Design Document for Robust Econographics

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This document describes a new survey for the World Econographics Project, to be run in a representative sample of the US population. Many of the questions come from the prior survey(s), described in the document "Description of First Pilot for the World Econographics Project". To keep things easier to keep track of, modules will keep their numbering from that document. Note that future installments of our surveys will be based on the prior survey, not this one, so copies of both code should be kept around.

If a module has been changed, the keyword **CHANGED** will precede the title of that module. The modules that have been changed are:

- Probability Weighting (III.B)
- Ambiguity Aversion (III.C)
- Endowment Effect: WTA (III.D)
- Endowment Effect: WTP (III.E)
- Distributional Preferences (III.H)
- Additional, Incentivized, Risk- and Time- Questions (III.N)
- Qualitative Questions (III.O)

For all changed modules the first paragraph describes the changes therein.

We have added dominated options, and associated error messages in the following sections. Please note that the dataset should keep track of whether a dominated option was chosen in the first place (i.e. whether the error message was displayed). Note that the error message was already present in "Additional, Incentivized, Risk- and Time- Questions" (Section III.N), but we've added the requirement that triggering the error message be recorded in the dataset.

- Probability Weighting (III.B)
- Ambiguity Aversion (III.C)
- Endowment Effect: WTA (III.D)

- Endowment Effect: WTP (III.E)
- Additional, Incentivized, Risk- and Time- Questions (III.N)

If a module has been deleted, it will not appear in this document. A list of deleted modules is:

- Risk- and Loss-Aversion, and Time Preferences (III.A)
- Lying Costs (III.G)

If a module has been added, it will appear in or after Section III.O. Some added modules have similar names, and measure similar quantities to those in the prior document, but if they have changed too much, I have included them as an added, rather than changed, module.

I Useful Global Definitions

I.A Payments

Payments to respondents will be in points. The exchange rate is roughly 1 point = \$0.001. For more on payment information, see IV.A.

I.B Adaptive Procedure

An adaptive procedure determines a list of binary choice questions where each choice leads to a different further choice. These are not used in this round of the survey.

I.C Design Principles

Once we identified a number of traits that we wanted to elicit, we used four design principals to decide how to elicit them. In particular, we looked for ways that would:

1. Be implementable on a survey,
2. Be implementable cross-culturally,
3. Avoid correlated measurement error across traits, and
4. Take steps to minimize measurement error within a trait.

These were listed in order of importance. So, for example, if a way of measuring a trait was proposed that would reduce correlated measurement error between that trait and another, but it was not implementable cross-culturally, then this proposed way would not be used.

Some examples of how this was used follow.

1. When deciding on measures of time discount (or time inconsistency) we rejected those that would require the survey taker to log in again at some point in the future (principle 1).

2. When looking for intelligence measures, we focused on those that could be measured using questions that relied on graphical representations (principle 2).

3. When deciding between different ambiguity aversion measures, we separately estimated risk aversion just for use in that measure, so as to avoid correlated measurement errors between risk and ambiguity aversion (principle 3).

4. When eliciting the WTP–WTA gap, we separated the questions for WTP and WTA so as not to introduce measurement error caused by a consistency bias (principle 4).

5. When eliciting a trait we did so twice, as this would reduce measurement error within a trait by instrumenting (principle 4).

I.D Multiple Price List

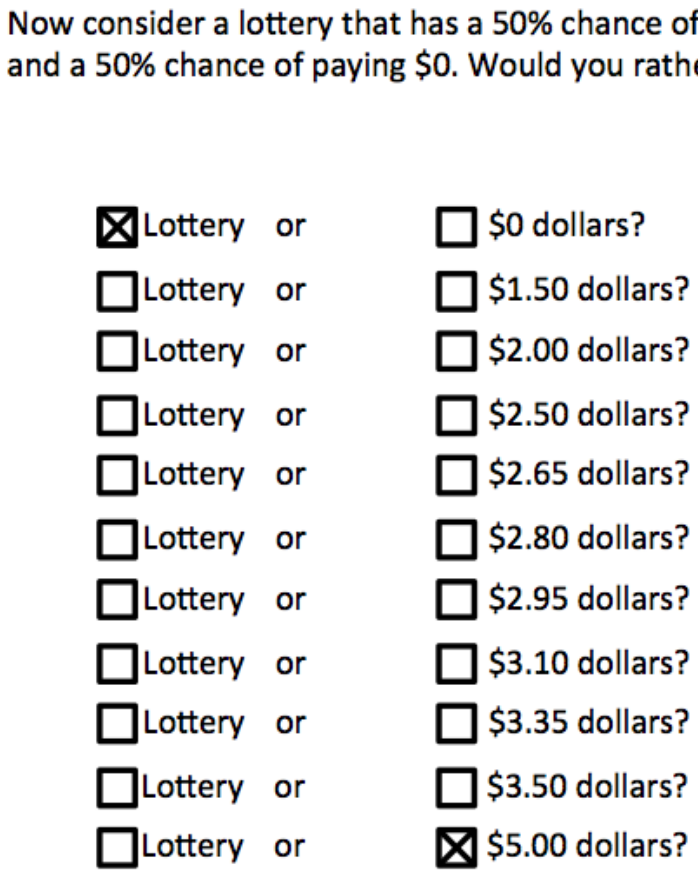
Many of the modules will use a **M**ultiple **P**rice **L**ist (MPL) to determine the certainty equivalent of a lottery. This is a series of questions presented simultaneously with the choices in two columns. Each question asks the respondent if they would like one item or the other. One column of these questions always contains the same answer (say, a monetary amount), while the other varies (for example, lotteries with different probabilities of payoff). These require some training on the part of respondents, and may also require some additional work to code up properly.

For an example of an MPL, see Figure 1. This example is constructed to elicit the certainty equivalent for a 50/50 lottery over \$5 and \$0. For this to be incentive compatible, the respondent will be told that should question be (randomly) selected to be paid, then one of the lines will be chosen (randomly), and they will get the choice from that line. For more on incentives, see IV.A.

Other things of note are that the top right and bottom left boxes are already filled in. This is because no one should want to buy the lottery for more than \$5, or less than \$0, and also because filling in these top and bottom boxes has been shown to prevent multiple cross-overs. That is, if this is used correctly by a respondent, the responses on the right will be filled in up to some point, above which only boxes to the left will be filled in. For example, if someone had a certainty equivalent of \$2.10, then the bottom 6 boxes on the left should be filled in, and the top 5 boxes on the right should be filled in.

If there is some other pattern than the one described above, then this would have multiple cross-overs, and we wouldn't be able to determine the respondent's certainty equivalent. To prevent this, we suggest a couple things. First, there should be some sort of brief training before the first MPL. Second, there should be an auto-complete feature, such that once a cross over has been made (say by ticking the bottom 4 right boxes, and then the left box

Figure 1: An Example of Using MPL to elicit a certainty equivalent



for the 5th from the bottom), then a button could be pushed to fill in the rest of the boxes. Third, if a respondent tries to move forward with anything other than a single cross-over pattern (or all boxes on one side or the other ticked), then they should be given an error message and be asked to try again.

The error messages that will be given will be graphical and demonstrate the "correct" pattern that we are looking for. There will be two error messages. The first, in Figure 2, should be displayed if the respondent tries to autofill or advance without specifying a single-crossover. This will usually occur because they have left a "gap" somewhere by not filling in a box in one of the rows between the last time they checked a box on the left side and the first time they checked a box on the right side. (It can also occur if they don't check any boxes on one of those sides.)

The second error message is displayed in Figure 3. This one should be used when there are multiple crossovers, that is, when the respondent picks a box on the left-hand-side below checking one on the right-hand-side. (Note that the "sides" may be reversed in some places when the options are ascending. This can happen in Section III.E and Section III.H, and is noted there.) Once again, this error can be given if they try to advance or autofill without the proper configuration.

Note further that the spacing between options on the right are irregular. This is done to make sure that we are 1) covering the full range of values, while 2) emphasizing discrimination in the range where respondent's values are likely to lie, and 3) being as parsimonious as

Figure 2: Error message if there is not enough information

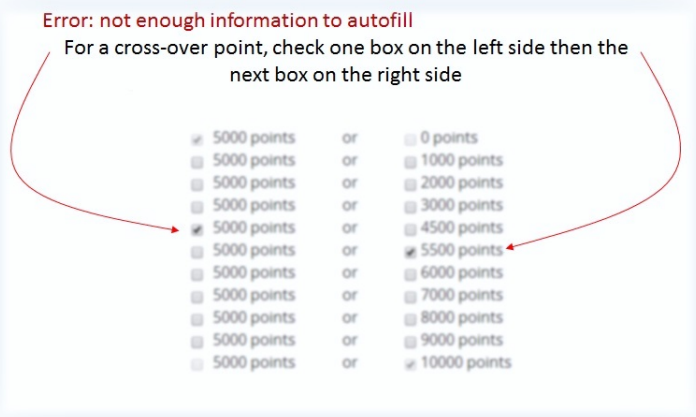
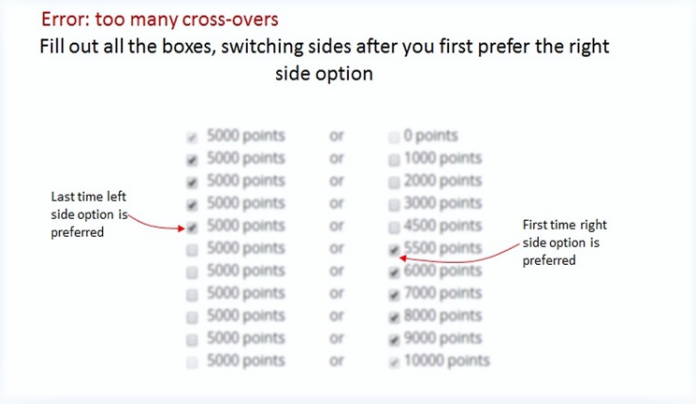


Figure 3: Error message for multiple cross-overs



possible. In the example above we would be able to tell that the respondent's certainty equivalent lay somewhere between \$2.05 and \$2.20, while if we used regular intervals we would either have a wider range of possible values, more questions, or both.

