2015 Off to a Rough Start
Bad News and Slow Growth Deserve Caution

2015 is already off to a rough start in terms of equity market performance and I fear that risks outweigh opportunities in general as we enter 2015. Specifically, I see three problems: bad news flow at the beginning of the year centered around 4Q semiconductor earnings announcements as we enter the 1Q seasonal trough; punk overall chip industry growth expectations both this year and next; and sector share prices increasingly subject to overall equity market performance amid shrinking growth factor differentiation.

Opportunities are still out there—MU in DRAMs, turn-around stories in the making, and unusually attractive valuations immediately come to mind—but my overall bent is a bearish one of caution as we enter the New Year.

Flat November: Worldwide semiconductor industry revenue declined by a flat-ish -0.1% sequentially on a three-month rolling average basis during November, according to statistics released by the Semiconductor Industry Association (SIA) earlier this week. This is the fourth consecutive below-average month, although was at the higher-end of the decline that I had expected. It compares to an average 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. The Americas continue to lead with growth of +1.8% although the rest of the world posted declines with Asia-Pacific at -0.2%, Europe at -0.7%, and Japan bringing up the rear once again at -2.6%.

Next month's release of December data is typically quite weak: It has averaged a decline of -2.6% with a high of +3.3%, a low of -16.6%, and 22 declines in the last 24 years—including all of the last 14 years. I would not be surprised to see a worse than average decline next month.

Challenging 4Q Earnings: The 4Q earnings season begins next week and I am not expecting much in terms of good news across the sector: the quarter will likely be flat to down sequentially based on guidance from 3Q earnings announcements , and the outlook for the seasonally soft 1Q is unlikely to inspire investors—in my opinion.

The 4Q outlook approximates a sequential decline of -1% across the semiconductor industry. While this was far short of investors' original expectations for growth going into 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 is currently centered on -0.6% ranging from -3.1% to +1.8% after only five preannouncements (three narrowing their ranges and only two raising guidance—and not by much) which is slightly better than original guidance centered on -0.7% ranging from -3.2% to +1.8%.

The 1Q is a seasonal trough for the chip industry that have averaged a sequential revenue decline of -2.0% with a high of +8.8%, a low of -19.4%, and declines for 15 of the last 24 years—including eight of the last 10.

Chip Stocks Tread Water: Semiconductor sector stocks outperformed broader equity market weakness during December. The Philadelphia Semiconductor Index Option (SOX) was relatively unchanged last month with a gain of +0.2% while the average stock in the Tokeneke Universe grew by +5.2% with 62 out of 91 issues advancing, compared to declines from the NASDAQ and S&P500 of -1.2% and -0.4%, respectively, and a flat DOW. The spread between the SOX and average stock in my Universe closed for the quarter at +7.3% and +7.6%, respectively. The chip sector significantly outperform during 2014 with the SOX up by +28.4% and 63 out of 91 Tokeneke stocks up by an average of +24.8% compared to those same three indices at +13.4%, +11.4%, and +7.5%, respectively. Recall the SOX similarly outperformed broader equity markets during 2013 with a gain of +39.3%.

December			
Winners *(62/91)*		Losers	
SIGM	62.3%	VIMC	-20.3%
CODE	46.4%	SQNS	-16.2%
CY	34.7%	SMI	-11.9%
CRUS	28.9%	OVTI	-10.1%
ADNC	26.4%	SPWR	-8.3%
average stock +5.2%		*SOX +0.2%*	

4Q			
Winners *(61/91)*		Losers	
SIGM	71.7%	ADNC	-40.5%
CODE	50.2%	SQNS	-39.9%
QLGC	45.4%	VIMC	-39.7%
CY	44.6%	NLST	-37.8%
TQNT	44.5%	PXLW	-29.4%
average stock +7.3%		*SOX +7.6%*	

