

Fairness Preferences and Default Effects

BY Justin Valasek, Pauline Vorjohann and Weijia Wang

DISCUSSION PAPER

NHH



Institutt for samfunnsøkonomi
Department of Economics

SAM 09/24

ISSN: 0804-6824

June 2024

This series consists of papers with limited circulation, intended to stimulate discussion.

Fairness Preferences and Default Effects

Justin Valasek¹, Pauline Vorjohann²
and Weijia Wang^{1*}

June 4, 2024

Abstract

An influential subset of the literature on distributional preferences studies how preferences condition on characteristics such as workers' relative productivity. In this study we establish that there are default effects when such conditional fairness preferences are measured using the “inequality acceptance” method. Depending on the default, implemented inequality decreases by over 65% and cross-country differences are not observed. To organize the data, we develop a simple framework in which agents form a reference point based on a combination of the distribution suggested by their fairness ideal and the default. We use this framework to illustrate that choice data from different defaults is needed to separately identify the fairness ideal and effect of the default, and discuss best practices for measuring fairness preferences.

Keywords: inequality, fairness, inequality acceptance, default effects, experiment.

JEL Classification Codes: C91, D63, J16.

¹NHH Norwegian School of Economics, ²University of Exeter. Contact e-mail: justin.valasek@nhh.no.

1 Introduction

The experimental literature on fairness preferences has established that individuals' distributional preferences depend on the extent to which workers are perceived to deserve their earnings. For example, some subjects show a preference for rewarding workers with a higher level of productivity with a higher payment, but prefer equal payments given no information on productivity (Almås et al., 2020). That is, “conditional fairness preferences” differ from other formulations of distributional preferences, such as inequality aversion (Fehr and Schmidt, 1999), in the sense that the preferred payoff distribution may condition on a set of individual (worker) characteristics. The study of conditional fairness preferences leads to important insights about how individual judgement of fair distributions depends on the source of inequality (see Cappelen et al., 2013).

A prominent methodology has developed to measure conditional fairness preferences using a metric labeled “inequality aversion” (see Almås et al., 2020). In this method, a subject is presented with a set of workers who have been given a real-effort task, is given some information about the workers' characteristics, and is then asked to choose a distribution of workers' payoffs. Importantly, the subject is shown an “intermediate” distribution of earnings—i.e. a default—that may depend on the worker's characteristics and then asked whether they would like to change the payoff distribution for the workers away from the default option. For example, the worker who performed better in the real-effort task may have a higher payoff in the default distribution. Regardless of the default distribution, however, the subject is free to select any payoff distribution.

Surprisingly given the ubiquity of the inequality acceptance as the met-

ric for conditional fairness preferences, we are not aware of any papers that clearly document the impact of the default distribution of payoffs on the measurement of conditional fairness preferences. In this paper, we establish that there are significant default effects when fairness preferences are measured using the method of inequality acceptance. Depending on the default option, implemented inequality decreases by over 65% and cross-country differences all but disappear. This finding illustrates that, depending on the exact research question, it may be important to explicitly account for default effects when measuring fairness preferences using the inequality acceptance method—in particular when interpreting the level of implemented inequality and when comparing across treatments and countries.

To organize ideas, we develop a simple model of fairness preferences based on the framework of Breitmoser and Vorjohann (2024) that formally distinguishes between default effects and a “fairness ideal” that only depends on worker characteristics. This framework contains a commonly-used type-based approach (see Almås et al., 2020), which assumes that subjects either select the default or their fairness ideal, as a special case. Using this framework we illustrate that to separately identify the fairness ideal and the default effect, data from multiple defaults are necessary. Lastly we discuss the use of alternative measurements of conditional fairness preferences.

2 A Model of Fairness Preferences with Default Effects

In this section we develop a theoretical framework that incorporates both conditional fairness preferences and default effects. Conceptually, a de-

fault effect may be mechanical and simply represent a tendency to leave a suggested division of payoffs unchanged (see Choi et al. (2003)). Alternatively, the default may impact preferences in a more complex way by, say, influencing spectators’ beliefs regarding workers’ expectations about payoffs (see Breitmoser and Vorjohann, 2024). The framework we develop here allows for preferences to depend on both a fairness ideal and a default, regardless of the behavioral mechanism driving the observed default effect, and details a framework for how both interact to impact spectator choices over workers’ payoff distributions.

The setting we model is of an agent—a “spectator”— i who chooses a distribution of payoffs for two workers who have completed a real effort task. In such settings, the agent is commonly referred to as a spectator since their decision has no impact on their own monetary payoffs, and only impacts the payoffs of a set of workers.

