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## Major League Baseball: The Meaning and Impact of the Lockout

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Major League Baseball: The Meaning and Impact of the Lockout

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Honors 4980

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### **Abstract**

Major League Baseball's Collective Bargaining Agreement expired after the 2021 season, which resulted in a lockout. There was an uncertainty of lost games during the lockout. After ninety-nine days an agreement was reached between Major League Baseball and the players' union. Throughout this research, I explored what would have happened as a result of lost games. Statistics from previous seasons suggest what could have occurred had there not been an agreement prior to the start of the season, while the new agreement suggest the motivation behind the new agreement.

**Keywords:** Collective Bargaining Agreement, Major League Baseball, lockout, strike, revenue, union

### **Methodology**

Throughout this research I used qualitative and quantitative data. Numerical data from the past about the history of Major League Baseball was used to calculate insights about what would have been had the 2021-2022 MLB Lockout resulted in a loss of games. A wide range of years were used to investigate motives behind current and past labor stoppages within the history of Major League Baseball. Modern day journalism from reliable sources were used to explore and keep up with the current event.

## Introduction

On December 2<sup>nd</sup>, 2021 the Collective Bargaining Agreement between Major League Baseball (MLB) and the Major League Baseball Players Association (MLBPA) expired. The two sides attempted to work out a deal in between the end of the season and the expiration date, but there was space between the two sides in most areas of discussion. The MLBPA wanted higher minimum salaries and more protection for younger players, but the league and owners were unwilling to move toward the union's proposals. Since the agreement expired and no replacement was in place, the league moved towards a lockout. The difference between a lockout and strike is which party initiates the labor stoppage. Lockouts are initiated by the MLB and team owners, while strikes are initiated by the MLBPA. This lockout following the 2021 season was not the first labor stoppage in Major League Baseball history. The league has seen a history of work stoppage, but were the stoppages preventable?

According to Rodney Fort in his book, Sports Economics, lockouts and strikes in baseball happen for certain reasons and are avoidable. These occur because miscalculations of the amount on the table. The potential loss (in games, salary, and sales) must be worth the stoppage for what could come from the lockout or strike, which is a breakeven probability above 50% for it to be worth it (Fort, 2018). Each side measures the ability to withstand a lockout or strike, then proceeds in the negotiations of the dispute. The side less likely to survive the lockout understands that their probability to withstand will result in a loss of resources, so they will show urgency to end the stoppage. Work stoppages happen infrequently due to the calculations that the sides can make. Major League Baseball still has had multiple lockouts dating back to 1969.

### History of MLB Lockouts and Strikes

The first stoppage in Major League Baseball occurred in 1969. This stoppage is often overlooked since it was brief and short, but it was still the first strike and about the pension plan that the league had in place. The strike did not result in lost games since the league had agreed quickly to reduce the amount of time to achieve tenure from five years to four years. The minimum age requirement was also reduced from fifty to forty-five. Players received over five and half million dollars from the league with a percentage of television revenues every season (“Year in Review: 1969 National League,” n.d.). There was a short spring training delay, but all negotiations were complete before losing regular season games.

The agreement expired after the 1971 season, so the players went on strike. One again the strike was about the pension, but the two sides came to an agreement for an added increase of \$500,000 in pension fund payments. Thirteen regular season days were lost, which resulted in a loss of games that were not made up (“1972 Strike,” 2020). Since these games were not made up, some teams could be at a disadvantage in the standings. There was one major effect of the games not being made up, which hurt the Boston Red Sox in their division. The Detroit Tigers won the division because the Red Sox finished half a game back in the standings. The Tigers won one more game than the Red Sox but had the same number of losses. The uneven difference came from the inability to make up games lost from the strike earlier in the season.

In 1973, the league saw its first work stoppage in the form of a lockout. The owners wanted to reach an agreement over the usage of arbitration to resolve salary conflicts before they proceeded with any games. This was huge in the grand scheme of contracts for years to

come since player contracts had been controlled through the reserve clause. The union and owners agreed that players with two consecutive seasons of service time or three years of inconsecutive service time could use arbitration to resolve salary disputes. The agreement was reached before the regular season and only impacted the beginning of spring training. Pitchers and catchers were the only ones affected since those positions report to the spring training site before other positional players.

The lockout of 1976 played a pivotal moment in how contracts were shaped and negotiated for the history of baseball. Players were bound to one team under the reserve clause unless their team reassigned, traded, sold, or released them. Players had very little bargaining power in contract negotiations due to the reserve clause. Before the addition of arbitration in 1973, players either had to essentially accept the contract offer from the team or sit and lose out on the ability to play. The ability to keep using the reserve clause came to an end during the offseason following the 1975 season (Perry, 2020). Two players that off-season named Andy Messersmith and David McNally had each gone a full season without a contract. Peter Seitz, an independent arbitrator, ruled in the players' favor saying they were free agents since they had gone a full season without a contract (Perry, 2020). A federal judge ruled in the arbitrator's favor. This was the end of the reserve clause.

Before the 1976 season, the players and league disagreed on how free agency should be set up. The sides were far from an agreement but did not want to lose out on regular season games because of a new Collective Bargaining Agreement. The season started under the previous agreement. In July of that season, a new agreement was made.



In 1980, the Collective Bargaining Agreement had expired. No time was lost since both sides accepted playing without a new agreement. This set the stage for a long fight going into the 1981 season. The season began in a strike and regular season games were lost.

Since the owners lost out on the fight to retain players through the reserve clause, free agency took some adjusting to from an ownership standpoint. Owners wanted to be compensated for any losses they had during free agency. After months of negotiations, the sides agreed on that teams that lost a premium free agent would be compensated of a player of that caliber by drawing from a pool of players available that were labeled as unprotected from all the clubs. Players agreed to being able to enter free agency after six full years, which is the same amount of time players can enter free agency after today (Peter, 2017).

To resolve the loss of games in 1981, the league split the season into two halves. The winner of a division in each half of a season would go onto the playoffs. This system was flawed since there were teams with some of the best records but did not make the playoffs. The Cincinnati Reds and St. Louis Cardinals would have each made the playoffs and won the division under normal circumstances but did not since neither won their division within a half of the season. Each team had the best record within their division if one combined their record between halves. The Kansas City Royals benefited from this system for the 1981 season as they had the fourth best record within their division but won the best record for one of the halves.

The strike in 1985 was brief and short. Twenty-five games were lost in the middle of the season but made up at the end of the regular season. So, no games were truly lost (Chass, 1985). The MLB had signed a massive television deal that players wanted to get a larger share

of, and an agreement was met. Owners wanted a salary arbitration cap, but this did not happen. The season went on with only the agreement on revenue share.

In 1990, the owners voted and agreed to a lockout. Owners wanted to add a salary cap to the league, while players wanted a larger share of the revenue. The league did not put a salary cap into place as the MLBPA noted that a salary cap would limit the number of teams a player could play for. A team over a salary cap must make roster and contract moves to get below the cap before signing another player. Not having a salary cap allows any team to approach a player without having to make changes to their payroll or roster. Owners wanted a salary cap to limit the salaries of players from growing too rapidly. The biggest change that was seen from this lockout was an increase in league minimum salary to \$100,000 from \$68,000 (Fagan, 2018). A study team on revenue sharing was established to help with the continued fight on revenue share. No regular season games were lost because of the lockout. Spring training was missed, and the beginning/end of season were pushed back to keep a full season intact.

The strike of 1994-1995 caused the largest cancellation of games in baseball history. This strike occurred mid 1994 season, where it continued through the beginning of the 1995 season. It was the first time in American sports that a playoff/postseason was cancelled because of a work stoppage.

The Collective Bargaining Agreement expired on December 31<sup>st</sup>, 1993 before the 1994 season began. The fight in this strike was over revenue share amongst teams and a salary cap. Ownership wanted to spread the share of local broadcasting revenue to increase equity amongst teams and put a salary cap in place. This was to help smaller-market teams that do not

have the funds to compete with the larger pockets of other teams. The owners also wanted to reduce the amount of time until free agency for players to four years from six, then teams can match a contract offer from other clubs seeking their player after their fourth and fifth seasons. The MLBPA saw this as a way for owners to save money, which gave no benefits to the players.

The strike was introduced to Congress in January of 1995 after the stalling of negotiations in late 1994. President Bill Clinton put orders into place that the league and union needed to reach an agreement that February. The President's given deadline was not met, and the league was ready to proceed with replacement players who would be making far less money than the league average player. A day before the season would have started with replacement players, the strike ended when Judge Sotomayor of the United States District Court for the Southern District of New York issued a preliminary injunction against the owners (Scott, 2021). The league proceeded to the 1995 season with a reduced regular season. Each team played 144 regular season games. The lockout lasted 232 days. The league was ordered to play under the expired agreement for the time being.

