

MGT 4803-TSO/8803-TSI

Behavioral Economics

Spring 2015

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Course Homepage: <http://t-square.gatech.edu>

Time and Location: Tues & Thurs, 12:05pm-1:25pm, Scheller College of Business, Room 203

Office hours: Tuesdays, 1:30-2:30 or by appointment, Room 4422 (above auditorium)

Behavioral economics enriches traditional economics by providing it with more realistic psychological foundations. In the course, we study some of the most robust and important findings of the field, and examine their implications for individual decision making, marketing, finance, and management. The course material can be interpreted as serving two goals simultaneously: 1) recognizing the systematic mistakes you (and all of us) make, and 2) using the tools of behavioral economics to solve firm problems.

Required Text: Bazerman, Max, and Don Moore (2012): *Judgment in Managerial Decision Making*, 8th Edition.

Learning Objectives and Outcomes

- To develop an understanding of how psychology has informed and enriched economics, especially over the last 20 years.
- To be able to identify and correct common errors we make in individual decision making, in both our personal and professional lives.
- To be able to apply the tools of behavioral economics in multiple professional spheres, including finance, strategy, marketing, and public policy

Course Requirements and Grading

Your grade in this class is based on two components: a series of short papers, a mid-term, and a final exam. Class participation will be used to make decisions in close cases.

1. Short Essays. Each Thursday from January 22 to April 9 (except February 5 and March 19), a writing assignment will be posted the course website. The assignments, which

each have a strict 600-word limit, are due at the beginning of class the following Tuesday. Of the ten assignments posted, you are required to hand in five. However, you may hand in more than five if they wish; the grade will be the average of the best five papers. Papers cannot be handed in late. These papers will count for 40% of the grade.

2. **Mid-Term exam.** An in-class exam will be held on Thursday February 5. This exam accounts for 20% of the grade.
3. **Final Exam.** On the 14th April, everyone must submit three exam questions suitable for use in an all essay, in-class, closed-book exam (please submit electronically). The best of these will be compiled and distributed in class on the 21st April. Expect to receive a list of about 50 potential exam questions. The final will consist of a subset of these questions with some choice, e.g., answer 4 of these 6 questions. The final exam will be held during its allotted time during exam week. The questions you submit account for 10% of your grade. The final exam counts for 30% of the grade.

Communication. I will use both T-square and the class group email distribution list to post information. If you do not use your Georgia Tech email, I suggest that you arrange to have your GT mail forwarded to an account that you do check often.

Academic Honesty/Honor code. The instructor and students of this class, as members of the Georgia Tech Community, are bound by the Georgia Tech Academic Honor Code. The full text of the honor code may be found at <http://honor.gatech.edu>.

Disability Accommodations. Any student requiring accommodations as a result of a disability should contact the Office of Disability Services (<http://www.adapts.gatech.edu>). The Disability Services staff will work with you to arrange for appropriate accommodations.

1. Introduction

1.1 Class organization (Tuesday, January 6)

Our first meeting opens with a survey/quiz. I will make some implausible predictions about how you will answer them.

Lambert, Craig (2006): "The marketplace of perceptions." *Harvard Magazine*, March-April.

1.2 Homo economicus and the behavioral critique (Thursday, January 8)

"Political Economy presuppose[s] an arbitrary definition of man, as a being who invariably does that by which he may obtain the greatest amount of necessities, conveniences, and luxuries, with the smallest quantity of labour and physical self-denial with which they can be obtained in the existing state of knowledge. . . . Political Economy, therefore, reasons from assumed premises—from premises which might be totally without foundation in fact.

John Stuart Mill, Essays on Some Unsettled Questions of Political Economy. V.46

In the second class of our introduction, we take a closer look at what might be called the "standard model." What are the main assumptions of the standard model and what are the main tenets with which behavioral economists find fault? We will attempt to develop a clear distinction in the standard model between its essential axioms and its common assump-

tions. We will also attempt to classify behavioral criticisms into those that call into question the validity of the essential axioms and those that merely require changes in the common assumptions.

Readings

Mullainathan, Sendhil, and Richard H. Thaler.(2000): “Behavioral economics.” Working paper no. 7948. National Bureau of Economic Research.

Stefan Schneider (2010): “Homo economicus? or more like Homer Simpson?” *Deutsche Bank Research*, June 29

2. Overconfidence (Tuesday, January 13; Thursday, January 15)

“Overconfidence may be the mother of all biases . . . [it] has been blamed for wars, stock market bubbles, strikes, unnecessary lawsuits, high rates of entrepreneurial bankruptcy, and the failure of corporate mergers and acquisitions. It could also explain the excessively high rate of trading in the stock market.”

Bazerman and Moore p. 14

“No problem in judgment and decision making is more prevalent and more potentially catastrophic than overconfidence.”