2014			
Winners *(63/91)*		Losers	
TQNT	230.3%	IKAN	-74.1%
RFMD	221.5%	MOSY	-66.1%
VIMC	208.8%	ADNC	-62.2%
SWKS	154.6%	ANAD	-59.2%
CODE	146.4%	NPTN	-52.1%
average stock +24.8%		*SOX +28.4%*	

Indices	*Dec*	*4Q*	*2014*
SOX	0.2%	7.6%	28.4%
SMH	-1.7%	6.9%	28.7%
NASDAQ	-1.2%	5.4%	13.4%
S&P500	-0.4%	4.4%	11.4%
DOW	0.0%	4.6%	7.5%

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2014 Upside: Last year wasn't a bad one, as the SIA will likely trumpet next month with the release of semiconductor industry statistics for December. World-wide revenue probably grew by over +8% which was better than the +6.5% expected mid-year, and chip sector stocks finished another outstanding year with the SOX up by +28.4% after the prior year's gains of +39.3%.

Unfortunately, these metrics aren't quite so encouraging upon closer inspection. Industry growth last year was led by DRAM market price strength vaulting that product's sales by over +30% that accounted for just under 14% of total industry revenues, resulting in memory growth (including DRAMs) of around +17%. Excluding memory products, semiconductor industry sales only grew on the order of +5%. Smartphone, automotive and industrial markets expanded, but tablet growth and LTE infrastructure roll-outs disappointed; cell phones overall and consumer markets in general were fairly flat; and PCs are in decline (albeit less than previously expected). The next wave of growth promised by the mythical Internet of Things is still too small to move the needle.

2015 Challenges: I see three primary problems as we enter 2015: bad news flow at the beginning of the year; punk overall industry growth expectations; and sector share prices increasingly subject to overall equity markets rather than sector differentiation.

Bad news will largely be centered around the 4Q earnings season of announcements that begin next week with the reporting of a flat-to-down quarter and guidance into the 1Q seasonal trough for the year. Monthly industry statistics over the next few months quantifying these declines won't help. Also, overall chip industry growth is expected at +3.4% for 2015 and +3.1% for 2016, which are even worse than last year's non-memory expansion of +5% and unlikely to inspire enthusiasm amongst investors.

Finally, the stock charts on Pages 4 and 5 or this report exhibit a SOX premium over the S&P500 that is currently not very significant on a relative historical basis: i.e. the difference between the two lines isn't that great. However, what is noticeable is the absolute magnitude of the (normalized) S&P500 at record highs. I interpret this to mean that mediocre and not-unattractive valuations of many chip sector equities will easily get caught and disproportionately damaged if a broader equity market correction occurs. While this is hardly an epiphany, the risks are mounting with the S&P at a record high and chip stocks commanding at least a modest premium as we enter a near-term period of bad news and a medium-term period of very slow growth expectations.

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. This pattern has largely played out across the semiconductor industry over the last few years, and I don't foresee much of a change to it this year.

Caution Prevails: The last two years have been exceptionally kind to the chip sector in the equity markets as industry growth in the mid-to-high single-digit percentage range attracted a premium compared to GDP growth in the low-single digits. While growth is expected to persist across both fronts, the chip sector premium is noticeably contracting on a relative basis given current expectations, and I fear that risk is outweighing opportunity on a sector-wide basis—especially given the bad news I expect over the next couple of months.

Opportunities are still out there—MU in DRAMs, a number of turn-around stories in the making, and unusually attractive valuations immediately come to mind—but my overall bent is a bearish one of caution as we enter the New Year.

