

Chapter 9

Behavioral Finance and Technical Analysis

2. a. Frost's statement is an example of reference dependence. His inclination to sell the international investments once prices return to the original cost depends not only on the terminal wealth value, but also on where he is now, that is, his reference point. This reference point, which is below the original cost, has become a critical factor in Frost's decision.

In standard finance, alternatives are evaluated in terms of terminal wealth values or final outcomes, not in terms of gains and losses relative to some reference point such as original cost.

- b. Frost's statement is an example of susceptibility to cognitive error, in at least two ways. First, he is displaying the behavioral flaw of overconfidence. Second, by choosing to invest in the securities of only Country XYZ, Frost is also exemplifying the behavioral finance phenomenon of asset segregation. That is, he is evaluating Country XYZ investment in terms of its anticipated gains or losses viewed in isolation.
- c. Frost's statement is an example of mental accounting.

3. a. *Illusion of knowledge*: Maclin believes he is an expert on, and can make accurate forecasts about, the real estate market solely because he has studied housing market data on the Internet. He may have access to a large amount of real estate-related information, but he may not understand how to analyze the information nor have the ability to apply it to a proposed investment.

Overconfidence: Overconfidence causes us to misinterpret the accuracy of our information and our skill in analyzing it. Maclin has assumed that the information he collected on the internet is accurate without attempting to verify it or consult other sources. He also assumes he has skill in evaluating and analyzing the real estate-related information he has collected, although there is no information in the question that suggests he possesses such ability.

- b. *Reference point*: Maclin's reference point for his bond position is the purchase price, as evidenced by the fact that he will not sell a position for less than he paid for it. This fixation on a reference point, and the subsequent waiting for the price of the security to move above that reference point before selling the security, prevents Maclin from undertaking a risk/return-based analysis of his portfolio position.

- c. *Familiarity*: Maclin is evaluating his holding of company stock based on his familiarity with the company rather than on sound investment and portfolio principles. Company employees, because of this familiarity, may have a distorted perception of their own company, assuming a "good company" will also be a good investment. Irrational investors believe an investment in a company with which they are familiar will produce higher returns and have less risk than non-familiar investments.

Representativeness: Maclin is confusing his company (which may well be a good company) with the company's stock (which may or may not be an appropriate holding for his portfolio and/or a good investment) and its future performance. This can result in employees' overweighting their company stock, resulting in an under-diversified portfolio

4. a. The behavioral finance principle of biased expectations/overconfidence is most consistent with the investor's first statement. Petrie stock provides a level of confidence and comfort for the investor because of the circumstances in which she acquired the stock and her recent history with the returns and income from the stock. However, the investor exhibits overconfidence in the stock given the needs of the Trust and the brevity of the recent performance history. Maintaining a 15 percent position in a single stock is inconsistent with the overall strategy of the Trust, and the investor's level of confidence should reflect the stock's overall record, not just the past two years.
- b. The behavioral finance principle of mental accounting is most consistent with the investor's second statement. The investor has segregated the monies distributed from the Trust into two "accounts": the returns the Trust receives from the Petrie stock, and the remaining funds that the Trust receives for her benefit. She is maintaining a separate set of mental accounts with regard to the total funds distributed. The investor's "specific uses" should be viewed in the overall context of the spending needs of the Trust and should consider the risk and return profile of the entire Trust.

5. i. *Overconfidence (Biased Expectations and Illusion of Control)*: Pierce is basing her investment strategy for supporting her parents on her confidence in the economic forecasts. This is a cognitive error reflecting overconfidence in the form of both biased expectations and an illusion of control. Pierce is likely more confident in the validity of those forecasts than is justified by the accuracy of prior forecasts. Analysts' consensus forecasts have proven routinely and widely inaccurate. Pierce also appears to be overly confident that the recent performance of the Pogo Island economy is a good indicator of future performance. Behavioral investors often conclude that a short track record is ample evidence to suggest future performance.

Standard finance investors understand that individuals typically have greater confidence in the validity of their conclusions than is justified by their success rate. The calibration paradigm, which compares confidence to predictive ability, suggests that there is significantly lower probability of success than the confidence levels reported by individuals. In addition, standard finance investors know that recent performance provides little information about future performance and are not deceived by this "law of small numbers."

- ii. *Loss Aversion (Risk Seeking)*: Pierce is exhibiting *risk aversion* in deciding to sell the Core Bond Fund despite its gains and favorable prospects. She prefers a certain gain over a possibly larger gain coupled with a smaller chance of a loss. Pierce is exhibiting *loss aversion* (risk seeking) by holding the High Yield Bond Fund despite its uncertain prospects. She prefers the modest possibility of recovery coupled with the chance of a larger loss over a certain loss. People tend to exhibit risk seeking, rather than risk aversion, behavior when the probability of loss is large. There is considerable evidence indicating that risk aversion holds for gains and risk seeking behavior holds for losses, and that attitudes toward risk vary depending on particular goals and circumstances.

Standard finance investors are consistently risk averse, and systematically prefer a certain outcome over a gamble with the same expected value. Such investors also take a symmetrical view of gains and losses of the same magnitude, and their sensitivity (aversion) to changes in value is not a function of a specified value reference point.

- iii. *Reference Dependence*: Pierce's inclination to sell her Small Company Fund once it returns to her original cost is an example of *reference dependence*. Her sell decision is predicated on the current value as related to original cost, her reference point. Her decision does not consider any analysis of expected terminal value or the impact of this sale on her total portfolio. This reference point of original cost has become a critical but inappropriate factor in Pierce's decision.

In standard finance, alternatives are evaluated in terms of terminal wealth values or final outcomes, not in terms of gains and losses relative to a reference point such as original cost. Standard finance investors also consider the risk and return profile of the entire portfolio rather than anticipated gains or losses on any particular investment or asset class.

$$6. \quad \text{Trin} = \frac{\text{Volume declining} / \text{Number declining}}{\text{Volume advancing} / \text{Number advancing}} = 0.698$$

This trin ratio, which is below 1.0, would be taken as a bullish signal.

7. Breadth:

Advances	Declines	Net Advances
2,352	950	1,402

Breadth is positive. This is a bullish signal (although no one would actually use a one-day measure as in this example).

13. This pattern shows a lack of breadth. Even though the index is up, more stocks declined than advanced, which indicates a “lack of broad-based support” for the rise in the index.

$$16. \quad \text{Confidence Index} = \frac{\text{Yield on top - rated corporate bonds}}{\text{Yield on intermediate- grade corporate bonds}}$$

This year: Confidence Index = 0.762

Last year: Confidence Index = 0.850

Thus, the confidence index is decreasing.