

**2014 Upside and a Late-November Rally**  
**Opportunities Emerge, but I Remain Cautious on the Chip Sector as a Whole**

Lots of good news in semiconductors last month: 3Q results finished slightly better than expected; the expected 4Q sequential decline eased somewhat; forecasted growth for the year improved; and the chip sector rallied and significantly outperformed broader equity markets in late-November. And even better, I was lucky enough to upgrade a number of stocks just ahead of the rally! What can possibly go wrong?

Well, seasonality is going wrong and much of that good news consists of pretty minor adjustments as noted below. While a number of investment opportunities have emerged in recent weeks, I remain cautious on the semiconductor sector overall as we enter the two slowest quarters of the year.

**Slowing October Growth:** Worldwide semiconductor industry revenue grew by a modest +1.5% sequentially on a three-month rolling average basis during October, according to statistics released by the Semiconductor Industry Association (SIA) last week. This is the third consecutive below-average month, although was better than the flat-to-down that I had expected. It compares to an average gain of +2.5% with a high of +6.8%, a low of -2.0%, and only three declines in the last 24 years—but all of them occurred over the last six years. The Americas continue to lead with impressive growth of +5.8% followed Asia-Pacific at +0.7%, while Europe and Japan continue to lag with declines of -0.1% and -0.6%, respectively.

Next month’s release of November data is even weaker and has trended negative in recent years: It has averaged a gain of +1.6% with a high of +6.3%, a low of -7.2%, and only four declines in the last 24 years—although three of them occurred over the last six years. I would not be surprised to see a decline next month.

**3Q Growth Revised:** Industry statistics are often restated, and this month’s numbers revised the sequential industry revenue growth for 3Q to +6.5% from +5.7% rendering it just above average instead of slightly below. The semiconductor industry has averaged 3Q sequential revenue growth of +6.4% with a high of +19.9% and a low of -11.7%, and has declined only twice in the last 24 years—including none of the last 10. However, the Tokeneke Universe actually softened as the 3Q earnings season reports drew to a close with weighted average growth of +5.6% down from +6.0% last month, although the average company grew to +5.5% from +5.3%. Nevertheless, it still finished better than expectations based on company guidance that centered on +5.0% and ranged from +2.1% to +7.9%. My Universe is only a proxy for the overall chip industry, and I consider the differences to be minor.

**4Q Decline:** The 4Q outlook approximates a sequential decline of -1%. While this is far short of investors’ original expectations for growth ahead of 3Q reports, it is very consistent with season patterns over the last couple of years.

The 4Q has averaged sequential industry revenue growth of +1.5% with a high of +16.1%, a low of -24.2%, and declines 10 times in the last 24 years—including six out of the last seven. The crash of 2008 accounted for that low number of -24.2% and the recovery in 2009 has been the only positive year since, but the magnitude of the decline in each of the last two years has been less than 1.0%. Tokeneke Universe guidance with virtually all 91 companies having reported is now centered on -0.7% ranging from -3.2% to +1.8%, which is slightly better than last month when it was centered on -0.9% ranging from -3.3% to +1.5%. Nearly two-thirds of reporting companies in the Tokeneke Universe have provided 4Q revenue guidance below published consensus expectations.

**Chip Stocks Rally:** Semiconductor sector stocks outperformed broader equity markets during November due to a strong finish after a flat first half. The Philadelphia Semiconductor Index Option (SOX) gained +7.0% last month while the average stock in the Tokeneke Universe grew by +3.0% with 59 out of 91 issues advancing, compared to gains from the NASDAQ, S&P500 and DOW of +3.5%, +2.5%, and +2.5%, respectively. The chip sector continues to significantly outperform year-to-date with the SOX up by +28.2% and 59 out of 91 Tokeneke stocks up by an average of +19.3% compared to those same three indices at +14.7%, +11.9%, and +7.6%, respectively.

