Happy Year of the Snake!

Care and Caution—Plan Ahead with Thorough Evaluation

The big picture for the semiconductor sector remains one of business weakness and disappointment to investor expectations as we enter a cyclical business trough. Nevertheless, there are some bright spots: bookings have turned up on a broader end-market basis; smartphone and tablet markets are strong; outperforming winners exist even beyond those markets; share prices are attractive on a fundamental valuation basis across many issues in the sector; and the sector certainly has the attention of investors so far this year.

My recommendation remains to pick stocks with relatively attractive fundamental valuations to mitigate downside risk as we approach the bottom of a business cycle with limited visibility to an upturn amid a plethora of macroeconomic risks and uncertainties. Investors can't afford NOT to have at least some semiconductor exposure at this point given the relative outperformance of the sector, but only so much as discomfort will allow—which turns out to be pretty consistent with the care, caution and thorough consideration required for the Year of the Snake.

Below-Average December: December is traditionally a weak month and last year it was somewhat below average—about as much as November was above average. Semiconductor industry statistics for world-wide sales released by the Semiconductor Industry Association (SIA) last week reflected a three-month rolling average decline of -3.0% compared to an average contraction of -2.6% over the last 22 years with a high of +3.3% and a low of -16.6%. December has been an up month only twice in the last two decades. The Americas continued its relative outperformance with a decline of -1.5%, followed by Asia-Pacific at -2.1% and Europe down by -6.4%. Japan lagged once again with a decline of -6.5%.

Lackluster 4Q and 2012: 4Q12 was officially down by -0.3% sequentially, well below traditional seasonal strength that has averaged +1.7% over the last 22 years although it has turned negative eight times during that period. And for all of 2012 sales for the worldwide semiconductor industry totaled $292B down by -2.7%, which is actually 50 basis points better than the most recently updated WSTS/SIA forecast from November.

The relatively lackluster and flattish 4Q masks a Tale of Two Cities: broad based weakness across much of the chip industry and its end markets; but significant strength from smartphones in general and a number of chip suppliers that seem to be navigating through the current economic climate better than others—smartphones or not. While the bulk of the 81 companies in the Tokeneke Universe reporting through the end of last week delivered 'mixed' results at 43% as noted on my Performance to Expectations Skew histogram in my 4Q12 Earnings Summary—Week 4 publication, the percentage of outperformers noted as 'met/exceeded' is a solid 37%.

Expectations for 4Q were pretty anemic to begin with and then got worse as negative preannouncements piled up. The weighted average growth for the Tokeneke Universe based on management guidance during 3Q earnings announcements called for a range of -3.75% to +2.74% centered on -0.50%, clearly indicating a weak quarter. And then came 23 preannouncements for which only six were positive (Dialog, DSPG, GSIT, MSPD, QLGC, TSM), four reiterated or narrowed the range (ALTR, BRCM, DIOD, TXN), and 13 were negative (CY, GIG, LSCC, MediaTek, MLNX, OIIM, PSEM, QUIK, SIMG, SQNS, SUPX, TSRA, UMC). These changes narrowed the range to -3.54% to +2.41% and soften the center to -0.56%. After the fourth week of earnings announcements the Tokeneke Universe reflected nominal revenue growth of +0.3% for the quarter compared to the chip industry statistic of -0.3%.

Tempered Outlook: Next month's release of January data will be down, as always—although it might be better than normal given the industry-wide bookings recovery at the end of December and the rush ahead of Chinese New Year in February. January has averaged a loss of -2.5% with a high of +1.0%, a low of -12.2%, and growth only three times in the last 22 years.

Chinese New Year of the Snake falls on February 10 which means the holiday will create a hole in February shipments due to factory closures and the month of January will outperform February. Frankly, that's about all it tells us—just volatility, not necessarily any strength or weakness. However, one of the few healthy markets for semiconductors right now is smart phones to China, and holiday sell-through could well turn out to be a critical factor that makes or breaks the quarter.

The outlook for 1Q13 at -5% is rather uninspiring at this point. The first quarter is a seasonally slack period that has averaged a decline of -1.9% with a high of +8.8% and a low of -19.4%, but has only been positive during nine of the last 22 years—and only twice in the last eight years. Weighted revenue guidance from companies in the Tokeneke Universe through last week calls for a significantly below-average decline of -4.9% with a range of -7.8% to -2.0%.

