FEG INSIGHT

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MICRO ON MACRO

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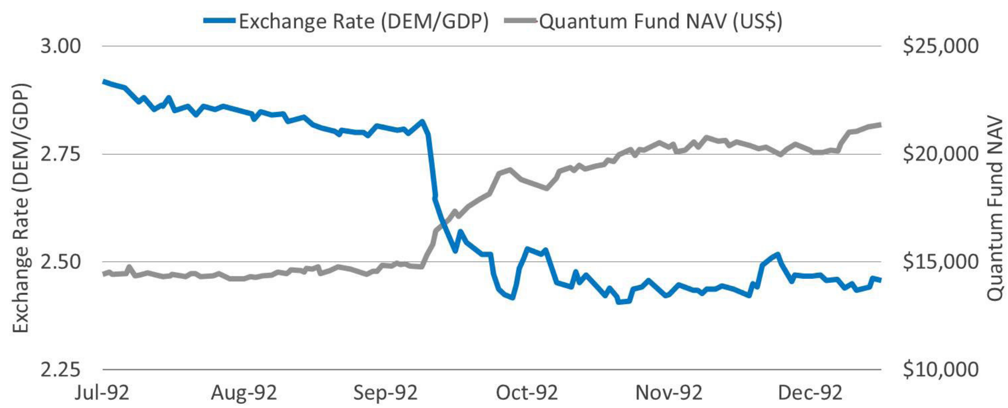
George Soros is largely credited with "breaking the Bank of England" on September 16, 1992 — a day known as Black Wednesday.

In 1990, Britain joined the European Exchange Rate Mechanism (ERM) in an effort to help unify European economies; however, inclusion put pressure on the Bank of England (BOE) to maintain the pound exchange rate amid low interest rates and high inflation, particularly relative to Germany. Recognizing this imbalance and subsequent pressure on the BOE to maintain the currency value, Soros amassed a large short position in pounds sterling, forcing the BOE to take further measures. Britain was compelled to withdraw from the ERM on Black Wednesday, as it was no longer able to support the currency above the agreed upon lower bound. Soros' Quantum Fund made over $1 billion in a single month by shorting the pound and other European currencies in one of the most famous and profitable macro trades of all time.

EXCHANGE RATE vs. QUANTUM FUND NAV



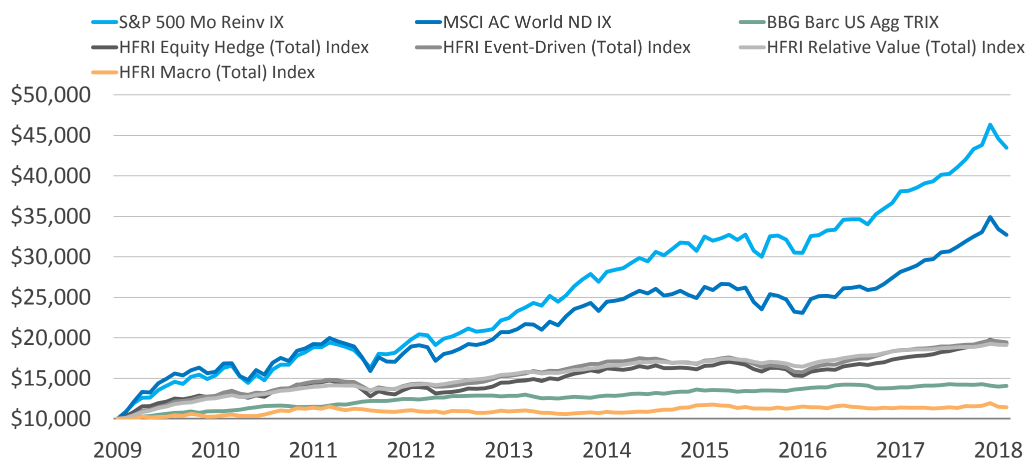
Data source: The Handbook of Hedge Funds; data as of December 1992

Global macro is a broad hedge fund categorization used to describe investment strategies that invest across asset classes and geographies, both long and short, based on macroeconomic principles and geopolitical views. Macro strategies can be systematic, employing computer algorithms to determine positions and sizing; discretionary, wherein trade decisions are made by one or multiple portfolio managers; or a hybrid of the two approaches. Macro managers generally use economic information such as monetary policy, trade, budgetary, economic growth, inflation, and employment data to generate trade ideas. Additionally, both systematic and discretionary macro strategies tend to identify and trade with trends—termed momentum—in both portfolio and risk management.

