WELLS FARGO
Investment Institute

Investment Strategy

Weekly guidance from our Investment Strategy Committee — September 14, 2021

Alternatives Spotlight

The case for adding cryptocurrency to a hedge fund portfolio

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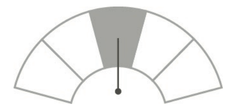
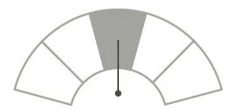
Interest in cryptocurrencies continues to grow. Last year, Fidelity conducted a survey of institutional investors and found that nearly 80% of respondents found digital assets appealing.[1] This past summer, a survey of 100 hedge fund chief financial officers revealed expectations that over 7% of their assets will be invested in cryptocurrencies within the next five years.[2] More recently, Bakkt, a well-known custodian and exchange of digital assets, conducted a similar survey of more than 2,000 consumers across the U.S. and found that nearly half of all respondents had invested in cryptocurrencies in 2021.[3] Survey data can certainly be interpreted in various ways, but we believe that cryptocurrency adoption is increasing. Therefore, understanding the potential risks and opportunities of adding cryptocurrencies to a broader portfolio is becoming more important.

In our May 12, 2021 report titled "The investment rationale for cryptocurrencies", we noted that we consider cryptocurrencies to be alternative investments, specifically within the Macro hedge fund strategy. To quantify the impact of adding cryptocurrencies to a hedge fund portfolio, we compare some portfolio characteristics (below) of allocating between hedge funds and cryptocurrencies in different proportions over a four-year horizon. The analysis proxies hedge fund exposure using the HFRI Fund Weighted Composite Index, while cryptocurrencies are represented with the Bloomberg Galaxy Crypto Index.[4] Rather than focusing on a single cryptocurrency or hedge fund, we used broader indices in an effort to diversify the exposures.

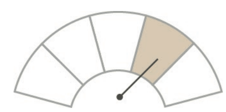
Neutral
Private Equity



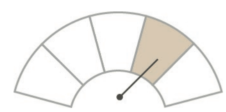
Neutral
Hedge Funds – Macro



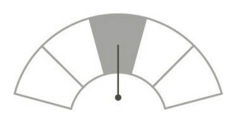
Neutral
Hedge Funds – Event Driven



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 appropriate for all investors and are only open to "accredited" or "qualified" investors within the meaning of U.S. securities laws.

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[1] Institute for Pension Fund Integrity, Cryptocurrency: The Future of Pension Funds, February 16, 2021
[2] Financial Times, Hedge Funds expect to hold 7% of assets in crypto within 5 years, June 15, 2021
[3] Bitcoin.com, U.S. Consumer Crypto Survey: Almost 50% Invested in Cryptocurrencies this year, September 2, 2021
[4] The HFRI Fund Weighted Composite Index is a global, equal-weighted index of single-manager funds with a minimum of $50M under management or $10M under management and a twelve month track record. The Bloomberg Galaxy Crypto Index is a benchmark designed to measure the performance of the largest cryptocurrencies traded in USD (U.S. dollars). An index is unmanaged and not available for direct investment.

Incorporating crypto into a hedge fund allocation has historically produced a higher Sharpe ratio

	100 % HFRI [5]	95% HFRI and 5% Crypto [6]	90 % HFRI and 10% Crypto	85% HFRI and 15% Crypto	80% HFRI and 20% Crypto	75% HFRI and 25% Crypto
Annualized return	7.5%	12.4%	17.1%	21.7%	26.1%	30.2%
Annualized standard deviation	8.1%	11.2%	16.1%	21.6%	27.4%	33.3%
Sharpe ratio	0.75	0.97	0.98	0.95	0.93	0.91
Maximum drawdown	-11.6%	-12.0%	-15.7%	-20.4%	-25.4%	-30.4%
Correlation to Russell 2000	0.93	0.73	0.56	0.45	0.38	0.33