Plous, S. (1993) “The psychology of judgment and decision making”, p. 217

In this section we begin by defining different types of overconfidence and the behaviors they induce. We then turn to evidence documenting just how widespread and deep-seated overconfidence is. Next, we look at the impacts of overconfidence on economic and financial performance in various settings, including business creation, mergers and acquisitions, and financial trading. Finally, we consider some ways in which overconfidence can be managed.

Readings

Bazerman, Max, and Don Moore (2012): *Judgment in Managerial Decision Making*, 8th Edition. Chapter 2.

Lovaglio, Dan and Daniel Kahneman (2003): “Delusions of Success: How Optimism Undermines Executives’ Decisions” *Harvard Business Review*, 2003, 57 – 63.

Russo, J. Edward, and Paul Schoemaker (1992): “Managing overconfidence.” *Sloan Management Review* 33(.):7-17.

3. Risk and uncertainty

The standard model of decision making under risk is expected utility theory (EUT), which we review in section 3.1. There is, however, ample evidence that people behave in ways that significantly diverge from the axioms of EUT and, as a result, a lot of work by behavioral economists has been focused on the way people make decisions in risky environments.

3.1 The standard model (Tuesday, January 20)

We review EUT, along with some “conventional” alternatives. Experimental evidence has revealed some systematic violations of EUT, the most famous of which are the Allais and Ellsberg paradoxes.

Readings

Wilkinson, Nick, and Matthias Klaes(2012): *An Introduction to Behavioral Economics*, 2nd edition. pp. 148-160.

3.2 Prospect theory (Thursday, January 22)

Prospect theory is the most successful and influential attempt to resolve the paradoxes of behavior revealed by experimental evidence. After reviewing the theory, we look for instances where using prospect theory rather than EUT really matters.

Readings

Experimental Economics Center at Georgia State (2006): “[An introduction to prospect theory](#)”

Kahneman, Daniel (2011): *Thinking, Fast and Slow*. Chapters 25 and 26.

Camerer, Colin (2000): “Prospect theory in the wild: Evidence from the field.” In D. Kahneman and A. Tversky (eds), *Choices, Values, and Frames*. New York: Cambridge University Press, pp. 288-300.

3.3 Learning and Bayes’ rule (Tuesday, January 27)

Suppose you hold some belief but accept that new evidence could cause you to change your mind. Bayes’ rule tells us the mathematically correct way to update our beliefs, and the standard model assumes that people behave as if they make use of Bayes’ rule. The problem is that few people do. There are two types of violations. First, people fail to use objective new information in a way that is consistent with Bayes’ rule. Second, people often seek out new information that is consistent with their beliefs, but then act as though this new information is objective. We review Bayes’ rule, discuss the violations and explore their consequences in a number of settings.

Readings

Salop, Steven C. (1987): “Evaluating uncertain evidence with Sir Thomas Bayes: A note for teachers,” *Journal of Economic Perspectives*, 1:155-60.

3.4 Availability (Thursday, January 29)

How do people form probability judgments? Tversky and Kahneman suggested that people attribute greater probabilities to events for which they find it easier to think of analogous examples. This mental short cut is known as the availability heuristic. In a related instance, it has also been suggested that people attribute greater consequences to an action when the consequences are easier to imagine. While the heuristic can be beneficial, it can also lead to some important biases.

Readings

Tversky, Amos, and Daniel Kahneman (1973): “Availability: A heuristic for judging frequency and probability.” *Cognitive Psychology*, 5(1):207-232.

3.5 Fads and information cascades (Tuesday, February 3)

"Men nearly always follow the tracks made by others and proceed in their affairs by imitation."

Nicolo Machiavelli (1514): *The Prince*.

"A society which gives unlimited freedom to the individual, more often than not attains a disconcerting sameness."

Eric Hoffer (1955): *The Passionate State of Mind*, aphorism 33.

Actions taken by one person may influence decisions made by others. In this section we distinguish between fashion and fads on the one hand, and the information that observed actions can convey to others. The latter case can induce information cascades, where people ignore their own private information about the desirability of an action and instead simply imitate those that have gone before them.

Readings

Lemieux, Pierre (2004): "Following the herd." *Regulation*, Winter, pp.16-21.

Bikhchandani, Sushil, David Hirshleifer and Ivo Welch (1998): "Learning from the behavior of others: Conformity, fads, and informational cascades." *Journal of Economic Perspectives*, 12(3):151-170.

First Exam: Thursday February 5

4. Intertemporal Choice

Just as with choice under risk and uncertainty, there is ample empirical and experimental evidence that the standard model of intertemporal choice is an inadequate explanation of behavior. We begin with a review of the standard model, and an evaluation of what it does and does not explain. We then consider one of the most popular behavioral extensions to the standard model - hyperbolic discounting – and look at the varied behaviors it can explain.