MARKET ENVIRONMENT

Since the Great Financial Crisis (GFC), macro strategies have posted underwhelming returns, lagging most traditional markets and their hedge fund brethren. Macro strategies' nearly decade-long struggle can be attributed to low interest rates, low volatility, and—with the exception of U.S. equities—largely trendless markets. This period has been dominated by unprecedented, globally-coordinated monetary easing. Unsurprisingly, investors have taken notice, and many are questioning the ongoing merits of macro strategies.

GROWTH OF $10,000



Data sources: HFR, Lipper; data as of March 2018

RATES

The past decade has been marked by extraordinarily low interest rates, with major European and Asian central banks following the U.S. Federal Reserve's (Fed) activity. Low interest rates have supported struggling companies and economies, allowing them to mask hardships with "easy money."

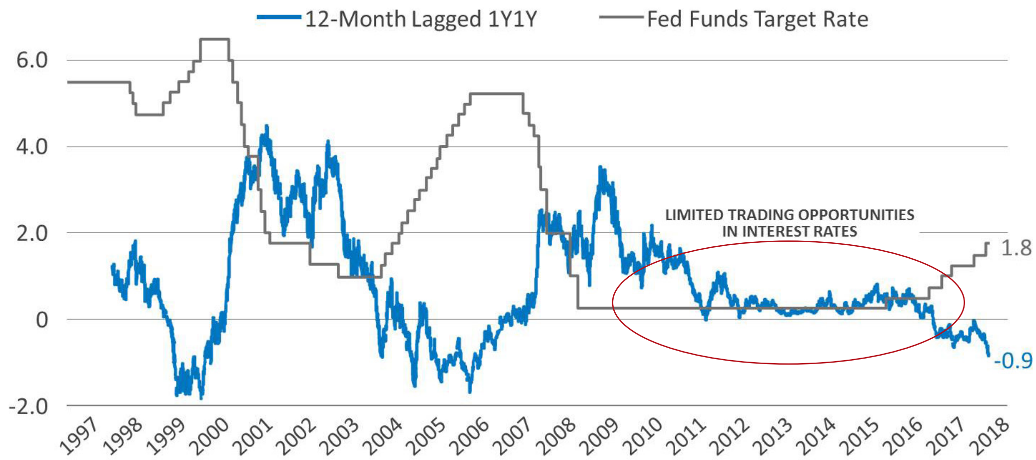
NUMBER OF FED MOVES BY DECADE

	HIKES	EASES	TOTAL
1970s	56	33	89
1980s	37	39	76
1990s	11	24	35
2000s	20	23	43
2010s	7	0	7

Data source: Bloomberg, L.P.; data as of June 2018

Macro strategies have succumbed to the low interest rate environment induced by quantitative easing. Policy rates have been held near the zero-bound for several years with minimal volatility. Typically a core strategy within macro portfolios, interest rates trading has had limited directional and relative opportunities across major markets such as the U.S., Europe, and Japan.

