

## **ABSTRACT**

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Is the name worth it? An investigation into the value of stadium naming rights  
(Under the direction of Dr. David Ravenscraft)

This thesis examines whether public companies increase shareholder value when investing in stadium naming rights contracts in one of the four major sports in the United States (Major League Baseball, National Basketball Association, National Football League, National Hockey League). Using stock price event analysis, a sample size of 93 stadiums was examined over an 11-day window to see whether or not a particular company's stock price had positive or negative abnormal returns in comparison to the S&P 500. Analysis showed that only 15/93 or 16% of the sample provided statistically significant abnormal returns, both positive and negative, suggesting that company's stock prices did not differ from normal market fluctuations. Even with no statistical evidence for any positive returns on stadium naming rights agreements, companies continue to invest in this type of marketing strategy, in which additional hypothesis are drawn based on the inconclusive evidence found from stock price event analysis.

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## **INTRODUCTION**

Yankee Stadium. Dodger Stadium. You could just feel the excitement build when you walked into those arenas to see those legendary teams play baseball. The Staples Center. Metlife Stadium. What happened to Giants Stadium? Why isn't the Staples Center called Lakers Arena? When did corporate America become so involved in professional sports? And why did they become so involved? Have you ever wondered why more and more stadiums are taking a corporate-identified name and moving away from a team identification?

Well, I have. For twenty-two years, I have been a loyal supporter of the New York Mets franchise, a professional baseball team based out of Flushing, NY. As an avid baseball player and fan, I always made it a priority to attend at least one Mets' home game a year to cheer on my favorite players. Sadly, over the last 25 years, the New York Mets have not had a successful season, even though there was one World Series appearance in 2000, where they lost to their rivals, the New York Yankees.

Prior to 2009, the New York Mets played in Shea Stadium, a stadium erected in 1962 and named after William Shea, a lawyer who brought back National League baseball to the City of New York. For 47 years, Shea Stadium was the home of the New York Mets until the Mets moved into their new home, now known as Citi Field, and played their first major league game there on April 13<sup>th</sup>, 2009. As a sixteen year old teenager, I began to wonder why this new stadium was called "Citi Field" and

why was Citigroup financially supporting a terrible team like the Mets. I later found out that CitiGroup Inc. agreed on November 13<sup>th</sup>, 2006 to a 20 year/\$400 million naming rights agreement for the new home of the New York Mets, a team that had not had a successful season in the last 25 years, and struggled to obtain and maintain top talent.

With these thoughts in mind, it begged the question, “Why is a large multi-national company like Citigroup investing in a team that has been the laughing stock of New York sports for the last 25 years?” And on a broader scale, why are more and more corporations entering into naming rights agreements with professional sports franchises? Do these companies realize some financial benefit, from a shareholder’s perspective? This thesis will explore that very concept and try to determine if there is some quantifiable benefit to these naming rights agreements.

### **Key Question**

With over 120 professional teams representing the four major sports leagues (NBA, NFL, MLB, and NHL) in 26 different states, the American sports industry has and continues to have a major influence on the lives of the American population. According to a study published in 2011 by the *Journal of Sports Management*, the sports industry in the United States was estimated to be a \$189.338 billion industry in 2005, which would make it the 17<sup>th</sup> largest industry in terms of 2005 GDP dollars (Milano & Chelladurai, 2011). Due to the size of this market, its popularity and its impact on the population, companies have used the sports industry as a potential way to broaden their brand awareness and client networks, as well as to increase

their revenue numbers. While it has been less than ten years since the United States economy encountered one of its largest recessions in history, companies are still willing to invest in different forms of marketing activities in the sporting industry (i.e. on-field advertising, sponsorships, stadium naming rights) without any piece of literature, or definitive study, that has quantified the value that has been realized historically on these deals. With this in mind, my research question takes a specific look at the value of stadium naming rights agreements and tries to answer the following question: "What is the value a company realizes for investing in various stadium naming rights deals?"

### **Importance of the Question**

By trying to determine whether or not naming rights agreements in the past have shown a positive return on investment, the goal of my research question is to understand why some companies continue to invest in the industry while others have incurred significant losses. According to a *Business Insider* article published in 2011, "banks have signed more than \$2 billion worth of naming rights contracts since 1998, with deals ranging from five to thirty years (Bhasin, 2011)." This recent influx of investments coming from major banks suggests that there must be a significant reason why over a billion dollars have been invested in this space within a twenty year time frame. You would almost have to assume that there was some strong beliefs that investments of this nature would result in a positive return for these banks in the long run.



So why do some companies do it and others don't? In 2012, *The Street* published an article detailing ten different examples of companies that experienced a negative financial impact during their respective naming rights agreements. Companies such as American Airlines, Adelphia, and Chesapeake Energy all filed for bankruptcy during their involvement with stadium naming rights deals, which suggest that there could be a correlation between these companies' drop in profitability and the negative return on investment that they may have realized during the time period of their agreements. Finally, the article references a *CNNMoney* finding noting "that of the 60 publicly traded sponsors with names on sporting facilities, 62% of them have had their stock slip in the past 12 months (Notte, 2012)." Because of the major disconnect between the increase of number and size of naming rights agreements and the decrease in stock prices for a majority of the companies involved in the same agreements, my goal was to try and understand the value behind a stadium naming rights agreement for these companies that could explain the increase in stadium naming agreements in the 21<sup>st</sup> century.

## **Approach**

To approach this key question, each stadium used by a team between January, 1970 and October, 2014, in any of the four major sports leagues, was analyzed to determine whether or not a company invested in a stadium naming rights contract. Since stadium naming rights contracts are a recent phenomena, I limited my research to only those stadiums used within the last 44 years. Given that

previous studies did not look at stadium naming rights contracts prior to 1980, my analysis expanded that scope to look at potential agreements a decade prior as well as current stadium naming rights agreements as of 2014 to get a broader understanding of how the overall profitability of the industry has been seen by companies over a five decade window.

Each company that is public and has invested in stadium naming rights agreements for this sample will be investigated through a stock market event study. This type of study measures how the stock market, and the company's individual stock price, react to an announcement of a major event, in this case a new stadium naming rights agreement. Since a public company's major goal is to increase shareholder value, the stock price of a company is a strong indicator of how much money the company is worth. Using the stock market event study will provide two major advantages over the use of quarterly financial statement analysis. First, it provides a method to judge a company's performance against the overall market (in this case S&P 500) during a particular period of time. Second, t-statistics can be calculated to determine just how significant an abnormal return is for the company and whether or not the particular event had any type of impact on the overall value change of the company.

Over a 395 business day window, each company will be analyzed to see if the overall value of the company in its stock price changes within a confined window ranging from 1-11 days. Statistical testing will provide positive or negative evidence to show whether or not stadium naming rights agreements provide additional value

to a company and its shareholders or if companies don't realize any return on its investment that directly links with improving the overall value of the company.

## **LITERATURE REVIEW**

### **Introduction**

The professional sporting industry has had a significant impact on just about everyone's day-to-day life including those that work for, or consume, the product of professional sports. While professional sports continue to have a significant impact on American history, and the future growth of the GDP in the United States, there has been very little research regarding one of the fastest growing and most visible forms of sports sponsorships—facility naming rights. Those that have written about this particular field have gained rather inconclusive evidence on whether or not there is any value that corporations realize if they engage in facility naming rights agreements.

My thesis tries to provide evidence as to whether or not a corporation can expect a positive return on its investment if they engage in a stadium naming rights agreement with a professional sports franchise. In order to understand the trends and variables that have an impact on the industry, my literature review seeks to explain, (1) the rise of stadium naming rights agreements, (2) how one could value a stadium naming rights deal, and (3) the impact of consumer viewpoints on the success or failure of a given stadium naming rights deal. At the end of the literature review, I hope to develop a strong understanding of the industry and its trends, as

well as the inherent risks that need to be understood by any individual or corporation looking to enter into a stadium naming rights agreement.

## **Rise of Stadium Naming Rights Agreements**

### *Overview*

The corporate naming of sporting facilities in the United States is a relatively recent trend that has exploded over the last 50 years. During the early 1970s through the mid-1980s, a very small percentage of sporting facilities, from the four major sports (MLB, NHL, NBA, and NFL) played in the United States, were corporately named. In that time span, a majority of the stadiums/venues were publicly financed and were named after either a prominent civic leader (ex. Hubert H. Humphrey, Brandon Byrne, William Shea) or to provide local or civic identity (ex. Louisiana Superdome) (Crompton and Howard, 2003).

From the mid-1990s onward, stadium naming rights agreements gained momentum and became an attractive method companies used to make an investment in the promotion of their brand by capitalizing on the popularity of professional sports. While the first reported naming rights deal was closed in 1971 between the New England Patriots and Schaefer Brewing Company, these sorts of contracts were not seen in great magnitude until 25 years later (Crompton and Howard, 2003). From 1995 to 2000, the market for stadium naming rights agreements exploded so much so that by 1997 one-third of the stadiums used by teams within the four major sports leagues had been named after corporations. Just five years after that, the number of corporately-named stadiums nearly doubled in

that almost 70% of all teams played in facilities named after a corporate sponsor. In total, the investment accounted for \$5 billion in annual revenues during that five year period. The latest numbers suggest that in the United States alone, an investment of over \$1.1 billion was committed by 44 companies in naming rights of sports venues in just one year—2006. Due to high saturation rates, limited opportunities, and high costs associated with facility naming rights, corporations have started to shift their targets to college sports facilities in recent years, a topic which will not be explored in this thesis (Chen and Zhang, 2011).

#### *Factors Associated with the Rise*

The dramatic increase in stadium building and refurbishing during the mid-1980s until the early 2000s can be one factor used to explain the proliferation of stadium naming rights deals. A total of 55 stadiums and arenas were built or refurbished between 1987 and 1999. Realizing that additional financial support was needed as public funding wouldn't meet the costs, politicians turned to corporations for sponsorships. Corporate sponsorships became an increasingly important part of a team's ability to build a stadium (Clark, Cornwell, and Pruitt, 2002).

With the rise of corporate sponsorships in the late 20<sup>th</sup> century, corporations began to acknowledge that investing in this sort of agreement allowed them to take advantage of the exposure that the stadium name would have as a “public attraction”. In fact, naming rights provided “24/7” brand exposure that could be especially appealing for companies with little or no brand recognition. It also became an attractive investment for established brands due to the long-term,

national exposure benefits that these deals can offer them as well (Crompton and Howard, 2003).

Expanding beyond just the straight naming rights agreement, these corporate sponsorship programs have evolved into multi-dimensional, integrated packages providing attractive benefits to corporate naming partners that have resulted in increased sales of these programs over the last 25 years. In addition to the exposure a company can receive based on the naming rights agreement, integrated packages provide corporations with a range of hospitality and media opportunities. With the rise of premium seating in these newly built or refurbished stadiums, companies have been given access to luxury suites as a method to entertain new and existing clients with the intent to increase sales and show a return on their investment (Clark, Cornwell, and Pruitt, 2002).