November				QTD (4Q)				YTD				Indices						
Winners (59/91)		Losers		Winners (57/91)		Losers		Winners (59/91)		Losers		Nov	QTD	YTD				
TSEM	31.2%	MOSY	-31.2%	PSEM	30.5%	ADNC	-53.0%	VIMC	287.6%	IKAN	-72.0%	SOX	7.0%	7.4%	28.2%			
AMBA	24.2%	IKAN	-19.4%	TSRA	28.6%	HIMX	-32.8%	TQNT	192.2%	ADNC	-70.1%	SMH	8.0%	8.7%	30.9%			
OIM	18.3%	VIMC	-16.8%	CEVA	28.1%	NLST	-32.8%	RFMD	183.1%	MOSY	-66.5%	NASDAQ	3.5%	6.6%	14.7%			
PSEM	16.3%	NLST	-12.3%	TQNT	27.8%	SQNS	-28.3%	SWKS	136.2%	ANAD	-56.5%	S&P500	2.5%	4.8%	11.9%			
SWKS	15.8%	SPWR	-11.6%	INFN	27.7%	INVN	-26.6%	TSEM	120.2%	AMCC	-55.8%	DOW	2.5%	4.6%	7.6%			
average stock +3.0%				average stock +2.0%				average stock +19.3%				SOX +28.2%						
SOX +7.0%				SOX +7.4%														

**2014 Upside:** The SIA updated its twice-yearly forecast last week, raising its world-wide semiconductor industry growth forecast for this year to +9.0% from +6.5% last June due to memory product strength at +17.3% led by DRAM market prices; smartphone and automotive end-markets; and the lack of a decline in Japan due to currency issues. Growth for 2015 was raised to +3.4% from +3.3% and 2016 was lowered to +3.1% from +4.3% reflecting expected growth from automotive and communications, while consumer and computer markets remain flat.

The highlighted differences for 2014 between December and June are interesting. Product areas noted last June included both analog and sensors growing by +9.1%, but in December it included memory at +17.3%, discrete at +12.3% and analog at +10.3%. Tablets were included with smartphones and automotive as application markets expected to drive growth in June, but did not make the cut in December. And Japan is expected to grow instead of being the only geography expected to decline this year, as noted in June.

**DRAM Kicker:** I'm sticking with my forecast for 2014, despite the SIA upside: Chip industry business continues to grow at the pace and pattern from the last couple of years with annual growth in the mid-single digit percent range—plus some DRAM upside. The profile of business this year is strikingly similar to that we saw in the previous three years, as optimism for a strong second-half after a weak start fades when mid-year visibility disappoints.

Several years ago semiconductor industry seasonality largely tracked PC market supply characteristics, with a weaker first half of the year including a trough during 2Q, followed by a stronger second half with a 4Q peak. But the world changed after the financial crises in 2008: anemic worldwide macroeconomic conditions have accentuated the relative impact of seasonal business fluctuations; and the rise of the cell phone—and triumph over the PC in terms of total chip sales—has shifted industry seasonality to be more consistent with the traditional consumer market pattern of a 1Q trough, 2Q recovery, 3Q peak and then 4Q decline. While this is very much a gross over-simplification of a \$333B industry with many moving parts across a variety of products, geographies and markets, I also don't consider it necessarily inaccurate.