Finally, there should be a "hover" link at the bottom of the page (above the forward arrow button) that gives shortened instructions in case the respondent becomes confused. The exact text of those instructions is the same as some of the training, described in Section II.D.

I.E Payment

Payment for an MPL is straightforward: if a question containing an MPL is selected for payment, then a row is selected at random from amongst the rows in the MPL, and the

respondent is paid according to their choices.

Using Figure 1 as an example, suppose that Row 3 has been randomly selected for payment, and the respondent chose "Lottery" in that row. Then the lottery would be run, and the respondent would be paid according to the outcome (which would be a 50% chance of 0, or a 50% chance of $5). As another example, suppose instead that Row 7 was chosen for payment, and in that row the respondent had selected "$2.95 dollars". Then the respondent would be paid $2.95.

II Prelude to the Survey

II.A Recruitment

We need to worry about how closely respondents pay attention and whether they understand the choices they are making. Relatedly, YouGov is worried about the fact that our survey will likely be far better compensated than their other surveys. Both of these issues may be addressed by being very specific about the nature of this survey.

Email: the email inviting members of the YouGov panel to participate in the survey should be very explicit about the fact that the survey is unusual, experimental, and will be highly compensated. Here is some suggested language:

> Unlike most of our surveys, this one is experimental, and will ask you to make choices between real lotteries with real stakes. The number of points you will be given for participation will thus depend on your own choices and luck. Because this survey is experimental, and will **take between 30 and 45 minutes**, it is more highly compensated than all of the other surveys you have taken: the **average payment will be 10,000 points**, and you **may earn up to 32,500 points**.

II.B CHANGED: Instructions

Instructions should reflect standard experimental instructions. The language is the same as in the first wave, however, we changed the timing to 60 minutes to reflect the true length of the survey. We have also increased the guaranteed payoff to 3,000 points.

> YouGov is inviting you to take a **different** kind of survey.
>
> If you read these instructions carefully and make good decisions **you may earn up to 32,500 points** by the end of the survey. **Please pay close attention,** as you will need to correctly answer a few questions about these instructions.
>
> [add text below, up to next square bracket, when the respondent clicks forward]
>
> During the survey, you will be asked a number of questions that ask you to **choose between different types of lotteries and payments**. At the end of the survey, **two** of these questions will be selected randomly, and your answers to those questions will determine how many points you earn.

[add text below, up to next square bracket, when the respondent clicks forward]

For example, suppose your earnings were determined, in part, by a question that asked you to decide between

- a lottery that gave a 50% chance of 10,000 points and a 50% chance of 0 points, and
- a fixed amount of 1,000 points.

If you chose the lottery, then it would be run, and you would get **either** 0 or 10,000 points, each with 50% probability. **If you chose 1,000 points,** then 1,000 points would be directly credited to your account.

Thus, the points you earn will depend on **both** your choices and luck.

[add text below, up to next square bracket, when the respondent clicks forward]

In addition to the points earned for your choices, you will earn 3,000 points for completing the survey. Thus, the minimum number of points you will earn for taking this survey is 3,000. The maximum is 32,500. The average is 10,000. You will not earn points unless you complete the survey.

The survey pays so much more than usual because the survey will take an hour, and we want you to pay close attention for that entire time.

II.C Attention Quiz

After reading the instructions respondents should be asked a series of questions. Failure to get all of them correct should send them back to the instruction screen with a note at the top stating: "You did not correctly answer all questions about the instructions. Please read them closely again." This should repeat until the respondent gets all questions correct. The questions are:

1. At the end of the survey, how many questions will be randomly selected so that points will be allocated according to your answers? [multiple choice, 1–5]

2. Your payment for this survey will depend on i. luck, ii. your choices, iii. your choices and luck, iv. none of the above? [correct answer is iii.]

3. How long will the survey take? i) Between 10 and 15 minutes, ii) between 10 and 20 minutes, iii) between 30 and 45 minutes, iv) one hour [correct answer is iv]

4. What is the maximum number of points you can earn for taking this survey? i. 1,000, ii. 12,500, iii. 22,500, iv. 32,500, v. 42,500? [correct answer is iv.]

II.D MPL Training

This describes a training that we would like all respondents to go through before beginning the survey. In addition, the text from below "[next page]" to the beginning of the "Example Question" should be available as a "Help" link at the bottom of the page, as described in Section I.D.

> This survey often uses a special type of question. We want to help you answer these questions **quickly** and **accurately**.
>
> This special type of question has many similar choices, as in the example below. The options on the left are always the same, while those on the right change—getting better and better.
>
> If a question like this is picked for payment, **one row** will be selected, and you will be paid according to the choice **you made in that row**. It is important that your answers in each row **are accurate** so you will get the payment **you want**.
>
> You will see a screen that looks like this.
>
> [example figure here—should just be a miniaturized screen shot of the MPL on the next screen]
>
> [next page]
>
> To answer these types of questions **quickly** and **accurately** we suggest you:
>
> 1. Start by looking at the **top row**, and think carefully about each row in turn.
>
> 2. For each row where you **prefer the option on the left** over the option on the right, check the box on the left hand side.
>
> 3. When you find the **first question where you prefer the option on the right** over the option on the left, check the box on the right.
>
> 4. Notice that the option on the right is always better as you go down the list. This means that after you choose one option on the right, you should choose the option on the right for all rows below. Your answers should therefore "cross over" from left to right **only once**.
>
> 5. Once you have filled in the "cross over" point you may hit the Autofill button to fill in the rest of the chart faster. Alternatively, you may check every box manually.
>
> **All rows must have a box checked for you to continue to the next page.**
>
> If you need to start over at any point, hit the **Reset** button to clear out all of the checkmarks.

1. Example Question: For each row in the table below, which option would you prefer? [MPL here]

   a. 5,000 points OR

   b. x points

   [For values of

   $$x \in \{0, 1000, 2000, 3000, 4500, 5500, 6000, 7000, 8000, 9000, 10000\}.]$$

   [Error checking here should not only consider the format, but in addition, it should ensure that the crossover is between 4500 and 5500. As in any other MPL, any errors in filling it out should return them to the MPL with the same boxes filled out, and a detailed error message.]

Note that if the respondent does not properly answer (that is, provide an answer with the crossover between 4500 and 5500), then the following error message should appear:

> You have indicated in row YYY that you prefer ZZZ points to 5000 points. But ZZZ points is less than 5,000 points, which means you would get more by selecting 5000 points. Please correct this.
>
> In all the other questions on this survey, there is no right or wrong answer. However, you should make sure that you select the option that you prefer on **each line**.

The error should fill in the YYY and ZZZ above with a line that they answered incorrectly.

III What we Would Like to Measure and How

III.B CHANGED: Probability Distortion (Weighting)

There are three things changed in this section:

- The amounts given in the questions
- The possible choices for the MPLs
- Error messages for when a dominated option is chosen
- The four questions are now split into two subsections, which should be treated as separate modules (see Section IV.D).

To examine whether or not a respondent weights probabilities we will use a common ratio test.

The common ratio effect is estimated as follows. In particular, we will first offer the respondent a 100% chance of some amount A, and determine the amount that would make them indifferent if they received it with probability 80%. Call this amount B. We then offer

the respondent a choice between a lottery with a 25% chance of A, and find the amount that would make them indifferent if they received it with 20% probability. Call this latter amount C.

Normalizing $u(0) = 0$, under expected utility (EU):

$$u(A) = 0.8u(B)$$
$$0.25u(A) = 0.2u(C) \quad \Rightarrow \quad u(A) = 0.8u(C)$$

so clearly, under EU, B should equal C. However, experimental evidence finds that $B > C$. This can be rationalized by assuming that respondents weight probabilities, as per cumulative prospect theory.

We will measure distortions of this for two different values of A, 2,500 and 4,000 points. In order to make them comparable, we measure violations in terms of $\frac{B-C}{A}$.

III.B.1 Fixed Amounts

This section asks you to choose between lotteries and fixed amounts for two questions

[next page]

1. For each row in the table below, which option would you prefer?

   a. 2,500 points OR

   b. An 80% chance of x points, and a 20% chance of 0 points

   [for values of

   $$x \in \{2200, 2500, 2800, 3100, 3400, 3700, 4000, 4300, 4600, 4900, 5200, 5500, 5800, 6100, 6400, 6700, 7000\}].$$

   [next page]

2. For each row in the table below, which option would you prefer?

   a. 4,000 points OR

   b. A 75% chance of x points, and a 25% chance of 0 points

   [for values of

   $$x \in \{3600, 4000, 4400, 4800, 5200, 5600, 6000, 6400, 6800, 7200, 7600, 8000, 8400, 8800, 9200, 9600, 10000\}].$$

For each question above, there will be an additional error message that should appear if the respondent checks a dominated option.

