Students' Anchoring Predisposition: An Illustration From Spring Training Baseball

Lawrence C. Mohrweis, Northern Arizona University, USA

ABSTRACT

The anchoring tendency results when decision makers anchor on initial values and then make final assessments that are adjusted insufficiently away from the initial values. The professional literature recognizes that auditors often risk falling into the judgment trap of anchoring and adjusting (Ranzilla et al., 2011). Students may also be unaware of the anchoring pitfall. This paper describes a brief case study that illustrates an innovative approach for auditing students to gain a better understanding of this judgmental trap. Using a simple baseball pricing exercise, students determined ticket selling prices for two Major League Baseball spring training games. Data for this study was collected from the public posting of baseball tickets listed for sale on an internet company called StubHub. The results showed that when students had sunk cost break-even information students tried to avoid losses and anchored on this information. Ranzilla et al. (2011) assert that awareness of when and how judgments can be biased is an important mitigating step to educating students regarding the anchoring and adjusting tendency.

Keywords: Anchoring and Adjusting; Decision Making; Audit Judgment Bias; Secondary Ticket Market

INTRODUCTION

Most accounting educators are familiar with the judgmental bias called anchoring and adjusting. The anchoring and adjustment bias "applies to situations in which an individual must arrive at a numerical estimate by starting from an initial value that is subsequently adjusted to arrive at the final estimated value" (Knapp & Knapp, 2012, p. 42). As explained in the eminent Tversky and Kahneman 1974 study, it is the tendency of decision makers to be unduly influenced by an initial numerical starting value.

While accounting educators tend to be highly knowledgeable of this bias, the impact that an initial numerical starting value can have on a judgment is something that may come as a surprise to students. As accounting students develop into professional auditors, it is critical that they develop the skills needed to make highly qualified professional judgments. To formulate sound decisions they need to be aware of the information processing pitfalls that can hinder good judgment. In the KPMG Professional Judgment monograph the anchoring and adjusting bias was highlighted as one of the common judgment traps.[1] The authors of the monograph, Ranzilla, et al. (2011), explain that the mindset behind good judgment begins to form at a young age. The authors assert that the skills and techniques to form useful judgments can be taught and improved with experience and practice.

This paper describes a very concise study that shows students how easy it is for decision makers to fall into the judgmental trap of anchoring and adjusting. The goal was to have students engaged in a 'hands-on" activity in decision making and then to use the aggregated results to illustrate to students the enormous impact that anchoring and adjusting had on their judgments. Students determined ticket selling prices for two spring training games using real pricing data from the secondary ticket market. These games included: (1) Kansas City Royals versus the Texas Rangers and (2) San Francisco Giants versus the Texas Rangers. Data for this study was collected from the public posting of baseball tickets listed for sale on StubHub. StubHub is an online marketplace for the resale of event tickets and it is owned by EBay. The games were played at Surprise Stadium in Arizona. The stadium is located in the city of Surprise, Arizona, which is suburb of Phoenix situated about 45 minutes northwest of downtown

[1] KPMG Professional Judgment monograph is free to accounting educators. See The KPMG judgment framework, www.kpmgfacultyportal.com.

Phoenix. Surprise Stadium was built in 2002 on the former site of a World War II pilot training field and it cost $48.3 million to build. The stadium is home to the Texas Rangers baseball team. Fifteen Major League Baseball (MLB) teams play their spring training games in the "Cactus League."[2] The stadium was built to be family-friendly and even boasts a free merry-go-round carousel for kids.

METHOD

Students were provided with a short instrument which required them to list a price for a pair of tickets to two spring training baseball games involving the Texas Rangers. While the cost of the tickets was the same for both games, in one case the game was against a team that typically draws a small crowd, the Kansas City Royals. In the other case, the game was against a team that typically attracts a large crowd, the San Francisco Giants. Historically, overall attendance at Cactus League spring training games for the San Francisco Giants at their spring training facility in Arizona averages well over ten thousand fans, whereas attendance tends to be half that amount for the Kansas City Royals.

The break-even cost of each ticket was $20. However, ticket market prices for sporting events are linked to supply and demand. Teams that have a strong fan base tend to draw large crowds, which then impact prices on the secondary ticket market. Baseball tickets tend to react like time-sensitive stock options.[3] Sellers of perishable goods, such as baseball tickets, have to sell their inventory within a fixed time horizon (Sweeting, 2012).

The instruments given to students involved pricing tickets for three baseball games. The first section consisted of an illustration showing how to price tickets using a baseball game in which the Los Angeles Angels of Anaheim played the Texas Rangers. The next two sections asked students to price their tickets for a Kansas City Royals game and a San Francisco Giants game, respectively. Appendix A shows a copy of the instrument. What was special about the instrument was that all the data was real data. None of it was made up.[4] The seats for sale listed on the instruments included only lower dugout seats. In examining Appendix A, observe that there were some sellers asking just $15 for their tickets while other sellers were asking $35 for their seats to a Los Angeles Angels spring training game.

