# Cutthroat capitalism versus cuddly socialism: Are Americans more meritocratic and efficiency-seeking than Scandinavians?

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**Abstract**

There are striking differences in inequality and redistribution between the United States and Scandinavia. To study whether there are corresponding differences in social preferences, we conducted a large-scale international social preference experiment where Americans and Norwegians make distributive choices in identical environments. Combining the infrastructure of an international online labor market and that of a leading international data collection agency, we show that Americans and Norwegians differ significantly in fairness views, but not in the importance assigned to efficiency. In particular, we find that Americans accept significantly more inequality than Norwegians, even when they make distributive choices in identical situations. The study also provides general insights into the nature of social preferences. We provide causal evidence suggesting that fairness considerations are more fundamental for inequality acceptance than efficiency considerations. In both countries, merit instead of luck as the source of inequality causes a huge increase in inequality acceptance, while the introduction of a cost of redistribution has a negligible effect on the distributive choices of the participants.

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# 1 Introduction

An important question is how to understand the striking variation in income inequality and redistributive policies across the world (Piketty et al., 2014). The difference between the United States and the Scandinavian countries is a case in point. As shown in Figure 1, the United States is an outlier among the OECD countries, with very high income inequality, while the Scandinavian countries are characterized by much more compressed income distributions. The same picture emerges if we compare these societies in terms of the top one percent earners in society: they capture almost 18–19% of total income in the United States, but only around 5–8% in the Scandinavian countries (Atkinson et al., 2011). The United States and the Scandinavian countries also differ dramatically with respect to redistributive policies, with the Scandinavian countries having a significantly higher tax level, a more generous welfare state, and more income mobility than the United States (Barth et al., 2014; Landersø and Heckman, 2016).

[ Figure 1 about here]

These striking differences between the United States and Scandinavia have attracted the attention of economists and other social scientists (Aarøe and Petersen, 2014; Acemoglu et al., 2017; Edlund, 1999; Fochesato and Bowles, 2015; Kleven, 2014; Landersø and Heckman, 2016) and have also been discussed extensively as part of a broader public debate (Booth, 2016; Irwin, 2014), where the comparison has sometimes been portrayed as being between cutthroat capitalism and cuddly socialism.

In this paper, we study whether these very different ways of organizing society correspond to differences in the social preferences of Americans and Scandinavians, in particular to differences in *what kind of inequalities are considered fair* and in *the importance assigned to fairness relative to efficiency*. By now, it is well established that social preferences fundamentally shape individual behavior (Andreoni and Miller, 2002; Bolton and Ockenfels, 2000; Cappelen et al., 2007, 2013a; Charness and Rabin, 2002; Falk and Szech, 2013; Fehr and Schmidt, 1999), and the prevalence of different social preferences in the United States and Scandinavia could therefore contribute to explaining why these two societies have very different redistributive institutions: if Americans are more likely than Scandinavians to consider an inequality as fair and to assign more weight to efficiency relative to fairness, then this may be a reason why there is more income inequality and less demand for redistribution in the United States than in Scandinavia.

There are, however, other potential explanations for why the Scandinavian countries are more equal and more redistributive than the United States. Importantly, it may be that Americans differ from Scandinavians in what they believe to be the *source of income inequality* in society. In particular, the United States and Scandinavia may be in different social equilibria with different self-sustained beliefs, where income inequality in the United States to a larger extent than in Scandinavia is believed to be the result of differences in individual productivity rather than luck (Alesina and Angeletos, 2005; Bénabou and Tirole, 2006; Piketty, 1995). These different social equilibria are consistent with Americans and Scandinavians having the same meritocratic fairness view, considering inequalities due to differences in individual productivity as fair and inequalities due to differences in luck as unfair. In short, it may be that Americans accept more inequality and are less in favor of redistribution than Scandinavians because they have different beliefs about the source of inequality in society.

Another possibility is that beliefs about the *cost of redistribution* differ significantly between the United States and Scandinavia. For example, it has been argued that the Scandinavian countries represent a role model for how to run an efficient and responsive state (*The Economist*, February 2, 2013), and it may be that Americans are less in favor of redistribution than Scandinavians because they have less trust in the government implementing redistributive schemes in an efficient manner (Kuziemko et al., 2015). It has also been argued that since the United States is the vehicle of innovation and economic growth in the world, it would be much more costly for the United States than for the Scandinavian countries to implement comprehensive social welfare systems (Acemoglu et al., 2012). In short, it may be that Americans accept more inequality and are less in favor of redistribution than Scandinavians because the cost of redistribution is (or is believed to be) greater in the United States than in Scandinavia.

These alternative explanations highlight the difficulty of inferring social preferences from actual levels of inequality and redistribution in the United States and Scandinavia: it may be that Americans face a very different distributive situation than Scandinavians, with respect to both the source of inequality and the cost of redistribution.[1] In order to overcome this challenge when comparing the social preferences of Americans and Scandinavians, we conducted a large-scale economic experiment involving more than 6000 participants, with spectators from the United States and from a Scandinavian country, Norway, making real distributive choices for workers in *identical distributive situations*.[2] By observing the distributive choices of Americans and Norwegians in identical distributive situations, where they had complete information about the source of inequality and the cost of redistribution, we identify whether the two populations differ in their social preferences.

Our study uses a new empirical approach for collecting experimental data on large-scale samples, by combining the infrastructure of an international online labor market platform and the infrastructure of a leading international data-collection agency. On the online market platform, we recruited individuals (*workers*) to conduct some assignments, and then recruited large-scale samples of individuals (*spectators*) from the United States and Norway through an international data collection agency. The spectator's task was to decide whether to redistribute income between a pair of workers who had been allocated unequal earnings.

The spectators were randomly assigned to one of three treatments (Luck treatment, Merit treatment, and Efficiency treatment), where the treatments only differed with re-

[1] There are also other possible explanations for why Scandinavia has more redistribution than the United States that we do not focus on in this paper. In particular, it has been convincingly argued that differences in the political systems are of great importance for understanding why the welfare state is much less developed in the United States (Austen-Smith, 2000; Alesina and Glaeser, 2004): in a two-party political system, minority party candidates have no chance to play a pivotal role. The fact that Scandinavia is much more homogeneous and smaller than the United States may also contribute to making it easier to redistribute in Scandinavia than in the United States (Alesina and Giuliano, 2011).

[2] As shown in Table A1, Norway is very similar to the two other Scandinavian countries, Denmark and Sweden, in relevant economic and political dimensions, and thus we do not expect there to be major differences in social preferences across Scandinavia. All the Scandinavian countries have low levels of inequality and poverty compared with the United States, and are very similar in terms of how they have organized their economies. In contrast to the United States, they have high trade union density contributing to low inequality, and significant social expenditures (as share of GDP) contributing to low poverty rates. All the Scandinavian countries also have a multi-party political system, whereas the United States is characterized by a two-party system.

spect to the source of the inequality in earnings (merit or luck) or the cost of redistribution. In the Luck treatment, earnings were determined by *luck*, and there was *no cost of redistribution*. In two additional treatments, we manipulated the source of inequality and the cost of redistribution, respectively. In the Merit treatment, earnings were determined by *individual productivity* with no cost of redistribution; in the Efficiency treatment, earnings were determined by luck, but there was *a cost of redistributing* income from one worker to the other. This design allows us to study whether there are systematic differences in what Americans and Scandinavians consider a fair inequality (by comparing the distributive choices in the Luck treatment and the Merit treatment) and in the weight attached to fairness relative to efficiency (by comparing the distributive choices in the Luck treatment and the Efficiency treatment). The experimental design also provides us with causal evidence of the importance of the source of inequality and the cost of redistribution for inequality acceptance. A pre-analysis plan, describing the main hypotheses to be tested and the identification strategy, was posted on the AEA RCT registry.

The study establishes that there are important differences in the prevailing social preferences between the United States and Norway. First, we find that Americans accept significantly more inequality than Norwegians, even when they make distributive choices in identical situations. On average, the Americans and the Norwegians implemented an income distribution corresponding to income inequality Gini coefficients of 0.43 (the United States) and 0.24 (Norway) in the experiment, a difference that is strikingly similar to the difference in the actual income inequality Gini coefficient between the two countries, see Figure 1. Second, we find that this difference in the level of inequality acceptance reflects a difference in fairness views, not a difference in the importance that Americans and Norwegians assign to fairness relative to efficiency. A significantly larger share of the Americans chose according to a libertarian fairness view (which considers both inequalities due to luck and inequalities due to a difference in productivity to be fair), while a significantly larger share of the Norwegians chose according to an egalitarian fairness view (which considers both sources of inequality in this experiment – luck and productivity differences – to be unfair). Interestingly, however, we do not find that Americans are more meritocratic than Norwegians: the share of spectators choosing according to a meritocratic fairness view (which only considers inequalities due to a difference in productivity to be fair) is almost the same in the two countries.

The analysis shows that there are important heterogeneities in the social preferences within each country, where we focus on the subgroups that were specified in the pre-analysis plan (political orientation, socioeconomic status, and gender). In particular, in both the United States and Norway, we find that conservatives are more inequality accepting than non-conservatives. Interestingly, however, the within-country political difference in inequality acceptance in both countries is significantly smaller than the between-country difference in inequality acceptance.

The study also provides general insights into the nature of social preferences. First, we provide causal evidence suggesting that fairness considerations are much more fundamental for inequality acceptance than are efficiency considerations. In both countries, merit instead of luck as the source of inequality causes a huge increase in inequality acceptance, while the introduction of a cost of redistribution has a negligible effect on spectator choices. In fact, we find a highly significant merit treatment effect in all pre-specified subgroups in both countries, while we only find an efficiency treatment effect among conservatives and male spectators in Norway. Second, we find that the meritocratic fairness view is most prevalent in both countries; we estimate that 37.5% and 42.5% of

the spectators in the United States and Norway, respectively, consider inequalities due to a difference in productivity to be fair and inequalities due to luck to be unfair. We do, however, also observe within-country heterogeneity in fairness views; there are significant shares of egalitarians and libertarians in both countries. Overall, our estimates suggest that the vast majority of the spectators (87%) can be characterized as having an egalitarian, meritocratic, or libertarian fairness view.

This paper contributes to the large literature on international differences in attitudes toward inequality and redistribution. One strand of this literature has relied on large, non-incentivized surveys, including the World Value Survey, the European Social Survey, the General Social Survey, and the International Social Survey Programme (Alesina and Glaeser, 2004; Alesina and Giuliano, 2011; Aarøe and Petersen, 2014; Ashok et al., 2015; Edlund, 1999; Falk et al., 2015; Fong, 2001; Luttmer and Singhal, 2011; Osberg and Smeeding, 2006; Svallfors, 1997), while another strand has used incentivized small-scale lab experiments (Barrett et al., 2016; Cappelen et al., 2015; Farina et al., 2016; Henrich et al., 2010; Jakiela, 2015). We propose a new empirical approach for comparative studies that combines the strengths of the survey approach (large samples) and the lab experimental approach (incentivized choices). By combining the infrastructure of an international online labor market platform and the infrastructure of a leading international data collection agency, we are able to collect data on how large samples make distributive choices in real situations.

The paper also relates to the literature studying the role of beliefs about the source of inequality for people's willingness to redistribute. An important early literature in political science highlighted that people's beliefs about the poor shape their view on antipoverty policies (Gilens, 1999; Williamson, 1974), and more recent survey evidence has clearly documented that support for redistribution depends on beliefs about the sources of income inequality and mobility perceptions (Aarøe and Petersen, 2014; Alesina et al., 2001, 2018; Fong, 2001; Linos and West, 2003). People who believe that prosperity is a result of hard work and good choices, or that there is significant mobility in society, are less willing to redistribute than are people who believe that prosperity is caused by luck. Our experiment, however, focuses on identifying fairness preferences, by studying how participants make choices in distributive situations where we can control the beliefs about the source of inequality. We show that Americans and Norwegians differ fundamentally in terms of fairness preferences, and we provide suggestive evidence of these fairness preferences being important for people's attitudes to redistributive policies and for their voting behavior. In this respect, we contribute to the understanding that opposition to redistribution cannot be attributed simply to self-interestedness but has both moral and cognitive elements, including the moral status of luck and beliefs about sources of inequality (Bowles and Gintis, 2000).

Finally, the paper also contributes to the large experimental literature on the nature of social preferences (Almås et al., 2010; Andreoni and Miller, 2002; Balafoutas et al., 2013; Bellemare et al., 2008; Cappelen et al., 2007, 2013a; Charness and Rabin, 2002; Durante et al., 2014; Engelmann and Strobel, 2006; Falk et al., 2008; Falk and Szech, 2013; Konow, 2000), in particular by studying the importance of the source of inequality and the cost of redistribution for inequality acceptance in large samples that largely match the population on observables. We show that the source of inequality is essential for understanding inequality acceptance in both the United States and Norway; in all subgroups of our samples, we find that the introduction of a difference in productivity as the source of inequality significantly increases inequality acceptance. We also show that

for individuals, fairness considerations appear to be much more important than efficiency considerations.

The paper is organized as follows: Section 2 describes the experimental design, Section 3 introduces a simple theoretical framework that guides our interpretation of the results, Section 4 outlines the empirical strategy, Section 5 reports the main results and the heterogeneity analysis, while Section 6 concludes.

# 2 Experimental Design and Participants

We first provide an overview of the general structure of the main experiment, and then a detailed discussion of the participants, the treatments, and the follow-up study. The experiment had two types of participants: *workers* and *spectators*. The spectators decided whether or not to redistribute earnings between a pair of workers who had completed the same assignment. The spectators were randomly assigned to one of three treatments that only differed with respect to the source of inequality in earnings or the cost of redistribution. Table 1 summarizes the main stages in the experiment.

[ Table 1 about here]

At the end of the experiment, the spectators completed a non-incentivized survey that included a question about their attitude toward redistributive policies as well as standard background questions about gender, age, geographical location, household income, political orientation, and education.

## 2.1 The workers

The workers in the experiment were recruited from the international online labor market platform Amazon Mechanical Turk, which is a crowdsourcing web service that specializes in recruiting anonymous workers to complete small tasks online. When recruited, the workers were promised a participation fee of 2 USD and told that they could earn additional money, depending on the actions they and others would take in the experiment.[3]

We recruited 1334 workers for the main experiment, where each worker completed three different assignments. After they had completed all three assignments, the workers were told that they would be paid for the assignments. Specifically, for each assignment, they were randomly matched in pairs, giving us 2001 unique pairs of assignments/workers. In each pair, one worker was initially assigned 6 USD and the other 0 USD for completing the task. The workers were told how the initial assignment of earnings would be determined, but not whether they had been assigned earnings or not. They were told, however, that a third person, the spectator, would be informed about the assignment and the initial distribution of earnings, and would be given the opportunity to redistribute the earnings between the two workers in the pair and thus to determine how much they were actually paid for the assignment. The workers received the income determined by the spectator within a few days after the spectators had made their choice.

[3]The experimental protocols for both workers and spectators are provided in Appendix B.

## 2.2 The spectators

The spectators in the experiment were recruited by using the infrastructure of the data collection agency *Norstat* and its collaborator in the United States, *Research Now*. In both countries, we recruited 1000 participants for the main experiment, who constitute a largely representative sample (+ 18 years old) on observable characteristics (age, gender, and geography). Table 2 provides an overview of the background characteristics of the spectators in the United States and in Norway, and a comparison of the two samples with population data.[4] We observe that both samples are almost gender balanced, with slightly more females in the United States sample and slightly more males in the Norway sample. The Norway sample is somewhat older than the United States sample and also older than the population in Norway. The samples are relatively similar in terms of education, but higher educated individuals are overrepresented in both countries. The United States sample has a somewhat higher average income than the Norway sample and the population in the United States, while the income distribution is more compressed in the Norway sample. The share of conservatives (defined as someone who would vote Republican in the United States or one of the two right-wing parties in Norway) is almost the same in the two countries and close to the population data. To study the robustness of our results to these differences between the sample populations and the target populations, we report inverse probability weighted estimates for our main results.

[ Table 2 about here]

The spectators were randomly assigned to one of three treatments. Each spectator was matched with a unique pair of workers and decided whether and how much of the initial earnings to redistribute.[5] It was emphasized to the spectators that in contrast to traditional survey questions, their choice would have consequences for a real-life situation. They were fully informed about the information that had been provided to the workers. Importantly, the experimental design ensured that the spectators in the United States and in Norway faced *identical distributive situations* and were given the *exact same information* about the *source of inequality* and the *cost of redistribution*. Some features of the information given to the spectators are important for the interpretation of our result. First, the spectators were informed that we had not announced the payment for the assignment to the workers in advance, which removed the possibility that spectators held different beliefs about the choice of effort across treatments. Second, the spectators were instructed that the workers would not at any point be informed about their earnings: we did this in order to minimize the role of worker expectations in the spectator choice and thereby to identify better the fairness considerations of the spectators. Third, the spectators had no information about the nationality of the workers, and thus there is no reason to expect that the Americans or the Norwegians felt closer to the workers. Overall, the aim was to have an experimental design that allowed us to compare social preferences between the United States and Norway as cleanly as possible, and to identify the importance of the source of inequality and the cost of redistribution for inequality acceptance.

[4] See Table A2 for definitions of the different background variables and Table A3 for a more detailed description of the sample.

[5] One spectator decision was applied twice, because we had 2001 unique distributive situations and 2000 spectators.

## 2.3 The treatments

In all treatments, the initial distribution of earnings was the same: one worker had earned all the money, and the other worker had earned nothing (6 USD, 0 USD). The task of the spectators was to determine whether to redistribute some of the initial earnings from the worker with 6 USD to the worker with 0 USD, where the treatments only differed with respect to the source of the inequality in earnings or the cost of redistribution. We now provide a detailed discussion of each treatment, referred to as the *Luck*, *Merit*, and *Efficiency* treatments.

In the Luck treatment, which in the following analysis will serve as the base treatment, the spectators were informed that the initial earnings for the assignment had been determined by a lottery. The worker winning the lottery had been assigned 6 USD, and the other worker had been assigned 0 USD. It was also explained to the spectators that the workers had not been informed about the outcome of the lottery but had only been told that a third person, the spectator, would be informed and would be given the opportunity to redistribute the initial earnings. The spectators could choose not to redistribute – i.e., choose the income distribution (6,0) – or to redistribute and choose one of the following income distributions: (5,1), (4,2), (3,3), (2,4), (1,5), or (0,6). In the Luck treatment, there was no cost of redistribution, so that the total income to the two workers would always be 6 USD.

In the Merit and Efficiency treatments, we manipulated the source of inequality and the cost of redistribution, respectively.[6] In the Merit treatment, the initial assignment of earnings was determined by the productivity of the workers. The more productive worker in the pair was assigned 6 USD, whereas the less productive worker was assigned 0 USD. The source of inequality in the initial assignment of earnings was thus a difference in productivity rather than luck. In all other respects, the Merit treatment was identical to the Luck treatment. In particular, the workers had not been informed about the initial assignment of earnings, and there was no cost of redistribution.

The Efficiency treatment only differed from the Luck treatment with respect to the cost of redistribution, which was equal to 100% of the transferred amount: for each dollar redistributed, the income to the lucky worker with earnings would be reduced by two dollars. The spectator thus could choose not to redistribute – i.e., to keep the income distribution (6,0) – or to redistribute and choose one of the following income distributions: (4,1), (2,2), (0,3).

The three treatments can be summarized as follows:

- **Luck treatment (*L*):** The spectator chooses payments in a distributive situation where *luck* is the source of inequality and there is *no cost of redistribution*.
- **Merit treatment (*M*):** The spectator chooses payments in a distributive situation where *a difference in productivity* is the source of inequality and there is *no cost of redistribution*.
- **Efficiency treatment (*E*):** The spectator chooses payments in a distributive situation where *luck* is the source of inequality and there is *a significant cost of redistribution*.

[6]The workers completed two sentence-unscrambling tasks and a code recognition task. We only measured performance in the code recognition task, which was then used for the Merit treatment. In the two other treatments, we used the sentence unscrambling task. The nature of the task was not revealed to the spectators.

By comparing the distributive behavior of the spectators in the Luck treatment and the Merit treatment, we are able to identify the causal effect of varying the source of inequality (luck versus a difference in productivity) on the level of redistribution. Correspondingly, by comparing the distributive behavior of the spectators in the Luck treatment and the Efficiency treatment, we are able to identify the causal effect of introducing a significant cost of redistribution.

The treatments are also illuminating for the comparison between the United States and Norway. By comparing the merit treatment effect for the American spectators with the merit treatment effect for the Norwegian spectators, we can test whether the Americans are more meritocratic than the Norwegians. Furthermore, by comparing the efficiency treatment effect for the American spectators with the efficiency treatment effect for the Norwegian spectators, we can test whether the Americans are more efficiency-seeking than the Norwegians.