#### *Overall Trend*

The literature seems to indicate that because of this win-win situation between sports franchises and corporate America, stadium naming rights deals will continue to be used as a funding and marketing vehicle respectively. Each side will continue to be creative to ensure there is upside for both parties in each deal that is agreed upon.

### **Valuation of a Stadium Naming Rights Deal**

#### *Overview*

The rise of stadium naming rights agreements in the last 25 years has been accompanied with an exponential increase in the prices paid by corporations for

these sponsorship opportunities. According to Clark, Cornwell, and Pruitt (2002), the average annual price of a naming rights agreement just between the years of 1995 to 1999 almost quadrupled, from \$1.28 million to around \$4.8 million a year. In addition, between 1995 and 2002, the aggregate amount corporations had committed to place their company's name on sports venues exceeded an estimated \$3.5 billion. While it would be easy to say that stadium naming rights deals have increased across the United States as the data suggests, one major problem with valuing naming rights is its uniqueness for each franchise. Naming rights deals are not identical in that naming rights deals usually include more, often much more, than just the right to have a name placed on a building (Ashley and O'Hara, 2001). Ashley and O'Hara (2001) discuss three different methodologies of valuing intangible assets, which is worth discussing due to the range of benefits that could be incorporated into any of these deals. By focusing on the cost, income and market method techniques for valuing a sponsorship deal, my goal is to highlight traditional methods of valuation and point out inherent risks that corporations could face when making investments of this magnitude over a period of time.

#### *Cost Method Valuation*

The cost method seeks to calculate how much money would have to be spent in order to replicate, by other means, the precise value that would be obtained in a naming rights agreement. Theoretically, corporations would engage in these deals if the price for the agreement was less than or equal to the sum of all the benefits that one would receive. One major criticism of this approach is the inability to predict the value of future costs and revenue cash flows. Since all of the risk to the seller and



the buyer are not fully accounted for, it is almost impossible to determine all the costs that would be incurred. Since naming right contracts try to predict the amount of “impressions” that would occur if the corporation engaged in this sort of contract, the strength and success of the franchise (just to name a few) may provide different valuations for different contracts (Ashley and O’Hara, 2003, p.15-16).

#### *Income Method Valuation*

The income method seeks to compute all nominal income, present and future for any specific deal. Since an internal rate of return is known by the seller of the rights, the income approach provides a way to address risk since a figure is already known and desired by the seller. Regardless, a corporation has to agree on a mutual value between both parties, which brings up the probabilities associated with the number of customers that would view the name and advertisements in a positive light. Since forecasting is an issue, especially for deals with 20-30 year lifespans, corporation may have a tough time settling on a number that is mutually agreeable between both parties (Ashley and O’Hara, 2001, pg. 16).

#### *Market Value Method Valuation*

The market value approach tries to avoid the uncertainties and subjective inputs of the prior two strategies by looking for similar transactions of certain naming rights bundles and using them as a representative example for a present transaction. While this approach is very useful to eliminate some risks, it is still important to note that the value being compared to could be under- or over-value to a similar deal due to the assumptions that were made in giving a value to the initial deal. In addition, this method can be criticized because very few naming rights deals

are sufficiently similar and there are a small number of transactions in the marketplace to provide an accurate value for any one deal. Since franchises are in different locations and different perks are included in some deals and left out in others, it is almost impossible to find two comparable deals in a sufficient time window.

### *Main Idea*

For any prospective company looking to engage in a stadium naming rights agreement, they must realize there is an inherent risk that is worth noting before engaging in a contract that will last over a 20-30 year timeframe. While each valuation method tries to propose multiple ways to value any particular sponsorship contract in the United States, each contract is going to have its own unique factors such as the success of the franchise, location of the franchise, and number of consumers per year, just to name a few. Because of different factors that are involved, it makes it difficult to determine a standard valuation method for a sponsorship agreement. As mentioned by Weinberger (2009), a corporation needs to have expectations of what a realistic value would be over a long period of time in order to evaluate whether the sponsorship makes economic and marketing sense.

## **Impact of Consumer Viewpoints**

### *Overview*

A customer's viewpoint towards a particular franchise has a substantial impact on the success or failure of a company's investment in stadium naming rights. According to Chen and Zhang (2011), one major hurdle that companies must

understand fully is the viewpoint of the customer towards a specific sports franchise. In other words, the company must understand if a consumer has a concrete opinion about the perceived fit of a stadium name towards a franchise or strong team identification. By understanding this alignment-based strategy referenced by Haan and Shank (2004), venue-naming rights provide benefits far beyond a name or corporate symbol on a building. In fact, naming rights can be an effective strategy to influence consumer attitudes and purchases of the company's non-sports products. However, companies must understand that "the expected outcomes from a sponsorship event...can be contributed by stakeholders' or consumers' beliefs about the advantages and disadvantages of the sponsorship and their perceived importance" (Chen and Zhang, 2011, p. 108).

#### *Positive Effects*

A direct impact that major companies can realize in a stadium naming rights deal could be an increase in sales of the company's products in its respective industry. Close, Finney, and Sneath (2005) provided evidence on the effects of sponsorship on consumer preferences during a six-day sporting event sponsored by an automobile manufacturer. With a strong sample size, analysis of customer preferences revealed that more than half of the attendees had a more positive outlook of the company. In addition, those same attendees would be more likely to purchase from the select manufacturer in the future due to the success of the event. With a scarce amount of literature available on this concept of event analysis, this particular study does provide a snapshot of how consumer preferences may change due to the success of a sponsored event or venue. With additional research on

consumer preferences and increased sales figures, my thesis seeks to add to this particular area to provide conclusive results as to the direct effect a company can realize as a result of a stadium naming rights deal.

### *Negative Effects*

A company that does not successfully implement a stadium naming rights deal in the eyes of the consumer could create a negative image for itself and the sports franchise, leading to a loss of sales for both parties involved. In particular, one source provided a series of arguments as to why teams should not allow companies to invest in stadium naming rights deals while chronicling the rise of corporate naming rights for sports venues. One major idea presented was that the involvement of a company in a stadium would sacrifice the main identity factor that a consumer has to any particular franchise. These “identity statements” threaten consumer’s memory about a particular place and can threaten present and future ideas about sports that a fan would desire to maintain. Since a company relies on new and existing ticket holders to generate business for both parties, an effect on the consumer’s viewpoint of a franchise could have negative implications on both parties (Boyd, 2000).

Furthermore, it is important to note that in certain circumstances, the company has no control over particular variables that may impact how a consumer views the success of a particular naming rights agreement. During a potential 20-30 year agreement, a team’s record may vary from season to season and a negative trend in winning percentage over time may impact how a brand name is perceived by the consumer. Even though the company had no direct impact on the personnel

on the team, consumers may still correlate a team's struggle to corporate involvement with the franchise (Weinberger, 2009). In addition to a team's success, Backhaus, Haselhoff, and Woisetschlager (2014) determined that a fan's identification with a franchise (or stadium), attitude towards commercialization, and the perceived sponsorship fit could negatively impact how consumers view any given company. A company can push a significant amount of funds to try and convince consumers that the company is invested in the best interest of the franchise and its consumers, but strong opinions against any company may result in them wasting funds in a "lost cause" to change opinions and perceptions (Backhaus, Haselhoff, Woisetschlager, 2014).

## **Conclusions**

It is undeniable that facility naming rights agreements are one of the fastest growing and most valuable forms of sporting sponsorships. Over the last 50 years, stadium naming rights agreements have become a popular method for companies to invest with different sports franchises. Due to the oversaturation in the market today, one would assume that corporations have been able to obtain some value from these stadium naming rights agreements whether it's through increased sales, new customers, or a stream of income they can generate from this type of investment.

The rise of stadium naming rights agreements have raised the questions about appropriate techniques to evaluate and value each individual naming rights contract. As we have assessed through three different valuation techniques, there

are inherit risks that all companies will face if they want to participate in such partnership arrangements. In addition to the risks present in trying to create a fair value between two parties, the consumer's perception of the deal can have a serious impact on the corporation as well. For a 20-30 year period, a large sum of resources may be needed to sway a consumer to purchase one's product, but sometimes these investments are not translated into sales due to a number of different factors. In the end, corporations could ultimately take a hit based on consumer preferences, which could correlate to a corporation investing in stadium naming rights agreements that were not a "good fit" with the professional franchise, the corporation and the consumer. This literature review leads to the following question: "If there are so many inherit risks that corporations could face participating in stadium naming rights agreements, why has there been extreme growth in this industry over the last 25 years?" Through a number of techniques related to stock price analysis for franchises within each of the four major sporting industries in the United States, I seek to provide an explanation, with concrete evidence, that a company does realize positive indicators (such as the rise in its stock price) as a result of its action to enter into a naming rights agreement. These indicators will help explain the continued popularity of corporations willing to enter into this type of marketing and branding investment.

## **METHODOLOGY**

### **Introduction**

To evaluate whether companies receive any explicit value from stadium naming rights agreements, my thesis methodology focuses on the use of event-study analysis. In an event-study analysis, numerical values for a specific metric are compared before and after a specific event to determine the overall impact of that event. For this study, event-study analysis examines the impact of an event (a company entering into a stadium naming rights agreement) on the rate of return of that firm investing in this type of agreement.

For each company, I will obtain stock market information before and after the company entered into a stadium naming rights agreement, as these prices serve as an effective way to measure the economic impact of this action. As mentioned by Becker-Olson (2003), this particular method for analyzing stock prices is based on the idea of the efficient markets hypothesis, which states that all publicly available investment information is incorporated into the stock price for any given company. Additionally, I must assume that the stock market is efficient and the stock price on any given day is based on the ability of the investor to correctly and quickly incorporate all relevant publicly available information. By the end of the study, I hope to have a clearer understanding as to whether or not there is an impact these

naming right agreements have on the perceived value of a company that enters into them.

In what follows, I will layout the sample size of my analysis and its representation across the four major U.S. sporting categories. I will then discuss the evaluation metrics that I will use to come to conclusions regarding the value of stadium naming rights agreements to specific companies. Finally, I will address some key limitations that are associated with the results obtained and how it may affect my overall analysis and subsequent conclusions.

