ABBOT DOWNING

ABBOT DOWNING STRATEGY REPORT

In Search of Clarity

DECEMBER 2018

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Contributors:

Abbot Downing Strategy Team

Douglas W. Evans, CFA
Senior Managing Director, Asset Management

Philip W. White, CFA
Senior Managing Director, Asset Management

Carol M. Schleif, CFA
Deputy Chief Investment Officer, Asset Management

Todd F. Rabold, CFA, CAIA
Regional Chief Investment Officer, Asset Management

Jeffrey R. Erickson, CFA
Managing Director, Asset Management

Robert B. Farrington, CFA, CAIA
Senior Portfolio Manager, Asset Management

Daniel P. Burke, CFA
Portfolio Manager, Asset Management

Doug R. Beath
Portfolio Manager, Asset Management

Thomas J. Raymond Jr., CFA
Portfolio Manager, Asset Management

Roger W. Adams, CFA
Business Support Consultant, Asset Management

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In Search of Clarity

> *"It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us..."*
>
> Charles Dickens,
> *A Tale of Two Cities*

As 2018 wends its way toward a final close, it is amazing how each subsequent line of the well-known Charles Dickens tale seems to reflect the many and varied experiences of investors over the past 12 months. Equity markets started the year on an upbeat note, appreciating 5.6% (as measured by the S&P 500) during January—putting icing on the cake after a 2017 increase of 19.4%[1] ("best of times").

February brought a 180 degree turn, however, essentially erasing the year's increase in the first week of trading ("worst of times"). Pundits (including us) lauded the return of volatility, a not unexpected aspect to an aging bull market that had been noticeably absent for many quarters. Yet as quickly as it erupted, the variability faded away and by the end of March, markets were moving solidly upward again; a pace they continued for the next six months *(See Chart 1, S&P 500 Index and Chart 2, CBOE VIX Index)*. By the end of September, U.S. Stocks were up close to double digits for year, with technology and growth-oriented trades leading the way. Several FAANG[2] stocks even briefly attained $1 trillion market capitalizations ("epoch of belief/epoch of incredulity").

Volatility made a noticeable return in October and November, however, as investors began to ask "How much better do things get?" or its corollary "When do the good times end?" Though the issues were not new—trade wars, Iran, Iraq, China slow down, interest rates, inflation, oil prices, Brexit, Developed Market economic stagnation, immigration—each headline and tweet was greeted with mounting concern, leading to intraday swings of several percentage points or more on key indices ("winter of despair, we had everything before us, we had nothing before us").

While we like creative prose as much as anyone, especially during this holiday period of "Light and Dark", we believe it is more important to keep our focus squarely on controlling what is in our sphere of influence. Human nature is to want predictability and order—something that markets are not truly structured to be able to provide. So while we can't predict what will happen with any degree of certainty, we can think rationally through various potential outcomes; plan for our client's individual needs like cash flow, liquidity, and legacy goals; be diligent in finding the types of investments that best serve our clients' long term goals; and structure portfolios to ride as smoothly as possible through more turbulent waters. In the interest of providing some clarity around what has so roiled the markets in the past few months, and some perspective on what may transpire as 2019 dawns, we offer the following observations:

Recent Market Concerns

Volatility – We suspect volatility is here to stay. Investors, business leaders and even countries need to adapt to economic regime change as for the first time in a decade full of economic triage, relationships are normalizing. Inflation is moving back toward more normal levels (the Post WWII average is closer to 3%), markets are moving more, and headlines are inflaming unsettled psyches. **This is all normal.** It is important to keep in mind that volatility does not equal risk. If the underlying economic fundamentals remain sound, volatility and temporary dislocations can lead to opportunity. Normal business environments are LUMPY and UNPREDICTABLE. Correspondingly, markets have often tended to gyrate. Psychologically, this gyration seems worse when it's framed in absolute numbers that are bigger. A 180 point move

on a 9000 Dow doesn't sound as bad as 520 points today—but they're the same percentage. Every period has headlines that cause concern.

Trade – The news from the G20 gathering in Buenos Aires was positive at least initially, but subsequent walking back by some administration officials and a noncommittal stance from China caused jitters. Markets are likely to stay volatile around this issue as headlines are interpreted as "all good" or "all bad". Administration officials on both sides know that this reprieve needs to result in concrete agreements, timelines, and deliverables. China's staying power is, we suspect, a lot longer and stronger than is widely perceived. The length of history—as well as their success at negotiating their entry into global trade activities even while maintaining the structure of a planned economy (something most prognosticators said was unlikely to happen) auger for patient and thoughtful treatment. China a decade ago vs China now—and its influence (and ownership) of activities around the globe is a force to be reckoned with. A temporary cease fire on the trade front buys China some time to settle into stabilizing its economy for the growth slowdown and debt burden issues it is facing. It also allows global manufacturers, distributors, and purchasers time to re-evaluate and potentially shift global logistics and supply chains. You can be sure that most corporate finance departments are busy running cost/benefit numbers and contemplating alternative arrangements from suppliers to manufacturing and services sites.

Technology Stocks – This sector continued to underperform, particularly the FAANG stocks, over concerns about peak earnings, potential slowdown in revenues, regulatory headwinds, and company-specific issues. Research, innovation, and seemingly a round of high profile IPO's could rekindle interest in 2019.

Energy Price and Production – Energy prices have declined sharply in recent months after peaking at $76.41 per barrel (WTI) earlier this year.[3] While lower energy prices relieve some of the transportation and input cost pressures that manufacturers and distributors have faced, the rapidity of the decline has added to investors' unease. Dynamics all along the supply chain have changed markedly amidst the sharp decline in energy prices from the peak a couple of years ago. Those entities all along the chain that have survived have brought break-evens down sharply. In much the same way that the percentage of loans underwritten by banks gets disintermediated away after every financial crisis, Organization of the Petroleum Exporting Countries' (OPEC) hold on global energy markets has been waning with each fluctuation in energy and the improvement in supply chains around the world. Qatar's announced withdrawal from OPEC and the bloc's continued problems keeping its own members in line add to the notion that the energy complex may begin to move more in sync with individual producing and consuming countries' dynamics than through artificially designed price/production controls. It remains to be seen if there will be true action on U.S.'s announcement that China will be buying a lot more agricultural and energy products from the U.S. Overall, energy production around the globe remains robust, especially as growth is moderating in many corners.

Global Geopolitics – The Asia-Pacific Economic Cooperation (APEC) Summit concluded without issuing a communique (for the first time in history), signaling obvious tensions over Chinese trade practices. Brexit too has moved to the front burner, as Prime Minister Theresa May's recently agreed to Brexit deal with the EU has received significant backlash from her own Conservative Party and she has delayed a parliamentary vote to approve the deal. It's important to keep in mind that the UK is a small percentage of Global GDP and many multinationals have already started to shift activities to other EU countries as the debate has drug on. UK's Brexit woes are psychologically impacting markets to a much more significant degree than we suspect will be economically felt.

Interest Rates, Inflation, and Potential Fed Hikes – As we have written before, normalizing inflation after a decade of zero to negative rates is a positive in many regards. Moderately rising prices allow pricing power, wage increases, and normal grease for the gears of commerce. The U.S. Federal Reserve is well plugged into not just the macro data but qualitative contact with business leaders throughout all of its districts and this combination of art and science informs its decision making. Potentially interesting implications exist, though, as the rest of the world normalizes their respective rates, potentially pulling

capital out of the U.S. Financing U.S. deficits will put continued structural pressure on rates—and the need to issue ever increasing amounts of U.S. government debt is already showing signs of crowding out other types of issuance. You can bet bond vigilantes will be watching this closely into 2019 and pressing for progress on that front. We're unsure if spending restraint will play into the pending negotiations around the potential for a government shutdown, but we strongly suspect they'll move toward the front burner when the next congress is seated in January 2019.

What is Not as Widely Communicated

Signs of Market Stress – While the common stock averages have gyrated wildly in recent weeks, other indicators of investor capitulation are not present. In fact, much of the lumpiness in trading could, we suspect, be laid at the feet of algorithmic readjustments, holiday-induced lighter staffing, dearth of traditional buyers (wire houses, specialist firms) willing or able to step in, and investors simply adopting a wait-and-see approach until some clarity emerges, presumably in the New Year.