### 2.4 Follow-up study

In a follow-up study, we recruited 1340 spectators, equally many from each of the two countries, and 2680 workers, following the same procedures as in the main study. The purpose of the follow-up study was to investigate the robustness of our results, particularly with respect to the instructions given to the spectators about the information that the workers had about their initial earnings. We implemented two versions of the Luck treatment: a replication of the original Luck treatment where spectators were instructed that the workers would not be informed about their initial earnings, and a treatment variation where the spectators were instructed that the workers had been informed about their initial earnings (*Luck-info*). Both spectators and workers were randomly assigned to one of the treatments.[7] The comparison between these two treatments allows us to study whether information about initial earnings, which most likely affected the expectations of the workers, had any influence on the spectator decisions. In addition, the follow-up study provided a robustness check of the cross-country differences observed in the Luck treatment in the main study. Finally, in the follow-up study, we also collected data on how important the fairness view of a participant was for how they voted in the previous general elections.

## 3 Theoretical Framework

We here provide a simple social preference model to guide our analysis and the interpretation of the results, extending the spectator framework introduced in Cappelen et al. (2013a).

The spectator is informed about initial earnings and then decides on a distribution $(1-y,y)$ in treatment $j = L,M,E$, where $y$ is the share of total income to the worker with no pre-redistribution earnings. We assume that the spectator cares about fairness and efficiency, as captured by the following utility function:

$$V(y;\cdot) = -\frac{\beta}{2}(y - m(j))^2 - c(j)y, \tag{1}$$

[7] Each worker conducted one assignment and was paired with another worker in the same treatment. If the pair of workers were in the Luck-info treatment, they were, consistent with the spectator instructions, given information about who had won in the lottery and who had lost.

where $\beta \geq 0$ is the weight attached to fairness relative to efficiency, $m(j)$ is what the spectator considers to be the fair share to the worker with no pre-redistribution earnings in treatment $j$, and $c(j) \geq 0$ is the cost of redistribution in treatment $j$.[8]

The model captures that the social preferences of the spectators may differ in two respects: in what they consider a fair distribution of income, $m(\cdot)$, and in the importance they attach to fairness relative to efficiency, $\beta$. The optimal interior solution is given by:

$$y(j) = m(j) - \frac{c(j)}{\beta}. \tag{2}$$

It follows straightforwardly that if there is no cost of redistribution, then the spectator implements the fair solution; i.e. $y(j) = m(j)$. When there is a cost of redistribution, the spectator makes a tradeoff between fairness considerations and efficiency considerations. A spectator prefers to give nothing to the worker with no pre-redistribution earnings when $\beta \leq \frac{c}{m}$. A spectator who mainly cares about fairness assigns a share close to what he or she considers the fair distribution; i.e. $\beta \mapsto \infty$ implies that $y \mapsto m$.

We can now illustrate how the treatment comparisons in the experiment can be used to study the two dimensions of the spectator's social preferences captured by this model: the fairness view and the weight attached to fairness. It follows straightforwardly from the model that if there is a difference between the Merit treatment and the Luck treatment in the share given to the worker with no initial earnings, then this identifies that the source of inequality matters for the spectator's fairness view:

$$\textbf{Merit versus Luck:} \quad y(L) - y(M) = m(L) - m(M). \tag{3}$$

To study the weight attached to fairness relative to efficiency, we introduce the assumption that the cost of redistribution does not affect what the spectator views to be fair to give to the worker with no initial earnings, i.e., $m(L) = m(E)$.[9] It now follows from the model that any difference between the Luck treatment and the Efficiency treatment is driven by the cost of redistribution and the weight attached to fairness:

$$\textbf{Efficiency versus Luck:} \quad y(L) - y(E) = \frac{c(E)}{\beta}. \tag{4}$$

In the analysis, we also study the prevalence of specific fairness views among the spectators, where we focus on the most salient fairness views in this type of distributive situation (Cappelen et al., 2007; Almås et al., 2010; Cappelen et al., 2013a).[10]

[8] This formulation of the utility function assumes that the fair share is independent of the size of the total income. The assumption is only binding in the Efficiency treatment, where the cost of redistribution implies that total income may differ from total earnings.

[9] This assumption captures that fairness relates to the source of inequality, which is luck in both treatments, and is necessary in order to distinguish between fairness and efficiency considerations in the analysis.

[10] There is a rich literature in political philosophy and economics on how to understand these fairness views, see for example Arrow et al. (2000); Brennan et al. (2016). Our definitions only intend to capture features of these fairness views that are of relevance for the present study. In particular, our definition of libertarianism is an interpretation of the libertarian principle of non-interference, which is a central feature of libertarian theories of fairness and underlies the classical justification of a minimal state (Nozick, 1974). We agree with a referee that libertarian in this experiment is defined as finding the status quo given by the earnings distribution to be fair, which we consider to come close to the libertarian position on redistribution in society. In this respect, we interpret libertarians to consider individuals to have ownership of their earnings (also in cases where they are determined by luck), independent of whether they have complete information about their earnings.

- **Egalitarian fairness view:** it is fair that the workers receive the same income independent of their earnings; i.e., $m(L) = m(M) = m(C) = 1/2$.
- **Meritocratic fairness view:** it is fair that the more productive worker receives a higher income than the less productive worker, but income inequalities due to luck are not fair; i.e., $m(M) < 1/2$ and $m(L) = m(C) = 1/2$.
- **Libertarian fairness view:** it is fair that the incomes of the workers are equal to their earnings; i.e., $m(L) = m(M) = m(C) = 0$.

The egalitarian fairness view considers it fair to divide equally in both the Merit treatment and the Luck treatment, while the libertarian fairness view considers it fair that the workers receive their earnings in all treatments. Only the meritocratic fairness view assigns importance to the source of inequality, where inequality due to luck is considered unfair, whereas inequality due to merit is considered fair.

A difference in behavior between the Merit treatment and Luck treatments has to be driven by the spectators with a meritocratic fairness ideal, while a difference in behavior between the Luck treatment and the Efficiency treatment has to be driven by the meritocratic and the egalitarian spectators. Spectators with a libertarian fairness view do not face a tradeoff between fairness considerations and efficiency considerations in the Efficiency treatment, because for them, the fair and efficient distribution coincide.[11] Hence, the effect of introducing a cost of redistribution depends both on how many of the spectators are non-libertarian and on the relative importance that these spectators assign to efficiency.[12]

The theoretical framework is illuminating for the comparison of the social preferences of Americans and Norwegians. First, it follows from (3) that a country difference in the merit treatment effect reflects that Americans and Norwegians differ in their fairness views. In particular, if there are more meritocrats in the United States than in Norway, then the model predicts a greater merit treatment effect for the American spectators than for the Norwegian spectators. Second, it follows from (4) that if the spectators are at an interior solution, then a country difference in the efficiency treatment effect reflects a difference between Americans and Norwegians in the weight that they attach to fairness. In particular, if Americans assign less weight to fairness relative to efficiency than do Norwegians, then the model predicts a greater efficiency treatment effect in the United States than in Norway. However, the two countries may also differ in the share of spectators who actually make a tradeoff between fairness and efficiency. Specifically, if there are more libertarians in the United States than in Norway, then the model predicts a smaller efficiency treatment effect in the United States than in Norway.

[11] Note that this coincidence is inherent in the libertarian fairness view and is not a feature of our specific experimental design: the libertarian fairness view would consider any pre-redistribution distribution of income between the two workers to be fair.

[12] An alternative approach would be to model the spectators as utilitarians. There are two main implications of utilitarian reasoning for the present study. First, the utilitarian framework does not assign normative importance to the source of inequality, and thus there should be no difference in spectator behavior between the Luck treatment and the Merit treatment. Second, assuming a concave utility function, a utilitarian would equalize completely when there is no cost of redistribution but make a trade-off between the cost of redistribution and equalization in the Efficiency treatment. Our results are not in line with these implications and thus suggest that the participants are not utilitarians.

# 4 Empirical Strategy

The empirical strategy for the main study was specified in a pre-analysis plan that was registered at the AER RCT Registry before we analyzed the data, and included pre-specification of the different hypotheses to be tested, of the regression approach, and of the dimensions to be studied in the heterogeneity analysis.[13]

## 4.1 Main analysis

Our main variable of interest is the inequality implemented by spectator $i$, which is measured as follows:

$$e_i = \frac{|Income\ Worker\ A_i - Income\ Worker\ B_i|}{Total\ Income} = |1-2y_i| \in [0,1], \tag{5}$$

where $Worker\ A_i$ is the worker with high pre-redistribution earnings. This inequality measure is equivalent to the Gini coefficient in the two-person situations considered by the spectators. The income inequality is equal to one if a spectator does not redistribute any earnings, and equal to zero if the spectator decides to equalize completely the incomes of the two workers.

The main empirical specification used in the analysis is:

$$e_i = \alpha + \alpha_M M_i + \alpha_E E_i + \delta N_i + \delta_M M_i N_i + \delta_E E_i N_i + \gamma \mathbf{X}_i + \varepsilon_i, \tag{6}$$

where $e_i$ is the income inequality implemented by spectator $i$, $M_i$ and $E_i$ are indicator variables for spectator $i$ being in the Merit or Efficiency treatment, $N_i$ is an indicator variable for spectator $i$ being from Norway, $M_i N_i$ and $E_i N_i$ are interactions between the treatment indicator variables and the country indicator variable, and $\mathbf{X}_i$ is a vector of control variables including income, education, gender, political affiliation, and age. Although our main specification includes the control variables, we also report and discuss results for regressions without control variables. The Luck treatment is the reference category in (6), and the estimates are therefore to be interpreted relative to a baseline situation where luck is the source of inequality and there is no cost of redistribution.

We further provide estimates of the prevalence of the different fairness views in the two countries. This part of the analysis was not specified in the pre-analysis plan, but builds on our previous work on fairness preferences (Cappelen et al., 2007; Almås et al., 2010; Cappelen et al., 2013b). We focus on estimating the shares of egalitarians, libertarians, and meritocrats in the sample, where we rely on the behavior in the Merit treatment and the Luck treatment. The prevalence of each of the three fairness views is estimated in the following way:

- **Egalitarians**: the share of egalitarians is given by the share of spectators dividing equally in the Merit treatment.
- **Meritocrats**: the share of meritocrats is given by the difference between the share of spectators allocating more to the more productive worker in the Merit treatment and the share of spectators allocating more to the lucky worker in the Luck treatment.

[13] https://www.socialscienceregistry.org/trials/487/history/2506.

- **Libertarians**: the share of libertarians is given by the share of spectators allocating everything to the lucky worker in the Luck treatment.

The share of spectators who are not classified by this procedure is referred to as having **Other** fairness views.[14]

Finally, we analyze whether there is an association between the level of inequality implemented by a spectator in the experiment and the spectator's attitude toward redistribution in society. In the survey, we asked the spectators to indicate the extent to which they agree that society should aim to equalize incomes (1 –10; 1: completely agree, 10: completely disagree), and we study whether spectators that are more in agreement with society equalizing incomes implement less inequality in the experiment. We provide a discussion of the main finding of this analysis in the paper, while the detailed regression analysis is reported in Appendix A.

## 4.2 Heterogeneity analysis

We study heterogeneity in social preferences in the United States and Norway using the background data collected in the survey, where, as pre-specified, we focus on political orientation, socioeconomic status, and gender. Specifically, we test whether there are differences in social preferences between conservatives and non-conservatives, high and low socioeconomic status individuals (education), and males and females.[15]

The heterogeneity analysis is conducted by estimating the following regression for each of the three background variables:

$$\begin{aligned} e_i = \alpha + \alpha^B B_i + \alpha_M M_i + \alpha_M^B M_i B_i + \alpha_E E_i + \alpha_E^B E_i B_i \\ + \delta N_i + \delta^B B_i N_i + \delta_M M_i N_i + \delta_M^B M_i B_i N_i + \delta_E E_i N_i + \delta_E^B E_i B_i N_i + \gamma \mathbf{X}_i + \varepsilon_i, \quad (7) \end{aligned}$$

where $B_i$ is an indicator variable for spectator $i$ either being conservative, having high education, or being female. In this regression, $\mathbf{X}_i$ includes all background variables except the variable captured by $B_i$. In addition to the variables included in (6), this regression also includes interactions between the background indicator variable and the treatment indicator variable, $M_i B_i$ and $E_i B_i$, an interaction between the background indicator variable and the country indicator variable, $B_i N_i$, and triple interactions including the background indicator variable, the treatment indicator variable, and the country indicator variable, $M_i B_i N_i$ and $E_i B_i N_i$.

# 5 Results

We first provide an overview of the spectator choices in the experiment and then turn to the main analysis of the treatment effects, the prevalence of the different fairness views, and the heterogeneity analysis.

[14] In Section A.1, we provide a further discussion of our estimation of fairness types.

[15] We deviate slightly from the pre-analysis plan in the heterogeneity analysis for education: we pre-specified three educational categories (not completed high school, completed high school, and higher education) but only use two in the main analysis (because there are very few participants who had not completed high school). In the pre-analysis plan, we also specified that we would conduct a heterogeneity analysis on income, but almost 20% of the participants did not self-report income. The findings from the heterogeneity analysis are robust to the inclusion of income.

## 5.1 Descriptive statistics

Figure 2 provides histograms of the spectator choices across all treatments, by country and pooled. We observe that 52.8% of the spectators equalize completely between the two workers, while 23.6% do not redistribute at all. The worker with no initial earnings receives on average 34% of the total income, but less than 1% of the spectators assign a higher income to this worker.

[ Figure 2 about here]

There are large differences between the Americans and the Norwegians in the data pooled across treatments. Americans are much less likely to divide equally than are Norwegians (42.3% versus 63.3%), much more likely not to redistribute (32.4% versus 14.8%), and on average give significantly less to the worker with no initial earnings (29.2% versus 38.9%).

## 5.2 Main Analysis

We now turn to an analysis of how implemented inequality depends on the treatment, the nationality of the spectator, and the interaction between treatment and nationality.

In Figure 3, we report the average level of inequality implemented in each of the three treatments, pooled for the two countries and by country. Overall, we observe that there is significantly more inequality acceptance when merit rather than luck is the source of inequality, while the introduction of efficiency considerations does not make the spectators more willing to accept inequalities. These patterns emerge in both countries. We also observe that Norwegians implement significantly less inequality than Americans in all three treatments (in each case, $p < 0.001$).[16]

[ Figure 3 about here]

Table 3 reports the corresponding regressions of implemented inequality on the treatment indicators, separately for each of the two countries (columns 1–4) and for the data pooled for the two countries with interaction effects for Norway (columns 5–6).[17] Column 6 is our main specification and corresponds to equation 6 in Section 4. The Luck treatment is the reference category in the regressions, which means that the estimated treatment effects show how much the inequality measure (the Gini coefficient) increases when we replace luck with merit as the source of inequality or introduce a cost of redistribution.

[ Table 3 about here]

[16] In Figure A1, we provide histograms of the distributive situations by country and treatments. In both countries, complete equalization is the mode when luck is the source of inequality, while only a minority equalizes when a difference in productivity is the source of inequality (United States: 53.5% versus 15.3%; Norway: 78.4% versus 35.6%). In contrast, comparing the Luck treatment and the Efficiency treatment, we observe that the introduction of a cost of redistribution only marginally changes the share of spectators equalizing completely (United States: 53.5% versus 58.1%; Norway: 78.4% versus 76.0%).

[17] For a more detailed regression analysis of the pooled data, see Table A4. The results are also robust to the inclusion of non-linear age controls, see Table A5.

In columns 1 and 3, we observe strikingly similar patterns for the Americans and the Norwegians. In both countries, the estimated causal effect of replacing luck with merit as the source of inequality is large and highly significant: it increases implemented inequality by 0.195 (United States, $p < 0.001$) and 0.152 (Norway, $p < 0.001$). In contrast, the estimated causal effect of introducing a cost of redistribution is small and only marginally significant for Norwegians: it increases implemented inequality by 0.011 (United States, $p = 0.774$) and 0.049 (Norway, $p = 0.073$). The estimated treatment effects are virtually unaffected when we control for the background variables, as shown in columns 2 and 4. In columns 5 and 6, which use the pooled data, we observe that the indicator variable for Norway is highly significant ($p < 0.001$), but the estimated interaction effects are not.

In Table A6, we show that these results are robust to re-weighting the sample to match the sample shares on the different background characteristics with the population data, and in Table A7 and Table A8, we show that the results are robust to multiple testing adjustments, with the exception that the efficiency treatment effect in Norway is no longer significant.[18] On the basis of this analysis, we can report our first set of results:

**Result 1:** *Merit instead of luck as the source of inequality* causes a large and statistically significant increase in inequality acceptance in both the United States and Norway. The estimated *country difference in the merit treatment effect* is not statistically significant.

**Result 2:** *A cost of redistribution* causes no statistically significant increase in inequality acceptance in the United States and Norway. The estimated *country difference in the efficiency treatment effect* is not statistically significant.

**Result 3:** There is *systematically more inequality acceptance* in the United States than in Norway; the Americans implement more inequality than the Norwegians in all three treatments.

Results 1 and 2 suggest that the source of inequality is much more important than efficiency considerations for inequality acceptance. The differences in the estimated treatment effects are highly significant for both countries ($p < 0.001$), which is striking given the fact that we introduce a significant cost of redistribution in the experiment. Result 3 demonstrates that Americans are significantly more willing to accept inequality than are Norwegians, even when they make distributive decisions in *identical* economic environments. In the follow-up study, we replicate the large difference in inequality acceptance between the United States and Norway, and show that spectator behavior is virtually unaffected by the spectators being told that the workers have been informed about their initial earnings, see Figure A2.[19]

In terms of the theoretical model (1), our results show that the main difference between the American spectators and the Norwegian spectators is what they view as a fair distribution of income ($m$), not how much weight they assign to fairness relative to efficiency ($\beta$). To study further how Americans and Norwegians differ in their fairness considerations, we use the spectator choices in the Luck and Merit treatments to estimate the prevalence of the different fairness views in the populations.

[18] In the multiple testing adjustments, we report several different approaches. In the main text, our reference is to the adjusted p-values established by the approach used in Romano and Wolf (2016).

[19] In Figure A3, we show the distribution of the spectator choices in the follow-up study.

[ Figure 4 about here]

As shown in Figure 4, we find large differences between the United States and Norway in the distribution of fairness views. The share of libertarians in the United States is more than twice the share of libertarians in Norway (29.4% versus 13.8%, $p < 0.001$), while the share of egalitarians in Norway is more than twice the share of egalitarians in the United States (15.3% versus 35.6%, $p < 0.001$). However, in both countries, we observe that meritocratism is the most prevalent fairness view (37.5% and 42.5%), with no significant difference in the share of meritocrats between the two countries ($p = 0.313$).[20] We estimate a small minority to hold other fairness views. These findings are robust to multiple testing adjustments, as shown in Table A9, and can be summarized as follows:

**Result 4:** There are *large differences in fairness views* between the United States and Norway, with significantly more libertarians in the United States and significantly more egalitarians in Norway. There is no significant difference between the two countries in the prevalence of meritocrats.

In line with the theoretical predictions in Section 3, the large share of libertarians in the United States may contribute to explain the absence of an efficiency effect among the American spectators.

## 5.3 Heterogeneity Analysis

We now turn to an analysis of the distributive behavior of different subgroups of spectators. As specified in the pre-analysis plan, the heterogeneity analysis focuses on political orientation, socioeconomic status (education), and gender, which are three dimensions of great interest in the study of fairness preferences. Political orientation is important because it allows us to shed light on the role of fairness preferences in voting behavior and more generally to examine the association between redistributive preferences and political affiliation. Socioeconomic status is interesting because it allows us to study the extent to which there is a self-serving bias in people's fairness preferences in the sense that high socioeconomic individuals are less egalitarian in their fairness views than are low socioeconomic individuals (Almås et al., 2017). Gender is relevant because it is a main focus for economists in a number of domains (Croson and Gneezy, 2009), including in education and labor markets, and fairness preferences may possibly be shaped by gender inequalities (Falk and Hermle, 2018).