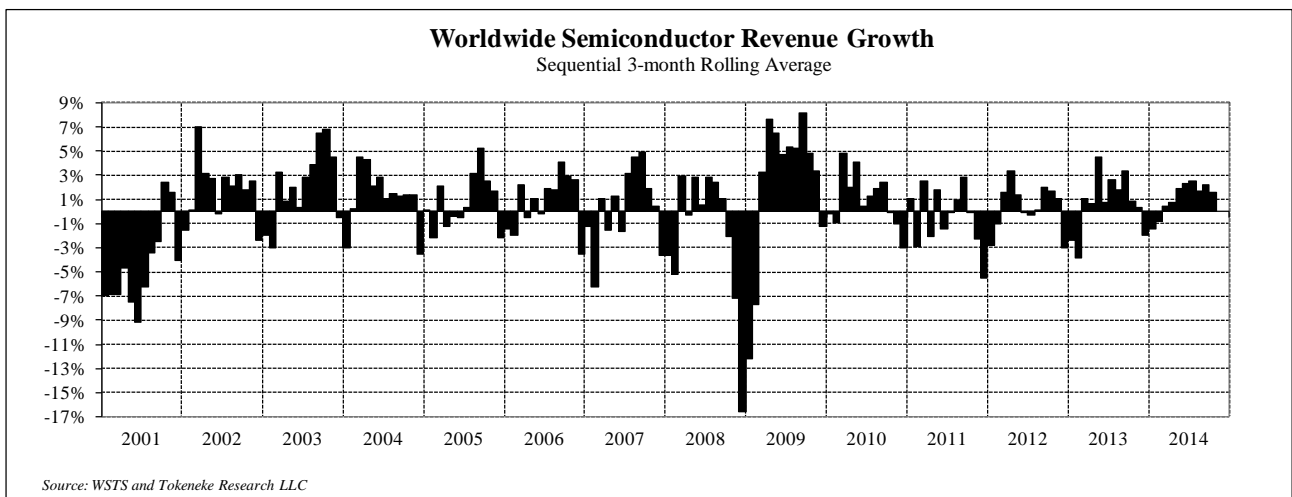
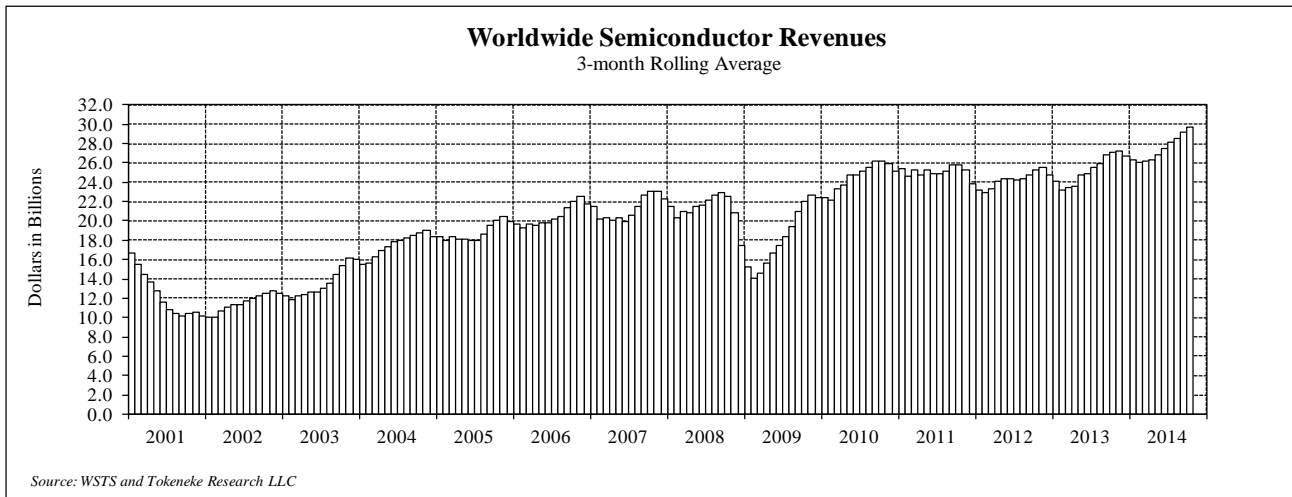
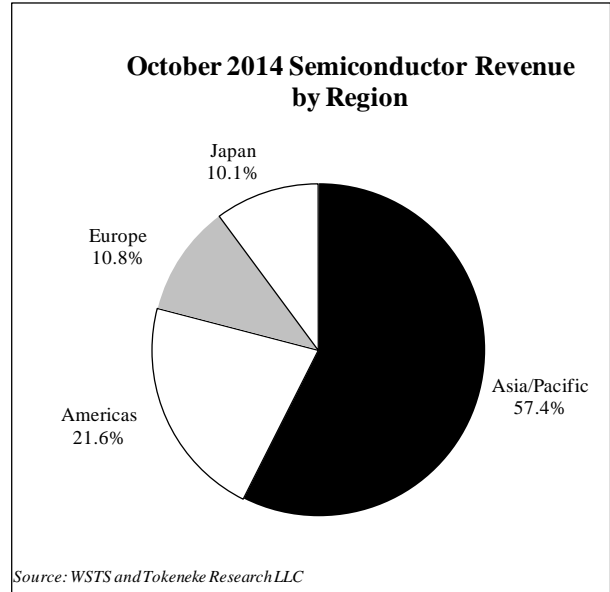
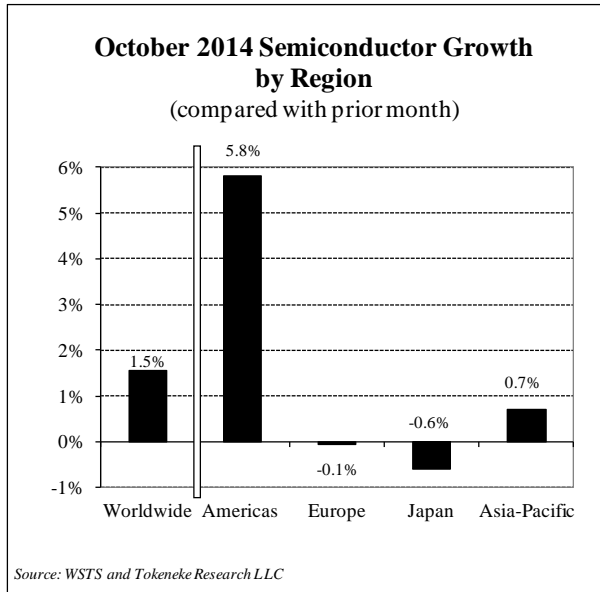
The general pattern of 'consumer market' seasonality has largely played out across the semiconductor industry over the last couple of years, and given persistently lackluster macroeconomic conditions I don't foresee much of a change to that pattern this year. In fact, disappointing guidance for 4Q appears to confirm it. The specific culprits this year are declining PC unit sales, telecommunication infrastructure delays, maturing tablet sales and violent smartphone market share shifts despite healthy automotive and industrial markets.

