The ACM Journal

Mathletes

I often tell people that I'm a bit of a nerd at work. After all, I spend a good part of my day reading research on some rather esoteric topics. Subjects like exotic beta, hedge fund replication strategies, and expected returns under duration targeting, believe it or not, fascinate me.

Well, it seems the apple doesn't fall far from the tree. We had an interesting discussion at dinner the other day. The topic was initiated by my middle child, Amer, but the entire family got sucked in.

The conversation centered around the quotient of zero divided by zero. You are probably thinking the answer is zero, as nothing divided by nothing still leaves nothing.

However, consider that any number divided by itself is 1. Or, how about the fact that any number divided by zero is undefined? We came up with three defensible answers to our puzzle.

After quite a bit of debate, we decided (really, the kids decided) to ask Siri (the voice on their iPhones). Siri had an interesting response:

"Imagine that you have zero cookies and you split them evenly

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Portfolio Review

The financial markets were a mixed bag in 2016. Despite early volatility, stocks ended the year on a positive note. Bonds were the opposite, and posted significant losses toward year end. In fact, much of the relevant market action occurred toward year end in the wake of our presidential election.

Since the election, Donald Trump's victory has significantly altered the financial landscape, and not in the way many had anticipated. While it seemed a stretch that Trump would win at all, most predicted a precipitous market downturn if he did. Clearly the opposite has transpired.

While that reaction was unexpected, it was not unusual in 2016. It was a year of surprises, and not just because of the BREXIT vote, Fed action, or Trump's victory, but mostly because the capital markets reacted in a surprising way to these events. The stock market hates uncertainty and surprises, and yet it shrugged off each of these events as it made new, all-time highs.

The media decried many of these events as wildly negative, but the markets signaled an undercurrent of optimism. This seemed counterintuitive, particularly with stock market valuations relatively high. Nevertheless, any "bad" news was digested in relatively sanguine fashion.

A New Environment for Stocks?

Time Magazine named president-elect Donald Trump its person of the year for 2016. Whether you love or hate The Donald (there appears to be no middle ground on this topic), he certainly promises to bring significant change in the years ahead. I'm going to leave social issues and politics aside as much as possible, and focus instead on the economic impact of our new Celebrity-in-Chief.

The Trump effect drove stock prices up markedly since the election. This is because investors are betting that Trump's plans will boost corporate earnings by lowering corporate tax rates, repatriating foreign cash, creating a less burdensome regulatory environment, increasing fiscal stimulus, and implementing an overall more business-friendly environment. If the new administration pulls this off, the impact on the stock market could be quite positive. A protracted bull market, similar to that of the 1990s, but this time backed up by solid economic underpinnings, could ensue.

Such an environment would benefit "risk on" trades, such as buying smaller-cap stocks or value stocks rather than more solid growth stocks. Indeed, these sectors have benefited the most since the election.

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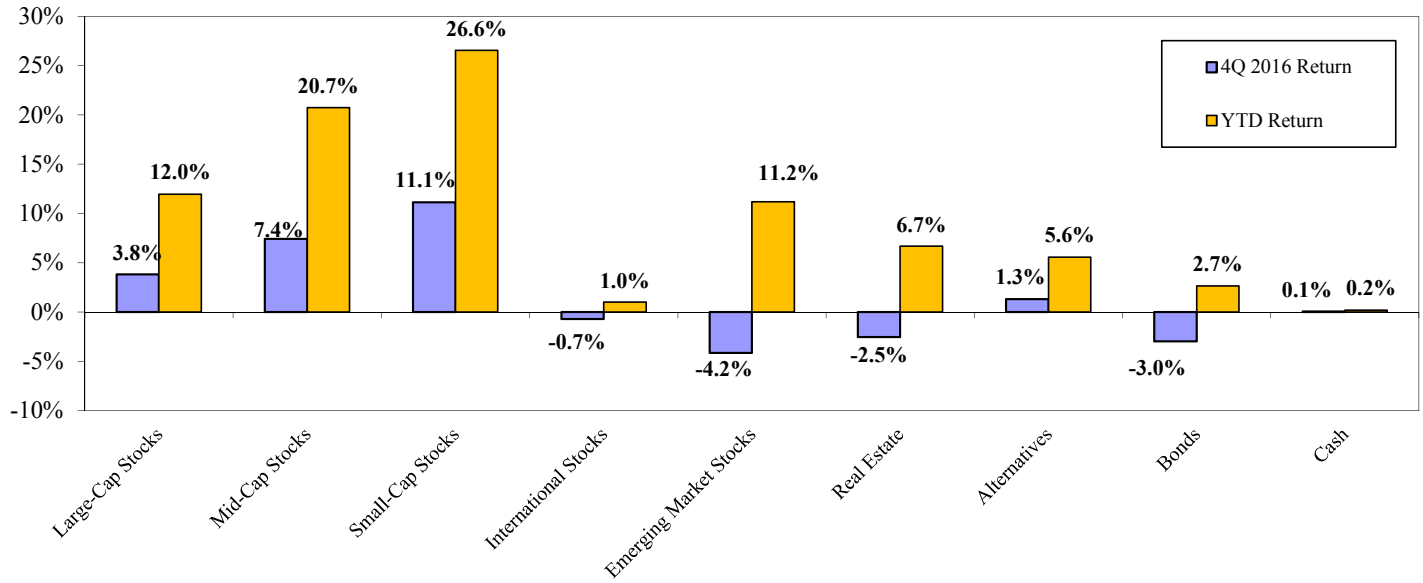

