Pre-Analysis Plan: Fair Predistribution*

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1 Introduction

Income inequality has been rising over the last few decades in several countries. To address such disparities, governments typically rely on two levers: predistribution policies—such as minimum-wage laws, caps on high salaries within firms—that shape market incomes ex-ante, and redistribution policies—such as progressive taxes and transfers—that redistribute incomes ex-post. In this project, we study people's fairness considerations regarding predistribution and redistribution policies using an experiment. We follow the method used in Almås et al. (2025, 2020) to elicit fairness preferences using a spectator design, and adapt their design to measure preferences for predistribution relative to redistribution.

In the experiment, participants in the role of "spectators" determine the incomes of participants in the role of "workers," who earned these incomes

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from a real-effort task. We focus on two important dimensions that vary between predistribution and redistribution: the timing of the spectator's decision relative to the accrual of worker earnings—before incomes are accrued (ex-ante) vs. after (ex-post)—and the context of changing earnings relative to changing a base payment to both workers.

Additionally, using open-ended and closed-ended questions, we will elicit the spectators' explanations for their implemented inequality, their preferred timing between ex-ante and ex-post, and their support for government predistribution and redistribution policies.

2 Sample

Our experiment employs a between-individual design that closely mirrors the setup of Almås et al. (2020). There will be two types of participants in the experiment, *workers* and *spectators*. Spectators are matched or will be matched with workers and decide the final earnings of the workers who either had completed, or who would complete, a real effort task. The data collection is planned for the Fall of 2025.

2.1 Recruitment of workers

The workers in the experiment will be recruited from the international online marketplace, either Amazon Mechanical Turk (mTurk).. Workers are recruited by posting an assignment, called a Human Intelligence Task (HIT), on the mTurk website. Workers then browse these HITs by title, keywords, reward amount, and so forth, and accept HITs of interest. For this study, we plan to recruit 66 participants residing in the United States.

2.2 Recruitment of spectators

The spectators are recruited through the survey provider *Faktum AS* to take part in an economic experiment. We plan to recruit 1,250 U.S. participants and 1,250 Swedish participants, where each group is nationally representative (18+ years old) on a set of observable characteristics (gender, age, and region of residence). We include one attention check, dropping participants who fail the check.

3 Design

We plan to conduct a version of a real effort dictator game with a *spectator* design. The spectators make a choice that has monetary consequences for two *workers* who complete a real effort assignment, but not for themselves. We plan on randomly selecting 5% of the spectator decisions to implement. The complete instructions are provided in the appendix Section A.

3.1 Workers

Workers complete four 30-second assignments, each requiring them to alternatively press two buttons on their keyboard as quickly as possible. They receive one point each time they press the two buttons, one after the other. Workers will receive a fixed payment of $2 USD for participation as well as a bonus payment. Their bonus depends on their productivity and possibly the decision of a matched spectator.

3.2 Spectators

The spectators make incentivized choices that have real consequences for two workers, but not for themselves. They also answer a set of attitude questions and a standard set of background questions. We now explain each part in detail.

3.2.1 Fairness of Predistribution and Redistribution

Our main goal is to elicit spectators' fairness perceptions regarding predistribution and redistribution. Our experiments are designed to closely mirror the setup of Almås et al. (2020). Each spectator is randomly assigned to one of the three treatments that vary the timing of the spectators' decisions and the context across spectators.

Treatment: Redistribution In the benchmark condition, each worker is given a baseline payment of 2 USD. After they have completed the assignment, the workers will be informed that the more productive worker earned an additional 6 USD payment for the assignment, while the other worker did not earn any additional payment, but that a third person could

redistribute the additional earnings. The spectators will choose, after the workers have completed the task, whether they want to keep this payment plan or change their payments to any other payment plan from the set: $\mathbf{P} \equiv \{(6,0),(5,1),(4,2),(3,3)\}$. The spectators are explicitly informed that the workers will not be informed about the payment plan prior to completing the task.

