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3-SIGMA VALUE

2013 Review / 2014 Outlook

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For the year ended December 31, 2013, 3-Sigma Value, LP (the "Partnership") had an estimated loss of 12.8% (net of management fee and expenses) with average gross exposure of 119.1% and net exposure of *negative* 25.7%.

3-Sigma Value, LP

PERFORMANCE AND EXPOSURE STATISTICS

	Monthly Performance		Average Fund Exposure			
	Gross[1]	Net[2]	Long	Short	Gross	Net
January	-5.6%	-5.6%	56.7%	79.9%	136.6%	-23.2%
February	5.7%	5.7%	51.6%	73.6%	125.2%	-22.0%
March	-5.0%	-5.0%	54.8%	73.3%	128.2%	-18.5%
April	-10.3%	-10.3%	72.4%	79.9%	152.3%	-7.5%
May	-1.7%	-1.7%	64.6%	83.3%	147.8%	-18.7%
June	3.1%	3.1%	44.6%	83.8%	128.4%	-39.2%
July	1.6%	1.6%	54.1%	77.8%	131.9%	-23.6%
August	6.5%	6.5%	53.3%	64.9%	118.2%	-11.6%
September	-2.6%	-2.6%	43.2%	62.9%	106.1%	-19.7%
October	2.0%	2.0%	33.1%	65.5%	98.6%	-32.3%
November	-6.9%	-6.9%	20.0%	61.4%	81.4%	-41.4%
December	1.2%	1.2%	12.4%	62.6%	75.1%	-50.2%
2013	**-12.8%**	**-12.8%**	**46.7%**	**72.4%**	**119.1%**	**-25.7%**
Cumulative[3]	**58.4%**	**46.7%**				
Annualized[3]	**16.6%**	**13.6%**				

1 Net of management fee and expenses.
2 Net of incentive fee.
3 3-Sigma Value, LP, the Master Fund, was re-launched January 2011.

The Partnership's portfolio, both long and short, focuses its investment efforts in three industries – Technology, Media & Telecom ("TMT"), Natural Resources, and Financials – chosen based on the experience of our investment professionals. In total, 3-Sigma Value, LP is invested long in 15 companies, and short 30 companies.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

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Our investment approach is global in scope, yet, at this time, North American equities constitute the vast majority of our gross exposure. We are market-cap agnostic.

Portfolio Construction

As of December 31, 2013, the 3-Sigma Value portfolio had gross long exposure of 11.6% and gross short exposure of 63.4%, for net investment exposure of *negative* 51.8%. While we typically seek overall market agnosticism in the construction of the portfolio as reflected in a target range of net exposure between *negative* 25% and *positive* 25%, entering 2014 we find it impractical to remain agnostic.

Balance Sheet (% Of Equity) - 12/31/13				
	Long	Short	Gross	Net
By Industry				
Technology	2.3%	-48.1%	50.5%	-45.8%
Natural Resources	2.9%	-7.3%	10.2%	-4.4%
Financials	6.3%	-7.9%	14.2%	-1.6%
Total	11.6%	-63.4%	74.9%	-51.8%
By Geography				
North America	10.4%	-58.3%	68.8%	-47.9%
South America	0.1%	0.0%	0.1%	0.1%
EMEA	1.0%	-5.0%	6.1%	-4.0%
Asia	0.0%	0.0%	0.0%	0.0%
Total	11.6%	-63.4%	74.9%	-51.8%
By Market Capitalization				
Greater than $1B	7.2%	-30.8%	38.0%	-23.6%
$500M - $1B	0.0%	-11.3%	11.3%	-11.3%
Less than $500M	4.3%	-21.3%	25.6%	-17.0%
Total	11.6%	-63.4%	74.9%	-51.8%

The one-directional track of the market since a modest correction over the summer of 2011 is unprecedented in my memory. The parabolic move in 2013 is characteristic of the endpoint or nearing the endpoint of a bubble – yet again one induced by Federal Reserve policy. Margin debt recently made an all-time record high. Mutual funds are fully-invested, sitting on record

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

low levels of cash. Covenant-lite debt issuance is back in force. Record levels of stock buybacks (companies purchasing shares) contemporaneous with record levels of insider sales (insiders selling the same shares) is an oxblood flag – shareholders are buying whatever management is selling. And 2013 was the best year for initial public offerings (IPOs) since the year 2000. Meanwhile, real median income in the U.S. was lower in 2013 than in 1989. How do you define stagnation?

The 3-Sigma Value portfolio is tactically short because of the near-absence of securities that meet our risk-reward criteria. This overwhelmingly bearish construction reflects what we view as clear signs that certain segments of the market are on the cusp of a correction in valuations. Later in this letter, we describe *The Great IPO Flood of 2013*, a flood that actually began in 2012[1] and flows unabated into 2014. In the wake of every legitimate technology company that has gone public since the Facebook IPO, I will show you two that are illegitimate. This ratio rivals that of the internet bubble and the obvious corollary to 2013 is 1999. Sadly, this time it's worse.

It's worse now than in the year 2000 because the internet bubble was all about one industry – technology, and specifically the internet. Other sectors of the market such as natural resources, industrials, and consumer staples didn't participate at all. In contrast, technology is just one of four simultaneous bubbles inflating the market today, an unprecedented situation in my understanding of history.

While all four of these bubbles are the direct result of unprecedented monetary policy, each is distinctive in its deception.

1. **Technology** – this bubble is akin to the internet bubble, except smaller in terms of the total number of companies going public. Like the dot coms at the turn of the millennium, today's cloud/social/mobile IPOs are more focused on metrics other than actual profit. The footnotes in prospectuses are long and complex, explaining how GAAP losses are manipulated into non-GAAP earnings by ignoring expenses such as stock compensation, the amortization of acquired intangibles, and other so-called "one-time" expenses.

[1] Two events opened the flood gates: (1) implementation of the JOBS Act (Jumpstart Our Business Startups), and (2) the carnival surrounding the Facebook IPO.

Phone (646) 452-3005 Fax (646) 349-3725
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Because these footnotes are so knotty, managements are forced to simplify. When simplifying, they eliminate certain expenses. The result is *pro forma* numbers that most investors and sell-side analysts simply accept as real. It's an old-fashioned bait-and-switch, leaving the market vulnerable in two profound ways: (1) reported earnings are not real and therefore these companies will not grow into profitability as expected, if ever; and (2) valuations are irrationally exuberant based on real numbers. One by one, these companies will report disappointing numbers and their valuations will crash down to earth.

2. **Consumer Growth** – I woke up on a bright morning in late June 2013 to the story of a hot IPO, Noodles & Company (NDLS), a fast-casual restaurant chain serving pasta dishes and marketed as the next Chipotle. I scoffed when it said Noodles could pop 100% when it opened for trading that day, and later I watched in disbelief the mighty return of irrational exuberance when it closed its first day up 104%. Its $1+ billion valuation represents in excess of 150x earnings of $6.665 million in 2013 (up from $5.163 million in 2012).

