Above Average April Chip Growth

AI Drives Growth, Chip Stocks Rally as 1Q Results Beat Lowered Expectations

The good news is that AI continues to drive growth across the semiconductor industry, April industry statistics were above average, and sector share prices have rallied nicely this quarter as most companies reported 1Q results that exceeded previously lowered expectations. The bad news is that AI growth is tempering amid lackluster 2Q guidance for revenue growth, and the current share price rally offset a correction that I had hoped would offer at least some attractive fundamental equity valuations. And, oh yeah—don't forget geopolitical economic uncertainty.

AI single-handedly accounts for chip industry revenue growth expected at +11% this year driven by NVDA and I continue to hope that AI cap ex euphoria ahead of revenue streams and profits lasts long enough for PCs, smartphones, automotive and the rest of the semiconductor end-markets to return to growth. In the meantime, the SOX index remains over-extended versus the S&P500 and most fundamental valuations across the sector are not attractive. I would still be extremely selective approaching potential chip sector opportunities at this time.

***AI Drives Semiconductor Industry Growth*:** Not exactly a surprise, but it does bleed through the product detail in the lastest WSTS/SIA bi-annual semiconductor industry revenue forecast update summarized in the adjacent tables.

WSTS Semiconductor Industry Revenue Forecast

	2024 act	2025 fcst		2026 fcst
		Dec '24	*Jun '25*	*Jun '25*
Rev Growth	19.7%	11.2%	11.2%	8.5%
$ billions	630.5	697.2	700.9	760.7
Logic % of total	34.2%		38.1%	37.7%
Memory % total	26.2%		26.4%	28.2%

The June 2025 update reiterates expected industry growth for this year and introduces one for 2026. It turns out the bullishness introduced last December across most product areas was a reflection of hope rather than visibility for a recovery from core smartphone and PC markets. Notice how five of the seven product areas have lowered expected growth for 2025 with the June 2025 update—and most of them swung to negative from positive. Except for Logic and Memory which house most of the AI devices and happen to be the two largest product categories by wide margins.

Growth Forecast by Product Type

	2025		2026
	Dec '24	*Jun '25*	*Jun '25*
Discrete	5.8%	-2.6%	8.3%
Opto	3.8%	-4.4%	1.7%
Sensors	7.0%	4.5%	4.2%
Analog	4.7%	2.0%	4.8%
MPUs	5.6%	-1.0%	3.0%
Logic	16.8%	23.9%	7.3%
Memory	13.4%	11.7%	16.2%
Total Semi	11.2%	11.2%	8.5%

Geopolitical Gymnastics: Recall the new normal chaos is every semiconductor company preserving its supply chain and sales in a variety of ad hoc fashions by skipping around ever-evolving US, Chinese and European technology sanctions, embargoes and tariffs. 'De-Sinicization' describes Chinese and Taiwanese companies expanding operations to more politically neutral countries like Singapore, while 'Geopolitically Dependable Capacity' describes TI's strategy to support various customer supply requirements from a variety of locales. 'Indigenization' includes government grants and loans incentivizing domestic semiconductor operations that includes multiple billions of dollars from the US, China, Japan, India, South Korea, Malaysia, Taiwan and Spain. The Chinese grow-your-own category is referred to as 'Huawei-ization' due to that company's political isolation from the US—and this phenomenon appears to have accelerated the most in recent weeks.

Universe Deviations: Recall that my US-equity-based Tokeneke Universe does not include very large international players (Samsung, SK Hynix, Kioxia, MediaTek, Infineon, Renesas, Rohm, Winbond, Macronix, Nanya, Novatek, Realtek) although it does include wafer foundries (TSMC, UMC, GlobalFoundries, Skywater Tech, Tower Semi) and IP companies (Rambus, Ceva, InterDigital, Arm, Adeia) that count as costs associated with manufacturing rather than industry sales. Note my Universe on Page 5. I also normalize fiscal quarters to the best fitting two out of three months, and I don't segregate non-semiconductor corporate revenue. Unreported acquisition stub periods and mergers exiting the sector can also make a difference.

While these differences compared to semiconductor industry sales are significant, most US-based investors experience the sector from the Tokeneke Universe perspective. The Philadelphia Semiconductor Index Option (SOX) also includes wafer foundries, IP companies and equipment firms as well.