We first consider subgroup differences in implemented inequality. In Table 3, we observe that in both the United States and Norway, conservatives implement significantly more inequality than non-conservatives. In the United States, the average level of implemented inequality by conservatives and non-conservatives is 0.506 and 0.399, respectively ($p < 0.001$), and, interestingly, we observe almost the same political difference in Norway, 0.322 versus 0.193 ($p < 0.001$). In Figure A4, we show that this political

[20] As suggested by a referee, an alternative approach to measuring the strength of meritocratism is to consider how much more the worker with earnings receives in income when the source of inequality is luck rather than merit. In Table A10, we show that this approach also supports the conclusion that meritocratism is equally prominent in the two countries: the income of the person with earnings increases by 14.19% in the United States and by 13.02% in Norway in the Merit treatment compared to the Luck treatment ($p = 0.785$).

difference applies to all treatments.[21] We further observe from Table 3 that females in both countries implement significantly less inequality than males (United States: 0.487 versus 0.380, $p < 0.001$; Norway: 0.264 versus 0.204, $p = 0.008$). From Figure A4, we observe that this gender pattern is consistent across treatments in the United States, while the gender effect mainly applies to the Efficiency treatment in Norway. Interestingly, the association between socioeconomic status and implemented inequality is less systematic. We find that Americans with high education on average implement more inequality in the experiment, which is consistent with a self-serving bias in the participants' fairness views (Babcock et al., 1995; Dana et al., 2007). In contrast, we find no association between the level of implemented inequality and socioeconomic status in Norway. As we show in Table A11, these subgroup findings on implemented inequality are robust to multiple hypothesis adjustments, and thus we can summarize this analysis as follows:

**Result 5:** There are significant *heterogeneities* in the spectator choices:

- **Political orientation:** Conservative spectators are systematically more accepting of inequality than non-conservative spectators in both countries.
- **Socioeconomic status:** High education spectators are more accepting of inequality than low education spectators in the United States, but there is no association between socioeconomic background and inequality acceptance in Norway.
- **Gender:** Female spectators are systematically less accepting of inequality than male spectators in both countries.

We now turn to an analysis of how the background variables interact with the treatments, as reported in Table 4.[22] We observe that the treatment effects are remarkably consistent across subgroups: merit instead of luck as the source of inequality causes a large and statistically significant increase in inequality acceptance in all subgroups (in all cases, $p < 0.001$ except for low education, $p = 0.014$), while a cost of redistribution causes no statistically significant increase in inequality acceptance in any subgroup, except for conservatives ($p = 0.05$) and males ($p = 0.024$) in Norway. As shown in Table A14, adjusting for multiple testing strengthens the contrast between the strong merit effect and the absence of an efficiency effect: the merit effect is robust for all subgroups except for low education in the United States, while the efficiency effect is not robust for any of the subgroups.

[ Table 4 about here]

Table 4 reports some statistically significant interaction effects. In the United States, we find a socioeconomic gradient in the merit treatment effect, where the increase in inequality acceptance among spectators with high education is significantly stronger than for spectators with low education ($p = 0.047$). In terms of comparing treatment effects for subgroups across countries, we observe that the socioeconomic gradient in the merit effect is significantly stronger in the United States than in Norway ($p = 0.075$). However, as we show in Table A15 and Table A16, none of these effects are robust to multiple

[21] In Figure A5, we show that the pattern for political orientation is robust to a stricter definition of non-conservatives.

[22] We report the full set of estimates in Table A12 and the corresponding regressions without controls in Table A13. In Figure A6, we report the distribution of fairness views by subgroup.

testing adjustments, and thus we should mainly consider them as explorative findings that may inspire further research.

Finally, Table 4 also facilitates a comparison of subgroups in the United States and Norway in terms of inequality acceptance in the different treatments. Strikingly, we find that for all subgroups and all treatments, the Americans implement significantly more inequality than the Norwegians (in all cases, $p < 0.001$, except for conservatives in the Efficiency treatment, $p = 0.082$, and low education in the Merit treatment, $p = 0.07$). As shown in Table A17, these patterns are robust to multiple testing adjustments.

Taken together, the heterogeneity analysis of the treatments provides strong support for our main findings (Results 1–3):

**Result 6:** The estimated merit and efficiency treatment effects and the comparison of the United States and Norway in terms of inequality acceptance are *robust across subgroups*.

# 6 Concluding Remarks

The paper reports from a large-scale comparative economic experiment on social preferences that used heterogenous samples of participants from two countries, the United States and Norway. We find that Americans and Norwegians differ significantly in their distributive behavior, even when they make choices in identical situations. In all treatments, the American spectators implement significantly more inequality than the Norwegian spectators. We show that the difference in inequality acceptance is largely driven by Americans and Norwegians having different fairness views; significantly more Americans endorse a libertarian fairness view, while significantly more Norwegians endorse an egalitarian fairness view. In fact, we find that the difference in inequality acceptance between the United States and Norway is significantly greater than the political difference in inequality acceptance within each of the two countries. To illustrate, the difference between Americans and Norwegians in implemented income inequality across all treatments (0.43 versus 0.24) is substantially larger than the difference between conservatives and non-conservatives in each of the two countries (United States: 0.51 versus 0.40; Norway: 0.32 versus 0.19).[23]

To study whether the distributive behavior in the experiment is associated with the participants' attitudes to redistributive policies, we asked them at the end of the experiment about their view on whether a society should aim to equalize incomes. As shown in the upper part of Figure 5, Americans and Norwegians respond very differently. The mode among the Americans is to *completely* agree with the statement that a society *should not* equalize incomes, while the mode among the Norwegians is to *completely* agree with the statement that a society *should* equalize incomes.

[ Figure 5 about here]

[23] As pointed out by a referee, this finding might reflect that political affiliation is subject to substantial measurement error that does not occur in the case of country affiliation. In Section A.2, we establish that the political misreporting has to be extensive to undermine our finding. To illustrate this, assume that the misreporting reflects unbiased noise, where some of the participation randomize when reporting their political affiliation. In this case, we show that about 60% and 40 percent% of the conservatives in the United States and Norway, respectively,would need to randomize their political affiliation response to undermine the finding.

In the bottom part of Figure 5, we show that these views are strongly associated with the distributive behavior in the experiment.[24] Spectators implementing more inequality are significantly more likely to be against equalizing incomes in society. Interestingly, we also observe that the relationship between the experimental data and the survey data is equally strong for the two countries, which indicates that fairness considerations matter equally for attitudes toward redistribution in the United States and in Norway. Finally, in the follow up study, we find that people's view of what is a fair income distribution is important for how they vote in elections. In both the United States and Norway, the large majority state that their fairness view is very or moderately important for their voting behavior (United States: 73.4%; Norway: 68.2%), while only a minority find it to be of little or no importance, see Figure A7.

Our findings suggest that heterogeneity in fairness preferences may be an important reason for the variation in income inequality and redistributive policies across the developed world (Alesina and Giuliano, 2011).[25] The fact that egalitarianism is a more prominent fairness view in the Scandinavian countries and libertarianism is a more prominent fairness view in the United States may contribute to explaining why the Scandinavian countries, with lower pre-tax inequality, redistribute more than the United States: Scandinavians may consider the lower level of pre-tax income inequality in their society to be more unfair than Americans consider the higher level of pre-tax income inequality in their society. Consequently, if political support for redistribution is partly determined by fairness considerations, as suggested by our findings in the follow-up study, then it is not surprising to see more political support for redistribution in Scandinavia than in the United States. An interesting topic for future research would be to study whether the variation in redistributive policies across societies is more strongly associated with how unfair the pre-tax income inequality is perceived to be in different societies than with the actual levels of pre-tax income inequality (Almås et al., 2011). The observed differences in fairness preferences can also shed important light on differences in political support for early childhood interventions in the United States and Scandinavia. The lower acceptance among Scandinavians than among Americans of inequalities reflecting luck may contribute to explain why there is greater support in Scandinavia than in the United States for policies aimed at reducing the accident of birth as a source of inequality (Heckman, 2013).

The present study complements previous important studies that have focused on the role of individual beliefs in explaining differences in redistributive institutions across societies (Alesina and Angeletos, 2005; Bénabou and Tirole, 2006; Piketty, 1995). We find that meritocratism is the most prevalent fairness view in both the United States and Norway, which is consistent with the beliefs people have about the source of income inequality being important in shaping the political support for redistribution in society. An interesting step for future research would be to develop models that can shed light on how fairness preferences and beliefs interact in determining support for redistribution.

We find that efficiency considerations play a minor role in explaining inequality acceptance in the experiment, which suggests that efficiency considerations are less important than fairness considerations in shaping political attitudes to redistribution. Hence, there seems to be an intriguing discrepancy between the great focus on the equality–efficiency

[24] In Table A18, we provide the corresponding regressions.

[25] The importance of fairness preferences for political outcomes is also illustrated in recent important work by Passarelli and Tabellini (2017).

tradeoff in economics and what motivates the distributive behavior of people in general.[26] In the experimental literature there is mixed evidence of the importance of efficiency considerations in explaining distributive behavior (Andreoni and Miller, 2002; Charness and Rabin, 2002; Engelmann and Strobel, 2004; Fisman et al., 2015), which may reflect differences in the experimental designs. While the present study uses a between-individual spectator design, most of the other studies in the literature use a within-individual stakeholder design. We believe that both designs may capture important features of real life decision making. It would therefore be interesting in future research to study systematically how the importance of efficiency considerations varies with the role of the decision-maker and the context of the distributive decision.

The present study robustly demonstrates that most people do not consider all inequalities to be unfair. In particular, introducing a difference in productivity instead of luck as the source of inequality causes a large and statistically significant increase in inequality acceptance in all subgroups.[27] Hence, it is important to accommodate the distinction between fairness and equality in our social preference models. More research, however, is needed on how people make the distinction between fair and unfair inequalities. In particular, it is important to understand how people distinguish between different forms of luck, including accidents of birth (one's gender, race, parental wealth and such) and accidents of the environment (including labor market shocks, financial shocks, and so on). But it is also of great importance to understand how people conceptualize merit. In the Merit treatment, we focus on a distributive situation where the spectators only had information about who was more productive, not about the difference in productivity and not about their abilities and the effort that they exercised. Clearly, all these other dimensions may matter when someone considers whether an inequality is fair or unfair, and it is of great importance to understand how people handle these different dimensions in their moral considerations and how they vary across cultures and contexts.

We believe that the new experimental approach introduced in the present paper, combining the infrastructure of an international online market place and the infrastructure of a leading international data collection agency, opens up many avenues for future research. It can certainly facilitate studies that can extend and shed light on the robustness of our results, by varying the information offered to the spectators, the nature of the distributive situations, and the role of the decision-maker. However, this approach can also be used to study a wide range of other important topics, and we thus hope that it will become an important part of the experimental toolbox in economics.

We have shown that Americans accept significantly more inequality than Scandinavians, but our findings also challenge common perceptions of these societies in the public debate.[28] The United States is sometimes portrayed as representing cutthroat capitalism, but the present study clearly demonstrates that many Americans are concerned with unfair inequalities. In our experiment, *the majority* of Americans equalize completely when the

[26]It is interesting, however, to note that fairness, not efficiency, was the main concern of a group of 192 prominent economists, who during the financial crisis wrote an open letter to Congress regarding their concerns about the plan to finance the bailout (**Nocera, Joe**. 2008. "Economists of the World, Unite!". New York Times, September 25, 2008. http://executivesuite.blogs.nytimes.com/2008/09/25/economists-of-the-world-unite/).

[27]This finding may also have important implications for how we think about global inequality. As shown by Milanovic (2015), global inequalities may primarily be viewed as reflecting differences in luck. See also Fleurbaey (2008) for an overview of the normative literature on fairness and the source of inequality.

[28]See for example the recent report from the White House: https://www.whitehouse.gov/wp-content/uploads/2018/10/The-Opportunity-Costs-of-Socialism.pdf.

inequality is due to luck, even when there is a significant cost of redistribution. These findings are in line with recent survey evidence showing that the majority of Americans are indeed worried about unfair inequalities and demand policies that address them (Norton and Ariely, 2011; McCall, 2013). Our findings should also nuance the perception of the Scandinavian countries as representing cuddly socialism. We find that *a large majority* of Scandinavians accept inequalities due to a difference in productivity, what they object to are inequalities due to luck. Hence, the political support for an extensive welfare state in the Scandinavian countries may partly reflect that these policies are viewed as contributing to elimination of inequalities due to luck, without undermining inequalities due to productivity differences.

Finally, an important avenue for future research is to provide a better understanding of why we observe different fairness views in the United States and Scandinavia. In particular, it is of great importance to gain a better understanding of how political and economic institutions shape people's fairness preferences and of the mechanisms driving the co-evolution of social institutions and moral motivation.

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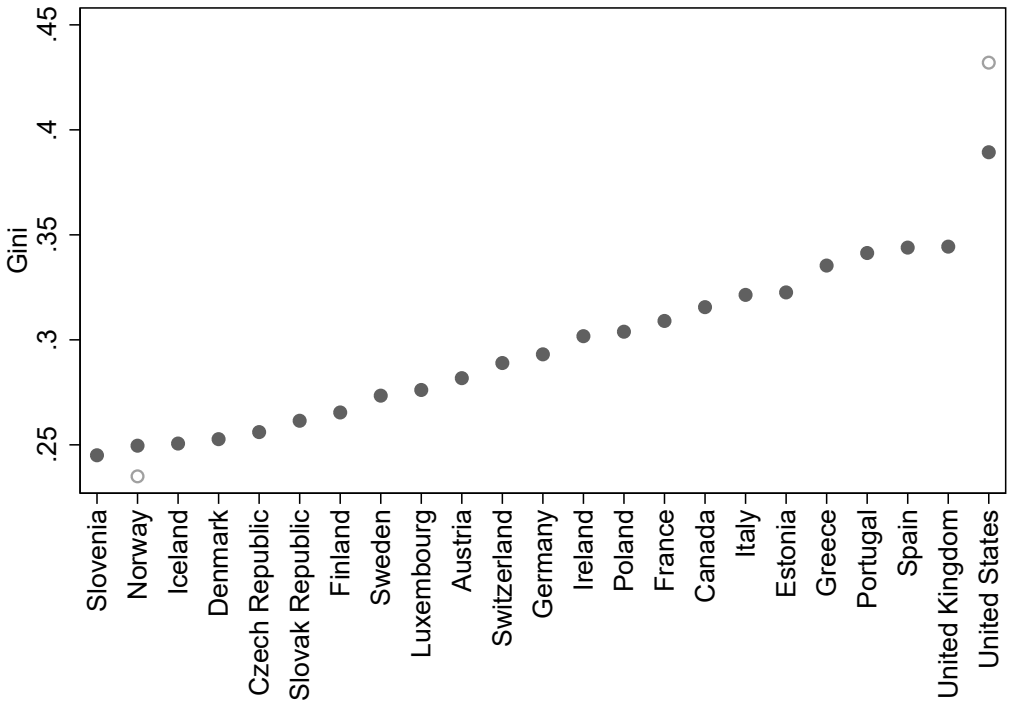
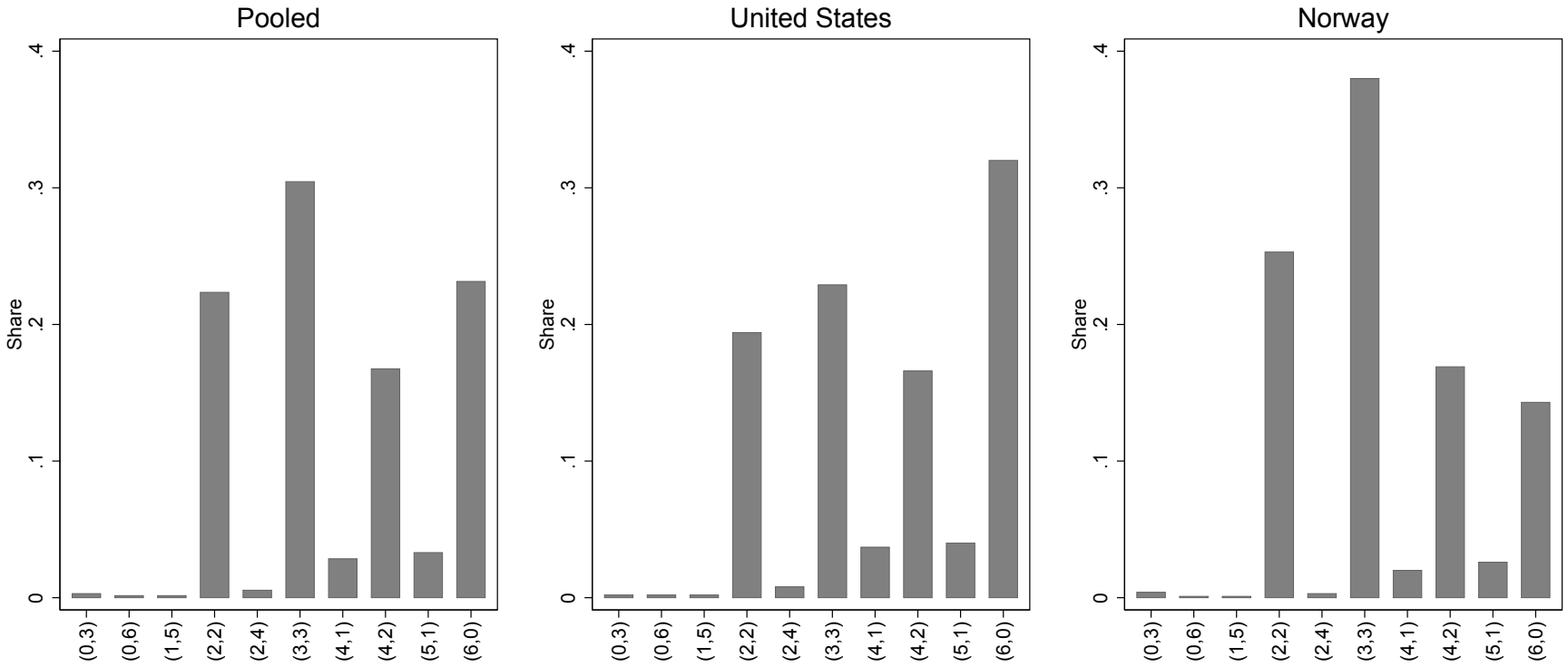
Figure 1: Income inequality in OECD countries



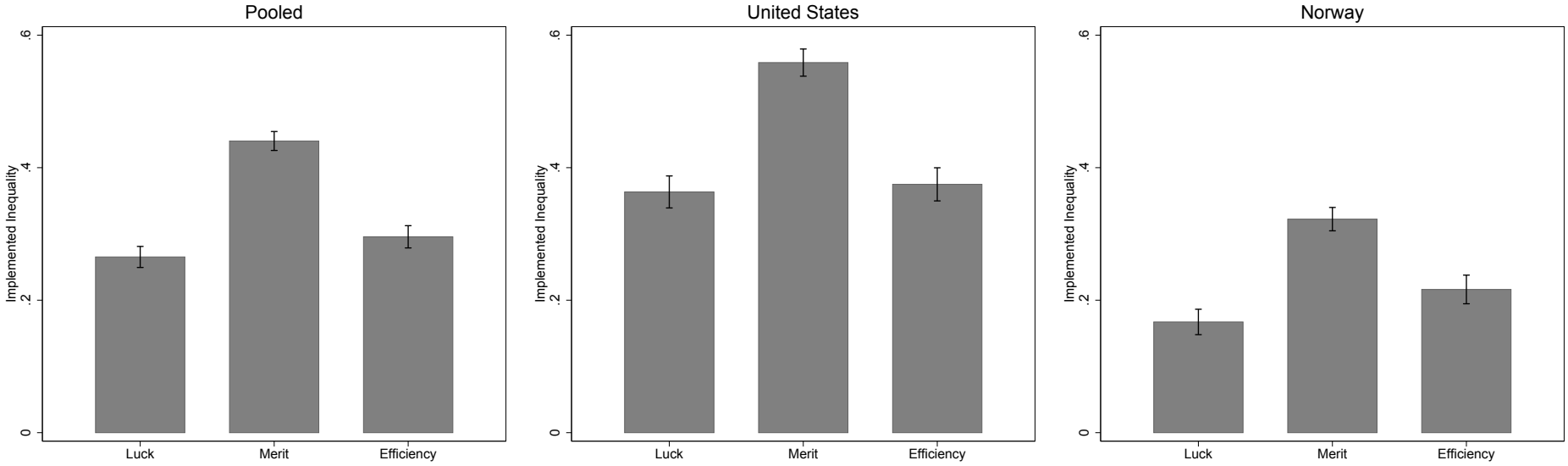

*Note:* The figure shows the Gini coefficient for disposable income for the countries in Europe and North America in which this index is available for 2011 from the OECD (OECD, 2015), as well as the average Gini coefficient implemented in the experiment for the United States and Norway. The Gini coefficient from the OECD is indicated by a solid circle, and the Gini coefficient from the experiment is indicated by a hollow circle.

