

Payroll Disparity Among Major League Baseball Teams:
Building a Competitive Team Despite Limited Resources

Sarah Holtschneider

A Senior Thesis submitted in partial fulfillment
of the requirements for graduation
in the Honors Program
Liberty University
Spring 2020

Acceptance of Senior Honors Thesis

This Senior Honors Thesis is accepted in partial fulfillment of the requirements for graduation from the Honors Program of Liberty University.

Scott Ehrhorn, Ph.D.
Thesis Chair

Tammy Brown, DBA
Committee Member

David Schweitzer, Ph.D.
Assistant Honors Director

Date

Abstract

There has been an inequality in payroll among Major League Baseball teams for many years that became increasingly evident in the late 1990s. Revenue disparities among teams cause a competitive imbalance for the league and make it harder for small-market teams to compete with large-market teams with much higher payrolls. MLB has attempted to alleviate this disparity, but the implementation of revenue sharing and the competitive balance tax alone is not enough for small-market clubs to build a competitive team. There are a number of ways that small-market clubs can build a competitive team despite limited resources, including employing the moneyball hypothesis, quantifying market inefficiencies, utilizing the team's farm system, taking advantage of trade opportunities, and making intelligent contract decisions.

Payroll Disparity Among Major League Baseball Teams:

Building a Competitive Team Despite Limited Resources

Introduction

There has been an inequality in payroll among Major League Baseball teams for many years. Not only is there a disparity in payroll between separate teams, but there is also pay variation among players on individual teams. The inequality in payroll among MLB teams and players became increasingly apparent after the era of free agency, the formation of the Major League Baseball Players' Association (MLBPA), the strike of 1994, and the Curt Flood Act of 1998 (Grow, 2016; Krissoff, 2013). Studies have shown, as one would expect, that an individual team's payroll has a significant impact on that team's success (Lu, Matthews, Wang, & Zhuang, 2018). In effect, this decreases the chances of small-market teams reaching and succeeding in the postseason compared to larger-market teams and, therefore, causes a competitive imbalance within the league. Relatively few fans want to see the same teams win the World Series year after year, and no fans want to see their favorite team lose year after year, so MLB implemented a revenue sharing program in an attempt to lessen the pay disparity among teams and improve the competitive balance. While the plan does not make all teams equal, Rockerbie & Easton (2018) found that revenue sharing produces significant utility gains at little cost. The agreement intended to alleviate the growing inequalities found among large- and small-market teams and improve the competitive balance within the league. Despite MLB's implementation of revenue sharing, payroll disparity and competitive imbalance are still present throughout the league. While a team's payroll has a significant impact on their performance relative to other teams, it is

not the only contributing factor to a team's success. There are a number of ways that small-market teams can build a competitive team despite their low budget.

Payroll Inequality Among Teams

The payroll inequality among teams has not always been as evident as it is today. The valuation of MLB teams today ranges from \$1 billion to \$4.6 billion dollars, with twenty-two out of thirty teams being valued at less than \$2 billion, five teams being valued at \$3 billion or more, and only one team being valued at more than \$4 billion: the New York Yankees at \$4.6 billion ("The Business of Baseball," 2020). Four main occurrences contributed to the rise of player salaries and the increasing disparity among team payrolls: the era of free agency, the formation of the Major League Baseball Players' Association (MLBPA), the strike of 1994, and the Curt Flood Act of 1998. Lu et al. (2018) confirmed that when a team pays more to its players, it enhances the team's winning percentage. Similarly, organizations that compensate their employees at higher levels than their competitors should expect to enjoy superior performance (Hill, Aime, & Ridge, 2016). Having a higher payroll allows teams to offer star players higher salaries, persuading them to sign with them rather than with a small-market team.

Free Agency

The minimum salary for MLB players in 2020 is \$555,000 (MLB, n.d.). This means that every MLB player is in the top one percent of American households (Krissoff, 2013). However, this has not always been the case. It took lengthy and extended labor negotiations and the emergence of new revenue sources for players to be able to make what they make today. In 1887, professional baseball owners added the reserve clause to contracts restricting their players from signing contracts with new teams which limited players' options to negotiate salaries in an

open market (Krissoff, 2013). This clause made it necessary for players to accept their team's salary offer, or to not play. It wasn't until the 1970s that the reserve clause was altered. In 1972, the Supreme Court ruled against Curt Flood in his bid to become a free agent, but in December of 1975, a ruling by arbitrator Peter Seitz created the opportunity for players to move from one team to another for the first time, and this ruling was subsequently upheld by the courts (Krissoff, 2013). Though Curt Flood lost his bid for free agency at the time, he paved the way for players to ultimately be granted free agency by transforming the reserve clause for future players to have a say in what team they played for and how much they were paid.

