

## The Risks of Relying on Risk Metrics – the Long and the Short of it!

by IMCZ Treasurer John Henry Smith

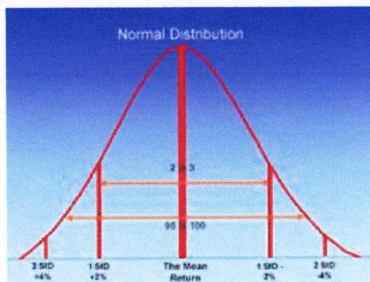
### The Much Maligned Relationship between Volatility and Risk

Unlike the money and debt markets, the future outcomes of investing in equities are uncertain and as such considerably riskier. Faced therefore with no sure and easy way to make good returns without increasing risk, equity investors must strive to find the risk/return ratios that suit them best. However finding that right balance is often fogged by the general interpretation of just one word, “volatility” as Michael Covell points out on page 91 of his book *Trend Following: How Great Traders Make Millions in Up or Down Markets*:

“Volatility is a four-letter word to many investors, who run away at the very hint of it. Volatility scares them silly, even though any algebra student could quickly analyze any historical data series of any market and see that the volatility is to be expected and indeed necessary to make profits.”

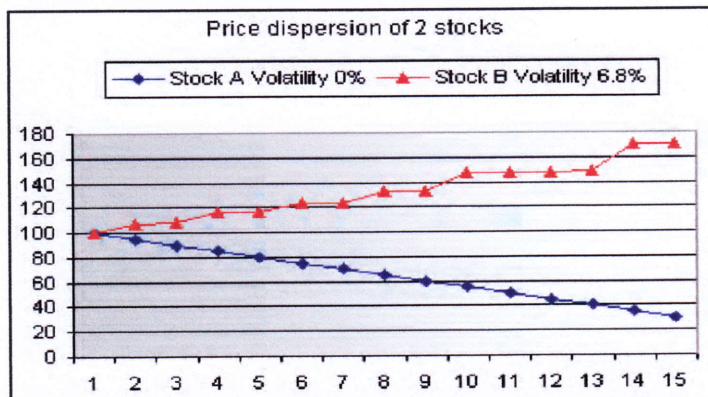
As prudent investors equate higher volatility with increased risk they prefer to avoid such stocks per se in the belief that those of lower variability are safer. The function used to measure the degree of variance is standard deviation (Std Dev), which calculates the dispersion of data around their mean (average) value as a way of indicating the inherent uncertainty of stocks. But is volatility measurement a truly reliable proxy for risk as lots of investors understand it? To see what I mean let’s take a look at standard deviation a bit closer.

Any dispersion of stock returns will statistically conform to a normal bell-shaped distribution curve, its symmetry being caused by a high concentration of returns around the mean value that fall away to the outer limits of the distribution. Statistically, this tells us that 34% of the time returns should fall within one standard deviation either on the positive or negative side of the mean value and that similarly 95% of the time returns will fall within two standard deviations. Therefore, logically speaking, the tighter the cluster of prices around the mean the smaller the risk of loss should be, as well as the smaller the “risk” of gain!



### Why Misreading Volatility can increase Risk

However, although this model looks neat and reassuring, investors may forget two key considerations; firstly, that normal distributions show risk of loss as symmetrically opposite “long” volatility, and secondly, that standard deviation is indifferent to price direction. To illustrate these two very important points take a look at the two fictional stocks in this chart and ask yourself which is the riskier stock.



Immediately you can see the stock A is riskier than stock B, but  
 1. As stock A's losses are linear it does not conform to a normal distribution, and is caused by a 5 dollar fall per interval. Consequently

standard deviation registers zero variance around its mean in spite of the fact that its price fell 70%.

2. Stock B on the other hand has a “long” volatility value of 6.8%, caused by strong, non-linear price rises that produced a 70% gain without its price ever having fallen once!

Even though the examples clearly show that standard deviation can produce unexpected signals that can make it an unreliable proxy for assessing risk, all too often investors and traders alike instinctively shun stocks that they deem to be generically too volatile in favor of those of lesser volatility.