There are two workers, $j \in \{1, 2\}$, who complete a real effort task. The workers each have a set of characteristics $\kappa_j \in \mathbf{K}$. For example, one worker characteristic could be their performance in the real effort task—in principle we could consider any possible worker characteristic. After completing the task, workers are assigned “intermediate” payoffs $\{\tilde{y}_1 = d, \tilde{y}_2 = 1 - d\}$ for $d \in [0, 1]$.¹

Next, the agent, i , observes a set of worker characteristics and $\{\tilde{y}_1, \tilde{y}_2\}$, and is then given the opportunity to change the earnings to any final payoffs $\{y_1 = y_i, y_2 = (1 - y_i)\}$, with $y_i \in [0, 1]$. We also allow for the possibility that a particular dimension of worker characteristics is unknown by the

¹We use the term intermediate in the sense that, in the experiment we implement, the workers first completed the real effort task and are informed about intermediate earnings. The spectator is then informed about the intermediate payoffs, and has the option of changing the final payoffs.

agent, which we represent with the notation \emptyset .

To capture both conditional fairness preferences and default effects, the spectator’s preference ranking over distributions of workers’ payoff is jointly determined by a “fairness ideal” given a particular set of worker characteristics and the default distribution of earnings. To achieve this, we rely on the inspiration of the work of Breitmoser and Vorjohann (2024), who provide a representation result for how factors such as fairness ideals and defaults together determine a reference point.

Specifically, we assume that the spectator’s utility function maps the distribution of workers’ payoffs $(1 - y, y)$ and the default d into \mathbb{R} :

$$V(y_i, \{\kappa_j\}, \beta_i, d) = -[y_i - (\beta_i m_i(\{\kappa_j\}) + (1 - \beta_i)d)]^2, \quad (1)$$

where, as before, $m_i(\{\kappa_j\}) \in [0, 1]$ represents i ’s fairness ideal based on the set of worker characteristics, and $\beta_i \in [0, 1]$ represents the weight on the fairness ideal relative to the default.

Trivially, this model predicts that agents will choose y_i in the interval with the fairness ideal as one endpoint, and the default as the other. Specifically, the agent will set $y_i = \beta_i m_i(\{\kappa_j\}) + (1 - \beta_i)d$, which implies that:

Result 1 *The agent selects $y_i \in [m_i(\{\kappa_j\}), d]$ for any $\{\beta_i, \{\kappa_j\}, d\}$.*

Note that this simple model gives the straightforward and testable prediction that if there are no default effects, $\beta_i = 1$, then subjects will select the same ex post distribution of payments regardless of the intermediate distribution.

3 Experiment and Empirical Analysis

To test for default effects, we collect data from two different treatments, split between two population—a representative US sample and a representative Scandinavian (Swedish) sample. The data were collected by a professional survey firm and the English-language questionnaires used in the treatments are provided in Section B of the Appendix. All details of the data collection and our empirical analysis and hypotheses were pre-registered in the AEA registry (AEARCTR-0012990).

In each treatment, subjects were asked to make a decision about the distribution of earnings for two workers who had completed a real effort task. In all treatments, subjects were free to choose any distribution of earnings from the set $\{(3, 3), (4, 2), (5, 1), (6, 0)\}$; e.g. if the subject chose $(4, 2)$, then one randomly selected worker will earn a bonus payment of 4, and the other worker will receive a bonus payment of 2. In the experiment, we focus on the baseline case in which subject do not observe any worker characteristics, and therefore are not able to condition their implemented distribution on any observable characteristics.

In the “Unequal Default” treatment, subjects are informed that the workers were told that one worker would be randomly selected to receive an earnings bonus of 6, while the other worker would receive a bonus of 0 prior to selecting a payment plan. Additionally, the subjects were told that the workers were informed that a third person would have a chance to change this payment plan. This treatment is analogous to the standard elicitation question for fairness preferences (Almås et al., 2020).

In the “Equal Default” treatment, subjects are informed that the workers were told that the both workers would receive a bonus of 3. However,

as in the Unequal Default treatment, they were told that the workers were informed that a third person would have a chance to change this payment plan. In all treatments, the intermediate payoffs are selected randomly, and are not based on any worker characteristics.

Lastly, we will also discuss a third “No Default” treatment, in which subjects are asked to make a distributional decision without workers having been informed about any intermediate payments (we provide further detail regarding this treatment in Section 4.1). This treatment will be discussed for illustrative purposes only and we will therefore not conduct any formal hypothesis testing related to this treatment.

We summarize the data collection in Table 1.

Table 1: Treatments: Number of Spectators

	USA	Sweden
Unequal Default 6/0	250	250
Equal Default 3/3	250	250
<i>No Default (Ex-Ante)</i>	<i>250</i>	<i>250</i>
Total	750	750

Next we outline the hypotheses and empirical strategy of the project. We test the following two hypotheses, based on the predictions of the simple theoretical framework introduced above, under the assumption that there are no default effects ($\beta_i = 1$).

