CLS's WEEKLY 3

What You Need To Know About the Markets

MARCH 19, 2019

1. Boeing is the latest in a history of examples of reasons to diversify away from single stock risk.
2. There are a number of simple but important things to remember about the math in investing.
3. A recent conference with one of our partner firms bred a slew of insights worth reading.

Market Performance (as of 3/15/2019)

Fixed Income	10-YEAR	5-YEAR	3-YEAR	1-YEAR	YTD	QTD	LAST WEEK
Cash Equivalent[1]	+0.39%	+0.70%	+1.15%	+2.08%	+0.49%	+0.49%	+0.05%
U.S. Investment Grade Bonds[2]	+3.76%	+2.46%	+2.02%	+3.72%	+1.72%	+1.72%	+0.23%
Equities	**10-YEAR**	**5-YEAR**	**3-YEAR**	**1-YEAR**	**YTD**	**QTD**	**LAST WEEK**
Global Equity Market[3]	+12.94%	+6.98%	+11.50%	-0.67%	+11.98%	+11.98%	+2.80%
Total U.S. Market[4]	+16.65%	+10.74%	+14.34%	+4.56%	+13.66%	+13.66%	+2.86%
Domestic Large-Cap Equity[5]	+16.18%	+11.44%	+14.61%	+5.03%	+12.72%	+12.72%	+3.04%
Domestic Small-Cap Equity[6]	+17.28%	+7.16%	+13.24%	+0.86%	+16.13%	+16.13%	+2.05%
International Equity[7]	+10.09%	+3.53%	+9.11%	-5.72%	+10.51%	+10.51%	+2.68%
Developed International Equity[8]	+9.99%	+2,98%	+8.03%	-4.68%	+10.88%	+10.88%	+2.71%
Emerging Market Equity[9]	+10.56%	+5.45%	+13.01%	-8.89%	+9.42%	+9.42%	+2.57%
Diversifiers	**10-YEAR**	**5-YEAR**	**3-YEAR**	**1-YEAR**	**YTD**	**QTD**	**LAST WEEK**
Diversified Alternatives[10]	+4.90%	+0.79%	+1.88%	+0.88%	+3.08%	+3.08%	+0.55%
Commodity[11]	-2.16%	-8.87%	+2.41%	-4.53%	+6.87%	+6.87%	+1.44%

[1]Morningstar Cash Index [2]Bloomberg Barclays Capital U.S. Aggregate Bond Index [3]Morningstar GblMkt Large-Mid Index [4]Morningstar U.S. Market Index [5]Morningstar U.S. Large Cap Index [6]Morningstar U.S. Small Cap Index [7]Morningstar Gbl xU.S. Large-Mid Index [8]Morningstar DM xUS Large-Mid Index [9]Morningstar EM Large-Mid Index [10]Morningstar Diversd Alt Index [11]Bloomberg Commodity Index

Week in Review

Global stocks managed another solid week, bringing many year-to-date equity market return totals solidly into double digits. Both bond yields and the Volatility Index (VIX) hit their lowest levels of the year, and the dollar fell, all adding up to a recipe for stock market gains.

Economic data was fairly light and mixed. Housing prices and industrial production could have been better, but retail sales and consumer confidence painted a solid picture of consumer health. Commodities rose on a falling dollar as well as a rebound in agricultural prices.

Overseas, European shares were the leaders, with emerging markets not far behind. Brexit politics dominated the news here and abroad. Theresa May's Brexit deal was rejected by the UK parliament, although a no-deal Brexit was also rejected under any circumstances in addition to a delay of the March 29 deadline (subject to EU approval). China and India rose on the week, as China hinted at more stimulus and Indian shares raced toward their all-time high.

MAXimum Diversification

The spotlight was clearly on one stock last week. In the wake of two recent crashes of Boeing 737 MAX airplanes in Indonesia and Africa, governments around the world grounded the advanced model of one of the most popular planes in the world. The U.S. Federal Aviation Administration (FAA) grounded the plane on Wednesday following the weekend crash in Ethiopia. As "luck" would have it, I flew in one of these planes last Monday, the day it was grounded everywhere except the U.S. To be honest, they are nice planes, but as an already nervous flyer, I didn't really enjoy the experience.

