

Above Average Semiconductor Growth for April Memory Re-Asserts Strength Over iPhone Weakness

While weakness from major customer Apple has been a drag on semiconductor sales so far this year, it appears we may have turned the corner with a gaggle of good news: April industry revenue growth was above average; over half of companies that reported 1Q results exceeded and/or met expectations; chip sector share prices experienced a robust rally over +10% last month; and a number of sectors are experiencing solid double-digit growth rates on an annual basis, including DRAM and NAND memory products, as well as automotive, industrial, Internet-of-Things (IoT), and cloud-computing end-markets. The divergence of share prices across the chip sector between my Tokeneke Universe and the SOX index on a year-to-date basis is also opening up potential investment opportunities.

Apple Weakness: While memory continues to drive overall semiconductor industry growth this year, weakness from customer Apple appeared to largely offset such strength during 1Q. To pick on an extreme anecdote: 79% of Cirrus Logic's \$300M in revenue last quarter came from Apple; sequential sales fell by -37%; and guidance for this quarter calls for another drop somewhere between -31% and -18%. Less pronounced weakness was also reported by Maxim, TSMC and Broadcom. According to Gartner, Apple's \$38.8B purchase of semiconductors last year made it the second-largest consumer accounting for 9.2% of the overall chip industry, just behind Samsung's 10.3%. Solid double-digit annual growth is being reported from automotive, industrial, IoT and cloud-computing end-markets, while smartphone unit demand appears to be plateau-ing. Guess the unit market demand for thousand-dollar iPhones isn't as big as was expected.

Memories Still Drive Growth: DRAM and NAND memories continue to drive semiconductor industry growth. Early in the week the SIA/WSTS industry organization updated its semi-annual forecast, revising expected revenue growth this year to +12.4% from +7% with memories contributing +26.5%—and no other major product group exceeding the +15% average. In this case, memories include DRAM, SRAM, NOR Flash, NAND Flash and others. Recall market researcher IC Insights expects 2018 revenue growth for the overall industry of +15% primarily driven by DRAM gains of +37% and NAND growth of +17%. The rest of the semiconductor industry *excluding* DRAMs (but including NAND) is expected to grow by +10%, according to IC Insights.

Structural Differences: Recall that my US-equity-based Tokeneke Universe does NOT include some three-quarters of industry DRAM and NAND business from Samsung, Hynix and Toshiba. While my Universe does include Micron, it will more closely track growth of +10% this year rather than +15%. Other structural differences in my Universe include the lack of very large international players (Samsung, Hynix, Toshiba, MediaTek, Infineon), although it does include wafer foundries (TSMC, UMC, SMIC, TowerJazz) and IP companies (Rambus, Xperi/Tessera, Ceva, and InterDigital) that, technically anyway, don't count as semiconductor industry revenues, but rather costs associated with manufacturing. I also normalize fiscal quarters to the best fitting two out of three months. Unreported stub-periods from acquisitions can also be a difference.

The bigger problem is that most US-based investors in the chip sector experience the industry from the Tokeneke Universe perspective. The Philadelphia Semiconductor Index Option (SOX) is similarly under-represented in memories, although this is mitigated by the inclusion of equipment companies supplying to memory manufacturers. And even if domestic investors are adventuresome enough to travel overseas, it is still difficult to benefit from memory strength: less than half of Samsung's revenue comes from semiconductors (including foundry), and Toshiba's overly-dramatic restructuring thanks to its nuclear energy woes is going on its second year.

Above-Average April Gains: Worldwide semiconductor industry revenues for April grew by a respectable +1.4% sequentially on a three-month rolling average basis, according to statistics released by the Semiconductor Industry Association (SIA) earlier in the week. This above-average metric was likely due to memory re-asserting its strength over offsetting Apple weakness last month. April has averaged a gain of +1.2% with a high of +7.6%, a low of -4.7%, and 10 declines in the last 28 years—including seven of the last 16 years. China replaced Europe for the lead with a solid gain of +3.2% followed by Japan at +2.7% and Europe at +1.4%. The Americas underperformed with +0.8% and Asia-Pacific lagged with a decline of -0.8%.

