The Messinger Group
1290 Avenue of the Americas
New York, NY 10104
Toll Free: 800.223.6448
themessingergroup@nb.com
www.nb.com/messinger

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Quarterly Views: Inside the Quant Investing Trend

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The S&P 500 rose 4.3% in the second quarter of 2019 and is up 18.5% for the year to date. This is exceptional performance given the longer-term average stock market returns of 10% to 11%. Interestingly, the bond market rallied as well (that is to say, yields declined), with the 10-year yield moving from 2.4% to 2.0%. Expectations for a Federal Reserve rate cut and easier monetary policy later this year fueled a continued rebound from year-end 2018. However, the rally belies the volatility in the second quarter, which saw stocks fall 6.4% in May alone. Concerns around Chinese trade negotiations, capital markets jitters (a poor debut for Uber and Lyft) and geopolitical tensions (Brexit, Iran, etc.) all contributed to increased turbulence.

The Quant Investing Trend: The Landscape and Our Thoughts

Despite this relatively benign market environment, the Messinger Group remains, as always, focused on understanding potential risks. Your capital is precious, and preparing for risks to that capital is a core part of our job as asset managers. Recent gyrations in the market, including in 1Q 2018, 4Q 2018 and May 2019, have led to some unexpected, and negative, market behavior. Often, the macro hedge fund and quantitative investing communities have been blamed for much of this behavior. In that vein, we want to take a step back this quarter and examine the potential market impact of the “quantitative investing” phenomenon.

We see several risks that quantitative investors may pose to the markets. Our biggest concern is that these strategies are not time-tested, and many rely on correlations and relationships with limited history. If a different interest rate or economic environment emerges, it is possible that these correlations could change. However, it is not clear if quant funds will be able to adapt to a changing regime, or are an investor fad, like others that have come before them.

The money flowing into the quant investing space is enormous. JP Morgan estimates that over $2.5 trillion, or more than 20% of U.S. equity market capitalization, is now managed by quant-style funds. We are also concerned that the behavior of these market participants may lead to self-reinforcing outcomes, causing dislocations in valuations and prices. Furthermore, in contrast to traditional investment strategies that seek long-term capital appreciation, many quant strategies are designed to profit from very short-term stock price moves. This short-term, rapid execution investing may continue to exacerbate market gyrations. The bright side of this trend is that it could, in our view, present great opportunities for long-term investors.

Below, we outline our thoughts on this increasingly influential segment of market participants, and what the future might hold.

What is a Quantitative Investor?

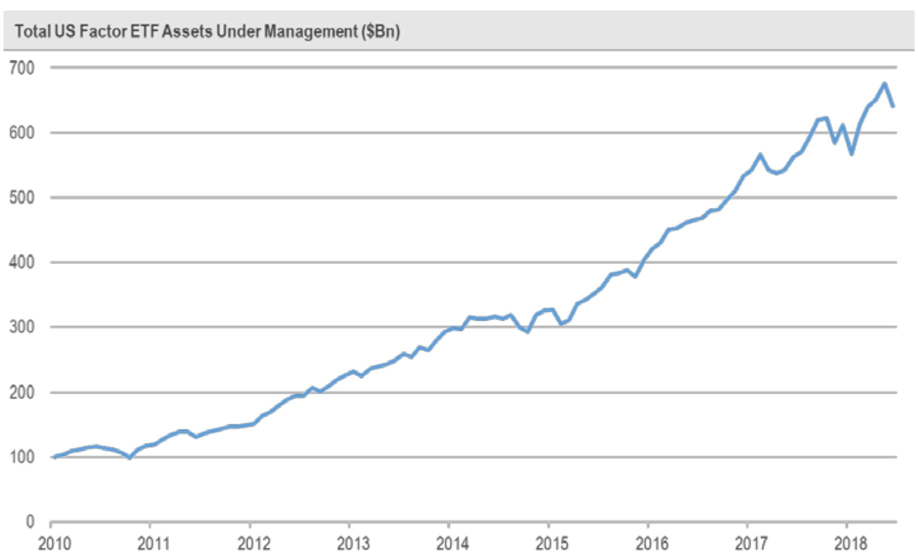
At the simplest level a quant-style investment is one that is based solely on one or more quantitative factors. For instance, this type of investor may decide to buy or sell companies with sales growth above 15%, or companies where the stock price is exhibiting momentum by consistently appreciating over some set period of time. Data scientists have analyzed historical market performance and found that certain of these characteristics have been effective at predicting the future price performance of individual stocks. From here, funds have recruited computer scientists and PhDs to write sophisticated algorithms based on exploiting these and many other factors.

We would segment quant investors into three broad groups. Importantly, none of these groups include qualitative factors, like judging a company's business strategy, competitive environment or management's intentions regarding capital allocation, in making their "buy" and "sell" decisions. The three groups we believe are the most influential in the market now are Smart Beta Funds, Quant Hedge Funds and High Frequency Traders.

