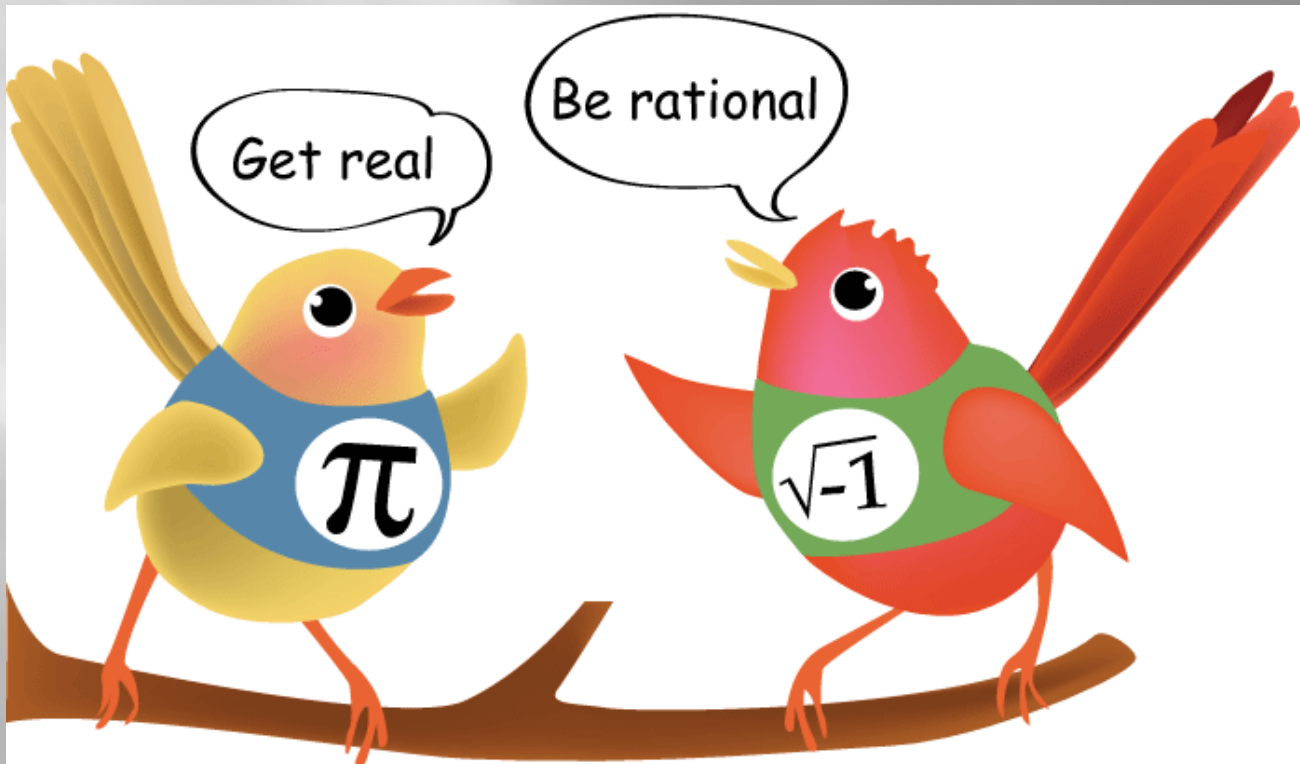


Rationality Myth

How & Why People Make Weird Choices



Rational animal

„Man is a rational animal – so at least I have been told. Throughout a long life I have been looking diligently for evidence in favour of this statement, but so far I have not had the good fortune to come across it.“

B. Russell

- ▣ **What does “RATIONAL” mean?**
- ▣ Reasonable & logical
- ▣ Unbiased by emotions
- ▣ Optimal, relative to the information available

Rational choice

- Expected Utility Theory:

$$E_{\text{expectancy}} \times V_{\text{value}}$$



Example 1: Crockery story



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Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Set A:

Set B:

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Set A:

24 pieces

Set B:

31 pieces

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Set A:

24 pieces

- ▣ Dinner plates 8, all in good condition

Set B:

31 pieces

- ▣ Dinner plates 8, all in good condition

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Set A:

24 pieces

- ▣ Dinner plates 8, all in good condition
- ▣ Soup/salad bowls 8, all in good condition

Set B:

31 pieces

- ▣ Dinner plates 8, all in good condition
- ▣ Soup/salad bowls 8, all in good condition

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Set A:

24 pieces

- ▣ Dinner plates 8, all in good condition
- ▣ Soup/salad bowls 8, all in good condition
- ▣ Dessert plates 8, all in good condition

Set B:

31 pieces

- ▣ Dinner plates 8, all in good condition
- ▣ Soup/salad bowls 8, all in good condition
- ▣ Dessert plates 8, all in good condition