Large-cap, mid-cap, and small-cap stocks are represented by the S&P 500, 400, and 600 indices. International and emerging market stocks are represented by MSCI indices. Real estate is the Dow Jones Real Estate index. Alternatives are the HFRI Fund Weighted Composite Index. Bonds are the Barclays Aggregate Bond Index. Cash is the yield on the 30-day T-Bill.

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That said, there are a number of things that could go wrong. The most obvious, in my view, is that the government could screw it all up. With Republicans in control of the White House and both houses of Congress, they have an opportunity to push through an agenda that could be pro-growth. However, the Democrats were in a similar position not too many years ago, and surprisingly little of their agenda was accomplished. Therefore, it may not be rational to expect politicians to set aside their own individual agendas to act for the greater good. It may be that tax reform is not enacted, or is emasculated to a point where it provides little actual benefit.

Bonds Suffer as Stocks Rise

Other economic cross currents could also mitigate any positive impact to the economy and capital markets. Part of the Trump effect since the election is that bonds have sold off significantly as investors worried that inflation could revive under Trump's economic policies. This has coincided with a period of the Fed raising short-term interest rates, so there has been a double whammy on the bond market of late. As bonds sold off, the yield on the ten-year Treasury bond rose from around 1.4% to 2.6% in just 5 months. That may not sound like much, but it is a big move for the usually staid bond market.

Bonds finished the fourth quarter with a loss of almost 3%. Consensus economic forecasts are that interest rates will continue to rise and bond returns will struggle. Because interest rates have historically trended in long cycles, many believe bond markets could be weak for the next few decades. While that is certainly possible, don't head for the exits just yet. Bond returns likely won't be great in the foreseeable future, but they likely won't be negative either over longer periods.

Several academic studies, and our own research, suggest that bond returns approximate their starting yield over the long run. So, if bonds are yielding 2.5% today, you could expect to earn an annualized return of around 2.5% over the coming decade. That obviously isn't much, but bonds do offer an important risk buffer in most portfolios, and most investors should probably have at least a modest allocation to high-quality bonds.

Dollar Weighs on International Stocks

Also in the wake of the presidential election, the U.S. dollar appreciated strongly against most foreign currencies. Donald Trump has promised a more protectionist approach to foreign relations and international trade. Thus, while the

U.S. economy has some promise in the years to come, many are figuring that international economies will suffer. That is far from certain, but overseas stocks, particularly in the emerging markets, have sold off since early November.

Foreign economies have been less healthy than the U.S. economy for some time. That may continue. However, in my view, that is not a reason to avoid foreign investments. With the U.S. dollar as strong as it has been in many years against a basket of foreign currencies, it is possible that a reversal in currencies could offer some upside for investors in foreign shares. Also, stock market valuations remain significantly cheaper overseas. While valuation isn't a great market timing tool, these valuation disparities don't last forever. So, even if foreign economies don't improve much in the short term, I believe even a hint of improvement or new policies that promise to bring economic strength in the future will be rewarded with stock market gains.

Alternative Investments Disappoint

One segment of the market that disappointed in 2016, both before and after the election, was alternative investments. Some of the more illiquid funds we hold performed reasonably well, but a few of our funds posted losses for the full year. Our alternative investment portfolio is designed to have low correlation of returns with the stock market, so it is not too surprising that performance was lackluster in a year when stocks rallied. That said, we expected stronger returns from many of these funds.

The bright spots included private real estate, reinsurance, and our "variance risk premium" fund. All three investments generated returns in the high single digits, which is what we expect over time from alternative investments.

However, other funds we hold offset these gains. The nature of a diversified portfolio is that at any point in time there will be some funds that perform well, and others that struggle. There certainly were a few in the latter category last year. We are still committed to this strategy and these funds, as we believe they will be additive to returns and risk mitigation over the long run.

Indeed, a couple of the past year's losing funds have a solid track record of posting gains when the stock market declines. So, if you're a Trump hater and believe his policies will ultimately fail, take solace in the fact that some of these alternative investments typically rise when stocks fall.