The key variable that was manipulated on the instruments was the break-even cost data. On the "treatment" instrument this data was clearly stated:

- The tickets cost you $17 per ticket. After commission charges the "break-even" point is $20. You make money at a price above $20 per ticket.
- The break-even point is $20.

On the other "control" instrument, all of the above references to break-even points and the cost of the tickets were deleted. The instrument shown in Appendix A is the "treatment" instrument. The expected hypotheses, stated in the alternative form, were as follows:

H_1: When tickets are selling at a discount, participants given break-even cost information will anchor on this information and will price their tickets higher than those without this information.

H_2: When tickets are selling at a premium, participants given break-even cost information will anchor on this information and price their tickets lower than those without this information.

[2] Spring training games for MLB teams are held in late February to early April in either Florida or Arizona. The "Cactus League" in Arizona consists of the Arizona Diamondbacks, Chicago Cubs, Chicago White Sox, Cincinnati Reds, Cleveland Indians, Colorado Rockies, Kansas City Royals, Los Angeles Angels of Anaheim, Los Angeles Dodgers, Milwaukee Brewers, Oakland Athletics, San Diego Padres, San Francisco Giants, Seattle Mariners and the Texas Rangers. The "Grapefruit League" in Florida consists of the Atlanta Braves, Baltimore Orioles, Boston Red Sox, Detroit Tigers, Houston Astros, Miami Marlins, Minnesota Twins, New York Mets, New York Yankees, Philadelphia Phillies, Pittsburgh Pirates, St. Louis Cardinals, Tampa Bay Rays, Toronto Blue Jays and the Washington Nationals.

[3] Happel & Jennings (2002) describe the secondary ticket market as having characteristics similar to call options. They claim that the printed value on a ticket is similar to placing a par value on common stock and that it is simply a starting point that provides a legal measure of what is "fair" or "equitable." Like a call option, the holder of a ticket has the right, but not the obligation, to occupy (or call in) a certain seat over a certain period of time.

[4] It may be interesting to note that the tickets for sale, as described in the instrument in Appendix A (row D, section 105), were the author's personal spring training tickets. Students, however, were not informed of this fact.

The experiment was conducted at a major southwest AACSB-accredited University. The experimental forms were distributed on a random basis to 76 students in two senior-level auditing classes.[5] Students were instructed not to put their names on the paper; this was an anonymous survey. Thirty-eight students made up the control group and received the experimental package without the cost data. Another 38 students served as the treatment group with the cost data. The questionnaires were printed on white paper and looked similar. It was virtually impossible to tell the difference between the two questionnaires.

RESULTS

The average price that students formulated without cost data for the Kansas City Royals vs. Texas Rangers game was \$14.99, but with cost data the mean was \$18.59 ($p = 0.0043$), which supports hypothesis H_1. For the San Francisco Giants vs. the Texas Rangers game, the average price that students formulated without cost data was \$134.86, but with cost data the mean was \$131.18 ($p = 0.1870$, hypothesis H_2 not supported).

In order to substantiate that the findings were robust, the experiment was repeated in another semester with M.B.A. students. In discussing the capabilities of M.B.A. students, McAnally (2013, p. 321) writes that "M.B.A. students are more mature than the average undergraduate" and that graduate students are "better able to engage in higher order thinking skills." Nineteen graduate students participated in the experiment; nine were in the treatment group and 10 were in the control group. With the M.B.A. students the average price that students formulated without cost data for the Royals vs. Rangers game was \$13, but with cost data the mean was \$16.60 ($p = 0.0254$). Consistent with their undergraduate counterparts, graduate students reported no significant differences in the mean prices for the high-priced Giants vs. Rangers game scenario.

CONCLUSION

In summary, hypothesis H_1 which dealt with a discounted price was supported. Hypothesis H_2 which dealt with a premium price was not supported. As stated by Trotman (2011, p. 205), experiments should not only *show an effect* but also explain *why* we get this effect. The effect found for H_1 was plainly caused by the anchoring and adjusting biases. However, the reason why no results were found for the premium game may be that accounting students tend to be more risk adverse than risk takers. In other words, when a gain was involved the students were indifferent to the numerical starting value, but when a loss was involved students were less likely to adjust downwards from the sunk cost break-even point since they wanted to avoid a loss.[6]

Since the purpose of the experiment was to illustrate to students the impact of anchoring and adjusting on decision making, the outcome of the experiment was shared with the students during the next class period. Students were surprised that their classmates with cost data had selected, on average, a significantly higher price for the Kansas City Royals game.

Research continues to show that interactively engaging students has a significant impact on learning (Munro, 2011). Having students actively engaged in formulating pricing decisions, and then showing them how their results compared to their other classmates, brought home an appreciation of how powerful the anchoring and adjusting biases can be. For accounting educators this activity provides a platform to begin the process of explaining judgmental biases in auditing.[7] The exercise can be a starting point for launching into the KPMG Professional Judgment monograph.