Of course, you may say that this illustration is purely theoretical and reality is something else. But is it? The following table compares the respective standard deviations of Dell Inc. and Hanson Natural Corp from December 31, 2004, to November 20, 2009.

Stock	31 Dec 04	20 Nov 09	Profit/Loss	% Profit/Loss	Annual Std Dev of Returns
Dell Inc	\$42.14	\$14.29	-\$27.85	-66%	38%
Hanson Natural Corp	\$4.55	\$35.42	+\$30.87	678%	61%

Consistent with the above example, Dell’s standard deviation leads to the incorrect inference that it is a safer bet than Hanson, but in the 1,240 trading days analyzed, Dell declined 66% in price, whereas Hanson’s stock gained 678%.

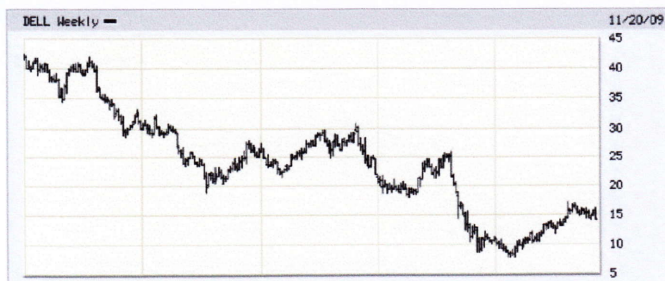


Figure 1 – Dell Inc. Period Dec 31, 2004 to Nov 20, 2009

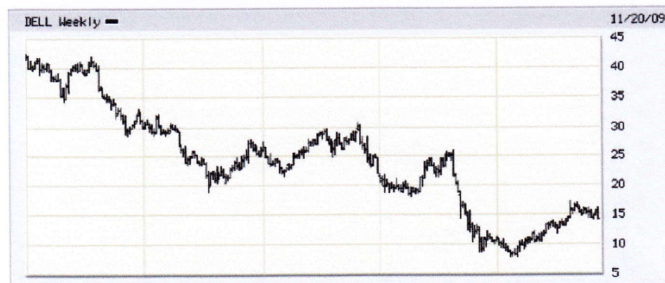


Figure 2 - Hanson Natural Corp. Period Dec 31, 2004 to Nov 20, 2009

The reason for these results lies in the ranges of variance; for Dell, it is the essentially negative dispersion around the mean of returns between \$42.14 and \$14.29 and for Hanson the positive dispersion between \$4.55 and \$35.42, with the latter producing a much wider distribution round its average. Of course one might say that Dell is considered safer because it has most of its correction behind it, making its price more attractive, but this must be considered weak as for the most part price action is dependent on future earnings growth, and in 2010 Dell’s earnings are forecasted to be minus 26%, whereas Hanson’s 2010 earnings are forecasted to be 13% positive!



Covering the same period the following five Dow Jones 30 stocks all suffered the following declines even though they are blue chips and therefore considered by the market to be safer investments:

The unfortunate thing is that in the folklore of investing, the belief doggedly prevails that it is better to choose low-volatility stocks such as Dow Jones Industrial blue chips, notwithstanding that when systematic risk strikes investors are likely to have made losses or thin gains, if at all, in order to cushion themselves against the sudden and sharp falls that accompany major trend reversals, such as in 2008.

### Avoiding Misinterpretation can increase Opportunities

The main weaknesses of standard deviation's usability are that it says nothing about a stock's position or direction relative to its mean value and that the basis of its calculation is hardly ever stated. Without this