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Set A:

24 pieces

- ▣ Dinner plates 8, all in good condition
- ▣ Soup/salad bowls 8, all in good condition
- ▣ Dessert plates 8, all in good condition

Set B:

31 pieces

- ▣ Dinner plates 8, all in good condition
- ▣ Soup/salad bowls 8, all in good condition
- ▣ Dessert plates 8, all in good condition
- ▣ Cups 8, 2 of them broken
- ▣ Saucers 8, 7 of them broken

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Three groups:

	Offered price Set A(24pcs)	Offered price Set B (31pcs)
Group 1 - simultaneous evaluation		
Group 2 - Set A only		-
Group B - Set B only	-	

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Three groups:

	Offered price Set A(24pcs)	Offered price Set B (31pcs)
Group 1 - simultaneous evaluation	\$ 30	\$ 32
Group 2 - Set A only		-
Group B - Set B only	-	

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Three groups:

	Offered price Set A (24pcs)	Offered price Set B (31pcs)
Group 1 - simultaneous evaluation	\$ 30	\$ 32
Group 2 - Set A only	\$ 33	-
Group B - Set B only	-	

Example 1: Crockery story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Three groups:

	Offered price Set A(24pcs)	Offered price Set B (31pcs)
Group 1 - simultaneous evaluation	\$ 30	\$ 32
Group 2 - Set A only	\$ 33	-
Group B - Set B only	-	\$ 23

Example 2: Dictionary story

Hsee, C. K. (1996). The evaluability hypothesis: An explanation for preference reversals between joint and separate evaluations of alternatives. *Organizational behavior and human decision processes*, 67(3), 247-257.

Dictionary A:

Dictionary B:

Example 2: Dictionary story

Hsee, C. K. (1996). The evaluability hypothesis: An explanation for preference reversals between joint and separate evaluations of alternatives. *Organizational behavior and human decision processes*, 67(3), 247-257.

Dictionary A:

- ▣ Published 1993

Dictionary B:

- ▣ Published 1993

Example 2: Dictionary story

Hsee, C. K. (1996). The evaluability hypothesis: An explanation for preference reversals between joint and separate evaluations of alternatives. *Organizational behavior and human decision processes*, 67(3), 247-257.

Dictionary A:

- ▣ Published 1993
- ▣ **10,000 entries**

Dictionary B:

- ▣ Published 1993
- ▣ **20,000 entries**

Example 2: Dictionary story

Hsee, C. K. (1996). The evaluability hypothesis: An explanation for preference reversals between joint and separate evaluations of alternatives. *Organizational behavior and human decision processes*, 67(3), 247-257.

Dictionary A:

- ▣ Published 1993
- ▣ 10,000 entries
- ▣ Like new

Dictionary B:

- ▣ Published 1993
- ▣ 20,000 entries
- ▣ **Cover torn**, otherwise like new

Example 2: Dictionary story

Hsee, C. K. (1998). Less is better: When low-value options are valued more highly than high-value options. *Journal of Behavioral Decision Making*, 11, 107-121.

Three groups:

	Offered price Dictionary A	Offered price Dictionary B
Group 1 - simultaneous evaluation	\$ 19	\$ 27
Group 2 - Dictionary A only	\$ 24	-
Group B - Dictionary B only	-	\$ 20

Conclusions

▣ Preference reversal

In certain conditions, our preferences and/or evaluations may change even though the attributes of the objects remain the same.

Conclusions

▣ Preference reversal

In certain conditions, our preferences and/or evaluations may change even though the attributes of the objects remain the same.

Rational prioritization (transitive):

A is more than **B** is more than **C**

Irrational prioritization (intransitive):

A is more than **B** is more than **C** is more than **A**

Conclusions

▣ Preference reversal

In certain conditions, our preferences and/or evaluations may change even though the attributes of the objects remain the same.

Rational prioritization (transitive):

A is more than **B** is more than **C**

Irrational prioritization (intransitive):

A is more than **B** is more than **C** is more than **A**

amount

defect

amount

defect

amount

defect

Conclusions

- ▣ **Preference reversal**

- ▣ **Evaluability effect**

Our evaluation of options is only based on the information immediately available.

We do not consider relative value of possible alternatives if they are not available.

