Fireworks in October

MCHP Shortfall Crashes Stocks, But Weakness Appears Seasonal

October's fireworks began when Microchip Technology preannounced an expected 3Q shortfall and specifically identified it as the beginning of a semiconductor industry correction. The company has accurately predicted such inflection points in the past, and equity markets promptly cratered the next morning on Friday, October 10.

While the brief announcement was woefully devoid of specifics, the weakness it called has been largely verified by other companies that have since reported results: 3Q appears to have held up consistent with expectations across the semiconductor industry (at least in the aggregate), but management guidance for 4Q revenue is calling for a sequential decline below investors' previous expectations.

However, this weakness came with two huge caveats that have led to share price volatility: First, the expected 4Q downturn in the low-single-digit percentage sequentially is consistent with seasonality over the last couple of years, as opposed to a more pronounced cyclical downturn; and second, there are some companies powering through to the upside—mostly due to the 'Apple Effect.' I continue to recommend caution amid this volatility: the dust should settle sometime over the next couple of weeks and provide a platform to evaluate potential opportunities.

Flat-ish September Growth: Worldwide semiconductor industry revenue grew by a lackluster +1.9% sequentially on a three-month rolling average basis during September, according to statistics released by the Semiconductor Industry Association (SIA) earlier this week. This is the second consecutive, below-average month since April; was in the ballpark of what I had expected (flat-ish and below average); and compares to an average gain of +3.1% with a high of +8.2%, a low of -2.5%, and only one decline in the last 24 years—including none of the last 12. The Americas continue to lead with growth of +2.8% followed Asia-Pacific with growth of +2.5%, while Europe and Japan continue to lag with declines of -0.1% and -1.3%, respectively.

Next month's release of October data is usually weaker, and has trended negative in recent years: It has averaged a gain of +2.5% with a high of +6.8%, a low of -2.0%, and only three declines in the last 24 years—although all of those declines occurred over the last six years. I would not be surprised to see a modest decline next month.

3Q Growth Slightly Underperforms: Industry statistics reflected a sequential industry revenue gain of +5.7% for the 3Q, which is slightly below average but consistent with expectations and company reports so far this earnings season. 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. The weighted average of companies in the Tokeneke Universe having reported 3Q results through last week was slightly greater at +6.0% with the average company reporting +5.3%, although these results are slightly better than expectations that were centered on +5.0% and ranged from +2.1% to +7.9% after a few (mostly negative) preannouncements.

4Q Disappointment: While 3Q results have netted out to benign on an industry-wide basis with individual companies' upsides offsetting other companies' shortfalls, the 4Q outlook has proved to be disappointing relative to expectations and has adversely affected share prices across the sector. Management guidance across the Tokeneke Universe calls for a weighted average sequential 4Q revenue decline approximating -1% for the chip industry. While this is far short of investors' original expectations for growth as well as longer-term averages, 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 as of the end of last week with 62 out of 91 companies having reported was centered on -0.9% ranging from -3.3% to +1.5%. Nearly two-thirds of reporting companies in my Universe have offered 4Q revenue guidance below published consensus expectations.

Chip Stocks Flat—But Volatile: Semiconductor sector stocks underperformed to broader equity markets and finished October close to where they started—after correcting to the downside by -14% during the first half of the month and then gaining over +16% during the second half. The Philadelphia Semiconductor Index Option (SOX) ended up by +0.4% last month while the average stock in the Tokeneke Universe fell by -1.1% with 45 out of 91 issues advancing. This 'volatile-flatness' underperformed to broader equity market 'volatile-strength' with gains from the NASDAQ, S&P500 and DOW of +3.1%, +2.3%, and +2.0%, respectively. Nevertheless, the chip sector continues to significantly outperform so far this year with the SOX up by +19.8% and 55 out of 91 Tokeneke stocks up by an average of +15.0% compared to those same three indices at +10.9%, +9.2%, and +4.9%, respectively.

