

## **LECTURE 9 PREFERENCE REVERSAL**

**Aim:** To illustrate how preferences depends on framing, dual system and context.

**Outline:** Preference reversal. Payoffs vs. probabilities and dual system. Effects of contexts on choice. Trade contrast. Extremeness aversion.

**Readings:**

Kahneman, D. (2011) *Thinking, Fast and Slow*, Farrar, Straus and Giroux, chapt. 33.

Tversky A. and R.H. Thaler (1990) "Preference Reversals", *Journal of Economic Perspectives*, 4, 193-205.

Simonson, I. and A. Tversky (1992), "Choice in Context: Tradeoff Contrast and Extremeness Aversion", *Journal of Marketing Research*, 29, 281-295.

**Blogs, Videos and Websites**

Menu Mind Games

<http://nymag.com/restaurants/features/62498/>

# CRIME VICTIMS COMPENSATION

- ▶ Setting compensations for victims of violent crimes
- ▶ A man lost the use of his arm as for a gunshot
- ▶ He was shot when walking in a store in his neighborhood

Two stores were located near the victim's home, one of which he frequented more regularly than the other.

Consider two scenarios:

1. The burglary happened in the man's regular store.
2. The man's regular store was closed for a funeral, so he did his shopping in the other store, where he was shot

Should the store in which the man was shot make a difference to his compensation?

Most people agrees on equal compensation in both situations

System 2 explicitly compares the two scenarios and concludes that location is not relevant for compensation

# CRIME COMPENSATION EXPERIMENT

Miller – Mc Farland (1986)

Between-subjects experiment

Each subject sees only one scenario and asked to assign a monetary value to compensation

Result: Victim was awarded a larger sum if he was shot in scenario 2 (store rarely visited)

Regret as conterfactual feeling:

“ if only he had shopped at his regular store..:”

which triggers System 1’s associative mechanism based on WYSIATI

Moral intuitions are not necessarily internally consistent

# PREFERENCE REVERSAL

When facing a choice between gambles of nearly equal expected values in certain circumstances, to prefer one gamble but to place a higher monetary value on the other.

One gamble offers a **H**igh probability of winning a small prize (safer) and the other offers a **L**ow probability of winning a large prize (riskier).

Bet **H**: 8/9 to win \$4

Bet **L**: 1/9 to win \$40

Most people prefer Bet H to Bet L

But most people put a higher value on L when asked to state the lowest price at which they would buy it for cash.

# PAYOFFS VS. PROBABILITIES OR DUAL SYSTEM

Lichtenstein - Slovic (1971)

preferences for gambles (and ratings of their attractiveness) are more highly correlated with probabilities of winning than with payoff sizes

buying and selling prices of gambles are more highly correlated with payoff sizes than with probabilities of winning.

Kahneman 2011

Emotional reactions of system 1 determine single evaluation ( $H > L$ )

Comparison that occurs in joint evaluation (System 2) involves a more careful and effortful assessment ( $L < H$ )

# EFFECT OF CONTEXTS ON CHOICE

## TRADE CONTRAST

the same product may appear attractive on the background of less attractive alternatives and unattractive on the background of more attractive alternatives

Ex: x is of higher quality and y has a better price

The choice between x and y is influenced by other implied tradeoffs in the set of options under consideration

2 pc

x 960k memory - cost \$1200

y 640k memory - cost \$1000

x is chosen if the choice set includes pairs of options for which the cost of additional memory is greater than 320k memory for a cost of \$200

# EFFECT OF CONTEXTS ON CHOICE

## EXTREMENESS AVERSION

An option is more attractive to the respondent if it is an intermediate option in a choice set

Attractiveness is lower for extreme options

Based on **Principle of Loss Aversion**: losses loom larger than gains

Alternatives are evaluated in terms of their advantages and disadvantages relative to other options; disadvantages are weighted more heavily than advantages