For Question 1 if the respondent chooses the lottery in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer the lottery, which pays at most 2,500 points, over 2,500 points. Are you sure this is what you want?

Below this error should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether this message was triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 2 if the respondent chooses the lottery in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer the lottery, which pays at most 4,000 points, over 4,000 points. Are you sure this is what you want?

Below this error should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether this message was triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.B.2 Different Lotteries

This section asks you two questions that ask you to decide between two different lotteries.

1. Reminder: As with previous comparisons, the choice on the left side of the list is the same in every row.

   For each row in the table below, which option would you prefer?

   a. A 25% chance of 2,500 points and a 75% chance of 0 points OR

   b. A 20% chance of x points, and an 80% chance of 0 points

   [for values of

   $$x \in \{2200, 2500, 2800, 3100, 3400, 3700, 4000, 4300, 4600, 4900, 5200, 5500, 5800, 6100, 6400, 6700, 7000\}].$$

   [next page]

2. Reminder: As with previous comparisons, the choice on the left side of the list is the same in every row.

   For each row in the table below, which option would you prefer?

   a. A 20% chance of 4,000 points and an 80% chance of 0 points OR

   b. A 15% chance of x points, and an 85% chance of 0 points

[for values of

$$x \in \{3600, 4000, 4400, 4800, 5200, 5600, 6000, 6400, 6800, 7200, 7600, 8000, 8400, 8800, 9200, 9600, 10000\}].$$

For Question 1 if the respondent chooses the second option in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer the lottery that pays 2,500 points with a lower probability. Are you sure this is what you want?

Below this error should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether this message was triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 2 if the respondent chooses the lottery in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer the lottery that pays 4,000 points with a lower probability. Are you sure this is what you want?

Below this error should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether this message was triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.C CHANGED: Ambiguity Aversion

The changes here are to the MPLs, moving them from one where they are given alternatives over different urns to one where they are given alternatives over different certain amounts. The amounts also included dominated options, and thus there are accompanying error messages.

Subjects are asked to consider an urn with 100 balls, of two different colors. Before giving us a choice on the MPL for a bet on this urn, each subject will be asked to pick a color of a ball that will pay off if drawn. The same color will be kept for each lottery in the MPL. The questions are as follows. Note that this involves drawing balls from jars, so some illustration (i.e. presenting the text of black, red, green yellow in the appropriate colors) may be useful.

> This section asks you to make choices that depend on drawing balls from a large, virtual jar. The jar contains 100 balls, which could be red or black. However, you are **not told** the exact number of red or black balls. They could be all red, all black, or any combination that adds up to 100.
>
> 1. Which color would you prefer to be paid **10,000 points** for (if it is drawn from the large jar)? Note that this means you will be paid 0 points if the other color is drawn.
>
>   a. red

b. black

[The respondent will then move forward a page, and be given an MPL that will have the color they chose filled in. For example, if they chose "red" above, then on the next page they would see:]

2. You have chosen to be paid **10,000 points if a red ball** is drawn and **0 points if a black ball** is drawn.

   For each row in the table below, which option would you prefer? [The questions below are an MPL.]

   a. A draw from the jar with an unknown number of red and black balls OR

   b. x points.

   for values of

   $$x \in \{-1000, 0, 1000, 2000, 2500, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 4750, 5000, 5250, 5500, 6000, 8000, 10000, 12000\}.]$$

   [next page]

   This section asks you to make choices that depend on drawing balls from another different large, virtual jar. The jar contains 100 balls, which could be yellow or green. However, you are **not told** the exact number of red or black balls. They could be all yellow, all green, or any combination that adds up to 100.

3. Which color would you prefer to be paid **8,000 points** for (if it is drawn from the large jar)? Note that this means you will be paid 0 points if the other color is drawn.

   a. yellow

   b. green

   [The respondent will then move forward a page, and be given an MPL that will have the color they chose filled in. For example, if they chose "yellow" above, then on the next page they would see:]

4. You have chosen to be paid **8,000 points if a yellow ball** is drawn and **0 points if a green ball** is drawn.

   For each row in the table below, which option would you prefer? [The questions below are an MPL.]

a. A draw from the jar with an unknown number of yellow and green balls OR

b. x points.

for values of

$$x \in \{-1000, 0, 1000, 2000, 2500, 2750, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 5000, 6000, 7000, 8000, 9000\}.]$$

If one of these questions is selected for payment, and a line is selected where the respondent chose a draw from the jar with the unknown distribution of balls, then payment should occur as follows. First, a natural number n between 0 and 100, each equally likely. This is the number of red (or yellow in the second case) balls. A draw should be made with the probability of a red (yellow) ball being drawn equal to $n\%$, and the probability that a black (green) ball is drawn is $100 - n\%$.

For Question 2 if the respondent chooses 0 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer 0 points over a draw from the jar, which is guaranteed to pay at least 0, but possibly more. Are you sure this is what you want?

In the same question if the respondent choses the urn draw over 10,000 points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer a draw from the jar, which pays at most 10,000 points, but possibly less, to 10,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 4 if the respondent chooses 0 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer 0 points over a draw from the jar, which is guaranteed to pay at least 0, but possibly more. Are you sure this is what you want?

In the same question if the respondent choses the urn draw over 8,000 points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer a draw from the jar, which pays at most 8,000 points, but possibly less, to 8,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.D CHANGED: Endowment Effect: WTA

All that has been changed here are the amounts in the questions, and the MPLs, to add dominated amounts. Error messages were added that are triggered when a dominated amount is chosen.

This section and the next will be used to compute the endowment effect. They are separated into two modules because they use the same lottery, and so need to be separated to avoid respondents worrying (or, at least, worrying too much) about the appearance of consistency. See IV.D.

In the willingness to accept (WTA) portion, a respondent will be given a lottery, and, using an MPL, have the opportunity to sell it. In the willingness to pay (WTP) portion (III.E) they will be given a fixed amount of points and have the option, through an MPL, to buy the same two lotteries they were given in the WTA section.

Subjects will be given a lottery, and we will then determine how much we would need to pay them to give it up. Certainty equivalents will then be elicited using an MPL.

> This section asks you two questions where you will be given a lottery and have the opportunity to sell it.
>
> [next page]
>
> 1. For this question, you are given a lottery ticket that has a **50% chance** of paying you **9,000 points**, and a **50% chance** of paying you **1,000 points**.
>
>   You have two options for this lottery ticket:
>
>   1. Keep it or
>
>   2. Sell it for a certain amount of points (for example, 3,000 points)
>
>   [Present respondents with an MPL.]
>
>   For each row in the table below, which option would you prefer?
>
>   a. The lottery ticket OR
>
>   b. Sell it for x points

[where x will take the values of

$$x \in \{0, 1000, 2000, 2500, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 4750, 5000, 5250, 5500, 6000, 7000, 8000, 9000, 10000\}.]$$

2. For this question, you are given a lottery ticket that has a **50% chance** of paying you **8,000 points**, and a **50% chance** of paying you **2,000 points**.

   You have two options for this lottery ticket:

   1. Keep it or
   2. Sell it for a certain amount of points (for example, 3,000 points)

   [Present respondents with an MPL.]

   For each row in the table below, which option would you prefer?

   a. The lottery ticket OR

   b. Sell it for x points

[where x will take the values of

$$x \in \{1500, 2000, 2500, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 4750, 5000, 5250, 5500, 6000, 7000, 8000, 9000\}.]$$

For Question 1 if the respondent preferred to sell the lottery for 1,000 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would sell the lottery ticket, which is guaranteed to pay at least 1,000 points, but possibly more, for 1,000 points. Are you sure this is what you want?

In the same question if the respondent preferred not to sell the lottery for 9,000 points (in the second to last row) the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer not to sell the lottery ticket, which pays at most 9,000 points, but possibly less, for 9,000 points. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 2 if the respondent preferred to sell the lottery for 2,000 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would sell the lottery ticket, which is guaranteed to pay at least 2,000 points, but possibly more, for 2,000 points. Are you sure this is what you want?

In the same question if the respondent preferred not to sell the lottery for 8,000 points (in the second to last row) the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer not to sell the lottery ticket, which pays at most 8,000 points, but possibly less, for 8,000 points. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.E CHANGED: Endowment Effect: WTP

Changes here are to the value of the lotteries and the MPLs. We have also added dominated-option warning messages.

This is the opposite of WTA: respondents will be given a fixed amount (say 10,000 points), and then we will determine the certainty equivalent for the lotteries in WTA, above. Note that in order to be as consistent as possible, the MPL options on the right-hand-column (the purchase price of the lottery) should be descending, rather than ascending.