Figure 2: Distribution of spectator choices



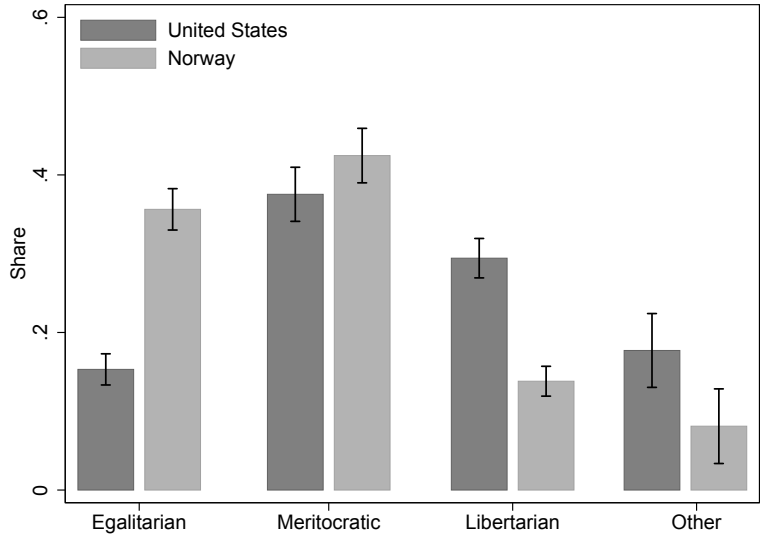

*Note:* The figure shows the distribution of the spectator choices, by country and pooled.

Figure 3: Implemented inequality in the United States and Norway



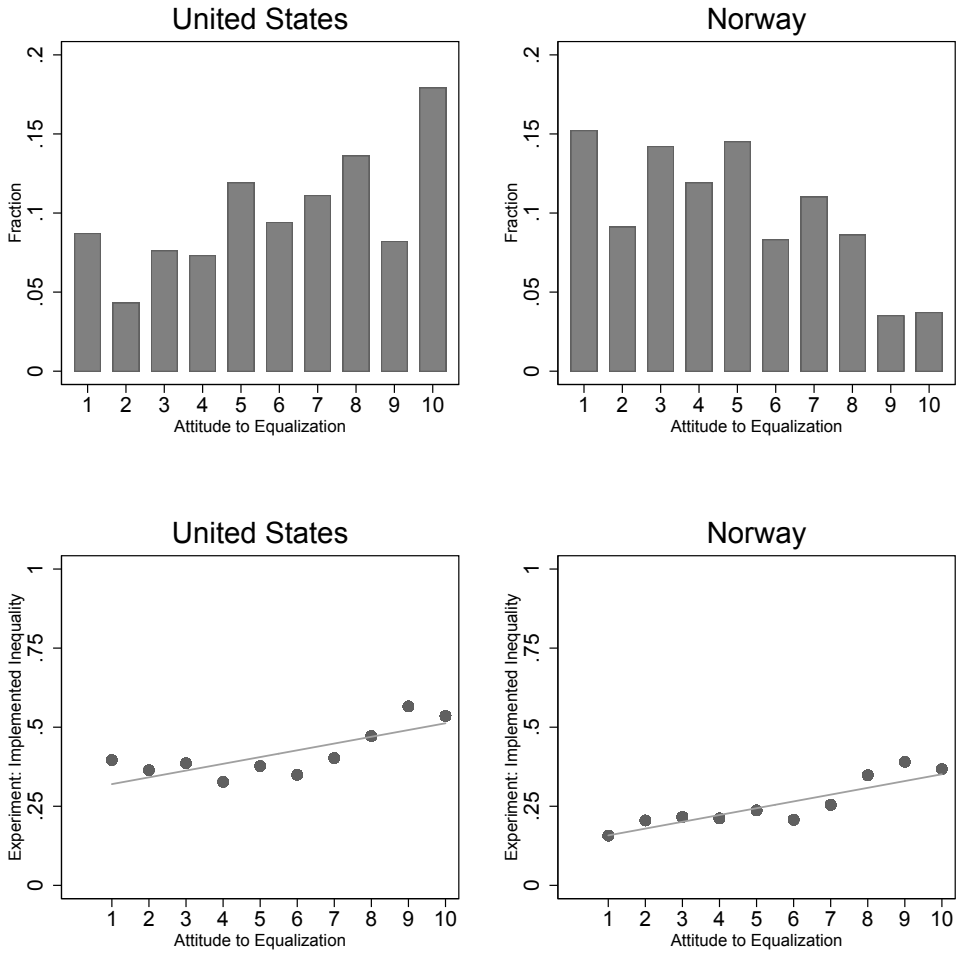

*Note:* The figure shows the average level of implemented inequality (as defined in Equation (5)) by the American and the Norwegian spectators in each of the three treatments. The standard errors are indicated by the bars.

Figure 4: Fairness types in the United States and Norway




*Note:* The figure shows the share of the different fairness types in Norway and the United States. The fairness types are defined in Section 3. The standard errors are indicated by the bars.

Figure 5: The general support for equalizing policies and implemented inequality in experiment




*Note:* The upper panel shows the distribution of general support for equalization in society measured by the survey question: We now want you to indicate to what extent you agree with the following statements: 1 means that you agree completely with the statement "A society should aim to equalize incomes," 10 means that you agree completely with the statement "A society should not aim to equalize incomes", and the numbers in between indicate the extent to which you agree or disagree with the statements. The lower panel shows the relation between implemented inequality in the experiment and the general support for redistribution revealed in the survey. The line represents the linear fit based on the individual observations (coefficient United States: 0.021, $p < 0.001$, coefficient Norway: 0.022, $p < 0.001$). The dots indicate the mean level of implemented inequality for each survey response on equalization on a scale from 1 to 10.

Table 1: Sequence of events in the experiment

| Stage of experiment |
| --- |
| 1. **Work stage:** Workers complete an assignment. |
| 2. **Earnings stage:** Workers matched in pairs. Assigned initial earnings according to treatment. |
| 3. **Redistribution stage:** Each spectator decides for one pair of workers whether and how much to redistribute. |
| 4. **Payment stage:** Workers in the pair paid according to the decision of the spectator. |

Table 2: Descriptive statistics: background variables for the spectator sample

| | Sample | | | Population | |
|---|---|---|---|---|---|
| | United States | Norway | P-value | United States | Norway |
| Female (share) | 51.1 | 47.5 | 0.107 | 51.6 | 50.0 |
| Age (years) | | | | | |
| Median | 44.0 | 53.0 | 0.000 | 45.8 | 45.5 |
| Education (share) | | | | | |
| Low education | 41.8 | 38.0 | 0.083 | 70.7 | 68.8 |
| High education | 58.2 | 62.0 | 0.083 | 29.3 | 31.2 |
| Household income (USD) | | | | | |
| Mean | 6781 | 5679 | 0.000 | 6312 | 6261 |
| Median | 5500 | 5385 | 0.697 | 4471 | 5050 |
| Conservative (share) | 31.1 | 33.1 | 0.338 | 27.0 | 34.1 |
| Number of observations | 1000 | 1000 | | | |

*Note:* The table displays descriptive statistics for the background variables of the spectator sample in the experiment and of the populations in the two countries. Education: a person is defined as having high education if he or she has completed at least a bachelor degree. Household Income: monthly pre-tax income in the household, PPP-adjusted for Norway. Conservative: a person is defined as conservative if he or she would have voted for the Republican Party (United States)/one of the two right-wing parties Høyre and Fremskrittpartiet (Norway). A detailed description of the data and sources are provided in Table A2.

Table 3: Regression results on implemented inequality

| | United States | United States | Norway | Norway | Pooled | Pooled |
|---|---|---|---|---|---|---|
| Merit | 0.195*** | 0.193*** | 0.155*** | 0.156*** | 0.195*** | 0.195*** |
| | (0.032) | (0.031) | (0.026) | (0.026) | (0.032) | (0.031) |
| Efficiency | 0.011 | 0.007 | 0.049* | 0.053* | 0.011 | 0.010 |
| | (0.035) | (0.034) | (0.029) | (0.029) | (0.035) | (0.034) |
| Merit x Norway | | | | | -0.040 | -0.043 |
| | | | | | (0.041) | (0.041) |
| Eff. x Norway | | | | | 0.038 | 0.041 |
| | | | | | (0.045) | (0.045) |
| Norway | | | | | -0.196*** | -0.205*** |
| | | | | | (0.031) | (0.031) |
| High income | | -0.021 | | -0.027 | | -0.016 |
| | | (0.030) | | (0.025) | | (0.019) |
| High education | | 0.049* | | 0.004 | | 0.027 |
| | | (0.027) | | (0.023) | | (0.018) |
| Female | | -0.102*** | | -0.054** | | -0.076*** |
| | | (0.027) | | (0.022) | | (0.018) |
| Conservative | | 0.086*** | | 0.122*** | | 0.106*** |
| | | (0.030) | | (0.025) | | (0.019) |
| Age | | 0.002** | | -0.001** | | 0.000 |
| | | (0.001) | | (0.001) | | (0.001) |
| Constant | 0.363*** | 0.283*** | 0.167*** | 0.230*** | 0.363*** | 0.348*** |
| | (0.024) | (0.045) | (0.019) | (0.046) | (0.024) | (0.036) |
| Observations | 1000 | 1000 | 1000 | 1000 | 2000 | 2000 |
| $R^2$ | 0.042 | 0.078 | 0.032 | 0.069 | 0.093 | 0.120 |
| Merit (Norway) | | | | | 0.155*** | 0.152*** |
| | | | | | (0.026) | (0.026) |
| Efficiency (Norway) | | | | | 0.049* | 0.051* |
| | | | | | (0.029) | (0.028) |

*Note:* The table reports results from robust OLS regressions of implemented inequality on a set of explanatory variables. "Merit" is an indicator variable taking the value one if the spectator is in the Merit treatment. "Efficiency" is an indicator variable taking the value one if the spectator is in the Efficiency treatment. "Norway" is an indicator variable taking the value one if a spectator is from Norway. "Merit x Norway" and "Efficiency x Norway" are interactions between the respective treatments and Norway. "High income" is an indicator variable for having income higher than the median in the country, "High education" is an indicator variable for having bachelor degree education or higher, "Female" is an indicator variable for being female, "Age" is given in years, and "Conservative" is an indicator variable for being conservative. The regressions also include an indicator variable for missing income (which takes the value one for 132 individuals in the United States and 200 individuals in Norway). Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Heterogeneity analysis on implemented inequality

| | Political (B = 1 if Conservative) | Education (B = 1 if High) | Gender (B = 1 if Female) |
|---|---|---|---|
| Merit | 0.182*** | 0.120** | 0.169*** |
| | (0.037) | (0.048) | (0.045) |
| Efficiency | 0.011 | 0.045 | 0.011 |
| | (0.041) | (0.053) | (0.050) |
| Merit x Norway | -0.043 | 0.051 | -0.042 |
| | (0.048) | (0.066) | (0.057) |
| Eff. x Norway | 0.011 | -0.004 | 0.083 |
| | (0.052) | (0.070) | (0.066) |
| Merit x B | 0.039 | 0.126** | 0.050 |
| | (0.068) | (0.063) | (0.062) |
| Eff. x B | -0.003 | -0.060 | -0.003 |
| | (0.076) | (0.070) | (0.069) |
| Merit x B x Norway | -0.001 | -0.150* | 0.003 |
| | (0.089) | (0.084) | (0.081) |
| Eff. x B x Norway | 0.093 | 0.079 | -0.086 |
| | (0.101) | (0.091) | (0.089) |
| B x Norway | -0.013 | -0.034 | 0.081 |
| | (0.068) | (0.062) | (0.061) |
| Norway | -0.201*** | -0.186*** | -0.244*** |
| | (0.036) | (0.047) | (0.044) |
| B | 0.085 | 0.033 | -0.118** |
| | (0.053) | (0.048) | (0.048) |
| Constant | 0.353*** | 0.341*** | 0.368*** |
| | (0.039) | (0.044) | (0.044) |
| Observations | 2000 | 2000 | 2000 |
| $R^2$ | 0.121 | 0.125 | 0.124 |
| With controls | X | X | X |
| Merit (US, B) | 0.221*** | 0.245*** | 0.219*** |
| | (0.057) | (0.041) | (0.043) |
| Efficiency (US, B) | 0.008 | -0.015 | 0.008 |
| | (0.064) | (0.045) | (0.047) |
| Merit (Norway, not B) | 0.140*** | 0.171*** | 0.127*** |
| | (0.031) | (0.045) | (0.035) |
| Merit (Norway, B) | 0.177*** | 0.146*** | 0.179*** |
| | (0.048) | (0.032) | (0.038) |
| Efficiency (Norway, not B) | 0.022 | 0.040 | 0.094** |
| | (0.032) | (0.046) | (0.043) |
| Efficiency (Norway, B) | 0.112** | 0.060 | 0.004 |
| | (0.057) | (0.036) | (0.038) |

*Note:* The table reports results from robust OLS regressions of implemented inequality on a set of explanatory variables and interactions with subgroups. B is an indicator variable taking the value 1 if the spectator is conservative (column 1), has high education (column 2) or is a female (column 3). In these regressions, we include all background variables used in Table 3, except the variable captured by B. All variables are defined as in Table 3. Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

# A Appendix for Online Publication

In this appendix, we provide some further discussion of our estimation approach for the prevalence of the different fairness views, report the p-values for Result 6, and provide additional tables and figures referred to in the paper or specified in the pre-analysis plan but not included in the main part of the paper.

## A.1 Estimation approach

We here provide a more detailed discussion of the estimation approach we use in the paper when studying the prevalence of the different fairness views in the sample.

When estimating the shares of egalitarians, libertarians, and meritocrats, we rely on the behavior in the Merit treatment and the Luck treatment. As we have a between-individual design, we need to introduce some minimal counterfactual assumptions on how behavior in one treatment is informative for how the spectator would have behaved in the other treatment:

- *Assumption 1*: If a spectator divides equally in the Merit treatment, then the spectator would also have divided equally in the Luck treatment.
- *Assumption 2*: If a spectator allocates a greater share to the more productive worker in the Merit treatment, then the spectator would not have allocated a smaller share to the lucky worker in the Luck treatment.
- *Assumption 3*: If a spectator allocates everything to the lucky worker in the Luck treatment, then the spectator would also have allocated everything to the more productive worker in the Merit treatment.

We also assume that the treatment does not affect the fairness view of a spectator.

- *Assumption 4*: The fairness view of a spectator is independent of treatment.

Given these minimal assumptions, we estimate the prevalence of each of the three fairness views in the following way:

- **Egalitarians**: The share of egalitarians is given by the share of participants dividing equally in the Merit treatment.
- **Meritocrats**: The share of meritocrats is given by the difference between the share of participants allocating more to the more productive worker in the Merit treatment and the share of participants allocating more to the lucky worker in the Luck treatment.
- **Libertarians**: The share of libertarians is given by the share of participants allocating everything to the lucky worker in the Luck treatment.

The estimators for egalitarians and libertarians follow straightforwardly from combining the observed behavior with the corresponding minimal assumption. From Assumption 1, it follows that the participants dividing equally in the Merit treatment would also have done so in the Luck treatment, and thus they satisfy the egalitarian fairness view. Everyone else in the Merit treatment violates the egalitarian fairness view by not dividing

equally between the workers. Thus, the share of participants dividing equally in the Merit treatment provides an estimate of the share of participants in the Merit treatment with the egalitarian fairness view. In the same way, it follows from Assumption 3 that the participants allocating everything to the lucky worker in the Luck treatment would also have allocated everything to the more productive worker in the Merit treatment, and thus they satisfy the libertarian fairness view. Everyone else in the Luck treatment violates the libertarian fairness view by not allocating everything to the lucky worker. Thus, the share of participants allocating everything to the lucky worker in the Luck treatment provides an estimate of the share of participants in the Luck treatment with the libertarian fairness view. Furthermore, given Assumption 4 that the fairness view is not affected by treatment, it follows that the share of egalitarians in the Merit treatment and the share of libertarians in the Luck treatment provide estimates of the shares of participants in the sample with the egalitarian and libertarian fairness view, respectively.

Finally, to provide an estimate of the share of participants with the meritocratic fairness view, we first note that participants dividing equally or giving less to the more productive worker in the Merit treatment violate the definition of the meritocratic fairness view. Furthermore, from Assumption 2, it follows that the share of participants allocating a greater share to the more productive worker in the Merit treatment would not have allocated a smaller share to the lucky worker in the Luck treatment. Those who would have divided equally in the Luck treatment satisfy the meritocratic fairness view, but not those who would have allocated more to the lucky worker. An estimate of the share of participants in the Merit treatment that would have given more to the lucky worker in the Luck treatment is provided by the share of participants that give more to the lucky worker in the Luck treatment. Thus, the difference between the share of participants allocating more to the more productive worker in the Merit treatment and the share of participants allocating more to the lucky worker in the Luck treatment provides an estimate of the share of meritocrats in the Merit treatment. By Assumption 4, it follows that the share of meritocrats in the Merit treatment provides an estimate of the share of participants in the sample with the meritocratic fairness view.

This estimation approach is asymptotically consistent (because the random variation between treatments converges to zero as the number of observations goes to infinity) and always guarantees that the sum of the estimated shares of egalitarians, meritocrats and libertarians is equal to or less than one. To see the latter, let

$A =$ share of participants dividing equally in the Merit treatment,
$B =$ share of participants giving more to the more productive worker in the Merit treatment,
$C =$ share of participants giving more to the lucky worker in the Luck treatment, and
$D =$ share of participants giving everything to the lucky worker in the Luck treatment.

According to the estimation approach:

$A =$ share of egalitarians, $(B-C) =$ the share of meritocrats, and $D =$ share of libertarians.

Suppose now that $A+(B-C)+D>1$. This would imply that $(A+B)>1+(C-D)$. By definition, $C>D$. However, $(A+B)\leq 1$, because $(A+B)$ is the share of individuals giving at least as much to the more productive worker in the Merit treatment. If

$A + (B - C) + D < 1$, we refer to the remaining share of participants as holding **Other** fairness views.

## A.2 Political differences

In the analysis, we find that the difference in inequality acceptance between countries is greater than the national political differences. Inspired by a comment of a referee, we here provide a more detailed discussion of this issue.

The main concern of the referee is that political affiliation might be subject to substantial measurement error not occurring in the case of country affiliation, which could explain our finding. To shed some further light on this issue, we provide a simple formal framework to study how extensive the political misreporting must be for the true national political difference in inequality acceptance to be at least as large as the observed difference in inequality acceptance between the United States and Norway.

The participants in our experiment are either conservatives ($C$) or non-conservatives ($N$), where $c$ is the share of conservatives. Let the average inequality implemented in the experiment by conservatives and non-conservatives be given by $i_C$ and $i_N$, respectively. Thus, without any misreporting, the observed political difference in inequality acceptance would be $i_C - i_N$. Suppose that a share of the participants misreport their political affiliation: a share $\gamma_C$ of the conservatives misreport as being non-conservative and a share $\gamma_N$ of the non-conservatives misreport as being conservative, where $i_{C\gamma}$ and $i_{N\gamma}$ is the average implemented inequality among the conservative and non-conservative participants who misreport. Furthermore, let $i_{C^s}$ and $i_{N^s}$ be the average inequality implemented in the experiment by the participants who self-report to be conservative and non-conservative, respectively, which means that the observed political difference in inequality acceptance is given by $i_{C^s} - i_{N^s}$. Finally, let $c^s$ be the share of self-reported conservatives.

In this analysis, we introduce two assumptions:

- Assumption 1: The likelihood of misreporting your political affiliation is independent of your inequality acceptance: $i_C$=$i_{C\gamma}$ and $i_N$=$i_{N\gamma}$.
- Assumption 2: There is only measurement error at the individual level, not at the population level: $c$=$c^s$.

By Assumption 1, it follows that

$$i_{C^s} = (i_C * (1 - \gamma_C) * c + i_N * \gamma_N * (1 - c))/c^s \tag{8}$$
$$i_{N^s} = (i_C * \gamma_C * c + i_N * (1 - \gamma_N) * (1 - c))/c^n \tag{9}$$

Furthermore, by Assumption 2, it follows that

$$c^s = c^s * (1 - \gamma_C) + (1 - c^s) * \gamma_N. \tag{10}$$

From equations (1)-(3), it follows that for the national political difference in inequality acceptance to be as large as the observed international difference in inequality acceptance, $i_C - i_N = 0.19$, then the misreporting of political affiliation has to be as follows:

- The United States: $\gamma_C = 0.29$ and $\gamma_N = 0.13$.

