

The Deliberative Justice Project: Online Appendix

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A. Research Design

1. Subject Recruitment and Experimental Procedures

Recruitment

We recruited participants, including students and non-students, from the campuses and surrounding communities of a small northeastern university and a large western university. Potential participants were asked to take part in a two-hour experiment investigating “how people make decisions about important issues.” Recruitment was conducted through a wide variety of methods including emails to students¹, postcards to purchased random lists of community members, online advertisements, flyers posted both on and off campus, and direct contact to local community groups. Recruits were promised the chance to earn between \$10 and \$60 depending on their decisions during the experiment. Volunteers were not allowed to take part in the experiment if they knew any other participant prior to participation. In all, 600 people participated in the 120 sessions of the experiment.

Procedures

Gender composition and decision rule were systematically manipulated. There were 12 types of groups (6 gender compositions and 2 decision rules). Gender compositions were randomly assigned to days on the schedule. Participants were then scheduled to the day that worked best for them. This process ensured that participants had a roughly equal probability of being assigned to each group type and that group types did not cluster on particular days of the week. For each session, more than 5 participants were allowed to sign up. These additional participants helped ensure that we could fill the session’s assigned gender composition. Participants who showed up at a session but were not needed were paid \$10 and allowed to sign up for a subsequent session. No participant was allowed to take part in the experiment more than once. Prior to each session’s start the experimenter rolled a die to randomly select the decision rule that would hold for the experiment.

Once the participants arrived they were informed of the risks and benefits of participation and signed a consent form. Then, the experimenter read an introduction outlining the three stages of the experiment: the first stage in which participants learned about the different principles of just income distribution, the second stage in which they deliberated about the theories and voted to adopt the “most just” principle, and the third stage in which they performed an unspecified task to earn money, which would then be redistributed (or not) according to the rule adopted by the group.

After the introduction was read, participants moved to computer stations and began the first stage. They began by completing a 35-question introductory questionnaire that measured general attitudes towards redistribution, feelings about group work, risk aversion, prosociality, and more. Participants then read a five-page description of the four distributive principles that could be adopted during the experiment. After reading the descriptions, each participant completed an 11-question quiz about the principles and registered a pre-deliberation preference ordering of the principles. Selections of the materials provided to the participants have been reproduced at the end of this appendix.

¹ At the northeastern university, student emails were those of volunteers for previous experiments in their lab, and later to the entire student body. At the western university, several random samples of the entire student body were obtained and used.

During the second stage of the experiment, the participants read instructions about the deliberation and voting process. Participants were instructed to conduct a “full and open discussion” that considered their role as “establishing rules for a new society which you will be part of.” Participants were seated randomly around the table. The experimenter opened discussion by asking “Would someone like to start by explaining which principle they believe to be most just and why?” Participants deliberated until they agreed first by unanimous vote to end deliberation and then by the assigned decision rule to adopt a particular principle of distribution. Deliberation was required to last for at least five minutes, and all voting occurred by secret ballot.

The average group deliberated for just over 25 minutes (standard deviation = 11). This is the total time spent from the point at which the researcher read the group deliberation instructions to the point at which the participants agreed to stop talking. Participants agreed by unanimous vote to end deliberation. In analyses that use *Proportion Talk* or *Talk Time*, we employ a slightly different version of total talk time, which is the sum of all individual talk times, not counting the researcher instructions or any silences in which no member of the group spoke. For this alternative measure, the mean is just over 19 minutes (standard deviation = 11). Groups at our Western site talked for several minutes longer than groups at the East Coast site. Despite this intercept shift, the relationships we observe between our dependent variables and the experimental conditions are very similar at the two locations.

Groups were allowed four voting rounds to come to a decision. The experimenter remained in the room during the deliberation to manage the recording equipment and answer clarification questions about the distribution principles or other aspects of the process, but did not otherwise moderate the discussion. Once the deliberation was complete, the participants moved back to their computer terminals, preference-ranked the principles, and completed a post-deliberation questionnaire that measured their evaluation of the group’s most influential member and their perceptions and satisfaction with various aspects of the deliberation and the group’s final decision. Deliberations were recorded both on individual microphones and a group microphone and video.

In the third stage, subjects were informed that their task would be to correct spelling mistakes in blocks of text. After a practice round, the subjects completed three rounds of the task. The performance in each task round was converted to a yearly salary. The income was then redistributed so that the group’s final distribution of income conformed to the principle chosen by the group. At the end of each round, participants were privately told their “annual income” as well as the group’s high, low, and average incomes both before and after redistribution. They were also asked to again rank the distributional principles from most to least preferred and indicate how happy they were with the group’s decision. Following the final round participants completed a battery of demographic questions and were paid according to their performance, plus a \$10 show-up fee which had not been previously disclosed.

Additional Research Elements

As a control, fourteen group sessions were completed in which no deliberation occurred. The group recruitment and scheduling processes were identical. We treated the control condition as another potential decision rule for selection before the start of the experiment. In these cases, all discussion instructions were omitted and participants were informed that a principle of justice would be assigned to them at a certain point in the experiment. All other aspects of the experiment were identical, except for the post-discussion questionnaire, which was omitted. The principle imposed on these groups was a Floor Constraint of \$14,500. Because they did not

deliberate, participants assigned to the control condition are not included in the analyses or descriptive statistics. Participants' demographic statistics are essentially identical if control groups are included.

2. Recording Configuration and Verbal Behavior Analysis Software

Each group of five deliberators was recorded using a total of 6 microphones and two separate digital video cameras. Five individual Shure low profile headset microphones were worn by the participants. The unidirectional cardioid pattern of these microphones helped eliminate any contamination of each speaker's audio by background noise and other participants' speech. The sixth microphone was an omnidirectional flat tabletop model. The microphones were connected to a MOTU 8PRE 8-channel microphone preamplifier. This preamplifier connected via a Firewire cable to a standard Microsoft Windows lab PC running Adobe Audition multi-track recording software.

A simple Microsoft Visual Basic 6.0 application was written (using the 'sendkeys' function) to automate the operation of the Audition software to ensure that recording was started on all channels at the same time, to name the channels according to experimental naming standards to ease data archiving and post-processing, and to copy the final files to a large network server disk drive for storage. The audio files are so large (often over a GB per group) that they would rapidly fill the hard drive of the recording PC.

Once the individual participants' audio channels were recorded, they were processed using a software package written expressly for this project. This software application first performed voice activity detection (VAD) on each channel. Each participant's audio was converted from an audio file (.wav file) to an amplitude data file (.amp) of average speaking amplitudes, by calculating the average amplitude of the speaker's voice during every .25 second interval of the recording. These averaged amplitudes for each speaker were then converted to binary on-off Voice Activity files (.vad). That is, if the amplitude for a .25 second interval for this speaker was greater than a minimum threshold that was manually determined for each speaker, then their speaking status was set to 1 or ON for that interval, otherwise it was set to 0.

This process yielded data files (.vad) for each subject with their speaking turns (utterances) identified. This data was then post-processed to ensure that slight pauses during utterances were bridged if they were less than 1 second in duration (to avoid have long single utterances broken into two shorter utterances). Then to avoid spurious short utterances due to microphone noise, etc., any of these utterances that did not contain at least one .25 second interval of some minimum high amplitude during the utterance were eliminated. The 'minimum maximum' for an utterance was set to +5 above the specified minimum threshold. Once all individual .vad files were processed, the software integrated them into a single group data file (.grp) for each deliberative group. Verbal behavior statistics were then run on this data, including such measures as total amount of speaking time for the group, % of time for this speaker, etc. In a small number of groups, problems with recording equipment meant that no verbal behavior statistics could be computed. These groups are not included in the analysis.

3. Method & Design

An experiment that revolves around the manipulation of group characteristics poses many interesting challenges for experimenters. In our case, some pertinent questions might be:

- What does it mean for "gender" to be a treatment?
- Is a within- or between-subjects design best?

- Are the assumptions of the Rubin Causal Model (RCM) violated?
- Is assigning gender composition an experimental manipulation, or is this an observational study?

Our general response to these questions is that the design in this study conforms to definitions of “experiment.” It uses what Don Green and his colleagues call a “passive” experimental design that randomly assigns individuals to the discussion group based on their demographic, ideological, or other pre-existing characteristics, and observes the outcomes (Farrar et al. 2009, pp. 617-618). While individual gender cannot be manipulated, a group’s gender composition can be. Other experiments that manipulate the composition of groups and where the individual units purposely interact correctly claim to be experimental and note no violations of the Rubin model (Druckman 2004; Druckman and Nelson 2003; Luskin et al. 2002; Myers and Bishop 1970).

In what sense is our design experimental? According to Morton and Williams (2010), an experiment occurs “when a researcher intervenes in the data generating process (DGP) by purposely manipulating elements of the DGP”, where manipulating means “varies the elements of” (p. 42). We varied the elements of the data generating process – specifically, the gender composition and decision rule for all groups in our sample.

In addition, we use the hallmark of experiments as traditionally conceived: random assignment to a treatment. Gender composition conditions were randomly assigned to each scheduled experimental session. Through this process, each man had an equal probability of assignment to a given condition, and the same is true for each woman. (And of course, each deliberating group has an equal chance of assignment to a rule by rolling dice prior to the start of the experimental session.)

Additionally, several assumptions of the Rubin Causal Model and its variants are satisfied in this study where they would not be in observational studies to the same extent or at all: 1) ignorability or independence for Y_i and for X_i (Druckman, Green, Kuklinski and Lupia 2011, pp. 23-24), confirmed by the propensity score analysis reported in a footnote in the paper; 2) individual units do not influence each other across treatments, nor across groups within a treatment, nor do groups influence each other; 3) the exclusion restriction (the assignment works only through the treatment); 4) units cannot choose or decline treatment and thus noncompliance and self-treatment are non-issues. The present study thus is far preferable to an observational study of naturally-occurring gender compositions.