Most market researchers are forecasting mid-single-digit growth in sales for the worldwide semiconductor industry this year. Assumptions generally include GDP growth of a couple percent and a seasonally stronger second half to the year. From an end-market perspective continued strength is expected from smart phones, tablets and automotive markets while PCs are expected to remain weak.

Industry Sales Growth Forecasts

Source	2013
SIA/WSTS	4.5%
IDC	4.9%
Gartner	4.5%
IHS iSupply	8.2%
IC Insights	6.0%

January Rally: While semiconductor industry business conditions appear close to a cyclical trough, share prices have been off to the races so far this year. The Philadelphia Semiconductor Index Option (SOX) gained +7.5% last month while over three-quarters of my Universe advanced by an average of +6.6% outperforming the NASDAQ, S&P500 and DOW which posted gains of +4.1%, +5.0%, and +5.8%, respectively. Why? My guess is the rise of equities as a favored asset class among investors as the least-worst in an unattractive neighborhood. While the magnitude of the rally in the sector has surprised me, I am generally encouraged by the second-order effects whereby issues with relatively attractive fundamental valuations seem to be outperforming less attractive peers.

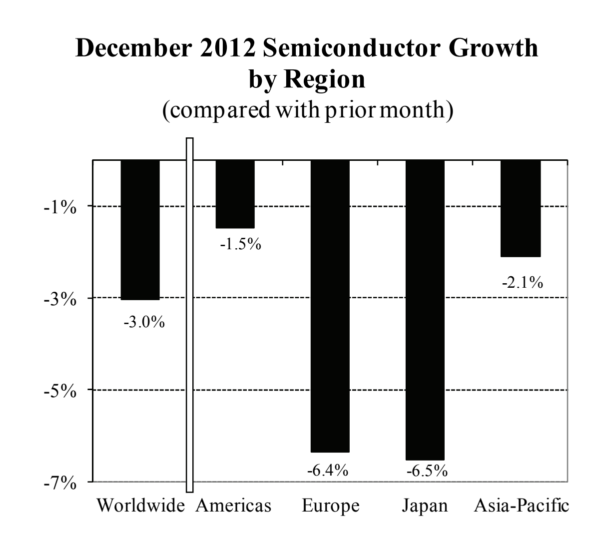
January			
Winners *(76/103)*		**Losers**	
TXCC	52.8%	GIG	-21.9%
VIMC	51.6%	PSMI	-21.8%
SPWR	38.6%	CODE	-17.3%
INVN	31.4%	IPHI	-16.2%
FSL	31.2%	SPRD	-12.0%
average stock +6.6%		*SOX +7.5%*	

Indices	*Jan*
SOX	7.5%
SMH	6.1%
NASDAQ	4.1%
S&P500	5.0%
DOW	5.8%

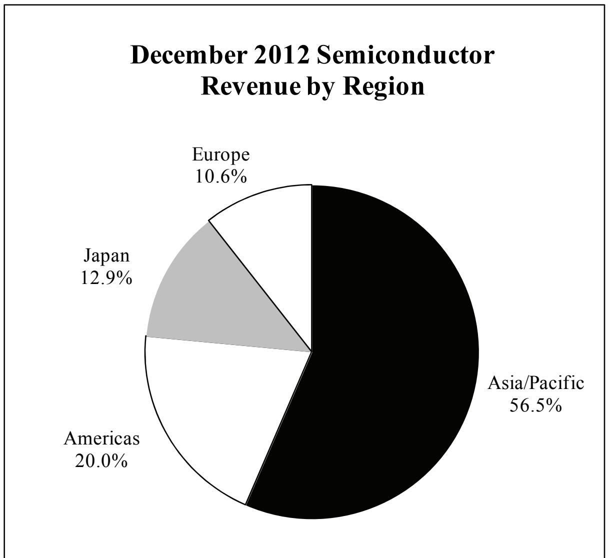
Attractive Valuations: There remains a sizable set of attractive share price valuations on a fundamental basis, in my opinion, across the chip sector. While historical valuations do not appear to carry much weight amid current market conditions for equities, companies with disproportionate exposure to popular end-markets such as smartphones and tablets continue to grow nicely, and several company-specific turn-around stories are making for extremely attractive risk-reward trade-offs despite broader financial market stress and uncertainty, in my opinion. Please note my latest Chip Investment Ideas publication, as well as company specific reports for more gory detail.