Conclusions

- ▣ **Preference reversal**

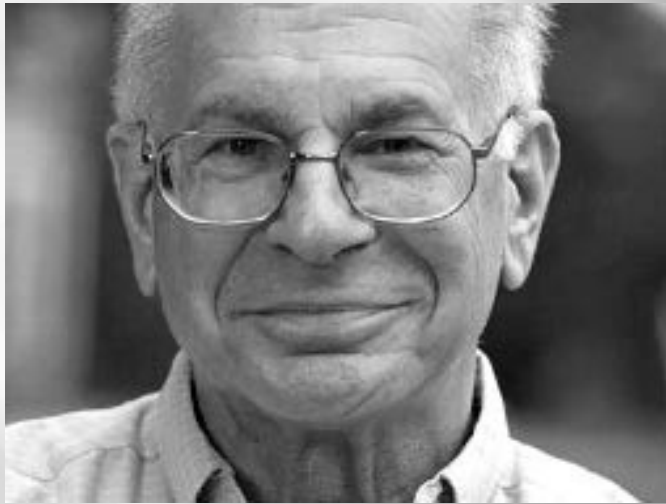
- ▣ **Evaluability effect**

- ▣ **Loss aversion**

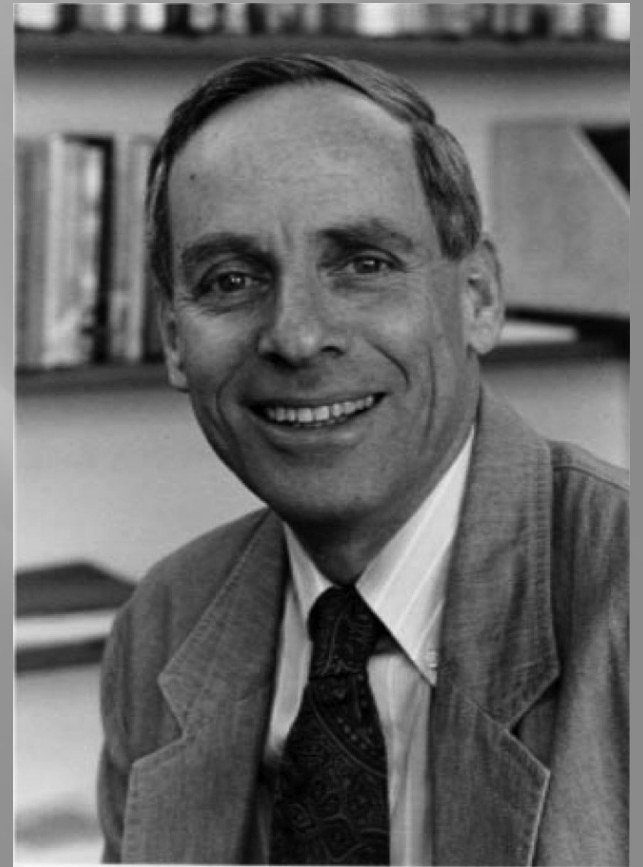
We invest more into avoiding losses than into achieving gains (of the same value).

Loss aversion

Daniel Kahneman



Amos Tversky



Risk aversion

People avoid uncertainty.

(Daniel Bernoulli)

Loss aversion

Kahneman & Tversky

Situation A:

You have been given \$1,000. You are now asked to choose one of these options: 50% chance to **win** \$1,000 **OR** get \$500 for sure

Situation B:

You have been given \$2,000. You are now asked to choose one of these options: 50% chance to **lose** \$1,000 **OR** lose \$500 for sure 40 pieces

Loss aversion

Kahneman & Tversky

Situation A:

You have been given \$1,000. You are now asked to choose one of these options: 50% chance to **win** \$1,000 **OR** get \$500 for sure

50% chance of \$1,000 or \$2,000

OR

100% chance of \$1,500

Situation B:

You have been given \$2,000. You are now asked to choose one of these options: 50% chance to **lose** \$1,000 **OR** lose \$500 for sure 40 pieces