Treatment: Predistribution In the "Predistribution" treatment, the spectators will choose a payment plan before the workers complete the task. That is, the spectators will choose whether they want to keep the payment plan of an additional 6 USD for the most productive worker, or change their payments to any other payment plan from the set: $\mathbf{P} \equiv \{(6,0),(5,1),(4,2),(3,3)\}$. However, this decision is taken before the workers complete the task. As in the Redistribution treatment, spectators in the Predistribution treatment are told that the workers will not be informed about the payment plan prior to completing the task.

Treatment: Predistribution + Context In the "Pre + Context" treatment, the spectators will choose a payment plan before the workers complete the task as in the Predistribution. However, the choice is framed as a choice of distributing earnings between a "base payment" and a "top-up payment to the most productive worker."

Sample Size and Matching For the Predistribution and Redistribution treatments, we plan on recruiting 500 spectators from the U.S. and 500 spectators from Sweden for each treatment. For the Predistribution + Context treatment, we plan on gathering spectator data from 250 American respondents and 250 Scandinavian respondents. Every 20 spectators are matched to a pair of workers.

3.3 Additional questions

We include several other questions in the study. After making their main allocation decision, spectators are asked to explain their choice using an open-ended question. Additionally, we provide them with a meta-choice

that asks them whether they prefer to determine workers' incomes prior to earnings being accrued or after earnings are accrued, and an open-ended question asking them to explain their decision. Finally, we will collect background information of spectators, including gender, age, education, income, and political leaning.

4 Analyses and Hypotheses

4.1 Hypotheses

We test the following hypotheses.

Hypothesis 1 *Swedish respondents implement a lower level of inequality in the Redistribution treatment relative to the U.S respondents.*

Hypothesis 2 *Swedish respondents implement a lower level of inequality in the Predistribution treatment relative to the U.S respondents.*

Hypothesis 3 *Respondents implement the same level of inequality in the Predistribution and Redistribution treatments.*[1]

Hypothesis 4 *The difference in the inequality implemented between the Predistribution and Redistribution treatment is the same among the U.S. and Swedish respondents.*

Hypothesis 1, concerning differences in redistribution across countries, follows from Almas et al. (2021), and we anticipate finding a similar effect for differences in predistribution (Hypothesis 2). We do not state any hypotheses for the Predistribution + Context treatment.

We estimate heterogeneous treatment effects across demographics, including age, gender, education, political leaning, and income, separately in the U.S. and Swedish samples. Building on Kuziemko et al. (2023), who show that low-educated individuals in the U.S. have stronger preferences for predistribution (relative to redistribution) compared to those with high

[1]If respondents' distributional preferences depend only on the economic impact of the chosen allocation, and are not impacted by the *timing* of the decision, then choices should be consistent between the Predistribution and Redistribution treatments.

education levels, we are particularly interested in the education gap in fairness perceptions between predistribution and redistribution in Sweden and the U.S. We do not have any hypotheses for the heterogeneous effects of other demographics.

We will also compare the number of individuals classified as Egalitarian/Unclassified and Meritocratic/Libertarian in the Redistribution and Predistribution treatments according to the method in Almås et al. (2020).[2]

4.2 Analyses

4.2.1 Main Analysis

In the analysis, we measure the inequality implemented by spectator i as follows:

$$u_i = \frac{|Income\ Worker\ A_i - Income\ Worker\ B_i|}{Total\ Income} \in [0, 1], \tag{1}$$

where $Income\ Worker\ A_i$ is the income allocated to the most productive worker and $Income\ Worker\ B_i$ is the income allocated to the other worker. This inequality measure is equivalent to the Gini coefficient.

