

CHAPTER ONE II

GETTING REAL ABOUT THE ASSUMPTIONS

MODEL BUILDING AND TESTING

■ Model Building

- An economic model is a simplification of the world that is designed to help us better understand various aspects of the economy
- Economic models are built upon simplifying assumptions
- An economic model is supposed to be logically consistent
- No disagreement among conventional and behavioral economists

■ Testing a Model

- Models should be tested against the facts on the ground
- They are modified and even tossed into the trash if they fail
- Too often, this last step is not taken in conventional economics
- This is a source of much criticism from behavioral economists

UNDERSTANDING ECONOMIC EVENTS

Economics is about understanding economic events

- Criticism of conventional economists
 - Their focus is the mathematical building blocks of the research
 - What counts for them is whether the model is logically consistent with these assumptions, not whether the assumptions have any connection to the real world
 - Their economic theories are mathematically elegant and logically consistent but that have little connection to the real world

- Behavioral economists
 - The focus of the theory is to explain & understand economic events
 - They pay special attention to how the underlying **assumptions** help us to better understand the economy

ASSUMPTIONS

The key difference between behavioral and conventional approaches: Assumptions

- Simplifying assumptions is an indispensable part of model building, theory, and economic analysis → NO DEBATE
- In behavioral economics
 - The realism of assumptions matters are critical in building models
- In conventional economics
 - The realism of the assumptions doesn't matter
 - What matter most to a conventional economist are the predictions produced by the model
 - The test for a good model is whether it produces good predictions

PREDICTION!!!

- These predictions are not crystal-ball-type predictions
 - Economist Deirdre McCloskey:
‘If economists could predict the future, they would all be rich.
Economists are even worse than meteorologists at predicting future’.

- The type of predictions that economists make help explain economic events that have already occurred
 - Good theories are able to "predict" the price of oil yesterday using a particular model
 - Economists use a model to understand when and whether it's most likely that the price of oil will increase sometime in the future
 - And some of the likely effects this may have on the economy.

PREDICTION!!!

■ Conventional economists

- If the predictions work, it makes no difference what assumptions you make about human behavior or institutions.
- Replacing realistic assumptions with unrealistic assumptions that generate better predictions is just fine.
- The realism of your assumptions is of no consequence to the quality of the economic analysis.
- Friedman argues that efforts to build models using relatively realistic simplifying assumptions are "fundamentally wrong."
 - Classic example: the analogy of expert billiard players

■ Behavioral economics

- Economics is not only about prediction, but also about explaining economic events.
- The more realistic behavioral assumptions provide a superior, more truthful *explanation* of events.

EXAMPLE

- The standard conventional economics:
 - Minimum wage must produce more unemployment because it increases the cost of labor for a firm ????
- Nobel Laureate George Stigler of the University of Chicago
 - This bad economic consequence can be expected to take place because we make a very specific simplifying assumption
 - We assume that minimum wages can't and don't positively affect workers' and managers' incentive to work harder and smarter
 - If they did, minimum wages wouldn't necessarily have negative effects
- Research in recent years suggests that minimum wages often have the positive effect on efficiency

EXAMPLE

- Conventional economics tends to assume that all folks working in the firm are doing the best they can
- Following from this assumption,
 - Economic efficiency is a given
 - If there are problems with firm performance, it can't be located in the realm of inefficiency
 - This potential source of problems is simply assumed away
 - Door is closed, by assumption, to further economic investigation
- Other examples...
 - Ponzi Scheme
 - Efficiency

MATHEMATICS

- Math is a language that helps build precise and logical models.
 - These models can be done in plain English. So why math???
- Economics has become increasingly math oriented
- Many economic models are more concerned with the logic or core math fundamentals than with anything else.
 - Such models often introduce or change assumptions with little concern for the realism of the assumptions
 - What counts is the logic of the argument
 - Building a model on completely unrealistic behavioral assumptions is fair game
 - The problems posed don't need to have any real-world application
 - What matters here is that the math is technically correct
 - Reality is of secondary or even tertiary significance
 - Deirdre McCloskey refers to this as *blackboard economics*