## **Sample Size**

For this study, I analyzed each of the 435<sup>1</sup> stadium names that have been used at any time between January 1970 - October 2014 by one (or more) of the 121 teams within any of the four major sports leagues in the United States and Canada to analyze naming rights agreement in any of the stadiums. Prior to the proliferation of naming rights agreements in 1970, there were a limited number of agreements that involved publicly traded companies with available stock prices. For this reason, and to ensure the availability of information for each member of the sample size, contracts within the time frame of January, 1970 to October, 2014 were analyzed. In the original sample set, there were 88 Major League Baseball (MLB) stadiums, 120 National Football League (NFL) stadiums, 108 National Hockey League (NHL) stadiums, and 79 National Basketball Association (NBA) stadiums. (For a comprehensive list of all 435<sup>1</sup> different stadiums used, refer to appendices A-D).

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<sup>1</sup> 435 does not take into account multiple teams using the same stadium, unique stadium names (described later) lowers the overall number



With the initial sample size of 435, each stadium name was evaluated in terms of the basis for the stadium name, the certainty of the announcement date for the naming of the stadium, and if the company sponsoring the naming rights of the stadium was either public or private. Since I was evaluating stock prices, the initial sample size was limited to 100 unique stadium names that had certain announcement dates and were unique naming right agreements, not continuations of previously existing naming rights agreement contracts. In addition, deals that involved name changes due to an acquisition of a company by another company with an existing naming rights agreement were not included in this data set since it was not a unique naming rights contract and the acquisition would influence the abnormal return calculated in the announcement day window.

With the 100 remaining stadium names in the refined sample, I evaluated each company and limited the sample to only companies that were publicly traded firms listed on either the New York Stock Exchange (NYSE) or the National Association of Securities Dealers Automated Quotations (NASDAQ), thus finalizing the sample size to 93 unique stadium names that have been under a stadium naming rights contract with a public firm between January, 1970 – October, 2014. This new sample size included 24<sup>2</sup> MLB contracts, 31<sup>2</sup> NFL contracts, 36<sup>2</sup> NHL contracts, and 31<sup>2</sup> NBA contracts

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<sup>2</sup> Sum does not add up to 93 since some stadiums are used by more than one team

## Evaluation Metrics

While the sample size has been clearly defined, there are two important characteristics that must be determined for each data set to ensure appropriate comparison standards. One of the first quantitative metrics that was noted was the date when the announcement took place. After looking through numerous credible news sources<sup>3</sup>, I had to eliminate companies and facilities where there was no concrete announcement date. As multiple news sources cover events of significance for days after an event's announcement, the news sources had to all be in agreement in order for the specific announcement date and that company were in the statistical analysis.

A second important characteristic was the date range of data that was collected for each sample set. For each of the 93 samples, daily return data for each publicly traded firm was calculated from daily historical prices obtained from the Center for Research in Security Prices (CRSP) from Wharton Research Data Services. The available literature offered no standardized or consistently reported period of time, so it was important that I determine a period of time that limited the effect of other major events on a company's stock prices. Based on this important characteristic, I followed the same methodology as Leeds et al. (2007), in that I used a period of around 13 months (~371 days) to determine the trend of stock prices before and after the significant announcement. To accomplish this, the first 320 days of the 395 day window were used to determine the trend of the stock and how the stock was expected to perform if the significant event did not take place. Since I had

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<sup>3</sup> Credible news sources include but are not limited to the *Wall Street Journal*, *Bloomberg*, *New York Times*, *USA Today*

to account for the possibility that the naming rights deal could have affected the firm's value prior to the date of the event, I made the assumption that from 44 days prior until 5 days prior to the deal being announced, some information may have leaked to investors and in turn had an influence on the stock price. The next 11 days were used to create a window for analysis as to how the stock price changed based on the given announcement. For the remaining 11 days, the stock price was then monitored to determine the trajectory of the stocks' prices and to compare the deviation that had/had not occurred in the stocks' prices to the period 365 days prior to the event. Each sample's 371 day historical price data set was then compared to the market returns of the same period to the Standard & Poors 500 (S&P 500) index to determine each firm's abnormal return using the windows created.

Similar to Leeds et al. (2007), for each announcement, I estimated the parameters of alpha and beta ( $\alpha$  and  $\beta$ ) of the stock compared to the market over the 325 days preceding the 11 day event window using a regression equation:

$$R_{S,n} = \alpha_S + \beta_S R_{M,n} + \varepsilon \quad (1)$$

In the previous equation,  $R_{S,t}$  is equal to the return of stock S on day n,  $\alpha_S$  and  $\beta_S$  are the alpha and beta statistics equal to the intercept and slope coefficient of the regression for stock S,  $R_{M,n}$  is the return of the market (S&P 500) on day t and  $\varepsilon$  is the regression error. Using the inputs and outputs of the previous equation, I was able to estimate the abnormal returns ( $AR_{S,n}$ ) for each stock S during each day n of the 11 day event window with the following equation:

$$AR_{S,n} = R_{S,n} - (\alpha_S + \beta_S R_{M,n}) \quad (2)$$

With abnormal return values for each of the 11 days within the event window, including the date of announcement of the naming rights agreement, I was able to construct four different event windows, three of which are multiple day periods listed in table 1.

**Table 1.** *Four Different Event Windows Used in Stock Market Event Study*

<b>Four Different Event Windows</b>	
<b>Description</b>	<b>Notation</b>
Announcement date of naming rights agreement	0
One day to and after the announcement date	-1, +1
Three days to and after the announcement date	-3, +3
Five days to and after the announcement date	-5, +5

For each of the three multiple day periods listed above, cumulative abnormal returns ( $CAR_{S,window}$ ) for each stock S were calculated to get the overall return over each respective period. The cumulative abnormal return for each window would just be the sum of the individual daily abnormal returns in the given window. In formulaic terms, if I were to calculate the cumulative abnormal return for the -1, +1 window, the calculation would be:

$$CAR_{S,-1,+1} = AR_{S,-1} + AR_{S,0} + AR_{S,+1} \quad (3)$$

It is important to note that the abnormal return of day 0 (the announcement date) will be the only value calculated for the first window as only one day is selected for that particular window.

## **Limitations**

After obtaining the empirical data and corresponding results from this evaluation technique, it is important to mention some drawbacks of this analytical

technique that could result in discrepancies in the data. First, it is important to mention that while these deals can range from the hundreds of thousands to thirty to forty million dollars, these values are relatively small for certain companies such as CitiGroup, whose 2014 revenue exceeded \$75 billion. Due to the relative amount of money invested in these agreements compared to the overall size of the firm, many companies may not have any incentives to keep these deals secret before the press release dates. If this premise is true, the deal may be leaked days or months in advance, thus diminishing the spikes that could occur on an announcement day from the press and the overall analysis using a stock price event analysis may not yield statistical results. With this particular study, a major assumption and limitation of this study is that on a particular announcement date, investors see this newsworthy event as a surprise to the market, and thus analysis using stock price event study metrics is validated. While it is rather difficult to understand whether or not each of the 93 deals underwent the same supervision in keeping the details of the deal secret, this study assumes each event was held as a private matter between only a small number of executives of the parties involved. By this assumption, any particular announcement day was a surprise to the market, and thus abnormal and cumulative abnormal return windows can provide sufficient evidence to determine the value of these deals to investors.

Secondly, an event analysis solely relies on the fact that there is a concrete date for the announcement of the naming rights deal to the public, which in turn would affect stock prices. While this situation would create an ideal analytical environment, news about a stadium naming rights announcement, in reality, could

flow through any number of distribution channels each with its own rate of transmission. For example, radio and internet news may reach the public faster than newspapers, magazines, or television, without even accounting for the selectivity of articles that are reported in any given day's paper or news outlet. In addition, news about the agreement may have been leaked out days in advance of the actual announcement, which would significantly impact the event-study analysis. In order to account for this uncertainty, a number of potential leakage periods will need to be analyzed to overcome this uncertainty. In this case, the data in the event-study analysis focuses only on an eleven day window so that I can account for an entire business week prior to the announcement to capture any leakage that may occur. In addition, I did not include the 40 day window from 45 days prior to 5 days prior of the event in my regression analysis of alpha and beta, in order to eliminate leakage influence on how each company's stock fluctuates with the S&P 500.

A third drawback to take into consideration is the length of time in which stock prices are used as part of the event analysis. Based on the window of time that is analyzed, the results could be significantly impacted to reflect a negative or positive correlation in stock prices based on day-to-day market fluctuations. A window that is too short may not have a large enough sample size to provide evidence for any major fluctuation in stock price. Conversely, a window that is too large may introduce additional factors that would affect the company's stock price. In particular, if a window is too long, the issue of confounding events can be brought into the equation as other major events and "newsworthy" items may have a significant impact on a given company or industry during the event window and

time of analysis. When looking at each company on a case by case basis, it was important to determine and qualify small news items from larger news items which could have drastic impacts on the stock valuation of the company. After careful evaluation of all 93 samples, I saw that there were no confounding events that occurred in the 11 day window I chose for this experiment. While other studies prior to mine have included all the way up to a 41 day window, I have decided to limit this window to a strict 11 day window, in order to see a direct result of how a company's abnormal return fluctuates in a short time frame related to this particular event.

A fourth drawback to take into account would be the use of only publicly-traded companies rather than both public and private companies that may be in similar industries. Since private companies make up roughly 60% of the companies that have current naming rights contracts in both the professional and collegiate levels, the sample size available to analyze represents only a small portion of the total population of companies that are interested in investing in stadium naming rights agreements. Due to the rise of large banks exploring this space in the last 10 years, the data may have points that have occurred anywhere from 5-10 years ago in comparison to the recent rise of contracts initiated by companies like Amway. Overall, this specific event-study analysis provided sufficient data as to whether or not a specific company realized a financial impact from investing in stadium naming rights.

## **RESULTS**

### **Announcement Date Returns**

When looking at each of the 93 samples in terms of its abnormal returns given on the announcement day by itself, only 15 of the samples or roughly 16% of the sample set showed at least a 10% significance level for the abnormal return data collected. In those 15 samples, 11 of the samples showed positive abnormal returns, meaning that those 11 companies received significant jumps in its stock price that is correlated only to the announcement, rather than the overall movement in the market on that given day. Appendix F reflects each company's abnormal return based on its end-of-day announcement price and the significance of each value based on t-tests calculated using the abnormal returns and its corresponding standard error.

Across the 15 samples that were significant at the 10% level, there were no clear patterns as to certain industries or dates that had positive or negative impacts to the announcement. In this select subset, the range of announcement dates vary from the earliest coming in mid-1989 to early 2014, which showed no significant date range that provided strong evidence for positive or negative influences for abnormal returns on stock prices. However, it is worth noting that 5 of the 6 deals



that have occurred within the last 10 years, regardless of league, showed a positive abnormal return that was significant about at least the 10% level. Regardless, there are a number of deals within this timeframe that did not produce significant abnormal return data, so this is merely an observation rather than a trend I have seen in the last ten years.