To study fairness perceptions across treatments, we estimate the following specification

$$u_i = \alpha + \beta_1 PRE_i + \beta_2 Pre\_Context_i + \gamma \mathbf{X}_i + \epsilon_i, \tag{2}$$

where PRE_i is a dummy variable that indicates whether spectator i is in the Predistribution treatment and $PRE\_Context_i$ is a dummy variable indicating whether the spectator is in the Predistribution + Context treatment. The omitted category is Treatment Redistribution. $\mathbf{X}_i$ is a vector of demographic control variables, including the following indicator variables age (= 1 for above median age), gender (=1 for females), income (=1 for above median income in each country), political orientation (=1 if conservative), high education (=1 for above median education). We will estimate

[2]We do not observe the number of individuals that would choose the default in a Luck treatment, and are therefore not able to distinguish between all types.

the model using an OLS regression. We will estimate Equation (2) separately in the two samples (US/Sweden), including specifications without demographics controls X_i.

To test for differences across countries, we will estimate the following specification:

$$u_i = \alpha + \beta_1 PRE_i + \beta_2 SWE_i + \beta_3 PRE_i \times SWE_i + \gamma \mathbf{X}_i + \epsilon_i, \quad (3)$$

where PRE_i is a dummy variable that indicates whether spectator i is in the Predistribution or Redistribution treatment (omitted category), SWE_i is a dummy variable that indicates whether spectator i is in the Swedish sample or the US sample, and $\mathbf{X}_i$ is a vector of demographic control variables as defined above. We will also present the regression results without the control variables. Additionally, we will run the same specification to test if the treatment differences between Predistribution and Predistribution + Context and Predistribution + Context and Redistribution differ across countries.

4.2.2 Heterogeneous Analyses

We estimate heterogeneous treatment effects across demographics, including age, gender, education, political leaning, and income, separately in the U.S. and Swedish samples.

4.2.3 Additional Analyses

Additionally, we will conduct exploratory analysis, in which we will compare participants' implemented inequality to their meta-choice and their support for (p)redistribution policies. We will also analyze participants' open-ended responses, both for the (p)redistribution decision and the meta-choice, to uncover the underlying mechanisms.

4.2.4 Comparison to Previous Study

In a previous study, we varied the timing of the spectator's choice in "Luck" and "Efficiency" treatments. In contrast to the experiment outlined above,

we informed the workers about the spectator decision *prior* to the workers completing the task. Therefore, we will compare the impact of timing in this study to the impact of timing in the previous study to gain insight into the importance of the timing of the spectator decision relative to the importance of the timing of sharing information about the spectator decision with the workers.

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A Experimental Instructions

Treatment 1: Redistribution

In contrast to traditional survey questions that are about hypothetical situations, we now ask you to **make a choice that has consequences for a real life situation**. A few days ago, two individuals, let us call them *worker A* and *worker B*, were recruited via an international online market place to conduct an assignment. These workers received a participation payment of **2 USD.**

After completing the assignment, the workers were told that their initial additional earnings from the assignment would be determined by their productivity. **The most productive worker would earn an additional 6 USD for the assignment and the other worker would earn nothing additional for the assignment.** However, they were also told that a third person would be informed about the assignment and who was the most productive worker, and would be given the opportunity to change how the additional earnings would be redistributed between the workers and thus determine their final earnings.

You are the third person and we now want you to choose how the additional earnings from the assignment will be redistributed between *worker A* and *worker B*. Your decision is completely anonymous. Since the workers are informed of your decision only after completing the assignment, your decision will **not** affect their productivity.

Worker A was most productive and earned an additional 6 USD for the assignment. Thus, *worker B* earned nothing additional for the assignment.

Please indicate your preferred choice:

- I do *not* change the additional earnings: worker A is paid 6 USD and worker B is paid 0 USD.
- I do change the additional earnings: worker A is paid 5 USD and worker B is paid 1 USD.
- I do change the additional earnings: worker A is paid 4 USD and worker B is paid 2 USD.
- I do change the additional earnings: worker A is paid 3 USD and worker B is paid 3 USD.

You and nineteen other respondents are matched to this pair of workers and make this decision. We will randomly select one of you to be the one whose decision will determine how the workers will be paid.

