Behavioural Economics: An Introduction I

Marianna Gilli

University of Ferrara - Theory of the Firm and the Markets

March 2018

Outline

The Ultimatum game

- *The Ultimatum Game*

How to play

- Choose a partner
- Decide who is player A and who is player 2

The Ultimatum Game cnt.

Here are some simple rules:

- Rule 1: player A receives 100 euro
- Rule 2: player A can keep the money but only if she follows rule 3
- Rule 3: player A **have** to decide how to slpit the money
- Rule 4: player B can **only** agree or disagree with player A

Final Result

If player B agree with player A then they split the money accordingly. If player B disagree with player A then no one keeps a cent.

Recall from your bachelor...

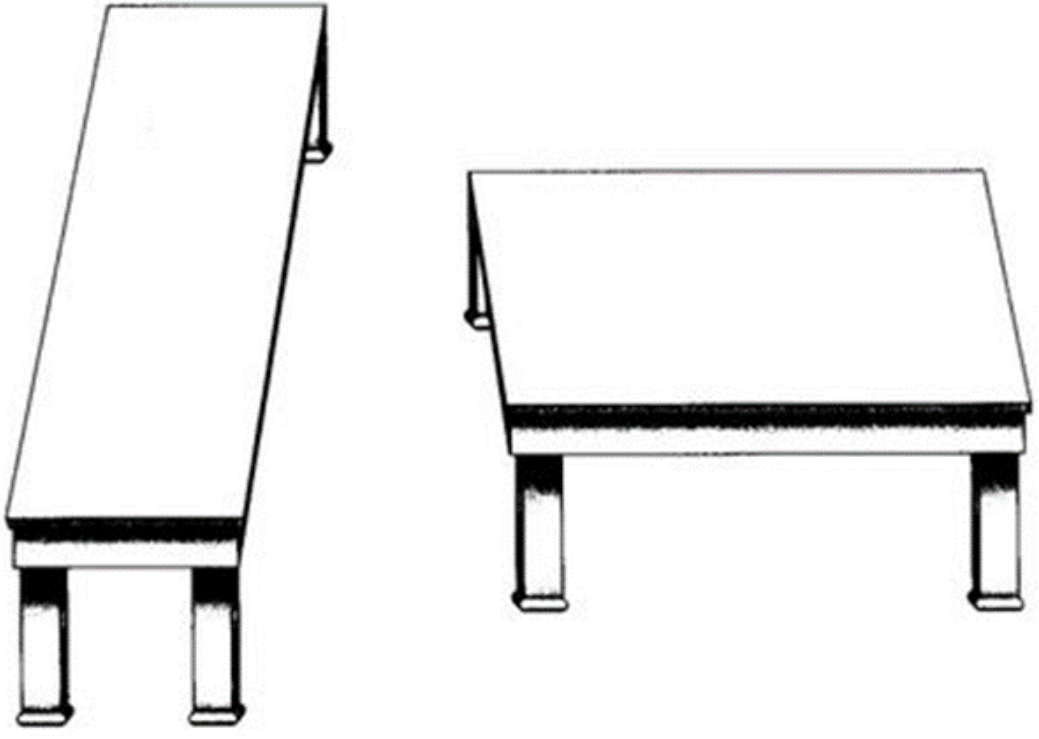
- Utility function: $U = f(X_1; X_2)$
- Homo Economicus: Maximizing behaviour
- Perfect information

Standard theory VS everyday life

- People is approximated by the *homo economicus*
- *Full rationality* → max U=f(X1;X2)
- Market institutions work

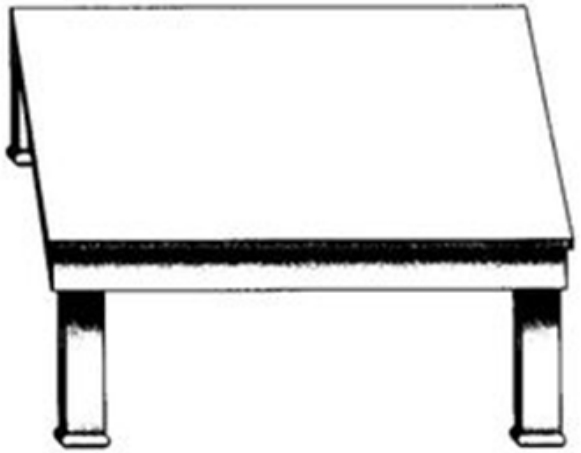
- Is there any obvious reason for this?
- Choices may not depend on the maximization of an objective function
- Evidence by human behaviour and psychology→ we replace homo economicus with homo sapiens.