October

Winners *(45/91)*		**Losers**	
INFN	36.2%	ADNC	-49.6%
QLGC	28.9%	PXLW	-30.0%
IDCC	24.1%	OIIM	-25.9%
CEVA	21.3%	HIMX	-24.9%
IKAN	18.2%	NLST	-23.3%

average stock -1.1% *SOX +0.4%*

YTD

Winners *(55/91)*		**Losers**	
VIMC	366.0%	ADNC	-68.0%
TQNT	159.4%	IKAN	-65.2%
RFMD	152.1%	ANAD	-61.4%
SWKS	103.9%	NPTN	-54.1%
TSEM	67.8%	AMCC	-51.6%

average stock +15.0% *SOX +19.8%*

Indices

	Oct	***YTD***
SOX	0.4%	19.8%
SMH	0.6%	21.2%
NASDAQ	3.1%	10.9%
S&P500	2.3%	9.2%
DOW	2.0%	4.9%

2014 Consistency: I'm sticking with my forecast for 2014 since the beginning of the year: Chip industry business will continue to grow at the slow pace and pattern over the last couple of years with annual growth in the mid-single digit percent range. 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 $300B+ industry with many moving parts across a variety of products, geographies and markets, I also don't consider it necessarily inaccurate.

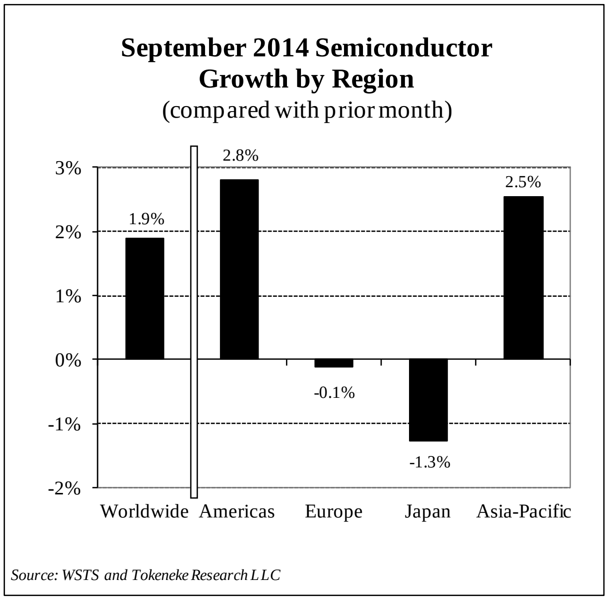
The general pattern of 'consumer market' seasonality has largely played out across the semiconductor industry over the last couple of years, and given persistently lackluster macroeconomic conditions I don't foresee much of a change to that pattern this year. In fact, disappointing guidance for 4Q appears 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.

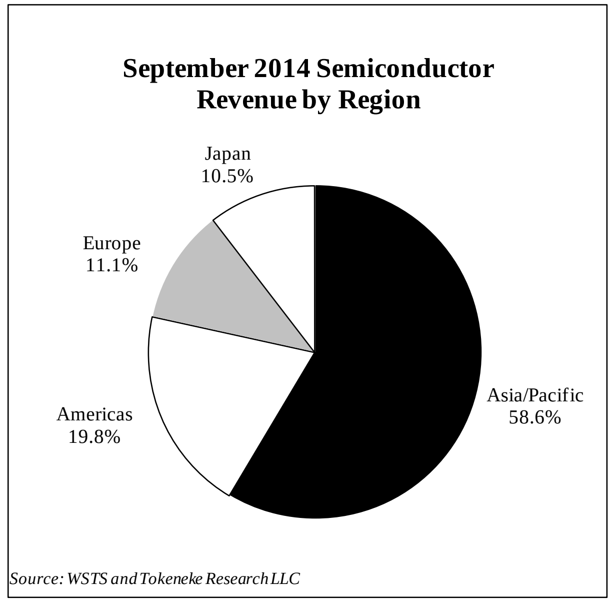
Hope on the Horizon: The bear case against semiconductors claims a maturing industry of slower growth amid supplier consolidation is transferring its profits to shareholders in the form of dividends and share repurchases rather than to fuel growth. But I think the emerging era characterized as the Internet of Things offers the industry a solid platform for robust cyclical growth: mid-single digit annual growth is still triple that of GDP; mergers and acquisitions are pre-positioning assets for the next upturn; and adding growth to the mix of shareholder returns can only enhance valuation multiples. And an eventual macroeconomic recovery will make it even better.