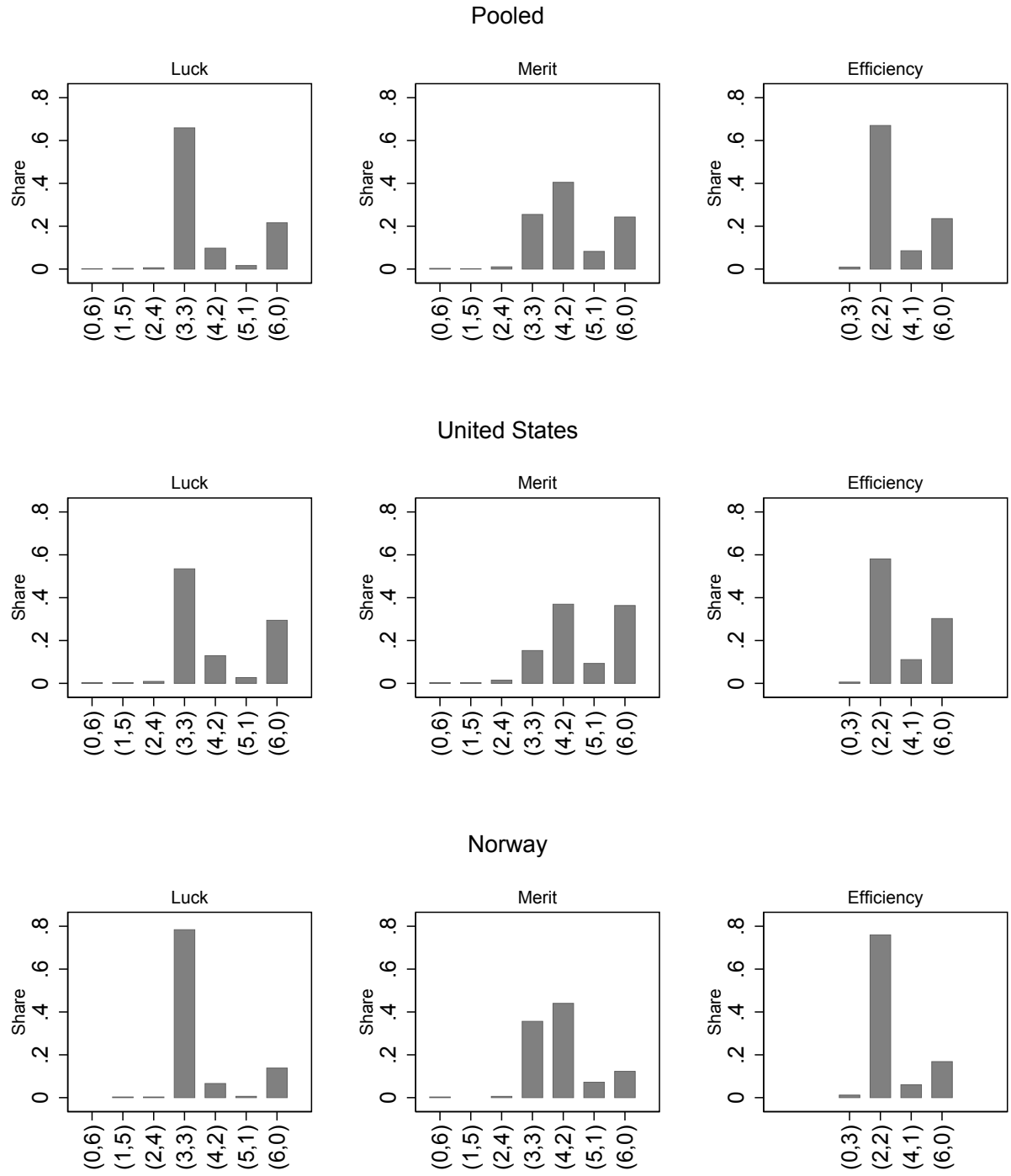
- Norway: $\gamma_C = 0.21$ and $\gamma_N = 0.10$.

We consider these estimates to show that significant misreporting of political affiliation has to take place in order to undermine our finding that the international difference in inequality acceptance is larger than the national political differences. To illustrate this, assume that the misreporting reflects unbiased noise, where participants randomize when answering their political affiliation. In this case, our estimate for conservatives is equivalent to about 60% and 40%of the conservatives in the United States (Norway) randomizing when stating their political affiliation.

## A.3 Tables and Figures

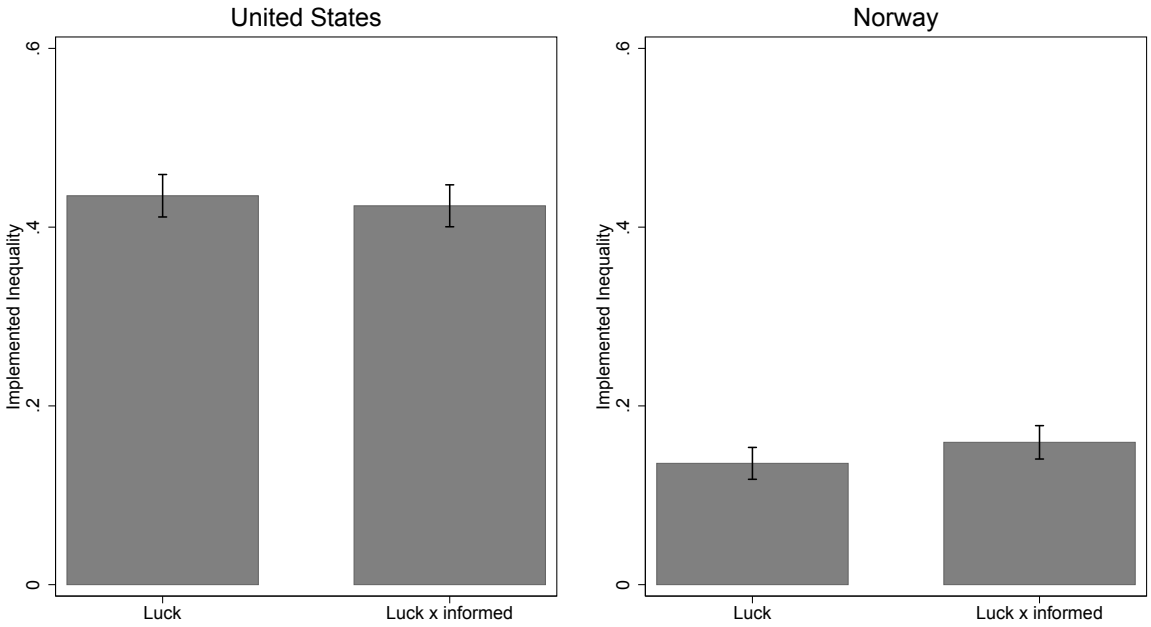
We here provide additional tables and figures referred to in the analysis.

Figure A1: Distribution of spectator choices



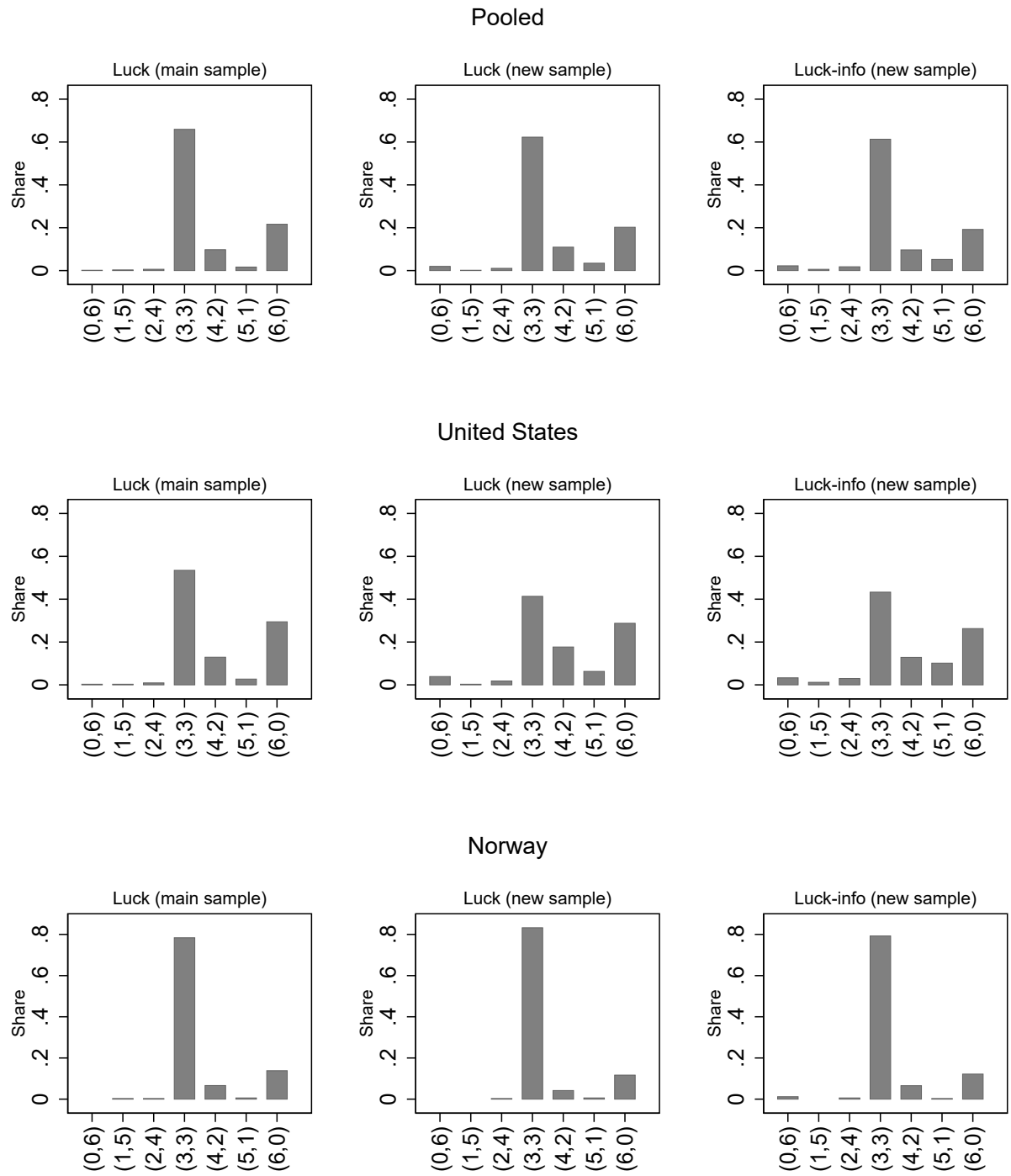

*Note:* The figure shows the distribution of spectator choices for each treatment, by country and pooled.

Figure A2: Follow-up study: Implemented inequality in the United States and Norway



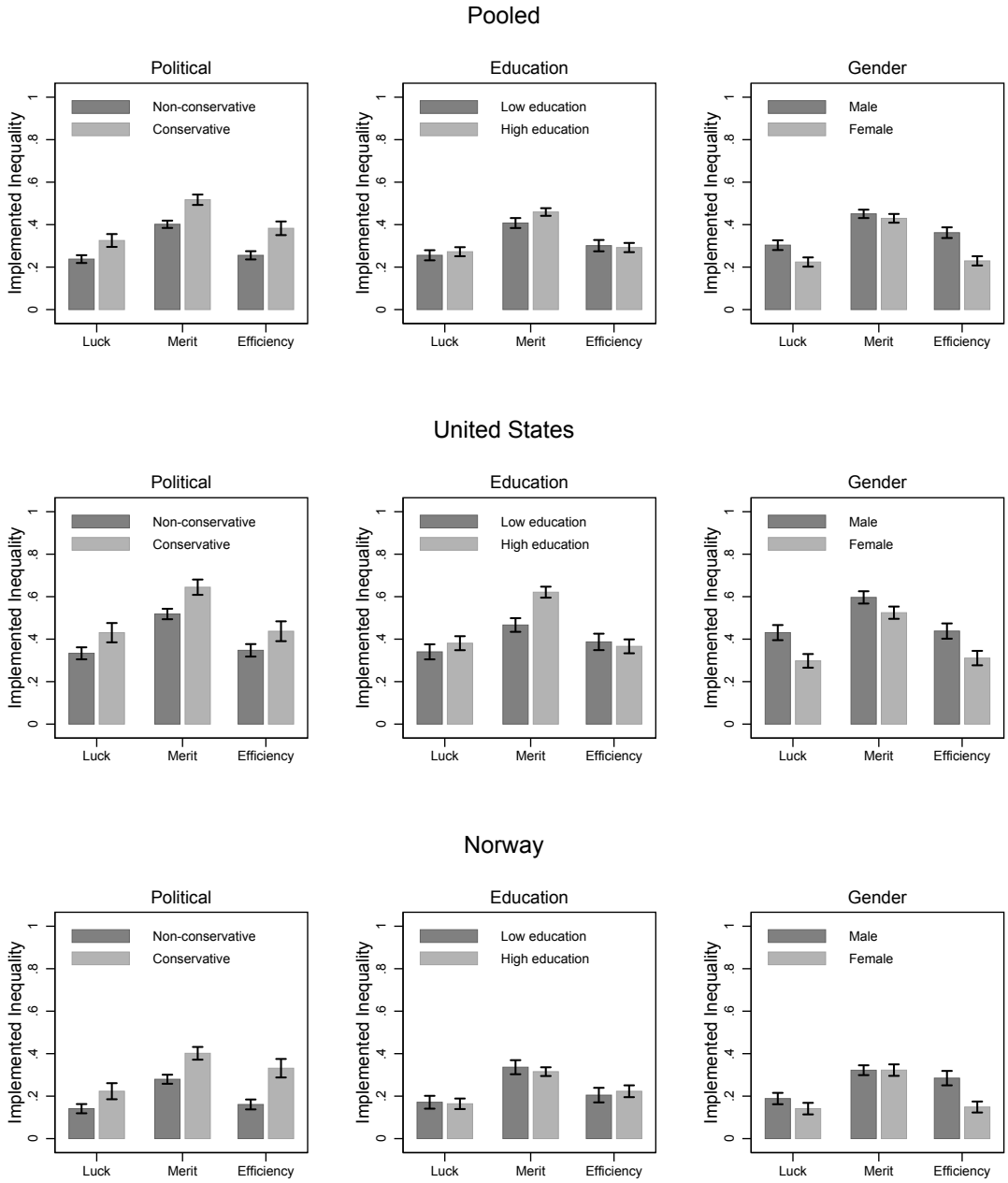

*Note:* The figure shows the average level of implemented inequality (as defined in Equation (5)) by the American and the Norwegian spectators for each of the two treatments in the follow-up study. The standard errors are indicated by the bars.

Figure A3: Follow-up study: Histograms of the spectator choices



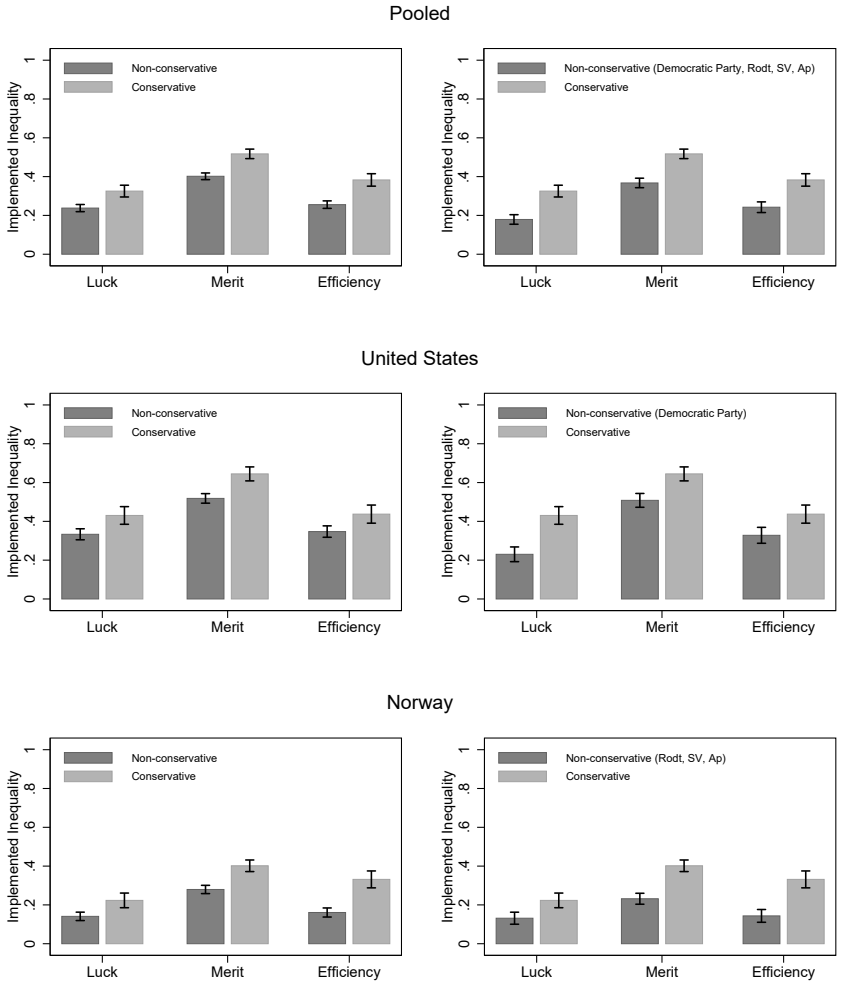

*Note:* The figure shows the distribution of spectator choices in the original Luck treatment in the main study and in the two treatments in the follow-up study, where Luck (new sample) is a identical to the original Luck treatment and Luck-info only differs from the Luck treatment by the spectators receiving the information that the workers have been informed about their earnings.

Figure A4: Implemented inequality for subgroups



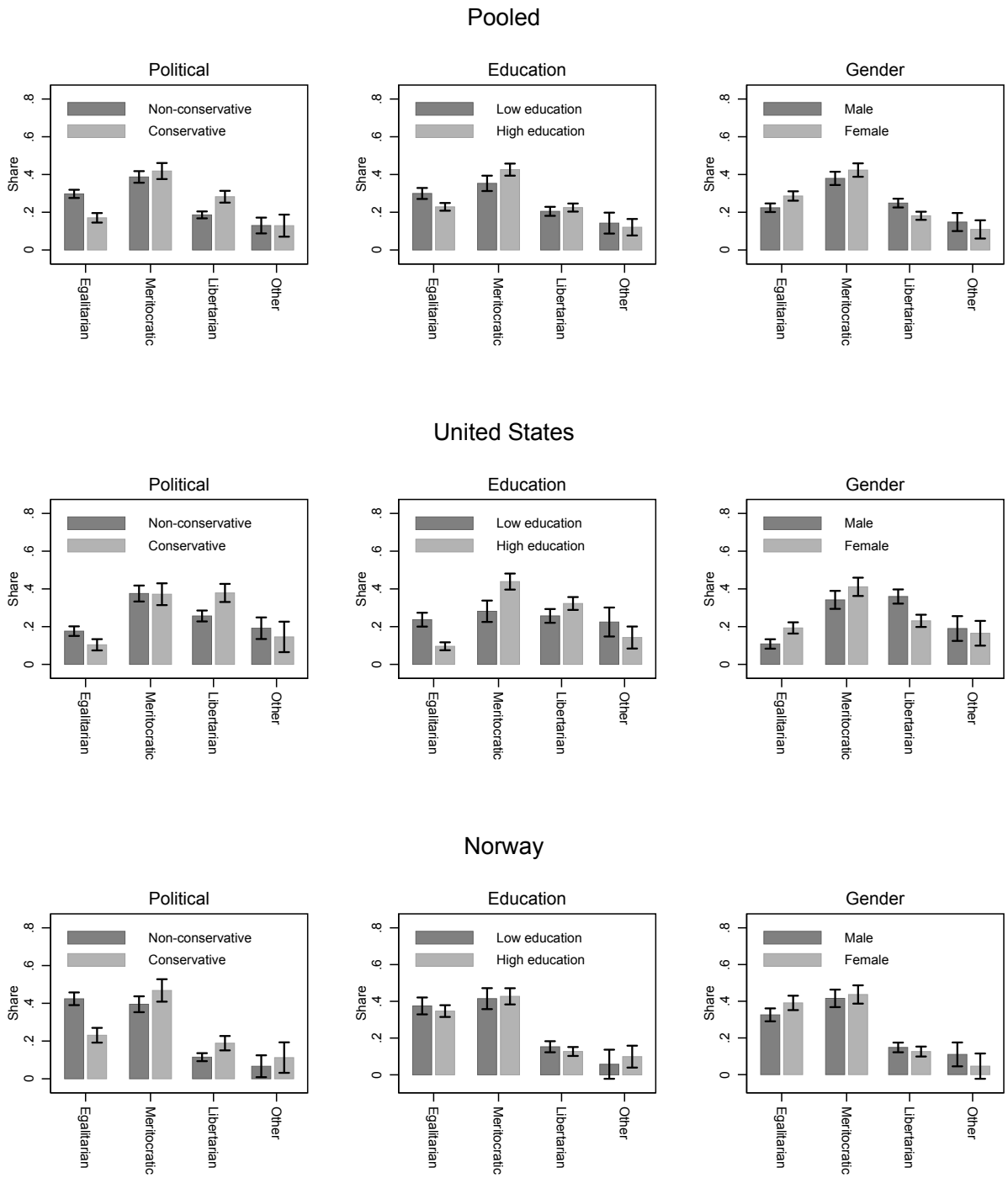

*Note:* The figure shows the average level of implemented inequality (as defined in Equation (5)) by the American and the Norwegian spectators for each subgroup in the three treatments. The standard errors are indicated by the bars.