Next month's release of May data typically reflects even stronger growth than April. May has averaged a gain of +1.5% with a high of +6.5%, a low of -7.5%, and only five declines in the last 28 years—including one in the last 13 years. I expect to see another better-than-average gain next month due to memory product strength.

Below-Average 1Q Seasonal Weakness: Once again the difference between official industry statistics (with memories) and my Universe (without) is significant, with the SIA reporting a 1Q sequential industry revenue drop of -2.5% compared to my Universe at -3.6%.

Industry statistics for 1Q came in with a weaker-than-normal sequential quarterly revenue drop of -2.5% compared to an average decline of -2.2%, a high of +8.8%, a low of -19.4%, and declines 18 times in the last 27 years—including 11 of the last 13. Europe posted the only gain of +5.8%, while The Americas lagged at -9.6%.

My Tokeneke Universe significantly underperformed with weighted average sales reflecting a sequential quarterly decline of -3.6% from my 62 companies. This is much better than company guidance of -6.4% ranging from -8.7% to -4.1% after only seven preannouncements (AVGO, MCHP, SIMO and UMC narrowed their ranges; MLNX and MU raised, and TSM lowered). Nevertheless, a majority of companies exceeded and/or met expectations at 56.5%, while 30.6% reported ‘mixed’ results that simultaneously miss, met, and/or exceeded expectations for 1Q revenue and EPS, and 2Q revenue guidance. Fewer than 13% missed and/or met expectations.

Anemic 2Q Seasonal Recovery: The 2Q revenue outlook based on management guidance across my Universe during the 1Q earnings season reflects a fairly non-existent seasonal recovery. The specific weighted average guidance for revenue was a very flattish +0.2% ranging from -2.6% to +2.9%. However, the average company is expecting a gain of +3.0%. Three preannouncements of expected strength from MCHP, MLNX and MU have already raised expectations to +0.9% with a range of -1.7% to +3.4%. The chip industry has averaged a 2Q sequential revenue increase of +3.8% with a high of +20.0% and a low of -19.9%, and has declined only five times in the last 28 years—including two of the last 11, according to industry statistics. While Apple is largely responsible for neutralizing typical seasonal strength in the aggregate across the semiconductor industry, many individual companies are growing nicely nonetheless. See my 1Q18 Semiconductor Earnings Summary for details.

Political Perturbations: While MCHP recently closed its acquisition of MSCC (shrinking my Universe to 61 companies), mergers and acquisitions activity has mostly experienced setbacks this year with the US administration disallowing both the acquisition of Lattice by Chinese investors and the hostile bid by Broadcom of Qualcomm. Pending deals include NXPI going to QCOM (with lots of drama) and CAVM going to MRVL, while MOSY continues to pursue ‘strategic alternatives.’ While the mandated curtailment of shipments to Chinese smartphone maker ZTE due to sanction violations associated with North Korea and Iran appears to be having a marginal impact at some chip suppliers, I expect ZTE competitors to quickly sweep up their market share losses.