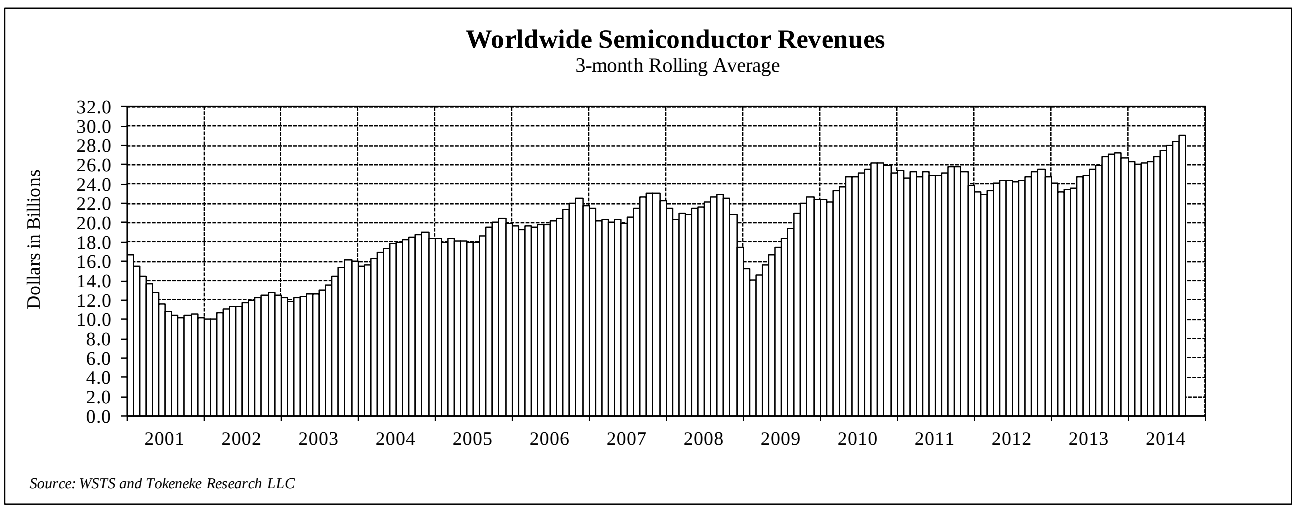
The Internet of Things—personally, I prefer the moniker Smart Things—will differ from PCs and mobile phones in that it will NOT be characterized by a concentration of suppliers and end-markets, but rather a wide variety of highly diverse end-market applications and a fragmentation of both suppliers and technologies offering a plethora of customized solutions carefully optimized for cost, performance and power. Smart door stops, lawn sprinklers and light bulbs will have vastly different system requirements than those for smart automobiles, robots and satellites, to emphasize opposite ends of the scale of complexity. But the best news is that the annual unit volume opportunity will ultimately be orders of magnitude greater than the one billion mobile phones shipping today.

