Multidimensional Ellsberg: Online Appendix

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A Additional analysis of the Lab data

Choosing Prob.	
(20/60,$20,0)	76%
(r/60,$20,0)	11%
(g/60,$20,0)	12%
(20/60,$g,0)	33%
(r/60,$g,0)	12%
(g/60,$g,0)	55%
(20/60,$20,20)	73%
(r/60,$20,20)	13%
(g/60,$20,20)	13%
(20/60,$20,g)	48%
(r/60,$20,g)	36%
(g/60,$20,g)	15%

Choosing Prize	
(20/60,$20,0)	82%
(20/60,$r,0)	9%
(20/60,$g,0)	8%
(g/60,$20,0)	38%
(g/60,$r,0)	10%
(g/60,$g,0)	52%
(20/60,$20,20)	75%
(20/60,$r,20)	15%
(20/60,$g,20)	9%
(20/60,$20,g)	64%
(20/60,$r,g)	27%
(20/60,$g,g)	9%

Choosing Date	
(20/60,$20,20)	52%
(20/60,$20,r)	34%
(20/60,$20,g)	14%
(g/60,$20,20)	30%
(g/60,$20,r)	57%
(g/60,$20,g)	13%
(20/60,$g,20)	29%
(20/60,$g,r)	45%
(20/60,$g,g)	26%
(g/60,$g,20)	23%
(g/60,$g,r)	61%
(g/60,$g,g)	16%

Table A.1: Effect of a fixed ambiguous dimension (green).

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		green		
Choose PROB. -	red	0	1	Total
Effect of fixed	0	31	4	35
ambiguous PRIZE	1	3	36	39
	Total	34	40	74

		green		
Choose PROB. -	red	0	1	Total
Effect of fixed	0	49	3	52
ambiguous DATE	1	3	16	19
	Total	52	19	71

		green		
Choose PRIZE -	red	0	1	Total
Effect of fixed	0	39	1	40
ambiguous PROB.	1	2	38	40
	Total	41	39	80

		green		
Choose PRIZE -	red	0	1	Total
Effect of fixed	0	63	5	68
ambiguous DATE	1	1	4	5
	Total	64	9	73

		green		
Choose DATE -	red	0	1	Total
Effect of fixed	0	27	1	28
ambiguous PROB.	1	2	23	25
	Total	29	24	53

		green		
Choose DATE -	red	0	1	Total
Effect of fixed	0	32	1	33
ambiguous PRIZE	1	3	13	16
	Total	35	14	49

		green		
Choose DATE -	red	0	1	Total
Effect of fixed	0	22	2	24
ambiguous PRIZE	1	2	23	25
& ambiguous PROB.	Total	24	25	49

Table A.2: Propensity to switch to more exposure. For each of the choice problems in Table 4 we looked at the participants who chose the color black (no ambiguity) when the fixed dimensions were objectively known. For each of the two cases when a fixed dimension is made ambiguous (positively correlated with red and positively correlated with green) we assign the value 1 to any participant who switched from black to more exposure, and zero otherwise.

Choosing Probability	Coeff. (Std. Err.)
Constant	0.142*** (.0339)
Amb. Prize Red	.4830*** (0.0622)
Amb. Prize Green	0.1307** (.0638)
Amb. Date Red	0.1521*** (.0504)
Amb. Date Green	.2848*** (.0482)

Choosing Prize	Coeff. (Std. Err.)
Constant	0.1434*** (.0304)
Amb. Prob. Red	.4448*** (0.2876)
Amb. Prob. Green	0.0694 (.0554)
Amb. Date Red	0.02 (.0307)
Amb. Date Green	.1236*** (.0316)

Choosing Date	Coeff. (Std. Err.)
Constant	.3939*** -0.04
Amb. Prob. Red	-0.05 (0.0614)
Amb. Prob. Green	0.2608*** (.0488)
Amb. Prize Red	0.04 (.0557)
Amb. Prize Green	0.2168*** (.0413)
Amb. Prob. & Prize Red	.1670** (.0758)
Amb. Prob. & Prize Green	0.3345*** (.0565)

Table A.3: Linear regressions for changing a fixed dimension into ambiguous, errors clustered by subject. *** and ** denote significance at the 1% and 5% levels, respectively.