The way we think



The way we think

Lenght: about 4cm
Width: about 2cm



Width : about 4cm
Lenght: about 2cm

How can humans be simultaneously so smart and so dumb?

Automatic system

Gut reaction

"OK, Colleen. I'm going to put in the first quarter, and before long, your fear of flying will be a thing of the past."

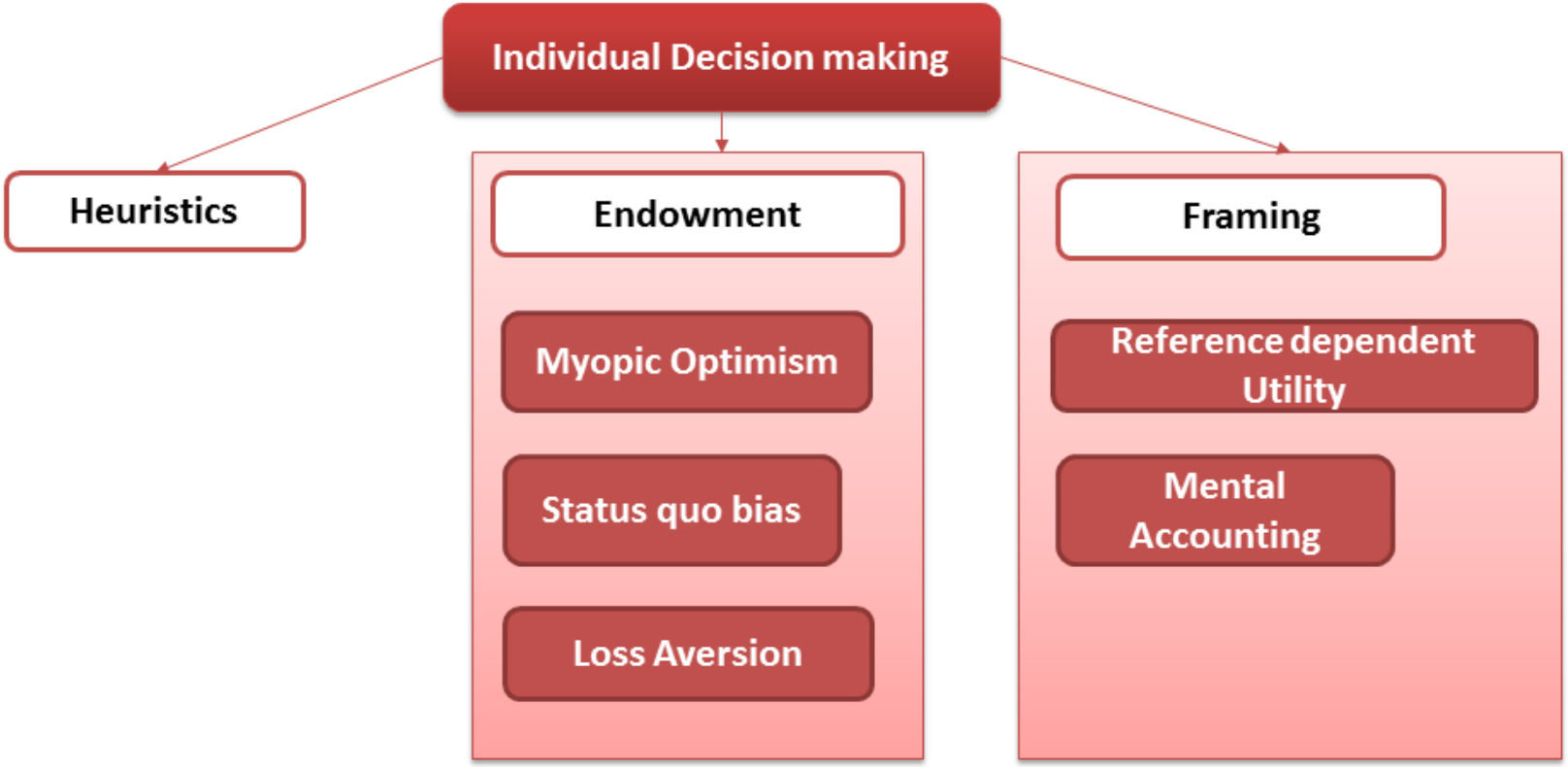
Reflective system

Deliberate and self conscious

(How much is 411x37?!?)