Hypothesis 2 *Spectators implement the same level of inequality in the Unequal Default and Equal Default treatments.*

Hypothesis 3 *The difference between implemented inequality in the US and Scandinavia is the same in the Unequal Default and Equal Default treatments.*

To test these hypotheses, we use the following measure of the inequality implemented by spectator i :

$$g_i = \frac{|Income\ Worker\ A_i - Income\ Worker\ B_i|}{Total\ Income} \in [0, 1], \quad (2)$$

This inequality measure is equal to one if the spectator decides on a 6-0 split and zero if the spectator decides to equalize the incomes between the two workers, and is equivalent to the Gini coefficient in our setting.

The main empirical specification we use to study the treatment effects on implemented inequality is:

$$g_i = \alpha + \delta_0 EqualDefault_i + \delta_1 Sweden_i + \delta_2 EqualDefault_i Sweden_i + \gamma \mathbf{X}_i + \epsilon_i, \quad (3)$$

where $EqualDefault_i$ is an indicator variable for spectator i being in the Equal Default treatment (as opposed to the Unequal Default treatment), $Sweden_i$ is an indicator variable for spectator i being from Sweden, and \mathbf{X}_i is a vector of control variables. Since the Unequal Default treatment is the base treatment, the estimated value of δ_0 and δ_2 provide us with the causal effects of the equal default on, respectively, implemented inequality and the difference in implemented inequality between the US and Swedish samples.

Earlier studies have shown that age, gender, education and income are important control variables when studying fairness preferences (Almås

et al., 2020). Therefore, we also report the results both with and without these control variables, where education is a binary indicator for whether the subject has the equivalent of a bachelor’s degree and income is a binary indicator for whether the subject has an individual income that is higher or lower than the country median.

3.1 Empirical Analysis

We begin with a descriptive analysis, focusing first on the average implemented inequality illustrated in Figure 1. While we report the formal hypothesis testing below, note that there is a clear impact of the default on implemented inequality, with the average Gini coefficient decreasing by close to two thirds.

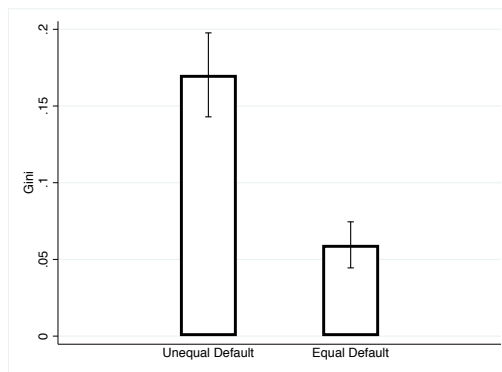


Figure 1: Average implemented inequality by treatment

Figure 2 shows the proportion of subjects who selected each distribution, divided by treatment. Interestingly, note that the proportion of subjects who select a distribution of $(5, 1)$ and $(4, 2)$ is also lower in the equal default treatment. This suggests that, conditional on moving away from the default, the default may still have an impact on which distribution is selected (we discuss this in more detail below).

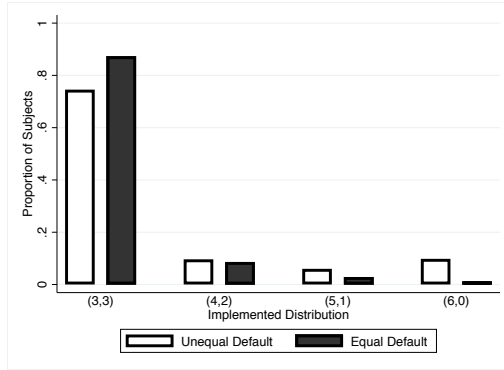


Figure 2: Implemented distribution by treatment

Next, we consider the implemented inequality by treatment and population and report the average implemented inequality in the US sample and the Scandinavian sample separately.

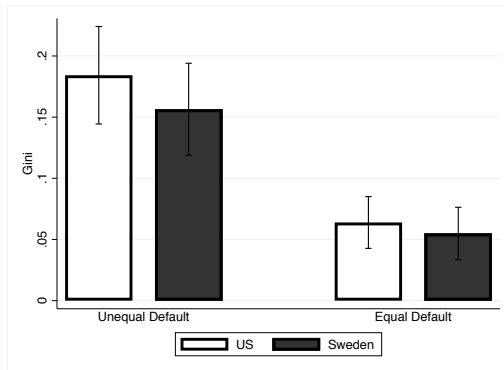


Figure 3: Average implemented inequality by treatment and country

Here, the descriptive analysis seems to imply that any difference between the implemented inequality disappears in the Equal Default treatment, suggesting that defaults can also impact the observed comparisons across countries. However, to be precise as to what our experiment shows statistically, we report the results of our main specification in Table 4 below.