Figure A5: Implemented inequality for conservatives and non-conservatives: Alternative definition



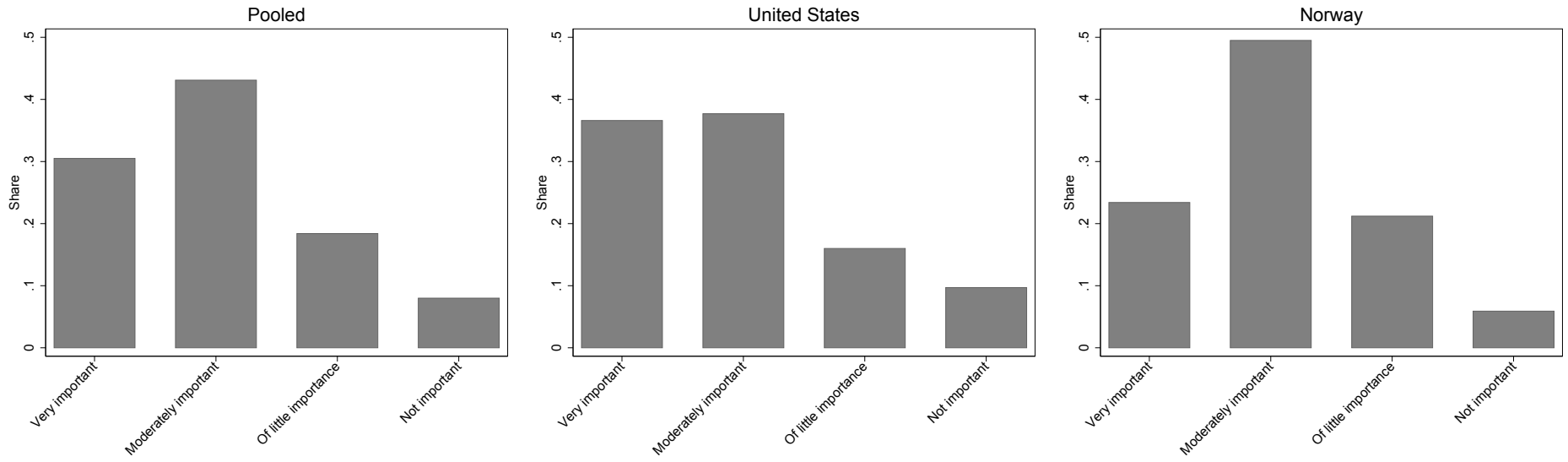

*Note:* The figure shows the average level of implemented inequality (as defined in Equation (5) in the paper) by the American and the Norwegian spectators for conservatives and non-conservatives in the three treatments. The left panels display results using the definitions applied in the main analysis (as reported in the left panels in Table A4), whereas the right panels display results for a stricter definition of non-conservatives: whether they would vote for the Democratic Party in the United States or the left-wing parties Arbeiderpartiet (Ap), Sosialistisk Venstreparti (SV), and Rødt in Norway. Hence, the spectators who support parties other than the Republican Party and the Democratic Party in the United States and the parties in the center in Norway are, together with the spectators who do not know or do not want to answer, left out of the right panels. The standard errors are indicated by the bars.

Figure A6: Fairness types for the subgroups




*Note:* The figure reports the share distribution of fairness types by subgroup. The standard errors are indicated by the bars.

Figure A7: Follow-up study: Importance of fairness view on voting




*Note:* The figure reports the distribution of responses on the survey question on how important they consider their fairness view to be in federal elections, implemented in the follow-up study. In Norway, 14.75% of the spectators did not answer the question and they are therefore excluded from this analysis.

Table A1: Scandinavia versus the United States: Comparisons of economic and political dimensions

| | Norway | Sweden | Denmark | United States |
|---|---|---|---|---|
| Gini coefficient | 0.257 | 0.274 | 0.256 | 0.394 |
| Poverty rate | 0.081 | 0.090 | 0.055 | 0.175 |
| Trade union density(%) | 52.5 | 66.8 | 65.4 | 10.6 |
| Total social expenditures (% of GDP) | 25.1 | 27.1 | 28.7 | 19.3 |
| Two-party political system | No | No | No | Yes |

*Note*: The Gini coefficients are from OECD Statistical Database: Income Distribution and Poverty(2018, February 21). The Gini coefficients are based on disposable income for the year 2014 (post taxes and transfers). The poverty rate is the share of people whose income falls below the poverty line in 2014; the poverty line being defined as half the median income in the population. The poverty rates are from OECD, Poverty rate (indicator). doi: 10.1787/0fe1315d-en(2018, February 21). Trade union density measures the share of employees who are members of trade unions; they are from 2015 and taken from administrative data for the Scandinavian countries and from survey data in the United States, see OECD Statistical Database: Trade Unions and Collective Bargains(2018, February 21). Total social expenditures are from OECD Statistical Database: Social Expenditures – Aggregated Data(2018, February 21) and measure both public and private spending such as cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes in 2016.

Table A2: Detailed description of variables

| | Sample | | Population | |
|---|---|---|---|---|
| | United States | Norway | United States | Norway |
| *Education (those classified as high education in bold)* | | | | |
| | Some high school | Compulsory (Grunnskole) | Less than high school | Compulsory (Grunnskole) |
| | High school or equivalent | High school (Videregående) | High school | High school (Videregående) |
| | Some college | **Bachelor or equivalent** | Some college or associate degree | Associate degree |
| | Associate degree | **Master's or equivalent** | **Bachelor's degree** | **Bachelor or equivalent** |
| | **College degree** | **Doctorate** | **Advanced degree** | **Master's or equivalent** |
| | **Some postgraduate** | Other | | **Master's degree** |
| | **Doctorate** | | | Other |
| | None of the above | | | |
| *Income* | | | | |
| | Less than $1000 | 0-100.000 NOK | Mean | Mean |
| | $1000 to $1900 | 100.001-200.000 NOK | Median | Median |
| | $2000 to $2900 | 200.001-300.000 NOK | | |
| | $3000 to $3900 | 300.001-400.000 NOK | | |
| | $4000 to $4900 | 400.001-500.000 NOK | | |
| | $5000 to $5900 | 500.001-600.000 NOK | | |
| | $6000 to $7400 | 600.001-700.000 NOK | | |
| | $7500 to $9999 | 700.001-800.000 NOK | | |
| | $10000 to $14900 | 800.001-900.000 NOK | | |
| | $15000 and up | 900.001-1.000.000 NOK | | |
| | I prefer not to answer | 1.000.001-1.100.000 NOK | | |
| | I don't have any income | 1.100.001-1.200.000 NOK | | |
| | | 1.200.001-1.300.000 NOK | | |
| | | 1.300.001-1.400.000 NOK | | |
| | | 1.400.001-1.500.000 NOK | | |
| | | 1.500.001 NOK or more | | |
| | | I prefer not to answer | | |
| | | I don't know | | |
| *Political affiliation (those classified as conservative in bold)* | | | | |
| | **The Republican Party** | Rødt | **The Republican Party** | Rødt |
| | The Democratic Party | Mdg | The Democratic Party | Mdg |
| | Another party | SV | Independents | SV |
| | Would not vote | Ap | | Ap |
| | Don't want to answer | Venstre | | Venstre |
| | Not sure | Sp | | Sp |
| | I do not have the right to vote | KrF | | KrF |
| | | **Høyre** | | **Høyre** |
| | | **Frp** | | **Frp** |
| | | Kystpartiet | | Andre |
| | | Andre | | |
| | | Ville ikke stemme | | |

*Note:* The table provides an overview of the education, income, and political categories that we have for our sample and the corresponding statistics that we use for the comparison with the population data. Female share, median age and education shares in the United States are based on the "Age and Sex Composition in the United States: 2014" database (United States Census Bureau, 14. Feb, 2018). Note that the educational categories deviate somewhat from the pre-analysis plan for the United States, to make them comparable with the population data. Female share, median age and education shares in Norway are based on data from Statistics Norway's "Statistikkbanken" (SSB, 14. Feb, 2018). Household incomes in the United States are taken from the Historical Income Tables: Households database (United States Census Bureau, 14. Feb, 2018). Household incomes in Norway are taken from Statistics Norway's data on household income and wealth (SSB, 14. Feb, 2018). For political orientation, participants answered the following question in the United States and Norway, respectively, "Which political party would you vote for if there was an election tomorrow?","Dersom det var Stortingsvalg i morgen, hvilket parti ville du stemme på?". For the population, we have statistics for the United States from Gallup (http://news.gallup.com/poll/15370/party-affiliation.aspx), where the following question was asked "In politics, as of today, do you consider yourself a Republican, a Democrat or an independent?" and for Norway we have statistics from Norstat (https://www.nrk.no/norge/arbeiderpartiet-naert-rent-flertall-i-partibarometer-1.12080851), where the question is identical to the question asked in our study.

Table A3: Detailed descriptives for background variables

| | United States | Norway |
|---|---|---|
| **Age** | | |
| Mean | 44.525 | 51.194 |
| Median | 44.000 | 53.000 |
| Standard deviation | 16.817 | 16.534 |
| Max | 96 | 86 |
| Min | 18 | 18 |
| **Female share** | 0.511 | 0.475 |
| **Political affiliation (share)** | | |
| The Democratic Party | 0.312 | |
| The Republican Party | 0.311 | |
| Another party | 0.055 | |
| I do not have the right to vote | 0.019 | |
| Not sure | 0.188 | |
| Don't want to answer | 0.052 | |
| Would not vote | 0.063 | |
| Rødt | | 0.017 |
| SV | | 0.047 |
| Ap | | 0.244 |
| Sp | | 0.034 |
| Krf | | 0.044 |
| Venstre | | 0.042 |
| Mdg | | 0.041 |
| Høyre | | 0.205 |
| Frp | | 0.126 |
| Andre | | 0.017 |
| Har ikke stemmerett | | 0.021 |
| Ikke sikker | | 0.117 |
| Vil ikke si | | 0.021 |
| Ville ikke stemme | | 0.024 |
| **Education level (share)** | | |
| Completed some high school | 0.009 | |
| High school graduate or GED equivalent | 0.082 | |
| Completed some college | 0.222 | |
| Associates degree | 0.097 | |
| College degree | 0.280 | |
| Completed some postgraduate | 0.071 | |
| Master's degree | 0.185 | |
| Doctorate degree | 0.046 | |
| None of the above | 0.008 | |
| Grunnskole | | 0.046 |
| Videregående | | 0.305 |
| Universitet-/høyskole 1-3 år (Bachelor eller tilsvarende) | | 0.291 |
| Universitet-/høyskole 4 år + (Master eller tilsvarende) | | 0.282 |
| Universitet-/høyskole 5 år + (Doktorgrad eller tilsvarende) | | 0.047 |
| Annet | | 0.029 |
| **Income level (share)** | | |
| I don't have any income | 0.012 | |
| Less than 1000 USD | 0.033 | |
| 1000 to 1900 USD | 0.071 | |
| 2000 to 2900 USD | 0.085 | |
| 3000 to 3900 USD | 0.104 | |
| 4000 to 4900 USD | 0.083 | |
| 5000 to 5900 USD | 0.088 | |
| 6000 to 7400 USD | 0.085 | |
| 7500 to 9999 USD | 0.094 | |
| 10000 to 14900 USD | 0.116 | |
| 15000 USD and up | 0.097 | |
| I prefer not to answer | 0.132 | |
| 0-100.000 NOK | | 0.016 |
| 100.001-200.000 NOK | | 0.022 |
| 200.001-300.000 NOK | | 0.050 |
| 300.001-400.000 NOK | | 0.070 |
| 400.001-500.000 NOK | | 0.107 |
| 500.001-600.000 NOK | | 0.091 |
| 600.001-700.000 NOK | | 0.080 |
| 700.001-800.000 NOK | | 0.076 |
| 800.001-900.000 NOK | | 0.080 |
| 900.001-1.000.000 NOK | | 0.070 |
| 1.000.001-1.100.000 NOK | | 0.062 |
| 1.100.001-1.200.000 NOK | | 0.025 |
| 1.200.001-1.300.000 NOK | | 0.020 |
| 1.300.001-1.400.000 NOK | | 0.005 |
| 1.400.001-1.500.000 NOK | | 0.004 |
| 1.500.001 NOK eller mer | | 0.022 |
| Vil ikke svare | | 0.156 |
| Vet ikke | | 0.044 |
| Number of observations | 1000 | 1000 |

*Note:* The table displays detailed descriptive statistics for the background variables of the spectator sample in the main experiment.

Table A4: Regression results on sample pooled for the two countries

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Merit | 0.175*** | 0.173*** | 0.175*** | 0.173*** | 0.195*** |
| | (0.021) | (0.021) | (0.021) | (0.020) | (0.031) |
| Efficiency | 0.030 | 0.032 | 0.030 | 0.031 | 0.010 |
| | (0.023) | (0.023) | (0.023) | (0.022) | (0.034) |
| Merit x Norway | | | | | -0.043 |
| | | | | | (0.041) |
| Eff. x Norway | | | | | 0.041 |
| | | | | | (0.045) |
| Norway | | | -0.197*** | -0.206*** | -0.205*** |
| | | | (0.018) | (0.018) | (0.031) |
| High income | | -0.013 | | -0.017 | -0.016 |
| | | (0.020) | | (0.019) | (0.019) |
| High education | | 0.022 | | 0.027 | 0.027 |
| | | (0.019) | | (0.018) | (0.018) |
| Female | | -0.067*** | | -0.075*** | -0.076*** |
| | | (0.018) | | (0.018) | (0.018) |
| Conservative | | 0.106*** | | 0.106*** | 0.106*** |
| | | (0.020) | | (0.019) | (0.019) |
| Age | | -0.001* | | 0.000 | 0.000 |
| | | (0.001) | | (0.001) | (0.001) |
| Constant | 0.265*** | 0.302*** | 0.364*** | 0.348*** | 0.348*** |
| | (0.016) | (0.033) | (0.019) | (0.032) | (0.036) |
| Observations | 2000 | 2000 | 2000 | 2000 | 2000 |
| $R^2$ | 0.034 | 0.059 | 0.092 | 0.118 | 0.120 |

*Note:* The table reports results from robust OLS regressions of implemented inequality on a set of explanatory variables for the data pooled for the two countries. "Merit" is an indicator variable taking the value one if the spectator is in the Merit treatment. "Efficiency" is an indicator variable taking the value one if the spectator is in the Efficiency treatment. "Norway" is an indicator variable taking the value one if a spectator is from Norway. "Merit x Norway" and "Efficiency x Norway" are interactions between the respective treatments and Norway. "High income" is an indicator variable for having income higher than the median in the country, "High education" is an indicator variable for having bachelor degree education or higher, "Female" is an indicator variable for being female, "Age" is given in years, and "Conservative" is an indicator variable for being conservative. The regressions also include an indicator variable for missing income (which takes the value one for 132 individuals in the United States and 200 individuals in Norway). Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Regression results with non-linear age controls

| | United States | United States | United States | Norway | Norway | Norway | Pooled | Pooled | Pooled |
|---|---|---|---|---|---|---|---|---|---|
| Merit | 0.193*** | 0.193*** | 0.193*** | 0.156*** | 0.157*** | 0.157*** | 0.195*** | 0.194*** | 0.194*** |
| | (0.031) | (0.031) | (0.031) | (0.026) | (0.026) | (0.026) | (0.031) | (0.031) | (0.031) |
| Efficiency | 0.007 | 0.008 | 0.007 | 0.053* | 0.053* | 0.053* | 0.010 | 0.010 | 0.008 |
| | (0.034) | (0.034) | (0.034) | (0.029) | (0.029) | (0.029) | (0.034) | (0.034) | (0.034) |
| Merit x Norway | | | | | | | -0.043 | -0.042 | -0.042 |
| | | | | | | | (0.041) | (0.041) | (0.041) |
| Eff x Norway | | | | | | | 0.041 | 0.041 | 0.044 |
| | | | | | | | (0.045) | (0.045) | (0.045) |
| Norway | | | | | | | -0.205*** | -0.206*** | -0.207*** |
| | | | | | | | (0.031) | (0.031) | (0.031) |
| High income | -0.021 | -0.020 | -0.018 | -0.027 | -0.031 | -0.031 | -0.016 | -0.018 | -0.017 |
| | (0.030) | (0.030) | (0.030) | (0.025) | (0.025) | (0.025) | (0.019) | (0.020) | (0.020) |
| High education | 0.049* | 0.050* | 0.048* | 0.004 | 0.004 | 0.002 | 0.027 | 0.027 | 0.025 |
| | (0.027) | (0.027) | (0.028) | (0.023) | (0.023) | (0.023) | (0.018) | (0.018) | (0.018) |
| Female | -0.102*** | -0.101*** | -0.102*** | -0.054** | -0.056** | -0.054** | -0.076*** | -0.076*** | -0.076*** |
| | (0.027) | (0.027) | (0.027) | (0.022) | (0.023) | (0.023) | (0.018) | (0.018) | (0.018) |
| Conservative | 0.086*** | 0.087*** | 0.088*** | 0.122*** | 0.122*** | 0.123*** | 0.106*** | 0.106*** | 0.107*** |
| | (0.030) | (0.030) | (0.030) | (0.025) | (0.025) | (0.025) | (0.019) | (0.019) | (0.019) |
| Age | 0.002** | -0.002 | 0.015 | -0.001** | 0.002 | 0.021 | 0.000 | 0.002 | 0.023* |
| | (0.001) | (0.005) | (0.016) | (0.001) | (0.005) | (0.020) | (0.001) | (0.003) | (0.013) |
| $Age^2$ | | 0.000 | -0.000 | | -0.000 | -0.000 | | -0.000 | -0.000* |
| | | (0.000) | (0.000) | | (0.000) | (0.000) | | (0.000) | (0.000) |
| $Age^3$ | | | 0.000 | | | 0.000 | | | 0.000 |
| | | | (0.000) | | | (0.000) | | | (0.000) |
| Constant | 0.283*** | 0.354*** | 0.130 | 0.230*** | 0.151 | -0.116 | 0.348*** | 0.315*** | 0.030 |
| | (0.045) | (0.101) | (0.232) | (0.046) | (0.108) | (0.296) | (0.036) | (0.075) | (0.189) |
| Observations | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 2000 | 2000 | 2000 |
| $R^2$ | 0.078 | 0.079 | 0.080 | 0.069 | 0.069 | 0.070 | 0.120 | 0.120 | 0.121 |
| Merit (Norway) | | | | | | | 0.152*** | 0.152*** | 0.152*** |
| | | | | | | | (0.026) | (0.026) | (0.026) |
| Efficiency (Norway) | | | | | | | 0.051* | 0.051* | 0.051* |
| | | | | | | | (0.028) | (0.028) | (0.028) |

*Note:* The table reports results from robust OLS regressions of implemented inequality on a set of explanatory variables. "Merit" is an indicator variable taking the value one if the spectator is in the Merit treatment. "Efficiency" is an indicator variable taking the value one if the spectator is in the Efficiency treatment. "Norway" is an indicator variable taking the value one if a spectator is from Norway. "Merit x Norway" and "Efficiency x Norway" are interactions between the respective treatments and Norway. "High income" is an indicator variable for having income higher than the median in the country, "High education" is an indicator variable for having bachelor degree education or higher, "Female" is an indicator variable for being female, "Age" is given in years, and "Conservative" is an indicator variable for being conservative. The regressions also include an indicator variable for missing income (which takes the value one for 132 individuals in the United States and 200 individuals in Norway). Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Robustness analysis of Table 3: re-weighting to fit shares in population

| | Merit | Efficiency | Merit x Norway | Eff. x Norway | Norway |
|---|---|---|---|---|---|
| Main | 0.195*** | 0.010 | -0.043 | 0.041 | -0.205*** |
| | (0.031) | (0.034) | (0.041) | (0.041) | (0.031) |
| *Re-weighted to fit population* | | | | | |
| Education | 0.157*** | 0.027 | 0.004 | 0.018 | -0.200*** |
| | (0.036) | (0.040) | (0.048) | (0.018) | (0.036) |
| Female | 0.195*** | 0.010 | -0.043 | 0.041 | -0.205*** |
| | (0.031) | (0.034) | (0.041) | (0.041) | (0.031) |
| Income | 0.189*** | 0.004 | -0.033 | 0.068 | -0.232*** |
| | (0.034) | (0.037) | (0.044) | (0.068) | (0.034) |
| Age | 0.192*** | 0.008 | -0.035 | 0.047 | -0.205*** |
| | (0.031) | (0.035) | (0.041) | (0.047) | (0.031) |
| Conservative | 0.195*** | 0.010 | -0.042 | 0.041 | -0.204*** |
| | (0.031) | (0.034) | (0.041) | (0.041) | (0.031) |

*Note:* The table shows the results of re-weighting the sample to match the shares in the population for the background variables. The top line shows the estimates from column 6 in Table 3. We do not have microlevel population data for United States and Norway, and thus we conduct separate re-weighting estimations for each variable separately. Each of the following lines shows the re-weighting estimates when the corresponding background variable has been re-weighted in the sample to match the population data.

