FINM3407 - Behavioural Finance

Tutorial 5 Application to Managerial Overconfidence

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 16

- **Part One: Application to Managerial Overconfidence**

1*. Differentiate the following terms/concepts:

a. Payback and NPV:

Payback is how long it takes for an investment to return its outlay in cashflows without regard for time value. NPV properly takes into account time value by discounting all positive and negative cash flows and summing them up. A positive-NPV project, since it adds value, should be adopted.

b. Holding in-the-money options too long and engaging in frequent acquisitions:

These are both proxies for managerial overconfidence. Overconfident managers, thinking that their firms will perform well in the future, are happy to expose themselves to own-firm-specific risk even when diversification gains are available. CEOs often receive stock and option grants as compensation. This is done so that shareholders' and managers' interests are aligned. While there are limitations as to when options can be exercised, at some point managers do have the ability to exercise them.

One metric that can be used for overconfidence is the tendency to voluntarily hold a large number of in-the-money options (that optimally from the standpoint of diversification gains should be exercised but that are still being held).

A second metric that has been used for overconfidence in managers is engaging in frequent acquisitions. The argument is that only egregiously overconfident managers engage in a spate of deals within a short period of time.

c. Random treatment and self-selection treatment in Camerer and Lovallo experiment:

In the Camerer and Lovallo experiment in one treatment individuals knew that payoffs would be a function of skill. Those volunteering to participate were thus self-selecting into this treatment vs. the random treatment where no information was given before the fact.

d. Risk aversion and overconfidence in debt issuance:

These two factors are likely to create conflicting effects when it comes to debt issuance. In one model otherwise rational managers are not only excessively optimistic about their firm's prospects but also overly sure about their views. This model suggests that managerial overconfidence is positively correlated with debt issuance, because optimism about future cashflows leads to a belief that there will be little problem in covering interest payments. Ironically, the natural tendency to shy away from debt because of job concerns (which is value-destroying because the benefits of debt are not exhausted) is counteracted by overconfidence.

2*. Investment activity is driven by both rational value-maximization and behavioral influences on the part of managers. Discuss.

Investments that are objectively a positive-NPV propositions are always wise. In this chapter it was suggested that overconfidence on the part of managers could also lead to investment. Survey evidence indicates that overconfident CEOs invest more. There is also evidence that the investment strategy of overconfident managers can be suboptimal, with overconfident managers being too quick to engage in acquisitions as well as being overly sensitive to the availability of free cashflows.

3*. In the Camerer and Lovallo experiment, let N=10 and c=2. Specify the number of entrants that maximizes industry profit. What will this industry profit be? Specify the number of entrants that minimizes industry profits. What will this industry profit be? What number of entrants leads to zero industry profits?

According to the equation 16.2 via Textbook:

Profit = \$50 * [(c + 1 – r)/(1 + 2 + … + c)]; where r = 1; 2; 3…c

*a total profit of \$50 is split between all entrants up to c=2. So at E=2, industry profit is maximized (at \$50). Additional entrants lose \$10. If everybody enters (E=10) industry profit is minimized. The first two entrants earn \$50 in aggregate and the next 8 lose \$10 each. The total industry profit is \$50 – (8 * -\$10) = -\$30. If only 7 enter, industry profit is zero, because \$50 – ((7-5) * -\$10) = \$0.*

4*. In the Camerer and Lovallo experiment, overconfidence leads to excessive entry into markets. Do you believe that if a prospective entrepreneur read this research, she would be more or less likely to undertake a start-up? Explain.

Not necessarily. An overconfident entrepreneur would think the research is about anybody but him/her. Consistent with this, in chapter 18, we present evidence that debiasing is a very difficult undertaking.

5*. You are a divisional manager. Currently you are a member of a committee which is considering two product investments proposed by two other divisional managers, Joe and John. While walking over to the presentations, Joe seems rather arrogant. He mentions that he golfs with the CEO, is a key player in the firm, and that you could really learn a lot from him. In thinking over the projects after the presentations, you find you are really leaning toward John's proposal even though the projects are quite similar in terms of estimated cashflows and risks. How can you explain this?

Your affective assessment of Joe is negative. He has projected a poor image that is your marker. See Kida, T. E., K. K. Moreno, and J. F. Smith, 2001, "The influence of affect on managers' capital-budgeting decisions," Contemporary Accounting Research 18: 477-494.

CFA Questions*

The following information related to CFA Question 1 - 7

Tiffany Jordan is a hedge fund manager with a history of outstanding performance. For the past 10 years, Jordan's fund has used an equity market neutral strategy (long/ short strategy that strives to eliminate market risk, i.e., beta should be zero) which has proved to be effective as a result of Jordan's hard work. An equity market neutral strategy normally generates large daily trading volume and shifts in individual security positions. Jordan's reputation has grown over the years as her fund has consistently beaten its benchmark. Employee turnover on Jordan's team has been high; she has a tendency to be quick to blame, and rarely gives credit to team members for success. During the past twelve months, her fund has been significantly underperforming against its benchmark.