Is interaction among subjects within a group a violation of SUTVA (Stable Unit Treatment Value Assumption)? Our particular type of design, namely a passive design, is a special case of the more general treatment-interaction-outcome (T-I-O) design. Morton and Williams (2010) cite several studies with the general T-I-O design without noting any violations of the Rubin Causal Model (RCM) (e.g., pp. 238-40), and implicitly endorse (p. 278) the passive design of Don Green and colleagues (Farrar et al 2009). In fact, many of the experimental game-theory studies proliferating in the field are also a case of the T-I-O design, yet they are not thought to violate the RCM by virtue of the subject interaction component.

How is SUTVA not violated when the units are treating each other? We have several responses. First, SUTVA refers to avoiding treatment spillover effects – for example, when treatment 1 affects units assigned to treatment 2. The fact that individual units influence the outcome of other units within a deliberating group does not create bias in the treatment effect because an individual unit does not affect individuals in other treatment conditions. That is, the interaction among units does not carry the effect of a treatment to units not assigned to the treatment. This means that the

interaction among units does not create bias in the treatment effect. Second, relatedly, this interaction among units constitutes a set of mediating variables, not a confounding variable, and poses no bias to the treatment effect. Third, most of our analysis uses the group as the unit of analysis, avoiding the problems of using the individual as the unit and thus avoiding the potential SUTVA problem. Fourth, when we employ individual-level data, we employ random effects models or regression models with cluster robust standard errors to account for the interdependence of the observations within the deliberating group. Fifth, our treatment is placement in a discussion group assigned to a particular gender composition and to unanimous or majority decision rule. This allows us to make use of the random assignment and control we do have without appearing to claim that what follows after the manipulation is exogenous.

Is individual gender a treatment? Individual gender is (obviously) not manipulated and we do not claim that it is. Our treatment is gender composition. Regarding *individual* gender specifically, we note the potential concern that gender is correlated with other factors that could be doing the actual causal work, and we control on those noted in the literature. In addition, since individual gender is exogenous, any attitudinal difference (in preferences, ideologies, values, etc.) that may be associated with it occurs later in the causal chain and would constitute mediating rather than confounding variables. Known works in the field have treated those attitudinal variables as mediators for demographic effects rather than confounds of them (e.g., Gilens 1999). Nevertheless, we do not rely on this assumption about the causal order but rather use the standard method of controls for confounds.

Would a within-subjects design be better than our between-subjects design? Assigning different individuals to different compositions creates some potential difficulties. However, these are the standard difficulties of a between-subjects design. The primary difficulty is that the estimates have high variance. Bias is not a problem, however. We chose to use a between-subjects design rather than a within subjects design because we worried that prior treatment would bias the effect of current treatment, the standard problem of within-subjects designs (Morton and Williams chapter 4). For example, experiencing an all- female group before experiencing a predominantly male group may alter the response of a female to the predominantly-male group. Thus we choose the inefficient estimates of between-subjects design to avoid the higher bias that would result from sequential treatments. This is thus not a choice that violates SUTVA.

Is SUTVA violated in some other way? The design might be thought to violate SUTVA in the sense that each group consists of a different set of co-members surrounding the subject and thus units receive different versions of the treatment. For example, when a 4-female group consists of females A, B, C, and D, while another 4-female group consists of females E, F, G and H, the man in group 1 gets a different version of the 4-female treatment than the man in group 2. A-D differ from E-H in a number of ways that might affect the outcome of interest. However, we do not regard this as a source of bias in the estimate of treatment effects because the variance is uncorrelated with the treatment. Even if this is unpersuasive, the resulting effects are still unbiased, if more narrowly stated. In that case, according to the Rubin Causal Model, our effect would be merely the average of the difference between the observed outcome for each treated unit and what would have been observed for each unit under the alternative treatment. We would not claim that the effect we estimate is the average difference in potential outcomes that would have been observed given all units experiencing treatment vs. all experiencing control.

Though experiments manipulating group-level features present unique challenges, our summary view is that ours is an experimental rather than observational study, and it has strengths comparable to or exceeding those of prominent experimental studies with a similar design.

B. Question Wording for Variables

Egalitarianism Index:

- “If people work hard they almost always get what they want.” (Reverse coded)
- “Even if people try hard, they often cannot reach their goals.”
- “This country would be better off if we worried less about how equal people are.” (Reverse coded)
- “Relative equality of wealth is a good thing.”
- “Any person who is willing to work hard has a good chance at succeeding.” (Reverse coded)
- “It is not really that big of a problem if some people have more of a chance in life than others.” (Reverse coded)
- “If people were treated more equally in this country we would have fewer problems.”
- “Our society should do whatever is necessary to make sure that everyone has an equal opportunity to succeed.”
- “Most people who fail should not blame the system; they have only themselves to blame.” (Reverse coded)

Response Options: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree

Preferred Principle of Distributive Justice:

- “Rank the following 4 principles of distributive justice according to your personal preference. Place the principles in the correct order by clicking on a principle and dragging it to its appropriate location.”

Response Options: Maximize the Floor Income, No Taxes or Redistribution, Set a Floor Constraint, Set a Range Constraint

C. Supporting Tables and Figures

Table A1: Demographic Characteristics of All Participants in the Deliberative Justice Project (Non-deliberating Control Condition Excluded)

Variable	Question Text or Explanation	Response Options	N	Mean	St. Dev	Range
Age	Age of subjects	--	467	27.63	11.71	18-78
Income	Expected annual family income during year of study participation.	1. Under \$25,000 2. \$25,000 - \$39,000 3. \$40,000 - \$54,999 4. \$55,000 - \$69,999 5. \$70,000-\$84,999 6. \$85,000 - \$99,999 7. \$100,000 - \$114,999 8. \$115,000-\$129,999 9. \$130,000-\$144,999 10. \$145,000-\$160,000 11. Over \$160,000	466	4.12	3.31	1-11
Education	Highest level of schooling completed.	1. Some high school 2. High school diploma or equivalent 3. Some college 4. Technical or Associates degree 5. Bachelors degree 6. Graduate degree	466	3.79	1.16	1-6
Female	Self-reported gender	0. Male 1. Female	470	0.49	0.50	0-1
Partisanship	Self-reported party identification: “Generally speaking, do you consider yourself to be an ...”	1. Strong Democrat 2. Weak Democrat 3. Ind. leaning Democrat 4. Independent/Other/DK 5. Ind. Leaning Republican 6. Weak Republican 7. Strong Republican	433	4.39	2.01	1-7
Experimental Location	Site of Experimental Session	0. Western Site (n=230) 1. Eastern Site (n=240)	470	0.51	0.50	0-1

Table A2: Descriptive Statistics (Non-deliberating Control Condition Excluded)

Variable	Explanation	Scale Coding	N	Mean	St. Dev	Empirical Range
Group Deliberation Time	Total length of group discussion in minutes, not counting researcher instructions or silences in which no one spoke. Created by adding all individual subject talk times for each group.	Minutes	94	19.27	10.99	4.12-47.10
Unanimous	Dummy variable indicating that group's assigned decision rule was unanimity.	Dummy variable (1=unanimous, 0=majority)	94	0.51	0.50	0-1
Talk Time	Individual subject's talk time in minutes.	Minutes	470	3.85	3.16	0.09-16.63
Proportion Talk	Proportion of group talk time for each individual.	0-1	470	0.20	0.11	0.01-0.58
Percent Speaking Turns	Percent of speaking turns for each individual.	0-100	470	20.02	8.83	1.25-50.68
Gender Gap in Speech Participation	Difference between the average <i>Proportion Talk</i> of men and the average <i>Proportion Talk</i> of women within each mixed gender group	-1-1	64 (mixed-gender groups only)	0.06	0.13	-0.27-0.48
Self-rated Efficacy	"My opinions were influential in shaping the group discussion and final decision."	1 - Strongly Disagree 2 - Disagree 3 - No preference 4 - Agree 5 - Strongly Agree	470	3.71	0.81	1-5

Egalitarianism	9-item index (alpha reliability coefficient=.73) created from questions measuring agreement with statements about egalitarianism (see above).	0 - low egalitarianism 1 - high egalitarianism	470	0.51	0.18	0-.97
Influence (Own Vote Included)	“Which member of the group was most influential in group discussions and decisions?”	Number of votes subject received	470	1	1.34	0-5
Influence (Own Vote Excluded)	“Which member of the group was most influential in group discussions and decisions?”	Number of votes subject received (respondent votes for self excluded)	470	0.83	1.13	0-4
Gender Gap in Influence	Difference between the average influence votes for men and the average influence votes for women within each mixed gender group (own vote excluded).	-4-4	64 (mixed-gender groups only)	0.62	1.27	-3-4
Preference Matched Pre-deliberation Majority Preference	Pre-deliberation preferences for principle of distribution matched the principle preferred by the majority prior to deliberation.	Dummy variable created from individual pre-deliberation preferences. Groups with no pre-deliberation majority are coded as 0	470	0.56	0.50	0-1
Preference Matched Group Outcome	Pre-deliberation preferences for principle of distribution matched the group’s post-deliberation decision.	Dummy variable created from individual preferences and group outcomes	470	0.58	0.49	0-1
# of Individuals Favoring No Redistribution	# of subjects in group ranking “no redistribution” first in a ranking of principles of distribution prior to deliberation.	0-5	64 (mixed-gender groups only)	0.77	0.72	0-2

# of Individuals Favoring Maximum Redistribution	# of subjects in group ranking “maximize the floor” (maximize the minimum amount guaranteed to the poorest) first in a ranking of principles of distribution prior to deliberation.	0-5	64 (mixed-gender groups only)	0.48	0.67	0-3
# of Egalitarians	# of subjects in group scoring above the midpoint of 0.5 on scale of egalitarianism.	0-5	64 (mixed-gender groups only)	2.68	1.26	0-5
Gender Gap in Support for No Redistribution	Difference between average male votes for no redistribution and average female votes for no redistribution prior to deliberation	-5-5	64 (mixed-gender groups only)	0.30	0.92	-2-2
Gender Gap in Support for Maximum Redistribution	Difference between average male votes for maximum redistribution and average female votes for maximum redistribution prior to deliberation	-5-5	64 (mixed-gender groups only)	-0.08	0.70	-2-2
Gender Gap in Egalitarianism	Difference between average male scores and average female scores on the egalitarianism index, measured prior to deliberation	-5-5	64 (mixed-gender groups only)	-0.06	0.17	-.43-.32
Confidence in Speaking Ability	“I am frequently frustrated by my inability to express my opinions to others.” (Reverse coded so lack of confidence is 0.)	0 – Strongly Agree with statement .25 – Agree .5 – Neutral .75 - Disagree 1 – Strongly Disagree with statement	470	0.68	0.24	0-1

