15. Ratio Bias. Instructions for Choices between lotteries – Experiment 1

Problem 1

Bag A contains 10 poker chips, 1 red chip and 9 green chips. Bag B contains 100 poker chips, 10 red chips and 90 green chips. You can win €80 by extracting a red chip from one of the two bags. Which bag do you choose?

- Bag A (1 red chip and 9 green chips)
- Bag B (10 red chips and 90 green chips)

Problem 2

Bag A contains 10 poker chips, 1 red chip and 9 green chips. Bag B contains 100 poker chips, 9 red chips and 91 green chips. You can win €80 by extracting a red chip from one of the two bags. Which bag do you choose?

- Bag A (1 red chip and 9 green chips)
- Bag B (9 red chips and 91 green chips)

Problem 3

Bag A contains 10 poker chips, 1 red chip and 9 green chips. Bag B contains 100 poker chips, 8 red chips and 92 green chips. You can win €80 by extracting a red chip from one of the two bags. Which bag do you choose?

- Bag A (1 red chip and 9 green chips)
- Bag B (8 red chips and 92 green chips)

Problem 4

Bag A contains 10 poker chips, 1 red chip and 9 green chips. Bag B contains 100 poker chips, 7 red chips and 93 green chips. You can win €80 by extracting a red chip from one of the two bags. Which bag do you choose?

- Bag A (1 red chip and 9 green chips)
- Bag B (7 red chips and 93 green chips)

Problem 5

Bag A contains 10 poker chips, 1 red chip and 9 green chips. Bag B contains 100 poker chips, 6 red chips and 94 green chips. You can win €80 by extracting a red chip from one of the two bags. Which bag do you choose?

- Bag A (1 red chip and 9 green chips)
- Bag B (6 red chips and 94 green chips)

Problem 6

Bag A contains 10 poker chips, 1 red chip and 9 green chips. Bag B contains 100 poker chips, 5 red chips and 95 green chips. You can win €80 by extracting a red chip from one of the two bags. Which bag do you choose?

- Bag A (1 red chip and 9 green chips)
- Bag B (5 red chips and 95 green chips)

Problem 7

Bag A contains 10 poker chips, 1 red chip and 9 green chips. Bag B contains 100 poker chips, 4 red chips and 96 green chips. You can win €80 by extracting a red chip from one of the two bags. Which bag do you choose?

- Bag A (1 red chip and 9 green chips)
- Bag B (4 red chips and 96 green chips)

Problem 8

Bag A contains 10 poker chips, 1 red chip and 9 black chips. Bag B contains 100 poker chips, 3 red chips and 97 green chips. You can win €80 by extracting a red chip from one of the two bags. Which bag do you choose?

Bag A (1 red chip and 9 green chips)
 Bag B (3 red chips and 97 green chips)

Appendix B – Screenshots of the choice tasks – Experiment 2

Below you are asked to choose between two urns from which to draw a ball. You can **win a prize if the ball drawn is red**. One urn contains 1000 balls, 87 red balls and 913 black balls. The other urn contains 100 balls, 10 red balls and 90 black balls. From which urn do you want to draw for a **prize of EUR20**.

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 \bigcirc I choose the urn with 87 red balls out of 1000

 \bigcirc I choose the urn with 10 red balls out of 100

Decision Pair	Low Ratio (small urn)	High (large urn)
Pair 1	1/10	10/100
Pair 2	1/10	9/100
Pair 3	1/10	8/100
Pair 4	10/100	100/1000
Pair 5	10/100	93/1000
Pair 6	10/100	87/1000
Pair 7	1/100	10/1000
Pair 8	1/100	7/1000
Pair 9	1/100	5/1000
Pair 10	1/1000	92/10000
Pair 11	6/1000	57/10000
Pair 12	23/1000	211/10000
Pair 13	33/10000	297/100000
Pair 14	27/10000	237/100000
Pair 15	03/74	27/740
Pair 16	1/56	9/560
Pair 17	1/257	10/2586
Pair 18	1/10	91/1000
Pair 19	1/10	793/10000
Pair 20	5/100	432/10000
Pair 21	1/10	11/100
Pair 22	02/74	24/740
Pair 23	7/1000	75/10000
Pair 24	11/100	99/1000
Pair 25	7/100	61/1000

Appendix C – Screenshots of the comparative investment task – Experiment 2

You can either keep this endowment, or use it to invest it in one of the two projects described below. Please indicate your choice for each on of the projects, A and B. For each project, we offer you several investment possibilities implying different amounts to be invested. Please indicate your choice for each one of them.

