

# In Defense of Fundamental Analysis: A Critique of the Efficient Market Hypothesis

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It is widely held that financial asset markets always fully reflect all available and relevant information, and that adjustment to new information is virtually instantaneous.<sup>1</sup> This way of thinking is also known as the Efficient Market Hypothesis (EMH), and is closely linked with the Rational Expectations Hypothesis (REH), which postulates that market participants are at least as good at price forecasting as is any model that a financial market scholar can come up with, given the available information.<sup>2</sup> The view that everyone is as good a forecaster as any model implies that their forecasts do not display systematic biases. In other words, their forecasts are right on average.<sup>3</sup> According to the EMH, by using available information, all market participants arrive at “rational expectations” forecasts of future security returns, and these forecasts become fully

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<sup>1</sup>For a review and critique of the relevant literature, see E.C. Pasour, Jr., “The Efficient-Market Hypothesis and Entrepreneurship,” *Review of Austrian Economics* 3 (1989): 95–107.

<sup>2</sup>Horace W. Brock and Jeffrey A. Frankel, “Review of the Efficient Market Hypothesis,” *Strategic Economic Design* (November 1991).

<sup>3</sup>Ibid.

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reflected in the prices that are observed in financial markets. Changes in asset prices will occur on account of news which cannot be predicted in any systematic manner. In other words, asset prices respond only to the unexpected part of any news, since the expected part of the news is already embedded in prices. Thus, if the central bank raises interest rates by 0.5 percent, and if this action was anticipated by market participants, the effect of this anticipation will be manifested in asset prices prior to the central bank raising interest rates.

Therefore, when the central bank raises the interest rate by 0.5 percent, this increase will have no effect on asset prices. Should, however, the central bank raise interest rates by 1 percent, rather than the 0.5 percent expected by market participants, prices of financial assets will react to this increase.

The efficiency of the market means that the individual investor cannot outwit the market by trading on the basis of the available information. The implication of the EMH is destructive for fundamental analysis, for this means that analysis of past data is of little help since whatever information this analysis will reveal is already contained in asset prices. Proponents of the EMH argue that if past data contains no information for the prediction of future prices, then it follows that there is no point in paying attention to fundamental analysis. A simple policy of random buying and holding will do the trick. One of the pioneers of the EMH who has popularized this framework is Burton G. Malkiel.

The theory holds that the market appears to adjust so quickly to information about individual stocks and the economy as a whole that no technique of selecting a portfolio—neither technical nor fundamental analysis—can consistently outperform a strategy of simply buying and holding a diversified group of securities.<sup>4</sup>

Consequently, Malkiel argues that,

<sup>4</sup>Burton G. Malkiel, *A Random Walk Down Wall Street* (New York: W.W. Norton, 1985), p. 194.

A blindfolded monkey throwing darts at a newspaper's financial pages could select a portfolio that would do just as well as one carefully selected by the expert.<sup>5</sup>

### Does the EMH Framework Make Sense?

The major problem with the EMH is that it assumes that all market participants arrive at a *rational expectations* forecast. This, however, means that all market participants have the same expectations about future securities returns. Yet, if participants are alike in the sense of having homogeneous expectations, then why should there be trade? After all, trade implies the existence of heterogeneous expectations. This is what bulls and bears are all about. A buyer expects a rise in the asset price while the seller expects a fall in the price. Even if we were to accept that modern technology enables all market participants equal access to news, there is still the issue of news interpretations. The EMH framework implies that market participants have the same knowledge. Forecasts of asset prices by market participants are clustered around the *true* value, with deviations from the *true* value randomly distributed, implying that profits or losses are random phenomena. It also means that since, on average, everybody knows the *true* intrinsic value, then no one will need to learn from past errors since these errors are random and therefore any learning will be futile. Yet, if every individual has different knowledge, then this difference will have an effect on his forecast. A success or a failure in predicting asset prices will not be completely random, as the EMH suggests, but must also be attributed to each individual's knowledge. In the words of Hans-Hermann Hoppe,

If everyone's knowledge were identical to everyone else's, no one would have to communicate at all. That men do communicate demonstrates that they must assume that their knowledge is not identical.<sup>6</sup>

<sup>5</sup>Ibid.

