Utility Maximization and Player Procurement: An Investigation of Major League Baseball

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Willingness and ability to spend financial resources varies greatly among teams in Major League Baseball (MLB). This phenomenon is apparent in the player salary disparity between large and small market teams (Depken, 2000). The difference in salary budget brings into question how small market MLB teams can possibly compete against teams in larger markets who can offer players higher levels of salary compensation. Previous scholars have looked at the relationship of market size, pay, and performance (Burger & Walters, 2003), as well as other determinants of player salary such as race, ethnicity, and physical attributes (Stone & Pantuosco, 2008). Together, these areas have been analyzed using the Moneyball hypothesis, where inefficiencies in the sport labor market are determined in order to gain competitive advantages (Hakes & Sauer, 2007). However, the lifespans and inherent competitive advantages of these inefficiencies are often short-lived as more teams become aware. Very little research has identified a more permanent strategy for player procurement that can assist small market teams to compete. To fill this gap, the current research employs the economic principle of utility maximization in order to determine where MLB teams get the most production for money spent. Through this somewhat novel approach, the current study contributes to the body of research concerning salary and organizational efficiency in sport.

To answer the question of how MLB teams can maximize their utility of player production received for the amount of money spent, a quantitative, multiple regression analysis was used. The dataset included all players with at least one year of MLB service time who were on a 25-man MLB rosters at the end of the 2019 MLB regular season (n ≈ 650). Dependent variables were lifetime player salary and lifetime player production as represented by the sabermetric statistic Wins Above Replacement (WAR). WAR is a widely used statistic that summarizes the total contribution of a player to their team over a given time period (Slowinski, 2010). The independent variable was the player’s place of birth, with many other control variables such as physical attributes, position played, college experience, and draft status.

Preliminary analysis of the data shows that players born in the United States are typically more expensive on a per-WAR basis than players who were born in other countries. Furthermore, players who attended college were typically less expensive than those who were drafted out of high school. Initial implications of this research provide insight to MLB front office personnel about where they can generally get the most player production (i.e., utility) for the money spent on player salary. As this project continues, further analysis will hope to build a general player profile which maximizes the amount of production in terms of WAR, while minimizing the amount of money spent. In other words, the goal is to determine a profile for the typical player that yields small market, budget conscious teams the most bang for their buck, and therefore provides understanding of where these teams can focus their player procurement efforts to maximize utility.