Aside from the hundreds of millions of dollars lost from ticket sales and the postseason, the league felt a push back from fans in the 1995 season. Attendance numbers had dropped around 20% where they were previously (Badenhausen, 2014). It took the league a few years to get back to regular attendance numbers. Fans blamed both the league and MLBPA for the incident according to a survey done by Time Magazine. The 1994-1995 strike was the last work stoppage to happen before the 2021-2022 MLB lockout.

### Negotiations and Results of 2021-2022 MLB Lockout

The lockout of the 2022 season was a 99-day fight and negotiation between the league and the MLBPA about an abundant number of topics. An agreement was reached that will run through the 2026 season. Some of those topics negotiated upon were the luxury tax, minimum salary, competitive integrity, and service time manipulation. Before digging into negotiations and agreements, understanding the motive behind the topics is important.

The luxury tax, also known as the Competitive Balance Threshold (CBT), was put into place instead to help maintain a competitive balance between small and big market teams. While the owners have wanted a salary cap for years, this serves as one in a way. While it is not a true salary cap, teams must pay a tax on any amount that exceeds the luxury tax set for that season. The higher the luxury tax, the more a player can negotiate before that team has to pay a tax for overages.

Minimum salary is discussed every single Collective Bargaining Agreement due to the league's growth in revenue. The veterans of the league pushed for an increase in minimum salary to help younger players who have less bargaining power for their contract. The table below, Service Time and Contracts, shows the amount of service time that a player needs to enter a certain negotiation status for their contract. A player on an MLB roster for 172 days accrues a year of service time.

<b>Service Time and Contracts</b>	
<b><u>Years of Service Time</u></b>	<b><u>Status</u></b>
0 < 3	Pre-Arbitration
$3 \leq x < 6$	Arbitration
> 6	Free Agency

When players are in a pre-arbitration status, they have less input in their salary.

Competitive integrity is a concern due to the fact the worse off a team does, the higher draft pick they have next season. Hypothetically if a team is struggling and can mathematically define themselves out of contention for the playoffs, they have no motive to win more games. If they win more games, they are hurting their draft position. The league is searching for a way to prevent teams from doing this.

Service time manipulation is of hot topic every season since teams hold back players of certain caliber to gain another year of service time. Hypothetically if a player spends 170 days on the MLB roster, they do not accrue a season of service time. When that player plays their sixth season, they will technically be just under six years of service time. This gives the team another year of team control. Teams have been doing this with top prospects for years, and the league is looking for a way to prevent this with incentives for teams that practice this method.

In the negotiations over a new luxury tax, the MLBPA and MLB have wide differences in where the tax should be set at. The owners want a lower threshold to point to in terms of negotiating contracts, while players want a higher threshold for more negotiating power. Players initially proposed a start of \$238 million that grows to \$263 million through the end of the agreement. The owners wanted a tax threshold to sit at \$220 million that grows to \$230 million through the end of the agreement (Thosar, 2022). Eventually it was settled on \$230 million for 2022 that grows to \$244 million through 2026.

There was a wide difference in minimum salary negotiations to start. For the first year of the new agreement the MLBPA wanted the minimum to start at \$775,000. The league had an

initial offer of \$700,000 that had increases of \$10,000 per season (Axisa, 2022). Eventually it was agreed on that the minimum salary will start at \$700,000 with increases of \$20,000 per season. To help younger players, a pre-arbitration bonus pool of \$50 million was put into place to distribute amongst the top pre-arbitration players (Gartland, 2022).

To prevent teams from tanking and help with competitive integrity, the league implemented a draft lottery. The top three picks are evenly distributed for odds to get the top pick. The teams with the three worst winning percentages will each receive a 16.5% chance to get the first selection of the draft (Gartland, 2022). The remaining 50.5% is distributed amongst the other 15 non-playoff teams. The 12 teams that make the playoffs are placed within the draft where they finish in the playoffs.

To help slow down the manipulation of service time, the league is offering incentives to teams that bring up their younger prospects. Those teams will be awarded draft picks for not preventing them from accruing a year of service time. Young players have an incentive to finish in the top two of Rookie of the Year voting. Most rookies strive to win the award, but now those that finish top two in voting will be awarded a year of service time regardless of what they accrue.

The playoffs expanded from a total of five to six teams in each league, which results in a total of 12 teams (Gartland, 2022). The traditional one game play-in for the wild card teams is not a part of the system anymore. There are three division winners and three wild cards from each league. The top two division winners by record receive a bye-round, while the other four will play series against each other. The remaining division winner will play the wild card team with the worst record, while the other two wild cards will play to advance. The top division

winner will play the winner of a best of three series between the two wild cards, while the second highest record of division winner will play the winner of the best of three series between the remaining division winner and wild card team with the worst record. After that, the format does not change.

Game 163 will no longer be used to determine any tie breaker for a division winner or wild card spot. A list of tie breakers will be used and followed to determine the playoff spot. The league removed this game to keep the World Series on schedule.

The league now can bring rule changes with a 45-day notice to the MLBPA (Stebbins, 2022). Aside from an expanded playoff, the league is bringing a universal designated hitter to the game. This position hits in place of the pitcher and was only used in the American League rather than both the American and National Leagues. Going forward it will be in both. This will give a larger market for those players who may still hit at an elite level, but do not play the field well. There is a possibility of 30 teams rather than 15 teams for that player to go to in free agency.

The league has made it clear there are plenty of changes they would like to bring to better the game. The priority per the commissioner is to get pitching clocks that force pitchers to work faster. The amount of time in between pitches thrown has increased from year to year, which has made games longer. A pitching clock is being tested out at the minor leagues' levels. Another change being explored is the idea of increasing the size of bases to reduce player injuries. Automatic strike zones and robot umpires are options being explored to improve the efficiency of strike zones. These would all be changes that would take some getting used to, but

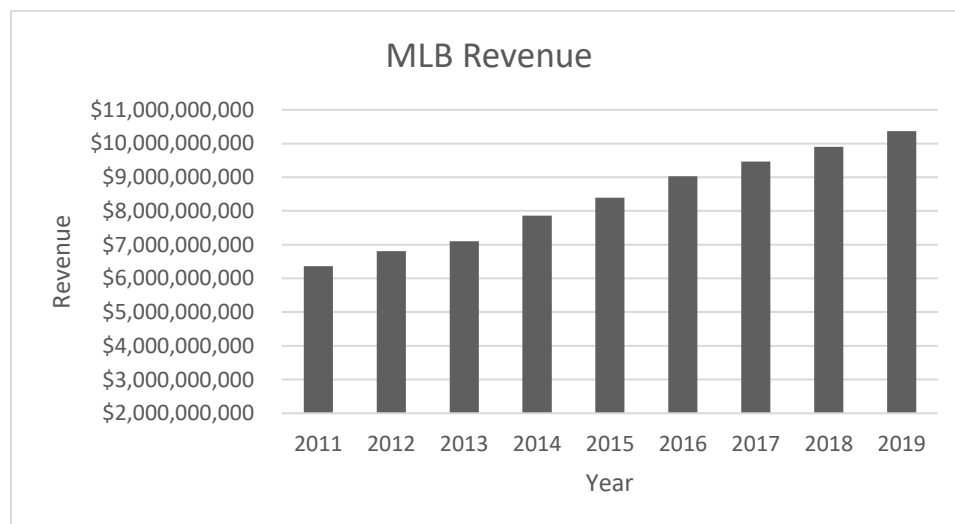
something that could happen with the MLB's ability to introduce new rules (Gartland, 2022).

The rules will be tested in the minor leagues prior to entering the highest level of competition.

The two sides came to agreement in March 2022. This was the owners' proposal in which they voted unanimously 30-0. The MLBPA did vote did not have a unanimous vote. The vote from the MLBPA comes from eight board representatives and a player representative from each team. The player representatives voted 26-4, while the eight board representatives unanimously voted against the new proposal ("United during Negotiations, MLB Players Divided on Deal," 2022). The players guided the vote to an agreement.