MATHEMATICS

- For behavioral economics,
 - Math is of secondary importance
 - Math is simply one tool in the behavioral economist's toolbox
 - An elegant math-economics model that tells us little about economic reality is of little use
- What counts most of all is whether our assumptions and the models help us to better explain economic events.
 - Why some countries develop and others don't,
 - Why some people smoke and others don't,
 - Why some people save and others don't,
 - Why some families are large and others are small,
 -

SPURIOUS REGRESSION

- When economists don't pay much attention to the validity of the assumptions , they can easily fall victim to *spurious* correlations
- Spurious correlations are only statistical in nature, and there is no causal connection between the variables.
- High correlations are often spurious — they're only *suggestive* of causation.
- To appreciate that these correlations are spurious, you must have a solid grasp on the realities.

CONVENTIONAL ASSUMPTION #1:

People's preferences are stable and consistent

Conventional Approach

- Preferences are stable and won't change
 - If you prefer an orange to an apple, you won't suddenly prefer an apple to an orange
- Preferences are consistent
 - If you prefer an orange to a pear and you prefer a pear to an apple, you'll prefer an orange to an apple.

Behavioral economists

- Preferences are *not* always stable and consistent
 - Many people prefer not to save for retirement when they're young, but later many of these same people regret their decision
 - Their preferences flip toward increasing savings
- To allow for this type of behavior will produce higher-quality economic analysis, models and understanding

CONVENTIONAL ASSUMPTION #2:

People are solitary decision makers

- Conventional economists
 - Our preferences are not influenced by other people, social norms, or the media
 - Even past decisions aren't expected to influence current decisions
- Behavioral economists
 - People typically make decisions in a social, historical, and institutional context, and this context affects their decisions
 - Change the context, and you may very well change the decisions
 - Social norms represent a standard for what is good, normal
 - Affect people's behavior independent of prices and incomes

People are solitary decision makers... 80's



CONVENTIONAL ASSUMPTION #3:

How people form preferences doesn't matter

- Conventional economics

- Not only does all too often make incorrect simplifying assumptions about preferences,
- But it also argues that **how** people end up with these preferences is not important.

- Behavioral economics

- Explanation is what's critically important
- Prediction without explanation is not very useful
- Understanding how people's preferences have evolved, helps economists to understand what determines those preferences

CONVENTIONAL ASSUMPTION #4: People have the same preferences

- Conventional economists
 - Individuals have the same preferences
 - This idea is referred to as the ***representative agent model***
 - *The black box of the household*
 - Preferences are the same in the household
 - *The black box of the firm*
 - Maximize profits and productivity
 - Nobel Laureate Gary Becker (University of Chicago)
 - This type of simplifying assumption often fails to provide a sound basis for rigorous economic models
- Behavioral economics
 - Whether you assume identical preferences depends on the issue
 - Preferences may be not only different but also conflicting

CONVENTIONAL ASSUMPTION #5: People are all maximizers

Conventional Approach

- People set out to maximize their individual material well-being.
 - A key ingredient to maximizing the size of the economic pie
- Firms maximize their profits and minimize their costs
 - Another key ingredient to maximizing the size of the economic pie
 - Markets are competitive firms maximize returns and thereby maximize productivity and minimize costs
 - Firm performance is not an important topic of conversation

Behavioral Economics

- More realistic simplifying behavioral assumptions that produce better predictions and explanations of economic phenomena

CONVENTIONAL ASSUMPTION #5:

People are all maximizers

- Satisficing (Herbert A. Simon /1956)
 - People simply don't have the capacity to maximize
 - They do the best they can given the neurological, psychological, and environmental constraints they face
 - Simon refers to this as *satisficing behavior*
 - In biological world, many non maximizers organisms survive
 - Their survival is not threatened as long as no other organisms have evolved that can challenge the possession of their specific niches
 - Analogously, since there is no reason to suppose that every business firm is challenged by an optimally efficient competitor
- Many conventional assumptions not only offer a poor description of behavior, but also provide bad advice on best-practice economic behavior.

