# CHAPTER ONE

## BEHAVIORAL ECONOMICS

# DEFINITION #1

What is behavioral economics?

- Behavioral economics is about understanding
  - economic behavior and its consequences
  - why someone buys a hotdog, goes to work, saves for retirement, gives to charity, gets a qualification, sells an old car, gambles on a horse race, cannot quit smoking, etc.
  - whether people make good or bad choices, and could be helped to make better choices.
- Problem with this definion?
  - economists already have a fantastic model with which to try and understand economic behavior and its consequences

# Standard Economic Model

- The potential problem with this standard economic model is that it is based on some strong assumptions.
  - It assumes *people* can be approximated by a homo economicus
    - rational, calculating and selfish,
    - unlimited computational capacity,
    - never makes systematic mistakes …
  - It also assumes market *institutions* work
    - so, for instance, prices should converge, as if by magic, to equilibrium.
- There is no obvious reason for both of these assumptions (humans and institutions) should work.

That leads to second definition

# DEFINITION

- Behavioral economics is about
  - Testing the standard economic model on humans,
  - Seeing when it works and when it does not, and
  - Asking whether it can be tweaked, or given an overhaul, to better fit what we observe.

- Problem with this definion?
  - Surely economists have been testing the model all along!!!
  - The standard economic model is flexible enough that it can be manipulated to explain just about any anomaly we ever observe, and we somehow need to step out of this trap!!!

That leads to third and final definition

# DEFINITION #3

- BE is about applying insights from laboratory experiments, psychology, and other social sciences in economics.
  - The objective is definitely not to criticize the standard economic model, or accentuate the negatives.
  - Testing the standard model is a means to an end
    - That end is to understand economic behavior as best we can.
  - BE is about working constructively with the standard economic model to get a better understanding of economic behavior.
    - guided by the evidence on human behavior& psychology
  - It can tell us how to change the model to get a better fit with  reality.
  - We will replace homo economicus with homo sapiens.
- That is why behavioral economics is revolutionizing economics and our ability to understand economic behavior.

# THE HISTORY AND CONTROVERSIES OF BE

- BE has really come of age in the last 40 years or so.
- It is difficult to say when behavioral economics began
- Adam Smith ... The Theory of Moral Sentiments
  - *People are not motivated solely by self-interest, but also feel a natural sympathy with others*, and have a natural sense of virtue.
  - Smith talks about many things that in the last 30 years or so have become major issues in behavioral economics
    - importance of reward and punishment
    - influence of custom and fashion

# THE HISTORY AND CONTROVERSIES OF BE

- In 18th century, many believed that people's behavior could be modeled in completely rational, almost mathematical terms.
- Others felt that each human was born possessing an intrinsic moral compass, a source of influence superseding externalities like logic / law
- Adam Smith ... The Theory of Moral Sentiments
  - The prospect of "perfectly rational" economic decision making never entered into Smith's analysis.
  - Described the mental and emotional underpinnings of human interaction, including economic interaction.
- Jeremy Bentham (1748 – 1832) wrote extensively on the psychological aspects of economic utility.
  - "every action whatsoever" seeks to maximize utility.
  - Happiness, a subjective experience, is the ultimate human concern
  - Any economic calculation entirely devoid of emotion is impossible

# THE HISTORY AND CONTROVERSIES OF BE

- Smith, Bentham, and others recognized the role of psychological idiosyncrasies in economic behavior

- Psychology did go hand-in-hand with economics for a long time.
  - Early economists gave much weight to emotions, impulses, stimulus, morals and the like.

- Then...

# THE HISTORY AND CONTROVERSIES OF BE
## Neoclasssical Revolution

- By the 1870s, three famous economists began to introduce the revolutionary neoclassical framework.
  - William Stanley Jevons's Theory of Political Economy (1871),
  - Carl Menger's Principles of Economics (1871), and
  - Leon Walras's Elements of Pure Economics (1874-1877).
  - They defined economics as the study of the allocation of scarce resources among competing forces.

