First Quarter 2018

	Close 3/30/18	Total Return First Quarter
Standard & Poor's 500 Index	**2,641**	**-0.76%**
Dow Jones Industrial Average	**24,103**	**-1.96%**
NASDAQ Composite Index	**7,063**	**+2.59%**
Dow Jones Global (ex U.S.)	**262**	**-1.67%**
Barclays Aggregate Bond Index	**2,016**	**-1.46%**

Nervousness Abounds

Finally, a quarter with some real action. In January, investors cheered the size of corporate tax cuts. In February, they became depressed over rising interest rates -- a tailspin made worse when a few Wall Street designed products failed. Finally in March, investors were rattled by the revelation that stock market wunderkind Facebook had not protected users' personal information. As a result, the market posted its first negative quarter in over two years. The quarter also marked the end to over a full year of unusual tranquility.

Looking ahead, there are a number of issues both positive and negative that investors are focusing on. These include:

- Interest rates are going up, but no one -- including us -- is sure to what level. As a result, we will just have to wait to see how high rates rise.
- Corporate earnings are greatly increasing this year. We expect that in the upcoming earnings reports, managements will quantify the benefits of lower taxes and the stronger economy.
- Stock and bond valuations are still expensive suggesting that future returns will be modest. Most investors expect lower absolute returns than in the past few years but very few -- including us -- expect a major market decline.
- The global economy is expanding and investors see no signs of a recession in the near future. However, some companies and investors are unsettled by opening trade salvos and where they might lead.
- Volatility has finally returned to the stock market and it is unlikely to go away. Some of this anxiety emanates from our nation's capital along with unsettling geo-political issues.

- Important leaders in the U.S. stock market -- Facebook, Amazon, Apple, and Google -- are under increasing scrutiny by regulators, consumers, and investors. Even if the companies wriggle away from onerous oversight, few expect them to escape unscathed.

A short summary like this can never capture all the complexity of the markets. But we feel it is important to provide some of the details on what we see in front of us as the year unfolds.

The Rise of Private Markets

Although we spend most of our time researching economic trends, specific industries and public companies, we are intrigued by what is occurring in nonpublic markets. Over several decades there has been a dramatic reduction of publicly traded stocks. Since 1996 their number has declined from over 7,000 to some 3,600 at the end of 2017. There have been several reasons for this reduction:

- Acquisitions of public companies by other public companies and private equity firms.
- Delisting of companies due to poor operating performance -- the "dot com" bust and the 2008 recession contributed to that trend.
- Fewer companies going public. There was a big increase in companies going public during the long bull market in the 1980s and 1990s -- some 300 new offerings per year compared to 100 at the current pace. One important change is that more high-growth companies are currently staying private because they are being adequately funded by venture and private equity capital. They also want to avoid the regulatory oversight of listing as a publicly traded company.

The last point is of particular interest. In a National Bureau of Economic Research report entitled "Eclipse of the Public Corporation or Eclipse of the Public Markets?" published in January of this year, the authors (professors at various universities) reached several conclusions:

- The U.S. public stock and bond markets are no longer "well-suited" to provide the financing requirements of young growth companies. Stated another way, although public stock investors have benefitted from having young growth companies become public companies, such as Facebook, Google and Amazon, public investors may be shut out of many future growth leaders. The authors suggest only private equity and venture capital investors will participate in these emerging growth companies.
    - A recent Wall Street Journal article pointed out that private markets are now raising more money for companies than public markets with $2.4 trillion raised privately in 2017 versus $2.1 trillion raised publicly. In many cases, it is easier for private companies, such as Airbnb and Uber, to grow revenues without the pressure to immediately produce profits that public shareholders usually demand (Amazon is one of the few public companies to convince investors not to focus on current profits). That can be tough competition for public companies.
    - The funding of many marginally profitable companies with private financing in excess of $2 trillion -- a big number relative to the size of our economy -- could, in our opinion, also prove to have a material negative impact in an economic downturn if their businesses falter.

- The authors pointed out that the most highly valued companies in the market today, such as Alphabet (aka Google), Facebook and Apple, are very different from industrial leaders of prior decades. This difference has important implications for capital spending and decisions regarding dividends and share repurchases.
  - Today's leaders have very different business models. Instead of spending a lot of money on plants and equipment, the new leaders spend considerably more on research and development -- more computer scientists and fewer machine tools. The public market value of today's leaders, such as Facebook, depends very much on their reputation with consumers, not on their ability to efficiently manufacture and sell a product. The downside for consumer-driven business models is that reputations can vanish overnight, whereas plants and machines are typically not the subject of social media campaigns. Without the heavy cash needs to build new plants and equipment, these companies are more profitable than prior leaders and build up more cash on their balance sheets.
  - One of the promised benefits of the new tax law was that companies would repatriate cash and build plants and employ more workers in the United States. Some of that may happen, but most of these cash-rich technology companies are not capital intensive businesses. In all likelihood, the money will be spent on shareholders in the form of higher dividends and share repurchases. Over the past two decades, public companies have spent more than $3 trillion buying back stock.

