

Comparing Direct and Indirect Measures of Just Rewards:
What Have We Learned?

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We appreciate the opportunity to comment on Professor Jasso's response to our article "Comparing Direct and Indirect Measures of Just Rewards." We will offer a short rejoinder, first by reiterating the key points from our original article:

1. Jasso argued that her indirect method for inferring just rewards is preferable to direct methods because the former is less susceptible to biases. We pointed out that this claim was merely speculative, and that old and new evidence show both methods to be susceptible to severe biases.

2. Results from our research found the two methods to be uncorrelated over the identical set of stimuli, and hence at least one of the methods must be seriously unreliable. A strong indication that the indirect method is the less reliable method was provided by the finding that the indirect method inferred just rewards that were implausibly extreme. This finding was consistent with data that Jasso reported in 2008, but she did not address the problem at that time.

3. Direct and indirect methods both must assume that respondents have in mind just rewards for practically any set of contextual factors. This assumption is both unproven and implausible. The alternative assumption is that respondents use situational cues to help them render fairness judgments but, as a consequence, their judgments are biased by those cues.

4. We noted that anchoring theory specifies conditions for the occurrence of biases due to the presence of anchor information in the judgment context. These conditions were satisfied in Jasso's vignettes. Predictably, results both from prior research and from our new research indicated strong anchoring biases for both direct and indirect justice vignette measures.

5. The indirect method uses a statistical model whose specification differs from the theoretical model that it ostensibly implements. This specification error introduces biases of its own.

Less technically phrased, the message from these key points is this. For many reasons it is difficult to establish with any accuracy what reward to a hypothetical rewarder that a respondent finds truly just. A priori, no clear reason has been provided why asking respondents directly what reward is just would be less accurate than inferring just rewards indirectly from justice judgments of hypothetical rewards. In contrast, there are obvious reasons to expect an indirect method to be less accurate, including the

anchoring effect of the hypothetical reward, the novelty of the justice judgment task, and the imperfection of the model assumptions necessary to indirectly infer just rewards. Thus, use of the indirect method cannot be defended on a priori grounds. So, is there empirical evidence that points in another direction? No. The data clearly points to both anchoring effects and generally less plausible results from the indirect method.

RESPONSES

In “Safeguarding Justice Research,” Jasso attempted both sweeping dismissals and oblique deflections of the problems we raised. Below we will briefly address the major dismissals and deflections, and conclude that all of our key points remain intact.

Relevance of Our Work. Jasso discounted our analysis because we addressed only one variant of her indirect method. We acknowledged this in our paper, but also emphasized that our focus was the most often published and most recently published variant of her method.

Replication. Jasso also discounted our research because it did not exactly replicate hers. Although there were minor differences, which we acknowledged, our research design complied with her specifications and yielded results very similar to her own in every pertinent way. She further contended that our failing to randomize the sequence of indirect vs. direct measures was a serious flaw. We disagree, first because a sequence effect would not have impacted the most problematic responses—those gathered using the indirect method—as those were the first responses in the sequence; second because the reported lack of correlation between the two measures is difficult to interpret as a sequence effect.

This lack of any correlation between direct and indirect measures strikes us as a particularly significant problem for Jasso’s method. The direct method is to simply ask what a person believes is fair for a given situation. The inferred just rewards can be accurate only if the same participants’ responses to the direct question have no correlation to what they actually believe. This interpretation seems extremely farfetched compared to the alternative: that it is the range of problematic issues with the indirect method that creates the noise.

Data Analysis. Jasso argued that our analysis was incomplete because we conducted only the first of five steps. This is beside the point, as the subsequent steps are not designed to rectify any problems with the data produced by the first step.

Model Specification. We pointed out that Jasso's statistical model *omits* a *variable* specified in her theoretical model, and that this leads to the *problem* of *biases* in just reward inferences. (Note the four italicized words in the preceding sentence.) Jasso claimed that by characterizing this problem as a specification error, we "ignored the fact that the discrepancy...is simply an example of the well-known *omitted variable bias problem*" (emphasis added). Obviously we were talking about the same thing. Without admitting that this problem may have impacted any of her findings, Jasso proceeded to model its magnitude and to suggest a new research protocol designed to mitigate its effects. Although pleased to see this suggestion, we caution that solving one problem with the indirect model is unlikely to make it useful.