Payoffs are determined as follows: one of the two projects will be selected for real pay. Within that project, one of your choices will be randomly selected. If you have chosen not to invest for the selected choice, you simply keep your EUR 6. If you have chosen to invest, you get your endowment minus the amount you have used to buy the investment; in addition to that, an extraction will determine whether your investment was successful or not. If it was, you obtain an additional EUR40, if not you obtain nothing in addition to what remains of your endowment.

Project A: one share in project A with a potential return of EUR40. 7 projects out of 100 are expected to be successful

O Invest in project A for EUR0.5	 Do not to invest
 Invest in project A for EUR1 	🔿 Do not to invest
O Invest in project A for EUR1.5	🔿 Do not to invest
 Invest in project A for EUR2 	🔿 Do not to invest
O Invest in project A for EUR2.5	🔿 Do not to invest
 Invest in project A for EUR3 	🔿 Do not to invest
 Invest in project A for EUR3.5 	🔿 Do not to invest
 Invest in project A for EUR4 	🔿 Do not to invest
 Invest in project A for EUR4.5 	🔿 Do not to invest
 Invest in project A for EUR5 	🔿 Do not to invest
 Invest in project A for EUR5.5 	🔿 Do not to invest
 Invest in project A for EUR6 	🔿 Do not to invest

Project B: one share in project B with a potential return of EUR40. 61 projects out of 1000 are expected to be successful.

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)	Invest in project B for EUR0.5	0	Do not to invest
D	Invest in project B for EUR1	0	Do not to invest
D	Invest in project B for EUR1.5	0	Do not to invest
D	Invest in project B for EUR2	0	Do not to invest
)	Invest in project B for EUR2.5	0	Do not to invest
D	Invest in project B for EUR3	0	Do not to invest
D	Invest in project B for EUR3.5	0	Do not to invest
D	Invest in project B for EUR4	0	Do not to invest
D	Invest in project B for EUR4.5	0	Do not to invest
D	Invest in project B for EUR5	0	Do not to invest
D	Invest in project B for EUR5.5	0	Do not to invest
)	Invest in project B for EUR6	0	Do not to invest

Screenshots for the comparative insurance task – Experiment 2

?	For the present experiment you were paid a EUR5 show-up fee. However, there is a risk that you may lose that money. You are now given the opportunity to insure yourself against the risk of losing your EUR5 .							
You are presented two scenarios. At the end of the session, one of these two scenarios will be selected for real play. Within th								
	choice list, one choice will then be selected and will determine your payoff for this task.							
	Scenario A: Please ch	noose between naving for	Scenario B: Please d	hoose between paving for				
	insurance and extracting one ball from an urn		insurance and extracting one ball from an urn					
	containing 59 black t	oalls out of 1000 balls in	containing 423 black balls out of 10000 balls in total. You loss your EUR 5 if the ball extracted					
	is black	Lok 5 II the ball extracted	is black	Lok 5 II the ball extracted				
	○ A: Insure for EUR0.05	○ A: I choose the random draw	O B: Insure for EUR0.05	○ B: I choose the random draw				
	○ A: Insure for EUR0.1	○ A: I choose the random draw	○ B: Insure for EUR0.1	○ B: I choose the random draw				
	A: Insure for EUR0.15	○ A: I choose the random draw	O B: Insure for EUR0.15	○ B: I choose the random draw				
	A: Insure for EUR0.2	○ A: I choose the random draw	O B: Insure for EUR0.2	\bigcirc B: I choose the random draw				
	 A: Insure for EUR0.25 	○ A: I choose the random draw	O B: Insure for EUR0.25	\bigcirc B: I choose the random draw				
	O A: Insure for EUR0.3	○ A: I choose the random draw	O B: Insure for EUR0.3	○ B: I choose the random draw				
	 A: Insure for EUR0.35 	○ A: I choose the random draw	O B: Insure for EUR0.35	○ B: I choose the random draw				
	O A: Insure for EUR0.4	○ A: I choose the random draw	O B: Insure for EUR0.4	\bigcirc B: I choose the random draw				
	 A: Insure for EUR0.45 	 A: I choose the random draw 	O B: Insure for EUR0.45	○ B: I choose the random draw				
	 A: Insure for EUR0.5 	O A: I choose the random draw	O B: Insure for EUR0.5	○ B: I choose the random draw				
	 A: Insure for EUR0.55 	O A: I choose the random draw	O B: Insure for EUR0.55	○ B: I choose the random draw				
	A: Insure for EUR0.6	O A: I choose the random draw	O B: Insure for EUR0.6	○ B: I choose the random draw				
	A: Insure for EUR0.65	 A: I choose the random draw 	O B: Insure for EUR0.65	○ B: I choose the random draw				
	A: Insure for EUR0.7	 A: I choose the random draw 	O B: Insure for EUR0.7	○ B: I choose the random draw				
	A: Insure for EUR0.75	 A: I choose the random draw 	O B: Insure for EUR0.75	○ B: I choose the random draw				
	A: Insure for EUR0.8	 A: I choose the random draw 	O B: Insure for EUR0.8	○ B: I choose the random draw				
	 A: Insure for EUR0.85 	 A: I choose the random draw 	 B: Insure for EUR0.85 	 B: I choose the random draw 				
	 A: Insure for EUR0.9 	 A: I choose the random draw 	O B: Insure for EUR0.9	O B: I choose the random draw				
	 A: Insure for EUR0.95 	 A: I choose the random draw 	 B: Insure for EUR0.95 	 B: I choose the random draw 				
	A: Insure for EUR1.0	 A: I choose the random draw 	O B: Insure for EUR1.0	 B: I choose the random draw 				