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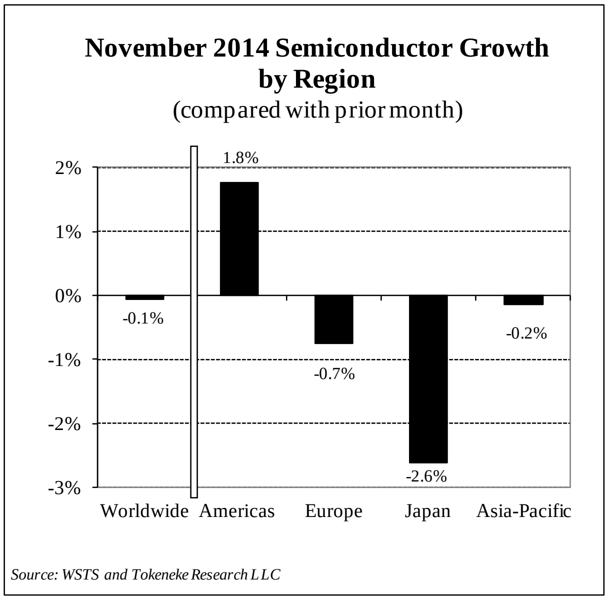

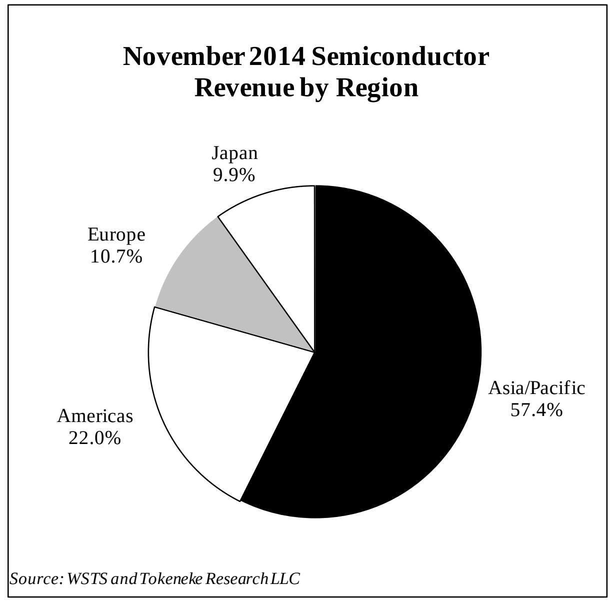

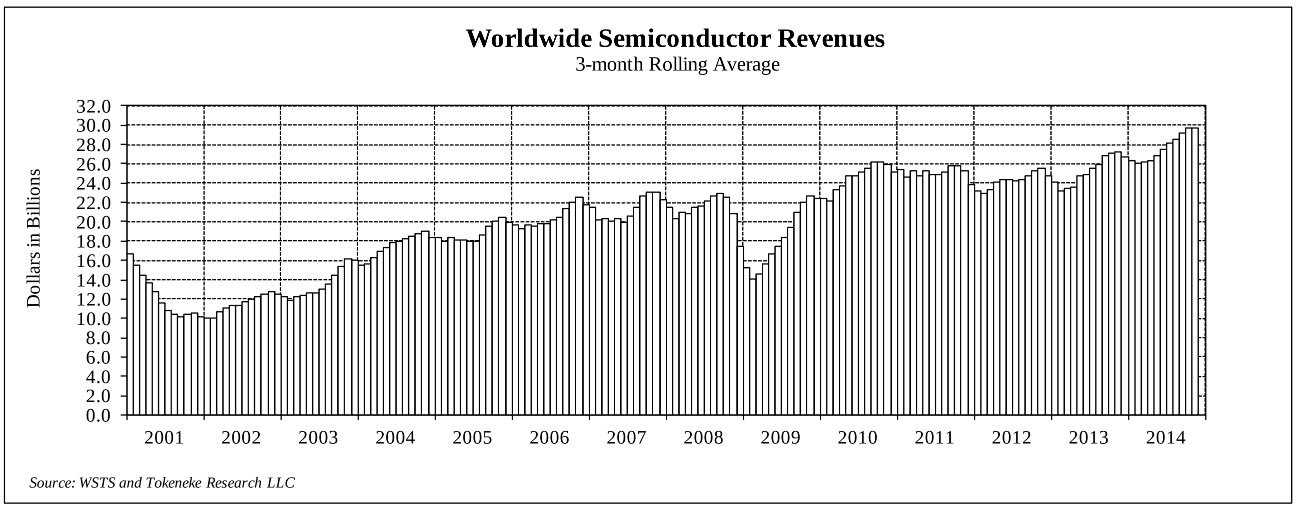