There are many different industries represented within this subset, the two industries that stand out in particular are transportation, airline, and banking, which have produced the most stadium naming rights agreements in the last ten years. Of the four major airlines present within the larger 93 sample set, 3 of the 5 were listed as significant value, and only two of the three showed positive returns, thus providing insufficient evidence for any major success given for the transportation industry in this area of marketing. The same amount of insufficient evidence is seen in the banking industry as it was split (two and two) in terms of positive and negative abnormal returns seen by different banks within the 44 year time span.

Finally, looking across the 15 significant companies that are listed in Appendix F, only 5 of the 22 stadiums that are listed in the original sample of being “multi-purpose” (being home to more than one franchise) are represented in the significant data set. This provides insignificant evidence to determine whether companies that invest in stadiums that house more than one professional team receive more value for their investment. Since only 23% of the stadiums that are used by more than one franchise are represented and that there is no clear positive or negative abnormal return data to support the additional value that a stock price

gains because of these agreements, it is inconclusive to determine whether companies should go after stadiums home to more than one franchise and be willing to pay a higher price tag for these venues.

### Different Period Analysis

After observing all teams across all four major sports leagues (MLB, NBA, NFL, and NHL) and among the four different time periods tested described in Table 1, there was no significant evidence that a company's stock price had major deviations away from market index movements for any one given time period or across four different time periods for any given league. Table 2 presents the abnormal returns and cumulative abnormal returns for the four different time periods tested categorized by the sports franchises that used each stadium.

**Table 2:** *Abnormal return data for four different windows tested*

Abnormal Return Data for Different Windows								
Period	Day 0		Days -1, +1		Days -3, +3		Days -5, +5	
League	Abnormal Return	T-Test	Abnormal Return	T-Test	Abnormal Return	T-Test	Abnormal Return	T-Test
MLB	0.00147	0.71	0.00633	1.45	0.00471	0.76	0.00945	0.43
NBA	-0.00243	-1.02	-0.00185	-0.87	-0.00983	-1.27	0.00036	0.22
NFL	-0.00578	-1.55	-0.01257	-2.32*	-0.01433	-1.43	-0.01244	-0.97
NHL	0.00095	0.67	-0.00122	-0.32	0.00321	0.53	0.00423	0.13
Total	0.00487	0.20	-0.00213	-0.56	-0.00451	0.21	-0.00059	0.44

Among the twenty unique data points in the four periods tested, only one cumulative abnormal return data point provided to be significant. Across a three-day window, companies investing in the National Football League saw a negative cumulative abnormal return of about 1%. While it may be due to chance that this one value was significant compared to the rest of the values, the other t-tests among

the three other windows showed higher significance levels than any other league across the four periods, even though they were not significant above the 10% level. While the data suggests that there is no significance behind any of the abnormal return data, the National Football League data has the highest significant abnormal return data based on the t-statistics for each window, and on average the lowest abnormal return of any league in any of the four windows. One possible hypothesis to explain this data is based on the season length of the NFL in comparison to any other league. While each team in the MLB plays 162 games, and 82 games for the NBA and NHL, each NFL team only play 16 games in any given season (and even fewer in its history), thus providing the company with a significant disadvantage in promoting its brand to consumers throughout the year. This limited amount of brand exposure could make the value of stadium naming rights in this league not worth the high value that franchises set for their respective home fields, and could explain the high turnover of companies that invest within the National Football League.

### **Independent Variable Analysis**

Since neither the abnormal return values nor the cumulative abnormal return values yielded any significant and consistent result for any of the periods tested, regression analysis was performed on the 93 samples in this study to further analyze additional factors related to each agreement to see if any variable had any significant impact on the [cumulative] abnormal return values and the corresponding t-statistics. This particular regression (output is summarized in table

3) focused on trying to find a correlation between t-statistic values of the sample set and [dummy] values for 13 different independent variables. The first two variables were related to the location of a company's world headquarters to the location of the stadium naming right agreement, and the following one analyzed the population within the given city that the venue is located. Six different industries were represented to see if there was a correlation between the significance of the abnormal return and the industry of the company. Finally, the remaining four independent variables represented deals in each one of the four major sports leagues investigated within the sample set (MLB, NBA, NFL, NHL).

**Table 3:** *Individual variables tested and the respective coefficient and t-statistics for each sample in the sample size via regression analysis.*

Regression Analysis of Specific Independent Variables Test Against T-Statistics of Sample Set								
Period	Day 0		Days -1, +1		Days -3, +3		Days -5, +5	
Variable Tested	Coefficient	T-Test	Coefficient	T-Test	Coefficient	T-Test	Coefficient	T-Test
Same City	<u>-0.44572</u>	<u>-1.73</u>	<u>-0.10456</u>	<u>-1.69</u>	-0.20485	-1.09	-0.13850	-1.20
Same State	0.11694	0.45	0.06954	0.32	0.07923	0.12	0.04678	0.23
Population	-0.000001	-0.34	0.000001	0.43	0.000001	0.56	0.000001	0.20
Financial	-0.04119	-0.78	-0.05967	-0.43	-0.03495	-0.56	-0.04493	-0.64
Telecomm.	-0.15808	-0.23	-0.11089	-0.45	-0.08954	-0.55	-0.07533	-0.58
Energy	-0.36488	-0.54	-0.21184	-0.65	-0.11640	-0.34	-0.13704	-0.26
Airline	0.23934	0.60	0.49801	0.71	0.32953	0.62	0.34894	0.52
Auto Manu.	-0.41785	-0.89	-0.28032	-0.43	-0.19452	-0.41	-0.06940	-0.56
Retail	<u>0.22067</u>	<u>1.88</u>	<u>0.16034</u>	<u>1.67</u>	0.14821	1.43	0.13834	0.89
MLB	0.14764	1.12	0.15090	0.99	0.11246	0.87	0.10457	0.58
NBA	0.03912	0.76	0.02095	0.43	0.07937	0.56	0.04410	0.41
NFL	<u>-0.26842</u>	<u>-2.32</u>	<u>-0.24089</u>	<u>-2.15</u>	<u>-0.21198</u>	<u>-1.89</u>	<u>-0.20987</u>	<u>-1.70</u>
NHL	0.06794	0.88	0.04921	0.62	0.08943	0.65	0.06781	0.55

After analysis of 13 different variables tested via regression against t-statistics of each of the 93 samples, three variable showed significant coefficients for two different windows tested, while one variable, NFL, showed significant coefficients for all four windows tested. Among the three variables that showed

significant results, one of them was related to geographic location of the headquarters, in relation to the venue under the naming rights agreement. It is interesting to note that while not significant among all four windows, having a company's corporate headquarters in the same city as the venue under a naming rights agreement had a negative impact on the t-statistic for abnormal return values for the given company within a 10% significance level. While one may suggest that a strong presence in a given area could strengthen the value of a company and its image related to linking a venue with a strong brand image, evidence has suggested that idea may be challenged, even though statistically significant results were not seen throughout the four windows tested. In addition to this particular variable, regression analysis showed the positive effect that a company in the general retail industry had on the t-statistic for the abnormal return values of a given company. While only significant for half of the windows tested and generally categorized by products, retail companies provided an overall trend of positively affecting t-statistics related to abnormal return values for companies in this particular industry. However, due to the nature that neither of the remaining five industries nor the retail industry provided significant insight as to an overall trend in each of the four windows, it is hard to conclusively say that companies with the general retail industry have higher, significant returns in stock prices than companies in other industries represented in this study.

One of the most interesting findings using the regression analysis was the strong negative correlation and significance found when correlating t-statistics related to abnormal returns for companies that have stadium naming rights for NFL

venues for each of the windows tested. In conjunction with the values obtained in the different period analysis in table two and the negative correlation with the t-statistic and its significance in table 3, I have found further support that NFL stadium naming rights agreements on average have negative impacts on abnormal return values for companies that invest within that league. Whether it is related to season length as described above, the higher value of contracts on average, geographic factors, or other factors remains to be unsolved. However, this unique sample size of 93 unique stadium naming rights agreements has found that there may be a correlation (above the 10% significance level) between NFL stadium naming rights agreements and negative abnormal return values that are obtained by companies that invest within this space.

Regardless of the preceding hypothesis, the 93 stadium sample set has provided a limited amount of significant information regarding overall positive or negative trends in terms of stock prices for each individual company. While no particular industry has had major success in this space in the last 44 years, no particular league of the four investigated has provided particular evidence that it can provide companies with positive returns on investment if a company decides to partner with a franchise and purchase a naming rights agreement for a period of time. While I have only investigated a small, 11-day window as my maximum window of analysis for the announcement, data and insight about stock market event-study analysis provides evidence that a larger window in time will provide sufficient evidence to suggest that a larger window of time would provide evidence regarding overall trends in stock prices for these companies. Since other

confounding events (releases of 10-K reports, M&A activity, major news events, etc...) may effect abnormal returns outside of this window, the relative size of these window has provided enough data points to form a conclusion behind the positive impact that these deals can bring any particular public company.

## **CONCLUSION**

### **Recap of Results and Analysis**

Through investigation of every stadium used by a major league teams in one of the four major sports in the United States (MLB, NBA, NFL, and NHL), my research data suggests that public companies that invest in stadium naming rights for any franchise do not obtain direct value increases that are apparent in stock price increases. Using an 11-day window, abnormal and cumulative abnormal returns for any company or league did not produce consistent significant results to reject the null hypothesis in that companies don't receive value from these investments in its stock prices.

After limiting the original sample size to 93 unique stadiums, analysis of the stock prices using a stock price event study methodology provided only 15 abnormal returns that were statistically significant based on the announcement day "end-of-day" stock price by each company. In addition, further analysis showed that using a 1-, 3-, 7-, or 11-day window to compute cumulative abnormal return for each company's stock price did not produce an overall trend of positive or negative returns for any company in each of those four windows. While it is apparent that these naming rights agreements are rather expensive investments, there seems to have some benefit to the company in terms of increased market exposure that is worth spending millions a year for ten to twenty years. However, stock price



analysis shows that over a 44-year time frame, there isn't significant evidence to suggest that these companies gain any value in terms of increases in stock prices.

### **Additional Food for Thought**

Within the small sample size of 93 stadiums used for the majority of the analysis, it is hard to understand why a number of different companies tend to have more than just one naming rights agreement in professional sports. In fact, nine companies, including AT&T, American Airlines, and FedEx to name a few, have more than one stadium naming rights agreement, which is not the same thing as multiple teams using the same facility. With no empirical evidence to back up their actions, why do companies seem to invest in more than one stadium naming rights agreement? Rationality suggests that they must receive a benefit of some sort in order for a company to propose a second agreement, otherwise intuition suggests that those strategies that negatively impact a company would be scratched at the end of the contract or immediately to prevent further losses.

