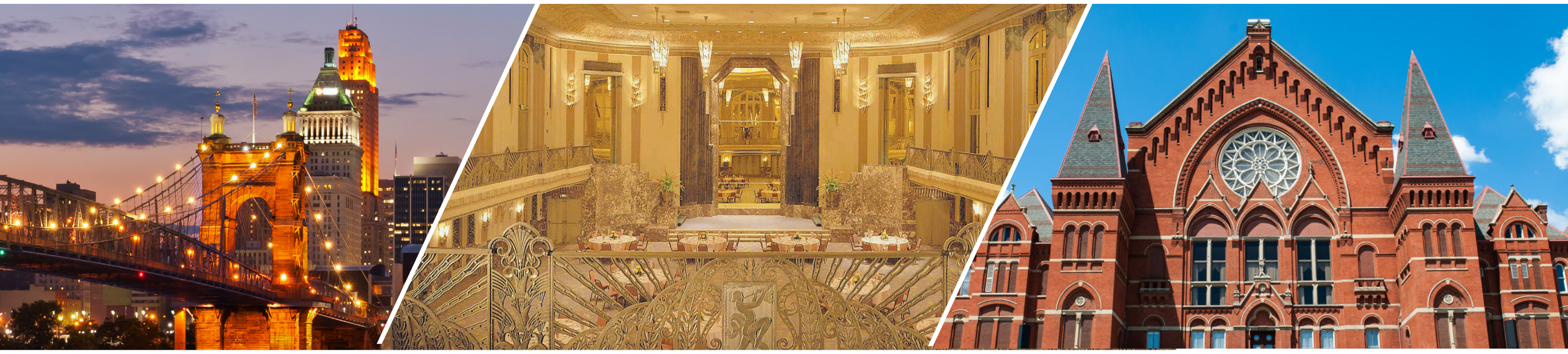
FEG INSIGHT

MAY 2016

FEG 2016 INVESTMENT FORUM

REVITALIZATION: Meaningful Change Through Mission, Vision, and Strategic Investing



Fund Evaluation Group®
investment advisors

Introduction

On March 21–23, Fund Evaluation Group, LLC (FEG) welcomed more than 500 attendees to the seventh FEG Investment Forum, *Revitalization: Meaningful Change Through Mission, Vision, and Strategic Investing.* Held in downtown Cincinnati, the Forum featured three days of networking, primary speakers, a main stage debate, and numerous breakout sessions that discussed strategies to help revitalize organizations' investment programs.

Opening the Forum, guests joined FEG staff at a Come as You Are Reception held in the beautiful Hilton Netherland Plaza's Hall of Mirrors. This event was added based on feedback from 2014 when guests asked for more opportunities to network with one another.

During the two days of sessions, primary Forum speakers covered a broad range of topics spanning investment, economic, and philanthropic issues. While the following synopses do not reflect the entirety of each session, each highlights the speaker's most meaningful comments and points of discussion.

> "FEG is proud to be a growing business in a growing community, and we know that each of you are equally invested in your own community revitalization. Innovation is also important; as we work with our clients, we are constantly assessing risk and looking for new opportunities to add value."
> —Scott B. Harsh, FEG CEO

One example of the recent revitalization in Cincinnati was the development of Washington Park. Before, the area in front of Music Hall was a parking lot, and after, it has become a place for the community to gather for concerts, movie nights, or sports such as kickball.

Revitalization

Presented on "Meaningful Change Through Mission, Vision, and Strategic Investing"

GREGORY M. DOWLING, CFA, CAIA
Managing Principal / Deputy CIO and Head of Research / FEG

MICHAEL J. OYSTER, CFA
Managing Principal / Portfolio Strategist / FEG

Scott B. Harsh kicked off FEG's 2016 Investment Forum by touching on the recent revitalization of the city of Cincinnati. He related this renewal to the requirements facing investors when meeting objectives in an ever-changing investment environment. Michael J. Oyster, CFA and Greg M. Dowling, CFA, CAIA continued the discussion by covering the market's current environment, opportunities, and risks.

CURRENT MARKET ENVIRONMENT

Michael highlighted the market environment and market developments since June 2014. He discussed the five variables that had the largest impact during this period and drew comparisons between major market influences and basketball:

1. China—the world's foremost super athlete that has, perhaps, lost its step in recent years.
2. Oil—China's entourage has also been out of step due to China's slower growth.
3. The U.S. Dollar—the rising star that has taken off as a result of low oil prices and the prospect of higher interest rates.
4. The Federal Reserve—the coach, controlling the game by "calling" open market operations and verbalizing expectations.
5. Value Investing—the game plan, which has recently been out of favor but which provides a strong opportunity for long-term victory.