> This section asks you two questions where you will be given a stock of points that you can use to purchase a lottery ticket.
>
> [next page]
>
> 1. For this question, you **have been given 10,000 points**. You will be offered the opportunity to exchange some of these points for a lottery ticket. This lottery ticket has a **50% chance** of paying you **9,000 points**, and a **50% chance** of paying **1,000 points**.
>
>   For example, if you choose to pay 2,000 points for a lottery ticket, and this question is chosen for payment, you will:
>
>   - Pay 2,000 points for the lottery ticket
>   - Keep 8,000 points for yourself
>   - Earn whatever proceeds you get from the lottery ticket (if any)
>
>   [Present respondents with an MPL.]
>
>   For each row in the table below, which option would you prefer?
>
>   a. Keep 10,000 points OR
>
>   b. Buy the lottery ticket for $10,000 - x$ points and keep the remaining x
>
>   [where x will take the values of
>
> $$x \in \{0, 1000, 2000, 3000, 4000, 4500, 4750, 5000, 5250, 5500, 5750, 6000, 6250, 6500, 6750, 7000, 7500, 8000, 9000, 10000\}.$$

Note that the options for the purchase price should be descending (and the remainder ascending).]

2. For this question, you **have been given 9,000 points**. You will be offered the opportunity to exchange some of these points for a lottery ticket. This lottery ticket has a **50% chance** of paying you **8,000 points**, and a 50% chance of paying **2,000 points**.

   For example, if you choose to pay 3,000 points for a lottery ticket, and this question is chosen for payment, you will:

   - Pay 3,000 points for the lottery ticket
   - Keep 6,000 points for yourself
   - Earn whatever proceeds you get from the lottery ticket (if any)

   [Present respondents with an MPL.]

   For each row in the table below, which option would you prefer?

   a. Keep 9,000 points OR

   b. Buy the lottery ticket for $9,000 - x$ points and keep the remaining x

   [where x will take the values of

$$x \in \{0, 1000, 2000, 3000, 3500, 3750, 4000, 4250, 4500, 4750, 5000, 5250, 5500, 5750, 6000, 6500, 7000, 7500\}.$$

Note that the options for the purchase price should be descending (and the remainder ascending).]

For Question 1 if the respondent indicated he wanted to buy the lottery for 9,000 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would buy the lottery ticket, which pays at most 9,000 points, but possibly less, for 9,000 points. Are you sure this is what you want?

In the same question if the respondent prefers to keep the points rather than buy the lottery for 1,000 points (in the second to last row) the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer to keep all your points rather than pay 1,000 points for the lottery ticket, which is guaranteed to pay at least 1,000 points, but possibly more. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 2 if the respondent indicated he wanted to buy the lottery for 8,000 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would buy the lottery ticket, which pays at most 8,000 points, but possibly less, for ,000 points. Are you sure this is what you want?8

In the same question if the respondent prefers to keep the points rather than buy the lottery for 2,000 points (in the second to last row) the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer to keep all your points rather than pay 2,000 points for the lottery ticket, which is guaranteed to pay at least 2,000 points, but possibly more. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.H CHANGED: Distributional Preferences

This is the most changed section. While it still deals with deciding between allocations to two players, the theory is completely different. Still, the questions are not that much different in structure, although the numbers are different, the default checks are different, and we have added a fourth question.

The theory here follows Kerschbamer (2015) "The geometry of distributional preferences and a non-parametric identification approach: The Equality Equivalence Test". The question design comes from Table 2 of that paper.

> This section asks you to decide between different amounts of points to you and a random other person who is taking this survey.
>
> These are real decisions: **another person** taking this survey will receive the payment **you** decide on.
>
> [Leave the above instructions on the screen as they go through the following three questions. After each MPL, they should move on to the next page. Note that the MPLs in this section may have different default boxes pre-checked, and different orderings (i.e. from high to low rather than low to high) than in the general example in Section I.D. Note that all three questions may have no cross-overs. See the instructions following each MPL below for details.]
>
> 1. For each row in the table below, which option would you prefer? [MPL with the following options]
>
>   a. You both get 4,000 points OR
>
>   b. You get x points and the other person gets 6,500 points

[for amounts

$x = \{1600, 2000, 2400, 2800, 3200, 3600, 4000, 4400, 4800, 5200, 5600, 6000, 6400\}$.

No box should be checked by default. It could be the case that there are no cross-overs for this question.]

2. For each row in the table below, which option would you prefer? [MPL with the following options]

   a. You both get 4,000 points OR

   b. You get x points and the other person gets 1,500 points

   [for amounts

   $x = \{1600, 2000, 2400, 2800, 3200, 3600, 4000, 4400, 4800, 5200, 5600, 6000, 6400\}$.

   No box should be checked by default. It could be the case that there are no cross-overs for this question.]

3. For each row in the table below, which option would you prefer? [MPL with the following options]

   a. You both get 7,000 points OR

   b. You get x points and the other person gets 11,000 points

   [for amounts

   $x = \{3400, 4000, 4600, 5200, 5800, 6400, 7000, 7600, 8200, 8800, 9400, 10000, 10600\}$.

   No box should be checked by default. It could be the case that there are no cross-overs for this question.]

4. For each row in the table below, which option would you prefer? [MPL with the following options]

   a. You both get 7,000 points OR

   b. You get x points and the other person gets 3,000 points

   [for amounts

   $x = \{3400, 4000, 4600, 5200, 5800, 6400, 7000, 7600, 8200, 8800, 9400, 10000, 10600\}$.

   No box should be checked by default. It could be the case that there are no

cross-overs for this question.]

Payment for these questions follows the standard MPL payment, with one twist. If a question is selected for payment, there is a 50% chance that the respondent is paid according to their own choice, and a 50% chance the respondent is paid according to the choice of another respondent who has already taken the survey. Once it is decided who's choice (the current or previous respondent) will determine payment, then the payment happens as standard in an MPL—a single row is chosen, and the choice in that row is implemented (see Section I.D).

For example, suppose the first question above is selected for payment. If the respondent is then (randomly) chosen to be paid according to their own choices, then a row would be (randomly) selected for payment, as usual in an MPL . Suppose further that in that row chosen for payment the current respondent had selected "You both get 4,000 points". Then, the respondent would receive 4,000 points.

As a second example, suppose the second question above is selected for payment, but in this case the payment is going to be given according to the matched previous respondent. In that case, a row from the second question would be randomly selected for payment. However, payment would be according to the **previous respondent's** choice. So, suppose further that in the row chosen for payment, the previous respondent had selected "You get 6,000 points and the other respondent gets 1,500 points". Then the current respondent would get 1,500 points.

For more on matching see Section IV.B.

III.I Altruism and Trust

This part contains two dictator-type games. The first is a real dictator game that will be used to understand baseline giving so it can be subtracted from the second, which will be a trust exercise. The first can be used as a measure of altruism, although it will be very rough.

The second question requires matching the respondent with a previous respondent. The third question can be used to match the current respondent with a future respondent. More on how to pay respondents for this section can be found at the end of this section. More on matching can be found in Section IV.B.

> In this section you will be able to send points to other survey takers, as in the last section.
>
> [next page]
>
> 1. For this question we will give you 6,000 points, and you are matched with a **different** person from the one you were matched with in the last question.
>
>   You can send, some, all, or none of this to the other survey taker. The amount you send will be deducted from the 6,000 points given to you for this question.
>
>   How much would you like to send the other survey taker? [a list of radio buttons with 0; 1,000; 2,000; 3,000; 4,000; 5,000; 6,000 next to them]

[next page]

2. For this question we will give you 6,000 points, and you are matched with a **different** person from the one you were matched with in the last two questions.

   You can send, some, all, or none of this to the other survey taker. Whatever amount you send will be doubled by us, and the other taker will have the opportunity to send any amount of that back to you. Whatever amount the other taker sends back to you will be doubled again.

   So, if you chose to send 1,000 points, you will keep 5,000 points and the other taker will get 2,000 points that they can choose to send back to you, or not. If they send 2,000 points back, you will receive an additional 4,000 points (9,000 points in total). If they send 0 points back, you will have only the 5,000 points you didn't send.

   How much would you like to send to the other survey taker? [a list of radio buttons with 0; 1,000; 2,000; 3,000; 4,000; 5,000; 6,000 next to them]

   [next page]

3. If the previous question is selected for payment, we will let you know how much the other survey taker sent back to you at the end of the survey.

   In order that you may be matched with a future survey taker, we would like to know how much you would send back, if someone sent you varying amounts of points. Please keep in mind that however much you send back will be doubled by us.

   Please tell us how much you would send back if:

   a. the other person sent you 1,000 points, so you have 2,000 points you can keep, or send some back [text box that allows between 0 and 2,000]

   b. the other person sent you 2,000 points, so you have 4,000 points you can keep, or send some back [text box that allows between 0 and 4,000]

   c. the other person sent you 3,000 points, so you have 6,000 points you can keep, or send some back [text box that allows between 0 and 6,000]

   d. the other person sent you 4,000 points, so you have 8,000 points you can keep, or send some back [text box that allows between 0 and 8,000]

   e. the other person sent you 5,000 points, so you have 10,000 points you can keep, or send some back [text box that allows between 0 and 10,000]

f. the other person sent you 6,000 points, so you have 12,000 points you can keep, or send some back [text box that allows between 0 and 12,000]

If the first question is selected for payment, then with 50% probability, the respondent should get 6,000 points minus the amount they gave to the other respondent, and with 50% probability, they should be matched with another respondent and receive whatever amount the other respondent allocated to them in this question.