### **Insights: Revenue vs Payroll**

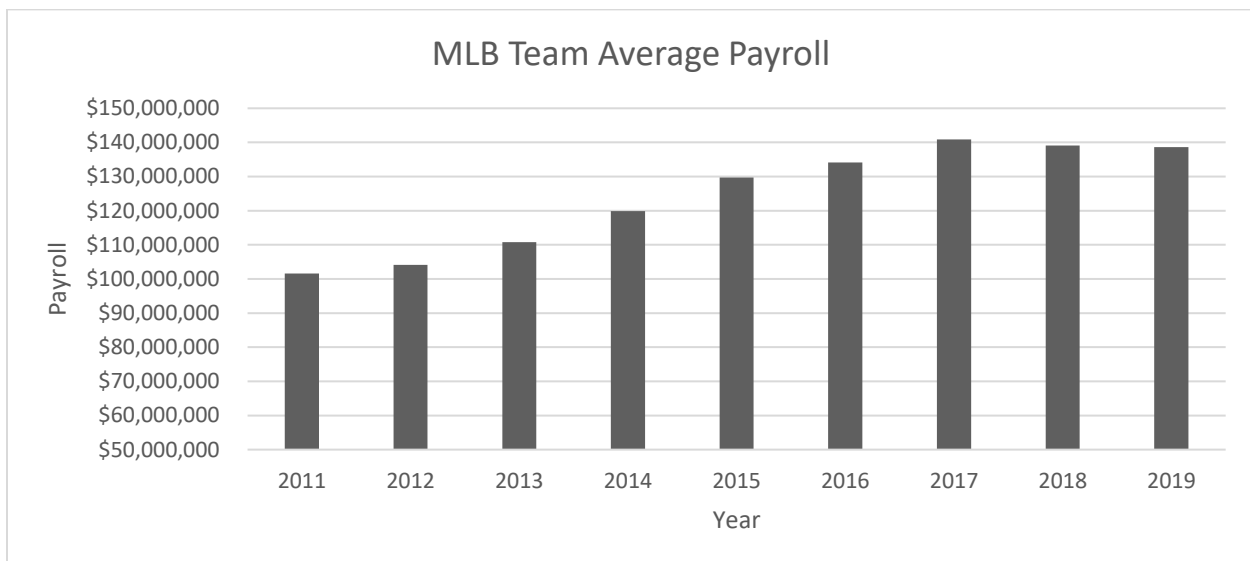
Before the COVID-19 pandemic, Major League Baseball had a continuous rise in revenue between the years of 2011-2019. In 2011, the league brought in over \$6 billion dollars in revenue and continued to grow to a league record \$10.37 billion in 2019. Revenue for the league grew by at least 4% from one season to the next. MLB Revenue numbers are from





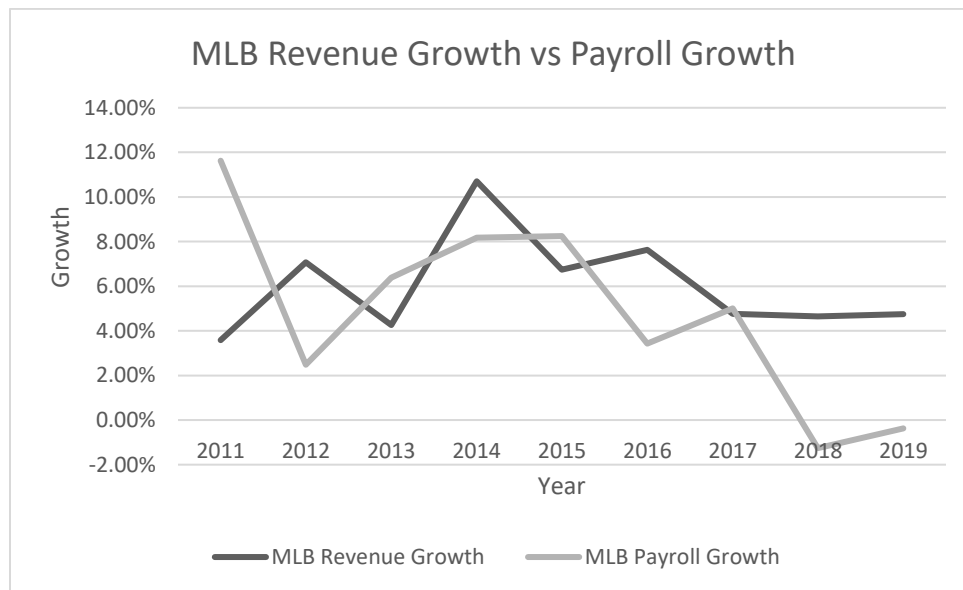
Statista.

Part of the reason the players' union fought for changes to the MLB Collective Bargaining Agreement was due to the change in the players' average payroll in that same time frame. In 2011, the league's average payroll was sitting at \$101.6 million dollars. As revenue continued to grow, the team's payroll continued to increase until 2018. That is the first year in the timeframe of 2011-2019 that payroll decreased as league revenue increased. The decline from 2017 to 2018 was 1.26%. The following season had a decline of under 1%, but nonetheless a decrease. The union noticed this trend and took action in the CBA negotiations. The payroll averages are from Spotrac.



The union understands that they are not going to take home most of the revenue due to the stake owners have invested, but they want to see an increase in the share of what was

earned in revenue by an increase in average team payroll that following season. To compare the change in an average payroll that is in the range of around \$100 to \$140 million to league revenue that is between \$6 to \$10.5 billion is complex to compare. To visualize the difference in seasons between 2011 to 2019, the growth percentage from season to season of league revenue and team payroll were calculated and placed together in the chart named MLB Revenue Growth vs Payroll Growth.



While how much change occurs bounces around on the graph, revenue has seen growth from year-to-year. Payroll in 2018 and 2019 each declined from the previous season. From the years 2017-2019, the league's revenue grew about 5% annually. If average payrolls grew at a similar rate in that same time frame as revenue, the average payroll for 2019 would have been over \$154 million.

One will want to consider the size of the roster when creating an average, but the payroll is calculated across each team's 40-man roster. The MLB breaks down rosters into 25-man and 40-man rosters. The 25-man roster consist of players who are actively on the Major League Baseball roster, while the 40-man roster consist of those 25 players plus another 15 that are signed to a major league contract but are in the minor leagues. Those 15 players need to be on the 40-man roster to be eligible for a Major League Baseball call-up from the minor leagues.

After the 2019 season, the active MLB roster was expanded from 25 to 26. Due to COVID-19, teams were able to hold 28 players for that 2020 impacted season. Regardless, a difference in roster sizes does not exist to impact the average payroll. All teams are required to have 40 players on the 40-man roster. These changes in payrolls compared to the league's revenue growth was a large motive for the lockout.

#### **Impact on Ticket Revenue per Game**

From 2011 through 2019, ticket revenue accounted from anywhere from 21.8% to 31.8% of the league's total revenue. The accounted amount has decreased every year in that timeframe, but still a reasonable share. Revenue has grown at a much higher rate. Ticket revenue was calculated using the average ticket price multiplied by the average attendance. Ticket price was found on Statista and attendance came from Baseball Reference.

Assuming revenue trends remain like the previous years, these numbers would be comparable to what the league would lose on a per game basis from a lost game for every team in the 2022 regular season. Had the league lost 10% of their games this season, the league would lose out on roughly \$226,000,000 in ticket revenue and \$1,037,000,070 in total revenue.

<u>Year</u>	<u>Ticket Revenue per Game</u>		<u>Revenue per Game</u>	
2011	\$	813,435	\$	2,617,284
2012	\$	831,146	\$	2,802,469
2013	\$	836,793	\$	2,921,811
2014	\$	847,536	\$	3,234,568
2015	\$	908,649	\$	3,452,675
2016	\$	934,061	\$	3,716,049
2017	\$	949,878	\$	3,893,004
2018	\$	929,698	\$	4,074,074
2019	\$	930,417	\$	4,267,490

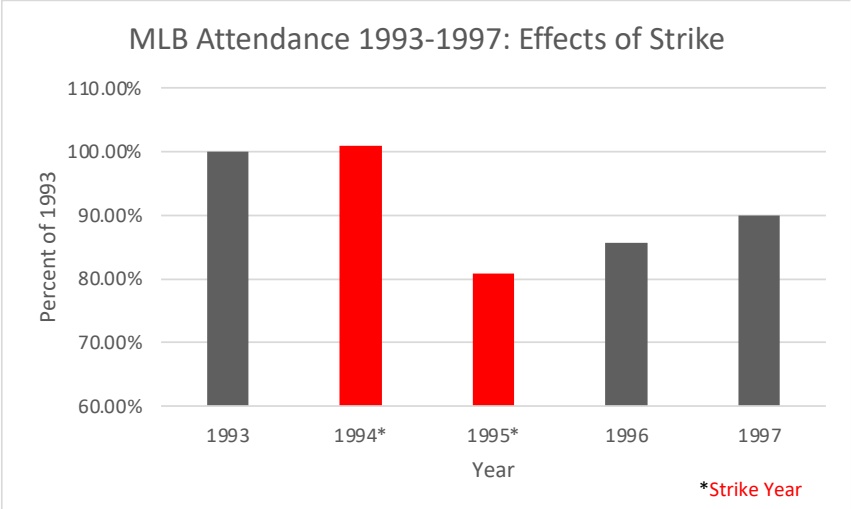
These numbers are based off 2019 earnings. Average face value of tickets was used in calculating ticket revenue.