The U.S. Economy Continues to Hum

- The six-month annualized change in leading economic indicators (LEI) remained at a healthy level of 5.2 in October.
- Moody's Baa/Aaa corporate bond spread has risen from 92 bps to 108 bps, but is still considered tight and signaling positive growth over the next year.
- Manufacturing PMI increased to 59.3 in November.
- Consumers are employed, optimistic and willing to spend. For example, The Temporary Help Indicator Index, reached a record high in October. Over seven million job openings, the highest on record since the Labor Department began keeping track of this data in late 2000, are in place while the unemployment rate remains at a multi-decade low of 3.7%.[4] Early retail sales have come in at or above expectations and even China's consumer spending remains strong, with "Single's Day" (the newly created holiday on 11.11 to celebrate single-hood) generated over $30 billion in sales, surpassing even the U.S.' Cyber Monday.

Looking into 2019

According to the Wells Fargo Investment Institute, aggregate S&P 500 earnings for 2019 should fall in the range of $177, an increase of nearly 10% from the rate expected for 2018. With the pullback in recent trading, this puts the 2019 market P/E at 14.4. S&P 600 EPS estimate for 2019 is also very strong at $57.82, an increase over 13%. Solid growth and moderate inflation coupled with lower valuations could tee markets up for a reasonable upper single, to mid-teens growth rate into next year.

It's important to stay focused on the fundamentals which remain promising. The recent round of Institute for Supply Management (ISM) indices were more illustrative of global strength than harbingers of impending recession. Consumer spending, confidence, employment, and balance sheet productivity remain high. We believe we're on track for a solid holiday selling season with robust organic comparable store sales. Business spending, confidence, and activity is at strong levels, and the full benefits of tax reform on the CapEx side have barely scratched the surface of making it into the system. While the economic upturn is admittedly long in the tooth, we still see few signs that it's ready to turn over and head toward recession. Recent announcements of high-profile IPOs and some M&A activity could lend further support, particularly after year end. **Stay calm. Stay diversified. Rebalance into this volatility.**

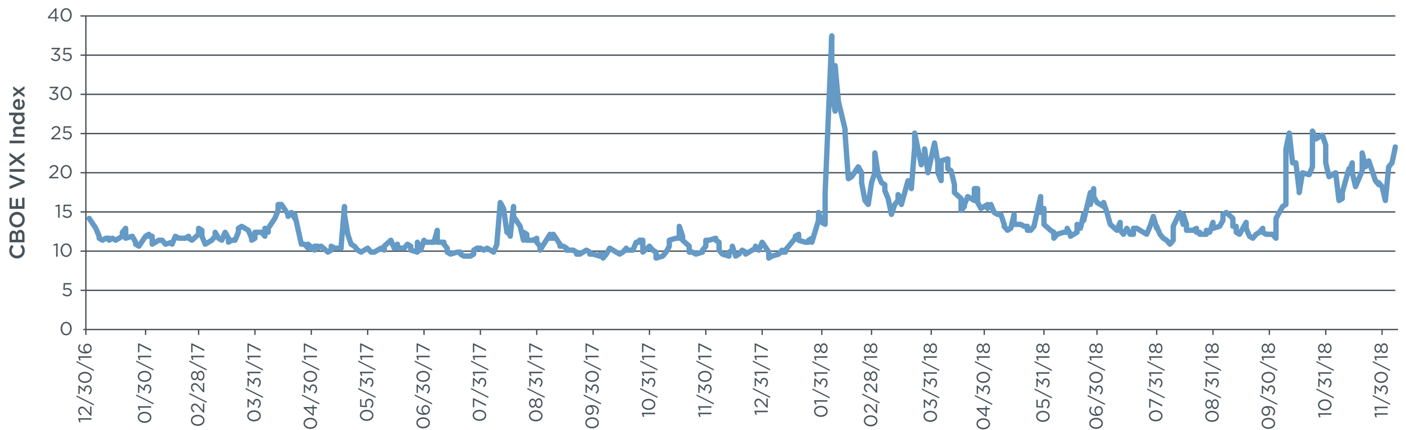
Chart 1: S&P 500 Index

12/31/16 – 12/7/18

Source: FactSet, 12/7/18.

Chart 2: CBOE VIX Index

12/31/16 – 12/7/18



Source: FactSet, 12/7/18.

Client Discovery and the Time Horizon

> *"A hero is one who knows how to hang on one minute longer."*
>
> Novalis

Novalis was an 18th century scientist, philosopher, and poet. Born Georg Philipp Friedrich Freiherr von Hardenberg in Germany, he thankfully discovered the value of a pseudonym. Some consider him to be one of the most influential philosophers of his time, which is remarkable because he only lived to be 28. In fact, most of his most successful works weren't even published and translated until after his death. In his quote above, Novalis is highlighting an important point that can be applied to investing—sometimes the ability to hang on a little longer can make a big difference.

Expand Your (Time) Horizons?

We have talked at length in prior issues about the importance of client discovery. We define the discovery process as having meaningful, ongoing conversations with our clients to uncover their needs and create a collaborative experience to help clients 1) gain clarity on their current financial reality; 2) explore and articulate their goals; and 3) develop a vision for the future. A critical part of that discovery process involves determining each client's unique time horizon.

Time horizon refers to the period of time over which the assets will be invested. Most clients actually have several time horizons. For example, a client that recently experienced a liquidity event may have a very short time horizon for funds needed to pay taxes, a longer time horizon for funds designed to support the client's lifestyle, an even longer time horizon for funds designed to support the needs of the next generation, and a very long time horizon for funds designed to support a perpetual foundation. Because these assets have four different purposes they have four different time horizons. And because they have four different time horizons, there will be differences in how these four different portfolios are managed.

The Illiquidity Premium

One of the main ways in which time horizon impacts investment implementation has to do with risk. The shorter the time horizon, the less risk the portfolio can take on (in this case, risk refers to portfolio volatility). If the client knows they need to pay $50 million in taxes in nine months, those assets need to be invested in a way that introduces very little, if any, portfolio volatility. Conversely, assets that have a very long time horizon have the ability to withstand much more market volatility because there is a low probability that the client will need to withdraw a meaningful amount of the funds right at the time of a market drawdown. As a result, we would expect those longer-dated assets to be invested in more volatile strategies that should be expected to generate higher returns.

One of the ways in which longer-dated assets can seek to generate higher returns is by investing in strategies that are less liquid than publicly traded stocks and bonds. Investors should expect that in exchange for having limited access to that capital during a specific period, they should be compensated with excess returns. The CFA Institute defines that as the **illiquidity premium**—the compensation for the risk of loss relative to an investment's fair value if an investment needs to be converted to cash quickly. Examples of these strategies are private debt, private equity, private real estate and venture capital.

Additionally, client discovery around cash flows in and out of a portfolio are also very instructive for determining a portfolio's ability to take on illiquidity. For example, a client that has an operating business that generates a $5 million quarterly dividend to the family that can be invested in the portfolio and an annual distribution from the portfolio of $10 million for lifestyle and charitable giving has a cash flow profile that is favorably supportive of allocating a portion of the portfolio to illiquid strategies. On the other hand, a family with limited ability to contribute funds into the portfolio and unpredictable distributions of varying sizes is much less equipped to support illiquid investments.

Client Discovery and the Time Horizon *(Continued)*

Conclusion

Like most other features within our client portfolios, things evolve. Time horizons are no exception. Time horizons can change as tax laws change, as family relationships change and as market dynamics change. Additionally, new solutions within illiquid investing are being created and enhanced. This is why maintaining a strong framework for clear, consistent, ongoing client discovery is key to limiting illiquidity risk. Client discovery is part art and part science, but its disciplined practice leads to better client outcomes. Or as Novalis stated, “In a work of art, chaos must shimmer through the veil of order.”

Key Market Events

Listed below are key upcoming events and/or accelerating trends we're watching especially closely, as well as a few comments related to how they may impact short-term markets.

The Return of Volatility

After re-emerging in October, volatility shows no signs of letting up as 2018 comes to a close. Year-to-date the Dow and S&P 500 have given back all of their gains, down 4.6% and 4.8%, while developed and emerging markets have declined 11% and 11.6%[5] respectively. The MSCI ACWI, a primary aggregate of all global equity markets is now down 7.9% YTD. Markets attempted to rebound in early November following the mid-term elections, but soon refocused on key uncertainties surrounding U.S.-China trade relations, Fed policy and, more recently, the potential for a government shutdown. As expected, Democrats took control of the House of Representatives, and Republicans maintained the majority in the Senate.

