

A Look at Behavioral Finance

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Abstract

Behavioral theory in finance ties finance theory and practice to human behavior. This paper aims at reviewing behavioral finance principles, concepts and theories. This paper starts with the shift from EMH/CAPM paradigm to behavioral finance. Then, the paper goes through the financial anomalies including the size effect, value effects, momentum effects, weekend effect and turn-of-the year effect. Finally, the paper addresses the key pillars of behavioral finance by explaining the limits to arbitrage and the main behavioral biases.

Keywords: market efficiency, financial anomalies, behavioral finance

1. Introduction

Scholars and practitioners in the stock market are intent on

- Why do investors prefer dividend-payers?
- Why do investors are reluctant to realize losses?
- Why do investors prefer stocks of “good” companies?
- How do we determine the expected stock returns?
- What types of stocks do investors prefer? (Statman, 1995)

The literature denies the ability of standard finance to provide answers to all questions. These criticisms of standard finance motivates the emergence and evolution of behavioral finance.

2. Towards a Behavioral Paradigm Shift

The efficient market theory entails that stocks prices should reflect all available information on its fundamental value. As a result, it is not possible for investors to beat the market or to make abnormal returns. In other words, there are no mispriced assets in the world of efficient market theory because the invisible hand of the marketplaces moves and corrects any mispricing quicker than any single participant (Ang, Goetzman, & Schaefer, 2010).

The clue of efficient market hypothesis devised by Eugene Fama first appeared in Journal of Business (1965). According to this hypothesis, Stock prices reflect all available information on capital assets. Fama (1970) then developed three different forms of informational efficiency, namely, weak form, semi-strong and strong market efficiency.

Weak Form Market Efficiency- The current stock price fully reflects all information embodied in historical prices and volume.

Semi-Strong Market Efficiency- the current stock price reflects historical price and volume data as well as all publically available information including news, analysts’ reports and company reports.

Strong Market efficiency- The current stock price reflects not only historical price and volume data, but also all public and private information.

The key empirical test of EMH is the Capital Asset Pricing Theory (CAPM) and the Arbitrage Pricing Theory (APT).

Sharpe (1964) and Lintner (1965) develop the capital asset pricing model (CAPM) which is an intuitive model to measure the investment risk and to capture the relation between risk and expected returns. The CAPM depends

on three assumptions: first, the capital market is perfect which means there are no transaction cost or taxes and information is available and can be obtained without costs. As a result, investors can lend and borrow at the risk-free rate. Second, the homogenous expectation assumption; this assumption is that all investors have the same expectations, and they are all rational and they are risk-averse. Third, the CAPM assumes all investors have only one holding period and they use expected return and standard deviation of return in evaluating their portfolios (Perold, 2004). However, the empirical tests indicate that unsatisfying performance of the CAPM is attributable to the very simplified and unrealistic assumptions (Fama & French, 2004). The efficient market hypothesis (EMH) and the capital asset pricing framework (CAPM) framework are the hub of standard finance theory and the word 'anomaly' is always used to refer to the stream of research that focuses on the empirical invalidity of EMH/CAPM framework.

Schwert (2003) provides a comprehensive summary of all anomalies in finance literature on the following lines:

Size effect- the term size effect is used to point out the negative relation between size and average returns. Banz (1981) proved that small firms provide 0.40% higher average monthly returns than the other stocks did, using data on NYSE from 1936 to 1975 (Note 1). Reinganum (1981) empirically supports the same anomaly through proving the small firms give higher average returns than large firms do.

The value effect- the value effect is used to point out that the firms with high ratios of Earnings to price (E/P) and book-to-market provide higher average returns than firms with low ratios of Earnings to price (E/P) and book-to-market ratio do. Basu (1977) in his seminal paper was the first to document the value effect. Basu (1977) found that stocks with higher value-related variables such as earnings per share (P/E) can make positive abnormal returns. He also confirmed that the CAPM could not provide an explanation for this behaviour.

Momentum effect- Jegadees and Titman (1993) form wide range of momentum strategies using market data from 1965 to 1989. They reveal that momentum strategies which entail buying past winners (stocks that have high returns over the previous three months to one year) and selling past losers (stocks that have low returns over the previous three months to one year) can generate monthly average returns of 1% for the next year.

The turn-of-the-year effect/'January Effect'- this anomaly has two interpretations: the first hypothesis is the tax-loss-selling-pressure hypothesis. According to this hypothesis, individual investors tend to realize capital losses by selling stocks that have gone down in prices during the year. These capital losses help them reduce their year-end tax liability and create selling pressure through an increase in the number of transactions, leading to a drop in year-end stock prices (Berges, McConnell, & Schlarbaum, 1984). The second hypothesis is the window dressing hypothesis. According to this hypothesis, institutional investors tend to rebalance their portfolio holdings before the end of the year through selling losers and buying winners, hoping to enhance the perceived performance (Haug & Hirschey, 2006).