Michael delved further into the current market environment and added, "In the absence of declining interest rates, the future will be a challenging time for stocks and bonds."

OPPORTUNITIES

Given low return expectations, Greg provided his thoughts on some of the opportunities available to maximize returns and minimize risk. "Interest rates are low and valuation levels are high. QE has taken returns from future periods and pulled them into current periods, making it very tough for a conventional mix of U.S. stocks and bonds to provide the returns that investors need."

Key takeaways on value investing and active management include:

Value Investing

- Growth has outperformed value at present longer than in any other period in history—in part because in a market devoid of growth, investors have been willing to pay a premium for it when they find it.

Active Management

- If you want to beat the market, you have to look different than the market.
- Active managers have recently faced tremendous difficulty in their effort to beat the market; this has been one of the worst periods for active managers in history.
- FEG advocates broad diversification and the inclusion of prudent active management.
- Investors need to be smart about where they employ active management. We believe they should focus on less efficient market or opportunistic strategies.

Greg then handed the stage back to Michael, who pointed out some of the biggest risks that investors face in today's marketplace.

Revitalization Continued

UNDERSTANDING RISK

Michael told the audience, "Sometimes the return you expect does not justify the risk you have to take." He proceeded to cover three global risks worth watching:

1. Central bank policy errors.
2. China bubble burst.
3. Geopolitical risks associated with sustained low oil prices.

Greg interjected with one catastrophic, yet unlikely, scenario: a zombie apocalypse. After a good laugh, he provided some information on FEG's new proprietary risk system, *Vigilance*SM. The system uses approximately 20 different factors to help clients uncover hidden risk within a portfolio and to consider allocation changes to help manage risk.

FEG'S INSIGHT

As Greg and Michael noted, "In the future we will have to look globally and think differently. We will have to revitalize our investment portfolios and perhaps invest in some areas where that may not feel terribly comfortable. The market doesn't reward comfort; the market rewards discomfort." Setting the tone for the rest of the Forum, the audience left well-caffeinated, stimulated by FEG's insight into recent market trends and changes, and ready to learn more in primary and breakout sessions.

Jenny Lee / *Presented on "Innovation and What the U.S. and China Can Learn From Each Other"*

JENNY LEE
Managing Partner / GGV Capital

As the first primary speaker, Jenny Lee gave a lively presentation on the state of innovation in the U.S. and China and what the nations should continue doing in order to stay competitive. Ms. Lee began with a brief history of the evolution of the Internet, contrasting the different experiences of the United States and China. She followed with an interesting parallel by discussing the distinct populations of the two economic giants and offered specific examples of successful technology business models in both countries.

INTERNET EVOLUTION

"99.4% of all physical objects are not connected yet, but that will change drastically in the next 10-20 years."

Ms. Lee explained there has been a massive shift in both consumer patterns and internet technology progress in the last 20 years. In 2010, there were only 1.4 billion PC users globally; by 2020, projections are that 50 billion devices globally will be connected, an increase of nearly 36 times. This massive influx of new mobile users will support and drive innovation and new business models.

She also pointed out that in the U.S., underlying technology typically drives new products; but in China, the developing economy's market and industry needs to drive new models and products. While the U.S. had internet access nearly five years before China, innovative connected hardware devices are now emerging in the U.S. and China virtually simultaneously. Also, the maturity of technological infrastructure in China and the U.S. is accelerating the growth of e-commerce—more in China than the U.S. Online retail in China today accounts for about 13% of total retail, with the U.S. at only 7%.

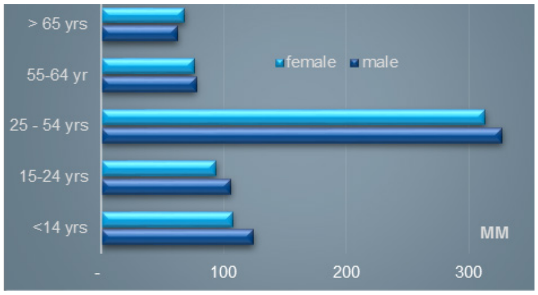
POPULATIONS: THE U.S. VERSUS CHINA

When discussing population differences between China and the U.S., Ms. Lee made the staggering observation that the U.S. has only 9 cities with more than 1 million people; whereas China has 221, and 85 Chinese cities have more than 5 million people.