4.1 The standard model (Tuesday, February 10)

The standard model of intertemporal choice is the familiar one that writes the present value of a stream of benefits in the future as $PV = b_0 + b_1 / (1 + r) + b_2 / (1 + r)^2 + \dots$. This formulation makes several strong assumptions about preferences, some of which are clearly contradicted by empirical evidence.

Readings

Wilkinson, Nick, and Matthias Klaes (2012): *An Introduction to Behavioral Economics*, 2nd edition. Chapter 7.

Frederick, S., Loewenstein, G. & O'Donoghue, T. (2002). Time Discounting and Time Preference: A Critical Review. *Journal of Economic Literature*, 40(2), 351-401. (read sections 1-3).

4.2 Hyperbolic discounting and time-inconsistency (Thursday, February 12)

The hyperbolic discounting model involves a very simple rewrite of the present value model: " $PV = b_0 + \beta b_1 / (1 + r) + \beta b_2 / (1 + r)^2 + \dots$ ", where $0 < \beta < 1$. As we will see, this

simple mathematical change induces drastic changes in predicted behavior, much of which finds extensive empirical support.

Readings

Frederick, S., Loewenstein, G. & O'Donoghue, T. (2002). Time Discounting and Time Preference: A Critical Review. *Journal of Economic Literature*, 40(2), 351-401. (read sections 4.1 and 5.1).

Flipped classroom 1 (Tuesday, February 17): *Today we will work through some problems in class.*

5. Other Biases

5.1 Confirmation bias (Thursday, February 19)

The man who lies to himself and listens to his own lie comes to a point that he cannot distinguish the truth within him, or around him, and so loses all respect for himself and for others. And having no respect he ceases to love."

— Fyodor Dostoyevsky, *The Brothers Karamazov*

Confirmation bias is a tendency to search for or interpret information in a way that confirms one's preconceptions. We'll look at the implications of confirmation bias in a number of arenas, including prejudice, media bias, and disastrous product launches.

Readings

Nickerson, Raymond S. (1998): "Confirmation bias: A ubiquitous phenomenon in many guises." *Review of General Psychology*, 2(2):175-220.

5.2 Projection bias (Tuesday, February 24)

Projection bias is the tendency to overpredict the degree to which one's future tastes will resemble one's current tastes. For example, the choice to buy a convertible car, a 4-wheel drive, or a vehicle that is black in color is highly dependent on the weather at the time of purchase. Similarly, we find that the willingness to pay for a swimming pool and central air in a house is higher when the house goes under contract in the summer.

Readings

Lemieux Meghan R. Busse, Devin G. Pope, Jaren C. Pope, Jorge Silva-Risso (2012): "Projection bias in the car and housing markets." NBER Working Paper No. 18212.

5.3 Status-quo bias (Thursday, February 26)

Status-quo bias is an apparent preference for the current state of affairs over some alternative. Is this risk aversion (better the devil you know than the devil you don't know)? Is it that switching is objectively costly? Some examples suggest it is neither of these things, and that (i) simple policies can help people make better decisions; (ii) simple strategies can help firms extract profit from customers with this bias .

Readings

Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler (1991): "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias." *Journal of Economic Perspectives*, 5(1):193-206.

5.4 Framing and Mental Accounting (Tuesday, March 3)

Framing: Faced with a decision between two packages of ground beef, one labeled "80% lean," the other "20% fat," which would you choose? In this class, we study how the way choices are presented to people can dramatically alter their preferences. Mental Accounting: People often treat assets and liabilities held in different forms – even when the difference between those forms is superficial – as fundamentally distinct. For example, many investors artificially designate some of their wealth as safety capital which they invest in low-risk investments, while at the same time treating their "risk capital" quite differently.

Readings

Bazerman, Max, and Don Moore (2012): *Judgment in Managerial Decision Making*, 8th Edition, Chapter 5.

Tversky, Amos, and Daniel Kahneman (1981): "The Framing of Decisions and the Psychology of Choice." *Science*, 211(4481):453-458.

Thaler, Richard H. 1999. "Mental accounting matters." *Journal of Behavioral Decision Making*. 12:183–206.

6. Emotional influences on decision making

6.1 Sunk Costs and Escalation of Commitment (Thursday, March 5)

"I'm going to make you this promise: I'm not going to allow the sacrifice of 2,527 troops who have died in Iraq to be in vain by pulling out before the job is done."

President George Bush, Ft. Bragg, N.C, July 4, 2006.

Why do past sacrifices influence our ability to evaluate the desirability of future actions? An inability to ignore the shadow of sunk costs as we plan our next moves is a pervasive feature of decision making in almost every sphere of human activity.

