Major League Baseball:
America's Recession-Proof Pastime

The Honors Program
Senior Capstone Project
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ABSTRACT

This project is a study which examines how attendance levels in Major League Baseball stadiums have been impacted by the current recession in the United States which began in October 2007. Research on attendance during past recessions has shown a strong relationship that during downtrends in the economy, baseball attendance levels generally do not suffer. Using an ordinary least squares regression, independent variables including; percent change in ticket price from previous season, distance to closest competitor, percent change in ticket price of the closest competitor, winning percentage during previous year, winning percentage during current year, unemployment rate during current year, per capita income during current year, and a dummy variable were run against the dependent variable of season attendance totals for 29 of the 30 MLB teams (Those located within the US). The data used is from the years 2008 and 2009, the first and second years of the current recession. Results were analyzed to find if there were any relationships that proved to be significant, with a t-Stat score > 2 or a P-value < .10. The variables of team's current year winning percentage and presence of a new stadium are the only variables that prove to be significant during both seasons, with a positive correlation for both years. Unemployment becomes significant during the 2009 season, and also changes from being negatively correlated to positively correlated with attendance levels from one year to the next. Overall, the league as a whole had a drop in attendance of 1.09% and 6.59% during the 2008 and 2009 seasons, which were the first and second seasons following the start of the recession. Based on the trend of attendance during past recessions, one would expect that for the upcoming year attendance numbers would jump back up to their 2007 levels. However, due to the length and severity of the recent recession, as well as the growing amount of substitutes available, attendance may suffer more and for longer than it ever has before.

INTRODUCTION

For as long as there have been baseball games, there have been fans willing to go to ballparks, a fact that cannot be disputed. As a group sports fans operate with an undying loyalty that cannot be matched, doing whatever it takes to support their favorite teams and players. Even over the years, as ticket prices have grown at a much faster rate than average hourly salaries,

fans are still willing to spend increasingly larger percentages of their money on the National Pastime. But what is it that enables ballparks to draw thousands of fans to games every night, even when the economy is struggling and people have less discretionary income? Some have argued that when people are going through a hard time they find something that they can rely on, a void which people often fill with their favorite sports teams. Attending baseball games can also be a way to get away from the day-to-day struggles that a recession can bring upon. When fans enter a ballpark, for three or four hours their troubles and worries go away. No matter what is going on in the outside world, ballparks offer a getaway into another world where nothing else matters except the battle on the field.

In deciding what to do for my honors thesis I wanted to make sure that I encapsulated several different things. First and foremost I wanted my project to aim at a topic from a finance angle, since that is the subject which I have been studying most heavily during my time at Bryant University. Second, I wanted to work on a project that involved my greatest hobby and passion which is sports. I have been a huge sports fan throughout my life, both participating in them as well as watching them. Every day I read articles online, in the newspapers, as well as watch sports programs on stations such as ESPN. I knew that if I could somehow combine some of the concepts that I have learned in studying finance with the excitement and intrigue of professional sports, I could create a project that I would thoroughly enjoy working on. The last thing that was important to me in choosing this topic was that it would be something other people would like to learn about. Professional sports are such a huge part of our culture in the United States and across the world that I know people would be interested in reading the results that this study has to offer.

I started doing some research and found pretty interesting results regarding how attendance has been impacted over the years by the major recessions that have faced our economy. At this same time the 2009 MLB season was just getting underway, and there were articles online and in the newspaper daily regarding teams that were struggling to fill seats, which they blamed primarily on the recession that had begun in mid October of 2007. With all of this going on, I thought it would be interesting to do a project that focused on how the historic

trends of baseball attendance during recessions held up against the greatest recession our country had seen since World War Two.

Historic Recessions

The definition of a recession is generally accepted by economists to be a period of two straight quarters when there is a decline in overall Gross Domestic Product (GDP). Over the past forty years there have been 7 major recessions in the United States economy, all of which having minimal impact on attendance levels in Major League Baseball. Of the seven recessions, four lasted between eleven and sixteen months, two lasted between six and eight months, and the most recent lasted for twenty months. Only four of these recessions are used in the historic analysis because the data from the recession stretching from February of 1980 to July 1980 (6 months), as well as the recession stretching from August 1981 to November 1982 (16 months) is extremely skewed due to an MLB player strike which took place in 1981. The current recession is not used since in the historic analysis because it is the dependent variable which I am trying to predict.

Regarding the other four major recessions, the average annual MLB attendance actually increased during the baseball season in which the recession began by 2.14%. However, this does not tell the whole story since it takes several months for the general public to feel the negative impacts of a recession. In the second and third years following the beginnings of these four recessions, MLB attendance decreased by 1.87% and increased by 2.59% respectively. This means that overall in the three years following the beginning of a recession; the MLB was able to increase its overall attendance by an average of .95% per year. In order to keep the analysis consistent, attendance numbers only included teams that existed from the time that each recession began until the time that it ended. For example, in 1993 MLB attendance actually increased by an incredible 26%. However, that year two new teams were introduced to the league which included the Colorado Rockies and the Florida Marlins. Since the introduction of these new teams skews the data, they were left out, and an increase in attendance for that year of only 12% was used.

The average length of the recessions over the past forty years is about 10 months, so by the time the lags for entering and exiting a recession are realized; it is around a three-season

ordeal. One interesting pattern that can be observed from this data is that in general, the greater the drop in league attendance during the second year of a recession, the greater the increase will be in year three of the recession. The reason behind this is that during normal economies baseball attendance shows the true number of fans who are both interested and financially capable of going to ball games. When a recession hits it usually takes a season for attendance to be impacted because of the lag, and the same happens when the recession ends. Due to this, when the recession ends and people are not as hesitant to spend their discretionary income, the percentage increase needed to get back to the demand during normal economies will be greater if the original drop in attendance was greater.

Why This Recession

Taking into consideration that the historic recessions used in the above analysis were not nearly as detrimental to society as that which started in October of 2007, it is hard to predict exactly what the result of this recession will be on MLB attendance. While the past recessions resulted in modest drops in levels of the S&P, the crash which began in 2007 resulted in the S&P 500 losing 56% of its value over the following 17 months. It is hard to imagine that with an economic collapse of this magnitude that even our nation's most beloved sport will be able to attract the same levels of fans as it has been in recent years. By observing how this recession is impacted by such a severe and lengthy economic rut, it will help the MLB in the future know what actions to take in order to keep fans returning to its parks when times are tough.

Attendance Not Revenue

It is important to note that this project is strictly concerned with attendance levels in Major League Baseball parks during recessions, not the leagues ability to generate revenue. Although it seems as though these two concepts are to a great extent related, they are actually quite different. The levels of attendance at ballparks are great indicators of the willingness of fans to still patronize the sport during times when they might not have as much discretionary income as they normally would. The amount of revenue that the MLB brings in relies on a vast number of different sources, such as TV contracts, ticket sales, memorabilia sales, and advertisements. The reason league revenue is not used in this analysis as a way to gage MLB success during recessions is because it does show clearly how fans respond in times when

their budgets are tighter. Revenue sources such as TV contracts and advertisement royalties that make up a large portion of the MLB's revenue are locked in for periods of time upwards of five years. In a way TV and advertising contracts are a tool for the league and its teams to hedge their risk for downturns in during recessions, since the TV contracts do not change based on short-term fluctuations in the economy (Bernstein).

HYPOTHESIS

The trends that have held steadfast for MLB attendance during past recessions are quite convincing. As previously mentioned attendance increased slightly in the first year, decreasing a little more in the second year, and then jumping back up in year three. As mentioned earlier, it is quite unfortunate that the two recessions of the early 1980's occurred during the same time as the 1981 player's strike, especially since the recession stretching from August of 1981 to November of 1982 was in many ways the worst recession that the US had seen since the 1930s. The strike resulted in cancellation of nearly 750 games, which equates to around 33% of the total games in that MLB season. If a strike hadn't occurred during this stretch it would be a great opportunity to observe how MLB attendance was impacted solely by the effects of a very bad recession, similar to the one that began in October of 2007. One would expect that during the recession which we are currently digging ourselves out of, attendance would behave in a similar way as during the bad recessions of 1981 /1982. However, since this strike was going on during the 1981 season it is hard to know how much of the major drop of 38% in attendance during the 1981 season was due to the recession alone and not the strike. Because of this, it is only possible to compare the impacts of the current recession to the five more mild recessions that occurred since 1970.

Impact on 2008 and 2009 Seasons

Despite the fact that the data during past recessions supports the theory that MLB attendance does not really suffer during bad economies, I anticipate that the impact due to the recession that started in October of 2007 will be much greater for a few reasons. First and foremost the most recent recession lasted about 20 months which is twice as long as the average recession since 1970. When a recession lasts this length of time, it can take an incredible toll on the financial well-being, as well as the morale of the entire country. In addition to its length, this

recession was much more severe than many of those which came before, with many experts calling it the worst recession since the Great Depression of the 1930s. During a recession that is long and severe, one would expect that the way consumers spend their discretionary income will alter drastically, and they will find ways to save money by cutting out unnecessary expenses.

Another key trend that is found when looking at historic data is that the further we move through time, the average drops in attendance are becoming greater and greater when they do occur. Aside from the fact that more lengthy and severe recessions have a more detrimental impact on MLB attendance, as we progress through time there are many more options for fans to choose as alternatives to going to these ballparks; including Minor League substitutes, and watching the games on TV. The popularity of Minor League Baseball games has increased drastically over the last few decades, which has been proven to be a substitute that MLB fans will use as a way to save money (Gitter and Rhodes). Although smaller, Minor League facilities have come a long way, and many are as nice if not nicer than those of their Major League counterparts. For a much cheaper price fans can go to Minor League ballparks that are located around major cities and smaller cities alike, and enjoy a more family oriented environment with intriguing promotions and giveaways. Fans receive essentially the same experience at both levels, so when funds are tight the cheaper alternative will always steal fans away. Television has also played a huge role in how MLB attendance is impacted during recessions, since it is a much cheaper way for fans to watch their favorite teams play. Whereas watching baseball on TV used to mean having very limited options and bad quality image, with today's high quality TVs and numerous different sports channels, fans can save money while still enjoying the pastime that they love.

Which Variables Played Largest Role?

Along with predicting that the most recent recession will have a much more negative impact on MLB attendance than past recessions, I will determine which variables can be used as predictors to determine whether attendance will rise or fall during recessions. Of the eight variables that are used in this analysis, six of them are hypothesized to have positive correlations, meaning that increases in those variables will cause an increase in attendance.

These variables include; distances from a teams to their closest competitor, increase in a team's closest competitors ticket price, teams' previous year winning percentages, teams' current year winning percentages, metropolitan area per capita income, and the creation of new stadiums. I would expect that an increase in any of these variables above would lead directly to an increase in attendance levels at ballparks. On the other side there are two variables in this analysis which I believe when increased will lead to decreases in attendance level numbers. An increase in unemployment rates, as well as increases in team ticket prices from one year to the next, are two factors that may work to drive down attendance. Higher unemployment as well as increased ticket prices would make it much more difficult for the average fan to be able to afford afternoons or evenings out at ballparks which can be quite pricey.