Historically, equity markets have corrected in the run-up to midterm elections, but once this uncertainty has been removed following the election, stocks have performed well over the following 12 months—regardless of which party was in charge before or after the election. Looking forward however, inflation, deficits, regulation, fiscal spending, and tariffs could all add to market volatility.[6]

Global Trade

President Trump and China's leader Xi Jinping met in Buenos Aires during the G-20 summit, and announced a temporary trade truce with the U.S. agreeing to hold off on raising tariffs to 25% from 10% on $200 billion of Chinese goods in January. In return, the White House stated (but Chinese officials have not confirmed) that China will start buying U.S. farm goods immediately—and most importantly, the two countries will reportedly have 90 days to agree on more substantive issues with respect to forced technology transfers, intellectual property protection, non-tariff barriers, and cyber security. The initial market reaction was positive, but soon reversed course as investors became skeptical over the U.S.-China trade truce and subsequent arrest of Huawei Technology Co.'s chief financial officer for alleged violations of Iranian sanctions; Huawei is a leading global tech company based in China that the U.S. views as a national security threat. On a positive note, China recently announced steps to lower tariffs on U.S.-made cars and boost purchases of soybeans and other crops.

Global trade negotiations have evolved into a political chess match that is highly unpredictable and we feel they thus carry a greater than average risk of "surprising" investors and markets.

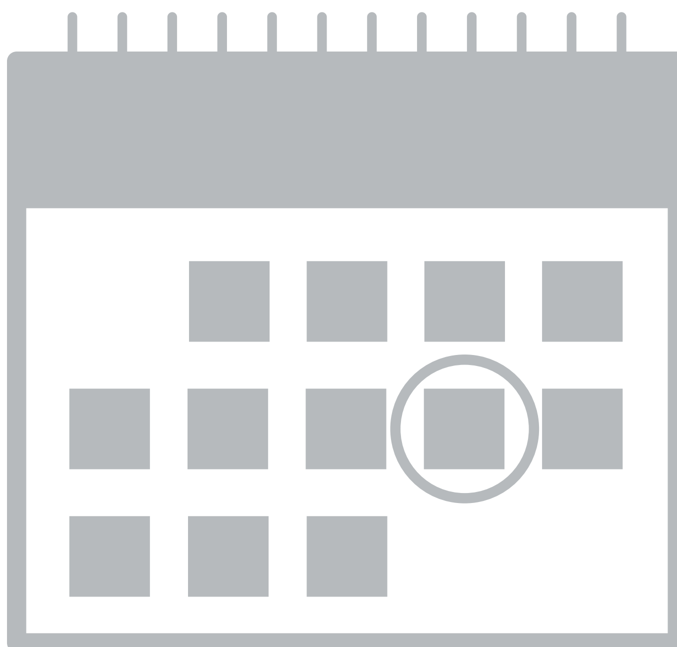
Domestic Geopolitical Concerns

The new U.S. tax bill and reduced regulatory constraints appear to be having a salutary effect on corporate psyches. From our perspective, spending and hiring plans are firm and corporate optimism is running high. So high in fact, that as noted in a variety of articles and comments from quarterly earnings reports, bottlenecks appear to be emerging in selected industries such as construction, transportation (esp. long-haul truckers and fulfillment centers), technology (e.g. data analysts), and many areas of retail and food service.

With permanently lower corporate tax rates, immediate write off of capital expenditures for the next five years, and a host of devilish details, the law in full bloom is liable to yield a number of modifications in business behavior, many with a growth bias. Case and point. Businesses have substantially increased their plans for capex spending based on recent surveys.[7]

Investors are watching bottlenecks and the perception of moderating growth carefully, in trying to determine if the Fed will begin to moderate it's pace of interest rate hikes in 2019. Employment remains a sticky issue with a decades low unemployment rate of 3.7% and the most recent reading of over seven million job openings, a record since this data set has been kept. Another data point: Americans are choosing to change jobs (as measured by the "quits" rate) at the fastest pace since the internet boom 17 years ago—and getting rewarded with higher pay at new positions. Additionally, commentary in quarterly earnings calls have pointed to additional employer perks like hiring bonuses; enhanced family leave; more generous training programs and other enticements to keep key workers in place. Companies are also upgrading technology as evidenced by broad-based tech spending. While expenses like training and technology have the potential to pinch margins in the short run, they have more positive implications for productivity growth of the long pull.

We believe investors will be watching closely as we head into 2019 for hints of increased pressure on margins and the potential for inflation. Such intense focus could well lead to heightened volatility—even as the economy continues to perform solidly amidst the noise and companies in a host of industries adjust business plans to the new realities of global business models. Overall, earnings and sales growth for U.S. companies continued to exceed expectations in Q3 without an erosion of their margins.[8]



Central Bank Meetings – The Fed and The ECB

Expectations for rate increases as indicated by futures markets suggest one additional hike in 2018 at the December 19th FOMC meeting—while the "dot plots" portend three more hikes in 2019. Wall Street consensus seems to be migrating toward less confidence in three, however, as the Fed remains data-dependent and that data looks to be moderating just a bit.

QE tapering will remain a focus in 2019, as the Fed reduces the bond purchasing program initiated in the wake of the financial crisis. Adding to the demand/supply issue is the fact that the U.S. Treasury has begun increasing its issuance of T-bills, notes, and bonds to pay for an expanding deficit, and increased government spending. Investors will be watching closely to see if yields are forced upward given the extra supply, reduced demand and pending what happens with the U.S. Budget appropriations in coming weeks.

Employment cost index releases should continue to spawn market volatility; recent monthly unemployment reports have reached the lowest levels since year 2000 and YOY wage gains in November matched the prior month's 3.1% pace as the best rate since 2009.[9] These are likely to be much-watched statistics for the remainder of the year along with their inferred implication for Fed monetary policy decisions.

The European Central Bank (ECB) reiterated that it reduced QE from 30 billion euros of assets a month in September to 15 billion in October, and confirmed it will stop purchases at the end of the year—ending almost four years of quantitative easing. It also pledged to keep interest rates unchanged "at least through the summer of 2019", now at minus 0.4%.

We feel that markets will remain focused on the progress of inflation and the Fed's comments surrounding economic health. Fed chairman Jerome Powell triggered a stock market rally in late November by signaling flexibility in how central banks sets interest rates; Mr. Powell stated that "interest rates are just below broad estimates of a neutral level"—a seemingly significant change in tone from October's statement that "rates are a long way from neutral at this point."

Progress and commentary around the pace of balance sheet unwind will also bear watching for its impact on market levels of liquidity and pricing.

Markets will also continue to scrutinize ECB President Mario Draghi's comments; in October, the ECB shaved its forecast for growth in the 19-nation currency union by 0.1 percentage points for this year and next, to 2% and 1.8% respectively.

Commodity Prices

WTI crude prices have recently plunged from $76 per barrel to $52 per barrel in Q4, as the Trump Administration eased sanctions on Iran by allowing key trading partners to continue buying its oil, along with a massive unwinding of hedge-fund long positions in futures markets. Oil prices are expected to increase, and trade between $60 to $70 over the next year, due to OPEC and Russian production cuts along with a e-emergence of political risks (Iran, Venezuela). The falling prices have been beneficial in headline inflation numbers such as CPI and PPI, perhaps giving the Fed wiggle room in moderating the pace of rate hikes in 2019.

Commodities price volatility, especially to the upside, could further stoke investor nerves regarding inflationary pressures.

U.S. Economic Data Heading into 2019

According to the U.S. Bureau of Economic Analysis (BEA), the latest GDP report showed the U.S. economy accelerating 3.5% on an annualized basis in Q3, down from 4.2% in Q2—but still exceeding consensus expectations. Q4 is expected to advance around 2.5%. We believe the latest data inputs support continued growth through 2018: leading economic indicators (LEI), quality corporate bond spreads, and manufacturing surveys are all forecasting solid expansion.

Although output has clearly accelerated throughout 2018, we believe monitoring incoming data late in a business cycle for signs of acceleration and deceleration is prudent.