Intuitive thinking

In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?


Individual Decision making
Heuristics
Endowment
Myopic Optimism
Status quo bias
Loss Aversion
Framing
Reference dependent Utility
Mental Accounting

Heuristics

A *heuristics* is a simple rule of thumb by which a person solves a problem.

- We do not have all the relevant info to maximize utility...
- ...but we still need to make decision

Search Heuristics

What do we do in order to get info:

- **Try everything**:allows to know a lot; can be costly (time, money)
- **Satisficing**: set an aspiration level and try to go beyond that
- **Directed cognition**: each info can be decisive for the choice
- **Elimination by aspects**: eliminate choices below some min. aspiration
- **Search for x minutes**:choosing after a prescribed time

Other heuristics

- **Anchoring**: you start with something you know and just adjust in the direction you think is appropriate
- **Availability**: to assess the likelihood of risks by how many examples readily come to mind
- **Representitiveness**: how similar A is to the stereotype of B

Choice arbitrariness

our choices are generally influenced by factors that just happen to be like that in a moment or in a place (gone grocery shopping when *hungry*? Anyone?)but that could have been different...

Coincidences...

External factors are key in our decision making process!

More on this later in this lecture...

Endowment effect

People value more higly goods they have some **ownership** over.

- Optimism and overconfidence
- Loss aversion
- Status quo bias

Optimism and Overconfidence

- Explains a lot of individual risk taking (e.g. smokers)
- Pervasive feature of human life
- Unrealistic optimism → based on availability

Loss aversion

Loss aversion: losing something makes you twice as miserable as gaining the same amount

The **mug experiment** implies that «once I have a mug, I don't want to give it up. But if I don't have one, I don't feel the urge to have one»

Loss aversion operates pressing us not to make changes even when changes are much in our interest

Status quo bias

People has the tendency to stick with the current situation

The free/discounted magazine subscription example...

Need to **take action** to change the situation

Loss aversion + mindless choosing implies that an option designated as the «default» will attract larger market share

Framing

- Is the way we tell/we are told things

- The doctor diagnosis expample
- Framing is very powerful→ we don't ask the reflective system to do the work required to check if reframing can produce a different answer.

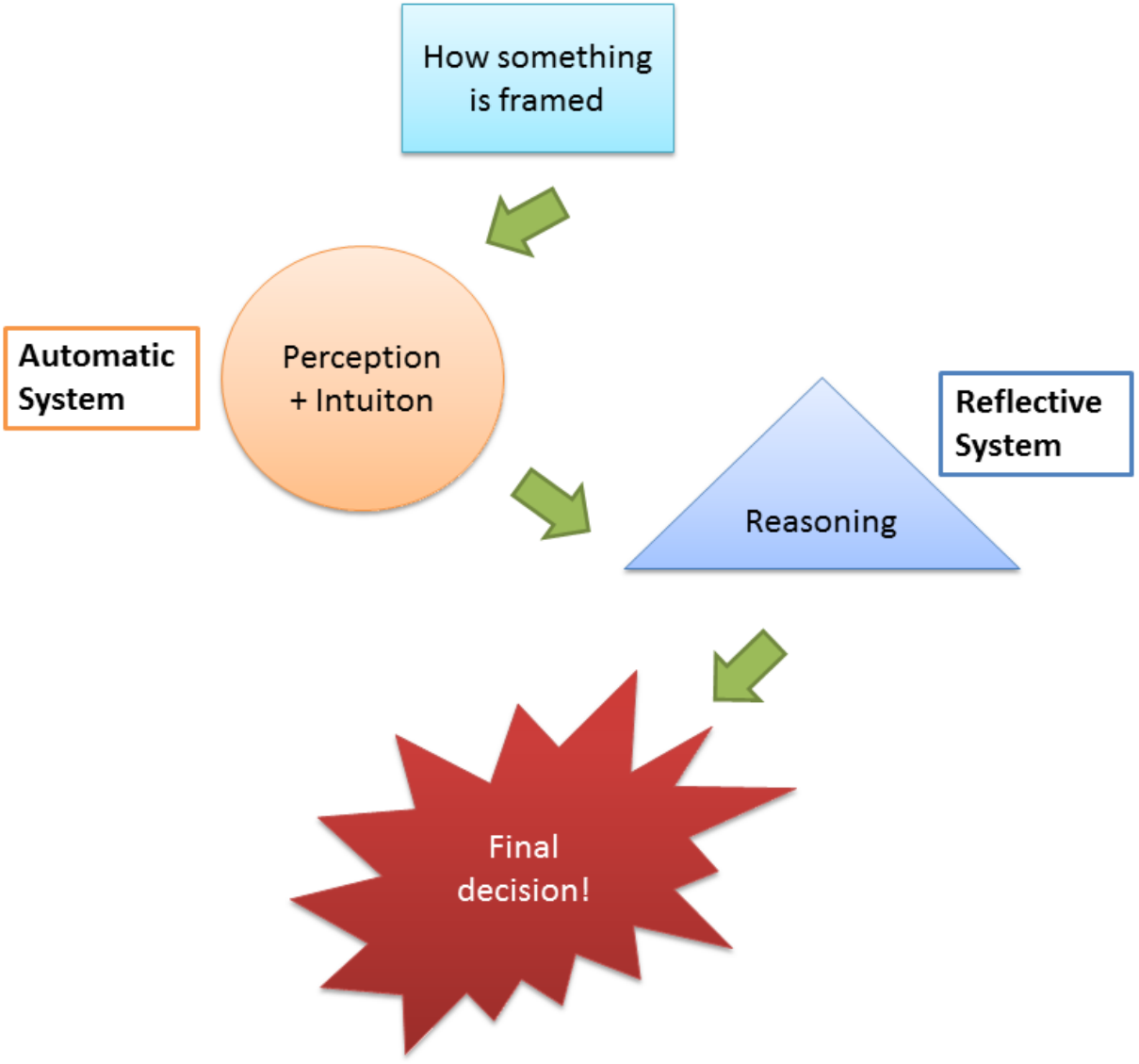
Remember?

