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# Classical finance and Behavioral finance - A comparative study

Meghna Dangi\*

## *Abstract*

As the world of Academic Finance stands today, it can be broadly understood either under the traditional paradigm or the behavioral paradigm. Each of them has their own set of theories, assumptions and foundations. In order to better understand the practical field of financial markets and investor decision processes, one must appreciate the underpinnings of both the paradigms. This conceptual paper is an attempt towards bringing to light the differences between the two fields through an extensive review of existing literature in this field.

**Key Words:** Classical Finance, Behavioral Finance, Investment decisions, Market Efficiency

**JEL Classification:** G00, G02, G11, G14

## **Introduction to Classical Finance**

Classical finances largely based on econometric analyses of time series on prices, dividends and earnings. Much of the standard history of economic and financial theory rests on the philosophy that financial market participants are rational, information-based investors with dispassionate objectives that maximize the expected utility of wealth.

In models of traditional, or standard, investment decision making, investors are assumed to:

- Exhibit risk aversion
- Hold rational expectations
- Practice asset integration

Risk aversion implies that investors with otherwise equivalent investment options

will prefer the investment with the lowest volatility. They will choose an investment with a certain outcome over an investment with an uncertain outcome that has the same expected value.

Rational expectations assume that investors are coherent, accurate, and unbiased forecasters. Their forecasts will reflect all relevant information, and they will learn from their past mistakes.

Asset integration refers to the process by which investors choose among risky investments. Investors practice asset integration by comparing the portfolio return/risk distributions that result from combining various investment opportunities with their existing holdings.

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Assets are evaluated in the context of their impact on the aggregate investment portfolio, not as stand-alone investment.

As a consequence of the traditional assumptions about individual economic behavior, traditional models of the portfolio building process have historically relied on the following tenets:

- Asset pricing is driven by economic considerations such as production costs and prices of substitutes.
- Portfolios are constructed holistically, reflecting covariances between assets and overall objectives and constraints.

### **Main theories of Classical Finance**

One of the most important theories of traditional finance that reached its peak of dominance around 1970s is the Efficient Market theory. At that time researchers had been exposed to the idea of rational expectations. The concept predominant was that speculative asset prices such as stock prices always incorporate the best information about fundamental values and that prices change only because of good, sensible information meshed very well with theoretical trends of time.

Such concepts were propounded by many theorists. The publication, “An intertemporal Capital Asset pricing model”

(Merton, 1973) showed how to generalize the capital asset pricing model to a comprehensive intertemporal general equilibrium model. Another similar publication, “Asset Prices in an exchange economy (Lucas, 1978) showed that in a rational expectations general equilibrium, rational asset prices may have a forecastable element that may be related to the forecastability of consumption, In the theory of consumption betas, (Breedon, 1979) where a stock’s beta which measures the sensitivity of its return compared to some index is in fact determined by the correlation share. The beta computed thus equals the mathematical expectation of the Present value of actual subsequent dividends accruing to that share, conditional on all information available at the time. Since this Present value is not known at that time, it has to be forecasted. According to EMH, price equals the optimal forecast of it. Here uncertainty creeps in on two counts; one the choice of the discount rate may differ from model to model and secondly the forecasted present value in order to be optimal must accompanied with a forecast error. A comparison between the Present value of real dividend paid discounted by a constant real discount rate on any stock market index behaves remarkably like a stable trend much in

contrast to the stock price index which fluctuates tremendously around this trend.

Overtime economists in the race of shaping the discipline as a natural science started to distance themselves from psychology. In economics, man or “Homo economicus” appears perfectly rational and has a complete knowledge and his economic choices are guided by rationality. This means that his choices are consistent, self-contained and he is perfectly rational without being affected by his emotions or his environment. Thus economic theory of Investment decision treats investment decision of an individual as a macroeconomic aggregate and the microeconomic foundations of it are drawn from inter temporal utility theory. This means that individuals maximise their utility based on classic wealth criteria making a choice between consumption and investment through time. However, as per studies conducted by Herbert Simon, rationality of individuals is limited by the information they have, the cognitive limitations of their minds and the finite amount of time they have to make decisions. He has coined the term “bounded rationality” in his book. He argues that most people are only partly rational while are emotional/irrational in the remaining part of their actions. He says that perfect or global rationality is

practically and not logically impossible. He claims that classical theories of Rational Choice fail to include some of the central problem of conflict and dynamics which economics are more and more concerned with. Accordingly, concept of rationality has some limits such as risk and uncertainty, incomplete information about alternatives and complexity. (*Models of Man*, 1972).

On a deeper comparative analysis, it is found that although individual stock prices do show some correspondence to efficient market theory, the aggregate stock market appears to be wildly inefficient. Thus the stock market is “micro efficient” but “macro inefficient.”(Samuelson, 1998) There is a clear sense that the level of volatility of overall stock market cannot be explained by any variant of the efficient markets model. Thus as far as using traditional financial theories to explain the volatility of stock markets is concerned, it may be concluded that while markets are not totally crazy, they contain quite substantial noise. This has led many finance academicians to turn to other theories.