Choosing Probability	Coeff. (Std. Err.)	RRR
Constant	-1.7578*** (0.2445)	
Amb. Prize Red	1.1899*** (0.3361)	3.29
Amb. Prize Green	2.2624*** (.3188)	9.61
Amb. Date Red	1.2540*** (.2805)	3.5
Amb. Date Green	0.62 (.3310)	1.85

Choosing Prize	Coeff. (Std. Err.)	RRR
Constant	-2.1669*** (0.3036)	
Amb. Prob. Red	1.0964*** (0.3638)	2.99
Amb. Prob. Green	2.4680*** (.3501)	11.8
Amb. Date Red	1.1227*** (.2346)	3.0732
Amb. Date Green	0.2 (.2918)	1.22

Choosing Date	Coeff. (Std. Err.)	RRR
Constant	-1.2379*** (.2385)	
Amb. Prob. Red	1.8947*** (0.2720)	6.65
Amb. Prob. Green	0.4355 (.3024)	1.55
Amb. Prize Red	1.6601*** (.2295)	5.2601
Amb. Prize Green	0.9841*** (.2563)	2.68
Amb. Prob. & Prize Red	2.3729*** (.3204)	10.73
Amb. Prob. & Prize Green	0.9194*** (.3546)	2.51

Table A.4: Multinomial regression for choosing green when a fixed dimension becomes ambiguous, errors clustered by subject. The constant denotes the benchmark case in which the fixed dimensions are not ambiguous. *** and ** denote significance at the 1% and 5% levels, respectively. 'RRR' denotes the Relative Risk Ratio.

Choosing Probability	Coeff. (Std. Err.)
Constant	.1471*** (.0308)
Amb. Prize Red	.2146*** (0.0692)
Amb. Prize Green	.4765*** (.0592)
Amb. Date Red	.2296*** (.0544)
Amb. Date Green	0.09 (.0553)

Choosing Prize	Coeff. (Std. Err.)
Constant	0.1 (.0280)
Amb. Prob. Red	.1526** (0.0601)
Amb. Prob. Green	0.4719*** (.0571)
Amb. Date Red	0.1576*** (.0328)
Amb. Date Green	0.02 (.0292)

Choosing Date	Coeff. (Std. Err.)
Constant	.2248*** (.0417)
Amb. Prob. Red	0.4337*** (0.0552)
Amb. Prob. Green	0.0847 (.0632)
Amb. Prize Red	0.3792*** (.0474)
Amb. Prize Green	.2120*** (.0573)
Amb. Prob. & Prize Red	0.5320*** (.0580)
Amb. Prob. & Prize Green	0.1962** (.0810)

Table A.5: Linear regression for choosing green when a fixed dimension becomes ambiguous, with errors clustered by subject. *** and ** denote significance at the 1% and 5% levels, respectively.

Answer to columns' choice problem that appeared on screen 3:

		(20/60,20,0)	(20/60,20,r)	(20/60,20,g)	
Choose DATE -	(r/60,20,0)	**0.26**	**0.03**	**0**	0.29
Effect of fixed	(r/60,20,r)	**0.04**	**0.09**	**0.02**	0.15
ambiguous PROB.	(r/60,20,g)	**0.21**	**0.24**	**0.11**	0.56
		0.51	0.36	0.13	1

		(20/60,20,0)	(20/60,20,r)	(20/60,20,g)	
Choose DATE -	(20/60,r,20)	**0.25**	**0.03**	**0.02**	0.3
Effect of fixed	(20/60,r,r)	**0.1**	**0.08**	**0.03**	0.22
ambiguous PRIZE	(20/60,r,g)	**0.15**	**0.25**	**0.08**	0.48
		0.51	0.36	0.13	0.99

		(20/60,20,0)	(20/60,20,r)	(20/60,20,g)	
Choose DATE -	(r/60,r,20)	**0.16**	**0.02**	**0**	0.19
Effect of fixed	(r/60,r,r)	**0.08**	**0.11**	**0.04**	0.24
ambiguous PRIZE	(r/60,r,g)	**0.26**	**0.23**	**0.09**	0.58
& ambiguous PROB.		0.51	0.36	0.13	0.99

Answer to columns' choice problem that appeared on screen 5:

		(20/60,20,0)	(20/60,20,r)	(20/60,20,g)	
Choose DATE -	(r/60,20,0)	**0.28**	**0**	**0.01**	0.29
Effect of fixed	(r/60,20,r)	**0.01**	**0.12**	**0.02**	0.15
ambiguous PROB.	(r/60,20,g)	**0.26**	**0.21**	**0.09**	0.56
		0.55	0.33	0.12	1

		(20/60,20,0)	(20/60,20,r)	(20/60,20,g)	
Choose DATE -	(20/60,r,20)	**0.25**	**0.05**	**0**	0.3
Effect of fixed	(20/60,r,r)	**0.09**	**0.1**	**0.02**	0.22
ambiguous PRIZE	(20/60,r,g)	**0.21**	**0.18**	**0.1**	0.48
		0.55	0.33	0.12	1