Table A3: Effect of Unanimity on Average *Talk Time* of Gender Minorities (Group-Level Analysis)

VARIABLES	(1) Minority Women (1-2 Women in Group) <i>Talk Time</i>	(2) Minority Men (1-2 Men in Group) <i>Talk Time</i>
Unanimous	1.594** (0.802)	1.340* (0.925)
Constant	2.944*** (0.750)	4.554*** (0.836)
Observations	32	32
R-squared	0.355	0.171
Control for Outlier	Yes	NA
Control for Experimental Location	Yes	Yes

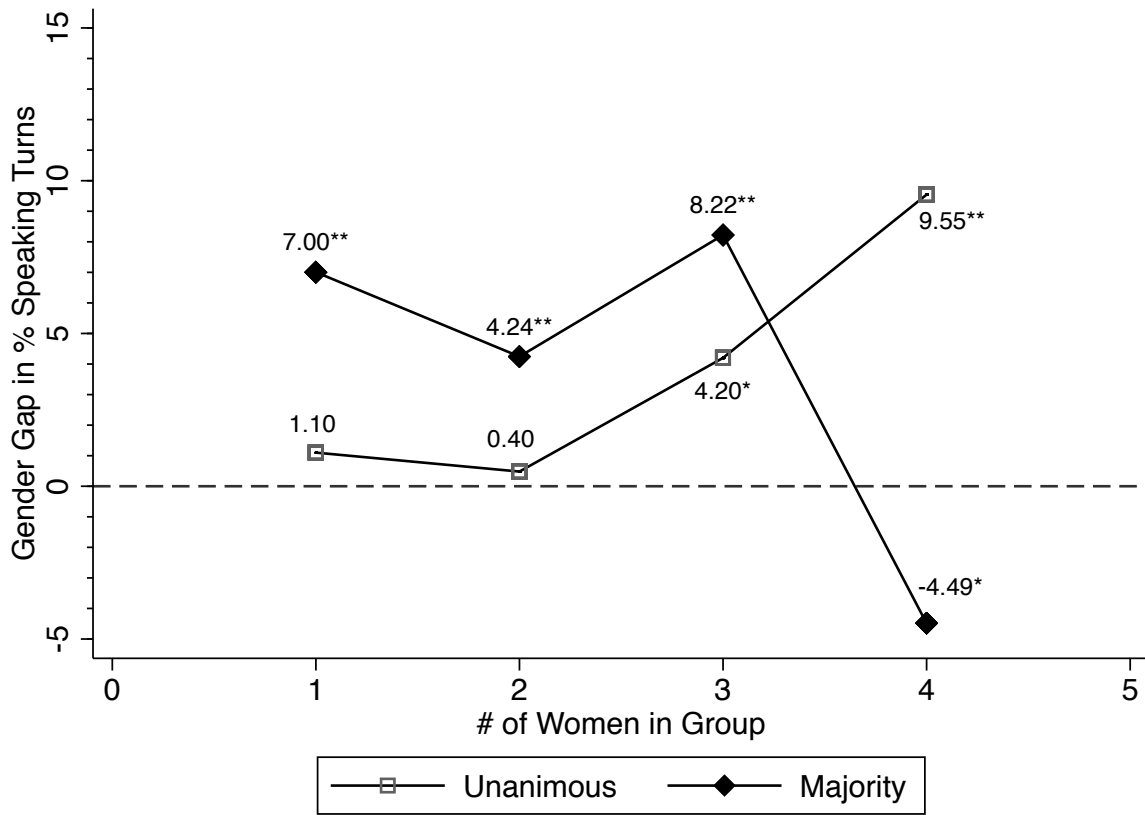
Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, one-tailed test

Table A4: Determinants of Self-Rated Efficacy

VARIABLES	Self-rated Efficacy
Proportion Talk	3.234*** (0.537)
Confidence in Speaking Ability	0.537*** (0.226)
Preference Matched Group Outcome	0.308*** (0.114)
Female	-0.339*** (0.114)
Cut Point 1	-1.623 (0.288)
Cut Point 2	-0.464 (0.215)
Cut Point 3	0.394 (0.215)
Cut Point 4	2.304 (0.230)
Observations	470
Pseudo R-squared	0.071
Log Pseudolikelihood	-498.531
Control for Outlier	Yes
Control for Experimental Location	Yes

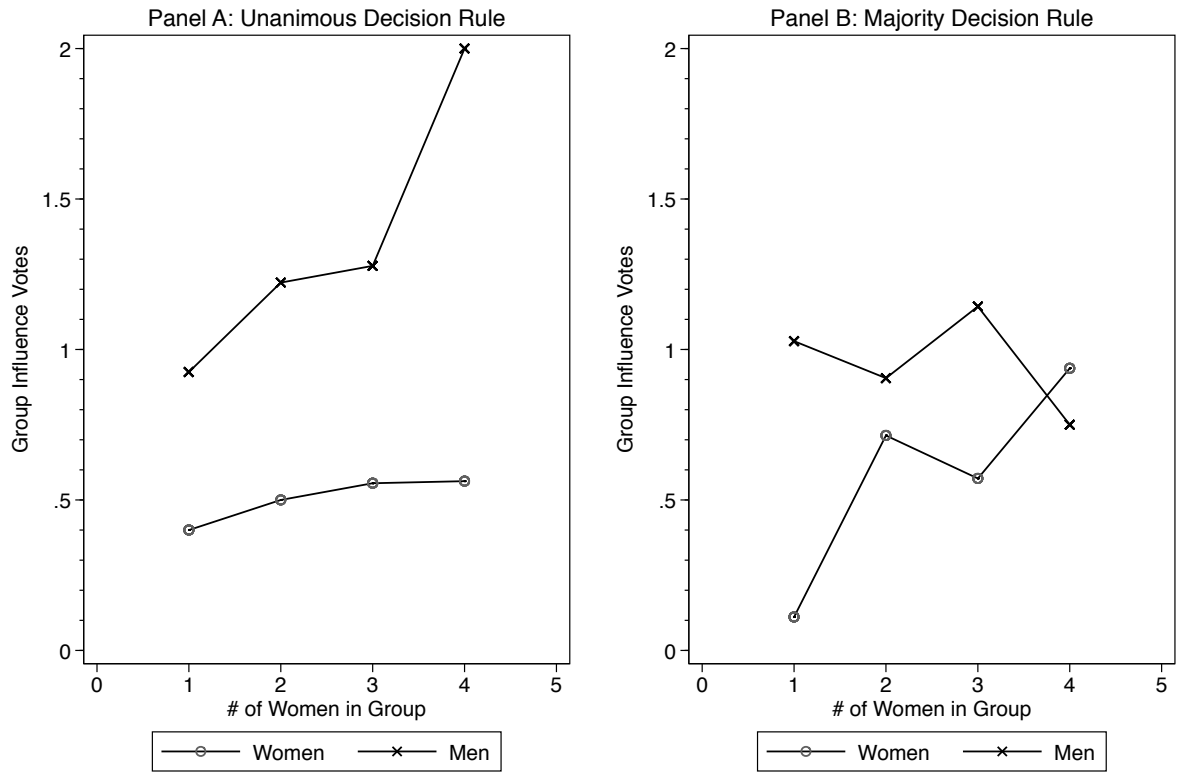
Note: Coefficients generated from an ordered probit model. Cluster robust standard errors in parentheses.
 *** p<0.01, ** p<0.05, * p<0.1, one-tailed test.

Figure A1: Gender Gap in *Percent Speaking Turns* by Experimental Conditions



Note: Stars indicate gender gaps that are significantly different from 0. ** $p < .05$, * $p < .10$, one-tailed test.

Figure A2: Average *Influence* for Men and Women by Experimental Condition



D. Excerpts from Participant Handbook

PRINCIPLES OF JUSTICE

This experiment deals with the justice or fairness of different income distributions. When considering the justice of income distributions, think about values that you hold. For example, think about how to promote equality of opportunity, how to reduce the gap between rich and poor, how best to provide for the poor, or how to reward talent and hard work. A number of principles have been suggested that reflect these value judgments. Today, we will focus on four such principles.

Consider the following four different ideas about how to distribute income fairly:

1. MAXIMIZE THE FLOOR INCOME: “HELP THOSE WHO HAVE THE LEAST”

Value Statement: The most just distribution of income is most concerned with the poorest among us.

This principle focuses on the well-being of the worst-off individual in society. This is done by linking the amount received by the least productive individuals to the group’s average income. In other words, the poorest are guaranteed to receive an amount close to the group’s average (though still below it). Those in the lowest income classes will receive more money as the average amount earned by the group goes up.

Application: The higher incomes are taxed so that everyone receives at least 80% of the group’s average income.

2. NO TAXES OR REDISTRIBUTION: “I KEEP WHAT I EARN”

Value Statement: The most just distribution of income best rewards those who produce the most.

This principle assumes that the best way to provide the most total income for the group, and therefore the highest average, is to preserve individual incentive to work hard. People will have a very strong incentive to work hard when they rely entirely on their own production to determine their income. Therefore, this principle does not guarantee any aid to the low income classes and allows the high income classes to keep everything they earn.

Application: Everyone keeps exactly what they earn, no more and no less.

3. SET A FLOOR CONSTRAINT: “ENSURE EVERYONE HAS ENOUGH TO GET BY”

Value Statement: The most just distribution of income provides a safety net of guaranteed income no one can fall below.

This principle provides an incentive to work hard and increase the group’s total income, but also sets a floor to ensure that individuals “at the bottom” receive a guaranteed minimum amount.

