

**Talk delivered at the 66th CFA Institute Conference**

**In Singapore, by our Founder & CIO, Wong Kok Hoi, APS Asset Management Pte Ltd**

Introduction

When I was asked by Gerard Lee to speak at this Event on any topic of my choice, I could have chosen the easy way out by talking about the prospects of Asian or China markets. Not only would it take less time for me to think, but also to prepare. However, since the contents of that topic would likely be of little consequence to you and the markets, I have instead chosen this topic, 'Investment Risks in the Real World'.

I am well aware that I am taking the risk of possibly upsetting my good friend Gerard, CAPM theorists and its users, and maybe even the CFA Institute, because what I am about to say may not go down well with them. At my age, I guess I will not be looking for a job and therefore can take this volatility risk. That is called living dangerously! Jokes aside, what I would really like to do today is to share with you my experiences and thoughts on risk measures which I diligently learned and applied faithfully in my early years, and also touch briefly on how we view and manage risk in APS. I would be delighted if I could leave you with some thoughts about some of the things that we have taken for granted.

Finance professors have offered concepts such as volatility, beta, value at risk, tracking error, etc. as risk measures and these are generally accepted by the industry as reliable and commendable risk measures. After all, they are relatively straightforward concepts to understand and easy to compute. Yet, with all these concepts around, why have we done so poorly, so consistently poorly, for decades identifying potential risks? Why have pension funds and insurance companies fallen so short of their liabilities? If you know the risk of your portfolio, isn't 70% of the job done? Wouldn't it be wonderful that in this complex world of investing we could have a number, just a number, to express adequately the risk your portfolio or security is taking? If the finance professors could come up with such a number, they would do us fund managers a great favor indeed.

Risk measures in Portfolio Management

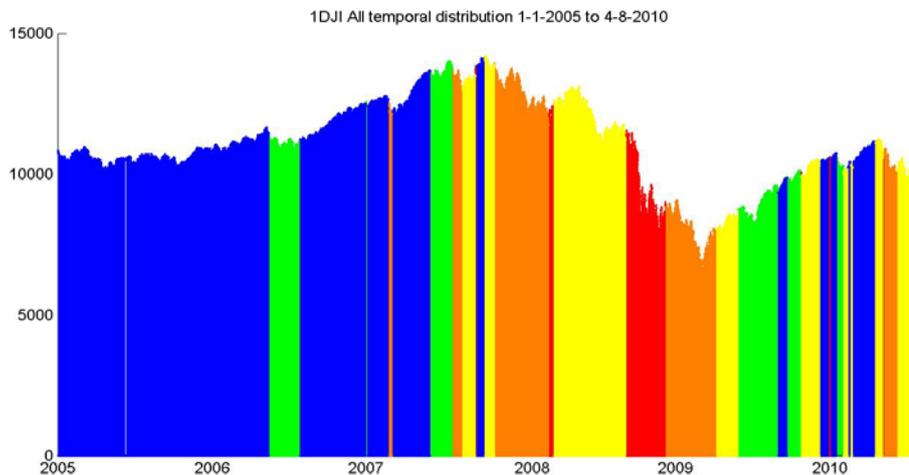
Let me start with beta. The concept of beta has been controversial since Eugene Fama and Kenneth French published a paper in 1992 in which they showed that beta was UNSTABLE. In their study, they produced empirical evidence that high beta stocks did not necessarily produce proportionately higher returns in a bull market. The theory that the beta of a stock is stable over time would almost require a static world. But we live in a complex and rapidly changing world and as the company evolves its beta must change. We will return to beta in a few moments.

Volatility and measures derived from volatility are perhaps the most commonly used metrics today as proxies for risk. Modern portfolio theorists define risk as volatility, a statistical measure of the dispersion of returns or standard deviation for a given security or market index. According to these modern portfolio theorists, the higher the volatility the riskier the security and hence higher expected returns and vice versa.

Over the last 30 years or so there have been occasional debates among the academia as to whether or not MPT resonates with market behavior. Whilst the verdict is still out, we the practitioners have been using it managing billion-dollar portfolios. We fund managers sometimes like to brag that our returns of 10% were achieved on 8% volatility, suggesting a low risk portfolio? Is that so?

Let's take a look at probably the most efficient market in the world, the U.S. equity market. I apologize for this confusing, colorful chart.

