

Examining the Relationship Between Salary, Player and Team Performance Among Homegrown Players in Major League Baseball

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Major League Baseball, with its lack of team payroll restriction, has become a league rife with perennial winners, and cellar dwelling losers. This is often because highly valuable players, those that produce wins, come at a high market price. Subsequently, it is large market franchises that are able to control the market share of valuable resources in the form of players. This has caused many small market franchises to reexamine their strategies to obtain players at a lower cost to contribute to wins. Examples of this can be seen in the recent Moneyball phenomena, in which the market for professional baseball talent was undervaluing certain statistics, and thus undervaluing the talents of certain players, and teams were able to exploit this for a more efficient use of their resources, and their contributions to wins (Hakes & Sauer, 2007; Thaler & Sunstein, 2003). However, as the phenomena became universally known the opportunity for market exploitation diminished.

In Major League Baseball there are three distinct ways in which to acquire baseball talent: 1) through free agency, where players are free to sign with any team, 2) through player trades made between franchises and 3) through the player draft. Players drafted in the MLB's Developmental Draft, which choose to sign a contract with their draft team, often enter in to the parent club's minor league system. Currently a dearth of literature has been directed at examining the economic conditions of the free agent market. With the creation of MLB free agency in 1975 the market for baseball talent entered a new realm where talent is now both rarely undervalued and often overvalued in the market (Bradbury, 2007; Gassko, 2011). It has also been found that large market teams are more likely to overspend for baseball talent (Lewis, Sexton & Lock, 2007). This poses a problem for small market teams that have smaller payroll budgets.

The purpose of this research is to examine the often overlooked aspect of Major League Baseball farm systems or minor league teams as entities to foster baseball talent. Specifically, how efficient individual MLB teams are able to homegrow their own players, and whether these players contribute to team wins at a market value below their MRP (marginal revenue product). An examination of homegrown players has been in research examining European soccer academies. The use of intra-organization academies in European professional soccer is very similar to that of minor league baseball, particularly in its outsourcing of players to smaller clubs while maintaining the player's rights in order to build a player's skills. Gerrard (2004) has found that the success of high profile soccer clubs is directly related to the amount of shared experiences that team members have with one another, and that the development of homegrown players is directly related to increased competitive advantage. Amenta, Ballor & Di Betta (2012) have found that not only is homegrown talent beneficial in creating team performance, but also in foster greater social connection with local fans, thus increasing attendance. Homegrown player valuations have also been examined by Berman, Down & Hill (2002) in which an examination of the National Basketball Association found that increased shared experiences among team members result in positive outcomes in values of team performance.

This research aims to explore the gap in homegrown player research within Major League Baseball, and to encourage closer examination due to the unique structure of the minor league baseball farm system. With knowledge of previous research it could be hypothesized that by increasing the number of homegrown players on an MLB roster, subsequent increases of team and individual performance would follow. This performance would come at a lower cost to franchises because these players have yet to enter free agency where salaries are often inflated to values greater than a player's marginal revenue product.

To explore this notion of salary efficiency through homegrowing players in MLB franchise systems, data were collected from every MLB opening day roster of the 2009 season. If the players originated from that club, they were coded as a homegrown player. Players were also coded as position players or pitchers. Further, to measure effectiveness and efficiency, salary data for each player and club total were recorded, along with such performance outcomes as wins, earned run average, batting average, and fielding percentage to use as control measures. Because

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we were concerned with effectiveness and efficiency with homegrown players, two multiple regression analyses were utilized with dependent variables of win (effectiveness) and salary (efficiency). On-field performance outcomes were used as control variables in each regression's first step, and each's second step were built with variables of homegrown pitchers, homegrown position players, and overall homegrown players on the club's roster. In terms of effectiveness (achieving wins for the club), results revealed some interesting findings. First, and not surprisingly, the control variables of earned run average ($\beta = -.52, p < .001$) and fielding percentage ($\beta = .16, p < .001$) significantly predicted wins (e.g. "defense wins"). Further, investing in club salary also predicted wins significantly ($\beta = .19, p < .001$; i.e. "buying wins"). Regarding homegrown talent, the number of homegrown position players on the roster significantly improved wins ($\beta = .13, p < .001$), while homegrown pitchers on the club actually detracted from club wins that year ($\beta = -.11, p < .01$). As far as efficiency, the club's fielding percentage ($\beta = .27, p < .001$) and the amount of wins ($\beta = .27, p < .001$) both were connected with salary numbers. Notably here, though, the amount of homegrown pitchers on the club were directly connected to higher salary numbers ($\beta = .53, p < .001$). Conversely, homegrown position players on the club roster actually predict a diminishment in club salary ($\beta = -.10, p < .05$). Here, our study suggests running an effective and efficient ball club can be connected to traditional modes of thinking, such as "investing in wins by spending on salary" or "defense wins." However, results indicate there is much more to that in terms of being able to grow and develop a club's own talent. By scouting carefully and developing effectively, clubs are able to obtain a competitive advantage with homegrown players predicting higher wins and lower club salary totals. Conversely, our results suggest a need to look elsewhere for pitching contributions as homegrown pitchers appear to inflate club salary totals while detracting from club wins.