REVIEW OF LITERATURE

There are a few key reasons why I chose to do my project on Major League Baseball. First and foremost is that I wanted to do a project on something that I am quite passionate about, which I believed would allow me to do the best possible job. Since baseball is a sport that I have always loved and been interested in, I found it quite easy to spend hours reading over articles and research studies in order to gather as much information about the subject as possible. Another reason why baseball is a great topic is because it is very dynamic and appeals to people with many different interests. Aside from fans of the game in general, all kinds of people are impacted by professional baseball whether it be through their intense advertising campaigns, location of their stadiums close to people's homes, or the vast number employment opportunities that franchises bring to their cities. The last reason why I chose to do this study on baseball is because of the incredible amount of information that is available on the subject. Baseball is a game of numbers, whether it is discussing player's batting averages, team records, player salaries, or any other kinds of statistics. All of these statistics are also extremely accessible and available to the public, through many different websites, in particular baseball-reference.com which was my primary source for information on team attendance, etc.

There have been many different studies done regarding professional baseball and different aspects of attendance trends. The first study that I read was actually the one that sparked the idea of looking into baseballs response to recessionary economic environments. The research takes an in-depth look at the relationship between Major League and Minor League Baseball to find whether the two were complements as was historically found to be the case, or if the two were in fact substitutes. This study, "If You Win They Will Come: Fans care about winning in minor league baseball," was written by Seth Gitter and Thomas Rhoads of Towson University, and was the most in-depth study done on this subject at its time since it took data from 2076 team/year observations, whereas the most in-depth past study took into account only 86 team/year observations. In their first regression equation Gitter and Rhoads used the average per home game attendance for a minor league baseball team as their dependent variable, and for their independent variables used minor league team winning percentage, minor league baseball team homeruns. The second regression analysis again used the average per home game attendance for a minor league baseball team, but used the fan cost index as an independent variable. Dummy variables were used to account for distances from the minor league teams observed and their MLB affiliates, since having multiple options for teams within the same region increases the likelihood that price will be a motivating factor. The results from this analysis allow Gitter and Rhoads to draw two conclusions. The first conclusion is that there is a positive relationship between team homeruns hit and winning percentage, and their levels of attendance. The second conclusion is that there is a strict positive relationship between minor league baseball attendance and higher MLB costs, meaning that when MLB ticket prices go up, fans respond by going to more minor league games since it is less expensive. This is consistent with past findings (Gifis and Sommer' 2006) that fans of the game of baseball are primarily interested with the games roots, and when ticket prices of MLB games are increased will respond by going to a cheaper substitute. This concept of the two games being substitutes is very relevant to my study because a huge part of baseballs response to downturns in the economy are the alternative ways in which fans might decide to spend their money.

The next study is, "Location and Attendance in Major League Baseball," by Jason Winfree and Jill Mccluskey. The idea of this research was based on the location model (Hostelling

1929) which states that, "If all else is held constant, consumers will choose to purchase goods or services from the closest seller." This study uses the travel-cost method (McConnell 1985) which takes the location model and applies it to MLB attendance, to analyze the relevance of location of MLB teams in comparison to each other. Results from this data serve the primary purpose of understanding the impacts that changes in league policies might have, such as the contracting or expanding of the number of teams in MLB, or the possibility of new leagues in large market areas in order to help correct revenue dispersion and competitive imbalance. Using this method, Winfree and Mccluskey run a regression to find how the distance between a team and its closest MLB substitute impact its attendance. In this study the dependent variable is the annual attendance for a particular team, while the independent variables are distance and new team. Distance in this case is found by taking the inverse of the distance in miles between the team being observed and its next closest MLB substitute. New team is a variable used to help understand the impact that a team either being created or relocated to within 500 miles of the observed team has on the attendance of the observed team. The new team variable is generally greatest within its first year of existence, because of the excitement that a new substitute brings which will most likely have its greatest impact within that teams first year of being within the observed teams region. The findings of these analyses were that on average a 1 mile increase in the distance from one team to its closest MLB substitute leads to an annual attendance increase of about 1,544 fans, which is around .0006% of an average team's annual attendance. It was also found that in the first year of the appearance of a new substitute team within 500 miles of a given team, that team's annual attendance will be reduced by an average of 126,500 fans, or around 5.2%.

There are several great articles that consider promotional and marketing techniques that MLB teams have been using in order to keep fans coming into the stadiums even during difficult economic times. The lower amounts of discretionary income available during these times is the primary force that impacts how often people can afford to go to the ball park. In, "The Effects of Promotion on Attendance in Professional Baseball," by Robert Browning and Louisa S. DeBolt; different forms of promotional techniques are explored to see which has the greatest impact on increasing fan attendance. In past studies researchers have found that promotions do lead to an increase of attendance at MLB games by an average of 14%

(McDonald and Rascher 2000). However, it was also hypothesized that if used too often promotions can actually have a negative effect on baseball attendance due to a "watering down" effect (McDonald and Rascher 200). Browning and DeBolt studied one team in each of the four different levels of professional baseball; A, AA, AAA, and MLB over one season, for a total of 268 game observations. They found that attendance did increase in all of the organizations when promotions were used. The Cincinnati Reds showed an increase in attendance of 17.5% when promotions were used, however the interesting part is that the greatest increases in fan attendance occurred during games when there were non-price promotions. This result was found in 3 of the 4 teams observed, which all responded greatest to a combination of price and non-price promotions, then just non-price promotions, and had the least amount of increase in attendance when just price promotions were used. One of the theories that supports these findings was developed by Wakefield and Bush in 1998, which states that, "Promotions work best when the entertainment value is increased, which price promotions cannot achieve simply by reducing ticket or concession prices." This information is quite valuable because it may lead teams to choose alternative means for attracting fans during times of economic hardships. All too often teams automatically jump to the conclusion of lowering prices when the fans have less discretionary income. However, this study shows that if the teams can find ways to get the fans more involved in the game, or somehow increase their entertainment value that will do more for attracting them to the stadiums than simple ticket price cuts could. Promotions such as bobble heads, bat giveaways, or other gift giveaways may seem like little things, but they go a long way for creating fan value.

When questioned about the ongoing recession and baseball's plan to deal with the struggle, the Commissioner Bud Selig told reporters "Throughout its long and distinguished history, baseball has always served as a diversion for its fans in difficult times. As the country faces new challenges, Major League Baseball is stepping up its efforts to make the game more affordable and to demonstrate to its fans how important they are to us." Throughout this current baseball season I kept a watchful eye out for any unusual or particularly creative promotions that I thought would be worth noting. I found that the most successful promotions were often those that had a combination of some sort of discounted pricing along with a free

give away and a catchy title. As always the MLB lived up to its reputation for using great marketing as a way to attract fans to its gates. The list below encompasses what I believe were the top promotions of the 2009 baseball season.

Minnesota Twins Market Mondays – The Monday ticket price of home run porch seats at Target Field stadium were directly correlated with the closing price of the stock market on the previous Friday. If the DJIA closed in the 9,000s on a Friday, then the price of these tickets the following Monday would be $9. If the DJIA closed in the 8,000s, then the price of these tickets would be lowered to $8. This promotion was very effective both because it provided fans with cheaper seats than usual, but it also had a comedic effect about it to make light of a very serious situation. This system allowed fans who may have been losing large amounts of money in the stock market to be able to reflect at the end of the week and think, "Well at least the Twins tickets on Monday will be a little cheaper." This was an innovative idea since it combined a price discount with something that was continuous major concern throughout the country.

San Francisco Giants CY Young 4 – Pack – The San Francisco Giants offered a promotion that centered around their star player, the 2008 NL Cy Young Award winner Tim Lincecum. This is a great promotion because it saves fans money, but also adds to the current buzz surrounding the Giant's new young star. This study will address later the huge impact that star players have on team attendance, and how the are one of the greatest assets to hedge the risks of losing fans during a recession. On top of this, the Cy Young 4-Pack promotion includes tickets to the opening game of the season, and the Tim Lincecum Bobblehead night where fans will receive Bobbleheads to add to their entertainment value.

Wine, Women, and Baseball – The Minnesota Twins appear for the second time on the top of this list with their Wine, Women, and Baseball promotion. This package offers women a ticket to a Twins game, and with it a pregame wine tasting, appetizers and desert, and, "pamper yourself," stations within the stadium. This idea like the rest has a very catchy title, and takes an interesting approach in promoting to women, who are generally an underserved target market when it comes to professional sports. Wine, Women, and Baseball is a great way to get more women involved and coming to games, and increase the female culture

within stadiums. This promotion also increases the likelihood that women would opt to go to a game in groups with each other as a social event where they can enjoy the games, while at the same time enjoying other luxuries to which they might be more accustomed.

Marlins Mortgage Payout – The Florida Marlins have consistently been the team with the lowest average number of fans per game and season for years. The Marlins Mortgage Payout promotion will write a check for up to $2,500 to a lucky fan to use towards their mortgage or rent. Against the Yankees and Mets, two of the teams with the greatest fan bases, the payoff jumps up to $15,000. Like the Twin's Market Mondays, this idea is novel because of its relevance to what has been going on in the economy with homes being foreclosed on due to large numbers of people not being able to pay their mortgages. With cheap tickets to begin with, this payout adds great value to going to Marlins games, with the hopes that on any given day one fan can win a large amount of money to put toward their housing.

Peter Bernstein wrote an article for ESPN titled, "RECESS FOR BASEBALL?: Is baseball recession-proof? Past good fortune during economic downturns might need to be re-examined in light of new realities." In this article Bernstein confronts the idea that baseball is not necessarily recession-proof. However it does appear to be recession resistant. Although it does not sound like these two concepts are very different, they actually are. The idea of baseball being recession-proof brings with it connotations that baseball in itself is not impacted by downward swings in the economy, however this is not true. Baseball is impacted by downward swings in the economy, but it has a resistant nature and a dynamic presence that allows it to fight those downswings through different means. One key example that Bernstein notes in his article is the role of TV contracts as methods to hedge risk against short-term fluctuations in the economy. Because of TV contracts such as the one MLB has with FOX that stretch over five to ten years, this will continually be a reliable source of revenue that the league and its teams can count on. The other major issue that Bernstein advocates as a positive for the MLB is the loyalty that most fans show toward their favorite baseball teams, especially when those teams are good. He proposes the idea that although bad baseball teams might keep fans away from stadiums, bad economies generally will not.

