WELLS FARGO
Investment Institute

Investment Strategy

Weekly Guidance from our Investment Strategy Committee **March 16, 2020**

[1] One hundred basis points equal 1.00%.

Asset Allocation Spotlight

Global Asset Allocation Strategy Team

…And the bear has arrived

Just two short months ago, our investment strategy committee was contemplating what risks could take down the enduring market climb that had led to the longest bull market on record—and then China reported a new virus strain that was sickening its citizens at an alarming rate. Not to worry, many investors reasoned, this new virus likely will die out before crossing the globe to more developed countries in Europe and the U.S., that most surely have the tools to deal with this type of menace.

But that thinking proved too optimistic as the rapid spread, coupled with the virulence of the novel coronavirus (COVID-19), led to downgrades of 2020 global growth and market performance forecasts. Bond yields tumbled to their lowest rates on record, and on March 11, the World Health Organization announced that the COVID-19 virus had become a global pandemic. This announcement—while highly telegraphed—nevertheless led to a renewed round of selling in global markets. Moreover, uncertainty about the possible fiscal policy countermeasures that U.S. policymakers were contemplating also contributed to the sell-off.

On March 11, the Dow Jones Industrial Average closed with a decline of more than 20% from its all-time high on February 12, 2020, marking the start of a new bear market. The S&P 500 Index followed suit on March 12 (the S&P 500 Index reached its all-time high on February 19, 2020).

Table 1. A history of bear markets

S&P 500 Index bear markets	Duration (months)	Decline (%)
September 7, 1929–June 1, 1932	32.8	-86
March 10, 1937–April 28, 1942	61.6	-60
May 29, 1946–June 13, 1949	36.5	-30
July 15–October 22, 1957	3.2	-21
December 12, 1961–June 26, 1962	6.5	-28
February 9–October 7, 1966	7.9	-22
November 29, 1968–May 26, 1970	17.9	-36
January 11, 1973–October 3, 1974	20.7	-48
November 28, 1980–August 12, 1982	20.5	-27
August 25–December 4, 1987	3.3	-34
July 16–October 11, 1990	2.8	-20
March 24, 2000–October 9, 2002	30.5	-49
October 9, 2007–March 9, 2009	17.0	-57
Current: February 19–March 16, 2020	0.9	-30
Average	20.1	-39.79

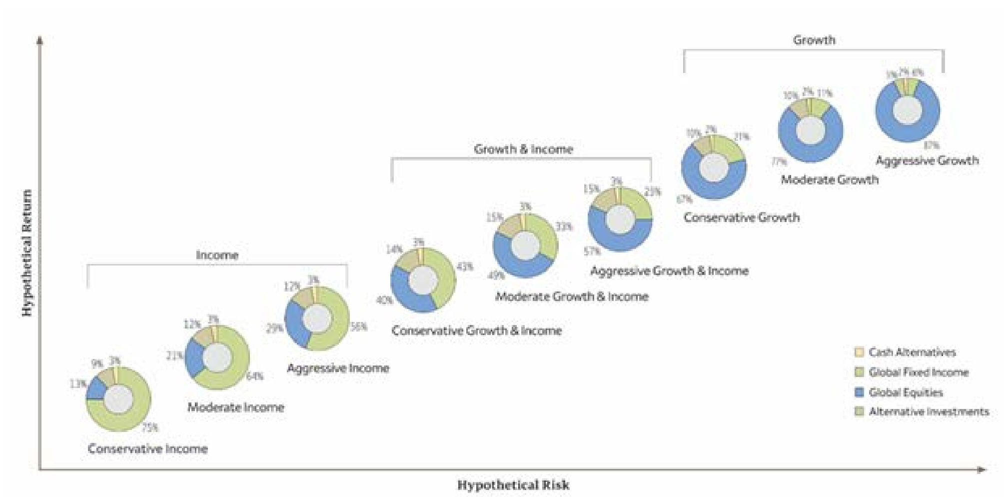
Sources: Bloomberg and Wells Fargo Investment Institute, as of March 17, 2020. Data January 1929 through March 11, 2020.For illustrative purposes only. The S&P 500 Index is a market-capitalization-weighted index that is considered to be representative of the U.S. stock market. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment.