Application: The group must set a dollar amount for the floor, and all incomes above the floor will be taxed enough to raise everyone to that floor. If your group does not happen to produce enough to achieve the floor you set, we will reset the floor to be 80% of the average.

4. SET A RANGE CONSTRAINT: “REDUCE THE EXTREMES OF RICH AND POOR”

Value Statement: The most just distribution of income increases equality by reducing the differences between the rich and the poor.

This principle mandates that no matter how high or low the total group income is, the difference between the highest income and lowest income cannot be greater than a specified amount. Of course, as the group’s total production increases, every individual’s income will also increase accordingly. You may create complete equality, in which everyone receives the same income, by restricting the range to \$0. The greater the range constraint you choose, the greater the difference your group will allow between the highest and lowest incomes.

Application: The group sets a dollar amount for the range. Money is redistributed from high incomes to low incomes until they fall within the set range. If incomes are already within the set range, no action is taken, even if the low income is below average, and as low as zero.

Of course, there *are* other possible principles, and you may think of some of them. For this experiment, however, we will focus on the four principles we have described.

Detailed information about how each principle is applied in this experiment is available in the appendix at the end of the handbook. If you want, you may refer to this information as needed during your group discussion.

Make sure you feel comfortable with each of the four principles we have described. Review them and think about the values that go with each principle. When you are ready, move to the next page.

It is one thing to make a choice of an income distribution principle when fully aware of your individual talents and place in society. It is quite another to do so without such knowledge. Later you will be earning money by working at a task we have designed. **You do not know how well you will be able to perform at that task, how much income you will generate, and hence in which income class you will be.** Consider how you would feel in each income class. *Do not restrict your thinking or cloud your judgment by assuming that you will end up in the highest or lowest income classes. Make sure you will be comfortable with your results in every possible situation.* Will you be happy keeping only what you earned in a low income situation? Will you be happy with a guaranteed minimum income? Will you be happy giving up your wages in a high income situation? Which principle is most fair or just for the group as a whole?

Take a moment now to review the principles and think about how each might affect people at different places in the distribution.

In the next part of the experiment, you and the other group members will need to reach a decision about which principle of income distribution your group will adopt. This principle will govern the actual payments which will be made to each of you after your performance on the assigned task.

INSTRUCTIONS FOR GROUP DISCUSSION

In this part of the experiment your group will choose a principle of justice that will govern the distribution of incomes that result from the tasks you perform. Remember, this choice will be an important factor in the actual payment you and the other members of your group receive from participating in today's experiment.

You will be assigned tasks and earn money based on your performance. There will be three production and pay periods, each representing one year of work and resulting income. Remember, the tasks might include either manual or intellectual labor, or a combination of the two. Again, **you do not know how well you will perform on the task, how much income you will generate, and hence which income bracket you will be in.** Your income will be calculated according to the "work" you accomplish during each production period. Your earnings from each period will then be reallocated according to the principle chosen by the group to govern income distribution. The total from the three years of salaries will be converted to your final take-home payment only at the end of the study.

Before the group votes on adopting a principle of justice, there is to be full, open, and inclusive discussion of the matter. The best discussions consider underlying values and final effects of different income distributions. As you discuss these issues, think about how different distributive principles affect different household incomes. *Think of an average household as consisting of at least a single earner and two other individuals.*

You have whatever time you need, within reason, to discuss the issue. You must engage in discussion for at least 5 minutes. When you feel nothing can be gained by further discussion, tell the moderator. **FOR DISCUSSION TO END, PARTICIPANTS MUST AGREE UNANIMOUSLY BY SECRET BALLOT THAT FURTHER DISCUSSION IS UNNECESSARY.** Ending discussion does not necessarily mean that everyone agrees and that you have already chosen a principle; it simply means that you are ready to stop talking.

Detailed instructions for choosing principles and voting are available on the next page. Your moderator will be available to help you through the process.

INSTRUCTIONS FOR CHOOSING A PRINCIPLE

Though there are many possible principles, for this experiment, your group should thoroughly discuss and choose among the four principles of justice you have learned about today.

Constraints:

There are a few requirements you should bear in mind if you wish to adopt a principle which involves a constraint. *You should think of dollar figures as annual incomes for a household today. Think of an average household as consisting of at least a single earner and two other individuals.*

If you wish to consider a range constraint, you must specify the amount in dollars. This amount will determine the difference between the highest and lowest income categories.

- If the range constraint you choose is higher than the actual range of income earned by the group, there will be no redistribution. For example, if your group chooses an \$80,000 range constraint and the actual range of incomes (the difference between the highest and the lowest income) resulting from your work is \$60,000, no redistribution will take place.

If you wish to consider a floor constraint, you won't know what floor will be *achievable* based on the earnings of the group until after the task has been run. Therefore, we interpret a floor constraint as follows:

- You must specify an absolute dollar amount that you wish to have as a floor constraint. If that dollar amount is above the maximum floor achievable given the group's earnings, we will set the floor at 80% of the average income.

As you decide on a dollar amount, you should interpret the floor income as *the minimum income a household is guaranteed each year.*

VOTING INSTRUCTIONS

When your group has agreed unanimously that discussion should end, the moderator will guide you through details of the voting process.

All group members are required to cast a ballot. You should vote for the principle you believe would create the most just society. If you choose, your group may place multiple floor or range constraint amounts on the ballot. (For example, your group may want to vote on a floor constraint of \$20,000 *and* a floor constraint of \$50,000.)

IF A PRINCIPLE SECURES THE [MAJORITY/UNANIMOUS] SUPPORT OF THE GROUP AGAINST ALL OTHER PRINCIPLES ON THE BALLOT, THAT PRINCIPLE IS CHOSEN.

If no principle receives sufficient support, then the group returns to discussion. A new vote would follow after the group unanimously decides to stop the second round of discussion. This process can be repeated up to four times. If you, as a group, are not able to adopt any principle in four tries, then on the fifth we will select a principle which will be applied to your earnings in the next part of the experiment.

E. Sample Deliberation Transcript

Line#	Timecode	Quote
1		[START TAPE GROUP 1]
2	00:00:04	MODERATOR: Starting at the A
3		position, can you say your letter and
4		your name?
5	00:00:08	SUBJECT A: My letter is A and my
6		name is WOMAN A.
7	00:00:11	SUBJECT B: B, MAN A.
8	00:00:13	SUBJECT C: C, MAN B.
9	00:00:15	SUBJECT D: D, MAN C.
10	00:00:16	SUBJECT E: E, WOMAN B.
11	00:00:18	MODERATOR: Okay great. You're all -
12		- . All right, and during the
13		discussion, we'll have the principles
14		up here. You'll notice that two of
15		the principles need a dollar number
16		attached to them, so to make the
17		voting easier later on, whenever you
18		guys say a dollar number I'm just
19		going to write it up here on the
20		board, so don't mind me while I do
21		that. Does someone want to start off
22		the discussion by saying which
23		principle they prefer?
24	00:00:43	WOMAN A: Sure, I can do that. I
25		think I prefer the, sorry I forgot

Line#	Timecode	Quote
26		the name of it, set a floor
27		constraint because it basically
28		ensures that everyone has enough to
29		get by, and but there's still a lot
30		of incentive to work. If you have to
31		maximize the floor, then you have a
32		lot of people earning underneath the
33		80% mark, so they wouldn't have as
34		much incentive to work. Basically,
35		they'd get 80% no matter what they
36		do. So with a set a floor
37		constraint, I think they have
38		basically incentive to breakout of
39		the lower thing, but then they also
40		have incentive to work if you're in
41		the higher income bracket.
42	00:01:22	MAN A: I think that if we were going
43		to go for that structure, the
44		maximize the floor would be better.
45		So I think that the high earners in
46		almost every society wildly out-pace
47		the middle earners, so by setting a
48		maximum floor, you get the mass
49		amount of useless income essentially
50		from the high earners distributed

Line#	Timecode	Quote
51		essentially, mostly to the low
52		earners and a little bit to the
53		middle earners, which greatly brings
54		up the average quality of life.
55	00:01:54	MAN C: You mentioned the high
56		earners wild-being outliers, wildly
57		outpacing the average, would it be
58		possible to set a floor constraint
59		and a range constraint to prevent
60		that and it would keep the income
61		levels less toward the middle, that
62		the 80% would, but yet it would still
63		set that floor where everyone could
64		get by and prevent the outliers I
65		think, because of the range
66		constraint.
67	00:02:19	MAN A: But doesn't the range
68		constraint initially apply to the
69		bottom rather than the top according
70		to the rules described.
71	00:02:26	MAN C: The range is the difference
72		between the bottom and the top.
73	00:02:28	MAN A: Right, it's the difference
74		between the bottom and the top, but
75		it initially triggers on the bottom.

Line#	Timecode	Quote
76	00:02:34	MAN B: Well, from the average
77		though. So the average is going to
78		be the same on everyone, so it starts
79		from the average to the bottom and
80		then the top, so it shouldn't really
81		matter. I would-
82	00:02:47	MAN A: [interposing] No, it says all
83		the incomes that are too low, that is
84		the range between them and the
85		highest income, would receive-as
86		opposed to taxing from the top, it
87		starts working at how much you need
88		to give to the bottom and then chops
89		off with everything.
90	00:03:01	MAN B: Right, depending on the range
91		that we set.
92	00:03:05	MAN C: Can we do a floor constraint
93		and a range constraint?
94	00:03:08	MAN A: Which order would we want
95		them to be applied?
96	00:03:09	MODERATOR: For the purposes of this
97		experiment, you have to pick just one
98		constraint.
99		WOMAN A: Okay.
100	00:03:16	WOMAN B: I think that by setting a

Line#	Timecode	Quote
101		floor constraint, that will-it
102		increases inflation, that kind of
103		thing, so it basically brings
104		everything back down to zero, setting
105		a floor constraint, it's kind of
106		counterproductive.
107	00:03:28	MAN A: Why is that
108		counterproductive?
109	00:03:30	WOMAN B: Well, if you have a floor
110		constraint, then you have a definite
111		amount that everyone will be earning,
112		so then other things can—other you
113		know, expenses can go up based on
114		that and you just end up paying more
115		for other things.
116	00:03:46	MAN A: We can't increase the total
117		expenses in this society. It's a
118		fixed—there's no economy in this
119		society. We're like farmers, we're
120		just obtaining income arbitrarily.
121		There's no trading going on. We're
122		just getting income and taxing. It's
123		not like the income's coming from
124		somewhere, so inflation is not a
125		worry.