Both countries have room for continued internet growth.

- In the U.S., 74% of the country is suburban/rural and this number is growing. The trend to move outside urban areas is accelerating, which supports new geographic online growth.
- By 2025 in China, 75% of urban households will be middle class, which will drive increased connectivity and domestic and overseas purchases. Additionally, 421 million Chinese are under 25 years old and 80% are internet-savvy.

2014 CHINESE CENSUS



Source: Jenny Lee Presentation, 2016 FEG Forum

A similar theme among presenters at the Forum was the proverbial private equity "unicorn," a startup company with a $1 billion plus value. Ms. Lee highlighted that there could be multiple 'unicorns' in the making that would target the young, tech-savvy Chinese demographic. A startup focused on this demographic could have another 30 years of growth!

Lee Continued

Next, Ms. Lee gave examples of a few companies in the U.S. and China that have been leaders in developing new business models, products, and technological innovation. This part of Ms. Lee's presentation had many in the audience grabbing their smartphones or tablets to download the apps she mentioned in her examples:

- Wish—a mobile shopping app in the U.S. that highlights data-driven personalization.
- YY Inc.—a Chinese company that targets China's "diaosi," the average Joe. The company uses a unique approach to monetization through a fan-based virtual gift currency economy.
- Xiaomi—a market-leading Chinese smartphone brand that targets the rising middle class with a local, high performance smartphone.
- WeChat—a Chinese mobile social communication application that is now an entranceway to virtually everything. Users can pay bills, get an Uber, send money to friends, or buy movie tickets with the app.
- Tesla—a pioneer of the full electric car movement, Tesla's decision to adopt an open source policy and make their source code available to all opened up the auto manufacturer market to newcomers and startups; igniting innovation in dashboard controls, auto-pilot, and battery management design in both China and the U.S.

Ms. Lee concluded the presentation portion of her session by highlighting what she believes is in store for the future: a "*Fourth Industrial Revolution"* that includes self-driving cars, advances in robotics, hyper-loops—a high-speed transportation system through a low pressure system that moves pods at around 760 mph—and significant advancements in artificial intelligence. Ms. Lee could easily have spent another hour on this topic with the audience's full attention.

FEG'S INSIGHT

Ms. Lee provided one statement that succinctly captures the essence of her message and should not be forgotten. She said, "The convergence of technology is creating a new connected economy. We can no longer ignore China…" Technological innovation is at the heart of increased economic productivity, which in a world of low growth expectations, becomes the critical wildcard for future economic growth. Further, China has been a meaningful component of the global economy and markets for many years. Perhaps the recent weakness in China has awoken casual observers to this fact, and in the future, fewer will ignore the nation's impact on the globe. Both the technological innovation in China and the nation's importance to the global economy are two reasons FEG has long recommended taking a global approach to building a portfolio. Not only does a global approach provide diversification benefits, but access to areas where unique innovations are occurring.

William Ackman / *Presented his thoughts and experience with activism and value investing*

WILLIAM ACKMAN
CEO and Portfolio Manager / Pershing Square Capital Management, L.P.

Providing transparency regarding his recent challenging investment performance driven by his headline grabbing position in Valeant Pharmaceuticals, Mr. Ackman was both calm and collected while in the crossfire of a particularly intense Q&A from Greg Dowling. He was so cool that at one point he even started to shiver and asked that the room temperature be increased. During the presentation, Mr. Ackman discussed different investment principles, controversial holdings, shareholder activism, and the Pershing Square Foundation.

Given Pershing Square's outstanding performance since inception, Mr. Ackman strove to shed some insight on Pershing Square's investment strategy, providing three keys to its success. First, "Investing is not only about pattern recognition, but it is also about having a durable temperament." Second, that "the opportunity cost of illiquidity is very high. Also, the opportunity cost of time is enormously valuable." Mr. Ackman added that his method of valuing time is the "return on invested brain damage," referring to the amount of time and headache it takes to analyze a situation. Thirdly, he emphasized that, "The core Pershing Square investment is a simple, predictable, free-cash-flow generative, dominant business, with moats around it." After talking about long-term investment success, Greg Dowling opted to put some fire under Mr. Ackman's heels by bringing up his recent underperformance.