With this idea in mind, I have postulated two ideas that would try to explain these phenomena and thus need further investigation to truly understand if these ideas are the root cause of additional naming rights agreements. First, a company may have a strong brand name in a particular region of the United States and want to capitalize on its continued success within a region to market and provide additional services and investment into an area to continue success in that region. With this idea, I offer the example of Target Corporation, which on September 15<sup>th</sup>, 2008, agreed to a new stadium naming rights agreement for Target Field (home of

the Minnesota Twins), in addition to maintaining and expanding the agreement originally announced in August of 1990 for Target Center (home of the Minnesota Timberwolves). Given that the abnormal return data for Target Corporation on the day of the announcement was positive (but not significant), Target must have had success in some aspect to decide to partner with a different sports franchise in a different league, but within the state of Minnesota. While almost every other company that has invested in a second stadium naming rights agreement has moved on to different cities and states, it is worth further investigation to understand why some companies, such as Target, have such a large involvement in geographic specific regions that could have a positive impact on not just on the franchise or the people of Minnesota, but brand awareness and overall increase in stock price value for shareholders.

A second idea that comes to mind to help explain this increase over the last couple of years must be the benefits that are not directly related to stock price, namely the perks and benefits that are given to executives or high level employees that could positively impact their relationship with high net worth or important clients. Based on the fact that banks have invested more than \$2 billion worth of naming rights contracts since 1998 (Bhasin, 2011), banks must use these agreements as a way to “entertain” or continue to receive new clients based on additional perks and services they can provide to its high net worth clients. With the ability to access several perks such as private suites, meet-and-greet opportunities, and special events such as private dinners, banks could view this as a differentiator among its competitors within the industry and can utilize this advantage to maintain

and grow its network of clients. While these benefits may not directly lead to an increase in stock prices or shareholder value, over the long term banks could use these perks over the next 10 to 20 years to maintain strong existing relationships and create new ones, thus increasing the overall assets of the company and the shareholder value in its stock price over time.

### **Future Research**

While this sample of 93 stadiums used over a 44-year span provides an insignificant amount of evidence to truly understand the value that naming rights agreements bring to a company, I do believe that further research on this topic can be done to obtain higher sample sizes of data and more data points over time to provide more conclusive results on this issue.

First, this study focuses particularly on public companies due to the availability of stock prices but a significant portion of companies that invest in these contracts are private and therefore are important data points that must be considered. While stock market event-study analysis limits use of private company information, it is necessary for one to have an understanding of private companies in this space and how they fair in these agreements. While this data is not readily available and would be hard to gather in the future, private companies do make up a strong percentage of naming rights agreements in the market today and would not be reflective of the overall market in this space if attention is not drawn as to how these companies fair in this space as well.

Second, while I used stock prices to understand whether or not any given company on a particular naming rights agreement obtained value in a short window, it is not the only method in which one could derive and understand if companies obtain value from these agreements. The use of consumer surveys, brand awareness measurements, and other financial metrics (such as revenues) would be additional methods that could be employed to get a better picture on what, if any, value is obtained from these naming rights agreements. If a customer feels more connected with a brand, has better brand awareness and feels more compelled to shop at any given store, these measurements could provide strong evidence to support the large sum of money companies pour into stadium naming rights agreements for sports franchises, not even including the recent rise of college stadium naming rights agreements as well. While additional financial metrics may be hard to attribute to any one given event over a quarter or a year, additional results in these fields could provide evidence for or against the argument that companies do receive value for investing in stadium naming rights agreements.

Finally, it is important to note that we are currently situated in a time where stadium naming rights agreements are rising at an unprecedented rate and are expanding to new frontiers such as college sports, and even overseas. While this dataset was limited to only four professional leagues within the United States, time will yield the opportunity to broaden the sample size thus providing more data that can be explored using similar or different techniques in the future. While a majority of the literature today contains relatively small sample sizes of public companies that have invested in stadium naming rights, the next 20-30 years could provide

twice as much data if not more in additional markets that are worth exploring. With the popularity of stadium naming rights agreements, there is no doubt that over time, researchers will be able to gain a clearer perspective on whether or not value can be obtained by companies who invest in stadium naming rights agreements. But for the last 44 years with limited data to analyze, evidence shows that there is insufficient evidence to prove whether or not public companies obtain economic value through stock prices based on stadium naming rights agreements.

**APPENDIX A: LIST OF ALL MAJOR LEAGUE BASEBALL TEAMS AND  
CORRESPONDING STADIUMS USED BETWEEN  
JANUARY 1970 AND OCTOBER 2014**

<b><u>Team Name</u></b>	<b><u>Stadium</u></b>	<b><u>Years Used</u></b>
<b>Arizona Diamondbacks</b>	Bank One Ballpark	1998-2005
	Chase Field	2006-2014
<b>Atlanta Braves</b>	Atlanta Stadium	1966-1975
	Atlanta-Fulton County Stadium	1976-1996
	Turner Field	1997-Present
<b>Baltimore Orioles</b>	Memorial Stadium	1954-1991
	Oriole Park at Camden Yards	1992-Present
<b>Boston Red Sox</b>	Fenway Park	1912-Present
<b>Chicago Cubs</b>	Wrigley Field	1927-2014
<b>Chicago White Sox</b>	White Sox Park	1911-1912, 1962-1975
	Comiskey Park I	1913-1961, 1976-1990
	Comiskey Park II	1991-2002
	U.S. Cellular Field	2003-Present
<b>Cincinnati Reds</b>	Riverfront Stadium	1970-1995
	Cinergy Field	1996-2002
	Great American Ball Park	2003-Present
<b>Cleveland Indians</b>	Cleveland Stadium	1936-1993
	Jacobs Field	1994-2007
	Progressive Field	2008-Present
<b>Colorado Rockies</b>	Mile High Stadium	1993-1994
	Coors Field	1995-Present
<b>Detroit Tigers</b>	Tiger Stadium	1961-1999
	Comerica Park	2000-Present
<b>Houston Astros</b>	Astrodome	1965-1999
	Enron Field	2000-2001
	Minute Maid Park	2002-Present
<b>Kansas City Royals</b>	Municipal Stadium	1969-1972
	Royals Stadium	1973-1992
	Kauffman Stadium	1993-Present
<b>Los Angeles</b>	Anaheim Stadium	1966-1997

<b>Angels of Anaheim</b>	Edison Field	1998-2003
	Angel Stadium of Anaheim	2004-Present
<b>Los Angeles Dodgers</b>	Dodger Stadium	1962-Present
<b>Miami Marlins</b>	Joe Robbie Stadium	1993-1996
	Pro Player Stadium	1997-2004
	Dolphin[s] Stadium	2005-2008
	Land Shark Stadium	2009
	Sun Life Stadium	2010-2011
	Marlins Park	2012-Present
<b>Milwaukee Brewers</b>	County Stadium	1970-2000
	Miller Park	2001-Present
<b>Minnesota Twins</b>	Metropolitan Stadium	1961-1981
	Hubert H. Humphrey Metrodome	1982-2009
	Target Field	2010-Present
<b>New York Mets</b>	Shea Stadium	1964-2008
	Citi Field	2009-Present
<b>New York Yankees</b>	Yankee Stadium I	1923-1973
	Shea Stadium	1974-1975
	Yankee Stadium II	1976-2008
	Yankee Stadium III	2009-Present
<b>Oakland Athletics</b>	Oakland-Alameda County Coliseum	1968-1997, 2009-2010
	Network Associates Coliseum	1998-2004
	McAfee Coliseum	2005-2008
	O.co Coliseum	2011-Present
<b>Philadelphia Phillies</b>	Connie Mack Stadium	1953-1970
	Veterans Stadium	1971-2003
	Citizens Bank Park	2004-Present
<b>Pittsburgh Pirates</b>	Forbes Field	1909-1970
	Three Rivers Stadium	1970-2000
	PNC Park	2001-Present
<b>San Diego Padres</b>	San Diego Stadium	1969-1980
	Jack Murphy Stadium	1981-1996
	Qualcomm Stadium	1997-2003
	Petco Park	2004-Present

<b>San Francisco Giants</b>	Candlestick Park	1960-1995
	3Com Park	1996-1999
	Pacific Bell Park	2000-2003
	SBC Park	2004-2005
	AT&T Park	2006-Present
<b>Seattle Mariners</b>	Kingdome	1977-1999
	Safeco Field	1999-2014
<b>St. Louis Cardinals</b>	Busch Stadium I	1953-1966
	Busch Stadium II	1966-2005
	Busch Stadium III	2006-Present
<b>Tampa Bay Rays</b>	Tropicana Field	1998-Present
<b>Texas Rangers</b>	Robert F. Kennedy Stadium	1969-1971
	Arlington Stadium	1972-1993
	The Ballpark in Arlington	1994-2004
	Ameriquet Field	2005-2007
	Rangers Ballpark in Arlington	2008-2013
	Globe Life Park in Arlington	2014-Present
<b>Toronto Blue Jays</b>	Exhibition Stadium	1977-1988
	SkyDome	1989-2004
	Rogers Centre	2005-Present
<b>Washington Nationals</b>	Parc Jarry	1969-1976
	Stade Olympique	1977-2004
	Robert F. Kennedy Stadium	2005-2007
	Nationals Park	2008-Present



**APPENDIX B: LIST OF ALL NATIONAL BASKETBALL ASSOCIATION TEAMS AND  
CORRESPONDING STADIUMS USED BETWEEN  
JANUARY 1970 AND OCTOBER 2014**

<b><u>Team Name</u></b>	<b><u>Stadium</u></b>	<b><u>Years Used</u></b>
<b>Atlanta Hawks</b>	Alexander Memorial Stadium	1968-1972
	Omni Coliseum	1972-1997
	Georgia Dome	1997-1999
	Philips Arena	1999-Present
<b>Boston Celtics</b>	Boston Garden	1946-1995
	FleetCenter	1995-2005
	TD Banknorth Garden	2005-2009
	TD Garden	2009-Present
<b>Brooklyn Nets</b>	Island Garden	1969-1972
	Nassau Veterans Memorial Coliseum	1972-1977
	Rutgers Athletic Center	1977-1981
	Brendan Byrne Arena	1981-1996
	Continental Airlines Arena	1996-2007
	Izod Center	2007-2010
	Prudential Center	2010-2012
	Barclays Center	2012-Present
<b>Charlotte Hornets</b>	Charlotte Coliseum	1988-2002, 2004-2005
	Charlotte Bobcats Arena	2005-2008
	Time Warner Cable Arena	2008-Present
<b>Chicago Bulls</b>	Chicago Stadium	1967-1994
	United Center	1994-Present
<b>Cleveland Cavaliers</b>	Cleveland Arena	1970-1974
	Coliseum at Richfield	1974-1994
	Gund Arena	1994-2005
	Quicken Loans Arena	2005-Present
<b>Dallas Mavericks</b>	Reunion Arena	1980-2001
	American Airlines	2001-Present