Sources: MPI Stylus, Bloomberg, Wells Fargo Investment Institute. Analysis from September 2017 through July 2021. *This table is hypothetical and for illustrative purposes only.* It is not intended to represent an actual investment. Investments fluctuate with changes in market and economic conditions due to numerous factors some of which may be unpredictable. There can be no assurance any investment will increase in value. The index information is included to show general return data and is not intended to imply that an investment portfolio will be similar to the indices either in composition or element of risk. 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. **Past performance is not a guarantee of future results**. See end of the report for index definition. Standard Deviation is a statistical measure of the volatility of a portfolio's returns. The higher the standard deviation, the greater volatility has been. Sharpe ratio measures the additional return that an investor could expect to receive for accepting additional risk

[5] HFRI Fund Weighted Composite Index

[6] Bloomberg Galaxy Crypto Index

We believe that the results of this analysis are compelling. This hypothetical hedge fund portfolio produced an annualized return of 7.5%, an annualized standard deviation of 8.1%, and a Sharpe ratio of 0.75 from September 2017 through July 2021.[7] This portfolio also experienced a maximum drawdown of -11.6% and had a high correlation (0.93) with the Russell 2000 Index.[8]

However, reducing the allocation to hedge funds by 5% and shifting that to cryptocurrencies (represented by the Bloomberg Galaxy Crypto Index) resulted in an annualized return that was nearly five percentage points higher per year, with only modestly higher volatility and roughly the same maximum drawdown compared to the Russell 2000 Index. Significantly higher returns with only slightly higher volatility resulted in a more efficient portfolio (compared to Russell 2000 Index), evident by the 22-point improvement in the Sharpe ratio, and implies that much of the volatility added was “good/up” volatility – in other words, there were swings higher in the cryptocurrency prices. Interestingly, the correlation to the Russell 2000 decreased by 20 points, which indicates that adding cryptocurrencies improved overall portfolio diversification as well. Of course past performance is not a guarantee of future results.

A 90% allocation to hedge funds combined with a 10% allocation to cryptocurrencies again resulted in a further decline in the correlation to the Russell 2000, a higher annualized return, as well as a higher annualized standard deviation. However, the maximum drawdown decreased more materially, and the improvement in Sharpe ratio was marginal. Above a 10% cryptocurrency allocation – again within the context of an overall hedge fund portfolio – witnessed a deterioration in Sharpe ratio, especially in that larger cryptocurrency allocations would have exposed the portfolio to comparatively higher cryptocurrency volatility and larger drawdowns over that period.

As of September 7, the Bloomberg Galaxy Crypto Index was up nearly 166% year-to-date, despite a nearly 60% drawdown over the summer. Simply put, though cryptocurrencies continue to mature as a new asset, they remain highly volatile. We favor modest position sizing for qualified investors. A 5% to 10% allocation to cryptocurrencies within the broader hedge fund allocation offered efficiency in recent history. This finding aligns with our preferences for cryptocurrency exposure, as described in our cryptocurrency investment rationale.

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[7] The Sharpe ratio indicates the average return minus the risk-free rate divided by the standard deviation of return on an investment. A higher Sharpe ratio indicates a higher return per unit of risk, and equates to higher efficiency.

[8] Hedge funds historically have had higher correlations to small cap stocks, which is why this index was used to measure the impact of adding cryptocurrencies to a hedge fund portfolio.