In Conclusion

I've seen a lot of headlines lately indicating it is a relief that 2016 is behind us. I'm not sure I agree, as I thought it was a decent year. Certainly, from an investment perspective, things were about as good as you could hope for. In fact, with volatility early in the year, we were able to realize taxable losses for many of our clients. Combined with strong performance later in the year, this resulted in solid performance without a significant tax bill. I'll take a repeat of that any year.

Compliance Corner

We are in a highly regulated business, which causes a few headaches, but is largely a good thing that offers our clients important protections. There are certain disclosures we are required to make regularly regarding our policies and procedures. A few of them are below:

The nature of our business requires us to obtain sensitive personal and financial information from our clients. As a registered investment adviser with the United States Securities and Exchange Commission (SEC), we must adopt policies and procedures to protect this nonpublic, personal information. Our policy mandates that ACM employees are prohibited from disclosing nonpublic, personal information to any person or entity outside of our firm, except as authorized by our clients or an appropriate regulatory institution. We also take all reasonable measures to ensure secure transfer and/or disposal of documents containing sensitive information about our clients.

Additionally, registered investment advisors are required to file Form ADV with the SEC or state securities regulators on an annual basis. A copy of our updated Form ADV is available at any time upon request. A copy of this brochure is also available on our website. We encourage each of our clients to read it. Please let us know if you would like us to send you a copy.

Firm News

The past year was a good one for our firm. Not only was investment performance solid, but our firm grew significantly. Our assets under management and advisement grew over 50% during 2016, and now stand at roughly $315 million.

An important component of our growth last year was our 401(k) business. We have always managed a few corporate retirement plans, but we launched this in a more formal way a couple years ago. We now advise on over $25 million in 401(k) assets. Part of our success stems from the fact that we are usually able to dramatically lower costs and provide far better client service. We expect this will be a big part of our growth in the years to come.

We have come a long way over the past eight years, and are now a solid, mid-sized firm in our region. We have written in the past about our growth plans, and more importantly, our plans to keep pace with that growth.

While we want to continue to grow our asset base, it is important that we do so deliberately. To that end, we spent a good portion of 2016 building out our technology infrastructure. You will notice that your quarterly reports are different this time. Hopefully you will find them improved. We invested a significant amount of both time and money in a new system that will provide more robust data with greater efficiency.

Early in 2017, we are adding a second component to the new system. This will allow us to monitor and trade portfolios much more efficiently than in the past. We believe we are already more diligent about monitoring accounts than many of our competitors, but the new system will only enhance our capabilities. Rebalancing, managing cash, realizing tax swaps, and other portfolio management tasks will become easier to identify and execute on.

In a few months, we'll implement the last component of our new system, a CRM program, which will allow us to manage client data in a more integrated fashion.

Firms many times larger than us use this same system, so we believe it will allow us to continue our growth without any degradation in quality or service.

However, one area we have struggled with is staffing. We're always looking to build out our team, but it has been difficult to attract and retain good folks. Our current team is highly credentialed and hardworking. We would like to add a couple more players, but they have to share our values and work ethic. So, if you know of anyone who might be a fit, please send them our way. We're particularly looking for someone with a strong operational background.

One notable success with respect to staffing last year was our assistant, Tarryn Rozen. Tarryn has worked part-time for the firm off and on for the past couple years. Now that her children are getting older, she has decided to join us on a full-time basis. She has been a terrific addition, and somehow is putting up with us all.

Finally, we have been hard at work redoing our rather dated website. When I say "we," I really mean Rudy and Nipa. They have spent the past couple months planning, designing, and coordinating our new internet presence. There will be a host of articles, videos, and other educational materials posted. The new site should be live in the next few weeks, so check it out when you have a minute: www.armbrustercapital.com.

Value Stocks

When was the last time you intentionally bought something of poor quality? Interestingly, doing just that could help you earn higher returns in your investment portfolio.

Value stocks are the shares of companies that trade at low valuations relative to their peers. Generally, this is because there is some issue with the company. Often financial distress, such as poor sales or earnings growth or an overly large debt load weigh on a stock's valuation. However, other problems are also common, such as weak management or strategy execution.

Whatever the reason, investors have deemed the shares of value stocks to be worth less than growth stocks, which typically are shares of healthier companies with strong growth profiles. As humans, we're programmed to prefer things of

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higher quality, so there is a tendency to avoid value stocks. Nevertheless, investors avoiding value stocks may miss out on significant return potential.

