

Rally Peaks, Now Retreat
Elusive Recovery Expected to Short-Circuit Rallies

Summary: The semiconductor business has bottomed, although this plateau has occurred at a fairly depressed level and the timing and profile of the ultimate macroeconomic recovery remains elusive. I continue to believe we remain in an equity market environment that will be characterized by rallies and retreats as we roll along this bottom. Near term, I expect the correction in equity markets over the last couple of days will persist and offset the vast majority of gains achieved by the sector during its 32% rally last month. I also expect mixed-messages during the 1Q earnings season to fuel this start-again, stop-again trading pattern.

High-Performance Semiconductors: The semiconductor sector is outperforming the overall equity markets so far this year, with sector leaders noted below—although the list is somewhat misleading, with seven of them trading below \$1 per share (including two in bankruptcy) and only three trading above \$3 per share. Fundamental valuations are generally attractive across the sector, with over 93% of the equities in the Tokeneke Universe trading below their average historical price-sales ratios, and 84% trading at least 30% below that average.

March 2009				1Q09				Indices		
Winners (101/117)		Losers		Winners (69/117)		Losers			Mar	1Q
SPSN	160.0%	CHRT	-53.8%	QUIK	182.5%	PXPly.pk	-83.9%	SOX	16.0%	8.8%
PXLPy.pk	150.0%	DSPG	-22.2%	MIPS	164.0%	QMNDQ.pk	-63.2%	SMH	13.5%	6.2%
QUIK	104.6%	RMTR	-17.5%	MTLK	90.0%	RMTR	-46.2%	NAS	10.9%	-3.1%
IFX	88.3%	SPWRa	-14.7%	LDIS	81.8%	DSPG	-46.1%	S&P500	8.5%	-11.7%
SPRD	70.5%	LOGC	-14.3%	SIRF	79.7%	SIMG	-42.9%	DOW	7.7%	-13.3%
average stock +18.8% SOX +16.0%				average stock +10.6% SOX +8.8%						

I continue to believe the chip sector will fare better than most when a recovery finally does occur for two reasons. First is the managerial experience during 1991 of a pronounced downturn of similar magnitude. And second is the relative health of the sector at the onset of this downturn notable for its lack of excess inventory—channel or otherwise. Of course, this is an overly general comment on the industry as a whole and does not include balance sheet casualties that bankruptcy will claim akin to Qimonda and Spansion.

Surviving equities will be well primed for multi-bagger gains when the economy finally recovers, but picking those winners and timing the bottom will be very tricky. Cash is king and all eyes are fixed on balance sheets and cash flows as income statements lay dormant amid the current lack of growth and profitability. If your investment time horizon is at least a couple of years and you can stomach pronounced gyrations over the next few months, then opportunities abound. Otherwise, this remains very much a stock-pickers market for short-term traders.

Fun with February Statistics: February industry sales statistics were a disappointment to me, since I was expecting a more clearly pronounced improvement over January. The SIA/WSTS reported three-month rolling average sales that declined during February by -7.6% over the prior month. How was this so? Unfortunately, I have to dive into some statistical theory to try and prove that I was at least half right.

Chip industry revenue experience a hockey-stick profile of sales throughout each calendar quarter: the first month is noticeable lower than the last month of the prior quarter, the second month is incrementally higher, and the third month takes a noticeable leap up. There are lots of traditional reasons for this—notably sales quota expiration—but the most convincing is the 4-4-5 pattern of weeks per month during the quarter: the last month is 25% longer. For whatever reason convinces you, the fact is that each quarter experiences this hockey-stick phenomena on a very repeatable basis (at least until you enter a downturn like the one we're in now).

The SIA/WSTS statistics report world wide monthly sales on a three-month rolling average basis to smooth-out the hockey-stick artifact. For February, this means you add the actual, raw, reported sales for February, January and December, and then divide by three. For January, you add January, December and November before dividing. The three-month rolling average difference between February and January is the difference between these two calculated averages. In a normal business environment, this smoothing-out of the data saves investors from getting too enthusiastic about the traditional end-of-quarter spike in sales. Unfortunately, in this business environment it actually works to cloak the cessation of free-falling revenue.