Boeing fell 10% last week on the news and is 15% off its highs. We've received a few questions from advisors and clients on Boeing ownership in CLS portfolios. Across ETF and mutual fund accounts the weight is quite small (0.08% in the Core ETF 70 example I show below). We do own Boeing in some of our single-stock portfolios but at a weight that generally leaves accounts with well under 1% invested in the stock.

I've written before about single-stock risk (here and here), which is a key and often-forgotten aspect of how we manage money. It is very difficult to find winners in individual names over the long run. Boeing happens to be one of those winners – the stock has nearly doubled the U.S. market return over the last 10 years.

Boeing is simply the topic du jour. From what we know, there is no fraud involved, whereas there are numerous past examples of companies that have seemed impenetrable but have either been fraudulent or seen their apparent dominance crumble (Enron, Kodak, Sears). Boeing just happens to be another great reminder of the need for diversification. Across our Risk Budgeted accounts, you will consistently see extensive global diversification, even if it may not appear that way on the surface. Just look at these stats from a Risk Budget 70 Core ETF account:

- 18,126 unique individual bonds
- 6,240 unique individual stocks
- 276 fully collateralized futures contracts
- Largest single-stock position is 0.59%
- Largest single-bond position is 0.34%

Owning this many securities across the globe minimizes single-stock risk and allows us to blend asset classes in a way that maintains and controls risk, while we measure and combine the risk of these asset classes with Risk Budgeting.

A client's Risk Budget is derived from the client's specific answers to CLS's Confidential Client Profile questionnaire, which establishes the client's financial goals, ability to handle risk, and overall investment time horizon. The individual client Risk Budget is expressed as a percentage of the risk of a well-diversified equity portfolio.

Investing Math: As Sweet as Pi

Last Thursday, March 14, we celebrated the widely recognized mathematical holiday in honor of the number Pi. While Pi is certainly a mathematical wonder, I have, sadly, yet to use it in my investing career. Let's review some math around investing. These examples may seem simplistic, even downright offensive, but they can be good reminders. (Yes, I'm writing about Pi day instead of St. Patty's day this year.)

What goes down, must go up (more)

When markets take a breather and head south, like they did during the correction we saw in the fourth quarter of last year, investors need more to get back to where they were, in percentage terms. A 10% drop requires an 11% gain, a 15% drop requires nearly 18%, and a 20% drop requires 25% to get back. Luckily, diversified global indices have always come back, like they did during the strong snapback we've seen this year. Also, be weary of anyone who adds percentages. You can't do that.

"Basing" effects are overlooked

Wall Street expects everything to grow forever. A really good quarter – whether it's solid economic data, earnings, stock prices, etc. – usually brings something to a new, higher level. It seems obvious, but going forward it's typically more difficult to grow at the same pace from that new, higher level! It's why corrections, pauses, and yes, maybe even recessions, are healthy parts of the long-term growth of the market and economy.

Bonds make it easy

The price you pay when buying an individual bond determines your return (yield to maturity). Barring a default, you have locked in your interest rate and return over the life of the bond. This is a major reason it takes some time to purchase bonds in our higher-net-worth individual accounts. The current yield of a bond or bond index is also a terrific proxy for expected returns (correlation of 92% with 10-year returns). It also works for equities, with yield measured by the inverse of some kind of valuation ratio; it just takes a little longer to play out with stocks than bonds (75% correlation with 10-year returns).

Free money is a good thing

I recently listened to a Harvard professor speak about behavioral finance. One aspect he mentioned is near and dear to my heart – the ongoing ability of people to turn down free money. 401k matches are just that, free money, or at least free in that you have to invest a small amount of your salary in a tax-deferred vehicle that will compound immensely over time (see next bullet). In this professor's research, he found individuals over 59 ½ would consistently turn down free money, even when they're getting it without having to "lock it up" for years (no early withdrawal penalty), and even after they've been educated about the benefits. There will always be a need for financial advisors!