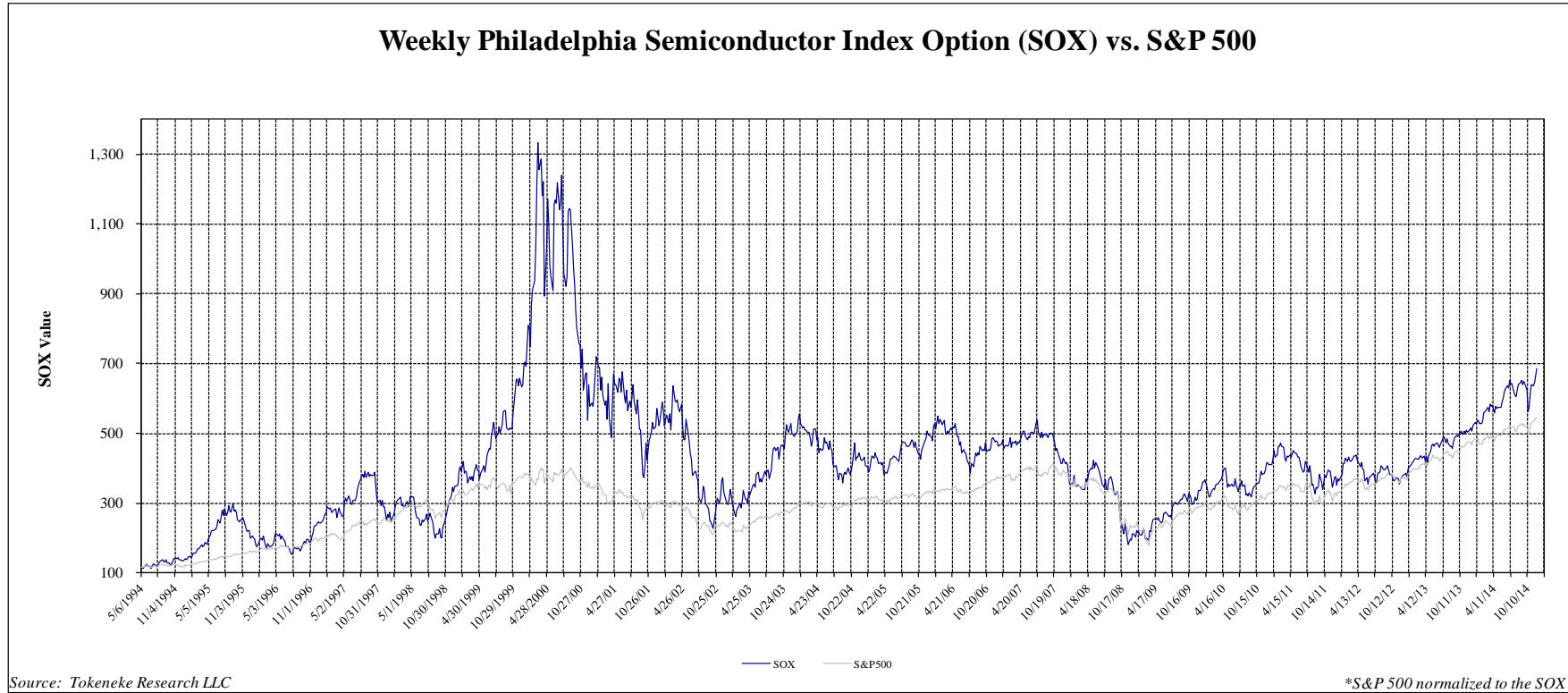
**Bottoms-Up Good, Top-Down Bad:** Semiconductor share prices finally settled down during the first couple of weeks of November after a highly volatile October, and I upgraded several equities in my Universe on November 22. While I am perfectly satisfied to have enjoyed at least some of the rally towards the end of the month, I confess to being surprised that it appeared to be more sector-oriented than issue-oriented as the larger-cap equities making up the SOX index significantly outperformed my broader Universe: The SOX was up by +7.0% last month, while the average stock in the Tokeneke Universe actually underperformed to the NASDAQ by 50 basis points with a +3.0% gain, although strength was fairly broad-based with 59 out of 91 issues advancing.