Above Average April Growth: Worldwide chip industry revenues for April grew by an above average +2.5% sequentially on a three-month rolling average basis, according to statistics released by the Semiconductor Industry Association (SIA) last week. April has averaged growth of +1.4% with a high of +8.3%, a low of -4.7%, and 12 declines in the last 39 years, including five in the last 14 according to industry statistics. China led with growth of

+5.5% followed by Asia-Pacific at +5.3% and Europe at +0.5%. Japan declined by -0.6% while the Americas lagged with a decline of -1.1%.

July's release of May statistics could easily fall below average given my relatively anemic 2Q Universe outlook despite the AI turbocharge. May has averaged growth of +1.9% with a high of +6.5%, a low of -7.5%, and six declines in the last 39 years including only one in the last 20 according to industry statistics.

1Q Decline Improves: 1Q earnings announcements finalized last week and my Universe rebounded in the last month due to the AI turbocharge from NVDA, AVGO and MRVL as expected, although industry statistics released in early-May were notably worse. Why? Mostly because my Universe double counts AI strength since most (all?) of NVDA and other fabless AI chip suppliers manufacture their chips at TSMC (TSM).

The weighted average sales growth across my Tokeneke Universe reflected a sequential quarterly decline of -1.1%, up from -7.0% before the late AI turbocharged announcements. Company 1Q guidance from 4Q earnings was centered at -3.1% ranging from -5.5% to -0.8% so the quarter finished near the high-end of the range of expectations. Industry statistics for 1Q released in early May by the SIA reported a more pronounced—and below average—1Q sequential revenue decline of -2.8%. The 1Q is seasonally the weakest of the year with an average revenue decrease of -2.1%, a high of +9.2%, a low of -19.4%, and 25 declines in the last 37 years—including 12 of the last 13, according to industry statistics.

2Q Outlook Below Average: The specific weighted average guidance for revenue across my Universe calls for a sequential increase of +3.4% this quarter, ranging from +0.9% to +5.9%, although the expected mid-point of growth steadily eroded from an initial +6.9% as the earnings season progressed. The 2Q is seasonally a period of recovery for the year with average revenue growth of +4.2%, a high of +20.0%, a low of -19.9%, and only eight declines in the last 39 years—including two of the last 13, per industry statistics.

A Banking Deal and Executive Changes: Last month Texas Instruments issued two senior unsecured debt notes totaling $1.2B, Synaptics appointed a new president and CEO from Qualcomm, Diodes promoted its president to CEO, and Skyworks lost its CFO to Western Digital and then installed a board member as an interim when the expected replacement backed out due to a health issue.

May Chip Sector Rally: May semiconductor sector share prices outperformed broader equity markets as most companies exceeded previously lowered expectations during 1Q earnings season announcements, while the group continues to underperform year-to-date. During May the Philadelphia Semiconductor Index Option (SOX) gained +12.5% while 46 out of 57 stocks in my Universe advanced by an average of +8.6%. The NASDAQ, S&P500 and DOW were up by +9.6%, +6.2%, and +3.9%, respectively.

May

Winners *(46/57)*		Losers	
ALAB	38.9%	WOLF	-66.5%
SITM	33.5%	CEVA	-28.4%
INDI	33.2%	VLN	-15.5%
ALGM	32.9%	NLST	-14.6%
SKYT	27.5%	SQNS	-12.6%
average stock +8.6%		*SOX +12.5%*	

QTD *(2Q)*

Winners *(40/57)*		Losers	
GSIT	54.2%	WOLF	-61.1%
ALAB	52.0%	CEVA	-26.7%
AVGO	44.6%	NLST	-24.8%
INDI	30.2%	PXLW	-22.4%
SITM	28.3%	SNDK	-20.8%
average stock +5.3%		*SOX +11.4%*	