No one knows for sure how long and how deep this bear market may be, but a look back at previous bear markets gives us some historical context. Since 1929, bear markets have averaged about 20.1 months in duration and have been reflected in an average S&P 500 Index decline of just over 39%.

It is important to note that Wells Fargo Investment Institute's (WFII) investment objective allocations carefully weigh potential market volatility risk against the potential for long-term growth in the value of the portfolio. The goal is to construct a mix of asset classes that is designed to provide a path of expected returns calibrated to the volatility risk an investor is willing to assume. In other words, investment allocations are designed to match specified risk and return objectives.

As Chart 1 shows, our strategic allocations employ exposure to equities for the potential for long-term growth and exposure to fixed income for the potential for stability and income generation. Some allocations also may include hedge funds for the diversification benefits that they may provide to qualified investors. In today's volatile market environment, asset allocations that favor fixed income have been faring much better than those that favor equities. This is in contrast to last year's returns and the returns we expect for a full market cycle (a full bull market and a full bear market).

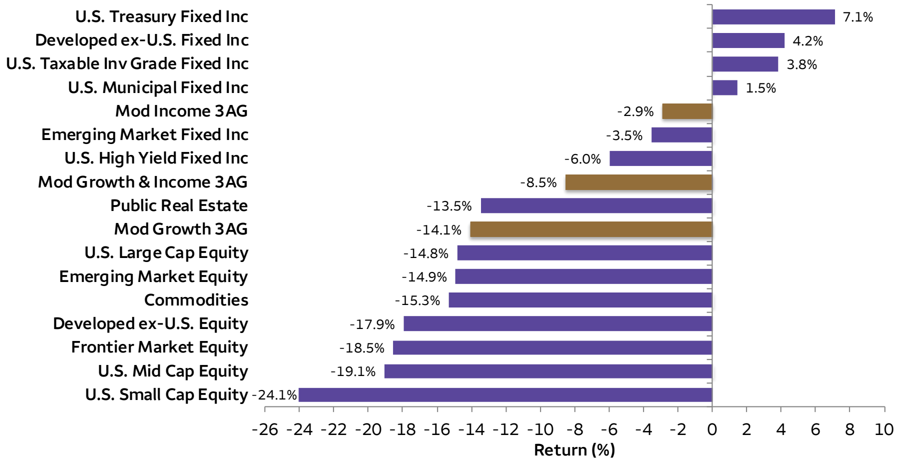
Chart 1. WFII's asset allocation for a range of investment objectives



Sources: Wells Fargo Investment Institute; July 16, 2019. Chart is conceptual and does not reflect any actual returns or represent any specific asset classifications.

As Chart 2 illustrates, financial markets can be extremely volatile on a short-term basis, and some investors may be unable to tolerate sizable drawdowns in their portfolios. One way to participate in the financial markets, while potentially minimizing wild swings in investment portfolios, is through asset allocation. Having exposure to a diversified mix of asset classes that do not always move in the same direction historically has provided some downside risk mitigation.

Chart 2. Returns of a WFII diversified portfolio versus performance of individual asset classes



Sources: Morningstar Direct and Wells Fargo Investment Institute, March 11, 2020. WFII portfolio returns are shown in the gold bars—individual asset classes are in the blue bars. Performance results for the Moderate Growth and Income 3AG Portfolio is hypothetical and is presented for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses, or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment**. Hypothetical and past performance does not guarantee future results.** Please see the end of this report for portfolio compositions and index definitions.

Note that most fixed income and equity asset classes have performed very differently from one another in this environment. This is why diversification can help—holding a mix of assets has mitigated some of the downside risk from the equity markets in this environment.