First, note that the analysis of our main specification allows us to formally reject the null that implemented inequality is equal under the Equal

Table 2: Main Specification

	(1)	(2)
	Gini	Gini
Equal Default	-0.120*** (0.0227)	-0.124*** (0.0224)
Sweden	-0.0279 (0.0225)	-0.0324 (0.0222)
Sweden \times Eq. Def.	0.0189 (0.0323)	0.0235 (0.0318)
Controls	-	✓
Constant	0.184*** (0.0159)	0.249*** (0.0385)
N	1071	1071

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

and Unequal default treatments. Second, note that in contrast to previous studies, we do not find a significant difference between the inequality implemented by the Scandinavian subjects and the US subjects in the Unequal Default treatment. We suspect that three factors may have played a role here: (1) relative to Almås et al. (2020), we have a smaller sample per treatment (250 instead of 500), (2) we modify the wording of the survey from “I do redistribute” to “I do change the earnings,” and (3) we use a Swedish sample instead of a Norwegian sample.

Since we do not find a significant effect of the Sweden dummy in either treatment, we of course have no chance of finding a relative effect, which is confirmed by the non-significant coefficient on the country/treatment interaction dummy (Sweden \times Eq. Def.). That is, we find no statistical evidence that the difference in fairness preferences between the US and Sweden vary in the Unequal and Equal default treatments.

The main take-away from the experiment is that implemented inequal-

ity is highly sensitive to the default, which is verified by the statistically significant and large treatment effect in our baseline empirical analysis. This allows us to clearly reject the model of behavior in which agents select distributions equal to a fairness ideal that only conditions on the set of worker characteristics.

4 Identifying conditional fairness preferences

In this section we take the position of a researcher whose objective is to identify fairness preferences conditional on worker characteristics, represented by the fairness ideal $(m_i(\{\kappa_j\}))$, and ask the question of what data is necessary to identify fairness preferences in a setting where spectator choices are sensitive to both the fairness ideal and the default as modeled in Section 2.

Comparing fairness ideals across individuals/populations

First we consider comparing fairness ideals across individuals—the results also generalize trivially to comparing population averages. Note that by Result 1, given a single data point y_i for a given d with β_i unobserved, $m_i(\{\kappa_j\})$ is not identified. This is easily verified by solving for $m_i(\{\kappa_j\}) = (y_i - (1 - \beta_i)d)/\beta_i$.

However, given two data points for different defaults $\{(y_{i,1}, d_1), (y_{i,2}, d_2)\}$, the researcher can identify β_i and $m_i(\{\kappa_j\})$ separately using the following

equations:

$$m_i(\{\kappa_j\}) = \frac{y_{i,1} - (1 - \beta_i)d_1}{\beta_i}, \quad (4)$$

$$m_i(\{\kappa_j\}) = \frac{y_{i,2} - (1 - \beta_i)d_2}{\beta_i}, \quad (5)$$

$$\beta_i = \frac{y_{i,1} - y_{i,2}}{d_1 - d_2}, \quad (6)$$

where the last equation is derived from the first two.

This gives our second result:

Result 4 *The fairness ideal and the weight on the default, $\{m_i(\{\kappa_j\}), \beta_i\}$, can be separately identified using choice data from two different defaults.*

This result shows that to compare fairness ideals between populations, such as in our comparison between US and Swedish populations, it is necessary to gather data on multiple defaults to first identify β_i .

Comparing fairness ideals across dimensions of worker characteristics

In some cases a researcher may be interested in comparing $\{m_i(\{\kappa_j\})\}$ across different dimensions of worker characteristics. For example, take a two-dimensional set of worker characteristics, $\kappa_j = \{\kappa_{j,1}, \kappa_{j,2}\}$, where the first dimension is a measure of worker “luck” and the second dimension is a measure of worker “effort.” The researcher may then wish to compare $m_i(\kappa_{j,1}, \emptyset)$ to $m_i(\emptyset, \kappa_{j,2})$ for some $\kappa_{j,1}, \kappa_{j,2}$ (see Almås et al., 2020).

Next, assume that relative the weight that the agent puts on the default is constant across the dimensions of worker characteristics. Note that this is not a trivial assumption—it is not inconceivable that agents put a different

relative weight on their fairness ideal in the effort dimension relative to the luck dimension. However, given this assumption, the researcher is able to identify the difference in fairness ideals given data from the agent’s choice, y_1 , given $\kappa_{j,1} = \{\kappa_{j,1}, \emptyset\}$ and y_2 given $\kappa_{j,2} = \{\emptyset, \{\kappa_{j,2}\}\}$.

This gives our third result:

Result 5 *Given a constant relative weight on the fairness ideal, $m_i(\{\kappa_{j,1}, \emptyset\}) - m_i(\emptyset, \{\kappa_{j,2}\}) = y_1 - y_2$.*

That is, the researcher will be able to recover the *difference* in fairness ideals across dimensions of worker characteristics, but not the *level* of the fairness ideals. Again, we emphasize that this identification result requires the assumption that the weight on the fairness ideal relative to the default is constant across different dimensions of worker characteristics. If this assumption does not hold, then to compare fairness ideals across different sets of worker characteristics, β would need to be estimated separately for each set of worker characteristics using data from multiple defaults as above.

