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Mast Investment Letter

June 2017

Making the Important Decisions

Private Sector Rally Goes Worldwide

Colloquially called the Trump rally, a major impetus of post-election financial market optimism was renewed respect and support for private sector activity, production, existence. For change we could depend on, there was just a glimpse of economic love. **Yes we can behave like free markets. U.S. markets showed the love**, S&P 500 Index up 1.41% in May, up 8.66% year to date. International markets, also showing some renewed respect for their business revenue hosts, showed even more love, EAFE up 3.66% in May and now up 14.01% year to date, **Emerging Markets up 2.96% May and now up 17.25% year to date.** After a breath-taking rebound in 2016, following its first bear market in thirty years, commodities paused in May, down 1.74%, off 5.30% year to date. **Fixed-income, yawn, up 0.84% May, up 2.51%** year to date. Through it all, excitable wealth management themes and stories focused on indeterminate and insignificant political soft talk, while hard data disengaged from the emotional group identity playground. In the real world, **investors sold off value (S&P 1500 Value Index down 0.48% in May, up only 2.58% year to date) while plowing into happy earnings growth (S&P 1500 Growth Index up 2.52% May, up 12.91% year to date).** This may imply that investors disengaged from the potential tax and regulatory benefits for the value companies and hopped on the unlimited earnings growth train of familiar information and technology stocks. It sure felt good as many investors joined the momentum in process. Let's look at the internals of all the investment spinning tops, revolving feelings, cash fear and loathing.

Charting Positions Investment Universe

Because investors are human, much transaction activity is momentum, toward price behavior and emotionally compelling stories. **We act as a group and feel more comfortable with others making the same investment decisions, for the same reasons**. Momentum is powerful and the primary purpose and benefit of financial products. We move together in similar trends and directions, slowly at first and then fast. There are relationships which are fundamentally valuable which serve as a gravitational pull, especially at moments of unusual equity risk premiums, credit spreads or expected returns.

Best practice investment decisions begin, and preferably end, with well researched and advised asset allocation. Just as important as initial investment commitments is **surveillance and monitoring of the changes, among many financial relationships, which occur every day and, particularly with our work, every week**. Absolute return of an asset or security is one factor against which to compare relative return compared to another asset or security. The central benchmark of the investment universe is the real long-term Treasury bond yield (TIPS). That is the **long term, risk free and real return. It is currently 0.95% compared to a median of 2.66%**. This is the expected-return vacuum created by nine years of near-zero interest rates. Slowly, then fast, the total equity real rate of return is now 4.00% compared to the mean of 6.00%. That low TIPS yield is the saving factor of the 3.05% equity risk premium, just under the 3.12% median. Momentum is pushing the one year expected return up to 3.45%, attractive only relative to low fixed-income return. However, with a trailing 12 month P/E of 21.70, along with some other factors, **estimated fair value of the S&P 500 Index is 2062.51, 17.13% below the current market price**. A good rule of thumb for selecting momentum opportunities is additional placements at the lower quartile, or below, the trading range, or selling at the upper quartile, or above, the trading range. Current index positions are: S&P 500 Index 57.5%, NASDAQ 75.6% and Russell 2000 17.8%. What the product story tellers and peripatetic news interpreters miss is the crucial influence of market price and value relationships which financial asset prices experience. Whether investors know it or not, **the stories and the news and the spinning-top products and wealth managers are not propelling or retarding the markets**. Low expected returns and risk premiums, upper trading ranges and moderately-trending economic performance make it difficult for the equity markets to muscle to higher levels of over-valuation and even lower expected returns. **There is some inertia here,** some good reasons to seek alternatives. Instead, investors switch from theme to theme, Trump, re-flation, infrastructure, health care, tax policy, small cap, large cap, value, growth, technology. Each story is a spinning top, a new theme, a **new excuse for recent price action, when the reality is market exhaustion from group and momentum behavior**, much of it incented by wealth management marketing stimulus. Like the investors caught in these vortexes, disappointment is slow, then fast.