### **Impact on Attendance**

From what is earned from a game in ticket revenue and overall revenue, the league learned quickly what was at stake for the 2021-2022 lockout. The last time the league had a work stoppage that resulted in a loss of games was in 1994 and 1995. The strike lost the MLB a total of 948 games, including the 1994 postseason and 18 regular season games for each team in the 1995 season.

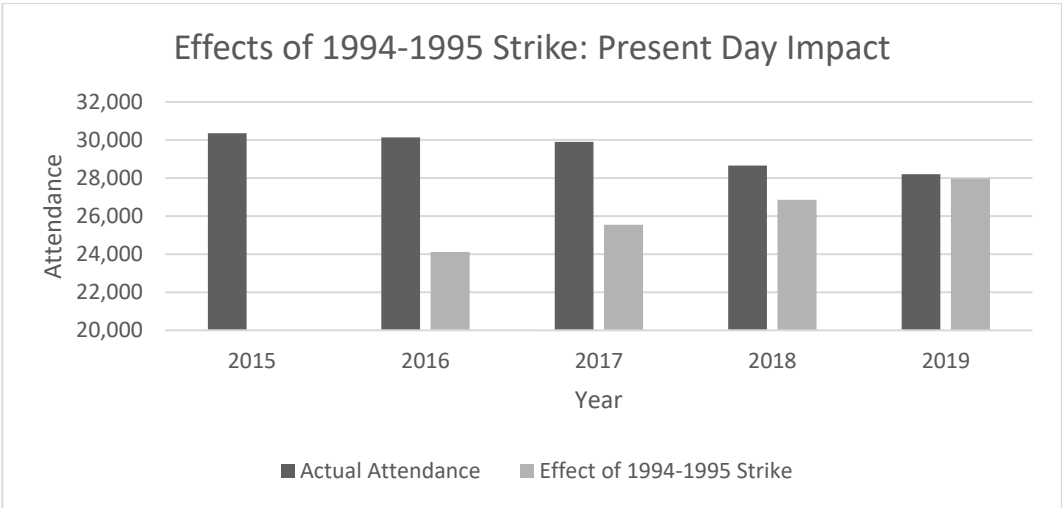
The season the last stoppage began, 1994, the league had an increase of roughly one percent in attendance from the previous season until the season had come to a stoppage. Once play resumed in 1995, fans reacted in a manner that signaled they lost interest in attending games. The attendance numbers came from Baseball Reference.

Average attendance moved from 30,964 in 1993 to 25,024 in 1995. The 1995 season was just over 80% of what the pre-strike year had in attendance. It took until the 1997 MLB season for the league to be at 90% of what the league had in average attendance prior to the



strike in 1993. The MLB’s average attendance did not crack an average attendance above 31,000 until 2006, which was the pace the 1994 season was on until the stoppage.

Granted it was a strike rather than lockout, so fans could react differently. Fans view the players and owners differently. Strikes are stoppages by the union, while lockouts are conducted by the league. Assuming a modern day lockout would have the same impact of the 1994-1995 strike, it would give the attendance change below.



The first year, 2015, represents the same impact as seen in 1994. This year is set as if the league went into the season thinking that an agreement would have been reached for a new CBA that season. The second year shows 2016 to represent the league returning in a state like that of when the league returned from the work stoppage in 1995. In 2016, the league would lose an average of \$186,598 per game in ticket revenue. In 2017, the league would lose an average of \$138,629 per game in ticket revenue. In 2018, \$58,437 would have been lost on average in comparison to the actual earned per game. Not until 2019 does it look to the eye that the league has recovered. The difference is \$7,757 per game the league would be losing per game had they been in a recovery like the 1994-1995 strike. Over the course of a season that equates to almost \$19 million lost in total ticket revenue.

From the years 2015-2019, Major League Baseball's attendance was declining. Attendance was down over 7% in 2019 compared to 2015. The 10% increase in ticket prices in that same time resulted in an increase of 2.40% in ticket revenue per game to counter the loss in attendance.

The 1994-1995 strike served as a lesson to the league during the 2021-2022 lockout before any games could be lost. Had fans had a negative reaction to the extent of where it prevented them from going to games, millions of dollars would be lost. Like stated previously, had the league lost over \$7,000 per game it would result in over \$19 million revenue being lost. There was concern whether the lockout would have a negative impact on attendance, but through the first week of the year attendance is averaging over 28,000 spectators. The numbers are on par with those before the COVID-19 impacted seasons.

### Collective Balance Threshold

As a result of the new agreement, the league and union agreed to changes to the Collective Balance Threshold (CBT). Below shows the threshold since 2018 and change through the end of the new agreement.

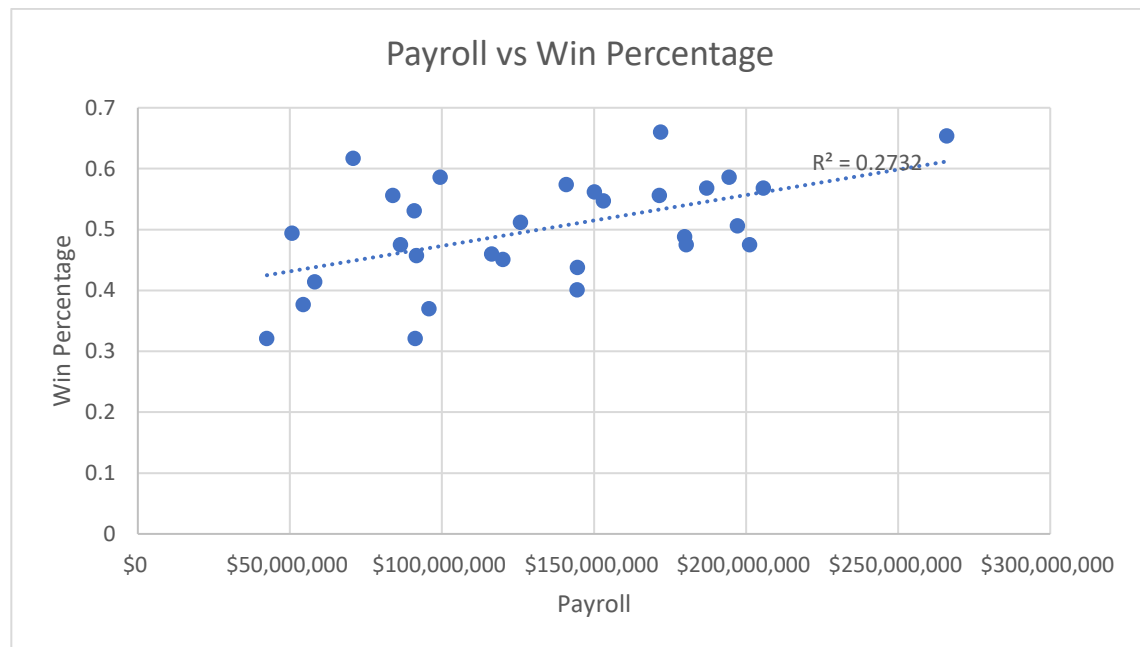
In 2021, the league had a Collective Balance Threshold of \$210,000,000. The new agreement brought an increase of nearly 10% for the 2022 season. The growth takes the threshold number to \$230 million in 2022 and has increases to \$244 million through 2026 (“Competitive Balance Tax: Glossary,” n.d.).

<b>Year</b>	<b>CBT Threshold</b>	<b>Percent Change</b>
2018	\$ 197,000,000.00	1.03%
2019	\$ 206,000,000.00	4.57%
2020	\$ 208,000,000.00	0.97%
2021	\$ 210,000,000.00	0.96%
<b>2022</b>	<b>\$ 230,000,000.00</b>	<b>9.52%</b>
<b>2023</b>	<b>\$ 233,000,000.00</b>	<b>1.30%</b>
<b>2024</b>	<b>\$ 237,000,000.00</b>	<b>1.72%</b>
<b>2025</b>	<b>\$ 241,000,000.00</b>	<b>1.69%</b>
<b>2026</b>	<b>\$ 244,000,000.00</b>	<b>1.24%</b>

The threshold is to help maintain competitiveness; the increase will now give players more bargaining power when those players enter unrestricted free agency. The higher the threshold, the more that Major League Baseball teams can spend without being penalized. While there are not many teams that spend over \$200 million a season, in recent years there still are a few teams that will. Fans worry that teams that outspend most of the competition will lead to those teams taking over the league.

