

Pax World Investment Outlook: Second Quarter 2017

Technology and Sustainable Investing

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The technology sector has never been much of a shrinking violet, but even by its standards, the spotlight has been exceptionally bright in the first quarter. It's rare when a day goes by without several headlines about robotics, artificial intelligence (AI), blockchain/bitcoin, big data, and the internet of things (IoT) appearing in our newsfeeds.

In this quarter's commentary, we'll take a closer look at the connection between technology and sustainable investing. We illustrate ways technology is driving economic value, along with positive environmental and social advances in the Energy and Healthcare sectors, respectively.

Before we dive into that topic, let's recap market moves during the first quarter, which were largely positive on expectations of pro-growth Trump policies.

The Bull Market Stretches On

Equity markets built on gains from 2016 and delivered strong performance in the first quarter of 2017. However, there were several notable changes in performance leadership.

The S&P 500 Index was up nearly 6.1%, while small cap stocks only returned 2.5% as represented by the Russell 2000 Index. Small cap stocks topped large cap in 2016, but loftier valuations in 2017 likely stifled bigger returns year-to-date.

Growth stocks also reversed course relative to last year, significantly outperforming value stocks in the first quarter as the market was led by strong performance in the Technology and Healthcare sectors. International developed market equities were very strong, returning nearly 7.25% (MSCI EAFE Index), and modestly outperforming U.S. large caps after trailing in 2016. Investment grade bond returns were just under 1%, while high yield bonds returned 2.7% on prospects for reinvigorated economic growth due to the Trump administration's policy plans.

KEY TAKEAWAYS

- Equity markets built on gains from 2016 and delivered strong performance in the first quarter of 2017. However, there were several notable changes in performance leadership.
- Technology is a driver of economic value across sectors, facilitating innovation, efficiency and cost reductions.
- Perhaps nowhere is the effect of technology on environmental stewardship more apparent than in renewable energy. And possibly no facet of our lives is more affected by technology than healthcare.
- The drivers of many environmental and other sustainability-related markets are economic, not political. Innovation and advances in technology factor into those economic drivers alongside many long-term investment fundamentals.

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Change in Performance Leadership

	2016	Q1 2017
Large Cap (Russell 1000 Index)	12.1%	6.0%
Small Cap (Russell 2000 Index)	21.3%	2.5%
Relative Performance (Large Cap – Small Cap)	-9.2%	+3.5%

Growth (Russell 3000 Growth Index)	7.4%	8.6%
Value (Russell 3000 Value Index)	18.4%	3.0%
Relative Performance (Growth – Value)	-11.0%	+5.6%

Developed Markets (MSCI EAFE Index)	1.0%	7.3%
U.S (S&P 500 Index)	12.0%	6.1%
Relative Performance (MSCI EAFE Index - U.S.)	-11.0%	+1.2%

Past performance does not guarantee future results.

Technology Impact on Productivity and Jobs

Technology has long been recognized as a driver of economic value. The World Economic Forum notes¹ that information and communications technology can increase economic growth through direct job creation, gross domestic product growth, stimulating new industries and services, transforming workforces and business innovation.

When we think of the performance of technology in investments, of course, we're talking about the performance of the information technology sector. However, the impact of information technology on productivity is hardly confined to the technology sector itself. Academic research shows that using information technology to drive decision-making results in a measurable and significant uptick in productivity and output for *any* firm.²

In terms of sustainability, the technology sector itself tends to do well on many measures of sustainability, with a few glaring exceptions—notably, gender diversity. Information technology also can improve some of the metrics of sustainability in many ways in other sectors. For instance, 3-D visualization can help improve worker safety, and information technology together with telecommunications technology has enabled online work and telecommuting, which can help improve employee satisfaction and reduce attrition, reduce unscheduled absences, may help reduce the potential for discrimination, and reduces driving—and that, in turn, reduces traffic congestion and air pollution.³

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For index definitions, please see page 5.

¹Elena Kvochko, "Five ways technology can help the economy," World Economic Forum, April 11, 2013.

²Erik Brynjolfsson, Lorin M. Hitt, Heekyung Hellen Kim, "Strength in Numbers: How Does Data-Driven Decisionmaking Affect Firm Performance?" Social Science Research Network (SSRN), April 22, 2011

³Global Workplace Analytics. Costs and Benefits, "Advantages of Agile Work Strategies For Companies."

While technology brings many benefits, it also presents challenges that must be addressed. Many lower-skill workers have already been replaced by various forms of technology.⁴ A recent paper⁵ looking just at the impact of robots found that use of robots had reduced the number of American jobs, with manufacturing hit hardest. A recent analysis by PwC estimated that 38% of U.S. jobs could be at risk from increasing automation.⁶ Retraining either within companies or to prepare workers to transfer skills to emerging industries needs to accompany advances in technology.

