1096-G5-2023   **Jonathan Sargent***, jonathan.sargent@student.rmit.edu.au, Melbourne, Australia. *A profitable adjustive rating system for NBA teams.*

This paper investigates an adjustive rating system for National Basketball Association (NBA) teams. Adjustive ratings in sport are derived from evaluations of the performance of a team or individual player—most often with prior performances in mind—where ratings increase, decrease or remain constant depending on above, below and met expectations respectively. With knowledge of NBA team and opponent pre-match ratings, and any home-court advantage, reasonable assumptions can be made regarding the outcome of a match between the two teams. This paper will demonstrate how fitting an Elo-influenced logistic curve to match data is profitable for betting on head-to-head markets in the NBA. Moreover, return on investment can be increased by optimising home-court advantage and margin of victory parameters with respect to the win likelihood in an impending match. Finally, a polynomial curve is fitted to the match prediction data to estimate a margin of victory, aiding in the determination of a team "covering the line". It is anticipated that this methodology will translate simply to other invasion sports such as soccer and hockey. (Received September 17, 2013)