4.1 Discussion

First, in light of the findings and framework introduced above, we discuss the common approach of dividing subjects into “types” based on the payoff distribution they select give a default of $(0, 1)$. In our setting, there are only two relevant types: an “Egalitarian” type that equalizes payoffs ($y_i = 0.5$), and a “Libertarian” type that selects the default ($y_i = 1$ in the Unequal Default treatment and $y_i = 0.5$ in the Equal Default treatment). In the context of our framework, Egalitarians have a fairness ideal of 0.5 and $\beta_i = 1$, while Libertarians have $\beta_i = 0$.

Our experiment is not designed to test the type-based model directly. However, note that under the assumption that types either select an equal distribution or the default, we should not see a difference in the number of subjects that select interior payoff distributions between the Unequal and Equal Default treatments. That is, Egalitarians will select $(3, 3)$ in both treatments and Libertarians will select $(6, 0)$ in the Unequal Default treatment, and $(3, 3)$ in the Equal Default treatment. Therefore, unless “noisy” choices are more frequent in one of the two treatments, the number of subjects selecting interior payoff distributions should be constant under the type-based model.

This is not what we observe in the data—zooming in on the unequal payoff distributions in Figure 4, we can see that the aggregate treatment effect is not only driven by subjects moving from one default, $(6, 0)$, to the other default, $(3, 3)$. Instead, the experimental data also suggest that there may have been a treatment effect on the intermediate payoff distributions of $(4, 2)$ and $(5, 1)$ —for both countries, subjects also choose interior distributions more often in the Unequal Default relative to the Equal Default treatment.

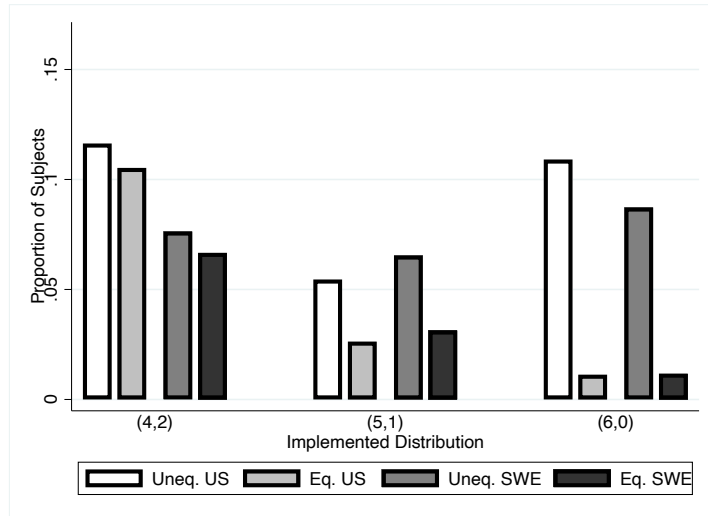


Figure 4: Implemented distribution by treatment and country (choices for equal payoffs, (3, 3), are excluded).

To explore this in more detail, we run a simple OLS estimate of the impact of the treatment on the number of subjects who select interior distributions (reported in Table 3), we see a consistent negative estimate of the impact of the treatment effect both with and without control variables. Specifically, we estimate the following specification using OLS (with and without controls and Sweden dummy):

$$interior_i = \alpha + \delta_0 EqualDefault_i + \delta_1 SWE_i + \gamma \mathbf{X}_i + \epsilon_i, \quad (7)$$

where $interior_i$ is a dummy variable taking a value of 1 if i selects a payoff distribution of (5, 1) or (4, 2).

While this analysis was not preregistered and therefore should be considered exploratory, it suggests that the treatment may have had an impact on interior distributions that is not consistent with the type-based model, but that can be rationalized with the model we develop above.

Lastly, we comment on the implications of our findings for “best prac-

Table 3: OLS estimates

	(1)	(2)	(3)
	Interior	Interior	Interior
Equal Default	-0.0412** (0.0210)	-0.0415** (0.0209)	-0.0408* (0.0208)
SWE	-	-0.0313 (0.0209)	-0.0320 (0.0209)
Controls	-	-	✓
Constant	0.156*** (0.0146)	0.172*** (0.0180)	0.244*** (0.0491)
N	1071	1071	1071

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

tices” for eliciting fairness preferences. In some situations, the researcher may be explicitly interested in incorporating default effects in their study of fairness preferences—for example, if the research question explicitly concerns inequality acceptance. In these cases, however, our findings illustrate that the average levels of implemented inequality will be highly sensitive to the chosen default. Additionally, since measured preferences represent a combination of default effects and fairness ideals, comparing across treatments and populations is not straightforward and therefore caution should be used when interpreting these results.

In other situations, however, the researcher may simply be interested in how preferences over payoff distributions condition on worker characteristics. Our findings illustrate that in these cases, default effects need to be explicitly accounted for when using the standard elicitation methods by, for example, gathering data under multiple defaults. Alternatively, in cases where the focus is on measuring conditional fairness preferences, and the default effect is not central to the research question, eliciting fairness

preferences in a “default-free” setting may be preferable.