   Then, in early October 2013, it was déjà vu all over again when Potbelly (PBPB), a chain of 288 antique-themed sandwich shops in the U.S. rose 120% on its first day of trading. In an attempt to transform Potbelly from a sandwich shop to a destination (music, fundraising, corporate responsibility), management hopes investors won't care about profit – because there is none. This is internet bubble redux except that we're talking about noodles and turkey sandwiches rather than software.

3. **Yield Cos** – short for yield-oriented companies, these are companies that pay out a mandated portion of their distributable cash flow to shareholders in the form of a dividend. In today's zero-bound interest rate environment, savers who rely on income-generating investments are forced to shift money from safe short-duration fixed income securities into more risky longer-duration bonds and equities ("reaching for yield"). Specifically, we define three categories of yield cos[2]. They are:

   a. **Master Limited Partnerships (MLPs)** – MLPs combine the tax benefits of a limited partnership with the liquidity of the public markets. Since the year 2000 when there were 18 MLPs with a combined market cap of $14 billion, the MLP universe has exploded to 113 companies with $460+ billion of market cap. Most of these MLPs

[2] There is a fourth category of *yield co* that pays out a taxable dividend. It is a relatively new structure adopted by power producers with long-term contracted cash flows under Power Purchase Agreements (PPA). One example (the largest) is NRG Yield (NYLD). We include these yield cos despite the fact that their payouts are subject to double taxation. In contrast, MLPs, REITs, and BDCs are pass-through entities for the purpose of taxes which are paid only once.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

own "midstream" infrastructure assets in the energy and natural resources industries. These include pipelines, and gathering, processing, and refining assets typically supported by long-term contracts.

In a zero-bound interest rate environment, retail investors (savers) will pay virtually any valuation for a security offering a 5% or 6% current yield. I wonder if they are unaware, or is it uninterested, in valuation. P/Es are astronomical and irrelevant because D&A is substantially greater than capex[3], and therefore operating cash flow (EBITDA) and distributable cash flow (less maintenance capex) are more accurate measures of current financial performance. Unfortunately, these measures are frequently overstated, leading to egregious over-valuation.

There is a myriad of accounting schemes that MLPs use to overstate distributable cash flow, thereby artificially supporting a dividend. Generally speaking, the schemes all involve overstating *the quality of the assets* that are "dropped[4]" into the MLP. Typically, a C-Corp will drop older assets into an MLP, assets that have less useful life remaining and therefore require higher levels of maintenance capex. Instead, maintenance capex is kept to a minimum by shifting the expenditure from one line item (maintenance) to another (growth). Since growth capex is not subtracted from distributable cash flow, dividends are funded in amounts that exceed cash flow. The scheme has a Ponzi-flavor as today's distributions are being pre-funded out of tomorrow's cash flows. The end point for most of these overvalued MLPs will be a dividend cut, which will lead to a substantial (50%+) drop in their valuations.

b. **REITs** – up until the Fed induced a rapid steepening of the yield curve in the spring of 2013 with the introduction of tapering the amount of quantitative easing (QE)[5], mortgage-REITs, and especially pure-play agency mortgage-REITs enjoyed a charmed life in which there was unlimited demand for their wares. As a result of taper talk, agency MBS reacted violently, as expected, with prices declining and equity erasing. Since then, diversification has yet again become the name of the game in search of yield as REITs move into riskier assets such as commercial real

[3] Capital expenditures.

[4] Dropping or dropping-down is a term used to describe the transfer of assets tax-free from a corporation to a MLP.

[5] Quantitative easing (QE) is a term used to describe the Federal Reserve's policy of buying fixed income assets on the open market in order to suppress interest rates.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

estate (CRE) and structured products. Recently, many of the biggest private equity firms[6] have launched REITs to exploit the private-to-public arbitrage that is created when assets are priced off current quarter dividend yields.

c. **Business Development Companies (BDCs)** – this is the nuttiest example of market amnesia. In 2007, a friend suggested I look at American Capital (ACAS), one of the fastest growing BDCs during the credit bubble. ACAS loaned money to and occasionally invested in small and midsize companies that otherwise couldn't access capital from traditional commercial banks. It's a business model that is riskier than people realize because adverse selection is structural. David Einhorn wrote an incredible book called *Fooling Some of the People All of the Time: A Long, Short Story* about Allied Capital (acquired by Ares Capital (ARCC)), another BDC that shared many of the same characteristics as ACAS. Einhorn does a great job of explaining the accounting machinations at BDCs and I highly recommend reading it for detail. In 2008, the equity of the BDCs evaporated along with much of the financial system, and the concept expired as a credit bubble experiment.

But then a funny thing happened on the way to recovery. The BDC model was resuscitated. Banks are operating under tighter restrictions now, leaving many small and midsize businesses without access to their traditional source of term loans and revolvers. Filling the gap are 50+ new[7] BDCs promising high single digit distributions, and staffed by new and junior analysts instructed to put money to work. The quality of the underwriting is simplistic at best and usually nothing more than a back-of-the envelope leverage calculation.

The expected return (over the long-term) for a BDC is the dividend yield because BDC's are required to distribute 90% of their distributable cash flow to shareholders. Therefore, BDC's are unable to reinvest and can only grow through external sources of financing. This fundamental IRS requirement holds true for all three segments of the yield co. universe – MLPs and REITs are also required to distribute 90% of their taxable income – capping their ability to grow. As a result, growth is entirely dependent on exogenous factors such as commodity prices and the slope of the yield curve, rendering all of these companies leveraged beta investments.

[6] Including Apollo, Blackstone, Colony, and Starwood.

[7] Either reorganized or de novo.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

MLPs, REITs, and BDCs all offer yields that are attractive to investors in a zero-bound interest rate environment. However, these yields are not compensating investors for the underlying risk. Most yield cos. (not all) employ unsustainable bull market business models with stock prices that will crash one by one as dividends are cut. What makes this so much more insidious then when a growth company (technology or consumer growth) blows up is that these yield cos. are sold as safe investments, with safety defined by dividend yield. Here is the math: savers will earn 5% or 10% per year for one, two or three years, maybe more maybe less, and then lose half their money. Don't do it. The highest yielding stocks are often losers, masking an underlying weakness or flaw in the business. Focus on cash flow growth, not dividend yield. And never invest in a business you don't absolutely 100% completely understand.

4. **Biotech** – because we are specialists here at 3-Sigma Value, we do not focus our research effort on biotechnology and healthcare more generally. This is due to the experience and expertise of our investment professionals. Nevertheless, after discussing this subject matter with various biotech investors, and seeing the data on IPOs, it is clear there is frenzy in the funding of new scientific discoveries.

Tactics

Before proceeding to an analysis of winners and losers in 2013, and specific investment ideas for 2014, I want to share some thoughts on applying the concept of *tactics* to investment management, and why this is a significant factor in generating *alpha* in any market environment, and especially in extremely bullish or bearish ones.