Tread Carefully: The big picture for the chip sector remains one of business weakness and disappointment to investor expectations. Nevertheless, there are some bright spots: smartphones are strong; bookings have turned up on a broader end-market basis; outperforming winners exist; share prices are attractive on a fundamental valuation basis across many issues in the sector; and the sector has the attention of investors. My recommendation remains to pick stocks with relatively attractive fundamental valuations to mitigate downside risk as we approach the bottom of a business cycle with limited visibility to an upturn amid a plethora of macroeconomic risks and uncertainties. Investors can't afford NOT to have at least some semiconductor exposure at this point given the relative outperformance of the sector, but only so much as discomfort will allow given the situation.

—Dan K. Scovel
Semiconductor Analyst



Source: WSTS and Tokeneke Research LLC



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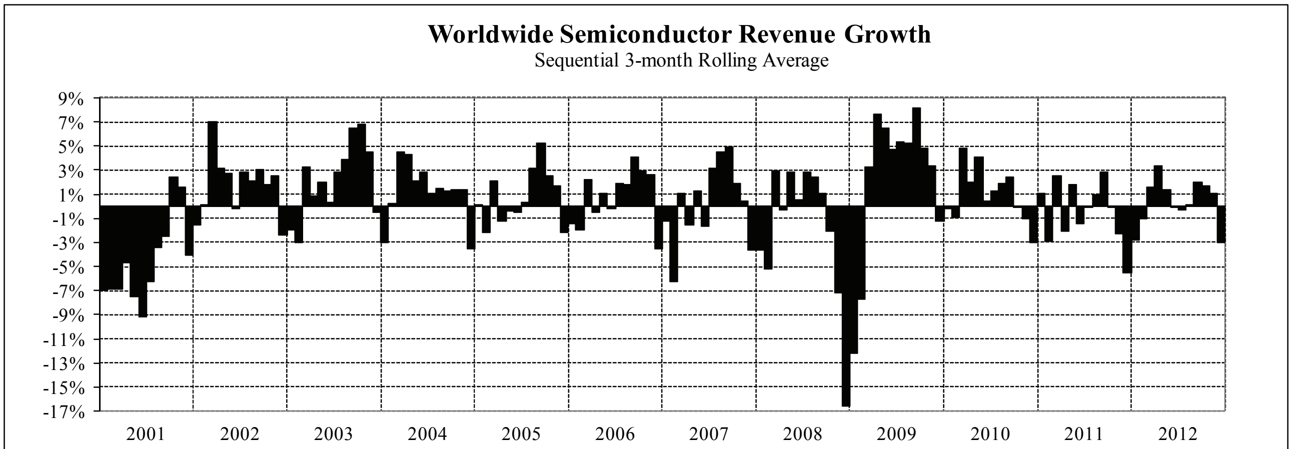