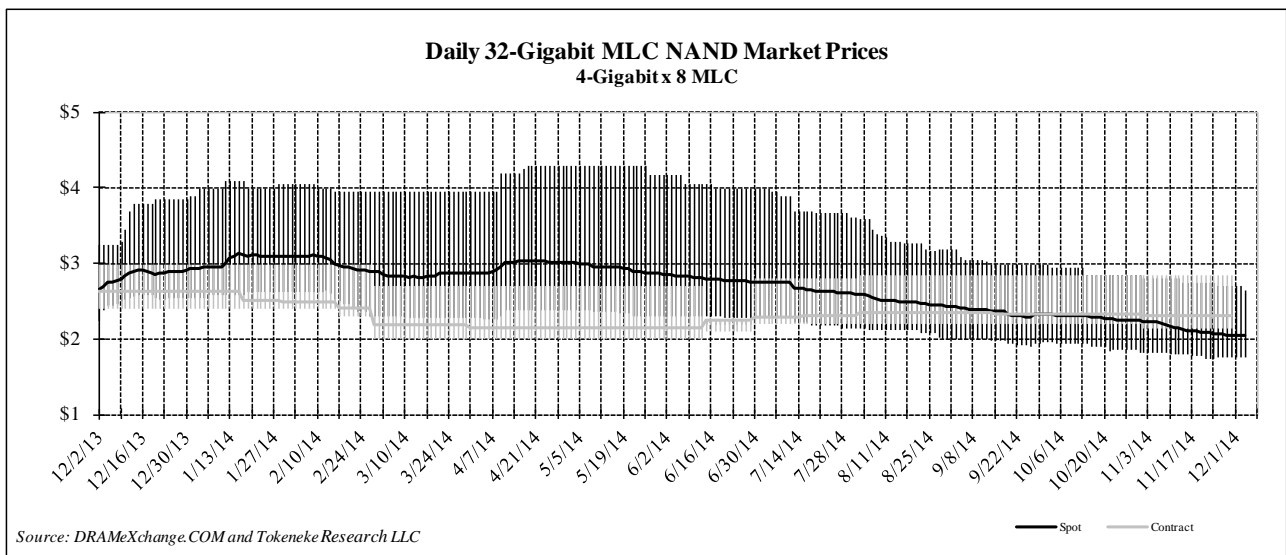
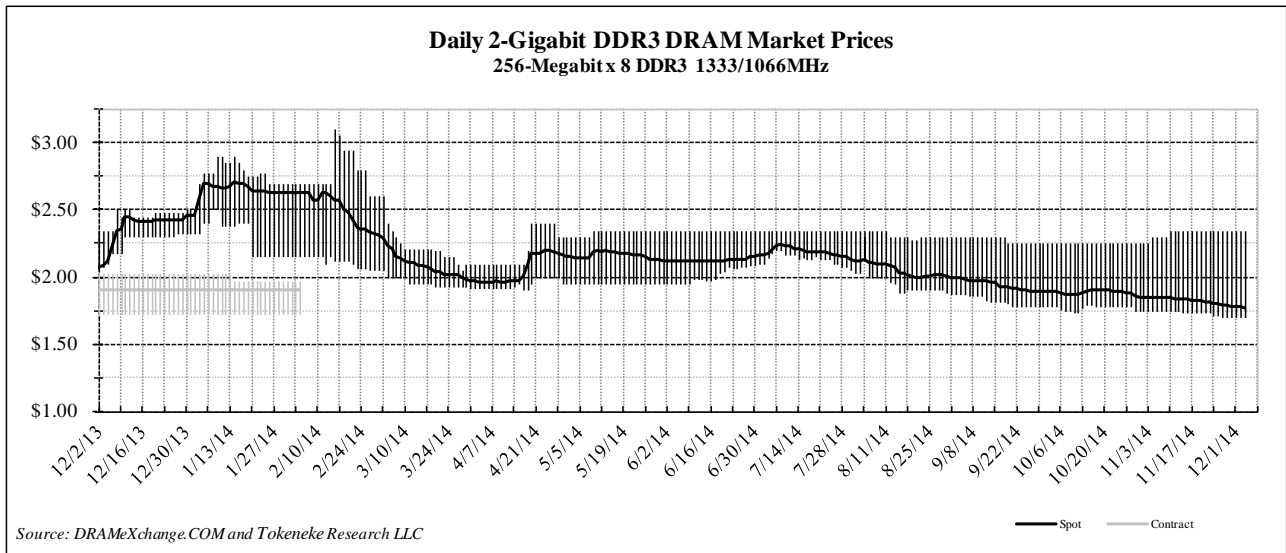
I upgraded my recommendations based on fundamental valuations and business conditions, and while I was encouraged to discover a number of opportunities I fear they do not necessarily portend sector-wide strength. Why? Primarily because we have just finished the second month at the beginning of two quarters of seasonally weak business conditions. On a sector-wide basis, it is difficult for me to anticipate much in the way of good news during January and February when lackluster 4Q results are revealed and 1Q guidance likely calls for a sequential decline of an even greater magnitude.