Treatment 2: Predistribution

In contrast to traditional survey questions that are about hypothetical situations, we now ask you to **make a choice that has consequences for a real life situation.** In a few days, two individuals will be recruited via an international online market place to conduct an assignment. These workers will receive a participation payment of **2 USD**.

After completing the assignment, the workers will be told that their initial additional earnings from the assignment would be determined by their productivity. **The most productive worker would earn an additional 6 USD for the assignment and the other worker would earn nothing additional for the assignment.** However, they will also be told that a third person was informed about the assignment, and given the opportunity to change how the additional earnings would be distributed between the workers and thus determine their final earnings.

You are the third person and we now want you to choose how the additional earnings from the assignment will be distributed between the two workers. Your decision is completely anonymous. Since the workers are informed of your decision only after completing the assignment, your decision will **not** affect their productivity.

Please indicate your preferred choice:

- I do *not* change the additional earnings: the most productive worker is paid 6 USD and the other worker is paid 0 USD.
- I do change the additional earnings: the most productive worker is paid 5 USD and the other worker is paid 1 USD.
- I do change the additional earnings: the most productive worker is paid 4 USD and the other worker is paid 2 USD.
- I do change the additional earnings: the most productive worker is paid 3 USD and the other worker is paid 3 USD.

You and nineteen other respondents are matched to this pair of workers and make this decision. We will randomly select one of you to be the one whose decision will determine how the workers will be paid.

Treatment 3: Pre + Context

In contrast to traditional survey questions that are about hypothetical situations, we now ask you to **make a choice that has consequences for a real life situation**. In a few days, two individuals will be recruited via an international online market place to conduct an assignment. These workers will receive a participation payment of 2 **USD**.

After completing the assignment, the workers will be told that their additional earnings from the assignment will be determined by their productivity and will be distributed between **a base payment to both workers** and **a top-up payment to the most productive worker**. However, they will also be told that a third person was informed about the assignment, and given the opportunity to change how the additional earnings would be distributed between the base payment and the top-up payment and thus determine their final earnings.

You are the third person and we now want you to choose how the additional earnings from the assignment will be distributed between the base payment and the top-up payment to the most productive worker. Your decision is completely anonymous. Since the workers are informed of your decision only after completing the assignment, your decision will **not** affect their productivity.

Please indicate your preferred choice:

- The base payment to both workers is 0 USD, and the top-up payment to the most productive worker is 6 USD.
- The base payment to both workers is 1 USD, and the top-up payment to the most productive worker is 4 USD.
- The base payment to both workers is 2 USD, and the top-up payment to the most productive worker is 2 USD.
- The base payment to both workers is 3 USD, and the top-up payment to the most productive worker is 0 USD.

You and nineteen other respondents are matched to this pair of workers and make this decision. We will randomly select one of you to be the one whose decision will determine how the workers will be paid.

A.1 Additional Questions: Treatment 1 Redistribution

Question 1:

Please provide a brief explanation for your answer to the last question. *(*Please use the text box below and write as much as you like. Your opinions and thoughts are important to us.)

Question 2A:

We conducted two different versions of this survey. In your version of the survey, you were asked to choose how the additional earnings from the assignment would be redistributed between the two workers after they earn these incomes.

In the other version of the survey, we asked participants to choose how the additional earnings from the assignment would be distributed between the two workers before they earn these incomes.

Which version do you prefer?

- I prefer to determine individuals' incomes before they earn these incomes
- I prefer to determine individuals' incomes after they earn these incomes
- I am indifferent between determining individuals' incomes before or after they earn these incomes

Question 3:

Please provide a brief explanation for your answer to the last question. *(Please use the text box below and write as much as you like. Your opinions and thoughts are important to us.)*

Attention check:

This is an attention check question, please select *"Somewhat agree"*.

[Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree]

Question 4A:

Some government policies determine individuals' incomes after they earn these incomes. Examples include: (i) Cash transfers to low-income earners and (ii) Taxes on high-income earners.