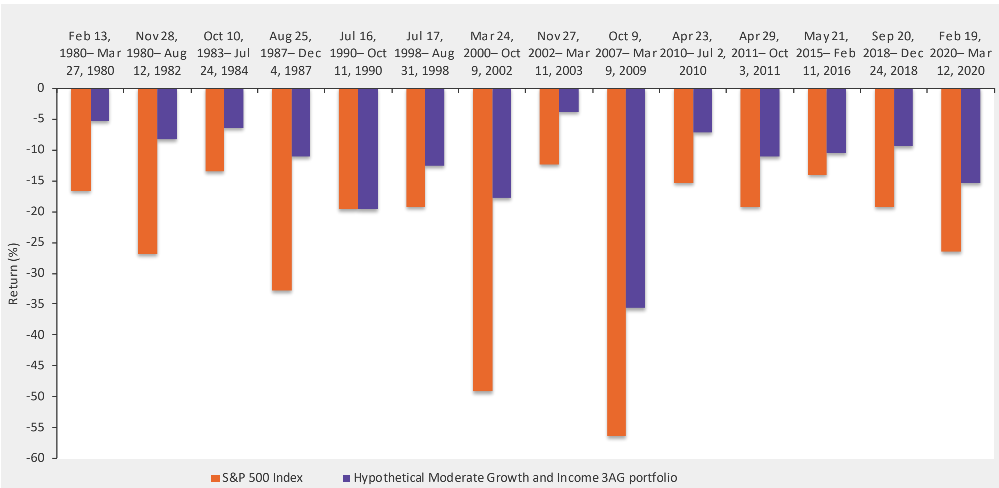
As shown in chart 3, while the year-to-year historical returns of a diversified allocation (represented by WFII's three-asset group, Moderate Growth and Income allocation) have varied widely; yet the rolling 10-year returns have been far more consistent.

Chart 3. Annual returns of a diversified portfolio allocation are more volatile than 10-year returns

Sources: Morningstar Direct and Wells Fargo Investment Institute. Data: December 31, 1989-December 31, 2018. Moderate Growth and Income Four Asset Group portfolio: 3% Bloomberg Barclays U.S. Treasury Bill (1–3 Month) Index, 16% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 6% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 6% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPMorgan EMBI Global Index, 20% S&P 500 Index, 10% Russell Midcap Index, 8% Russell 2000 Index, 6% MSCI EAFE Index, 5% MSCI Emerging Markets Index, 3% HFRI Relative Value Index, 6% HFRI Macro Index, 4% HFRI Event Driven Index, 2% HFRI Equity Hedge Index. Performance results for the Moderate Growth and Income Four Asset Group portfolio model are hypothetical and for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results; assume the reinvestment of dividends and other distributions; and do not reflect deductions for fees, expenses, or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Hypothetical and past performance is no guarantee of future results.** Please see the end of this report for index definitions.

Diversification also has allowed for shorter recovery times, meaning that historically it has not taken as long to get back to the previous peak after markets fall. Chart 4 highlights periods throughout the past 40 years in which the S&P 500 Index has entered a correction or bear market territory. The chart also shows how a diversified allocation generally has not experienced losses that are as sharp as those of an all-equity position during equity market drawdowns.

Chart 4. Diversification may reduce downside risk during a correction or bear market



Sources: Morningstar Direct and Wells Fargo Investment Institute, as of March 11, 2020. Performance results for the Moderate Growth and Income 3AG Portfolio is hypothetical and is presented for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Hypothetical and past performance does not guarantee future results.** Composition of the portfolios provided at the end of the report. Note: Corrections are declines of 10% or more. Bear markets are declines of 20% or more.

Attempting to reduce downside volatility is critical to long-term performance, as it can allow a portfolio to recover much more quickly after a negative market event. Using the same corrective periods from Chart 4 (with the exception of the current drawdown), we examined how long it took to recover to the prior peak. Table 2 shows that, on average, a diversified allocation recovered faster (at just under two years for a bear market) than the S&P 500 Index after corrections and bear markets (which recovered in about 3.5 years from a bear market).

Table 2. Corrections and bear markets—length of time to recover to previous peak

	Corrections		Bear Markets	
	Days to reach previous peak	Months to reach previous peak	Days to reach previous peak	Months to reach previous peak
S&P 500 Index	229	8	1247	42
MGI 3AG	201	7	663	22

Source: Wells Fargo Investment Institute, March 12, 2020. Please see text below Chart 2 for the composition of the Moderate Growth and Income Three Asset Group (MGI 3AG) portfolio. Corrections are declines of 10% or more. Bear markets are declines of 20% or more. Performance results for the Moderate Growth and Income 3AG Portfolio is hypothetical and is presented for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Hypothetical and past performance does not guarantee future results.** Composition of the portfolios provided at the end of the report. Note: Corrections are declines of 10% or more. Bear markets are declines of 20% or more.