Table A7: Main treatment results: p-values with multiple testing adjustments

| | Differences | Multiple testing adjustment | | | |
|---|---|---|---|---|---|
| | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values |
| **United States** | | | | | |
| Merit vs. Luck | 0.195 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency vs. Luck | 0.010 | 0.774 | 1.000 | 0.774 | 0.774 |
| **Norway** | | | | | |
| Merit vs. Luck | 0.152 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency vs. Luck | 0.051 | 0.073 | 0.292 | 0.146 | 0.140 |

*Note:* The table reports unadjusted and adjusted p-values of individual hypothesis tests, where "Difference" refers to the estimates in column 6 in Table 3. As described in Romano and Wolf (2016), the unadjusted (marginal) p-values are calculated as bootstrap p-values following Davison and Hinkley (1997). Bootstrapping is done with 5000 replications. Let $k$ be the total number of unadjusted p-values under consideration, and let $k_i$ be the number of p-values among the $k$ p-values at least as large as $p_i$. The Bonferroni-adjusted p-values are defined as $p_i^b = min(1, kp_i)$, The Holm-adjusted p-values are defined as $p_i^h = min(1, k_i p_i)$. $k = 4$, and the Romano–Wolf p-values are calculated using the step-down procedure.

Table A8: Implemented inequality by treatment – United States vs. Norway: p-values with multiple testing adjustments

| | Differences | Multiple testing adjustment | | | |
|---|---|---|---|---|---|
| | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values |
| Luck | 0.205 | 0.000 | 0.000 | 0.000 | 0.000 |
| Merit | 0.248 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency | 0.164 | 0.000 | 0.000 | 0.000 | 0.000 |
| Overall | 0.206 | 0.000 | | | |

*Note:* The table reports unadjusted and adjusted p-values of individual hypothesis tests, where "Differences" refers to the estimates in column 6 in Table 3. As described in Romano and Wolf (2016), the unadjusted (marginal) p-values are calculated as bootstrap p-values following Davison and Hinkley (1997). Bootstrapping is done with 5000 replications. Let $k$ be the total number of unadjusted p-values under consideration, and let $k_i$ be the number of p-values among the $k$ p-values at least as large as $p_i$. The Bonferroni-adjusted p-values are defined as $p_i^b = min(1, kp_i)$, The Holm-adjusted p-values are defined as $p_i^h = min(1, k_i p_i)$. $k = 3$, and the Romano–Wolf p-values are calculated using the step-down procedure.

Table A9: Fairness views – United States vs. Norway: p-values with multiple testing adjustments

| | Shares | | | Multiple testing adjustment | | | |
|---|---|---|---|---|---|---|---|
| | United States | Norway | Differences | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values |
| Egalitarians | 0.153 | 0.356 | -0.203 | 0.000 | 0.000 | 0.000 | 0.000 |
| Libertarians | 0.294 | 0.138 | 0.156 | 0.000 | 0.000 | 0.000 | 0.000 |
| Meritocrats | 0.375 | 0.425 | -0.049 | 0.323 | 0.969 | 0.323 | 0.323 |

*Note:* The table reports unadjusted and adjusted p-values of individual hypothesis tests, where "Differences" refers to the difference between the United States and Norway in the shares of each fairness view. As described in Romano and Wolf (2016), the unadjusted (marginal) p-values are calculated as bootstrap p-values following Davison and Hinkley (1997). Bootstrapping is done with 5000 replications. Let $k$ be the total number of unadjusted p-values under consideration, and let $k_i$ be the number of p-values among the $k$ p-values at least as large as $p_i$. The Bonferroni-adjusted p-values are defined as $p_i^b = min(1, kp_i)$, The Holm-adjusted p-values are defined as $p_i^h = min(1, k_i p_i)$. $k = 3$, and the Romano–Wolf p-values are calculated using the step-down procedure.

Table A10: Alternative measure of meritocratism

| | Luck (USD) | Merit (USD) | Difference (USD) | Difference (%) |
|---|---|---|---|---|
| United States | 4.042 | 4.616 | 0.574 | 14.19 |
| | (0.075) | (0.075) | (0.106) | (0.028) |
| Norway | 3.483 | 3.937 | 0.454 | 13.02 |
| | (0.075) | (0.074) | (0.105) | (0.032) |
| Difference p-values | 0.000 | 0.000 | 0.421 | 0.785 |
| Pooled sample | 3.763 | 4.276 | 0.513 | 13.64 |
| | (0.054) | (0.054) | (0.077) | (0.022) |

*Note:* The table reports the average income to the worker with earnings in the Luck and Merit treatments and the absolute and relative differences. Standard errors in parentheses.

Table A11: Inequality acceptance in subgroups: p-values with multiple testing adjustments

| | United States | | | | | Norway | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Differences | Multiple testing adjustment | | | | Differences | Multiple testing adjustment | | | |
| | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values |
| Conservatives vs. Non-conservatives | 0.086 | 0.001 | 0.006 | 0.004 | 0.004 | 0.122 | 0.000 | 0.000 | 0.000 | 0.000 |
| High vs. Low education | 0.049 | 0.046 | 0.276 | 0.092 | 0.089 | 0.004 | 0.925 | 1.000 | 0.925 | 0.925 |
| Female vs. Male | -0.102 | 0.000 | 0.000 | 0.000 | 0.001 | -0.054 | 0.031 | 0.186 | 0.093 | 0.089 |

*Note:* The table reports unadjusted and adjusted p-values of differences in implemented inequality between subgroups, where "Differences" refers to the estimates in columns 2 (United States) and 4 (Norway) in Table 3. As described in Romano and Wolf (2016), the unadjusted (marginal) p-values are calculated as bootstrap p-values following Davison and Hinkley (1997). Bootstrapping is done with 5000 replications. Let $k$ be the total number of unadjusted p-values under consideration, and let $k_i$ be the number of p-values among the $k$ p-values at least as large as $p_i$. The Bonferroni-adjusted p-values are defined as $p_i^b = min(1, kp_i)$, The Holm-adjusted p-values are defined as $p_i^h = min(1, k_i p_i)$. $k = 6$, and the Romano–Wolf p-values are calculated using the step-down procedure.

Table A12: Heterogeneity regressions: full set of estimates

| | Political (B = 1 if Conservative) | Education (B = 1 if High) | Gender (B = 1 if Female) |
|---|---|---|---|
| Merit | 0.182*** | 0.120** | 0.169*** |
| | (0.037) | (0.048) | (0.045) |
| Efficiency | 0.011 | 0.045 | 0.011 |
| | (0.041) | (0.053) | (0.050) |
| Merit x Norway | -0.043 | 0.051 | -0.042 |
| | (0.048) | (0.066) | (0.057) |
| Eff. x Norway | 0.011 | -0.004 | 0.083 |
| | (0.052) | (0.070) | (0.066) |
| Merit x B | 0.039 | 0.126** | 0.050 |
| | (0.068) | (0.063) | (0.062) |
| Eff. x B | -0.003 | -0.060 | -0.003 |
| | (0.076) | (0.070) | (0.069) |
| Merit x B x Norway | -0.001 | -0.150* | 0.003 |
| | (0.089) | (0.084) | (0.081) |
| Eff. x B x Norway | 0.093 | 0.079 | -0.086 |
| | (0.101) | (0.091) | (0.089) |
| B x Norway | -0.013 | -0.034 | 0.081 |
| | (0.068) | (0.062) | (0.061) |
| Norway | -0.201*** | -0.186*** | -0.244*** |
| | (0.036) | (0.047) | (0.044) |
| B | 0.085 | 0.033 | -0.118** |
| | (0.053) | (0.048) | (0.048) |
| Conservative | | 0.107*** | 0.106*** |
| | | (0.019) | (0.019) |
| High income | -0.016 | -0.015 | -0.016 |
| | (0.019) | (0.019) | (0.019) |
| Missing income | 0.008 | 0.009 | 0.007 |
| | (0.025) | (0.025) | (0.025) |
| High education | 0.028 | | 0.027 |
| | (0.018) | | (0.018) |
| Female | -0.076*** | -0.075*** | |
| | (0.018) | (0.018) | |
| Age | 0.000 | 0.000 | 0.000 |
| | (0.001) | (0.001) | (0.001) |
| Constant | 0.353*** | 0.341*** | 0.368*** |
| | (0.039) | (0.044) | (0.044) |
| Observations | 2000 | 2000 | 2000 |
| $R^2$ | 0.121 | 0.125 | 0.124 |
| Merit (US, B) | 0.221*** | 0.245*** | 0.219*** |
| | (0.057) | (0.041) | (0.043) |
| Efficiency (US, B) | 0.008 | -0.015 | 0.008 |
| | (0.064) | (0.045) | (0.047) |
| Merit (Norway, not B) | 0.140*** | 0.171*** | 0.127*** |
| | (0.031) | (0.045) | (0.035) |
| Merit (Norway, B) | 0.177*** | 0.146*** | 0.179*** |
| | (0.048) | (0.032) | (0.038) |
| Efficiency (Norway, not B) | 0.022 | 0.040 | 0.094** |
| | (0.032) | (0.046) | (0.043) |
| Efficiency (Norway, B) | 0.112** | 0.060 | 0.004 |
| | (0.057) | (0.036) | (0.038) |

*Note:* The table reports the same regressions as in Table 4, with the full set of estimates. Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A13: Heterogeneity regressions: without control variables.

| | Political (B = 1 if Conservative) | Education (B = 1 if High) | Gender (B = 1 if Female) |
|---|---|---|---|
| Merit | 0.185*** | 0.126*** | 0.166*** |
| | (0.037) | (0.048) | (0.046) |
| Efficiency | 0.014 | 0.047 | 0.007 |
| | (0.041) | (0.052) | (0.051) |
| Merit x Norway | -0.046 | 0.039 | -0.032 |
| | (0.048) | (0.066) | (0.058) |
| Eff. x Norway | 0.006 | -0.013 | 0.089 |
| | (0.052) | (0.070) | (0.067) |
| Merit x B | 0.029 | 0.114* | 0.061 |
| | (0.069) | (0.064) | (0.063) |
| Eff. x B | -0.007 | -0.062 | 0.006 |
| | (0.077) | (0.070) | (0.069) |
| Merit x B x Norway | 0.011 | -0.128 | -0.013 |
| | (0.089) | (0.084) | (0.082) |
| Eff. x B x Norway | 0.096 | 0.087 | -0.094 |
| | (0.101) | (0.092) | (0.090) |
| B x Norway | -0.015 | -0.048 | 0.086 |
| | (0.069) | (0.062) | (0.061) |
| Norway | -0.192*** | -0.169*** | -0.242*** |
| | (0.036) | (0.047) | (0.045) |
| B | 0.097* | 0.041 | -0.133*** |
| | (0.053) | (0.048) | (0.048) |
| Constant | 0.333*** | 0.340*** | 0.431*** |
| | (0.028) | (0.035) | (0.036) |
| Observations | 2000 | 2000 | 2000 |
| $R^2$ | 0.111 | 0.100 | 0.108 |
| Merit (US, B) | 0.214*** | 0.240*** | 0.227*** |
| | (0.058) | (0.042) | (0.043) |
| Efficiency (US, B) | 0.007 | -0.015 | 0.013 |
| | (0.065) | (0.047) | (0.047) |
| Merit (Norway, not B) | 0.139*** | 0.165*** | 0.133*** |
| | (0.030) | (0.045) | (0.035) |
| Merit (Norway, B) | 0.178*** | 0.151*** | 0.181*** |
| | (0.048) | (0.032) | (0.038) |
| Efficiency (Norway, not B) | 0.020 | 0.034 | 0.096** |
| | (0.032) | (0.046) | (0.043) |
| Efficiency (Norway, B) | 0.108* | 0.059 | 0.008 |
| | (0.058) | (0.037) | (0.038) |

*Note:* The table reports the same regressions as in Table 4, but without background variables. Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A14: Treatment effects for subgroups: p-values with multiple testing adjustments

| | United States | | | | | Norway | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Differences | Multiple testing adjustment | | | | Differences | Multiple testing adjustment | | | |
| | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values |
| **Conservatives** | | | | | | | | | | |
| Merit vs. Luck | 0.221 | 0.000 | 0.000 | 0.000 | 0.002 | 0.177 | 0.000 | 0.000 | 0.000 | 0.004 |
| Efficiency vs. Luck | 0.008 | 0.903 | 1.000 | 1.000 | 0.999 | 0.112 | 0.050 | 1.000 | 0.550 | 0.366 |
| **Non-conservatives** | | | | | | | | | | |
| Merit vs. Luck | 0.182 | 0.000 | 0.000 | 0.000 | 0.000 | 0.140 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency vs. Luck | 0.011 | 0.792 | 1.000 | 1.000 | 0.998 | 0.022 | 0.500 | 1.000 | 1.000 | 0.971 |
| **High education** | | | | | | | | | | |
| Merit vs. Luck | 0.245 | 0.000 | 0.000 | 0.000 | 0.000 | 0.146 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency vs. Luck | -0.015 | 0.742 | 1.000 | 1.000 | 0.998 | 0.060 | 0.101 | 1.000 | 1.000 | 0.556 |
| **Low education** | | | | | | | | | | |
| Merit vs. Luck | 0.120 | 0.014 | 0.336 | 0.182 | 0.128 | 0.171 | 0.000 | 0.000 | 0.000 | 0.003 |
| Efficiency vs. Luck | 0.045 | 0.387 | 1.000 | 1.000 | 0.954 | 0.040 | 0.363 | 1.000 | 1.000 | 0.954 |
| **Female** | | | | | | | | | | |
| Merit vs. Luck | 0.219 | 0.000 | 0.000 | 0.000 | 0.000 | 0.179 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency vs. Luck | 0.008 | 0.861 | 1.000 | 1.000 | 0.999 | 0.004 | 0.904 | 1.000 | 0.904 | 0.999 |
| **Male** | | | | | | | | | | |
| Merit vs. Luck | 0.169 | 0.000 | 0.000 | 0.000 | 0.003 | 0.127 | 0.001 | 0.024 | 0.014 | 0.005 |
| Efficiency vs. Luck | 0.011 | 0.821 | 1.000 | 1.000 | 0.999 | 0.094 | 0.024 | 0.576 | 0.288 | 0.235 |

*Note:* The table reports unadjusted and adjusted p-values of individual hypothesis tests, where "Differences" refers to the estimates in the corresponding column in Table 4. As described in Romano and Wolf (2016), the unadjusted (marginal) p-values are calculated as bootstrap p-values following Davison and Hinkley (1997). Bootstrapping is done with 5000 replications. Let $k$ be the total number of unadjusted p-values under consideration, and let $k_i$ be the number of p-values among the $k$ p-values at least as large as $p_i$. The Bonferroni-adjusted p-values are defined as $p_i^b = min(1, kp_i)$, The Holm-adjusted p-values are defined as $p_i^h = min(1, k_i p_i)$. $k = 24$, and the Romano–Wolf p-values are calculated using the step-down procedure.

Table A15: Differences in treatment effects for subgroups: p-values with multiple testing adjustments

| | United States | | | | | Norway | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Differences | Multiple testing adjustment | | | | Differences | Multiple testing adjustment | | | |
| | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values |
| **Conservatives vs. Non-conservatives** | | | | | | | | | | |
| Merit vs. Luck | 0.039 | 0.565 | 1.000 | 1.000 | 0.983 | 0.037 | 0.508 | 1.000 | 1.000 | 0.983 |
| Efficiency vs. Luck | -0.003 | 0.969 | 1.000 | 0.969 | 0.998 | 0.090 | 0.178 | 1.000 | 1.000 | 0.812 |
| **High vs. Low education** | | | | | | | | | | |
| Merit vs. Luck | 0.126 | 0.047 | 0.564 | 0.564 | 0.402 | -0.024 | 0.660 | 1.000 | 1.000 | 0.983 |
| Efficiency vs. Luck | -0.060 | 0.383 | 1.000 | 1.000 | 0.975 | 0.019 | 0.741 | 1.000 | 1.000 | 0.983 |
| **Female vs. Male** | | | | | | | | | | |
| Merit vs. Luck | 0.050 | 0.437 | 1.000 | 1.000 | 0.975 | 0.053 | 0.299 | 1.000 | 1.000 | 0.953 |
| Efficiency vs. Luck | -0.003 | 0.959 | 1.000 | 1.000 | 0.998 | -0.090 | 0.112 | 1.000 | 1.000 | 0.700 |

*Note:* The table reports unadjusted and adjusted p-values of individual hypothesis tests, where "Differences" refers to the estimates in the corresponding column in Table 4. As described in Romano and Wolf (2016), the unadjusted (marginal) p-values are calculated as bootstrap p-values following Davison and Hinkley (1997). Bootstrapping is done with 5000 replications. Let $k$ be the total number of unadjusted p-values under consideration, and let $k_i$ be the number of p-values among the $k$ p-values at least as large as $p_i$. The Bonferroni-adjusted p-values are defined as $p_i^b = min(1, kp_i)$, The Holm-adjusted p-values are defined as $p_i^h = min(1, k_i p_i)$. $k = 12$, and the Romano–Wolf p-values are calculated using the step-down procedure.

Table A16: Differences in treatment effects for subgroups – United States vs. Norway: p-values with multiple testing adjustments

| | Differences | Multiple testing adjustment | | | |
|---|---|---|---|---|---|
| | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values |
| **Conservatives vs. Non-conservatives** | | | | | |
| Merit vs. Luck | 0.001 | 0.991 | 1.000 | 0.991 | 0.999 |
| Efficiency vs. Luck | -0.093 | 0.354 | 1.000 | 1.000 | 0.835 |
| **High vs. Low education** | | | | | |
| Merit vs. Luck | 0.150 | 0.075 | 0.450 | 0.450 | 0.336 |
| Efficiency vs. Luck | -0.079 | 0.374 | 1.000 | 1.000 | 0.835 |
| **Female vs. Male** | | | | | |
| Merit vs. Luck | -0.003 | 0.969 | 1.000 | 1.000 | 0.999 |
| Efficiency vs. Luck | 0.086 | 0.330 | 1.000 | 1.000 | 0.835 |

*Note:* The table reports unadjusted and adjusted p-values of individual hypothesis tests, where "Differences" refers to the estimates in the corresponding column in Table 4. As described in Romano and Wolf (2016), the unadjusted (marginal) p-values are calculated as bootstrap p-values following Davison and Hinkley (1997). Bootstrapping is done with 5000 replications. Let $k$ be the total number of unadjusted p-values under consideration, and let $k_i$ be the number of p-values among the $k$ p-values at least as large as $p_i$. The Bonferroni-adjusted p-values are defined as $p_i^b = min(1, kp_i)$, The Holm-adjusted p-values are defined as $p_i^h = min(1, k_i p_i)$. $k = 6$, and the Romano–Wolf p-values are calculated using the step-down procedure.