Company	Profit/Loss	Annual St Dev of Returns
General Electric	-57%	37%
Home Depot	-36%	33%
Pfizer	-32%	27%
E.I. Du Pont	-30%	33%
Kraft Foods	-24%	23%
Compared to Apple Inc	+521%	42%

information the magnitude of the values it produces have little meaning! Consequently common sense demands a better understanding of the origins that give rise to these calculations so that a stock's future

prospects can be better assessed. Adopting this approach will certainly improve the quality of investment decisions rather than the crass alternative of dismissing high volatility stocks out-of-hand and thereby forfeiting some potentially excellent investment opportunities that are driven by long and not short volatility. In fact as in the case of Hanson, and all stocks like it, expanding volatility is often the proxy for superior returns, returns that paradoxically are intrinsically safer than stocks of lower volatility, and is the best reason if not the only justification for accepting stock market risk. Retired Chairman of Bankers Trust Corporation, Charles Sanford, understood this paradox when he claimed in 1989 that "playing it safe is dangerous. Far more often than you would realize, the real risk in life turns out being the refusal to take a risk!" I claim however that the real risk

for investors is not playing it safe, but relying too much on a statistical function without fully understanding its purpose, its inherent weaknesses and of course its strengths.

# Investment Corner

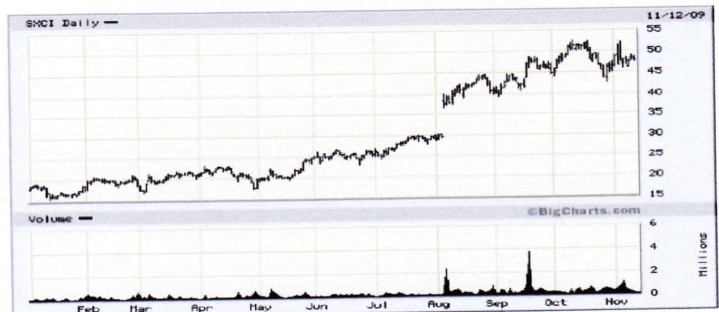
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As there are several categories of investment styles, each Grail stock will be analyzed in accordance with a stated style or strategy, i.e. Momentum Investor, Value Investor, etc.

Assessments and Analysis based on Nov 13, 2009 close price: \$49.73	
Analysis of:	SXC Health Solutions Corp. (SXC1)
Industry:	Computer Software & Svs - Application Software
Strategy:	P/E Growth Investor: By this strategy SXC1 is considered a "fast grower"
YTD Performance:	166%
SP 500 YTD Performance:	21%

## COMPANY DESCRIPTION

SXC Health Solutions Corp. is a provider of pharmacy benefit management (PBM) services and healthcare IT (HCIT) solutions to the healthcare benefit management industry. The Company's product offerings and solutions combine a range of PBM software applications, application service provider (ASP) processing and pharmacy benefit management services, and professional services designed for the organizations in the pharmaceutical supply chain, such as pharmacy benefit managers, managed care organizations, self-insured employer groups, retail pharmacy chains, and state and federal government entities. The Company's PBM services include electronic point-of-sale pharmacy claims management, retail pharmacy network management, mail service pharmacy claims management, specialty pharmacy claims management, Medicare Part D services, benefit design consultation, preferred drug management programs, drug review and analysis, consulting services, data access, and reporting and information analysis.



CATEGORY	CRITERIA OF A P/E GROWTH INVESTOR	SCORE	REPORT CARD
P/E Growth Ratio:	The Price/Earnings ratio (P/E) relative to the average of the 3, 4 and 5 year EPS growth rates.	With a P/E of 37.5 and an earnings growth rate of 32.5% the PEG ratio is 1.16.	PASS
Sales & P/E Ratio:	A P/E ratio below 40 for sales under \$ 1 billion.	Sales are \$1.3 billion and its P/E ratio is 37.5.	PASS
EPS Growth Rate:	Earnings growth between 20% and 50%, based on the average of the 3, 4 and 5 year EPS growth rates.	EPS growth is 32% based on the average of the 3, 4 and 5 year growth rates.	PASS
Total Debt/Equity Ratio:	Equity to be 3 to 10 times debt.	SXC1's ratio is 10.3% meets this measure	PASS
Free Cash Flow:	Free Cash Flow/Price ratio above 35%.	This ratio is too low to add to the attractiveness of the stock	NEUTRAL
Net Cash Position:	Net cash/Price ratio above 30%. (Net cash equals cash + marketable securities - long term debt.)	This ratio is too low to add to the attractiveness of the stock.	NEUTRAL



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