

QMBE 1320 - Final Project
By
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Introduction

We chose to explore the NFL data and want to determine how market size and home attendance both impact a team's ability to win games at home. We feel that it is important to explore as big market teams (such as NYC) in professional sports tend to attract the bigger name players to play for their squad, whether it be for money or fame, and thus have a large advantage over the smaller market teams (such as Kansas City). We also want to know how home attendance impacts a team's ability to win at home as a common theme in sports is that teams playing at home have a "home field advantage".

Problem Statements

- 1) We want to find out if the market size of an NFL team impacts its ability to win games at home
- 2) We also want to figure out how much a team's home attendance impacts its ability to win games at home

For problem statement number one, we plan on separating teams by market size (Large and Small) and observing their win percentages throughout the years. This data will help for consumers to get a better understanding of how successful large market teams can/will be on average. For problem statement number two, we found each team's home attendance and compared it to their own home win percentages. This data can show how important home fans are to a team's ability to win games.

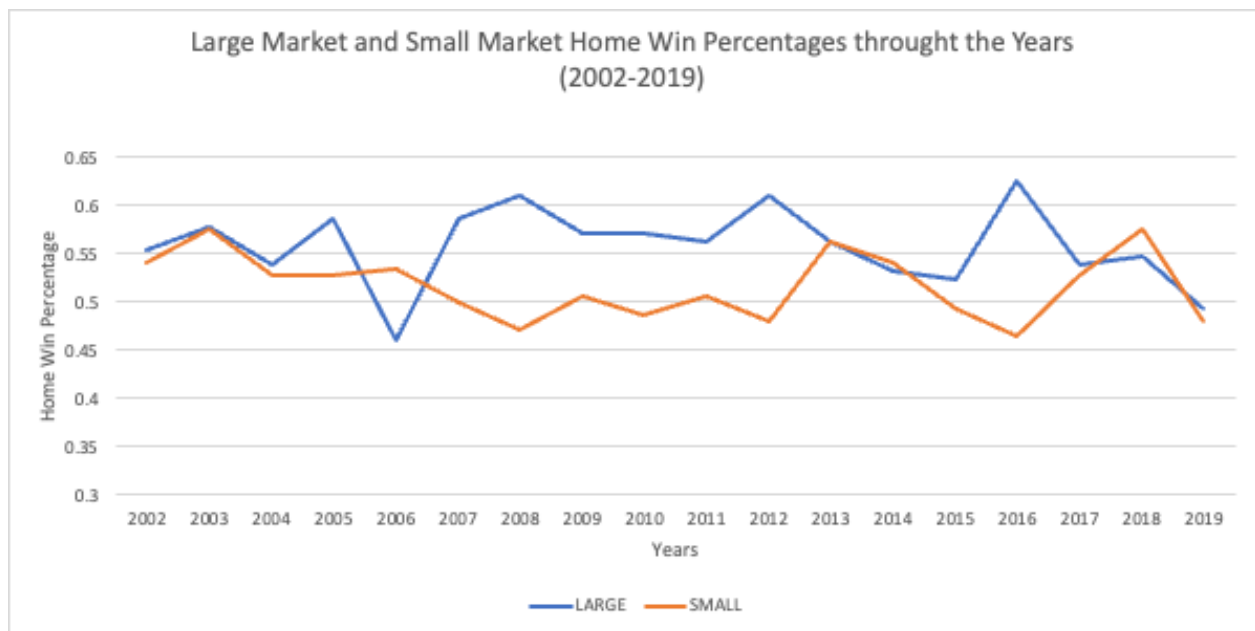
Cleaning Data

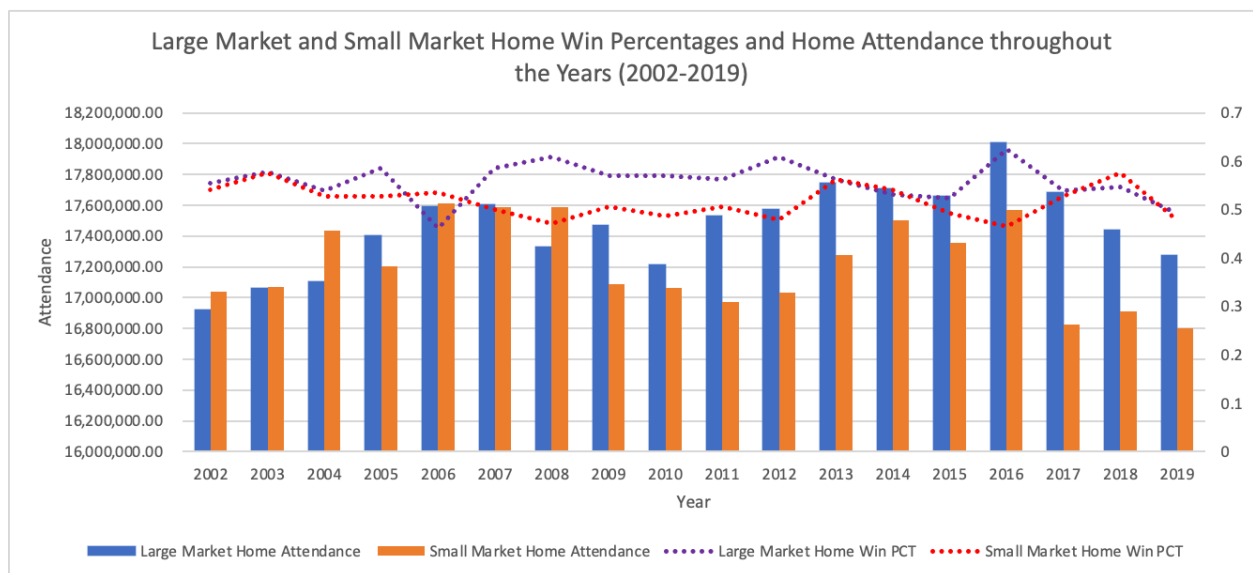
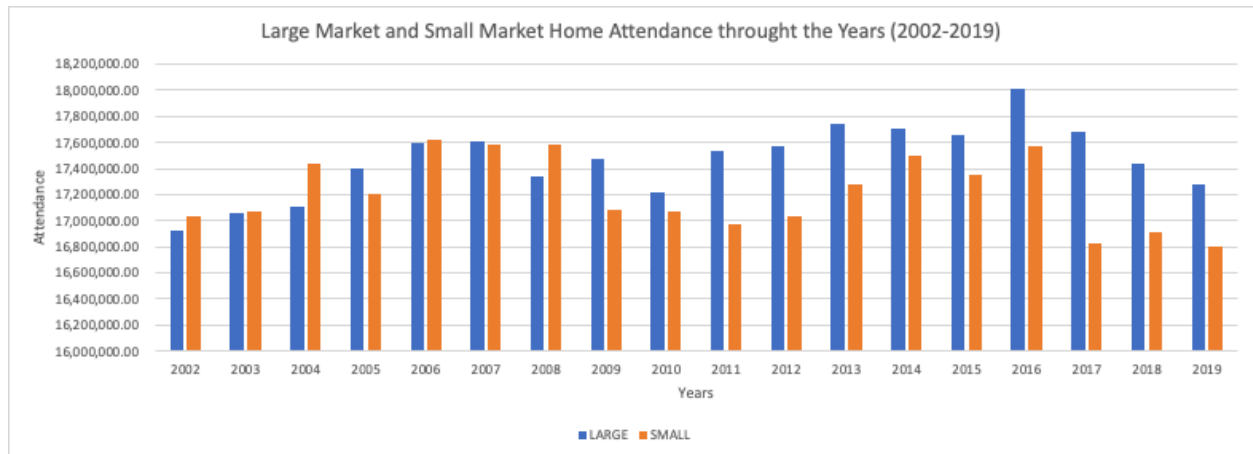