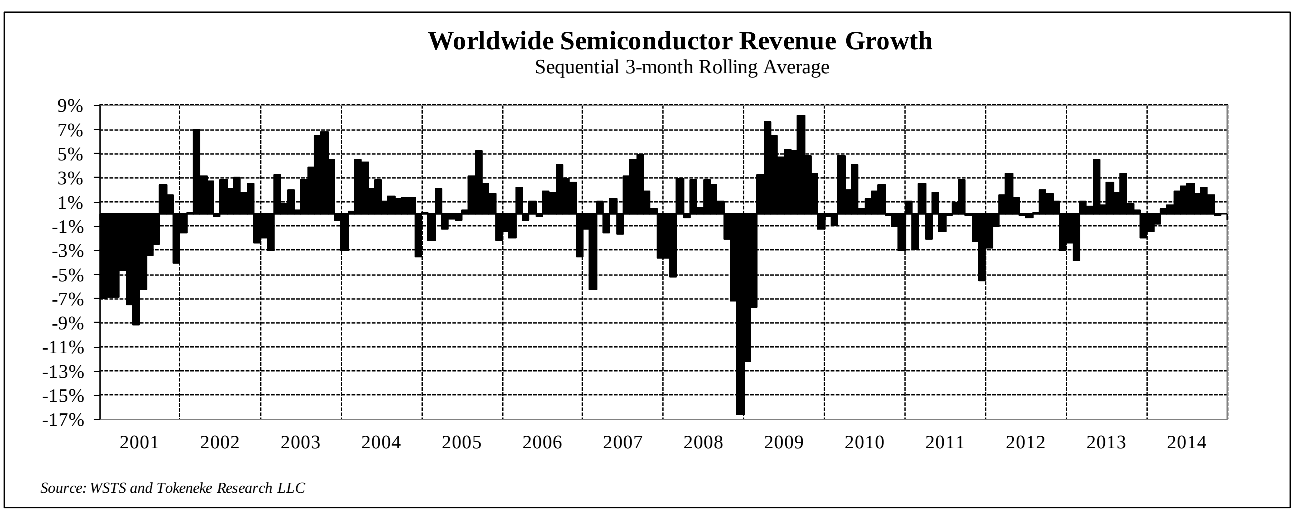

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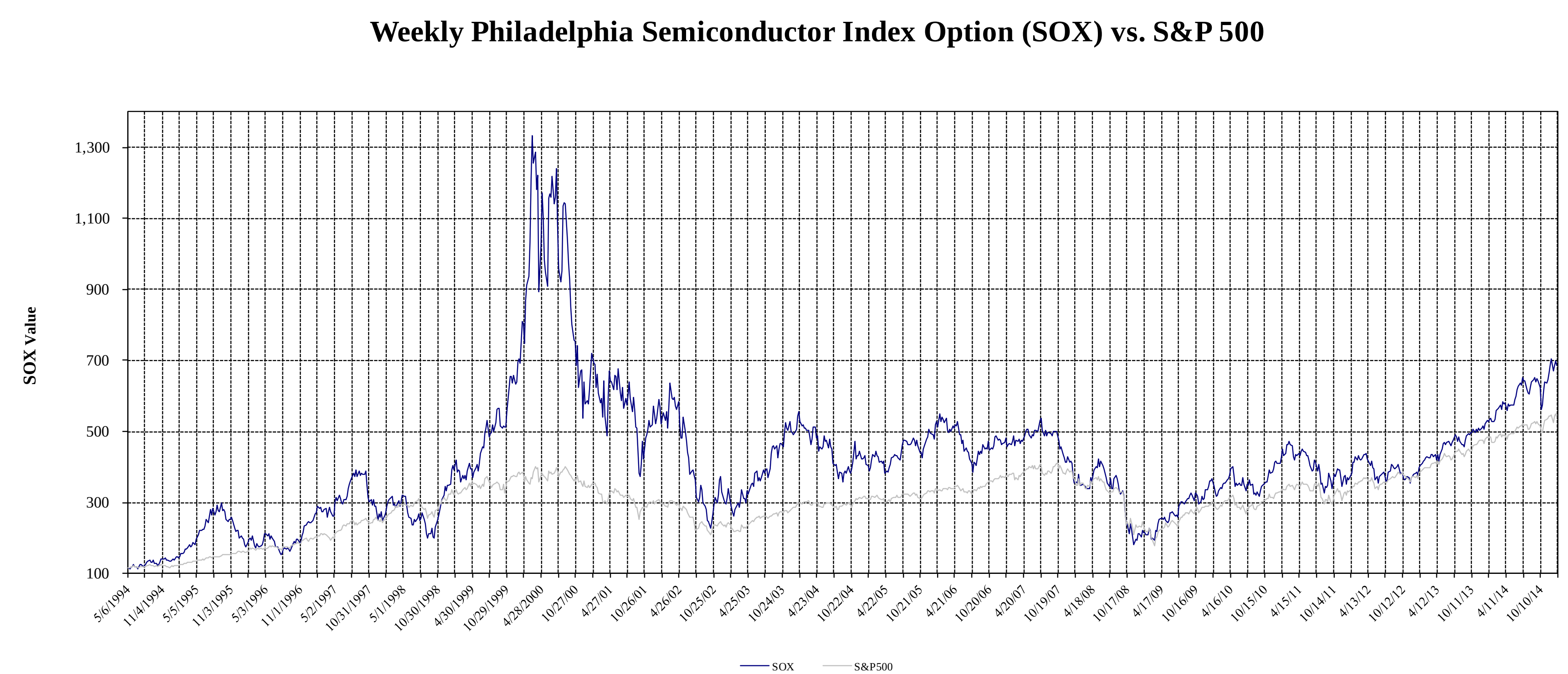

Source: Tokeneke Research LLC

**S&P 500 normalized to the SOX*