First, to frame the definition of tactics, we discuss it in relation to *strategy*. Strategies are plans of action designed to achieve the greatest overall return over a period of time. Our strategy at 3-Sigma Value is well-documented: we apply a value-oriented framework to the companies in our industries of focus. Specifically, we identify those companies that are best (and worst) positioned to take advantage of powerful secular trends that are driving valuation. Then we identify the key drivers of value that form the underlying assumptions of a financial model, and we compare the valuations derived from the Upside scenarios to the valuations derived from the Downside scenarios in order to quantify risk versus reward.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

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Tactics are isolated actions calculated to take advantage of specific opportunities that arise over the course of executing a strategy. Tactics are often discussed in terms of the military (military tactics) and chess (chess tactics) yet are rarely considered in terms of investing. That is because investment professionals are taught to be fully-invested. Long-only investors who raise their exposure to cash from 5% to 10% or more are still effectively fully-invested in terms of market correlation. Typically, long-only portfolios are comprised of positions with betas greater than one and therefore these portfolios are more than 100% invested on a beta-adjusted basis.

3-Sigma Value performed relatively well in 2013 (down 12.8%) given the fact that the portfolio was short and became incrementally so as the year progressed, averaging 25% net short exposure and ending the year 51% net short (12% long, 63% short). Following two years of positive investment performance in excess of 30% per annum, I decided to opportunistically increase the size of our core short positions, some of which are described in this letter, rather than liquidate great investment ideas in the face of an acceleration of the bull market. However, this required short-term changes to 3-Sigma Value's investment strategy (tactics) designed to minimize the potential for a draw down.

1. **Lower gross exposure**. Normally, the 3-Sigma Value portfolio is 100% to 200% invested. The average gross and net exposure since inception in March 2007 is 143.3% and *negative* 0.2% respectively. As of December 31, 2013, however, gross exposure was down to an all-time low of 74.9%, consisting of 11.6% long and *negative* 63.4% short for net exposure of *negative* 51.8%. The reason for the low gross exposure is the dearth of long candidates that meet our requirements for total expected return and risk versus reward. Combine that with an abundance of short candidates and a tactical decision is necessary – to fit the portfolio to a pre-conceived notion of risk as reflected in market exposure, or, adjust the exposure to the opportunity that is presented in 2014.

2. **Focus on <u>core</u> short positions**. Within the 30 shorts in the 3-Sigma Value portfolio, 20 represent 1% or more of gross exposure. A core short is defined as 2.5% or more gross exposure, and there are eleven as of December 31, 2013, totaling 49.5% gross. In theory, we should double the gross exposure of these eleven shorts from 50% to 100% and hedge the excess beta with an S&P index fund or S&P options; however in practice, the excess volatility wrought by such large short positions renders the portfolio too risky in terms of draw down potential. Therefore, we continue to limit the size of our top short positions to ~5% on average.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

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3. **Deemphasize valuation**. This may be the most important tactical consideration. As a rule, we at 3-Sigma Value never short a company's stock based solely on valuation, because there is no rational limit to exuberance. We consider valuation, but it is never more important than the fourth or fifth reason to bet against a company. More important considerations include fatal flaws in the business model, lousy management teams, fraudulent expectations, cash burning operations, and terminal over-leverage. In a market environment infused with euphoria, however, it becomes more important than ever to focus intently on fundamental reasons why a security is mispriced and not on the market's perception of valuation. Out of the eleven core shorts in the 3-Sigma Value portfolio as of December 31, 2013, five (5) are zeroes in their respective Base Case Operating Scenarios.

4. **Zeroes are zeroes, no matter the multiple**. No matter where you enter a terminal short position, there's always 100% downside to zero. However, one of the great misconceptions about shorting a stock is that there is only 100% of potential return (no leverage). Over the past seven years of managing 3-Sigma Value, I have found that when stocks are decimated, so-called "value investors" will usually buy in the expectation of reversion to the mean. This short-term surge in demand often drives stock prices back up to levels reflecting sufficient asymmetrical risk versus reward and we re-size the position accordingly.

Each position in the 3-Sigma Value portfolio is analyzed individually, and the portfolio is constructed from the bottom up. Our short positions are not designed to hedge our long positions. Every position, long and short, must meet 3-Sigma Value's requirements for total return and risk versus reward, and therefore every position, long and short, represents an exceptional investment opportunity on a standalone basis. We apply a conservative algorithm to sizing positions, beginning with 25% to 33% of the target allocation – e.g. 1%, 2.5%, 5%, or 10% depending on risk as quantified by 3-Sigma Value's proprietary scenario-based valuation analysis.

Over the course of 2013, the 3-Sigma Value portfolio became progressively short, though not linearly. Monthly volatility in net exposure is not a judgment on the overall market but a natural result of market movements and the sizing of individual positions. Net exposure in 2013 ranged from a high of *negative* 7.5% in April to a low of *negative* 50.2% in December[8]. Yet, the

[8] The average net exposure over a month. At December 31, 2013, net exposure was *negative* 51.8%.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

number of positions in the portfolio remained relatively constant at around 15 long and 30 short, for a total of 45 positions.

Profit contribution was one-sided in 2013, to be expected, with longs contributing *positive* 12% and shorts contributing *negative* 21%. Out of the Top 10 winners, five were on the long side and five were on the short side. Meanwhile, all of the Top 10 losers were shorts, except for one – **American Residential Properties (ARPI)**, a single-family rental REIT that went public on May 9, 2013 at $21.00. 3-Sigma Value invested in the May 2012 144-A private placement at $20.00. By the end of 2013, the stock price was $17.16.

At the turn of 2012, I became convinced of a window of opportunity to buy distressed homes in the real estate markets that were eviscerated by the bursting of the credit bubble – these markets included Phoenix AZ, Las Vegas, NV, and areas of California including the Inland Empire. The public homebuilders were attractive candidates, especially those that continued buying land through the downfall; however, what was more attractive was the opportunity to buy homes at a fraction of their replacement value. Major real-estate focused private equity firms including Blackstone (Invitation Homes) and Colony (Colony American Homes (CAHS) were feverishly buying up distressed homes at auctions, so when I was introduced to the management team of the newly formed American Residential Properties I jumped at the chance to participate in the bulk acquisition of distressed homes.

American Residential Properties is a prime example of a great idea undermined by dilution. Management, led by CEO Steve Schmitz and President Laurie Hawkes, timed the market perfectly when they raised $225 million of equity capital in May 2012 to acquire a portfolio of single-family homes that could then be rented out or sold as part of an active portfolio management strategy. The proceeds were quickly deployed in the target markets and at the end of the year the portfolio was a thing of beauty: the top five markets represented 89% of ARPI's total investment, and home price appreciation (HPA) in those markets was: 17.3% in Phoenix AZ, 11.4% in Houston TX, 8.8% in Dallas TX, 11.7% in Chicago IL, and 27% in the Inland Empire CA.