The graph below shows the relationship between winning and payroll across the 2021 season. The  $R^2$  value in this relationship is 0.2732, which indicates that there is a low correlation between these two variables. The win-loss record information came from MLB's records.

A higher amount spent on payroll does not mean that it cannot help that team win more games. Before the playoff expansion agreed upon for the 2022 season, ten teams made the MLB Postseason. Eight of those ten teams that made the playoff were in the top half of highest



spenders. The team with the second highest winning percentage last season was the Los Angeles Dodgers, who were the only team over the Collective Bargaining Threshold. This means they were the only team that had to pay the luxury tax. The Dodgers did not go on to win the 2021 World Series but were two wins away from making it to the World Series. The winner of



the World Series in 2021 was the Atlanta Braves, who were just outside of the top ten spenders on payroll at \$153,060,458.

The unique teams that made the postseason in comparison to those who were top spenders were the Milwaukee Brewers and Tampa Bay Rays. The Brewers were the 19<sup>th</sup> highest spender, while the Rays were 26<sup>th</sup> (bottom 1/6<sup>th</sup> of the league) as seen in the graphic on the next page. The Rays had the third highest win percentage in all of baseball yet were a bottom five spender in the league. This is not a fluke as the Rays have the reputation for being toward the lower ranks in payroll spendings year-in and year-out while winning a high amount of games. According to Spotrac, the Rays spent the third fewest (28<sup>th</sup> of 30) in 2020 and made the World Series against the league's second highest spenders in the Los Angeles Dodgers. They did not win the 2020 World Series, but they run a successful business model of high win percentage and low payroll.

Through the years 2010 to 2019, the Tampa Bay Rays had the sixth most regular season wins in baseball. In that same timeframe they were in the bottom third of spending every single season according to Spotrac. In the years 2011, 2018 and 2019 they were the lowest spender. It is important to note that money can buy and retain talent for a team, but there are teams that demonstrate scouting and evaluating talent is undervalued. The Rays are one of the most successful demonstrations of this in recent years. The low  $R^2$  value of 0.2732 in the relationship between win percentage and payroll indicates that there is no correlation between the two. So next time anybody gives their Yankee fan friend banter about how they spend all that money on talent for their roster, think about how there is not a strong correlation between winning and payroll. The Boston Red Sox in 2018 were the only team since 2011 that has won the World

Series and had the highest payroll across the league. They also were the only team in that time frame that won the World Series and had to pay any sort of luxury tax following that season.

The Collective Balance Threshold applies to everybody, but realistically only applies to the small handful of teams that flirt with the threshold. It helps the big market teams that are willing to spend as much money on retaining their players and obtaining new top-dollar players to better their rosters. The union have used this new threshold as a hopeful winning hand that will encourage owners of teams to spend more money on their player payroll, even if that means they are just increasing their payroll from the previous season. Average payroll of 2019 compared to 2021 average payroll was down about \$6 million. The 2021-2022 MLB lockout ended on March 10<sup>th</sup>, which gave teams little time to adjust to the 9.52% increase of the threshold. The little time did not matter though, as the league's average payroll for the 2022 season is \$146,103,720. That is a record high average payroll for the league. The union and players hope of an increased CBT that nudges owners to spend more is trending up.

2021 MLB Team Payroll and Record				
Payroll Rank	Team	Wins	Losses	Payroll
1	Los Angeles Dodgers <sup>†</sup>	106	56	\$266,020,809
2	New York Yankees <sup>†</sup>	92	70	\$205,669,863
3	New York Mets	77	85	\$201,189,189
4	Philadelphia Phillies	82	80	\$197,213,223
5	Houston Astros <sup>†</sup>	95	67	\$194,472,041
6	Boston Red Sox <sup>†</sup>	92	70	\$187,100,784
7	Los Angeles Angels	77	85	\$180,349,558
8	San Diego Padres	79	83	\$179,764,272
9	San Francisco Giants <sup>†</sup>	107	55	\$171,890,308
10	St. Louis Cardinals <sup>†</sup>	90	72	\$171,469,994
11	Atlanta Braves <sup>††</sup>	88	73	\$153,060,458
12	Toronto Blue Jays	91	71	\$150,140,253
13	Chicago Cubs	71	91	\$144,607,670
14	Washington Nationals	65	97	\$144,415,187
15	Chicago White Sox <sup>†</sup>	93	69	\$140,926,169
	<b>LEAGUE AVERAGE</b>			<b>\$132,206,525</b>
16	Cincinnati Reds	83	79	\$125,887,446
17	Minnesota Twins	73	89	\$120,084,606
18	Colorado Rockies	74	87	\$116,408,966
19	Milwaukee Brewers <sup>†</sup>	95	67	\$99,377,415
20	Texas Rangers	60	102	\$95,788,819
21	Kansas City Royals	74	88	\$91,595,545
22	Arizona Diamondbacks	52	110	\$91,232,929
23	Oakland Athletics	86	76	\$90,900,598
24	Detroit Tigers	77	85	\$86,348,945
25	Seattle Mariners	90	72	\$83,837,448
26	Tampa Bay Rays <sup>†</sup>	100	62	\$70,836,327
27	Miami Marlins	67	95	\$58,157,900
28	Pittsburgh Pirates	61	101	\$54,356,609
29	Cleveland Indians	80	82	\$50,670,534
30	Baltimore Orioles	52	110	\$42,421,870

† Playoff Team  
 †† World Series Champion

### League Minimum Salary

Another change the league introduced to the new Collective Bargaining Agreement was an increase in league minimum salaries. One statement continuously repeated from the representatives and players fighting for more in a new agreement was along the lines that is they were motivated to protect young players. Players that are eligible for arbitration do not get that right until they have accrued at least three years of service time. Once a player hits the service time of six years, they can they go freely negotiate with any team at terms and a price tag they are willing to pursue.

According to CBS Sports, in 2019 nearly two thirds of players that stepped onto the field on opening day had less than three years of service time. Based on the MLB Minimum Salary chart, most of these players were making around \$555,000. The league average salary in 2019 was over \$4 million that season. Players under three years of service time accounted for 53.6% of days of service time accumulated, but they combined for only 9.8% of player pay. Teams have been building their rosters around younger players because they cost significantly less than a veteran player who has accumulated over six years of service time. Players that have earned the right to negotiate their contracts in full pull the league average up tremendously.

There have been five new Collective Bargaining Agreements agreed upon during the 21<sup>st</sup> century in the MLB. The league minimum salary has seen a rise from the previous season after that new agreement was put into place each time. The amount changed varied from agreement to agreement, but the most recent agreement has had the second highest percent change jump in the 21<sup>st</sup> century. The MLB Minimum Salary chart shows that jump to be a 22.70% increase from the 2021 season.

MLB Minimum Salary		
<b>Year</b>	<b>Salary</b>	<b>Change</b>
2018	\$ 545,000	1.87%
2019	\$ 555,000	1.83%
2020	\$ 563,500	1.53%
2021	\$ 570,500	1.24%
<b>2022</b>	<b>\$ 700,000</b>	<b>22.70%</b>
<b>2023</b>	<b>\$ 720,000</b>	<b>2.86%</b>
<b>2024</b>	<b>\$ 740,000</b>	<b>2.78%</b>
<b>2025</b>	<b>\$ 760,000</b>	<b>2.70%</b>
<b>2026</b>	<b>\$ 780,000</b>	<b>2.63%</b>
<b>BOLD = New CBA</b>		

The Union fought for a higher number than what was agreed upon but still proceeded to move forward with a significant increase to pay those players under three years of service time because of the new Collective Bargaining Agreement.

### **Service Time Manipulation Incentives**

Earlier in this paper it was stated how most players on MLB active rosters sit around three years of service time. For years it has been known the front offices of big-league teams blatantly manipulate service time to their benefit by stating that a player may not be ready for the highest level of baseball until a certain point in the season. To accumulate one complete year of service time, a player must have been on the major league roster or Injured List (IL) for 172 days of the 187 regular season days in a season. To keep a top prospect under team control and a more affordable contract, teams will keep a player in the minor leagues until that player can not accrue 172 or more days of service time that season. In the long run, this gives the team an extra year of team control. This has been a fight for years, but it is something that is hard to prove. Kris Bryant and the Cubs had a situation in which Bryant fought for a year of service time back but was unable to win due to the lack of hard proof of service time manipulation.