Line#	Timecode	Quote
126	00:04:08	MAN C: Especially if the floor
127		constraint was set very low. If the
128		floor constraint was set very high,
129		that would kind of be like maximizing
130		the floor income and that could
131		maintain
132	00:04:17	MAN A: Well, except that it doesn't
133		penalize the high earners as much.
134		Because maximizing the floor, if
135		everyone earns loads right, a floor
136		constraint may be completely
137		ineffective.
138	00:04:30	MAN B: [interposing] it might not
139		even need to be used.
140	00:04:32	MAN A: [continues] So say we set a
141		floor constraint of \$30,000 and
142		everyone earns \$60,000 or above, it's
143		going to be zero taxation.
144	00:04:43	MAN B: That's assuming that we can—
145		is there—I might have missed it, is
146		there a limit to the amount that the
147		group can make? Is there a ceiling
148		as a group?
149	00:04:53	MAN A: I was under the impression
150		that we can—we each perform

Line#	Timecode	Quote
151		independently at the task and obtain.
152	00:04:58	MODERATOR: It's not a zero sum tax,
153		so you're earning [crosstalk].
154	00:05:01	MAN A: So if everyone does well
155		MAN B: (interposing) so if everyone
156		does well. (continues) and the group
157		can earn more total money.
158	00:05:06	MODERATOR: The general across all
159		people who have done this the
160		distribution looks something like the
161		distribution of America, but you five
162		might be very good at the task - - .
163	00:05:27	MAN A: I feel like maximizing the
164		floor means that—I mean, the high
165		earners are always going to have a
166		very good quality of life, if not a
167		quality of life where the additional
168		income isn't helping, like the fifth
169		or sixth helicopter doesn't make that
170		much difference to quality of life.
171		It's diminishing returns, every
172		subsequent million dollars that you
173		spend on stuff doesn't actually make
174		you that much happier, but towards
175		the lower income, the more you make,

Line#	Timecode	Quote
176		the more additional you make, the
177		greater material difference it has on
178		your quality of life.
179	00:06:11	WOMAN A: The problem with maximizing
180		the floor though is that everyone—the
181		rich are going to be very close to
182		the average. It's not like it's
183		going to be the difference between
184		eight helicopters and four
185		helicopters. It's going to be the
186		difference between one helicopter and
187		zero helicopters.
188	00:06:22	MAN C: And as you mentioned earlier,
189		it would reduce productivity amongst
190		the lowest earners because they would
191		all be artificially bumped up to so
192		much closer to the average as opposed
193		to being—if they're closer to the
194		floor it might encourage them to be
195		more productive.
196	00:06:36	MAN A: But, as-- Well first of all,
197		you don't know if you're going to be
198		a lowest earner until you start
199		earning. And secondly, even as a
200		lowest earner, every penny—so say

Line#	Timecode	Quote
201		you've got a task that's really
202		difficult for you, but you know that
203		however hard you work, you're
204		increasing the group's average and
205		essentially you're paying out to
206		yourself more than a rich person is
207		paying out to themselves, so you have
208		if anything, a greater incentive.
209		Like every penny that you make is
210		worth more to you. Do you follow?
211		You get a greater fraction of what
212		you make.
213	00:07:12	MAN B: That's true, but—but when the
214		floor is.
215	00:07:14	MAN A: If you're a low income
216		person, you get like maybe 200% of
217		what you make, so you have a much
218		higher—so that extra \$10 at the end
219		is worth that much to you, right?
220	00:07:25	WOMAN A: Yeah, but then problem is
221		with the higher income people, they
222		know that there's going to be a cap
223		basically on whatever they earn. So
224		like there's—
225	00:07:30	MAN A: There isn't a cap. The more

Line#	Timecode	Quote
226		they—
227	00:07:32	WOMAN A: But it's going to go down
228		to.
229	00:07:34	MAN B: They're going to be limited
230		by the group.
231	00:07:35	WOMAN A: Very close to the average.
232	00:07:36	MAN A: Not very close to the
233		average.
234	00:07:38	WOMAN A: If it's an 80% thing it's
235		going to be very close to the
236		average. 80% floor.
237	00:07:41	MAN B: I feel like though with the—
238	00:07:42	MAN A: [interposing] No, if it's
239		spiking outliers for the rich, they
240		still make a lot more money.
241	00:07:48	MAN C: You're right, most people
242		would make more under that scenario,
243		but at the cost of being less
244		productive for society.
245	00:07:55	MAN A: I think that the society as a
246		whole would produce more under a
247		maximize the floor because people—
248		first of all, people have less fear.
249	00:08:07	MAN C: And that's a reason to work
250		harder.

Line#	Timecode	Quote
251	00:08:08	MAN A: But everyone has a reason to
252		work harder. The people who make the
253		most have good reason to work harder
254		because they're at the top, they
255		always have good incentive to work.
256		The people at the bottom have
257		incentive to work because they're-
258		essentially the government is
259		matching them \$0.20 on the dollar for
260		what they're making. If anything, it
261		creates a greater incentive for the
262		lowest earners and increases the
263		quality of life for the lowest
264		earners, thus increasing the average
265		happiness of the society as well as
266		the average productivity.
267	00:08:55	MAN B: Just to chime in here, I
268		agree a little bit in part with the
269		max floor. I think setting a floor,
270		we're kind of all in agreement, we
271		want to set a floor, we don't want to
272		have no redistribution, just to keep
273		this moving forward. I think that
274		maximizing the floor isn't really
275		going to be to the group's benefit as

Line#	Timecode	Quote
276		much as setting the floor. We don't
277		have to set the floor super low, but
278		just in terms of distributing—it's
279		going to be more closer distributed
280		to our actual performance if we set
281		the floor you know kind of in the
282		middle range without really
283		maximizing it and it's not—
284	00:09:35	MAN A: [interposing] But we don't
285		know what the average income is going
286		to be, so by maximizing the floor you
287		make every dollar earned below the
288		floor as an increased payout, but by
289		setting a floor once you're near the
290		floor there's no point in working.
291		So say you set the floor of \$20K, as
292		long as someone is earning \$16K,
293		there's no point in working because
294		their productivity is not
295		contributing to their success. In
296		fact, anyone below a fixed floor has
297		no incentive to do anything, whereas
298		a floor that is a fraction of the
299		society success, everyone has an
300		incentive to work. In fact, the

Line#	Timecode	Quote
301		bottom have the most incentive to
302		work harder because they get the most
303		benefit from their extra work.
304	00:10:20	WOMAN A: But they're not going to
305		have a huge impact on the society's
306		average if they're at the bottom.
307		MAN B: Right. (continues) It's the
308		rich that are going to have more of
309		an impact. So, their work.
310	00:10:27	MAN A: But they're going to have a
311		strong impact--there are only five of
312		us, it's a small society.
313	00:10:31	WOMAN A: I guess in this society
314		that might be more applicable, MAN A:
315		(interposing) They have a strong
316		impact. (continues) but in the larger
317		society it would not have as much of
318		an impact. Are we all in agreement
319		that we want either do set a floor or
320		maximize the floor? Is anyone - -
321	00:10:45	MAN A: [interposing] The other thing
322		that I'm really uncomfortable with
323		about setting a floor is we have no
324		idea how much we're going to make.
325	00:10:52	WOMAN A: He did say we have--we do

Line#	Timecode	Quote
326		have some idea. He said that it's
327		going to be somewhat representative
328		of the American household.
329	00:10:57	MAN C: Is there a maximum income
330		level? I think your concern that if
331		we set a floor of \$20,000 and some
332		people are earning \$300 billion, then
333		the maximize the floor is good, but
334		if there's a maximum income level of
335		\$300,000 and setting a floor of
336		\$20,000 or something - -
337	00:11:20	MAN A: [interposing] Yeah, that was
338		the example I was using.
339	00:11:25	MAN C: [continues] - - is different.
340	00:11:28	MAN A: Well but also-
341	00:11:32	MAN C: My question is, is there a
342		maximum? Income level in this
343		scenario.
344	00:11:33	MODERATOR: Is there a maximum.
345	00:11:34	MAN B: Is there a maximum income
346		level in this scenario?
347	00:11:39	MODERATOR: There is a theory-
348	00:11:40	MAN A: [interposing] Presumably it's
349		a finite performance task?
350	00:11:41	MODERATOR: Yeah, there is in theory,

Line#	Timecode	Quote
351		though it has never been reached.
352	00:11:45	MAN A: Can you plausibly perform
353		perfectly at the task?
354	00:11:49	MODERATOR: In theory. No one has
355		ever done it, but there is a
356		theoretical task that's probably the
357		best thing about it though. In real
358		life there's a theory.
359	00:12:04	MAN C: And that's the way you're
360		thinking about it, that there's no
361		maximum. And that's why you want
362		protect most people by setting the
363		maximum--
364	00:12:11	MAN B: Well, if you are the top
365		earner, the max floor isn't really
366		going to affect you either way.
367		You're still going to--if you're
368		outpacing the group--
369	00:12:19	MAN A: [interposing] So we agree
370		that either floor--so we're happy with
371		a floor scenario, so it's one or
372		three.
373	00:12:24	WOMAN A: Are we allowed to maximize
374		the floor not at 80% and something
375		like 70% or something like that?