Although downside events have typically been short-lived, how investors react (or don't react) is extremely important in meeting long-term financial goals. We have offered guidance for shorter-term tactical adjustments to WFII's strategic allocations that we believe will help to reduce risk and improve overall return. For fixed-income portfolio positioning, we were favorable on duration (a measure of a bond's interest rate sensitivity) positioning last year and early in 2020, which benefited the allocations' performance (we recently moved to a neutral duration position given the yield decline and we retain our high-quality bias in fixed income). In equities, we also have continued to stress our preference for quality equity classes and sectors. We currently favor U.S. over international equity markets and large- and mid-cap equities over small caps. We favor commodities at current levels. In addition to our unfavorable guidance on small caps, we are unfavorable on Emerging Market and Developed Market (ex-U.S.) Equities today. From an equity sector standpoint, we hold an unfavorable view of Industrials, Energy, and Materials. We prefer Information Technology, Communication Services, Consumer Discretionary, and Financials at current prices.

We believe that the best investment approach is to set a strategic asset allocation that represents an investor's goals, risk tolerance, and time horizon—and to rebalance back to those strategic targets on a regular basis. Trying to time the market during periods of heightened volatility is nearly impossible. Yet, investors may want to consider employing tactical asset allocation to make modest adjustments to portfolio allocations based on a nearer-term outlook. These actions may assist in reducing downside risk and could help a portfolio to recover more quickly after negative market-moving events.

Equities

Ken Johnson, CFA
Investment Strategy Analyst

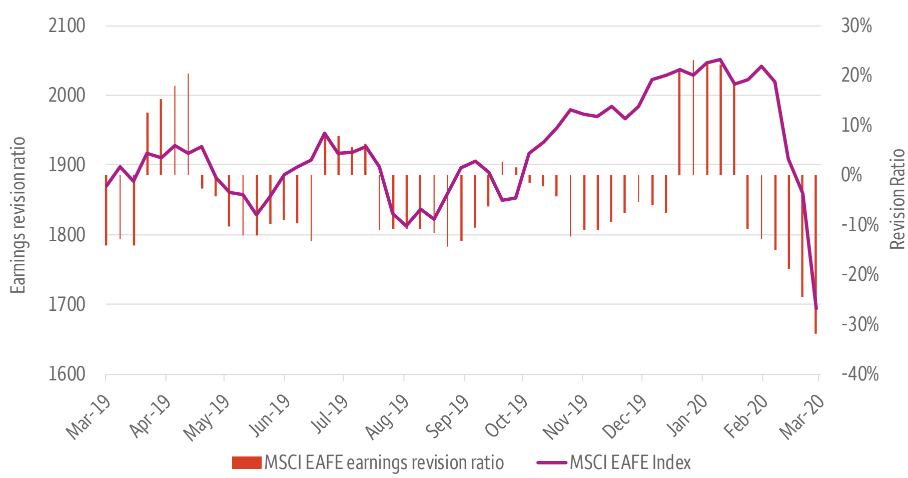
Our reduced targets and guidance for Developed Market ex-U.S. equities

We recently lowered our guidance on Developed Market ex-U.S. Equities to unfavorable from neutral and reduced our 2020 earnings and year-end price targets for this equity class.[2] As the coronavirus has seriously impacted countries from China to Italy and Japan, the economic and market headwinds have risen quickly.

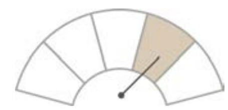
In this environment, with lingering unknowns, we are regularly assessing the impact that the coronavirus may have on equity fundamentals. Developed markets have faced particular strain as global supply chains have been challenged and consumer demand has declined. There has been some implementation of fiscal and monetary stimulus across these regions, particularly in Europe and Asia, but it remains unclear to what extent this stimulus will improve economic growth and company earnings. In fact, some of these economies are already contracting and could enter a technical recession in early 2020, which would have a meaningful impact on corporate profits. Chart 1 illustrates the deterioration in the MSCI EAFE earnings revision ratio as the virus has spread.[3]

We prefer U.S. equity markets over international markets today. We also favor large- and mid-cap stocks over small-cap equities—and believe that investors should focus on quality portfolio holdings.