CORE RATES MARKET OPPORTUNITY SET



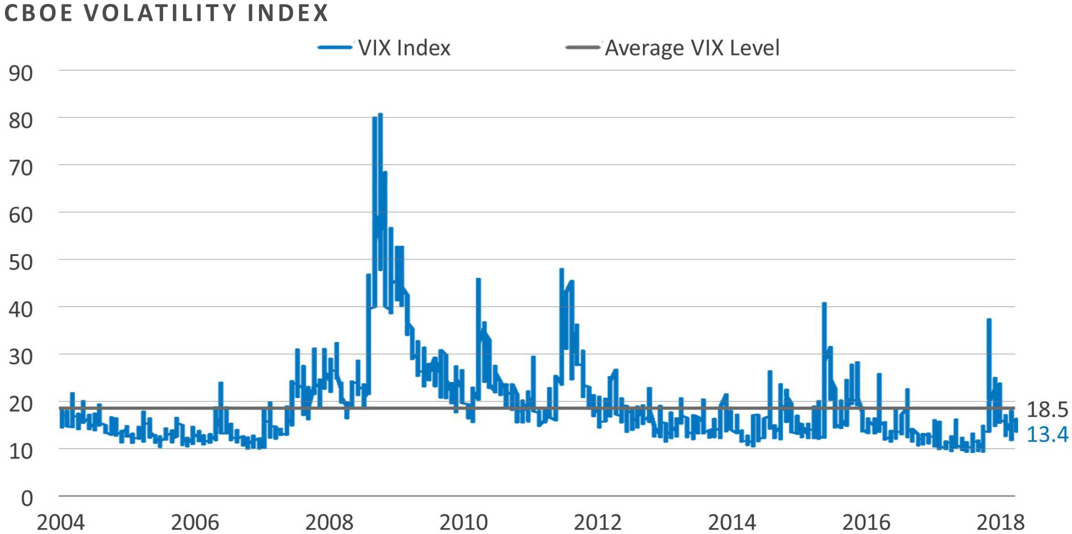
Data source: Bloomberg, L.P., data as of April 2018

Additionally, macro managers generally gain market exposure through the use of derivatives contracts, which only require a fraction of the notional value to be posted as collateral. Unencumbered cash is then invested in risk-free or low-risk, short-term bonds and cash instruments. Prior to the GFC, cash rates were over 5%, which allowed managers to generate meaningful returns through cash investments. Return on cash should not be a leading driver of performance, however, short-term rates persistently near 0% eliminated a meaningful return component for strategies using derivatives.

VOLATILITY

The low-rate market conditions have led to historically low volatility and little dispersion across and within asset classes. Macro managers are generally agnostic as to the direction of markets because they attempt to take advantage of both long and short opportunities; however, opportunities on the short side have been limited. This is somewhat attributable to quantitative easing and loose monetary policy creating the "Fed put" that has supported struggling companies and caused headwinds for macro and many other non-directional strategies.

CBOE VOLATILITY INDEX



Data source: CBOE; data as of June 2018

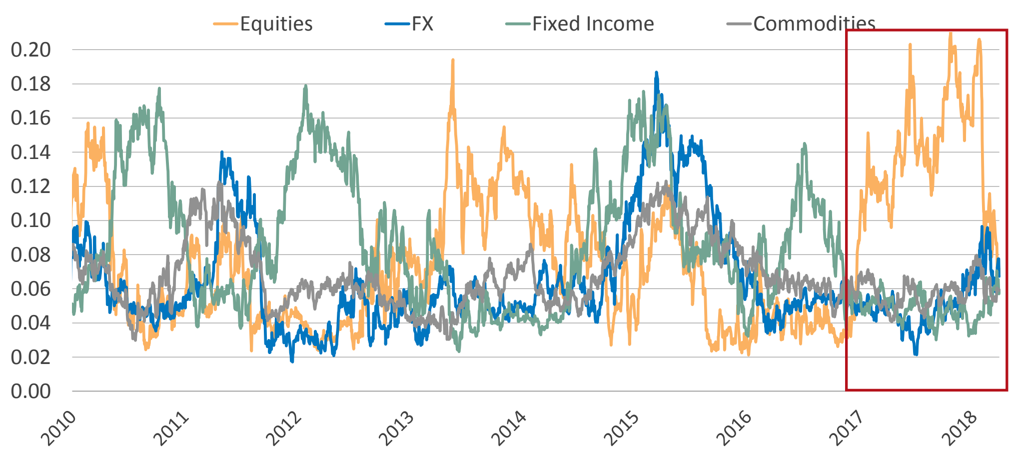
Over time, macro managers have generally performed well during periods of sustained, heightened volatility. Managers can benefit from volatility, which typically creates trading opportunities by increasing dispersion between assets. Further, volatility is used as a direct input in the pricing of certain derivatives, such as options, that many managers use to identify opportunities and structure positions. As depicted in the chart, equity volatility has tracked well below historical averages, with only intermittent spikes for most of the past decade. Heightened volatility, however, is not in itself a sufficient condition for strong macro performance; persistence in directional moves is also beneficial.

