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Guest Editorial

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GUEST EDITORIAL

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Black Swan or Black Turkey? The State of Economic Knowledge and the Crash of 2007–2009

Nassim Nicholas Taleb has an elegant explanation for the global financial crisis of 2007–2009: It's a black swan.[1] A black swan is a very bad event that is not easily foreseeable—because prior examples of it are not in the historical data record—but that happens anyway. My explanation is more prosaic: The crisis was a black turkey, an event that is everywhere in the data—it happens all the time—but to which one is willfully blind. **Table 1** presents large negative returns on major asset classes around the world over roughly the last century; from that perspective, the 57 percent decline in the S&P 500 Index is hardly unique. There is no mystery to be explained: Markets fluctuate, often violently, and sometimes assets are worth a fraction of what you paid for them.

Yet the market declines of 2007–2009 are sometimes accused of overturning various bodies of more or less established knowledge in financial economics and macroeconomics. Let's examine these accusations.

Table 1. Black Turkeys All Over the Place

Asset Class	Period	Peak-to-Trough Decline
U.S. stocks (real total return)	1911–1920	51%
U.S. stocks (DJIA, daily)	1929–1932	89
Long U.S. Treasury bonds (real total return)	1941–1981	67
U.S. stocks	1973–1974	49
U.K. stocks (real total return)	1972–1974	74
Gold	1980–1985	62
Oil	1980–1986	71
Japanese stocks	1990–2009	82
U.S. stocks (S&P 500)	2000–2002	49
U.S. stocks (NASDAQ)	2000–2002	78
U.S. stocks (S&P 500)	2007–2009	57

Note: All returns are nominal price returns unless otherwise specified.

Efficient Market Hypothesis

The efficient market hypothesis (EMH) is a specific proposition about market prices (that they always reflect all available information) and not an assertion that a market economy is an efficient way to organize society (an entirely separate question). The EMH is not realistic, but it is a starting point that enables us to derive many valuable insights in finance, including the capital asset pricing model and the Black–Scholes option pricing model. Although a few diehards may still assert that markets are efficient, the contrary evidence of more than 40 years is overwhelming.

Most financial economists consider the EMH valuable because it places the burden of proof on the analyst who would beat the market. The test of the analyst's ability to make forecasts superior to the market-consensus forecasts is the subsequent alpha, correctly calculated to remove all beta influences.

Thus, the EMH resembles the presumption of the defendant's innocence in a criminal trial. Nobody really thinks that all or even most criminal defendants are innocent, yet it is hard to imagine a fair starting point other than the presumption of innocence. The burden of proof must be on the prosecutor to "prove" the defendant guilty.

As a realistic description of nature, the EMH has long been subject to serious challenges. Perhaps the most vivid is the crash of 19 October 1987, when the U.S. equity market fell by 22 percent in one day and some non-U.S. markets fell even more—for example, Hong Kong declined by 45 percent. In the language of the EMH, only two explanations for such a decline are possible:

1. The price was fair (reflecting all available information) before, during, and after the crash; that is, the fundamental value of U.S. stocks declined by 22 percent in one day.
2. The price was unfair at some point in time—either before the crash (the price was too high), after the crash (the price was too low), or throughout the entire episode except, perhaps, at one instant when the price was just right.

Guest Editorial is an occasional feature of the Financial Analysts Journal.
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Notes

[1] Nassim N. Taleb, The Black Swan: The Impact of the Highly Improbable (New York: Random House, 2007).

[2] As I see it, the term MPT, correctly used, signifies a real theory in a philosophical sense and embraces the work of not only Harry Markowitz but also William Sharpe, Merton Miller, Franco Modigliani, Jack Treynor, Fischer Black, and many others.

Markowitz's normative algorithm should be called optimization or mean–variance optimization.

[3] Harry M. Markowitz, Portfolio Selection: Efficient Diversification of Investments (New York: John Wiley & Sons, 1959).

[4] Paul Krugman, "How Did Economists Get It So Wrong?" New York Times (2 September 2009): www.nytimes.com/2009/09/06/magazine/06Economic-t.html?_r=1; retrieved 29 May 2010.

[5] John H. Cochrane, "How Did Paul Krugman Get It So Wrong?" (2009): http://modeledbehavior.com/2009/09/11/john-cochrane-responds-to-paul-krugman-full-text; retrieved 29 May 2010.

[6] Narayana R. Kocherlakota, "Modern Macroeconomic Models as Tools for Economic Policy" (2010): www.minneapolisfed.org/publications_papers/pub_display.cfm?id=4428; retrieved 29 May 2010.

[7] Even the low measured volatility of the two decades preceding the crash is suspect. Christina Romer, chair of President Obama's Council of Economic Advisers, studied modern macroeconomic data using methods from the more volatile pre–World War II period and concluded that the "Great Moderation" was essentially a data error: Rather than reflecting any actual change, it arose from the changing methods used to measure the volatility of the real economy. See Christina D. Romer, "Is the Stabilization of the Postwar Economy a Figment of the Data?" American Economic Review, vol. 76, no. 3 (June 1986):314–334.

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