Greg opined, "What led you to buy Valeant and have there been any mistakes on the way?" Mr. Ackman agreed that there had been some mistakes and mentioned that Valeant fit Perishing Square's business quality threshold at the time of acquisition. Especially attractive was the fact that they wouldn't have to do anything. The problem was that they purchased a large portion of the company without any means of control. He mentioned that he might never do that again. "The good news is we know what's wrong and know how to fix it," he reassured the audience.

While going through the controversial details of Valeant, Mr. Ackman paused the conversation several times asking the audience, "I don't know if it's just me, but it's freezing in here...Who else thinks it's too cold in here?... Let's make it warmer please...I'm literally shivering." Mr. Ackman went on to call out the AV technician and ask him to turn up the air claiming, "one of the things you learn about activism is that public shaming is very powerful." When the temperature finally started to rise, Mr. Ackman thanked the gentleman saying, "not only is shaming a powerful tool, but so is recognition. Sir, you have done an incredible job." The audience was entertained by these interruptions, although there was some debate towards the back of the room about whether or not he was, in fact, shivering. Others would have been sweating and trembling with nervousness under the totality of circumstances.

Ackman Continued

Once the room temperature approached a comfortable level for Mr. Ackman's standards, the conversation turned to shareholder activism and he shared some of the classic mistakes that boards make:

- Directors can become complacent when things have gone well. Doing well for too long is a risk.
- Directors are often afraid to be blunt with their colleagues. Many directors have difficulty asking colleagues to step off the board, even though bringing in fresh blood with new ideas is important.
- Directors can be closed to ideas from the outside and rely only on information from management in judging the quality of the business.

Later in the conversation, Greg began to talk about Mr. Ackman's altruistic side and Mr. Ackman shared a personal anecdote:

"When I was about 18-19 years old I had a personal business plan–allocate as much of the world's resources as possible and then reallocate those resources in the way that I think makes the most sense. That was the idea behind the Pershing Square Foundation… I used to think that doing business was about making money and philanthropy was about doing good. And I now believe that business is about making money and doing good. Think about Home Depot. It has made lives better for millions of Americans who now have nicer homes, at a lower price. They have also employed hundreds of thousands of people over the years, investors have made a fortune over the life of the company, those investors include pension funds and employees of the company. It's much easier to compensate people for work than to simply give money away. A company has much better governance, and it's sustainable. That's a better way to solve the employment problem than some subsidy. So we are doing some stuff that bridges business and philanthropy—called social entrepreneurship—for entrepreneurs that want to have a not-for-profit business model, that need an infusion of capital, and will have a revenue generating model over time."

Mr. Ackman finished with the following closing remark in reference to his recent underperformance and future outlook, "I love my job, love my investors, I'm incredibly motivated, I'm incredibly competitive, and don't count me out." There was tremendous applause for Mr. Ackman's transparency and insight as he left the stage.

FEG'S INSIGHT

In an industry marked for its secrecy and reservation, Mr. Ackman was incredibly forthcoming, candid, and open. During the presentation, Mr. Ackman was remarkably willing to answer controversial questions in an effort to revitalize his firm's credibility and build investor confidence in its performance. FEG values the level of conviction and pragmatism that Mr. Ackman exemplifies. Fortunately for Mr. Ackman, research shows that managers that suffer a period of weak performance follow that period with strong performance, on average, and Mr. Ackman most assuredly believes that he is not average.

Tuesday Reception / *Performance on "Revitalization: Cincinnati and the Arts"*

Prior to the evening performance, guests connected with colleagues in the lobby of Music Hall.

The Tuesday evening reception, held at the Cincinnati Music Hall, explored revitalization within Cincinnati and the arts. The evening offered attendees an opportunity to connect with colleagues and discuss trends and issues affecting their missions as well as a unique opportunity to enjoy the performing arts. Keeping with the theme of revitalization and investing, ArtsWave shared changes they made to the organization's vision of their role in the community and to their strategic investment plan in order to achieve their mission. The program continued with live performances by the Cincinnati Boychoir, select dancers from the Cincinnati Ballet, the Exhale Dance Tribe, violinist Tatiana Berman, and pianist Elena Kholodova.