MLBPA and the Strike of 1994

To offset the strength of team ownership, the Major League Baseball Players' Association (MLBPA) was formed in 1954 (Krissoff, 2013). The negotiation of the first Collective Bargaining Agreement (CBA) between owners and the players' association in 1968 increased the minimum salary for a Major League player as well as other necessities (Krissoff, 2013). Between 1972 and 1995, there were eight strikes and lock outs within the league. The strike during the 1994-95 season lasted 232 days and was quite costly to both owners and players. Following this strike, owners and players alike realized how high the cost of cancelling games was and acknowledged the need for negotiation and agreement between them (Krissoff, 2013). In 1996, the minimum salary for a player was about \$108,000, and the collective bargaining agreement negotiated that year increased the minimum salary to \$150,000 for 1997. Since then, it has more than tripled to \$555,000 (MLB, n.d.). The average salary had also tripled between 1987 and 1997, from the \$400,000 range to over \$1.2 million, and it nearly tripled again between 1997 and 2012 to over \$3.3 million (Krissoff, 2013).

Curt Flood Act

Three Supreme Court decisions led to MLB's exemption from antitrust laws with the Court originally upholding in 1922 that professional baseball did not constitute interstate commerce (Grow, 2016). This immunity to antitrust laws meant that players could not file lawsuits against the league under antitrust laws. However, after the 1996 collective bargaining agreement was approved, both sides agreed to jointly petition Congress to repeal baseball's antitrust exemption solely for purposes of allowing Major League players to file antitrust suits against the league (Grow, 2016). The Curt Flood Act of 1998 allowed this and, therefore, equalized the power between players and owners. Though the Curt Flood Act passed in 1998, it started developing in the 1970s when Curt Flood lost his case for free agency. Shortly after his case, in 1975, a ruling by arbitrator Peter Seitz granted Major League players the right to move from one team to another for the first time (Krissoff, 2016). Knowing this ruling would soon be granted, Andy Messersmith and Dave McNally opted to play the 1975 season without agreeing to terms on a new contract with their teams for upcoming years. After the season, the two claimed that the reserve clauses in their 1974 contracts only allowed their teams to claim their services for one additional year (the 1975 season) and that they should be granted free agency so they may sign with whichever club they choose (Grow, 2016). MLB attempted to dispute their interpretation, but a panel of arbitrators ruled in favor of the players, and they were granted free agency for the 1976 season (Grow, 2016). However, owners tried to take this right away from them at every chance they could. In the 1985, 1986, and 1987 off-seasons, owners collectively agreed amongst themselves that they would not bid on each other's free agents. The MLBPA then filed grievances charging the owners with collusion, and the owners settled these claims by

agreeing to pay the affected players \$280 million in restitution (Grow, 2016). Over the next few years, owners and the MLBPA continued to disagree and could not come to terms on a new collective bargaining agreement before 1993. This is what triggered the strike of 1994 and caused the league to cancel the World Series for the first time in 90 years (Grow, 2016). The two sides finally reached an agreement in November of 1996 which included a provision explaining that the Clubs and the MLBPA would work together to pass a law that would cover MLB players under the antitrust laws giving them the same rights as other professional athletes while the passage of the bill would not affect the antitrust laws in any other way (Grow, 2016). This agreement is what eventually resulted in the passage of the Curt Flood Act in 1998.

Within Team Pay Inequality

While payroll inequality among teams seems to be the most evident factor in a team's performance, there have also been studies analyzing the correlation between intra-team payroll and the team's success. Today, player salaries range from the league minimum of \$555,000 up to \$38.3 million (MLB, n.d.; Langs, 2019). Breunig, Garrett-Rumba, Jardin, & Rocaboy (2013) found that there is a negative relationship between wage dispersion and overall team performance. They concluded that increased wage dispersion leads to lower individual effort, and consequently, lower team performance (Breunig et al., 2013). Their findings support the theory that a small-market team with lower wage dispersion could perform better than a large-market team with a high wage dispersion.

Tao, Chuang, & Lin (2016), tested whether the tournament theory or the cohesiveness hypothesis is supported by the relation between salary dispersion and team performance. The tournament theory suggests that employees' efforts are dictated by the spread between the

earnings of each position, and the team-cohesiveness hypothesis suggests that narrow wage differentials can improve cohesiveness and productivity in an organization (Tao et al., 2016). It is common knowledge that players at different positions earn different salaries on all teams, so the tournament theory would not be expected to have a large impact on team performance. However, if players who make the minimum salary per year are performing well while their teammates who make millions of dollars per year are underperforming, it is likely that the lower paid players become unhappy with their salary. Tao et al. (2016) concluded that the team-cohesiveness hypothesis is reasonable. The findings based on the team performance result suggest that the team-cohesiveness hypothesis is supported over the tournament theory, but a team's payroll rank in MLB is still a stronger explanatory variable than a salary dispersion variable is (Tao et al., 2016). Ultimately, the authors found that inter-team payroll disparity contributes more to team performance than the structure of intra-team salary dispersion does (Tao et al., 2016). However, small-market teams have little control over inter-team payroll disparity while they have full control over the structure of their intra-team salary dispersion. Small-market teams cannot simply increase their team payroll to \$200 million to compete with the Yankees, Dodgers, and Red Sox, but what they can do is minimize the intra-team salary dispersion. Rather than compiling a team of mostly players that earn the minimum salary per year and adding one or two all-stars that earn tens of millions of dollars per year, a team that focuses on decreasing the range of individual player salaries would expect to perform better than teams with high intra-team pay dispersion.