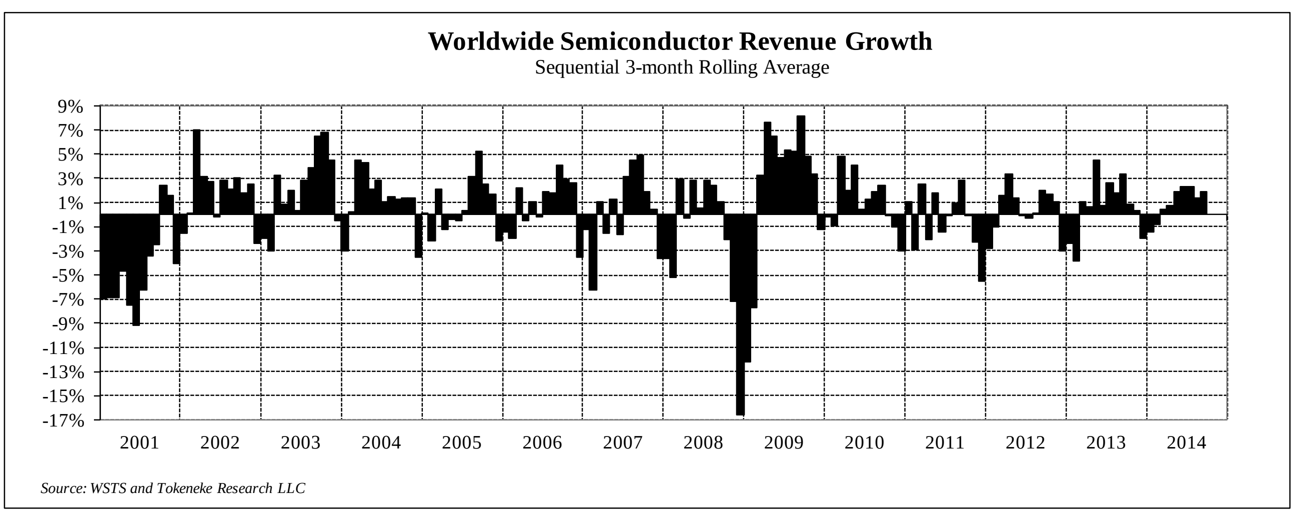
Wait for the Dust to Settle: I am sticking with my chip sector caution until the dust settles on the uninspiring 3Q earnings season. While I don't see much good news from a fundamental business perspective until seasonality turns favorable next spring, current share price volatility may well open up a number of opportunities with attractive potential upside that could easily be realized by the middle of next year.