Techlash

After hitting all-time highs in the third quarter, with some even attaining $1 trillion market capitalizations, the tech sector has been under uniform pressure in the last few months' volatility. High profile (and continued) hacks, data misuse announcements, and potential meddling/manipulation of data feeds by a variety of bad actors continue to plague many players. Key leaders from companies like Google and Facebook are making repeat visits to testify in front of congressional panels, and moves against key global players by the U.S. and China keep the industry in the headline news flow. Scrutiny of the all-important technology sector is likely to continue and bears watching as any unexpectedly negative announcement—even if preliminary—could impact the stocks.

In addition to regulatory issues, tech stocks have come under pressure due to fundamentals; concerns of peak earnings, slowing revenue and high valuations have led to additional volatility for this sector.

The European Union is far ahead of the U.S. on this front and has already lodged fines on affected companies from Facebook to Apple. Given the high profile, and growth-valuations that many individual names bear, we expect news flow and market sentiment to continue to buffet the industry on a day to day basis.

2018 Capital Market Assumptions

Asset Class	Hypothetical Geometric Return 2018	Hypothetical Geometric Return 2017	Hypothetical Geometric Return Change	Hypothetical Standard Deviation 2018	Hypothetical Standard Deviation 2017	Hypothetical Standard Deviation Change
Cash Alternative	2.5	2.5		1	1	
Short Term Taxable Fixed Income	2.7	2.6	+0.1	1.75	1.75	
Intermediate Taxable Fixed Income	3.1	3.1		4.5	4.5	
Long Term Taxable Fixed Income	3.2	3.2		10.5	10.5	
Short Term Tax Exempt Fixed Income	2.2	2.1	+0.1	1.75	1.75	
Intermediate Tax Exempt Fixed Income	2.5	2.5		4.5	4.5	
Long Term Tax Exempt Fixed Income	2.6	2.6		9	9	
Developed Market Ex-U.S. Fixed Income	2.9	2.8	+0.1	8.25	9	–0.8
High Yield Fixed Income	6.1	6.1		12	12	
Emerging Market Fixed Income	6.2	6.2		12	12	
Inflation-Linked Fixed Income	3.1	3.1		6	6	
Preferred Stock	4.4	4.5	–0.1	12	12	
U.S. Large Cap Equities	7.8	7.7	+0.1	16	16.5	–0.5
U.S. Mid Cap Equities	8.4	8.3	+0.1	17.75	18.25	–0.5
U.S. Small Cap Equities	8.5	8.5		20	20	
Developed Market Ex-U.S. Equities	7.5	7.5		17.5	17.5	
Developed Market Ex-U.S. Small Cap Equities	8.0	8		20	20	
Emerging Market Equities	9.2	9	+0.2	23	24	–1.0
Frontier Market Equities	8.2	8.2		26	26	
Public Real Estate	7.2	7.2		18	18	
Private Real Estate	7.7	7.7		15	15	
Infrastructure	7.5	7.5		16	16	
Master Limited Partnerships (MLPs)	7.6	7.6		17	17	
Timberland	6.8	6.8		12.25	12.25	
Commodities	4.4	4.4		15	15	
Hedge Funds – Relative Value	5.1	5.1		5.75	5.75	
Hedge Funds – Macro	4.9	4.9		6.25	6.25	
Hedge Funds – Event Driven	5.3	5.4	–0.1	7	7	
Hedge Funds – Equity Hedge	5.7	5.5	+0.2	8.75	8.75	
Private Equity	10.9	10.9		22	22	
Private Debt	8.1	8.1		16	16	
Multi Class (60% LC / 40% INTERFIX)	6.2	6.2		9.75	9.75	
Other	1.2	1.1	+0.1	16.5	17	–0.5

Source: Wells Fargo Investment Institute.

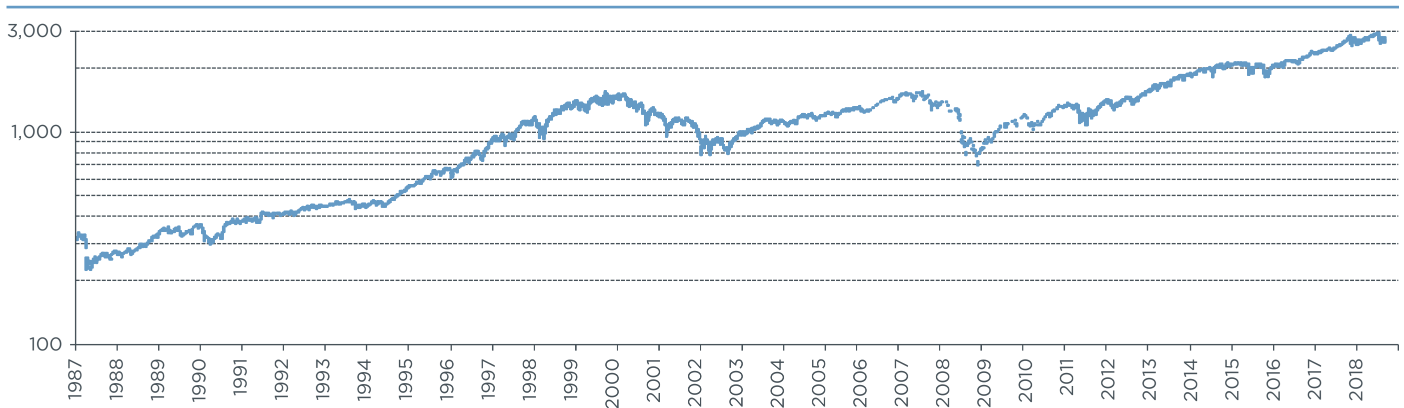
Capital market and asset class assumptions are estimates of how asset classes may respond during various market environments. For example, Downside risk is based on our assumptions about average returns and the variability of returns. It represents the minimum return that would be statistically likely in 95% of annual returns. In other words, in 19 out of 20 years, performance would likely be better than this figure and in the twentieth year it would likely be worse. There is no guarantee that any particular 20-year period would follow this pattern. Hypothetical returns represent our estimate of likely average returns over the next several market cycles. They do not represent the returns that an investor should expect in any particular year. Geometric return is the compounded annual growth rate of an investment (asset class or portfolio) over a specified period of time longer than one year. Standard deviation is a measure of volatility. It reflects the degree of variability surrounding the outcome of an investment decision; the higher the standard deviation, the greater the risk. Yield on a bond assumes constant maturity. Dividend yield on an equity or real-asset investment represents the projected dividend as a percentage of the purchase price. Sharpe ratio measures the additional return that an investor could expect to receive for accepting additional risk. The assumptions are not designed to predict actual performance, and there are no assurances that any estimates used will be achieved. The information given has been provided as a guide to help with investment planning and does not represent the maximum loss a portfolio could experience.

Alternative investments are not suitable for all investors. They 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.

Notable Observations

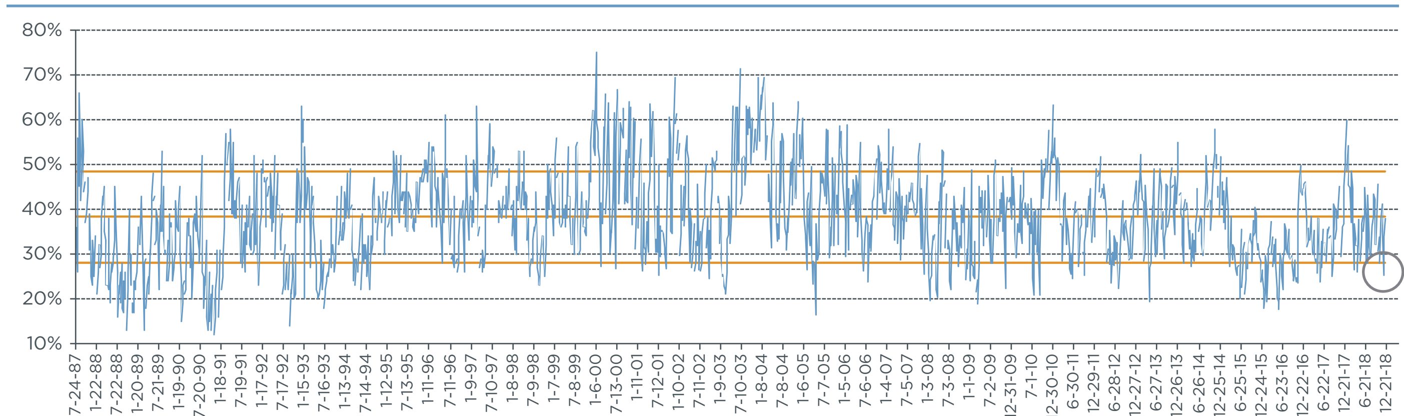
Investor psychology has been severely tested amidst recent market gyrations, seemingly whip-sawing from relief to fear and back again on a daily (sometimes hourly) basis. The 24/7 news cycle presenting us with negative headlines from screens of all sizes can inflame our most primitive “fight or flight” responses. During such times of potential rapid reaction, it can be especially important to “Pause. Breathe deeply, and Remember why I’m investing”, as well as to “focus on fundamentals.” One bit of data that has historically been additive to watch is the percentage of investors bullish or bearish. It has historically proven to be a contra indicator in that large numbers of bullish investors portend complacency and an undervaluation of risk, while a large number of bearish responses (the current level) tend to indicate markets may be more than adequately anticipating all potential risks and then some.