> "In music there is often this debate of those who play with great technicality but no musicality and those that play with great musicality but with no technique. Investing is really similar to that. There is an art and a science to it."
>
> —Steven Hodson, FEG consultant and professional cellist

Bob Litterman

Presented on a "Pragmatic Approach to Climate Change"

BOB LITTERMAN, PHD
Chairman of the Risk Committee and Founding Partner / Kepos Capital

Bob Litterman believes that climate change is an important issue that requires the immediate attention of investors. As such, Mr. Litterman spent his presentation covering three basic lessons from risk management on Wall Street that can be applied to climate risk: considering the worst-case scenario, pricing risk appropriately, and acting in a timely manner. Mr. Litterman concluded his presentation with guidance on how financial professionals can manage exposure to climate risk in a pragmatic way so as to benefit portfolios, clients, and the planet.

THINK ABOUT THE WORST-CASE SCENARIO

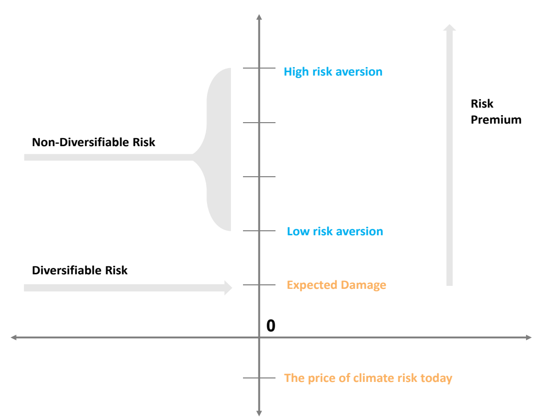
More and more people are acknowledging the risk to our climate. We know that the more greenhouse gases pumped into the atmosphere, the larger the impact to the environment. Mr. Litterman pointed out that the science on the exact impact or extent of climate change remains uncertain. He believes, therefore, that it is pragmatic to consider a worst-case scenario. Right now, the world has its foot on the fossil fuel accelerator. He continued by sharing that the planet is already showing signs of the impact of climate change, but nothing nearing the potential catastrophe if things continue unabated. As it stands, the risk of catastrophe will only increase. According to Mr. Litterman, there is only one central question in managing climate risk: What is the right price? When we consider the worst-case scenario, how much do we spend today to protect tomorrow?

THE PURPOSE OF RISK MANAGEMENT IS NOT TO ELIMINATE RISK BUT TO PRICE IT APPROPRIATELY

Mr. Litterman went on to explain just how much carbon dioxide we can safely put into the atmosphere. 'Safe' in terms of carbon dioxide levels is loosely defined as "an 80% probability of a less than 2 degree change in temperature." Of the 800 gigaton budget before we reach that point, 300 gigatons have already been put into the atmosphere. We are currently adding 35 gigatons a year, leaving a remaining capacity of only 565 gigatons. This capacity represents less than 20 percent of the remaining carbon fuels currently listed on the world's balance sheets. He stated that the world simply cannot burn all these reserves.

The incentives for reducing emissions are sharply negative. Mr. Litterman argues that the correct approach to managing climate risk is to view the risk as an asset pricing problem. Fossil fuels are not inherently bad, but their emissions are detrimental and they create a risk that needs to be priced. The solution involves implementing a "social cost of carbon." Pricing these assets appropriately will create the appropriate incentives and lead to a systematic reduction in emissions, reducing the consumption of fossil fuels, and preventing a large portion of emissions from being brought to market.

THE SOCIAL COST OF CARBON



Source: Bob Litterman presentation, 2016 FEG Forum

Litterman Continued

If society agrees that pricing emissions is the only effective brake to prevent a future catastrophe, the question then becomes: When and how hard do we brake?

Mr. Litterman believes we are very close to slamming on the brakes.

WITH A RISK MANAGEMENT PROBLEM, TIME IS OF THE ESSENCE

Scientists often express concern about tipping points, the point at which the damage becomes irreversible. Mr. Litterman stressed that part of what makes climate change such a murky issue is that we do not know how much time we have until the tipping point, which creates urgency in constructing and deploying this pricing mechanism. The more uncertainty, the higher the risk. And as the risk climbs, so too does the price and the need to act. The sooner we address this problem, the lower the cost will be in all future periods of time.

HOW CAN INVESTORS ADDRESS THIS ISSUE?

Divesting fossil fuels can be costly and time consuming, adversely affecting portfolio returns. One strategy Mr. Litterman discussed is to use a derivatives overlay, as he did at the World Wildlife Fund (WWF). The WWF–whose mission is to protect the ecosystems around the world–supports pricing emissions. They did not want to ignore the less than one percent of exposure to coal and tar sands in their portfolio and used a total return swap to efficiently remove the exposure. This reduced the portfolio risk and ensured that the portfolio aligned with the organization's mission.