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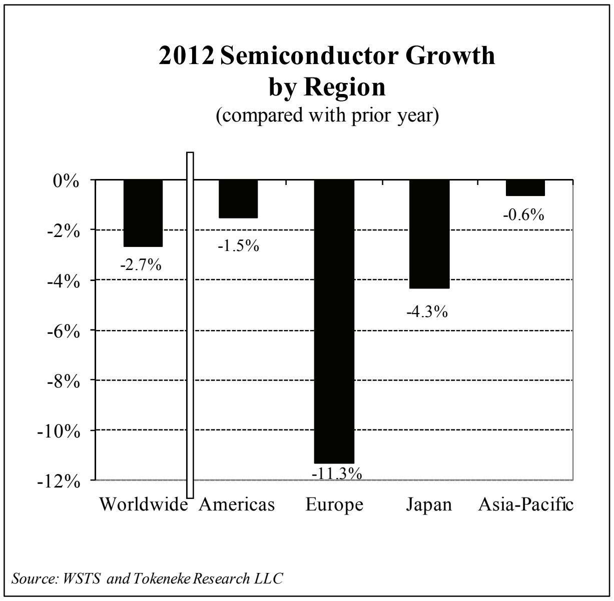
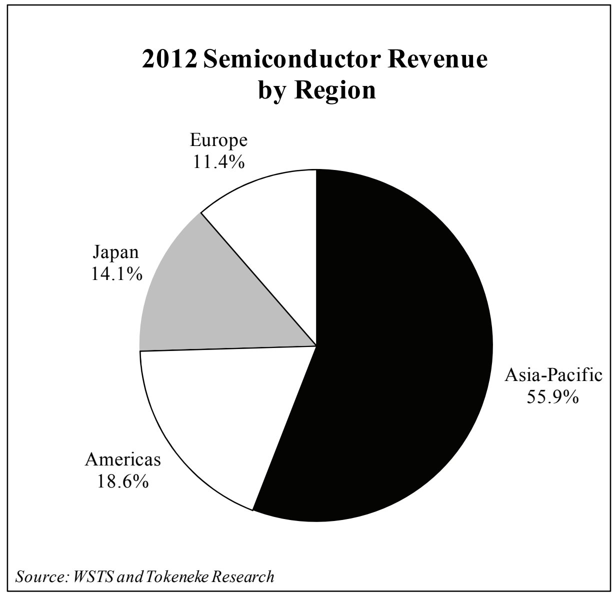