Success of Small Market Teams versus Large Market Teams

The growing revenue and payroll inequities as well as the competitive imbalance between teams became increasingly evident in the mid to late 1990s. In 1999, Commissioner Allan “Bud” Selig assembled the Blue Ribbon Panel to study the effects this inequality had on outcomes in MLB games, specifically postseason games (Hill & Jolly, 2015). The Panel divided all teams into four quartiles based on the club’s payroll, with Quartile 1 consisting of the teams with the highest payroll and Quartile 4 consisting of the teams with the lowest payroll. There were 158 post-season games played during the 1995-1999 seasons, and no teams from the bottom two quartiles won a post-season game during this period (Hill & Jolly, 2015). Additionally, every team that won the World Series during each of those five seasons had a payroll that fell into Quartile 1 (Hill & Jolly, 2015).

Between 2000 and 2019, this trend seemed to continue, though not as extreme. Many more small-market teams made it to the postseason and won games, but the World Series champions continued to be teams with high payrolls. Two out of the last twenty World Series champions had the highest payroll in the league as of opening day (the 2000 New York Yankees and the 2009 New York Yankees). Three more champions had the second highest payroll (the Boston Red Sox in 2004, 2007 and 2018), and two more had the third highest payroll the year they won it all (the 2013 Boston Red Sox and the 2019 Washington Nationals). Nineteen out of these twenty champions had an opening day payroll that ranked in the top 50% of teams for that season. Only one World Series champion between 2000 and 2019 had an opening day payroll in the bottom 50% of payrolls: the 2003 Florida Marlins, whose payroll was ranked 25th out of 30 teams (USA Today, 2020).

MLB's Attempt to Reduce Pay Inequality

As the payroll disparity became more and more evident within the league, MLB attempted to lessen the disparity in two ways. The first, and more impactful, is the revenue sharing program first implemented in 1996 that redistributes a percentage of local and national revenues from large-market teams to small-market teams. The second is the competitive balance tax, more commonly known as the luxury tax, which is similar to a salary cap such that it penalizes teams for spending more than a certain amount on payroll for one year.

Revenue Sharing Program

The revenue sharing program used in MLB was first instituted in 1996 (Rockerbie & Easton, 2018). Motivations for implementing a revenue sharing plan included supporting small market teams, affecting league parity, suppressing player salaries, and improving team profitability (Rockerbie & Easton, 2018). Small market teams struggle to compete with large market teams when it comes to signing star players and winning championships. Revenue sharing can also help suppress player salaries, and this is especially useful in MLB because the league does not have a hard salary cap for its players or its teams.

The revenue sharing plan negotiated in the 2003-2006 collective bargaining agreement increased the marginal tax rates associated with teams' revenues from the 1997 collective bargaining agreement levels which resulted in rates of 40% for high-revenue teams and 47% for low-revenue teams (Hill & Jolly, 2015). Under the 1997 collective bargaining agreement, the rates were 20% and 41% for high and low revenue teams, respectively (Hill & Jolly, 2015). Owners and players agreed to these changes because they hoped it would increase competitive balance on the field, but the changes did not have the intended effects. Some teams lowered

their payrolls to hold down costs which resulted in lower attendance and revenues and increased the funds received through revenue sharing. Teams also divested their player talent and did not compete rigorously in the talent market (Hill & Jolly, 2015). To remedy this situation, owners and players agreed to a marginal tax rate of 31% for all teams in the collective bargaining agreement covering the 2007-2011 seasons (Hill & Jolly, 2015). Jolly (2014) found that after the 2007 collective bargaining agreement, inequality among teams decreased, on average, indicating that changes to revenue sharing should help increase competitive balance within the league. Today, the league is under the 2017-2021 collective bargaining agreement which redistributes 48% of local revenues equally to all 30 MLB teams (MLB, n.d.). In 2018, each club received \$118 million from this, and teams also receive a portion of national revenues which were estimated to be about \$91 million for each team (Baseball Reference, 2020c). As total revenues for MLB continue to grow, it is expected that each club will receive at least \$209 million a year from revenue sharing alone. This is a significant amount of money that small-market teams can utilize to better their organization.

Competitive Balance Tax

Since the 1996 collective bargaining agreement, MLB has used a progressive competitive balance tax (Rockerbie & Easton, 2018). This tax has become known as the luxury tax. For first time offenders, if a team's payroll exceeds the payroll threshold set in the most current collective bargaining agreement (\$206 million for the 2019 season), the team pays a tax rate of 22.5% of the payroll overage (MLB, n.d.; Rockerbie & Easton, 2018). The tax rate increases every time a team exceeds the threshold, to 30% for the second time, 40% for the third time, and 50% for four

or more offenses. It is estimated that the New York Yankees paid \$304 million in tax over the 2002-2016 seasons (Rockerbie & Easton, 2018).

The competitive balance tax certainly discourages teams from utilizing high payrolls, but as seen with the Yankees, it does not prevent it completely. The tax assists in keeping team payrolls within a certain range, but the tax revenue is not redistributed to any MLB teams and, therefore, lacks the redistributive component that the revenue sharing program implements.