Semiconductor Industry World-Wide Sales

\$ bil	2008						2009	
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Raw Data	20.79	21.83	26.26	19.38	16.96	15.88	13.15	13.46
<i>change</i>	-18.6%	5.0%	20.3%	-26.2%	-12.5%	-6.4%	-17.2%	2.4%
3-Mo Avg	22.19	22.71	22.96	22.49	20.87	17.41	15.34	14.17
<i>change</i>	2.9%	2.3%	1.1%	-2.0%	-7.2%	-16.6%	-11.9%	-7.6%
<i>avg change</i>	1.1%	1.7%	3.0%	3.0%	2.5%	-1.7%	-2.2%	-2.0%

Business Plateau: The table above tells the story. The first row is raw data and the second row is the sequential monthly change of that raw data. Notice the hockey-stick during Jul-Aug-Sept. The third row is the three-month rolling average data for the month; the fourth row is the sequential monthly change of that rolling average data; and the last line is the average of that change since 1990. September was a little weak, but within 'normal' variance. However, by October it was clear that something was wrong and by December business was in a free-fall. On a three-month rolling average basis, December's decline of -16.6% is the worst month on record of *any* month over the last 18 years and was meaningfully worse than the previous record drop of -9.2% in June 1991.

Anecdotally, management reported business levels beginning to stabilize during January, although this stabilization was subsequently interrupted by the Chinese New Year holiday that occurred this year on January 26. On a raw data basis, January's -17.2% is not an abnormal sequential decline for the first month of a quarter (much less the seasonally weak first month of the year). And, lo and behold, the raw February statistics reflected an increase for the first time in six months since August—at an almost 'normal' single-digit level.

The good news is that I believe this supports my argument that declining business levels have finally reached a plateau. The bad news, however, is multi-dimensional: the plateau is at an extremely low level; the traditional three-month rolling average statistics that are reported will probably not reflect this stabilization for another couple of months (depending on the improvements in March and April); and this newly established, low level of sales has the potential to meaningfully skew all the long-term average changes that are calculated on a percentage basis. Another way to put it: \$1B in revenue is a much greater percentage change off a base of \$13B than it is off a base of \$20B. This last issue, in particular, clearly has the potential to magnify the excitement and depression usually exhibited by the investor class, in my opinion.

1Q09 Earnings Mixed-Messages: I think 1Q earnings could end up disappointing both the bulls and the bears, with the bears winning most of the qualitative aspects of management descriptions of business conditions, and the bulls winning much of the actual numerical reports and guidance—at least compared to expectations. How this affects share prices will depend on where we are relative to a short-term rally phase.

I think the bears will rejoice in the lack of management confidence due to limited business visibility, likely incremental restructuring actions as an admission of this uncertainty, the lack of reported earnings, and the potential continuation of the lack of such earnings. On the other hand, the bulls will likely enjoy 1Q revenue and earnings reports exceeding (currently depressed) expectations, the potential lack of continuing declines expected 2Q in the form of management guidance, and even the possibility of out-sized expected 2Q growth in certain cases where favorable seasonality (consumer electronics) combines with depressed revenue levels.

Another issue that will favor the bulls over the next few months will be inventory replenishment in the channel. For example: during TXN's mid-quarter update management estimated that its shipments to distribution were below that of distribution shipments to end-customers by 10-15%. That is to say, TXN was under-shipping to end-demand on part of its business by 10-15%. As business levels have stabilized, the channel is finally able to establish what appropriate levels of inventory should be and will begin to restock to those levels. And this will create a somewhat artificial lift to chip company sales. Remember, semiconductor firms are way at the back of the food chain and very much insulated from ultimate end-demand of electronic hardware consumption.

1Q By the Numbers: The Tokeneke Universe of over 100 equities accounts for approximately two-thirds of total semiconductor industry sales. Last quarter, 4Q08, these firms accounted for \$35.7B, or 68.4% of total industry sales that declined sequentially by -22.0%, compared to the official industry statistical decline of -24.2%. The weighted average 1Q guidance offered by these companies during last quarter's earnings announcements called for a sequential quarterly decline of -22.4% to -16.4%, or centered on -19.4%. After 12 preannouncements to date, this decline has shifted up a bit to -21.2% to -16.1% centered on -18.7%. Of the 12 companies that have offered updates,

eight have slightly improved expectations (ALTR, DIOD, LSCC, MSPD, SMSC, TSM, TXN and XLNX), three reiterated original guidance (ACTL, MCHP and RFMD), and only one lowered expectations (IDTI). I expect most firms to post earnings somewhat better than guidance for 1Q for a cumulative decline in the range of -15% to -10%.

INTC Uncertainty: INTC will kick-off the chip sector earnings season next Tuesday, after the close—and I am afraid it might not be very good. Qualitatively, expectations should be able to hold together: positive preannouncements and business gains reported by various Taiwanese companies over the last several weeks identified China 3G wireless infrastructure, white-box cell phone handsets, notebook PCs and the new netbooks as areas of incremental strength. INTC could benefit from possible share gains from AMD, notebook and netbook strength, and the recent introduction of its new server-based microprocessor chip. However, netbook ASPs are very low and AMD share gains tend to be pretty incremental—neither of which is likely to move the needle very much, in my opinion. Notebooks will hold together—although I’m not confident of any gains, but servers might be able to carry the day with their outsized ASP and profitability contributions to INTC’s business model.

