesting benefits of direct indexing may provide no additional benefit to you. There is no guarantee that you will maximize value by tax-loss selling; holding onto slumping stock may have resulted in value greater than that obtained through tax-loss harvesting via direct indexing. In addition you will incur asset-based fees and expenses in a direct indexing account that may be higher than those for other investments, as well as transaction costs arising from customization and frequent rebalancing.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment.

Companies paying **dividends** can reduce or cut payouts at any time.

International securities may carry additional risks, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes and differences in financial and accounting standards. International investing may not be for everyone. These risks may be magnified in **emerging markets** and **frontier markets**.

Investing in foreign markets entails greater risks than those normally associated with domestic markets, such as political, currency, economic and market risks. **Investing in currency** involves additional special risks such as credit, interest rate fluctuations, derivative investment risk, and domestic and foreign inflation rates, which can be volatile and may be less liquid than other securities and more sensitive to the effect of varied economic conditions. In addition, international investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies.

Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention.

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Stocks of medium-sized companies entail special risks, such as limited product lines, markets, and financial resources, and greater market volatility than securities of larger, more-established companies.

Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that principal and/or interest payments from a given investment may be reinvested at a lower interest rate.

Bonds rated below investment grade may have speculative characteristics and present significant risks beyond those of other securities,

including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. High yield bonds should comprise only a limited portion of a balanced portfolio.

Yields are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

Treasury Inflation Protection Securities' (TIPS) coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Rebalancing does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. Yields and average lives are estimated based on prepayment assumptions and are subject to change based on actual prepayment of the mortgages in the underlying pools. The level of predictability of an MBS/CMO's average life, and its market price, depends on the type of MBS/CMO class purchased and interest rate movements. In general, as interest rates fall, prepayment speeds are likely to increase, thus shortening the MBS/CMO's average life and likely causing its market price to rise. Conversely, as interest rates rise, prepayment speeds are likely to decrease, thus lengthening average life and likely causing the MBS/CMO's market price to fall. Some MBS/CMOs may have "original issue discount" (OID). OID occurs if the MBS/CMO's original issue price is below its stated redemption price at maturity, and results in "imputed interest" that must be reported annually for tax purposes, resulting in a tax liability even though interest was not received. Investors are urged to consult their tax advisors for more information.

Managed futures investments are speculative, involve a high degree of risk, use significant leverage, have limited liquidity and/or may be generally illiquid, may incur substantial charges, may subject investors to conflicts of interest, and are usually appropriate only for the risk capital portion of an investor's portfolio. Before investing in any partnership and in order to make an informed decision, investors should read the applicable prospectus and/or offering documents carefully for additional information, including charges, expenses, and risks. Managed futures investments are not intended to replace equities or fixed income securities but rather may act as a complement to these asset categories in a diversified portfolio.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies. **Technology stocks** may be especially volatile. Risks applicable to companies in the **energy and natural resources** sectors include commodity pricing risk, supply and demand risk, depletion risk and exploration risk. **Health care sector stocks** are subject to government regulation, as well as government approval of products and services, which can significantly impact price and availability, and which can also be significantly affected by rapid obsolescence and patent expirations.

REITs investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions.

The **indices** are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Smith Barney LLC retains the right to change representative indices at any time.

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