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“Ideas become true in so far as they help us get into satisfactory relation with other parts of our experience.”

— William James
Pragmatism

“The whole intellectual edifice of risk management collapsed last summer.”

— Alan Greenspan
Former Federal Reserve Chairman
October 22, 2008

One wonders what William James would say about the current state of economic orthodoxy. James is one of the leading figures of a school of Philosophy known as American Pragmatism. One attractive aspect of Pragmatism, in contrast to much of philosophy, is its comfortable fit with our common sense. In James¹ own words:

“A pragmatist turns away from abstraction and insufficiency, from verbal solutions, from bad a priori reasons, from fixed principles, closed systems and pretend absolutes and origins. He turns toward completeness and adequacy, towards facts, towards action and towards power.”

Last January, I closed my presentation at Fort Washington’s annual Investment Forum with a list of top Ten Investment Shibboleths² discredited by the Financial Crisis. The discredited include:

1. You can’t time the market.
2. Stocks always outperform bonds.
3. Diversification will always save the day.
4. Buy and hold forever is the best equity strategy
5. Don’t fight the Fed.
6. Real Estate prices can’t go down.
7. Leverage increases returns; more leverage is better.

8. Risk has been banished through securitization, decoupling, whatever.
9. Markets are always efficient/people behave rationally.
10. The modeled worst case scenario defines the downside.

When I assembled this list, there was originally a wry, ironic element to the exercise. Upon further reflection, it became clear that the intellectual underpinnings of the fields of economics and finance had been badly, perhaps irreparably, damaged by the financial crisis. Two components of the intellectual edifice, to use Greenspan’s term, would seem to violate the Pragmatist’s sensibilities.

First, the efficient market hypothesis (EMH), developed by Eugene Fama of the University of Chicago in early 1960s, states that prices on traded assets reflect all known information and rapidly change to reflect new information. The critical assumption of the EMH is that on average the population of economic agents has rational expectations and that the reaction of agents to new information is random and normally distributed. The market crash of October 19, 1987 when the Dow Jones Industrial Average fell 22.6% was a serious blow to the credibility of the EMH because, by the virtually unanimous assessment of market professionals, there was not a change in information

¹William James, *Pragmatism, Lecture II*

²Shibboleth: a common saying or belief with little current meaning or truth.



content regarding world markets between October 18th and October 19th that explained a 22.6% drop in price. Would William James feel that the EMH “helped us get into satisfactory relation with the other parts of our experience?” (i.e. seeing our portfolio shrink 22.6% in one day on little apparent news). In fact, there have been a series of bubbles that challenged the EMH in the recent past including the Japanese equity and real estate bubbles and the technology bubble in the U.S. The EMH spawned a perception that it was impossible to “time the market,” that is, to make informed judgments regarding the valuation of a given market at a point in time. If securities are efficiently priced, then their aggregation in markets must be efficiently priced as well, it was thought. Yet the only action that could have saved investors from large losses in 2008 was a correct market call, one that some money managers made, defying the prescription of the EMH. Yes, only by contravening the received wisdom of Finance Departments in business schools around the country could investors have protected themselves.

Moreover, the EMH spawned the notion that buy and hold was the best strategy³ at the security level because, after all, the security was always efficiently priced. Once again, that bit of received wisdom didn’t work so well for many shareholders in the crisis.

Second, Modern Portfolio Theory (MPT) was developed by Harry Markowitz, also of the University of Chicago for much of his career. MPT holds that rational investors can use assets whose returns are not perfectly correlated to construct a diversified portfolio that provides stable returns given a certain level of risk. Like the EMH, MPT relies critically on a normal distribution of returns; moreover MPT assumes that only expected return (mean) and volatility (standard deviation) matter to investors implying that investors are indifferent to Kurtosis (the so called “fat tail” of the distribution). If the October, 1987 Market Crash was a stake in the heart of the EMH, then the current financial was the same for MPT. Diversification did very little to protect investors as correlations proved to be anything but fixed and tails fattened to the point of obesity.