Table A17: Inequality acceptance in subgroup by treatment – United States vs. Norway: p-values with multiple testing adjustments

| | Differences | Multiple testing adjustment | | | |
|---|---|---|---|---|---|
| | | Unadjusted p-values | Bonferroni p-values | Holm p-values | Romano-Wolf p-values |
| **Conservatives** | | | | | |
| Luck | 0.214 | 0.000 | 0.000 | 0.000 | 0.003 |
| Merit | 0.258 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency | 0.110 | 0.082 | 1.000 | 0.082 | 0.082 |
| **Non-conservatives** | | | | | |
| Luck | 0.201 | 0.000 | 0.000 | 0.000 | 0.000 |
| Merit | 0.243 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency | 0.190 | 0.000 | 0.000 | 0.000 | 0.000 |
| **High education** | | | | | |
| Luck | 0.220 | 0.000 | 0.000 | 0.000 | 0.000 |
| Merit | 0.319 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency | 0.145 | 0.001 | 0.018 | 0.004 | 0.004 |
| **Low education** | | | | | |
| Luck | 0.186 | 0.000 | 0.000 | 0.000 | 0.002 |
| Merit | 0.135 | 0.007 | 0.126 | 0.014 | 0.010 |
| Efficiency | 0.190 | 0.001 | 0.018 | 0.005 | 0.003 |
| **Female** | | | | | |
| Luck | 0.163 | 0.000 | 0.000 | 0.000 | 0.002 |
| Merit | 0.203 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency | 0.167 | 0.000 | 0.000 | 0.000 | 0.002 |
| **Male** | | | | | |
| Luck | 0.244 | 0.000 | 0.000 | 0.000 | 0.000 |
| Merit | 0.287 | 0.000 | 0.000 | 0.000 | 0.000 |
| Efficiency | 0.161 | 0.001 | 0.018 | 0.004 | 0.005 |

*Note:* The table reports unadjusted and adjusted p-values of individual hypothesis tests, where "Differences" refers to the estimates in the corresponding column in Table 4. As described in Romano and Wolf (2016), the unadjusted (marginal) p-values are calculated as bootstrap p-values following Davison and Hinkley (1997). Bootstrapping is done with 5000 replications. Let $k$ be the total number of unadjusted p-values under consideration, and let $k_i$ be the number of p-values among the $k$ p-values at least as large as $p_i$. The Bonferroni-adjusted p-values are defined as $p_i^b = min(1, kp_i)$, The Holm-adjusted p-values are defined as $p_i^h = min(1, k_i p_i)$. $k = 18$, and the Romano–Wolf p-values are calculated using the step-down procedure.

Table A18: Association between general support for equalization in society and implemented inequality in the experiment

| | United States | | | | Norway | | | |
|---|---|---|---|---|---|---|---|---|
| | Luck | Merit | Efficiency | All | Luck | Merit | Efficiency | All |
| Implemented inequality | 0.248* | 0.531*** | 0.242** | 0.326*** | 0.350** | 0.627*** | 0.245* | 0.380*** |
| | (0.137) | (0.143) | (0.122) | (0.075) | (0.166) | (0.150) | (0.130) | (0.084) |
| Constant | 0.171** | 0.055 | 0.166** | 0.149*** | -0.323*** | -0.446*** | -0.414*** | -0.379*** |
| | (0.072) | (0.096) | (0.071) | (0.045) | (0.054) | (0.067) | (0.057) | (0.034) |
| Observations | 333 | 333 | 334 | 1000 | 333 | 334 | 333 | 1000 |
| $R^2$ | 0.011 | 0.043 | 0.012 | 0.020 | 0.018 | 0.053 | 0.011 | 0.023 |

*Note:* The table reports regressions of attitudes to equalization in society on implemented inequality in the study, measured by a survey question on a scale from 1 to 10: 1 means that the participant agrees completely with "A society should aim to equalize incomes", 10 means that the participant agrees completely with "A society should not aim to equalize incomes." The response to the survey question is standardized to have a mean of zero and a standard deviation of one. Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

# B Appendix with experimental protocol

## B.1 Spectators

### B.1.1 Protocol for Spectators recruited through Norstat/Research Now – main experiment

#### Luck treatment

***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.***

***They were each offered a participation compensation of 2 USD regardless of what they were paid for the assignment. After completing the assignment, they were told that their earnings from the assignment would be determined by a lottery. The worker winning the lottery would earn 6 USD for the assignment and the other worker would earn nothing for the assignment. They were not informed about the outcome of the lottery. However, they were told that a third person would be informed about the assignment and the outcome of the lottery, and would be given the opportunity to redistribute the earnings 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 redistribute 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 won the lottery and earned 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 redistribute:***

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

***I do redistribute:***

- ***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.***
- ***worker A is paid 2 USD and worker B is paid 4 USD.***
- ***worker A is paid 1 USD and worker B is paid 5 USD.***
- ***worker A is paid 0 USD and worker B is paid 6 USD.***

# Merit treatment

***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.***

***They were each offered a participation compensation of 2 USD regardless of what they were paid for the assignment. After completing the assignment, they were told that their earnings from the assignment would be determined by their productivity. The most productive worker would earn 6 USD for the assignment and the other worker would earn nothing for the assignment. They were not informed about who was the most productive worker. However, they were told that a third person would be informed about the assignment and the outcome of the lottery, and would be given the opportunity to redistribute the earnings 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 redistribute 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 won the lottery and earned 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 redistribute:***

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

***I do redistribute:***

- ***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.***
- ***worker A is paid 2 USD and worker B is paid 4 USD.***
- ***worker A is paid 1 USD and worker B is paid 5 USD.***
- ***worker A is paid 0 USD and worker B is paid 6 USD.***

## Efficiency treatment

***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.***

***They were each offered a participation compensation of 2 USD regardless of what they were paid for the assignment. After completing the assignment, they were told that their earnings from the assignment would be determined by a lottery. The worker winning the lottery would earn 6 USD for the assignment and the other worker would earn nothing for the assignment. They were not informed about the outcome of the lottery. However, they were told that a third person would be informed about the assignment and the outcome of the lottery, and would be given the opportunity to redistribute the earnings 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 redistribute 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 won the lottery and earned 6 USD for the assignment, thus worker B earned nothing for the assignment. There is a cost of redistribution. If you choose to redistribute, increasing worker B's payment by 1 USD will decrease worker A's payment by 2 USD.***

***Please state which of the following alternatives you choose:***

***I do not redistribute:***

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

***I do redistribute:***

- ***worker A is paid 4 USD and worker B is paid 1 USD.***
- ***worker A is paid 2 USD and worker B is paid 2 USD.***
- ***worker A is paid 0 USD and worker B is paid 1 USD.***

### B.1.2 Protocol for Spectators recruited through Norstat/Research Now – follow-up experiment

## Luck treatment (as in main experiment)

***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.***

***They were each offered a participation compensation of 2 USD regardless of what they were paid for the assignment. After completing the assignment, they were told that their earnings from the assignment would be determined by a lottery. The worker winning the lottery would earn 6 USD for the assignment and the other worker would earn nothing for the assignment. They were not informed about the outcome of the lottery. However, they were told that a third person would be informed about the assignment and the outcome of the lottery, and would be given the opportunity to redistribute the earnings 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 redistribute 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 won the lottery and earned 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 redistribute:***

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

***I do redistribute:***

- ***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.***
- ***worker A is paid 2 USD and worker B is paid 4 USD.***
- ***worker A is paid 1 USD and worker B is paid 5 USD.***
- ***worker A is paid 0 USD and worker B is paid 6 USD.***

# Luck-info treatment

***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.***

***They were each offered a participation compensation of 2 USD regardless of what they were paid for the assignment. After completing the assignment, they were told that their earnings from the assignment would be determined by a lottery. The worker winning the lottery would earn 6 USD for the assignment and the other worker would earn nothing for the assignment. They were informed about the outcome of the lottery. However, they were also told that a third person would be informed about the assignment and the outcome of the lottery, and would be given the opportunity to redistribute the earnings 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 redistribute 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 won the lottery and earned 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 redistribute:***

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

***I do redistribute:***

- ***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.***
- ***worker A is paid 2 USD and worker B is paid 4 USD.***
- ***worker A is paid 1 USD and worker B is paid 5 USD.***
- ***worker A is paid 0 USD and worker B is paid 6 USD.***

## B.2 Workers

### B.2.1 Protocol for Workers recruited on Amazon Mechanical Turk – main experiment

*Please read the instructions below carefully*

**General instructions:**

The results from this experiment will be used in a research project. It is therefore important that you carefully read and follow all instructions. Note that you will remain anonymous throughout the experiment. We will only use your Worker ID to assign payments and check that you have not participated in this experiment before.

You will be paid a fixed participation fee of 2 USD and you may, depending on the actions you and others take, earn additional money.

You will be given detailed instructions on your screen before each part of the experiment. Please read the instructions to each part carefully.

If you have any questions regarding this experiment, you may contact thechoicelab@nhh.no

I have read and understood the the above and want to participate in this study:

- ○ Yes
- ○ No

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## Part 1 — Production phase

The first part of the experiment is a production phase where you are given three assignments to work on.

Go on to the next page to receive instructions for the first assignment.

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**Assignment 1:**

In the first assignment you are asked to work on a sentence unscrambling task for 5 minutes. Your performance will not be measured as there is no right or wrong answer, but we do ask you to work continuously on this assignment.

**Description of the assignment:**
You will be shown five English words and are asked to form a sentence or an expression by using four of these words. This means that each sentence or expression must only contain four words.

For example, if the words given to you are **"sky, blue, is, the, old"**, then you can construct the sentence:

**the sky is blue**

Write the sentence or expression that you form into the blank space using your keyboard. Your answer will be submitted automatically after 20 seconds and you will auto-advance to five new words.

This assignment will last for 5 minutes and we ask you to work continuously. When you have read and understood the instructions press >> to start the assignment.

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**Illustration of task in Assignment 1:**


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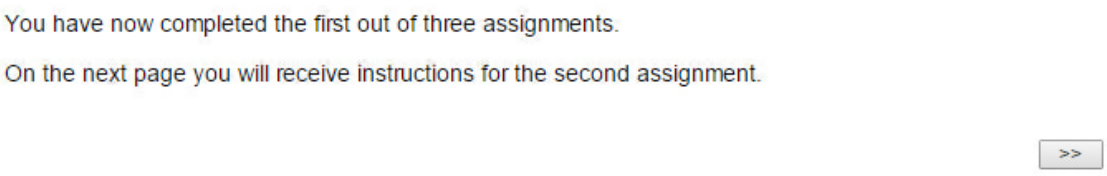
**After all tasks in Assignment 1:**

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**Assignment 2:**

In the second assignment you are once again asked to work on a sentence unscrambling task for 5 minutes.

As before, your answer will be submitted automatically after 20 seconds and you will auto-advance to five new words. Your performance will still not be measured as there is no right or wrong answer, but we do ask you to work continuously on this assignment as well.

Press >> to start the second assignment.

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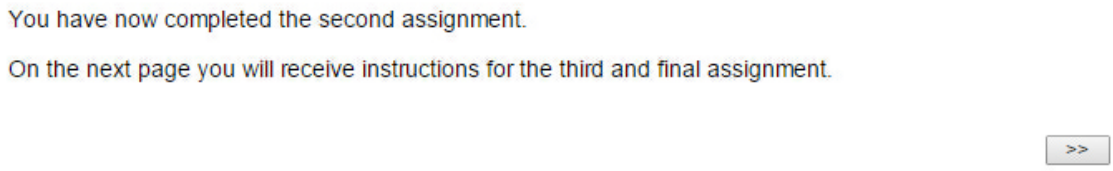
**Illustration of task in Assignment 2:**


**After all tasks in Assignment 2:**



## Assignment 3

In the third assignment you are asked to work on a code recognition task for 5 minutes. For this assignment we will measure your performance by the number of points you receive. You will be informed about your score at the end of the assignment.

**Description of the assignment:**
On top of the page you will be shown a 3-digit code that you must find and check off from a matrix of 3-digit codes in random order. The assigned code will occur multiple times in the same matrix and you will be given 1 point for each correct marking. You will be subtracted 1 point if you check off a wrong code, but you will not lose any points for failing to check off all occurrences of the correct code.

Your matrix will be submitted automatically after 60 seconds and you will auto-advance to the next page. This assignment will last for 5 minutes and after 5 minutes you will be taken to the last part of the survey.

Below you are shown a simplified example to make sure you understand the assignment. When you have read and understood the instructions press >> to start the assignment.

**This is an example:**

The code you must check off is: 123

| | |
|---|---|
| ☐ 123 | ☐ 283 |
| ☐ 231 | ☐ 123 |
| ☐ 952 | ☐ 641 |
| ☐ 864 | ☐ 820 |
| ☐ 123 | ☐ 462 |
| ☐ 791 | ☐ 123 |

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**Illustration of task in Assignment 3:**

The code you must check off is: 241

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 407 | 559 | 917 | 522 | 459 | 293 | 743 | 241 | 778 | 241 | 303 | 234 | 951 | 807 | 637 | 454 | 583 | | |
| 743 | 538 | 330 | 265 | 816 | 661 | 998 | 678 | 269 | 241 | 578 | 241 | 308 | 233 | 464 | 749 | 495 | | |
| 602 | 241 | 602 | 121 | 241 | 314 | 241 | 850 | 144 | 518 | 241 | 494 | 354 | 247 | 258 | 957 | 777 | | |
| 537 | 914 | 241 | 340 | 241 | 410 | 274 | 674 | 721 | 711 | 971 | 290 | 606 | 265 | 783 | 775 | 674 | | |
| 144 | 942 | 723 | 922 | 241 | 873 | 337 | 474 | 630 | 241 | 574 | 615 | 695 | 388 | 241 | 174 | 926 | | |
| 435 | 146 | 618 | 219 | 980 | 674 | 391 | 749 | 795 | 380 | 340 | 859 | 882 | 210 | 912 | 703 | 707 | | |
| 265 | 241 | 943 | 723 | 843 | 241 | 924 | 218 | 241 | 607 | 876 | 757 | 160 | 427 | 925 | 234 | 255 | | |
| 689 | 795 | 416 | 622 | 233 | 508 | 648 | 602 | 223 | 589 | 701 | 393 | 372 | 942 | 124 | 241 | 377 | | |
| 617 | 705 | 572 | 891 | 524 | 634 | 456 | 975 | 874 | 241 | 966 | 729 | 730 | 216 | 900 | 241 | 241 | | |
| 809 | 763 | 874 | 180 | 241 | 187 | 241 | 891 | 603 | 881 | 405 | 241 | 389 | 510 | 130 | 268 | 739 | | |
| 350 | 241 | 806 | 833 | 585 | 205 | 623 | 567 | 241 | 341 | 843 | 560 | 546 | 810 | 796 | 180 | 842 | | |
| 948 | 303 | 274 | 173 | 361 | 273 | 241 | 533 | 446 | 590 | 280 | 759 | 334 | 205 | 307 | 654 | 447 | | |
| 408 | 221 | 818 | 938 | 997 | 241 | 216 | 554 | 566 | 300 | 495 | 472 | 360 | 641 | 543 | 431 | 549 | | |
| 764 | 365 | 241 | 926 | 542 | 395 | 355 | 674 | 241 | 197 | 191 | 653 | 527 | 172 | 140 | 884 | 225 | | |
| 220 | 882 | 979 | 108 | 932 | 919 | 883 | 354 | 358 | 744 | 545 | 809 | 241 | 661 | 968 | 317 | 355 | | |
| 881 | 347 | 609 | 537 | 241 | 809 | 879 | 334 | 540 | 213 | 121 | 555 | 596 | 527 | 241 | 702 | 906 | | |
| 149 | 375 | 858 | 801 | 550 | 241 | 965 | 628 | 388 | 163 | 477 | 989 | 553 | 840 | 494 | 809 | 605 | | |

**After all tasks in Assignment 3:**

You have now completed the third and final assignment. Your total score on Assignment 3 is **0.**

Press >> to continue to the next part of the experiment.

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## Part 2 – Determination of payments

You have now completed your work on all three assignments. We will now explain how you will paid for this work. After you have completed this HIT, we will for each assignment match you with another participant who has completed the same assignment. The payment to you and the other participant is determined by a two-stage process. Below we explain this process in more detail.

**First stage:**

Assignment 1: For this assignment, your earnings are determined by a lottery where each of you with equal probability earns 6 USD or 0 USD.

Assignment 2: For this assignment, your earnings are determined in the same way as for assignment 1.

Assignment 3: For this assignment, your earnings are determined by how productive you are. The participant with the highest score earns 6 USD and the other participant earns 0 USD. If you both have the same score, you will be matched with another participant.

**Second stage:**

For each assignment, a randomly selected third person will be given the opportunity to redistribute the earnings between you and the other participant. This person will not know the identity of you or the other participant, but will be informed about the nature of the assignment and your earnings for this assignment.

For each assignment, either you or the other participant earns 6 USD and the other participant earns 0 USD. If the third person chooses not to redistribute, each of you will be paid your earnings from the assignment. If the third person chooses to redistribute earnings for assignment 1 and 3, increasing the payment of the participant with the low earnings by 1 USD decreases the other participant's payment by 1 USD. For assignment 2, increasing the payment of the participant with the low earnings by 1 USD will decrease the other participant's payment by 2 USD.

You will receive your payments for the three assignments within three weeks and it will be paid separately from your fixed participation fee of 2 USD.

Please click >> to continue.

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Finally, if you have any comments or suggestions related to this experiment please write them down in the blank space below. Your feedback is very important to improve our research.

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### B.2.2 Protocol for Workers recruited on Amazon Mechanical Turk – follow-up experiment

*Please read the instructions below carefully*

**General instructions:**

The results from this experiment will be used in a research project. It is therefore important that you carefully read and follow all instructions. Note that you will remain anonymous throughout the experiment. We will use your Worker ID to assign payments and check that you have not participated in this experiment before.

You will be paid fixed participation fee of 2 USD and you may, depending on the actions you and others take, earn additional money.

You will be given detailed instructions on your screen before each part of the experiment. Please read the instructions to each part carefully.

If you have questions regarding this study, you may contact thechoicelab@nhh.no
I have read and understood the above and want to participate in this study:

Yes

No

>>

**Part 1 - Production phase**

The first part of the experiment is a production phase where you are given an assignment to work on. Go on to the next page to receive instructions for this assignment.

**Assignment:**

In this assignment you are asked to work on a sentence unscrambling task for 5 minutes. Your performance will not be measured as there is no right or wrong answer, but we ask you to work continuously on this assignment.

**Description of the assignment:**

You will be shown five English words and are asked to form a sentence or an expression by using four of these words. This means that each sentence or expression must only contain four words.

For example, if the words given to you are **"sky, blue, is, the, old"**, then you can construct the sentence:

**the sky is blue**

Write the sentence or expression that you form into the blank space using your keyboard. Your answer will be submitted automatically after 20 seconds and you will auto-advance to five new words.

This assignment will last for 5 minutes and we ask you to work continuously. When you have read and understood the instructions press >> to start the assignment.

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**Illustration of task in Assignment:**

**Question 1**

CUP THE OFF LIGHTS TURN

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**After all tasks in Assignment:**

You have now completed the assignment. Press >> to continue to the next part of the experiment.

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## Part 2 - Determination of payments

You have now completed your work on the assignment. We will now explain how you will be paid for this work. After you have completed this HIT, we will match you with another participant who has completed the same assignment. The payment to you and the other participant is determined by a two-stage process. Below we explain this process in more detail.

**First stage:**

For this assignment, your earnings are determined by a lottery where each of you with equal probability earns 6 USD or 0 USD.

**Second stage:**

A randomly selected third person will be given the opportunity to redistribute the earnings between you and the other participant. This person will not know the identity of you or the other participant, but will be informed about the nature of the assignment and your earnings of this assignment.

For this assignment, either you or the other participant earns 6 USD and the other participant earns 0 USD. If the third person chooses not to redistribute, each of you will be paid your earnings from the lottery. If the third person chooses to redistribute earnings, each of you will be paid the amount decided by the third person.

You will receive your payments for the assignment within three weeks and it will be paid separately from your fixed participation fee of 2 USD.

Please click >> to continue.

## Part 2 - Determination of payments

You have now completed your work on the assignment. We will now explain how you will be paid for this work. After you have completed this HIT, we will match you with another participant who has completed the same assignment. The payment to you and the other participant is determined by a two-stage process. Below we explain this process in more detail.

**First stage:**

For this assignment, your earnings are determined by a lottery where each of you with equal probability earns 6 USD or 0 USD. The lottery has determined that you earn 0 USD.

**Second stage:**

A randomly selected third person will be given the opportunity to redistribute the earnings between you and the other participant. This person will not know the identity of you or the other participant, but will be informed about the nature of the assignment and your earnings of this assignment.

If the third person chooses not to redistribute, each of you will be paid your earnings from the lottery. If the third person chooses to redistribute earnings, each of you will be paid the amount decided by the third person.

You will receive your payments for the assignment within three weeks and it will be paid separately from your fixed participation fee of 2 USD.

Please click >> to continue.

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Within three weeks, we will pay you after your final earning is determined. Finally, if you have any comments or suggestions related to this experiment please write them down in the blank space below. Your feedback is very important to improve our research.

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