		(20/60,20,0)	(20/60,20,r)	(20/60,20,g)	
Choose DATE -	(r/60,r,20)	**0.16**	**0.01**	**0.01**	0.19
Effect of fixed	(r/60,r,r)	**0.1**	**0.1**	**0.03**	0.24
ambiguous PRIZE	(r/60,r,g)	**0.28**	**0.22**	**0.08**	0.58
& ambiguous PROB.		0.55	0.33	0.12	0.99

Table A.6: 3 Bottom Matrices in Table 4 using in columns the answers from Screen 3 and 5.

B Additional data from the Lab experiment

Table B.7 includes the answers that are not reported in the main text.

Screen 1 Diagon

(20/60,$20,0)	67%
(r/60,$r,0)	18%
(g/60,$g,0)	15%

Screen 3 Column 2

(20/60,$20,r)	56%
(r/60,$r,r)	14%
(g/60,$g,r)	30%

Screen 3 Column 3

(20/60,$20,g)	58%
(r/60,$r,g)	31%
(g/60,$g,g)	11%

Screen 4 row 1

(1,$20,20)	51%
(1,$20,r)	32%
(1,$20,g)	18%

Screen 4 row 2

(1,$r,20)	31%
(1,$r,r)	25%
(1,$r,g)	44%

Screen 4 row 3

(1,$g,20)	31%
(1,$g,r)	48%
(1,$g,g)	21%

Screen 4 column 1

(1,$20,20)	76%
(1,$r,20)	14%
(1,$g,20)	9%

Screen 4 column 2

(1,$20,r)	66%
(1,$r,r)	8%
(1,$g,r)	26%

Screen 4 column 3

(1,$20,g)	69%
(1,$r,g)	22%
(1,$g,g)	9%

Screen 4 diagon 1

(1,$20,20)	79%
(1,$r,r)	14%
(1,$g,g)	6%

Screen 6 row 1

(20/60,$40,20)	51%
(20/60,$40,r)	37%
(20/60,$40,g)	12%

Screen 6 row 2

(40/60,$20,20)	51%
(40/60,$20,r)	33%
(40/60,$20,g)	16%

Screen 6 column 1

(20/60,$40,20)	32%
(40/60,$20,20)	68%

Screen 6 column 2

(20/60,$40,r)	29%
(40/60,$20,r)	71%

Screen 6 column 3

(20/60,$40,g)	28%
(40/60,$20,g)	72%

Screen 7 row 1

(1,$13,20)	48%
(1,$13,r)	37%
(1,$13,g)	14%

Screen 7 row 2

(20/60,$40,20)	56%
(20/60,$40,r)	26%
(20/60,$40,g)	19%

Screen 7 column 1

(1,$13,20)	44%
(20/60,$40,20)	56%

Screen 7 column 2

(1,$13,r)	47%
(20/60,$40,r)	53%

Screen 7 column 3

(1,$13,g)	43%
(20/60,$40,g)	57%

Table B.7: Additional data from the lab experiment.

C Additional analysis of Mechanical Turk data

Choosing Prob.	
(20/60,$20,0)	74%
(r/60,$20,0)	17%
(g/60,$20,0)	10%
(20/60,$g,0)	50%
(r/60,$g,0)	18%
(g/60,$g,0)	32%
(20/60,$20,20)	73%
(r/60,$20,20)	18%
(g/60,$20,20)	9%
(20/60,$20,g)	59%
(r/60,$20,g)	29%
(g/60,$20,g)	12%

Choosing Prize	
(20/60,$20,0)	90%
(20/60,$r,0)	9%
(20/60,$g,0)	1%
(g/60,$20,0)	72%
(g/60,$r,0)	9%
(g/60,$g,0)	19%
(20/60,$20,20)	86%
(20/60,$r,20)	8%
(20/60,$g,20)	6%
(20/60,$20,g)	74%
(20/60,$r,g)	11%
(20/60,$g,g)	15%

Choosing Date	
(20/60,$20,20)	72%
(20/60,$20,r)	21%
(20/60,$20,g)	7%
(g/60,$20,20)	64%
(g/60,$20,r)	20%
(g/60,$20,g)	17%
(20/60,$g,20)	50%
(20/60,$g,r)	27%
(20/60,$g,g)	23%
(g/60,$g,20)	52%
(g/60,$g,r)	20%
(g/60,$g,g)	28%

Table C.1: Mechanical Turk Data, proportions when a fixed dimension becomes ambiguous and correlated with the number of greens.