CONVENTIONAL ASSUMPTION #5:

People are all maximizers

- The dodo (*Raphus cucullatus*)
- An extinct flightless bird
- Endemic to the island of Mauritius
- About 1 metre (3 ft 3 in) tall
- Have weighed 10.6–21.1 kg (23–47 lb).
- Fat and clumsy,
 - it is now thought to have been well-adapted for its ecosystem
- The dodo's appearance in life is evidenced only by drawings, paintings, and written accounts from the 17th century.
- *Alice's Adventures in Wonderland*
- Sailors... eggs... invasive animals



CONVENTIONAL ASSUMPTION #6: People have perfect knowledge

Conventional economics

- Knowledge
 - When you make a decision, it incorporates all relevant data
 - *Unbounded knowledge*
- Forecasting ability
 - People are able to forecast the consequences of their actions
 - This is the case even if the future is highly uncertain.
- People's opinions don't change as they get older.
 - Preferences remain unchanged

Real world experience

- Knowledge
 - People don't have the time and resources
 - They make decisions based on **limited information** set
- Forecasting ability
 - Don't have the time, ability or resources to forecast.
 - Educated guesses based on imperfect information
- Saving???

CONVENTIONAL ASSUMPTION #7: Unbounded computational capabilities

Conventional Assumption

- People have unbounded computational capabilities
 - Related with the assumption of unbounded knowledge
 - People are able to do a multiplicity of computations to arrive at decisions that meet their needs in the best way possible

Behavioral economists

- Not only do people lack the brain capacity but most people don't have the knowledge to do such calculations.
- You can predict and explain decision making better if you don't assume that people are endowed with unbounded computational capabilities
 - Realism works better than fantasy

CONVENTIONAL ASSUMPTION #7: Unbounded computational capabilities

- **Bounded rationality**
 - Smart behavior that works within neurological, psychological, and institutional bounds of the human condition
- Behavioral economics finds that most people use experienced-based **heuristics** (decision-making shortcuts), because they can't practice the unbounded computational behavior
- These heuristics provide a sounder foundation for economic analysis than the assumption of unbounded rationality
- People actually don't have to do all the computations that conventional economics prescribes in order to make good decisions

CONVENTIONAL ASSUMPTION #8:

People have willpower

- Conventional economics: people have the willpower to make the choices that they really want to make.
 - If you overeat, smoke cigarettes, drink, or do drugs, these choices all represent your true wants and desires, your true preferences.
 - That's what you really want do given prices and your income.
- Behavioral economists: whether people have the willpower?
 - If you're lacking in willpower
 - you won't make choices that reflect your true preferences and
 - will end up making choices that don't enhance you happiness or well-being
 - If you smoke, even though you say you want to quit,
 - this choice also may suggest a weakness of willpower.
 - Buying an expensive watch even though you're trying to save?
 - Drugs or gambling?

CONVENTIONAL ASSUMPTION #9:

People are capable of acting upon their preferences

- People have the ability to act upon their preferences, assuming that the price is right and they have the income to do so.
 - Another example of conventional economics assuming that people's choices reveal their true wants and desires.
- Nobel Laureate A. Sen and philosopher M. Nussbaum
 - Many individuals don't have the power or the knowledge to make choices that reflect their true preferences.
 - Example: women in oppressive circumstances who don't have a say on the number of children they bear or the types of goods and services that are purchased for the household.
- It's important that economists understand whether the conditions are present for people to make the choices that they actually prefer.

CONVENTIONAL ASSUMPTION #10

Role of Institutions

Governance, laws, rules, and regulations ...

