September Drives a Great 3Q

But Seasonality is Turning Unfavorable After a Huge Share Price Rally

Everything came up roses during the third quarter: most chip companies exceeded earnings expectations; the semiconductor industry grew sequential revenues by a double-digit percentage; and sector share prices increased by over +20% significantly outperforming broader equity markets. Also, election uncertainty will soon be resolved—which is good news for financial markets. Unfortunately, I think semiconductor sector share prices are a bit stretched relative to broader equity markets and we are now entering a period of seasonal weakness in an environment of little or no growth. While mergers and acquisitions will continue and specific opportunities exist, I think looking for a share price trough for the sector in the March/April timeframe ahead of a seasonal 2Q recovery remains the safest bet at this time.

September Strength: Worldwide semiconductor industry revenue increased by a better-than-seasonal +4.2% 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 fourth consecutive above-average month. September's performance compares to its average gain of +3.0% with a high of +8.2%, a low of -2.5%, and only one decline in the last 26 years—which occurred 15 years ago. China led the pack with a gain of +5.4% followed by the Americas at +4.6% and Asia-Pacific at +4.2%. Japan and Europe trailed with gains of +2.3% and +1.6%, respectively.

Next month's release of October data typically reflects slightly softer seasonal gains: It has averaged a gain of +2.4% with a high of +6.8%, a low of -2.0%, and only three declines in the last 26 years—all in the last eight years. I expect to see a below-average gain next month, given sector company guidance for a flat-ish sequential 4Q.

Very Strong 3Q: The 3Q sequential industry revenue gain of +11.5% based on industry statistics was very strong—the fifth highest in the last 26 years and well ahead of expectations. The semiconductor industry has averaged a 3Q sequential revenue increase of +6.2% with a high of +19.9% and a low of -11.7%, and has declined only twice in the last 26 years—and grew in each of the last 14 years. The Americas led sequential growth for the quarter at +15.0% followed by China at +14.2%, Japan at +10.8% and Asia-Pacific at +9.5%. Europe brought up the rear at +3.0%.

My Tokeneke Universe is reflecting slightly higher weighted revenue growth of +12.5% with almost three-quarters of the 67 companies reporting, which is well ahead of original guidance offered up with 2Q earnings announcements calling for 3Q growth of +7.4% that skewed upward to +9.2% after only six mostly positive preannouncements (upside from IDCC, INTC, SIMO and TSM; a reiteration from HIMX; and a narrowing from MCHP). At 52%, slightly over half of the companies reporting so far have met or exceeded expectations for a combination of 3Q revenue and earnings and 4Q revenue outlook. Only 13% have missed or met expectations, with the balance offering mixed results.

The 4Q revenue outlook based on management guidance across the Tokeneke Universe is currently reflecting a relatively flat quarter, with the weighted average guidance for a sequential revenue decline centered at -0.4% ranging from -3.4% to +2.6%. The semiconductor industry has averaged a 4Q sequential revenue gain of +1.3% with a high of +16.0% and a low of -24.2%, but has declined 12 times in the last 26 years—including eight of the last nine years, according to industry statistics.

Chip Stocks Ease: Semiconductor sector stocks eased slightly during October consistent with broader equity markets after gains that exceeded +20% during the third quarter. The Philadelphia Semiconductor Index Option (SOX) declined by -1.4% last month while the average stock in the Tokeneke Universe lost -4.0% with only 27 out of 67 issues advancing, compared to losses from the NASDAQ, S&P500 and DOW of -2.3%, -1.9% and -0.9%, respectively. Year-to-date the chip sector is significantly outperforming broader equity markets with the SOX up by +24.1% and 53 out of 67 Tokeneke stocks up by an average of +20.0% (with the vast majority of those gains occurring during 3Q) compared to those same three indices with gains of +3.6%, +4.0%, and +4.1%, respectively.

October

Winners *(27/67)*		Losers	
STM	16.0%	PI	-34.0%
SQNS	15.3%	MOSY	-30.7%
GSIT	11.6%	MX	-25.7%
SMI	8.4%	SIMO	-21.6%
QUIK	7.9%	CY	-18.0%

average stock -4.0% *SOX -1.4%*

YTD

Winners *(53/67)*		Losers	
AMD	151.9%	IOTS	-73.4%
AOSL	129.9%	INFN	-57.0%
NVDA	115.9%	MOSY	-52.3%
CRUS	82.8%	QUIK	-27.4%
PI	76.4%	INVN	-25.2%

average stock +20.0% *SOX +24.1%*

Indices

	Oct	*YTD*
SOX	-1.4%	24.1%
SMH	-1.7%	28.1%
NASDAQ	-2.3%	3.6%
S&P500	-1.9%	4.0%
DOW	-0.9%	4.1%

Yet Another Flat Year: The chip industry is looking at another flat year in 2016—gone are the years of double-digit growth. This year market researchers are forecasting industry revenue growth around a range of -1% to +1%, although recent revisions have inched to the higher side of the range. This means that seasonality continues to govern business conditions more so than any possible cyclicality at a macro level across the industry: 1Q is a trough, 2Q is a recovery, 3Q is a peak, and 4Q retreats.