Bernstein refers to past evidence that shows baseball's tolerance of bad economies, which have historically resulted in a decline in attendance of only 1%. However, he notes the vast difference between the impact of the 1991 and 2001 recessions on attendance in major league ballparks. The 1991 recession was right in line with the norm, resulting in a 1.7% fan decrease per game in the following year of 1992, followed by a big jump back in 1993. During the 2001 recession baseball attendance fared quite differently, with a drop of 6% in the following year, and another drop in 2003. The factor which Bernstein attributed this drastic change to was the difference in the average wage of a blue collared worker compared to the average ticket price at an MLB ballpark. In 1991 the average hourly wage for blue-collar workers was $10.52, while the average MLB ticket price was only $8.64. Fast-forward to 2001 and the case was much different, with average MLB prices doubling to $18.99, while average blue-collar hourly wages only increased to $14.55. If we fast-forward one more time to 2008 we find that average MLB ticket prices increased once again to $25.40, while average hourly blue-collar wages increased by much less, to $18.01. Analyzing these numbers tells us that the average blue-collar worker in the United States earns an hourly wage that is 29% less than the average price of a ticket to an MLB game. Bernstein points to this trend of disparity between wages and ticket prices as a primary reason for attendance being more sensitive to struggling economies now than ever before. He believes that when you combine this with the recent high levels of unemployment and staggering gas prices, it is expected that the more current recessions have and will have a more detrimental impact on attendance in ballparks. In the conclusion of his article, Bernstein addresses the idea of Sports Economist Andrew Zimbalist Jr., who has a theory that the type of fans the MLB is drawing to its ballparks make it even more vulnerable to economic woes. Instead of the ordinary fans that pay for the cheapest tickets, Zimbalist has observed a move toward corporate fans as being the number one clients for professional baseball. With the recent trends of corporate lay-offs and companies losing money or going insolvent, there is a lot less money being frivolously injected into ballparks. Companies have cut back on advertising and sponsorships, as well decreased spending on both season tickets and luxury boxes.

Many recent articles have focused on the recession that started in the middle of 2008 due to the credit crisis. Eddie Pells wrote an article, "Even during a bad economy, American sports

fans love their games," which was published on October 2 of 2009 just at the end of MLB's regular season. In this article Pells agrees with Bernstein's methodology that there the several things that will negatively impact MLB attendance at a greater length than a struggling economy. Labor disputes between players and franchises lead to the greatest decrease in attendance. During the 1994/1995 season the players walked out on August 12 which resulted in the cancellation of the rest of the season including the World Series. Fans see lockouts such as this as clear demonstrations of both players and organizations being extremely greedy. Aside from the games that were cancelled, attendance was hurt for the following 4 years, and the MLB did not reach its 1993 attendance level again until 1998. Other things that impact attendance more frequently and severely than economic activity are the off-field misbehaviors that land players in jail, and repeated losing seasons. Pells points out that although attendance across the league was down a little under 7% during the 2009 season, a drop which sounds drastic but only reduced attendance numbers back to the level they were at during the 2005 season when the economy was flourishing. To many fans, going to see their favorite team is a great outlet from the stresses of their everyday life such as work, family issues, or other problems. When times are rough, patrons put their faith in sports teams as sources of consistency and something they can depend on.

Over the 2009 season the total number of fans who visited MLB ballparks decreased by 6.6%, down to 73.4 million. This number represents the fifth largest season attendance ever, which isn't bad considering how rough this year has been on the financial well being of American. As would be expected, the teams with the greatest decrease in attendance from last year came from the cities where unemployment was the highest such as Detroit, Cincinnati, Miami, Oakland, and San Diego. A fact that must be taken into consideration when considering the drop in attendance is if the same number of seats were available over the two year span being considered. For example of the decrease in attendance of 6.6% that took place this season in baseball, 1.4% can be directly attributed to the Yankees and Mets who each began playing in new stadiums this year that are much smaller than their old ones. Without these two teams in the mix, the rest of the league saw a drop of only 5.2% which is still not great, but significantly better than 6.6%.

As for those fans that have cut down their attendance to stadiums, many are finding other cheaper ways to get involved, in particular through fantasy baseball. Fantasy baseball has become more and more popular over the past 5 years, and is an interactive way for fans to get involved in the MLB. There are ways for fans to join fantasy leagues that are free; however most compete for pools of money against friends and other fans around the nation. Although there are some leagues in which members bet high amounts of money, the average league costs only $20 or so, and gives the fan the opportunity to win hundreds of dollars. Fantasy is a great way to keep fans up to speed on their favorite teams and players, with up-to-the-minute information regarding scores and statistics. Television is also another way that fans can save on the costs of buying pricey tickets to baseball games. The MLB Extra Innings package allows viewers to gain access to upwards of 80 out-of-market games a week. This package lasts the length of an entire season, and costs only $199. At 80 games per week for a season that lasts roughly 26 weeks, this means that those who have this package can view approximately 2,080 games of their choice per season. At the price of $199, the total cost to view each game drops down to a little under 10 cents per game. This package gives fans the ability to observe what's happening in several different MLB stadiums at one time, without having to leave their living room. An option that has just recently started to pick up steam is the use of streaming videos online to watch games. There are numerous sites now set up so that fans of a specific team can watch their teams play even when they are not on cable television.

All of these past studies have taken different angles to try and explain the phenomenon of professional sports and the dominant role that they play in our culture. There are few things that on such a large scale can bring so many different people together. Around the world people of different cultures bond over the values that are preserved within the confines of competition. Professional baseball became known as "America's Pastime," during the late 19th and early 20th century, because of its national prominence and popularity. Over the last 150 years it has held stable as one of America's most popular sports. The games popularity, as well as its ability to be evaluated statistically in so many different ways has led to an immense number of studies on different aspects of the game. This study will use all of the

research previously gathered, as well as new analyses to pinpoint exactly how the levels of attendance in the MLB correlate with the level of the economy.

METHODOLOGY

Sources Used For Data

The data collection for this analysis was made relatively simply due to the fact that the data gathered came from a small number of very specifically focused websites. All attendance numbers were found on the website ballparksofbaseball.com, which has attendance data for every major league ballpark broken down by decade. Geobytes City Distance Tool was used to plug in addresses of ballparks to find the distance between teams and their closest major league competitor. Ticket price data was gathered from a site sponsored by Team Marketing Report, which included both team ticket prices as well as the fan cost index for each team. The rest of the baseball data gathered is from MLB.com, which provided teams' end of season records for any year desired. Once the data was collected it was compiled into Microsoft Excel, with a different sheet for every different type of data. Within each sub-sheet, the data was sorted by each of the thirty MLB teams for the years 2007-2009. The economic data was more difficult to gather than the baseball data, because it is all based upon the metropolitan areas surrounding each of the major league teams, and took careful sorting. Each city in which there is a Major League Baseball team is part of a standard metropolitan statistical area (SMSA). As defined by the US Census Bureau, "The general concept of a metropolitan or metropolitan statistical area is that of a core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core." It makes more sense to measure economic data in terms of the metropolitan statistical areas than just the cities, since a large portion of the fans who attend ballparks don't just come from the city in which the team plays but come from smaller surrounding cities and suburbs as well. The Bureau of Labor Statistics website provided all of the data on unemployment and per capita income, while the data on the historic levels of the S&P 500 was gathered from finance.yahoo.com.

What Tests Were Used?

Through Microsoft Excel, ordinary least squares regression is used to analyze the data. The numerous independent variables are tested against the dependent variable of attendance to find what, if any relationship each of the independent variables has on the dependent variable. The resulting t-Stat and P-values are then used to determine whether or not the relationships between the independent and dependent variables are significant. For the t-Stat value, in order for results to be considered statistically significant they must be over 2.0. For the P-value, results under .10 are considered significant. The P-value is a measure that represents the likelihood that the resulting relationships found between the dependent and independent variables are by chance alone. Naturally, this means a lower P-value is better, since results are much more credible when there is a very small likelihood that they are due to chance alone. Low P-values show that the results found are much more likely to be due to the actual relationships that exist between the data. Because the sample group of MLB teams is so small, results were considered significant for both the t-Stat and P-value if they were close to the ordinary cut-off point.

Past Studies on Attendance

Passed research on the subject of MLB attendance has offered information regarding some of the different factors that are key determinants of MLB attendance. Gitters and Rhodes found strong positive correlations between team home runs and team attendance, as well as team winning percentage and team attendance. These findings support what most people already believed to be true, since it makes perfect sense that teams who hit the most home runs and won the most games would draw greater attendance due to the level of excitement that they provide for their fans. The second conclusion that Gitters and Rhodes were able to draw was that there was a strong positive relationship between minor league attendance levels and MLB ticket costs, supporting that the two are substitutes for each other. Based on this data, it would seem logical that during times when fans have less discretionary income, MLB attendance will go down since they would be looking for a cheaper form of the similar type of entertainment. This concept was supported by a study in 2006 by Gifis and Sommer', who found that baseball fans do in fact behave this way.

Teams Excluded?

There is one team left out of this analysis which is the Toronto Blue Jays. The Blue Jays were omitted from the study because of their location outside of the United States. Since this is a study on how MLB's attendance is impacted during a recession in the US economy, it only makes sense that teams located outside of the US would be excluded. Since the Toronto Blue Jays are left out of this analysis, for simplification it will be assumed that MLB is made up of only twenty-nine teams as opposed to thirty teams. The Baltimore Orioles and Washington Nationals were originally going to be left out of this analysis because of these teams' close proximity to Washington D.C. The high number of federal workers in the D.C. region makes the area relatively insulated from downturns in the economy, since government jobs will always be plentiful. Statistics such as unemployment, per capita income, etc. in the Washington D.C. region do not always give a very accurate picture of conditions in the country as a whole. In the end the decision was made to include both the Orioles and Nationals in the study, mainly because the sample of MLB teams is so small to begin with. In an analysis where regression is used, greater sample sizes leads to more accurate results, since the relationships between more teams' attendances and the independent variables that impact attendance will be tested.

Collinearity Issue

One issue that came up during the statistical analysis of the data was the possibility that some of the explanatory variables had a collinearity problem. Collinearity problems arise when two or more independent variables used in a regression are highly correlated. The problem with highly correlated independent variables is that when used together they impact each other's resulting significance. Collinear variables can result in P values that are inconsistent, and may be much higher or lower than they would be if only one of the variables were used. The variables that were of the biggest concern in this study were the current and past years winning percentages, as well as for the 2007-2008 analysis the unemployment rate and per capita income variables. Microsoft Excel's Data Analysis tool pack was used to test for collinearity in the data sets for both the 2008 and 2009 analyses; and below are the results which it produced.

Correlation Results For Year 2008									
	Chg In Att	*Dum 08'*	*% Chg Tkt Price*	*Dist Closest Comp*	*% Chg Tkt Closest Comp*	*% Wins 07'*	*% Wins 08'*	*Unmplmt Rate 08'*	*Per Cap Income 08'*
Chg In Att	1.000								
Dummy 08'	0.323	1.000							
% Chg Tkt Price	0.166	0.516	1.000						
Dist Closest Comp	0.021	-0.118	-0.158	1.000					
% Chg Tkt Clst Comp	0.015	-0.139	-0.154	-0.108	1.000				
% Wins 07'	0.277	0.127	0.318	0.116	0.067	1.000			
% Wins 08'	0.352	-0.370	-0.232	-0.308	0.053	0.146	1.000		
Unmplmt Rate 08'	0.174	0.255	0.333	-0.329	0.000	0.147	0.017	1.000	
Per Cap Income 08'	-0.144	0.287	-0.012	-0.123	-0.271	0.110	-0.145	-0.194	1.000

* Data labled "Chg" represents changes in numbers from the year 2007 to 2008

In order for the correlation results to be significant and show that there is a collinearity problem between certain variables, those variables must have a correlation of .7 or greater. Surprisingly, for the 2008 year of analysis there are no variables that are close to having a .7 correlation. There is one set of variables that have a relatively high level of collinearity at .51, which are the percent change in ticket price from 2007 to 2008, and the dummy variable of new stadium for 2008. However, a correlation of .51 is not high enough to have a big impact on the regression results, so there are no collinearity issues with this year's analysis.