TRENDS

Equities have been the only asset class making persistent directional moves since late-2016. Conversely, fixed income, currencies, and commodities have been range-bound with little-to-no momentum.

Macro hedge funds typically pride themselves on low correlation to traditional markets such as equities and bonds. As such, risk management processes generally lead to diversified portfolios that avoid excessive directional risk in a single asset class. Although certain managers have been able to generate profits trading the equity trend, other asset classes have whipsawed portfolios with weak directional moves and sharp trend reversals surrounding events such as central bank meetings and OPEC (Organization of the Petroleum Exporting Countries) announcements.

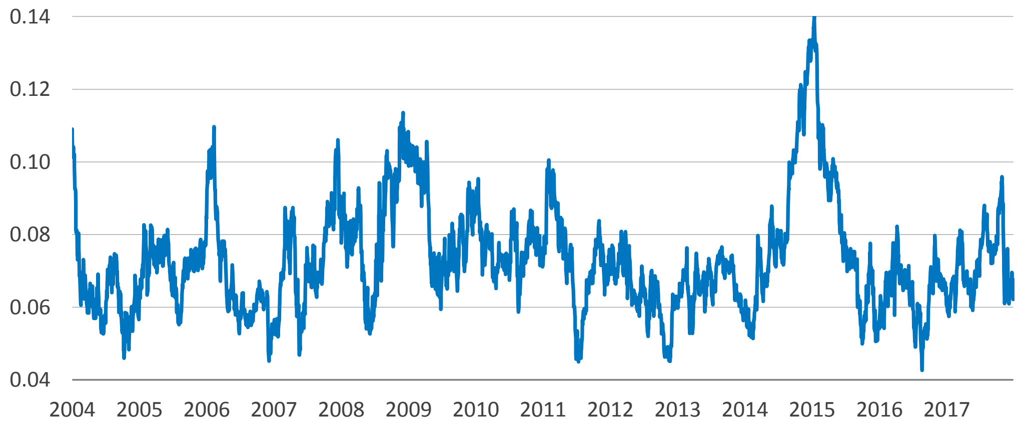
DIRECTIONAL INDICATOR BY SECTOR



Data source: Graham Capital Management; data as of March 2018

Most macro strategies incorporate a momentum component. Systematic trend-following strategies use price momentum as a direct input, while discretionary managers tend to size-up winning positions and cut risk from detracting positions. Markets characterized by sharp volatility spikes and quick reversals tend to whipsaw strategies using momentum. The directional indicator chart, which illustrates greater momentum with higher measures, shows a lack of directionality across asset classes—instead indicating the reversal of quick trends that do not mature—since 2015. Concurrently, macro strategies have struggled during this period.

DIRECTIONAL INDICATOR



Data source: Graham Capital Management; data as of March 2018

HFRX MACRO/CTA INDEX 12-MONTH ROLLING RETURNS

Data source: Graham Capital Management; data as of March 2018

WHY MACRO?

Despite recent performance challenges, macro has demonstrated an ability to generate returns over a variety of market environments. Macro strategies have historically shown low correlation to equities and bonds, with the ability to generate profits in up and down markets. Due to diversification benefits, adding macro strategies to portfolios of traditional assets can help reduce volatility and enhance risk-adjusted returns over full market cycles.