Sectors expected to outperform the industry this year include the China territory as well as sensors, optoelectronics and analog product groups—and a recent turn-around in DRAMs. From an end-market perspective, data centers, automotive, industrial and internet-of-things (IoT) are showing nice growth while networking and smartphones are hanging in there. Unfortunately such strengths are pretty much being offset by declining PCs and tablets amid lumpy telecom and stagnant overall cell phones. The problem is that PCs and cell phone markets are huge, while automotive is just starting to emerge as meaningful and the grab bag of emerging IoT is fairly tiny. I am as excited as anyone about drones, wearables, smart homes, VR and AR, but these market opportunities are going to take years to reach enough critical mass to move the needle across the entire semiconductor industry. Thank goodness for automotive between now and then . . .

M&A Crap Shoot Continues: Mergers and acquisitions have been running at a fever pitch driven primarily by the lack of overall sector and macroeconomic growth, in my opinion. And I think it will continue until growth resumes. While the argument for a tempering of M&A activity due to the loss of targets is not a bad one (my Tokeneke Universe of US equities has shrunk to 67 from over 130 ten years ago), we have already seen a pre-empting of IPOs due to the acquisition of small private companies, as well as a move downstream in the supply chain (SanDisk to Western Digital, and Brocade to Broadcom/AVGO)—both of which remain target-rich environments. So I think we will continue to see consolidation amongst the fittest for at least the next several months—although the specifics in terms of buyers, targets, timing and price will be difficult to forecast with any accuracy or precision.

Entering Seasonal Weakness: Seasonality is now turning adverse across the chip sector, and will not turn favorable until spring with the seasonal 2Q recovery. The last of blockbuster 3Q earnings announcements will trickle out by the end of November, and then we can look forward to an anemic 4Q and the seasonal trough of the 1Q. Not exactly a recipe to drive share prices from a fundamental business perspective. Bottom line: wait for a trough in the March/April timeframe.

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 see much of a change this year.

Relative Sector Correction: Another problem is the relative outperformance of the chip sector compared to broader equity markets, as noted above in the year-to-date performance of equity indices and the graph on Page 4. The spread between the SOX and S&P500 is starting to get a bit stretched: not dangerously so, but some—and I don't see any favorable near-term sector fundamentals strong enough to drive the spread farther.

Macro Optimism: The good news is that I am finally turning at least somewhat more bullish with respect to the outlook for GDP growth and broader equity markets given the upcoming election. No matter who wins, I think we will see a relief rally in the financial markets as the uncertainty to the outcome is resolved. Color me optimistic, but no matter which one wins I also think we will at least see the curtailment of an incremental regulatory burden as the current occupant of the White House exits. If Hillary gets in it will be more incremental, but if Trump gets in I think it will be more pronounced. Either way it's a positive development, and I think that buying on share price weakness will prove to be a successful strategy.

Springtime for Semiconductors: Opportunities are still out there but my overall take on the semiconductor sector is one of caution as we exit the seasonal business peak, and approach a seasonal trough. We'll see how the election goes, but until we can expect any growth I think waiting until seasonality turns favorable in the spring is the best bet.