Choosing Probability	Coeff. (Std. Err.)	RRR
Constant	-1.4566*** (.1423)	
Amb. Prize Red	1.0054*** (0.1725)	2.73
Amb. Prize Green	.4180** (.1741)	1.52
Amb. Date Red	.8242*** (.3123)	2.28
Amb. Date Green	.7376*** (.2849)	2.09
Constant	-2.0445*** (0.1841)	
Amb. Prize Red	.5816** (0.2277)	1.79
Amb. Prize Green	1.5989*** (.2063)	4.95
Amb. Date Red	1.4119*** (.3285)	4.1
Amb. Date Green	0.46 (.4257)	1.58

Choosing Prize	Coeff. (Std. Err.)	RRR
Constant	-2.2885*** (.1656)	
Amb. Prob. Red	1.1527*** (0.1900)	3.17
Amb. Prob. Green	0.2438 (.1938)	1.28
Amb. Date Red	0.8069*** (.2614)	2.24
Amb. Date Green	.6109** (.3035)	1.84
Constant	-3.7471*** (0.3169)	
Amb. Prob. Red	1.6430*** (0.3346)	5.17
Amb. Prob. Green	2.4106*** (.3439)	11.14
Amb. Date Red	1.9089*** (.4401)	6.75
Amb. Date Green	1.8753*** (.4261)	6.52

Choosing Date	Coeff. (Std. Err.)	RRR
Constant	-2.3025*** (0.2549)	
Amb. Prob. Red	0.59 (0.3242)	1.81
Amb. Prob. Green	0.1129 (.3242)	1.12
Amb. Prize Red	0.6570*** (.2429)	1.93
Amb. Prize Green	.6849*** (.2457)	1.98
Amb. Prob. & Prize Red	0.9672*** (.3518)	2.63
Amb. Prob. & Prize Green	0.3 (.3914)	1.36
Constant	.2248*** (.0417)	
Amb. Prob. Red	1.2040*** (0.4182)	3.33
Amb. Prob. Green	0.9628** (.4262)	2.62
Amb. Prize Red	1.6094*** (.3049)	5
Amb. Prize Green	1.4335*** (.3120)	4.19
Amb. Prob. & Prize Red	1.2910*** (.4664)	3.64
Amb. Prob. & Prize Green	1.6895*** (.4232)	5.42

Table C.2: Mechanical Turk Data, Multinomial regression for making one dimension ambiguous and correlated with red (top) and green (bottom). Errors clustered by subject. The constant denotes the benchmark case in which the fixed dimensions are not ambiguous. *** and ** denote significance at the 1% and 5% levels, respectively. 'RRR' denotes the Relative Risk Ratio.

Amb. in Prob & Prize	
(20/60, $20, 20)	72%
(r/60, $r, 20)	15%
(g/60, $g, 20)	13%

Amb. in Prize & Date	
(20/60, $20, 20)	83%
(20/60, $r, r)	9%
(20/60, $g, g)	8%

Amb. in Prob & Date	
(20/60, $20, 20)	67%
(r/60, $20, r)	17%
(g/60, $20, g)	17%

Amb. in Prob, Prize & Date	
(20/60, $20, 20)	78%
(r/60, $r, r)	15%
(g/60, $g, g)	7%

Table C.3: Mechanical Turk Data, Choice between no-ambiguity and multi-dimensional ambiguity.

Treatment	Logit		Linear	
	Coefficient	P>z	Coefficient	P>t
Choosing Prob.				
Prob & Prize	0.141	0.344	0.027	0.35
	(0.149)		(0.028)	
Prob & Date	-0.322	0.228	-0.067	0.25
	(0.267)		(0.059)	
Constant	1.015	0.000	0.734	0.000
	(0.123)		(0.024)	
Choosing Prize				
Prize & Prob.	-0.923	0.000	-0.128	0.000
	(0.162)		(0.023)	
Prize & Date	-0.565	0.018	-0.069	0.040
	(0.238)		(0.034)	
Constant	2.079	0.000	0.889	0.000
	(0.150)		(0.015)	
Choosing Date				
Date & Prob.	-0.284	0.301	-0.060	0.319
	(0.274)		(0.060)	
Date & Prize	0.537	0.029	0.093	0.020
	(0.246)		(0.040)	
Constant	0.977	0.000	0.726	0.000
	(0.147)		(0.029)	

Table C.4: Mechanical Turk Data, Logit & Linear regressions for when participants can choose ambiguity on multiple dimensions. Errors clustered by subject.