The thing that makes me the most nervous about INTC is the lack of revenue guidance and expectations surrounding other companies with PC market exposure. Management specifically refused to provide 1Q revenue guidance due to the lack of visibility, and then offered up \$7B in sales as a placeholder for modeling purposes. So, the \$7B number is pretty squishy. Also, note the adjacent table of companies with PC market exposure and the multiplicative sum of actual and expected revenue changes over the last two quarters. I have to ask myself: why should INTC get away with only a 30% haircut to its revenue base when all these other companies are looking at 40-50%? They might pull it off if all those other firms do better than expected by 5-10% (which I expect they might—except for IDTI which specifically blamed its preannouncement shortfall on PC and server products), and then get some incremental upside from its rich offerings on the server side. I am not comfortable betting long on INTC going into earnings. But either way, I’m not interested in the shares from a fundamental valuation perspective until it retests its low in the \$12-range.

Company	Revenue Change		
	CY4Q _{act}	CY1Q _{est}	Total
AATI	-26.8%	-22.0%	-42.9%
AMD	-35.0%	-10.0%	-41.5%
ATHR	-28.8%	-15.0%	-39.5%
CY	-25.6%	-26.5%	-45.3%
FCS	-25.1%	-27.5%	-45.7%
IDTI	-16.7%	-36.0%	-46.7%
INTC	-19.5%	-15.0%	-31.6%
ISIL	-40.0%	-16.0%	-49.6%
NVDA	-46.4%	0.0%	-46.4%
OIIM	-40.0%	-16.5%	-49.9%
PSEM	-30.1%	-20.0%	-44.1%
SMSC	-13.3%	-41.5%	-49.3%
VLTR	-28.4%	-20.0%	-42.7%
		Average:	-44.2%

Investor Schizophrenia: Good news, bad news; mixed-messages; uncertainty: okay, so I sound like a two-handed economist that doesn’t know which way to go. And frankly, it’s true—because that’s where the data has taken me.

And, for the same reasons, I argue this is why we will continue to see equity markets advance and retreat until some kind of recovery materializes. The only reason I am not calling them ‘bear market rallies’ is because I think the banking and economic issues bottomed when the Fed poured \$1 trillion into treasuries and mortgages in early-March (along with expected help from mark-to-market changes and the reintroduction of the up-tick rule since then). It may be more of a sideways market than a bull market these days, but I think the bear has been tamed.

At least, until the next terrorist attack . . .