—Dan K. Scovel
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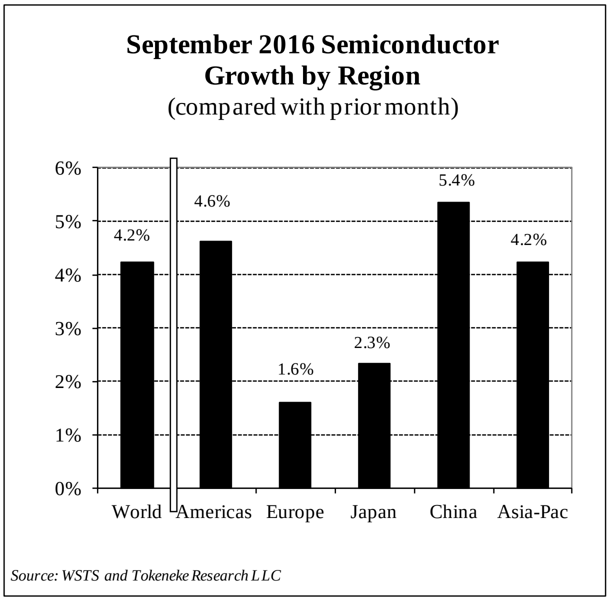
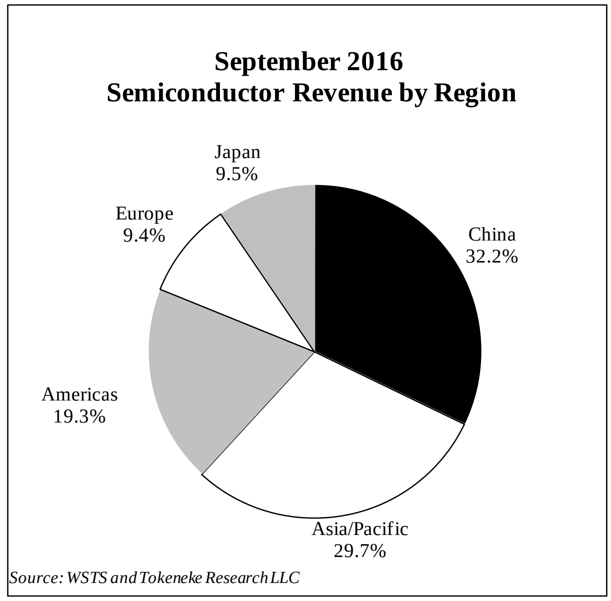
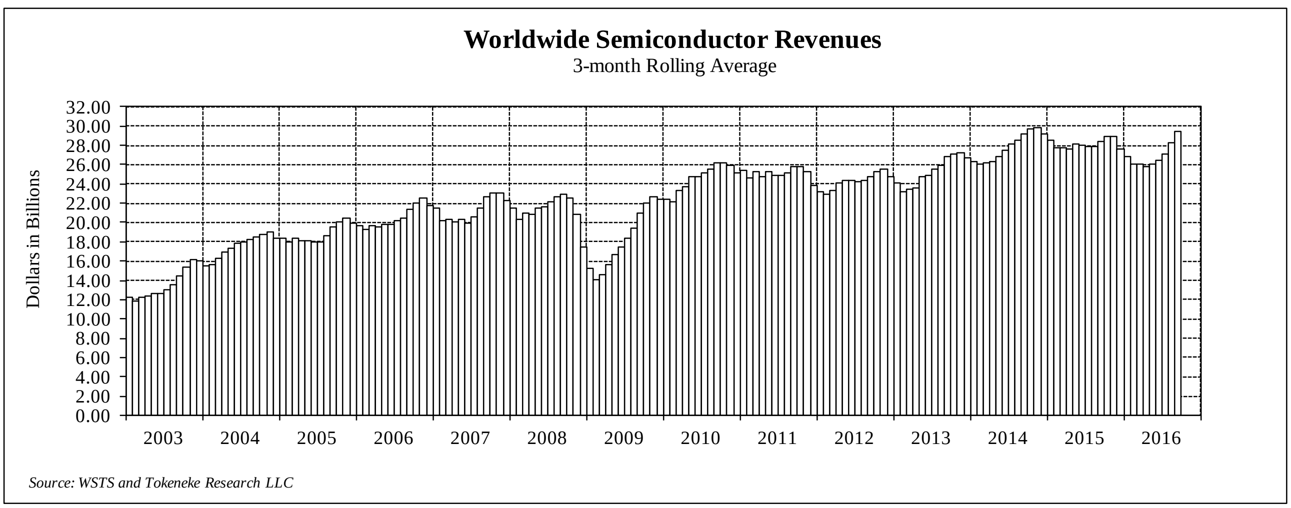
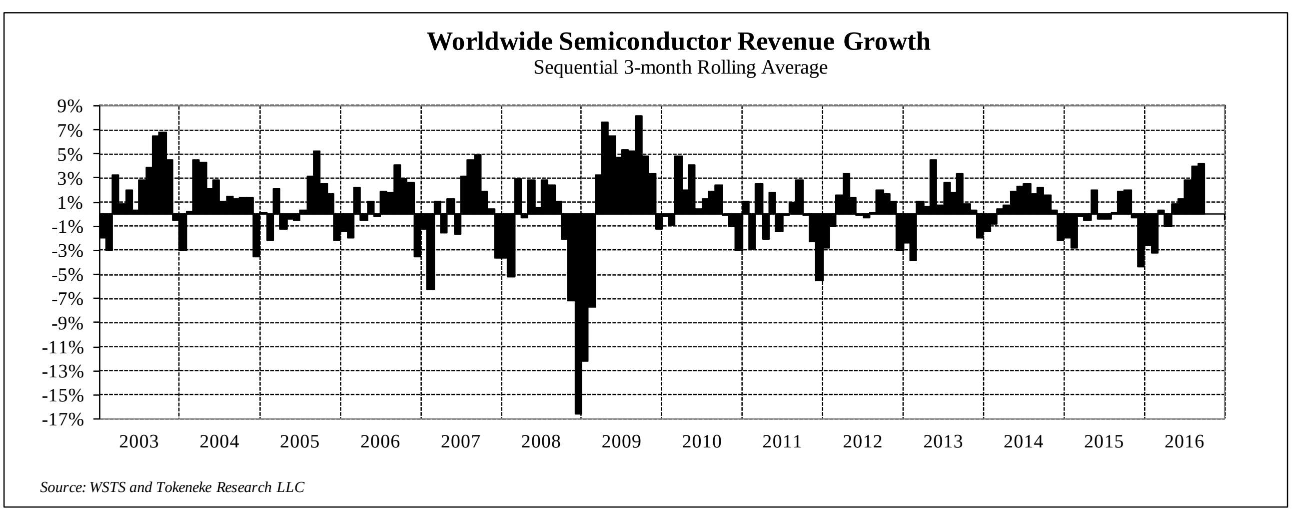
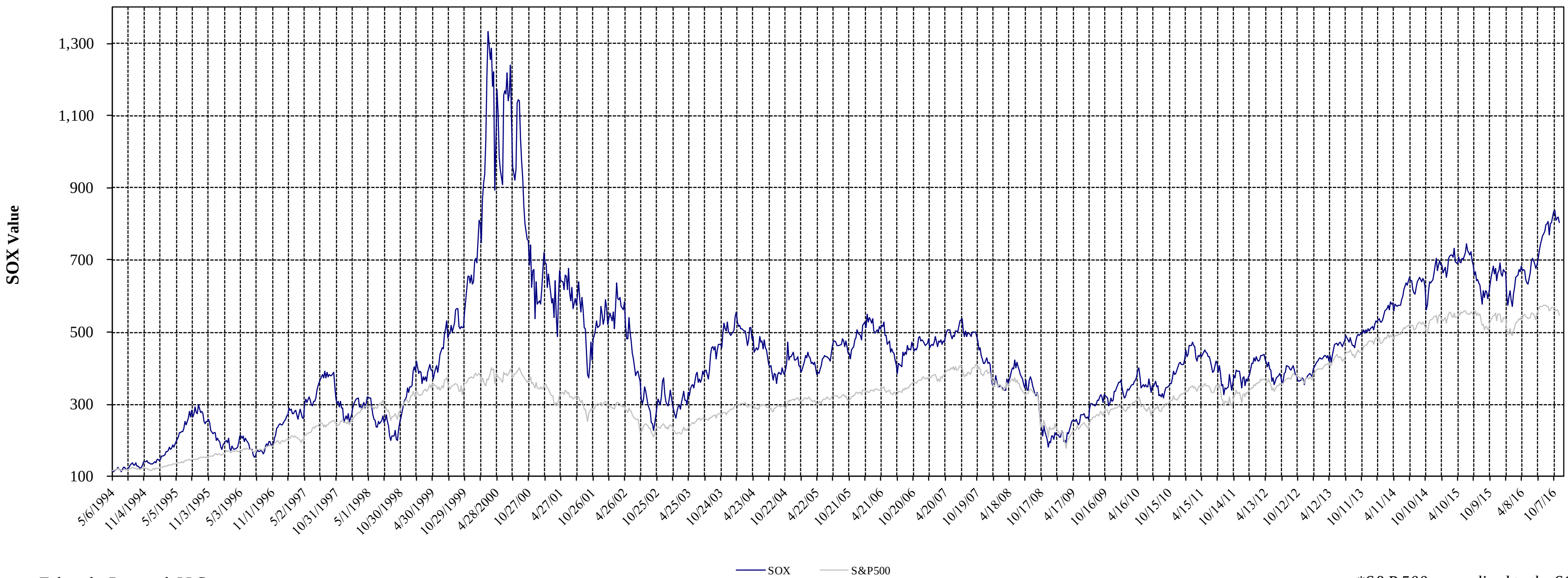

September 2016 Semiconductor
Growth by Region
(compared with prior month)
6%
5%
4%
3%
2%
1%
0%
4.2%
4.6%
1.6%
2.3%
5.4%
4.2%
World
Americas
Europe
Japan
China
Asia-Pac
Source: WSTS and Tokeneke Research LLC


September 2016
Semiconductor Revenue by Region
Japan
9.5%
Europe
9.4%
China
32.2%
Americas
19.3%
Asia/Pacific
29.7%
Source: WSTS and Tokeneke Research LLC


Worldwide Semiconductor Revenues
3-month Rolling Average
Dollars in Billions
32.00
30.00
28.00
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
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%
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Source: WSTS and Tokeneke Research LLC

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



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.
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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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