	Center	
<b>Denver Nuggets</b>	Denver Arena Auditorium	1967-1975
	McNichols Sports Arena	1975-1999
	Pepsi Center	1999-Present
<b>Detroit Pistons</b>	Cobo Arena	1961-1978
	Pontiac Silverdome	1978-1988
	The Palace of Auburn Hills	1988-Present
<b>Golden State Warriors</b>	Cow Palace	1966-1971
	Oakland-Alameda County Coliseum	1971-1996
	San Jose Arena	1996-1997
	The Arena in Oakland	1997-2005
	Oakland Arena	2005-2006
	Oracle Arena	2006-Present
<b>Houston Rockets</b>	San Diego Sports Arena	1967-1971
	Hofheinz Pavilion	1971-1975
	The Summit	1975-1997
	Compaq Center	1998-2003
	Toyota Center	2003-Present
<b>Indiana Pacers</b>	Indiana State Fair Coliseum	1967-1974
	Market Square Arena	1974-1999
	Conseco Fieldhouse	1999-2011
	Bankers Life Fieldhouse	2011-Present
<b>Los Angeles Clippers</b>	Buffalo Memorial Auditorium	1970-1978
	San Diego Sports Arena	1978-1984
	Los Angeles Memorial Sports Arena	1984-1999
	Staples Center	1999-Present
<b>Los Angeles Lakers</b>	The Forum	1967-1987
	Great Western Forum	1988-1999
	Staples Center	1999-Present
<b>Memphis Grizzlies</b>	General Motors Place	1995-2001
	Pyramid Arena	2001-2004
	FedEx Forum	2004-Present

<b>Miami Heat</b>	Miami Arena	1988-1999
	American Airlines Arena	2000-Present
<b>Milwaukee Bucks</b>	Milwaukee Arena	1968-1974
	MECCA Arena	1974-1988
	Bradley Center	1988-2012
	BMO Harris Bradley Center	2012-Present
<b>Minnesota Timberwolves</b>	Hubert H. Humphrey Metrodome	1989-1990
	Target Center	1990-Present
<b>New Orleans Pelicans</b>	New Orleans Arena	1999-2014
	Smoothie King Center	2014-Present
<b>New York Knicks</b>	Madison Square Garden (IV)	1968-Present
<b>Oklahoma City Thunder</b>	Seattle Center Coliseum	1967-1978, 1985-1994
	Kingdome	1978-1985
	Tacoma Dome	1994-1995
	KeyArena at Seattle Center	1995-2007
	Ford Center	2008-2010
	Oklahoma City Arena	2010-2011
	Chesapeake Energy Arena	2011-Present
<b>Orlando Magic</b>	Orlando Arena	1989-2000
	TD Waterhouse Centre	2000-2006
	The Arena in Orlando	2006
	Amway Arena	2006-2010
	Amway Center	2010-Present
<b>Philadelphia 76ers</b>	The Spectrum	1967-1994
	CoreStates Spectrum	1994-1998
	First Union Spectrum	1998-2003
	Wachovia Spectrum	2003-2009
	Wells Fargo Center	2010-Present
<b>Phoenix Suns</b>	Arizona Veterans Memorial Coliseum	1968-1992
	America West Arena	1992-2006
	US Airways Arena	2006-2015
<b>Portland Trail</b>	Memorial Coliseum	1970-1995

<b>Blazers</b>	Rose Garden Arena	1995-2013
	Moda Center	2013-Present
<b>Sacramento Kings</b>	Cincinnati Gardens	1957-1972
	Municipal Auditorium	1972-1974
	Kemper Arena	1974-1985
	Sacramento Sports Arena	1985
	ARCO Arena (I)	1985-1988
	ARCO Arena (II)	1988-2011
	Power Balance Pavilion	2011-2012
	Sleep Train Arena	2012-Present
<b>San Antonio Spurs</b>	Dallas Memorial Auditorium	1967-1973
	Moody Coliseum	1967-1973
	HemisFair Arena	1973-1993
	Alamodome	1993-2002
	AT&T Center	2002-Present
<b>Toronto Raptors</b>	SkyDome	1995-1999
	Air Canada Centre	1999-Present
<b>Utah Jazz</b>	Municipal Auditorium	1974-1975
	Louisiana Superdome	1975-1979
	Salt Palace	1979-1991
	Delta Center	1991-2006
	EnergySolutions Arena	2006-Present
<b>Washington Wizards</b>	Baltimore Civic Center	1963-1973
	Capital Centre	1973-1993
	USAir Arena	1993-1996
	US Airways Arena	1996-1997
	MCI Center	1997-2006
	Verizon Center	2006-Present

**APPENDIX C: LIST OF ALL NATIONAL FOOTBALL LEAGUE TEAMS AND  
CORRESPONDING STADIUMS USED BETWEEN  
JANUARY 1970 AND OCTOBER 2014**

<b><u>Team Name</u></b>	<b><u>Stadium</u></b>	<b><u>Years Used</u></b>
<b>Arizona Cardinals</b>	Busch Stadium II	1966-1987
	Sun Devil Stadium	1988-2005
	Cardinals Stadium	2006
	University of Phoenix Stadium	2006-Present
<b>Atlanta Falcons</b>	Atlanta-Fulton County Stadium	1966-1991
	Georgia Dome	1992-Present
<b>Baltimore Ravens</b>	Memorial Stadium	1996-1997
	Ravens Stadium at Camden Yards	1998, 2003
	PSINet Stadium	1999-2002
	M&T Bank Stadium	2003-Present
<b>Buffalo Bills</b>	War Memorial Stadium	1960-1972
	Rich Stadium	1973-1997
	Ralph Wilson Stadium	1998-Present
<b>Carolina Panthers</b>	Frank Howard Field at Memorial Stadium	1995
	Carolinas Stadium	1996
	Ericsson Stadium	1996-2004
	Bank of America Stadium	2005-Present
<b>Chicago Bears</b>	Wrigley Field	1921-1970
	Soldier Field	1971-2001
	Memorial Stadium	2002
	Soldier Field	2003-Present
<b>Cincinnati Bengals</b>	Riverfront Stadium	1970-1996
	Cinergy Field	1997-1999
	Paul Brown Stadium	2000-Present
<b>Cleveland Browns</b>	Cleveland Municipal Stadium	1946-1995
	Cleveland Browns Stadium	1999-2012
	FirstEnergy Stadium	2013-Present
<b>Dallas Cowboys</b>	Cotton Bowl	1960-1971
	Texas Stadium	1971-2008

	Cowboys Stadium	2009-2013
	AT&T Stadium	2013-Present
<b>Denver Broncos</b>	Mile High Stadium	1969-2000
	INVESCO Field at Mile High	2001-2011
	Sports Authority Field at Mile High	2012-Present
<b>Detroit Lions</b>	Tiger Stadium	1961-1974
	Pontiac Silverdome	1975-2001
	Ford Field	2002-Present
<b>Green Bay Packers</b>	Lambeau Field	1966-Present
<b>Houston Texans</b>	Reliant Stadium	2002-2013
	NRG Stadium	2014-Present
<b>Indianapolis Colts</b>	Memorial Stadium	1953-1983
	Hoosier Dome	1984-1993
	RCA Dome	1994-2007
	Lucas Oil Stadium	2008-Present
<b>Jacksonville Jaguars</b>	Jacksonville Municipal Stadium	1995-1997, 2007-2009
	Alltel Stadium	1997-2006
	EverBank Field	2010-Present
<b>Kansas City Chiefs</b>	Municipal Stadium	1963-1971
	Arrowhead Stadium	1972-Present
<b>Miami Dolphins</b>	Miami Orange Bowl	1966-1986
	Joe Robbie Stadium	1987-1995
	Pro Player Stadium	1996-2004
	Dolphin[s] Stadium	2005-2009
	Land Shark Stadium	2009-2010
	Sun Life Stadium	2011-Present
<b>Minnesota Vikings</b>	Metropolitan Stadium	1961-1981
	Hubert H. Humphrey Metrodome	1982-2009
	Mall of America Field at the Hubert H. Humphrey Metrodome	2010-2013
	TCF Bank Stadium	2014-2015
<b>New England Patriots</b>	Harvard Stadium	1970
	Schaefer Stadium	1971-1982

	Sullivan Stadium	1983-1989
	Foxboro Stadium	1990-2001
	CMGI Field	2002
	Gillette Stadium	2002-Present
<b>New Orleans Saints</b>	Tulane Stadium	1967-1974
	Louisiana Superdome	1975-2011
	Mercedes-Benz Superdome	2012-Present
<b>New York Giants</b>	Yankee Stadium	1956-1973
	Yale Bowl	1973-1974
	Shea Stadium	1975
	Giants Stadium	1976-2009
	New Meadowlands Stadium	2010
	MetLife Stadium	2011-Present
<b>New York Jets</b>	Shea Stadium	1964-1983
	Giants Stadium	1984-2010
	New Meadowlands Stadium	2010
	MetLife Stadium	2011-Present
<b>Oakland Raiders</b>	Oakland-Alameda County Coliseum	1966-1981, 1995-1999, 2008-2011
	Los Angeles Memorial Coliseum	1982-1994
	Network Associates Coliseum	1999-2004
	McAfee Coliseum	2004-2008
	O.co Coliseum	2012-Present
<b>Philadelphia Eagles</b>	Franklin Field	1958-1970
	Veterans Stadium	1971-2002
	Lincoln Financial Field	2003-Present
<b>Pittsburgh Steelers</b>	Three Rivers Stadium	1970-2000
	Heinz Field	2001-Present
<b>San Diego Chargers</b>	San Diego Stadium	1967-1980
	Jack Murphy Stadium	1981-1997
	Qualcomm Stadium	1997-Present
<b>San Francisco 49ers</b>	Kezar Stadium	1946-1970
	Candlestick Park	1971-1994, 2009-2013
	3Com Park	1995-2002
	San Francisco Stadium at	2003-2004

	Candlestick Point	
	Monster Park	2004-2008
	Levi's Stadium	2014-Present
<b>Seattle Seahawks</b>	Kingdome	1976-1999
	Husky Stadium	2000-2001
	Seahawks Stadium	2002-2004
	Qwest Field	2004-2011
	CenturyLink Field	2012-Present
<b>St. Louis Rams</b>	Los Angeles Memorial Coliseum	1946-1979
	Anaheim Stadium	1980-1994
	Busch Stadium II	1995
	Trans World Dome	1995-2001
	Dome at America's Center	2001
<b>Tampa Bay Buccaneers</b>	Edward Jones Dome	2001-Present
	Tampa Stadium	1976-1995
	Houlihan's Stadium	1996-1997
<b>Tennessee Titans</b>	Raymond James Stadium	1998-Present
	Houston Astrodome	1968-1996
	Liberty Bowl Memorial Stadium	1996-1998
	Vanderbilt Stadium	1998-1999
	Adelphia Coliseum	1999-2001
	The Coliseum	2002-2006
<b>Washington Redskins</b>	LP Field	2006-Present
	RFK Stadium	1969-1996
	Jack Kent Cooke Stadium	1997-1999
	FedEx Field	1999-Present