Correlation Results For Year 2009								
	Chg In Att	*Dum 09'*	*% Chg Tkt Price*	*Dist Closest Comp*	*% Chg Tkt Closest Comp*	*% Wins 08'*	*% Wins 09'*	*Unmplmt Rate 09'*
Chg In Att	1.000							
Dummy 09'	-0.581	1.000						
% Chg Tkt Price	-0.046	0.482	1.000					
Dist Closest Comp	0.228	-0.200	-0.184	1.000				
% Chg Tkt Clst Comp	-0.151	0.346	0.017	-0.176	1.000			
% Wins 08'	0.180	0.201	0.312	-0.308	0.225	1.000		
% Wins 09'	0.272	0.127	0.394	0.162	-0.050	0.494	1.000	
Unmplmt Rate 09'	-0.231	-0.032	0.037	-0.208	-0.303	0.181	0.315	1.000

* Data labled "Chg" represents changes in numbers from the year 2007 to 2008

For the 2009 analysis there were also no sets of variables that had correlations high enough to significantly impact the results of the regression. There were 3 variables in the 2009 analysis that had correlations of approximately .5 which included; change in attendance and the 2009 dummy, the % change in ticket price from 2008-2009 and the 2009 dummy, as well as the winning percentage in 2008 and the winning percentage in 2009. Having no variables with correlations over .7 tells us that we have no collinearity problems for either the 2008 or 2009 regressions.

Capacity Issue

An additional regression analysis was done in a slightly different manner, where instead of using percentage change in attendance as the dependent variable, the change in percent of capacity filled from year to year is the dependent variable. For twenty-six of the teams in the MLB, the capacity levels of their stadiums stayed the same between 2007 and 2009, while three teams, (Yankees, Mets, and Nationals,) all began playing in new stadiums at some point during this stretch. The reason percent of capacity filled is used in the last analysis is because it gives a better representation of how a teams' attendance responds within the realm of what is possible. For example; the Yankees' new stadium holds 4,541 less people than their old stadium, which one would assume would cause their percent of capacity filled to increase

since just as many people would want to go to games in a stadium that has less seats. Surprisingly, the Yankees filled up 5.6% less of their new smaller stadium than they did their old stadium. A lot of this had to do with the fact that the price of Yankees tickets went up substantially, and people were not willing to pay for the high-priced tickets. Unfortunately, none of the results from this test were significant, and the relationships between the variables were not easily shown through this analysis, so it was not used.

STATISTICAL FINDINGS

Data Used In Analysis

There are eight categories of data used as independent variables in the two regressions run for the 2008 and 2009 seasons. These include: percent change in ticket price from previous season, distance to closest competitor, percent change in ticket price of the closest competitor, winning percentage during previous year, winning percentage during current year, unemployment rate during current year, per capita income during current year, and a dummy variable. For the most part these categories are self explanatory, but a few must be described further. The dummy variable in this analysis represents whether or not the team was playing their first year in a new stadium or not. Those teams that were playing their first game in a new stadium received a numeric value of, "1," while those playing in the same stadium as the previous season received a numeric value of, "0." All ticket price information is not just ticket prices alone, but the fan cost index for each team. The fan cost index is a measure that determines the amount of money an average family of four would spend to go to a baseball game. This index includes the price it costs to purchase two adult average-price tickets, two children's average-price tickets, two small draft beers, four small soft drinks, four regular-size hot dogs, parking for one car, two game programs, and two least expensive baseball caps. The fan cost index is a better value to use than ticket price because ticket prices do not tell the whole story. Sometimes ticket prices alone may not be very high, but this bundle of goods measured is a more realistic valuation of how much money the average family would spend on a given day at a ballpark, so when taking things such as unemployment and per capita income into consideration, it is important to know the total amount that fans would generally be spending at a ballpark. The only category of data that is not used for both years of analysis

is per capita income, for which the 2009 data is not yet readily available. It is again important to note that for the economic data, the areas used for each team are the standard metropolitan statistical areas, and not just the specific cities in which the teams are located.

Results In 2008

The first of the two regressions tests that were run was for the year 2008. The reason there is no regression test for the 2007 season is because by the time the recession began, the 2007 MLB playoffs were just about wrapped up, so the first point where one would expect to see a response in attendance as a result of the economy would be the start of the 2008 season. The eight independent variables previously named are used in this analysis, and run against the increase in attendance from 2007-2008 as the dependent variable.

2008 Regression Results

Regression Statistics	
Multiple R	0.70
R Square	0.49
Adjusted R Square	0.28
Standard Error	196724.28
Observations	29

ANOVA

	df	*SS*	*MS*	*F*	*Sig F*
Regression	8	7.32E+11	9.15	2.3648	0.0567
Residual	20	7.74E+11	3.87		
Total	28	1.51E+12			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	(1,102,534.35)	618,321.80	(1.78)	0.09
Dummy 08'	784,244.93	264,798.14	2.96	0.01
% Chg Tkt Price 08'-07'	(34,430.44)	587,079.44	(0.06)	0.95
Dist To Closest Comp (Miles)	245.54	195.31	1.26	0.22
% Chg Tkt Closest Comp 08'-07'	95,133.78	461,871.03	0.21	0.84
% Wins 07'	370,756.52	795,329.00	0.47	0.65
% Wins 08'	2,075,738.18	695,052.75	2.99	0.01
Unmplmt Rate 08'	1,121,850.11	4,846,829.05	0.23	0.82
Per Cap Income 2008	(6.41)	6.71	(0.96)	0.35

The first observation made of the regression results is that all of the independent variables with the exception of unemployment and per capita income have signs that match the

hypothesis. This means that in response to an increase or decrease in each of the independent variables, the dependent variable of attendance shifts either positively or negatively as predicted. Independent variables that when increased cause a positive shift are distance to closest competitor, percent change in ticket cost of closest competitor, winning percentage in the previous year, winning percentage in the current year, unemployment rate, as well as the dummy variable of new stadium. Originally it was predicted that increased unemployment would be a statistic that would cause attendance to decrease, since those who are unemployed would not want to spend as much money going to a baseball game that they could just watch on television. These results suggesting otherwise can be explained by the idea that more people being unemployed allows more people the free time to attend MLB games who would ordinarily be working.

On the other side are the independent variables that when decreased cause an increase in attendance. These include percent change in ticket price from the previous year, and current per capita income. It is almost common sense that a decrease in ticket price from year to year would cause an increase in attendance, so this is no surprise. On the other hand, the fact that MLB attendance increases when per capita income decreases is very surprising and hard to explain. One would think that if per capita income increased, it would increase the amount of the populations' discretionary income, resulting in more fans spending money on afternoons or nights out at ball games. One response to this is that even though per capita income may have increased from 2007-2008, because of the recession people were more likely to save their extra income as opposed to spending it recreationally. Another possibility is that per capita income from city to city does not adjust at the same rate as do teams fan cost index. For example, let's compare the Yankees and the Tigers. The Yankees have the 4th highest 2008 per capita income in the league of $54,222, and a fan cost index of $410.88. The Tigers on the other hand have a per capita income of $39,806, and a fan cost index of $205.02, almost exactly half that of the Yankees. The Yankees per capita income is 36% greater than that of the Tigers, while their fan cost index is double that of the Tigers. By dividing the fan cost index amount by the per capita income for both cities, we find that it costs a New York Yankees fan roughly .76% of their annual income to attend a Yankees game at the price of their fan cost index. For Detroit, this percentage is much smaller, and it only costs a fan .51%

of their annual income to attend a Tigers game at the price of their fan cost index. Because of this, even though the metropolitan New York City area has a significantly higher per capita income than Detroit, it costs a greater percentage of people's money to go to a Yankees game in New York which would explain why their attendance would be smaller even though they have a high per capita income.

The second observation made of the regression results are that although the relationships between the independent and dependent variables are generally in the hypothesized direction, only two of them are statistically significant. The only independent variables with t-Stat and P-value scores that are considered significant are the dummy variable and team winning percentage during the current year. Although the dummy variable is significant with a t-Stat score of 2.96 and P-value of .0077 the fact that the Nationals were the only team to play in a new stadium in 2008 makes this result difficult to interpret. Team winning percentage in the current year has a significant t-Stat score of 2.98 and a P-value of .0073. This is further confirmation of many passed studies, most recently by Gitter and Thomas Rhoads of Towson University, that winning is the most important factor in team attendance. As explained earlier, the P-value results are a measure of how likely it is that the results gathered were by chance alone. Because only 29 teams are being analyzed the P-values for the most part are quite high. In any sample, the more observations that are used in the regression, the lower the P-values will be because the larger amount of data reflects a more accurate view of what is really going on.

Results In 2009

The next set of data analyzed is the data from the 2009 MLB season. All but one of the same independent variable categories were used in the 2009 analysis as the 2008 only with the data from the following year. The one independent variable that was left out in the 2009 analysis was per capita income, which was left out because the numbers for the 2009 fiscal year had yet to come out at the time of the analysis.

2009 Regression Results					
Regression Statistics					
Multiple R	0.80				
R Square	0.65				
Adjusted R Square	0.53				
Standard Error	188284.14				
Observations	29				
ANOVA					
	df	*SS*	*MS*	*F*	*Sig F*
Regression	7	1.4E+12	1.95E+11	5.51	0.001
Residual	21	7.4E+11	3.55E+10		
Total	28	2.1E+12			
	Coefficients	*Standard Error*	*t Stat*	*P-value*	
Intercept	(566,386.74)	345,325.57	(1.64)	0.12	
Dummy 09'	(756,891.76)	171,756.21	(4.41)	0.00	
% Chg Tkt Price	199,964.84	286,876.76	0.70	0.49	
Dist To Closest Comp (Miles)	26.04	177.24	0.15	0.88	
% Chg Tkt Closest Comp	(92,033.24)	231,183.45	(0.40)	0.69	
WP-Prev	869,424.06	684,133.45	1.27	0.22	
WP-Curr	1,274,424.29	723,416.92	1.76	0.09	
Unmplmt Rate 09'	(6,798,660.55)	2,561,467.00	(2.65)	0.01	

Looking at the results from the two different years, most of them are quite similar. The most interesting difference between the 2008 and 2009 analyses is that the sign for the relationship between attendance and unemployment changed from a positive to a negative. In the 2008 analysis the positive relationship between team attendance and unemployment was surprising, however justified by the idea that less people working would give those people more time to attend games, and they may be attending games as a way to pass their free time. The 2009 results on the other hand agree with the original hypothesis that greater unemployment will hurt fan attendance. An explanation for these results for 2008 and 2009 could be attributed to a sort of, "honeymoon effect." Like any other honeymoon effect, it has its limits. Although increased levels of unemployment can lead to an increase in attendance in the first year, by the second year of a recession, it is hard for increasing unemployment levels to support this trend. People who are laid off and looking for work may temporarily spend their time off at Ballparks watching games, but eventually these people will run low on money and either not

be able to afford this kind of lifestyle, or will go back to spending their time looking to get back into the job market.