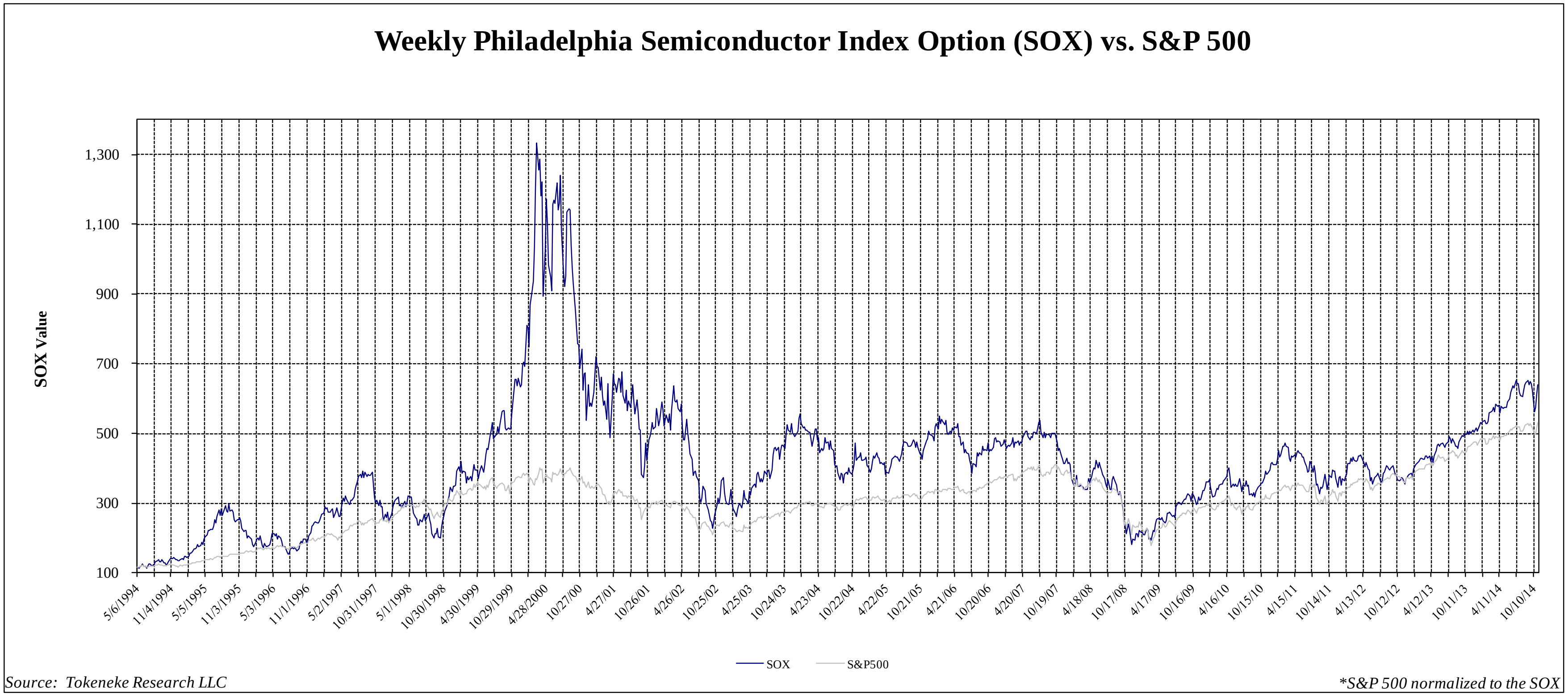
—Dan K. Scovel
Semiconductor Analyst

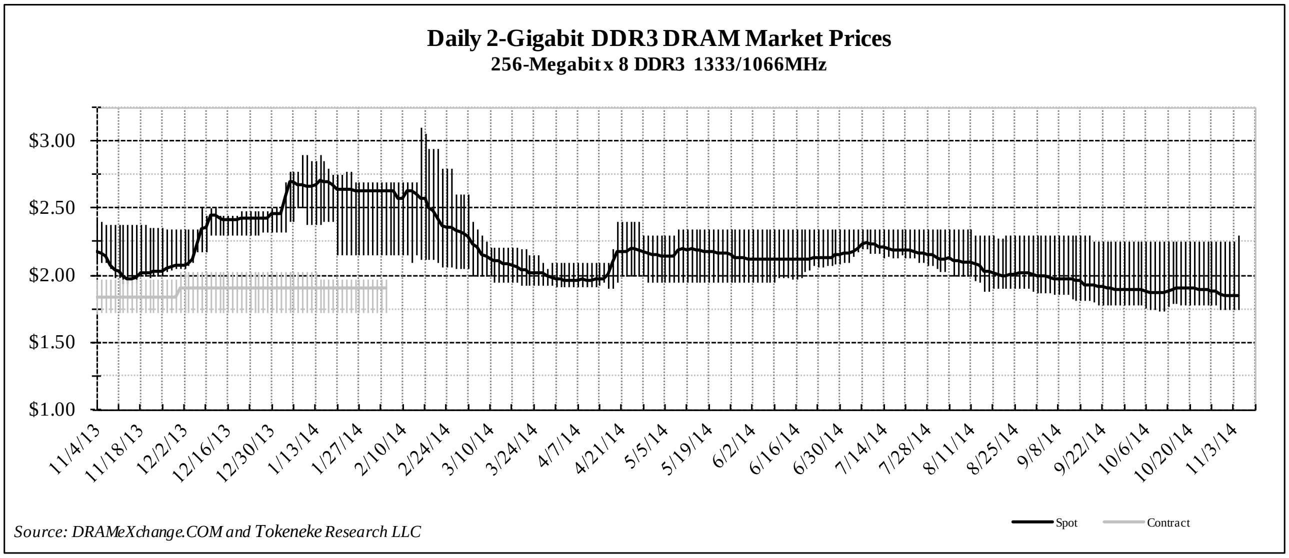

September 2014 Semiconductor
Growth by Region
(compared with prior month)
3%
2%
1%
0%
-1%
-2%
1.9%
2.8%
-0.1%
-1.3%
2.5%
Worldwide
Americas
Europe
Japan
Asia-Pacific
Source: WSTS and Tokeneke Research LLC