When acquiring homes, three factors are considered: (1) stabilized gross (~9%-13%) and net (~5%-6%) yield; (2) HPA potential; and (3) discounts to replacement value. Without HPA, a 5%-6% unlevered yield is pretty lousy given the uncertainty of the single family rental business model. With HPA (and 40% leverage), the business model shines.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

ARPI raised a second round of private capital in December 2012, this time at $20.50, a mere 2.5% above our cost despite the massive HPA and related accretion in net asset value (NAV). At a Zelman & Associates conference shortly after the offering, I asked CEO Steve Schmidt how he justifies pricing the stock at only a 2.5% premium given the HPA, and he gave a rambling and incoherent answer about doing what's right over the long term versus the short term, and never once coming close to answering my question. Watching her partner struggle, Laurie Hawkes, ARPI's President jumped in to explain the importance of scale and the great opportunity to continue to invest money in 2013. It was not until reading ARPI's IPO prospectus a few months later that I understood the true nature of Steve and Laurie's partnership. On page 188, under the header of *Employment Agreements*, it says, "*Mr. Schmitz, our Chief Executive Officer and Chairman, and Ms. Hawkes, our President and Chief Operating Officer and a member of our Board of Directors,* ***have shared the same residence for the last six years***."

Is this important? Material enough to disclose prior to (not after) raising money? I believe so. But anyone who knows me knows I'm a full transparency brutal honesty type of guy so it pisses me off that these two would dog and pony under false pretense. All business is personal. They presented independence in place of co-dependence. This is why I sold the stock after the IPO and took the loss. The prospectus told me everything I needed to know.

On the pernicious slope of dilution: ARPI rapidly increased its purchases of single-family homes through 2013, diversifying geographically across the country in an aggressive effort to build a national platform. As a consequence, ARPI diluted the HPA along with its intrinsic value per share.

At the end of 2013, book value per share was a lousy $17.90. Using monthly S&P / Case-Shiller home price data, NAV per share approximates $20.00. This means that all of the HPA that was captured by timely purchases in 2012 and early 2013 have been diluted by the cost of building scale.

A fantastic and timely idea was diluted by empire-building. Scale alone is never the answer.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

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Winners and Losers

7 positions in the 3-Sigma Value portfolio accounted for 100 basis points or more of profit in 2013, compared to 11 positions that contributed 100 basis points or more of losses.

Top 10 Winners in 2013	
Long: Customers Bank (CUBI)	Profiled in 3-Sigma Value's *Bank Investing in 2013*, CUBI remains a deeply undervalued bank.
Long: Hamni Financial (HAFC)	A top 10 winner two years in a row is fairly valued unless a strategic buyer is willing to pay up.
Long: Live Nation (LYV)	Vertically-integrated from ticket sales (TicketMaster) through venue ownership and artist management.
Long: MDC Holdings (MDC)	The U.S. housing market bounced back strongly in 2013.
Long: ExOne (XONE)	Participation in the 2/6/13 IPO of this industrial 3-D printer was an opportunistic trade.
Short: For Profit Education Provider (FPE)	This boiler room is unlikely to survive enhanced regulations.
Short: Fusion IO (FIO)	SSD/NAND flash is a commodity product under perpetual pricing pressure (akin to DRAM).
Short: Nuance Communications (NUAN)	Icahn (his son?) buys nearly 20% of this leveraged roll-up of voice technologies with no earnings.
Short: RealD (RLD)	This top 10 loser in 2012 flipped sides, becoming a top 10 winner in 2013. Don't believe the hype is a sequel.
Short: Bazaarvoice (BV)	Original business is saturated; furiously overpays for acqusition of PowerReviews; CEO quits.

Top 10 Losers in 2013	
Short: For Profit Education Providers (FPEs)	These two boiler rooms are unlikely to survive enhanced regulations.
Short: Cenveo (CVO)	Terminally over-leveraged commercial printer was a Top 10 winner in 2012.
Short: Angie's List (ANGI)	Subscription-based website offering business recommendations faces stiff competition from free alternatives.
Short: ReachLocal (RLOC)	This online marketing service provider was a Top 10 loser for the second year in a row.
Short: GreenDot (GDOT)	Expanded distribution beyond Walmart (67% of 2013 revenue) to drugstores and dollar stores fueling growth.
Short: Cree (CREE)	The First Solar of the LED industry was a Top 10 loser for the second year in a row.
Short: Netflix (NFLX)	Content cost inflation is accelerating while revenue growth is decelerating. Consensus EPS estimates are silly.
Short: Tesla (TSLA)	A mistake of rational proportionality. An obvious short…but when?
Long: American Residential Properties (ARPI)	Single-family rental (SFR) REIT massively diluted investors in a desperate land grab for scale.

Entering 2014, the portfolio looks predictably different than above. **Customer's Bank (CUBI)**[9] remains in the portfolio, while **Hamni Bank (HAFC)[10]** was sold after two winning years. 3-Sigma Value invested in Hamni Bank in late 2011 at $6.40 per share. It closed 2013 at $21.89.

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[9] Featured in *Bank Investing in 2013*.

[10] Featured in *Bank Investing in 2012*.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

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Live Nation (LYV)[11] was sold as well, after achieving our target price range of $18-$20 per share. 3-Sigma Value originally invested in Live Nation at the beginning of 2010 in advance of Liberty Media's tender offer at $12 per share which, as expected, was summarily rejected by the shareholders as insufficient. And then a fantastic thing happened, the sort of thing value investors dream about – the stock price tanked on a weak forecast for the summer concert season. I attended the annual meeting at Irving Plaza that year (a theater in NYC owned by Live Nation) during which junior buy side analysts ripped the management team for lowering their EBITDA forecast. The stock price dropped 10% between the time I entered and left the building. As I walked back to my office on a sunny afternoon, all I could think about was how these guys were chasing the next data point. A bunch of reporters. Sheep, as Gordon Gekko once pontificated. And what happens to sheep? Sheep get slaughtered.

Over the next few months, 3-Sigma Value built a position at an average cost below $9 per share, and then we traded around the core position, lowering the average cost to below $0. Finally, in 2013, the stock rose along with the market to an all-time high and we exited at an average price in excess of $19.

Nuance Communications (NUAN)[12] and **RealD (RLD)**[13] are two winners on the short side that remain in the portfolio in 2014, although at lower allocations. Nuance has become a battleground stock since Carl Icahn (his son?) acquired a nearly 20% stake in this money losing, leveraged roll-up of voice recognition technologies. I have no idea what they think they can do with this pile of junk but I do recognize the power of unlimited resources and therefore reduce the size of the allocation.

RealD peaked at $16 in the summer of 2013 before investors woke up to the obvious fact that 3D is saturated in North America. Banking on expansion in unreliable places like China and Russia, RealD is neither a growth story nor a value one. The company is unprofitable, and keeps plowing money into consumer-related 3-D that no one wants. The stock price dropped to $6 in October, and we covered a portion of the position.

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[11] Originally published in 3-Sigma Value's First Quarter 2010 Letter to Investors.

[12] Featured in *Searching for Autonomy*, and originally published in 3-Sigma Value's Third Quarter 2012 Letter to Investors.