In Figure 5 we present the results of our original treatments combined with a treatment in which subjects were simply asked to state which distribution of payoffs they preferred, without any explicit default (“No Default” treatment).²

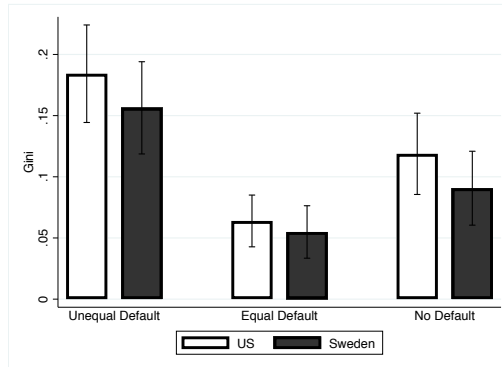


Figure 5: Average implemented inequality by treatment and country

Here we see that, looking only at the averages, the implemented inequality in the No Default treatment falls between the Equal and Unequal Default treatments, which is consistent with the theory we develop here. Interestingly, the difference in implemented inequality between the US and Scandinavia is comparable to the Unequal Default treatment, again with the caveat that these differences are not statistically significant. This suggests that eliciting preferences in such a default-free setting may be preferable for researchers who are primarily interested in studying how preferences over payoff distributions condition on worker characteristics.

²The questionnaire for the No Default treatment is included in Appendix B. It should be noted that the spectators take decisions *ex ante* in the No Default treatment and that workers are informed about the spectator’s choice prior to completing the real effort task. In a companion project, see AEA registry entry AEARCTR-0012985 “Fair Institutions,” we explore the impact of the timing of the spectator decision and find that this indeed impacts spectator choices even when there is a default choice.

5 Conclusion

In this paper we formally and experimentally explore the impact of default effects in the elicitation of fairness preferences. Overall our findings and analysis suggest that default effects have an important impact on measured preferences. In particular, comparisons of fairness ideals based on choice data across treatments with different worker characteristics, or with different populations can be misleading without separately identifying the impact of the fairness ideal and the default effect.

We then show that if a researcher is interested in separating between the default effect and an underlying fairness ideal, then choice data from multiple defaults is necessary. We also contrast our approach to models based on different fairness “types” and discuss the different approaches. In future research, it may be helpful to characterize the difference between the two models in explaining the experimental data by structurally estimating both models on a richer data set.

Lastly, we suggest that, in settings where the researcher is not explicitly interested in a default effect, conditional fairness preferences can be measured ex ante in a “default-free” setting—even if expectations influence the spectator’s preferred payoff distribution, this method may ensure that expectations are driven by beliefs about the workers rather than by the choice architecture of the experiment.

References

Almås, I., Cappelen, A. W., and Tungodden, B. (2020). Cutthroat capitalism versus cuddly socialism: Are americans more meritocratic and

- efficiency-seeking than scandinavians? *Journal of Political Economy*, 128(5):1753–1788.
- Breitmoser, Y. and Vorjohann, P. (2024). Fairness-based Altruism. *Mimeo*.
- Cappelen, A. W., Konow, J., Sørensen, E. Å., and Tungodden, B. (2013). Just luck: An experimental study of risk-taking and fairness. *The American Economic Review*, 103(4):1398–1413.
- Choi, J. J., Laibson, D., Madrian, B. C., and Metrick, A. (2003). Optimal defaults. *American Economic Review*, 93(2):180–185.
- Fehr, E. and Schmidt, K. M. (1999). A Theory of Fairness, Competition, and Cooperation. *The Quarterly Journal of Economics*, 114(3):817–868.

A Additional empirical results

We first report on the full regression results, including coefficients on the control variables.

Table 4: Main Specification with controls listed

	(1)	(2)
	Gini	Gini
Equal Default	-0.120*** (0.0227)	-0.124*** (0.0224)
Scandinavian	-0.0279 (0.0225)	-0.0324 (0.0222)
(Scandinavian) × (Equal Default)	0.0189 (0.0323)	0.0235 (0.0318)
Age		-0.00318*** (0.000589)
Female		0.0243 (0.0161)
Other		-0.116 (0.151)
Above Median Income		-0.0126 (0.0175)
Political Orientation		0.0239*** (0.00839)
Higher Education		-0.0162 (0.0176)
Constant	0.184*** (0.0159)	0.249*** (0.0385)
<i>N</i>	1071	1071

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In the following figures, we report on the proportion of spectators that did not equalize payments—i.e. the proportion of spectators who did not choose (3, 3).