The other difference between the 2008 and 2009 analysis is that there are three relationships between the independent and dependant variables which are significant in 2009, as opposed to only two in 2008. In the 2008 results only the dummy variable of new stadium and current winning percentage are significant, while in 2009 the results for the unemployment variable become significant. For the year 2009, unemployment has a t-Stat score of -2.65 and a p-Value of .01, which means that there is a one-in-hundred likelihood that the results are due to chance alone. Unemployment being at a significant level also justifies the notion that increases in unemployment will eventually cause a decrease in attendance levels in MLB ballparks, since the 2009 results are statistically significant while the 2008 results for unemployment are not.

CONCLUSIONS

The results from the regressions run for the 2008 and 2009 seasons displayed some interesting results. The original result of higher unemployment having a positive correlation with attendance levels is quite surprising, however is justified by the greater amount of time that people would have to spend an afternoon or evening who ordinarily wouldn't have. The flip-flop of this result in the 2009 season to a negative correlation was more in-line with the hypothesis, and makes sense based on the assumption that after a while the, "honeymoon effect," would end and people would return to work or at least spend their money in other ways. The unemployment variable became significant during the 2009 season, joining the variables of team's current winning percentage and the dummy variable for teams playing in a new stadium. Current winning percentage and the new stadium variables were expected to have significant positive correlations, since teams that are successful and those that are in new stadiums generate a lot more excitement and added fan value.

One major change which undoubtedly had a huge impact on the way that fans responded to the current recession compared to past recessions is the wide availability of High Definition Television. Up until the mid 1990s, millions of fans were still listening to baseball games on

the radio, or watching them on very small, low quality television screens. These viewing and listening experiences were nothing compared to the actual thrill of going to a ballpark, and being exposed to all of the sounds and sights that professional baseball games provided to fans. However, in today's world televisions are so nice that there is arguably not that great of a difference between going to game versus watching one from home. Surround-sound stereo systems have the capability of bringing a thunderous roaring crown right into your living room. High resolution pixilation brings images to a viewer that can be brighter and more vibrant than real life, and allow them to see so clearly that they can count individual blades of grass in the outfield. In addition, games are covered so thoroughly now by the media that things such as instant replays, zooming in, and slow motion play breakdowns give the fans additional benefit for watching games without having to leave the comfort of their own homes.

The most intriguing benefit of watching games on high quality TVs, is that it can be much less expensive than the alternative of spending an afternoon or evening at an MLB ballpark. The fan price index for one game at the average major league stadium is $196.62, while the price of a nice high resolution TV can be as low as $500. In addition to the TV, it costs around an additional $30 per month for the rest of the equipment necessary to enjoy HD Television, and up to $200 per year to enjoy exclusive baseball TV packages that allow users to view upwards of 80 games per week. This means that for the first year in which someone purchased a TV, the necessary hook-ups, and a baseball TV package, it would cost around $1060 for that person to have the ability to watch a total of 4000 baseball per season, equating to only .25 per game. The price drops substantially in the following year since the sunk cost of the TV is a one-time expense. Although there is nothing like the experience of actually going to a ballpark to watch a game, the extremely high quality viewing experience that is offered at such an inexpensive price by High Definition Television has become an increasingly dangerous competitor toward actual MLB ballpark attendance.

Overall the attendance numbers for the 2008 and 2009 seasons follow a similar trend as they did during past recessions. The first year saw slight dip of 1.09%, followed by a larger dip of 6.59% during year two. Although these findings do follow the trend of attendance during past

recessions based on relative year-by-year increases and decreases, they are much more exaggerated with bigger swings in both directions. It will be interesting to see how this upcoming year responds, whether attendance numbers keep falling because of how long and severe this most recent recession was, or if they have a huge bounce back to return to the record setting attendance levels of 2007.

SUGGESTIONS FOR FURTHER STUDY

The most interesting results found in this research were attendance levels at MLB ballparks in response to unemployment numbers. In the future I would like to look more in-depth into this relationship. In order to get a better understanding of why attendance responds the way it does to unemployment, I think it would be best to separate the attendance numbers into day games and night games. Since a majority of people work during the day, I would expect that it is day-game attendance that would be most impacted by alterations in unemployment. If more people are at home during the day that would normally be at work that is a greater population of fans available and able to go to watch a team play during the day. Since most people do not work at night, I would expect to find that attendance numbers for night games would not be as heavily impacted by fluctuations in unemployment levels. Another approach for further study on this topic would be to find other economic indicators that could possibly have causal relationships with attendance at baseball parks, such as foreclosure numbers, stock market levels, or any other economic measures that could possibly be tied in to how people are spending their discretionary income.

An additional point that has been considered is whether or not the attendance numbers may have been inflated in stadiums which were seeing their last season of use. The Yankees and Mets for example played their last seasons ever in Yankee Stadium and Shea Stadium during the 2008 season. It would make sense that fans of these teams would be much more likely to go to a game during that season as an opportunity to see their last game in such a historic ballpark. Yankee Stadium especially would support this effect since they've been so successful and have won so many championships over the years, fans would feel like they owe it to themselves as well as the team to venture out to the prestigious ballpark one more time. Due to this trend, the attendance numbers for stadiums in their last year of use would

most likely be higher than they ordinarily would in normal circumstances. This would be an interesting point to look into and explore further.

The final way that I would suggest this study could be taken further would be to wait until the end of this current 2010 MLB season, and do a similar analysis to see whether attendance increases or decreases from the 2009 to 2010 seasons. The past recessions studied were all analyzed for 3 years following the start of the recession; however it has only been two full seasons since this most recent recession started. The extreme length of the recent recession is also another issue, since it lasted nearly twice as long as the average recession over the past forty years. The four past recessions that were analyzed only lasted an average of 11 months, while the most recent recession which started in October 2007 lasted a total of 20 months. Because this recession lasted so long, its impact on attendance in Major League Baseball may carry on longer than the others, and it could have a significant impact on attendance for upwards of four to five years.

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APPENDICES

Appendix A – Team Attendance Numbers

Team Attendance Levels							
City	*Ballpark*	*2007*	*2008*	*2009*	*Ballpark Total*	*Team Total*	*Average Per Team / Year*
NY	Yankee Stadium	4,271,867	4,298,655		8,570,522	12,289,880	4,096,627
NY	Yankee Stadium II			3,719,358	3,719,358		
LA	Dodger Stadium	3,856,753	3,730,553	3,761,669	11,348,975	11,348,975	3,782,992
NY M	Shea Stadium	3,853,955	4,047,404		7,901,359	11,055,621	3,685,207
NYM	Citi Field			3,154,262	3,154,262		
STL	New Busch Stadium	3,552,150	3,430,403	3,343,252	10,325,805	10,325,805	3,441,935
PHI	Citizens Bank Park	3,108,331	3,422,583	3,600,693	10,131,607	10,131,607	3,377,202
ANA	Angel Stadium	3,365,632	3,336,747	3,240,386	9,942,765	9,942,765	3,314,255
CHI	Wrigley Field	3,252,462	3,299,840	3,168,859	9,721,161	9,721,161	3,240,387
BOS	Fenway Park	2,970,755	3,048,250	3,062,699	9,081,704	9,081,704	3,027,235
MIL	Miller Park	2,869,144	3,068,638	3,037,451	8,975,233	8,975,233	2,991,744
SF	AT&T Park	3,223,202	2,863,837	2,861,113	8,948,152	8,948,152	2,982,717
DET	Comerica Park	3,047,124	3,202,654	2,567,185	8,816,963	8,816,963	2,938,988
HOU	Minute Maid Park	3,020,405	2,779,487	2,521,076	8,320,968	8,320,968	2,773,656
ATL	Turner Field	2,745,203	2,532,834	2,373,631	7,651,668	7,651,668	2,550,556
DEN	Coors Field	2,327,846	2,650,218	2,665,080	7,643,144	7,643,144	2,547,715
CHI	US Cellular Field	2,684,395	2,460,749	2,284,164	7,429,308	7,429,308	2,476,436
SEA	Safeco Field	2,672,409	2,329,702	2,195,284	7,197,395	7,197,395	2,399,132
SD	Petco Park	2,790,074	2,427,535	1,922,603	7,140,212	7,140,212	2,380,071
MIN	Metrodome	2,296,383	2,302,611	2,416,237	7,015,231	7,015,231	2,338,410
PHX	Chase Field	2,316,507	2,509,924	2,129,183	6,955,614	6,955,614	2,318,538
TOR	Rogers Centre	2,360,648	2,399,786	1,876,129	6,636,563	6,636,563	2,212,188
ARL	Rangers Ballpark	2,353,862	1,945,677	2,156,016	6,455,555	6,455,555	2,151,852
CLE	Progressive Field	2,275,911	2,168,760	1,766,242	6,210,913	6,210,913	2,070,304
WASH	RFK Stadium	1,961,579			1,961,579	6,099,259	2,033,086
WASH	Nationals Park		2,320,400	1,817,280	4,137,680		
BAL	Camden Yards	2,164,822	1,950,075	1,907,163	6,022,060	6,022,060	2,007,353
CIN	Great American Ballpark	2,058,593	2,058,632	1,747,920	5,865,145	5,865,145	1,955,048
TAM	Tropicana Field	1,389,106	1,811,986	1,874,962	5,076,054	5,076,054	1,692,018
KC	Kauffman Stadium	1,616,687	1,578,922	1,797,887	4,993,496	4,993,496	1,664,499
OAK	Oakland Coliseum	1,921,854	1,663,262	1,392,192	4,977,308	4,977,308	1,659,103
PIT	PNC Park	1,749,142	1,609,076	1,577,853	4,936,071	4,936,071	1,645,357
MIA	Dolphin Stadium	1,370,511	1,335,086	1,464,109	4,169,706	4,169,706	1,389,902
	Total Attendance	79,447,312	78,584,286	73,401,938		231,433,536	2,571,484
	Most Attendance	NYY	NYY	LAD		Yankee Std.	
	Least Attendance	MIA	MIA	OAK		Dolphin Std.	