Environmental risks will persist as long as we lack the appropriate incentives. Mr. Litterman left the audience with a final thought:

> "These things are impossible until they happen. At some point in the near future we will start pricing emissions and people will think, 'How have we not been doing that all along?'"

FEG'S INSIGHT

Mr. Litterman offered keen insight relevant to institutional investors as they navigate the investment implications of climate risk on the portfolio management process. Investors can benefit from a broader understanding of climate risk and in taking a pragmatic approach to risk management and portfolio construction as portfolios are continuously "revitalized" in response to the changing investment landscape. The WWF actions illustrate that pragmatic portfolio construction to reach investment goals can align with an organization's mission.

Liz Ann Sonders / *Presented her thoughts on the 2016 Economic Outlook*

LIZ ANN SONDERS
Senior Vice President and Chief Investment Strategist / Charles Schwab & Co.

Liz Ann Sonders gave the audience an overview of the health and fundamentals of the U.S. stock market and economy as she discussed Central Bank policies, the risk of recession for the U.S. and the global economy, the expectations of Fed rate hikes, the ascent of the dollar and the descent of commodities, and recent stock market volatility, valuation, and sentiment.

She began by giving her opinion that we are in a mature phase of the market where we will see more bouts of volatility, but that we are nowhere near the euphoria of the top of a bull market. 2015 was a violently flat market and the first year since 1937 where not a single asset class had double-digit returns.

CENTRAL BANK POLICY

Most people blame the recent wild swings in volatility on Central Bank policies. More specifically, on the divergence of central bank policies. About 30% of global fixed income securities are trading with negative yields. In contrast, the Fed is proceeding with the normalization of interest rates. Time will tell whether negative interest rates will be a successful or failed experiment. Ms. Sonders leaned towards a failed experiment as banks' margins are increasingly depressed by low rates and less able to lend to consumers. She emphasized, "you can fill the liquidity trough as much as you want, no one can force lenders to lend or borrowers to borrow."

U.S. AND GLOBAL ECONOMY

Next, Ms. Sonders quelled rumors of recession stating that U.S. leading recession indicators are only showing minor stress; and that the only U.S. indicator that is flashing recession is high yield credit spreads. She argued that like the famous saying, "The market has called 9 out of the last 5 recessions," recessions are likely when economic indicators match what is showing up in market indicators, and that hasn't been the case. Generally a recession follows four to eight years after the market takes out the prior highs of leading indicators, and we haven't reached that point. She cautioned, however, that the time frame may be a little bit faster this time.

THE FED

The Fed is the only central bank that has dual mandate covering inflation and employment. They have been able to hide behind slow inflation, but recently there has been a notable uptick in inflation. The Fed may let inflation run hot for a while, however, the rise has been slow thus far. Core CPI is at 2.3% and core PCE is at 1.7%. Initial hikes are generally connected to surging wages, assuming the wage acceleration continues towards 4%, as it has in the past. The Fed and market are currently in agreement that there may at least one rate hike this year.

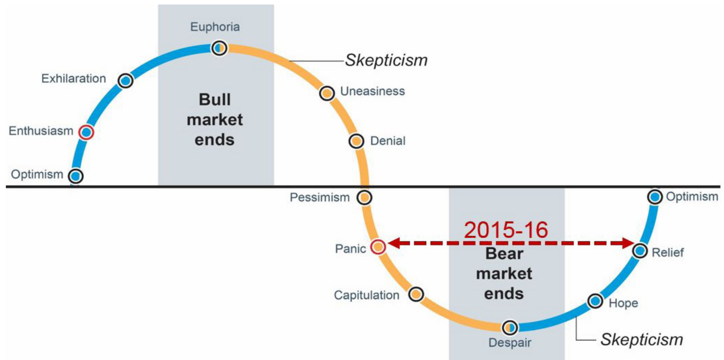
The Dow Jones Industrial Average is also following a familiar pattern: recession bear, post-recession bull, echo "bear" (severe correction but no recession), and the final post-echo bull phase. The market is likely bouncing back to this phase from its earlier each bear.

U.S. STOCK MARKET

Ms. Sonders pointed out that the Fed's slow tightening cycle has historically been good for stocks. She also observed that inflation is currently in the sweet spot for valuations (P/E), and that rates are coming off an extremely low bottom but are not running away and causing too much inflation. Finally she stressed that the risk of deflation is ebbing and the market tends to trade at higher multiples in this sweet spot of a low and stable inflation zone.