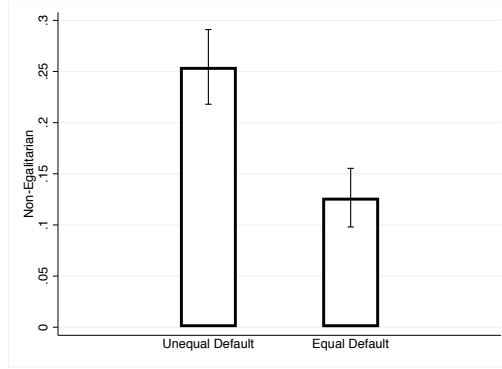


Figure 6: Proportion of Non-Egalitarian spectators by treatment

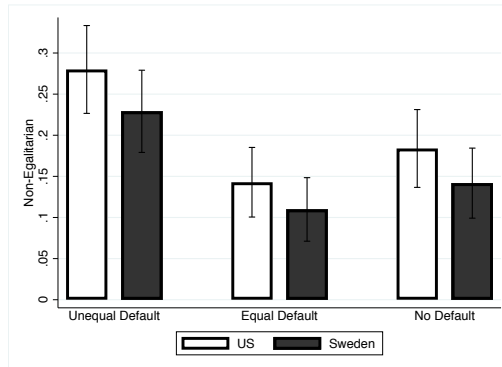


Figure 7: Proportion of Non-Egalitarian spectators by country/treatment

B Further Experimental Details

B.1 “Spectator” Questionnaires

Treatment 1: Unequal Default

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.

Worker A and worker B were each offered a participation compensation of 2 USD regardless of what they were paid for completing the assignment. After they had completed the assignment, they were told that it was randomly decided that one of them would earn an additional 6 USD for the work on the assignment while the other would not earn anything additional for the work on the assignment. However, they were also told that a third person could change how the additional earnings would be divided between the two of them and thus determine how much they were paid for the assignment.

You are the third person and we now want you to choose whether to change the earnings for the assignment between worker A and worker B. Your decision is completely anonymous. The workers will receive the payment that you choose for the assignment within a few days, but will not receive any further information.

Worker A was randomly selected to earn 6 USD for the assignment, thus worker B earned nothing for the assignment. Please state which of the following alternatives you choose:

I do not change the earnings:

- worker A is paid 6 USD and worker B is paid 0 USD.

I do change the earnings:

- worker A is paid 5 USD and worker B is paid 1 USD.

- worker A is paid 4 USD and worker B is paid 2 USD.
- worker A is paid 3 USD and worker B is paid 3 USD.

Treatment 2: Equal Default

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.

Worker A and worker B were each offered a participation compensation of 2 USD regardless of what they were paid for completing the assignment. After they had completed the assignment, they were told that it was randomly decided that both of them would earn an additional 3 USD for the work on the assignment. However, they were also told that a third person could change how the additional earnings would be divided between the two of them and thus determine how much they were paid for the assignment.

You are the third person and we now want you to choose whether to change the earnings for the assignment between worker A and worker B. Your decision is completely anonymous. The workers will receive the payment that you choose for the assignment within a few days, but will not receive any further information.

Please state which of the following alternatives you choose:

I do not change the earnings:

- worker A is paid 3 USD and worker B is paid 3 USD.

I do change the earnings:

- worker A is paid 6 USD and worker B is paid 0 USD.
- worker A is paid 5 USD and worker B is paid 1 USD.

- worker A is paid 4 USD and worker B is paid 2 USD.

Treatment 3: No Default (Ex-Ante)

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.

The workers will each be offered a participation compensation of 2 USD regardless of what they are paid for completing the assignment. Before completing the assignment, the workers will be told that a third person chose how the earnings for completing the assignment would be divided between the two of them, and they will be informed about the third person's choice.

You are the third person and we now want you to choose how the earnings will be divided between the two workers. Your decision will be completely anonymous. The workers will receive the payment according to your choice for the assignment within a few days, but will not receive any further information.

Please state which of the following alternatives you choose:

- one worker is randomly selected to be paid 6 USD and the other worker is paid 0 USD.
- one worker is randomly selected to be paid 5 USD and the other worker is paid 1 USD.
- one worker is randomly selected to be paid 4 USD and the other worker is paid 2 USD.
- both workers are paid 3 USD.