YTD

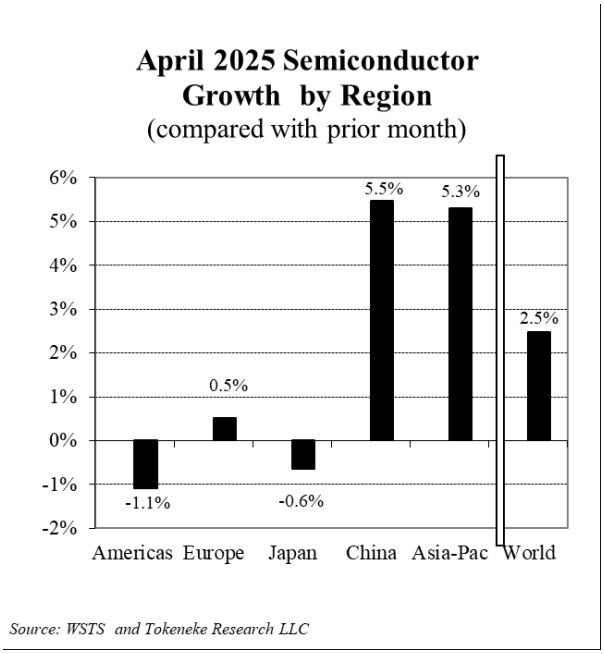
Winners *(17/57)*		Losers	
UMC	17.3%	WOLF	-82.1%
ALGM	16.0%	QUIK	-54.2%
SIMO	13.2%	SQNS	-50.7%
MU	12.2%	MRVL	-45.5%
IDCC	12.2%	AOSL	-42.7%
average stock -14.4%		*SOX -4.5%*	

Indices

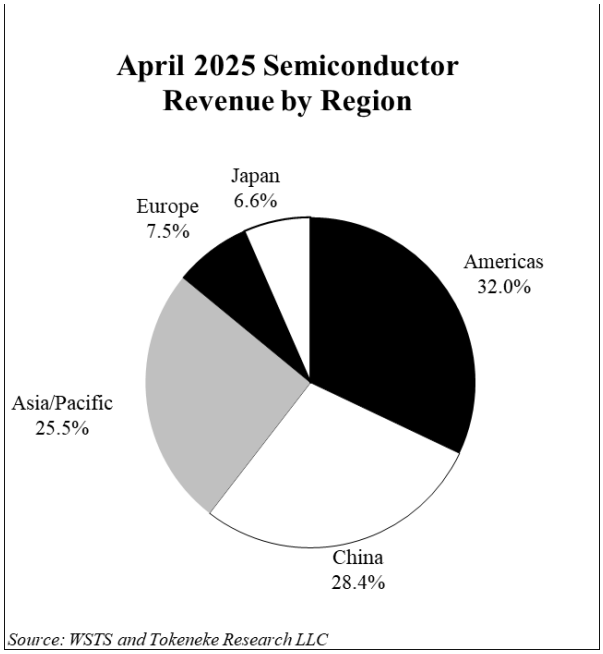
	May	*QTD*	*YTD*
SOX	12.5%	11.4%	-4.5%
SMH	13.5%	13.4%	-1.0%
NASDAQ	9.6%	10.5%	-1.0%
S&P500	6.2%	5.3%	0.5%
DOW	3.9%	0.6%	-0.6%

Chip Stocks Still Scary: AI is a huge opportunity but growth is tempering while the rest of the semiconductor industry's markets remain moribund as hope for a recovery from a bottoming is complicated by geopolitical uncertainty. In the meantime, the SOX index remains way over-extended versus the S&P500 (note the relative premium in the chart on Page 4), and most fundamental valuations across the sector are not attractive. I had hoped chip sector underperformance earlier this year, which is still reflected year-to-date, would offer potential equity opportunities. But then shares rallied this quarter as most companies exceeded lowered expectations. Hence, I would remain extremely selective considering chip sector opportunities at this time.