3 VCR

x highest quality and price

z lowest quality and price

y intermediate on both attributes

Y is preferred because it has small advantages in relation to the other options

# TRADE CONTRAST - BACKGROUND EFFECTS

**Background effects:** relevant alternatives encountered in the past

**Local effects :** offered set of alternatives

Experimental design

**three** choices between options in the **background set**

followed by

**two** choices between options in the **target set**

Choices among 2 or 3 PC with two attributes, memory and cost

Exchange rate for the Background set (B)

B1) \$4 per 1K memory

B2) \$0.5 per 1K memory

Exchange rate for Target set (T)

\$2 per 1K memory

Results: Subjects exposed to B1 were more likely to select PC with bigger memory in T (52% vs. 18%)

People's choices appear to be influenced by the background, whether or not it provides pertinent information about the quality of options



# TRADE CONTRAST - LOCAL EFFECTS

Local effects: offered set of alternatives

If  $y$  is clearly superior to  $z$  but  $x$  is not, the addition of  $z$  to the set  $(x, y)$  will increase the attractiveness of  $y$  relative to  $x$

Contrary to standard economics, the popularity of an option can be increased by enlarging the offered set

Failures of this axiom "irrelevant alternatives independency"  
"represent a violation of value maximization

Design

5 microwave ovens on catalog

Subjects asked to examine all the five products carefully

Then they were asked to choose between two or three out of five

The addition of the less attractive oven increased the market share of the more attractive

# TRADE CONTRAST - LOCAL EFFECTS

Cash versus goods

All subjects were informed that some of them – selected randomly – would receive \$6

They were informed that the winners would have the option of trading the \$6 for a pen

They were asked to indicate whether they would like to trade the \$6 for a pen

Later 10% of the participants received either \$6 or the pen they had chosen

Two treatments

- ▶ elegant Cross pen
- ▶ elegant Cross pen and a lesser known name selected for its unattractiveness

The inclusion in the offered set of the less attractive pen increased the percentage of respondents who preferred the more attractive Cross pen from 36% to 46%

# EXTREMENESS AVERSION

Two forms of extremeness aversion

## **Compromise** and **Polarization**

$$P_x(y,z) > P(y,z)$$

$$P_z(x,z) > P(y,x)$$

### **Compromise**

The addition of x to (y,z) increase the share of y relative to z and the addition of z to (x,y) increases the share of y relative to x  
Disadvantages loom larger than advantages in both attributes

### **Polarization**

Only one of the inequalities above holds  
Disadvantages loom larger than advantages on one dimension but not on the other

# EXTREMENESS AVERSION - COMPROMISE

## Compromise test

Set 1) Two Minolta cameras (\$170 - \$240)

Set 2) Three Minolta cameras (\$170 - \$240 - \$470)

In set 1 both cameras were equally popular (50%/50%)

In set 2 the addition of a more expensive camera increased the popularity of y relative to x from 50% to 72%

The same compromise effect was also demonstrated when the added extreme alternative was not available for choice but only shown

# EXTREMENESS AVERSION – POLARIZATION

Polarization occurs when disadvantages loom larger than advantages on one dimension but not on the other

For example extremes aversion for quality but little or no extremes aversion for price

Ex. AM/FM cassette recorder, personal computer, binoculars, dental insurance

As if quality may be perceived more important than price and consumers find the lowest quality more aversive than the highest price

Different results for CD players and bets in which, respectively, sound quality and probability of winning are considered more important than price

# CONTEXT EFFECTS

- ▶ During perception of any kind people generally use either sensory data (bottom-up design) or prior knowledge of the stimulus (top-down design) when analyzing the stimulus. We generally use both types of processing to examine stimuli.
- ▶ When context effects occur we are using environmental cues perceived while examining the stimuli in order to help analyze it.
- ▶ When designing a new product managers should consider not only its attribute values but also its likely position in the relevant choice set.
- ▶ The introduction of a middle option between a high price, high quality brand and a low price, low quality brand will hurt the latter more than the former
- ▶ A new product positioned as clearly superior to another brand is likely to benefit from the extremeness effect