Understanding the NBA Analysis

The NBA have been gracious enough to share with me their consultants' analysis of the referee calls over the 2½ year period running from November 2004 to January 2007.

The NBA analysis comes in two parts: A narrative description of how the NBA-employed analysts elected to interpret their statistical output, and the statistical output itself. Unfortunately, the NBA narrative is directly contradicted by the NBA's own statistical output. Indeed, to the extent that the NBA's analysis adds anything to the debate, it provides further evidence that is consistent with the Price-Wolfers study.

The NBA's own statistical analysis directly contradicts Commissioner Stern's conjecture that his analysis provides proof of the absence of discrimination. Commissioner Stern has consistently trumpeted his own analysis as more robust, and his own cut of the data agrees with the findings highlighted in our study.

In saying this, we should emphasize that we do not endorse the NBA's methodology, and have not had an opportunity to examine their data (despite our willingness to sign appropriate non-disclosure agreements and to work with an appropriately-anonymized dataset on their computers in their offices). In light of the public statements of Commissioner Stern and Joel Litvin, we were surprised to find that even taking the NBA analysis at face value, it is consistent with our findings.

The NBA's statistical analysis involves three relevant statistical models. Two of these models yield statistically significant estimates of own-race bias. The third model is the least complete, and as presented, unsuitable for any statistical inference, because it fails to take account of possible differences in playing style by different players. Nonetheless, we provide a framework for understanding the implications of this third model, and find that when it is interpreted appropriately, it also points to an own-race bias.

We have compiled a set of PowerPoint slides, titled "Understanding the NBA Study". This set of slides includes excerpts from the NBA statistical output, and provides some commentary detailing their findings. We provide this in the hopes that it will clarify earlier misrepresentations by the NBA about these data.

While it is interesting that the NBA analysis finds evidence of own-race bias, we find the approach detailed in our research paper, "Racial Discrimination Among NBA Referees" to be more convincing. Our methods are more transparent, and the analysis has now been debated by experts at leading universities across the country, as well as experts in both labor economics and law and economics. We encourage interested analysts to read that research in its entirety, in order to understanding both our findings, and the qualifications to our analysis.

Debating statistical issues in the public domain is always difficult, and there are many subtleties involved in many of these debates. In this case, the subtleties still exist, but the problem we are pointing to is not subtle: the NBA analysts draw the wrong inferences from their data. One can debate whether or not the NBA study should be relied upon. But the point at issue is simply that NBA study finds statistically significant evidence of own-race bias.

Justin Wolfers, May 7, 2007

Copies of the research paper, an executive summary, and an update to our analysis, and the discussion of the NBA analysis are available at:
http://bpp.wharton.upenn.edu/jwolfers/research.shtml#NBARace