Outlier Issue. We were also pleased that Jasso offered a provisional approach to dealing with outliers in her data, but again without acknowledging that this problem may have impacted any of her previously published results. We first became aware of the outlier problem in a pre-publication version of Jasso and Meyerson Milgrom (2008) ("JMM") that included a subset of their data. Some extreme outliers were readily apparent, but unacknowledged by the authors and still included in the analyses. We do not know the extent of the outlier problem in the full JMM data set, nor in Jasso's other published research using the method, because she has declined all of our requests to see the data. However, we can say that using the \$500 million CEO salary cut-off that she suggested in her response, 46% of our respondents would have had some of their inferred just pay responses excluded, and nearly 9% of all responses would be dropped. Moreover, Jasso did not even consider the flip-side of the problem: The indirect method generates numerous untenably *low* fair salary estimates. Even setting the CEO salary floor at a ridiculously low \$50,000, 78% of our respondents would have outlying responses. In all, 24% of their responses would have to be dropped from the analysis due to low outlying responses. Relatively lax criteria thus would require 1/3 of all indirectly measured fair pay responses to be deemed "outliers" in our

data.¹ The obvious question is why the remaining 2/3 of the data generated by the same method should be trusted.

The Fatal Correlation. Trimming outliers from the data accentuates another problem: It increases the correlation between $\ln(A)$ and $\ln(C)$, a correlation that Jasso acknowledged would be problematic for her method. She contended that this correlation “can be zero” and derived special conditions for that hypothetical case. Hypothetically, we agree. The problem is that eliminating the more wildly untenable cases from the data leads to increases in this fatal correlation. The correlation between $\ln(A)$ and $\ln(C)$ is .32 when we eliminate cases for which estimated just pay differed from the direct measure by more than a factor of 10. Narrow the criterion to a factor of 2 and the correlation jumps to .58, a serious problem indeed, and one that is attributable in part to the anchoring effect of hypothetical reward (A) values.

Anchoring Issue. Jasso’s denial of anchoring is remarkable in view of the robustness of these effects in (i) our reported data (and almost certainly hers as well), (ii) other justice vignette research, and (iii) other economic judgment contexts (e.g., Ariely 2003). Her numerous reasons for *not* expecting to find anchoring biases might be more compelling if not for the fact that they were explicitly predicted and clearly present. Her strongest argument against the existence of anchor effects, however, would appear to be the recent study she cited: Jasso (2006). In this study, hypothetical salaries in one set of vignettes were 1.5 times those in an otherwise identical set, but clear and consistent anchor effects across these two conditions were *not* observed. There are several problems with this research, however. First, Jasso herself characterized it as a “small pilot study” and that “further analysis of these data is warranted.” Second, the study was embedded in a Festschrift chapter, not published as a research report in a peer-reviewed journal. Third and most important, the data were reported in a way that would mask anchor effects rather than reveal them. Let us focus on this point for a moment

As noted, the hypothetical pay values differed by a factor of 1.5 across groups. This leaves very little room to detect an anchor effect. It would have made more sense to check for anchor effects *within* groups, where the highest anchor exceeded the lowest by a factor of 20. By way of comparison with the JMM

¹ In contrast, only 3% of directly measured fair pay responses would be outliers by the same criteria.

study, the highest anchor there exceeded the lowest by a factor of 12,000. By looking only at the 1.5-to-1 anchor comparison and aggregating across the more wide-ranging anchor conditions, the chances for observing any true anchor effects were minimized.

CONCLUSION

We have learned from our research that there are some wonderfully subtle issues in the analysis of empirical indicators of fairness perceptions. We maintain that there is considerable support for our contentions regarding weaknesses in the indirect method. Finally, we look forward to exploring further how anchoring and other judgment heuristics play a role in the social construction of fairness perceptions. We hope that Jasso will become a participant with us in that exploration.

REFERENCES

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