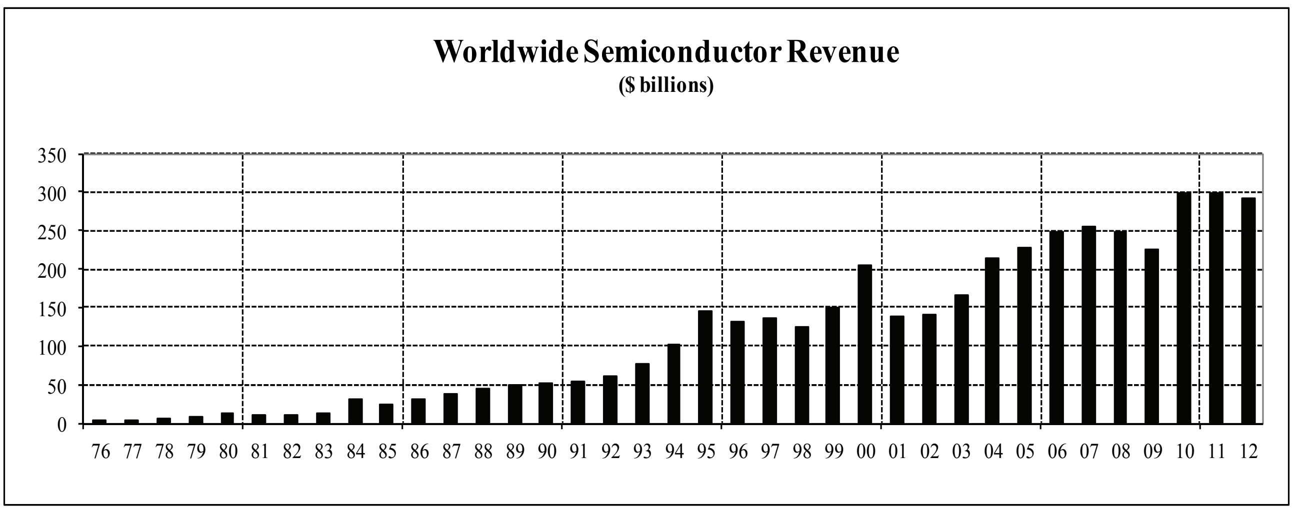
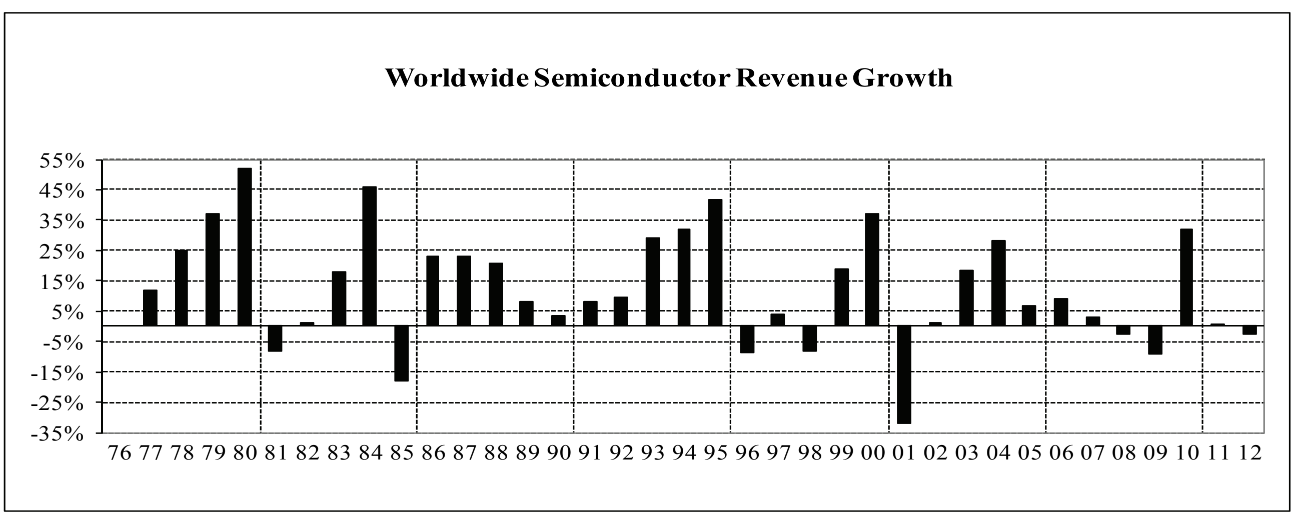
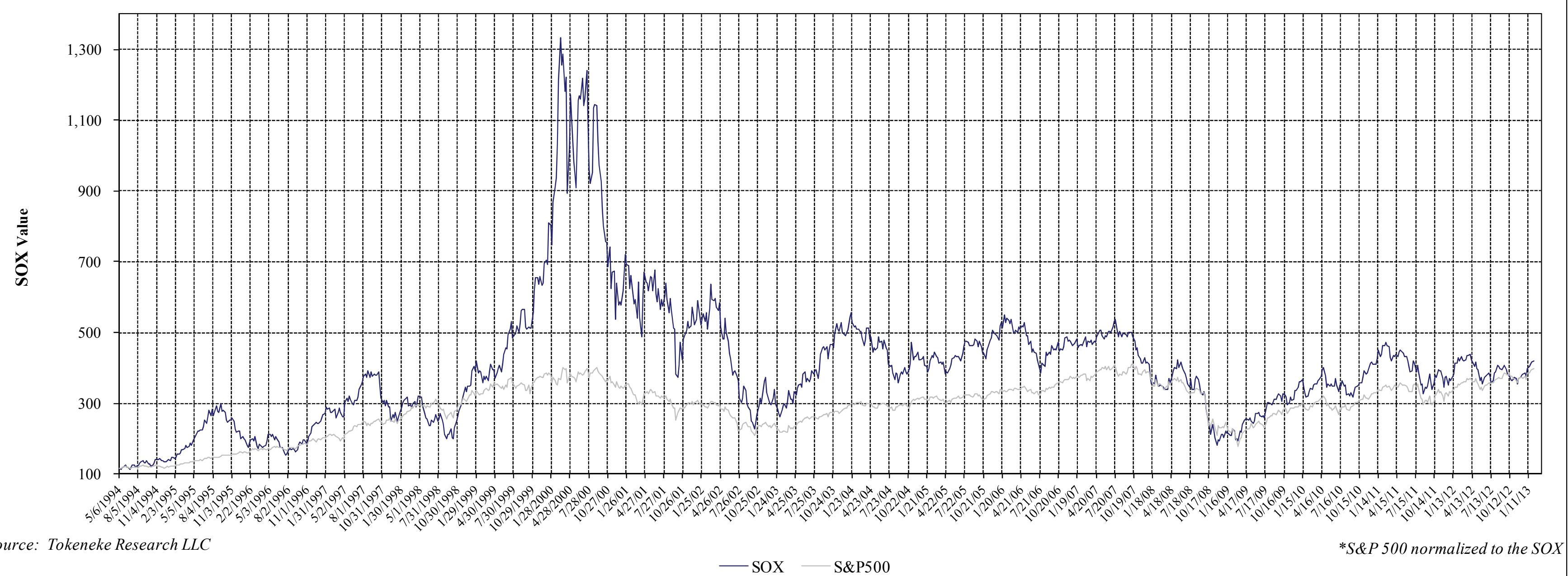