- Finally, the authors suggested that the U.S. economy is becoming a winner-take-all economy. In 1975, the 100 most profitable companies accounted for less than half of all corporate profits. Today they account for almost 85%. In 1975, the top five companies by market capitalization had a total value of $500 billion (in 2015 dollars). Today the top five have a total value of $3.4 trillion. Four of these five companies are the aforementioned technology leaders. Some of these technology companies have acquired smaller private and public companies that eventually could have posed a strong competitive threat.

So, what are the portfolio ramifications of some of these trends -- the shrinking universe of public companies, the cash rich nature of today's winners, the acquisition of smaller competitors, and the great increase in privately funded companies, many of which have reached billion dollar private valuations? First, as investors in public companies, we wish many more young companies would go public, but having to select amongst more than 3,000 public opportunities and 100 new offerings per year is hardly a limited menu. Secondly, we see many young, public companies such as biotechnology companies with and without earnings greatly reward public shareholders. In brief, public shareholders still have a surfeit of investment opportunities, and we do invest in many relatively young companies.

The market currently is more focused on uncertainties related to more "mature" technology companies that we have invested in such as Google and Facebook than in new issues such as Spotify, the music streaming service. The market is wondering if these companies, and others such as Apple and Microsoft, are building up so much cash because they have run out of good investment opportunities. As a result, some think we have seen the bulk of their market appreciation. With cumulative market values in excess of $2 trillion it is hard to argue that similar gains lie ahead. However, these companies are making many acquisitions, aggressively recruiting scientific talent, and conducting basic research in order to be at the forefront of using new technologies such as artificial intelligence and quantum computing. They should have a bright future.

Our colleague, Chris Bater, has been researching quantum computing, one of the next generation evolving technologies that all the large technology companies are addressing. The following summary highlights her insights into this fascinating, but still evolving technology.

A Quantum Jump into Next Generation Technology

We are reaching the limits of the data processing power of traditional (or classical) computers as data just keeps growing. Enter: quantum computing. While classical computers use the laws of mathematics, quantum computers use the laws of physics -- more specifically, quantum mechanics. If it is difficult to envision how classical computing works (e.g. converting ones and zeros into ……), it is even harder to understand quantum computing. However, quantum computing holds the promise of solving problems that classical computers cannot.

We can describe the difference between classical computing and quantum computing with the image of a coin. In classical computing, information is stored in bits with two states, 0 or 1 -- or heads or tails. In quantum computing, information is stored in quantum bits ("qubits") that can be any state between 0 and 1 -- similar to a spinning coin that can be both heads and tails at the same time. The information contained in qubit is much richer than the information contained in a classical bit. Every time you look at a spinning coin it takes on a different state, i.e. 75% heads and 25% tails, depending on where in the rotation you look at it. This is similar to a qubit that has a very fragile state, which can change each time you look at it.

"Try switching it off and on at the same time."

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To search potential solutions to a problem, a classical computer individually tests different combinations of 0s and 1s. Meanwhile, quantum computing can test all combinations at once because a qubit represents all combinations of states between 0 and 1 at the same time (when it works -- quantum computers do make errors). This allows for exponential acceleration of calculations. Problems that would take years to solve on a current supercomputer could take just hours or minutes on a quantum computer. It is anticipated that this will transform our machine learning and artificial intelligence capabilities -- all in due time.

At some time in the future, quantum computing is likely to change the way we do business and will be an important tool for greater use of artificial intelligence. It is likely to be employed to safeguard data, fight disease, invent new materials, and solve health and climate problems. In addition to the market's highly valued technology companies, private capital has funded several startups such as Righetti Computing and Quantum Circuits. IBM, which lost its luster many years ago, is a leader in quantum computing. It will be interesting to watch as these new technologies, artificial intelligence and quantum computing, eventually come to market and determine who the winners and losers are. There are sure to be winners that remain private, but we expect many public companies to benefit as well.

Bob Milnamow
President and
Chief Investment Officer
April 2018

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*The **Dow Jones Industrial Average** is a price-weighted average of 30 significant stocks traded on the New York Stock Exchange (NYSE) and the NASDAQ.*
*The **Nasdaq Composite Index** is the market capitalization-weighted index of approximately 4,000 common equities listed on the NASDAQ stock exchange. The index includes all Nasdaq-listed stocks that are not derivatives, preferred shares, funds, exchange-traded funds (ETFs) or debenture securities.*
*The **Dow Jones Global (ex U.S.) BMI** (Broad Market Index) comprises the S&P Developed BMI and S&P Emerging BMI, and is a comprehensive, rules-based index measuring stock market performance globally, excluding the U.S.*
*The **Barclays Aggregate Bond Index** is a market capitalization-weighted index. Most U.S. traded investment grade bonds are represented. Municipal bonds and Treasury Inflation-Protected Securities are excluded, due to tax treatment issues. The index includes Treasury securities, government agency bonds, mortgage-backed bonds, corporate bonds, and a small amount of foreign bonds traded in U.S.*

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