<sup>6</sup>Hans-Hermann Hoppe, "On Certainty and Uncertainty, or: How Rational Can Our Expectations Be?" *Review of Austrian Economics* 10, no. 1 (1997): 49–78.

Another major problem with the EMH framework is that it implies that any buy-and-hold strategy is as good as any other, and that there is no scope for entrepreneurial activity in financial markets. On this, E.C. Pasour, Jr., writes,

Since the EMH is a version of the zero-profit theorem of competitive equilibrium in the conventional theory of the firm, it is argued that shortcomings of the EMH are similar to those of other long-run competitive theories that focus exclusively on equilibrium outcomes while ignoring the entrepreneurial market process that generated those outcomes.<sup>7</sup>

The EMH framework also gives the impression that the stock market can exist separately from the real world. However, the stock market doesn't have a *life of its own*. That is why an investment in stocks should be regarded as an investment in business as such, and not just as an investment in stocks. By becoming an investor in a business, an individual has engaged in an entrepreneurial activity. In other words, he has committed his capital with a view to supply the most urgent needs of consumers. This means that for an entrepreneur, the ultimate criteria for investing his capital is to employ it in those activities which will produce goods and services that are on the highest priority list of consumers. It is this striving to satisfy the most urgent needs of consumers that produces profits, and it is this alone that guides entrepreneurs. In this regard, Ludwig von Mises writes that

[S]tock exchange transactions produce neither profits nor losses, but are only the consummation of profits and losses arising in trading and manufacturing. These profits and losses, the outgrowth of the buying public's approval or disapproval of the investments effected in the past, are made visible by the stock market. The turnover on the stock market does not affect the public. It is, on the contrary, the public's

<sup>7</sup>Pasour, "The Efficient-Market Hypothesis and Entrepreneurship," pp. 95–96.

reaction to the mode in which investors arranged production activities that determines the price structure of the securities market. It is ultimately the consumers' attitude that makes some stocks rise, others drop.<sup>8</sup>

Is it valid to argue that past information is completely imbedded in prices and therefore of no consequence? After all, relevant information for participants in financial markets includes causes which trigger changes in real data. It is questionable whether the duration and the strength of effects of various causes can be discounted by the market participants. For instance, a market-anticipated lowering of interest rates by the Central Bank, while being regarded as old news and therefore not supposed to have real effects according to the EMH, will in fact set in motion the process of the boom-bust cycle. Also, various causes, once set in motion, initially only affect some individuals' real income. As time goes by, however, the effect of these causes spreads across a wider spectrum of individuals. Obviously, these changes in the real incomes of individuals will lead to changes in the relative prices of assets. To suggest, then, that somehow the market will quickly incorporate all future changes of various present causes without telling us how it is done is to evade the issue. It has to be realized that markets are comprised of individual investors who require time to understand the implications of various causes on real data and prices of financial assets. Even if a particular cause was anticipated by the market, that doesn't mean that it was understood and therefore discounted. It is hard to imagine that the effect of a particular cause which begins with a few individuals and then spreads over time across many individuals can be assessed and understood instantaneously. For this to be so, it would mean that market participants can immediately assess future consumers' responses and counter responses to a given cause. This, of course, must mean that market participants not only must know consumers' preferences but

<sup>8</sup>Ludwig von Mises, *Human Action* (Chicago: Contemporary Books, 1963), p. 520.

also how these preferences are going to change. However, consumer preferences cannot be revealed before consumers have acted.

If one is to accept the EMH framework, and thus believe that the market is always in equilibrium, then there is no room left for any investment advisory services, just to take one example. Anyone who considers giving advice to investors must take disequilibrium—or for that matter inefficiency—for granted. The very existence of the consulting industry is a tacit denial of the EMH.

### **Are Profits Random Phenomena?**

The proponents of the EMH claim that the main message of their framework is that excessive profits cannot be secured out of public information. They maintain that any successful method of making profits must ultimately be self-defeating. Against this background, some of the EMH proponents raise doubts as to the benefit of analysis of historical data to ascertain future direction of asset prices. In fact, these EMH proponents even maintain that an automaton or a dart-throwing chimpanzee can be a good substitute for entrepreneurial activity. In other words, what this approach suggests is passivity and resignation from an active search for opportunities.