If the second question is selected for payment, then the respondent should be matched with another respondent that has already filled out the survey. The current respondent's answer to number 2 should be matched with the appropriate line of the other respondent's question 3, and the amount in that question should be doubled and given to the current respondent. For example, suppose the current respondent chose to send 3,000 points in question 2. Suppose further than the respondent he is matched with chose in question 3c to send back 2,000 points. Then the current respondent should receive the 3,000 points that they kept in question 2, plus the 2,000 points sent back to them in question 3c (which should be doubled). Thus, the total the respondent should receive is $3,000 + 2 * 2,000 = 7,000$ points.

If question 3 is selected for payment, each option (a through f) should be randomly selected with equal probability, and the amount the respondent kept should be paid back to them. For example, if 3d is selected for payment, and the respondent sent back 2,000 points, they should receive the remaining 6,000 points.

For more on matching with prior respondents, please see Section IV.B

III.J Punishment (not Reciprocity)

Here we try to elicit people's willingness to costly punish others who engage in anti-social behavior. Note that the answers here will be used to punish people doing the same task in the lab, so no payments will be made here.

Also note that for the purposes of tracking a respondent's progress through the survey, this will be part of the previous section (see Section IV.F). Hence, we continue the question numbering from the last section below.

4. We will allow you to observe a similar back-and-forth by two *other* people.

   As with the previous question, any amount sent from one individual to the other is doubled. The first person sent **6,000 points** to their partner out of the 6,000 they had. The partner then returned **0 points** out of the 12,000 they had. That is, in the end, the first person received **0 points** on this question and the partner received **12,000 points**.

   For this question, we will also give you 4,000 points. Any points you do not use will be yours to keep, if this question is selected for payment.

   You will now have the opportunity to punish either or both of these people. For every **100 points** you spend, you will reduce the amount they get by **600 points**.

No other survey taker will have the ability to punish you, so you do not need to worry about any of your previous answers.

Note that if this question is selected for payment, you will be **the only person** who is selected to punish either player. If you choose not to punish at all, both people will get the payments described above and you will keep the 4,000 points.

a. How many points do you want to use to punish the first person, who sent 6,000 points (out of 6,000)? You may use up to 2,000 points, which will take up to 12,000 points away from the first person. [text box that allows between 0 and 2,000]

b. How many points do you want to use to punish the second person, who sent back nothing (out of 12,000)? You may use up to 2,000 points, which will take up to 12,000 points away from the second person. [text box that allows between 0 and 2,000]

Note that payment for this question is quite simple: it is simply 4,000 minus the amount in each box. So if they put 1,000 in the first box and 500 in the second, then they would be paid 4,000 - 1,000 - 500 = 2,500. There is no need for matching in this section as the punishment from this question will accrue to lab subjects outside of the survey.

III.K Overconfidence and Overplacement

Overprecision questions are described here. Note that these also elicit overplacement. Also, overestimation and overplacement will be elicited after the two IQ questions in Section III.L.

The language in these questions has been modified slightly to tell the respondents not to look up the answer.

1. Now think about the wired telephone (landline):

   a. What year was the telephone invented? We are interested in your best guess, so **please do not look this up if you do not know**. [A text box that only allows answers between 0 and 2014.]

   b. How confident are you of your answer to this question?

      i. No confidence at all

      ii. Not very confident

      iii. Somewhat unconfident

      iv. Somewhat confident

v. Very confident

vi. Certain

c. What do you think the probability is (from 0%, or no chance, to 100%, or certainty) that your answer is within 25 years of the correct answer? [a text box that only allows numbers between 0 and 100, and has a % sign afterwards.]

d. Now, think about 100 typical people in the United States.

Where do you think you rank in terms of how accurate your answer is? For example,

- if you think your answer would be the **most accurate**, you should answer **1**.
- If you think your answer would be the **least accurate**, you should answer **100**.

[Text box where any number between 1 and 100 can be entered.]

[new page]

2. The unemployment rate is the percent of people who are actively searching for work but are not presently employed. Since 1948, it has ranged from a low of 2.8 percent to a high of 10.8%. The average unemployment rate during that time was 5.8%.

a. What is your best guess about the unemployment rate in the United States today? Even if you are uncertain, please provide us with your best estimate of the percent of people seeking work but currently without a job in the United States. What year was the telephone invented? We are interested in your best guess, so **please do not look this up if you do not know**. [a text box that only allows a number between 0 and 100, and they should be able—or forced if possible—to specify 1 decimal place. The text box should be followed by a % sign.]

b. How confident are you of your answer to this question?

i. No confidence at all

ii. Not very confident

iii. Somewhat unconfident

iv. Somewhat confident

v. Very confident

vi. Certain

c. What do you think the probability is (from 0% or no chance, to 100% or certainty) that your answer is within 2% of the correct answer? [a text box that only allows numbers between 0 and 100, and has a % sign afterwards.]

d. Now, think about 100 typical people in the United States.

Where do you think you rank in terms of how accurate your answer is? For example,

- if you think your answer would be the **most accurate**, you should answer **1**.
- If you think your answer would be the **least accurate**, you should answer **100**.

[Text box where any number between 1 and 100 can be entered.]

III.L IQ

Our IQ items come from The International Cognitive Ability Resource (ICAR—Condon and Revelle). The ICAR terms of use do not allow us to post screenshots or the actual items used. However, they allow fairly easy access once they verify academic credentials, so you may sign up with them and examine the items. We used six puzzles in total, three of the "matrix rotation" (MR) type and three of the "3-D rotation" (3DR) type. The six puzzles we used were MR.43, MR.45, MR.44, R3D.20, R3D.16, R3D.22. After completing each set of three puzzles respondents were asked the following questions:

How many of the three previous puzzles do you think you correctly answered? [a text box that only allows numbers between 0 and 3]

Now, think about 100 typical people in the United States.

Where do you think you rank in terms of how many correct answers you got? For example,

- if you think you got the **most correct**, you should answer **1**.
- If you think you got the **least correct**, you should answer **100**.

[Text box where any number between 1 and 100 can be entered.]

III.M Cognitive Reflection Test

Questions in this section come from Fredrick, "Cognitive Reflection and Decision Making".

In this section we ask you three simple arithmetic questions.

[next page]

1. A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost?

   _____ cents [allow only numbers between 0 and 100]

   [next page]

2. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?

   _____ minutes [allow only numbers between 0 and 1000]

   [next page]

3. 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?

   _____ days [allow only numbers between 0 and 48]

III.N CHANGED: Additional, Incentivized, Risk- and Time- Questions

Changes in this section are:

- Changed the number of points in question 1 (from 6,000 to 4,000), and options in the MPL.
- Changed the timing in question 2 (so now is deciding between 0 and 90 days rather than 0 and 45 days)
- Changed the "special" error message to accord with these changes.
- Removed the third question.

Note that the first and second question in this section should have only the upper-left hand box checked, but not the lower right-hand box.

The next two questions ask you to choose between amounts of points at different times, which may be **in the future**. If you chose a future payment, it will be credited to your account on the day shown.

[next page]

1. For each row in the table below, which option would you prefer? [Present respondents with an MPL]

   a. 4,000 points in 45 days (December 27) OR

   b. x points today

   [for values of

   $x \in \{0, 1000, 2000, 2500, 3000, 3500, 3600, 3700, 3800, 3900, 3950, 3975, 4000, 4100\}$].

   [next page]

   This question asks you to choose between amounts of points at different times **in the future**. Future payments will be credited to your account on the day shown.

2. For each row in the table below, which option would you prefer? [Present respondents with an MPL]

   a. 6,000 points in 90 days (February 11) OR

   b. x points today

   [for values of

   $$x \in \{0, 1000, 2000, 3000, 3500, 4000, 4500, 5000, 5500, 5600, 5700, 5800, 5900, 5950, 5975, 6000, 6100\}].$$

For questions 1 and 2 above, there will be an additional error message that should appear if the respondent checks the left-hand-side box in the final row. In particular, if a respondent does this, a pop-up should appear that says:

> "You indicated in the last row that you would prefer [1. 4,000 / 2. 6,000] points in [1. 45 days / 2. 90 days] rather than [1. 4,100 / 2. 6100] points today. Are you sure this is what you want?"

where [1. / 2.] should be filled in by the programmer and indicates the response for question 1 and question 2, respectively. Below this error should be two buttons "Yes. Continue" and "No. Go back and change my answers."

A variable should be recorded in the dataset that indicates whether a respondent triggered this warning on a particular question. That is, there should be two added variables for this section that should take on values of 0 or 1 (or "no" and "yes").

III.O CHANGED: Qualitative Questions

The changes here are the addition of two subjective well-being questions, which are found in Subsection III.O.7. The question in Subsection III.O.2 used to be at the end of Section III.G, which was deleted. As such, we have changed the position of that question as well.

We will use qualitative questions to provide breaks between technically demanding MPLs. Each qualitative question below is assigned to a particular spot in a particular module, and should be placed as specified (below) within that module. Each question should be on its own page. The qualitative questions are collected in this section, rather than added directly into the sections where they will appear, to keep them logically separated.

All qualitative questions, except as noted, come from "An Experimentally Validated Preference Survey Module" by Falk, Becker, Dohmen, Huffman, and Sunde.

III.O.1 Risk

This qualitative risk question should be inserted at the end of Section III.H.