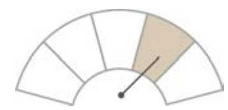
MSCI EAFE earnings have deteriorated as the coronavirus has spread



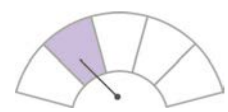
Source: Wells Fargo Investment Institute, Bloomberg, March 11, 2020. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment.



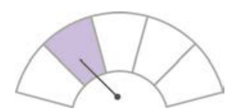
Favorable
U.S. Large Cap Equities



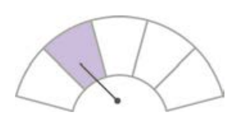
Favorable
U.S. Mid Cap Equities



Unfavorable
U.S. Small Cap Equities



Unfavorable
Developed Market Ex-U.S. Equities



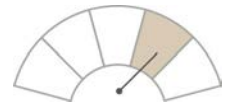
Unfavorable
Emerging Market Equities

[2] Our 2020 year-end price target for the MSCI EAFE Index is now 1730-1870, and our 2020 earnings forecast is $115. We also have downgraded Developed Market ex-U.S. Small Cap Equities to unfavorable.

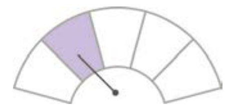
[3] Earnings revision ratio calculated based on Bloomberg earnings consensus estimates. The earnings revision ratio takes the difference between the number of analyst upgrades and analyst downgrades and divides it by the total number of analyst revisions on a monthly basis.

Real Assets

Austin Pickle, CFA
Investment Strategy Analyst



Favorable
Commodities



Unfavorable
Private Real Estate

"Everyone has a plan until they get punched in the mouth." —Mike Tyson

Oil's one-two punch

The coronavirus pandemic and the efforts to contain it have decimated the oil-demand outlook and prices. The price of West Texas Intermediate oil fell from a high of $63 per barrel on January 6 to $41 on March 6. But then oil prices received a gut punch that sent prices tumbling 25% in one trading day. The coalition between the Organization of the Petroleum Exporting Countries and Russia (OPEC+) unraveled. Saudi Arabia and Russia—as the world's number 2 and number 3 largest oil producers—reneged on their commitments to curtail production and instead promised to open their oil taps to flood the market. This was a knockout blow to oil prices already reeling from the coronavirus-associated demand destruction. What happened, what are the consequences, and where do we go from here?

As for what happened, Saudi Arabia got fed up with shouldering the majority of production cuts while other countries, like Russia, consistently pumped more than their agreed-upon allowance. Additionally, Saudi Arabia had wanted OPEC+ to agree to an additional, substantial production cut, while Russia dissented. As it is for a boxer knocked to the mat, the consequence is pain. U.S. shale producers, Saudi Arabia, Russia, and all other oil producers will feel it. No oil producer wins with a $30 per barrel oil price. Saudi Arabia's own 2020 budget assumes $60 per barrel, but it would need $80 per barrel for revenue to equal expenses. Estimates suggest that Russia needs prices in the $40s, and the median breakeven price for U.S. shale oil is $45 per barrel. In the U.S., we can expect production to slow and oil bankruptcies to rise.

Going forward, we do not believe that oil prices will stay in the high $20s and low $30s for long. Severe 50% oil-price drops, like we have seen so far in 2020, are rare and typically do not last. Historically we have seen that within months, a bottom is usually found, and a bounce follows. We're expecting the same in the coming months, with a bounce likely into the high $30s to low $40s. The high $20s and low $30s was the pain point in February 2016 that forced the world's major oil producers to work together to push oil prices higher. We believe a similar "reality check" will happen in 2020. We expect the combination of cratering U.S. oil production and more constructive OPEC+ politics to help stabilize oil prices and help them move higher soon.