Last month we wrote about the confusion between hard news and soft news. Government and politics, by our own choice, is verbal and group identity conflict. No measurement of result is requested or given, just verbal victory. Before, through and after the election last year, investors (and wealth manager story tellers) **tried fitting square pegs in round holes mistaking soft government news for hard economic and business activity**. It did not fit and sometime in the past two months attention returned to operating earnings, dividends, economic growth trends and other important and valuable information. Hard work, demand and output growth and innovation in the real economy will overwhelm group-identity verbal conflict.

Investor Demand for Index Investment Management

Investors are aware of the cost, performance and risk characteristics of traditional financial service industry products. Assets move into index investment management as a superior alternative. The challenge for investors is the **availability of good research and management related to index investing**. "AllianceBernstein Holding LP fired its chief executive and removed nine of its 11 directors, the most dramatic shake-up yet among money managers **under pressure to halt a flood of cash to cheaper rivals**. The shake-up reinforces the changes sweeping through old-fashioned money-management firms that have long relied on their ability to bet on individual stocks and bonds. Hundreds of billions of dollars have been **pulled in recent years from these firms focused on active money management**, as investors lose faith in star managers and seek out cheaper funds that mimic stock and bond indexes. AllianceBernstein – formed in 2000 from the combination of a mutual-fund firm and research outfit – experienced trouble during the 2008 financial crisis, when bad wagers on financial firms led to the ouster of Chief Executive Lewis Sanders. It continued to struggle with broader industry shifts including a flood of **investor cash flowing into exchange-traded funds,** a move away from proprietary wealth-management products and a reduction of Wall Street spending on investment research. It cut fees, pushed into riskier, more-complex strategies for which investors are willing to pay higher fees and **focused on selling what it called solutions that combine multiple investment strategies**." (WSJ 5/2/17) "The fact that low-cost index funds trounced expensive funds is, of course, expected. It's virtually a mathematical certainty that this would happen and it will continue to happen. But after 27 years of index investing, what has truly shocked me is that currently over 43% of money in U.S. stock funds is in index funds. This is an increase from less than 12% as we entered the 21st century. The trend is likely to continue." (Financial Planning May 2017)

We observe that over economic and market cycles the last fifty years, investment products and their **distributors change their sales presentations and product benefits after price declines (or collapse)**. Unusual in this cycle, products are failing before the usual bear market or economic recession. Investors behave differently this cycle leaving wealth manages because the products are failing early, before public market declines. Wealth managers recognize this marketing opportunity, selling against other wealth managers to lure disaffected clients, essentially **swapping failed wealth management products for the next wave of product failures**. "Like high-end restaurants, hedge funds often roll out new menus to entice investors to keep coming back, and **quantitative trading is the latest special du jour**. The quantitative push is different among many competitors, who parse reams of data in the hunt for an edge – **even one they can't explain**." (WSJ 5/25/17) We encourage financial product avoidance, and offer useful information in our research, reports and client funds management for investing not in alternatives, but into selected indexes and for well-defined and monitored reasons.

Alternative investments seem to have occupied the undefined category once called blank check funds. “The term **liquid alternative has evolved into a catch-all phrase** for the various funds that offer access to strategies typically **intended to behave differently from equities and fixed income**, which can help reduce correlation to those asset classes and mitigate the overall volatility of a portfolio. Alternative strategies used to be available only via hedge funds and other pools of capital requiring accreditation, but in the last 10 to 15 years these strategies have become increasingly available both in traditional mutual funds and ETFs.” (Investment Advisor April 2017) Five to eight years ago hedge funds became popular after the severe price declines in public market stock and bond financial assets. They fell out favor, most particularly in the 2015 commodity index price collapse. Funds flowed out of hedge funds and into new alternative investment accounts, **really just a new name which product distributors could describe as a solution to failed hedge funds and non-traded REITs.**