Equities

Ken Johnson, CFA®
Investment Strategy Analyst

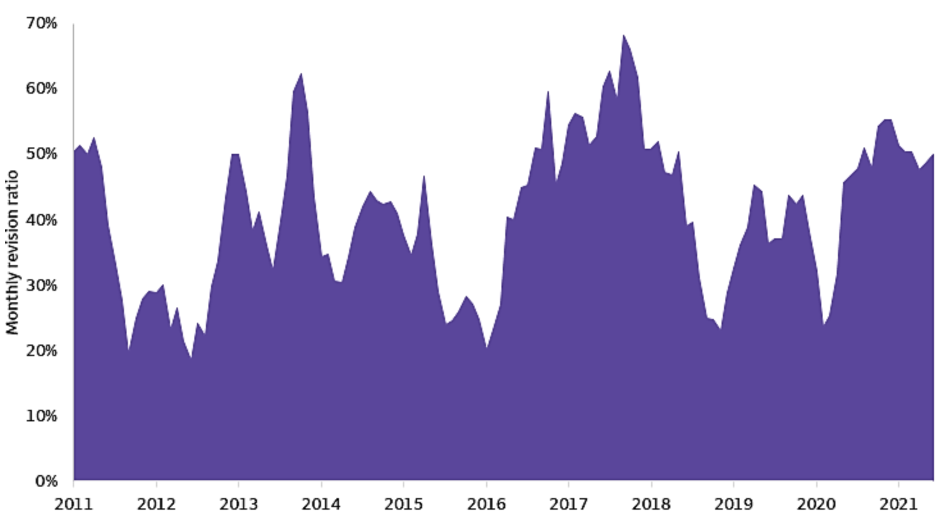
Chinese equities are shrouded in uncertainty

The Chinese government has undertaken extensive action to promote “common prosperity” – an effort to empower disadvantaged workers and address social inequities. Authorities have targeted everything from online video games to after-school education and internet companies. With each new announcement, Chinese stocks have suffered; the MSCI China Index has declined 10% year-to-date (as of 9/8/2021).

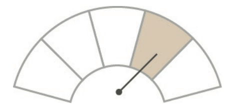
China has already tightened its credit availability, and these restrictions add to growth-limiting policies. Consensus estimates for 2022 gross domestic product growth are now below pre-pandemic levels, and earnings revisions have fallen (see chart). U.S. investors also face unique risk as government officials contemplate removing Chinese American Depositary Receipts (ADRs) from U.S. major exchanges. According to the U.S.-China Economic and Security Review Commission, approximately 248 Chinese companies are currently listed in the U.S. with a combined market capitalization of $2.1 trillion. This is less than 5% of the total U.S. market capitalization, so we believe removal should not create substantial negative consequences for U.S. markets. However, holders of the ADRs could see increased volatility.

These regulatory and political risks are difficult, if not impossible, to quantify. We believe investors will require higher returns to take on these additional risks, and while we view the largest technology firms are still well positioned from a fundamental perspective, investors should proceed with caution as these developments continue to unfold. We continue to favor Emerging Market Equities but prefer U.S. over international.

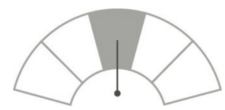
Revision ratio for 2022 MSCI China Index earnings has deteriorated



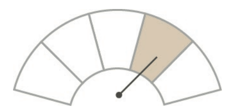
Sources: MSCI China Index. An index is not managed and not available for direct investment.



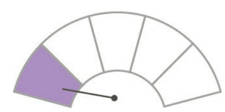
Favorable
U.S. Large Cap Equities



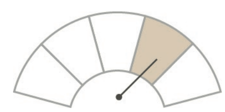
Neutral
U.S. Mid Cap Equities



Favorable
U.S. Small Cap Equities



Most unfavorable
Developed Market
Ex-U.S. Equities



Favorable
Emerging Market Equities

Fixed Income

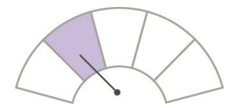
Reiterating Preferred Stock favorable guidance

There are a number of features that investors may embrace when adding higher-yielding securities to their portfolio. These can include longer maturities, lower credit quality, less liquidity, and a loss of structural protections. Preferred securities can contain most, if not all, of these qualities. These qualities can also enhance the volatility of this sector during times of market stress.