Now, it is true that profits as such can never be a sustainable phenomenon. However, the reasons for this are not those presented by the EMH. Profit emerges once an entrepreneur discovers that the prices of certain factors are undervalued relative to the potential value of the products that these factors, once employed, could produce. By recognizing the discrepancy and doing something about it, an entrepreneur removes the discrepancy, i.e., eliminates the potential for a further profit. According to Murray N. Rothbard,

Every entrepreneur, therefore, invests in a process because he expects to make a profit, i.e., because he believes that the market has underpriced and undercapitalized the factors in relation to their future rents.<sup>9</sup>

<sup>9</sup>Murray N. Rothbard, *Man, Economy, and State* (Los Angeles: Nash), vol. 2, p. 466.

The recognition of the existence of potential profits means that an entrepreneur had particular knowledge that other people didn't have. Having this unique knowledge means that profits are not the outcome of random events, as the EMH suggests. For an entrepreneur to make profits, he must engage in planning and anticipate consumer preferences. Consequently, those entrepreneurs who excel in their forecasting of consumers' future preferences will make profits.

Planning and research never guarantee that profit will be secured. Various unforeseen events can upset entrepreneurial forecasts. Errors which lead to losses in the market economy are an essential part of the navigational tools which direct the process of allocation of resources in an uncertain environment in line with what consumers dictate. Uncertainty is part of the human environment, and it forces individuals to adopt active positions, rather than resign to passivity, as implied by the EMH. The EMH framework views the act of investment as no different from casino gambling. In the words of Ludwig von Mises, however,

A popular fallacy considers entrepreneurial profit a reward for risk taking. It looks upon the entrepreneur as a gambler who invests in a lottery after having weighed the favorable chances of winning a prize against the unfavorable chances of losing his stake. This opinion manifests itself most clearly in the description of stock exchange transactions as a sort of gambling.

Mises then suggests,

Every word in this reasoning is false. The owner of capital does not choose between more risky, less risky, and safe investments. He is forced, by the very operation of the market economy, to invest his funds in such a way as to supply the most urgent needs of the consumers to the best possible extent.

Mises then adds,

A capitalist never chooses that investment in which, according to his understanding of the future, the danger of losing his input is smallest. He chooses that investment in which he expects to make the highest possible profits.<sup>10</sup>

The EMH framework presents the stock market as a gambling place which is detached from the real world. However, as Mises suggests,

The success or failure of the investment in preferred stock, bonds, debentures, mortgages, and other loans depends ultimately also on the same factors that determine success or failure of the venture capital invested. There is no such thing as independence of the vicissitudes of the market.<sup>11</sup>

Further to this,

Stock speculation cannot undo past action and cannot change anything with regard to the limited convertibility of capital goods already in existence. What it can do is to prevent additional investment in branches and enterprises in which, according to the opinion of the speculators, it would be misplaced. It points the specific way for a tendency prevailing in the market economy, to expand profitable production ventures and to restrict the unprofitable. In this sense the stock exchange becomes simply the focal point of the market economy, the ultimate device to make the anticipated demand of the consumers supreme in the conduct of business.<sup>12</sup>

Contrary to the accepted way of thinking,

Entrepreneurial profit is not a "reward" granted by the customer to the supplier who served him better than the sluggish routinist; it is the

<sup>10</sup>Mises, *Human Action*, pp. 809–10.

<sup>11</sup>*Ibid.*, p. 810.

<sup>12</sup>*Ibid.*, pp. 517–18.

result of the eagerness of the buyers to outbid others who are equally anxious to acquire a share of the limited supply.<sup>13</sup>

### **The Validity of Statistical Verifications of EMH**

The alleged correctness of the EMH framework rests on the extensive statistical tests that supposedly verified the validity of the EMH. These tests rest on the assumption that investment returns are serially independent, and that their probability distributions are constant through time. What is probability? The probability of an event is the proportion of times the event happens out of a large number of trials. For instance, the probability of obtaining heads when a coin is tossed is 50 percent. This does not mean that when a coin is tossed 10 times, 5 heads are always obtained. However, if the experiment is repeated a large number of times then it is likely that 50 percent will be obtained. The greater the number of throws, the nearer the approximation is likely to be.