**APPENDIX D: LIST OF ALL NATIONAL HOCKEY LEAGUE TEAMS AND  
CORRESPONDING STADIUMS USED BETWEEN  
JANUARY 1970 AND OCTOBER 2014**

<b><u>Team Name</u></b>	<b><u>Stadium</u></b>	<b><u>Years Used</u></b>
<b>Anaheim Ducks</b>	Pond of Anaheim	1993
	Arrowhead Pond of Anaheim	1993-2006
	Honda Center	2006-Present
<b>Arizona Coyotes</b>	Winnipeg Arena	1972-1996
	America West Arena	1996-2003
	Glendale Arena	2003-2006
	Jobing.com Arena	2006-2014
	Gila River Arena	2014-Present
<b>Boston Bruins</b>	Boston Garden	1928-1995
	FleetCenter	1995-2005
	TD Banknorth Garden	2005-2009
	TD Garden	2009-Present
<b>Buffalo Sabres</b>	Buffalo Memorial Auditorium	1970-1996
	Marine Midland Arena	1996-1999
	HSBC Arena	2000-2011
	First Niagara Center	2011-Present
<b>Calgary Flames</b>	Omni Coliseum	1972-1980
	Stampede Corral	1980-1983
	Olympic Saddledome	1983-1995
	Canadian Airlines Saddledome	1995-2000
	Pengrowth Saddledome	2000-2010
	Scotiabank Saddledome	2010-Present
<b>Carolina Hurricanes</b>	Hartford Civic Center	1975-1978, 1980-1997
	Springfield Civic Center	1978-1980
	Greensboro Coliseum	1997-1999
	Raleigh Entertainment & Sports Arena	1999-2002
	RBC Center	2002-2012

	PNC Arena	2012-Present
<b>Chicago Blackhawks</b>	Chicago Stadium	1929-1994
	United Center	1995-Present
<b>Colorado Avalanche</b>	Quebec Coliseum (Colisee de Quebec)	1972-1995
	McNichols Sports Arena	1995-1999
	Pepsi Center	1999-Present
<b>Columbus Blue Jackets</b>	Nationwide Arena	2000-Present
<b>Dallas Stars</b>	Met Center	1967-1993
	Reunion Arena	1993-2001
	American Airlines Center	2001-Present
<b>Detroit Red Wings</b>	Olympia Stadium	1927-1979
	Joe Louis Arena	1979-Present
<b>Edmonton Oilers</b>	Edmonton Gardens	1972-1974
	Northlands Coliseum	1974-1995
	Edmonton Coliseum	1995-1998
	Skyreach Centre	1998-2003
	Rexall Place	2003-Present
<b>Florida Panthers</b>	Miami Arena	1993-1998
	Broward County Civic Arena	1998
	National Car Rental Center	1998-2002
	Office Depot Center	2002-2005
	BankAtlantic Center	2005-2012
	BB&T Center	2012-Present
<b>Los Angeles Kings</b>	The Forum	1967-1988
	Great Western Forum	1989-1999
	Staples Center	1999-Present
<b>Minnesota Wild</b>	Xcel Energy Center	2000-Present
<b>Montreal Canadiens</b>	Montreal Forum	1926-1996
	Molson Centre	1996-2002
	Bell Centre	2002-Present
<b>Nashville Predators</b>	Nashville Arena	1996-1999, 2007, 2010
	Gaylord Entertainment Center	1999-2007

	Sommet Center	2007-2010
	Bridgestone Arena	2010-Present
<b>New Jersey Devils</b>	Kemper Arena	1974-1976
	McNichols Sports Arena	1976-1982
	Brendan Byrne Arena	1982-1996
	Continental Airlines Arena	1996-2007
	Prudential Center	2007-Present
<b>New York Islanders</b>	Nassau Veterans Memorial Coliseum	1972-Present
<b>New York Rangers</b>	Madison Square Garden (IV)	1968-Present
<b>Ottawa Senators</b>	Ottawa Civic Center	1992-1996
	The Palladium	1996
	Corel Centre	1996-2006
	Scotiabank Place	2006-2013
	Canadian Tire Centre	2013-Present
<b>Philadelphia Flyers</b>	The Spectrum	1967-1996
	CoreStates Center	1996-1998
	First Union Center	1998-2003
	Wachovia Center	2003-2010
	Wells Fargo Center	2010-Present
<b>Pittsburgh Penguins</b>	Pittsburgh Civic Arena	1967-1998
	Mellon Arena	1999-2010
	Consol Energy Center	2010-Present
<b>San Jose Sharks</b>	Cow Palace	1991-1993
	San Jose Arena	1993-2001
	Compaq Center	2001-2002
	HP Pavilion	2002-2013
	SAP Center at San Jose	2013-Present
<b>St. Louis Blues</b>	St. Louis Arena	1967-1976, 1984-1994
	The Checkerdome	1977-1983
	Kiel Center	1994-2000
	Savvis Center	2000-2006
	Scottrade Center	2006-Present
<b>Tampa Bay Lightning</b>	Thunderdome	1993-1996
	Ice Palace Arena	1996-2002

	St. Pete Times Forum	2002-2012
	Tampa Bay Times Forum	2012-2014
	Amalie Arena	2014-Present
<b>Toronto Maple Leafs</b>	Maple Leaf Gardens	1931-1999
	Air Canada Centre	1999-Present
<b>Vancouver Canucks</b>	Pacific Coliseum	1970-1995
	General Motors Place	1995-2010
	Rogers Arena	2010-Present
<b>Washington Capitals</b>	Capital Centre	1973-1993
	USAir Arena	1993-1997
	US Airways Arena	1997
	MCI Center	1997-2006
	Verizon Center	2006-Present
<b>Winnipeg Jets</b>	Philips Arena	1999-2011
	MTS Centre	2011-Present

**APPENDIX E: LIST OF ALL CORPORATIONS AND ANNOUNCEMENT DATES FOR  
93 STADIUMS PRESENT IN SAMPLE**

<b><u>Company Name</u></b>	<b><u>Teams</u></b>	<b><u>Announcement Date</u></b>
<b>3Com Corporation</b>	San Francisco Giants, San Francisco 49ers	9/7/95
<b>Adelphia Communications Corporation</b>	Tennessee Titans	6/28/99
<b>Alltel Corporation</b>	Jacksonville Jaguars	4/18/97
<b>America West Airlines Inc</b>	Arizona Coyotes, Phoenix Suns	8/4/89
<b>American Airlines Group, Inc. (American Airlines Arena)</b>	Miami Heat	10/21/97
<b>American Airlines Group, Inc. (American Airlines Center)</b>	Dallas Stars, Dallas Mavericks	3/18/99
<b>American Financial Group</b>	Cincinnati Reds	7/7/00
<b>Antlantic Richfield Company</b>	Sacramento Kings	8/20/85
<b>Apollo Group Inc.</b>	Arizona Cardinals	9/26/06
<b>AT&amp;T Inc. (AT&amp;T Center)</b>	San Antonio Spurs	7/19/00
<b>AT&amp;T Inc. (AT&amp;T Stadium)</b>	Dallas Cowboys	7/25/13
<b>Bank of America Corporation</b>	Carolina Panthers	1/16/04
<b>Bank of Nova Scotia (Scotiabank) (Scotiabank Place)</b>	Ottawa Senators	1/11/06
<b>Bank of Nova Scotia (Scotiabank)</b>	Calgary Flames	10/8/10

<b>(Scotiabank Saddledome)</b>		
<b>Bank One Corporation</b>	Arizona Diamondbacks	4/5/95
<b>BankAtlantic Bancorp, Inc.</b>	Florida Panthers	9/6/05
<b>Barclays PLC</b>	Brooklyn Nets	1/18/07
<b>Bell Inc./Bell Canada Enterprises</b>	Montreal Canadiens	9/1/02
<b>BMO Harris Bank, N.A.</b>	Milwaukee Bucks	5/21/12
<b>Chesapeake Energy</b>	Oklahoma City Thunder	7/22/11
<b>Cinergy Corporation</b>	Cincinnati Reds, Cincinnati Bengals	9/10/96
<b>Citigroup Inc.</b>	New York Mets	11/13/06
<b>Citizens Financial Group Inc.</b>	Philadelphia Phillies	6/17/03
<b>CMGI Inc.</b>	New England Patriots	8/23/00
<b>Comerica Incorporated</b>	Detroit Tigers	12/21/98
<b>Compaq Computer Corporation (Compaq Center - Houston)</b>	Houston Rockets	10/9/97
<b>Compaq Computer Corporation (Compaq Center - San Jose)</b>	San Jose Sharks	3/27/01
<b>Conseco Inc</b>	Indiana Pacers	5/22/98
<b>Consol Energy</b>	Pittsburgh Penguins	12/15/08
<b>Continental Airlines</b>	New Jersey Devils, Brooklyn Nets	1/4/96
<b>Coors Brewing Company</b>	Colorado Rockies	3/15/90
<b>Corel Corporation</b>	Ottawa Senators	2/17/96
<b>CoreStates Financial Corporation</b>	Philadelphia Flyers, Philadelphia 76ers	9/9/94
<b>Delta Air Lines Inc.</b>	Utah Jazz	7/26/91
<b>Edison International</b>	Los Angeles Angels of	9/15/97

	Anaheim	
<b>Enron Corporation</b>	Houston Astros	4/7/99
<b>EverBank Financial Corp</b>	Jacksonville Jaguars	7/27/10
<b>FedEx Corporation (Fedex Field)</b>	Washington Redskins	11/21/99
<b>FedEx Corporation (Fedex Forum)</b>	Memphis Grizzlies	10/16/02
<b>First Niagara Bank</b>	Buffalo Sabres	8/25/11
<b>FirstEnergy Corporation</b>	Cleveland Browns	1/15/13
<b>Fleet Financial Group</b>	Boston Bruins, Boston Celtics	3/16/95
<b>Ford Motor Company</b>	Detroit Lions	11/16/99
<b>General Motors Company</b>	Vancouver Canucks, Memphis Grizzlies	3/29/94
<b>Honda Motor Co., Ltd.</b>	Anaheim Ducks	7/19/06
<b>HSBC Holdings plc</b>	Buffalo Sabres	3/17/00
<b>Invesco Ltd.</b>	Denver Broncos	1/29/01
<b>KeyCorp</b>	Oklahoma City Thunder	2/21/95
<b>Koninklijke Philips N.V.</b>	Winnipeg Jets, Atlanta Hawks	2/2/99
<b>L. M. Ericsson</b>	Carolina Panthers	6/27/96
<b>Lincoln Financial Group</b>	Philadelphia Eagles	6/2/02
<b>Louisiana-Pacific Building Products</b>	Tennessee Titans	6/6/06
<b>M&amp;T Bank Corporation</b>	Baltimore Ravens	5/5/03
<b>MCI Inc</b>	Washington Capitals, Washington Wizards	6/3/95
<b>Mellon Financial Corporation</b>	Pittsburgh Penguins	12/21/99
<b>MetLife, Inc</b>	New York Giants, New York Jets	8/23/11
<b>Network Associates, Inc.</b>	Oakland Athletics, Oakland Raiders	9/23/98