D Instructions used in the Lab

This is an experiment in decision making. Various research institutions have provided the money for this experiment.

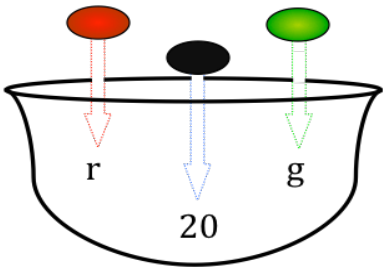
The experimenter will stand in front of you with a non-see-through bag that contains 60 poker chips.

- 20 of these chips are BLACK,
- r chips are RED and
- g chips are GREEN,
- where r+g=40.

You are <u>not</u> told how many RED and GREEN chips there are. All you know is that the number of RED chips plus the number of GREEN chips is 40. Thus, the number of RED chips and the number of GREEN chips may be any whole number between 0 and 40 such that the sum of these two numbers is 40.

Note that you are also <u>not</u> told *how* the number of RED and GREEN chips (i.e., r and g) is determined.

60 Chips in total are in the bag
20 Black chips are in the bag
r Red chips are in the bag
g Green chips are in the bag
r+g = 40 chips



At the end of the experiment, each of you may inspect the content of the bag

In this experiment you are asked to answer a list of question using the computer in front of you. You will first be asked to tell us your gender and your age. This is then

followed by list of questions in which you are asked to choose among *lotteries*. The following are examples of what we call a *lottery*.

Example 1: If the chip drawn is BLACK, you win $20, which you will receive in 20 days. But if the chip drawn is either RED or GREEN, you win nothing.

This lottery may be described in a table as follows:

	prize	date
black	$20	20 days
red		
green		

The empty cells represent the fact that no prize will be won if the drawn chip is either RED or GREEN.

Example 2: If the chip drawn is BLACK or RED, you win nothing. But if the chip drawn is GREEN you win an amount of money equal to g, the number of GREEN chips, and you will receive this amount in r days (recall that g+r=40).

This lottery may also be described as a table as follows:

	prize	date
black		
red		
green	$g	r days

Note that the amount of the prize, as well as the date it will be paid, may depend on the number of RED and GREEN chips as in Example 2 above.

Since in some lotteries the prize will be paid at a future date, we need to guarantee that you will indeed receive the payment at the specified date. This will be explained in detail later in the instructions.

The study consists of 7 separate screens. Five of the screens display 9 lotteries arranged in 3 rows where each row consists of 3 lotteries. Two screens have only 6 lotteries arranged in 2 rows of 3 lotteries.

Example of a screen:

Your task on each screen is as follows.

- For **each row**, we ask that you choose your most preferred lottery in the row.
- For **each column** we ask that you choose your most preferred lottery in the column.
- For screens with 9 lotteries, we ask that you choose your most preferred lottery on the **main diagonal** (from top-left to bottom-right).

At the end of each row/column/main-diagonal there is a box with a drop-down menu from which you select your most preferred lottery.

- To avoid confusion, each choice box is labeled by either the relevant row/column number (for example, "row 1 choice" or "column 1 choice") or by "diagonal choice".
- Whenever you move your cursor over the choice box, the relevant lotteries will be highlighted.
- Once you make a choice, the choice box will be shaded.
- **You can change your choices in each screen as long as you do not press the "Submit" button**.

Please **take your time in answering all the questions there are only 7 screens**. You have plenty of time to think about each question. When you have finished answering all of the questions of each screen, **please review your answers before clicking the submit button**. Note that there is no advantage to finishing quickly as the experiment will end only when everyone has finished answering.

Once all participants have finished answering all questions, we will proceed as follows:

STEP 1. During the experiment you are asked multiple times to choose between lotteries. Each of these choices is a question. The computer will then randomly draw one question from all that you have answered, with equal probability. The chosen question will be called the 'question that counts. The lottery that you have chosen in that question is the one that will determine your payoff. This lottery will be displayed on your screen at the end of the experiment.

NOTE: Each question (or triplet of lotteries) could be the 'question that counts. So, it is in your interest to treat each decision as if it could be the one that determines your payments.

STEP 2. The experimenter will randomly draw a chip from the cloth-bag, in front of everybody. The experimenter will also reveal the full content of the bag.

STEP 3. Given the colored chip that was drawn in Step 2 above, and the lottery selected in the previous step, we will determine the prize amount and the date of payment. (In particular, the experimenter will enter the color of the chosen chip in the computer, and the computer will then display the amount that will be paid and the date in which it will be paid on your screen.)