> How do you see yourself: are you a person who is generally willing to take risks or do you try to avoid taking risks?
>
> [The question should be followed by clickable horizontal boxes with the numbers 0 through 10 in them. To the left of 0 should be the text "completely unwilling to take risks", and to the right of 10 should be the text, "very willing to take risks".]

III.O.2 CHANGED: Time

All that has changed here is the placement of the question: before it was placed at the end of Section III.G, which no longer exists.

This qualitative time-discounting question (or patience question) should be inserted in between questions 1 and 2 in Section III.T.

> How well does the following statement describe you as a person?
>
> "I tend to postpone things even though it would be better to get them done right away."
>
> [The question should be followed by clickable horizontal boxes with the numbers 0 through 10 in them. To the left of 0 should be the text "does not describe me at all", and to the right of 10 should be the text, "describes me perfectly"'.]

III.O.3 Trust

The first trust question should be inserted at the end of Section III.B.1.

> How well does the following statement describe you as a person?
>
> "As long as I am not convinced otherwise I always assume that people have only the best intentions."

[The question should be followed by clickable horizontal boxes with the numbers 0 through 10 in them. To the left of 0 should be the text "does not describe me at all", and to the right of 10 should be the text, "describes me perfectly"'.]

The next question should be inserted at the end of Section III.E.

Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?

1. Most people can be trusted

2. Can't be too careful

This question is from the General Social Survey (GSS), and used in "Measuring Trust" by Glaeser, Laibson, Scheinkman, and Soutter.

III.O.4 Altruism

The altruism question should be inserted at the end of Section III.B.2.

How would you assess your willingness to share with others without expecting anything in return, for example your willingness to give to charity?

[The question should be followed by clickable horizontal boxes with the numbers 0 through 10 in them. To the left of 0 should be the text "completely unwilling to share with others", and to the right of 10 should be the text, "very willing to share with others"'.]

III.O.5 Positive Reciprocity

This question on positive reciprocity should be inserted at the end of Section III.C.

How would you assess your willingness to return a favor to a stranger?

[The question should be followed by clickable horizontal boxes with the numbers 0 through 10 in them. To the left of 0 should be the text "completely unwilling to return a favor", and to the right of 10 should be the text, "very willing to return a favor"'.]

III.O.6 Negative Reciprocity

This question on negative reciprocity should be inserted at the end of Section III.N.

The interpretation of the scale was modified more than most, although it should be kept in mind that the original question was in German.

Are you a person who is generally willing to punish unfair behavior even if this is costly?

Please check a box below, where 0 means: "completely unwilling to punish unfair behavior if there is a personal cost" and a 10 means: very willing punish unfair behavior if there is a personal cost".

III.O.7 NEW: Subjective Wellbeing

Both of these subjective wellbeing questions come from Annex B of
http://www.oecd.org/statistics/Guidelines%20on%20Measuring%20Subjective%20Well-being.pdf

The first question should go at the end of Section III.D:

> The following question asks how satisfied you feel, on a scale from 0 to 10. Zero (0) means you feel "not at all satisfied" and 10 means you feel "completely satisfied".
>
> Overall, how satisfied are you with life as a whole these days? [text box that only accepts numbers between 0 and 10]

The second question should go between questions 2 and 3 of Section III.R:

> Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you.
>
> On which step of the ladder would you say you personally feel you stand at this time? [text box that only accepts numbers between 0 and 10]

III.P NEW: Risk Aversion 1

Note that this section is very similar to the old (and new) ambiguity aversion questions in Section III.C, and the new compound lottery questions in Section III.S.

> This section asks you to make choices that depend on drawing balls from a large, virtual jar. The jar contains 100 balls, 50 of which are blue and 50 of which are brown.
>
> 1. Which color would you prefer to be paid **10,000 points** for (if it is drawn from the large jar)? Note that this means you will be paid 0 points if the other color is drawn.
>
>   a. blue
>
>   b. brown
>
>   [The respondent will then move forward a page, and be given an MPL that will have the color they chose filled in. For example, if they chose "blue" above, then on the next page they would see:]
>
> 2. You have chosen to be paid **10,000 points if a blue ball** is drawn and **0 points if a brown ball** is drawn.
>
>   For each row in the table below, which option would you prefer? [The questions below are an MPL.]

a. A draw from the jar with 50 blue balls and 50 brown balls. OR

b. x points.

for values of

$$x \in \{-1000, 0, 1000, 2000, 2500, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 4750, 5000, 5250, 5500, 6000, 8000, 10000, 12000\}.]$$

[next page]

This section asks you to make choices that depend on drawing balls from another different large, virtual jar. The jar contains 100 balls, 50 of which are orange and 50 of which are white.

3. Which color would you prefer to be paid **8,000 points** for (if it is drawn from the large jar)? Note that this means you will be paid 0 points if the other color is drawn.

   a. orange

   b. white

   [The respondent will then move forward a page, and be given an MPL that will have the color they chose filled in. For example, if they chose "orange" above, then on the next page they would see:]

4. You have chosen to be paid **8,000 points if a orange ball** is drawn and **0 points if a white ball** is drawn.

   For each row in the table below, which option would you prefer? [The questions below are an MPL.]

   a. A draw from the jar with 50 orange balls and 50 white balls. OR

   b. x points.

   for values of

   $$x \in \{-1000, 0, 1000, 2000, 2500, 2750, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 5000, 6000, 7000, 8000, 9000\}.]$$

For Question 2 if the respondent chooses 0 points in the second row, the following error message should be displayed:

You indicated in the second row that you would prefer 0 points over a draw from

the jar, which is guaranteed to pay at least 0, but possibly more. Are you sure this is what you want?

In the same question if the respondent choses the urn draw over 10,000 points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer a draw from the jar, which pays at most 10,000 points, but possibly less, to 10,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 4 if the respondent chooses 0 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer 0 points over a draw from the jar, which is guaranteed to pay at least 0, but possibly more. Are you sure this is what you want?

In the same question if the respondent choses the urn draw over 8,000 points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer a draw from the jar, which pays at most 8,000 points, but possibly less, to 8,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.Q NEW: Risk Aversion 2

> In the next two questions, you will be asked to choose between a lottery and fixed amounts of points.

1. For each row in the table below, which option would you prefer?

   a. A 50% chance of 5,000 points, and a 50% chance of 0 points OR

   b. x points

   [for values of

   $$x \in \{-500, 0, 500, 1000, 1250, 1500, 1750, 2000, 2250, 2500, 2750, 3000, 3250, 3500, 3750, 4000, 4500, 5000, 5500\}.]$$

   [next page]

2. For each row in the table below, which option would you prefer?

   a. A 50% chance of 4,000 points, and a 50% chance of 1,000 points OR

   b. x points

   [for values of

   $x \in \{600, 1000, 1400, 1600, 1800, 2000, 2200, 2400, 2600, 2800, 3000, 3200, 3400, 3600, 4000, 4600\}$.]

For Question 1 if the respondent chooses 0 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer 0 points over the lottery, which is guaranteed to pay at least 0 points, but possibly more. Are you sure this is what you want?

In the same question if the respondent choses the lottery over 5,000 (in the second-to-last row) points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer the lottery, which pays at most 5,000 points, but possibly less, to 5,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 2 if the respondent chooses 1,000 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer 1,000 points over the lottery, which is guaranteed to pay at least 1,000 points, but possibly more. Are you sure this is what you want?

In the same question if the respondent choses the lottery over 4,000 (in the second-to-last row) points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer the lottery, which pays at most 4,000 points, but possibly less, to 4,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.R NEW: Loss Aversion

For these questions (but not for those in any other section), the negative and positive options in the MPL should be expressed differently. If the point amount given in x is, for example, -3000 points, then this should be shown as "Losing 3,000 points", whereas if it is 3000, it should be shown as "Gaining 3,000" points. 0 should be expressed as "0 points".

Before starting these questions, respondents will be given an introductory blurb.

> In the next few questions, you will be asked to choose between a lottery and fixed amounts of points.
>
> You will start this section with 10,000 points, which you may lose based on the lotteries you choose in this section. That is, some of the lotteries in this section may both **add** to or **subtract** from this initial 10,000 points.
>
> For example, suppose you chose a lottery that had a 50% chance of adding 5,000 points, and a 50% chance of subtracting 5,000 points. In the case of winning, the 5,000 will be added to your additional 10,000. In the case of a loss, the 5,000 will be subtracted from your initial 10,000. Note that you will never have the possibility of losing more than 10,000, so at worst you will end this section with 0 points.
>
> [next page]

1. For each row in the table below, which option would you prefer?

   a. A 50% chance of winning 5,000 points, and a 50% chance of losing $5,000$ points OR

   b. [Losing / gaining] x points

   [for values of

   $$x \in \{-6000, -5000, -4000, -3000, -2500, -2000, -1750, -1500, -1250, -1000, -750, -500, -250, 0, 250, 500, 1000, 3000, 5000, 7000\}.]$$

   [next page]

2. For each row in the table below, which option would you prefer?

   a. A 50% chance of winning 4,000 points, and a 50% chance of losing $4,000$ points OR

   b. [Losing / gaining] x points

   [for values of

   $$x \in \{-5000, -4000, -3000, -2500, -2000, -1750, -1500, -1250, -1000, -750, -500, -250, 0, 250, 500, 1000, 2000, 3000, 4000, 5000\}.]$$

[next page]

3. For each row in the table below, which option would you prefer?

   a. A 50% chance of losing 5,000 points, and a 50% chance of losing 0 points OR

   b. [Losing / gaining] x points

   [for values of

   $$x \in \{-5500, -5000, -4500, -4000, -3750, -3500, -3250, -3000, -2750, -2500, -2250, -2000, -1750, -1500, -1000, -500, 0, 500\}.$$

   [next page]

4. For each row in the table below, which option would you prefer?

   a. A 50% chance of losing 4,000 points, and a 50% chance of losing 1,000 points OR

   b. Losing x points

   [for values of

   $$x \in \{4400, 4000, 3600, 3400, 3200, 3000, 2800, 2600, 2400, 2200, 2000, 1800, 1600, 1400, 1000, 600\}.]$$

For Question 1 if the respondent chooses $-5,000$ points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer to lose 5,000 points over the lottery, which induces a loss of at most 5,000 points, but possibly less. Are you sure this is what you want?

