



Beyond the FAANGs: Semiconductors

September 18, 2017

U.S. equity market returns over the last several years has been driven by the performance of a select group of large cap information technology and Internet stocks that have come to be known as the FAANGs, for Facebook, Amazon.com, Apple, Netflix and Google (now known as Alphabet). Our investment teams have shared concerns about the crowding effect that the outlier performance of this group has created. While these companies possess unique business models and maintain strong long-term growth potential, we believe more attractive current opportunities may be found in looking beyond the FAANGs to other areas of technology, such as semiconductors.

Select Chip Stocks Could Buck Late-Cycle Pressure

Mark Andreessen (founder of Internet pioneer Netscape) once remarked that “Software is eating the world.” This has certainly held true as Amazon.com, Facebook and Google have disrupted several industries. However, it is also true that the tremendous growth in software functionality has only been enabled by tremendous growth in semiconductor performance. Historically, semiconductors have benefited from the power of Moore’s Law, the 50-year-old prediction by Intel co-founder Gordon Moore that the number of transistors on a given die would double every 18–24 months.

That remarkably prescient forecast has driven tremendous economic value for consumers, as evidenced by the fact that the average smartphone now has more computing power than the entire initial Apollo space mission. However, for many years much of that value wasn’t extracted by the semiconductor industry, as the pace of innovation led to a “race to the bottom” mentality, with higher volumes being offset by price declines. In recent years, however, Moore’s law appears to be slowing, with leading edge semiconductor manufacturers running up against both physical limitations (the size of semiconductor gates is now just a few atoms in width) as well as economic ones (after falling for decades, the cost per transistor in some cases appears to be rising). Counterintuitively, this end of Moore’s law dynamic has led to a more favorable industry structure, with better pricing power for semiconductor suppliers and more stable margins. On top of that, semiconductor companies are rationally adjusting to lower long-term growth rates, which are leading to lower investment profiles and higher margins across the industry.

However, while we continue to be positive on the long-term drivers of the industry, semiconductors remain susceptible to inventory cycles, which can impact their near-term fundamentals. We are cautious in our overall view of the semiconductor cycle, although we believe there are several semiconductor stocks that have a combination of defensive, counter-cyclical, and secular growth opportunities that will allow them to outperform even in the event of a cyclical correction in the space.

Historically, semiconductor stocks outperform early in the business cycle (such as 2003–2004 or 2009–2010) and again later in the cycle, after undergoing cyclical corrections (such as 2006 or 2014). The Philadelphia Semiconductor Index (SOX) has outperformed the S&P 500 Index by over 40 points over the past 12–18 months (Exhibit 1).

This outperformance has been driven by substantial growth. We estimate that the overall semiconductor market will grow 17% in 2017, well above its long-term average of 3%–4%. While we share in the excitement of multiple new technology trends that can drive excess growth (artificial intelligence, the Internet-of-things, or self-driving cars), they still represent a small part of a very large and mature industry. Looking back, it’s clear that even during large product cycles, such as the explosive growth of smartphones or cloud computing, the overall semiconductor market has still grown in line with global GDP (Exhibit 2).