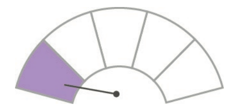
Since the beginning of the year, the S&P 500 U.S. Preferred Stock Index has had a total return of 6.1% as of September 7, 2021. This is among the best returns of all the fixed-income sectors and asset classes that we track. The current low-yield environment is likely to persist, and we believe the higher yields in preferred securities will remain attractive for income-oriented investors. Investors should be prepared for preferred securities to be one of the more volatile fixed-income asset classes should market uncertainty increase, and this volatility must be accepted as a trade-off for the potential for higher yields inherent in the sector.

Investors purchasing preferred securities should not be focused on price appreciation at this time given what we view as full valuations in the sector; rather the focus should be on income generation. Despite the low-yield environment, yields near 4.5% remain available in a well-diversified portfolio of preferred securities. While the yield potential in the preferred sector remains attractive, in our opinion, this yield opportunity brings with it meaningful risks to investors. We suggest investors focus on long-term income generation when purchasing preferred securities and strongly suggest that investors consider a professional manager to oversee their preferred allocations.

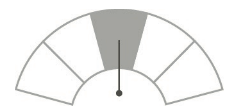
Brian Rehling, CFA®
Head of Global Fixed Income Strategy



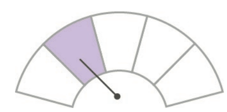
Unfavorable
U.S. Taxable Investment Grade Fixed Income



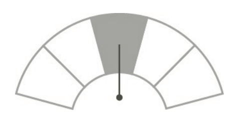
Most unfavorable
U.S. Short Term Taxable Fixed Income



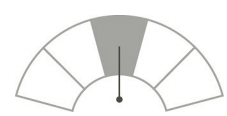
Neutral
U.S. Intermediate Term Taxable Fixed Income



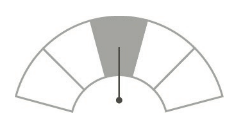
Unfavorable
U.S. Long Term Taxable Fixed Income



Neutral
High Yield Taxable Fixed Income



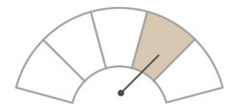
Neutral
Developed Market Ex.-U.S. Fixed Income



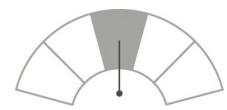
Neutral
Emerging Market Fixed Income

Real Assets

Austin Pickle, CFA®
Investment Strategy Analyst



Favorable
Commodities



Neutral
Private Real Estate

"It does not matter how slowly you go as long as you do not stop." — Confucius

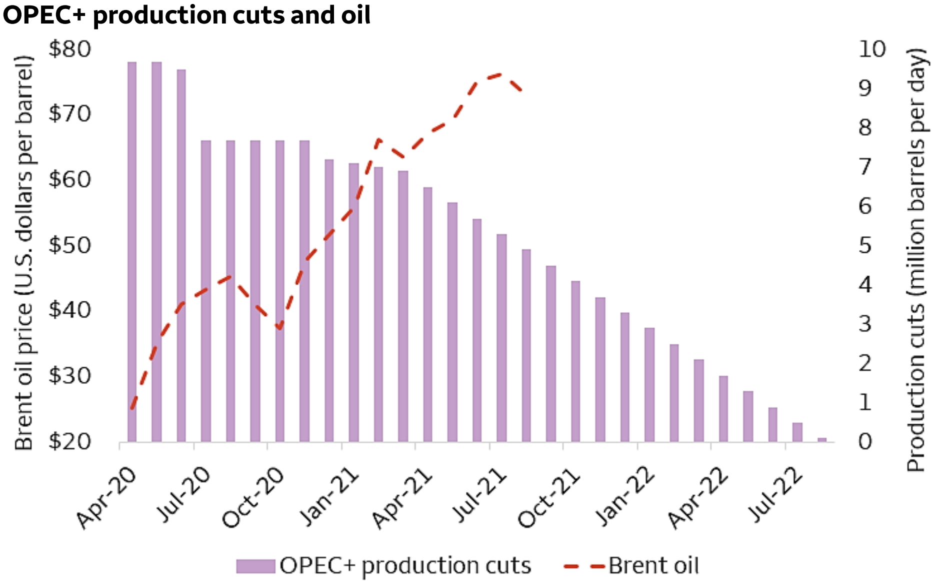
OPEC+ on autopilot?