Historically, value stocks have outperformed growth stocks and the overall stock market. Looking at data from 1927 to 2015, large-cap value stocks have provided annualized returns of 11.9% vs. a still respectable 9.5% for large-cap growth stocks. However, had you started with a $100,000 portfolio, that difference would compound to a $60,000 difference in net worth over ten years, and more than a $330,000 difference over twenty years. Investors in value stocks shouldn't expect this type of performance every year, but clearly the potential returns of value stocks can make a big difference.

A likely reason that value stocks have provided such strong returns is because they pose greater risk. While it can be a complicated relationship, risk and return are closely related in the world of finance.

As an example, imagine that you are a bank loan officer. One day the CFO from Wal-Mart calls you and asks you for a loan. You note that Wal-Mart is a well-managed, healthy company with a strong history of sales and earnings growth. Accordingly, you offer a loan with a 4% interest rate. Later that day, the CFO from Kmart calls and asks for a similar loan. You know that Kmart is in the same general industry as Wal-Mart, but it is struggling to survive, and has experienced unreliable earnings growth through time. You therefore offer to make the loan to Kmart, but only at a higher interest rate of 7%.

This is a simplified example, but it shows, not surprisingly, that the higher risk company has to pay more to access capital. As an investor, your role is similar to that of the bank loan officer. You are taking higher risk by investing in stocks of lower quality, and you should therefore be rewarded with higher returns over time.

While this example shows a simple relationship between risk and return, the debate about why value stocks have outperformed historically is far from settled. Some academics agree that value stocks offer a return premium as compensation for their elevated risk. However, others believe that value's excess returns are because of investor biases.

Perhaps investors have an affinity for growth stocks because they feel more comfortable owning the shares of good companies. Good stocks and good companies don't always go hand-in-hand, but the average investor probably doesn't think at that level. It is certainly more comfortable to own a portfolio of stocks of solid, blue-chip companies, even though that may not be the most profitable approach. If value stocks are neglected because of these types of human behavioral issues, then the value premium should shrink or vanish over time.

In fact, University of Rochester professor G. William Schwert wrote a famous paper on that very topic back in 2003. He argued that once a return anomaly, such as the value premium, is discovered and published, it should be arbitraged away by investors seeking higher returns.

The empirical data shows some reduction in the value premium since it was initially discovered, but the data is fairly noisy, and it would be tough to argue that it has vanished entirely. On the contrary, subsequent studies have found a robust value effect even in other asset classes such as bonds, currencies, and commodities.

In my mind, that points to a risk-based explanation, and argues that the value premium should persist through time as compensation for the extra risk of investing in a portfolio of relatively lousy companies.

While value stocks have not experienced significant outperformance since the last financial crisis, the tide may be turning. Value stocks far outpaced growth stocks in 2016, and it is possible that there is still room for value stocks to run.

In an environment of strong economic growth, growing corporate profits, and moderate regulation, a "risk on" mentality can take over, which would favor the prospects of value stocks.

The relatively attractive valuations of value stocks also argue for further outperformance. After several years of lagging the broader market, value stocks trade at a significant price-to-earnings discount versus the S&P 500. With broad stock market valuations generally at the higher end of the spectrum, value stocks may be one of the few areas where bargains can be found.

As long-term investors, we use value stocks to try to earn larger returns. In fact, value investing is a large part of our strategy. However, it is

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important to understand that the risk of value stocks is not just academic. When the stock market declines, value stocks tend to fall even further. In 2008, for example, when the S&P 500 dropped 37%, the S&P 500 Pure Value Index declined 48%.

That said, for truly long-term investors who can ride out the short-term ups and downs, value stocks can offer significant return enhancement to your investment portfolio.

A version of this article was previously published in the Rochester Business Journal.

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among zero friends. How many cookies does each person get? See, it doesn't make sense. And Cookie Monster is sad that there are no cookies. And you are sad that you have no friends."

Chastened that even Siri thought we were anti-social geeks, we quickly and nervously turned the conversation to another topic.

2017 Tax Facts

1. $18,000 maximum salary deferral to a 401(k) or 403(b) plan (same as 2016).
2. $6,000 catch-up contributions to 401(k) plans or 403(b) plans for individuals age 50 and older (same as 2016).
3. $12,500 maximum salary deferral to a SIMPLE plan (same as 2016).
4. $54,000 maximum contributions to SEP IRA accounts and Solo 401(k) accounts (up from $53,000 in 2016).
5. $5,500 maximum contributions to IRA accounts and $1,000 catch-up contributions for individuals age 50 and older (same as 2016).
6. $5,490,000 federal estate tax exemption (up from $5,450,000 in 2016).
7. $5,250,000 New York state estate tax exemption starting April 1, 2017.
8. $14,000 per person annual gift tax exclusion (same as 2016).
9. 0.3% cost of living adjustment for Social Security benefits.
10. Maximum contributions to Health Savings Accounts of $3,400 and $6,750 for single and family coverage respectively.

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