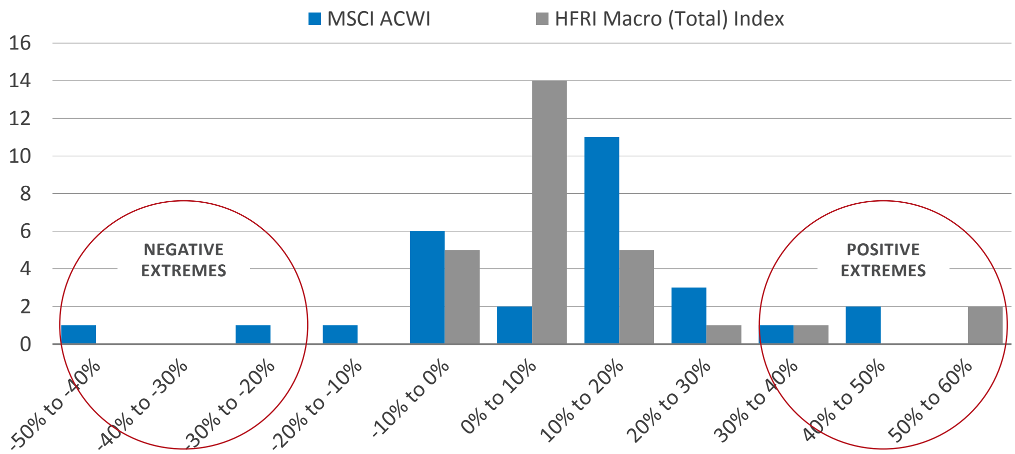
MACRO PERFORMS WELL WHEN OTHER ASSETS STRUGGLE
Comparison During Various Stock Market Cycles

WHEN THE S&P 500 12-MONTH RETURN IS:	-30% or LOWER	-20% to -30%	-10% to -20%	0% to -10%	0% to 10%	10% to 20%	20% to 30%	30% or HIGHER	AVG.
MSCI WORLD	-42.8%	-24.9%	-17.1%	-8.5%	2.6%	12.4%	19.9%	29.7%	3.6%
BLOOMBERG BARCLAYS GLOBAL BOND INDEX	-1.3%	10.7%	7.1%	7.0%	3.9%	3.2%	4.7%	7.8%	5.4%
HFRI HEDGE FUND INDEX	-16.7%	-2.9%	1.2%	2.6%	4.6%	10.3%	11.8%	16.5%	3.4%
HFRI MACRO INDEX	**2.2%**	**7.1%**	**7.3%**	**6.0%**	**3.4%**	**6.3%**	**5.9%**	**11.0%**	**6.1%**

Data sources: HFR, Bloomberg, L.P.; last 20 years ended December 2017

Macro strategies tend to provide their most valuable diversification benefit relative to equity risk, which often dominates institutional portfolios. Not only do the strategies have low correlation to equities over long-term horizons, they also have a complementary return profile. Specifically, macro strategies tend to exhibit positive skew, meaning that return outliers are biased toward the upside. This is the opposite of equity returns, which demonstrate negative skew. Low correlation and positive skew make macro strategies additive to traditional portfolios over long-term horizons, particularly during periods of equity market stress.

ANNUAL RETURN DISTRIBUTION



Data sources: HFR, Bloomberg, L.P.; data as of January 2018

Macro strategies are not for the faint-hearted. Positive skew means that they tend to generate a large number of low or slightly negative returns. As such, macro strategies are susceptible to extended periods of underperformance, as the payoff for themes and trends could take months, quarters, or sometimes years. Additionally, certain macro strategies tend to exhibit high volatility that is largely uncorrelated to traditional markets such as stocks and bonds.

Macro investors should be prepared to maintain conviction through extended periods of lackluster performance as managers' trade theses materialize. Investors should also consider sizing macro strategies as smaller positions. Relatively high volatility dictates that less capital investment is necessary to achieve a commensurate impact at the portfolio level.