Alternatives

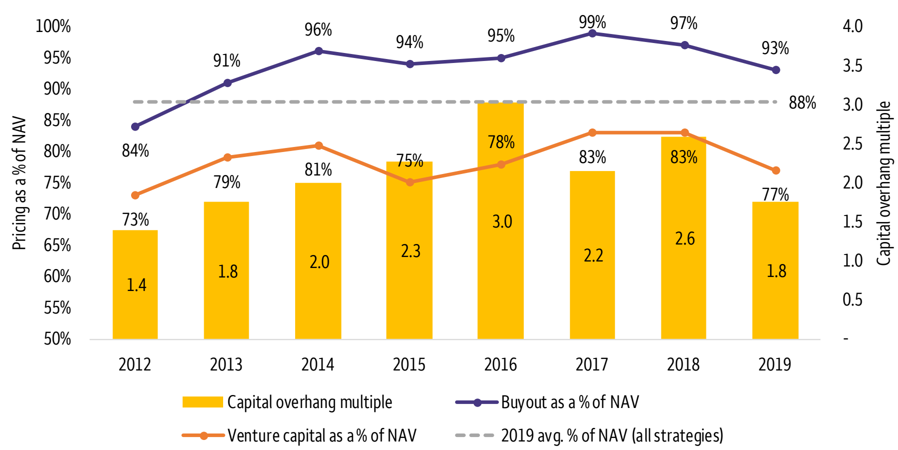
A potential buyers' market in private capital secondaries

Secondary market transaction volume set another record in 2019, increasing by 19% year over year to $88 billion.[4] Despite continued strong volume growth, the average high bid across all secondary strategies in 2019 was 88% of net asset value (NAV)—a 400 basis point decline relative to 2018.[5] Softening prices indicate a shifting dynamic between buyers and sellers as supply growth outpaces demand.

Active portfolio management among private capital investors continues to drive a diverse supply of secondary opportunities across strategy, vintage, and geography. Additionally, as private capital funds reach the end of their life–amid rich private market valuations–general partners are looking to the secondary market to extend the holding period of certain assets while offering liquidity to limited partners and resetting fee structures. As a result, secondary buyer deal flow is at record levels, providing buyers with the ability to be selective when deploying capital in the face of high valuations and an aging business cycle.

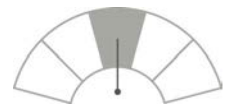
The chart illustrates that 2019 price weakness was evident across strategies, with average high bids for buyout and venture capital assets as a percentage of NAV declining by 400 and 600 basis points year over year, respectively. Furthermore, the secondary capital overhang multiple (the ratio of secondary market dry powder to the last 12 months, or LTM, secondary volume) compressed to 1.8x in 2019—the lowest level since 2013. Plenty of supply and a relatively limited capital overhang we believe should continue to foster a favorable pricing environment for secondary buyers.

Secondary market capital overhang and pricing

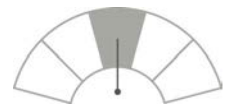


Source: Greenhill Global Secondary Market Trends & Outlook, January 2020. Greenhill is an investment bank that provides capital advisory services to institutional investors on private equity secondary transactions. Dry powder is near-term available capital dedicated to the secondary strategy. Capital overhang multiple is near-term available capital dedicated to the secondary strategy divided by the last 12 months secondary transaction volume. Purchase price for private asset(s) on the secondary market expressed as a percentage of the net asset value.

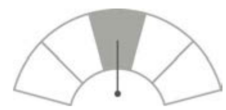
Nicholas Sprague, CFA
Global Alternative Investment Strategist



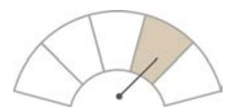
Neutral
Private Equity



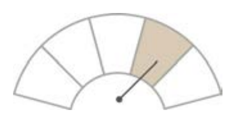
Neutral
Hedge Funds – Macro



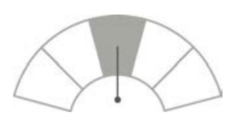
Neutral
Hedge Funds – Event Driven



Favorable
Private Debt



Favorable
Hedge Funds – Equity Hedge



Neutral
Hedge Funds – Relative Value

Alternative investments, such as hedge funds, private equity, private debt and private real estate funds are not suitable for all investors and are only open to "accredited" or "qualified" investors within the meaning of U.S. securities laws.

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[4] Private equity secondaries are preexisting investor commitments bought in the secondary market.
[5] Greenhill Global Secondary Market Trends and Outlook, January 2020.

Risk Considerations

Forecasts are not guaranteed and based on certain assumptions and on views of market and economic conditions which are subject to change.

