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Sameer K Deshpande* (dsameer@wharton.upenn.edu), 434 Jon M. Huntsman Hall, 3730 Walnut St, Philadelphia, PA 19104, and **Shane Jensen**. *Two New Metrics for Evaluating How NBA Players Help Their Teams Win*. Preliminary report.

Traditional NBA player evaluation metrics are usually based on scoring differential or the accumulation of points, rebounds, assists, etc. These measures treat performances with the outcome of the game still in question (e.g. tie score with five minutes left) in exactly the same way as they treat performances with the outcome of the game virtually decided (e.g. when one team leads by 30 points with one minute left). Because these methods do not consider the context in which players perform, they can result in misleading estimates of how players help their team win.

We instead use a win probability framework for evaluating NBA players. We propose a linear regression model to estimate an individual player's effect on his team's chance of winning the game, after controlling for his teammates, opponents, and potentially many other variables. Rather than treating each player's impact as a fixed constant, we adopt a Bayesian approach. We introduce two new player-evaluation metrics that balance a player's effect with variations in his performance and identify a group of high-impact players previously undervalued by metrics like Player Efficiency Rating and Real Plus/Minus. (Received September 13, 2014)