Or say it has been established that in a particular area, the probability of wooden houses catching fire is .01. This means that on the basis of experience, on average, 1 percent of wooden houses will catch fire. This does not mean that this year or the following year the percentage of houses catching fire will be exactly 1 percent. The percentage might be 1 percent or not each year. However, over time, the average of these percentages will be 1 percent.

This information, in turn, can be converted into the cost of fire damages thereby establishing the case for insuring against the risk of fire. Owners of wooden houses might decide to pool their risk, i.e., spread the risk by setting up a fund. In other words, every owner of a wooden house will contribute according to a certain proportion to the total amount of money that is required in order to cover the damages of those owners whose houses will be damaged by the fire. Note that insurance against the fire risk can only take place because we know its probability distribution and because there are enough

<sup>13</sup>*Ibid.*, p. 300.

owners of wooden houses to spread the cost of fire damage among them so that the premium will not be excessive. In this regard, these owners of wooden houses are all members of a particular group or class that will be affected in a similar way by a phenomenon called fire. We know that, on average, 1 percent of the members of this group will be affected by fire. However, we don't know exactly who it will be. The important thing for insurance is that members of a group must be homogeneous as far as a particular phenomenon is concerned.

If, however, we are dealing with non-homogeneous unique cases, they all should be treated as different groups, and obviously the risk cannot be pooled, although we still can know the probability distribution of a concerned risk. In this regard, entrepreneurial activity should be regarded as uninsurable. It is unique and specific, and allows no probability distribution of this activity to be established. (As we have already seen, probability distribution rests on the assumption that we are dealing with a particular repeatable event. If however, an event is non-repeatable no probability distribution can be established.) Thus, the return on a particular investment is specific and unique. It has occurred as a result of a unique and non-repeatable entrepreneurial activity. Profit occurs whenever an entrepreneur discovers that prices of certain factors are undervalued relative to the price of the final product. Once an entrepreneur acts upon this, he eliminates the potential for a further profit. For an entrepreneur to make another profit, he would have to be engaged in a different activity. Also, no entrepreneur can know what ideas he will have in the future.

As such, if entrepreneurial activities were repeatable with known probability distributions of returns, then we would not need entrepreneurs. After all, an entrepreneur is an individual who arranges his activities toward finding out consumers' preferences. These preferences, however, are never constant. One day consumers prefer a particular product, and another day shift their preferences toward other goods and services. This, of course, precludes any possibility

of establishing a probability distribution. The assumption that such probability can be established as the EMH proponents maintain is an absurdity, for it describes not a world of human beings who exercise their freedom of choices, but machines that never change their preferences and which are subject to random errors and breakdowns of known types and characteristics. In the words of Mises,

Entrepreneurs do not act as members of a class, but as individuals. No entrepreneur bothers a whit about the fate of the totality of the entrepreneurs. It is irrelevant to the individual entrepreneur what happens to other people whom theories, according to a certain characteristic, assign to the same class they assign him. In the living, perpetually changing market society there are always profits to be earned by efficient entrepreneurs.<sup>14</sup>

Statistical tests of the EMH that pretend that a probability distribution of returns on assets can be established are erroneous. These tests employ historical data of returns, and naively conclude that the average of these returns will be also relevant in the future. Thus, in year one, entrepreneurial activity yielded 10 percent return on investment. In year two the return was 15 percent. In year three it was 1 percent, and in year four it was 2 percent. The average of this distribution is 7 percent. What we have here is a historical average of returns. By no means, however, does it imply that we can establish a probability distribution on the same basis as one can establish for the risk of fire, or for obtaining heads in tossing a coin. As such, every human activity is unique and cannot be analyzed in the same way that one would analyze objects. Consequently, historical data, misrepresented as a time series, is in fact, a display of non-homogeneous pieces of information. Each observation is a unique, non-repeatable event caused by a particular individual response. This, in turn, means that to make sense of historical data one must scrutinize them not

<sup>14</sup>Ibid., p. 299.

by means of mathematical and statistical methods but by means of trying to grasp and understand how it emerged.