—Dan K. Scovel
Semiconductor Analyst

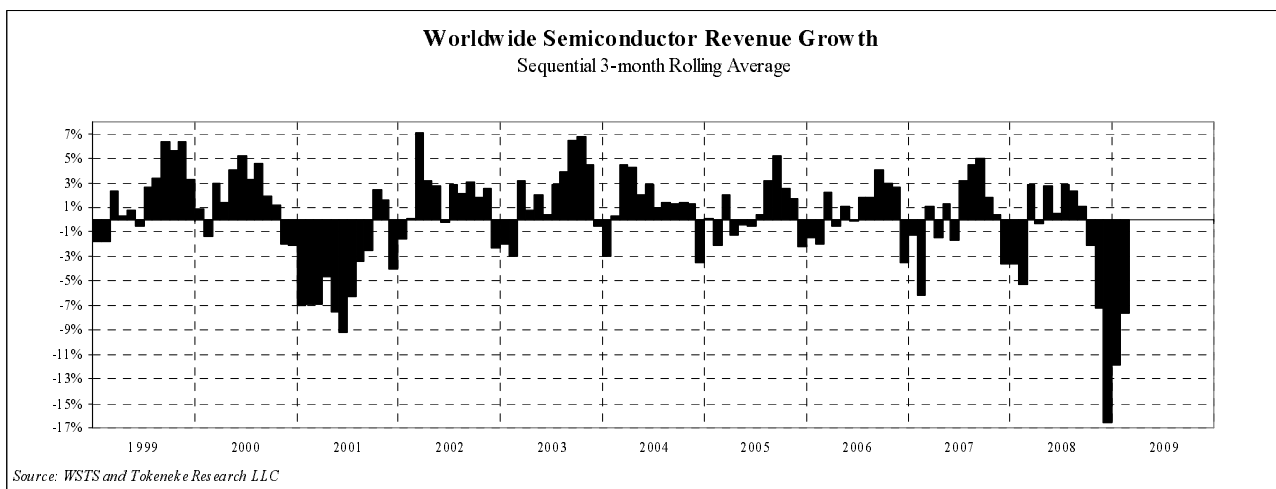
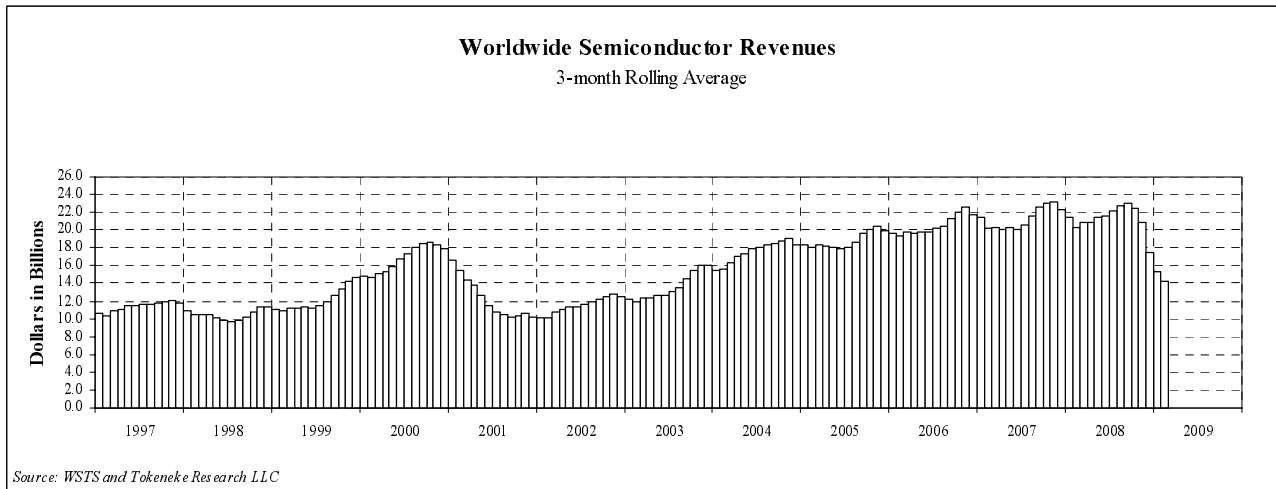
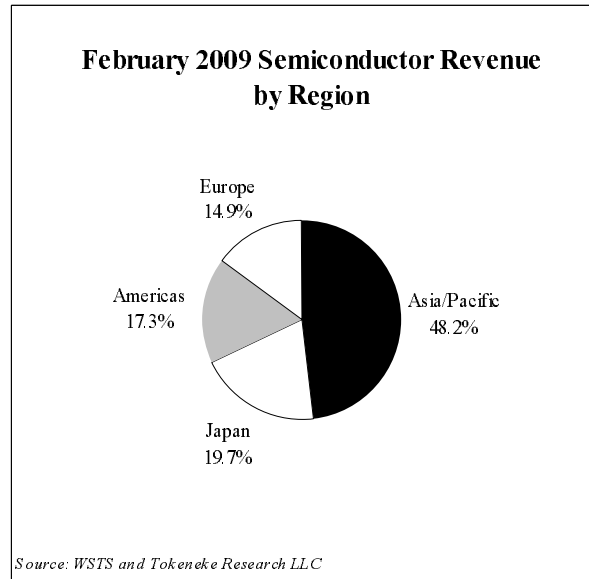
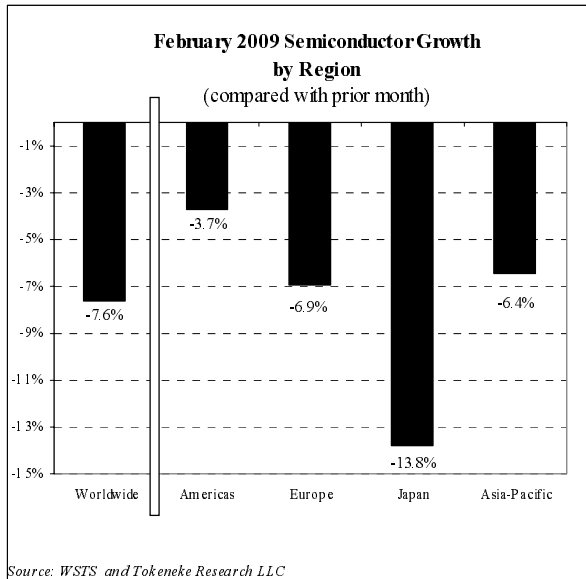
Stock Recommendations: Please see the most recently published reports for additional information.

MU: Buy recommendation with a 12-month target price of \$10—for the unusually risk-tolerant investor.

TXN: Accumulate as it approaches support around \$14, and lighten-up as it approaches my \$19 target price.

INTC: I’m not interested until it approaches its recent support level just over \$12.

NSM: Also not interested until it approaches a recent support level around \$9.50.



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



Sources: Tokeneke Research LLC

— SOX — S&P 500

*S&P 500 normalized to the SOX

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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