

(Forthcoming in *Managing Hedge Fund Risk*, 2nd Edition, published by Risk Books, a division of Risk Waters Group – London. Edited by Virginia Reynolds Parker)

Risk: Defining it, Measuring it, and Managing it

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March 2005

Investors have developed a number of highly sophisticated quantitative tools for the measurement and management of risk. Many of these tools are based on volatility of price and/or return, while others are based on related measures. These tools can be extremely helpful, when used properly, but they can also be equally harmful, because the tools can easily seduce us into believing that they reveal the true nature of risk. The essence of risk is not volatility, or anything else that is easily measured, but uncertainty, which is not so easily measured. Extremely precise and sophisticated measures of risk can obstruct intelligent risk management by suggesting a level of accuracy and control that does not exist.

People deal with risk in all sorts of situations that have nothing at all to do with investing. In most of these situations, it is impossible to begin the task of quantifying risk, let alone complete it with a statistically sophisticated risk measure. If you're worrying about whether to marry John, or take the job in Chicago, numbers won't get you very far at all. Investors are fortunate to have access to an endless stream of numbers, and access to powerful techniques for crunching those numbers, but that does not mean that the numbers measure risk as we ordinarily understand it. We all know the joke about the drunk looking for his keys at night under the lamppost. The joke is that he is looking under the lamppost not because the keys are there, but because the light is better there. If you're looking to understand what risk is, the numbers can shed a good deal of light, but the keys are somewhere else.

I. Defining Risk

When investment professionals begin to think about risk, the first tool they reach for is standard deviation. This tool serves as the basic building block for other tools, such as value at risk (VAR), semi-variance, shortfall probability, and kindred measures. These tools, if used intelligently, may shed light on risk, but they do not tell us what risk is...