Diversification cannot eliminate the risk of fluctuating prices and uncertain returns. Diversification also does not guarantee profit or protect against loss in declining markets.

Each asset class has its own risk and return characteristics. The level of risk associated with a particular investment or asset class generally correlates with the level of return the investment or asset class might achieve. **Stock markets**, especially foreign markets, are volatile. Stock values may fluctuate in response to general economic and market conditions, the prospects of individual companies, and industry sectors. **Foreign investing** has additional risks including those associated with currency fluctuation, political and economic instability, and different accounting standards. These risks are heightened in emerging markets. **Small- and mid-cap stocks** are generally more volatile, subject to greater risks and are less liquid than large company stocks. **Bonds** are subject to market, interest rate, price, credit/default, liquidity, inflation and other risks. Prices tend to be inversely affected by changes in interest rates. **High yield (junk) bonds** have lower credit ratings and are subject to greater risk of default and greater principal risk. The **commodities** markets are considered speculative, carry substantial risks, and have experienced periods of extreme volatility. Investing in a volatile and uncertain commodities market may cause a portfolio to rapidly increase or decrease in value which may result in greater share price volatility. **Real estate** has special risks including the possible illiquidity of underlying properties, credit risk, interest rate fluctuations and the impact of varied economic conditions.

Alternative investments, such as hedge funds, private equity/private debt and private real estate funds, are speculative and involve a high degree of risk that is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a fund and for which the fund does not represent a complete investment program. They entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification, absence and/or delay of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds. Hedge fund, private equity, private debt and private real estate fund investing involves other material risks including capital loss and the loss of the entire amount invested. A fund's offering documents should be carefully reviewed prior to investing.

Hedge fund strategies, such as Equity Hedge, Event Driven, Macro and Relative Value, may expose investors to the risks associated with the use of short selling, leverage, derivatives and arbitrage methodologies. Short sales involve leverage and theoretically unlimited loss potential since the market price of securities sold short may continuously increase. The use of leverage in a portfolio varies by strategy. Leverage can significantly increase return potential but create greater risk of loss. Derivatives generally have implied leverage which can magnify volatility and may entail other risks such as market, interest rate, credit, counterparty and management risks. Arbitrage strategies expose a fund to the risk that the anticipated arbitrage opportunities will not develop as anticipated, resulting in potentially reduced returns or losses to the fund.

Portfolio compositions

Moderate Income Three Asset Group portfolio: 3% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 19% Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index, 35% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 7% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 6% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPM EMBI Global Index, 12% S&P 500 Index, 5% Russell Mid Cap Index, 4% Russell 2000 Index, 4% MSCI EAFE Index.

Moderate Growth and Income Three Asset Group portfolio: 3% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 4% Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index, 21% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 7% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 6% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPM EMBI Global Index, 21% S&P 500 Index, 12% Russell Mid Cap Index, 8% Russell 2000 Index, 6% MSCI EAFE Index, 7% MSCI Emerging Markets Index.

Moderate Growth Three Asset Group portfolio: 2% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 2% Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index, 6% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 3% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 3% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 3% JPM EMBI Global Index, 29% S&P 500 Index, 16% Russell Mid Cap Index, 13% Russell 2000 Index, 10% MSCI EAFE Index, 13% MSCI Emerging Markets Index.

Moderate Growth and Income Four Asset Group portfolio: 3% Bloomberg Barclays U.S. Treasury Bill (1–3 Month) Index, 16% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 6% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 6% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPMorgan EMBI Global Index, 20% S&P 500 Index, 10% Russell Midcap Index, 8% Russell 2000 Index, 6% MSCI EAFE Index, 5% MSCI Emerging Markets Index, 3% HFRI Relative Value Index, 6% HFRI Macro Index, 4% HFRI Event Driven Index, 2% HFRI Equity Hedge Index.

Definitions

An index is unmanaged and not available for direct investment.

U.S. Taxable Investment Grade Fixed Income. **Bloomberg Barclays U.S. Aggregate Bond Index** is a broad-based measure of the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market.

Short Term Taxable Fixed Income. **Bloomberg Barclays U.S. Aggregate 1-3 Year Bond Index** is the one to three year component of the Barclays US Aggregate Index, which represents fixed-income securities that are SEC-registered, taxable, dollar-denominated, and investment-grade.