Appendix B – Distance Between Ballparks

Team	City	Closest Competitor		Distance Between Stadiums in Miles
A		Team	City	
Yankees	New York	Mets	Flushing	6
Mets	Flushing	Yankees	New York	6
White Sox	Chicago	Cubs	Chicago	10
Cubs	Chicago	White Sox	Chicago	10
A's	Oakland	Giants	San Fransisco	11
Giants	San Fransisco	A's	Oakland	11
Angels	Anaheim	Dodgers	Los Angeles	26
Dodgers	Los Angeles	Angels	Anaheim	26
Orioles	Baltimore	Nationals	D.C.	34
Nationals	D.C.	Orioles	Baltimore	34
Brewers	Milwaukee	Chicago	Cubs	83
Padres	San Diego	Angels	Anaheim	86
Phillies	Philadelphia	Orioles	Baltimore	87
Tigers	Detroit	Indians	Cleaveland	96
Indians	Cleaveland	Tigers	Detroit	96
Pirates	Pittsburgh	Phillies	Philidelphia	112
Red Sox	Boston	Yankees	Bronx	178
Devil Rays	St Petersburg	Marlins	Miami	203
Marlins	Miami	Devil Rays	St Petersburg	203
Blue Jays	Toronto	Tigers	Detroit	206
Reds	Cincinatti	Indians	Cleaveland	222
Rangers	Arlington	Astros	Houston	227
Astros	Houston	Rangers	Arlington	227
Royals	Kansas City	Cardinals	St Louis	234
Cardinals	St Louis	Royals	Kansas City	234
Diamondbacks	Phoenix	Padres	San Diego	298
Twins	Minneapolis	Brewers	Milwaukee	305
Braves	Atlanta	Reds	Cincinatti	365
Mariners	Seattle	Rockies	Denver	1017
Rockies	Denver	Mariners	Seattle	1017

Column1	
Mean	189.000
Std Error	45.326
Median	104.000
Mode	26.000
Std Dev	248.263
Sample Var	61634.552
Kurtosis	7.279
Skewness	2.626
Range	1011.000
Minimum	6.000
Maximum	1017.000
Sum	5670.000
Count	30.000

Appendix C – Team Winning Percentages

Team Winning Percentage					
Team		*Year*			
		2007	**2008**	**2009**	**Avg. Win %**
Angels	Anaheim	0.580	0.617	0.599	0.599
Yankees	New York	0.580	0.549	0.636	0.588
Red Sox	Boston	0.593	0.586	0.586	0.588
Phillies	Philadelphia	0.549	0.568	0.574	0.564
Cubs	Chicago	0.525	0.602	0.516	0.548
Dodgers	Los Angeles	0.506	0.519	0.586	0.537
Rockies	Denver	0.552	0.457	0.568	0.526
Cardinals	St Louis	0.481	0.531	0.562	0.525
Twins	Minneapolis	0.488	0.540	0.534	0.521
Brewers	Milwaukee	0.512	0.556	0.494	0.521
Tigers	Detroit	0.543	0.457	0.528	0.509
Devil Rays	St Petersburg	0.407	0.599	0.519	0.508
Mets	Flushing	0.543	0.549	0.432	0.508
Blue Jays	Toronto	0.512	0.531	0.463	0.502
Marlins	Miami	0.438	0.522	0.537	0.499
Braves	Atlanta	0.519	0.444	0.531	0.498
Indians	Cleaveland	0.593	0.500	0.401	0.498
Diamondbacks	Phoenix	0.556	0.506	0.432	0.498
Rangers	Arlington	0.463	0.488	0.537	0.496
White Sox	Chicago	0.444	0.546	0.488	0.493
Mariners	Seattle	0.543	0.377	0.525	0.482
Astros	Houston	0.451	0.534	0.457	0.481
Giants	San Fransisco	0.438	0.444	0.543	0.475
A's	Oakland	0.469	0.466	0.463	0.466
Padres	San Diego	0.546	0.389	0.463	0.466
Reds	Cincinatti	0.444	0.457	0.481	0.461
Royals	Kansas City	0.426	0.463	0.401	0.430
Nationals	D.C.	0.541	0.366	0.364	0.424
Orioles	Baltimore	0.426	0.422	0.395	0.414
Pirates	Pittsburgh	0.420	0.414	0.385	0.406

Appendix D – Per Capita Income By SSMA

American League Cities	*Team*	2000	2001	2002	2003	2004	2005	2006	2007	2008
California, Los Angeles	Angels	$ 31,050	$ 32,187	$ 32,615	$ 33,537	$ 35,188	$ 37,441	$ 39,880	$ 41,875	$ 42,916
California, Oakland	A's	$ 48,338	$ 47,681	$ 46,301	$ 46,732	$ 49,276	$ 54,191	$ 57,747	$ 61,337	$ 61,747
Canada, Toronto	Blue Jays									
Florida, St. Petersburg	Devil Rays	$ 28,653	$ 29,363	$ 29,860	$ 30,326	$ 32,020	$ 33,678	$ 35,541	$ 36,898	$ 36,918
Illinois, Chicago	White Sox	$ 34,924	$ 35,180	$ 35,527	$ 36,087	$ 37,169	$ 39,454	$ 41,591	$ 43,714	$ 45,328
Maryland, Baltimore	Orioles	$ 33,295	$ 34,904	$ 35,877	$ 36,754	$ 38,813	$ 40,933	$ 43,026	$ 45,208	$ 47,333
Massachusettes, Boston	Red Sox	$ 41,430	$ 42,426	$ 42,284	$ 42,794	$ 40,060	$ 47,491	$ 50,542	$ 53,763	$ 55,023
Michigan, Detroit	Tigers	$ 34,053	$ 34,421	$ 34,650	$ 35,652	$ 36,650	$ 37,204	$ 38,119	$ 39,419	$ 39,806
Minnesota, Minneapolis	Twins	$ 36,833	$ 37,375	$ 37,871	$ 38,873	$ 40,915	$ 42,457	$ 44,237	$ 46,458	$ 47,863
Missouri, Kansas City	Royals	$ 31,608	$ 32,230	$ 32,768	$ 33,261	$ 34,585	$ 35,839	$ 37,566	$ 39,402	$ 40,367
New York, Bronx	Yankees	$ 39,927	$ 40,655	$ 40,306	$ 43,277	$ 43,354	$ 46,221	$ 49,789	$ 53,423	$ 54,222
Ohio, Cleaveland	Indians	$ 31,628	$ 31,814	$ 32,192	$ 32,650	$ 34,264	$ 35,555	$ 37,406	$ 39,258	$ 39,857
Texas, Arlington	Rangers	$ 33,973	$ 34,266	$ 33,935	$ 34,139	$ 35,502	$ 38,089	$ 39,924	$ 41,813	$ 42,392
Washington, Seattle	Mariners	$ 37,741	$ 37,813	$ 38,241	$ 38,772	$ 41,634	$ 42,356	$ 45,369	$ 48,499	$ 50,471
National League Cities	*Team*									
Arizona, Phoenix	D-Backs	$ 28,357	$ 28,673	$ 28,846	$ 29,343	$ 31,133	$ 32,660	$ 34,215	$ 35,010	$ 34,675
California, Los Angeles	Dodgers	$ 31,050	$ 32,187	$ 32,615	$ 33,537	$ 35,188	$ 37,441	$ 39,880	$ 41,875	$ 42,916
California, San Diego	Padres	$ 32,793	$ 33,806	$ 34,642	$ 35,743	$ 37,965	$ 40,383	$ 42,801	$ 44,832	$ 45,488
California, San Fransisco	Giants	$ 48,338	$ 47,681	$ 46,301	$ 46,732	$ 49,276	$ 54,191	$ 57,747	$ 61,337	$ 61,747
Colorado, Denver	Rockies	$ 37,842	$ 39,407	$ 38,788	$ 38,650	$ 40,939	$ 42,476	$ 44,691	$ 46,439	$ 47,510
DC, Washington, DC	Nationals	$ 40,673	$ 42,371	$ 42,773	$ 43,843	$ 46,782	$ 49,442	$ 51,868	$ 54,211	$ 56,510
Florida, Miami	Marlins	$ 31,237	$ 32,075	$ 32,725	$ 33,182	$ 34,278	$ 38,342	$ 40,737	$ 43,001	$ 43,709
Georgia, Atlanta	Braves	$ 33,120	$ 33,399	$ 32,895	$ 32,724	$ 33,838	$ 35,262	$ 36,060	$ 37,294	$ 37,655
Illinois, Chicago	Cubs	$ 34,924	$ 35,180	$ 35,527	$ 36,087	$ 37,169	$ 39,454	$ 41,591	$ 43,714	$ 45,328
Missouri, St Louis	Cardinals	$ 31,175	$ 31,545	$ 32,609	$ 33,533	$ 34,735	$ 35,991	$ 37,652	$ 39,602	$ 41,323
New York, Flushing	Mets	$ 39,927	$ 40,655	$ 40,306	$ 43,277	$ 43,354	$ 46,221	$ 49,789	$ 53,423	$ 54,222
Ohio, Cincinnati	Reds	$ 30,474	$ 31,008	$ 31,766	$ 32,303	$ 33,933	$ 35,326	$ 36,650	$ 38,290	$ 38,766
Pensylvania, Philadelphia	Phillies	$ 34,063	$ 35,011	$ 36,041	$ 37,144	$ 38,768	$ 40,948	$ 43,364	$ 45,460	$ 46,954
Pensylvania, Pittsburgh	Pirates	$ 30,614	$ 31,574	$ 32,270	$ 33,113	$ 34,808	$ 36,159	$ 38,550	$ 40,949	$ 42,819
Texas, Houston	Astros	$ 34,053	$ 35,440	$ 34,517	$ 35,140	$ 36,852	$ 40,734	$ 43,174	$ 46,235	$ 48,259
Wisconsin, Milwakee	Brewers	$ 32,718	$ 33,704	$ 34,237	$ 34,663	$ 36,488	$ 37,361	$ 39,536	$ 41,358	$ 43,042
Average		$ 34,993	$ 35,656	$ 35,837	$ 36,616	$ 38,101	$ 40,459	$ 42,726	$ 44,969	$ 46,040

Appendix E – Attendance Numbers All Sports

MLB	Average Per Game	Games	Total Per Season	% Change
2000	29,918.69	2,430	72,702,420	
2001	29,863.01	2,430	72,567,108	-0.19%
2002	27,960.65	2,430	67,944,389	-6.37%
2003	27,831.30	2,430	67,630,052	-0.46%
2004	30,028.38	2,430	72,968,953	7.89%
2005	30,611.23	2,430	74,385,295	1.94%
2006	31,258.92	2,430	75,959,167	2.12%
2007	32,694.37	2,430	79,447,312	4.59%
2008	32,339.21	2,430	78,584,286	-1.09%
2009	30,206.56	2,430	73,401,938	-6.59%

NBA	Average Per Game	Games	Total Per Season	% Change
2001-2002	16,973	1,230	20,876,790	
2002-2003	16,883	1,230	20,766,090	-0.53%
2003-2004	17,050	1,230	20,971,500	0.99%
2004-2005	17,314	1,230	21,296,220	1.55%
2005-2006	17,558	1,230	21,596,340	1.41%
2006-2007	17,757	1,230	21,841,110	1.13%
2007-2008	17,141	1,230	21,083,430	-3.47%
2008-2009	17,520	1,230	21,549,600	2.21%

NFL	Average Per Game	Games	Total Per Season	% Change
2002	66,138	256	16,931,328	
2003	66,069	256	16,913,664	-0.10%
2004	66,409	256	17,000,704	0.51%
2005	66,455	256	17,012,480	0.07%
2006	67,738	256	17,340,928	1.93%
2007	67,738	256	17,340,928	0.00%
2008	68,240	256	17,469,440	0.74%
2009	65,947	256	16,882,432	-3.36%

NHL	Average Per Game	Games	Total Per Season	% Change
2003-2004	16,534	1,230	20,336,820	
2004-2005	Lockout	Lockout	Lockout	Lockout
2005-2006	16,995	1,230	20,903,850	2.79%
2006-2007	16,486	1,230	20,277,780	-2.99%
2007-2008	17,265	1,230	21,235,950	4.73%
2008-2009	17,460	1,230	21,475,800	1.13%