■ Conventional economics

- Dismiss the importance of understanding the rules of the game.
- They can be ignored in economic analysis because they play no independent role in economic performance

■ Behavioral economics

- Institutions affects incentives
- They play an important role in decision making
- Poor institutions can lead poor economic and social outcomes
- Question: If you were an investor in a country where your property may be easily confiscated by the state, would you invest?

UNDERSTANDING RATIONAL BEHAVIOR

- Behavioral economists have found an abundance of evidence that suggests that most people, most of the time, behave in a fashion that falls far from the benchmark for correct behavior set by conventional economics.
- **A big question:**
Whether such deviant behavior is error or bias prone, or actually smart or rational behavior.
- Here are the two schools of thought:

UNDERSTANDING RATIONAL BEHAVIOR

- **Deviant behavior is prone to error and bias**
 - Deviant behavior is substandard and may be wired in the brain.
 - Behavior, because it is deviant, is typically error prone and biased.
 - It may even be irrational.
- Pioneered by Nobel Laureate D. Kahneman and A. Tversky

UNDERSTANDING RATIONAL BEHAVIOR

- **Deviant behavior is actually smart and rational**
 - Smart people can make mistakes given the constraints they face.
 - Instead of representing biased behavior, heuristics actually improve upon the decision-making process.
 - Rationality is seen differently:
 - Rational behavior is considered to be smart behavior that evolves over time.
 - Rational and smart behavior is defined relative to the various constraints that people face as humans
- G. Gigerenzer, Nobel Laureate Vernon Smith, and Herbert Simon all advocate this understanding.

SELFISHNESS AND THE SMART SOCIETY

- One important assumption of conventional economics is
 - People are material maximizers.
 - People are assumed to behave selfishly.
 - Selfish behavior is often assumed to be smart and rational.
- Adam Smith and *The Wealth of Nations*,
 - Selfish motives can have unintended positive consequences.
 - People don't have to be saints in order for economies to flourish.
 - Selfish behavior can result in improving not only the wealth of nations but also the well-being of individuals.
 - It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our necessities but of their advantages.

SELFISHNESS AND THE SMART SOCIETY

- In *The Theory of Moral Sentiments*, Adam Smith argues:
 - How selfish so ever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it.
- Smith never considered selfish behavior as something to be celebrated, nor did he suggest that those of us who do good and make material sacrifices to benefit others are somehow not intelligent or rational.

SELFISHNESS AND THE SMART SOCIETY

- There is a lot of evidence that suggests that most people engage in non-selfish behavior
 - Behavioral economics integrates this reality into how it models the choices people make in the real world.
 - Understanding selfish motives is important when developing economic theories.
 - But caring for others and doing for others are also important.
 - In both selfish and non-selfish aspects of your behavior, you may be smart and rational and contribute to growing the wealth of nations.

RATIONAL ECONOMIC ACTOR

- A maximizer:
 - an individual who is engaging in rational behavior
 - materially selfish, maximizing his or her own material wealth
 - focused very much on himself or herself when making decisions
 - maximizing profits and productivity
 - a prodigious and careful calculator
 - forward looking
 - having stable and consistent wants and desires or preferences
 - having willpower
- Rational individuals "make forward-looking, maximizing, and consistent choices." (Becker)

BEHAVIORAL ECONOMICS ACTOR

- The behavioral economics man
 - Defines how people behave in the real world
 - often can't even articulate why (s)he made a particular decision.
 - behaves in a boundedly rational fashion
 - can make mistakes that may persist over time
 - may be selfless or selfish, depending on context
 - is affected by the decision-making environment, by those around him or her, and by social norms, as well as by past behavior.
 - is influenced not only by institutions, but also by prices and incomes, as the conventional wisdom would have.

BEHAVIORAL ECONOMICS ACTOR

- In behavioral economics, you need to get to know the behavioral economics actor
 - if you want to build models that predict well and
 - provide you with meaningful explanations of the world.
- This isn't important just as an intellectual exercise
 - it also affects public policy and
 - can have a huge impact on people's lives and
 - the lives of future generations.