Energy

Perhaps nowhere is the effect of technology on environmental stewardship more apparent than in renewable energy. Renewable energy's prospects, despite changes in the federal policy landscape, remain bright.

Clean energy is now, according to Bloomberg New Energy Finance, an industry worth a third of a trillion dollars, and its cost competitiveness with conventionally produced electricity (largely natural gas and coal) is improving rapidly, with some forms—notably, onshore wind and solar—increasingly competitive with grid-produced power.⁷

This improvement in renewables' cost competitiveness has occurred, over at least the past five years, *despite* rapidly falling costs of most fossil fuels. Why? Technology. While technology did make a significant difference in the cost of extracting one fossil fuel—natural gas—there has been very little improvement in the technology of turning fossil fuel into electricity for decades. The ability of innovation to bring down production costs is well understood, and most of it is still ahead of us in terms of future potential for renewables, and most of it is well behind us for fossil fuels.

Healthcare

There is possibly no facet of our lives more affected by technology than healthcare. Understanding and treating disease at the molecular level has a history that spans decades, if not centuries, and there is no end in sight for the *pas de deux* between innovation and healthcare.

The World Economic Forum recently published a thought-provoking piece that touched on many of the facets of rapidly developing healthcare, including the ability to be treated for a wide variety of conditions without leaving home, the ability to synthesize organs to replace organ donations, continuous (remote) monitoring, and surgery by nano-robots, with no scalpels required.⁸

And even today, hospitals are beginning to go virtual. Physical boundaries are disappearing with doctors, their colleagues and patients. Companies such as Cisco Systems are providing advanced video technologies that help deliver face-to-face remote care for patients. This results in greater savings for health care companies as well as patients.

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⁴Erik Roberts, "Effect of the Changing Nature of the Workplace on the Individual Worker," Stanford University School of Engineering.

⁵Jamie Condliffe, "Actually, Steve Mnuchin, robots have already affected the U.S. labor market" MIT Technology Review, March 28, 2017.

⁶PwC, UK Economic Outlook, "Consumer spending prospects and the impact of automation on jobs," March 2017

⁷Michael Liebreich and Angus McCrone, "Liebreich and McCrone: The shift to 'base-cost' renewables: 10 predictions for 2017," Bloomberg New Energy Finance, January 18, 2017.

⁸Melanie Walker, "Healthcare in 2030: goodbye hospital, hello home-spital," World Economic Forum, November 11, 2016.

Microsoft is a technology company helping to reduce healthcare costs. They provide software and services to securely store patient information as well as the ability to monitor patients remotely. Securing a patient's information helps reduce fraud, which is a significant cost to the healthcare industry.

Long-term Focus

In the first quarter there has been a lot of ink devoted to shifts in federal policy, and how that could affect markets. But much of what has happened in markets is based on expectations and hopes, not events. Whether the Administration's actions on climate change, for example, will really make much impact on markets for renewables is still unknown. But one thing is fairly certain: the possibility that coal markets and jobs can be restored to health is remote.

Why? The drivers of many environmental and other sustainability-related markets are economic, not political. Innovation and advances in technology certainly factor into some of those economic drivers, but there are a number of long-term market forces at work.

The investment fundamentals of businesses that help reduce environmental impact are primarily driven by declining costs, scarcer resources, and reputational risk. The markets for human well-being, similarly, are driven by aging populations, increasing risks due to climate change and population growth, and expanding wealth. These are long-term opportunities for us, as long-term investors.



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Steve Falci, CFA®, Chief Investment Officer, joined the Investment Management Department in 2014 to aid in fund strategy development, oversee the collaboration

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Index Definitions

The **S&P 500 Stock Index** is an unmanaged index of large capitalization common stocks.

The **Russell 2000 Index** measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000 Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership.

The **MSCI EAFE (Europe, Australasia, Far East) Index** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. The MSCI EAFE Index consists of the following 21 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. Performance for the MSCI EAFE Index is shown "net", which includes dividend reinvestments after deduction of foreign withholding tax.

The **Russell 1000 Index** is a market capitalization-weighted index that measures the performance of the 1,000 largest companies in the Russell 3000® Index, which represents approximately 92% of the total market capitalization of the Russell 3000 Index.

The **Russell 3000 Growth Index** is a market capitalization weighted index that measures the performance of those Russell 3000 companies with higher price-to-book ratios and higher forecasted growth rates.

The **Russell 3000 Value Index** is a market capitalization-weighted index that measures the performance of those Russell 3000 Index companies with lower price-to-book ratios and lower forecasted growth rates. The stocks in this index are also members of either the Russell 1000 Value or the Russell 2000 Value indexes.

One cannot invest directly in an index.

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