The Organization of the Petroleum Exporting Countries plus others such as Russia (OPEC+) met on September 1 to discuss its oil production agreement. Really, the only surprise to come out of that meeting was how short and uneventful the meeting actually was. In less than an hour, members met, agreed to increase production by 400,000 barrels per day, and left. Does this mean OPEC+ is on autopilot from here on out, sticking to its roadmap to increase oil production by 400,000 barrels per day each month until it gets back to pumping at pre-pandemic levels? No.

At this point, the oil demand recovery is still on shaky ground. The Delta variant surge has been a stark reminder that the pandemic is not over. Spikes in COVID-19 cases have the potential to dent global growth and oil consumption outlooks. Russia, Saudi Arabia, and the rest of OPEC+ have come too far in their support of oil markets to just kick back and risk unraveling it all. Keep in mind that the production restraint of OPEC+ is one of the main reasons why the price of Brent crude oil has gone from $20 in April of 2020 to over $70 (as of September 8, 2021).

To that end, OPEC+ has committed to monthly meetings to review the planned output increase. This should allow the group to remain agile and responsive to supply and demand developments — pausing planned production hikes or initiating cuts in the event of demand destruction. In other words, OPEC+ appears to be awake at the wheel and willing to maneuver as needed. Our oil targets remain unchanged.

OPEC+ production cuts and oil



Sources: Bloomberg, Wells Fargo Investment Institute. Monthly data: April 30, 2020 - August 31, 2022. Future production cuts estimated based on OPEC+ projections to decrease production 400k barrels per day each month.

Risk Considerations

Virtual or cryptocurrency is not a physical currency, nor is it legal tender. Bitcoin and other cryptocurrencies are a very speculative investment and involves a high degree of risk. Investors must have the financial ability, sophistication/experience and willingness to bear the risks of an investment, and a potential total loss of their investment. An investor could lose all or a substantial portion of his/her investment. Cryptocurrency has limited operating history or performance. Fees and expenses associated with a cryptocurrency investment may be substantial. Cryptocurrencies are sometimes exchanged for U.S. dollars or other currencies around the world, but they are not backed or supported by any government or central bank. Their value is completely derived by market forces of supply and demand, and they are more volatile than traditional fiat currencies.

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**, including American Depositary Receipts (ADRs), 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. **Preferreds** securities have special risks associated with investing. Preferred securities are subject to interest rate and credit risks. Preferred securities are generally subordinated to bonds or other debt instruments in an issuer's capital structure, subjecting them to a greater risk of non-payment than more senior securities. In addition, the issue may be callable which may negatively impact the return of the security. **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.

American depositary receipt (ADR) is a stock that trades in the United States but represents a specified number of shares in a foreign corporation. ADRs are bought and sold on American markets just like regular stocks, and are issued/sponsored in the U.S. by a bank or brokerage. If the home currency is devalued, this can result in a loss to the ADR holder, even if the company had been performing well. Due to currency exchange rate fluctuations, dividends can also vary significantly period to period.

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 appropriate 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.

Definitions

MSCI China Index captures large and mid-cap representation across China H shares, B shares, Red Chips and P Chips. With 140 constituents, the index covers about 85% of the China equity universe.

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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. The Russell 3000® Index measures the performance of the 3,000 largest U.S. companies based on total market capitalization, which represents approximately 98% of the investable U.S. equity market.

S&P 500 U.S. Preferred Stock Index is an unmanaged index consisting of U.S. listed preferred stocks.

An index is unmanaged and not available for direct investment.

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