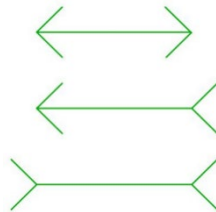


COURSE CONTENT

Course Coordinator	Yohanes Eko Riyanto
Course Code	HE4040
Course Title	Behavioral Economics
Pre-requisites	HE2001 Microeconomics II/ HE2002 Macroeconomics II/ HE9092 Economic Theory/ HE5092 Economic Theory
No of AUs	4
Contact Hours	52 hours (4 hours Seminar per week)

Course Aims



The above figure depicts the Moller Franz illusion. The lengths of the three lateral lines above appear to be different, although they are of the same length. The cognitive function of our brain tricks us into thinking that they are different. Behavioral Economics studies how psychological limitations influence economic decision makings. In particular, it focuses on how adding important and more realistic human psychological attributes, which include:

1. **Bounded rationality**; Why people sometimes make seemingly irrational decisions such as taking more risks when they experience losses and being more risk-averse when they experience gains?
2. **Bounded willpower**; Why people often have difficulties in carrying out activities and actions that they had already earlier planned? For example, often, people desire to save more for retirement but unable to commit to doing so because they face the temptation to spend their money now.
3. **Bounded self-interest**; Why are people not entirely selfish as assumed in the standard economics analysis? They often are willing to sacrifice their monetary payoffs to uphold fairness and (or) to help unfortunate others. Thus, economics agents are not solely motivated by individual utility maximization.

All these attributes can have profound impacts on the predictions of the standard economic models and the way we craft economic and social policies.

Intended Learning Outcomes (ILO)

By the end of this course, you (as a student) would be able to:

1. Describe how psychological limitations (e.g., limited cognition, bounded rationality, limited attention, mental states, etc.) influence economic decision makings.
2. provide a holistic account of how Behavioral Economics situates within the universe of the Economics discipline.
3. Apply insights from Behavioral Economics to hypothesize the relative impact of various public policies.
4. work in a small group team to propose carefully thought Behavioral Economics based policies aimed at addressing significant social and (or) economic issues.
5. Present the above-proposed policies and defend their feasibility with solid scientifically-backed arguments.

Course Content

- Introduction to Behavioral Economics
- Prospect Theory, Reference-Dependent Preferences, Endowment Effect, and Loss Aversion
- Heuristics and Biases: Representativeness, Availability, and Anchoring
- Framing, Mental Accounting, Reversal of Preference and Money Illusion
- Present-Biased Preferences and Intertemporal Choice
- Behavioral Game Theory I: Dictator Game, Ultimatum Game, Trust Game, Prisoner's Dilemma, and Public Good Game
- Fairness and Social Preferences
- Behavioral Game Theory II: Mixed Strategies, Iterated and Dominance Solvable Games, Learning

Assessment (includes both continuous and summative assessment)

1. Continuous Assessment	:	50%
2. Final Exam	:	50%
Total	:	100%

Reading and References

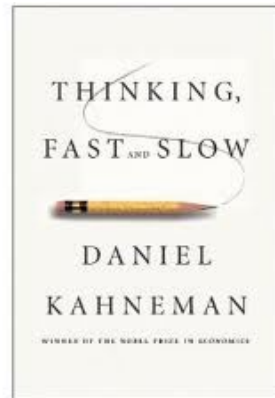
The Materials

I will add more materials and readings from recent journal articles, and whenever possible, some real-examples of applications as the course progresses. This syllabus is meant only for guidelines; the actual contents may change as the course progresses. The reading-materials listed here are the limitations readings only, in the lecture notes I include many more materials from other sources.

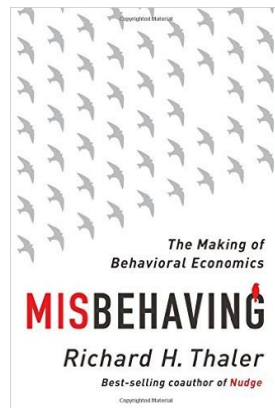
Use the lecture notes as the main point of entry when studying for the course, and I encourage you to go search for the readings and other relevant materials yourself to enrich your knowledge and to understand the materials better. A pro-active strategy is recommended. Remember that ...” *Every truth has four corners: as a teacher, I give you one corner, and it is for you to find the other three.* (Confucius)”.

There are two recent books I would like to recommend you to read actively. They would also be excellent reference books you might want to have for your own personal library.