### **What is Behind Wild Swings in Asset Prices?**

On October 19, 1987, the Dow Jones Industrial Average fell by 22 percent. Many followers of the EMH were perplexed. How could a drop of this magnitude in one day be rationalized by the EMH? Andrei Shleifer and Lawrence H. Summers wrote that,

The stock in the efficient market hypothesis—at least as it has traditionally been formulated—crashed along with the rest of the market on October 19, 1987.<sup>15</sup>

Some other experts came to similar conclusions arguing that the October 1987 stock market crash that took place in a single day cannot be explained by news about fundamentals. This view was further supported by interviews carried out by Robert Shiller with traders who were active during the October crash.<sup>16</sup> Supporters of the EMH, however, argue that there were several pieces of important news that could have caused the crash. In early October, Congress threatened to impose a merger tax that would have made merger activity prohibitively expensive, and could well have ended the merger boom.<sup>17</sup> Also, Secretary of the Treasury James Baker had threatened in October to encourage a further fall in the price of the dollar, increasing risks for foreign investors, and thereby also scaring domestic investors.

Experts who felt that the EMH didn't adequately explain large price movements that last for months or even years latched onto new theories. The new theories offer amendments to the EMH, to allow

<sup>15</sup> Andrei Shleifer and Lawrence H. Summers, "The Noise Trader Approach to Finance," *Journal of Economic Perspectives* 4, no. 2 (Spring 1990): 19–33.

<sup>16</sup> Robert J. Shiller, "Investor Behavior in the October 1987 Stock Market Crash: Survey Evidence" (Cambridge, Mass.: NBER Working Paper No. 2446, 1987).

<sup>17</sup> Malkiel, *A Random Walk Down Wall Street*, p. 218.

for these large price movements, which are labeled bubbles.<sup>18</sup> These new theories permit the possibility that observed asset prices will not always be at their equilibrium. Most of the bubble theories attribute large price fluctuations to abnormal investor behavior, also labeled as irrational behavior. The reason for this behavior, so they say, is psychological. Thus, according to the new theories, changing fashions, fads, and erratic and capricious shifts in investor sentiment could set in motion a bubble.<sup>19</sup> The attempt to explain large price fluctuations by means of sentiment presents investors as automatons who mechanically react to this sentiment. Investors' actions are, however, conscious and purposeful. It is not some mysterious sentiment that causes investors to generate sharp swings in prices that shift them out of equilibrium, but rather investors' conscious actions. How is this possible? In a free, unhampered market economy, entrepreneurial errors generate incentives for their corrections. Thus, all other things being equal, let us assume that too much capital was invested in the production of product A, and that too little capital was invested in the production of product B. The effect of the over-investment in the production of A is to depress its profits, because the excessive quantity of A can only be sold at prices that are low in relation to costs. The effect of under-investment in the production of B, on the other hand, will lift its price in relation to cost, and thus will raise its profit. Obviously, this will lead to withdrawing of capital from A and a channeling of it toward B, implying that if investment goes too far in one direction, and not far enough in another direction, this will set in motion counteracting forces of correction.<sup>20</sup> Further to this, Rothbard wrote that

<sup>18</sup>O. Blanchard and M. Watson, "Bubbles, Rational Expectations and Financial Markets," *Crisis in the Economic and Financial Structure*, P. Wachtel, ed. (Lexington, Mass.: Lexington Books, 1982).

<sup>19</sup>Tro Kortian, "Modern Approaches to Asset Price Formation: A Survey of Recent Theoretical Literature," Research Discussion Paper 9501 (Reserve Bank of Australia, March 1995).

<sup>20</sup>George Reisman, *The Government Against the Economy* (Ottawa, Ill.: Jameson Books, 1985), p. 5.