Chart A: S&P 500 Index*



** Chart is plotted using a logarithmic scale*

Chart B: AAII poll of Bullish and Bearish Investors – Percent Bullish



Source: American Association of Individual Investors 625 N. Michigan Ave., Chicago, IL. 60611; (312) 280-0170; www.aaii.com

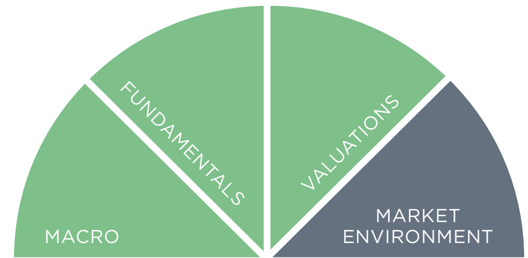
Dynamic Allocation Summary

Global Equities Outlook Overview

U.S. Large Cap Equities

Outlook: Mixed Positive

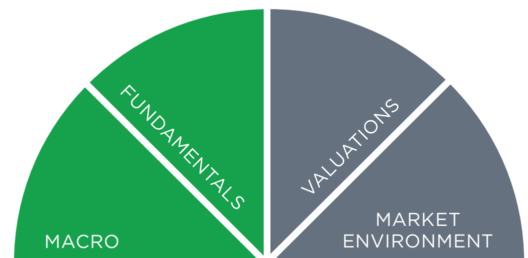
Macro and fundamental inputs continue to favor U.S. large-cap equities. We expect economic growth to remain solid, and EPS to reach record levels in 2019. Due to market volatility, valuations are now near their historical averages. If U.S. large-cap stocks were to experience additional volatility, we would consider this a potential opportunity to invest at more attractive prices.



U.S. Small Cap Equities

Outlook: Neutral

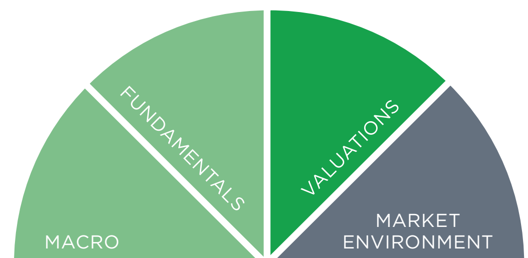
We have a Neutral weighting on domestic small cap equities. Valuations are deemed expensive relative to larger companies, but the new tax plan should benefit small-cap stocks by comparatively more than the large-cap indices; smaller domestic companies tend to pay higher tax rates than large, multinational companies, and generally have lower profit margins. Active management is favored to generate alpha in this space.



Developed Market Equities

Outlook: Mixed Positive

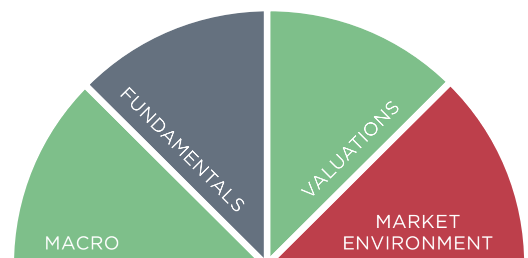
Although economic growth in developing countries outside the U.S. stalled during the first half of the year, recent data suggest stronger growth in the second half of 2018. Accelerating profits, and reasonable valuations favor developed market equities in our opinion. In cases where clients have immediate funds to invest, developed equities would be one of our top considerations.



Emerging Market Equities

Outlook: Neutral

The strengthening U.S. dollar and escalating trade tensions have pressured emerging market equities—and made valuations more attractive. Stronger balance sheets of developing countries (lower external debt) and expectations of a more stable greenback have made us more optimistic on this asset class going forward.



Outlook Ratings POSITIVE | MIXED POSITIVE | NEUTRAL | NEGATIVE

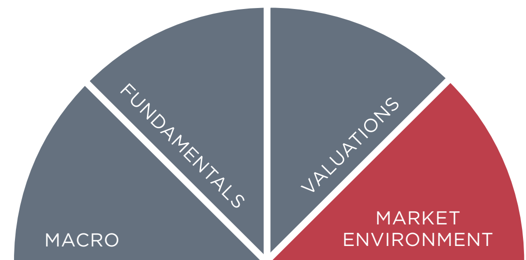
The color-coded rating system applies to specific inputs only (Macro, Fundamentals, Valuations, and Market Environment) and represents the current and shorter-term (three to six months) outlook for the specific inputs based on qualitative data and recommendations from the Abbot Downing Asset Allocation Committee. It is intended to provide guidance to the Abbot Downing Portfolio Construction Team. The content does not represent a buy, hold, or sell recommendation for specific asset classes.

Dynamic Allocation Summary (Continued)

U.S. Investment Grade Fixed Income

Outlook: Neutral

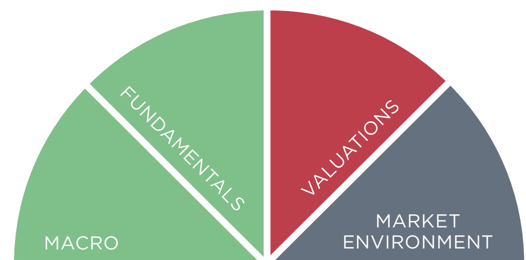
We feel that yields of investment-grade bonds (Treasuries, municipals, and corporates) have moved into fair value range, and are supported by expectations that the Fed will continue to raise rates at a gradual pace; markets currently appear to anticipate one additional rate hike in 2018.



Non-Investment Grade Fixed Income

Outlook: Neutral

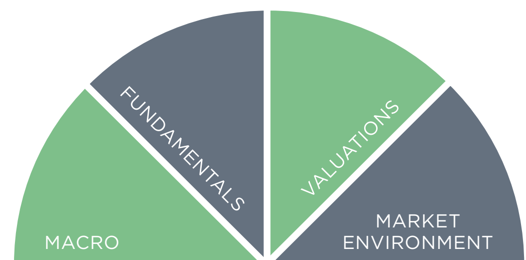
We remain constructive on preferred stock securities based on healthy yield premiums versus investment-grade bonds. Although high-yield spreads have widened in lieu of falling oil prices, valuations still remain expensive based on historical spreads.



International Fixed Income

Outlook: Negative

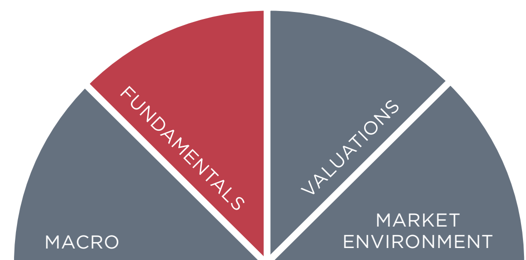
We believe near zero yields on many developed country sovereign debt issues warrant caution for this sector. Emerging market bond spreads are now above their long-term historical averages.



Real Estate Investment Trusts (REITs)

Outlook: Neutral

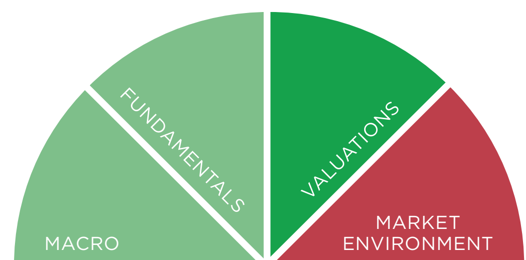
We have downgraded REITs to underweight, as they have become more sensitive to interest rate moves. REIT fundamentals remain stable despite facing late cycle headwinds and exhibit attractive valuations. REITs currently sell at a 5.0% discount to underlying real estate holdings, but exhibit average spreads compared to other income-oriented asset classes.