Teams can easily say how they want to get that player more at bats in the minor leagues prior to them being at the highest level because in their eyes that prospect is not ready. In the MLB 2019 Debut by Service Time Cutoff table, it shows the number of debuts based on the time period. This data was reported by Beyond the Box Score.

MLB 2019 Debut by Service Time Cutoff (as of end of May 2019)						
Period	Period Length (days)	Player Debuts	Top 100 Prospects	Debuts per day	Top 100 Prospects Debuts	
Opening Week	7	25	4	3.6	16%	
Pre-Cutoff	18	16	0	0.9	0%	
Post-Cutoff	29	45	10	1.6	22%	

Opening week (03/20 – 04/01) indicates the first full round of teams' pitching rotations. A series in Japan in mid 2019 March between the Seattle Mariners and Oakland Athletics made the official opening day start a bit sooner than compared to when the rest of the league started. Pre-cutoff (04/04 – 04/19) is the time frame after opening week that a player can still accrue a full year of service time. Post-cutoff (04/20 and beyond) is the time when a player can not possibly accrue a full year of service time. The top 100 prospects are a list of prospects that are defined as the top 100 prospects in baseball per writers on the MLB website. A prospect is a player who has not surpassed the threshold of rookie status.

Opening week that season saw the greatest number of debuts per day at 3.6 debuts. It is common to see so many debuts since there are restrictions where a club must give a player an opportunity after a certain time, or they could lose them through waivers or a draft. Pre-cutoff saw very little opportunity for any players, and none for players classified as a top 100 prospect. Once the post-cutoff hit, the league saw more top 100 prospect debuts than the previous two periods combined. Was a month or less of time really all a prospect needed to be

prepared or developed from where they were pre-cutoff? Keeping those ten top 100 prospects that had their debut after the cutoff date put those ten players under another year of team control. That means they have another year to add to their tally before they can enter free agency with full control.

In the recent negotiations, the union and the league came to an agreement on incentives for teams to start calling up prospects prior to the league cutoff date for a player to get a full year of service time. The league is offering draft picks for those teams that promote a player to the opening day roster and keep them up for a full season. If that player finishes in the top three in Rookie of the Year voting or Top 5 in MVP (award for Most Valuable Player)/Cy Young (award for top pitcher) voting before they are eligible for arbitration (three or more years of service time). At the time of this being written, it is difficult to see the full effects of how these changes will affect service time manipulation. As of mid-April, 14 of the top 100 prospects according to MLB's website were on a Major League Baseball roster. That is a huge jump from previous years, and positive movement in reducing the amount of service time manipulation. Three top five prospects in Bobby Witt Jr., Spencer Torkelson, and Julio Rodriguez got their chance on opening day.

To protect players from being moved up and down between the minors and majors, the new Collective Bargaining Agreement agreed that players can only be optioned five times per season. Optioning a player means the club can move them to the minors without them being subject to waivers, where another team can claim that player through the waiver wire. This addition now saves players from being moved around constantly.

Players who finish top two within their respective league's Rookie of the Year voting will now receive a full year of service time regardless of when they are called up. On the next page are the list of players from the years 2011 through 2021 that would receive a full year of service time had this rule been in place at the time. The first name that year indicates that player won the Rookie of the Year, and the next name is the runner-up. The data came from Baseball Reference.

In 2015, Kris Bryant played 151 regular season games and the Cubs played a 162 regular season games. The Cubs kept him in the minor leagues just long enough to have him lose out on a full year of service time. This essentially bought the Cubs another year of team control

American League				National League			
Year	Player	Position	Games Played	Year	Player	Position	Games Played
2011	Jeremy Hellickson	P	29	2011	Craig Kimbrel	P	79
2011	Mark Trumbo	OF	149	2011	Freddie Freeman	1B	157
2012	Mike Trout	OF	139	2012	Bryce Harper	OF	139
2012	Yoenis Cespedes	OF	129	2012	Wade Miley	P	32
2013	Wil Myers†	OF	88	2013	Jose Fernandez	P	28
2013	Jose Iglesias	SS	109	2013	Yasiel Puig	OF	104
2014	Jose Abreu	1B	145	2014	Jacob DeGrom	P	22
2014	Matt Shoemaker	P	27	2014	Billy Hamilton	OF	152
2015	Carlos Correa†	SS	99	2015	Kris Bryant	IF/OF	151
2015	Francisco Lindor†	SS	99	2015	Matt Duffy	IF	149
2016	Michael Fulmer	P	26	2016	Corey Seager	SS	157
2016	Gary Sanchez†	C	53	2016	Trea Turner†	SS	73
2017	Aaron Judge	OF	155	2017	Cody Bellinger	IF/OF	132
2017	Andrew Benintendi	OF	151	2017	Paul DeJong	SS	108
2018	Shohei Ohtani	OF/DH/P	104	2018	Ronald Acuna Jr.	OF	111
2018	Miguel Andujar	3B	149	2018	Juan Soto	OF	116
2019	Yordan Alvarez	OF	87	2019	Pete Alonso	1B	161
2019	John Means	P	31	2019	Mike Soroka	P	29
2020	Kyle Lewis	OF	58	2020	Devin Williams	P	22
2020	Luis Robert	OF	56	2020	Alec Bohm	3B	44
2021	Randy Arozarena	OF	141	2021	Jonathan India	IF	150
2021	Luis Garcia	P	30	2021	Trevor Rogers	P	25

Accrued 65% or less in one year of service time†

before Bryant could enter free agency. Had the Cubs called him up a day sooner, he would have entered free agency in the offseason of 2020-2021 rather than the offseason of 2021-2022. A player that would have benefited heavily from this rule is Gary Sanchez in 2016. Sanchez played just 53 regular season games as a positional player.

### **Pre-Arbitration Bonus Pool**

The mission to take care of younger players is something the union made clear was one of their largest missions in the new agreement. The league agreed to a pre-arbitration bonus pool of \$50 million to pay younger players and reward them for playing at a high level before their arbitration eligible seasons.

For winning the MVP or Cy Young, the player will be awarded \$2.5 million. Second and third place will earn \$1.75 million and \$1.5 million. Fourth and fifth place will each earn \$500,000. Rookie of the Year and the runner-up for the Rookie of the Year will earn \$750,000 and \$500,000 (Stephen, 2022). The remaining amount goes to the top 100 performers that are eligible to be a part of the pool. The top 100 performers amongst the eligible pool will be determined by a formula like WAR (Wins Above Replacement). WAR tells how many wins a player contributes compared to a replacement player. Based off these numbers, last year's Rookie of the Year winners' Jonathan India (National League Rookie of the Year) and Randy Arozarena (American League Rookie of the Year) would have tripled their salary under this system. The new agreement has provided an incentive for younger players to play for awards, which can help their team win games with better statistical performances.

### **Expanded Playoffs**

Since 2012, the MLB has used a three round playoff system (in each league) with there being a one game play-in matchup between two wild card teams. Each league had five teams that make the postseason: three division winners and two wild card teams. Starting in 2022, the league will be adding another wild card team, which results in another round of games. This means more baseball, and more revenue for the league. While negotiating the terms and



possibility of whether to expand the playoff, there were individuals that voiced concern to the quality of teams that make the playoffs due an expansion. People were concerned about the number of teams under a .500 winning percentage that would make the playoffs.

The tables labeled American League Playoff Standings and National League Playoff Standings explored how many teams would make the playoffs from the years 2016-2021 had the 2022 expanded playoff format been in place. Teams in that time period typically were at least 6 games or so over .500. Included were the teams that would then be considered the first team out. Based off the previous playoff format, the sixth listed team would have been the first team out. Eleven of the twelve teams that would make the playoffs under the new playoff format would have been over .500. The only team that would have made the playoffs under .500 were the Kansas City Royals in 2017. The “first team(s) out” with winning percentage of under .500 are highlighted in red; there would have been only three teams out of those twelve to finish under that mark (25% of the expanded variation for first team out). Records came from the MLB’s records.

The idea that the expanded playoffs will be polluted by teams that are deemed unworthy of a playoff spot is a bit far-fetched. The second wild card team’s win percentage in the time frame was .5424. In a 162-game season that averages out to be 87.87 wins. The third wild card, previously the first team out, under the new expansion had an average win percentage of 0.5275. That averages out to be 85.45 wins per season.