General economic theory teaches us that supply and demand always tend to be in equilibrium in the market, and that therefore prices of products as well as of the factors that contribute to production are always tending towards some equilibrium point.<sup>21</sup>

For wild and prolonged swings in asset prices to occur, there must be a mechanism that undermines the functioning of the market economy. According to Mises, this mechanism is set in motion by the central bank's monetary policies.<sup>22</sup> Trouble erupts whenever central bank officials try to improve on the working of the free-market economy. We have seen that in a free, unhampered market, errors generate incentives for their corrections. These incentives are, however, removed once the central bank begins to inject money, thereby artificially lowering interest rates below the level dictated by consumer time preferences. In this regard, in a free, unhampered market economy, interest rates in financial markets will mirror consumers' time preferences. By responding to interest rates, entrepreneurs are, in fact, abiding by consumers' instructions. Once interest rates in financial markets are lowered artificially, they cease to reflect consumers' time preferences. This, in turn, means that entrepreneurs, once they are reacting to interest rates in financial markets, are committing errors, i.e., doing things against consumers' wishes. As long as the artificially low interest-rate policy remains in force, there are no ways or means for entrepreneurs to know that they are committing errors. On the contrary, as the policy of artificial lowering of interest rates intensifies, it generates apparent profits and a sense of prosperity. The longer the period of artificial lowering of interest rates is, the more widespread will be the errors, i.e., the disobedience of entrepreneurs regarding the will of consumers. The discovery that entrepreneurs didn't abide by consumers' instructions occurs once the

<sup>21</sup>Murray N. Rothbard, "Economic Depressions: Their Cause and Cure," *The Austrian Theory of the Trade Cycle and Other Essays* (Auburn, Ala.: Ludwig von Mises Institute, 1996), p. 23.

<sup>22</sup>Mises, *Human Action*, pp. 538–86.

central bank tightens its monetary stance. In this regard, Mises writes,

It is essential to realize that what makes the economic crisis emerge is the democratic process of the market. The consumers disapprove of the employment of the factors of production as effected by entrepreneurs.

Mises argues further that,

As soon as the credit expansion comes to an end, these faults become manifest. The attitudes of the consumers force the businessmen to adjust their activities anew to the best possible want-satisfaction. It is this process of liquidation of the faults committed in the boom and readjustment to the wishes of the consumers which is called depression.<sup>23</sup>

The Misesian business-cycle theory shows that the artificial lowering of interest rates sets in motion expectations for strong activity and good profits in the capital goods sector. This, in turn, raises the allocation of funding towards the capital-goods sector in relation to the consumer-goods sector. This lifts stock prices of capital-goods-producing companies relative to stock prices of consumer-goods-producing companies. If the lowering of interest rates is a one-time-only event, and is not supported further by the central bank, then the market interest rate will rise. In response to this, stock prices of capital goods-producing companies will weaken, while those of consumer-goods-producing companies will strengthen on a relative basis. If, however, the central bank clings to its loose monetary stance, this will reinforce the rise in stock prices of capital-goods-producing companies relative to the stock prices of consumer-goods-producing companies. Relentless monetary pumping by the central bank that is further amplified through fractional reserve banks raises all prices in money terms, including prices of stocks. Whenever the

<sup>23</sup> *Ibid.*, p. 505.

central bank reverses its monetary stance, a stock market bust is set in motion. The severity of the bust is dictated by the magnitude of the preceding boom, i.e., the preceding bull market and by the state of the pool of savings. Thus, the longer the bull market, the more widespread the errors will be, and therefore the more severe the bust (i.e., the bear market) will be. If the savings pool is expanding, the severity of the bust will be cushioned. If, however, the savings pool is shrinking, then the bear market could be more protracted and severe. In this way, the Austrian or Misesian theory of the business cycle provides the rationale behind the large swings in asset prices.