Salary Cap and Salary Floor

While MLB does not have a salary cap, the competitive balance tax is viewed as a type of salary cap by many baseball professionals, owners, and fans. There are two types of salary caps: hard salary caps and soft salary caps. A hard salary cap prohibits teams from going over that salary under any and all circumstances, such as in the NFL. A soft salary cap, which is what the NBA has in place, allows teams to go over the set threshold but will penalize them in other ways such as fines or a luxury tax. Even though the competitive balance tax in MLB is not called a salary cap, it is very similar to a soft salary cap.

Implementing a hard salary cap is one way MLB could lessen the disparity among team payrolls. The salary cap for NFL teams in 2019 was \$188.2 million (Shook, 2019). The luxury tax threshold in 2019 was \$206 million and will increase to \$208 million in 2020 (MLB, n.d.). It is hard to imagine the league implementing a hard salary cap that is below the current luxury tax threshold, but even if they set a hard cap at the current luxury tax threshold, it would prevent teams from going over the threshold. However, with the MLB's historic opposition to having a salary cap, and with the soaring revenues that the league is seeing today, the league as well as the MLBPA would likely reject implementing one now. Because of this, an alternative route that the

league could choose to go would be to implement a salary floor. A salary floor would require teams to spend a minimum amount on payroll every year. As discussed earlier, every team received over \$200 million in 2018 from the revenue sharing redistribution system (Baseball Reference, 2020c). Still, there are teams that have a payroll of far less than these amounts. While not all of this can go straight toward player payroll for every team, much of it can. Team payrolls for 2019 ranged from \$53.5 million to \$211.5 million; a difference of \$158 million (USA Today, 2020). Implementing a salary floor of \$75 million or even \$100 million would decrease the payroll disparity and improve competitive balance. A salary floor, and what it should be set at, could be discussed for the next collective bargaining agreement that will need to be renewed in 2022.

Seeing inequality in payrolls within MLB seems to be inevitable today and will most likely continue to be a problem for many years to come. Factors that contributed to growing the disparity in the league included the era of free agency, the formation of the MLBPA, the strike of 1994, and the Curt Flood Act of 1998. The affect pay inequality had on the competitive balance within the league became increasingly evident in the 1990s when no lower payroll team won a single postseason matchup during the 1995-1999 seasons, and this competitive imbalance due to payroll inequality has still been apparent over the last twenty years and today. MLB has recognized this disparity and has taken steps towards diminishing the payroll inequality and competitive imbalance within the league by implementing a revenue sharing program and a competitive balance tax threshold. Though these undertakings have had a positive affect for the league as a whole, pay inequality still seems to be the main factor that contributes to the competitive imbalance we continue to see in the league. Small market teams must learn how to

utilize the revenue sharing program to their benefit, find ways to increase their revenue on their own, and introduce new ways of building a competitive team without the financial resources typically necessary.

Building a Competitive Team Despite a Small Budget

Lu et al. (2018) confirmed that when a team pays more to its players, it enhances the team's winning percentage. While a team's payroll has a significant impact on their performance relative to other teams, it is not the only contributing factor to a team's success. There are a number of ways that small-market teams can build a competitive team despite their low budget. These strategies include employing the moneyball hypothesis, quantifying market inefficiencies, utilizing the team's farm system, taking advantage of trade opportunities, and making intelligent contract decisions. Further research will analyze the moneyball approach, along with other approaches and theories, in order to determine optimal strategies that small-market teams can utilize in order to compete in an imbalanced league.

Moneyball Hypothesis

In order for small-market teams to compete with large-market teams, they must use a different approach. Where large-market teams can simply sign big name players to enormous contracts, small-market teams have to act differently. A well-known approach small-market teams can take is known as the moneyball approach, which was first articulated by Lewis (2003) in his book titled, *Moneyball*. The moneyball approach shows how a competitive team can be assembled, despite a team's small budget, by using an analytical, evidence-based, sabermetric approach (Lewis, 2003). Sabermetrics, named after the Society for American Baseball Research (SABR), is a way of analyzing baseball statistics in order to evaluate individual player

performance. This approach, first used by Oakland Athletics' GM Billy Beane and his assistant Paul DePodesta led the Oakland Athletics to high winning percentages despite the team's low payroll by analyzing statistics about a player's walks and on-base average, rather than what traditional baseball scouts could see with their own eyes. Small-market teams can only afford one-tool players. According to the moneyball approach, the most efficient way to spend money on baseball players is to spend it on hitters (Lewis, 2003). Eric Walker (as cited in Lewis, 2003), a former aerospace engineer turned baseball writer, wrote that fielding was "at most five percent of the game" (Lewis, 2003, p. 58). The rest was pitching and offense (Lewis, 2003). At the time, good pitchers were usually valued properly while good batters were not. Lewis (2003) cited Walker as having stated, "[The] most critical number in all of baseball is 3: the three outs that define an inning. Until the third out, anything is possible; after it, nothing is" (p. 58). He went on to explain that the goal of an offense is to decrease its chances of making an out and that on-base percentage is an isolated, one-dimensional offensive statistic that measures exactly that: the probability that the batter will not make an out and will not put the team closer to the end of the inning (Lewis, 2003). This simple observation was overlooked by almost all general managers in MLB at this time. GM's also tended to overvalue RBIs, the runs batted in statistic. RBIs were treated as an individual achievement. However, in order to hit runners in, there must be runners on base when a player comes to bat. A player's ability to hit base runners in and receive credit for an RBI, is heavily based on the achievement of others and/or luck. Bill James, an American baseball writer and statistician, explained that the RBI statistic, among other baseball statistics, "are not pure accomplishments of men against other men," but "they are accomplishments of men in combination with their circumstances" (Lewis, 2003, p. 71). General managers in MLB

during this time overvalued a player's batting average and RBIs and undervalued a player's on-base percentage and slugging percentage.