In the same question if the respondent chooses the lottery over 5,000 (in the second-to-last row) points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer the lottery, which pays at most 5,000 points, but possibly less, to a gain of 5,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 2 if the respondent chooses $-4,000$ points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer to lose 4,000 points over the lottery, which induces a loss of at most 4,000 points, but possibly less. Are you sure this is what you want?

In the same question if the respondent chooses the lottery over 4,000 (in the second-to-last row) points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer the lottery, which pays at most 4,000 points, but possibly less, to a gain of 4,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 3 if the respondent chooses losing 5,000 points over the lottery in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer to lose 5,000 points for sure to taking the lottery, which induces a loss of no more than 5,000 points, and possibly less. Are you sure this is what you want?

In the same question if the respondent chooses the lottery over 0 points (in the second-to-last row) the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer the lottery, which gives at most 0 points, but possibly less, to 0 points. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 4 if the respondent chooses losing 4,000 points over the lottery in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer to lose 4,000 points for sure to taking the lottery, which induces a loss of no more than 4,000 points, and possibly less. Are you sure this is what you want?

In the same question if the respondent chooses the lottery over losing 1,000 points (in the second-to-last row) points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer the lottery, which induces a loss of at least 1,000 points, but possibly more, to a loss of 1,000 points. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.S NEW: Compound Urns

Subjects are asked to consider an urn with 100 balls, of two different colors. Before giving us a choice on the MPL for a bet on this urn, each subject will be asked to pick a color of a ball that will pay off if drawn. The same color will be kept for each lottery in the MPL. The questions are as follows. Note that this involves drawing balls from jars, so some illustration (i.e. presenting the text of black, red, green yellow in the appropriate colors) may be useful.

> This section asks you to make choices that depend on drawing balls from a large, virtual jar. The jar contains 100 balls, which could be pink or purple. The number of pink balls was determined as follows: a computer randomly chooses a number between 0 and 100 with equal probabilities. The number chosen is the number of pink balls in the jar. The remainder of the balls are purple.
>
> 1. Which color would you prefer to be paid **10,000 points** for (if it is drawn from the large jar)? Note that this means you will be paid 0 points if the other color is drawn.
>
>   a. pink
>
>   b. purple
>
>   [The respondent will then move forward a page, and be given an MPL that will have the color they chose filled in. For example, if they chose "pink" above, then on the next page they would see:]
>
> 2. You have chosen to be paid **10,000 points if a pink ball** is drawn and **0 points if a purple ball** is drawn.
>
>   Recall that in this jar there are 100 balls, pink or purple, and that the number of pink balls was determined as follows: a computer randomly chose a number between 0 and 100 with equal probabilities. The number chosen is the number of pink balls in the jar. The remainder of the balls are purple.
>
>   For each row in the table below, which option would you prefer? [The questions below are an MPL.]
>
>   a. A draw from the jar with a random number of pink and purple balls. OR
>
>   b. x points.

for values of

$x \in \{-1000, 0, 1000, 2000, 2500, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 4750, 5000, 5250, 5500, 6000, 8000, 10000, 12000\}$.]

[next page]

This section asks you to make choices that depend on drawing balls from another different large, virtual jar. The jar contains 100 balls, which could be gray or magenta. The number of gray balls was determined as follows: a computer randomly chose a number between 0 and 100 with equal probabilities. The number chosen is the number of gray balls in the jar. The remainder of the balls are magenta.

3. Which color would you prefer to be paid **8,000 points** for (if it is drawn from the large jar)? Note that this means you will be paid 0 points if the other color is drawn.

   a. gray

   b. magenta

   [The respondent will then move forward a page, and be given an MPL that will have the color they chose filled in. For example, if they chose "gray" above, then on the next page they would see:]

4. You have chosen to be paid **8,000 points if a gray ball** is drawn and **0 points if a magenta ball** is drawn.

   Recall that in this jar there are 100 balls, gray or magenta, and that the number of gray balls was determined as follows: a computer randomly chose a number between 0 and 100 with equal probabilities. The number chosen is the number of gray balls in the jar. The remainder of the balls are magenta.

   For each row in the table below, which option would you prefer? [The questions below are an MPL.]

   a. A draw from the jar with a random number of gray and magenta balls. OR

   b. x points.

   for values of

   $x \in \{-1000, 0, 1000, 2000, 2500, 2750, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 5000, 6000, 7000, 8000, 9000\}$.]

   [next page]

For Question 2 if the respondent chooses 0 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer 0 points over a draw from the jar, which is guaranteed to pay at least 0, but possibly more. Are you sure this is what you want?

In the same question if the respondent choses the urn draw over 10,000 points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer a draw from the jar, which pays at most 10,000 points, but possibly less, to 10,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

For Question 4 if the respondent chooses 0 points in the second row, the following error message should be displayed:

> You indicated in the second row that you would prefer 0 points over a draw from the jar, which is guaranteed to pay at least 0, but possibly more. Are you sure this is what you want?

In the same question if the respondent choses the urn draw over 8,000 points the following error message should be displayed:

> You indicated in the second-to-last row that you would prefer a draw from the jar, which pays at most 8,000 points, but possibly less, to 8,000 points for sure. Are you sure this is what you want?

Below each error message should be two buttons "Yes. Continue" and "No. Go back and change my answers." For each respondent a variable should indicate whether EITHER OF these messages were triggered. This variable should take on values of 0 or 1 (or "no" and "yes").

III.T NEW: Strategic Sophistication

> The next few questions ask you to pick a number between 0 and 100. You will be paid if your number is closest to some number in a randomly selected group of other respondents.

1. Choose a number between 0 and 100.

   Your number, and those from nine (9) other people doing this survey (who are reading these very same instructions) will be averaged together.

If your number is the closest to two-thirds (2/3, or 66.7%) of the average—closer than anyone else's—then you will get **5000 points**. If your number is not the closest, you will get **0 points**.

_____ [allow only numbers between 0 and 100]

[next page]

2. Choose a number between 0 and 100.

   Your number, and those from four (4) other people doing this survey (who are reading these very same instructions) will be averaged together.

   If your number is the closest to two-thirds (2/3, or 66.7%) of the average—closer than anyone else's—then you will get **5000 points**. If your number is not the closest, you will get **0 points**.

   _____ [allow only numbers between 0 and 100]

If one of these questions is selected for payoff, then it should be paid exactly as described in the question. For example, in question 1, the respondent's answer, and those of 9 other respondents, should be averaged together. If the respondent's answer is the closest to 50% of that average, they should get 5,000 points, otherwise, zero. In the case of a tie, pay the respondent the full amount.

III.U Implemented but not Used: Motivated Reasoning

This refers to a broad range of phenomena that seem to indicate that people tend to seek or interpret information to confirm their preferences. Although this is not a standardized measure, it seems highly likely that it will correlate with political variables, and thus, possibly worth a shot.

The elicitation here focuses on the finance view of self-attribution bias which is very close to Rabin and Schrag's confirmation bias. In finance, the view is that people will tend to update positively on good information about a stock they already own, whereas negative information will have a very small effect.

There is no standard implementation of this. We have come up with one based on the implementation of the WTA, above (III.D). We will give respondents two stocks (in succession), reveal information about the stock, and see how this changes WTA for that stock. The stock (lottery) will end up being the same as the first one in III.D to leverage the information there. The stocks have:

1. A 33% probability of payment (1 white and 2 black balls in an urn).

2. A 67% probability of payment (2 white and 1 black balls in an urn).

First a ball is drawn from the urn of the first stock, and is not replaced. This ball is black, so the probability of winning is now 1/2. A WTA is then done. Second, a ball is drawn from

the urn for Stock b. This ball will be white, resulting again in a 1/2 probability of payment. WTA will then be elicited for this second stock.

Questions involve drawing balls from jars, some illustration of a ball might be useful (i.e. a picture when the ball is drawn).

1. For this question, and the one that follows it, you will be given a stock, like a stock in a company. The payout of this stock is determined by drawing a ball from an jar.

   The first stock is like an investment in a jar **that contains 1 white ball and 2 black balls**. If a **white ball** is drawn, then you will get **10,000 points**. If a **black ball** is drawn, you will get **0 points**.

   First, however, you will get to remove a ball from the jar. Note that this will **only** change the odds that the stock pays out.