### **Introduction to Behavioral Finance**

Behavioral Finance is the study of Finance from a broader social perspective including psychology and sociology and it stands up in sharp contradiction to many

theories of traditional finance. Behavioural Finance takes into account the effect of human psychology in investment decision making and developing models of human psychology as it relates to financial markets. It overcomes the shortcomings of classical finance and finds better explanations of investor behaviour by disregarding the assumptions that investors are rational and markets are efficient. It is also a response to many anomalies which classical finance models could not explain with their theoretical models. The foundation of a revolution in finance was done in a book titled, *The Econometrics of Financial Markets*. (Campbell, Lo and MacKinlay, 1996)

### **Cornerstones of Behavioral Finance**

The first foundation stone of Behavioural finance is Mental Accounting. It is a process which helps the investors in using cognitive skills to organize, evaluate and keep track of their financial activities. Mental accounting has three components. First, the outcomes are perceived and experienced and then decisions are taken and evaluated. Second, investing activities are grouped into categories, including the sources and use of funds. Third, the activities are balanced either daily, monthly or yearly, depending on the preferences of a person. (Thaler,1999) Mental Accounting violates economics

assumptions because money placed in one mental account is not a perfect substitute of money placed in another account.

The second foundation stone of Behavioural finance is Loss Aversion. Since investors engage in mental accounting, investors group the financial transactions either one at a time or in portfolios and myopically evaluate the transactions i.e make short term rather than long term decisions and evaluate gains and losses frequently. According to Kahneman, Tversky and Schwarz and Thaler (1997), individual investors are more sensitive to decrease in their wealth rather than increases and value losses more heavily than gains.

The third foundation stone of Behavioural finance is Framing. According to Kahneman and Tversky (1981), when investors face a decision problem, they try to associate each alternative choice with a decision frame. This frame depends on the personal characteristics of the investor and how the problem is formulated. They have found that choices that involve gains are risk averse and choices that involve losses are risk taking.

The fourth foundation stone of Behavioural finance is Prospect Theory. This is the seminal work of Kahnemann

and Tversky developed in 1979. Prospect Theory is an alternative theory to analyse decision making in situations that involve risk. In Prospect Theory, an outcome is called a prospect and involves a decision with some risk. Instead of wealth, focus is on gains and losses; decision weights replace probabilities and loss aversion is used in place of risk aversion. Decision making process is made up of two stages, the editing phase and the evaluation phase. In the first phase, possible outcomes are arranged on the basis of some heuristic. When investors look at outcomes, they make a mental note of an approximate and possible average outcome. This average is used as a reference point for ordering the lower outcomes as losses and higher ones as gains. Hence, according to Prospect theory, value is a function of the reference point and the distance of the value from the reference point. Many experiments have been carried out to validate the theory in order to show that investors focus on gains and losses rather than final wealth.

### **Key Differences between Traditional Finance and behavioral Finance**

The key difference between “traditional finance” and “behavioral finance” are as follow:

(i) Traditional finance assumes that people process data appropriately and correctly.

In contrast, behavioral finance recognizes that people employ imperfect rules of thumb (heuristics) to process data which induces biases in their beliefs and predisposes them to commit errors.

(ii) Traditional finance presupposes that people view all decision through the transparent and objective lens of risk and return. Put differently, the form (or frame) used to describe a problem is inconsequential. In contrast, behavioral finance postulates that perceptions of risk and return are significantly influenced by how decision problem are framed. In other words, behavioral finance assumes frame dependence.

(iii) Traditional finance assumes that people are guided by reason and logic and independent judgment. Behavioral finance, on the other hand, recognizes that emotions and herd instincts play an important role in influencing decisions.

(iv) Traditional finance argues that markets are efficient, implying that the price of each security is an unbiased estimate of its intrinsic value. In contrast, behavioral finance contends of its intrinsic value. In contrast, behavioral fiancé contends that heuristic-driven biases and errors, frame dependence, and effects of emotions and social influence often lead to discrepancy between market price and fundamental values.

### **Solutions provided by Behavioral Finance to the drawbacks of Classical Finance**

A number of recent studies show that behavioral finance theories can explain some of the findings the traditional finance theories leave unexplained. For example, Benartzi and Thaler (1995) and Barberis, Huang and Santos (2001) show how a disproportionately large aversion to losses, in combination with an annual investment horizon, can explain the puzzling high returns of equities over bonds (i.e. the equity premium puzzle). Similarly, Barberis, Shleifer and Vishny (1998), Daniel, Hirshleifer and Subrahmanyam (1998), Hong and Stein (1999) and Barberis and Shleifer (2003) explain the high (low) returns after good (bad) earnings announcements, high (low) returns for recent winners (losers), and the reversal of these recent winner or loser returns over longer horizons, by modeling various behavioral biases and limitations investors are subject to. Moreover, Shefrin and Statman (1984) show how behavioral finance can explain why firms pay dividends, while dividends actually have a tax disadvantage. In fact, findings from behavioral finance have proven to be excellent tools for improving the decisions of individual investors, especially in investment decisions for retirement (Benartzi and Thaler, 2004).

However attention is also drawn to the fault in Behavioral Finance for two basic reasons (Fama, 1998). The first was that anomalies that were discovered tended to appear as under reaction and overreaction for an equal number of times. Also anomalies tended to disappear either as time passed or as methodology of studies improved. But these criticisms are weak and are not robust enough to be knocked by counter-research.

### **Conclusion**

Research work in Behavioral Finance has led to a profound deepening of our knowledge of financial markets. Although market efficiency cannot be discarded as egregiously wrong that just the knowledge of behavioral finance can lead to immediate continually available profits yet Efficient Market theory may lead to drastically incorrect interpretations of stock market bubbles. Evidence from Behavioral Finance helps us to understand that stock market booms and crashes have their origin in human faults and arbitrary feedback and this generates a real and substantial misallocation of resources.

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