[13] Originally published in 3-Sigma Value's Third Quarter 2010 Letter to Investors.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

Three for-profit education providers (FPEs) remain in the 3-Sigma Value portfolio entering 2014. The FPEs are to the student debt bubble what the sub-prime originators were to the credit bubble. They are marketing-oriented organizations and disproportionately the bad actors, and while not every FPE is a bad actor, the three that we are short will ultimately fail enhanced regulatory scrutiny.

3-Sigma Value has been short various FPEs since early 2009 when we first questioned the underlying assumption that education is counter-cyclical. The industry boomed briefly in the wake of the 2008 collapse of the financial system and subsequent Great Recession, but not because of a surge in unemployment. It was the massive marketing blitz that drove enrollment to Strayer University (STRA), Ashland University (BPI), and their ilk. It was the aggressive advertising that was more often than not misleading, the expensive pursuit of third party leads, the overwhelming lobbying of government – all of the same schemes that the mortgage originators utilized in the credit bubble. Lawsuits are piling up. A great way to narrow the list of short candidates in education is to focus on those schools that face the most and serious legal challenges. Valuations change based on the input of new data that changes the underlying assumptions of the model. The three FPEs that we remain short, however, all share one thing in common – their equity is worthless[14].

Fusion-io (FIO) was a short position that we covered after it sliced in half, from $20 to $10. SSD (solid state drives, known as NAND or flash memory) are commodity products under perpetual pricing pressure (akin to DRAM). FIO's claim of a unique software stack is fleeting at best. NAND solutions are readily available with a controller ASIC that is available from Marvell (MRVL) and LSI (LSI) and others. FIO earns a negative OM, and will never make money. Moreover, extreme customer concentration is killing this company. There are two "strategic" customers (AAPL and FB) who accounted for 53.5% of total revenue in 2012. In Q1 2013, that number plummeted to 22% and the stock price followed, from $18 per share to $14.60. Then, in May 2013, the two co-founders suddenly quit, and were replaced by Shane Robison, the jargon-laced head of strategy who previously worked at H-P where he led the acquisition of Autonomy. His big move thus far has been the acquisition of NextGen Storage, a developer of lower-cost hybrid SSD / HDD appliances based on Fusion ioMemory for small to medium sized enterprises. The acquisition cost was $119 million and it doesn't generate any revenue ("de minimus" according to management). More troubling is the fact that the acquisition appears to be a move counter to the philosophies of the founders and a half-step backward in the evolution to solid

[14] In their respective Base Case Operating Scenarios.

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575 Madison Avenue, 10th Floor, New York, NY 10022

state memory. The stock price dropped 20% in August after the company drastically lowered guidance, and another 24% to below $10 in October after reporting more disappointing results including a lowered gross margin (GM) target – from 58% to 52-54% – owing to a mix shift that is structural. Meanwhile, management is in a spending state of mind, expanding S&M and R&D, and guaranteeing the preservation of losses. Ultimately, the Board of Directors will recognize FIO can't survive as a standalone and it will be sold. Applying the valuation that **Western Digital (WDC)** paid for STEC in June 2013[15] – $340 million, or $207 million of Enterprise Value (net of cash), equal to 1.23x 2012 revenue of $168M[16] – FIO is worth around $6 per share.

On September 26, 2013, **Violin Memory (VMEM)** went public at $9. This over-hyped seller of an all-flash array (no HDD) fell 22% on its first day of trading and barely survived its first quarter as a public company when the stock crashed 48% in November after reporting flat revenue sequentially ~$30 million per. $120 million of annual profitless revenue is worth no more than the STEC multiple of 1.23x. Target = $120M*1.23 = $147.6M / 85M shares = $1.75 value per share.

While I regret not shorting Violin Memory prior to it losing half its value given the fact I was already short Fusion-io, the experience sharpened my cynicism of the overall IPO market and its predilection for hype. If a heralded company like Violin Memory, underwritten by JPMorgan, BofA Merrill Lynch, and Deutsche Bank, can blow up after only one quarter as a public company then how many others will follow suit…?

IPOs are a fertile source of short sale candidates because the general rule holds – for every legitimate piece of technology that goes public, two pieces of junk follow it out the door. If the public has an appetite for new issues then there will be an endless supply. The IPO market is demand driven. Supply will sit on the sidelines waiting years for a window of opportunity. The spectacle that was the Facebook (FB) IPO cracked the dam in May 2012, and since then the market is flooded.

[15] STEC designs, develops, and manufactures SSD, and is a perfect comp to FIO.

[16] STEC reported only $22 million of revenue in the first quarter of 2013.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

3-SIGMA VALUE

The Great IPO Flood of 2013

While there were plenty of IPOs before the May 2012 IPO of Facebook (FB), it is the carnival surrounding that event that makes it the lodestone of the current IPO mania. For the focus of this analysis, we include IPOs dating back to April 2012 when a handful of questionable companies rushed to go public ahead of Facebook.

As introduced earlier, *The Great IPO Flood* is the story of four simultaneous bubbles: (1) cloud/social/mobile technology; (2) consumer growth; (3) yield-oriented companies; and (4) biotechnology. While it can be argued all four are the result of zero-bound interest rate policy, what is unusual is the diversity across growth and income-generating securities. On the one hand, the bubbles in technology and consumer growth are akin to the internet bubble at the turn of the millennium when profit and other financial metrics were subjugated to non-financial measures such as TAM (total addressable market), # of members (free and freemium), inquiries, and eyeballs. On the other hand, the bubble in Yield Cos. is a desperate reach for yield. According to my understanding of history, this is the first time ever we have simultaneous exuberance in income-generating stocks with no growth and growth stocks with no income.

Herein I focus on the bubble in technology IPOs and leave the Yield Co. analysis for another time. I draw direct parallels to the internet bubble during which time I had a front row seat as the co-founder and CEO of a trading software company called Blackwood. In 2013, 222 companies went public representing the highest count since 2000, and total proceeds raised of $55 billion was also the highest total since 2000.

As always, the first step in 3-Sigma Value's investment process is the identification and segmentation of the investment universe, based on two key factors:

(1) Liquidity – we manage this important measure very closely. Market capitalization doesn't matter in of itself; liquidity[17] is far more meaningful in terms of contribution to trade execution slippage and total cost. Nevertheless, micro caps do tend to have less liquidity and therefore are less likely to be included in the 3-Sigma Value portfolio.

[17] Defined in terms of daily trading volume.

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575 Madison Avenue, 10th Floor, New York, NY 10022

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(2) Audited Financials – required for any investment, long or short.

Then we segment the universe by geography, and include only companies with shares traded on one of the U.S. stock exchanges. Finally, we scrub the list of Chinese internet companies which deserve a separate analysis, and what we are left with is a universe of hot IPOs that serves as a bountiful source of short sale candidates.

