

On the Use of Outcome Tests for Detecting Bias in Decision Making

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ABSTRACT

The decisions of judges, lenders, journal editors, and other gatekeepers often lead to disparities in outcomes across affected groups. An important question is whether, and to what extent, these group-level disparities are driven by relevant differences in underlying individual characteristics, or by biased decision makers. Becker (1957) proposed an outcome test for bias leading to a large body of related empirical work, with recent innovations in settings where decision makers are exogenously assigned to cases and vary progressively in their decision tendencies. We carefully examine what can be learned about bias in decision making in such settings. Our results call into question recent conclusions about racial bias among bail judges, and, more broadly, yield four lessons for researchers considering the use of outcome tests of bias. First, the so-called generalized Roy model, which is a workhorse of applied economics, does not deliver a logically valid outcome test without further restrictions, since it does not require an unbiased decision maker to equalize marginal outcomes across groups. Second, the more restrictive "extended" Roy model, which isolates potential outcomes as the sole admissible source of analyst-unobserved variation driving decisions, delivers both a logically valid and econometrically viable outcome test. Third, this extended Roy model places strong restrictions on behavior and the data generating process, so detailed institutional knowledge is essential for justifying such restrictions. Finally, because the extended Roy model imposes restrictions beyond those required to identify marginal outcomes across groups, it has testable implications that may help assess its suitability across empirical settings.

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