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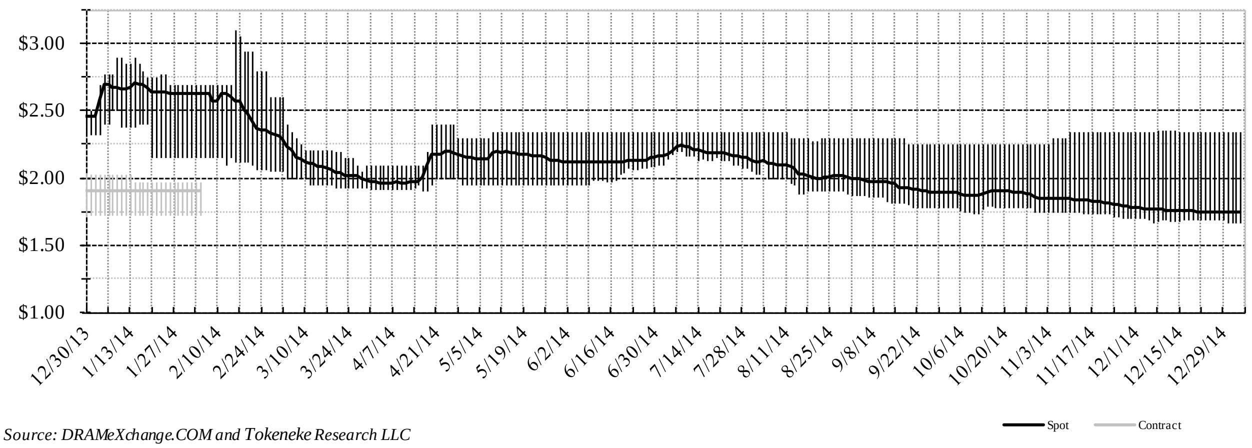
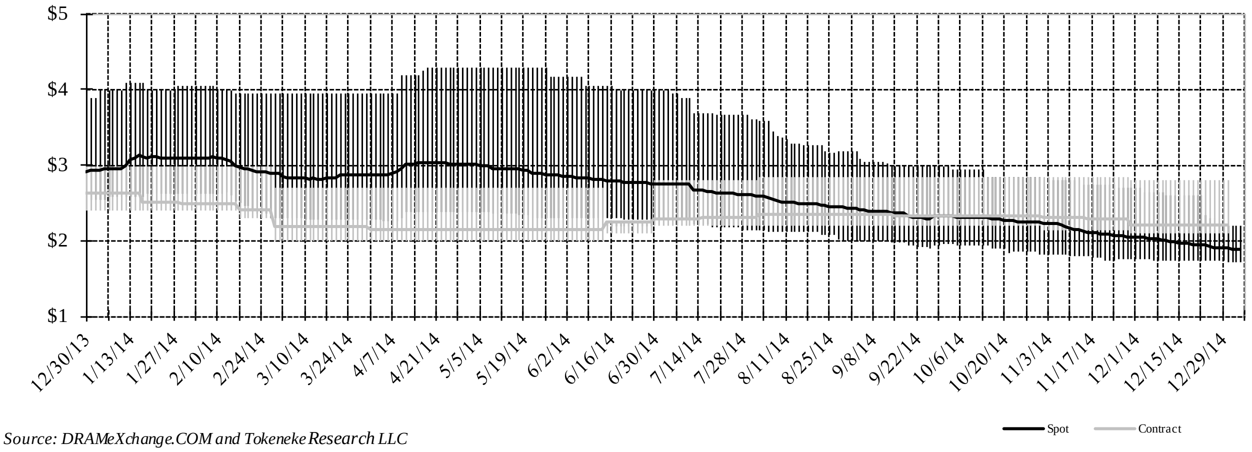
Daily 2-Gigabit DDR3 DRAM Market Prices
256-Megabit x 8 DDR3 1333/1066MHz



