**Exploring Salary Caps: Is it Easier to Buy a Winning Football or Baseball Team?**

**Introduction**

Football and baseball players are paid millions of dollars by team owners. However unlike Major League Baseball, the National Football League has a very restrictive salary cap which prevents owners from spending exurbanite amounts of money, even on the best player. For example, the highest paid baseball player makes over 25 million a year, compared to only 11 million a year for the highest paid football player.

In recent years, fans have started to question whether or not their favorite teams can compete with others teams. Is it possible for a team with a minimal payroll to win the Superbowl/World Series? In which sport, baseball or Football is it easier for all teams to be competitive?

**Task**

You will need to collect the following data.

The number of wins each professional baseball and football team had during the regular season in during the 2009-2010 season.

The total team payroll for each professional team in the 2009-2010 season.

The population of each city with a professional baseball team.

**Resources**

Microsoft excel

Internet access

You can access all of this information at the following sites:

<http://content.usatoday.com/sportsdata/baseball/mlb/salaries/team> (salary info)

<http://content.usatoday.com/sportsdata/football/nfl/salaries/team> (salary info)

[www.mlb.com](http://www.mlb.com) (stats)

[www.espn.go.com](http://www.espn.go.com) (stats)

US Census Bureau (population stats)

**Process**

Put all of your data in an excel spreadsheet (make one for the NFL and one for MLB). Data should include:

City

Team Mascot

Team Payroll

Number of regular season wins

Use excel to create the following graphs, for both football and baseball:

Plot I: payroll vs wins

Plot II: population vs wins

Plot III: population vs payroll

Create a line of "best-fit" so most points are close to the line. You can use excel to do this. You can also print your graphs and then use a ruler so that about half of the data points are above the ruler and about half are below.

**Evaluation**

Answer each of the following questions in a Word document:

1. How much would you expect to pay a major league baseball team if you wanted them to win 100 games ( .83% )?

2. How much would you expect to pay an NFL team if you wanted them to win 13 games (.81%)?

3. In which sport baseball or football, is it easier to predict how much money wins cost?

4. What does the best fit line on Plot I say about the relationship between the payroll of a major league baseball team and the number of games you can expect them to win? What does the line on Plot I say about the relationship between the payroll of an NFL team and the number of games you can expect them to win?

5. What does the best fit line on Plot II say about the relationship between the population of a major league baseball team's city and the number of games you can expect them to win? What does the line on Plot II say about the relationship between the population of a football team's city and the number of games you can expect them to win?

6. Does the population of a city affect the number of wins a MLB team has? Does the population of a city appear to affect the number of wins an NFL team has?

7. What does the best fit line on Plot III say about the relationship between the population of a major league baseball team's city and payroll of the major league baseball team in that city? What does the best fit line on Plot III say about the relationship between the population of a football team's city and payroll of the major league baseball team in that city?

8. Do you think all baseball teams have an equal chance at getting to and winning The World Series? Why or why not?

9. Do you think all football teams have an equal chance at getting to and winning the Superbowl?

10. Does having a very restrictive salary cap in the NFL make the game more or less competitive than in baseball? Explain?

**Conclusion**

The lack of a stringent salary cap in MLB makes the sport somewhat predictable, and leaves small-market teams at a disadvantage. In contrast, the NFL is much more competitive and gives teams even in small markets a chance to win.