Group 1: 'Smart Beta'

Quantitative investing was first adopted by a handful of hedge funds and principle traders, but as retail investors are getting more involved in quantitative investing, a significant number of assets have been raised in the category of Smart Beta or Factor investing. Traditionally, market participants have categorized stocks based on which sector of the economy they participate. Procter & Gamble, for instance, is a "Consumer Staple" and Netflix is a "Communication Services" company. Investors often look to these sectors as a way to characterize performance as well (i.e., "Procter & Gamble shares went up because all Consumer Staples stocks were up"). However, one can categorize stocks in other ways, too, which people call "factors" ("Netflix went up because all 'Growth' stocks went up"). There have been many studies on various factors of market performance; many people are familiar with the Value and Growth categories. Other popular factors include momentum, quality, volatility and company size. The early days of quantitative investing sought to exploit the performance of these factors in order to outperform the market. Researchers have spent time trying to determine what a growth stock is, for instance, and then create a portfolio of stocks based solely on calculations of the company's growth factor characteristics. Recently, fund managers have packaged stocks with some of these factor characteristics to try and isolate the factors and generate additional returns.

The ETF market has caught on and now offers multiple Smart Beta ETFs. The key element across these funds is that the investment decision is based solely on the metrics being calculated (growth rates, earnings margins, etc.) with no "qualitative analysis" being done. Because of this, when something about the stock changes (the company's growth rate declines, its volatility rises dramatically or its margins decline), that can cause Smart Beta funds to automatically sell the security. While sometimes changes in the factor can be temporary, Smart Beta doesn't look beyond the numbers. It never asks "why?" or "what could change in the future?"



Source: JPMorgan.

One issue we have with these funds is they often become momentum funds based on whatever factor is working/trending at the time. For example, what starts out as one factor can quickly become a momentum factor that reinforces the original factor, which reinforces the momentum. The effect is that stocks that have appreciated keep rising, not necessarily because their businesses are getting any better, but because they have already performed well.

Group 2: Quant Hedge Funds

Quant investors represent the next generation of hedge funds. While the category is broad, the group generally combines frequent trading with quantitative factors. These funds generally go “long” and “short” stocks, and often use alternative data sources to augment their factor analysis. The most sophisticated of these funds use artificial intelligence to determine when a given factor will work better or worse over time. These funds tend not to make large market bets (e.g., that the S&P 500 is going to rise or fall), but that one position will perform better relative to another. For example, a fund may go long Home Depot and short Lowe’s because it sees that Home Depot’s growth has been slightly higher than that of Lowe’s. However, the fund takes no view, for example, on the overall prospects for total U.S. spending on home hardware.

Critically, the market anomalies these funds are trying to exploit are typically small. In order to generate meaningful returns, the funds can employ very high levels of leverage. It is not uncommon that for every $1 of invested capital they will hold $5, $10 or even $20 of assets (and be short that amount as well). We saw a similar approach in 1998 with John Merriweather and Long-Term Capital Management. Their investment strategy ended up causing dramatic dislocations in the financial markets by attempting to exploit “relative value” between bonds, using massive amounts of leverage. Quant funds’ models predict that securities’ price changes will balance out, and the funds are hedged against any major market movement. However, if their bets go wrong, these funds must close out their positions rapidly, which can lead to volatility in stock prices. Additionally, many of these funds have similar, though not identical, strategies. This means that when a position begins to lose money for one fund, it is likely losing money for many funds, which are all trying to sell or buy at the same time. We think that some of the volatility experienced during late November and early December 2018 was due to such forces. As with many quant styles of investing, they often don’t cause the issues, but they can magnify the market moves.

Group 3: High Frequency Traders

In 2013, Michael Lewis wrote the book *Flash Boys*. The gist of the story: Main Street investors were losing out to sophisticated, ultrafast traders in the market, and the game was rigged. While the details of the story and the impact on the market continue to be debated, it is true that sophisticated traders and market makers were investing large amounts in servers, data centers, microwave communication systems and other technologies in order to gain an edge on the market by simply using their high-speed equipment to place orders in front of other investors. In fact, High-Frequency Traders (HTFs) today represent over 50% of stock market trading volumes. They are constantly buying and selling stocks and earn fractions of a penny on each transaction.

Since 2013, ultrafast trading has become somewhat of a commodity and there are no longer easy gains to be had. Market structure has also adjusted to reduce HFT fund advantages by slowing down the speed to market through “speed bumps”. It is important not to paint HFTs with too broad a brush, because many do provide a critical liquidity function to the market. HFTs are often willing buyers or sellers at any given moment. When a participant comes to the market to buy or sell a stock, the presence of HFTs reduces the time required to find a buyer or seller. Liquidity is important because it instills confidence in a functioning marketplace. We all feel better knowing we can transact whenever we feel like it.

In fact, liquidity is one of the two primary functions of the stock market (the other being to raise primary capital). Without liquidity, the stock market would look more like the housing market, where each house is different (size, location, quality), must be individually listed, wait for a bidder and then negotiated upon. Thankfully, that's not how stocks work.

