FINM3407 - Behavioural Finance

Tutorial 6 Heuristics and Its Implications

Note: This topic has more questions than can be covered in a 2-hour session. The questions to be covered by your tutor are indicated by an asterisk (*); the rest questions should be viewed as extra practice problems.

In this tutorial, we are going to cover the following topics: Application to Managerial Overconfidence and Stata related questions.

There are a few references reading for these two relevant topics:

AckertDeaves Chapters 5 and Chapter 8

- **Part One: Application of Heuristics and Biases**

1*. Differentiate the following terms/concepts:

a. Primacy and recency effects

b. Salience and availability

c. Fast-and-frugal heuristics and bias-generating heuristics

d. Autonomic and cognitive heuristics

2*. Which description of Mary has higher probability?

a. Mary loves to play tennis.

b. Mary loves to play tennis and, during the summer, averages at least a game a week.

Explain your answer. Define the conjunction fallacy. How does it apply here? Assume for the purpose of illustration that the probability that someone loves to play tennis is .2; the probability that someone plays tennis once or more a week during the summer is .1; and the probability of one or the other of these things is .22.

3. * Suppose you have invested in two different stocks, Stock A and Stock B. Based on historical data, the probability that Stock A will increase in value over the next year is 0.6. For Stock B, the probability is 0.5. The probability that both stocks will increase in value over the next year is 0.3. What is the probability that at least one of the two stocks will increase in value over the next year?

4. ***Rex is a smart fellow. He gets an A in a course 80% of the time. Still he likes his leisure, only studying for the final exam in half of the courses he takes. Nevertheless when he does study, he is almost sure (95% likely) to get an A. Assuming he got an A, how likely is it he studied? If someone estimates the above to be 75%, what error are they committing? Explain.**

Hint: Here is a useful YouTube video to explain Bayes' theorem.

Bayes' Theorem of Probability With Tree Diagrams & Venn Diagrams - YouTube

5. ***What is the relationship between intersection (i.e., P(A∩B)) and conditional probability (i.e., P(A|B))?**
Hint: A useful YouTube video to watch. Please watch the first 5 mins of this video.

Conditional Probability With Venn Diagrams & Contingency Tables - YouTube

6. ***Imagine you are a portfolio manager looking at historical data for Stock C and Stock D in your portfolio. You find that the probability Stock C will have a positive return in a given month is 0.70. The probability Stock D will have a positive return in the same month is 0.60. However, if Stock C has a positive return, the probability Stock D will also have a positive return increase to 0.80.**

What is the conditional probability that Stock C will have a positive return given that Stock D has a positive return?

7. **Why are two people who witnessed the same event last month likely to describe it differently today?**

8. **How do gambling fallacy and clustering illusion relate to representativeness? Provide examples from sports. In what way are they different?**

- **Part Two: The Impact of Heuristics and Biases on Financial Decision-making**

1*. Differentiate the following terms/concepts:

a. Good company and good stock

b. Momentum-chaser and contrarian

c. International diversification and domestic diversification

d. Anchoring and herding

2*. In a regression of perceived long-term investment value (LTIV) on size (S), book to market (B/M), and management quality (MQ), the following coefficients (all significant) were estimated:

$$LTIV = -0.86 + 0.15\log(S) + -0.11\log(B/M) + 0.85MQ$$

Discuss what can be learned from this regression (which appears in Shefrin, H., and M. Statman, 1995, "Making sense of beta, size, and book-to-market," *Journal of Portfolio Management* 21 (no. 2), 26-34).

3. Home bias has a potential information-based explanation. Discuss

4*. In Canada there are two official languages, French and English. Some Canadian corporations are headquartered in Quebec where French is the official language. Most however are headquartered outside Quebec where English is dominant. Would you expect Quebecers to invest more in Quebec companies, and non-Quebecers to invest more in companies based outside Quebec? Also, do you think the first language of the CEO might matter in accounting for investor preferences? Explain.

5. Anchors are ubiquitous in financial markets. Give some examples.