Line#	Timecode	Quote
376	00:12:29	MAN A: Yeah, that's a-
377	00:12:30	MODERATOR: [interposing]
378		Unfortunately, no. It has to be-
379	00:12:32	WOMAN A: It has to be 80%.
380	00:12:34	MAN A: So we agree that we want a
381		floor of some kind, whether it's 80%
382		or a fixed number.
383	00:12:41	MAN B: Right.
384	00:12:42	MAN A: Ideally, we would like
385		something that's not 80%, so if we
386		can estimate what 70% is, but I guess
387		that doesn't create the same
388		incentive at the bottom level. So do
389		we agree that the people earning the
390		most probably don't care about the
391		difference between these two systems?
392		They affect them roughly similarly,
393		except that they might make more
394		under maximizing the floor because
395		the low income people are more likely
396		to work more.
397	00:13:06	MAN B: [interposing] Assuming the
398		low income people would step it up-
399		right-respond to it.
400	00:13:09	MAN A: Would respond to it, right,

Line#	Timecode	Quote
401		but in our society I think it's clear
402		that the low income people all know
403		that they have a lot to gain by
404		working.
405	00:13:19	MAN B: Well right, but the other
406		thing is though that we're all
407		starting on equal ground here. There
408		isn't a social structure to this
409		group, so we're not starting like
410		someone with no education, you know.
411	00:13:32	MAN A: Well, that's what I'm saying.
412		Amongst us, the low income person or
413		the low income people will know that
414		they have little incentive to do
415		better under a fixed floor, but a
416		strong incentive to do better under a
417		maximized floor.
418	00:13:52	MAN B: So, it almost sounds like we
419		just need to decide what the floor
420		would be, so it wouldn't be
421		maximizing the floor.
422	00:13:58	MAN A: Well, except that if we set a
423		fixed floor and after the first round
424		of work everyone—so there are three
425		rounds of work right. After the

Line#	Timecode	Quote
426		first round of work, everyone knows
427		how much they're making. If you're
428		making 80% of the floor, why bother
429		working, of the fixed floor.
430	00:14:12	WOMAN A: Well, you could make, if
431		you're making 80% of the fixed floor,
432		then you're not that far from making
433		the average and going above the
434		average. So-
435	00:14:20	MAN C: I think the problem with
436		maximizing the floor income is that
437		it creates a huge number of people
438		who don't have to do anything and
439		they'll make 80% of the average
440		income.
441		MAN B: The average might be lower,
442		but they'll still make 80%
443		relatively.
444		MAN C: 80% is still pretty close.
445	00:14:36	MAN A: The more they do, the more
446		80% of the average is. That's the
447		thing, because the average earning is
448		linked to each individual's earning,
449		whereas a fixed constraint is not
450		linked to the individual.

Line#	Timecode	Quote
451	00:14:47	WOMAN A: But then they only get one-
452		fifth—if it's a group of five, they
453		only get one-fifth of what they earn
454		and one-fifth isn't that big of an
455		incentive. At least.
456	00:14:55	MAN A: I'm sorry?
457	00:14:56	WOMAN A: Okay, since there are five
458		of us working, the average would
459		basically be divided by five, so for
460		every basically dollar that they earn
461		they only see one-fifth of it.
462	00:15:08	MAN A: Not if they're below the—if
463		they're earning below 80% of the
464		average, they're earning
465		significantly more than one-fifth
466		bonus on the dollar. They're making
467		more than \$.20 on the dollar in
468		benefit from taxes.
469	00:15:24	WOMAN A: No, because the average
470		would only go up by one-fifth.
471	00:15:29	MAN A: Right, but they get a better
472		payment from it, because of the
473		difference.
474	00:15:36	MAN C: I think maybe we should get
475		the correlation between standard of

Line#	Timecode	Quote
476		living and productivity. I don't
477		want to—I wouldn't want to make more
478		people less productive because I
479		think it could lower the standard of
480		living on the society as a whole.
481		Productivity is a good thing and
482		maximizing the floor to where
483		everyone is making 80% of the
484		average, discourages productivity.
485	00:16:01	MAN A: I think it encourages
486		productivity because if you're making
487		less than the floor, which is a
488		function of the group productivity,
489		every bit of extra that your marginal
490		productivity has X reward for you.
491		You're making more than you're
492		working towards right.
493	00:16:26	MAN B: But, and assuming there's no
494		limit in this society to what you can
495		make, the high earners are still
496		going to make the high amount and you
497		could theoretically just sit back and
498		say, I'm not really going to try at
499		this because the super rich are still
500		going to make the most.

Line#	Timecode	Quote
501	00:16:44	MAN A: Do we think that one person
502		is going to have like 80% of the
503		wealth?
504	00:16:51	MAN B: No, but the majority of the
505		wealth could go to one person if it
506		is kind of reflective of-
507	00:16:58	MAN A: [interposing] But we're in
508		competition with each other, so if
509		one person does well, other people
510		don't do badly.
511	00:17:05	MAN B: No.
512	00:17:06	MAN A: It's just a fixed task.
513	00:17:08	MAN B: Right.
514	00:17:08	MAN A: So, the person making the
515		most is still going to be making the
516		most. They're going to have every
517		bit of extra work that they do won't
518		be a huge extra consideration to
519		them, but every piece of extra work
520		that the low earners do will be a
521		huge consideration because I still
522		think that having a floor that's
523		linked to the average, incentivizes
524		those below the floor more than it
525		incentivizes them if you just had a

Line#	Timecode	Quote
526		fixed floor.
527	00:17:44	WOMAN A: I don't think it has that
528		much of an incentive. Basically, say
529		you're well below the 80% of the
530		thing, you make an additional \$10
531		right, so the average of the group
532		goes up \$2 and you're making 80%, so
533		you only get \$1.60 more when you
534		actually made \$10. So I don't see
535		that as a huge incentive. I don't
536		see increasing the average a huge
537		incentive because it doesn't increase
538		the average that much based on what
539		you do.
540	00:18:08	MAN A: But—
541	00:18:09	MAN C: I think there's less
542		incentive to work harder if you're
543		guaranteed to make 80% of the
544		average.
545	00:18:13	WOMAN A: If you have the possibility
546		of breaking out of the set floor.
547		You have an easier way of breaking
548		out of the floor constraint, then I
549		think you have more of an incentive
550		to work harder.

Line#	Timecode	Quote
551	00:18:27	MAN A: But if you break just above a
552		floor constraint, you're not—you're
553		getting taxed on that above income.
554		Whereas the harder you—the average
555		earner goes up—you're unlikely to
556		mess up and make your additional work
557		be less valuable to you, whereas if
558		you're working with an average
559		that's—sorry—a floor that's tied to
560		the average, if you're a low earner
561		you're almost certainly going to be
562		making 20% at least extra on the
563		dollar, that's a lot of money.
564		Twenty percent on the dollar, if you
565		got a 20% raise at work that's a lot
566		of money. I think that's a really
567		strong incentive to work hard.
568	00:19:23	WOMAN A: If we do set a floor
569		constraint though what does everyone
570		think a fair floor constraint would
571		be based on the—
572	00:19:28	MAN C: It's hard to say without
573		knowing what the maximum income could
574		be, but do you—
575	00:19:33	MAN A: [interposing] I really want

Line#	Timecode	Quote
576		to know what the average is.
577	00:19:35	MAN C: Okay.
578		WOMAN A: I mean the average in
579		American society--
580	00:19:37	MAN B: It sounds like the average is
581		going to be whatever we make it.
582	00:19:40	WOMAN A: How much is it in the U.S,
583		\$40-50,000?
584	00:19:44	MAN A: I have no idea.
585	00:19:46	MAN B: I think it's lower than that.
586	00:19:48	MAN C: The median is probably around
587		\$40,000 I think. The mean is higher.
588	00:19:55	MAN B: Well, if we assume it's
589		\$40,000, should we just I guess get
590		into the discussion hypothetically
591		based off the U.S., just amounts? So,
592		if it was \$40,000 and we were to
593		maximize the floor that would put it
594		at-\$32.
595	00:20:11	WOMAN A: \$32,000.
596	00:20:12	MAN B, C \$32,000 would be the
597		minimum right.
598	00:20:15	MAN C: You said 80%, but we were
599		talking about if we wanted to use
600		60%.

Line#	Timecode	Quote
601	00:20:18	MAN B: So maxing the floor would
602		make it \$32,000, but if were to set
603		it at 60% that would be \$24,000.
604	00:20:34	MAN A: Umm, what about setting a
605		range constraint to zero?
606	00:20:37	MAN C: That's socialism.
607		MAN B: Yeah, no one.
608	00:20:38	WOMAN A: Yeah, no one has no
609		incentive to do anything.
610		MAN C: That's—that'd be—you're going
611		to make the same as everyone and
612		there's no incentive to do anything,
613		except what the government tells you.
614	00:20:48	MAN A: But you're going to make the
615		same as everyone, but however much
616		you work, you make everyone get more
617		money.
618	00:20:57	MAN B: That's assuming that everyone
619		has the intention to do that, but I
620		don't—
621	00:21:02	MAN A: [interposing] But everyone
622		wants to make as much money as they
623		can.
624	00:21:02	MAN B: Not everyone has the ability
625		to do that.

Line#	Timecode	Quote
626	00:21:04	WOMAN A: But your work is five times
627		more meaningless if everyone makes
628		the same money.
629	00:21:11	MAN A: I don't think it's
630		meaningless. You're still making
631		money for yourself.
632		WOMAN A: It means five times less-it
633		means five times less.
634	00:21:17	MAN C: You mentioned that you wanted
635		people to have incentives, if there's
636		not going to be an increase in their
637		income, there's no incentive to work
638		harder or innovate.
639	00:21:29	MAN A: I feel like there's still-
640	00:21:30	MAN C: [interposing] No financial
641		incentive.
642	00:21:31	MAN A: I feel like you're
643		discounting people's ability,
644		especially in a small society to see
645		the outcome of their increased
646		productivity through the taxing.
647	00:21:45	MAN B: But there will always be
648		people with that opinion though. If
649		the three of us in this discussion
650		could bring up that point, then I

Line#	Timecode	Quote
651		think that's enough of a
652		representation.
653	00:21:55	MAN A: Yeah, but you don't have to
654		act like it.
655	00:21:56	MAN B: [interposing] I don't know
656		that I personally would act that way,
657		but there's a chance that that would
658		happen and if only one of us did,
659		that's still 20%.
660	00:22:06	MAN A: But why base the perception
661		on this possible malicious lazy
662		person in your society-
663	00:22:11	MAN B: [interposing] It doesn't even
664		have to be lazy. What if the tasks
665		were assigned, someone just can't
666		wrap their head around it?
667	00:22:17	MAN A: But they're still going to
668		try as hard as they can. They're
669		going to do the best-
670	00:22:19	WOMAN B: Well, even if they try as
671		hard as they can, that doesn't
672		necessarily mean that they're going
673		to be able to earn as much as a
674		person who earns the highest.
675		MAN B: Right.