Master Limited Partnerships (MLPs)

Outlook: Mixed Positive

Although MLPs came under pressure earlier in the year as investors adjusted to lower distribution growth rates and tax-loss selling, performance has rebounded based on stronger fundamentals. Current MLP yields of near 9% are also attractive on both an absolute and relative basis. Finally, active management is favored in this space due to the recent FERC ruling and risk of C-corp conversion.



Outlook Ratings

Disclosures

Risk Considerations

Past performance does not indicate future results. The value or income associated with a security or an investment may fluctuate. There is always the potential for loss as well as gain. Investments discussed in this report may be unsuitable for some investors depending on their specific investment objectives and financial position.

Equity securities are subject to market risk which means their value may fluctuate in response to general economic and market conditions and the perception of individual issuers. Investments in equity securities are generally more volatile than other types of securities.

There is no guarantee that dividend-paying stocks will return more than the overall stock market. Dividends are not guaranteed and are subject to change or elimination. There are no guarantees that growth or value stocks will increase in value or that their intrinsic values will eventually be recognized by the overall market. The return and principal value of stocks fluctuate with changes in market conditions. The growth and value type of investing tends to shift in and out of favor.

Asset allocation and diversification do not assure or guarantee better performance and cannot eliminate the risk of investment losses. Your individual allocation may be different than the strategic long-term allocation above due to your unique individual circumstances but is targeted to be in the allocation ranges detailed. The asset allocation reflected above may fluctuate based on asset values, portfolio decisions, and account needs.

Investing in **commodities** is not suitable for all investors. Exposure to the commodities markets may subject an investment to greater share price volatility than an investment in traditional equity or debt securities. Investments in commodities may be affected by changes in overall market movements, commodity index volatility, changes in interest rates or factors affecting a particular industry or commodity. Products that invest in commodities may employ more complex strategies which may expose investors to additional risks.

Convertible securities are subject to the same interest rate, price and credit risks as regular debt securities. Prices tend to be inversely affected by changes in interest rates. In addition, a convertible security is also subject to the risks associated with common stocks. The return and principal value of stocks fluctuate with changes in market conditions.

Alternative investments, such as hedge funds, carry specific investor qualifications which can include high income and net-worth requirements as well as relatively high investment minimums. They are complex investment vehicles which generally have high costs and substantial risks. The high expenses often associated with these investments must be offset by trading profits and other income. They tend to be more volatile than other types of investments and present an increased risk of investment loss. There may also be a lack of transparency as to the underlying assets. Alternative investments are subject to fewer regulatory requirements than mutual funds and other registered investment company products and thus may offer investors fewer legal protections than they would have with more traditional investments. Additionally, there may be no secondary market for alternative investment interests and transferability may be limited or even prohibited. Other risks may apply as well, depending on the specific investment product. Please carefully review the prospectus, private placement memorandum or other offering documents for complete information regarding terms, including all applicable fees, as well as risks and other factors you should consider before investing.

Investments in **fixed-income securities** are subject to interest rate and credit risks. Bond prices fluctuate inversely to changes in interest rates. Therefore, a general rise in interest rates can result in the decline in the bond's price. Credit risk is the risk that an issuer will default on payments of interest and principal. High yield fixed income securities are considered speculative, involve greater risk of default, and tend to be more volatile than investment grade fixed income securities. Municipal bonds offer interest payments exempt from federal taxes, and potentially state and local income taxes. They are subject to credit risk and potentially the Alternative Minimum Tax (AMT). Quality varies widely depending on the specific issuer. All fixed income investments may be worth less than their original cost upon redemption or maturity.

Mortgage-related and asset-backed securities are subject to prepayment risks. Changes in prepayments may significantly affect yield, average life and expected maturity.

Currency hedging is a technique used to seek to reduce the risk arising from the change in price of one currency against another. The use of hedging to manage currency exchange rate movements may not be successful and could produce disproportionate gains or losses in a portfolio and may increase volatility and costs.

Investing in **foreign securities** presents certain risks that may not be present in domestic securities. For example, investments in foreign, emerging and frontier markets present special risks, including currency fluctuation, the potential for diplomatic and potential instability, regulatory and liquidity risks, foreign taxation and differences in auditing and other financial standards.

Disclosures (Continued)

Master Limited Partnerships (MLPs) involves certain risks which differ from an investment in the securities of a corporation. MLPs may be sensitive to price changes in oil, natural gas, etc., regulatory risk, and rising interest rates. A change in the current tax law regarding MLPs could result in the MLP being treated as a corporation for federal income tax purposes which would reduce the amount of cash flows distributed by the MLP. Other risks include the volatility associated with the use of leverage; volatility of the commodities markets; market risks; supply and demand; natural and man-made catastrophes; competition; liquidity; market price discount from Net Asset Value and other material risks.

There are special risks associated with investing in **preferred securities**. Preferred securities are subject to interest rate and credit risks and 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. Preferred dividends are not guaranteed and are subject to deferral or elimination.

Private debt has speculative characteristics that include potential default, limited liquidity and the infrequent availability of independent credit ratings for private companies.

There are risks associated with investments in **private companies**. Such companies are not subject to SEC reporting requirements and are not required to maintain effective internal controls over financial reporting. These companies may have limited financial resources; shorter operating histories; more asset concentration risk; narrower product lines and smaller market shares that larger companies. In addition, securities issued by private companies are typically illiquid and there may be no readily available trading market for such securities.

Investing in **real estate** involves special risks, including the possible illiquidity of the underlying property, credit risk, interest rate fluctuations and the impact of varied economic conditions.

The prices of **small cap and mid cap company stocks** are generally more volatile than large cap company stocks. They often involve higher risks because smaller companies may lack the management expertise, financial resources, product diversification and competitive strengths to endure adverse economic conditions.

Technology and internet-related stocks, especially of smaller, less-seasoned companies, tend to be more volatile than the overall market.

Treasury Inflation-Protected Securities (TIPS) are subject to interest rate risk, especially when real interest rates rise. This may cause the underlying value of the bond to fluctuate more than other fixed income securities. TIPS have special tax consequences, generating phantom income on the "inflation compensation" component of the principal. A holder of TIPS may be required to report this income annually although no income related to "inflation compensation" is received until maturity.

There is no assurance that any of the target prices or other forward-looking statements mentioned will be attained.

Index and Other Definitions

An index is unmanaged and not available for direct investment

Inflation is the change in the **Consumer Price Index (CPI)**. The CPI measures the price of a fixed basket of goods and services purchased by an average consumer.

Core inflation is the change in the core **Consumer Price Index (CPI)**. The core CPI measures the price of a fixed basket of goods and services—excluding the volatile food and energy components—purchased by an average consumer.

Alpha is a coefficient measuring the risk-adjusted performance, considering the risk due to the specific security, rather than the overall market. A large alpha indicates that the stock or mutual fund has performed better than would be predicted given its beta (volatility).

Beta measures a security's or group of securities' (portfolio's) volatility relative to a benchmark. A result greater than 1.0 implies that the security or portfolio is more volatile than the benchmark; a result less than 1.0 suggests that the security or portfolio is less volatile than the benchmark. Betas may change over time.

Conference Board's Leading Economic Index (LEI) is a composite economic index designed to signal peaks and troughs in the business cycle. The leading economic index is essentially a composite average of several individual leading indicators. They are constructed to summarize and reveal common turning point patterns in economic data in a clearer and more convincing manner than any individual component—primarily because they smooth out some of the volatility of individual components.

Consumer Confidence Index® (CCI) is a barometer of the health of the U.S. economy from the perspective of the consumer. The index is based on consumers' perceptions of current business and employment conditions, as well as their expectations for six months hence regarding business conditions, employment, and income.

Markit Manufacturing Purchasing Managers Index (PMI) tracks manufacturing and service sector activity in the Eurozone. An Index value over 50 indicates expansion; below 50 indicates contraction. The values for the index can be between 0 and 100.