Whatever prize amount is won in this stage, it will be added to the $5 show up fee. The show up fee and the amounts to be paid TODAY will be paid immediately, at the end of the experiment.

How do we pay on future dates?

You will be given the choice between the following three forms of payment:

1. **PICK UP** On the specified date, you will be allowed to personally pick up an envelope containing the specified amount from Jenny Niese, who has an office in this building, on the 3rd floor (Baxter 350), between 10am to 12pm, and between 2pma and 4pm. You will be asked to present a photo I.D. to verify your identity. If the payment date falls on a weekend, you will be able to collect your payment on the Friday before. If you choose this option, you will be given a sheet of paper with a reminder about the amount and the date. You will also receive an email to remind you of the approaching date.

2. **MAILED CHECK**: If you choose this option, we will mail on the specified date a check of the specified amount to the address you provide. If you choose this option, you will be given an envelope on which we will ask you to write the address to which you would like the check to be mailed (which could be both on campus or off campus), as well as the amount you expect to receive (for your verification).

3. **PAYPAL**: If you choose this option, the specified amount will be made available to any paypal account of your choice on the specified date. You will be asked to let us know the email address corresponding to the paypal account. If you dont have a paypal account, you can open one for free from the paypal website, using an email address of your choice.

We will save all the payment information until the date of the payment, but we will keep it *separately* from the rest of the data collected from the experiment, and will be destroyed once all payment have been made.

You will also be provided with the contact details of Prof. **Pietro Ortoleva** (this will be listed on the sheet of paper with your payment information). Please feel free to contact Prof. Ortoleva if any problem arises with your payment. We will then make sure to deliver you the payment.

Summary

To summarize:

1. You will be presented with a cloth-bag containing 60 chips, 20 of which are BLACK, the others are GREEN and RED. The total number of RED and GREEN chips is 40 but you are not told how many of these are RED or GREEN. In addition, you are not told how the number of RED or GREEN chips was determined.

2. Using a computer program we will present to you several triplets of lotteries, and from each triplet you will be asked to choose your most preferred lottery.

3. After you have answered all question in each screen, **please review them to make sure you are satisfied with the answers you gave**.

4. After you have answered all the questions, then

   (a) The computer will randomly select one of the questions that you answered, as the "question-that-counts".

   (b) The experimenter will draw a chip from the cloth bag and reveal its content.

   (c) Given the chosen question, you receive the outcome of the lottery you selected in that question. In particular, depending on the color of the drawn chip and on the composition of the cloth bag, you may win a monetary prize that will be paid on a particular date.

   (d) The show-up fee of $5, together with any payment listed as TODAY, will be paid at the end of the experiment. For any future payment you will be given the choice to either pick up the amount in person, or receive a check in the mail, or receive it through paypal

E Instructions in Mechanical Turk

Imagine you are presented with a non-see-through bag that contains 60 poker chips.

- **20** of these chips are **BLACK**,
- **r** chips are **RED** and
- **g** chips are **GREEN**,
- where $\mathbf{r} + \mathbf{g} = \mathbf{40}$.

You are **not** told how many RED and GREEN chips there are, **nor** how their number is determined.

All you know is that the number of RED chips plus the number of GREEN chips is 40. Thus, the number of RED chips and the number of GREEN chips may be any whole number between 0 and 40 such that the sum of these two numbers is 40.

Assume that you have the opportunity to inspect the content of the bag at the end of the study.

In this study you will be presented with a list of hypothetical questions in which you are asked to choose among lotteries. The following are examples of what we call a *lottery*.

Example 1: If the chip drawn is BLACK, you win $20, which you will receive in 20 days. But if the chip drawn is either RED or GREEN, you win nothing.

This lottery may be described in a table as follows:

	prize	**date**
black	$20	20 days
red		
green		

The **empty cells** represent the fact that **no prize** will be won if the drawn chip is either RED or GREEN.

Example 2: If the chip drawn is BLACK or RED, you win nothing. But if the chip drawn is GREEN you win an amount of money equal to g, the number of GREEN

chips, and you will receive this amount in r days, where r is the number of RED chips (recall that g+r=40).

This lottery may also be described as a table as follows:

	prize	**date**
black		
red		
green	\$g	r days

Note that the amount of the prize, as well as the date it will be paid, may depend on the number of RED and GREEN chips.

Since in some lotteries the prize will only be paid at a future date, assume that we can guarantee that you will indeed receive the payment at the specified date.

The study consists of seven separate screens. Five of the screens display 9 lotteries arranged in 3 rows where each row consists of 3 lotteries. Two screens have only 6 lotteries arranged in 2 rows of 3 lotteries.

