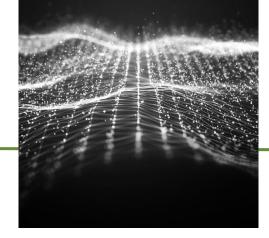
MARKET SIGHT LINES



Continuing the AI discussion: Our Long-Term Investment Themes

By Michael O'Keeffe, Chief Investment Officer





Last week we discussed <u>artificial intelligence (AI) today</u> and what that might say about the future. We also talked about ChatGPT and other similar services, as well as applications like big data analytics, robotic surgery, and precision agriculture. In this discussion, we also mentioned *The Fourth Industrial Revolution* and our other long-term investment themes.

In this Sight|Lines, we continue that discussion to more fully explain our five long-term investment themes and how we believe they are affecting our world ... and our investment guidance.

THE TAKEAWAY: WE FIND THE PRACTICE OF DEFINING INVESTMENT THEMES HELPFUL WHEN TRYING TO UNDERSTAND, AND INVEST IN, LONG-TERM TRENDS.

When trying to make sense of how the world changes over longer periods of time, long-term investment themes help. Our five major investment themes help describe the way we live, interact with each other, and consume goods and services. They greatly influence the direction of the economy and markets longer term. In summary:

- Our investment themes are *The Fourth Industrial Revolution*, *Securing Strategic Resources*, *Shifting Demographics*, and *Productive Competition*.
- Many topics that we see in the news, like renewable energy, geopolitical tensions, robotics, artificial intelligence, and the future of health, are aligned with one or more of these themes.
- Some of the information is quite striking, like the idea that 2.5 billion gigabytes of data are created each day, or that Google processes 99,000 searches every second, on average.

Long-term investment themes help us understand how the world, the economy, and the markets evolve over time.

IN-DEPTH: WE FIND THE PRACTICE OF DEFINING INVESTMENT THEMES HELPFUL WHEN TRYING TO UNDERSTAND, AND INVEST IN, LONG-TERM TRENDS.

The vast majority of our clients are long-term investors. When trying to make sense of how the world changes over longer periods of time, we have found it helpful to define long-term investment themes to do so. Our major investment themes are five interrelated megatrends we believe will impact almost all aspects of our world, including shaping the way we live, interact with each other, and consume goods and services. In doing so, we expect them to greatly influence the direction of the economy and markets longer term. Going deeper:

• *The Fourth Industrial Revolution* captures the idea that technological innovation has broken down the boundaries between the physical, digital, and biological worlds.



- An explosion of data, the information needed for artificial intelligence to learn, is evident. 2.5 billion gigabytes of data are created each day, and Google processes 99,000 searches every second, on average. The searches themselves what people are asking are data too.
- The power of computing continues to advance: In 200 seconds, a quantum computer can solve a problem that the world's current fastest computer would need 10,000 years to compute.
- Securing Strategic Resources captures the idea that companies and governments are prioritizing the development and protection of critical industries, resources, and services.
 - Food and water security is in increasing focus, as we'll need to feed almost 2 billion more people by 2050, and doing so will increase agricultural water consumption by 19%.
- Shifting Demographics focuses on changes in global population dynamics that will bring about both challenges and opportunities.
 - People are living longer By 2050, 1.5 billion people will be 65 or older, and the number of people 80 or older will triple.
 - There is increased use of digital health/virtual visits and robotic surgery and an ever greater focus on preventative care.
- *The New Consumer* tracks how consumer preferences, expectations, and behavior are altering business models and corporate strategies.
 - Experiences like shopping are more and more personalized and contactless every day, as companies process the vast amount of data they learn about us through time.
 - Social media has digitized human connectivity, with two of every three people on these platforms.
- *Productive Competition* Rivalry ultimately drives innovation, improves the quality of life, and creates value for consumers and the economy.
 - The U.S. and China are in an epic battle to dominate the world's economy, including the production of semiconductors, the key component to drive so much of this innovation.

CONCLUSION

We've been discussing how Al is shaping our world and the future. Our investment theme, *The Fourth Industrial Revolution*, helps us understand how this capability fits into other trends. But in reality, Al is shaping and influencing all five of our long-term investment themes, concepts we develop and cultivate to better understand the way we live, interact with each other, and consume goods and services. These themes also serve to help us all understand the drivers of economic and market growth longer term.

Michael P. O'Keeffe, CFA in.
Chief Investment Officer

michael.okeeffe@stifel.com

www.stifelinsights.com



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