PMI Surveys, such as the **Eurozone Manufacturing PMI**, track sentiment among purchasing managers at manufacturing, construction and/or services firms. An overall sentiment index is generally calculated from the results of queries on production, orders, inventories, employment, prices, etc.

The Producer Price Index (PPI) program measures the average change over time in the selling prices received by domestic producers for their output.

The Market Volatility Index (VIX) is an index designed to track market volatility as an independent entity. The index is calculated based on option activity and is used as an indicator of investor sentiment, with high values implying pessimism and low values implying optimism.

The Institute of Supply Management (ISM) **Manufacturing Index®** is a composite index based on the diffusion indexes of five of the indexes with equal weights: New Orders (seasonally adjusted), Production (seasonally adjusted), Employment (seasonally adjusted), Supplier Deliveries (seasonally adjusted), and Inventories. An Index values over 50 indicate expansion; below 50 indicates contraction. The values for the index can be between 0 and 100.

The U.S. Dollar Index (USDX, DXY) is an index (or measure) of the value of the United States dollar relative to a basket of foreign currencies, often referred to as a basket of U.S. trade partners' currencies.

Real economic growth is the change in the gross domestic product (GDP) adjusted for inflation—that is, the volume of services and goods produced in the United States.

West Texas Intermediate Crude Oil is a light, sweet (i.e., low sulfur) crude oil which is the main type of U.S. crude oil traded in U.S. futures markets.

Brent Crude Oil is a light, sweet crude oil extracted from the North Sea. It serves as a major benchmark price for purchases of oil worldwide.

Bond credit rating. A grade given to bonds that indicates their credit quality. Private independent rating services such as Standard & Poor's, Moody's and Fitch provide these evaluations of a bond issuer's financial strength, or its the ability to pay a bond's principal and interest in a timely fashion. The general meaning of these credit rating opinions are as follows:

AAA—Extremely strong capacity to meet financial commitments. Highest Rating.

AA—Very strong capacity to meet financial commitments.

A—Strong capacity to meet financial commitments, but somewhat susceptible to adverse economic conditions and changes in circumstances.

BBB—Adequate capacity to meet financial commitments, but more subject to adverse economic conditions.

Global Fixed Income Representative Indices

Global Multiverse Fixed Income: Bloomberg Barclays Multiverse Index provides a broad-based measure of the global fixed-income bond market. The index represents the union of the Global Aggregate Index and the Global High-Yield Index and captures investment grade and high yield securities in all eligible currencies. Standalone indices such as the Euro Floating-Rate ABS Index and the Chinese Aggregate Index are excluded. The Multiverse Index family includes a wide range of standard and customized sub-indices by sector, quality, maturity, and country. JP Morgan Global Ex United States Bond Index is a total return, market capitalization weighted index, rebalanced monthly consisting of the following countries: Australia, Germany, Spain, Belgium, Italy, Sweden, Canada, Japan, United Kingdom, Denmark, Netherlands, and France.

U.S. Inv Grade Taxable Fixed Income: Bloomberg Barclays U.S. Aggregate Bond Index is composed of the Bloomberg Barclays Capital U.S. Government/Credit Index and the Bloomberg Barclays Capital U.S. Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities.

U.S. Treasury Bills Fixed Income: Bloomberg Barclays U.S. Treasury Bills includes all publicly issued zero-coupon U.S. Treasury Bills that have a remaining maturity of less than three months and more than one month, are rated investment grade, and have $250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non-convertible.

Short, Intermediate and Long Term Fixed Income: Bloomberg Barclays U.S. Aggregate Bond Index is made up of the Bloomberg Barclays U.S. Government/Corporate Bond Index, Mortgage-Backed Securities Index, and Asset-Backed Securities Index, including securities that are of investment grade quality or better, have at least one year to maturity, and have an outstanding par value of at least $100 million.

U.S. Treasury Fixed Income: 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. Corporate Fixed Income: Bloomberg Barclays U.S. Corporate Bond Index includes publicly issued U.S. corporate and Yankee debentures and secured notes that meet specified maturity, liquidity, and quality requirements.

U.S. Municipal Fixed Income: Bloomberg Barclays U.S. Municipal Bond Index represents municipal bonds with a minimum credit rating of at least Baa, an outstanding par value of at least $3 million, and a remaining maturity of at least one year. The Index excludes taxable municipal bonds, bonds with floating rates, derivatives, and certificates of participation.

U.S. TIPS Fixed Income: Bloomberg Barclays Treasury Inflation Protected Securities (TIPS) Index includes all publicly issued, investment-grade U.S. TIPS with an outstanding face value of more than $250 million and that have at least one year to maturity.

U.S. High Yield Fixed Income: Bloomberg Barclays U.S. High Yield Bond Index is an unmanaged index that tracks the performance of below investment grade U.S.-dollar-denominated corporate bonds publicly issued in the U.S. domestic market.

Developed ex. U.S. Fixed Income: JPMorgan GBI Global ex-U.S. (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.

Disclosures (Continued)

Emerging Market Spread: Bloomberg Barclays EM USD Aggregate Index is a flagship hard currency Emerging Markets debt benchmark that includes USD denominated debt from sovereign, quasi-sovereign, and corporate EM issuers. The index is broad-based in its coverage by sector and by country, and reflects the evolution of EM benchmarking from traditional sovereign bond indices to Aggregate-style benchmarks that are more representative of the EM investment choice set. Country eligibility and classification as an Emerging Market is rules-based and reviewed on an annual basis using World Bank income group and International Monetary Fund (IMF) country classifications. This index was previously called the Bloomberg Barclays U.S. EM Index and history is available back to 1993.

Emerging Market Bond (U.S. Dollar): JP Morgan Emerging Markets Bond Index (EMBI Global) currently covers 27 emerging market countries. Included in the EMBI Global are U.S.-dollar-denominated Brady bonds, Eurobonds, traded loans, and local market debt instruments issued by sovereign and quasi-sovereign entities.

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

U.S. Dollar Index (USDX) measures the value of the U.S. dollar relative to majority of its most significant trading partners. This index is similar to other trade-weighted indexes, which also use the exchange rates from the same major currencies.

Global Equity Representative Indices

Global Market Equity: MSCI AC World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The Index consists of 46 country indices comprising 23 developed and 23 emerging market country indices. The developed market country indices included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, and the United States. The emerging market country indices included are: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

Dow Jones Industrial Average is a price-weighted index of 30 "blue-chip" industrial U.S. stocks.

NASDAQ Composite Index measures the market value of all domestic and foreign common stocks, representing a wide array of more than 5,000 companies, listed on the NASDAQ Stock Market.

Large Cap Equity: 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.

Large Cap Equity (Growth): Russell 1000® Growth Index measures the performance of those Russell 1000® companies with higher price-to-book ratios and higher forecasted growth values.

Large Cap Equity (Value): Russell 1000® Value Index measures the performance of those Russell 1000® companies with lower price-to-book ratios and lower forecasted growth values.

Mid Cap Equity: Russell Midcap® Index measures the performance of the 800 smallest companies in the Russell 1000® Index, which represent approximately 25% of the total market capitalization of the Russell 1000® Index.

Small Cap Equity: 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.

Developed Market ex. U.S. Equity: MSCI EAFE Index (Europe, Australasia, Far East) is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. The Index consists of the following 21 developed market country indexes: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.

Emerging Markets: MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. The MSCI Emerging Markets Index consists of the following 23 emerging market country indexes: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.

Frontier Market Equity: MSCI Frontier Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance of frontier markets. The MSCI Frontier Markets Index consists of the following 24 frontier market country indexes: Argentina, Bahrain, Bangladesh, Bulgaria, Croatia, Estonia, Jordan, Kenya, Kuwait, Lebanon, Lithuania, Morocco, Kazakhstan, Mauritius, Nigeria, Oman, Pakistan, Romania, Serbia, Slovenia, Sri Lanka, Tunisia, Ukraine, and Vietnam. The MSCI Saudi Arabia Index is currently not included in the MSCI Frontier Markets Index but is part of the MSCI Gulf Cooperation Council (GCC) Countries Index. The MSCI Bosnia Herzegovina Index, the MSCI Botswana Index, the MSCI Ghana Index, the MSCI Jamaica Index, the MSCI Palestine IMI, the MSCI Trinidad & Tobago Index, and the MSCI Zimbabwe Index are currently stand-alone country indexes and are not included in the MSCI Frontier Markets Index. The addition of these country indexes to the MSCI Frontier Markets Index is under consideration.