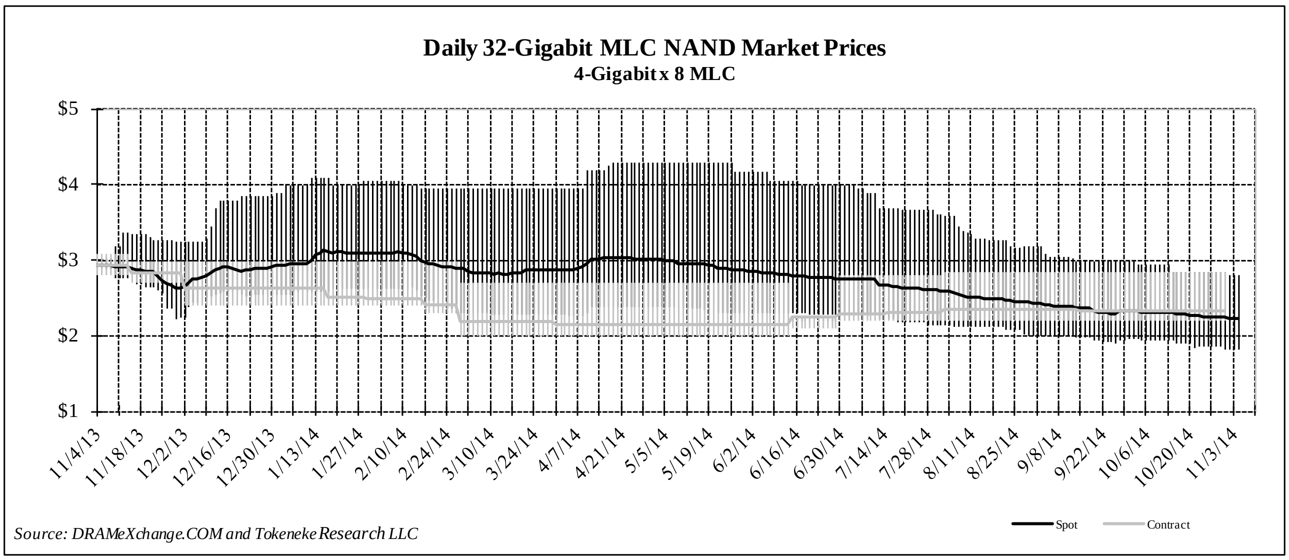

September 2014 Semiconductor
Revenue by Region
Japan
10.5%
Europe
11.1%
Americas
19.8%
Asia/Pacific
58.6%
Source: WSTS and Tokeneke Research LLC