Compounding is ridiculous

Maybe the most overused quote in finance is Einstein's about the power of compound interest. Ever been asked if you want $1 million or a penny per day doubled for a month? It is hard for us as humans to look further into the future; it's always uncertain, and it can be murky. One thing that is clear, however, is that starting to invest early and often can reap amazing benefits. Some cite this lengthy compounding period as one of the key factors of Warren Buffett's success. It can be key to our success and our clients' success, too!

Growth of $100,000

Rate of Return	Years: 5	10	15	30	40
1%	$105,101	$110,462	$116,097	$134,785	$148,886
2%	$110,408	$121,899	$134,587	$181,136	$220,804
3%	$115,927	$134,392	$155,797	$242,726	$326,204
4%	$121,665	$148,024	$180,094	$324,340	$480,102
5%	$127,628	$162,889	$207,893	$432,194	$703,999
6%	$133,823	$179,085	$239,656	$574,349	$1,028,572
7%	$140,255	$196,715	$275,903	$761,226	$1,497,446
8%	$146,933	$215,892	$317,217	$1,006,266	$2,172,452
9%	$153,862	$236,736	$364,248	$1,326,768	$3,140,942
10%	$161,051	$259,374	$417,725	$1,744,940	$4,525,926

Source: CLS Investments

I had the honor of attending the Research Affiliates Advisor Symposium last week, and of course I am obliged to share my takeaways as there were many good ones. Research Affiliates (RAFI) is an incredible firm, built on a foundation of intellectual curiosity and a commitment to improving investment outcomes for everyone. RAFI produces indices that are tracked by products in firms such as PIMCO, Invesco, and Schwab. It is also one of (if not the) thought leader on smart beta, a key component of CLS portfolios.

- **Culture**. The importance of culture in any organization is immensely important yet hard to quantify. RAFI emphasizes several values – responsibility, curiosity, authenticity, and collaboration. These qualities are looked for in the hiring process and are emphasized and fine-tuned throughout the organization. I could write for days on the topic, but know that CLS and our parent organization are committed to a strong culture.
- **Factors**. RAFI is a clear thought leader in factor research. One of the company's latest pieces focuses on three common blunders with factor investing. Of particular interest was its calculation of the probability for value to underperform for the past 15 years – they gave it around a 2% chance!
- **ESG**. RAFI has been exploring this space thoroughly and has come to what I think will be unique and differentiated products. Its focus is mainly on governance and diversity leading to better investment outcomes. This is married with a fundamental weighting, one of the original "smart beta" approaches.
- **Conversations with Cam.** Professor Cam Harvey from Duke University has published a huge array of academic papers, and he studies just about everything, making him an incredibly interesting person. He spoke specifically on technology and its rapid changes, everything from blockchain to science-fiction-turned-reality neural implants. What's key here is that technology is changing so rapidly that we must accept that we will have to deal with these changes. Advisors need to embrace technology and its evolution now. There will be new asset classes to invest in, such as direct lending, ownership of "tokens" or portions of collectibles, etc., and advisors at the forefront of these new asset classes will be able to add tremendous value.
- **The Future of ETFs.** Dave Nadig is the managing director of ETF.com and one of the smartest researchers on ETFs out there. He spoke on the bright future of ETFs and how they will continue to take market share from traditional, open-ended mutual funds. However, he reminded us that everything that can be disrupted gets disrupted, and the next stage may be individual security (from his similar speech at Inside ETFs) or what is known as "direct indexing" portfolios. What's great about this is that CLS and our sister company, Orion, are at the forefront of this movement. Essentially, an ETF can be "unwrapped" to its individual holdings and therefore more customizable and potentially tax efficient for individual investors.
- **Are Valuations Irrelevant?** That was the question that Rob Arnott, legendary financial researcher and the founder of RAFI, asked. The answer is, of course, no. Valuations are still relevant, and the U.S. stock market is expensive relative to the rest of the world. These are points you have heard us make, but they hit home harder when they're expressed as only "The Father of Smart Beta" (although I don't think he likes being called that) can.