<b>American League Playoff Standings</b>					
2016					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Texas Rangers	Division Winner		95	67	58.64%
Cleveland Indians	Division Winner		94	67	58.39%
Boston Red Sox	Division Winner		93	69	57.41%
Baltimore Orioles	Wild Card		89	73	54.94%
Toronto Blue Jays	Wild Card		89	73	54.94%
<b><u>Detroit Tigers</u></b>	<b><u>Wild Card</u></b>		<b><u>86</u></b>	<b><u>75</u></b>	<b><u>53.42%</u></b>
Seattle Mariners	First Team Out		86	76	53.09%
2017					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Cleveland Indians	Division Winner		102	60	62.96%
Houston Astros	Division Winner		101	61	62.35%
Boston Red Sox	Division Winner		93	69	57.41%
New York Yankees	Wild Card		91	71	56.17%
Minnesota Twins	Wild Card		85	77	52.47%
<b><u>Kansas City Royals</u></b>	<b><u>Wild Card</u></b>		<b><u>80</u></b>	<b><u>82</u></b>	<b><u>49.38%</u></b>
Los Angeles Angels	First Team Out		80	82	49.38%
2018					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Boston Red Sox	Division Winner		108	54	66.67%
Houston Astros	Division Winner		103	59	63.58%
Cleveland Indians	Division Winner		91	71	56.17%
New York Yankees	Wild Card		100	62	61.73%
Oakland A's	Wild Card		97	65	59.88%
<b><u>Tampa Bay Rays</u></b>	<b><u>Wild Card</u></b>		<b><u>90</u></b>	<b><u>72</u></b>	<b><u>55.56%</u></b>
Seattle Mariners	First Team Out		89	73	54.94%
2019					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Houston Astros	Division Winner		107	55	66.05%
New York Yankees	Division Winner		103	59	63.58%
Minnesota Twins	Division Winner		101	61	62.35%
Oakland A's	Wild Card		97	65	59.88%
Tampa Bay Rays	Wild Card		96	66	59.26%
<b><u>Cleveland Indians</u></b>	<b><u>Wild Card</u></b>		<b><u>93</u></b>	<b><u>69</u></b>	<b><u>57.41%</u></b>
Boston Red Sox	First Team Out		84	78	51.85%
2020					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Tampa Bay Rays	Division Winner		40	20	66.67%
Minnesota Twins	Division Winner		36	24	60.00%
Oakland A's	Division Winner		36	24	60.00%
Cleveland Indians	Wild Card		35	25	58.33%
Chicago White Sox	Wild Card		35	25	58.33%
<b><u>New York Yankees</u></b>	<b><u>Wild Card</u></b>		<b><u>33</u></b>	<b><u>27</u></b>	<b><u>55.00%</u></b>
Toronto Blue Jays	First Team Out		32	28	53.33%
2021					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Tampa Bay Rays	Division Winner		100	62	61.73%
Houston Astros	Division Winner		95	67	58.64%
Chicago White Sox	Division Winner		93	69	57.41%
Boston Red Sox	Wild Card		92	70	56.79%
New York Yankees	Wild Card		92	70	56.79%
<b><u>Toronto Blue Jays</u></b>	<b><u>Wild Card</u></b>		<b><u>91</u></b>	<b><u>71</u></b>	<b><u>56.17%</u></b>
Seattle Mariners	First Team Out		90	72	55.56%
<b>New Wild Card Under CBA</b>					
<b>New Playoff Team and Under .500</b>					
<b>First Team Out and Under .500</b>					

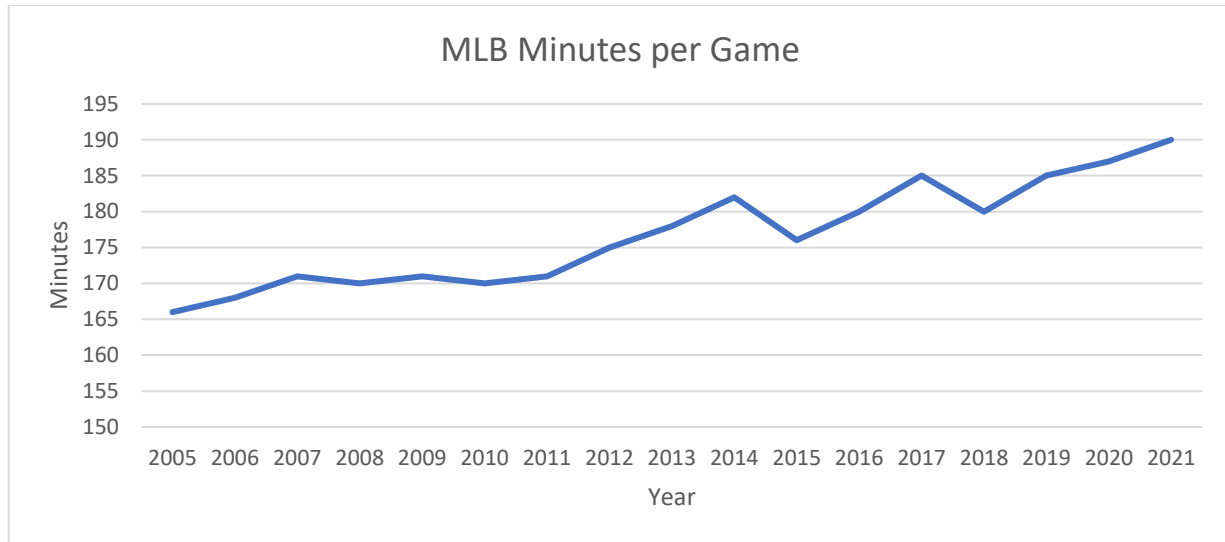
<b>National League Playoff Standings</b>					
2016					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Chicago Cubs	Division Winner		103	58	63.98%
Washington Nationals	Division Winner		95	67	58.64%
Los Angeles Dodgers	Division Winner		91	71	56.17%
New York Mets	Wild Card		87	75	53.70%
San Francisco Giants	Wild Card		87	75	53.70%
<b>St. Louis Cardinals</b>	<b>Wild Card</b>		<b>86</b>	<b>76</b>	<b>53.09%</b>
Miami Marlins	First Team Out		79	82	49.07%
2017					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Los Angeles Dodgers	Division Winner		104	58	64.20%
Washington Nationals	Division Winner		97	65	59.88%
Chicago Cubs	Division Winner		92	70	56.79%
Arizona Diamondbacks	Wild Card		93	69	57.41%
Colorado Rockies	Wild Card		87	75	53.70%
<b>Milwaukee Brewers</b>	<b>Wild Card</b>		<b>86</b>	<b>76</b>	<b>53.09%</b>
Miami Marlins	First Team Out		77	85	47.53%
2018					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Milwaukee Brewers	Division Winner		96	67	58.90%
Los Angeles Dodgers	Division Winner		92	71	56.44%
Atlanta Braves	Division Winner		90	72	55.56%
Chicago Cubs	Wild Card		95	68	58.28%
Colorado Rockies	Wild Card		91	72	55.83%
<b>St. Louis Cardinals</b>	<b>Wild Card</b>		<b>88</b>	<b>74</b>	<b>54.32%</b>
Pittsburgh Pirates	First Team Out		82	79	50.93%
2019					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Los Angeles Dodgers	Division Winner		106	56	65.43%
Atlanta Braves	Division Winner		97	65	59.88%
St. Louis Cardinals	Division Winner		91	71	56.17%
Washington Nationals	Wild Card		93	69	57.41%
Milwaukee Brewers	Wild Card		89	73	54.94%
<b>New York Mets</b>	<b>Wild Card</b>		<b>86</b>	<b>76</b>	<b>53.09%</b>
Arizona Diamondbacks	First Team Out		85	77	52.47%
2020					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
Los Angeles Dodgers	Division Winner		43	17	71.67%
Atlanta Braves	Division Winner		35	25	58.33%
Chicago Cubs	Division Winner		34	26	56.67%
San Diego Padres	Wild Card		37	23	61.67%
St. Louis Cardinals	Wild Card		30	28	51.72%
<b>Miami Marlins</b>	<b>Wild Card</b>		<b>31</b>	<b>29</b>	<b>51.67%</b>
Cincinnati Reds	First Team Out		31	29	51.67%
2021					
<u>Team</u>	<u>Status</u>	<u>Wins</u>	<u>Losses</u>	<u>Win Percentage</u>	
San Francisco Giants	Division Winner		107	55	66.05%
Milwaukee Brewers	Division Winner		95	67	58.64%
Atlanta Braves	Division Winner		88	73	54.66%
Los Angeles Dodgers	Wild Card		106	56	65.43%
St. Louis Cardinals	Wild Card		90	72	55.56%
<b>Cincinnati Reds</b>	<b>Wild Card</b>		<b>83</b>	<b>79</b>	<b>51.23%</b>
Philadelphia Phillies	First Team Out		82	80	50.62%
<b>New Wild Card Under CBA</b>					
<b>New Playoff Team and Under .500</b>					
<b>First Team Out and Under .500</b>					