Sonders Continued

MARKET'S EMOTIONAL ROLLER COASTER



Source: Liz Ann Sonders presentation, 2016 FEG Forum

Earnings have been in negative territory and probably won't turn positive until the second half of 2016. She stressed that not every earnings recession has been accompanied by an economic recession. The common thread in these periods was a rising dollar and a fall in oil prices—exactly like the current environment. Stocks and oil continue to be glued at the hip; stocks often rebound when a "risk" sector bottoms, and the "risk" sector right now is oil.

Pessimistic market sentiment is evident in cumulative US equity fund flows which remain negative. Money is coming out of mutual funds and into ETFs; however, cumulative net flows in total are still negative, which is unprecedented given the length and strength of this bull market. The "wall of worry" is intact.

Ms. Sonders observed that, "All investors seem to do is bounce back and forth between panic and relief," a fact that gives her reassurance of a secular bull market without the levels of euphoria reached in other bull markets. Earlier this year sentiment was at extreme pessimism, which is bullish for markets. Now we are closer to a neutral point where the market generally performs fairly well.

She ended by answering a question on whether she believes the Fed will go to negative rates. She responded that she did not think that will happen, and believes it would be a mistake to do so. The law of diminishing returns applies to QE, and the early rounds of QE made sense, but the Fed is still treating the economic patient as if it were still in trauma mode. As such, once we start moving to a more normal rate environment, investor confidence may actually improve.

FEG'S INSIGHT

The audience was highly engaged with Ms. Sonders' presentation. She could easily have spoken for another hour and the audience would have hung on her every word, as she pointed out both the positive and negative elements of the tumultuous markets and wavering economy. This instability is built upon unprecedented actions by central banks across the globe that lay a foundation of uncertainty. The consequential low rates, "sweet spot" for valuations, and "panic and relief" sentiment illustrate the need, in our belief, for well-diversified portfolios that support investors' long-term goals regardless of short-term ebbs and flows of market stress and investors' fear and euphoria.

Clifford Asness

Presented on the "Efficient frontier theory for the long run"

CLIFFORD ASNESS
Managing and Founding Principal / AQR Capital Management

As part of FEG Deputy CIO Alan Lenahan's introduction for Cliff Asness he polled the audience with a simple question: What time frame do you use to evaluate a portfolio's performance?

An overwhelming 47.5% of the audience answered 5 years, 25.4% answered 3 years, and less than 15% answered longer than 10 years. Mr. Asness smiled and told the audience that many believe 5 years is long-term, but he disagreed. Instead, he asserted that the best time horizon is "as long as humanly possible." To explain, he highlighted most investor's baseline expectations of excess returns above cash for bonds, stocks, and commodities and provided an analysis of these assets' performance over the last 30 years.

VOLATILITY IS AN IMPERFECT MEASURE OF RISK, BUT IT'S THE BEST WE'VE GOT

With a background heavily steeped in Modern Portfolio Theory, Mr. Asness started by explaining that the simplest quantitative framework has two measures: expected return and volatility.

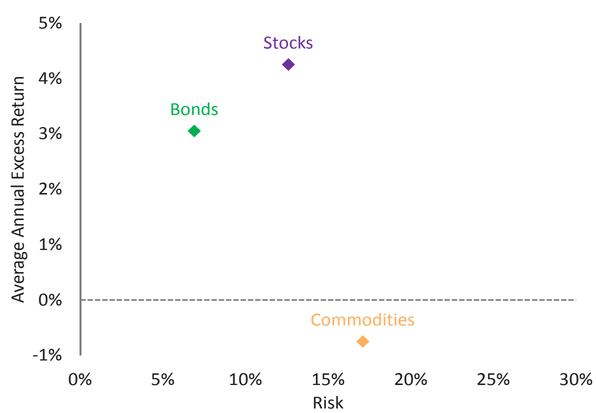
Recently, traditional risk measurement tools have been subject to scrutiny, especially after the financial crisis. In particular, the notion of using volatility to measure risk. Acknowledging that volatility is not the same as risk, Mr. Asness shared that many highly-respected stock pickers and non-quantitative managers believe volatility is actually a terrible measure of risk. They consider an asset to be 'risky' if you pay too much for it and 'safe' if you pay the right price or a cheap price for it.