An interesting question is why diversification failed. During the technology bubble, diversification worked masterfully. Many sectors of the equity market emerged relatively unscathed; only investors with concentrated bets in technology lost big money. In the recent financial crisis there was no place to hide as most asset classes other than U.S. Treasuries experienced large losses. But why? My interpretation is that the huge build-up of leverage led to most asset classes being overvalued and, when the buttress of leverage was removed, all valuations compressed and diversification was of little help. To reiterate, the only thing that saved investors was making a market timing call, notwithstanding Shilob number one which states: “You can’t time the market.”

A close reading of the above paragraphs will reveal commonalities between EMH and MPT. Both rely on the assumption of rationality on the part of investors and a normal distribution of returns. Let us say a word about both assumptions because herein lies part of the problem. With regard to the assumption of rationality, the field of Behavioral Finance has made great progress in revealing that investors suffer from numerous biases, loss aversion and the like, that challenge their rationality. A complete discussion of these biases is beyond the scope of this essay but there are many good resources available on the Web. The assumption of normally distributed returns is equally, if not more, dubious. In layman’s terms the normal distribution or Gaussian distribution is the familiar bell-shaped curve. The normal distribution is descriptive of some phenomena but totally non-descriptive of others.⁴

Simply stated, the tools in the tool kit of investors are just not up to the task. The intellectual edifice has collapsed, in Greenspan’s words. But why? What went wrong? This question will be debated by scholars for years to come. I don’t know what their work will uncover, but I have a few ideas of my own. The essential problem is that markets are complex, non-linear, self-organizing systems and no one knows how to model such systems because of their mind numbing complexity. Applying assumptions of rationality and normality to complex, non-linear, self-organizing systems like the world financial markets is,

³See Shilob number four. ⁴If 1,000 people in the local mall were selected at random and the distribution of their weights was plotted on a graph, chances are that the distribution would look like the familiar bell shaped curve. Now add the heaviest person in the mall to the sample. Not much would change. Now take those same 1,000 people and plot their net worth. Again, we are likely to see a bell shaped curve. Now add Bill Gates to the sample. Gates net worth is probably 99.9% of the total or more. The resulting sample is not normally distributed. In fact, the distribution would be a Power Law distribution in which there are a few very significant, outlier observations, and many other less significant ones. Earthquakes are believed to be distributed in a Power Law function.



in my view, the fatal flaw. As an analogy, consider the network of genes, enzymes and proteins that control how each cell in the body grows and divides. Modeling that system is simply beyond human apprehension, at least for now. Imagine, however, that biologists tried to model our human cellular system using simplifying assumptions like assuming a normal distribution of cell behavior. One can easily imagine a situation in which a model built on simplifying assumptions is predictive for a while, then breaks down completely when stressed. Our standard ways of thinking simply break down when confronted with highly interconnected systems.

How are we to find our way out of this labyrinth? William James, who I quote at some length below ventures a prediction of how people will react to such a situation:

“The process here is always the same. The individual has a stock of old opinions already, but he meets a new experience that puts it to a strain. He saves as much of it as he can, for in this matter we are all extreme conservatives. So he tries to change first this opinion and then that, until at last some new idea comes up which he can graft upon the ancient stock with a minimum of disturbance.”⁵

In other words, when we need to revise a belief system, the tendency is to change the fewest number of beliefs possible. Predictably, there will be apologists for the current received wisdom who will attempt to prop the “ancient stock.” In my view, those attempts will prove unsuccessful. The current orthodoxy applies a set of tools to a problem that is way beyond the predictive ability of those tools. My view is that we must commend the old orthodoxy to the flames, to borrow a phrase.

Next quarter, I will take up the topic of what might follow. Let me set expectations. Next quarter’s letter will not feature a unified theory of financial markets; a Nobel Prize awaits the individual who does so. I have only a few modest ideas about what next generation of financial orthodoxy will feature. That’s all. Our field awaits its Newton.

A handwritten signature in black ink, appearing to read "John", written in a cursive, flowing style.

John O'Connor
June, 2009

⁵William James, *Pragmatism, Lecture II*

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