### Rule Changes

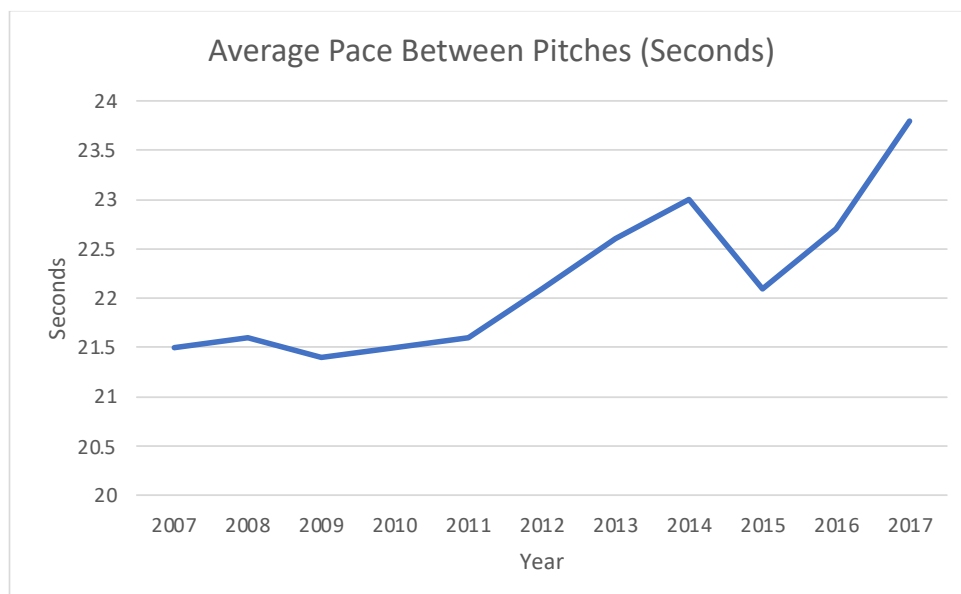
The labor agreement brought changes to the game that allows the league to implement rules with a 45-day notice compared to the one year notice the league previously had to give. This year, the change the league brought was the change to bring a universal designated hitter. The American League had adopted the usage of a designated hitter in 1973, and since then only the American League had used it. The National League did not have a designated hitter except in games against American League teams at the American League teams' home ballpark. Now each league has the designated hitter across all games. This will lead to more exciting hitter and pitcher matchups now that pitchers do not have to hit for themselves.

The other rule change on the field that was brought to the game is the size of the bases, which is being test in minor league baseball. The bases have increased in size to 18 square inches from 15 square inches. The league is testing this to prevent injuries. Other rule changes that are on the horizon for the game potentially are robot umpires, bans on the shift and a pitch clock. The Major League Baseball Commissioner, Rob Manfred, stated in Spring Training that adding a pitch clock is a priority for Major League Baseball. The league has been attempting to find ways to speed up the time of games, so I investigated how implementing a pitch clock would impact the overall speed of the game.

Since 2005, the length of a Major League Baseball game has gradually increased to over three hours on length as seen below. In 2005, games were just over two hours and forty-five



minutes. There are plenty of individuals who differ on how or if the league should do anything to reduce the amount of game time. Purists point to the fact that baseball has never been a game that is controlled by time, so that makes the game unique. Some do not watch games due to the exact opposite, which is that it is a long game under no time constraint. To shorten games, people have been pointing out how long it takes pitchers to pitch the ball. Some say this is the root to the problem.



From the years 2007 through 2011, the average pace in between pitches was 21.5 seconds. In between 2012 and 2017 there was up and down movement, but the highest pace in between pitches hit in that time frame was in 2017 at nearly 24 seconds. To reduce this increase of time in between pitches, the league wants to install a pitch clock. This pitch clock that is being tested out in the minor leagues is a timer that gives the pitcher 19 seconds to pitch when a runner is on base, and 14 seconds when the bases are empty. To see how these pitch clocks would impact the time of plate appearances (appearance where a batter comes up to at bat), the average amount of time between pitches was taken away from the average amount of pitches per plate appearance multiplied by either 14 seconds or 19 seconds. Since there are several different times a runner can be on base, the amount of time per plate appearance was used to see the impact in that given scenario.

In the tables below, the abbreviation “PA” stands for plate appearance and “G” stands game. Data was combined with information from Baseball Reference and Bleacher Report. Zachary Rymer reported the average time each year a pitcher took from 2007-2017, which was multiplied by average pitches per plate appearance to calculate the time per plate appearance.

The table labeled Bases Empty – 14 Seconds shows the trend of increased time in plate appearances, but it highlights in the final column that per plate appearance while the bases are empty that around 30 seconds to 40 seconds would be saved with a clock. Since every half inning starts with no runners on base, it can be assumed that roughly eight to eleven minutes would have been saved at the beginning of each half inning in the years 2007 through 2017 with the rumored pitch clock for 2023. Seventeen half-innings were assumed in that math since

<b>BASES EMPTY - 14 Seconds</b>						
<u>Year</u>	<u>Actual Seconds per PA</u>	<u>PA per G</u>	<u>Pitches per PA</u>	<u>New Time with Clock per PA</u>	<u>Seconds per PA</u>	<u>Time Saved per PA</u>
2007	81.055		77.6	3.77	0.880	52.78
2008	82.296		77.3	3.81	0.889	53.34
2009	81.962		77	3.83	0.894	53.62
2010	82.345		76.3	3.83	0.894	53.62
2011	82.512		76.3	3.82	0.891	53.48
2012	84.643		75.8	3.83	0.894	53.62
2013	86.784		76	3.84	0.896	53.76
2014	88.09		75.7	3.83	0.894	53.62
2015	84.643		75.6	3.83	0.894	53.62
2016	88.076		76	3.88	0.905	54.32
2017	92.582		76.2	3.89	0.908	54.46

that is what is guaranteed, while is known that there can be eighteen half innings if the home team still needs to hit in the bottom half of the ninth inning. Extra innings are a possibility as well, but seventeen half innings are guaranteed unless a rain delay occurs.

<b>RUNNER ON BASE - 19 Seconds</b>						
<u>Year</u>	<u>Actual Seconds per PA</u>	<u>PA per Game</u>	<u>Pitches per PA</u>	<u>New Time with Clock per PA</u>	<u>Seconds per PA</u>	<u>Time Saved per PA</u>
2007	81.055		77.6	3.77	1.194	71.63
2008	82.296		77.3	3.81	1.207	72.39
2009	81.962		77	3.83	1.213	72.77
2010	82.345		76.3	3.83	1.213	72.77
2011	82.512		76.3	3.82	1.210	72.58
2012	84.643		75.8	3.83	1.213	72.77
2013	86.784		76	3.84	1.216	72.96
2014	88.09		75.7	3.83	1.213	72.77
2015	84.643		75.6	3.83	1.213	72.77
2016	88.076		76	3.88	1.229	73.72
2017	92.582		76.2	3.89	1.232	73.91

The table labeled Runner on Base – 19 Seconds indicates the time saved while runners were on base per plate appearance in the same time frame as the table prior. The time saved does not change much per plate appearance from the earlier years in the table, but the time nearly doubles from 2007 to 2017.

### **Conclusion**

The CBA negotiations added plenty of new changes to the league going forward. The union and league came to agreement on several ideas so they could have a full season in 2022. The agreement runs through the 2026 season. The decisions made set up the future of the game but will have impacts on multiple parties that can not be ignored.

The league and its team owners maintain their earnings for a full season. The league gains \$930,000 from ticket revenue and over \$4,250,000 in overall revenue per game (based off 2019 earnings). Had the league lost 10% of their games, they would have lost \$226,000,000 in ticket revenue and \$1,037,000,070 in total revenue (based off 2019 earnings). The league is now able to instill new rules into the game with a 45-day notice to the MLBPA.

The MLBPA accomplished goals that will help younger players, while giving some help to veterans as well. There was an increase in minimum salary of 22.7% from 2021 to 2022. A \$50 million bonus pool has been created to distribute amongst pre-arbitration eligible players, where they can also earn a year of service team depending on if certain incentives are met. The players were also able to negotiate incentives for management and owners to bring up young prospects and not manipulate service time. This is a huge step in helping younger players get to free agency at a younger age. For veterans, the increased luxury tax means free agent players can negotiate for higher salaries since the CBT has increased.



Perhaps the largest impact on fans is that no games were lost. The expanded playoff gives more games to be played. Fans crave October baseball, so adding another series of play is an element that intrigues viewers. Since the league wants to add rule changes over the next couple of seasons, this will keep fans on their toes as the game could see changes that could revolutionize the game.

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