

Intrinsic Valuation Historical Update *Resetting of Average Historical Fundamental Valuations*

Summary: On March 8, 2010 I updated the historical data sets used to calculate price-sales and price-earnings in the Tokeneke Research Intrinsic Valuation spreadsheet from 9/29/07 to 2/4/10. Inclusion of 2008 and 2009 into the dataset generally lowered historical average valuations, as would be expected during this period of stress and multiple compression in the overall equity markets.

Observations:

- I used the Bloomberg terminal in the Darien, CT public library, and downloaded historical price-earnings, price-book, and price-sales data on a weekly interval for the period from September 2007 to the current day on February 4, 2010. This information was subsequently incorporated into the Tokeneke Research spreadsheet beginning on March 8, 2010.
- There did not seem to be any data available prior to 1/1/08, so there is a structural defect in my dataset between 9/28/07 and 1/1/08. There also appeared to be limited availability of data for smaller and international and lesser-followed issues.
- The price-earnings datasets were limited due to the cyclical nature of the chip sector. As expected, there were very few new highs established over 2008 and 2009, but a large number of new lows—albeit not as many as I would have expected given the stress in the equity markets during the first half of 2009.
- Price-Sales Updates:
 - Almost all historical average calculations were nudged down, as would be expected, with only five exceptions: CEVA, MSCC, ONNN, STEC and SUPX. Why? CEVA's processor architecture move into cell phones; Microsemi's consolidation in the military and aerospace markets; ON Semi's progress in debt restructuring; STEC's strategic business model change into SSDs; and Supertex's success in a couple of end markets.
 - Almost no new highs, except for: CEVA, STEC and SWKS (incremental).
 - Lots of new lows. Out of 109 issues in the Tokeneke Research spreadsheet; 13 had no historical data prior to this update; 11 of those now have such data; only 2 still don't have any historical information (NLST and PXPL); and 41 of the remaining 93 (or 44%) established new lows.
 - 28 issues had no change to their historical average calculation. I consider this odd, although most were due to the lack of available updates. Equities included: ADPT, ARMH, CNXT, CRUS, DIOD, ENTN, HIMX, IKAN, IRF, LDIS, LOGC, MOSY, MTLK, NSM, PXLW, QUIK, RMBS, RMTR, SIMO, SMSC, SSTI, SWKS, TRID, TSEM, TSM, UMC, VIRT and VTSS.

Background: Intrinsic Valuation at Tokeneke Research reflects fundamental equity valuation metrics compared against the history of those metrics for the life of that equity. Specifically, I compare current trailing-12-month price-sales and price-earnings ratios against the average history of those criteria for a specific equity issue. I use the Bloomberg data base to capture historical price-earnings, price-book and price-sales ratios on a weekly basis. I then capture the high and low numbers and calculate the mean average for each ratio.

I do not consider price-book to be a meaningful valuation ratio for the semiconductor industry, in general, mostly because of the huge variance in book values between integrated manufacturers, foundries, fabless and IP business models, but also because of a significant portion of intangible book value reflected in goodwill and acquisition-related intangibles on balance sheets across the sector. While book value appears to be a more relevant metric for valuing the share prices of semiconductor capital equipment issues, it does not appear to carry much relevance for semiconductor suppliers.

Price-earnings is an extremely robust fundamental valuation metric. However, it is inherently problematic in the highly cyclical and volatile chip sector. The volatility of the business itself leads to a very wide range of earnings over the course of a business cycle, and the cyclical nature of the sector results in meaningful periods of financial losses that render historical datasets incomplete and truncated to a significant degree. Even worse, periods of highly depressed earnings render meaningless quadruple-digit price-earnings ratios that skew averages into useless magnitudes in the mid- and high-double digits. Very few issues have big enough data sets available to calculate meaningful averages, and those relatively limited datasets are polluted by exorbitant ratios associated with periods of depressed earnings. Complicating matters even further is the extensive use of pro forma earnings with the lack of

consistent definitions thereof. I generally use price-earnings ratios consistent with expected long-term growth rates to establish price targets—but only in concert with other valuation metrics. Specifically, price-sales.

Price-sales is by far the best fundamental valuation metric to employ when addressing the semiconductor sector: the historical datasets are comprehensive and extensive, and the inherent volatility of the sector is limited to the single-digit multiple variances in revenue gyrations across business cycles. The historical trailing 12 month average is a meaningful metric by which to gauge the relative fundamental valuation of a given equity issue in the semiconductor sector.

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