

Shallow Meritocracy
Pre-Registration
Origin of Circumstances
Effort Costs
Bonus

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1 Research Questions

Meritocrats disagree whether actual or counterfactual comparable choices should be rewarded. An open question is to what extent these different fairness preferences are sensitive to the context.

In the main experiment, unequal circumstances are caused by a fair lottery: both workers have the same chance to earn the high piece rate. How important is a fair origin of unequal circumstances? Is effort rewarded because spectators want to compensate for the utility costs of working? Actual choice meritocrats might reward workers in proportion to their actual choices because they want to compensate them for the effort costs that they incurred.

Spectators might be hesitant to intervene too strongly in the pre-existing inequality. Would they be more eager to compensate the disadvantaged worker for the discouraging effect of circumstances if they could distribute an additional bonus?

2 Experimental Design

The *Origin of Circumstances* study, the *Effort Costs* study, and the *Bonus* study provide first answers.

Baseline setting All studies replicate the basic setting of the counterfactual study with known counterfactual choices. This setting allows me to distinguish between actual choice and comparable choice meritocrats, thus, enabling me to study whether context matters for the prominence of

Table 1: Scenario structure

	(1)	(2)	(3)	(4)-(7)
Actual effort share of worker B				
Effort scenario	0%	10%	30%	Random*
Counterfactual effort share of worker B, cross-randomized across participants				
Low counterfactual	0%	10%	30%	Random*
High counterfactual	50%	50%	50%	Random*

*Effort choices: E_A is uniformly randomly drawn from the integers between 0 and 50. E_B ranges from 0 to 25. Counterfactual effort choice of worker B: C_B ranges from E_B to 50.

Notes: This table presents an overview of all seven effort scenarios. A contingent response method is used: Each spectator faces eight effort scenarios. The seven scenarios above are hypothetical. An eighth effort scenario (not shown) is real. Spectators do not know which scenario is real and have to take each of their decisions seriously.

actual choice meritocratic and comparable choice meritocratic redistributive decisions. In particular, this means that

- worker A knows that he receives the high piece rate of \$0.50 and chooses his effort accordingly; worker B knows that he receives the low piece rate of \$0.10 and chooses his effort accordingly;
- spectators also learn how many tasks the disadvantaged worker would have completed had he earned the high piece rate;
- spectators face multiple scenarios and their redistribution decisions are incentivized via the contingent response method (the scenario structure is described in Table 1);
- scenarios 1–3 come in two cross-randomized conditions: *low counterfactual* (worker B would not complete more tasks for the high rate) and *high counterfactual* (worker B would complete as many tasks as worker A for the high rate), scenario 4–7 are randomly generated (see Table 1).

The Origin of Circumstances study The study investigates whether a fair or unfair origin of circumstances matters for the prevalence of actual choice meritocratism. Participants are randomized into one of three conditions.

Equal chance Both workers have a 50% chance to earn a high or low piece rate, respectively.

Unequal chance Worker A has a 90% chance to earn the high piece rate. Worker B has only a 10% chance to earn the high piece rate.

Selfishly taken Worker A could choose between an option (\$0.30, \$0.30) with equal piece rates for both workers and an option (\$0.50, \$0.10) with a high piece rate for him but a low piece rate for the other worker. Worker A chose the selfish option (\$0.50, \$0.10).

In comparison to the control condition, circumstances are determined unfairly in the conditions *Unequal chance* and *Selfishly taken*.

This is an active-control design. To ensure comparability, the control condition is not an exact replication of the counterfactual experiment. Instead, the fact that workers had an equal chance to earn the high piece rate is made more salient.

The Effort Costs Study The study investigates whether compensating effort costs is an important motive for actual choice meritocrats. Participants are randomized into one of two conditions. They learn that workers evaluated the training tasks that they solved on a five-point scale from “tedious and tiresome” to “exciting and entertaining” .

Low effort costs Spectators learn that both workers in their pair evaluated the task as “tedious and tiresome” (giving it a score of 1 or 2).

High effort costs Spectators learn that both workers in their pair evaluated the task as “exciting and entertaining” (giving it a score of 5).