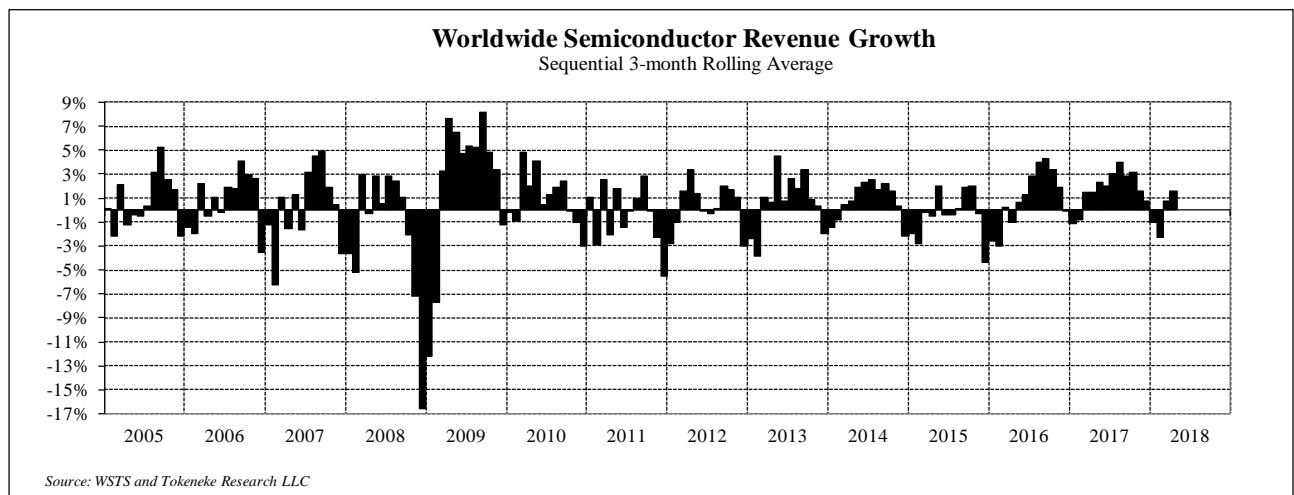
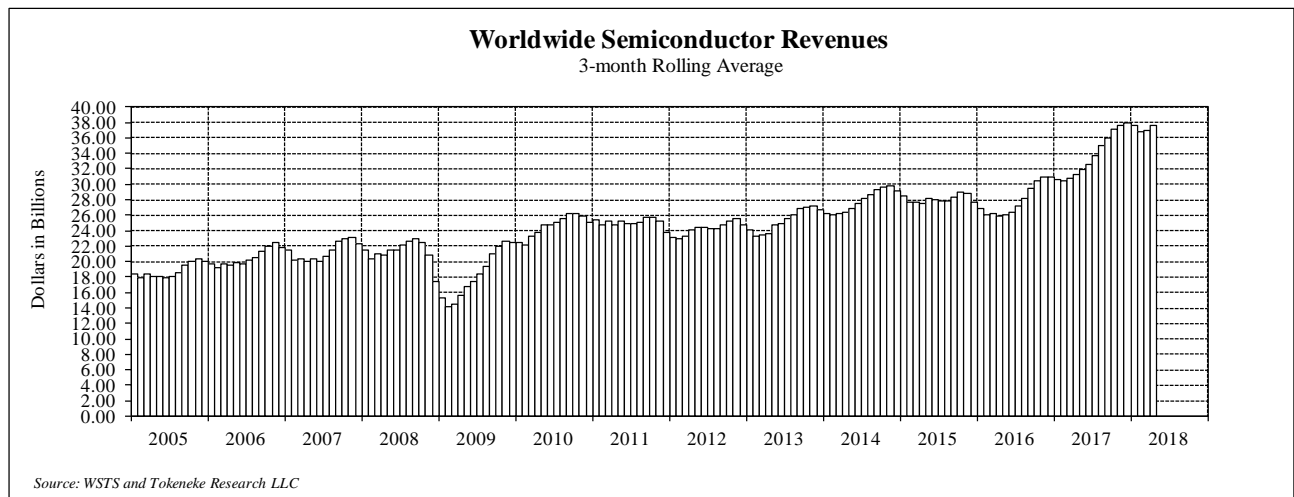
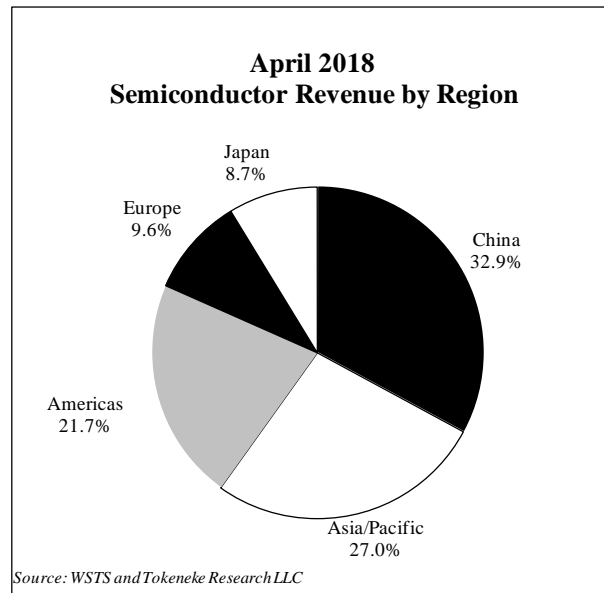
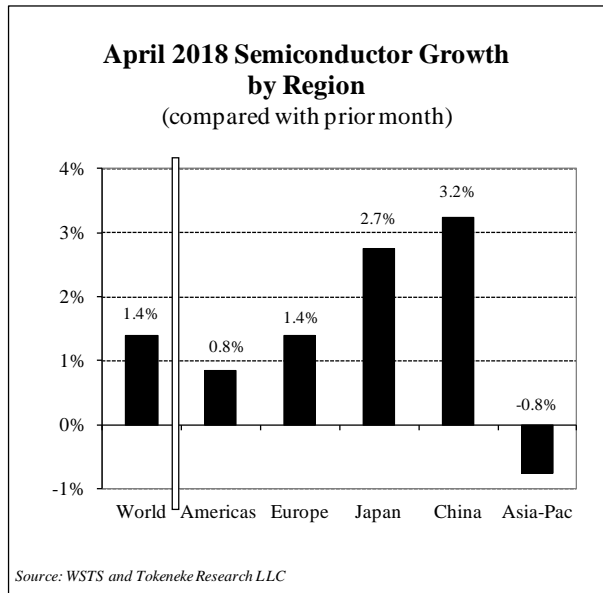
Robust Chip Sector Rebound in May: Chip sector share prices sprinted ahead last month and the SOX re-established year-to-date outperformance. During May, the Philadelphia Semiconductor Index Option (SOX) rocketed up by +10.8% and significantly outperformed broader equity markets, while 56 out of 62 stocks in my Universe advanced by a similar gain of +10.5% compared to gains from the NASDAQ, S&P500 and DOW at +5.3%, +2.2%, and +1.0%, respectively. While my Universe continues to underperform year-to-date relative to the NASDAQ, it is now outperforming both the S&P500 and DOW as noted in the tables below.