Appendix F – Team Ticket and Fan Cost Index Data

Team	09 Avg Tkt Price	09 FCI	09 % Inc FCI	08 Avg Tkt Price	08 FCI	08 % Inc FCI	07 FCI
Arizona	$ 14.31	$ 114.24	-29.8%	$15.96	$162.84	5.3%	$154.71
Atlanta	$ 17.05	$ 141.18	-10.2%	$17.05	$157.19	4.3%	$150.68
Baltimore	$ 23.42	$ 184.62	11.6%	$23.85	$165.40	3.5%	$159.79
Boston	$ 50.24	$ 326.45	1.8%	$48.80	$320.71	2.2%	$313.83
Chicago (AL)	$ 32.28	$ 224.11	4.4%	$30.28	$214.61	4.4%	$205.63
Chicago (NL)	$ 47.75	$ 305.00	21.1%	$42.49	$251.96	14.9%	$219.21
Cincinnati	$ 19.19	$ 157.69	-5.7%	$19.41	$167.14	5.6%	$158.35
Cleveland	$ 22.12	$ 172.04	-10.6%	$25.72	$192.38	22.7%	$156.77
Colorado	$ 19.50	$ 163.68	2.3%	$19.50	$160.00	8.1%	$148.00
Detroit	$ 27.38	$ 209.93	10.4%	$25.28	$190.13	14.0%	$166.80
Florida	$ 19.06	$ 145.92	-11.2%	$18.69	$164.26	5.4%	$155.78
Houston	$ 28.73	$ 214.72	-0.3%	$28.73	$215.43	10.1%	$195.59
Kansas Ciy	$ 19.39	$ 161.00	6.5%	$17.54	$151.16	22.5%	$123.42
L.A. Angles	$ 20.05	$ 166.39	18.5%	$20.78	$140.42	4.5%	$134.32
L.A. Dodgers	$ 29.66	$ 219.90	-4.0%	$29.66	$229.14	8.8%	$210.63
Milwaukee	$ 20.98	$ 169.81	20.0%	$19.88	$141.52	5.0%	$134.77
Minnesota	$ 21.70	$ 170.24	2.7%	$20.68	$165.71	4.8%	$158.07
New York (AL)	$ 72.97	$ 410.88	63.6%	$34.05	$251.19	14.7%	$219.04
New York (NL)	$ 36.99	$ 258.97	-0.3%	$36.58	$259.84	16.8%	$222.53
Oakland	$ 24.31	$ 187.23	-9.5%	$29.20	$206.80	11.5%	$185.53
Philadelphia	$ 31.10	$ 222.63	11.6%	$28.14	$199.56	1.8%	$196.00
Pittsburgh	$ 15.39	$ 135.06	-7.7%	$17.07	$146.32	4.7%	$139.77
St. Louis	$ 29.43	$ 215.52	-0.8%	$29.32	$217.28	3.8%	$209.23
San Diego	$ 20.01	$ 165.40	-18.0%	$27.43	$201.72	20.0%	$168.03
San Francisco	$ 23.28	$ 180.49	-1.8%	$22.06	$183.74	-13.7%	$212.95
Seattle	$ 25.53	$ 196.89	3.0%	$25.29	$191.16	2.8%	$186.03
Tampa Bay	$ 18.35	$ 144.76	5.7%	$17.23	$136.91	0.0%	$136.91
Texas	$ 19.41	$ 161.52	9.1%	$18.01	$148.04	11.5%	$132.76
Toronto	$ 19.10	$ 150.64	-34.6%	$28.37	$230.46	26.3%	$182.51
Washington	$ 30.63	$ 221.64	13.4%	$25.00	$195.50	32.1%	$147.94
AVERAGE	$ 26.64	$ 196.62	2.5%	$25.40	$191.75	8.8%	$176.24

Appendix G – Stadium Capacity Levels

Team	Stadium		07 Att % Cap	08' Att / Cap	09' % Att / Cap	Chg % Cap 07-08	Chg % Cap 08-09
ANA	Angel Stadium	Angels	92.10%	91.31%	88.68%	-0.79%	-2.64%
OAK	Oakland Coliseum	A's	69.63%	60.26%	50.44%	-9.37%	-9.82%
HOU	Minute Maid Park	Astros	91.06%	83.80%	76.01%	-7.26%	-7.79%
ATL	Turner Field	Braves	67.65%	62.42%	58.50%	-5.23%	-3.92%
MIL	Miller Park	Brewers	84.54%	90.42%	89.50%	5.88%	-0.92%
STL	Busch Stadium	Cardinals	93.91%	90.69%	88.38%	-3.22%	-2.30%
CHI	Wrigley Field	Cubs	97.66%	99.08%	95.14%	1.42%	-3.93%
TAM	Tropicana Field	Devil Rays	39.18%	51.11%	52.88%	11.93%	1.78%
PHX	Chase Field	D-backs	58.33%	63.20%	53.61%	4.87%	-9.59%
LA	Dodger Stadium	Dodgers	85.03%	82.24%	82.93%	-2.78%	0.69%
SF	AT&T Park	Giants	95.66%	84.99%	84.91%	-10.66%	-0.08%
CLE	Progressive Field	Indians	64.73%	61.69%	50.24%	-3.05%	-11.45%
SEA	Safeco Field	Mariners	69.54%	60.62%	57.12%	-8.92%	-3.50%
MIA	Dolphin Stadium	Marlins	46.57%	45.37%	49.75%	-1.20%	4.38%
NY M	Shea Stadium	Mets	84.46%	88.70%	92.72%	4.24%	4.02%
WASH	RFK Stadium	Nationals	52.21%	69.49%	54.43%	17.28%	-15.07%
BAL	Camden Yards	Orioles	55.46%	49.96%	48.86%	-5.50%	-1.10%
SD	Petco Park	Padres	81.05%	70.52%	55.85%	-10.53%	-14.67%
PHI	Citizens Bank Park	Phillies	87.92%	96.81%	101.85%	8.89%	5.04%
PIT	PNC Park	Pirates	56.10%	51.60%	50.60%	-4.49%	-1.00%
ARL	Rangers Ballpark	Rangers	59.41%	49.11%	54.42%	-10.30%	5.31%
BOS	Fenway Park	Red Sox	94.51%	96.98%	97.44%	2.47%	0.46%
CIN	Great American Ballpark	Reds	60.12%	60.12%	51.05%	0.00%	-9.07%
DEN	Coors Field	Rockies	56.97%	64.86%	65.22%	7.89%	0.36%
KC	Kauffman Stadium	Royals	48.93%	47.78%	54.41%	-1.14%	6.63%
DET	Comerica Park	Tigers	93.77%	98.55%	79.00%	4.79%	-19.55%
MIN	Metrodome	Twins	50.50%	50.63%	53.13%	0.14%	2.50%
CHI	US Cellular Field	White Sox	81.60%	74.80%	69.43%	-6.80%	-5.37%
NY	Yankee Stadium	Yankees	92.74%	93.32%	87.76%	0.58%	-5.57%

Appendix H – Unemployment Levels By SSMA

Unemployment Data Based On Standard Statistical Metropolitan Areas														
		2007												
American League Cities	***Team***	***Jan***	***Feb***	***Mar***	***Apr***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***	***Avg***
California, Los Angeles	Angels	4.6	4.4	4.5	4.4	4.2	4.7	5.1	4.9	4.9	4.8	4.9	5	4.7%
California, Oakland	A's	4.3	4.2	4.1	4.1	4.1	4.4	4.7	4.7	4.6	4.6	4.6	4.7	4.4%
Florida, St. Petersburg	Devil Rays	3.6	3.3	3.3	3.3	3.2	3.9	4.3	4.3	4.3	4.3	4.4	4.7	3.9%
Illinois, Chicago	White Sox	5.1	5	4.4	4.7	4.6	5.5	5.4	5.3	4.7	4.7	4.7	4.9	4.9%
Maryland, Baltimore	Orioles	4.5	4.3	3.7	3.6	3.6	4.2	4.5	4	3.9	4	3.6	3.6	4.0%
Massachusettes, Boston	Red Sox	5.2	5.2	4.3	4	4.6	4.8	4.8	4	4.1	3.5	3.6	3.7	4.3%
Michigan, Detroit	Tigers	8	6.7	6.9	6.7	6.9	8.1	8.4	7.9	8.3	8.1	7.2	8	7.6%
Minnesota, Minneapolis	Twins	4.7	4.5	4.4	4.2	4	4.4	4.2	4.1	4.7	4	3.9	4.5	4.3%
Missouri, Kansas City	Royals	5	5.5	4.9	4.5	4.6	5.3	5.2	5.1	5.2	5.1	4.8	5.1	5.0%
New York, Bronx	Yankees	5.3	5.1	4.4	4.2	4.6	5.2	6.1	5.8	5	5.3	5	5.2	5.1%
Ohio, Cleveland	Indians	6	5.9	5.6	5.4	5.6	6.3	6.3	5.9	5.9	5.4	4.6	5	5.7%
Texas, Arlington	Rangers	4.6	4.6	4.1	3.9	3.8	4.4	4.6	4	4.3	3.8	4	4.2	4.2%
Washington, Seattle	Mariners	4.9	4.9	4.5	3.8	4	4.2	4.1	3.8	4.1	4.1	4	4	4.2%
National League Cities	***Team***													
Arizona, Phoenix	Diamondba	3.9	3.4	3.4	3.2	2.7	3	3.3	3.2	2.9	3.1	3.4	3.9	3.3%
California, Los Angeles	Dodgers	4.6	4.4	4.5	4.4	4.2	4.7	5.1	4.9	4.9	4.8	4.9	5	4.7%
California, San Diego	Padres	4.3	4.2	4	4.1	4.2	4.6	4.8	4.8	4.8	4.8	4.8	4.9	4.5%
California, San Fransisco	Giants	4.3	4.2	4.1	4.1	4.1	4.4	4.7	4.7	4.6	4.6	4.6	4.7	4.4%
Colorado, Denver	Rockies	4.7	4.2	4.1	3.5	3.4	3.9	3.9	3.8	3.9	3.5	4	4.4	3.9%
DC, Washington, DC	Nationals	3.4	3.2	3	2.8	2.9	3.3	3.3	3	3	3.1	3	3	3.1%
Florida, Miami	Marlins	3.3	3.1	3.1	3.1	3.1	3.6	4	4.1	4.2	4.2	4	4.1	3.7%
Georgia, Atlanta	Braves	4.6	4.2	3.9	4	4	4.5	4.7	4.4	4.4	4.5	4	4.4	4.3%
Illinois, Chicago	Cubs	5.1	5	4.4	4.7	4.6	5.5	5.4	5.3	4.7	4.7	4.7	4.9	4.9%
Missouri, St Louis	Cardinals	5.4	5.7	5	4.5	4.5	5.4	5.3	5.5	5.2	5.3	5.1	5.4	5.2%
New York, Flushing	Mets	5.3	5.1	4.4	4.2	4.6	5.2	6.1	5.8	5	5.3	5	5.2	5.1%
Ohio, Cincinnati	Reds	5.5	5.2	4.8	4.9	4.8	5.6	5	4.9	5.1	4.8	4.6	5	5.0%
Pensylvania, Philadelphia	Phillies	4.8	4.3	4.1	3.9	4.1	4.3	4.6	4.4	4.2	4.1	3.9	4.1	4.2%
Pensylvania, Pittsburgh	Pirates	5.5	4.7	4.3	3.8	4.1	4.3	4.5	4.5	4	4	3.9	4.4	4.3%
Texas, Houston	Astros	4.6	4.6	4.1	3.8	3.8	4.4	4.6	4.1	4.3	3.8	4	4.2	4.2%
Wisconsin, Milwaukee	Brewers	5.1	5.5	5.2	5.3	5	5.7	5.4	5.6	5.2	5	5.2	4.7	5.2%