This is an active-control design. The conditions exogenously manipulate spectators’ beliefs about the effort costs that workers incur. The higher the perceived costs, the more important it would be to compensate them, and the more prevalent actual choice meritocratism should become—if compensating for effort costs is indeed a key motive among meritocrats.

The Bonus Study The study investigates meritocratic reward decisions when spectators do not redistribute earnings but instead distribute an additional bonus.

Bonus Spectators cannot redistribute earnings. Instead, they can freely distribute a \$20 bonus between both workers.

Decisions taken in the bonus condition can cautiously be compared to decisions taken in the *equal chance* condition of the *Origin of Circumstances* study. However, it is important to not forget that the two conditions not only vary the distribution technology (redistribution versus bonus) but also the stakes ($p_A + p_B$ versus \$20) and the elicited variable (total payment shares versus bonus shares).

3 Sampling

Sample Size About 2400 Prolific respondents (400 per treatment). The three studies are run in parallel. Participants are randomly assigned to a study.

Intervention Dates I plan to collect the data in July 2023, starting July 18, 2023 (right after the pre-analysis plan has been uploaded).

Existing Data The following parts of the data have already been collected for (technical) piloting purposes and, to maximize power, will be included in the final analysis.

- Pilot: July 14, 2023, about 100 observations per treatment.

Exclusion Criteria Survey responses will be excluded from the analysis if the respondent

- does not complete the study
- has already participated in the study
- spends too little time on reading the experimental instructions in part 1 before the treatment variation is introduced (drop respondents with less than 30 seconds reading time)

4 Experimental Instructions

The key pages on which the new studies differ from the counterfactual study are shown below.

4.1 Origin of Circumstances: Equal Chance

Which piece-rates were assigned to worker A and worker B?

The piece-rates were randomly assigned to the workers. Both workers had the **same chance** to earn the high piece-rate.

Worker A had a chance of 50% to earn the high piece-rate.

Worker B also had a chance of 50% to earn the high piece-rate.

Here is what happened:

Worker A was assigned the high piece-rate, which means that **worker A earned \$0.50 per completed task**. Worker A was informed about the rate, and then A completed the number of tasks he/she committed to do for a piece-rate of \$0.50.

Worker B was assigned the low piece-rate, which means that **worker B earned \$0.10 per completed task**. Worker B was informed about the rate, and then B completed the number of tasks he/she committed to do for a piece-rate of \$0.10.

Note: The comprehension quiz controls whether participants understand the origin of unequal circumstances.

Scenario 1

How were the piece-rates determined?

Randomly. Both workers had the same chance of 50% to earn the high piece-rate.

Which piece-rates did the workers receive?

- Worker A: \$0.50
- Worker B: \$0.10

How many tasks did they complete?

- Worker A: 50 tasks (100% of the work)
- Worker B: 0 tasks (0% of the work)

Payment

- Worker A: \$25.00 (100% of the total payment)
- Worker B: \$0.00 (0% of the total payment)

Total payment: \$25.00

What if worker B had also earned a piece-rate of \$0.50?

For a piece-rate of \$0.50, worker B would still have completed 0 tasks.

- Worker A: 50 tasks (100% of the work)
- Worker B: 0 tasks (0% of the work)

Please split the total payment between both workers.

To do so, please specify which share of the total payment each worker gets. The shares need to add up to 100%.

Share of worker A	<input type="text" value="0"/> %
Share of worker B	<input type="text" value="0"/> %
Total	<input type="text" value="0"/> %

Note: The scenarios are randomly selected (see Table 1). All scenarios are displayed analogously.

4.2 Origin of Circumstances: Unequal Chance

Which piece-rates were assigned to worker A and worker B?

The piece-rates were randomly assigned to the workers. However, worker A had a much higher chance to receive the high piece-rate.

Worker A had a chance of 90% to earn the high piece-rate.

Worker B only had a chance of 10% to earn the high piece-rate.

Here is what happened:

Worker A was assigned the high piece-rate, which means that worker A earned \$0.50 per completed task. Worker A was informed about the rate, and then A completed the number of tasks he/she committed to do for a piece-rate of \$0.50.

Worker B was assigned the low piece-rate, which means that worker B earned \$0.10 per completed task. Worker B was informed about the rate, and then B completed the number of tasks he/she committed to do for a piece-rate of \$0.10.

