Rationality
How Well or Poorly do our Actions Agree with Economic Theory

Recall basic restrictive assumptions from Chapter 1

**How and Why The Rational Economic Agent Model May Not Work**

The Rational Economic Agent Model may not work for at least two reasons.

1) The basic assumptions are correct, but that people are lazy and do not try to be rational, though they could be.

If people are lazy, but could be rational if they only worked at it, they may be blamed for making poor choices. In this sort of situation, the advice of ‘caveat emptor’ is valid.

Any bad purchases are your fault.

2) The basic assumptions are flawed, and the human brain does not work quite the way economists think it does.

If the brain is not set up for economically rational decision-making, then less of a ‘blame the victim’ mentality exists. The belief that consumers are often incapable of truly making rational decisions is the underlying justification for much consumer protection legislation.

**Psychological Research on Consumer Decision Making**

Economic agents behave in ways that are predictably “irrational” and “incorrect” from a pure economic perspective.
Humans have biases and subjective preferences. Humans have trouble remembering important information crucial to making good decisions.

1) “Theory of Mental Accounting”
2) “Prospect Theory”.

Suggest that humans engage in two types of thinking:
A) automatic/intuitive
B) reflective/rational

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Two Cognitive Systems

<table>
<thead>
<tr>
<th>Automatic System</th>
<th>Reflective System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncontrolled</td>
<td>Controlled</td>
</tr>
<tr>
<td>Effortless</td>
<td>Effortful</td>
</tr>
<tr>
<td>Associative</td>
<td>Deductive</td>
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<tr>
<td>Fast</td>
<td>Slow</td>
</tr>
<tr>
<td>Unconscious</td>
<td>Self Aware</td>
</tr>
<tr>
<td>Skilled</td>
<td>Rule Following</td>
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Example of quick questions

Use of Heuristics/Rules of Thumb

Because life is complex, and we know we can’t spend all of our time trying to fully use our reflective system, we use ‘heuristics’, or ‘rules of thumb’ to assist us in complex decision making.

Heuristics are systematically wrong, but close enough for most people in most situations that we continue to use them. Advertisers know this and try to influence the heuristics that we use, so that our errors in judgment fall in their favor.

Systematically wrong means predictably wrong. Therefore, firms can make a profit from:

1) taking advantage of your predictable ignorance
2) helping you use information better and make better decisions

The three Heuristics are Anchoring, Availability, and Representativeness
Anchoring Heuristic

Anchoring occurs when a person uses one known fact to anchor a decision about an unknown situation. A person from a small town will generally underestimate the population of an unfamiliar city, while a resident of a large city will over estimate the population of that same unfamiliar city.

Example: Attila the Hun

Example of Charities giving suggested amounts.
The average gift for your area is $214.

Availability Heuristic

People often make decisions about a situation, a risk, or an option, by examining how frequently they are able to think of examples. This is the availability heuristic. How often we are able to think of examples of a given situation is unrelated to how frequent the examples are in actuality.

Flood insurance or # perceived shark attacks

Advertising makes us know of their product

Representativeness Heuristic

In a manner similar to the availability heuristic, people often utilize stereotypes to make judgments and decisions.

Example of Linda

Recall Statistics on probabilities
**Prospect Theory and Mental Accounting**

In addition to the heuristics discussed above, Kahneman and Tversky discovered that people feel predictably differently about gains versus losses. Their theory may be termed Prospect Theory or Mental Accounting.

Heuristics and biases influence how we mentally account for gains and losses. Economic theory suggests that gains and losses may trigger similar, if opposite feelings.

Economic theory suggest that money has a constant Marginal Utility. If I find $100, I experience happiness. If I lose $100, I may expect to feel the negative of the happiness I felt at gaining the $100.

Thus, $10 will be the same in every context.

Buy a shirt. Travel across town to save $10?
Buy a car. Travel across town to save $10?

How about a penny?

Experiments show this to be incorrect. People tend, on average, to feel twice as bad about losing a given amount, than the happiness they feel about gaining that amount.

Thaler’s Value Function

| graph |

Values assigned to gains or losses, rather than to final outcomes.
Steeper for losses than for gains. We feel the loss of $500 more than we feel the gain of $500.
Sell quickly if have earned a profit. Not sell if we make a loss.