Volatility of the New York Dow from 2005 to 2010



Source: APS—Using Jensen Shannon Methodology

**High Volatility to Low Volatility is shown from Red to Brown to Yellow to Green to Blue**

The blue area during the 2005 to 2007 period means that volatility was extremely low then, giving investors the perception that it was safe to hold equities. In those years, Greenspan said repeatedly in his testimony to Congress that the resilient housing market and the bullish stock market were a result of the strong economic fundamentals of the economy. Modern portfolio theory adherents would have also argued that the low volatility epitomized the low risks ahead. What happened in the autumn of 2008? The US stock market experienced one of its most savaged bear markets. Therefore, the low volatility from 2005 to 2008 gave investors a false sense of safety.

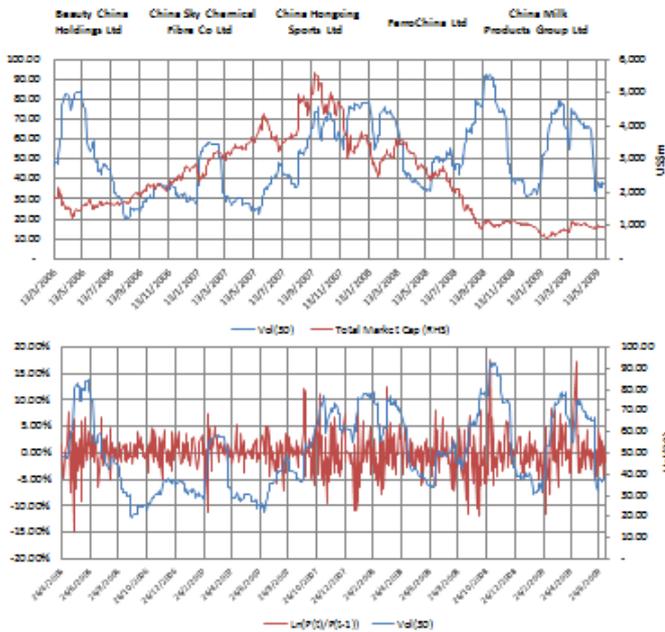
As if one cruel verdict on the MPT was not sufficient, and when volatility was at its highest in Q1 '09 the market bottomed and recovered steadily since.

If the MPT had failed miserably in the U.S. what is its track record outside the U.S.?

Interestingly, the Japanese stock market was also characterized by low volatility in the 5 years preceding the peak in December 1989. Not only did it just drop 40% in 1990, it went into a 22-year bear market, the longest bear market in post-war history. Needless to say, adherents of MPT in Japan have had their faith shaken beyond repair.

Isn't this enough evidence for us to abandon volatility as a measure of risk? Volatility had failed to warn investors in those two imminent major bear markets. It gave investors a completely different signal. Are you now surprised that many pension funds and insurance companies had been underfunded in the last two decades? At best, volatility describes past price behavior. Period. Like driving a car, the rear view mirror tells us nothing of what lies ahead.

Volatility of an Asian Portfolio



What can investors deduce from the volatility of a portfolio? What I did for this talk was to pick a portfolio of five stocks, stocks that I had researched in the past. I might have tweaked the selection but the results will still support my arguments.

Volatility provides you with absolutely no idea what you actually own. For example, it provides you with absolutely no clue whether the senior management of a company is competent and made up of people of integrity, whether the business franchise is strong, whether the stock is attractively priced relative to their underlying intrinsic value and so on.