According to Lewis (2003), James also observed that a hitter should be measured by his success in creating runs. James disputed the belief that the purpose of an offense is to compile a high batting average by stating that the purpose of an offense is actually to score runs. He explained that the number of runs a player creates cannot be directly measured, but the number of runs a *team* creates can be. James built a model to predict how many runs a team would score given its number of hits, walks, stolen bases, etc. He achieved this essentially by predicting the past. Using the statistics of the 1975 Red Sox, he determined the relative importance of what players did at the plate and on the base paths to the team's scoring patterns and assigning weights to outs, walks, steals, singles, doubles, etc. The first version of what James called the *Runs Created* formula is as follows:

$$\text{Runs Created} = (\text{Hits} + \text{Walks}) \times \text{Total Bases} / (\text{At Bats} + \text{Walks})$$

The accuracy of this equation revealed that baseball professionals, owners, and general managers did not place enough value on walks and extra base hits, which are featured prominently in the Runs Created model, and placed too much value on batting average and stolen bases, which are not even included in the model (Lewis, 2003).

The essence of the moneyball hypothesis is that the ability to get on base was undervalued in the baseball labor market. Hakes and Sauer (2006) used linear regression analysis to demonstrate that on-base percentage is a powerful indicator of how much a batter contributes to winning games. The results of their analysis confirmed that there is a high correlation between runs scored and linear combinations of on-base and slugging percentage.

Looking at a team's on-base percentage and slugging percentage compared to their opponent's on-base percentage and slugging percentage, can explain 88.5% of the variation in winning percentage (Hakes & Sauer, 2006).

Quantifying Market Inefficiencies

The duo also advocated that an efficient labor market for baseball players would reward on-base percentage and slugging percentage in the same proportions that those statistics contribute to winning games. They found that the incremental salary impact for one-standard deviation increase for slugging percentage in the first four years (2000-2003) increases from \$0.52 million to \$0.70 million, and they are three to four times as large as the incremental impact of a standard deviation increase in on-base percentage which only increases from \$0.14 million to \$0.19 million (Hakes & Sauer, 2006). However, in 2004, the duo found that the value of one-standard-deviation increase in on-base percentage increased to \$0.49 million likely due to Lewis's publication of *Moneyball* in 2003 (Hakes & Sauer, 2006). The authors explained, "The lack of a market premium for hitters with superior skill at the patient art of reaching base through walks validates the systematic approach taken by the Oakland Athletics in identifying such players, and thereby winning games at a discount relative to their competition" (Hakes & Sauer, 2006, p. 179).

Though Hakes and Sauer (2016) suggested that market inefficiencies have corrected since the publication of *Moneyball*, Baumer and Zimbalist (2014) refuted that the relationship between team payroll and performance has tightened since the publication of *Moneyball*. Baumer and Zimbalist (2014) used official payroll data from the Labor Relations Department (LRD) of MLB to determine that while the predictive power of payroll on winning percentage

was higher than it was in the 1980s and early 1990s, it was much lower in the 2000s than it was in the late 1990s (Baumer & Zimbalist, 2014).

Farrar and Bruggink (2011) also used the moneyball approach to show that MLB general managers do not reward hitters in a manner reflecting the relative importance of on-base percentage and slugging percentage. The two developed a team run production model and a player salary model to determine how an increase in on-base percentage and slugging percentage increases salary (Farrar & Bruggink, 2011). They found that a 10 unit increase in team on-base percentage brings in an additional 28.5 runs, and a 10 unit increase in team slugging percentage results in an additional 17.4 runs (Farrar & Bruggink, 2011). The player salary model shows that the 10 unit increase in individual on-base percentage costs \$370,500 while the 10 unit increase in individual slugging percentage costs \$369,800 (Farrar & Bruggink, 2011). These results show that for approximately the same increase in salary, an increase in on-base percentage brings in 11.1 more runs than the same increase in slugging percentage (Farrar & Bruggink, 2011). Even years after the publication of *Moneyball*, on-base percentage continues to be undervalued, and slugging percentage is overvalued. The moneyball hypothesis seems to have been accepted by teams, baseball professionals, and fans throughout all of baseball. However, as these two studies reveal, it is not fully implemented and utilized to its full potential. Today, employing only the moneyball hypothesis does not give a team much of an edge over other teams as it did for the Oakland Athletics in the late 1990s. There are many other strategies that small-market teams can apply in order to compete with large-market teams with much higher payrolls.