The weekend effect- French (1980) is the first to use the term 'weekend effect'. He employed data on S&P 500 composite index from 1953 through 1977, and found negative average returns on Mondays and positive otherwise.

The empirical success of previous anomalies and the challenging role they play in the traditional framework EMH/CAPM show the need for a change from traditional framework EMH/CAPM to behavioral theory. The behavioral theory of finance has two pillars:

Limits to arbitrage- Shleifer and Vishny (1997) criticize the description of arbitrage as a no capital and no risk process which entails buying and selling similar financial security in two different markets to make profits through benefiting from different prices. Traditional finance assumes that arbitrage mechanism maintains market efficiency by assuming investors' mistakes would impact on the market prices and pushing prices away from the fundamental value, while arbitrageurs -'rational investors'- are always going to benefit from any mispricing to make profits and correct any deviation from the fundamental value. However, behavioral finance defenders believe that market prices are not fair.

In theory institutional investors play the role of rational investors because they have the required knowledge, analysts and wealth but they also have benefits to urge the way of trading that causes mispricing and motivates inefficiency (Baker & Nofsinger, 2010). Barberis and Thaler (2003) mention that the limits to arbitrage that may prevent arbitrage and keep the market inefficient include: (1) fundamental risk because the short and long positions are prone to mismatch; (2) noise trader risk because the mispricing could be too large to be corrected and may lead to bankrupting the arbitrageurs; (3) Implementation cost. Thus, the limits to arbitrage may hinder the arbitrageurs from correcting any mispricing.

Behavioral biases- Ritter (2003) lists the key behavioral biases in the literature of behavioral finance as follows:

1) Heuristics or rules of thumb: the employment of rules of thumb facilitates the decision making process but can also cause cognitive biases. Benartzi and Thaler (2001) discover that several investors follow the $1/N$ rule. For instance, if they encounter three alternatives that are available for investing their money, they allocate one-third of their money to each fund (Note 2).

2) Overconfidence: overconfidence means that people sometimes overestimate their skills and capabilities. There are several forms of overconfidence such as insufficient diversification that may lead investors to over-invest in one asset. For instance, the finance literature documents that men are usually have higher levels of confidence than women but that women tend to outperform men.

3) Mental Accounting: mental accounting means that people tend to split decisions that should not be split. This may also lead to cognitive biases, for example, if several people allocate separate budgets for food and entertainment. They eat simple fish at home because shrimp is more expensive than fish but they prefer to eat shrimp at restaurant although the cost is higher than that of simple fish. If they combined eating at home and in restaurants they could save money through choosing to have shrimp at home and simple fish in restaurants.

4) Framing : framing concerns how an idea or term is exhibited to people. In other words, it deals with ways of expression. For instance, cognitive psychologists found that doctors give one set of prescriptions and treatments if a diagnosis is presented in the form of survival probabilities and another set if it is presented in the form of mortality probabilities in spite of the fact that the survival probabilities and mortality probabilities together totalled 100%.

5) Representativeness/‘Law of small numbers’: representativeness means that people have a propensity to overweigh contemporary events and underweigh ancient events. For instance, if the equities generate a high return for many years in succession, some investors start to believe that a high average return is customary.

6) Conservatism: representativeness and conservatism battle against each other. While representativeness leads to underweighing rates, people sometimes romanticize the base rates. In other words, when a change occurs, people tend to stick to the initial values and react slowly to the change. Therefore, the conservatism bias can be considered one source of underreaction.

7) Disposition effect: the disposition effect is the tendency of investors to realize gains too early and hold losers too long. For instance, if somebody purchases a stock at \$10, which then goes down to \$6 before going up to \$8, most people are not willing to sell until the stock price exceeds \$10. Through the disposition effect, investors try to realize plenty of small gains, and a few minimal losses. In other words, their decision conforms with taxes maximization behaviour. The disposition effect comes out in aggregate trading volume since stocks tend to have a higher trading volume during bull markets and a lower trading volume during bear markets.

3. Conclusion

This paper reviewed some key principles and concepts of behavioral finance. This review starts with the definition of efficient market hypothesis and went through some financial anomalies and ended with the pillars of behavioral finance. Moreover, the paper presented the definitions of some behavioral bias such heuristics or rule of thumb, overconfidence, mental accounting, framing, representativeness, conservatism, and disposition effect. Finally, some anomalies are presented in details such as the size effect, the value effect, momentum effect, turn-of-the –year effect, and the weekend effect.

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Notes

Note 1. See Van Dijk (2011) P.3264

Note 2. See Ritter (2003) P. 431.

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