Coincidences...

External factors are key in our decision making process!

- What people think or choose is inevitably dependent on how the question is asked
- Framing effect do not work alone: perception and intuition also kick-in!

The process


How something is framed
Automatic System
Perception + Intuiton
Reflective System
Reasoning
Final decision!

Reference dependent Utility

- The assessment of an object **always** happens in **relative terms**
- Our standard of comparison is called **reference point**. It is:
  - arbitrary
  - determined by intuition and perception
  - therefore it is **context dependent**
  - it enters the individual utility function
- *Example*: loss aversion happens because loosing money wrt to our money reference point has a higher (dis)utility than gaining money wrt our money reference point.

Reference dependence and Endowment

- The endowment effect can be thought of as the interaction between reference dependent utility and loss aversion
- this bias can be reduced if people have experience
- people value the **opportunity-cost**
- there is no absolute reference for what is a loss and what is a gain
- *Loss in buying Hypothesis* when people decides wheter to buy something, money is mentally deducted from current income so that the individual decides if he's going to gain the good or (re)gain the money. Experience matters also in this case.
- **Transaction utility**: measures the net gain or loss from buying for less or more than expected. Also dependent on reference point

Mental accounting

- A choice or outcome is seen in isolation rather than being integrated with other things
- mental accounting is the process of coding, categorizing and evaluating choices and outcomes
- *Example*: Loosing 10 euro has no implication on spending 10 euro on a theatre ticket. But loosing the ticket has implication on spending other 10 euro to buy another, because I would feel like theatre cost me 20 euro.

Mental accounting cont.

- The account can be broadly or narrowly defined but this has implication in our perception
- mental account is used to keep track of income and spending and expenses and losses are coded relatively to an account refrence point
- Remember: what the mental accounts are as well as their reference point and how losses and gains are coded is choosed (maybe unconsciously) by the individual.

Take home messages

- *Homo Sapiens* is way more fallible than *Homo Economicus*:
- Utility exists only reltively to some reference point
- Human decisions are influenced by context-specific factors and filtered by the automatic system
- Human attitude toward choices are influenced in ways that cannot be anticipated by standard economic theory. . . **More on this in the next lecture!**

Reference and materials

- Cartwright E.,*Behavioural Economics*, Routledge, London, ch. 1 and 2
- Thaler R.H. & Sunstein C.R., *Nudge*, Yale University Press
- A TED talk on choices: `https://www.youtube.com/watch?v=V06XEQIsCoM`