Note: The comprehension quiz controls whether participants understand the origin of unequal circumstances.

Scenario 1

How were the piece-rates determined?

Randomly. But worker A had a much higher chance of 90% to earn the high piece-rate. Worker B had only a chance of 10%.

Which piece-rates did the workers receive?

- Worker A: \$0.50
- Worker B: \$0.10

How many tasks did they complete?

- Worker A: 35 tasks (70% of the work)
- Worker B: 15 tasks (30% of the work)

Payment

- Worker A: \$17.50 (92% of the total payment)
- Worker B: \$1.50 (8% of the total payment)

Total payment: \$19.00

What if worker B had also earned a piece-rate of \$0.50?

For a piece-rate of \$0.50, worker B would still have completed 15 tasks.

- Worker A: 35 tasks (70% of the work)
- Worker B: 15 tasks (30% of the work)

Please split the total payment between both workers.

To do so, please specify which share of the total payment each worker gets. The shares need to add up to 100%.

Share of **worker A**

 %

Share of **worker B**

 %

Total

 %

Note: The scenarios are randomly selected (see Table 1). All scenarios are displayed analogously.

4.3 Origin of Circumstances: Selfishly taken

Which piece-rates were assigned to worker A and worker B?

Worker A could decide which piece-rates the two workers were assigned.

Worker A could decide between two options.

Option "Unequal Rates": Worker A earns the high piece-rate of \$0.50, but worker B only earns the low piece-rate of \$0.10.

Option "Equal Rates": Both workers earn an equal piece-rate of \$0.30.

Here is what happened:

Worker A chose the "Unequal Rates" option, even though he or she could also have chosen equal piece-rates for both workers. As a consequence ...

Worker A was assigned the high piece-rate, which means that **worker A earned \$0.50 per completed task**. Worker A was informed about the rate, and then A completed the number of tasks he/she committed to do for a piece-rate of \$0.50.

Worker B was assigned the low piece-rate, which means that **worker B earned \$0.10 per completed task**. Worker B was informed about the rate, and then B completed the number of tasks he/she committed to do for a piece-rate of \$0.10.

Note: The comprehension quiz controls whether participants understand the origin of unequal circumstances.

Scenario 1

How were the piece-rates determined?

Worker A could decide which piece-rates the two workers were assigned. Worker A chose the "Unequal Rates" option, even though he/she could also have chosen equal piece-rates for both workers.

Which piece-rates did the workers receive?

- Worker A: \$0.50
- Worker B: \$0.10

How many tasks did they complete?

- Worker A: 50 tasks (100% of the work)
- Worker B: 0 tasks (0% of the work)

Payment

- Worker A: \$25.00 (100% of the total payment)
 - Worker B: \$0.00 (0% of the total payment)
- Total payment: \$25.00*

What if worker B had also earned a piece-rate of \$0.50?

For a piece-rate of \$0.50, worker B would also have completed 50 tasks.

- Worker A: 50 tasks (50% of the work)
- Worker B: 50 tasks (50% of the work)

Please split the total payment between both workers.

To do so, please specify which share of the total payment each worker gets. The shares need to add up to 100%.

Share of **worker A** %

Share of **worker B** %

Total %

Note: The scenarios are randomly selected (see Table 1). All scenarios are displayed analogously.

4.4 Effort Costs: Low Costs

Did the workers like the task?

We asked both workers whether they found the task "tedious and tiresome" or "exciting and entertaining". We did so after they completed their first two training tasks. The workers could respond on a five-point scale.

Both worker A and worker B said that the task is "exciting and entertaining" (giving it a score of 5). This means that worker A and worker B enjoyed working on the task.

Note: The comprehension quiz controls whether participants understand this information.

Scenario 1

How were the piece-rates determined?

Randomly. Both workers had the same chance of 50% to earn the high piece-rate.

Which piece-rates did the workers receive?

- Worker A: \$0.50
- Worker B: \$0.10

How many tasks did they complete?

- Worker A: 50 tasks (100% of the work)
- Worker B: 0 tasks (0% of the work)

Payment

- Worker A: \$25.00 (100% of the total payment)
- Worker B: \$0.00 (0% of the total payment)

Total payment: \$25.00

What if worker B had also earned a piece-rate of \$0.50?