Your task on each screen is as follows.

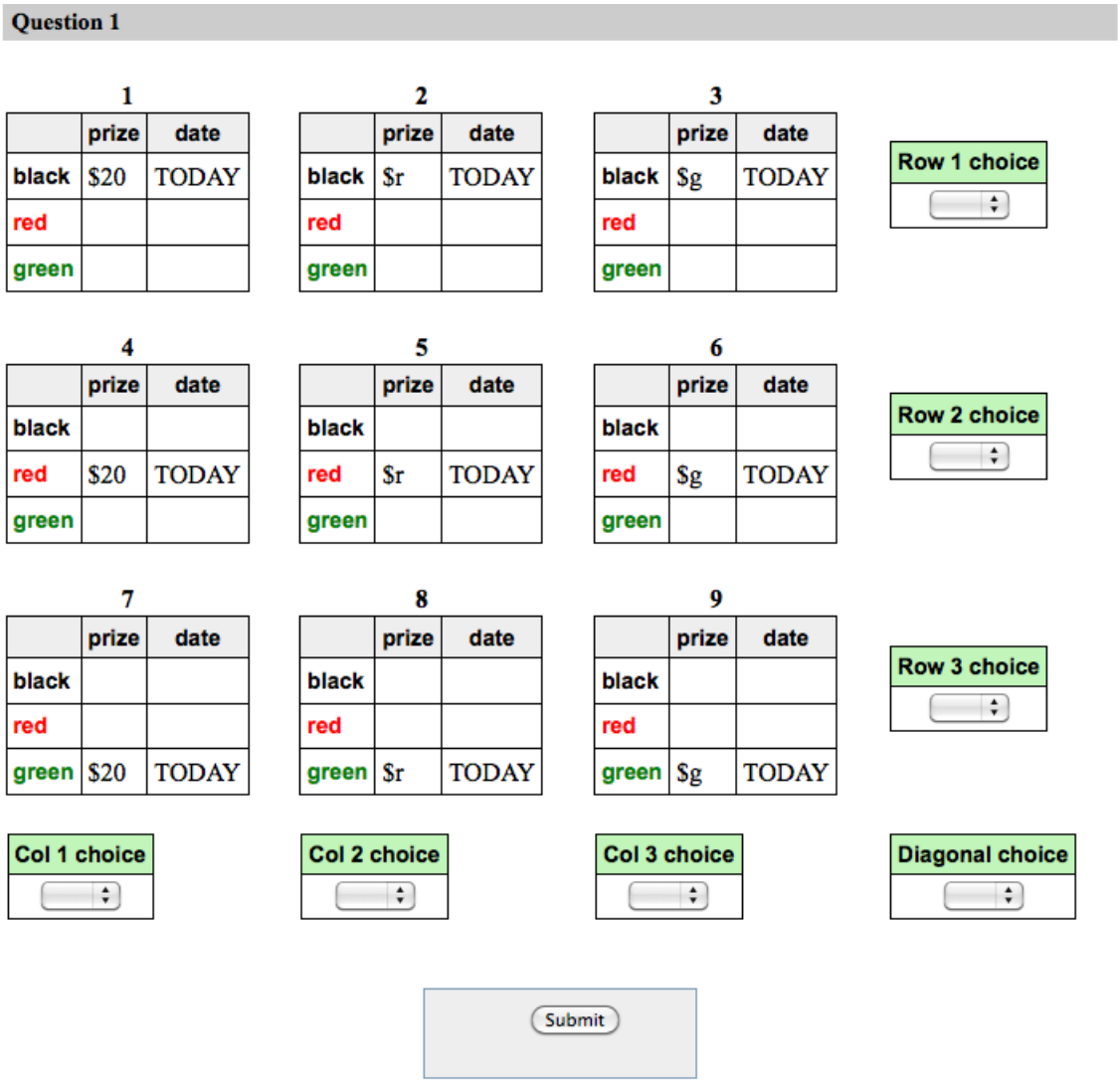
- For **each row**, we ask that you choose your most preferred lottery in the row.
- For **each column** we ask that you choose your most preferred lottery in the column.
- For screens with 9 lotteries, we ask that you choose your most preferred lottery on the **main diagonal** (from top-left to bottom-right).

Each lottery will be labeled by a number and you will make your choice by selecting the appropriate number from a drop-down menu at the end of each row/column/main-diagonal.

You can change your choices as long as you do not press the "Submit" button.