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2 Nudge, ibid, pg 33
'In a nutshell, prospect theory assumes that investors' utility functions depend on changes in the value of their portfolios rather than the value of the portfolio. Put another way, utility comes from returns, not from the value of assets.'
Cornell (1999, p. 148)

Research shows that people account for, or ‘code’ gains and losses differently in their minds. A person may face situations where the following are possible outcomes: two gains, a gain and a loss, or two losses. Research shows that people prefer to separate the gains (segregate them), and experience both of them in succession. People prefer to bundle all the losses in one ‘box’ (integrate them) and take the bad news all at once. If a person faces a large gain and a small loss, research suggests that most of us would prefer to separate them, so that the gain cancels out the loss. If the loss is larger than the gain, people often focus on the ‘silver lining’ and think, “well, at least I found $20 on the sidewalk”, while trying to forget the $500 traffic fine.

**Segregating Gains**

Sellers will segregate, or separate the gains, in advertisements. Sellers focus on each of the attributes of the latest miracle product hawked on late-night infomercials. Thus, they are segregating the gains, so you will value them separately and will hopefully pay more for the whole. In addition, they offer “bonus” items if “you call right now”.

**Examples**

*The reference price*

An implication of the reference and availability heuristics is that consumers all have their own reference point. One way sellers can influence how consumers code the value of gains or losses, is to try to influence the reference point.

Firms will try to suggest a high reference price for their product.

Ex. Vacation packages; air fare plus rental car or hotel

Ex. Gas credit vs cash purchases

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Rebates

In many ways rebates are financially equivalent to temporary sales. When you get a rebate on a car, you still have to pay tax on the value of the rebate. Thus, consumers actually pay greater amounts when getting a rebate than when they pay a temporary sales price. So why do sellers offer rebates? The answer seems to be the silver lining principle.

The price (cost) of the car is large, and the rebate (gain) is fairly small. The rebate reduces the value of the cost of the car (the loss), so we prefer to separate these costs and gains. This effect is even stronger if the rebates are mailed from the factory and not applied to the down payment.

Integrating Losses (Costs)

Consumers prefer to bundle all the costs together (integrate them) instead of focusing on each loss or cost individually. Car dealerships bundle all the costs of the car into the final price, so that the various taxes, charges, and options do not feel like dozens of small hurts. Similar behavior can be found in home sales and insurance riders and the like.

Framing

Prospect theory and the theory of mental accountings suggest that consumers are susceptible to the presentation (framing) of their options.

Some examples.
Now move to specific Issues Preventing Rational Behavior
Most of these are direct violations of the Restrictive Assumptions

Information May Not be Good; It May be Costly.

Economic rationality relies on the ability to calculate costs and benefits. Even if we are hardwired to decide in a rational manner in agreement with the rational choice model, or if we have practiced enough to strengthen the reflective mental system so that economic rationality becomes almost second nature, there are some problems with the information itself that cause consumers to have problems. Information may be too time consuming or otherwise difficult for consumers to collect and process all the necessary information.

Information May be Missing.
Information may not exist at all. It is not the case that relevant information exists on all things that are of interest to consumers.

Cancerous plastics etc. Who to blame?

Information May be Imperfect (Asymmetric)
This means that one party may know more than another party does. A car salesman knows the quality of the car; that it is a lemon. The buyer cannot necessarily tell.

Lemon Example

TIME CONSISTENCY OF PREFERENCES
How to Value the Future vs. the Present?
Recall Chapter 13 and 14
At high interest rates, we don’t value the future very much.
Grow our trees and sell in 10 years or sell now? At high interest rates we can chop the wood down now, sell it and put the $ in the bank. Thus, don’t value future.

People get into trouble with credit cards because they don’t accurately calculate how much something bought on credit will really cost --- ‘hyperbolic discounting’.

Ex. Mortgage

Ex. Spend 30% more when use credit

The problem highlighted above is that consumers do not seem to have consistent preferences at a point in time, nor over time. If they had consistent preferences, they would calculate the interest and limit their total spending, interest and all, to what they previously budgeted.

People think of the ‘payments’ (I can make the payment of $50 per month) instead of the real cost.
Another problem with valuing the future is that we cannot value something we do not know exists.

Ex. Amazon tree medicine

INDEPENDENCE OF PREFERENCES
What if Our Decisions Impact Others?
Keep up with the Joneses. This sort of consumption has been termed ‘relative’, ‘positional’ or ‘competitive’ consumption.

Families living in neighborhoods of other families of similar vocation and income, tend to show similar consumption. The more the consumption patterns of families outside of the group enter into the consciousness of the local families, the more dissatisfaction with family circumstances grows. Social circles, jobs, and business contacts can be made by revealing ‘appropriate’ social taste and behavior, or lost by revealing ‘inappropriate’ taste and behavior.