Among the more complex strategies and alternatives is quantitative investment firm WorldQuant LLC. “The firm is part of the forefront of a quantitative renaissance in investing, in which the ability to make sense of billions of bits of data in real time is more sought after than old-school financial analysis. WorldQuant developed a **model in which it employs hundreds of scientists, including Ph.D.s, around the world and hundreds more part-time workers to scour the noise of the economy and markets for hidden patterns, called the Alpha Factory**. A data scientist famously found that the data set with the highest correlation with the S&P 500 over a 10-year period in the 1990s was **butter production in Bangladesh**. The Alpha Factory breaks up the process of investing into a quantitative-trading assembly line. The inputs are data acquired by a special group that scours the globe for **interesting and new data-sets**, including everything from detailed market-pricing data to shipping statistics, to footfall in stores captured by apps on smartphones. The company has **four million alphas to date** and is aiming for 100 million. Each alpha at WorldQuant is an algorithm that seeks to profit by predicting some future change in the price of a stock, futures contract or other asset.” (WSJ 4/7/17) Correlation does not prove causation. Taking a longer-term perspective, perhaps three months to three years, there is a causal relationship between stock prices and financial performance, earnings, dividends and risk.

Popular several years ago, hedge funds were distributed by wealth managers. Mostly due to leveraged commodity sector exposure, many funds experienced severe performance declines in 2015. There were also momentum bets in other sectors which reversed from their quantitative attractiveness. Investors continue asset withdrawals, or switch to other hedge funds with new stories, such as quantitative investing. **“Investors pulled nearly $7 billion from the largest publicly traded hedge-fund** firm the U.S. in the first four months of 2017, the **latest sign of investor disillusionment with Wall Street’s** most prominent money managers. Och-Ziff isn’t alone in posting continued outflows as investors have pulled capital from hedge funds for a record five consecutive quarters from the $3 trillion hedge-fund industry.” (WSJ 5/3/17)

Richard Bookstaber’s new book “The End of Theory” notes the risks of quantitative modeling without accounting for human behavior. “When you measure markets you change them. **When individuals become part of groups, their behavior changes in ways that are hard to predict**. Investors who forget these facts and conclude that all problems have been solved are, sooner or later, in for a shock. Computers and mathematical models excel in environments where they can be trained on history and variables will behave in the future the way they did in the past. But a **financial market doesn’t consist only of digitized streams of information. A market is made of human beings**. Some are patient and prudent; others trade as if the world will end in the next half hour. Several factors combine to make quantitative models, and the funds and risk-management techniques based on the fatally flawed. A crowd isn’t the simple sum of its parts. **Individuals, acting as a group, behave differently than in isolation**. As a crowd becomes ever-so-slightly larger or smaller, its behavior can change in big, and unpredictable ways. The world is a **Pandora’s Box of surprises**. People act on what happens relative to their expectations, which changes the world in ways that change those expectations. And that, in turn, changes the world again, and so on. When massive computing power and the promise of precision lure billions or hundreds of billions, of dollars into a **mathematical investing strategy, that paradox can unfold faster and go further than it would by human action alone. Success carries the seeds of its own failure**. Be wary of investing in mathematical approaches that are coupled with floods of new money chasing recent performance. Having the cash and courage to buy from them at bargain prices is a good way to raise your future returns. Not joining them as blind-faith buyers is an excellent way to reduce your risk, now and in the future." (WSJ 5/6/17)

Private-equity juggernaut **Blackstone Group disposed of hotel and home-for-rent real estate assets** several years ago through public stock offerings. Just as **venture capital firms are currently selling technology businesses into upbeat public stock markets**, Blackstone buys assets during crisis conditions and sells them into public markets after recovery. It appears that the attractiveness of internet retail distribution center real estate is known by the market. Blackstone is seeking buyers. "Blackstone Group LP has taken new steps to sell its European warehouse business in an initial public offering that could fetch as much as $13 billion. The private-equity giant, which began accumulating European logistics properties in 2012 in a company named Logisticor has tapped Goldman Sachs Group Inc. and PJT partners Inc. to work on the IPO. The offering of the company, which operates more than 630 properties, could take place as soon as this summer. Blackstone also has been talking with three different investment groups which would allow the firm to **sell its shares faster**." (WSJ 5/3/17) Real estate markets traditionally rely on debt to accelerate return. Low interest rates boosted such investment debt in this unique credit cycle. **Demand momentum is working through real estate development sectors: residential housing, multi-family housing, commercial and industrial.** In that order of recovery from the 2008 real estate debt collapse, some investors are cashing out into public market securities and funds.