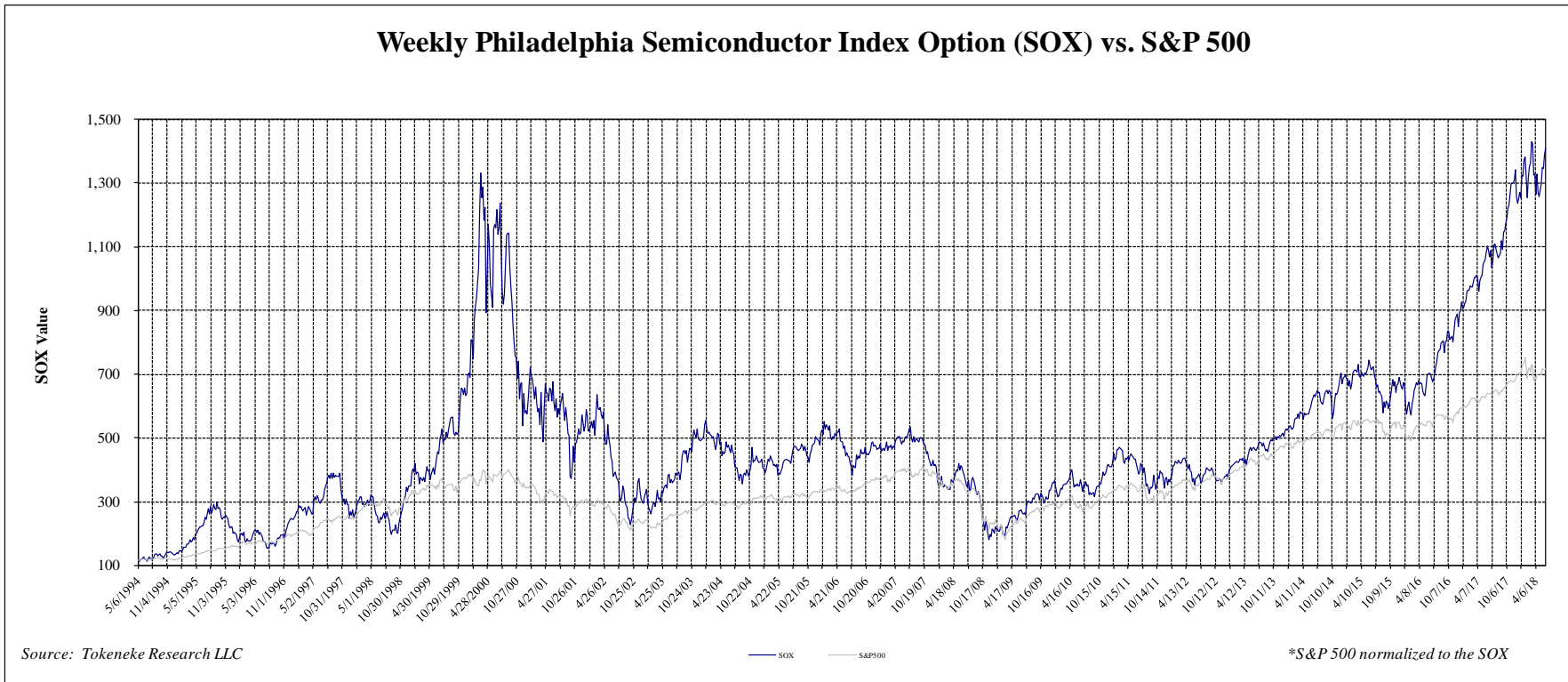
May				QTD (2Q)				YTD				Indices			
Winners (56/62)		Losers		Winners (43/62)		Losers		Winners (35/62)		Losers			May	QTD	YTD
PI	45.6%	INFN	-24.9%	MOSY	46.2%	NLST	-24.2%	MOSY	56.8%	NLST	-43.1%	SOX	10.8%	3.8%	10.1%
MTSI	35.7%	MXL	-17.8%	PI	37.5%	AQ	-23.8%	SMTC	41.5%	PXLW	-34.4%	SMH	10.3%	2.8%	9.6%
MOSY	32.8%	QUIK	-13.7%	AMD	36.6%	QUIK	-21.1%	IOTS	41.1%	QUIK	-31.0%	NASDAQ	5.3%	5.4%	7.8%
NPTN	26.8%	XPER	-10.2%	MTSI	35.8%	MXL	-19.3%	MU	40.1%	MTSI	-30.7%	S&P500	2.2%	2.4%	1.2%
QTNA	26.3%	PXLW	-3.0%	SMTC	23.9%	INFN	-19.0%	INFN	39.0%	MXL	-30.5%	DOW	1.0%	1.3%	-1.2%
average stock +10.5% SOX +10.8%				average stock +5.7% SOX +3.8%				average stock +3.2% SOX +10.1%							

Sector Volatility and Divergence: The outperformance of the chip sector continues to worry me as noted by the spread between the SOX and S&P500 in the graph on Page 4—although I am encouraged by the April correction of the SOX and the divergence between the SOX index and my Universe on a year-to-date basis. The SOX was much less volatile during May than its roller-coaster ride during April, with a steady gain of +9.4% during the first-half, followed by a -1.1% hiccup, then a +3.4% resumption, and a fade at the close of -0.9% for a net monthly change of +10.8%. My Universe posted a consistent average stock gain of +10.5% last month, but continues to diverge and underperform year-to-date at +3.2% vs. +10.1% for the SOX.

Opportunities Knock: While the longer-term outperformance of the SOX index and the significant difference between winning and losing sectors continues to concern me from a top-down perspective, I am actually encouraged by broader share price divergences across my Universe amid a variety of sub-sectors experiencing significant growth. See my latest Semiconductor Investment Ideas publication for specific potential opportunities.

—Dan K. Scovel
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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 Fahnstock & 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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