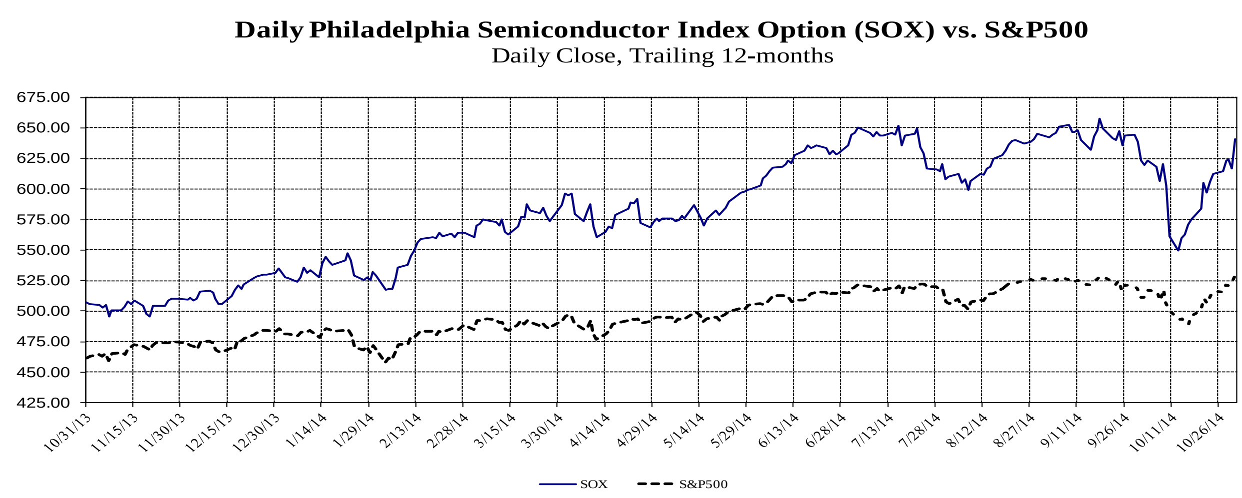

Worldwide Semiconductor Revenues
3-month Rolling Average
Dollars in Billions
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Source: WSTS and Tokeneke Research LLC


Worldwide Semiconductor Revenue Growth
Sequential 3-month Rolling Average
9%
7%
5%
3%
1%
-1%
-3%
-5%
-7%
-9%
-11%
-13%
-15%
-17%
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Source: WSTS and Tokeneke Research LLC


Weekly Philadelphia Semiconductor Index Option (SOX) vs. S&P 500
SOX Value
1,300
1,100
900
700
500
300
100
SOX
S&P500
Source: Tokeneke Research LLC
*S&P 500 normalized to the SOX


Daily 2-Gigabit DDR3 DRAM Market Prices
256-Megabit x 8 DDR3 1333/1066MHz
$3.00
$2.50
$2.00
$1.50
$1.00
11/4/13
11/18/13
12/2/13
12/16/13
12/30/13
1/13/14
1/27/14
2/10/14
2/24/14
3/10/14
3/24/14
4/7/14
4/21/14
5/5/14
5/19/14
6/2/14
6/16/14
6/30/14
7/14/14
7/28/14
8/11/14
8/25/14
9/8/14
9/22/14
10/6/14
10/20/14
11/3/14
Spot
Contract
Source: DRAMeXchange.COM and Tokeneke Research LLC


Daily 32-Gigabit MLC NAND Market Prices
4-Gigabit x 8 MLC
$5
$4
$3
$2
$1
11/4/13
11/18/13
12/2/13
12/16/13
12/30/13
1/13/14
1/27/14
2/10/14
2/24/14
3/10/14
3/24/14
4/7/14
4/21/14
5/5/14
5/19/14
6/2/14
6/16/14
6/30/14
7/14/14
7/28/14
8/11/14
8/25/14
9/8/14
9/22/14
10/6/14
10/20/14
11/3/14
Spot
Contract
Source: DRAMeXchange.COM and Tokeneke Research LLC


Daily Philadelphia Semiconductor Index Option (SOX) vs. S&P500
Daily Close, Trailing 12-months
675.00
650.00
625.00
600.00
575.00
550.00
525.00
500.00
475.00
450.00
425.00
10/31/13
11/15/13
11/30/13
12/15/13
12/30/13
1/14/14
1/29/14
2/13/14
2/28/14
3/15/14
3/30/14
4/14/14
4/29/14
5/14/14
5/29/14
6/13/14
6/28/14
7/13/14
7/28/14
8/12/14
8/27/14
9/11/14
9/26/14
10/11/14
10/26/14
SOX
S&P500
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.

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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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