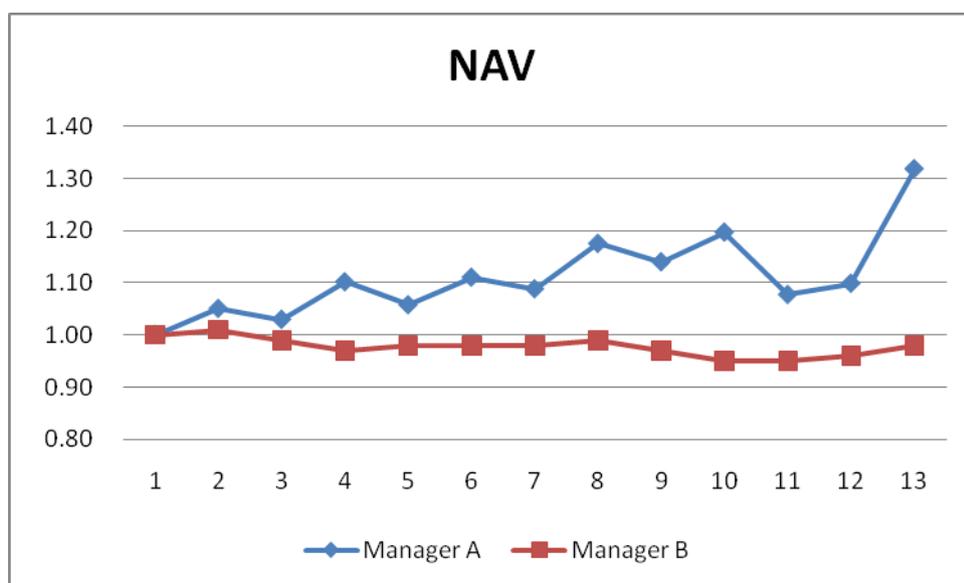
If you think the high volatility of this portfolio would entitle you to high returns then you would be utterly disappointed. Of the five companies, all SGX listed, two turned out to be fraudulent companies and three went belly-up because of reckless financial management. Investors who took the volatility risk were rewarded with bankrupt companies rather than the high returns promised by MPT. Fortunately, for us, we stayed away not because we had no appetite for risk, but because our research showed that these companies had weak business franchises without core competencies. We also found the owners of three companies to be dodgy.

If volatility shed little light on what lies ahead, why are we still using it as a measure of risk? What purpose does it serve?

In contrast, in golf, when your golf coach tells you this statistic--the top 200 US PGA players' success in converting putts from 25 feet ranged from 1.3% to 13.0% in 2002, this would be indeed an extremely useful stat for both professional and amateur golfers. For the next 1,000 games you play, you would then know it would be foolish of you to charge or aim for one putt because your odds of achieving a one-putt would be poor.

The last five years have been tough for particularly hedge fund managers and their investors. Partly because of the huge losses suffered in 2008, hedge fund managers have been obsessed with volatility and monthly drawdowns. Some of us, in order to have a pretty volatility number at the end of the year, would cut most positions when monthly drawdowns reach 2%. This is not really investing, is it?

Managing Volatility in Volatile Markets



Please look at the two managers on this chart. Manager B manages his monthly drawdowns like a mathematician, each time he hits a 2% monthly drawdown he would cut all his positions and wait for the new month to build his positions again. He ended the year with 5% volatility. However, his returns for the entire year were negative. Whilst he may be able to defend their business for another year or two on the basis of low volatility, it certainly is not the way to stay in the business for the long-term.

Manager A constructs his portfolio with the best stock ideas based on his deep fundamental research. He does not care about monthly drawdowns or his portfolio volatility. He ended the year up 32% on a volatility of 26%. And the strong month of December made it worse, bumping it up from 19%. His volatility-sensitive clients could of course express their displeasure over his high vol and warn the manager that his investment strategy may be rejected by his investment committee when the portfolio is up for review. Don't laugh it off as silly because it actually happens in our profession. As you can see, some of these things do epitomize the height of folly.

William Sharpe was a co-developer of the MPT. He was a mathematician and we know that all mathematicians or cosmologists often try to simplify the complex world or universe in a single neat formula or a set of formulae. He did precisely that and for his efforts, he was awarded a Nobel Prize in economics in 1990. William Sharpe won the Nobel Prize for his MPT but the many investors who applied this to their investment process have probably ended up poorer.

I think the question we must ask ourselves is this: Is it possible to simplify a complex world which we actually don't quite understand most of the time into a single number or set of numbers as risk measures?

### **The 3 Gurus of Investing**

At this stage, it may be timely to seek counsel from the Gurus of Investing. Let's see what they have to say.

Let's start with Benjamin Graham. In his mind, real investment risk is measured not by the percentage by which a stock may decline in price in relation to the general market in a given period, but by the danger of a loss of quality and earnings power through economic slowdown or deterioration in management. Besides this, he has two other views on risks. One is time horizon. To paraphrase him, short-term volatility is not risk if you are not selling the security. To put it another way, if the stock ends up 50% after say a 3-year holding period, then the price fluctuations during the period should not be seen as risk. Two is his famous margin of safety which all of you know. Put it simply, if you pay 40 cents for a stock that is worth a dollar then the risk of buying that stock would be considered low.

Benjamin Graham retired before the birth of MPT and hence he could not have directly commented on it.