<b>Office Depot, Inc.</b>	Florida Panthers	9/13/02
<b>Oracle Corporation</b>	Golden State Warriors	10/30/06
<b>Overstock.com Inc</b>	Oakland Athletics, Oakland Raiders	4/27/11
<b>PepsiCo Inc. (Pepsi Center)</b>	Colorado Avalanche	3/3/95
<b>PepsiCo Inc. (Tropicana Field)</b>	Tampa Bay Rays	10/4/96
<b>PNC Financial Services Inc. (PNC Arena)</b>	Carolina Hurricanes	12/15/11
<b>PNC Financial Services Inc. (PNC Park)</b>	Pittsburgh Pirates	8/6/98
<b>Progressive Corporation</b>	Cleveland Indians	1/11/08
<b>Prudential Financial, Inc.</b>	New Jersey Devils, Brooklyn Nets	1/8/07
<b>PSINet</b>	Baltimore Ravens	1/24/99
<b>PVH Corp</b>	Brooklyn Nets	10/4/07
<b>Qualcomm Inc.</b>	San Diego Padres, San Diego Chargers	2/24/97
<b>Qwest Communications International Inc.</b>	Seattle Seahawks	6/25/04
<b>Raymond James Financial</b>	Tampa Bay Buccaneers	6/26/98
<b>Reliant Energy Inc</b>	Houston Texans	10/26/00
<b>Rogers Communications Inc. (Rogers Arena)</b>	Vancouver Canucks	6/7/10
<b>Rogers Communications Inc. (Rogers Centre)</b>	Toronto Blue Jays	9/29/04
<b>Royal Bank of Canada</b>	Carolina Hurricanes	9/19/02
<b>Safeco Insurance</b>	Seattle Mariners	6/4/98
<b>SAP SE</b>	San Jose Sharks	7/9/13
<b>Savvis</b>	St. Louis Blues	8/28/00



<b>Communications</b>		
<b>Staples Inc.</b>	Los Angeles Kings, Los Angeles Lakers, Los Angeles Clippers	12/1/97
<b>Sun Life Financial Inc.</b>	Miami Marlins, Miami Dolphins	1/20/10
<b>Target Corporation (Target Center)</b>	Minnesota Timberwolves	8/31/90
<b>Target Corporation (Target Field)</b>	Minnesota Twins	9/15/08
<b>TD Banknorth</b>	Boston Bruins, Boston Celtics	7/1/05
<b>TD Waterhouse</b>	Orlando Magic	2/7/00
<b>The Coca-Cola Company</b>	Houston Astros	6/5/02
<b>The Gillette Company</b>	New England Patriots	8/5/02
<b>Time Warner Cable Enterprises Inc.</b>	Charlotte Hornets	4/7/08
<b>Torchmark Corporation</b>	Texas Rangers	2/5/14
<b>Toyota Motor Corporation</b>	Houston Rockets	7/24/03
<b>Trans World Airlines, Inc.</b>	St. Louis Rams	9/1/95
<b>United Continental Holdings, Inc.</b>	Chicago Blackhawks, Chicago Bulls	11/5/92
<b>United States Cellular Corporation</b>	Chicago White Sox	1/31/03
<b>Xcel Energy Inc.</b>	Minnesota Wild	6/15/00

**APPENDIX F: ABNORMAL RETURN DATA FOR ALL  
93 STADIUMS WITHIN SAMPLE**

<b><u>Company Name</u></b>	<b><u>Announcement Day Abnormal Return</u></b>	<b><u>T-Statistic</u></b>
<b>3Com Corporation</b>	0.0562	1.23
<b>Adelphia Communications Corporation</b>	-0.0343	-0.45
<b>Alltel Corporation</b>	-0.0031	-0.15
<b>America West Airlines Inc</b>	0.0540	1.95
<b>American Airlines Group, Inc. (American Airlines Arena)</b>	0.0038	0.78
<b>American Airlines Group, Inc. (American Airlines Center)</b>	-0.0412	-1.74
<b>American Financial Group</b>	-0.0024	0.15
<b>Antlantic Richfield Company</b>	0.0237	0.56
<b>Apollo Group Inc.</b>	0.0022	0.01
<b>AT&amp;T Inc. (AT&amp;T Center)</b>	0.0321	0.56
<b>AT&amp;T Inc. (AT&amp;T Stadium)</b>	0.0768	1.83
<b>Bank of America Corporation</b>	0.0451	0.32
<b>Bank of Nova Scotia (Scotiabank) (Scotiabank Place)</b>	0.0032	0.89
<b>Bank of Nova Scotia (Scotiabank) (Scotiabank Saddledome)</b>	-0.0210	-0.34
<b>Bank One Corporation</b>	0.0130	1.78
<b>BankAtlantic Bancorp, Inc.</b>	-0.0417	-0.21
<b>Barclays PLC</b>	0.0583	2.13
<b>Bell Inc./Bell Canada Enterprises</b>	-0.0044	-0.87
<b>BMO Harris Bank, N.A.</b>	-0.0191	-0.53
<b>Chesapeake Energy</b>	0.0432	0.99
<b>Cinergy Corporation</b>	0.0377	0.21
<b>Citigroup Inc.</b>	0.0532	1.10

<b>Citizens Financial Group Inc.</b>	-0.0579	-0.73
<b>CMGI Inc.</b>	0.0958	2.12
<b>Comerica Incorporated</b>	-0.0136	-0.32
<b>Compaq Computer Corporation (Compaq Center - Houston)</b>	0.0024	0.92
<b>Compaq Computer Corporation (Compaq Center - San Jose)</b>	0.0322	1.54
<b>Conseco Inc</b>	0.0160	0.65
<b>Consol Energy</b>	-0.0437	-0.11
<b>Continental Airlines</b>	0.0092	0.05
<b>Coors Brewing Company</b>	0.0267	0.17
<b>Corel Corporation</b>	-0.0240	-0.83
<b>CoreStates Financial Group</b>	-0.0113	-0.32
<b>Delta Air Lines Inc.</b>	-0.0136	-1.01
<b>Edison International</b>	-0.0348	-1.24
<b>Enron Corporation</b>	0.0021	0.15
<b>EverBank Financial Corp</b>	-0.0082	-0.82
<b>FedEx Corporation (Fedex Field)</b>	-0.0065	-0.35
<b>FedEx Corporation (Fedex Forum)</b>	-0.0110	-0.79
<b>First Niagara Bank</b>	0.0234	0.66
<b>FirstEnergy Corporation</b>	-0.0232	-1.18
<b>Fleet Financial Group</b>	0.0027	0.45
<b>Ford Motor Company</b>	-0.0271	-0.86
<b>General Motors Company</b>	0.0210	0.57
<b>Honda Motor Co., Ltd.</b>	-0.0311	-0.51
<b>HSBC Holdings</b>	-0.0018	-0.04
<b>Invesco Ltd.</b>	0.0119	0.49
<b>KeyCorp</b>	-0.0037	-0.89
<b>Koninklijke Philips N.V.</b>	0.0320	0.60
<b>L. M. Ericsson</b>	0.0037	0.06
<b>Lincoln Financial Group</b>	0.0077	0.34
<b>Louisiana-Pacific Building Products</b>	-0.0214	-0.99
<b>M&amp;T Bank Corporation</b>	-0.0026	-0.33
<b>MCI Inc</b>	-0.0073	-0.22

<b>Mellon Financial Corporation</b>	0.0032	0.02
<b>MetLife, Inc</b>	0.0566	1.73
<b>Network Associates, Inc.</b>	0.0343	2.22
<b>Office Depot, Inc.</b>	0.0212	1.94
<b>Oracle Corporation</b>	0.0116	0.43
<b>Overstock.com Inc</b>	-0.0160	-0.44
<b>PepsiCo Inc. (Pepsi Center)</b>	-0.0149	-0.91
<b>PepsiCo Inc. (Tropicana Field)</b>	-0.0058	-0.42
<b>PNC Financial Services Inc. (PNC Arena)</b>	-0.0010	-0.33
<b>PNC Financial Services Inc. (PNC Park)</b>	0.0433	0.75
<b>Progressive Corporation</b>	0.0128	1.69
<b>Prudential Financial, Inc.</b>	-0.0117	-0.32
<b>PSINet</b>	0.0037	0.98
<b>PVH Corp</b>	0.0225	1.83
<b>Qualcomm Inc.</b>	-0.0056	-0.22
<b>Qwest Communications International Inc.</b>	-0.0181	-0.12
<b>Raymond James Financial</b>	-0.0330	2.01
<b>Reliant Energy Inc</b>	-0.0222	-0.17
<b>Rogers Communications Inc. (Rogers Arena)</b>	0.035	0.11
<b>Rogers Communications Inc. (Rogers Centre)</b>	0.0046	0.45
<b>Royal Bank of Canada</b>	-0.0187	-1.71
<b>Safeco Insurance</b>	0.0058	0.02
<b>SAP SE</b>	0.0117	0.70
<b>Savvis Communications</b>	-0.0481	-1.02
<b>Staples Inc.</b>	0.0032	0.46
<b>Sun Life Financial Inc.</b>	-0.0200	-1.23
<b>Target Corporation (Target Center)</b>	0.0621	1.32
<b>Target Corporation (Target Field)</b>	0.0218	0.39
<b>TD Banknorth</b>	0.0019	0.14
<b>TD Waterhouse</b>	0.0135	0.66
<b>The Coca-Cola Company</b>	0.0041	0.34

<b>The Gillette Company</b>	-0.0230	-0.45
<b>Time Warner Cable Enterprises Inc.</b>	0.0425	0.72
<b>Torchmark Corporation</b>	-0.0217	-1.69
<b>Toyota Motor Corporation</b>	0.0214	0.41
<b>Trans World Airlines, Inc.</b>	-0.0183	-0.22
<b>United Continental Holdings, Inc.</b>	0.0131	1.72
<b>United States Cellular Corporation</b>	-0.0017	-1.12
<b>Xcel Energy Inc.</b>	0.0031	0.54

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