The Great IPO Flood of 2013 - Segment: Technology - Part 1

Company	Notes
1 Facebook (FB) - up 80% on 1st day of trading	5/12 IPO @ $38 of The Social Network
2 Splunk (SPLK) - up 109% on 1st day of trading	4/12 IPO @ $17 of SaaS dashboard that integrates and analyzes machine generated data - it finds and fixes issues with applications, websites, servers and networks, this is referred to as Application Performance Management (APM)
3 Infoblox (BLOX) - down 50% on 2/11/14 after cutting forecast	4/12 IPO @ $16 of provider of enterprise network infrastructure automation software (and hardware in the form of appliances)
4 Envivio (ENVI) - crashed August 2012	4/12 IPO @ $9 of provider of video compression and encoding software that runs on standard hardware; competes against HLIT, CSCO, etc
5 Proofpoint (PFPT) - up 8% on 1st day of trading	4/12 IPO @ $13 of security software as a service (SAAS) solutions for securing and archiving enterprise communications and data
6 WageWorks (WAGE) - up 40% on 1st day of trading	5/12 IPO @ $9 of on-demand provider of employee benefits including tax-advantaged programs for consumer-directed healthcare
7 Audience, Inc (ADNC) - 8/7/12 - crashed 70% on news it won't be designed into the iPhone5;	5/12 IPO @ $17 of digital sigma processors (DSPs) that improve voice quality and suppress noise in mobile devices
8 ServiceNow (NOW) - up 37% on 1st day of trading	6/12 IPO @ $18 of cloud-based services to manage, analyze, and automate enterprise IT operations, used by service desks, IT operations team, CIO, etc. This is ERP for IT organizations, competing against the "Big Four" incumbents - BMC, CA, IBM, HP
9 PaloAlto Networks (PANW) - up 27% on 1st day of trading	7/12 IPO @ $42 of next-generation firewall (NGFW) vendor founded by former Check Point engineer
10 E2open (EOPN) - down 9% on 1st day of trading	7/12 IPO @ $15 of SaaS platform enabling enterprises to automate their supply chain across multiple trading partners
11 Eloqua (ELOQ) - 12/12 acquired by Oracle (ORCL) for $23.50	7/12 IPO @ $11.50 of provider of marketing automation software, integrates with CRM suites, mostly Salesforce.com
12 Trulia (TRLA) - up 41% on 1st day of trading	9/12 IPO @ $17 of real estate information web site
13 Qualys (QLYS) - up 18% on 1st day of trading	9/12 IPO @ $12 of cloud security for enterprises; products include web application scanning and firewall (WAF), malware detection, and compliance
14 Fleetmatics (FLTX) - up 31% on 1st day of trading	10/12 IPO @ $17 of on-demand fleet management solutions serving over 16,000 customers with 281,000 vehicle deployments; based in Dublin
15 LifeLock (LOCK) - down 7% on 1st day of trading	10/12 IPO @ $9 of online provider of identity theft protection services for individuals
16 Shutterstock (SSTK) - up 27% on 1st day of trading	10/12 IPO @ $17 of online market for royalty-free images and videos, competes against Getty Images which was sold in 2012 by H&F to Carlyle
17 Workday (WDAY) - up 74% on 1st day of trading	10/12 IPO @ $28 of cloud HCM (human capital management)
18 Ruckus Wireless (RKUS) - down 18% on 1st day of trading	11/12 IPO @ $15, competes against Aruba, Cisco, et al in selling Wi-Fi solutions to telecoms and enterprises.
19 SolarCity (SCTY) - up 47% on 1st day of trading	12/12 IPO @ $8 of Elon Musk solar leasing/install
20 ExOne (XONE) - up 47% on 1st day of trading	2/13 IPO @ $18 of MIT exclusive licensee of "binder jetting", patent protection expires over the next 18+ months. Little R&D (~$1.5M per year) calls into question the sustainability of a technology edge. New materials-related patents are creating new IP and new markets
21 Xoom Corporation (XOOM) - up 60% on 1st day of trading	2/13 IPO @ $16 of consumer-to-consumer online money transfer, through xoom.com and walmart.com over the Internet or through mobile devices
22 Marin Software (MRIN) - down 30% May 2013 after reporting	3/13 IPO @ $14 of cloud based digital ad tracking software/service that enables advertisers and agencies to improve financial performance, realize efficiencies and time savings, and make better business decisions.
23 Model N (MODN) - crashed from $24 to $8 after weak guidance	3/13 IPO @ $15.50 of revenue management software for two industries - life sciences & high tech. The solution enforces pricing (manages discounts), automates quote and proposals, monitors contract performance, processes incentives/rebates, maintains regulatory compliance, and provides analytics.
24 West Corporation (WSTC) - traded down to $19 on 1st day	3/13 IPO @ $20 (below 22-25 range), of leveraged roll-up of customer contact solutions (CRM) including conferencing and collaboration, unified communications, alerts and notifications, emergency communications, business process outsourcing and telephony / interconnect services
25 Rally Software (RALY) - up 27% on 1st day of trading	4/13 IPO @ $14 of SaaS for managing Agile software development (a group of software development methods based on iterative and incremental development, where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams).
26 Intelsat S.A. (I) - up 7% on 1st day of trading	4/13 IPO @ $18 of world's largest provider of fixed satellite services (FSS) with over $15 billion of debt vs ~$2 billion of EBITDA
27 Blackhawk Network Holdings (HAWK) - up 13% on 1st day	4/13 IPO @ $23 of prepaid gift cards, prepaid mobile handsets and wireless cards, and other prepaid financial services products; subsidiary of Safeway;
28 UBIC (UBIC) - down 3% on 1st day of trading	5/13 IPO @ $8.38 of asian-language eDiscovery for for the legal industry
29 Cyan (CYNI) - crashed 50% after weak guidance	5/13 IPO @ $11 of optical network equipment supplier with Windstream ~50% of 2012 revenue; offers software-defined network (SDNs) services
30 Tableau Software (DATA) - up 64% on 1st day of trading	5/13 IPO @ $31 of business intelligence software vendor
31 Marketo (MKTO) - up 78% on 1st day of trading	5/13 IPO @ $13 of provider of marketing automation software with 4 main products: Lead Mgmt, Social Mktg, Sales Insight, Revenue Cycle Analytics
32 ChanelAdvisor (ECOM) - up 32% on 1st day of trading	5/13 IPO @ $14 of provider of SaaS platform that manages sales across online channels with a concentration at AMZN, EBAY, and GOOG
33 Textura (TXTR) - up 40% on 1st day of trading	6/13 IPO @ $15 of on-demand project management software for the construction industry