[5] Actually 78 students participated in the experiment. However two participants, one in the treatment group and another student in the control group, provided unrealistic frivolous answers. Their responses were deleted from the data.

[6] The secondary ticket market listed prices four to five times above the break-even point for the Giants/Rangers game. The high prices for this game may be another possible explanation for why H_2 was not significant. Prices were so high (\$107 to \$155) that the "anchoring" point of \$20 may have become no longer applicable to the decision making process.

[7] Real-world information from the secondary ticket market is available for all sports. To make this practice case more relevant ticket prices could be obtained for local sports teams. For example, accounting educators residing in Florida could use StubHub data from Miami Heat basketball games or educators from Illinois could use data from the Chicago Blackhawk hockey games.

AUTHOR INFORMATION

Lawrence C. Mohrweis is a Professor of Accounting at The W. A. Franke College of Business at Northern Arizona University. E-mail: Lawrence.Mohrweis@nau.edu

REFERENCES

1. Happel, S., & Jennings, M. (2002). Creating a futures market for major event tickets: problems and prospects. *Cato Journal*, 21, 443-461.
2. Knapp, M., & Knapp, C. (2012). Cognitive biases in audit engagements: Errors in judgment and strategies for prevention. *The CPA Journal*, (June 2012), 40-45.
3. McAnally, M. L. (2013). Special section on teaching accounting in M.B.A. programs. *Issues in Accounting Education, 28*(2), 321-322.
4. Munro, M. (2011). New teaching techniques earn top marks for boosting scores. *Postmedia News* (May 12).
5. Ranzilla, S., Chevalier, R., Herrmann, G., Glover, S., & Prawitt, D. (2011). *Elevating professional judgment in auditing and accounting*. The KPMG judgment framework.
6. Sweeting, T. (2012). Dynamic pricing behavior in perishable goods markets: Evidence from secondary markets for major league baseball tickets. *Journal of Political Economy, 120*(6), 1133-1172.
7. Trotman, K. T. (2011). A different personal perspective through the behavioral accounting literature. *Behavioral Research in Accounting, 23*(1), 203-208.
8. Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science, 185*, 1124-1131.

APPENDIX A

Pricing Spring Training Tickets

Do not put your name on this paper. This is an anonymous questionnaire.

In this experiment you will be asked to price tickets to sell on an internet web site. There is no right or wrong answers. You have two tickets to the following two spring training baseball games located in Surprise, Arizona (a city located in a northwest suburb of Phoenix). The games are (1) Kansas City Royals versus the Texas Rangers and (2) San Francisco Giants versus the Texas Rangers.

High priced tickets will not sell. If you price your tickets too low you may end up giving up potential profits (or even lose money). The tickets cost you **$17** per ticket. After commission charges the "break-even" point is **$20**. Your tickets are in **row D, section 105**. You make money at a price above $20 per ticket. What price would you set per ticket? ***If you price your ticket too high your tickets are unlikely to sell***. Below is a map of the stadium:

Ticket Price	Section	Row	Seats
$15	109	F	6
$20	110	F	4
$20	103	U	10
$24	110	E	7
$25	110	G	2
$34	105	D	4
Total Number of Tickets			33

⇦ **EXAMPLE:** For the baseball game against the **Los Angeles Angels** six other fans have listed their tickets for sale. The chart on the left shows the Los Angeles Angles versus Texas Rangers ticket listing. ***If you price your ticket too high your tickets are unlikely to sell.*** The break-even point is **$20**.

EXAMPLE - Assume you price your tickets at $22. Then write the following in the blank space:

The price, per ticket, that you will list your tickets: $ 22.00

Below is a map of the stadium:

Ticket Price	Section	Row	Seats
$9	105	E	2
$9	109	D	2
$9	111	D	2
$12	109	F	4
$12	109	E	2
$16	112	G	8
$20	107	D	12
Total Number of Tickets			34

⇦ For the baseball game against the **Kansas City Royals** seven other fans have listed their tickets for sale. The chart on the left shows the Kansas City Royals versus Texas Rangers ticket listing. ***If you price your ticket too high your tickets are unlikely to sell.*** The break-even point is **$20**.

The price, per ticket, that you will list your tickets: _____

Below is a map of the stadium:

Ticket Price	Section	Row	Seats
$107	110	J	2
$114	110	H	2
$114	112	P	2
$125	103	L	2
$125	101	P	2
$136	112	N	4
$136	109	M	2
$136	107	Q	2
$148	111	H	4
$148	110	H	4
$155	112	G	8
Total Number of Tickets			34

⇦ For the baseball game against the **San Francisco Giants** eleven other fans have listed their tickets for sale. The chart on the left shows the San Francisco Giants versus Texas Rangers ticket listing. ***If you price your ticket too high your tickets are unlikely to sell.*** The break-even point is **$20**.

The price, per ticket, that you will list your tickets: _____

NOTES