Intermediate Term Taxable Fixed Income. **Bloomberg Barclays U.S. Aggregate 5-7 Year Bond Index** is composed of the Bloomberg Barclays US Government/Credit Index and the Bloomberg Barclays US Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of 5-7 years.

Long Term Taxable Fixed Income. **Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index** is composed of the Bloomberg Barclays US Government/Credit Index and the Bloomberg Barclays US Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of 10 years or more.

High Yield Taxable Fixed Income. **Bloomberg Barclays U.S. Corporate High-Yield Index** covers the universe of fixed-rate, non-investment-grade debt.

Cash Alternatives/Treasury Bills. **Bloomberg Barclays U.S. Treasury Bills (1–3M) Index** is representative of money markets.

U.S. Treasury. **Bloomberg Barclays U.S. Treasury Index** includes public obligations of the U.S. Treasury with a remaining maturity of one year or more.

U.S. Municipal Bond. **Bloomberg Barclays Municipal Index** is considered representative of the broad market for investment grade, tax-exempt bonds with a maturity of at least one year.

Commodities (BCOM). **Bloomberg Commodity Index** is comprised of 23 exchange-traded futures on physical commodities weighted to account for economic significance and market liquidity.

Public Real Estate. **FTSE EPRA/NAREIT Developed Index** is designed to track the performance of listed real-estate companies and REITs in developed countries worldwide.

Developed Market Ex-U.S. Fixed Income (Unhedged). **J.P. Morgan GBI Global ex-US Index (Unhedged)** in USD is an unmanaged index market representative of the total return performance in U.S. dollars on an unhedged basis of major non-U.S. bond markets.

Relative Value. **HFRI Relative Value (Total) Index.** Strategy is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Fixed income strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. RV position may be involved in corporate transactions also, but as opposed to ED exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.

Macro. **HFRI Macro (Total) Index.** Encompass a broad range of strategies 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 RV techniques, Macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments rather than on 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 EH, in which the fundamental characteristics on the company are the most significant are integral to investment thesis.

Event Driven. **HFRI Event Driven (Total) Index.** Maintains positions in companies currently or prospectively involved in corporate transactions of a wide variety including 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. Exposure includes a combination of sensitivities to equity markets, credit markets and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental (as opposed to quantitative) characteristics, with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

Equity Hedge. **HFRI Equity Hedge (Total) Index.** Equity Hedge: Investment Managers who maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. EH managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short.

Note: While the HFRI Indices are frequently used, they have limitations (some of which are typical of other widely used indices). These limitations include survivorship bias (the returns of the indices may not be representative of all the hedge funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all hedge funds are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many hedge funds do not report to indices, and, therefore, the index may omit funds, the inclusion of which might significantly affect the performance shown. The HFRI Indices are based on information hedge fund managers decide on their own, at any time, whether or not they want to provide, or continue to provide, information to HFR Asset Management, L.L.C. Results for funds that go out of business are included in the index until the date that they cease operations. Therefore, these indices may not be complete or accurate representations of the hedge fund universe, and may be biased in several ways. Returns of the underlying hedge funds are net of fees and are denominated in USD.

Developed Market Ex-U.S. Equities (U.S. dollar)/(Local). **MSCI EAFE Index** is designed to represent the performance of large and mid-cap securities across 21 developed markets, including countries in Europe, Australasia and the Far East, excluding the U.S. and Canada.

Emerging Market Equities (U.S. dollar)/(Local). **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance of 23 emerging markets.

Frontier Market Equities (U.S. dollar)/(Local). **MSCI Frontier Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance of 24 frontier (least developed) markets.

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U.S. Large Cap Equities. **S&P 500 Index** is a capitalization-weighted index calculated on a total return basis with dividends reinvested. The index includes 500 widely held U.S. market industrial, utility, transportation and financial companies.

U.S. Mid Cap Equities. **Russell Midcap Index** measures the performance of the mid-cap segment of the U.S. equity universe.

U.S. Small Cap Equities. **Russell 2000 Index** measures the performance of the 2,000 smallest companies in the Russell 3000® Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

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