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The Great IPO Flood of 2013 - Segment: Technology - Part 2	
Company	**Notes**
34 GOGO (GOGO) - closed down on 1st day of trading @ $16	6/13 IPO @ $17 of leading inflight Internet connectivity and wireless provider
35 Gigamon (GIMO) - up 50% on 1st day of trading	6/13 IPO @ $19 of provider of data traffic management software-based appliances (calling it Network Visibility Traffic)
36 LightInTheBox (LITB) - up 22% on 1st day of trading	6/13 IPO @ $9.50 of online retailer that sells China-made goods to Europe and the Americas; dropped 40% after first earnings report
37 CDW (CDW) - up 8% on 1st day of trading	6/13 IPO @ $17 of Madison Dearborn-backed reseller of IT products and solutions to SMBs in the US and Canada.
38 Luxoft Holding (LXFT) - up 20% on 1st day of trading	6/13 IPO @ $17 of spin-off of Russia-based IBS Group's offshore IT services business
39 Tremor Video (TRMR) - crashed 60% after weak guidance	6/13 IPO @ $10 of in-stream video ad network for auto, CPG and entertainment brands
40 RetailMeNot (SALE) - up 32% on 1st day of trading	7/13 IPO @ $21 of largest digital coupon site in the US and the UK. Competitors include Dealplus.com, CouponCabin.com, Coupons. Com, Savings.com
41 Liquid Holdings (LIQD) - down 15% of 1st day of trading	7/13 IPO @ $9 (down from $10-$12 marketed range) of trading and analytics software for buy side traders
42 Cvent (CVT) - up 57% on 1st day of trading	8/13 IPO @ $21 of event management / reservation system
43 YuMe (YUME) - flat on 1st day	8/13 IPO @ $9 of online video advertising network, competes aginst TRMR et al.
44 MiX Telematics (MIXT) - down to $12 by the 3rd day of trading	8/13 IPO @ $16 of on-demand fleet management solutions, based in South Africa
45 FireEye (FEYE) - up 80% on 1st day of trading	9/13 IPO @ $20 of first mover in threat emulation; 1/14 acquires privately-held Mandiant, a provider of advanced endpoint security solutions and incident response services, for approximately $989 million in cash and stock, or approx 10x 2013 sales.
46 RingCentral (RNG) - up 40% on 1st day of trading	9/13 IPO $13 of provider of cloud-based phone systems to small businesses; Jumped 40% to close its first day of trading at $18.20
47 Benefitfocus (BNFT) - up 102% on 1st day of trading	9/13 IPO @ $26.50 of provider of a cloud-based platform for employee benefits management
48 Violin Memory (VMEM) - dropped 50% on 11/21/13	9/13 IPO @ $9. CEO fired 12/13, was former CEO of FIO which he left in 2009. Sells an all-flash array (hardware + software)
49 Montage Technology Group (MONT) - up 28% on 1st day	9/13 IPO @ $10 of China-based fabless provider of chips for set-top boxes and memory computing
50 Covisint (COVS) - up 23% on 1st day of trading	9/13 IPO @ $10 of on-demand data sharing platform primarily to the auto and health care industries
51 Rocket Fuel (FUEL) - up 93% on 1st day of trading	9/13 IPO @ $29 of provider of an automated platform to optimize real-time digital ad buying; no mobile;
52 Criteo (CRTO) - up 14% on 1st day of trading	10/13 IPO @ $31 of display ad retargeting company that works w/ retailers to serve personal display ads to consumers who previously visited websites
53 SFX Entertainment (SFXE) - down 9% on 1st day of trading	10/13 IPO @ $13 of owner/promoter of live electronic dance music festivals
54 Commscope (COMM) - flat on 1st day of trading	10/13 IPO @ $15; 10/10 acquired by Carlyle for $4.1B or 8.8x 2010 EBITDA, 17.5x non-GAAP / 36.2x 2010 GAAP EPS
55 Veeva Systems (VEEV) - up 86% on 1st day of trading	10/13 IPO @ 20 of on-demand solutions for the life sciences industry; built on Salesforce.com's Force.com; there is no VEEV without CRM
56 voxeljet (VJET) - up 122% on 1st day of trading	10/13 IPO @ $13 of Germany-based 3D printer that uses binder jetting for sand casting/molds rather than metal
57 Endurance International Group (EIGI) - down 6% on 1st day	10/13 IPO @ $12 of levered roll-up of companies that provide web hosting, domain services and other cloud solutions to SMBs
58 Twitter (TWTR) - up 73% on 1st day of trading	11/13 IPO @ $26 of social microblogging phenomenom
59 Mavenir Systems (MVNR) - down 5% on 1st day of trading	11/13 IPO @ $10 of provider of "software-based" wireless technology that enables delivery of IP-based services (Voice over LTE, Voice over Wi-Fi)
60 zulily (ZU) - up 71% on 1st day of trading	11/13 IPO @ $22 of flash sales site offering deals on children's apparel and other products for moms; founded in 2009
61 Barracuda Networks (CUDA) - up 20% on 1st day of trading	11/13 IPO @ $18 of provider of spam and virus firewall, web filter, and other security products via appliance or cloud.
62 HMH Company (HMHC) aka Houghton Mifflin - up 32% on 1st day	11/13 IPO @ $12 of textbook publisher and licensor of educational content
63 Chegg (CHGG) - down 23% on 1st day of trading	11/13 IPO @ $12.50 of online textbook rental and educational resource platform company
64 Wix.com (WIX) - down 1% on 1st day of trading	11/13 IPO @ $16.50 of free do-it-yourself website builder, raised $127M the largest ever IPO for an Israeli firm; WiX stands for Windows Installer XML
65 AMC Entertaiment Holdings (AMC) - up 5% on 1st day	12/13 IPO @ $18 of #2 US movie theatre operator; 5/12 - sold by JP Morgan and Apollo to China's largest theater owner The Wanda Group
66 Nimble Storage (NMBL) - up 62% on 1st day of trading	12/13 IPO @ $21. Hybrid flash.
No Chinese internet included.	

The IPOs highlighted green are the shining stars of The Great IPO Flood. These include either platform winners like Facebook (FB) and Twitter (TWTR) or candidates likely to be acquired at a premium valuation such as FireEye (FEYE) and Marketo (MKTO). The IPOs highlighted red have already crashed or are likely to crash sooner rather than later. Of the 66 names on the list, 14 are coded red. Versus 7 green.

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575 Madison Avenue, 10th Floor, New York, NY 10022

3-SIGMA VALUE

Quote of the Year

"***We could be a profitable company right now.***"

So says Dan Rosensweig, the CEO of Chegg (CHGG), on Bloomberg Television after his company went public on November 13, 2013 at $12.50 per share, opened for trading at $11.00 and closed its first day at $9.68, down 23%. On its second day of trading, CHGG dropped another 8% to close at $8.88.

The name Chegg is a contraction of the words chicken and egg, based on the founders'[18] experience after graduating from college: they couldn't land a job without experience, but couldn't get experience without a job, ergo, a chicken and egg type quandary.

"*Rent Textbooks and Save up to 80%*" says the headline from a Google search. While management races to replace decelerating revenue from renting printed textbooks (87% of revenue in 2013, down from 100%) with accelerating revenue from digital services, a slow-to-no growth profile is inevitable. This is not a high tech company. This is not a growth company and therefore should not be valued as one.

Chegg's CEO says on Bloomberg, "*Print as we all agree will go away in a couple of years*."