In normal markets, HTFs generally have been positive contributors. However, the challenge occurs when volatility picks up. Since most HTFs have very low appetite for risk, when their computerized trading starts to lose money (or make too much money) it pulls out of the market altogether. Since they are no longer making buy/sell offers, liquidity disappears, which magnifies the impact of market movements (generally downward). While HFTs probably don't cause the volatility, they exacerbate it when they become cautious. For this reason, some argue that they should not be allowed to participate in the market at all because they give the illusion of liquidity until the time it is needed most.

Why Do We Highlight This Now?

Volatility in the market, with a few exceptions in early 2018 and 4Q 2018, has been steady. This has allowed new, untested strategies to gather significant assets, somewhat unimpeded by market disruptions. We are concerned about flows into several top-performing Smart Beta strategies (Growth, Low Volatility and Momentum in particular). The funds betting on these factors have created a self-reinforcing dynamic where the price momentum seen in Growth, Low Volatility and Momentum stocks draws more investors into quant and passive strategies focused on these factors merely because they have been showing the highest investment returns. As investors add money to these strategies, the new money pushes the existing investments higher, thereby further reducing their volatility and increasing their momentum, and continuing the cycle regardless of fundamentals. For example, the Growth factor (which includes the "FANG" stocks) has continued to significantly outperform other factors. While those businesses have, in fact, been growing revenues, the shares are very expensive relative to history. We believe a disruption to this cycle poses significant risk to these strategies.

We ask ourselves, with so much money chasing these factors or "price signals," will this eventually eliminate the arbitrage that existed in prior periods? We also question whether the returns in many of these strategies are due to the leverage employed to enhance the overall performance of the strategy, and if these strategies have been able to flourish only because interest rates are so low. This also leads to the question of whether these strategies can work long term if we return to a more normalized interest rate environment. We have seen investment fads come and go: the Nifty Fifty, the Dot-Com Bubble, the Housing Bubble. The key to managing through these periods is to stay focused on the fundamental drivers of stock market value creation.

Fundamental Active Investing: Our Approach and the Quant Weakness

We believe that quantitative investing faces two major challenges: lack of qualitative assessment and reliance on a relatively short time series.

We at the Messinger Group manage our equity investments using a qualitative and fundamental approach. While we consider many quantitative factors, our ultimate investment decision takes into account many non-quantified elements. Such qualitative factors might include judging the potential success of a given company's product or service, the competitive environment in which a company operates, or the likelihood of margin expansion through cost-cutting or higher pricing. Qualitative investors also evaluate the company's managers and make assessments as to the likelihood of their making valuable capital allocation decisions. At Neuberger Berman, we meet with hundreds of companies each year. These meetings allow us to better assess the outlook for companies we may invest in. From these meetings we also glean valuable information on competitive threats, customer opportunities and supplier challenges. Quantitative funds struggle to capture this information as measurements of these qualitative factors are at best very imprecise, and in many cases unmeasurable.

As for the second major challenge, quant investing is only as good as the historical data managers use to build their models. The concept of imagining the future is something a computer has not been able to master (at least not yet!). The idea of understanding a company's growth opportunities and how the company may evolve is a critical component of understanding the prospects for an investment. For example, the returns investors are seeing in many of these strategies are based on an overall environment in which interest rates have been falling (i.e., since 1980), and this condition may gradually or suddenly, reverse.

At the end of the day, we believe that in holding equities, we are part owners of a business. When we purchase shares, we are not just buying numbers and letters on a computer screen. In the long run, we believe that a thoughtful analysis of each company and its business prospects, and, importantly, the purchase of its shares below intrinsic valuation, will lead to better outcomes, especially in times of stress. Ultimately, we have the ability to benefit from the cash generated from our businesses, either from dividends or from the company reinvesting to grow its business. Long term, we believe this is what makes the capitalist system function and the stock market tick, and we evaluate stocks as potential owners of these businesses.

We will soon be posting a video of our recent client event in New York on the topic of gene therapy in cancer. It was an enlightening discussion on opportunities in this new branch of treatment, as well as some of the reimbursement challenges. If you were unable to join us (or enjoyed it so much that you'd like to watch again!), please visit our group's website.

We thank you again for entrusting us with your capital. As always we are available to discuss these topics.

Best regards,

The Messinger Group
Neuberger Berman | New York
212-476-5960
www.nb.com/messinger

The S&P 500 Index consists of 500 stocks chosen for market size, liquidity, and industry group representation. It is a market value weighted index (stock price times number of shares outstanding), with each stock's weight in the Index proportionate to its market value. The "500" is one of the most widely used benchmarks of U.S. equity performance. As of September 16, 2005, S&P switched to a float-adjusted format, which weighs only those shares that are available to investors, not all of a company's outstanding shares. The value of the index now reflects the value available in the public markets.

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