One of Jordan's junior analysts, Jeremy Tang, is concerned about the underperformance and notes the following:

- Observation 1: Certain positions are significantly under water, have much higher risk profiles, and have been held for much longer than normal.
- Observation 2: The trading volume of the fund has decreased by more than 40 percent during the past year.
- Observation 3: The portfolio is more concentrated in a few sectors than in the past.

Tang is worried that the portfolio may be in violation of the fund's Investment Policy Statement (IPS). Tang brings this to Jordan's attention during a regular weekly team meeting. Jordan dismisses Tang's analysis and tells the team not to worry because she knows what she is doing. Jordan indicates that since she believes the pricing misalignment will correct itself, the portfolio will not be able to take advantage of the reversion to the mean if she sells certain losing positions. She reassures the team that this strategy has performed well in the past and that the markets will revert, and the fund's returns will return to normal levels.

Tang tactfully suggests that the team review the fund's IPS together, and Jordan interrupts him and reminds the team that she has memorized the IPS by heart. Tang contemplates his next step. He is concerned that Jordan is displaying behavioral biases which are affecting the fund's performance.

CFA Question 1:

By taking credit for successes but assigning blame for failures, Jordan is most likely demonstrating:

A. loss-aversion bias.

B. self-attribution bias.

C. illusion of knowledge bias.

B is correct. Self-attribution is a bias in which people take credit for successes and assign responsibilities for failure. Jordan attributes successful decisions to herself while poor decisions are attributed to the team. Her self-esteem affects how she looks at success and failure. Self-attribution and illusion of knowledge biases contribute to overconfidence bias, which Jordan clearly demonstrates later when she tells the team that she knows what she is doing.

CFA Question 2:

Which of Tang's observations is least likely to be the consequence of Jordan demonstrating loss-aversion bias?

A. Observation 1.

B. Observation 2.

C. Observation 3.

C is correct. Loss aversion by itself may cause a sector concentration; however, a market neutral strategy tends to focus on individual stocks without regard to the sector. The sector exposure would be mitigated with the balancing of the individual long and short positions.

CFA Question 3:

Which of Jordan's actions least supports that she may be affected by the illusion of control bias?

A. Her dismissal of Tang's analysis.

B. Her routine of holding weekly team meetings.

C. Her comment on market turnaround and current holdings.

B is correct. Holding weekly team meetings, which would indicate a willingness to listen to feedback from others, is not representative of the illusion of control bias. The illusion of control bias is one in which people believe they can control outcomes. Individuals exhibiting this bias display great certainty in their predictions of outcomes of chance events and ignore others' viewpoints. Jordan is sure that the market will turn around even though it is out of her control. She chooses not to listen to Tang who is questioning her viewpoint.

CFA Question 4:

How does Jordan most likely demonstrate loss-aversion bias?

A. Telling the team not to worry.

B. Reducing the portfolio turnover this year.

C. Deciding to hold the losing positions until they turn around.

C is correct. Jordan's behavior is a classic example of loss aversion: When a loss occurs, she holds on to these positions longer than warranted. By doing so, Jordan has accepted more risk in the portfolio. Loss-aversion bias is one in which people exhibit a strong preference to avoid losses versus achieving gains. One of the consequences of loss aversion bias is that the financial management professional (in this case, Jordan) may hold losing investments in the hope that they will return to break-even or better.

CFA Question 5:

Which of the following emotional biases has Jordan most likely exhibited?

A. Endowment.
B. Regret aversion.
C. Overconfidence.

C is correct. Jordan exhibits overconfidence in several ways. She ignores the analysis done by Tang. This may be because Jordan believes she is smarter and more informed than her team members, which is typical of an individual with an illusion of knowledge bias. The certainty she demonstrates that the market will revert is evidence of overconfidence. Her overconfidence is intensified by her self-attribution bias, which is demonstrated through her dealings with her team when she blames them for losses while taking credit for the gains. Finally, her portfolio's underperformance against the benchmark is a consequence of overconfidence bias.

CFA Question 6:

Which one of the following biases did Jordan not demonstrate?

A Self-attribution.

B Representativeness.

C Illusion of knowledge.

B is correct. Nowhere in the scenario did it mention that Jordan classified certain information into a personalized category. Representativeness bias is a cognitive bias in which people tend to classify new information based on past experiences and classifications. Jordan is not relating the certainty about the future or her decision to hold losing positions back to something she has done or experienced in the past.

CFA Question 7:

Which of Tang's findings is not a typical consequence of self-control bias?

A Failure to explore other portfolio opportunities.

B Asset allocation imbalance problems in the portfolio.

C A higher risk profile in the portfolio due to pursuit of higher returns.

A is correct. Failing to explore other opportunities is a demonstration of status quo bias, not self-control. Self-control bias occurs when individuals deviate from their long-term goals, in this case, the investment policy statement, due to a lack of self-discipline. Jordan is not adhering to the strategy which has been successful in the past. The consequences of self-control bias include accepting too much risk in the portfolio (C) and asset allocation imbalance problems (B) as Jordan attempts to generate higher returns.