Pushing over-valued real estate out of private-equity ownership and into wealth manager products is a **growing transfer of risk to yield-starved investors**. "Blackstone Group LP amassed one of the world's largest real-estate portfolios by pulling in much more capital than competitors from big institutions such as pension funds, insurers and university endowments. Now, it is **taking its show to mom-and-pop investors**. Blackstone in January launched its first nontraded real-estate investment trust, a vehicle **marketed to small investors as a way to participate in the commercial real-estate industry**. Such vehicles have faced mounting criticism in recent years over high fees, poor disclosure and other problems. Blackstone has gotten a boost in its **fundraising efforts because some of the biggest financial-services firms in the country, including UBS Group AG, Morgan Stanley and Bank of America Corp.'s Merrill Lynch brokerage, are marketing it through their sales forces**." (WSJ 5/24/17) If any regular readers of this letter are still sitting in wealth management product portfolios, the consequences are not the fault of your wealth management product salesperson, his, her or your emotional engagement.

Quants Gone Wild

A recent study published by two university researchers, "Replicating Anomalies", warns of the quickly arbitraged results of small market-priced relationships. "Tie together an algorithm, an exchange-traded fund and an academic study finding an anomaly in the markets, and voila! You have a formula for making money. The trouble is, it **turns out that most of the supposed anomalies academics have identified don't exist, or are too small to matter.** A new study making waves in quantitative finance tested 447 anomalies and found more than **eight out of 10 vanish when rigorous tests are applied**. Among those failing to reach statistical significance: one anomaly recently set out by the godfathers of quantitative finance, Nobel-winning economist Eugene Fama and his colleague Kenneth French. It isn't all bad news for investors and those **trying to make a living flogging what have become known as factors**. The research confirmed that the most popular factors have indeed outperformed the market over long periods even when faced with rigorous tests, but found much smaller returns than previous studies estimated. A lot depends on exactly how the factors are implemented, though, and researches dismissed one of the industry-standard factors as statistically insignificant: Companies with high operating return on equity don't outperform meaningfully on their tests. One lesson for investors is to be careful about trying to make money by repeating what seems to have worked in the past. **If it were so easy, everyone would do it and it would stop working**. **Many factors are demonstrably silly**, or are highly correlated versions of the same idea. Investors are still likely to be confused. In practice, for most investors, there is little more to go on than a few years of performance data and fees. Ultimately no one knows whether even previously robust factors like value and momentum will keep working." (WSJ 5/12/17)

Spinning tops in the investment universe are large and small, from entire indexes to individual investors like you and me. Leverage-engineered ETFs are sort of in the middle of the galaxy, where individual investors or their product salesperson can pick them up. Under the de-regulatory environment, the SEC is approving a **greater number of leveraged and engineered exchange-traded-funds**. "Leveraged ETFs employ derivatives to deliver two or three times the daily price moves of benchmarks. The ForceShares quadruple-leveraged funds would be the first to move beyond triple leverage. There are **273 leveraged, inverse or leveraged inverse exchange-traded products on the market**, with a collective $44 billion in assets. While that represents just 1.5% of the total $2.9 trillion of U.S. ETF assets, many leveraged and inverse ETFs are heavily traded on U.S. exchanges." (WSJ 5/17/17)

"Even in the high-octane world of leveraged ETFs, the **48% drop in the Direxion Daily MSCI Brazil Bull 3X Shares on Thursday stood out**. Its one-day fall was bigger than the drop in leveraged products tracking financial stocks during the 2007-2009 recession, and it outpaced the wildest plunges in products that hold perpetually volatile gold-miner stocks. Leveraged ETFs deliver amplified price moves on a single day. Holding these products for days or weeks, especially when markets are volatile, can result in price swings that are exaggerated well beyond the stated two or three times leverage." (WSJ 5/23/17)