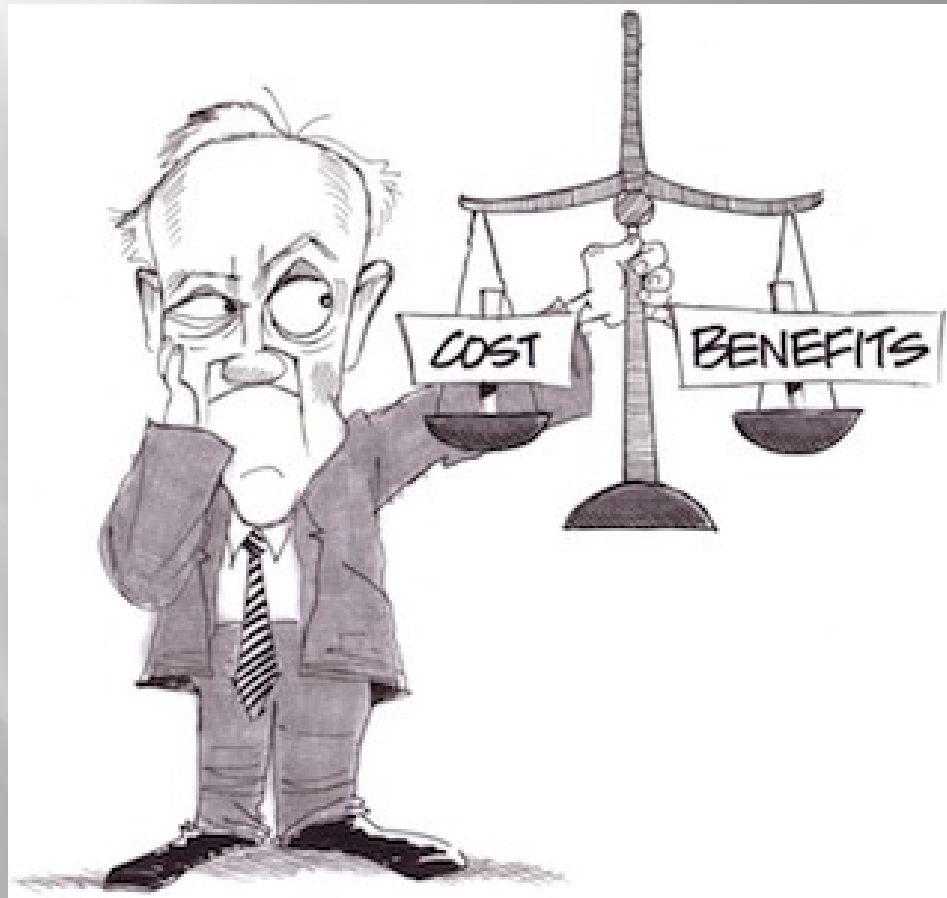
50% chance of \$1,000 or \$2,000

OR

100% chance of \$1,500

Loss aversion

Kahneman & Tversky



Loss aversion

	Certain \$1,500 gain	Uncertain \$1,000 or \$2,000 gain
Situation A: \$1,000 given 50% chance to win additional \$1,000 OR get \$500 for sure		
Situation B: \$ 2,000 given 50% chance to lose \$1,000 OR lose \$500 for sure 40 pieces		

Loss aversion

	Certain \$1,500 gain	Uncertain \$1,000 or \$2,000 gain
Situation A: \$1,000 given 50% chance to win additional \$1,000 OR get \$500 for sure	YES!!!	No, thanks.
Situation B: \$ 2,000 given 50% chance to lose \$1,000 OR lose \$500 for sure 40 pieces		

Loss aversion

	Certain \$1,500 gain	Uncertain \$1,000 or \$2,000 gain
Situation A: \$1,000 given 50% chance to win additional \$1,000 OR get \$500 for sure	YES!!!	No, thanks.
Situation B: \$ 2,000 given 50% chance to lose \$1,000 OR lose \$500 for sure 40 pieces	Not if I can avoid it.	THANKS FOR THE CHANCE!!!

Loss aversion

	Certain \$500 gain	Uncertain \$1,000 or \$0 gain
Situation A: \$1,000 given 50% chance to win additional \$1,000 OR get \$500 for sure	YES!!!	No, thanks.
Situation B: \$ 2,000 given 50% chance to lose \$1,000 OR lose \$500 for sure 40 pieces	Not if I can avoid it.	THANKS FOR THE CHANCE!!!

Loss aversion

	Certain \$500 loss	Uncertain \$1,000 or \$0 loss
Situation A: \$1,000 given 50% chance to win additional \$1,000 OR get \$500 for sure	YES!!!	No, thanks.
Situation B: \$ 2,000 given 50% chance to lose \$1,000 OR lose \$500 for sure 40 pieces	Not if I can avoid it.	THANKS FOR THE CHANCE!!!

Loss aversion

A matter of FRAMING.

Influenced by CONTEXT.

Loss aversion, preference reversal & any choice

A matter of FRAMING.

Influenced by CONTEXT.

Dictionary story revisited

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Three groups:

	Offered price Dictionary A (10,000 entries, like new)	Offered price Dictionary B (20,000 entries, cover torn)
Group 1 - simultaneous evaluation	\$ 19	\$ 27
Group 2 - Dictionary A only	\$ 24	-
Group B - Dictionary B only	-	\$ 20

Dictionary story revisited

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Group 2 - Dictionary A only	\$ 24	-
Group B - Dictionary B only	-	\$ 20

Additional materials

- ▣ **Before attempting the first quiz, watch the two videos available in the interactive syllabus in the IS:**

Dan Ariely's TED talk on decision making

Daniel Kahneman's TED talk on past, present and future selves

- ▣ **Recommended good reading on behavioural economics:**

Kahneman, Daniel. *Thinking, Fast and Slow*.

Ariely, Dan. *Predictably Irrational*.

Ariely, Dan. *The Upside of Irrationality*.

Rationality Myth

To be continued...



Thank you!