Grant Engelbart, CFA, CAIA

Director of Research & Senior Portfolio Manager

Grant Engelbart manages CLS's aggressive mutual funds and several ETF and mutual fund separate account strategies, including CLS's American Funds portfolios. He also leads the alternative broad asset class team and serves on several committees across CLS's parent company, NorthStar Financial Services Group, LLC.

Mr. Engelbart first joined CLS as an intern in 2007. He returned in 2009 and held several roles in trading and investment research prior to accepting the role of Portfolio Manager in 2013. He previously held positions at TD Ameritrade and State Street Corporation.

Mr. Engelbart received his Bachelor of Science degree in Finance from the University of Nebraska at Lincoln. He holds the Chartered Financial Analyst (CFA) designation, Chartered Alternative Investment Analyst (CAIA) designation, and FINRA Series 65 license. He is a member of the CFA Society of Nebraska and the CAIA Chicago Chapter.

*Mr. Engelbart was named one of the Top Ten Money Managers to Watch by Money Management Executive in 2018.**

Did you know? Grant invested in his first fund at age 13.

The Morningstar Global Market Large-Mid Index is an index that measures the performance of the global market's equity markets targeting the top 90% of stocks by market capitalization. The Morningstar U.S. Market Index is an index that measures the performance of U.S. securities and targets 97% market capitalization coverage of the investable universe. It is a diversified broad market index. The Morningstar U.S. Large Cap Index is an index that measures the performance of U.S. large-cap stocks. These stocks represent the largest 70% capitalization of the investable universe. The Morningstar U.S. Small Cap Index is an index that measures the performance of U.S. small-cap stocks. These stocks fall between the 90th and 97th percentile in market capitalization of the investable universe. In aggregate, the Small Cap Index represents 7% of the investable universe. Morningstar Global ex U.S. Large-Mid Index is an index that measures the performance of Global Markets (ex-U.S.) equity markets targeting the top 90% of stocks by market capitalization. The Morningstar DM ex U.S. Large-Mid Index is an index that measures the performance of developed markets ex-U.S. equity markets targeting the top 90% of stocks by market capitalization. The Morningstar EM Large-Mid Index is an index that measures the performance of emerging markets targeting the top 90% of stocks by market capitalization. The Barclay's Capital U.S. Aggregate Bond® Index measures the performance of the total United States investment-grade bond market. The Morningstar Cash Index is an index that measures the performance of a Treasury Bill with six to eight weeks until maturity in the U.S. market. The Bloomberg Commodity Index is made up of exchange-traded futures on physical commodities and represents commodities that are weighted to account for economic significant and market liquidity. This index provides investors with a means of understanding the performance of commodity futures markets and serves as a benchmark for investment performance of commodities as an asset class. The volatility of the indexes may be materially different from the individual performance attained by a specific investor. In addition, portfolio holdings of investors may differ significantly from the securities that comprise the indexes. You cannot invest directly in an index.

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CLS Investment, LLC ("CLS") Senior Portfolio Manager & Co-Director of Research, Grant Engelbart, CFA, CAIA, was selected as a "Top 10 Fund Managers to Watch" in 2018 by Money Management Executive. Money Management Executive is an unbiased, third-party publication covering the asset management industry. Money Management Executive chose the list of managers to watch by screening Morningstar data from funds with a single manager, ranked as having the best three-year annualized returns in their respective categories. The list of managers was published March 12, 2018. Money Management Executive is not affiliated with CLS. Ratings and awards may not be representative of any one client's experience and are not indicative of CLS's future performance.

Beta is a measure of the volatility, or systematic risk of a security or a portfolio in comparison to the market as a whole.

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