   [Button: click here to remove a ball, everything above stays on the screen as what is below appears]

   [Then display:] **You removed a black ball from the jar.**

   Before we draw a ball from the remaining two balls to determine the payout of this stock, you have the option to sell it.

   [Present respondents with an MPL.]

   Would you prefer?

   a. To keep this stock OR

   b. Sell this stock for x points

   [where x will take the values of

   $$x \in \{0, 1000, 2000, 2500, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 4750, 5000, 5250, 5500, 6000, 8000, 10000\}.]$$

   [after filling out MPL, respondent can move to the next page.]

2. Now we will give you another stock that is like an investment in a jar that contains **2 white balls** and **1 black ball**. Once again, if a **white ball** is drawn, then you will get **10,000 points**. If a **black ball** is drawn, you will get **0 points**.

   First, however, you will get to remove a ball from the jar. Note that this will **only** change the odds that the stock pays out.

   [Button: click here to remove a ball, everything above stays on the screen as what is below appears]

   [Then display:] **You removed a white ball from the jar.**

Before we draw a ball from the remaining two balls to determine the payout of this stock, you have the option to sell it.

[Present respondents with an MPL.]

Would you prefer?

a. To keep this stock OR

b. Sell this stock for x points

[where x will take the values of

$$x \in \{0, 1000, 2000, 2500, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 4750, 5000, 5250, 5500, 6000, 8000, 10000\}.]$$

[after filling out MPL, respondent can move to the next page.]

IV Implementation Issues

IV.A Incentives

A single YouGov point is worth about \$0.001. The show up fee we pay (which is set to 500 points above), is about 1/2 of the standard YouGov points for a survey of the length we are giving here, and the minimum allowed by YouGov.

A basic description of how incentives will actually be provided are in II.B, above. In terms of implementation, it is likely easiest if at the end of each module that may have payment, a question is randomly selected from that module, and, if a lottery is required, that lottery is run. Note that in some cases the selection will result in a sure amount, or, in the case of Section III.N, a payment at some point in the future. These per-module payments can be stored temporarily, and then at the end of the survey two of these modules can be randomly selected for payment, and the payment from each can be summed.

The respondent should be shown a summary of their proceeds on the last screen: which question was chosen to be executed, and what the outcome was. Note that for III.N this may include a payment that will take place in the future, and that for III.H this may include a payment from another respondent.

IV.A.1 CHANGED: Payment Probabilities

All questions should be paid with equal probability. This is to keep things simple, but it is probably sub-optimal.

Note that as 2 questions are paid, two draws should be made each with the above probabilities.

IV.B Matching

Matching will be needed for the questions in III.H and III.I. However, this will only need to be done if one of those questions is randomly chosen for payment. As such, it may be best not to match unless that happens, but this will ultimately be up to YouGov.

Respondents will be matched for the social preference questions with a respondent who has previously taken the survey. For the first respondents, we will seed the database with a few fictitious responses for matching purposes. Care will need to be taken so that these fictitious respondents do not make it into the final dataset.

IV.C Future Payments

One module, III.N may require payments in the future. If one of these questions is selected (randomly) for payment, the payment should occur on the date specified in the question. That is, the points specified in the question should be deposited into the respondent's account on the date specified. If one of these questions is selected for payment, the respondent should be told this at the end of the survey, be told when to expect the points to be deposited in their account, and (if possible) an email should be sent when the deposit is made.

To ensure that the respondents trust that they will be paid, only respondents that have answered some fixed number of surveys (say, 10) should be surveyed.

IV.D CHANGED: Question Ordering and Randomization

This has been updated to incorporate all the new modules

There should be some randomization, but there are limits. In particular, we indicate by "random1" any (randomly selected, with equal probability, without replacement) member of {{III.B.1, III.R}, {III.T, III.B.2, III.Q}}, and by "random2" any (randomly selected, with equal probability, without replacement) member of {III.D, III.E}, and finally, by "random3" any (randomly selected, with equal probability, without replacement) member of {III.C, III.P, III.S}. Then the ordering should be:

III.N, random3, random2, random1, random3, random1, random2, random3, III.H, III.I, III.J, III.K, III.L, and III.M

Note that this leads to 24 different possible orderings.

YouGov will determine how the random ordering will be noted in the data file.

IV.E Moving through the Survey

Respondents must answer all questions before proceeding to the next page. Note that when an MPL is used, answering the question does not correspond to actually filling in a box in each row, see I.D.

Respondents cannot move back once they have left a page. There is one exception to this, on the puzzle pages in Section III.L. There, the respondent should be able to hit a "back"

button and revise their answers to the previous puzzles, up until the point where they are asked the number they think they got correct. For more on this, see Section III.L.

IV.F CHANGED: Progress

The only change here is to the number of modules. The example is updated to reflect this, and changes to Section IV.D.

Progress will be noted by the Section, as in the construction of this document.

So, for example, when the subject enters the first section they will see at the top of the screen, "**Section 1 out of 16**". This will appear only on the first page of that section, centered at the top, in bold. As another example, suppose that the respondent has gone through III.N, III.C, III.E. Then when they begin the next section (suppose: Section III.B.1), then the respondent will see, "**Section 4 of 16**".

Note that each section also begins with some explanatory text discussing the fact that they are in a new section.

There is one complication: Sections III.I and III.J should be considered a single section, and described as such. This is why the total number of Sections is 16, rather than 17.

IV.G CHANGED: Sample Size

1,000, genpop.

IV.H Background Variables and Additional Data from YouGov

YouGov will supply certain demographic controls, and political variables, that they have as background for panelists. YouGov asks about these variables on a fairly regular basis.

The following variables will be provided to us directly:

- Zip Code
- State (can be mapped from Zip Code)
- Age
- Gender
- Race and Ethnicity
- Religion

YouGov also gives other background variables as part of its standard package. In addition, we are asking for two variables that YouGov does not commonly have background information for:

- Home Ownership
- Stock Ownership

Other variables will be asked about on the survey, and YouGov will give us both those answers, and the answers that were in their database immediately before the survey. These are:

- Household Income
- Education
- Marital Status
- Employment Status
- Religious Attendance
- Ideology (5 point)
- Party ID (7 point)
- Political Interest
- Verified voter turnout

IV.H.1 Political Question Wording

Ideology (5 point): In general, how would you describe your own political viewpoint?

- Very liberal
- Liberal
- Moderate
- Conservative
- Very conservative
- Not sure

Party ID (7 point): Generally speaking, do you think of yourself as a ...?

- Democrat
- Republican
- Independent
- Other
- Not sure

If the answer to the first question is "Democrat", then they are asked: "Would you call yourself a strong Democrat or a not very strong Democrat?"

- Strong Democrat
- Not very strong Democrat

If the answer to the first question is "Republican", then they are asked: "Would you call yourself a strong Republican or a not very strong Republican?"

- Strong Republican

- Not very strong Republican

If the answer to the first question is "Independent", "Other", or "Not Sure", then they are asked: "Do you think of yourself as closer to the Democratic or the Republican Party?"

- The Democratic Party
- The Republican Party
- Neither
- Not Sure

Political Interest Some people seem to follow what's going on in government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. Would you say you follow what's going on in government and public affairs...

- Most of the time
- Some of the time
- Only now and then
- Hardly at all
- Don't know

IV.H.2 Additional Data

In addition to the answers to all questions (it is preferable if MPLs are sent to us as columns indicating the right and left hand side answers, as currently done), we would like the following information for each question:

- Question Order (if randomized, see Section IV.D
- Points that would have been received in that question if it had been randomly chosen for payment
- Time to answer and click through that question

Both the points and time should be given for each sub-question in Section **??**.

IV.I Differences from Dean-Ortoleva

A paper by Dean and Ortoleva also tries to measure a large number of behavioral traits. While we add some measurements on top of theirs, we also do not cover some of the traits they examine. Here is a list of those traits, and why we do not examine them.

IV.I.1 Common Consequences Effect

This is closely related to the Common Ratio test used in Section III.B. As the original inclusion of the common ratio was a bit of a stretch, we decided not to pursue the more complicated (and of limited interest) Common Consequences Effect.

IV.I.2 Compound Lotteries

Some scholars have argued that what is commonly described as ambiguity aversion may be due to a failure to reduce compound lotteries. However, the later is of more limited theoretical interest. To measure failure to reduce compound lotteries, we could add a module, similar to Section III.C, but substitute a lottery for the unknown composition of the urn. Another way of dealing with this is that whatever we measure as ambiguity aversion could be due to either ambiguity aversion or failure to reduce compound lotteries (i.e. the sum of those two things). Either way, separating this out seemed to be of limited interest.

IV.I.3 Anxiety and Depression

Dean and Ortoleva measure anxiety and depression using the Beck's depression index. This was important for their theory of pessimism. It is one of a large number of psychological measures that we could use, however, even if we believed psychological measures to be in scope (which we do not), it would not be clear why anxiety and depression would be chosen.

IV.I.4 NEO-5 Psych factors

A more focal psychology measure, but still out of scope of the project.

IV.J Trust in the Survey

In order to deal with issues of trust, we should only survey those that have been surveyed some minimum number of times before (so they know that points will actually appear in their account). Beyond this, we have thought about allowing the subjects to cheat us at some point (which they will be able to do in **??**), in order to show XXX: What exactly?