Readings

Bazerman, Max, and Don Moore (2012): *Judgment in Managerial Decision Making*, 8th Edition, Chapter 7.

6.2 Fairness, reciprocity (Tuesday, March 10)

The standard economic model assumes that all people are exclusively motivated by their material self-interest. Over the last two decades, experimental economists have gathered overwhelming evidence that systematically refutes the self-interest hypothesis and suggests that many people are strongly motivated by concerns for fairness and reciprocity.

Readings

Bazerman, Max, and Don Moore (2012): *Judgment in Managerial Decision Making*, 8th Edition, Chapter 8.

Kahneman, D. J. Knetsch., and R. Thaler, "Fairness as a Constraint on Profit Seeking: Entitlements in the Market," *American Economic Review*, 1986, 728-741.

Flipped classroom 2 (Thursday, March 12): *Today we will work through some problems in class.*

Spring Break: (Thursday, March 16 - 20)

No Class on Tuesday, March 24.

6.3 Status (Thursday, March 26)

Standard theory typically holds that people are individualists – they care about their own well-being independently of the well-being of others. But in many cases, we are driven by considerations of status, which defines our well-being relative to the well-being of others. Status seeking behavior can induce inefficient levels of consumption, investments in education and wealth creation, among other ills.

Readings

Sundie, Jill M.; et al. (2011): "Peacocks, Porsches, and Thorstein Veblen: Conspicuous consumption as a sexual signaling system." *Journal of Personality and Social Psychology*, 100(4): 664-680.

7. Applications

In this section we look at some applications of behavioral economics in several major spheres. These last few sections will provide us with more opportunities to see the ideas developed so far in action.

7.1 Behavioral economics and organizations (Tuesday, March 31)

Readings

Heath, C; R. Larrick and J. Klayman (1998): "Cognitive repairs: How organizational practices can compensate for individual shortcomings" *Research in Organizational Behavior*, **20**:1-37

7.2 Behavioral economics and marketing (Thursday, April 2)

Readings

Ho, Teck H., Noah Lim, and Colin F. Camerer (2006): "Modeling the psychology of consumer and firm behavior with behavioral economics." *Journal of Marketing Research*, 43:307-331.

Johnson, Eric J. (2006): "Things that go bump in the mind: How behavioral economics could invigorate marketing." *Journal of Marketing Research*, 43(3):337-340.

7.3 Behavioral economics and finance (Tuesday, April 7)

Just about every cognitive bias and failure is on display in the way in which individuals save and invest. We look at some of the most important examples here.

Readings

Bazerman, Max, and Don Moore (2012): *Judgment in Managerial Decision Making*, 8th Edition. Chapter 9.

Heidhues, Paul and Botond Koszegi (2010): "Exploiting naïveté about self-control in the credit market." *American Economic Review*, **100**(5):2279-2303.

Thaler, Richard and Shlomo Benartzi (2004): "Save more tomorrow: Using behavioral economics to increase employee saving." *Journal of Political Economy*, **112**(1):S164-187.

7.4 Behavioral economics and public policy (Thursday, April 9)

In 2008, Richard Thaler and Cass Sunstein published Nudge, a best-seller that showed numerous ways in which insights from behavioral economics can be used to enhance public policy. Subsequently, Sunstein was recruited by the White House. Thaler has been advising policymakers in several countries, most notably Britain, where Prime Minister David Cameron established the Behavioural Insights Team.

Readings

_____ (2012): "Nudge nudge, think think. The use of behavioural economics in public policy shows promise." *The Economist*, Mar 24th.

Behavioural Insights Team (2011): "Applying behavioural insights to reduce fraud, error and debt." London: UK Cabinet Office

Behavioural Insights Team (2011): "Behaviour change and energy use." London: UK Cabinet Office.

8. Wrap-Up

8.1 Improving decision making (Tuesday, April 14)

The course wrap-up includes a review of common departures from "rational" decision making, with a focus on steps we can personally take to avoid some of the negative consequences of our cognitive failings.

Readings

Carter, John, and Michael Irons (1991): "Are economists different, and if so, why?" *Journal of Economic Perspectives*, 5(2):171-177.

Bazerman, Max, and Don Moore (2012): *Judgment in Managerial Decision Making*, 8th Edition Chapter 12.

8.2 The Limitations of behavioral economics (Thursday, April 16)

We began the semester with a critique of homo economics and "standard" economics. It is, therefore appropriate to conclude with a critique of the behavioral economics "revolution."

Readings

Carter, John, and Michael Irons (1991): "Are economists different, and if so, why?" *Journal of Economic Perspectives*, 5(2):171-177.

9. Final Week Review

Flipped classroom 3 (Tuesday, April 21): *Today we will work through some problems in class.*

Flipped classroom 4 (Thursday, April 23): *Today we will work through some problems in class.*