For a piece-rate of \$0.50, worker B would also have completed 50 tasks.

- Worker A: 50 tasks (50% of the work)
- Worker B: 50 tasks (50% of the work)

Recall: Both worker A and worker B liked the task and found it "exciting and entertaining".

Please split the total payment between both workers.

To do so, please specify which share of the total payment each worker gets. The shares need to add up to 100%.

Share of worker A	<input type="text" value="0"/>	%
Share of worker B	<input type="text" value="0"/>	%
Total	<input type="text" value="0"/>	%

Note: The scenarios are randomly selected (see Table 1). All scenarios are displayed analogously.

4.5 Effort Costs: High Costs

Did the workers like the task?

We asked both workers whether they found the task "tedious and tiresome" or "exciting and entertaining". We did so after they completed their first two training tasks. The workers could respond on a five-point scale.

Both worker A and worker B said that the task is "tedious and tiresome" (giving it a score of 1 or 2). This means that worker A and worker B did **not** enjoy the task. Instead, it was monotonous, boring, and hard work for them.

Note: The comprehension quiz controls whether participants understand this information.

Scenario 1

How were the piece-rates determined?

Randomly. Both workers had the same chance of 50% to earn the high piece-rate.

Which piece-rates did the workers receive?

- Worker A: \$0.50
- Worker B: \$0.10

How many tasks did they complete?

- Worker A: 50 tasks (100% of the work)
- Worker B: 0 tasks (0% of the work)

Payment

- Worker A: \$25.00 (100% of the total payment)
- Worker B: \$0.00 (0% of the total payment)

Total payment: \$25.00

What if worker B had also earned a piece-rate of \$0.50?

For a piece-rate of \$0.50, worker B would still have completed 0 tasks.

- Worker A: 50 tasks (100% of the work)
- Worker B: 0 tasks (0% of the work)

Recall: Both worker A and worker B disliked the task and found it "tedious and tiresome".

Please split the total payment between both workers.

To do so, please specify which share of the total payment each worker gets. The shares need to add up to 100%.

Share of worker A	<input type="text" value="0"/>	%
Share of worker B	<input type="text" value="0"/>	%
Total	<input type="text" value="0"/>	%

Note: The scenarios are randomly selected (see Table 1). All scenarios are displayed analogously.

4.6 Bonus

Your decisions

In the last weeks, we hired 200 workers and matched them into 100 pairs. The decisions that you and others make in this study determine their final earnings. We randomly select one study respondent for each pair of workers.

If you are one of the selected respondents, **your decisions determine the final earnings of a pair of workers**. Let us call them *worker A* and *worker B*.

You can distribute an additional bonus of \$20 between worker A and worker B. That is, you decide which share of the additional \$20 each worker receives. You can freely choose how to distribute the bonus of \$20 between both workers. The bonus is paid on top of the workers' other earnings.

Completely anonymous: Please note that your decisions are completely anonymous. The workers will receive the shares that you choose with no further information. In particular, they will not learn anything about you or the nature of your decisions.

Note: The comprehension quiz controls whether participants understand this information.

Scenario 1

How were the piece-rates determined?

Randomly. Both workers had the same chance of 50% to earn the high piece-rate.

Which piece-rates did the workers receive?

- Worker A: \$0.50
- Worker B: \$0.10

How many tasks did they complete?

- Worker A: 35 tasks (70% of the work)
- Worker B: 15 tasks (30% of the work)

Payment

- Worker A: \$17.50 (92% of the total payment)
- Worker B: \$1.50 (8% of the total payment)

Total payment: \$19.00

What if worker B had also earned a piece-rate of \$0.50?

For a piece-rate of \$0.50, worker B would also have completed 35 tasks.

- Worker A: 35 tasks (50% of the work)
- Worker B: 35 tasks (50% of the work)

Please split the additional bonus of \$20 between both workers.

To do so, please specify which share of the \$20 each worker gets. The shares need to add up to 100%. The bonus is paid on top of the workers' other earnings.

Share of the \$20 bonus for worker A	<input type="text" value="0"/> %
Share of the \$20 bonus for worker B	<input type="text" value="0"/> %
Total	<input type="text" value="0"/> %

Note: The scenarios are randomly selected (see Table 1). All scenarios are displayed analogously.