Warren Buffett is perhaps the most vocal of MPT of the 3 gurus.

He argued that 'the academics' definition of risk is far off the mark, citing the example of academics deeming a stock that has dropped a lot more price in price as riskier than it was at a higher price.

Most famously, he often used his investment in the Washington Post Company to explain risk, as quoted in his postscript in *The Intelligent Investor* (2003).

"The Washington Post Company in 1973 was selling for \$80million in the market. At that time, the assets were worth \$400 million, probably more. Now if the stock had declined even further to a price that made the valuation \$40 million instead of \$80 million, its beta would have been greater. And to people who think beta measures risk, the cheaper price would made it look riskier. This is truly 'Alice in Wonderland'."

He then threw his knock-out punch by adding this, "Now, under the whole theory of beta and MPT, we would have been doing something riskier buying the stock for \$40 million than we were buying it for \$80 million, even though it's worth \$400 million—because it would have had more volatility. With that they have lost me". Warren's investment, by the way, grew 15-fold over the next 15 years.

On a separate occasion, giving a talk to Stanford University law students, he dismissed MPT as 'a lot of nonsense.'

Peter Lynch, unlike Warren Buffet, had not been so openly or directly critical of MPT. Most notably, he conducted a study and found out that if an investor had invested \$1,000 a year on the absolute high day of the year for 30 years from 1965-1995, that investor would have earned a compounded annual return of 10.6%. If another investor had also invested \$1,000 a year every year for the same period on the lowest day of the year, the investor would have earned an 11.7% compounded annual return. Therefore, after 30 years of the worst possible market timing, the first investor only trailed by 1.1%. Therefore, his view was that the use of beta and volatility was not worth the effort in predicting the short-term movement of the market.

It is evident that the three investment luminaries do not believe that volatility is any measure of investment risk. Warren Buffet and his teacher Benjamin Graham believed that if you pay 40 cents for a stock that is worth a dollar the risk of owning the stock must be low, irrespective of how the stock has fluctuated in the past or will fluctuate in the future.

**Investment Risks that Matter**

What do we fear? Do we have to fear monthly volatility when we are up 20% at the end of the year? Or do we as long-term investors have to worry much about monthly volatility when we earn say 15% p.a. over the cycle? Or do we celebrate our low volatility management when we succeed in keeping it at 1% but suffer a loss every year?

Should you be worried about volatility more than the following investment risks?

- I) Overpaying for the security or asset?
- II) Investing in a security of a company owned and/or run by dishonest and incompetent people?
- III) Investing in a company that has a weak business model
- IV) Overly-leveraged balance sheet
- V) Companies changing their auditors, CFOs and independent directors frequently?
- VI) Not really knowing what your own
- VII) Putting all your money in one basket?
- VIII) Invested in illiquid investments?

**Some Concluding Thoughts**

It seems at the most crucial moment volatility can fail as a risk measure to forewarn us of what lies ahead. In fact, it also tells us little about what expected returns will be. The maxim, 'high risk high returns' does not seem to hold water in the real world. Has it failed because the concept is just too simplistic? Be that as it may, investing is about betting on the future and not on the past. And we know the future rarely mirrors the past.

Can we then say that volatility serves no purpose whatsoever? That would be a little harsh. It does tell us about past price volatility. It is also not unreasonable to infer that investors are reacting to reported or anticipated changes to the underlying economy or to the known or perceived changes in company fundamentals by taking actions to protect their investments. It is this perceived risk that investors fear that cause volatility but they may or may not be right. And the track record of investors in predicting the future has not been that fantastic.

Therefore, to go a step further and predict future volatility and expected returns is risky, very risky indeed. It certainly tells us nothing about the intrinsic value of the asset, it also tells us nothing about whether the management of a company is competent or honest and it also tells us nothing about whether the company is in a mature or growth industry. If the volatility of a stock is zero but the owner of the company is a crook then you had better pray for your money.

Can we say that a low vol portfolio will produce smaller losses in a bear market? No, it may or it may not.

Is volatility a true measure of risk? No, there is insufficient empirical evidence to back that.

In science when a theory fails just one test it would be rejected once and for all. In investing, strangely, when a theory fails time and again, and even at crucial moments, it can still be used. Therefore, ladies and gentlemen, isn't it time for us to take stock and rethink our concepts about risk? With that, I thank you.