Line#	Timecode	Quote
676	00:22:28	MAN A: And? That's the whole point
677		of the distribution of wealth.
678	00:22:33	WOMAN B: But if we have a range of
679		zero, if you can't make as much as
680		the highest earning person, it
681		doesn't matter because you just take
682		that money away from them and then it
683		gives us all the same amount of money
684		at the end.
685	00:22:44	MAN A: Why- I don't see how that's
686		problematic. You still have the
687		incentive to work harder because
688		you're contributing to the social
689		good as well as your own good. It's
690		a small social good that you can see
691		the effects of. We're not talking
692		about a society of a couple of
693		million people right. This is like a
694		village or smaller sized society.
695		You can see the benefits of your work
696		if everyone is getting the same
697		amount, if everyone-
698	00:23:14	WOMAN B: Yeah, but we don't know
699		what the task we're doing is right
700		now, so it could be something that

Line#	Timecode	Quote
701		you are—one of us is just incapable
702		of doing and so even if you try
703		harder it doesn't necessarily mean
704		that your income is going to go up.
705	00:23:28	MAN A: And why is that a problem?
706		I'm not following you.
707	00:23:31	MAN B: Well, because then the rest
708		of the people—
709	00:23:33	MAN A: [interposing] Are supporting
710		that person. And--
711	00:23:35	MAN B: Right. At what point though
712		within a society do you—how long do
713		you support that person when they're
714		just a burden? Especially in a small
715		society you have the people that are
716		the burden on society.
717	00:23:49	MAN A: I think we've decided that
718		we're going to support someone
719		anyway. We're definitely going to be
720		using.
721		WOMAN A: To an extent.
722	00:23:53	MAN B: To some extent, but if we're
723		studying the hypothetical numbers,
724		80% at \$40,000 I think is more than
725		enough to sustain or no, 80% of

Line#	Timecode	Quote
726		\$32,000 if \$40,000 was the average.
727		Eighty percent of \$32,000 is-
728	00:24:15	MAN A: Well, why don't we go 80% at
729		\$32,000? Assuming it'll come out to
730		\$32,000.
731	00:24:22	MAN C: I thought we were just using
732		\$24,000, now you're talking about
733		\$25,000, it's not a big difference.
734		But you are talking about setting a
735		floor constraint.
736	00:24:29	MAN A: Well, I'm still gunning for
737		maximize the floor because I still
738		think that creates the greatest
739		incentive at the bottom end to do
740		that extra.
741	00:24:38	MAN C: But you said you would be
742		happy with the 80% of \$32,000?
743	00:24:41	MAN A: Well, except that—sorry, 80%
744		of \$40,000.
745	00:24:45	MAN B: No, the 80% of \$40,000, being
746		\$32,000.
747	00:24:47	MAN A: So, because when you have a
748		fixed floor, it's fundamentally
749		different from a fractional floor in
750		that you don't see benefit from your

Line#	Timecode	Quote
751		increased work. In fact, if you're
752		below the fixed floor, by working,
753		you're only decreasing the taxation
754		on the rich. If anything, once you
755		work out that you're earning below a
756		fixed floor, you have an incentive to
757		just stop working because then the
758		rich will just pay for you
759		completely.
760	00:25:24	MAN C: That was my argument against
761		maximizing the floor.
762	00:25:26	MAN A: But maximizing the floor, if
763		you stop working, you make less.
764	00:25:33	MAN C: If you stop working, you're
765		guaranteed to make 80% of the
766		average.
767	00:25:36	MAN A: Which is going to be a lot
768		less.
769	00:25:39	MAN C: It would be more than what
770		you would make if you stopped working
771		under setting a floor constraint.
772	00:25:42	MAN A: You definitely have more
773		incentive to work below the floor in
774		a maximized floor than a fixed floor
775		because when you work more in a

Line#	Timecode	Quote
776		maximized floor, you see—there is a
777		difference to your income, but when
778		you work more in a fixed floor, which
779		you are below, you don't see
780		anything.
781	00:26:08	MAN B: I don't think that that's
782		actually—that in every case that's
783		going to hold true.
784	00:26:15	MAN A: No, it's definitely true that
785		if you're below the floor in a fixed
786		floor and you're not going to hit the
787		floor by working more, then the extra
788		work is useless to you. It's only
789		decreasing the taxation on the rich,
790		it's decreasing your gap to the
791		floor, which is just being taxed off
792		the rich.
793	00:26:37	MAN B: That's only going to be—It's
794		not going to work that way with every
795		distribution because the lowest—the
796		lowest floor, depending what percent
797		it is, the lowest actual income, you
798		know, it'll change more depending how
799		low they go. So, if you make two and
800		you've got a set floor that brings

Line#	Timecode	Quote
801		you up to 15, versus making two and a
802		set floor that brings you up to like
803		30.
804	00:27:17	MAN A: There's no incentive for you
805		to do any work whatsoever in either
806		of those cases.
807	00:27:23	MAN B: Right.
808	00:27:24	MAN A: Whereas if you have a
809		maximized floor, and the maximized
810		floor happens to be about 15 when
811		you're making two, you still have the
812		incentive to make the two otherwise—
813		to do the work for the two, otherwise
814		you'll make even less.
815	00:27:37	MAN B: But with a set floor versus a
816		maximized floor, everybody will
817		benefit from everyone making more.
818	00:27:45	MAN A: No, with a set floor, the
819		people at the bottom won't benefit
820		from themselves working more.
821	00:27:50	MAN B: They still will.
822	00:27:51	MAN A: No. At a set floor? No,
823		they won't because they'll definitely
824		make the floor unless the entire
825		society can't support the floor.

Line#	Timecode	Quote
826	00:27:57	MAN B: [interposing] They'll
827		definitely make the floor, but that's
828		assuming that the floor is-
829		MAN A: (interposing) Out of reach.
830		(continues) we're not going to lower
831		people. We're not speaking that way
832		are we?
833	00:28:06	MAN A: No.
834	00:28:06	MAN B: Like if someone makes-well, I
835		guess it's not possible.
836	00:28:08	MAN A: The people who make more than
837		the floor are paying for the people
838		who make less than the floor.
839		Assuming the society can support
840		everyone at least at the floor,
841		everyone below the floor has no
842		reason to continue working.
843	00:28:21	WOMAN B: Well, we do also have a
844		scenario that everyone can make more
845		than the set floor and if everyone is
846		making more than the set floor, then
847		everyone has more incentive to work
848		because that increases their own
849		money.
850		MAN B: Right.

Line#	Timecode	Quote
851	00:28:30	MAN A: But if just one person is
852		below a fixed floor, that person has
853		no incentive to work and everyone
854		makes less.
855	00:28:39	MAN C: No one would go bellow a fixed
856		floor.
857	00:28:40	MAN A: What?
858	00:28:40	WOMAN A: But, if that person in
859		subsequent years can make more than a
860		set floor then he does have incentive
861		to work.
862	00:28:44	MAN A: But say they're making two
863		and the floor is 15, they're not
864		hitting that floor because that's not
865		happening. It is the same task in
866		subsequent years?
867	00:28:58	MODERATOR: I can't—yeah it is the
868		same task.
869	00:29:02	MAN A: The same skill, like if
870		you're good at year one, you'll be
871		good at year two?
872	00:29:04	MODERATOR: Yeah.
873	00:29:08	WOMAN A: I mean I'd probably be in
874		favor of a maximized floor if it was
875		lower than 80%. I just think 80% is

Line#	Timecode	Quote
876		too high.
877		MAN C: Me too.
878	00:29:15	MAN B: [interposing] So you're in
879		favor of a floor, that's kind of how
880		I feel. Just looking at this graph
881		and these numbers, even discounting
882		the highest earner, looking at the
883		averages, with this one, the max
884		floor and even over here, with the
885		max floor it puts medium, medium, low
886		and low all at the same level. To
887		that, as a—I'm not assuming that I'm
888		going to be the floor, the lowest or
889		the highest, but if I'm somewhere in
890		the middle, I feel like I'm going to
891		pay for it more by being equal with
892		the people who are doing less quality
893		or not as much work as I am. Whereas
894		with the set floor, it's still going
895		to be relative. You know, they're
896		still—there is some stratus there.
897		You can be a little—
898	00:29:57	MAN A: You care about being better
899		than people rather than just being
900		able to enjoy a standard of life?