To what extent do you support or oppose government policies that determine individuals' incomes after they earn these incomes?

[Strongly oppose; Oppose; Slightly oppose; Neither oppose nor support; Slightly support; Support; Strongly support]

Question 5A:

Some government policies determine individuals' incomes before they earn these incomes. Examples include: (i) Minimum wage laws and (ii) Salary-cap rules that limit very high salaries within a company.

To what extent do you support or oppose government policies that determine individuals' incomes before they earn these incomes?

[Strongly oppose; Oppose; Slightly oppose; Neither oppose nor support; Slightly support; Support; Strongly support]

Question 6:

How would you describe your attitude on economic policy?

- Very left-wing
- Left-wing
- Moderate
- Right-wing
- Very right-wing

Question 7:

What is your household's annual income before taxes are deducted?

[Less than $30,000; $30,000-$59,999; $60,000-$99,999; $100,000-$149,999; $150,000 and over]

A.2 Additional Questions: Treatment 2 Predistribution

A.2.1 Question 1:

Please provide a brief explanation for your answer to the last question.
(Please use the text box below and write as much as you like. Your opinions and thoughts are important to us.)

Question 2B:

We conducted two different versions of this survey. In your version of the survey, you were asked to choose how the additional earnings from the assignment would be distributed between the two workers before they earn these incomes.

In the other version of the survey, we asked participants to choose how the additional earnings from the assignment would be redistributed between the two workers after they earn these incomes.

Which version do you prefer?

- I prefer to determine individuals' incomes before they earn these incomes
- I prefer to determine individuals' incomes after they earn these incomes
- I am indifferent between determining individuals' incomes before or after they earn these incomes

Question 3:

Please provide a brief explanation for your answer to the last question. *(Please use the text box below and write as much as you like. Your opinions and thoughts are important to us.)*

Attention check:

This is an attention check question, please select *"Somewhat agree"*.

[Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree]

Question 4A:

Some government policies determine individuals' incomes before they earn these incomes. Examples include: (i) Minimum wage laws and (ii) Salary-cap rules

that limit very high salaries within a company.

To what extent do you support or oppose government policies that determine individuals' incomes before they earn these incomes?

[Strongly oppose; Oppose; Slightly oppose; Neither oppose nor support; Slightly support; Support; Strongly support]

Question 5A:

Some government policies determine individuals' incomes after they earn these incomes. Examples include: (i) Cash transfers to low-income earners and (ii) Taxes on high-income earners.

To what extent do you support or oppose government policies that determine individuals' incomes after they earn these incomes?

[Strongly oppose; Oppose; Slightly oppose; Neither oppose nor support; Slightly support; Support; Strongly support]

Question 6:

How would you describe your attitude on economic policy?

- Very left-wing
- Left-wing
- Moderate
- Right-wing
- Very right-wing

Question 7:

What is your household's annual income before taxes are deducted?

[Less than $30,000; $30,000-$59,999; $60,000-$99,999; $100,000-$149,999; $150,000 and over]

A.3 Demographics

What is your age?

What is your gender? [Male; Female; Other]

What is the highest level of education you have completed? [Below high school; High school diploma; Some college, no degree; Associate's degree; Bachelor's degree; Master's degree or higher]

A.4 Consent

General Information

Welcome! This is an academic study conducted by researchers at the Norwegian School of Economics.

Procedures

This study takes approximately 10 minutes and participation is voluntary. You may drop out of this study at any time with no penalties or consequences of any kind. You are only allowed to participate in this study once.

Confidentiality

The collected data in this study will be used only for research purposes and shared in anonymized form in open science repositories in ways that will not reveal who you are.

Questions

If you have questions or comments about this study, you may contact the researchers at justin.valasek@nhh.no.

Consent

By participating in this study, you indicate that you are 18 years of age or older, that you understand the above information, and that you voluntarily agree to participate in this study.

Do you consent to these terms?

- Yes
- No