Low Interest Rate Debt Below the Surface

Underneath those record unit light motor vehicle sales is substantial low cost, extended-term debt, through loans and leases. **Fast-declining used car prices are disturbing the rate of return assumptions of lease contracts and competing with new car prices and sales. "Big banks are pulling back** sharply from auto loans, helping drive a drop in car sales and raising fears the slump might deepen. Some anticipated the market would cool off after record new car sales in 2015 and 2016. But banks are also posting higher losses on defaulted auto loans, hit by a mix of more borrowers falling behind on payments and the declining value of used cars. **Lenders who are repossessing cars tied to prime auto loans** that were securitized in 2015 are recovering about 51% of the unpaid loan balances on average, down from 56% for 2014 loans and 65% for 2011 loans, according to S&P Global Ratings. Annualized net losses on securitized subprime auto loans increased to more than 10% late last year, the highest level since February 2009, according to Fitch Ratings. **Fitch in December lowered its outlook performance for securitized subprime auto loans for 2017**. In recent years auto sales have relied heavily on the flow of easy credit." (WSJ 5/4/17) Auto loans are the second member of the $1 trillion plus debt club, preceded by student loans and recently joined by credit cards. **This securitized paper is also lurking in investment accounts holding collateralized debt obligations**. In 2007 collateralized mortgage obligations were rated AAA, afforded a full ½ percent higher interest rate than treasuries, and collapsed in value in the great recession. Investors should know what is in their financial product accounts. Get rid of poorly collateralized debt securities. **Investors should research and discover this risk as wealth managers are generally uninformed about these risks. They were uninformed in 2007 as well**.

Fungible cheap debt is travelling. House price recovery from the great recession increases homeowner equity. Home equity loans are popular again. **Defaulting credit card and auto debt is finding its way back into home equity mortgage loans**. The home improvement market is booming, demand also being funded by the reinvigorated home piggy banks. The other member of the $1 trillion debt club, student debt, is also being settled with HELOC loans. "The national housing market recovery continues to advance. In many markets home prices have surpassed their 2006 peaks. Even those that haven't, such as Cleveland and Chicago, have climbed more than 20% since their 2012 lows, according to the S&P CoreLogic Case-Shiller home price indexes. Home equity, or a property's value minus mortgage debt, has more than doubled since 2011, to roughly $13 trillion. Homeowners on average spent $5157 on home repairs and renovations during the 12 months that ended in February, up more than 50% from the prior 12 months." (WSJ 5/4/17) Consumer borrowing expands while seeking lowest cost. As debt support becomes more difficult, the debt is being rearranged, not reduced. "Americans refinancing their mortgages are taking cash out in the process at levels not seen since the financial crisis. **Nearly half of borrowers who refinanced their homes in the first quarter chose the cash-out option,** according to data released last week by Freddie Mac. That is the highest level since the fourth quarter of 2008. To some housing market observers, the fact that more homeowners are tapping their homes for cash represents a healthy confidence in the economy. It comes against a backdrop of continued gains in employment. At the same time, the **increasing use of cash-out refis causes some concern because in the run-up to the financial crisis, borrowers used their homes like ATMs**." (WSJ 5/30/17)

Public sector debt expands. Federal debt expansion is well reported. Less visible are the debt and pension liabilities of state and local governments, shuffled around between and among state and local governments. In some locals the shuffling is unsustainable. "The total red ink for mutual funds that invested in debt issued by Puerto Rico is as much as $5.4 billion over the past five years. **Those losses, which are both actual and on paper, were tucked inside a wide range of funds managed by Franklin Resources Inc., OppenheimerFunds Inc., Vanguard Group, Goldman Sachs Asset management, Western Asset Management Co., Lord Abbett & Co., AllianceBernstein Holding LP and Dreyfus Corp**. A diverse group of creditors will be competing for a limited pot of money, and allocating Puerto Rico's resources will be complex because of the competing interests at stake." (WSJ 5/15/17) In our republic of states, there is a diversification of credit risks and municipal finance quality. For those locations which have not addressed the amount of their liabilities related to their revenue, both investors and residents should not delay remediation much longer. The aggregate amount of debt service can overwhelm the benefits of excessive low-cost debt assumption.