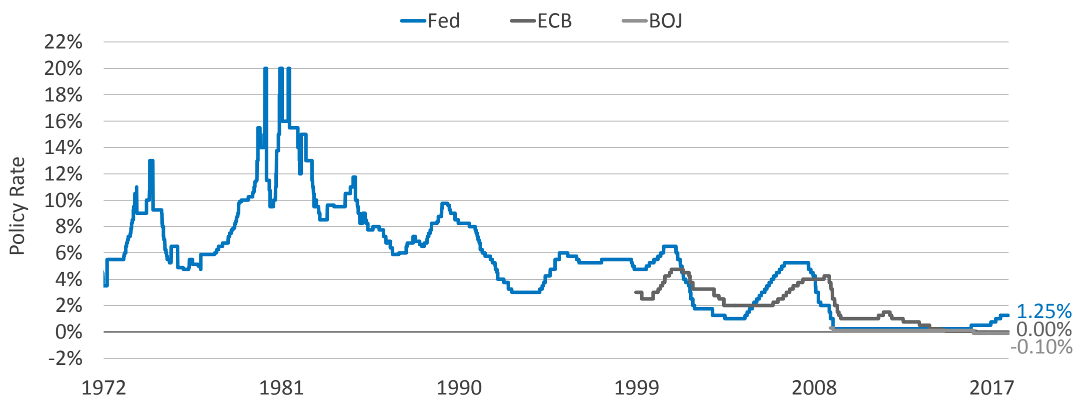
OUTLOOK

Nearly a decade of unprecedented, global monetary easing has driven interest rates and volatility lower, and asset correlations and risky assets higher. Following the GFC, world leaders uniformly eased policy to facilitate economic recovery. As markets rebound and exhibit signs of strength, countries tend to focus more domestically, pursuing agendas to benefit their own citizens.

Although there may not be the same level of divergence and imbalances that allowed Soros to break the pound, policies across various developed and emerging markets have seemingly begun to shift. There has been an abnormally low level of interest rate activity across major central banks for the better part of a decade. Only recently has the Fed begun to gradually tighten monetary policy, but the Bank of England, European Central Bank, and Bank of Japan seem committed to easy policy and low interest rates for the foreseeable future.

Further, a wave of populism has swept across the globe, with a number of countries holding referendums, elections, or pursuing protectionist policies. Growing populist support in Italy led to a historic sell-off in the country's bonds amid fears of default and departure from the European Union. Meanwhile, emerging economies are experiencing a range of effects from volatility in the energy sector, rising U.S. interest rates, an appreciating dollar, and geopolitical threats. Idiosyncratic developments such as Turkey's unsustainable external debt, Venezuela's currency de-valuation, and excessive measures to protect the currency in Argentina, could generate a range of outcomes across certain emerging countries.

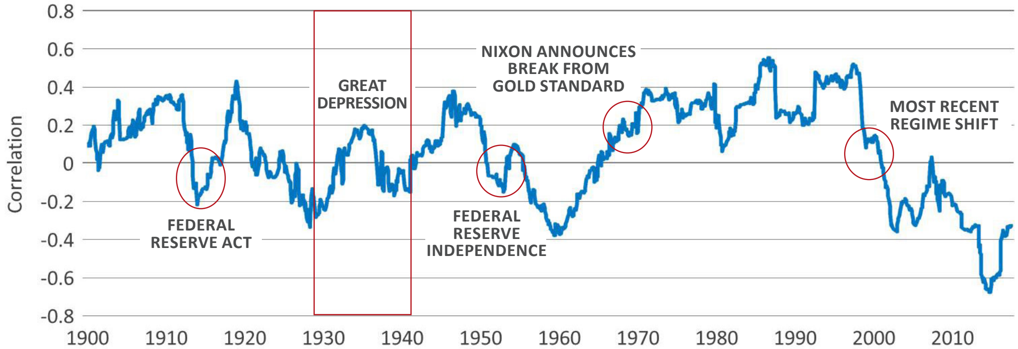
CENTRAL BANK MAIN POLICY RATES



Data sources: Bloomberg, L.P., Fed, ECB, BOE, BOJ; data as of August 2018

While global divergence, volatility, and uncertainty pose risks to traditional markets, these conditions may create a fertile trading environment for macro strategies. Equity and bond correlation tends to be dynamic over time, not statically near or below zero. Portfolios may not be as diversified as one would expect if equity/bond correlations were to increase. High equity valuations combined with low but rising rates could lead to higher correlation between equities and bonds in the future. In such an environment, particularly one starting from low yields and rising inflation, investors may have to rely on non-traditional asset classes to diversify equity risk—a characteristic that macro strategies have demonstrated throughout market cycles.

ROLLING CORRELATION BETWEEN STOCKS AND BONDS
January 1900 to December 2017, Five-Year Rolling Window



Data source: Robert Shiller Data

CONCLUSION

While it is nearly impossible to predict exactly when the next recession will occur and from which area of the market it will spark, FEG believes the best strategy to help protect capital is through proper diversification. Amid heightened equity and bond valuations and the aforementioned global risks, macro strategies can help insulate investment portfolios from the recessions—and even crises—that a number of seasoned investors, such as Soros, are expecting.

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