- Neoclassical economists
  - reframing their discipline as a quantitative science
  - distanced themselves from psychology
  - deduced explanations of economic behavior from assumptions regarding the nature of economic agents.

# THE HISTORY AND CONTROVERSIES OF BE
## Pareto Optimum

- At the beginning of the twentieth century, economics turned away from psychology.
- This shift was initiated by Pareto.
  - In 1897 Pareto writes: ‘Pure political economy has therefore a great interest in relying as little as possible on the domain of psychology’.
  - He claims as one of its main achievements that ‘every psychological analysis is eliminated’
  - ‘I am not interested in the *reason* why man is indifferent between [one thing and another]: I notice the pure and naked fact’.
  - This approach allowed Pareto, and subsequent economists, to abstract away from difficult psychological questions and develop a mathematical theory of rational choice.

# THE HISTORY AND CONTROVERSIES OF BE
## Homo Economicus

- “Homo economicus” or “rational economic man”
  - serve as a mathematical representation of an economic actor
  - based on the assumption that individuals make perfectly rational economic decisions
  - tries to achieve specified goals to the most comprehensive, consistent extent possible while minimizing economic costs.
  - REM’s choices are dictated by his utility function
  - ignores social values, unless adhering to them gives him pleasure
- REM idea ignores important aspects of human reasoning
- The validity of Homo economicus has been the subject of much debate since the model’s introduction.

# THE HISTORY AND CONTROVERSIES OF BE
## Bounded Rationality

- Veblen, Keynes, and many others criticize Homo economicus
  - No human can be fully informed of all circumstances and maximize his expected utility by determining his complete, reflexive, transitive, and continuous preferences over alternative bundles of consumption goods at all times.
- They posit, instead, "*bounded rationality*"
- Bounded rationality
  - relaxes the assumptions of standard expected utility theory in order to more realistically represent human economic decision making
  - assumes that individuals' choices are *rational but subject to limitations* of *knowledge* and *cognitive capacity*.

# THE HISTORY AND CONTROVERSIES OF BE

- To assume people are rational and selfish homo economicus is the most natural, objective place to begin thinking about modeling economic behavior.
- Many economists continue to derive ever more complicated and elaborate results based on the standard economic model.
- Are these results any better use in understanding what happens on planet Earth???
- ASSUMPTIONS
  - Realistic or not?
- We need behavioral economics

# THE HISTORY AND CONTROVERSIES OF BE
## Experimental Economics

- In the 1930s and 1950s, a number of important events laid the groundwork for the renaissance of behavioral economics.

- The growing field of experimental economics
  - examined theories of individual choice,
  - questioning the theoretical underpinnings of Homo economicus
  - Methodological difference between Neoclassics???

- Their important experiments brought to light new aspects of human economic decision making and drew intellectual attention to the field.

# THE HISTORY AND CONTROVERSIES OF BE
## Experimental Economics

- An experiment performed by Louis Leon Thurstone in 1931 on individuals' actual indifference curves.
  - Each subject was asked to make a large number of hypothetical choices between commodity bundles consisting of hats and coats, hats and shoes, or shoes and coats.

- Stephen Rousseas and Albert Hart (1940s)
  - performed some experiments on indifference curves designed to follow up on Thurstone's experiment
  - A more concrete and realistic choice situation by having subjects select among possible breakfast menus.

- Maurice Allais, Nobel Prize in Economic winner (1988),
  - His studies of risk theory and the so-called Allais paradox.

# THE HISTORY AND CONTROVERSIES OF BE

## Experimental Economics

- Vernon Smith (Nobel Prize in Economics in 2002 )
  - Starting in 1955 performed a series of experiments to see whether basic predictions of the standard economic model about markets would prove correct.

- Simon (1955) seriously questioned the sense of approximating people by homo economicus.
  - Recognizing the limitations faced by humans led to the term '*bounded rationality*.'
  - Simon won the Nobel Prize in Economics in 1978 for his research into the decision-making process within economic organizations'.