Others believe that risk is the possibility of a permanent loss of capital. Mr. Asness admitted that volatility is an imperfect measure of risk and that for some assets the measure absolutely does not apply. However, he pointed out that there is a lot of good research supporting volatility as a measure of risk and argued that while it may not be perfect, "it's the best we've got."

RETURN AND RISK EXPECTATIONS OF MODERN PORTFOLIO THEORY

Mr. Asness presented individual 5-year periods from 1970 to 2014, illustrating the volatility and realized return for each asset. Theory suggests we should expect bonds to be the least risky asset with lower expected returns than stocks or commodities; stocks to be the riskier asset with higher expected returns; and commodities (in a portfolio context) to be somewhere in between. Reflecting on the data, Mr. Asness pointed out that returns consistently failed to align with investor expectations over five year periods. In fact, there was only one 5-year period (1990-1994) that seemed somewhat reasonable relative to theory, but for even this period expectations were only partially realized—although stocks and bonds performed comparably to expectations, commodities were still a big disappointment.

5-YEAR EXPECTED RETURNS (1990–1994)
THE ONLY PERIOD THAT CAME CLOSE



Source: Cliff Asness presentation, 2016 FEG Forum

Asness Continued

In summarizing the last 30 years, he stated that while we may not predict volatility perfectly, we actually know more about volatility than returns. Even at the 1-year or 5-year period, risk is generally well estimated. However, the data suggests that we do not understand return, even over the long-term, if one thinks of 5 years as long-term. Which begs the question: when evaluating a portfolio's performance, what time frame is best?

HOW LONG DOES THE LONG-TERM NEED TO BE?

Mr. Asness believes that the best time horizon is the longest one an investor can manage. He demonstrated that over a horizon much longer than many so-called long-term investors' 3-5 year horizons, actual returns do align well with theoretical expected returns. In the example he shared, the time horizon was 35 years.

He argued that five years is not long enough to be certain that stock returns, or even bond returns, will be positive let alone align with our long-term expectations. Consequently, at 3-5 years many people are reactionary and behave as momentum investors—investing in the 'hot assets classes' to their detriment at a time horizon when contrarian value investing typically rules. Mr. Asness asserted that eventually, asset values will mean revert rewarding the contrarian value investors. His presentation demonstrated that over the

5-YEAR EXPECTED RETURNS (1970–2014)

MY GOD, IT'S BEAUTIFUL

Source: Cliff Asness presentation, 2016 FEG Forum

truly long-term, the most basic financial theories of diversification and longer time horizons hold true.

The question then becomes: How long does the long-term need to be? In trying to answer this, Mr. Asness occasionally explored replicating private equity investing. He discussed the idea of how investing in leveraged small cap stocks and not marking to market very often could yield returns that looked a lot like private equity returns. Private equity forces people to be better longer-term investors because of the 10-year lockups. While Mr. Asness did not demand that we all employ 35-year time horizons, he did suggest that the more long-term orientated investors could be in all aspects of their investing lives, the better.

FEG'S INSIGHT

The concept of "time-horizon" is extremely relevant to our clients' investment decisions, and adopting a long-term perspective is the first tenet of our investment philosophy. Although the best time horizon may be "as long as humanly possible," this is simply not practical for many, as short-term events impact investor goals. We must maintain a focus on the long-term where the fundamental truths of investing play to the patient investor's advantage. Further, investors must be cognizant that the short-term rarely turns out as expected, and short-sighted reactions to short-term events can run counter to investor goals.

Conclusion

As reflected in the FEG Investment Forum theme, *Revitalization: Meaningful Change Through Mission, Vision, and Strategic Investing*, there exists the need to refine past visions and investment strategies in order to achieve organizational missions. Achieving long-term investment success requires strategy, discipline, and expertise. FEG believes that the spectrum of viewpoints presented at the Forum were vital in assisting attendees to interpret the complexities of the financial and geopolitical landscape.

We believe that in the future, investors will have to take a global perspective and think differently about their investments as evidenced by both Ms. Lee and Mr. Litterman's presentations. This also means staying calm and keeping the focus on the long-term as illuminated by Mr. Ackman and Mr. Asness.

A disciplined approach that takes a long-term view and allows valuation, momentum, and sentiment to drive investment decisions is critical for successful investing. By diversifying global sources of risk and utilizing skillful active managers in areas where they can add value, the informed investor can better capitalize on future trends.

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