Appendix D - Screenshots for the choice task – Between-subject design – Experiment 2



Below you are asked to choose repeatedly between different certain amounts and a draw from an urn containing **1** red ball(s) and **9** black balls. The prize for drawing a red ball from the urn is **EUR100**.

In the payoff determination phase, one of your choices below will be selected at random. In case you have chosen the sure amount in the selected choice, you will simply be paid that amount. In case you have chosen the extraction, one ball will be extracted from the urn: if the ball is red, you will be paid EUR 100; if the ball is black you will obtain nothing.

- I choose EUR0.5 for sure O I choose EUR1 for sure I choose EUR2 for sure I choose EUR3 for sure I choose EUR4 for sure ○ I choose EUR5 for sure I choose EUR6 for sure I choose EUR7 for sure I choose EUR8 for sure I choose EUR9 for sure I choose EUR10 for sure O I choose EUR11 for sure I choose EUR12 for sure I choose EUR13 for sure O I choose EUR14 for sure O I choose EUR15 for sure I choose EUR16 for sure O I choose EUR17 for sure O I choose EUR18 for sure O I choose EUR19 for sure I choose EUR20 for sure O I choose EUR21 for sure I choose EUR22 for sure I choose EUR23 for sure I choose EUR24 for sure I choose EUR25 for sure
- I choose the extraction
- 🔘 I choose the extraction
- 🔘 I choose the extraction
- I choose the extraction
- I choose the extraction
- 🔘 I choose the extraction
- I choose the extraction
- 🔘 I choose the extraction

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Screenshot for the insurance task – Between-subject design – Experiment 2



You are now offered the opportunity to buy **insurance against the loss of the EUR100**. Imagine the following scenario: **80,000 prizes** are assigned every year. Out of these prizes,**783 prizes per year** are not delivered for example due to lost contact data.

Please indicate in the list below which insurance premium you are ready to pay to avoid the risk of your prize being lost. One of your choices will be selected at random. If for that choice you have elected to take up insurance, the insurance premium will be deducted from your EUR 100 and you will obtain the remaining amount. If you should have elected not to buy insurance, a random device will determine whether you lose your prize or not.

- I pay EUR0.2 for insurance ○ I pay EUR0.4 for insurance O I pay EUR0.6 for insurance I pay EUR0.8 for insurance O I pay EUR1 for insurance O I pay EUR1.5 for insurance I pay EUR2 for insurance O I pay EUR3 for insurance O I pay EUR4 for insurance O I pay EUR5 for insurance O I pay EUR6 for insurance ○ I pay EUR7 for insurance O I pay EUR8 for insurance I pay EUR9 for insurance ○ I pay EUR10 for insurance I pay EUR11 for insurance O I pay EUR12 for insurance O I pay EUR13 for insurance O I pay EUR14 for insurance ○ I pay EUR15 for insurance O I pay EUR16 for insurance O I pay EUR17 for insurance ○ I pay EUR18 for insurance O I pay EUR19 for insurance I pay EUR20 for insurance
- I choose to run the risk of losing the prize

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- \bigcirc I choose to run the risk of losing the prize
- I choose to run the risk of losing the prize
- I choose to run the risk of losing the prize
- O I choose to run the risk of losing the prize
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 I choose to run the risk of losing the prize

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Screenshot for the investment task – Between-subject design – Experiment 2