Utilizing the Farm System

An additional way small-market teams can build a competitive team despite their low budget is to utilize the farm system and the annual draft. Every MLB team has minor league team affiliates, typically consisting of at least a Class A team, a Class A-Advanced team, a Double-A team, and a Triple-A Team. Select MLB teams also have Class-A Short Season teams. Additionally, every team has at least two rookie teams (many teams have more than two).

The MLB First-Year Player Draft is held every year in June and all thirty Major League Clubs participate. The teams take turns selecting players in reverse order of their win-loss records at the close of the previous regular season. In other words, the team with the worst record from the previous regular season selects the first player in the draft in the following year. Additionally, the order is based off *regular season* records; the postseason has no effect on the draft. Just because a team wins the World Series, it does not necessarily mean they pick last in the draft.

When a team drafts a player, that club has full control over the player for at least three full seasons. After these three seasons, a team must decide to place the player on the team's 40-man roster, meaning that the player has a major league contract, or the player becomes eligible for the Rule 5 Draft¹. Once a player signs a major league contract with a club, he does not become eligible for free agency until he has at least six years of service time on a major league team. Specifically, the player must have six years of service time on a major league 25-man

¹ The Rule 5 Draft, held every December at the annual Winter Meetings, allows teams without a full 40-man roster to select non-40-man roster players from other clubs (Major League Baseball, 2020b). It is organized similarly to the First-Year Player Draft as clubs draft in reverse order of the standings from the previous regular season.

roster or disabled list. Thanks to this, a club can essentially have control over players that they draft for the first nine years of their careers, if the club decides to do so.

Trades

As demonstrated by Billy Beane in *Moneyball*, the key to making trades is playing off other teams' needs and hiding your own team's desires. Teams need to know what they want, and what they are willing to give up. The best trades occur when one team is desperate for a certain player or desperate to decrease their payroll. Trades always involve at least two players, but often times they include more than two players and sometimes cash. Though they are less common, three-team trades also occur. One small-market team that successfully utilized trading in recent years is the Tampa Bay Rays. On July 31, 2018, the Rays traded right-handed pitcher Chris Archer to the Pittsburgh Pirates for right-handed pitcher Tyler Glasnow, rookie outfielder Austin Meadows, and top pitching prospect Shane Bieber. At the time, the Pirates were fighting for the division title and decided to make the move before the Trade Deadline. In retrospect, the Pirates ended in fourth in the division, did not make the playoffs, and lost a relief pitcher and two incredibly promising young players. The Rays, however, turned Glasnow into a starting pitcher and added a middle-of-the-order bat with Meadows. Then, in 2019, the Rays placed second in the division clinching a spot in the postseason. The team went on to beat the Oakland Athletics in the American League Wild Card game but lost the Division Series to the Houston Astros. Making strategic trade decisions during the offseason, throughout the season, and before the July 31st Trade Deadline can be pivotal for a small-market team.

Contract Negotiations

Contract negotiations are vital for small-market teams. Contract extensions are the most common form of contract negotiations and are the form that small-market teams need to take advantage of. After utilizing your farm system and bringing up young, talented players, teams need to seize the opportunity to extend player contracts. Extending a player's contract prevents the player from reaching the free agent-pool. Krautmann (2016) finds that the vast majority of contract extensions take the player beyond the point of free-agent eligibility. In free agency, he can offer his talent to every major league team and take the highest bid, increasing his salary tremendously and becoming too expensive for a small-market club. If the player enjoyed his service time with the team, there is a good chance that he will agree to a contract extension rather than enter free agency. Unlike in some leagues, MLB contracts are guaranteed, meaning that any player who signs a major league contract is guaranteed the full amount of money promised by those contracts. Players can sign a contract and never step foot on the field and still receive the full amount of their contract. The main reason for this occurrence is injuries which players and teams have little control over.

Arbitration. Along with contract negotiations comes arbitration. Players become eligible for arbitration when they have three or more years of major league service but less than six years of major league service and if they do not already have a contract for the next season. Arbitration essentially means that if the team and the player cannot agree on a contract, the team and the player each present a contract offer to an arbitrator, and the arbitrator chooses one without compromising between the two. This puts both the player and the team at risk, but it is much riskier for the team. The team's offer is lower than what the player wants, so if a team

enters arbitration and loses, they are bound to the higher paying contract. However, arbitration contracts are not guaranteed, as a club can release a player during Spring Training and be responsible for only a prorated amount of their arbitration salary (Major League Baseball, 2020b). Releasing a player is one option for a team who lost the arbitration hearing and owe the player more than they can afford. On the other hand, a player that has agreed to an arbitration salary can break camp with the club and still be guaranteed his full salary (Major League Baseball, 2020b). It would be best for small-market teams to avoid arbitration by negotiating with the player and agreeing on a contract without the use of an arbitrator.