1. Daniel Kahneman (Princeton University), one of the founding fathers of behavioral economics, "*Thinking Fast and Slow*." He won the Nobel Prize in Economics in 2002, together with Vernon Smith, the 'father' of Experimental Economics.



2. Richard Thaler (University of Chicago), *Misbehaving: The Making of Behavioral Economics*. Richard Thaler is responsible for introducing Behavioral Economics to the policy-making, and he was awarded the Nobel Prize in Economic Sciences in 2017.



Additional Readings

1. Introduction to Behavioral Economics

- Camerer, Colin, and George Loewenstein (2004), "Behavioral Economics: Past, Present, Future," in *Advances in Behavioral Economics*, Camerer, Colin, George Loewenstein, and Matthew Rabin (editors), New Jersey: Princeton University Press, pp.3-52
- Della Vigna, Stefano (2009), "Psychology and Economics," *Journal of Economic Literature*, 36(1): 11-46
- Loewenstein, George, (2007), "Experimental Economics from the Vantage Point of Behavioral Economics," in G. Loewenstein, ed., *Exotic Preferences: Behavioral Economics and Human Motivation*, Oxford University Press.

- On, Amir et al. (2005), "Psychology, Behavioral Economics, and Public Policy," *Marketing Letters*, 16(3-4), 443-454.
- Rabin, Matthew (1998), "Psychology and Economics", *Journal of Economic Literature*, 36:11-46
- Thaler, Richard (1999), "Mental Accounting Matters", *Journal of Behavioral Decision Making*, 12:183-206
- Thaler, Richard, and Cass Sunstein, (2008), *Nudge: Improving Decisions About Health, Wealth, and Happiness*, Yale University Press. Introduction, pp 1-14

2. Prospect Theory, Reference-Dependent Preferences, Endowment Effect, and Loss Aversion

- Thaler, Richard (2015), *Misbehaving: The Making of Behavioral Economics*, London: Allan Lane: Penguin Books.
- Kahneman, Daniel (2011), *Thinking Fast and Slow*, New York: Farrar, Straus and Giroux.
- Kahneman, Daniel, and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica*, 1977, Vol.47, p.263-291
- Kahneman, Daniel, Jack L Knetsch and Richard Thaler (1991), "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias," *Journal of Economic Perspectives*, Vol.5, No.1: 193-206.
- Knetsch, Jack L. (1989), "The Endowment Effect and Evidence of nonreversible Indifference Curve," *American Economic Review*, Vol.79, No.5, 1277-1284.

3. Heuristics and Biases: Representativeness, Availability, and Anchoring

- Thaler, Richard (2015), *Misbehaving: The Making of Behavioral Economics*, London: Allan Lane: Penguin Books.
- Kahneman, Daniel (2011), *Thinking Fast and Slow*, New York: Farrar, Straus and Giroux.
- Tversky, Amos and Daniel Kahneman (1974), "Judgment under Uncertainty: Heuristics and Biases," *Science*, Vol.185 (4157): 1124-1131.
- Tversky, Amos and Daniel Kahneman (1984), "Extensional versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgment," *Psychological Review*, Vol.91: 293-315.
- Kahneman, Daniel, and Shane Frederick (2002), "Representativeness Revisited: Attribute Substitution in Intuitive Judgments," in *Heuristics and Biases: The Psychology of Intuitive Judgment* (eds: Thomas Gilovich, Dale Griffin, and Daniel Kahneman), Cambridge University Press – Cambridge UK, pp. 49-81.
- Gilovich, Thomas, Robert Vallone, and Amos Tversky (1985), "The Hot Hand in Basketball: On the Misperception of Random Sequences," *Cognitive Psychology*, Vol.17: 295-314.

4. Framing, Mental Accounting, Reversal of Preference and Money Illusion

- Thaler, Richard (2015), *Misbehaving: The Making of Behavioral Economics*, London: Allan Lane: Penguin Books.
- Kahneman, Daniel (2011), *Thinking Fast and Slow*, New York: Farrar, Straus and Giroux.
- Thaler, Richard (1999), "Mental Accounting Matters," *Journal of Behavioral and Decision making*, Vol.12: 183-206.
- Tversky and Kahneman (1986), "Rational Choice and the Framing of Decisions," *Journal of Business*, Vol.59, No.4: 5251-5278.
- Ariely, Dan, George Loewenstein, and Drazen Prelec (2003), "Coherent arbitrariness: Stable Demand Curves without Stable Preferences," *Quarterly Journal of Economics*, Vol.118: 73-105.