Line#	Timecode	Quote
901	00:30:01	MAN B: I care about getting out what
902		I'm putting in.
903	00:30:03	MAN A: (interposing) Ah, see, now
904		that's why we have a difference of
905		opinion. (continues) So I feel like
906		if I'm doing more quality—if I'm
907		going to do better quality work—and
908		you know what, I also feel that, if
909		I'm not doing the better quality that
910		I don't necessarily need to be a
911		drain on someone else who is.
912	00:30:19	MAN A: I feel like everyone deserves
913		a good standard of living.
914	00:30:24	MAN C: That's why we are setting a
915		floor.
916	00:30:25	MAN B: Well, I think the floor
917		should be set at a good standard, I'm
918		just saying that if someone is able
919		to get higher than that standard—you
920		know like—the medium-high in here and
921		here they get penalized.
922	0:30:36	MAN A: If I'm—after the first year
923		realizing that I'm getting this good
924		standard of living, I'm not making
925		anything near the floor is, I have no

Line#	Timecode	Quote
926		incentive to keep working. I can
927		just stop working and live on the
928		fruits of the society. Whereas in a
929		maximized floor I can't.
930	00:30:50	MAN B: Still going to make less.
931	00:30:52	MAN C: You would make more under the
932		maximized floor by doing less work.
933	00:30:55	MAN A: No, I'm making more under the
934		maximized floor, by doing more work.
935	00:30:57	MAN B: You make more relatively, but
936		not more overall since the average is
937		still dependent on what everyone
938		makes.
939	00:30:59	MAN A: In a maximized floor, you
940		definitely make more by doing more
941		work. Because by doing more work the
942		average goes up, so 80% of the
943		average goes up.
944	00:31:06	MAN B: It's same in the set though.
945	00:31:07	MAN A: No. But in a set floor, the
946		floor is set, so if I'm making 10 and
947		I can make 12 by working harder, then
948		there's no reason-
949	00:31:17	MAN B: [interposing] But the floor
950		is not set at 10, the floor is set at

Line#	Timecode	Quote
951		a percent of the average.
952	00:31:21	MAN A: In a floor? No. The floor
953		is set at a number.
954	00:31:28	MODERATOR: In a set floor, the floor
955		is set at a number.
956	00:31:30	MAN B: Okay.
957	00:31:31	MAN A: So you get no benefit from
958		extra work in a fixed floor. If
959		you're below the floor, which is
960		fixed, you get no benefit from extra
961		work. In fact, if anything you
962		maximize your utility by doing no
963		work and enjoying your leisure time.
964	00:31:45	MAN C: Even more so under maximizing
965		the floor income.
966	00:31:47	MAN A: No, because under maximizing
967		the floor, whenever you work, you
968		increase the floor, so you're
969		increasing what you're making.
970	00:31:56	MAN C: The higher income people
971		increase the floor
972		MAN A:(interposing) So do the low
973		income. (continues) because the floor
974		is set at 80% of the higher income.
975	00:32:02	MAN A: No it's 80% of the average.

Line#	Timecode	Quote
976		MAN B: The average.
977	00:32:05	MAN C: Okay.
978	00:32:07	MAN A: So in a maximized floor, the
979		people at the bottom still contribute
980		to the average. And as someone who's
981		below the floor, I know that every
982		dollar that I earn will be worth more
983		to me because I'm going to raise the
984		average and get a better 80% of the
985		average.
986	00:32:28	WOMAN A: In a large scale society
987		that wouldn't work because you
988		wouldn't affect the average
989		basically, but in five people that
990		might work maximizing the floor.
991	00:32:35	MAN A: Well, I think it'll work in
992		any small society where you can see
993		the benefits.
994	00:32:39	WOMAN A: In a very small society,
995		like five people.
996	00:32:40	MAN A: Well no, I think like even a
997		small society on the scale of a small
998		village or a small community.
999	00:32:45	MAN C: But we're talking about the
1000		whole country. I think when you're

Line#	Timecode	Quote
1001		talking about the economy of this
1002		country in this scenario right?
1003	00:32:52	WOMAN A: Are we supposed to decide
1004		what we think is best for this
1005		society of five or what we think is
1006		best for any society?
1007	00:32:58	MAN C: The size of this country I
1008		think we're talking about.
1009		MAN A: So, in an economy--
1010	00:32:59	MODERATOR: So when it says in the
1011		instructions that you think of
1012		yourself as designing a new society
1013		that you will be part of, there's no
1014		explicit instructions about the scale
1015		of the society, but think about it as
1016		designing the roles for a new
1017		country.
1018	00:33:12	MAN A: And moreover, as the country
1019		gets bigger it starts to get more
1020		economic complexities and you start
1021		competing, you're still getting
1022		economic problems. We're setting the
1023		rules that start out at the beginning
1024		when it's just—we're essentially
1025		living off the land here. We're

Line#	Timecode	Quote
1026		doing—or like mining or whatever.
1027		You know, There's a fixed—there's
1028		this endless pot of money that you're
1029		just going in and picking up and if
1030		you're better at the picking up of
1031		the money, the more you make. There
1032		are no externalities, there's nothing
1033		complicated going on.
1034	00:33:44	MAN C: One good thing about
1035		maximizing the floor income is that
1036		it kind of puts a cap on the super
1037		rich becoming even super richer,
1038		since we're not able to set a range
1039		constraint or a maximum, so that's
1040		one good thing that it would prevent.
1041		We're setting a floor—
1042	00:34:03	MAN A: It's more of a creeping
1043		effect rather than a like a strong-
1044	00:34:06	MAN C: It would enable the outlying
1045		super rich to just take over
1046		everything.
1047	00:34:11	MAN B: But if we want to do that,
1048		then we just set a range constraint.
1049	0:34:24	MAN A: So do we want to set a small
1050		range constraint or a large range

Line#	Timecode	Quote
1051		constraint to do that? So what do we
1052		think the range is going to be?
1053		Should we take one of these examples?
1054		Say the range is maybe-
1055	00:34:36	WOMAN A: But the problem with the
1056		range constraint is that if you're in
1057		the highest, you basically don't have
1058		as much incentive to work.
1059	00:34:43	MAN B: It's the same problem.
1060	00:34:44	MAN A: No, you do because at the-the
1061		way that the range constraint is
1062		calculated is first of all, it looks
1063		the highest and it says, okay that's
1064		the top. Then it looks at the lowest
1065		and it says, is this person outside
1066		of the range and if it not, it'll
1067		work out where they have to be for
1068		the range and then it'll resort
1069		everything in order up to the
1070		highest. It has a more liberal
1071		effect.
1072	00:35:06	MAN B: [interposing] Although the
1073		problem with the range constraint is
1074		going to be if it's too wide of a
1075		range, then people on the low end

Line#	Timecode	Quote
1076		could end up with very, very low. If
1077		the top earners don't get high
1078		enough.
1079	00:35:21	WOMAN A: And it doesn't ensure
1080		everyone—yeah, if it's too big it
1081		doesn't ensure everyone a decent
1082		standard of living.
1083	00:35:26	MAN B: [interposing] Right, but if
1084		we look on page seven, the range
1085		constraint example they give us, if
1086		it's \$70,000 the bottom earner is
1087		still—
1088	00:35:33	WOMAN A: Yeah, you're not going to
1089		be able to live on \$2,500 and we
1090		don't know enough about this society
1091		to do a range constraint. That's why
1092		I'd be either in favor to maximize
1093		the floor or set a floor. If we knew
1094		more about the society I think we
1095		could set a range.
1096	00:35:48	MAN A: right--I feel like we should—
1097		I mean, just because the—basically
1098		because of our ignorance, because we
1099		can't do things that are strongly
1100		linked to the society, we can only

Line#	Timecode	Quote
1101		pull numbers out of my heads, I think
1102		the maximize the floor makes more
1103		sense, just because it's strongly
1104		linked to the society that actually
1105		happens, as opposed to simply like-in
1106		any of the ones where we pick
1107		numbers, in setting a range
1108		constraint or setting a floor
1109		constraint, like we could miss. We
1110		could completely miss and get it
1111		wrong.
1112	00:36:23	MAN C: I forgot your name.
1113	00:36:24	WOMAN A: Oh sorry it's WOMAN A.
1114	00:36:25	MAN C: WOMAN A and I and maybe I'm
1115		trying to remember-
1116	00:36:28	MAN B: MAN B.
1117	00:36:29	MAN C: MAN B. I think we all kind
1118		of agree on the maximize the floor is
1119		a good thing, but that the 80% is too
1120		high of a number.
1121	00:36:36	MAN A: I think the problems with the
1122		80% are less dangerous than the
1123		problems with messing up and dis-
1124		incentivizing the floor for a fixed
1125		constraint.

Line#	Timecode	Quote
1126	00:36:48	WOMAN A: For this society I might
1127		agree with that.
1128	00:36:54	MAN B: Yeah, with this smaller
1129		group.
1130	00:36:57	MAN A: Okay.
1131	00:36:58	MAN C: But are we talking about, is
1132		this experiment talking about for the
1133		small group, we're talking about for
1134		a lot of people.
1135	00:37:05	MODERATOR: [interposing] It's
1136		supposed be - - is designing a new
1137		society, but it will affect your - -.
1138	00:37:15	MAN A: We're designing a small new
1139		society of farmers. I mean-
1140	00:37:22	WOMAN A: Are we basically ready to
1141		vote?
1142	00:37:24	MAN C: sure.
1143	00:37:27	MODERATOR: Okay. The voting process
1144		is a little complicated, so I'm going
1145		to explain it. First, we have to
1146		vote to end discussion. This has to
1147		be a unanimous vote. So can everyone
1148		should have a pad of paper in front
1149		of you. This is by secret ballot, so
1150		even if you feel like the group has

Line#	Timecode	Quote
1151		reached a consensus, please vote
1152		secretly. So if you want to end
1153		discussion write "yes" on the piece
1154		of paper and then fold it in half and
1155		pass it over to me. And if you don't
1156		want to end discussion, write "no".
1157		Okay. You have agreed unanimously to
1158		end discussion. So now this is the
1159		part where we vote on a principle.
1160		So these are the principles that
1161		we're voting on. These are the two
1162		numbers I heard associated with the
1163		floor constraint. The only specific
1164		number I heard associated with the
1165		range constraint is zero, is that
1166		correct? Okay. So-
1167	00:38:36	MAN A: So write down the number?
1168		Like 1 or 3a.
1169	00:38:38	MODERATOR: Yeah, write down the
1170		number and if you want to vote for a
1171		floor constraint or a range
1172		constraint, please also write down
1173		the letter of the floor constraint or
1174		range constraint.
1175	00:38:50	WOMAN A: This is just a majority? We

Line#	Timecode	Quote
1176		have to have a majority.
1177	00:38:52	MODERATOR: This is by majority.
1178		This vote, so three people need to
1179		vote for the same principle.
1180		Okay, thank you. Okay, we have a
1181		majority in favor of principle one,
1182		maximize the floor income, so
1183		congratulations, you've completed the
1184		second part of the task, of the
1185		experiment, sorry. So at this point
1186		in time, can you move back to the
1187		computer that you were seated at
1188		before. You'll probably want to
1189		bring your - - with you.
1190		[END TAPE 1]