Issued in the series Discussion Papers 2023

2023

- 01/23 January, Felix Chopra, **Ingar Haaland** and Christopher Roth. "The Demand for News: Accuracy Concerns versus Belief Confirmation Motives"
- 02/23 March, **Ola Honningdal Grytten** and Viktoriia Koilo. "Offshore Industries as Growth Sector: The Norwegian Case"
- 03/23 March, **Ingvild Almås, Alexander W. Cappelen, Erik Ø. Sørensen** and **Bertil Tungodden**. "Fairness Across the World"
- 04/23 March, **Kurt R. Brekke**, Dag Morten Dalen and Odd Rune Straume. "The price of cost-effectiveness thresholds"
- 05/23 March, Leonardo Bursztyn, **Alexander W. Cappelen, Bertil Tungodden**, Alessandra Voena and David Yanagizawa-Drott. "How Are Gender Norms Perceived?"
- 06/23 April, **Alexander W. Cappelen**, Stefan Meissner and **Bertil Tungodden**. "Cancel the deal? An experimental study on the exploitation of irrational consumers"
- 07/23 May, **Sara Abrahamsson, Aline Bütikofer** and Krzysztof Karbownik. "Swallow this: Childhood and Adolescent Exposure to Fast Food Restaurants, BMI, and Cognitive Ability"
- 08/23 May, Malin Arve and **Justin Valasek**. "Underrepresentation, Quotas and Quality: A dynamic argument for reform"
- 09/23 May, **Björn Bartling, Alexander W. Cappelen**, Henning Hermes, Marit Skivenes and **Bertil Tungodden**. "Free to Fail? Paternalistic Preferences in the United States"
- 10/23 May, Chiara Canta, **Øivind A. Nilsen** and **Simen A. Ulsaker**. "Competition and risk taking in local bank markets: evidence from the business loans segment"
- 11/23 May, **Aline Bütikofer, René Karadakic** and **Alexander Willén**. "Parenthood and the Gender Gap in Commuting"

- 12/23 May, **Samuel Dodini, Kjell G. Salvanes, Alexander Willén** and **Li Zhu**.
“The Career Effects of Union Membership”
- 13/23 June, **Alexander W. Cappelen, Ranveig Falch** and **Bertil Tungodden**.
“Experimental Evidence on the Acceptance of Males Falling Behind”
- 14/23 June, **Aline Bütikofer**, Rita Ginja, Krzysztof Karbownik and Fanny Landaud. “(Breaking) intergenerational transmission of mental health”
- 15/23 June, **Aline Bütikofer**, Antonio Dalla-Zuanna and **Kjell G. Salvanes**.
“Natural Resources, Demand for Skills, and Schooling Choices”
- 16/23 July, Philipp Ager, Marc Goñi and **Kjell Gunnar Salvanes**.
“Gender-biased technological change: Milking machines and the exodus of women from farming”
- 17/23 October, Max Lobeck and **Morten N. Støstad**. “The Consequences of Inequality: Beliefs and Redistributive Preferences”
- 18/23 November, Yves Breitmoser and **Justin Valasek**. “Why do committees work?”
- 19/23 November, **Kurt R. Brekke**, Dag Morten Dalen and Odd Rune Straume.
«Taking the competitor’s pill: when combination therapies enter pharmaceutical markets”
- 20/23 December, **Antoine Bertheau**, Birthe Larsen and Zeyu Zhao. “What Makes Hiring Difficult? Evidence from Linked Survey-Administrative Data”
- 21/23 December, **Oda K. S. Sund**. “Unleveling the Playing Field? Experimental Evidence on Parents’ Willingness to Give Their Children an Advantage”
- 22/23 December, **Morten Nyborg Støstad**. “Fairness Beliefs Strongly Affect Perceived Economic Inequality”
- 23/23 December, Wilfried Pauwels and **Fred Schroyen**. “The legal incidence of ad valorem taxes matters”
- 24/23 December, **Samuel Dodini, Alexander Willén** and **Julia Li Zhu**. “The Role of Labor Unions in Immigrant Integration”
- 25/23 December, **Samuel Dodini**, Anna Stansbury and **Alexander Willén**. “How Do Firms Respond to Unions?”

2024

- 01/24 February, **Sara Abrahamsson**. "Smartphone Bans, Student Outcomes and Mental Health"
- 02/24 March, Abigail Barr, **Anna Hochleitner** and Silvia Sonderegger. "Does increasing inequality threaten social stability? Evidence from the lab"
- 03/24 March, **Daniel Carvajal**, **Catalina Franco** and **Siri Isaksson**. "Will Artificial Intelligence Get in the Way of Achieving Gender Equality?"
- 04/24 April, **Catalina Franco** and **Erika Povea**. "Innocuous Exam Features? The Impact of Answer Placement on High-Stakes Test Performance and College Admissions"
- 05/24 April, Lars C. Bruno and **Ola H. Grytten**. "Convergence between the Baltic and the Nordic economies: Some reflections based on new data for the Baltic countries"
- 06/24 May, **Anna Ignatenko**. "Competition and Price Discrimination in International Transportation"
- 07/24 May, Sandro Ambuehl and **Heidi C. Thyssen**. "Choosing Between Causal Interpretations: An Experimental Study"
- 08/24 May, Ritvana Rrukaj and **Frode Steen**. "Asymmetric cost transmission and market power in retail gasoline markets"
- 09/24 June, **Justin Valasek**, Pauline Vorjohann and **Weijia Wang**. "Fairness Preferences and Default Effects"



NHH



NORGES HANDELSHØYSKOLE
Norwegian School of Economics

Helleveien 30
NO-5045 Bergen
Norway

T +47 55 95 90 00
E nhh.postmottak@nhh.no
W www.nhh.no