Long-term contracts. Avoiding long-term contracts is a simple way a team can prevent themselves from wasting financial resources in the future. Signing players to long-term contracts is typically attractive to a team because that means they have the security of having that player on their roster for years to come. However, if a player gets injured, he is still entitled to his entire contract. Therefore, a team would essentially be wasting all of the money on that player's contract and gaining nothing in return. Even further, players do not always perform as well in future seasons as they did the season before signing the contract. Performance is not guaranteed over an extended period of time. Take Chris Davis, for example. After leading the league in home runs and putting up an OPS+ of 147² in 2015, Davis, who would be entering his age-30 season in 2016, signed a \$161,000,000 seven-year contract. He has received and will receive a base salary of \$17 million each year from 2016 to 2022, and the remaining \$42 million is deferred from 2023 to 2037. This means that the Baltimore Orioles still owe him \$51 million

² OPS+ normalizes a player's on-base plus slugging percentage across the entire league. A score of 100 is league average, and a score of 150 is 50% better than the league average (Major League Baseball, 2020a).

over the next three years as well as \$42 million when he will not even be playing for them. After his impressive 2015 season, his statistics got progressively worse over the next three seasons with a slight improvement in the 2019 season. Even with the slight improvement, he still slashed .179/.276/.326 with an OPS+ of 60 (Baseball Reference, 2020a).

Deferred salaries. Another way a team can utilize its financial resources to build a competitive team despite a small budget is to take advantage of, but also be wary of, deferred salaries. Deferring a player's salary can sometimes be useful to a team when they have a higher team payroll in the current year than what they are expecting in future years. For example, if a team has a highly compensated player that will soon become a free agent but also want to sign another player, they can defer the new player's salary into future years where they will not have the obligation to the impending free agent. Keep in mind that MLB teams must show that player salaries that are deferred can be paid off in the next four years, even if the money is contractually deferred beyond four years (Brown, Rascher, Nagel, & McEvoy, 2016). On the other hand, often times, teams need to be wary of deferred salaries because teams often end up spending much more on a player than expected or assumed. Take Bobby Bonilla for example. Bonilla received his deferred salary from a buyout. Deferred money can come from a buyout or from contract negotiations. In 2000, the Mets opted to pay Bonilla an annuity from 2011 to 2035 rather than paying the salary they owed him that year. The Mets thought that the money they would save by not paying Bonilla in 2000 would earn a higher return than the eight percent interest rate offered to Bonilla (after considering the time value of money). Ultimately, Bonilla turned a \$5.9 million buyout into 25 yearly installments of \$1.19 million.

Performance incentive bonuses. Small-market teams should also consider including bonuses in player contracts as incentives. Bonuses cannot be based on batting or pitching skill or where the club finishes in the standings. However, a bonus can be based on number of days spent on an MLB active list, number of games played, number of games started, number of games finished, innings pitched for pitchers and/or number of plate appearances for position players. Bonuses can also be based on awards such as MVP, Cy Young, Gold Glove, Silver Slugger, and/or being named to an all-star team (Phil, 2012).

History of Successful Small-Market Teams

Although it has been challenging and rare for small-market teams to succeed in MLB, some clubs have made it happen. Only one small-market team has won the World Series in the last twenty years. The Florida Marlins had a payroll that ranked 25th out of 30 and did not even win their division in the regular season, but ended up winning the World Series in 2003. Of their top twelve players (based on WAR), two were acquired as free agents, two were drafted by the club, and eight were acquired by trades (Baseball Reference, 2020b).

The Pittsburgh Pirates reached the postseason three years in a row from 2013 through 2015. In 2013, they had the fourth lowest payroll in the league but won the National League Wild Card game and advanced to the Division Series. The club had the fourth lowest payroll again in 2014, but they still managed to make it to the Wild Card game again, though they lost to the San Francisco Giants who became the World Champions that year. In 2015, the Pirates had the second-best record in the entire league for the regular season and appeared in the Wild Card game for a third time.

The 2015 Houston Astros and the 2019 Tampa Bay Rays had payrolls ranking 25th and 30th in the league, respectively, and won the American League Wild Card game but lost the Division Series. The Oakland Athletics made it to the American League Wild Card game in 2018 as well as 2019 despite having the third lowest payroll in 2018 and the sixth lowest payroll in 2019. The last example from recent years is the 2018 Milwaukee Brewers. The Brewers' payroll ranked 22nd in the league, but the team won the NL Central Division title, and won the Division Series, but lost the Championship Series.

Conclusion

Although some small-market teams are overcoming the inequality, the payroll disparity and competitive imbalance among MLB teams is still highly evident today. There are a number of ways that small-market teams can build a competitive team despite their low budget including, but not limited to, employing the moneyball hypothesis, quantifying market inefficiencies, utilizing the team's farm system, taking advantage of trade opportunities, and making intelligent contract decisions. Though the moneyball hypothesis is generally known throughout all of MLB, large-market teams still tend to ignore its findings. Small-market teams can continue to utilize this theory in order to build their team, but they must also implement other strategies as well. Additionally, MLB should become more aware of the disparity that is still present in the league and take steps toward reducing the inequality.