—Dan K. Scovel
Semiconductor Analyst



Source: WSTS and Tokeneke Research LLC



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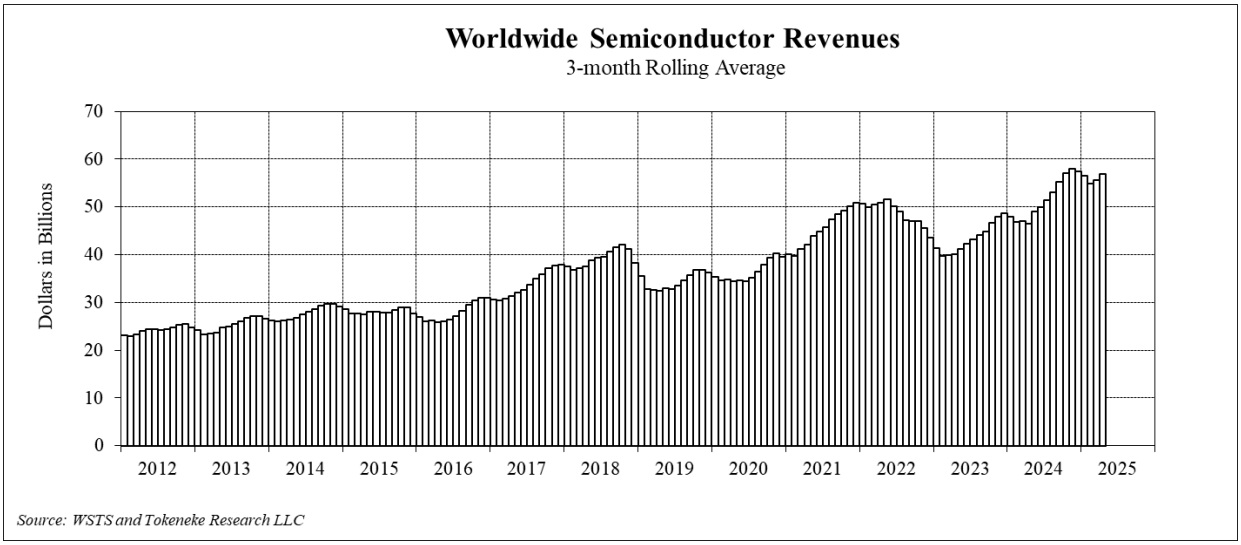

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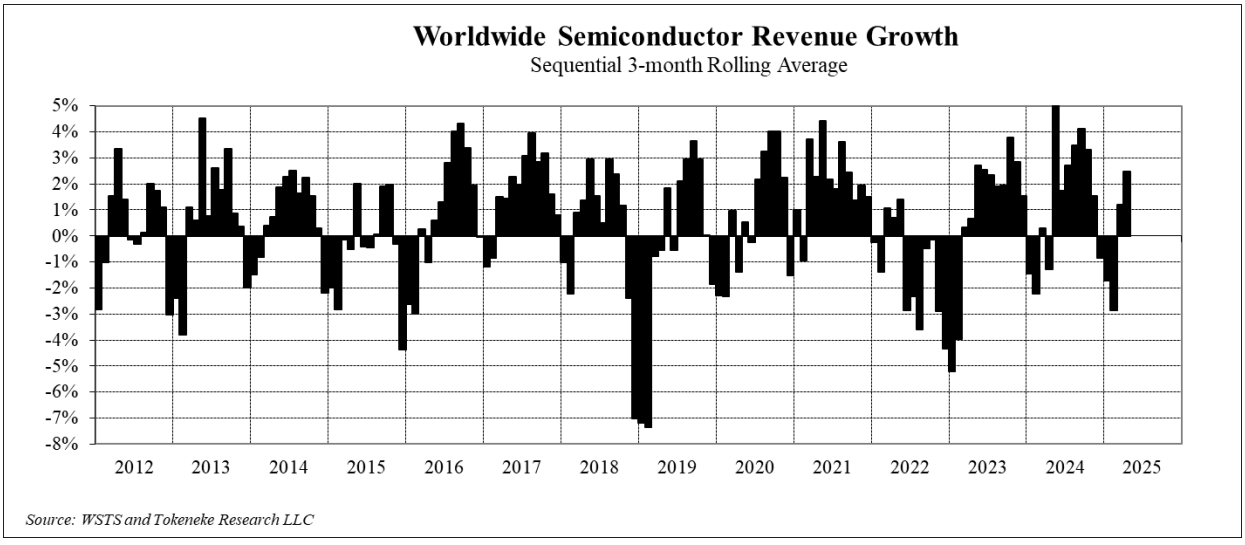
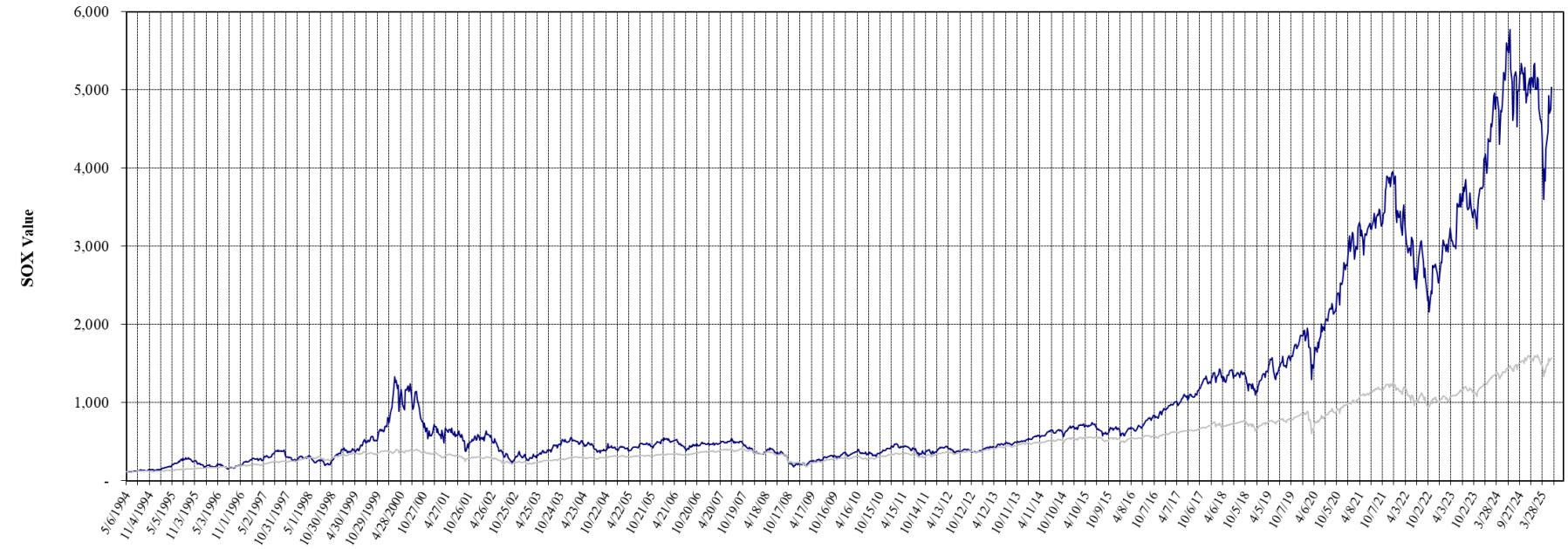