2012 Semiconductor Growth
by Region
(compared with prior year)
0%
-2%
-4%
-6%
-8%
-10%
-12%
-2.7%
-1.5%
-11.3%
-4.3%
-0.6%
Worldwide
Americas
Europe
Japan
Asia-Pacific
Source: WSTS and Tokeneke Research LLC


2012 Semiconductor Revenue
by Region
Europe
11.4%
Japan
14.1%
Asia-Pacific
55.9%
Americas
18.6%
Source: WSTS and Tokeneke Research


Worldwide Semiconductor Revenue
($ billions)
350
300
250
200
150
100
50
0
76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12

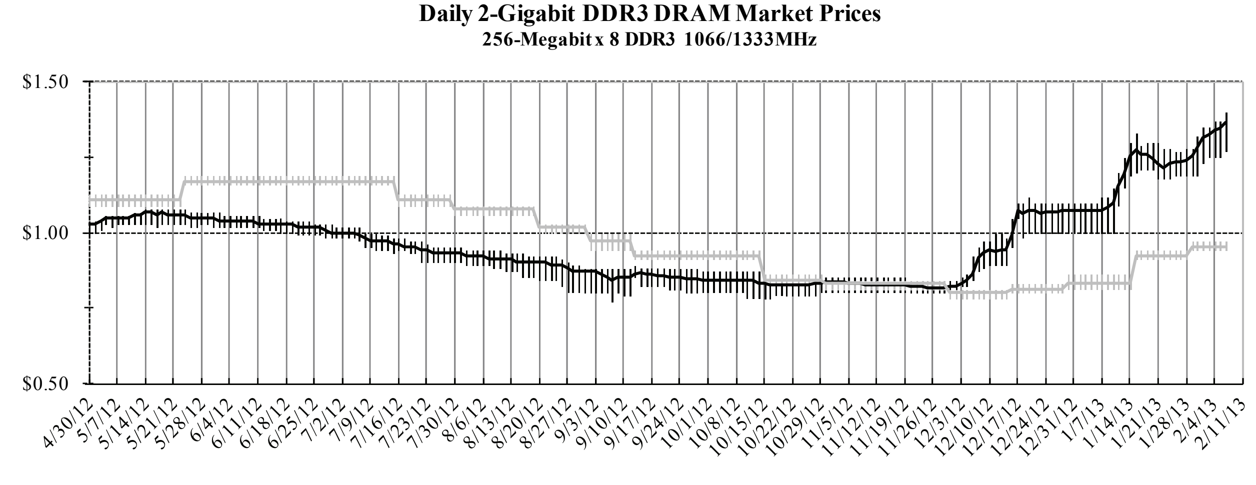

Worldwide Semiconductor Revenue Growth
55%
45%
35%
25%
15%
5%
-5%
-15%
-25%
-35%
76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12

