

The global financial crisis and the efficient market hypothesis: What have we learnt?

By Ray Ball, Journal of Applied Corporate Finance, Fall 2009

Like all good hypotheses, EMH has limitations. But the claims that it is responsible for the global financial crisis are wildly exaggerated. Unusually large price increases followed by steep drops have occurred throughout the history of organized markets. Such bubbles occurred well before Eugene Fama formally introduced EMH in 1965.

The argument that people viewed prevailing prices as correct and did not verify the asset prices is at odds with what we see in practice. Almost all investment money is actively managed. Investors move into an asset when they believe it is under-priced. It seems inconsistent to argue simultaneously that asset price bubbles occur and investors passively believe that current market prices are correct.

The argument that when asset prices are rising rapidly, their level is not subject to scrutiny by investors is also at variance with facts. Alan Greenspan's use of the phrase, irrational exuberance in 1996 received wide publicity.

Understanding EMH

The basic ideas behind EMH are two. Competition prevents abnormal profits. If profits are excessive, new entrants reduce or eliminate them. Asset prices change, as information flows into the market. Essentially EMH states that competition among market participants causes the return from using information to be commensurate with the cost. The gains from the cost of exploiting public information should be equal to the cost of exploiting it. But public information is available free of cost. So, the gains from using it should be competed away to zero. One cannot expect to profit from publicly available information as it is already reflected in prices.

Clearing some misconceptions

EMH does not state that investors should not act on information. The average investor is not expected to earn abnormal returns. But that is not the same as saying that investors should stop acting on information.

EMH does not imply that a crisis can be predicted by the market. In fact, EMH states that we should not be able to predict a crisis. If we could predict a crisis, current market prices would be inefficient as they would not reflect the information embodied in the prediction. A related point is that it is easy

to identify bubbles after the fact but notoriously difficult to profit from them.

The collapse of large financial institutions does not imply market inefficiency. An efficient market does not predict that there will be no failures. On the other hand, EMH implies that size and reputation alone will not guarantee positive abnormal returns and will not protect a firm from the forces of competition.

EMH does not imply that past return distributions will repeat themselves and not change with time. EMH only states that to the extent that prices have already adjusted to the available information, no future price reaction to that information is necessary. The investor is not exposed to any future price variability from that source. One cannot blame EMH if managers estimate future risk entirely on the basis of past prices.

Regulators were misled by EMH. If regulators had been true believers in EMH, they would have been sceptical about the consistently high returns earned by some banks. When capital markets are competitive, the only way to generate such returns is through some combination of high leverage, high risk, inside information or dishonest accounting.

Limitations of EMH

A theory is an abstraction from reality. No theory is perfect and can claim to explain everything.

EMH does have its limitations. It only addresses the demand side and not the supply side. EMH states that given the supply of information, investors will trade on it till equilibrium is achieved. EMH is silent on the shapes of return distributions and how they evolve over time.

Information is modelled in EMH as a commodity that has the same meaning for all investors. In reality, investors have different information and beliefs. The actions of investors are based not only on their own beliefs but also their beliefs about the beliefs of others.

EMH assumes information processing to be costless. While the cost of acquiring public information may be nil, information processing may not be free.

EMH assumes that markets are costless to operate. But this may not be so. For example, some pricing errors may not be eliminated because they are smaller than the transaction costs involved in exploiting them.

EMH assumes continuous trading and hence liquidity effects. There is some evidence that illiquidity is a priced factor. Higher returns compensate for lower liquidity.

EMH is silent when it comes to investor taxes. The effects of taxation on security prices and expected returns are potentially large but not well understood.

Concluding notes

EMH may have some limitations. But the notion that prices efficiently incorporate information is very useful. The concept and method of discounted present value continues to be used widely. The present value rule is a strict application of the law of one price. There is one price for future money no matter how it arises. The rule assumes efficient pricing.

The legal theory of "fraud on the market" that underlies US securities class action fraud cases states that investors trading in an efficient market are implicitly relying on stock prices that are assumed to incorporate all public information. They do not have to prove that they directly received false information and traded on the basis of that information.

In a mutual fund, the face value of each security is determined daily and then the values are aggregated to arrive at the NAV. In liquid markets, the closing price is taken as the fair value. In illiquid markets, an adjustment may be done, which is consistent with EMH, which is silent on liquidity. In contrast, there are no adjustments for bubbles.