References

- Baseball Reference. (2020a). Chris Davis stats. Retrieved from <https://www.baseball-reference.com/players/d/davisch02.shtml>
- Baseball Reference. (2020b). 2003 Florida Marlins statistics. Retrieved from <https://www.baseball-reference.com/teams/FLA/2003.shtml>
- Baseball Reference. (2020c). Revenue sharing. Retrieved from https://www.baseball-reference.com/bullpen/Revenue_sharing
- Baumer, B. & Zimbalist, A. (2014). Quantifying market inefficiencies in the baseball players' market. *Eastern Economic Journal*, 40(4), 488-498. doi:10.1057/ej.2013.43
- Breunig, R., Garrett-Rumba, B., Jardin, M., & Rocaboy, Y. (2013). Wage dispersion and team performance: a theoretical model and evidence from baseball. *Applied Economics*, 46(3), 271-281. <https://doi.org/10.1080/00036846.2013.839864>
- Brown, M. T., Rascher, D., Nagel, M. S., & McEvoy, C. D. (2016). *Financial Management in the Sport Industry, Second Edition*. New York, NY: Rutledge.
- The business of baseball. (2020). Retrieved from <https://www.forbes.com/mlb-valuations/list/#tab:overall>
- Farrar, A. & Bruggink, T. H. (2011). A new test of the moneyball hypothesis. *The Sport Journal*, 14(1). Retrieved from http://link.galegroup.com/apps/doc/A284323937/HRCA?u=vic_liberty&sid=HRCA&xid=0669e13e
- Grow, N. (2016). The curiously confounding Curt Flood Act. *Tulane Law Review*, 90(4), 859–901. Retrieved from <http://ezproxy.liberty.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=115450031&site=ehost-live&scope=site>.

- Hakes, J. K. & Sauer, R. D. (2006). An economic evaluation of the moneyball hypothesis. *The Journal of Economic Perspectives*, 20(3), 173-185. <https://doi.org/10.1257/jep.20.3.173>
- Hill, A. D., Aime, F., & Ridge, J. W. (2016). The performance implications of resource and pay dispersion: The case of Major League Baseball. *Strategic Management Journal*, 38(9), 1935-1947. <https://doi.org/10.1002/smj.2616>
- Hill, J. R. & Jolly, N. A. (2015). Revenue sharing and player salaries in Major League Baseball. *Journal of Sports Economics*, 18(8), 831-849. <https://doi.org/10.1177%2F1527002515609660>
- Jolly, N. A. (2014). Revenue sharing and within-team payroll inequality in Major League Baseball. *Applied Economic Letters*, 22(1), 80-85. <https://doi.org/10.1080/13504851.2014.927562>
- Krautmann, A. C. (2016). Contract extensions: The case of Major League Baseball. *Journal of Sports Economics*, 19(3), 299-314. <https://doi.org/10.1177%2F1527002516656727>
- Krissoff, B. (2013). Society and baseball face rising income inequality. *Spring 2013 Baseball Research Journal*. Retrieved from <https://sabr.org/research/society-and-baseball-face-rising-income-inequality>
- Langs, S. (2019). 2019's highest paid player may surprise you. Retrieved from <https://www.mlb.com/news/highest-paid-baseball-players-in-2019>
- Lewis, M. (2003). *Moneyball: The art of winning an unfair game*. New York, NY: W. W. Norton & Company.
- Lu, X., Matthews, J., Wang, M., & Zhuang, H. (2018). Team payroll, pitcher and hitter payrolls,

- and team performance: Evidence from the U.S. Major League Baseball. *Economics & Business Letters*, 62-69. Retrieved from <http://ezproxy.liberty.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=131283276&site=ehost-live&scope=site>
- MLB. (n.d.). 2017-2021 Basic agreement. Retrieved from https://www.dol.gov/OLMS/regs/compliance/cba/2019/private/30MajorClubs_K9831_060122.pdf
- Major League Baseball. (2020a). On-base plus slugging plus (OPS+)? Retrieved from <http://m.mlb.com/glossary/advanced-stats/on-base-plus-slugging-plus>
- Major League Baseball. (2020b). What is a guaranteed contract? Retrieved from <http://m.mlb.com/glossary/transactions/guaranteed-contract>
- Major League Baseball. (2020c). What is a rule 5 draft? Retrieved from <http://m.mlb.com/glossary/transactions/rule-5-draft>
- Phil, A. (2012). Performance incentive bonuses. *The Cub Reporter*. Retrieved from <https://www.thecubreporter.com/performance-incentive-bonuses>
- Rockerbie, D. & Easton, S. (2018). Revenue sharing in Major League Baseball: The moments that meant so much. *International Journal of Financial Studies*, 6(3). <https://doi.org/10.3390/ijfs6030071>
- Shook, N. (2019). Salary cap expected to increase at least \$8M in 2020. Retrieved January 27, 2020, from <http://www.nfl.com/news/story/0ap3000001086709/article/salary-cap-expected-to-increase-at-least-8m-in-2020>
- Tao, Y., Chuang, H., & Lin, E. (2016). Compensation and performance in Major League

Baseball: Evidence from salary dispersion and team performance. *International Review of Economics & Finance*, 43, 151-159. <https://doi.org/10.1016/j.iref.2015.10.037>

USA Today. (2020). MLB salaries. Retrieved from

<https://www.usatoday.com/sports/mlb/salaries/2019/team/all/>