In order to clean our dataset we first began by deleting all data from the 2000 season and the 2001 season as one of the teams, the Houston Texans, had their inaugural season during the 2002 season. We also eliminated post-season games from the dataset as playoff games always sell out regardless of outside factors and fans from non-participating are more likely to attend.

Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
market_type_attendance_large	288	1,091,534.34	81170.5757	804,401.00	1,322,087.00
market_type_attendance_small	288	1,076,185.58	62857.6558	760,644.00	1,198,268.00
market_type_attendance_combined	576	1,083,859.96	72936.3229	760,644.00	1,322,087.00
home_win_count_large	288	4.465277778	1.77639652	0	8
home_win_count_small	324	4.135802469	2.25469904	0	8
home_win_count_combined	612	4.290849673	2.04860288	0	8
home_win_pct_large	288	0.558159722	0.22204956	0	1
home_win_pct_small	324	0.516975309	0.28183738	0	1
home_win_pct_combined	612	0.536356209	0.25607536	0	1

In terms of taking more variables into consideration, we have thought of including other factors that could contribute to a team's ability to win at home. Some of these factors include a team's payroll, popularity, and other outside factors that don't directly affect the on-field performance of the team. We would create them by first finding a place where the data is easily accessible, like ProFootballReference, and inputting the data into our excel spreadsheet and comparing the trends to home win percentages.





We've noticed that over the years, large market teams have had better home attendance. We've also noticed that large market teams have a trend of winning at home more often than the small market teams.