Moreover, publishers are now marketing directly to consumers/students via e-publishing; they don't need middlemen like Chegg. Management realizes this and is evolving the company from textbook rentals to educational services, built on what Chegg calls The Student Hub. You login and can rent printed textbooks, e-textbooks, or get homework help. Chegg also launched Zinch, a service that helps high school students find scholarships and apply to schools. Once a student matriculates, his or her profile automatically transfers to Chegg. Chegg's other IP includes a proprietary e-reader technology that enables highlighting, notes, and search. Chegg is scrambling to find a business model and flailing. The textbook rental business is highly capital intensive, driving low returns. Chegg spent $122 million on textbook purchases versus $256 million of total revenue in 2013. Huge D&A expense (textbook depreciation uses an accelerated method: 50% in year 1, 25% in year 2, 10% in year 3, and 15% residual) causes net income to

[18] Founded in 2005 by two students who are no longer with the Company.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

lag free cash flow (FCF). P/E is not meaningful; free cash flow is what matters. Unfortunately, because of big upfront textbook purchases ($120-$140 million), FCF will be materially negative in 2014.

Chegg has accumulated over $205 million of losses since its founding in 2005, with no end to the losses in sight. Most importantly, cash is only $158.5 million despite raising $187.5 million/$167.4 million gross/net proceeds in the November IPO. Chegg is burning cash at an alarming rate.

CHGG Capitalization as of 12/31/13	
Price @ IPO on 11/13/13	$12.50
Price as of 11/14/13	$8.88
Price as of 12/31/13	**$8.51**
FD Shares Outstanding	90.0
Market Capitalization	**765.9**
Cash	113.9
Debt	0.0
Enterprise Value	**652.0**

DCF Valuation Summary	
Base (10x, WACC)	$4.39
Upside (15x, WACC)	$9.77
Downside (5x, WACC)	$1.15
Probability-weighted Target Price	**$4.82**
% Change	-43.3%

Financial Summary - Base Case: Scenario 1			
	2013	2014	2015
Print textbooks - peaks the year of the IPO			
	203.1	213.3	200.0
Non-print products and services - 2014 benefits from acquisitions			
	52.5	89.3	111.6
Total Revenue	**255.6**	**302.5**	**311.6**
% Growth		**18.4%**	**3.0%**
Gross Profit	80.5	95.5	98.4
Total Operating Expenses	131.7	139.5	139.5
Operating Income (EBIT)	**-51.2**	**-44.0**	**-41.1**
Textbook Library D&A	64.9	77.9	77.9
Other D&A	10.1	8.0	8.0
EBITDA	**23.8**	**41.9**	**44.8**
+ Stock Comp	37.0	20.0	20.0
- Purchase of Textbooks	-122.2	-130.0	-130.0
+ Textbook Liquidations	37.9	37.9	37.9
- Other Capex	-7.4	-7.4	-7.4
Free Cash Flow	**-30.9**	**-37.5**	**-34.6**

In Chegg's press release reporting fourth quarter and fiscal year end 2013 financial results, management introduced a new metric that tells you everything you need to know.

- **5.8 million**: total number of trees planted by Chegg on behalf of students since 2008

The claim made by Chegg's CEO that "*We could be a profitable company right now*" captures the zeitgeist perfectly. All balance sheet activity is accretive in a zero-bound interest rate environment and therefore accounting profits are fungible. Since companies have a choice, whether to show a profit or a loss, profit and loss doesn't matter. On the other hand, since

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575 Madison Avenue, 10th Floor, New York, NY 10022

companies can't control the # of members, subscribers, inquiries, and eyeballs, these are the metrics that matter. The mentality of the 2013/2014 IPO market is similar to 1999/2000 in terms of the widespread use of unconventional metrics to justify sky-high valuations. As a result, the quality of today's IPOs is just as lousy. The only difference is there are not as many companies going public this time around. Nevertheless, the key junk ratio still holds – for every sustainable technology that goes public, two pieces of junk follow it out the door.

Of the 14 companies shaded red in our list of technology IPOs, five (5) are in the 3-Sigma Value Portfolio as of December 31, 2013, chosen based on total expected return and risk/return as determined by 3-Sigma Value's proprietary scenario analysis. Four of the five (including CHGG) are great short stories that share one thing in common – they pale in sheer audacity to the biggest turd ever sold.

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575 Madison Avenue, 10th Floor, New York, NY 10022

3-SIGMA VALUE

Pumping & Dumping in the 21st Century or: The Biggest Turd Ever Sold

Because of the confidential nature of certain information related to *The Biggest Turd Ever Sold*, a non-disclosure agreement (NDA) is required at this time. For more information, please contact me directly at ben@3sigmavalue.com.

Final Thoughts

One final important factor contributing to today's bubbles in the IPO market is the enactment of the JOBS Act (Jumpstart Our Business Startups) in April 2012, which not-coincidentally is when we mark the opening of the flood. The Act has three central provisions: (1) enables crowd-funding; (2) enables the general solicitation of investors via all forms of media; and (3) creates the "IPO on-ramp", which enables "emerging growth companies[19]" to pursue a public listing with less disclosure.

Venture capitalists, generally speaking, claim onerous disclosure policy discourages public listings and by default the participation of retail investors in early stage companies. Limiting disclosure has become the norm, and disclosure across the marketplace has never been worse despite the advent of technologies that facilitate communication. The denial of efficiency is a symptom. Wall Street hates efficiency. It profits off the vig, skims off the top, sits in the middle, big and fat and inefficient as possible.

Which leads me to share news of the tragic passing of my friend and former business partner, Craig Schlifstein, after a massive stroke. He was 40 years old. A New York state wrestling champion, Wharton graduate, husband and father of two beautiful daughters, brilliant creative mind, it was a bolt of lightning that ended his presence on earth. His two older brothers are both doctors and they were there with him in the hospital. A bolt of lightning is the only answer that makes any sense.

[19] An emerging growth company, as defined in the JOBS Act, is any public company whose initial public offering of common equity securities occurred after December 8, 2011 and whose annual gross revenue is less than $1.0 billion.

Phone (646) 452-3005 Fax (646) 349-3725
575 Madison Avenue, 10th Floor, New York, NY 10022

Finally, my oldest daughter, who is 8, has taken an interest in my job. I tell her I buy and sell small pieces of companies. I remember my father, who was a stock broker at Oppenheimer & Co., showing me his brokerage statement, which made me feel trusted because this information was serious and confidential. Studying the names on the sheets I felt like an owner of each of these companies. It was exhilarating. He urged me to know them, to know how to find a stock quote in the Journal, and to follow them. I started reading the Wall Street Journal regularly after my Bar Mitzvah in September 1986 when I invested the bulk of the money I received in my own Oppenheimer stock account. My daughter has a custodial account, which I opened when she was born. It looks nothing like 3-Sigma Value's long/short fund. In 2005, my father gifted her $20,000 and I invested it in Apple (AAPL) at $60 per share. While I have long since sold most of the position, it still constitutes the largest allocation in her account. I deeply know the connection one feels with an investment that funds your child's college education. Nevertheless, as the old saying goes, "*Don't get emotional about stock.*" We are living in uncertain and volatile times. The key to successful navigation is a relentless focus on the present. On the new assumptions. The past is the best predictor of the future only for those who are not paying attention to the present.

Thank you for your confidence.

Benjamin Weinger
Portfolio Manager
3-Sigma Value, LP
3-Sigma Value Financial Opportunities, LP

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3-SIGMA VALUE

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