# THE HISTORY AND CONTROVERSIES OF BE
## Game Theory

- ‘What equilibrium to choose problem’.... Reinhard Selten
  - The problem became apparent with the rapid progress of game theory in the 1950s and 1960s.
  - There are multiple equilibria. Somehow we need to try and say which of the equilibria ‘makes more sense’
  - The structure of boundedly rational economic behavior cannot be invented in the armchair, it must be explored experimentally.
  - Selten won the Nobel Prize in Economics in 1994 together with John Nash
    - Don’t forget to watch ‘A Beautiful Mind’

# THE HISTORY AND CONTROVERSIES OF BE

- Daniel Kahneman and Amos Tversky
  - The theory was created in 1979 and developed in 1991
  - A psychologically more accurate description of decision making, compared to the expected utility theory
  - Demonstrate that people are very different to homo economicus.
  - Rational choices should satisfy some elementary requirements of consistency and coherence. People systematically violate the requirements of consistency and coherence.
  - The model tries to model real-life choices, rather than optimal decisions, as normative models do.
  - The paper "Prospect Theory: An Analysis of Decision under Risk" (1979) has been called a "seminal paper in behavioral economics".
  - Kahneman → Nobel Prize Winner in 2002

# THE HISTORY AND CONTROVERSIES OF BEHAVIORAL ECONOMICS

- Behavioral economist Richard Thaler wrote in 1990
  - ‘The problem seems to be that while economists have gotten increasingly sophisticated and clever, consumers have remained decidedly human’.
  - ‘I explained the difference between my models and Robert Barro’s by saying that he assumes the agents in his model are as smart as he is, while I portray people as being as dumb as I am’.
- Behavioral economics is reborn
  - From the 1960s onwards, psychology gradually did make a return to economics
- Psychology, experiments, game theory …
- Concurrently, two more intellectual disciplines were emerging that would contribute to the genesis of behavioral finance: cognitive psychology and decision theory.

# THE HISTORY AND CONTROVERSIES OF BEHAVIORAL ECONOMICS

## THE DIFFERENT FACES OF BEHAVIORAL ECONOMICS

- Experimental economics
  - Bounded rationality: the constraints people face, in terms of computational capacity, memory, information, time, and the like.
  - Simple heuristics that make us smart.
    - People use heuristics, or ‘rules of thumb’, to make decisions.
    - For example, Anna might use the same password whenever she is asked to give a password.
  - Heuristics, however, tend to come with biases, and sometimes it’s the bias that gets more of the headlines.
    - It can lead to a status quo bias in which a person fails to change her behavior ‘often enough’.
    - Such biases usually go by the name cognitive biases.
    - Cognitive biases are simplest to see in well designed experiments

# THE HISTORY AND CONTROVERSIES OF BEHAVIORAL ECONOMICS

- Behavioral finance
  - In principle, a subset of behavioral economics that deals with financial decision-making and financial behavior.
  - In reality behavioral finance has taken on something of a life of its own.
  - For example, validity of the efficient market hypothesis.
- Neuro-economics
  - Latest development in behavioral economics, and brings neuroscience to bear on economics

# THE HISTORY AND CONTROVERSIES OF BEHAVIORAL ECONOMICS

An interesting debate: Is it enough to assume people can be approximated by homo economicus, or do we need psychologically grounded assumptions?

- The methodology of positive economics, advocated by Friedman.
- He says a model and theory should be judged on its predictions and not its assumptions. A meaningful scientific hypothesis or theory typically asserts that certain forces are, and other forces are not, important in understanding a particular class of phenomena.... Such a theory cannot be tested by comparing its “assumptions” directly with “reality.”
- Complete “realism” is clearly unattainable, and the question whether a theory is realistic “enough” can be settled only by seeing whether it yields predictions that are good enough for the purpose in hand or that are better than predictions from alternative theories.

Source: Behavioral Economics, Edward Cartwright, 2011