Debt quality is an emerging risk in corporate debt markets. "**U.S. companies have taken on an extra $7.8 trillion of debt and other liabilities since 2010**, according to the International Monetary Fund. Strip out the energy sector, and median corporate leverage is the highest since 1980. But the signs that the credit markets may be starting to get carried away are more in the structure of the deals than in the total amount lent. Not only are companies able to sell debt with low yields, they are dictating the terms. Companies have extended the maturities of bonds and loans, adding to their riskiness, even as the yields come down. **Investors are willing to lend against looser definitions of operating profits and lend more. Protective covenants have all but disappeared**, removing what was once regarded as a vital protection for investors. And there is anecdotal evidence of hedge funds buying in, suggesting **less informed investors are getting involved."** (WSJ 5/5/17) These conditions are supported by yield-seeking investors in a low yield environment and more pervasive in high-yield credit markets.

Commercial lending is well into the $1 trillion club, eclipsing its 2008 peak. "Bond-rater Standard&Poors said risks are rising for bank lending to commercial real estate, and the lenders could face trouble. **Average commercial real-estate loans on banks' balance sheets reached $1.63 trillion at the end of 2016**, **surpassing the previous peak of $1.52 trillion in 2008**. Low interest rates, an improving U.S. economy and rising popularity of urban lifestyles have spurred real-estate markets across the country since 2012, leading to fast-rising property prices and elevated valuations." (WSJ 5/10/17)

On the equity side of the balance sheet, Apple is on the cusp of joining the $1 trillion club. "The world's most valuable listed company just got even more valuable. Shares of Apple Inc. rose 0.6% to a high of $153.99 Tuesday, **sending its market capitalization above $800 billion, a first for any U.S. company**. That level, the latest evidence of how much the stock has risen this year, is a milestone sure to stoke speculation about whether it will be **the first public company to be valued at $1 trillion**." (WSJ 5/10/17)

Investment Handbook

Autos have many moving parts and shop manuals. The investment universe has many moving parts and wealth managers, generally one for each moving part. These letters and the research models presented at the Mast website give readers and investors some perspective related to the position of all these moving parts, to each other and to themselves, over time and recently. Imagine trying to make investment decisions based on the impulsive feelings of wealth management product distributors. We recommend that you get some control of those fun-loving salespeople, very soon, before momentum gets us down. Time is our most important asset. Use much of it for summer leisure, best return for life investment.

Respectfully,

Jim Henderson
Mast Investment Advisors LLC

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Firm Description:

- Mast Investment Advisors LLC is Registered Investment Advisor (RIA) in the state of Illinois.
- Mast Investment provides active index money management services for its clients.
- To minimize trading expenses and to preclude conflicts of interest, Mast Investment manages its clients' assets on a discretionary basis at independent discount brokerage firms.
- Mast Investment receives fees only from its investment clients for this service, and receives no compensation or consideration from any other provider of financial services or products.

Investment Thesis:

- Active money managers (portfolio and mutual fund managers), generally under perform passive equity and fixed income indexes, and create much higher costs and expenses.
- The overwhelming portion of investment return is determined by strategic allocation to asset classes, and not by picking individual securities or funds.
- Over extended periods of time, different asset classes, and different components of those asset classes, perform better than others.
- Investors will, generally, be better served by utilizing index investments, and specifically, those index investments which may perform better than others. Index exchange traded funds provide broad diversification and direct replication of specific index performance.

Investment Methodology:

- Using models previously used over a ten year period for individual stock selection, Mast Investment created models to identify and to monitor superior index performance.
- Mast Investment changes asset allocations among asset classes, and within asset classes, based upon risk adjusted fundamental and technical analysis.
- Each client has a specific, neutral asset allocation provided, preferably, by an investment policy statement from a plan provided by a Mast Investment approved independent financial planner.

Investment Team:

- James D. Henderson, with 25 years of investment management experience, Kellogg MBA, Duke BA, is manager of Mast Investment in its Northfield, IL office.
- Research and decision criteria are in consultation with John R. Tilton, CFA and his investment research models.

Management Fees:

- Fees (generally 1% per year) and other important disclosure information are contained in the firm ADV, filed with the state securities department, and provided to all clients and prospects by Mast Investment.

Investor Communications:

- Clients receive monthly statements from their broker, quarterly statements, performance reports and billing statements from Mast Investment, and monthly investment letters.
- Current, and all previous, investment letters are posted at the firm website under the communications section.
- With client approval, Mast Investment will work with the client's other professional advisors and planners, striving to integrate investment management with other financial needs and goals.