Weekly Philadelphia Semiconductor Index Option (SOX) vs. S&P 500

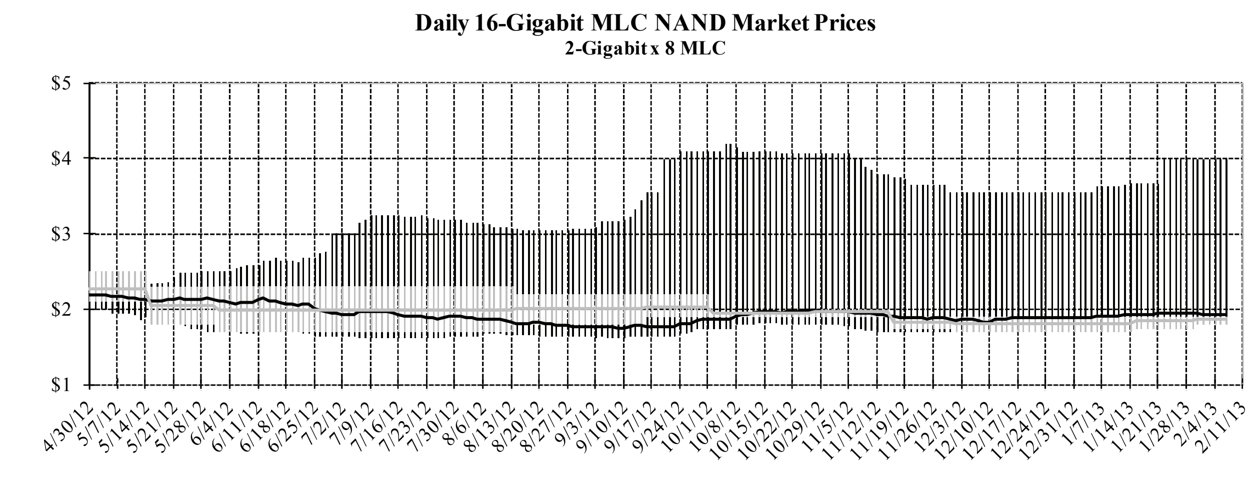


Source: Tokeneke Research LLC

**S&P 500 normalized to the SOX*



Source: DRAMeXchange.COM and Tokeneke Research LLC



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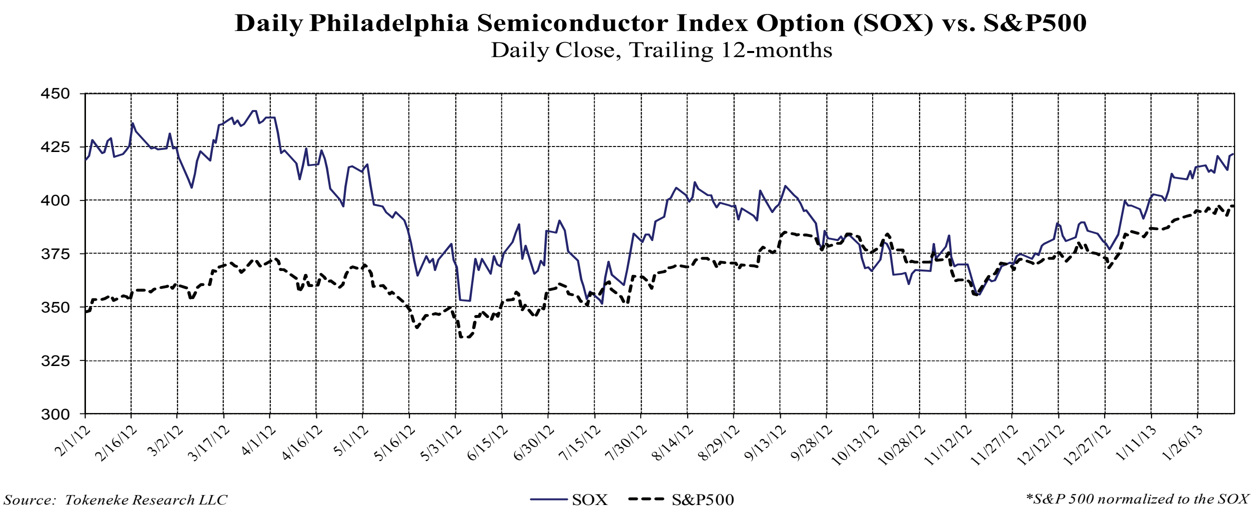

Source: Tokeneke Research LLC

**S&P 500 normalized to the SOX*

The Company

Tokeneke Research is an independent research firm specializing in semiconductor industry business issues, providing fundamental research focused on US equities across all market capitalizations within the sector to investors. The company was founded in 2005 and is based in Connecticut.

The Offering

- *Monthly Newsletter:* A summarized review of noteworthy industry business developments, sales statistics, and sector equity market performance, as well as a near-term and annual outlook for sector business fundamentals and share prices. This report typically includes two pages of text and a handful of recurring charts and tables. It is intended for relatively broad-based distribution.
- *Industry Reports:* Publications offering insight and perspective to industry-wide, multi-year forecast updates; periodic sub-sector product type and end-market reviews; fundamental and valuation perspectives on sector equity relationships; and industry introductory overview. These are more detailed reports with varying shelf-lives, and are intended for narrow distribution to interested clients.
- *Company Reports:* Fundamental equity research including earnings estimates and customized valuation analysis.
- *Consulting:* Special projects of limited or extended duration, as well as periodic access of varying frequency.

Publications are distributed via email in .pdf format, unless otherwise requested. Client confidentiality and customized research exclusivity accommodated. Rates vary with the nature, duration, and terms of offerings.

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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