Source: WSTS and Tokeneke Research LLC

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



Source: Tokeneke Research LLC

S&P 500 normalized to the SOX (divided by 3.80508)

Tokeneke Research LLC — *Company Overview*

Semiconductor Industry Analysis and Insight

The Tokeneke Universe:

57 companies/tickers as of 6/10/25.

Company	Ticker	Company	Ticker	Company	Ticker
Adeia	ADEA	Mobileye Global	MBLY	QuickLogic	QUIK
Analog Devices	ADI	Microchip Technology	MCHP	Rambus	RMBS
Astera Labs	ALAB	Monolithic Power Systems (MPS)	MPWR	Silicon Motion	SIMO
Allegro Microsystems	ALGM	Everspin Technologies	MRAM	SiTime	SITM
Ambarella	AMBA	Marvell	MRVL	SkyWater Technology	SKYT
Advanced Micro Devices (AMD)	AMD	M/A-COM Technology	MTSI	Silicon Laboratories	SLAB
Alpha Omega Semiconductor	AOSL	Micron Technology	MU	Semtech	SMTC
Arm Holdings	ARM	MagnaChip	MX	Sandisk	SNDK
Broadcom	AVGO	MaxLinear	MXL	Sequans Communications	SQNS
CEVA	CEVA	Netlist	NLST	STMicroelectronics	STM
Cirrus Logic	CRUS	NVIDIA	NVDA	Skyworks Solutions	SWKS
Diodes	DIOD	Navitas Semiconductor	NVTS	Synaptics	SYNA
GlobalFoundries	GFS	NXP Semiconductors	NXPI	Tower Semiconductor (TowerJazz)	TSEM
GSI Technology	GSIT	ON Semiconductor	ON	Taiwan Semiconductor Mfg. Corp. (TSMC)	TSM
Himax Technologies	HIMX	Impinj	PI	Texas Instruments (TI)	TXN
InterDigital	IDCC	Power Integrations	POWI	United Microelectronics Corp. (UMC)	UMC
Indie Semiconductor	INDI	Pixelworks	PXLW	Valens Semiconductor	VLNS
Intel	INTC	QUALCOMM	QCOM	Vishay Intertechnology	VSH
Lattice Semiconductor	LSCC	Qorvo	QRVO	Wolfspeed	WOLF

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.

My Background

I have an electrical engineering degree, nearly 12 years of semiconductor industry experience, and was on Wall Street for nearly eight years where I was selected as Best On The Street semiconductor analyst by The Wall Street Journal in 2002.

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 as a sell-side analyst included the following: 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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