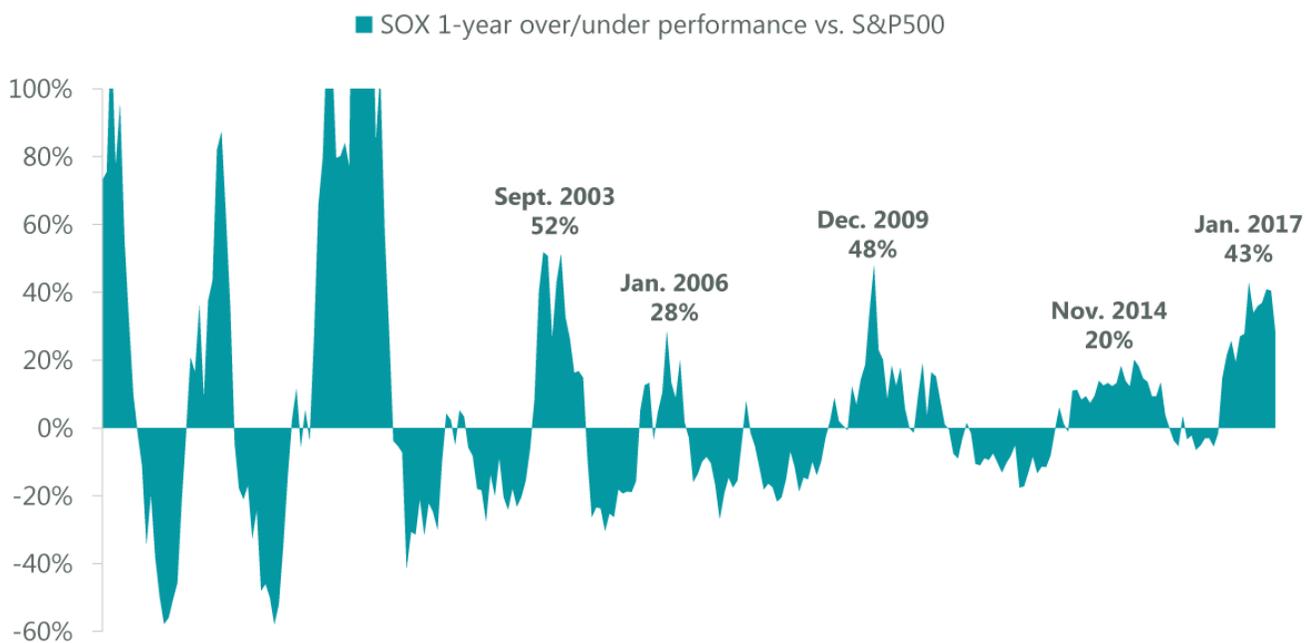
We see that trend persisting, and similar to 2010, when the semiconductor market massively outgrew global GDP, we see growth rates falling significantly in 2018 and 2019 as customers digest excess inventory.

So how does one position for a cyclical downturn? Semiconductor companies tend to have a lot of operating leverage given their large fixed investments, chiefly in engineers and manufacturing facilities. As a result, when sales growth turns down, it tends to drag down margins as well. We believe that “fabless” semiconductor companies such as **Qualcomm** provide a more defensive earnings stream, in Qualcomm’s case particularly when factoring in their large licensing business.

We also see some growth pockets that we believe can be counter cyclical. For example, Apple is expected to launch three iPhone models in the next few months, which we believe will drive an upgrade cycle across the Apple installed base. **Broadcom**, a supplier of RF filters in the iPhone, is expected to have 40% more content in the new models compared to the iPhone 7/7+, which should allow the company to sustain growth even in the face of an industry downturn. We also see Broadcom’s upcoming acquisition of Brocade Communications Systems, and the company’s new initiative to return more cash in the forms of dividends, as being supportive of the stock.

Finally, in the semiconductor capital equipment space, we are positive on **ASML**. Our thesis here is based on customers adopting the company’s new Extreme Ultra-Violet (“EUV”) technology, which can fit even smaller transistor sizes on semiconductors. Given ASML’s 100% share in this new technology, and the enormous benefits that continuing Moore’s law provides, we believe ASML will be able to outperform its equipment peers.

Exhibit 1: Semiconductor Outperformance Follows Cyclical Patterns



Source: Bloomberg.

Exhibit 2: Semiconductor Growth Closely Correlated to Global GDP

Year-over-Year Growth	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017E	2018E
Total Semiconductors	-3%	-9%	32%	0%	-3%	5%	10%	0%	1%	17%	4%
Global Nominal GDP	10%	-5%	9%	11%	2%	3%	3%	-6%	1%	4%	5%

Source: Semiconductor Industry Association, IMF company reports.

About the Author



Deepon Nag

Director, Senior Research Analyst

- 8 years of investment industry experience
- Joined ClearBridge Investments in 2016
- MBA from Columbia Business School
- BS in Computer Science and Mathematics from University of Puget Sound

ClearBridge Investments

620 Eighth Avenue, New York, NY 10018 | 800 691 6960 | ClearBridge.com

Copyright © 2017 ClearBridge Investments. Past performance is no guarantee of future results.

Bold indicates stocks held in ClearBridge strategies as of September 18, 2017. All opinions and data included in this commentary are as of September 18, 2017 and are subject to change. The opinions and views expressed herein are of Deepon Nag and may differ from other managers, or the firm as a whole, and are not intended to be a forecast of future events, a guarantee of future results or investment advice. This information should not be used as the sole basis to make any investment decision. The statistics have been obtained from sources believed to be reliable, but the accuracy and completeness of this information cannot be guaranteed. Neither ClearBridge Investments nor its information providers are responsible for any damages or losses arising from any use of this information.