### **Importance of Fundamental Analysis**

Since various real causes are likely to have prolonged effects on the real data, we can conclude that asset markets cannot be in equilibrium. This, in turn, provides scope for benefits from analyzing the historical data in order to assess the future direction of asset prices. If, however, this can be done, then why don't good analysts become entrepreneurs and make money for themselves? Being knowledgeable doesn't mean that one has the skills to be an entrepreneur. An entrepreneur is an individual who is prepared to confront uncertainties already inherent in the market, and who has the skills to do this.<sup>24</sup> By means of exercising his judgment, an entrepreneur decides on his actions. According to Mises,

Entrepreneurial judgment cannot be bought on the market. The entrepreneurial idea that carries on and brings profit is precisely that idea which did not occur to the majority. It is not correct foresight as such that yields profits, but foresight better than that of the rest. The prize goes only to the dissenters, who do not let themselves be misled by the errors accepted by the multitude. What makes profits emerge is the

<sup>24</sup>Rothbard, *Man, Economy, and State*, p. 501.

provision for future needs for which others have neglected to make adequate provision.<sup>25</sup>

To form his judgment, an entrepreneur also takes into account past data. The interpretation of historical data could provide an important input for the entrepreneurial decision process. However, it is his sole vision concerning future consumers' preferences which will determine whether to pursue or not to pursue a particular venture. Various advisory services of economists and fundamental analysts owe their proliferation to a large extent to government and central-bank interference with the economy. The assessment of the implication of various government and central-bank policies requires special training and skills that many entrepreneurs might not have. Possessing these skills, however, doesn't imply that economists or analysts can accurately forecast. What these analyses provide is an important input to entrepreneurs. Economists who follow in the footsteps of Mises maintain that his praxeological framework provides a useful tool for sound analysis.<sup>26</sup> Thus, Jörg Guido Hülsmann writes,

According to Mises, economics is a science that consists of *a priori* propositions about reality. In his eyes, these propositions are implied in the conditions of action and are arrived at by an exercise of logic. Whatever is the product of sound discursive reasoning, so the argument goes, must be valid for reality.<sup>27</sup>

While the praxeological framework does not provide us with specifics of future events, this framework specifies precisely the logical structure of human actions. In the words of Hoppe,

<sup>25</sup>Mises, *Human Action*, p. 871.

<sup>26</sup>Hans-Hermann Hoppe, *Praxeology and Economic Science* (Auburn, Ala.: Ludwig von Mises Institute, 1995), p. 41.

<sup>27</sup>Jörg Guido Hülsmann, "Knowledge, Judgment, and the Use of Property," *Review of Austrian Economics* 10, no. 1 (1997): 23–48.

[while] I cannot predict what goals I may pursue in the future, what means I will deem appropriate to reach these goals, and what other conceivable courses of action I will choose to reject in order to do what I will actually do (my opportunity cost), I can still predict that as long as I act at all, there will be goals, means, choices, and costs; that is, I can predict the general, logical structure of each and every one of my actions, whether past, present, or future.<sup>28</sup>

Whenever the central bank artificially lowers interest rates, the praxeological framework enables us to establish that this artificial lowering must result in the boom–bust cycle. Praxeology, however, cannot tell us the severity of the cycle. The praxeological framework can be seen as providing a link between reality and theoretical reasoning, i.e., it prevents the emergence of theoretical reasoning which is detached from reality. The reason why it can fulfill this role is because it is based on the noncontradictory axiom that human beings are acting consciously and purposefully. All this, however, doesn't guarantee accurate predictions. All other things being equal, one could evaluate the likely impact of a particular government policy with the help of praxeology. Thus, even if other things can never be equal, an analyst could get a good idea as to the consequences of a particular government or central bank action. Over time, forecasters that are equipped with the praxeological framework would outperform those forecasters who are not familiar with this framework.<sup>29</sup>

### Conclusion

The main shortcomings of the EMH are similar to those of the long-run competitive theories that focus exclusively on equilibrium outcomes while ignoring the entrepreneurial activity that generates those outcomes. The EMH gives the impression that there is a difference between investing in the stock market and investing in a

<sup>28</sup>Hoppe, "On Certainty and Uncertainty": 65.

<sup>29</sup>Hoppe, *Praxeology and Economic Science*, p. 42.

business. However, the stock market doesn't have a *life of its own*. The success or failure of investment in stocks depends ultimately on the same factors that determine success or failure of any business.

Statistical tests that supposedly validate the EMH framework are based on a flawed method and a failure to understand that the main cause behind the instability in financial markets is the monetary policies of the central bank.