- Shafir, Eldar, Peter Diamond and Amos Tversky (1997), "Money Illusion," Quarterly Journal of Economics, Vol.112, No.2: 341-374.

5. Present-Biased Preferences and Intertemporal Choice

- Thaler, Richard (2015), Misbehaving: The Making of Behavioral Economics, London: Allan Lane: Penguin Books.
- Kahneman, Daniel (2011), Thinking Fast and Slow, New York: Farrar, Straus and Giroux.
- Frederick, Shane, George Loewenstein, and Ted O'Donoghue (2001), "Time Discounting: A Critical Review," Journal of Economic Literature.
- O'Donoghue, Ted and Matthew Rabin (1999), "Choice and Procrastination," Quarterly Journal of Economics, Vol.116, 121-160.
- O'Donoghue, Ted and Matthew Rabin (2001), "Doing it Now or Later," American Economic Review, Vol.89(1): 103-124.
- Laibson, David (1997), "Golden Eggs and Hyperbolic Discounting," Quarterly Journal of Economics.
- Behavioral Game Theory I: Dictator Game, Ultimatum Game, Trust Game, Prisoner's Dilemma, and Public-Good Game
- Chaudhuri, Ananish (2009), Experiments in Economics: Playing Fair with Money, New York: Routledge (Chapters 2&3)
- Camerer, Colin (2003), Behavioral Game Theory, New Jersey: Princeton University Press (Chapters 1&2)

6. Fairness and Social Preferences

- Chaudhuri, Ananish (2009), Experiments in Economics: Playing Fair with Money, New York: Routledge (Chapters 2&3)
- Camerer, Colin (2003), Behavioral Game Theory, New Jersey: Princeton University Press (Chapters 1&2)

7. Behavioral Game Theory: Mixed Strategies, Iterated and Dominance Solvable Games, Learning

- Camerer, Colin (2003), Behavioral Game Theory, New Jersey: Princeton University Press (Chapter 6).

Course Instructors

Instructor	Office Location	Email
Yohanes Eko Riyanto	SHHK 05-56E	yeriyanto@ntu.edu.sg

Planned Weekly Schedule

Week	Topic	Course LO	Readings/ Activities
1	Introduction to Behavioral Economics	1,2	Lecture notes/ slides and additional readings on the topic of "Introduction to Behavioral Economics."
2	Introduction to Behavioral Economics	1,2	Lecture notes/ slides and additional readings on the topic of "Introduction to Behavioral Economics."
3	Prospect Theory and Reference Dependent Preferences: Basic Theories	3,4,5	Lecture notes/ slides will be provided, and additional readings on the topic of "Prospect Theory, Reference-Dependent Preferences, Endowment Effect, and Loss Aversion."
4	Prospect Theory and Reference Dependent Preferences: Some Examples of Applications	3,4,5	Lecture notes/ slides and additional readings on the topic of "Prospect Theory, Reference-Dependent Preferences, Endowment Effect, and Loss Aversion."
5	Heuristics and Biases I	3,4,5	Lecture notes/ slides and additional readings on the topic of "Heuristics and Biases: Representativeness, Availability, and Anchoring."
6	Heuristics and Biases II	3,4,5	Lecture notes/ slides and additional readings on the topic of "Heuristics and Biases: Representativeness, Availability, and Anchoring."
7	Mental Accounting and Money Illusion	3,4,5	Lecture notes/ slides and additional readings on the topic of "Framing, Mental Accounting, Reversal of Preference and Money Illusion."
Recess Week			
8	Intertemporal Preferences, Present-Biased Preferences, and Hyperbolic Discounting: Basic Theories	3,4,5	Lecture notes/ slides and additional readings on the topic of "Present-Biased Preferences and Intertemporal Choice."
9	Intertemporal Preferences, Present-Biased Preferences, and Hyperbolic Discounting: Applications	3,4,5	Lecture notes/ slides and additional readings on the topic of "Present-Biased Preferences and Intertemporal Choice."
10	Fairness and Social Preferences	3,4,5	Lecture notes/ slides and additional readings on the topic of "Fairness and Social Preferences."
11	Behavioral Game Theory	3,4,5	Lecture notes/ slides and additional readings on the topic of "Behavioral Game

			Theory: Mixed Strategies, Iterated and Dominance Solvable Games, Learning.”
12	Project 1 Presentation	4,5	Group presentations
13	The Nudge Project Presentation	4,5	Group presentations