F Screenshots

Screen 1



Question 1

1

	prize	date
black	$20	TODAY
red		
green		

2

	prize	date
black	$r	TODAY
red		
green		

3

	prize	date
black	$g	TODAY
red		
green		

Row 1 choice

4

	prize	date
black		
red	$20	TODAY
green		

5

	prize	date
black		
red	$r	TODAY
green		

6

	prize	date
black		
red	$g	TODAY
green		

Row 2 choice

7

	prize	date
black		
red		
green	$20	TODAY

8

	prize	date
black		
red		
green	$r	TODAY

9

	prize	date
black		
red		
green	$g	TODAY

Row 3 choice

Col 1 choice

Col 2 choice

Col 3 choice

Diagonal choice

Submit

Screen 2

1

	prize	date
black	$20	20 days
red		
green		

2

	prize	date
black	$20	r days
red		
green		

3

	prize	date
black	$20	g days
red		
green		

Row 1 choice

4

	prize	date
black	$r	20 days
red		
green		

5

	prize	date
black	$r	r days
red		
green		

6

	prize	date
black	$r	g days
red		
green		

Row 2 choice

7

	prize	date
black	$g	20 days
red		
green		

8

	prize	date
black	$g	r days
red		
green		

9

	prize	date
black	$g	g days
red		
green		

Row 3 choice

Col 1 choice

Col 2 choice

Col 3 choice

Diagonal choice

Screen 3

1

	prize	date
black	$20	20 days
red		
green		

2

	prize	date
black	$20	r days
red		
green		

3

	prize	date
black	$20	g days
red		
green		

Row 1 choice

4

	prize	date
black		
red	$r	20 days
green		

5

	prize	date
black		
red	$r	r days
green		

6

	prize	date
black		
red	$r	g days
green		

Row 2 choice

7

	prize	date
black		
red		
green	$g	20 days

8

	prize	date
black		
red		
green	$g	r days

9

	prize	date
black		
red		
green	$g	g days

Row 3 choice

Col 1 choice

Col 2 choice

Col 3 choice

Diagonal choice

Screen 4

1

	prize	date
black	$20	20 days
red	$20	20 days
green	$20	20 days

2

	prize	date
black	$20	r days
red	$20	r days
green	$20	r days

3

	prize	date
black	$20	g days
red	$20	g days
green	$20	g days

Row 1 choice

4

	prize	date
black	$r	20 days
red	$r	20 days
green	$r	20 days

5

	prize	date
black	$r	r days
red	$r	r days
green	$r	r days

6

	prize	date
black	$r	g days
red	$r	g days
green	$r	g days

Row 2 choice

7

	prize	date
black	$g	20 days
red	$g	20 days
green	$g	20 days

8

	prize	date
black	$g	r days
red	$g	r days
green	$g	r days

9

	prize	date
black	$g	g days
red	$g	g days
green	$g	g days

Row 3 choice

Col 1 choice

Col 2 choice

Col 3 choice

Diagonal choice

Screen 5

1

	prize	date
black	$20	20 days
red		
green		

2

	prize	date
black	$20	r days
red		
green		

3

	prize	date
black	$20	g days
red		
green		

Row 1 choice

4

	prize	date
black		
red	$20	20 days
green		

5

	prize	date
black		
red	$20	r days
green		

6

	prize	date
black		
red	$20	g days
green		

Row 2 choice

7

	prize	date
black		
red		
green	$20	20 days

8

	prize	date
black		
red		
green	$20	r days

9

	prize	date
black		
red		
green	$20	g days

Row 3 choice

Col 1 choice

Col 2 choice

Col 3 choice

Diagonal choice

Screen 6

1

	prize	date
black	$40	20 days
red		
green		

2

	prize	date
black	$40	r days
red		
green		

3

	prize	date
black	$40	g days
red		
green		

Row 1 choice

4

	prize	date
black		
red	$20	20 days
green	$20	20 days

5

	prize	date
black		
red	$20	r days
green	$20	r days

6

	prize	date
black		
red	$20	g days
green	$20	g days

Row 2 choice

Col 1 choice

Col 2 choice

Col 3 choice

Screen 7

1

	prize	date
black	$13	20 days
red	$13	20 days
green	$13	20 days

2

	prize	date
black	$13	r days
red	$13	r days
green	$13	r days

3

	prize	date
black	$13	g days
red	$13	g days
green	$13	g days

Row 1 choice

4

	prize	date
black	$40	20 days
red		
green		

5

	prize	date
black	$40	r days
red		
green		

6

	prize	date
black	$40	g days
red		
green		

Row 2 choice

Col 1 choice

Col 2 choice

Col 3 choice