Disclosures (Continued)

Global Real Assets Representative Indices

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

Domestic REITs: FTSE NAREIT U.S. All Equity REITs Index is designed to track the performance of REITs representing equity interests in (as opposed to mortgages on) properties. It represents all tax-qualified REITs with more than 50% of total assets in qualifying real estate assets, other than mortgages secured by real property that also meet minimum size and liquidity criteria.

International REITs: FTSE EPRA/NAREIT Developed ex-U.S. Index is designed to track the performance of listed real estate companies in developed countries worldwide other than the United States.

MLPs: Alerian MLP Index is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for this emerging asset class. The index, which is calculated using a float-adjusted, capitalization-weighted methodology, is disseminated real-time on a price-return basis and on a total-return basis.

Commodities (S&P GSCI): S&P Goldman Sachs Commodity Index is a trade-weighted index of commodity sector returns representing unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities. The index includes futures contracts on 24 physical commodities, of which Energy represents nearly 70%.

Commodities (BCOM): Bloomberg Commodity Index represents futures contracts on 19 physical commodities. No related group of commodities (e.g., energy, precious metals, livestock and grains) may constitute more than 33% of the index as of the annual reweighing of the components. No single commodity may constitute less than 2% of the index.

Commodities (RICI): The Rogers International Commodity Index is a U.S. dollar based index representing the value of a basket of commodities consumed in the global economy. Representing futures contracts on 37 physical commodities, it is designed to track prices of raw materials not just in the U.S. but around the world.

Global Alternative Investments Representative Indices

Global Hedge Funds: HFRI Fund Weighted Composite Index. A global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net-of-all-fees performance in U.S. Dollars and have a minimum of $50 million under management or a 12-month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.

Relative Value Arbitrage: 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.

Arbitrage: HFRI RV: Fixed Income Sovereign Index. Includes strategies predicated on realization of a spread between related instruments in which one or multiple components of the spread is a sovereign fixed income instrument. Strategies employ an investment process designed to isolate attractive opportunities between a variety of fixed income instruments, typically realizing an attractive spread between multiple sovereign bonds or between a corporate and risk-free government bond. Fixed Income Sovereign typically employ multiple investment processes including both quantitative and fundamental discretionary approaches and relative to other Relative Value Arbitrage sub-strategies, these have the most significant top-down macro influences, relative to the more idiosyncratic fundamental approaches employed.

Long/Short Credit: HFRI RV: Fixed Income—Corporate Index. Includes strategies predicated on realization of a spread between related instruments in which one or multiple components of the spread is a corporate fixed-income instrument. Strategies are designed to isolate attractive opportunities between a variety of fixed income instruments, typically realizing an attractive spread between multiple corporate bonds or between a corporate and risk-free government bond. They typically involve arbitrage positions with little or no net credit market exposure, but are predicated on specific, anticipated idiosyncratic developments.

Disclosures (Continued)

Structured Credit/Asset Backed: HFRI RV: Fixed Income—Asset Backed Index. Includes strategies predicated on realization of a spread between related instruments in which one or multiple components of the spread is a fixed-income instrument backed by physical collateral or other financial obligations (loans, credit cards) other than those of a specific corporation. Strategies are designed to isolate attractive opportunities between a variety of fixed income instruments specifically securitized by collateral commitments, which frequently include loans, pools and portfolios of loans, receivables, real estate, machinery, or other tangible financial commitments. Investment thesis may be predicated on an attractive spread given the nature and quality of the collateral, the liquidity characteristics of the underlying instruments and on issuance and trends in collateralized fixed-income instruments, broadly speaking. In many cases, investment managers hedge, limit, or offset interest-rate exposure in the interest of isolating the risk of the position to strictly the disparity between the yield of the instrument and that of the lower-risk instruments.

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.

Systematic Macro: HFRI Macro: Systematic Diversified Index. Diversified strategies employing mathematical, algorithmic and technical models, with little or no influence of individuals over the portfolio positioning. Strategies are designed to identify opportunities in markets exhibiting trending or momentum characteristics across individual instruments or asset classes. Strategies typically employ quantitative processes which focus on statistically robust or technical patterns in the return series of the asset, and they typically focus on highly liquid instruments and maintain shorter holding periods than either discretionary or mean-reverting strategies. Although some strategies seek to employ counter-trend models, strategies benefit most from an environment characterized by persistent, discernible trending behavior. Typically have no greater than 35% of portfolio in either dedicated currency or commodity exposures over a given market cycle.

Discretionary Macro: HFRI Macro: Discretionary Thematic Index. Strategies primarily rely on the evaluation of market data, relationships and influences, as interpreted by individuals who make decisions on portfolio positions; strategies employ an investment process most heavily influenced by top-down analysis of macroeconomic variables. Investment Managers may trade actively in developed and emerging markets, focusing on both absolute and relative levels on equity markets, interest rates/fixed income markets, currency and commodity markets; they frequently employ spread trades to isolate a differential between instrument identified by the Investment Manager as being inconsistent with expected value. Portfolio positions typically are predicated on the evolution of investment themes the Manager expects to develop over a relevant time frame, which in many cases contain contrarian or volatility-focused components.

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.

Activist: HFRI ED: Activist Index. Strategies may obtain or attempt to obtain representation on the company's board of directors in an effort to impact the firm's policies or strategic direction and in some cases, may advocate activities such as division or asset sales, partial or complete corporate divestiture, dividends or share buybacks, and changes in management. Strategies employ an investment process primarily focused on opportunities in equity and equity-related instruments of companies that are currently or prospectively engaged in a corporate transaction, security issuance/repurchase, asset sales, division spin-off, or another catalyst-oriented situation. These involve both announced transactions and situations in which no formal announcement is expected to occur. Activist strategies would expect to have greater than 50% of the portfolio in activist positions, as described.

Disclosures (Continued)

Distressed Credit: HFRI ED: Distressed/Restructuring Index. Strategies focus on corporate fixed-income instruments, primarily corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceedings or financial-market perception of near-term proceedings. Managers are typically actively involved with the management of these companies; they are frequently involved on creditors' committees in negotiating the exchange of securities for alternative obligations, either swaps of debt, equity or hybrid securities. Managers employ fundamental credit processes focused on valuation and asset coverage of securities of distressed firms; in most cases portfolio exposures are concentrated in instruments that are publicly traded, in some cases actively and in others under reduced liquidity but in general for which a reasonable public market exists. Strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.

Merger Arbitrage: HFRI ED: Merger Arbitrage Index. Strategies primarily focus on opportunities in equity and equity-related instruments of companies that are currently engaged in a corporate transaction. Merger Arbitrage involves primarily announced transactions, typically with limited or no exposure to situations in which no formal announcement is expected to occur. Opportunities are frequently presented in cross-border, collared, and international transactions that incorporate multiple geographic regulatory institutions, typically with minimal exposure to corporate credits. Strategies typically have over 75% of positions in announced transactions over a given market cycle.

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.

Directional Equity: HFRX EH: Multi-Strategy Index. Managers 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, holding period, concentrations of market capitalizations, and valuation ranges of typical portfolios. Managers typically do not maintain more than 50% exposure to any one Equity Hedge sub-strategy.

Equity Market Neutral: HFRI EH: Equity Market Neutral Index. Strategies employ sophisticated quantitative techniques to analyze price data to ascertain information about future price movement and relationships between securities. These can include both Factor-based and Statistical Arbitrage/Trading strategies. Factor-based investment strategies include strategies predicated on the systematic analysis of common relationships between securities. In many 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 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; trading strategies may also be based on technical analysis or designed opportunistically to exploit new information that the investment manager believes has not been fully, completely, or accurately discounted into current security prices. Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Cambridge Associates LLC U.S. Private Equity Index® is an end-to-end calculation based on data compiled from 1,152 U.S. private equity funds (buyout, growth equity, private equity energy and mezzanine funds), including fully liquidated partnerships, formed between 1986 and 2014. Pooled end-to-end return, net of fees, expenses, and carried interest. The latest published returns data are as of September 30, 2014.

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.

Citations

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[2] Facebook, Apple, Amazon, Netflix, Google

[3] FactSet Crude Oil West Texas Intermediate (WTI) (NYM $/bbl)

[4] U.S. Department of Labor, Bureau of Labor Statistics, October 2018

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