Unemployment Data Based On Standard Statistical Metropolitan Areas														
		2009												
American League Cities	***Team***	***Jan***	***Feb***	***Mar***	***April***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dec***	***Avg***
California, Los Angeles	Angels	10	10.2	10.6	10.1	10.7	10.8	11.7	11.8	11.9	11.9	10.6	10.1	10.9%
California, Oakland	A's	8.5	8.8	9.6	9.3	9.8	10.3	10.5	10.7	10.4	10.6	10.5	10.1	9.9%
Florida, St. Petersburg	Devil Rays	9.8	10.2	10.5	10.1	10.7	11.1	11.4	11.3	11.8	11.7	12.4	12.4	11.1%
Illinois, Chicago	White Sox	8.3	9.2	9.4	9.8	10.4	11	10.6	9.7	10	10.3	10.3	10.6	10.0%
Maryland, Baltimore	Orioles	7	7.6	7.3	7.1	7.5	8	7.9	7.7	7.5	7.7	7.7	7.6	7.6%
Massachusettes, Boston	Red Sox	7.2	7.4	7.4	7.2	7.5	8.3	8.4	8.4	8.8	7.9	7.7	8.2	7.9%
Michigan, Detroit	Tigers	13	13.6	14	13.6	14.4	17.1	17.7	17	17.3	16.7	15.4	14.9	15.4%
Minnesota, Minneapolis	Twins	7.7	8.2	8.4	7.8	7.7	8.5	7.9	7.7	7.4	7.1	7	7.2	7.7%
Missouri, Kansas City	Royals	8.3	8.4	8.3	7.8	8.6	8.7	8.9	8.8	8.9	8.4	8.3	8.6	8.5%
New York, Bronx	Yankees	7.3	8.2	8.2	7.8	8.7	9.3	9.1	9.3	9.3	9.1	9.9	10.4	8.9%
Ohio, Cleveland	Indians	7.7	9.4	8.7	9	10.1	10.1	9.3	8.9	8.3	8.6	9	8.9	9.0%
Texas, Arlington	Rangers	7	6.9	7	6.6	7.1	8.2	8.3	8.3	8.3	8.3	7.9	8	7.7%
Washington, Seattle	Mariners	7.5	8.7	8.7	8	8.5	9.3	8.7	8.8	8.9	9	8.8	9.1	8.7%
National League Cities	***Team***													
Arizona, Phoenix	Diamondba	6.7	6.9	7.3	6.8	7.3	8.2	8.7	8.6	8.6	8.7	8.1	8.2	7.8%
California, Los Angeles	Dodgers	1	10.2	10.6	10.1	10.7	10.8	11.7	11.8	7.8	11.9	8.1	8.2	9.4%
California, San Diego	Padres	8.7	8.8	9.5	9.1	9.6	10.1	10.4	10.4	10.4	10.5	10.6	10.1	9.9%
California, San Fransisco	Giants	8.5	8.8	9.6	9.3	9.8	10.3	10.5	10.7	10.4	10.6	10.5	10.1	9.9%
Colorado, Denver	Rockies	7.4	7.9	8.2	7.5	7.5	7.9	8	7.4	7.1	6.8	6.8	7.5	7.5%
DC, Washington, DC	Nationals	5.6	6.1	5.9	5.6	6.2	6.6	6.2	6	6.1	6.2	6.1	6.2	6.1%
Florida, Miami	Marlins	7.7	8.2	8.6	8.5	9.6	10.7	10.9	10.8	10.9	11	10.7	10.9	9.9%
Georgia, Atlanta	Braves	8.6	9.3	9.1	9.1	9.5	10.7	10.6	10.4	10.4	10.4	10	10.1	9.9%
Illinois, Chicago	Cubs	8.3	9.2	9.4	9.8	10.4	11	10.6	9.7	10	10.3	10.3	10.6	10.0%
Missouri, St Louis	Cardinals	9.1	9.2	9.4	8	9	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.5%
New York, Flushing	Mets	7.3	8.2	8.2	7.8	8.7	9.3	9.1	9.3	9.3	9.1	9.9	10.4	8.9%
Ohio, Cincinnati	Reds	8.4	8.9	9	9.1	9.4	10.1	10.3	9.9	9.3	9.6	9.5	9.9	9.5%
Pensylvania, Philadelphia	Phillies	7.5	8	8	7.6	8.2	8.7	8.8	8.8	8.8	8.8	8.5	8.7	8.4%
Pensylvania, Pittsburgh	Pirates	7.3	7.6	7.5	6.9	7.3	7.7	7.8	7.9	7.5	7.7	7.5	7.8	7.5%
Texas, Houston	Astros	6.5	6.4	6.6	6.3	6.9	8	8.4	8.4	8.5	8.5	8.2	8.3	7.6%
Wisconsin, Milwaukee	Brewers	7.1	8.1	9	8.9	9	9.8	9.5	9.3	8.5	8.2	8.4	8.6	8.7%

Unemployment Data Based On Standard Statistical Metropolitan Areas														
		2008												
American League Cities	***Team***	***Jan***	***Feb***	***Mar***	***April***	***May***	***June***	***July***	***Aug***	***Sept***	***Oct***	***Nov***	***Dev***	***Avg***
California, Los Angeles	Angels	5.6%	5.2%	5.5%	5.4%	6.0%	6.6%	7.5%	7.6%	7.3%	7.7%	8.1%	8.8%	6.8%
California, Oakland	A's	4.9%	4.7%	5.0%	4.8%	5.2%	5.7%	6.1%	6.2%	6.1%	6.5%	6.6%	7.0%	5.7%
Florida, St. Petersburg	Devil Rays	5.0%	4.8%	5.1%	4.9%	5.6%	5.9%	6.7%	6.9%	7.1%	7.4%	7.9%	8.3%	6.3%
Illinois, Chicago	White Sox	5.8%	5.7%	5.6%	5.3%	6.3%	7.1%	7.3%	7.1%	6.4%	6.8%	6.5%	7.1%	6.4%
Maryland, Baltimore	Orioles	4.0%	3.9%	3.8%	3.6%	4.1%	4.6%	5.0%	5.0%	4.8%	5.1%	5.4%	5.8%	4.6%
Massachusettes, Boston	Red Sox	4.6%	4.4%	4.3%	3.6%	4.4%	5.0%	4.8%	4.8%	5.0%	4.6%	5.0%	5.8%	4.7%
Michigan, Detroit	Tigers	8.2%	7.7%	8.1%	6.9%	8.9%	9.7%	8.4%	8.8%	8.3%	8.8%	9.5%	10.6%	8.7%
Minnesota, Minneapolis	Twins	4.7%	4.6%	4.8%	4.5%	4.7%	5.1%	5.4%	5.7%	5.7%	5.3%	5.8%	6.4%	5.2%
Missouri, Kansas City	Royals	5.7%	5.3%	5.5%	4.6%	5.5%	5.9%	6.1%	6.2%	6.2%	5.9%	6.2%	6.5%	5.8%
New York, Bronx	Yankees	6.1%	4.4%	4.6%	4.5%	4.8%	5.3%	5.4%	5.9%	5.7%	5.7%	6.2%	7.2%	5.5%
Ohio, Cleveland	Indians	6.3%	6.4%	6.3%	6.2%	7.2%	7.7%	7.2%	7.4%	6.9%	6.3%	6.8%	7.1%	6.8%
Texas, Arlington	Rangers	4.6%	4.3%	4.2%	3.9%	4.4%	4.8%	5.0%	5.1%	5.3%	5.5%	5.7%	5.8%	4.9%
Washington, Seattle	Mariners	4.2%	4.3%	4.2%	3.7%	4.4%	4.5%	4.7%	5.0%	4.9%	5.5%	5.7%	6.3%	4.8%
National League Cities	***Team***													
Arizona, Phoenix	Diamondba	4.0%	3.6%	3.5%	3.2%	3.5%	4.3%	4.7%	5.1%	5.4%	5.5%	5.5%	6.1%	4.5%
California, Los Angeles	Dodgers	5.6%	5.2%	5.5%	5.4%	6.0%	6.6%	7.5%	7.6%	7.3%	7.7%	8.1%	8.8%	6.8%
California, San Diego	Padres	5.1%	5.0%	5.3%	5.0%	4.1%	5.9%	6.5%	6.4%	6.5%	6.8%	6.9%	7.4%	5.9%
California, San Fransisco	Giants	4.9%	4.7%	5.0%	4.8%	5.2%	5.7%	6.1%	6.2%	6.1%	6.5%	6.6%	7.0%	5.7%
Colorado, Denver	Rockies	4.7%	4.8%	4.8%	4.3%	4.8%	5.5%	5.3%	5.4%	5.2%	5.6%	5.9%	6.3%	5.2%
DC, Washington, DC	Nationals	6.7%	5.8%	6.4%	5.4%	6.5%	6.7%	7.2%	7.0%	7.1%	7.5%	8.4%	8.9%	7.0%
Florida, Miami	Marlins	4.2%	4.0%	4.3%	4.5%	5.0%	5.5%	5.9%	6.4%	6.4%	6.5%	6.5%	7.1%	5.5%
Georgia, Atlanta	Braves	5.0%	5.1%	5.1%	4.9%	5.4%	5.9%	6.1%	6.3%	6.4%	6.8%	6.9%	7.6%	6.0%
Illinois, Chicago	Cubs	5.8%	5.7%	5.6%	5.3%	6.3%	7.1%	7.3%	7.1%	6.3%	6.4%	6.5%	7.1%	6.4%
Missouri, St Louis	Cardinals	6.3%	6.2%	6.4%	5.3%	6.0%	6.5%	7.2%	7.2%	6.8%	6.9%	7.3%	7.6%	6.6%
New York, Flushing	Mets	6.1%	4.4%	4.6%	4.5%	4.8%	5.3%	5.4%	5.9%	5.7%	5.7%	6.2%	7.2%	5.5%
Ohio, Cincinnati	Reds	5.4%	5.2%	5.2%	4.6%	5.2%	6.0%	6.4%	6.3%	6.3%	6.1%	6.1%	6.7%	5.8%
Pensylvania, Philadelphia	Phillies	5.1%	5.2%	4.9%	4.6%	5.0%	5.3%	5.6%	5.9%	5.5%	5.6%	5.9%	6.4%	5.4%
Pensylvania, Pittsburgh	Pirates	5.6%	5.7%	5.2%	4.5%	4.8%	5.2%	5.3%	5.6%	4.9%	5.0%	5.5%	6.0%	5.3%
Texas, Houston	Astros	4.5%	4.2%	4.1%	3.8%	4.2%	4.7%	4.9%	4.0%	5.1%	5.4%	5.5%	5.5%	4.7%
Wisconsin, Milwaukee	Brewers	5.3%	5.5%	5.4%	4.3%	4.4%	5.3%	5.2%	5.3%	4.9%	4.8%	5.5%	5.8%	5.1%