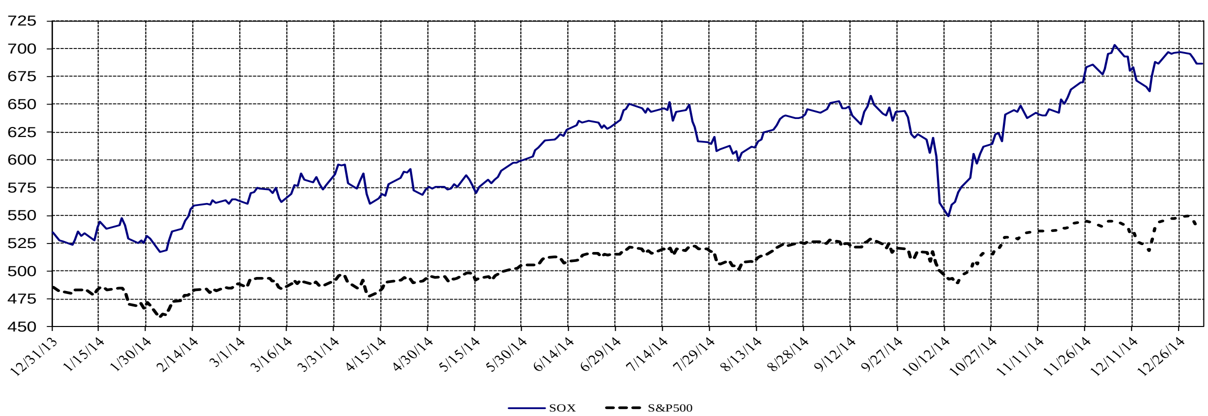
Source: DRAMeXchange.COM and Tokeneke Research LLC

Daily 32-Gigabit MLC NAND Market Prices
4-Gigabit x 8 MLC



Source: DRAMeXchange.COM and Tokeneke Research LLC

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



Source: Tokeneke Research LLC

**S&P 500 normalized to the SOX*

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Tokeneke Research LLC — Company Overview

Semiconductor Industry Analysis and Insight

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.
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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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