Consumption by one affluent nation can prevent a poorer nation from having access to those same goods. Affluent family or nation’s income can bid up the price of goods beyond the reach of the poor within a country or in other countries.

Ex. Government and how all decisions impact others.
Try living like a hermit.
“I pulled myself up and no one helped me. You can do the same thing”. This is false.

Advertisements
See “Sex, Lies and Advertising” again.
So, do we need a big government helping us with being rational? Or will a Nudge do?

The question is whether we need to tell people what to do/think etc, or whether we can make small alterations in the ‘Choice Architecture’ to move people in the right direction.

Automatic System will win over the Reflective System

Ex) Red octagonal sign that said ‘GO’
Ex) Color names written in a different color.
   Say the word and ignore the color is easy.
   Say the color and ignore the word is harder. Automatic system wins/and causes errors.

Availability Heuristic

Tell people what other people are doing. Avoid the ‘herd’ phenomena.
Ex) Minnesota tax code compliance—how to get good compliance?
   Tell taxpayers that their taxes go to good things.
   Threaten with risks of non-compliance
   Give info on how to get help if confused
   Tell taxpayers that 90% of Minnesotans have already complied with their obligations. (This worked best)
Ex) Reduce college drinking/smoking by telling students that most (70% of students at their college) have fewer than 4 drinks per week, or prefer a smoke free environment.

Framing

How to ask/tell people what to do?
Ex) Petrified Wood—How to get people to not take souvenirs?
   Being stolen/taken as souvenirs—destroying the park in the process
Inform/Negative: “Many past visitors have removed pieces of petrified wood from the park, changing the natural state of the Petrified Forest”
Injunctive Norm: “Please don’t remove the petrified wood from the park, in order to preserve the natural state of the Petrified Forest”

The positive worked better.

Social Nudge

How to get people to reduce energy use? San Marcos Calif.

Households got info on how much electricity or gas they used last week.
They also got info about how they compared to neighbors.

Result:
Above average energy users dropped their usage dramatically.
Below average energy users raised their usage to closer to the average.

When the household report included an emoticon (smiley or frowny face):
Above average energy users dropped their usage dramatically.
Below average energy users DID NOT raise their usage.
Priming
Like word association. A word will cause you to think of other words or to make other connections.
Make people more likely vote:
Make it easier
Tell of the negative/positive consequences
Ask them if they intend to vote (raises voting rates by 25%)

Make people buy your product
Advertise, etc
Ask them if they are going to buy (a car for example) in the next six months.
(Raises purchase rates by 35%)

Encourage students to get vaccines/flu shots etc
Give a lecture on the benefits and the importance of going to the health center to get a shot.—3% got a shot.
Give a lecture as above, plus give a map, ask students to consult their schedules, make a plan and decide on the route.—28% got a shot.
Notice, the students were seniors, knew where the health center was, and no one actually made the appointment for them. Students were nudged by priming.

Savings/Choice Architecture
Standard economic theory suggests one use PV or FV calculations to determine how much you should save. Calculate expected lifetime earnings, figure retirement needs, work backwards to determine how much to save. (Your Number).
BUT: Hard to do
Lack willpower to do it
 Defined Benefit plans are great (easy) for employees. Social security is such a system. You put in $ and you will know how much you will get out. The benefit is defined. But expensive for firm to administer

 Defined Contribution plans are much less great (easy) for employees. You must determine how much to put in. What you get out depends on the stock market etc.
So, save enough?
In some cases, even when employer paid all the contribution, workers would not enroll (51% did). Inertia bias.

How to make it easier?
1) Make savings automatic. Make the ‘default’ one of enrollment, not non-enrollment. Default is ‘opt-in’, it takes work to ‘opt-out’.
2) Force choosing and more simplicity.
When hired, check a ‘yes’ or ‘no’ box for participation in order to get paid. They then have to choose the allocation and the amount to contribute.
3) Alter matching formula. Many people choose a savings rate (automatic deduction) of 5%, 10% or 15% (as if savings need to come in multiples of 5).
Employer may alter matching from 50% on first 6% of pay, to 30% on first 10% of pay, may generate more retirement savings.

4) Save More Tomorrow Plan
   Savings automatically increase by 3% every time you get a pay raise. When given this option, 78% of those who had not joined a plan did so.

Not Getting Hit By a Car in England
   England drives on the other side of the road. Americans go to England and risk getting hit. Our rule in US when crossing the street is “look, left, look right, look left again”. In England it is the reverse. Our automatic system gets trained.
   In England, at intersections frequented by American tourists, the city has painted on the sidewalk (Look Right) to remind Americans that the cars are coming from the other direction.