Opportunities are clearly presenting themselves. Nevertheless, I remain cautious on the sector overall.

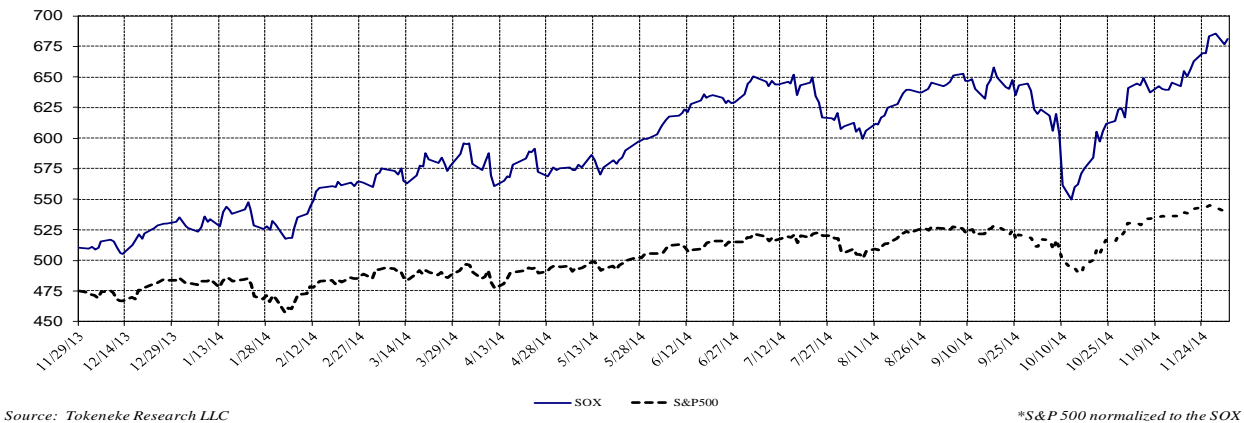
—Dan K. Scovel  
Semiconductor Analyst







### Daily Philadelphia Semiconductor Index Option (SOX) vs. S&P500 Daily Close, Trailing 12-months



## **The Company**

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## **My Background**

I have an electrical engineering background, nearly 12 years of semiconductor industry experience, and was on Wall Street for nearly eight years where I was selected as the Best On The Street semiconductor analyst for 2002 by The Wall Street Journal, and third-rated Best of the Best across all sectors.

I obtained my undergraduate BS degree in electrical engineering from the University of Washington, and my MBA from Santa Clara University. My industry experience consists of nearly 12 years in various technical sales and marketing roles at four different semiconductor firms located in Silicon Valley beginning with Advanced Micro Devices in 1984, followed by two small start-up companies, and ending at Cirrus Logic where I supported the firm's Japanese market development. I joined Fahnestock & Co. as a senior semiconductor analyst in 1996 and was recruited by Needham & Co. in April 2000.

My formal coverage list as a sell-side analyst included the following equities: AMD, ALSC, ALTR, ARTI, ATML, CUBE, CY, ESST, GNSS, INTC, ISSI, LSI, MOSY, MU, OIIM, OVTI, RMTR, SIII, SMSC, STEC, SVTG, TDFX, TSRA, TXN, and ZRAN.

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